

# LEGEND

## SYMBOL

## ABBREVIATION

## DESCRIPTION

## ABBREVIATIONS

## GENERAL NOTES

---		PIPE EMBEDDED IN CONCRETE
---		PIPE NOT EMBEDDED IN CONCRETE
ACPD	ACPD	ASBESTOS CEMENT PERFORATED DRAIN PIPE
D	D	DRAIN PIPING
GV	GV	GATE VALVE
---		PIPE TURNING UP
---		PIPE TURNING DOWN
SAN. S	SAN. S	SANITARY SEWER
CO	CO	CLEAN OUT
SD	SD	SCUPPER DRAIN
DI	DI	DRAIN INLET
MH	MH	MANHOLE
DIA.	DIA.	DIAMETER
CL	CL	CENTERLINE
T/R - EL		TOP OF RAIL (PROFILE GRADE & ELEVATION)
POC		POINT OF CONNECTION (TO EXISTING)
---		MATCH LINE
FD	FD	FLOOR DRAIN
RD	RD	ROOF DRAIN
CHWS	CHWS	CHILLED WATER SUPPLY
CHWR	CHWR	CHILLED WATER RETURN
CWS	CWS	CONDENSOR WATER SUPPLY
CWR	CWR	CONDENSOR WATER RETURN
10'		CONCRETE INSERTS FOR PIPE SUPPORTS
---		FUTURE (PIPING, EQUIPMENT, STRUCTURE)
---		EXISTING (PIPING, EQUIPMENT, STRUCTURE)
---		HIDDEN LINE
F	F	FIRELINE
---		SIAMESE CONNECTION
PS	PS	PIPE SUPPORT
---		SIDEWALK GRATING
---		FIRE DAMPER
CW	CW	DOMESTIC WATER SUPPLY
MBO	MBO	MECHANICAL BLOCKOUT
---		NOT USED

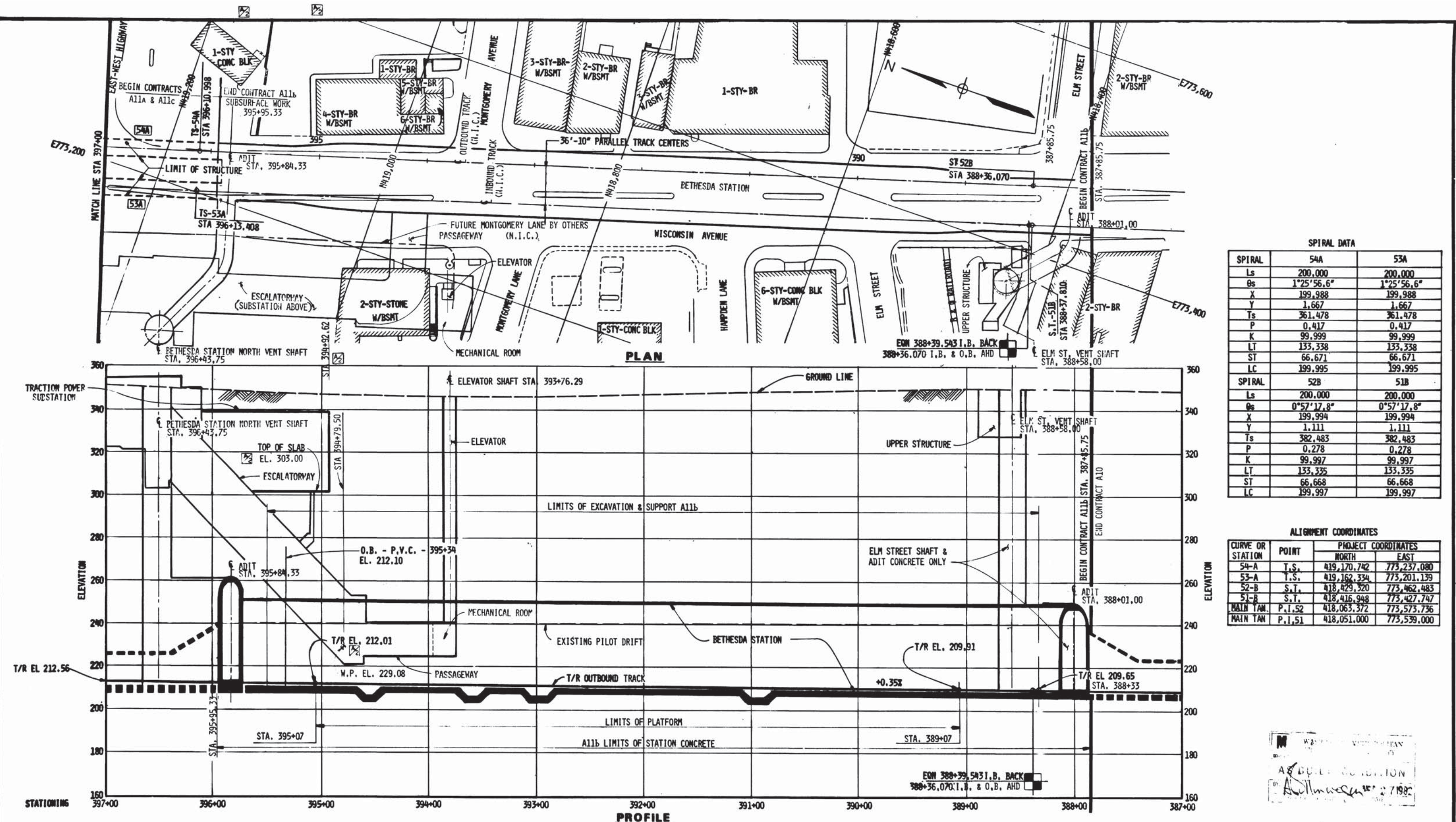
ABV	ABOVE	HPR	HYDROSTATIC PRESSURE RELIEF
AC	ASBESTOS CEMENT	HT	HORSESHOE TUNNEL
BV	BACKWATER VALVE	IB	INBOUND
BOT	BOTTOM	INV ELEV	INVERT ELEVATION
CA	COMPRESSED AIR	LWP	LOWER WORKING POINT
CI	CAST IRON	MAX	MAXIMUM
CMP	CORRUGATED METAL PIPE	MBO	MECHANICAL BLOCKOUT
CONC	CONCRETE	MIN	MINIMUM
CONN	CONNECTION	M.T. D.	MAIN TRACK DRAIN
CONT	CONTINUATION	NIC	NOT IN CONTRACT
CT	CIRCULAR TUNNEL	OB	OUTBOUND
DET	DETAIL	OC	ON CENTER
DIF	DEFINED INSIDE FACE	PC	PRECAST
DFM	DRAIN FORCE MAIN	PERF	PERFORATED
DIP	DUCTILE IRON PIPE	PVC	POLYVINYL CHLORIDE
DN	DOWN	RD	ROOF DRAIN
DOM	DOMESTIC	REQD	REQUIRED
DWG	DRAWING	RM	ROOM
EA	EACH	RO	REFERENCE ONLY
EL	ELEVATION	SAN	SANITARY
ELEC	ELECTRICAL	SCH	SCHEDULE
ELEV	ELEVATOR	SED	SEWAGE EJECTOR DISCHARGE
EQUIP	EQUIPMENT	SEE	SEWAGE EJECTOR EXHAUST
ESCAL	ESCALATOR	SP	SUMP PUMP
EXIST	EXISTING	SPD	SUMP PUMP DISCHARGE
EXH	EXHAUST	STA	STATION
FIN	FINISH	STL	STEEL
FL	FLOOR	SYCI	SERVICE WEIGHT CAST IRON
/FT	PER FOOT	SYM	SYMMETRICAL
GA	GAUGE	TYP	TYPICAL
GALV	GALVANIZED	UWP	UPPER WORKING POINT
		W/	WITH
		WP	WORKING POINT

- COORDINATE ALL WORK WITH A-10 CONTRACT.
- ALL STATIONING IS REFERENCED FROM THE CL OF OUTBOUND TRACK.
- SEE DRAWINGS ST-M-1 AND ST-M-91 FOR MANHOLES.
- SEE DRAWING M-47 FOR PIPE SUPPORTS, SLEEVES AND BACKWATER VALVE.
- SEE DRAWINGS M-48, ST-M-1, ST-M-26 AND ST-M-53 FLOOR DRAINS AND DRAIN INLET - 8.
- SEE DRAWINGS M-49 AND M-50 FOR FIRE DAMPERS, ACCESS PANELS AND CLEANOUTS.
- SEE DRAWINGS M-25, M-49 AND M-51 FOR STATION HPR DETAILS.
- REFER TO STRUCTURAL DRAWINGS FOR EXACT LOCATIONS FOR ALL SLAB AND WALL OPENINGS AND EMBEDDED ITEMS.
- ALL MAIN TRACK DRAINS, DRIP SLAB DRAINS, ACPD AND HPR SHALL BE AT SAME SLOPE AS THE RUNNING TRACK. ALL OTHER DRAINAGE PIPING SHALL BE AT 1/8" SLOPE MINIMUM OR AS NOTED.
- SEE DRAWINGS M-49 AND M-50 FOR TYPICAL RUNNING TUNNEL, SHAFT AND ADIT HPR DETAILS.
- DUCT OPENINGS IN CONCRETE FLOORS AND WALLS INDICATED WITH FIRE DAMPERS SHALL HAVE THE FIRE DAMPERS INSTALLED AS A PART OF THIS CONTRACT THE DIMENSIONS INDICATED AT THESE OPENINGS ARE INSIDE DIMENSIONS OF THE PENETRATING DUCTWORK. THE DUCTWORK DIMENSIONS ARE NOT TO BE CONFUSED WITH THE LARGER OVERALL WALL OPENING REQUIRED TO ACCOMMODATE THE FIRE DAMPER IN THE WALL AS DETAILED ON DWG M-49. SEE STRUCTURAL DRAWINGS FOR EXACT LOCATION OF OPENINGS IN WALLS AND FLOORS.
- FOR PIPE SUPPORT CONCRETE INSERTS SEE DRAWING M-47.
- PIPE SLEEVES REQUIRED FOR FUTURE PIPING THAT SHALL BE INSTALLED THROUGH STRUCTURAL CONCRETE ARE SHOWN WITH THE SIZE AND SERVICE OF THE FUTURE PIPE. THE PIPE SIZE SHALL NOT BE CONFUSED WITH THE ACTUAL SLEEVE DIAMETER REQUIRED TO ACCOMMODATE THE PIPE. SEE STRUCTURAL DRAWINGS FOR EXACT SIZE AND LOCATION OF THE SLEEVES. EXCEPTIONS FOR THIS NOTE ARE THE PLUMBING SLEEVES REQUIRED FOR FUTURE PIPING ON DRAWING M-34 PARTIAL PLUMBING PLAN.
- FOR FIRELINE BONDING DETAIL SEE DRAWING ST-E-302.
- THE FLOOR DRAIN AND THE PIPE THAT IT IS CONNECTED TO SHALL BE OF THE SAME SIZE UNLESS OTHERWISE NOTED.
- HPR SYSTEM CONTINUES IN DIRECTION INDICATED UPPER AND LOWER SYSTEMS. BOTH SIDES OF EXCAVATION OR TUNNELING UNLESS SHOWN OTHERWISE.



DESIGNED M. MAHAN DATE 1-30-74	REFERENCE DRAWINGS	REVISIONS		WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY		ROCKVILLE ROUTE LEGEND AND GENERAL NOTES	
DRAWN G. GRAYTON DATE 1-30-74	NUMBER DESCRIPTION	DATE BY DESCRIPTION		MATHEWS • CHATELAIN • BEALL ENGINEERS AND ARCHITECTS SECTION DESIGNER		DE LEUW, CATHER & COMPANY GENERAL ENGINEERING CONSULTANT	
CHECKED M. MAHAN DATE 3-25-77				HARRY WEESE & ASSOCIATES GENERAL ARCHITECTURAL CONSULTANT		SCALE NONE	
APPROVED S. MICHAELIS DATE 3-25-77				SUBMITTED DATE		DRAWING NO. A11b-M-1	
				APPROVED		M276-191	





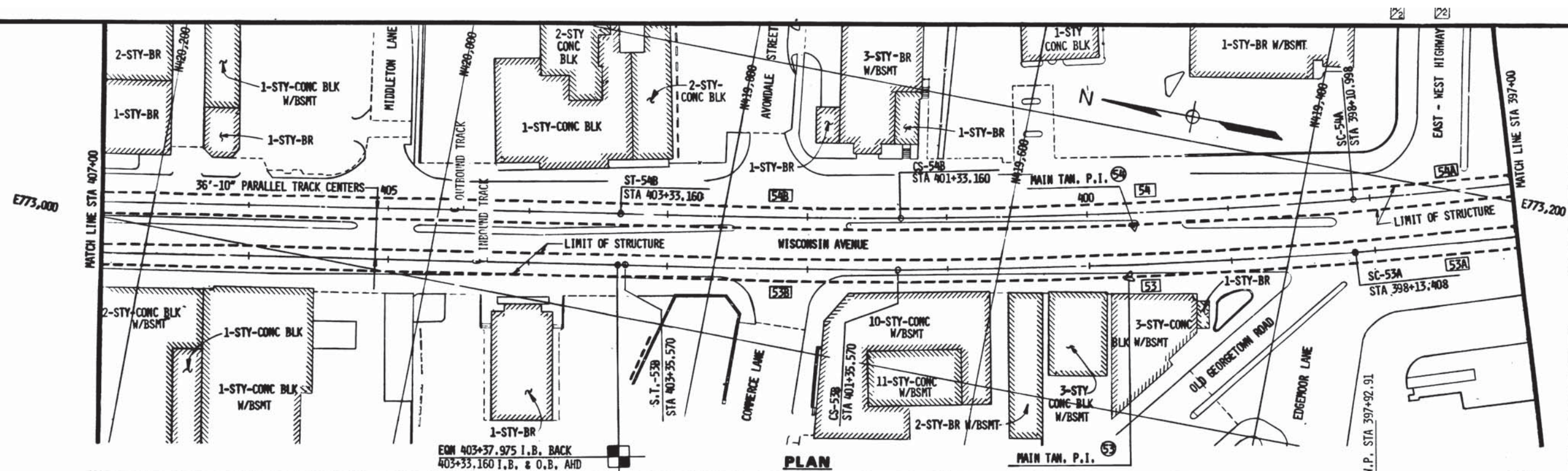
SPIRAL DATA		
SPIRAL	54A	53A
Ls	200.000	200.000
Os	1°25'56.6"	1°25'56.6"
X	199.988	199.988
Y	1.667	1.667
Ts	361.478	361.478
P	0.417	0.417
K	99.999	99.999
LT	133.338	133.338
ST	66.671	66.671
LC	199.995	199.995
SPIRAL	52B	51B
Ls	200.000	200.000
Os	0°57'17.8"	0°57'17.8"
X	199.994	199.994
Y	1.111	1.111
Ts	382.483	382.483
P	0.278	0.278
K	99.997	99.997
LT	133.335	133.335
ST	66.668	66.668
LC	199.997	199.997

ALIGNMENT COORDINATES			
CURVE OR STATION	POINT	PROJECT COORDINATES	
		NORTH	EAST
54-A	T.S.	419,170.742	773,237.080
53-A	T.S.	419,162.334	773,201.139
52-B	S.T.	418,429.320	773,462.483
51-B	S.T.	418,416.948	773,427.747
MAIN TAN.	P.I.52	418,063.372	773,573.736
MAIN TAN.	P.I.51	418,051.000	773,539.000

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY  
 AS BUILT CERTIFICATION  
 BY: [Signature]  
 DATE: 7/19/82

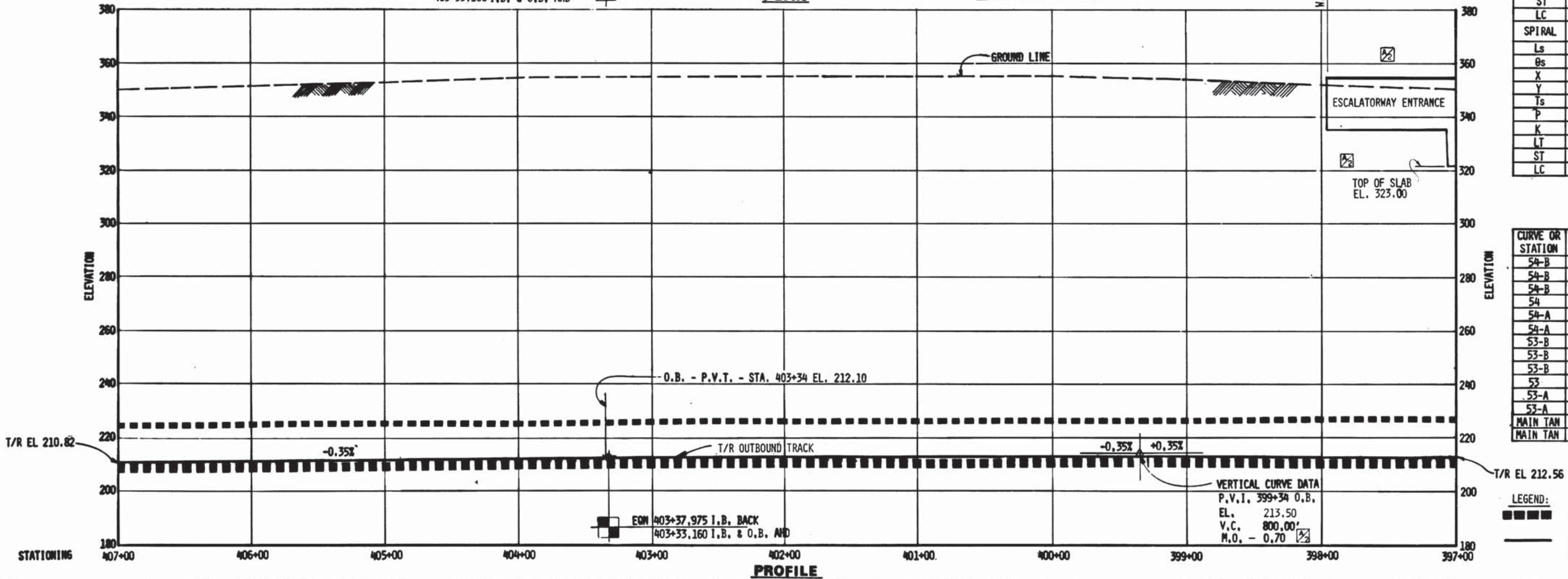
DESIGNED J. E. MONSEES DRAWN J. L. BISHOP CHECKED A. B. WIEGAND APPROVED [Signature]	6-24-76 DATE 7-24-76 DATE 9-27-76 DATE DATE	<b>REFERENCE DRAWINGS</b> NUMBER DESCRIPTION ST-C-2 LEGEND	<b>REVISIONS</b> DATE BY DESCRIPTION 7/11/77 JLB REVISED SUBSTATION & ADDED STATIONS 1,2		<b>WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY</b> MATHEWS • CHATELAIN • BEALL ENGINEERS AND ARCHITECTS SECTION DESIGNER SUBMITTED [Signature] DATE 07-2-77	DE LEUW, CATHY & COMPANY GENERAL ENGINEERING CONSULTANT HARRY WEESE & ASSOCIATES GENERAL ARCHITECTURAL CONSULTANT APPROVED [Signature]	<b>ROCKVILLE ROUTE</b> <b>PLAN AND PROFILE</b> <b>STA 397+00 TO STA 387+00</b> SCALE HORIZ. 1"=40' VERT. 1"=20' DRAWING NO. A11b-PP-14 M276-30
---	--	--	--	--	--	--	---





CURVE DATA		
CURVE	54	53
I	7°28'45.9"	7°28'45.9"
Δ	4°36'52.7"	4°36'52.7"
R	4000.000	4000.000
T	161.168	161.168
L	322.162	322.162
E	3.246	3.246
E <sub>a</sub>	4"	4"
E <sub>c</sub>	1 3/4"	1 3/4"
SPEED	75 M.P.H.	75 M.P.H.

SPIRAL DATA		
SPIRAL	54B	53B
Ls	200.000	200.000
Os	1°25'56.6"	1°25'56.6"
X	199.988	199.988
Y	1.667	1.667
Ts	361.478	361.478
P	0.417	0.417
K	99.999	99.999
LT	133.338	133.338
ST	66.671	66.671
LC	199.995	199.995
SPIRAL	54A	53A
Ls	200.000	200.000
Os	1°25'56.6"	1°25'56.6"
X	199.988	199.988
Y	1.667	1.667
Ts	361.478	361.478
P	0.417	0.417
K	99.999	99.999
LT	133.338	133.338
ST	66.671	66.671
LC	199.995	199.995



ALIGNMENT COORDINATES			
CURVE OR STATION	POINT	NORTH	EAST
54-B	S.T.	419,873.182	773,072.708
54-B	P.I.S.	419,741.647	773,094.556
54-B	C.S.	419,676.171	773,107.121
54	P.I.C.	419,517.891	773,137.495
54-A	S.C.	419,362.568	773,180.504
54-A	P.I.S.	419,298.315	773,198.296
53-B	S.T.	419,864.774	773,036.767
53-B	P.I.S.	419,733.238	773,058.615
53-B	C.S.	419,667.763	773,071.180
53	P.I.C.	419,509.483	773,101.554
53-A	S.C.	419,354.159	773,144.563
53-A	P.I.S.	419,289.907	773,162.355
MAIN TAN	P.I.54	419,516.590	773,131.938
MAIN TAN	P.I.53	419,508.182	773,095.997

AS-BUILT CONDITION  
 DEC 27 1982  
 LEGEND:  
 ■■■■ DENOTES WORK COMPLETED IN CONTRACT A11.  
 - - - - DENOTES WORK TO BE PERFORMED IN THIS CONTRACT

DESIGNED J. E. MONTGOMERY		DATE 6-21-74	
DRAWN E. L. BURNETT		DATE 7-19-74	
CHECKED A. B. WIEGAND		DATE 10-28-74	
APPROVED		DATE	

REFERENCE DRAWINGS		REVISIONS	
NUMBER	DESCRIPTION	DATE	BY
ST-C-2	LEGEND	7/11/77	JLB
	REVISED ESCALATORWAY		
	ADDED STATION 12		



**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY**

MATHEWS • CHATELAIN • BEALL  
 ENGINEERS AND ARCHITECTS  
 SECTION DESIGNER

DE LEUW, CATHY & COMPANY  
 GENERAL ENGINEERING CONSULTANT

HARRY WEESE & ASSOCIATES  
 GENERAL ARCHITECTURAL CONSULTANT

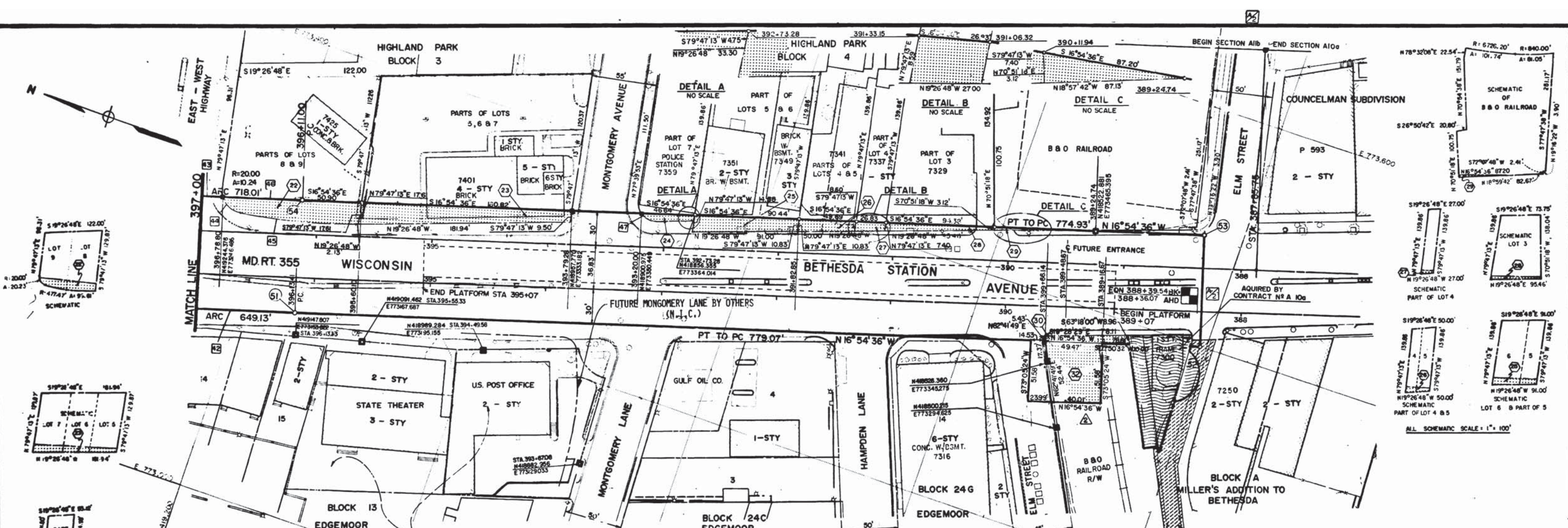
SUBMITTED *Alf* DATE 02-12-77 APPROVED *Robert*

SCALE  
 HORIZ. 1"=40'  
 VERT. 1"=20'

**ROCKVILLE ROUTE**  
**PLAN AND PROFILE**  
**STA 407+00 TO STA 397+00**

DRAWING NO.  
**A11b - PP-13 M276-29**





VERTICAL LIMITS OF EASEMENT (MD RT 355)			DISTANCE TO SURFACE FROM UPPER ELEV. OF EASEMENT
FROM STA.	TO STA.	UPPER ELEVATION	
397+00.00	388+33.00	309.00'	37.0'±

PROPERTY DISPOSITION TABLE ALL TAKINGS IN SQUARE FEET							
SUBDIVISION	BLOCK	LOT	PARCEL	TOTAL LOT AREA	PERMANENT UNDERGROUND EASEMENT	PERMANENT SURFACE EASEMENT	CONSTRUCTION EASEMENT
HIGHLAND PARK	3	PT OF 8 & 9	22	14,975.53	1,803.81		
	3	PT OF 5, 6 & 7	23	23,322.00	2,434.56		
	4	PT OF 7	24	6,883.52	239.69		
	4	PT OF 5 & 6	25	12,561.96	1,154.52		
	4	PT OF 4 & 3	26	6,902.36	479.31		
	4	PT OF 4	27	3,727.17	213.10		
	4	PT OF 3	28	11,878.86	495.59		
			29	16,500	136.01		
			30		555.87		
			32		2307.695		7,880

COORDINATES		OWNER	DEED BOOK	PAGE	REMARKS
NORTH	EAST				
51	4:9153.608 - 773172.436	BRAINARD W PARKER % MARY PARKER PEARSON ET AL	498	282	
52	418406.943 - 773399.433	THORNTON W. OWEN ET AL	4168	70	
53	418435.109 - 773492.079	MONTGOMERY COUNTY	428	204	
54	419179.468 - 773265.783	THOMAS W PERRY JR. ET AL	3570	205 & 199	
		ELIZABETH M. COOPER ET AL	4197	900	
		CARL A & S.M. BACHSCHMID	3658	181	
		BETHESDA C.C. DEVELOPMENT CO INC.	2820	404	
		B&O RAILROAD	3979	736	ACQUIRED BY AIOG
		"	JAB	182	
		"	JAB	182	

VERTICAL LIMITS OF EASEMENT						DISTANCE TO SURFACE FROM UPPER ELEV. OF EASEMENT
LOT	PARCEL	FROM STA	TO STA	UPPER ELEV.		
PART OF 8 & 9	22 & 23	396+78.80	393+79.28	309.00		37.0'±
PART OF 5, 6 & 7						
PART OF 7	24, 25, 26	393+20.00	389+24.74	309.00		37.0'±
PART OF 5 & 6	27, 28 & 29					
PART OF 4						
PART OF 3						
B&O RAILROAD	30	389+67.00	388+92.12	309.00		37.0±
	32	389+16.67	389+66.14	309.00		16.0±

CURVE DATA						
CURVE NO	DELTA	RADIUS	TANGENT	ARC	CHORD	CHORD BEARING
42	07°28'46"	4972.64'	325.03'	649.13'	648.67'	N 13°10'13"W
43	07°28'46"	5500.30'	359.52'	718.01'	717.50'	N 13°10'13"W
44	57°57'19"	20.00'	11.08'	20.23'	19.38'	N 21°29'03"E
45	1°57'11"	477.47'	49.99'	39.61'	99.43'	N 13°28'12"W
46	00°42'19"	5500.30'	33.86'	67.72'	67.72'	S 16°33'26"E
47	56°38'44"	15.00'	8.08'	14.83'	14.23'	N 08°52'34"E

- NOTES:
1. HORIZONTAL CONTROL: METRO PROJECT COORDINATES (SEE NOTE #2 A-11B-C-5)
  2. VERTICAL CONTROL: U.S.C. & G.S. MEAN SEA LEVEL 1929 GENERAL ADJUSTMENT.
  3. RESIDUES SHOWN IN SCHEMATICS ARE A MATHEMATICAL CLOSURE OF DEED OR DEED COMPOSITE AND DO NOT CONSTITUTE A SURVEY.

- LEGEND
- PERMANENT SURFACE EASEMENT
  - PERMANENT UNDERGROUND EASEMENT
  - BUILDING
  - SUBDIVISION LINE
  - PARCEL NUMBER
  - PROPERTY LINE
  - LIMIT OF RIGHT-OF-WAY
  - COORDINATE
  - METRO R.O.W. MONUMENT (TO BE SET)
  - EXISTING MONUMENT (IRON PIPE)
  - CURVE DATA NUMBER
  - TEMPORARY CONSTRUCTION EASEMENT

DESIGNED H. STONER 11-18-73 DATE  
DRAWN J. WALTERS 11-18-73 DATE  
CHECKED J. W. DICKSON 5-8-75 DATE  
APPROVED J. M. STONER 5-13-77 DATE

REFERENCE DRAWINGS  
NUMBER DESCRIPTION  
1 MFC  
2 MFC

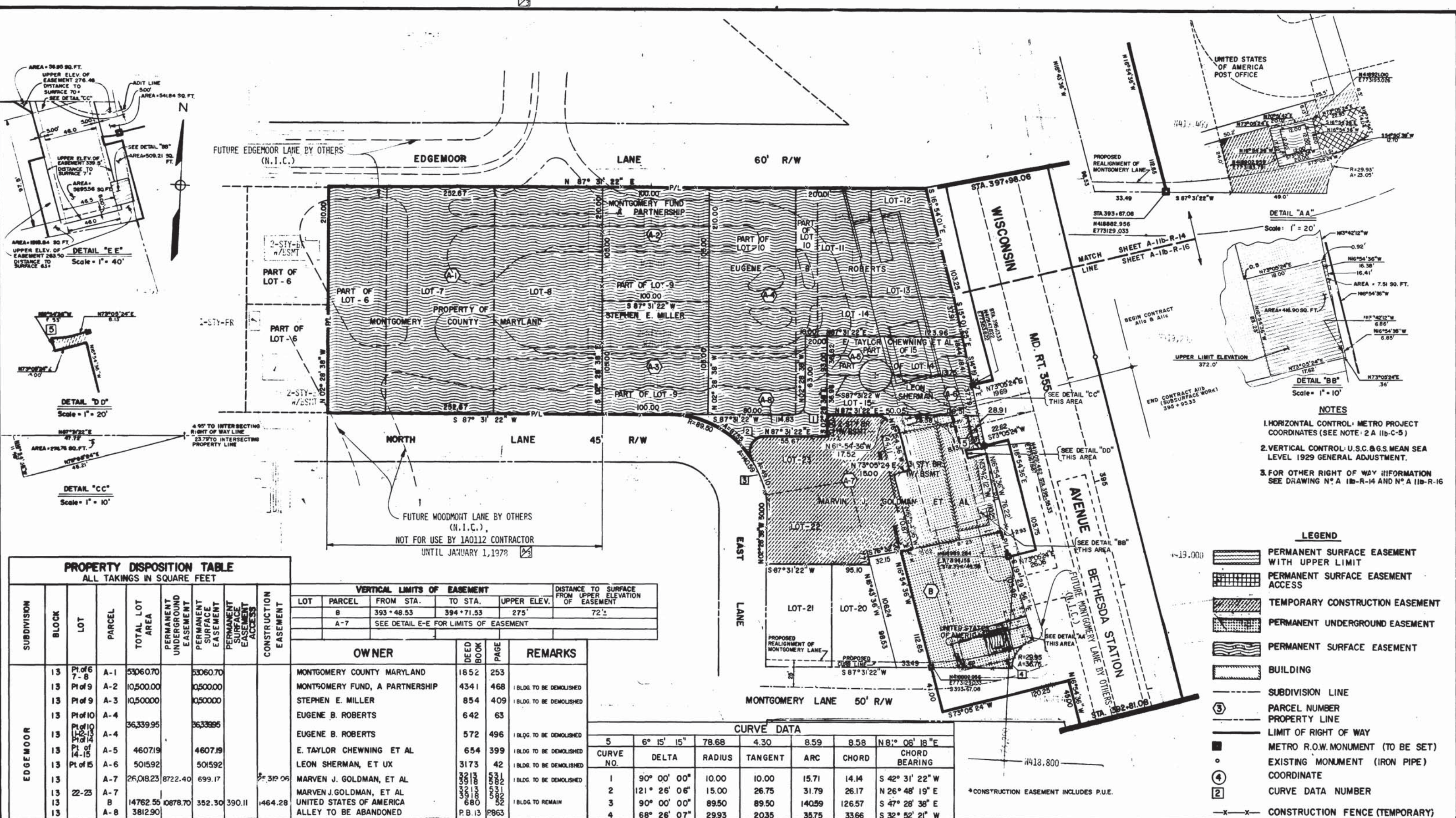
REVISIONS  
DATE BY DESCRIPTION  
7/11/77 MFC REVISED EQUATION 1  
1/2/80 MFC ADDED PARCEL 32

STATE OF MARYLAND  
J. M. STONER  
PROFESSIONAL ENGINEER

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY  
MATHEWS • CHATELAIN • BEALL  
ENGINEERS AND ARCHITECTS  
SECTION DESIGNER  
SUBMITTED [Signature] DATE 5-13-77  
DE LEUW, CATHAR & COMPANY  
GENERAL ENGINEERING CONSULTANT  
HARRY WEESE & ASSOCIATES  
GENERAL ARCHITECTURAL CONSULTANT  
APPROVED [Signature]

ROCKVILLE ROUTE  
RIGHT OF WAY  
STA 397+00 TO STA 387+00  
SCALE 1" = 40'  
DRAWING NO. A11b-R-16 M276-22





PROPERTY DISPOSITION TABLE							
ALL TAKINGS IN SQUARE FEET							
SUBDIVISION	BLOCK	LOT	PARCEL	TOTAL LOT AREA	PERMANENT UNDERGROUND EASEMENT	PERMANENT SURFACE EASEMENT	CONSTRUCTION EASEMENT
EDGE MOOR	13	Pl. of 6	A-1	53060.70		53060.70	
	13	Pl. of 7-8	A-2	10500.00		10500.00	
	13	Pl. of 9	A-3	10500.00		10500.00	
	13	Pl. of 10	A-4	36339.95		36339.95	
	13	Pl. of 11-13	A-4	4607.19		4607.19	
	13	Pl. of 14-15	A-5	50159.2		50159.2	
	13	Pl. of 16	A-6	26018.23	8722.40	699.17	
	13	22-23	A-7	14762.55	10878.70	352.30	390.11
	13	B		3812.90			1464.28
	13						
	13						
	13						
	13						

VERTICAL LIMITS OF EASEMENT					DISTANCE TO SURFACE FROM UPPER ELEVATION OF EASEMENT
LOT	PARCEL	FROM STA.	TO STA.	UPPER ELEV.	
8		393 + 48.53	394 + 71.53	275'	72'
A-7	SEE DETAIL E-E FOR LIMITS OF EASEMENT				

OWNER	DEED BOOK	PAGE	REMARKS
MONTGOMERY COUNTY MARYLAND	1852	253	
MONTGOMERY FUND, A PARTNERSHIP	4341	468	1 BLDG. TO BE DEMOLISHED
STEPHEN E. MILLER	854	409	1 BLDG. TO BE DEMOLISHED
EUGENE B. ROBERTS	642	63	
EUGENE B. ROBERTS	572	496	1 BLDG. TO BE DEMOLISHED
E. TAYLOR CHEWNING ET AL	654	399	1 BLDG. TO BE DEMOLISHED
LEON SHERMAN, ET UX	3173	42	1 BLDG. TO BE DEMOLISHED
MARVEN J. GOLDMAN, ET AL	3213	331	1 BLDG. TO BE DEMOLISHED
MARVEN J. GOLDMAN, ET AL	3001	202	
UNITED STATES OF AMERICA	680	52	1 BLDG. TO REMAIN
ALLEY TO BE ABANDONED	P.B.13	P.863	

CURVE DATA						
CURVE NO.	DELTA	RADIUS	TANGENT	ARC	CHORD	CHORD BEARING
5	6° 15' 15"	78.68	4.30	8.59	8.58	N 81° 08' 18" E
1	90° 00' 00"	10.00	10.00	15.71	14.14	S 42° 31' 22" W
2	121° 26' 06"	15.00	26.75	31.79	26.17	N 26° 48' 19" E
3	90° 00' 00"	89.50	89.50	140.59	126.57	S 47° 28' 38" E
4	68° 26' 07"	2993	2035	35.75	33.66	S 32° 52' 21" W

DESIGNED		DATE	
H. STONER		8-6-74	
DRAWN		DATE	
L. WALTERS		8-6-74	
CHECKED		DATE	
JRV DICKSON		8-8-75	
APPROVED		DATE	

REFERENCE DRAWINGS		REVISIONS	
NUMBER	DESCRIPTION	DATE	BY
		10-12-77	FLA
	ADDED CALLOUT #3		

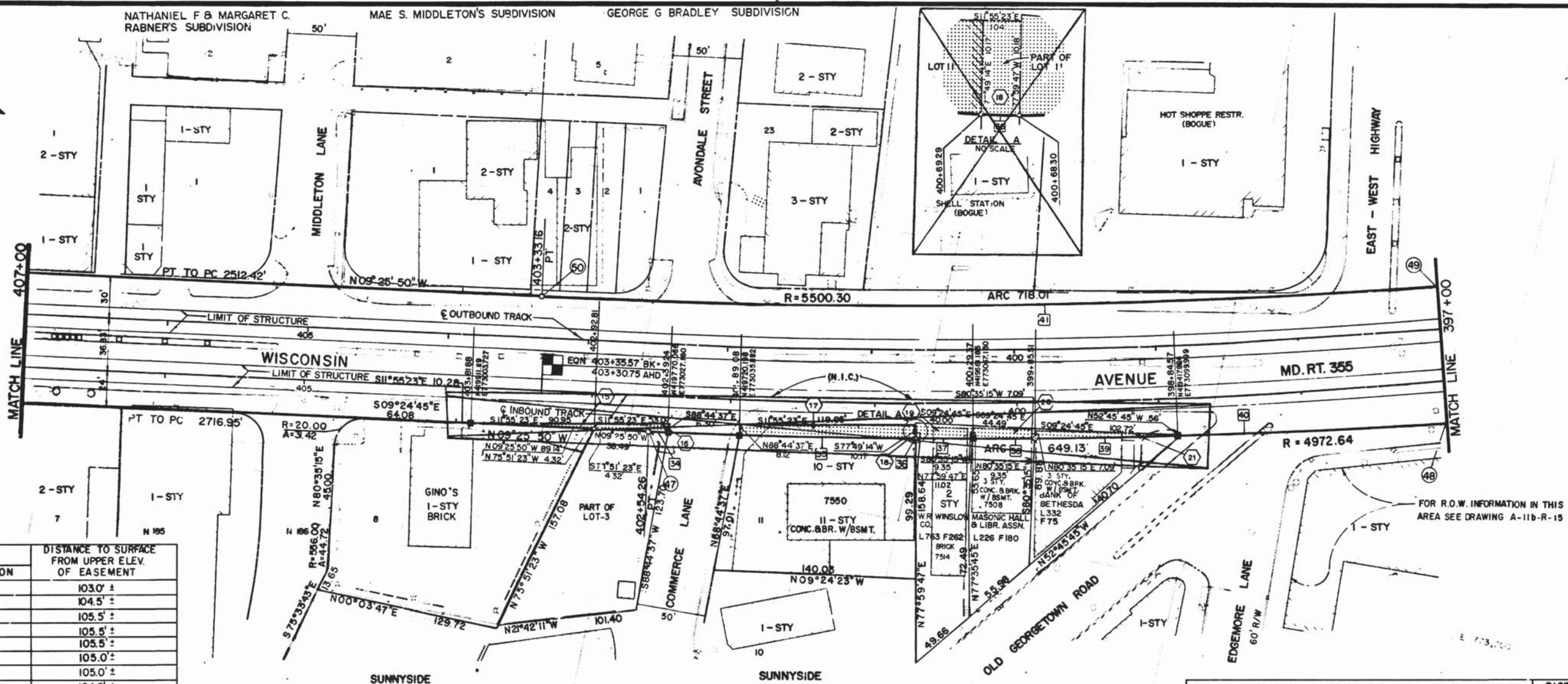


**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY**  
MATHEWS • CHATELAIN • BEALL  
ENGINEERS AND ARCHITECTS  
SECTION DESIGNER  
SUBMITTED *[Signature]* DATE *10-12-77*

DE LEUW, CATHAR & COMPANY  
GENERAL ENGINEERING CONSULTANT  
HARRY WEESE & ASSOCIATES  
GENERAL ARCHITECTURAL CONSULTANT  
APPROVED *[Signature]*

**ROCKVILLE ROUTE**  
RIGHT OF WAY  
STA. 397 + 98.06 TO STA. 393 + 48.53  
SCALE 1" = 40'  
DRAWING NO. A11b-R-15  
M276-21





VERTICAL LIMITS OF EASEMENT			DISTANCE TO SURFACE FROM UPPER ELEV. OF EASEMENT
FROM STA.	TO STA.	UPPER ELEVATION	
407 + 00.00	406 + 00.00	246.00'	103.0' ±
406 + 00.00	405 + 00.00	246.50'	104.5' ±
405 + 00.00	404 + 00.00	247.00'	105.5' ±
404 + 00.00	403 + 00.00	247.50'	105.5' ±
403 + 00.00	402 + 00.00	247.50'	105.5' ±
402 + 00.00	401 + 00.00	248.00'	105.0' ±
401 + 00.00	400 + 00.00	248.00'	105.0' ±
400 + 00.00	399 + 00.00	248.00'	104.5' ±
399 + 00.00	398 + 00.00	248.00'	104.5' ±
398 + 00.00	397 + 00.00	309.00'	40.0' ±

PROPERTY DISPOSITION TABLE ALL TAKINGS IN SQUARE FEET							
SUBDIVISION	BLOCK	LOT	PARCEL	TOTAL LOT AREA	PERMANENT UNDERGROUND EASEMENT	PERMANENT SURFACE EASEMENT	PERMANENT AERIAL EASEMENT
SUNNYSIDE		8	15	20,809.44	176.29		
		3	16	10,023.31	271.36		
		11	17	13,851.54	1126.62		
		11	18	95.27	10.40		
		19		5,679.82	405.89		
		20		5,104.65	367.09		
		21		4,980.26	400.50		

OWNER	DEED BOOK	PAGE	REMARKS
M. WALTON & M.E. HENDRY % GINO'S INC			PLAT 4312
GEORGE A SACKS	JWN2	84	WILL BOOK
UNITED STATES OF AMERICA (FOR G.S.A.)	3823	67	
WISCOM REAL ESTATE CO.	3062	351	
W. R. WINSLOW CO	763	262	
MASONIC HALL & LIBR. ASSOCIATION	226	180	
BANK OF BETHESDA	332	160	

COORDINATES	
NORTH	EAST
(47) 419785.216 - 773024.639	
(48) 419236.991 - 773147.881	
(49) 419264.686 - 773240.626	
(50) 419179.468 - 773265.780	

- NOTES:**
- HORIZONTAL CONTROL: METRO PROJECT COORDINATES (SEE NOTE #2 A-11b-C-5)
  - BUILDING SHOWN BEYOND R.O.W. LINES AND NOT TABULATED ARE PROJECTING INTO PUBLIC SPACE AND DO NOT AFFECT THIS CONTRACT.
  - SEE DRAWING A-11b-R-16 FOR BETHESDA STATION AREA.
  - VERTICAL CONTROL: U.S.C. & G.S. MEAN SEA LEVEL 1929 GENERAL ADJUSTMENT.

CURVE DATA						
CURVE NO	DELTA	RADIUS	TANGENT	ARC	CHORD	CHORD BEARING
34	00° 10' 37"	4972.64'	7.68'	15.36'	15.36'	N 09° 31' 09" W
35	01° 24' 01"	4972.64'	60.76'	121.52'	121.52'	N 10° 53' 27" W
36	00° 00' 42"	4972.64'	50'	1.01'	1.01'	N 11° 35' 49" W
37	00° 27' 20"	4972.64'	19.77'	33.54'	39.54'	N 11° 49' 50" W
38	00° 30' 48"	4972.64'	22.27'	44.55'	44.55'	N 12° 18' 54" W
39	01° 10' 53"	4972.64'	51.27'	102.53'	102.53'	N 13° 09' 44" W
40	07° 28' 46"	4972.64'	325.03'	649.13'	648.67'	N 13° 10' 13" W
41	07° 28' 46"	5500.30'	359.52'	718.01'	717.50'	N 13° 10' 13" W

VERTICAL LIMITS OF EASEMENT					DISTANCE TO SURFACE FROM UPPER ELEV. OF EASEMENT
LOT	PARCEL	FROM STA.	TO STA.	UPPER ELEV.	
8	15	403 + 81.88	402 + 92.81	247.50'	105.5' ±
3	16	402 + 92.81	402 + 39.24	247.50'	105.5' ±
11	17	401 + 89.08	400 + 69.29	248.0'	105.0' ±
	18	400 + 69.29	400 + 68.30	248.0'	105.0' ±
	19	400 + 68.30	400 + 29.37	248.0'	105.0' ±
	20	400 + 29.37	399 + 85.51	248.0'	105.0' ±
	21	399 + 85.51	398 + 84.57	248.0'	104.0' ±

- PERMANENT UNDERGROUND EASEMENT
- BUILDING
- SUBDIVISION LINE
- PARCEL NUMBER
- PROPERTY LINE
- LIMIT OF RIGHT-OF-WAY
- METRO R.O.W. MONUMENT (TO BE SET)
- EXISTING MONUMENT (IRON PIPE)
- COORDINATE
- CURVE DATA NUMBER

DESIGNED			REFERENCE DRAWINGS			REVISIONS		
H. STONER	11-18-73	DATE	NUMBER	DESCRIPTION	DATE	BY	DESCRIPTION	
L. WALTERS	11-18-73	DATE	A-11b-R-15	ROW INFORMATION FOR BETHESDA STATION				
J.R. DICKSON	5-8-75	DATE						
APPROVED								



### WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

MATHEWS • CHATELAIN • BEALL  
ENGINEERS AND ARCHITECTS  
SECTION DESIGNER

DE LEUW, CATHAR & COMPANY  
GENERAL ENGINEERING CONSULTANT

HARRY WEESE & ASSOCIATES  
GENERAL ARCHITECTS

SUBMITTED *[Signature]* DATE 02-13-77

APPROVED *[Signature]*

### ROCKVILLE ROUTE

RIGHT OF WAY  
STA 407+00 TO STA 397+00

SCALE: 1" = 40'

DRAWING NO. A11b-R-14

M276-20



DEPTH OF GROUND SURFACE, FEET

**BORING NUMBER 7-6**  
Ground surface elevation + 317.1

0	2	10	2,2,3	Top 8": Dark brown organic silt, trace fine sand & roots (topsoil - Fill) (ML)	0.7'
5	9	20	5,5,5	Bot 8": Brown micaceous silt, some fine sand (weathered rock) (ML) (probable fill)	
10	11	30	7,10,12	Brown micaceous silt, trace fine sand (weathered rock) (ML)	
15	14	40	100/4"	Do, 2D (ML)	
20	17	50	62, 100/2"	Do, 2D (ML)	
25	20	NR	50/1/2"	Practical refusal at bottom of boring	25.0'

Boring started 6-9-68, completed 6-19-68  
Final depths:  
Boring = 25.0' Casing = 14.2'  
Casing diameter = 2-1/2" Average depth of ground water = 10.2' = E1.+306.9

REMARKS:  
Washed ahead of casing below 10' depth.

**BORING NUMBER 7-7**  
Ground surface elevation + 306.4

0	4	10	2,2,2	Top 8": Dark brown silt, trace roots (topsoil - fill) (ML)	FILL 4.0'
5	6	20	2,3,2	Brown micaceous silt (ML)	
10	13	30	4,4,5	Brown micaceous silt, trace medium to coarse sand & gravel (ML)	
15	18	40	3,6,7	Do, 3D, trace gravel (ML)	
20	22	50	3,6,9	Brown & gray micaceous silt, trace fine sand (ML)	
25	27	60	5,9,10	Do, 5D (ML)	
30	32	70	8,12,22	Do, 5D (ML)	
35	37	80	12,12,16	Do, 5D (ML)	
40	42	90	12,18,26	Do, 5D, sandier (SM)	
45	47	100	6,10,16	Do, 9D (SM)	
50	52	110	100/6"	Brown micaceous silty fine sand (SM)	
55	57	120	100/3"	Brown & gray micaceous silty fine sand (SM)	54.5'
60	62	1C	100%	Sound quartz diorite gneiss, 2 joints at 45° & 75° from horizontal	
65	67	3C	100%	Sound quartz diorite gneiss, no joints, 60° foliation RQD = 100%	
70	72	4C	100%	Sound quartz diorite gneiss, 2-60° joints, 60° foliation	
75	77	5C	93%	Sound quartz diorite gneiss, 6 joints, 60° to 75°, 60° foliation	75.0'

Boring started 6-20-68, completed 6-22-68  
Final depths:  
Boring = 75.0' Casing = 51.0'  
Casing diameter = 3-1/2" Average depth of ground water = 12.2' = E1.+294.2

REMARKS:  
Washed ahead of casing from 31' depth; casing blows not indicative of consistency.  
Observation well consisting of 1/2" steel pipe installed with tip at 56.3' depth.

**BORING NUMBER 7-8**  
Ground surface elevation + 349.2

0	2	10	1,2,3	Light brown silt, some brown clay, trace fine sand (Fill) (ML)	
5	6	20	6,6,6	Brown, gray & orange micaceous silt, trace brown clay & fine to medium sand (Fill) (ML)	
10	11	30	4,6,7	Gray & brown micaceous silt, trace fine sand (ML)	
15	16	40	5,7,9	Brown & gray micaceous silt, trace fine sand (ML)	
20	21	50	9,15,24	Gray & brown micaceous silt, trace fine sand (ML)	
25	26	60	27,80	Brown & gray micaceous silt, trace fine sand (ML)	
30	31	70	100/5-2/2"	Do, 6D (ML)	
35	36	80	100/5-1/2"	Do, 6D (ML)	
40	41	NR	100/1"	Refusal, possible top of bedrock	38.4'

Boring started 6-27-68, completed 6-27-68  
Final depths:  
Boring = 38.4' Casing = 9.0'  
Casing diameter = 2-1/2" Average depth of ground water = - = E1.+

REMARKS:  
No measurement of ground water level made in this boring.

**BORING NUMBER 7-9**  
Ground surface elevation + 352.5

0	4	10	1,1,1	Brown micaceous silt, trace fine sand and roots (Fill) (ML)	
5	6	20	1,3,4	Mottled brown & gray silty clay (Fill) (CL)	
10	11	30	6,4,3	Brown clayey micaceous silt, trace fine sand (thoroughly decomposed rock) (ML)	
15	16	40	6,8,8	Do, 3D (ML)	
20	21	50	2,3,3	Gray and brown micaceous silt, trace fine sand (ML)	
25	26	60	7,7,8	Brown micaceous silt, trace medium to coarse sand (ML)	
30	31	70	8,9,15	Brown & gray micaceous silt, trace fine sand (ML)	
35	36	80	15,22,36	Do, 7D (ML)	
40	41	90	52, 100/2"	Do, 7D (ML)	
45	46	100	100/5"	Do, 7D (ML)	
50	51	NR	50/1/2"	Practical refusal at bottom of boring	49.0'

Boring started 6-26-68, completed 6-27-68  
Final depths:  
Boring = 49.0' Casing = 14.0'  
Casing diameter = 2-1/2" Average depth of ground water = 14.5' = E1.+338.0

**BORING NUMBER 7-10**  
Ground surface elevation + 349.1

0	11	10	3,2,3	Brown & gray silt, trace fine sand (Fill) (ML)	
5	12	20	5,5,6	Top 6": Do, 1D (ML) Bot 12": Brown silt, trace fine sand & mica, thoroughly decomposed rock (ML)	
10	14	30	7,8,8	Brown & gray silt, trace fine sand & mica (ML)	
15	18	40	6,4,7	Brown silt, trace fine sand & mica (ML)	
20	22	50	5,7,9	Do, 4D (ML)	
25	26	60	8,11,13	Brown & gray silt, trace fine sand & mica (ML)	
30	30	70	8,15,31	Do, 6D (ML)	
35	34	80	21,41,100	Brown & gray silt, some mica, trace fine sand (ML)	
40	38	90	38, 100/4"	Brown silt, trace fine sand, some mica (ML)	
45	42	100	35,52	Do, 9D (ML)	
50	46	110	85	Do, 9D (ML)	
55	50	120	100/3"	Do, 9D (ML)	
60	54	NR	50/1/4"	Refusal	60.0'
65	58	1C	84%	Moderately jointed chlorite schist RQD = 76%	
70	62	2C	80%	Do, 1C RQD = 72%	
75	66	3C	88%	Moderately jointed, relatively sound quartz biotite schistose gneiss RQD = 66%	
80	70	4C	90%	Do, 3C	
85	74	5C	96%	Jointed quartz biotite schistose gneiss RQD = 52%	
90	78	6C	96%	Relatively sound quartz biotite schistose gneiss & quartz diorite gneiss	88.0'
95	82	7C	100%	Moderately jointed quartz biotite gneiss RQD = 74%	90.0'
100	86	8C	94%	Sound quartz diorite gneiss, RQD = 86%	95.0'
105	90	9C	100%	Do, 8C	105.0'

Boring started 7-11-68, completed 7-17-68  
Final depths:  
Boring = 105.0' Casing = 36.2'  
Casing diameter = 3-1/2" Average depth of ground water = 22.1' = E1.+327.0

REMARKS:  
Washed ahead of casing from 15' depth; casing blows not indicative of consistency.

**BORING NUMBER 7-11**  
Ground surface elevation + 347.2

0	8	10	1,1,2	Brown & black silty clay, trace organic material & fine sand (Fill) (CL)	FILL 2.0'
5	12	20	10,10,12	Brown & tan micaceous silt, trace fine to medium sand (decomposed rock) (ML)	
10	14	30	17,21,28	Do, 2D (ML)	
15	18	40	11,19,18	Do, 2D (ML)	
20	22	50	5,7,13	Brown & tan micaceous silt, trace fine sand (ML)	
25	26	60	45,51,56	Do, 5D (ML)	
30	30	70	23,48,56/1"	Do, 5D (ML)	
35	34	80	54, 50/2"	Do, 5D (ML)	
40	38	90	63, 50/3"	Do, 5D (ML)	
45	42	100	28,54	Do, 5D (ML)	
50	46	NR	100/1"	Practical refusal at bottom of boring	49.1'

Boring started 6-28-68, completed 6-29-68  
Final depths:  
Boring = 49.1' Casing = 13.8'  
Casing diameter = Average depth of ground water = 21.6' = E1.+325.6

N.I.C.

DESIGNED			REFERENCE DRAWINGS			REVISIONS		
T.P. SMIRNOFF								
DATE			NUMBER	DESCRIPTION	DATE	BY	DESCRIPTION	
12-5-75			SO-1	KEY PLAN				
DRAWN								
J.L. BISHOP								
DATE			SO-2	BORING COORDINATES AND LEGEND				
12-6-75								
CHECKED								
R.A. BUTLER								
DATE			SO-3	NOTES AND ABBREVIATIONS				
12-8-75								
APPROVED								
[Signature]			SO-32	NOTES FOR AM BORING SERIES				
DATE								
5-2-77								



**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY**

MATHEWS • CHATELAIN • BEALL  
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SECTION DESIGNER

DE LEUW, CATHAR & COMPANY  
GENERAL ENGINEERING CONSULTANT  
HARRY WEESE & ASSOCIATES  
GENERAL ARCHITECTURAL CONSULTANT

SUBMITTED \_\_\_\_\_ DATE \_\_\_\_\_

APPROVED \_\_\_\_\_

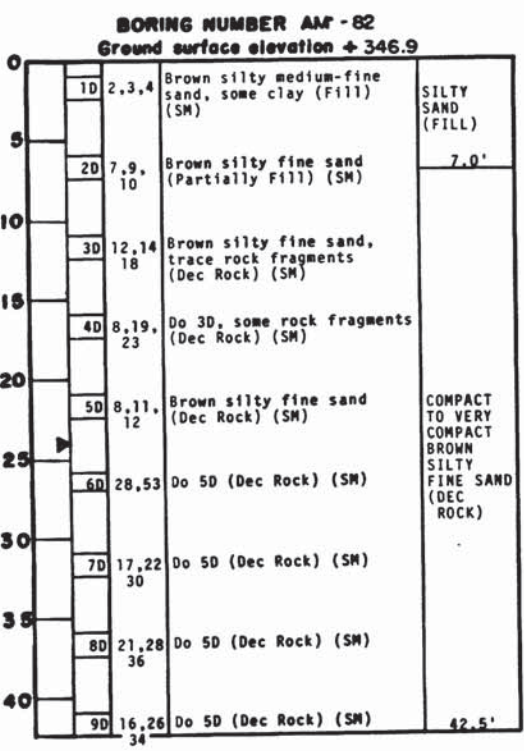
**ROCKVILLE ROUTE**  
SOILS AND GEOLOGICAL INFORMATION  
LOGS OF BORING NO. 7-10

SCALE  
VERT. 1" = 6'

DRAWING NO.  
A11b-SO-52 M276-56

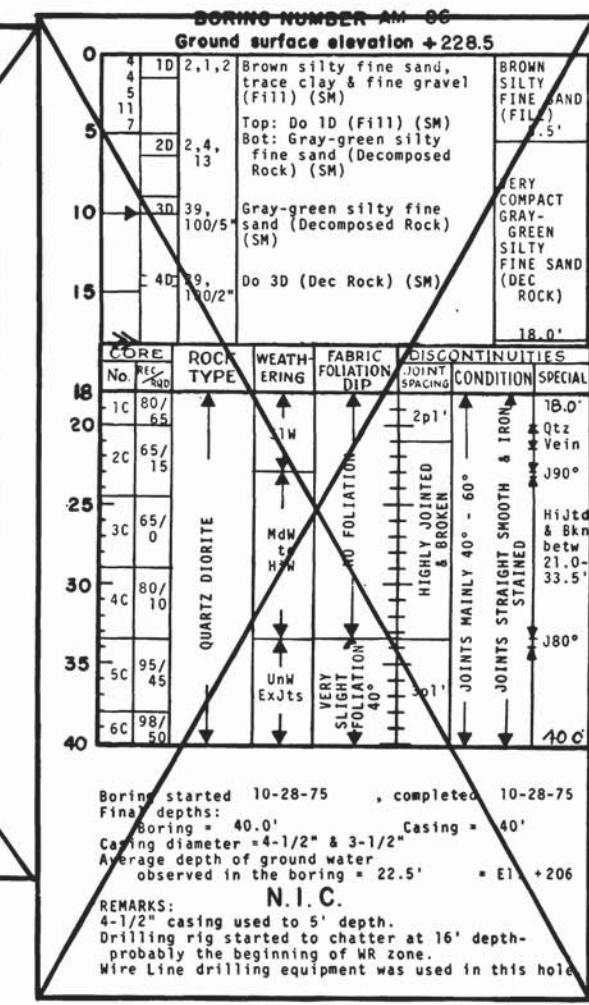
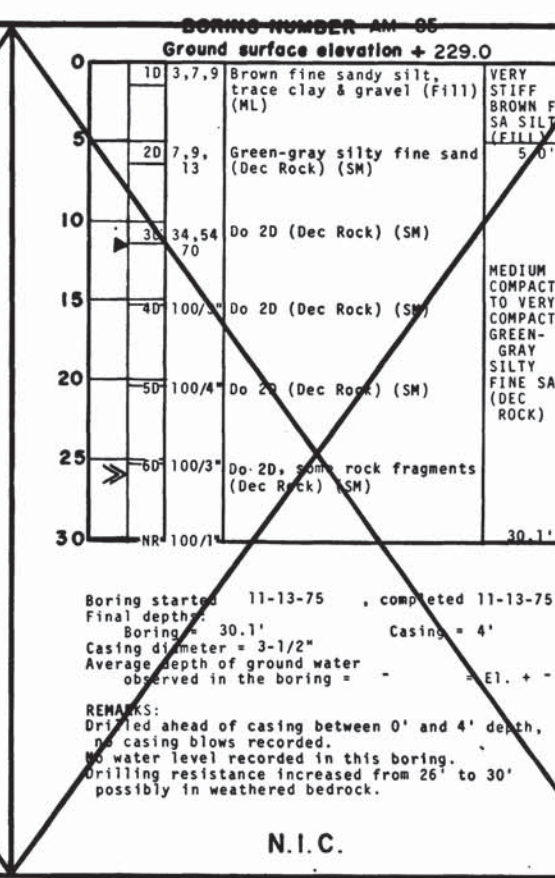
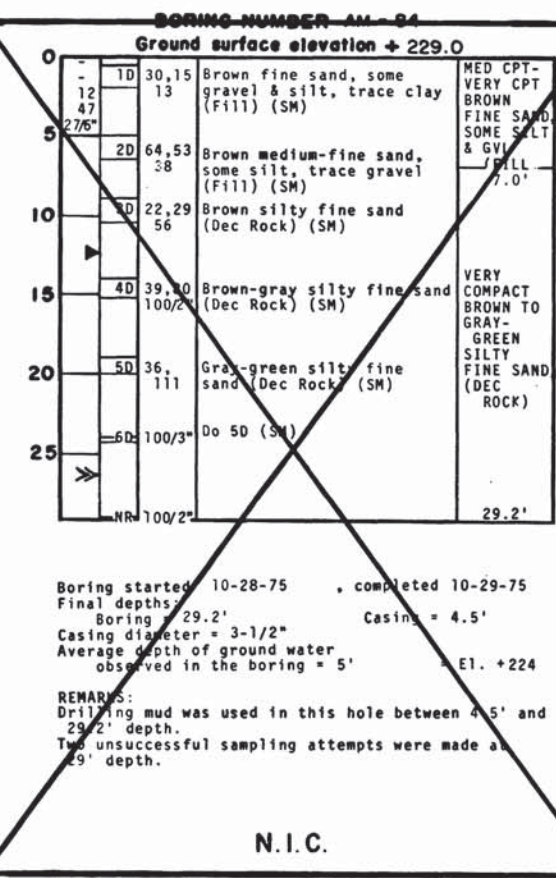
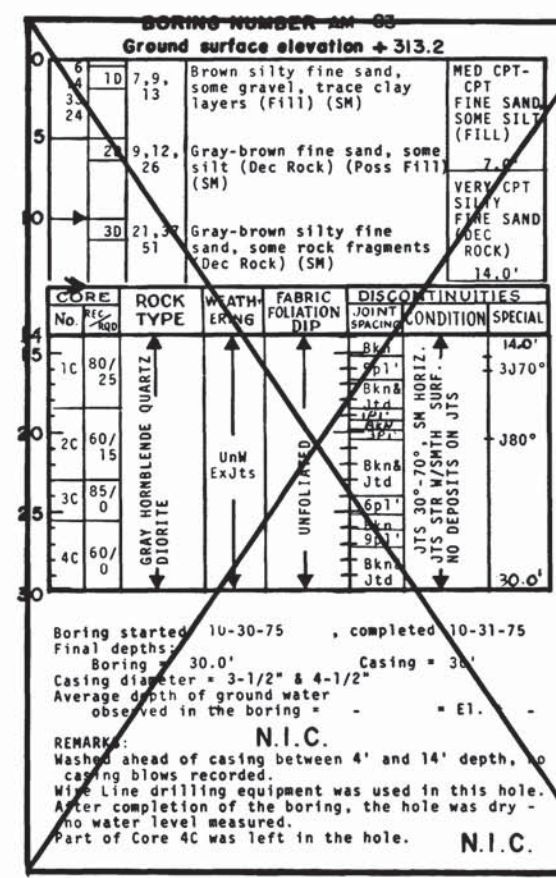


DEPTH BELOW GROUND SURFACE, FEET

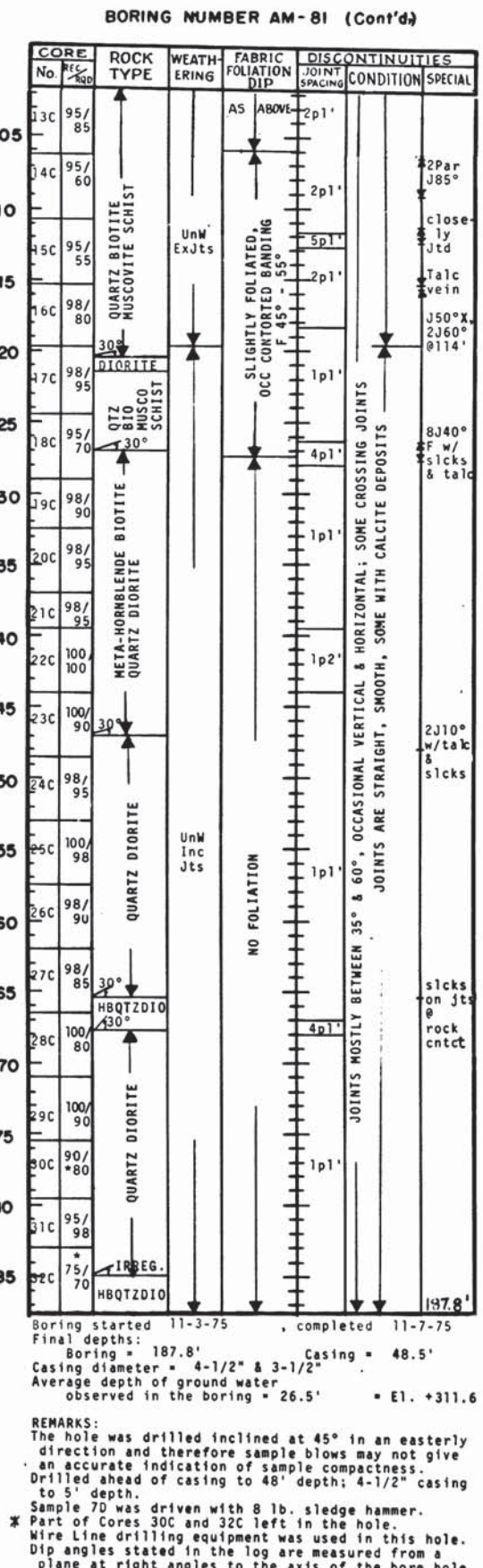
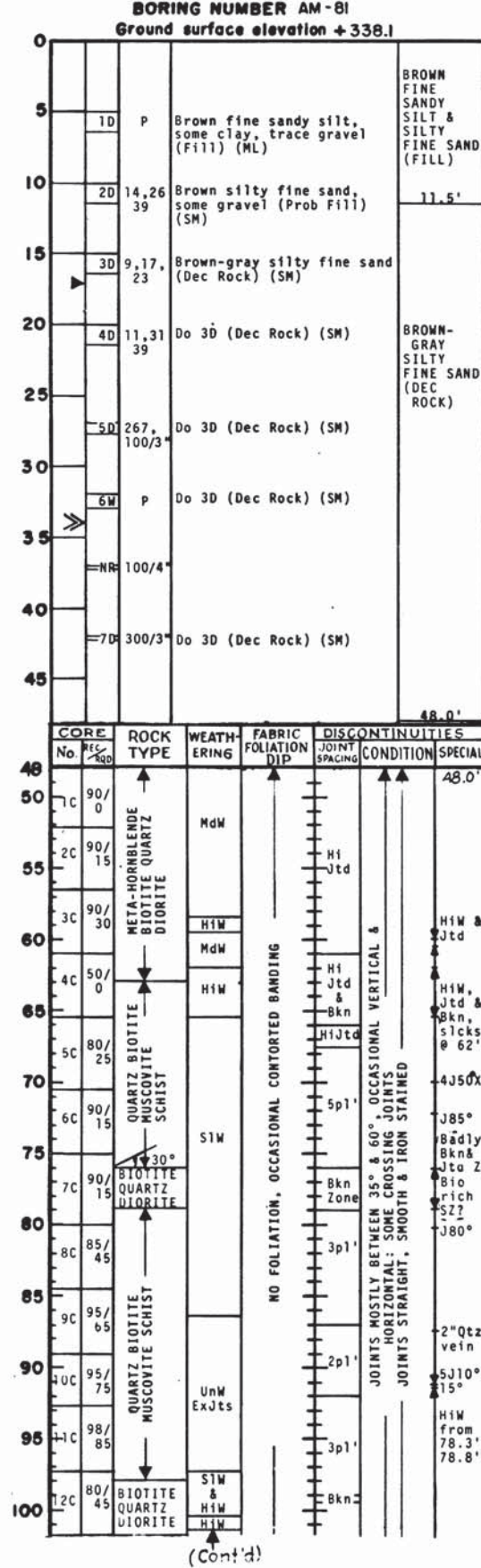
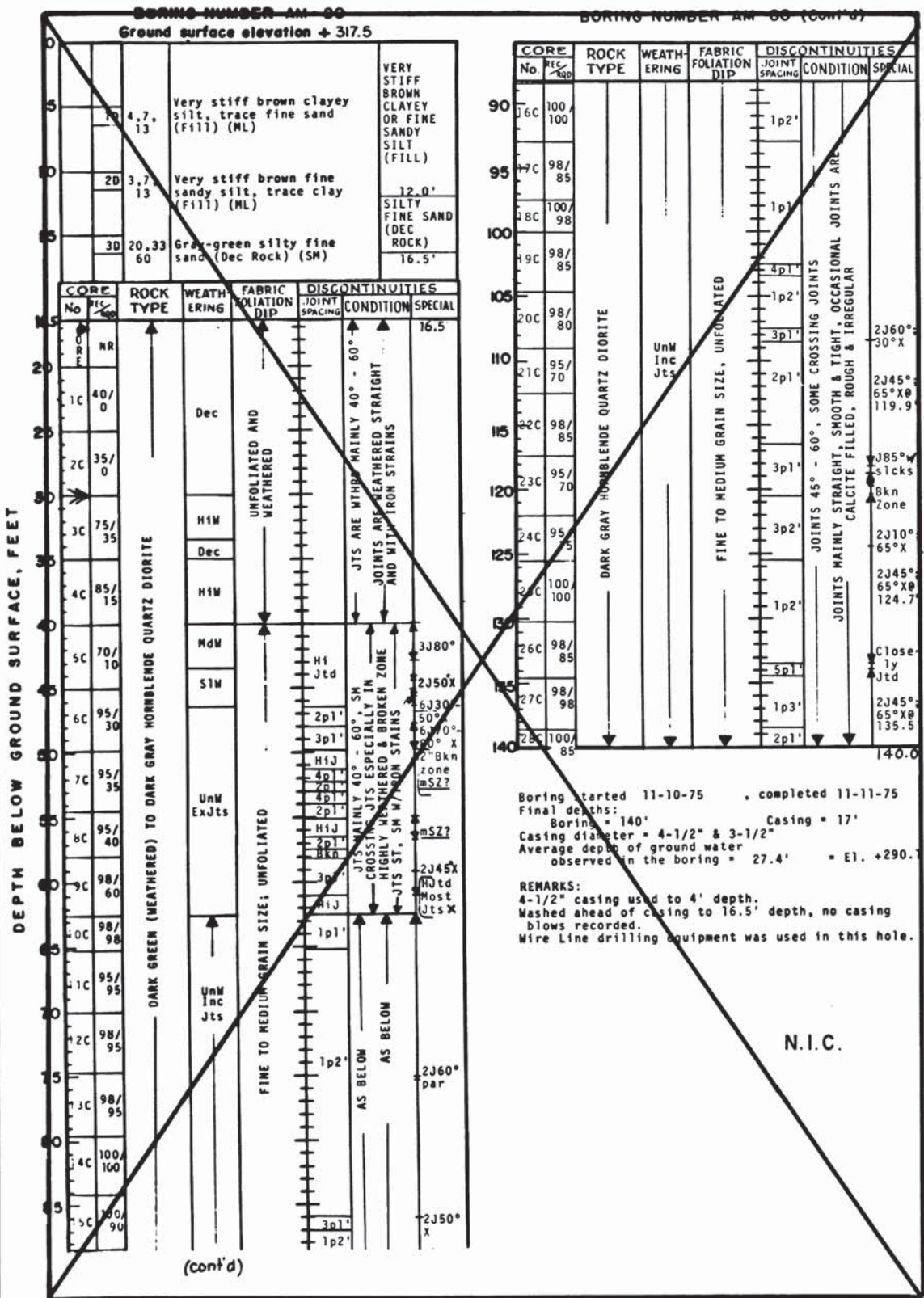


Boring started 11-12-75, completed 11-13-75  
Final depths: Boring = 42.5', Casing = 15'  
Casing diameter = 3-1/2"  
Average depth of ground water observed in the boring = 7' = El. +339.9

REMARKS:  
3" of asphalt and concrete pavement at the surface. Washed ahead of casing to 15' depth, no casing blows recorded. Apparent boulders and rock fragments between 1' and 15' depth.







NOTES

1. BORINGS NOS. AM-80 THROUGH AM-86 WERE MADE BY RAYMOND INTERNATIONAL, INC. BETWEEN OCTOBER 28, AND NOVEMBER 13, 1975 UNDER THE CONTINUOUS INSPECTION OF MUESER, RUTLEDGE, WENTWORTH & JOHNSTON.

2. COORDINATE LOCATIONS OF THE BORINGS ARE LISTED IN TABLE NO. 1 OF MRW & J REPORT SERIES NO. 143.

DEFINITIONS AND LEGEND

RQD - ROCK QUALITY DESIGNATION. THE TOTAL LENGTH OF CORE RECOVERED, COUNTING ONLY THOSE PIECES OF CORE THAT ARE 4 INCHES IN LENGTH OR LONGER, EXPRESSED AS A PERCENTAGE OF THE TOTAL LENGTH OF THAT CORING RUN.

REC - THE TOTAL LENGTH OF CORE RECOVERED EXPRESSED AS A PERCENTAGE OF THE TOTAL LENGTH OF THAT CORING RUN.

H1W - HIGHLY WEATHERED ROCK. GENERALLY ROCK-LIKE, CAN BE BROKEN EASILY, BUT CRUMBLES WITH DIFFICULTY BY HAND.

MdW - MODERATELY WEATHERED ROCK. FABRIC STAINED RUSTY BROWN, CAN BE INDENTED BY STEEL NAIL, BREAKS ONLY WITH DIFFICULTY.

SIW - SLIGHTLY WEATHERED ROCK. OPEN DISCONTINUITIES ARE WEATHERED & COATED, BUT ONLY SLIGHT WEATHERING OF ROCK MASS, GENERALLY NOT INDENTED BY STEEL NAIL.

UnW Ex Jts - WEATHERING LIMITED TO THE SURFACE OF DISCONTINUITIES. FABRIC FRESH THROUGHOUT BUT MOST JOINTS SHOW RUSTY STAIN AND/OR SOIL FILLING MATERIAL.

UnW Inc Jts - ROCK MASS AND DISCONTINUITIES ARE UNWEATHERED. ONLY OCCASIONAL JOINTS SHOW RUSTY STAIN, PRACTICALLY NO SOIL FILLING.

THE NATURAL MATERIALS OVERLYING BEDROCK ARE DERIVED FROM WEATHERING AND DECOMPOSITION OF THE PARENT ROCK IN-SITU. ON THESE BORING LOGS THE NATURAL OVERBURDEN MATERIALS ABOVE BEDROCK ARE DIVIDED INTO TWO CATEGORIES:  
STRATUM (D): DECOMPOSED ROCK (RESIDUAL SOIL)  
STRATUM (D) TO (WR): TRANSITION, DECOMPOSED ROCK TO WEATHERED ROCK

THE UPPER "RESIDUAL SOIL" STRATUM IS COMPOSED ALMOST ENTIRELY OF SOIL-LIKE MATERIAL. THE LOWER "TRANSITION" STRATUM IS EXPECTED TO CONTAIN BOTH SOIL AND ROCK-LIKE MATERIALS IN ROUGHLY EQUAL PROPORTIONS. THE DIVISION BETWEEN THESE TWO STRATA IS GENERALLY TAKEN IN THE BORINGS AT A STANDARD SAMPLER PENETRATION RESISTANCE VALUE OF APPROXIMATELY 100 BLOWS PER FOOT. THE "APPROXIMATE TOP OF WEATHERED BEDROCK" CONSTITUTES THE BOUNDARY BETWEEN THE TRANSITION STRATUM AND BEDROCK WHICH EXHIBITS ESSENTIALLY ROCK-LIKE CHARACTERISTICS. THIS BOUNDARY GENERALLY IS TAKEN WHERE ROCK CORE RECOVERIES EXCEED APPROXIMATELY 50 PER CENT AND/OR RQD VALUES EXCEED APPROXIMATELY 10 PER CENT.

ON THE BORING LOGS THE TOP OF THE TRANSITION STRATUM (D) TO (WR) IS SHOWN THUS:

& THE TOP OF "WEATHERED BEDROCK" SHOWN THUS:

J40° - JOINT 40° DIP, NO FOLIATION.  
2XJ, 40° & 50° - 2 CROSSING JOINTS, 40° & 50° DIP INTERSECTING EACH OTHER.  
J50°F - 1 JOINT 50° DIP, PARALLEL TO THE FOLIATION; SAME DIP & STRIKE AS THE FOLIATION.  
J35°RF - 1 JOINT 35° DIP, REVERSE FOLIATION; REVERSE DIP BUT THE SAME STRIKE AS THE FOLIATION (WITHIN 10°).  
J45°XF - 1 JOINT 45° DIP CROSSING THE FOLIATION AT SOME ANGLE.  
J55°PF - 1 JOINT 55° DIP PERPENDICULAR FOLIATION; THE JOINT STRIKE ROUGHLY AT RIGHT ANGLE TO THE FOLIATION STRIKE.  
2XJ50° OR - 2 JOINTS 50° DIP, INTERSECTING EACH OTHER.  
2XJ, 40° & 50° - 2 JOINTS 40° & 50° DIP, INTERSECTING EACH OTHER.

ABBREVIATIONS

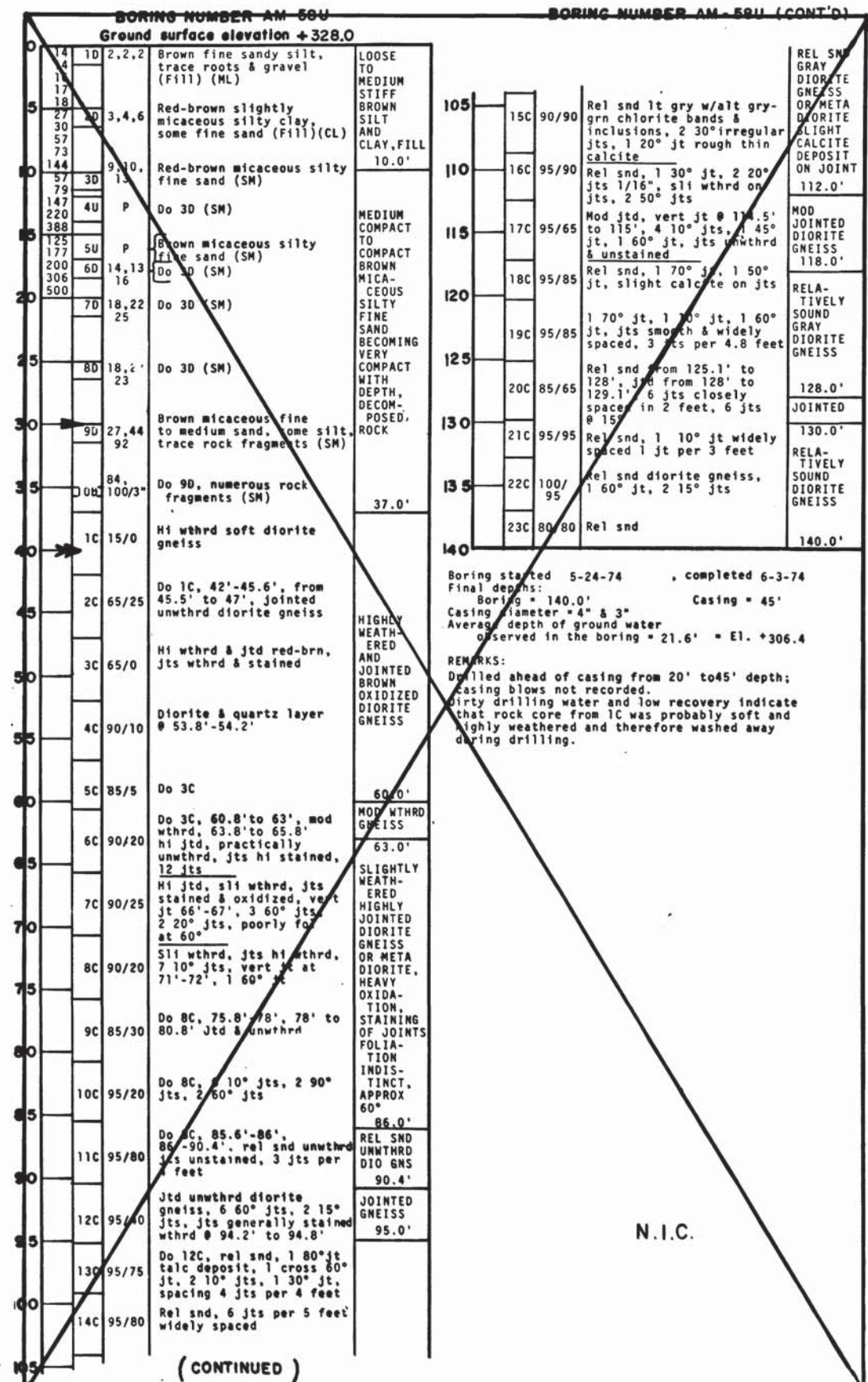
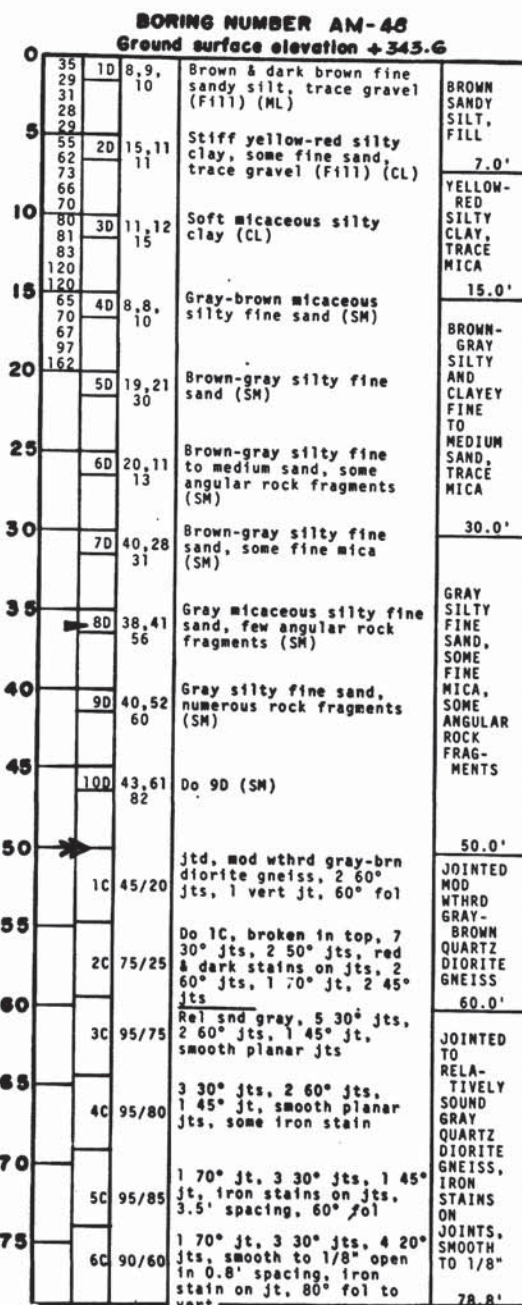
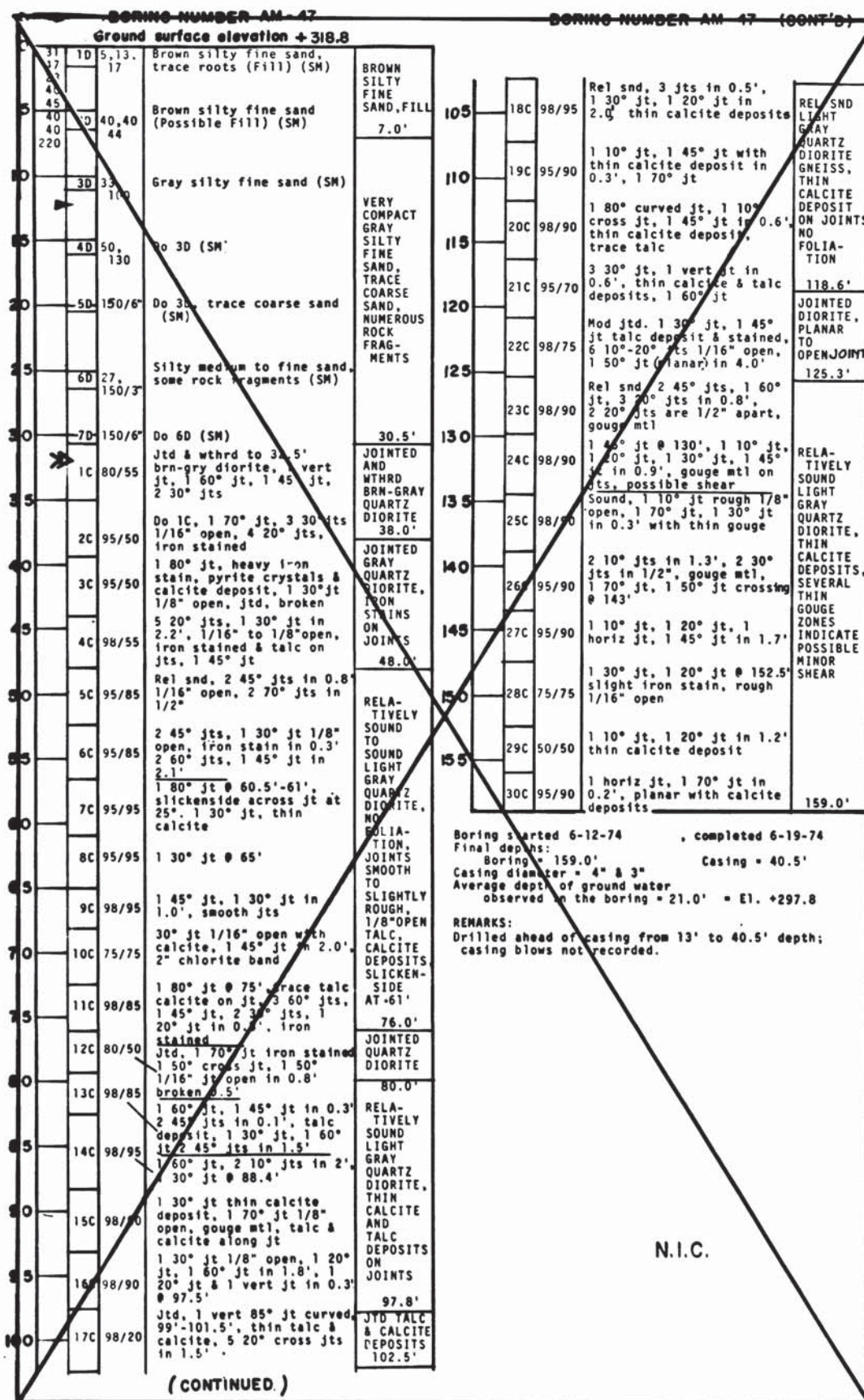
5p1' 5 JOINTS PER FOOT  
BIO BIOTITE  
BKN BROKEN  
BRN BRECCIATED  
CALC CALCITE  
CEM CEMENTED  
CHL CHLORITE  
CNTC CONTACT  
CONT CONTACTED  
CRV CURVED  
DEC DECOMPOSED  
DIB DIAGONAL  
F OR FOL FOLIATION, FOLIATED  
F JT FOLIATION JOINT: THE JOINT HAS THE SAME DIP AND STRIKE AS THE FOLIATION  
F S FOLIATION SHEAR  
FRCT, FRAC FRACTURED  
GOG GOUGE  
HI HIGHLY  
HORN HORNBLENDE  
INCL INCLUSIONS

IRRG IRREGULAR  
JT JOINT  
JTD JOINED  
M MINOR  
MAJ MAJOR  
MOD MODERATELY  
OXID OXIDIZED  
PAR PARALLEL  
QTZ QUARTZ  
RGH ROUGH  
REL RELATIVELY SOUND  
SLI SLIGHTLY  
SLICKS SLICKSIDES  
SMTH SMOOTH  
ST STRAIGHT  
SZ SHEAR ZONE  
SZ POSSIBLE SHEAR ZONE  
UNWthr UNWEATHERED  
VAR VARIABLE  
VERT VERTICAL  
VN VEIN  
Wthr WEATHERED









DESIGNED	DATE	REFERENCE DRAWINGS	REVISIONS
KA BUTLER	12/9/74	SO-1 KEY PLAN	
JAD KEELEY	12/10/74	SO-2 BORING COORDINATES AND LEGEND	
TR SMIRNOFF	12/12/74	SO-3 NOTES AND ABBREVIATIONS	
APPROVED	5/11/77	SO-32 NOTES FOR AM BORING SERIES	



## WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

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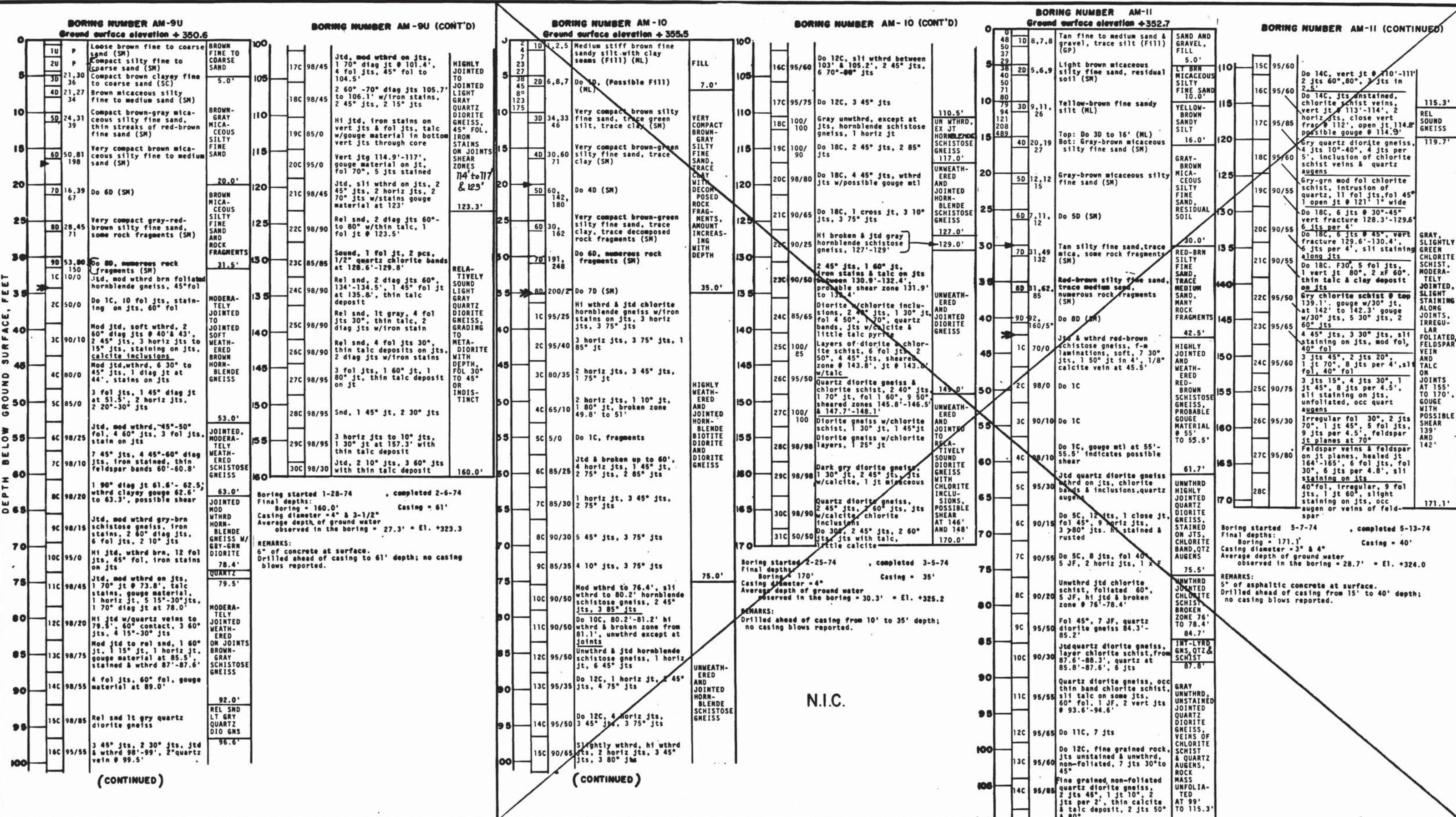
SUBMITTED *Clay Vance* DATE 10-3-77APPROVED *Robert J. Miller*

## ROCKVILLE ROUTE

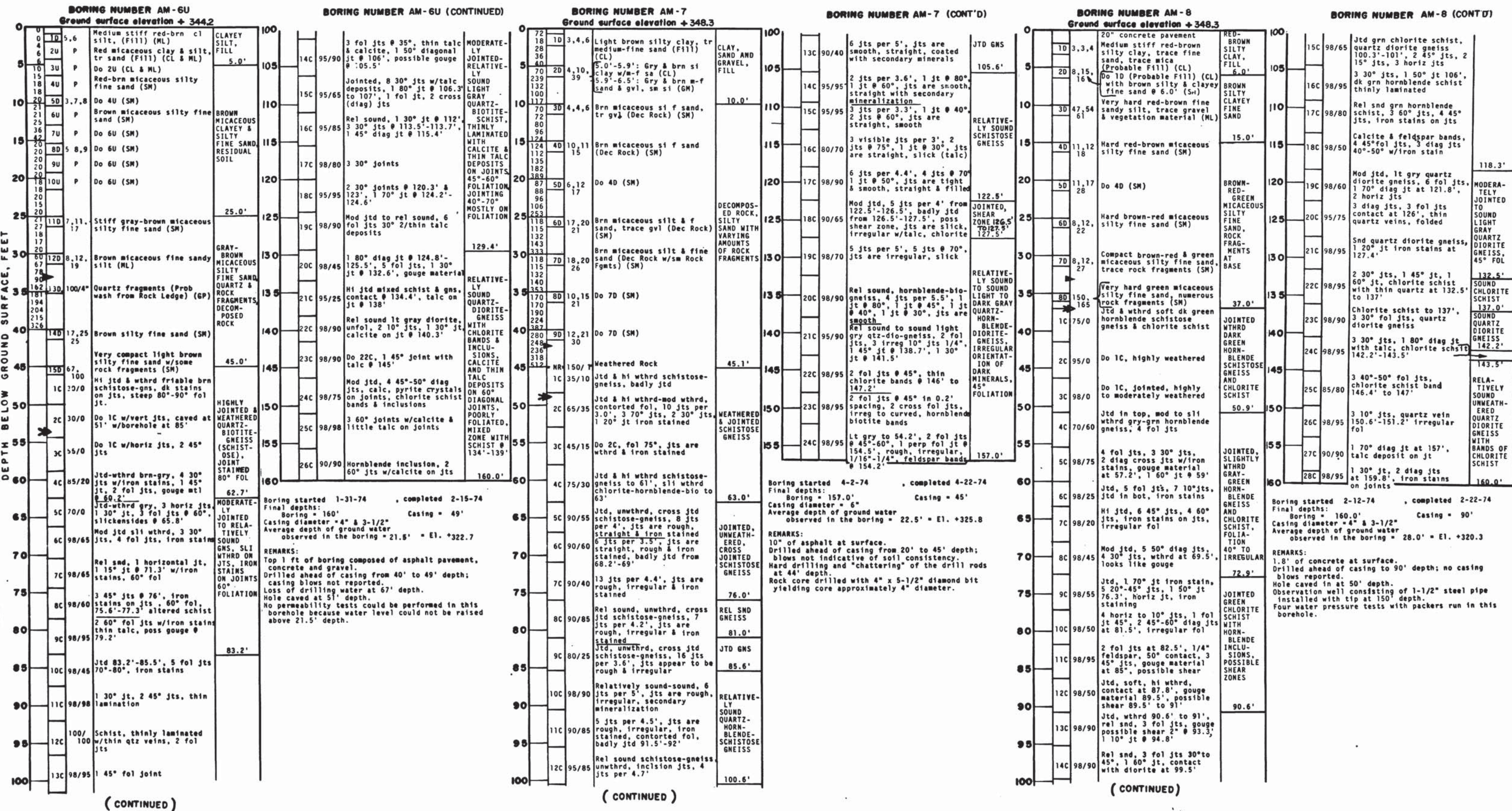
SOILS AND GEOLOGICAL INFORMATION  
LOGS OF BORINGS, NOS. AM-47 TO AM-58U

SCALE: VERT. 1" = 6' 3 0 3 6  
DRAWING NO. A11b-SO-44 M276-52

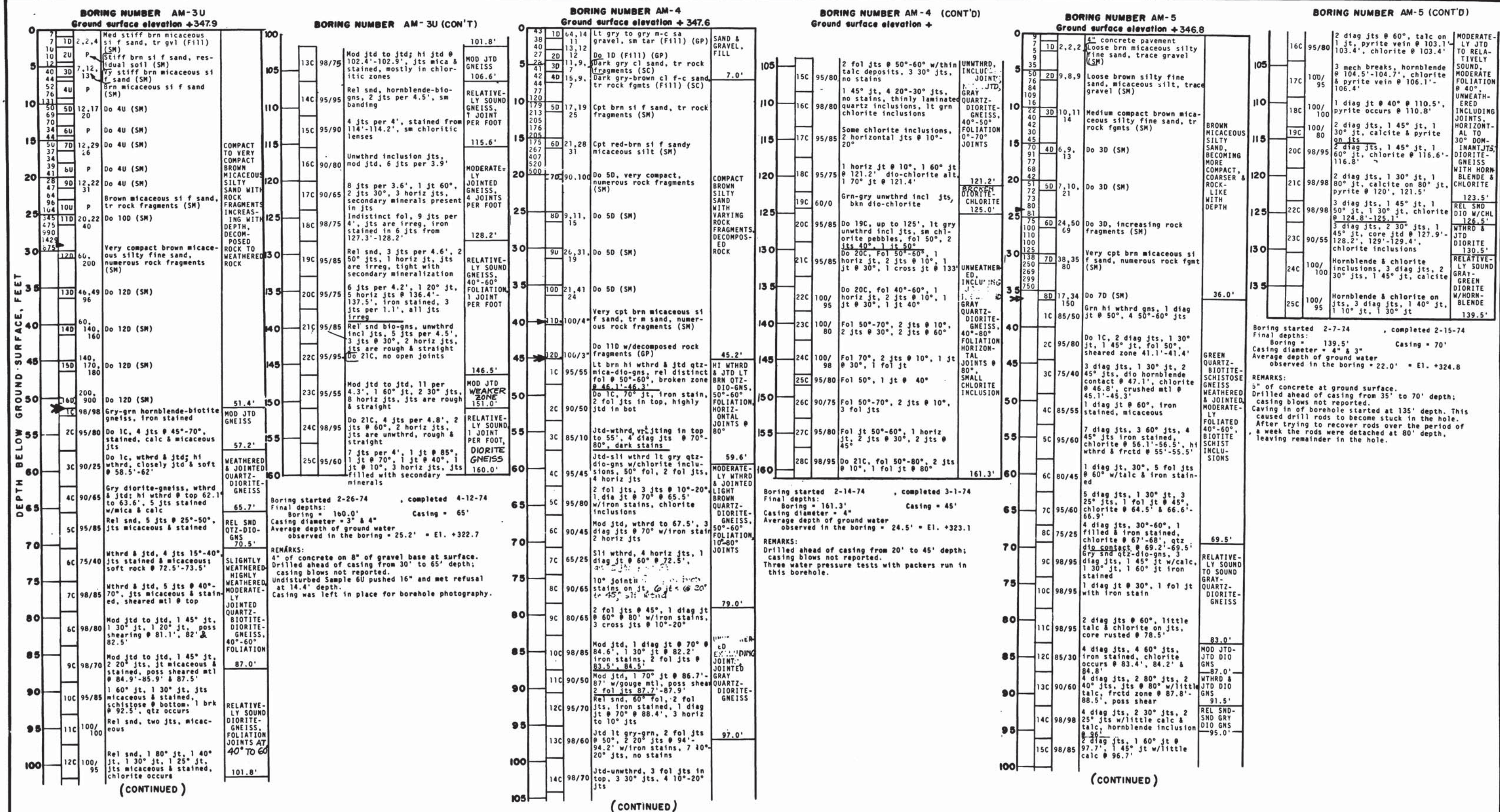






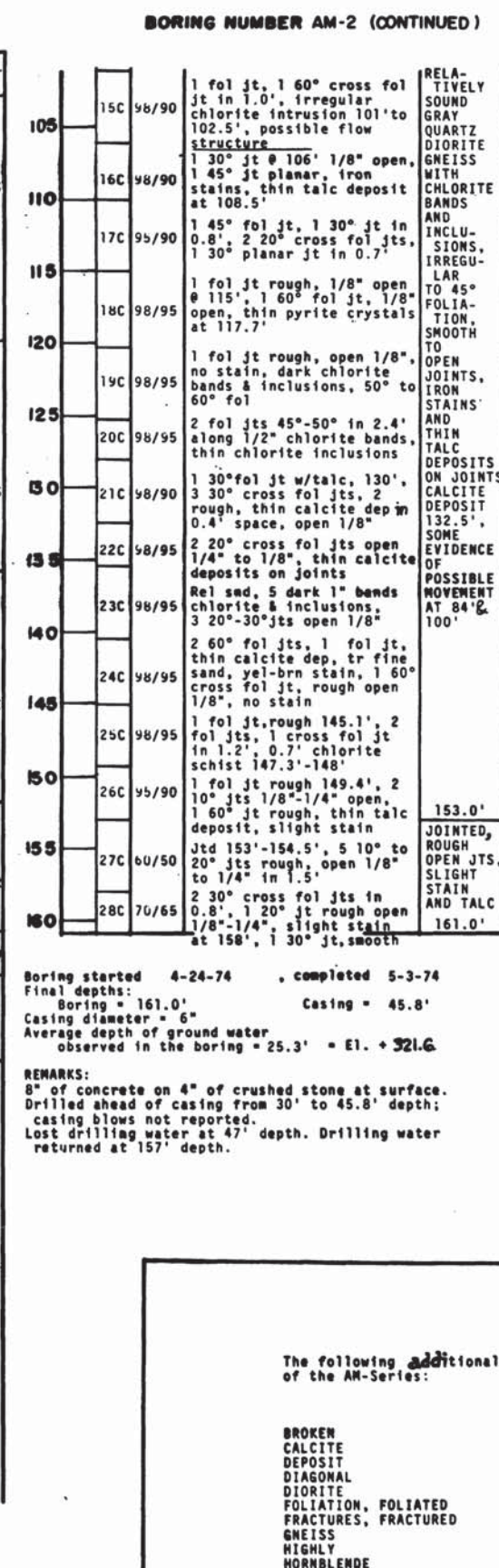
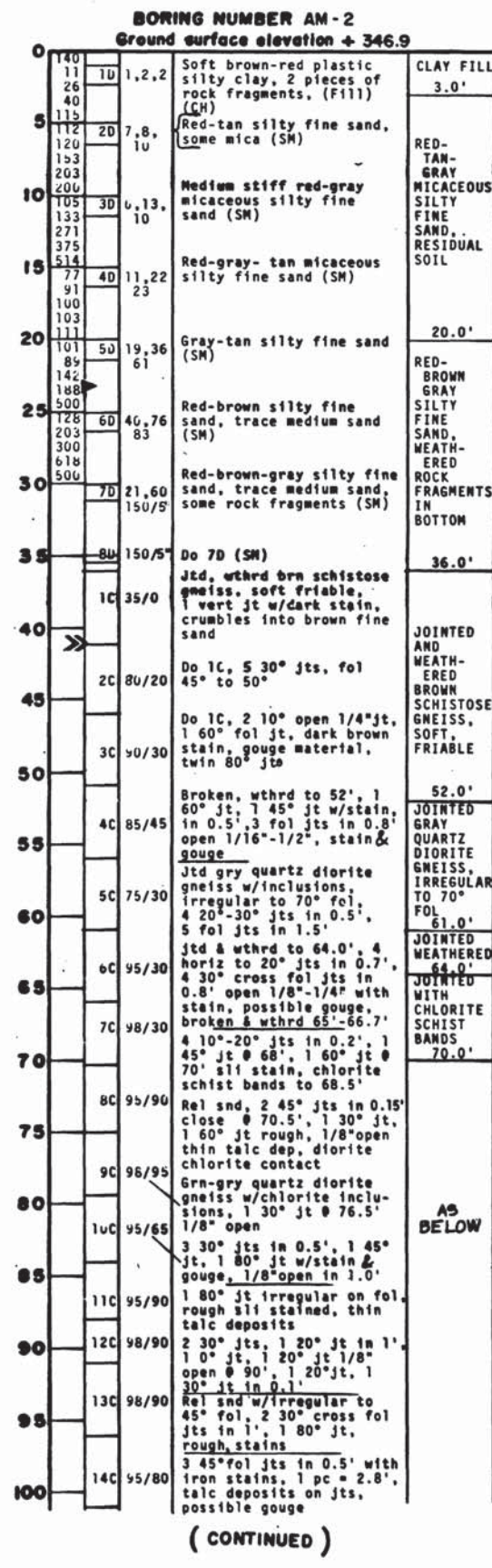
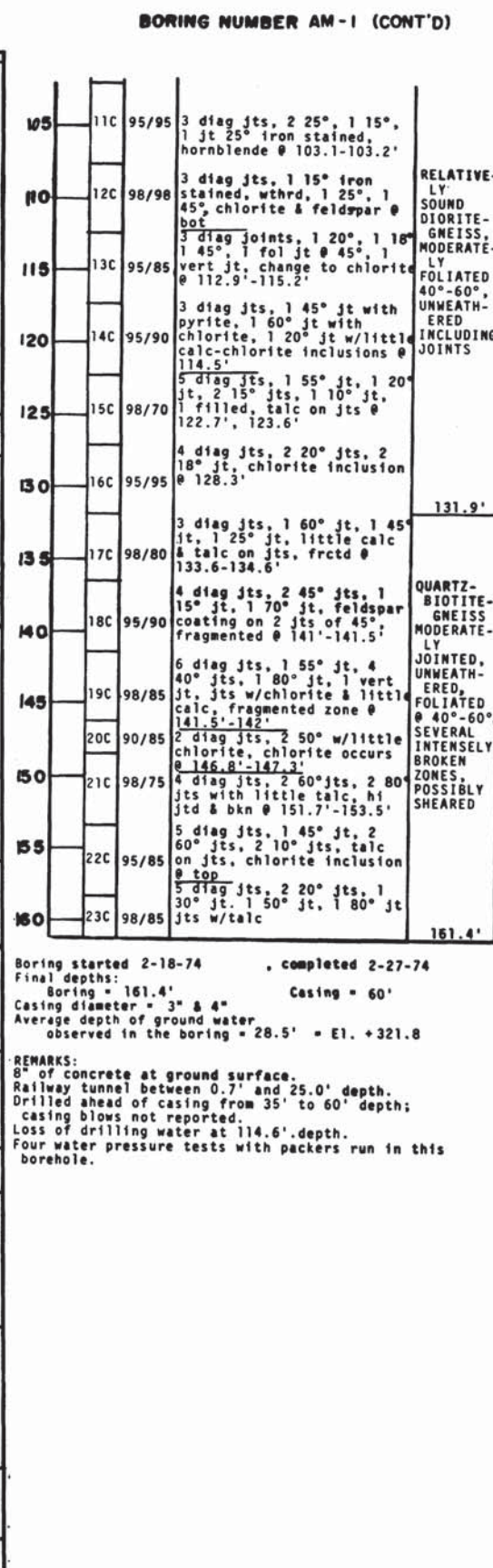
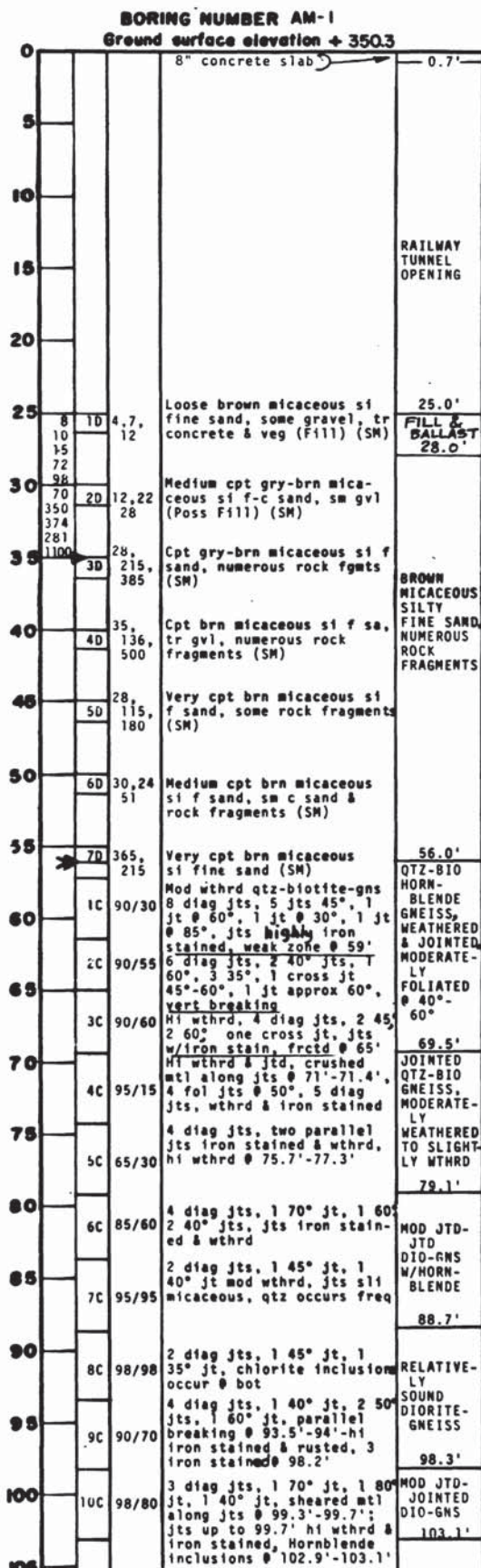




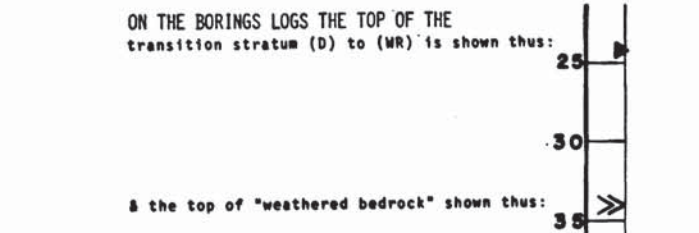




DEPTH BELOW GROUND SURFACE, FEET



- NOTES FOR AM-SERIES BORING LOGS**
- A total of 59 borings of the AM-series between Nos. AM-1 and AM-71 were made by Empire Soils Investigations, Inc. from September 1973 to August 1974 under the continuous supervision of Mueser, Rutledge, Wentworth & Johnston engineers. A group of eight supplementary borings, Nos. AM-72 through AM-79, were made by Empire Soils Investigations, Inc. in December 1974 and January 1975 under the continuous supervision of Mueser, Rutledge, Wentworth & Johnston engineers.
  - General notes concerning symbols and the method of presentation of data on boring log drawings and geological section drawings are given on Information Drawing No. F-1. For survey data on coordinate locations and ground surface elevations at the borings see Table No. 1 of Mueser, Rutledge, Wentworth & Johnston Report No. 117 of December 30, 1974.
  - All rock cores from Borings Nos. AM-1 through AM-71 were recovered in NX-size, triple tube, split core barrels (Christensen No. NMD-3) recovering cores 2-1/8-inch in diameter; except that Borings Nos. AM-7, -23 and -42 were cored with a 4-1/2-inch by 5-inch diamond bit yielding a core approximately 4-inches in diameter.
  - The "Rock Quality Designation" (RQD) is a parameter which reflects the intensity of jointing in the recovered core. For any particular core run the RQD equals the sum of the lengths of pieces of that core longer than 4-inches divided by the total length of core run, expressed as a percentage. General descriptions of rock quality are based primarily on RQD values. For example, "relatively sound rock" is that core wherein the mineral matrix is essentially unweathered and RQD exceeds 75 per cent. This description does not mean that the rock will remain intact and free of joints, fractures or breaks in the process of excavation. For a detailed description of adjectives used to describe rock quality see Mueser, Rutledge, Wentworth & Johnston Report No. 117.
  - The natural materials overlying bedrock are derived from weathering and decomposition of the parent rock in-situ. In this investigation natural overburden materials above bedrock are divided into two categories:  
Stratum (D): decomposed rock (residual soil)  
Stratum (D) to (WR): transition, decomposed rock to weathered rock  
The upper "residual soil" stratum is composed almost entirely of soil-like material. The lower "transition" stratum is expected to contain both soil and rock-like materials in roughly equal proportions. The division between these two strata is generally taken in the borings at a standard sampler penetration resistance value of approximately 100 blows per foot and in accordance with certain other criteria given in Mueser, Rutledge, Wentworth & Johnston Report No. 117. The "approximate top of weathered bedrock" constitutes the boundary between the transition stratum and bedrock which exhibits essentially rock-like characteristics. This boundary generally is taken where rock core recoveries exceed approximately 50 per cent and/or RQD values exceed approximately 10 per cent.



**ABBREVIATIONS**

The following additional abbreviations have been utilized in the logs of Borings of the AM-Series:

BROKEN	brkn, bkn	JOINT, JOINTED, JOINTS,	jt, jtd, jts
CALCITE	calc	JOINTING	jting
DEPOSIT	dep	MODERATELY	mod
DIAGONAL	diag	QUARTZ	qtz
DIORITE	dio	RELATIVELY SOUND	rel snd
FOLIATION, FOLIATED	fol	SCHIST	sch
FRACTURES, FRACTURED	fract, frctd	SLIGHTLY	sli
GNEISS	gns	UNWEATHERED	unwthr
HIGHLY	hi	VARIABLE	var
HORN	horn	VERTICAL	vert
INCLUSIONS	inclu	WEATHERED	wthd, wthrd

DESIGNED	T.P. SMIRNOFF	12-18-74	REFERENCE DRAWINGS		REVISIONS	
			NUMBER	DESCRIPTION	DATE	BY
DRAWN	J.A.D. KEELEY	12-28-74	SO-1	KEY PLAN		
			SO-2	BORING COORDINATES AND LEGEND		
CHECKED	R.A. BUTLER	1-1-75	SO-3	NOTES AND ABBREVIATIONS		
APPROVED	[Signature]	5-11-75				



**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY**

MATHEWS • CHATELAIN • BEALL  
ENGINEERS AND ARCHITECTS  
SECTION DESIGNER

DE LEUW, CATHAR & COMPANY  
GENERAL ENGINEERING CONSULTANT

HARRY WEESE & ASSOCIATES  
GENERAL ARCHITECTURAL CONSULTANT

SUBMITTED [Signature] DATE 5-3-75

APPROVED [Signature]

**ROCKVILLE ROUTE**  
SOILS AND GEOLOGICAL INFORMATION  
NOTES & LOGS OF BORINGS NOS. AM-1 TO AM-2

SCALE: VERT. 1" = 6'

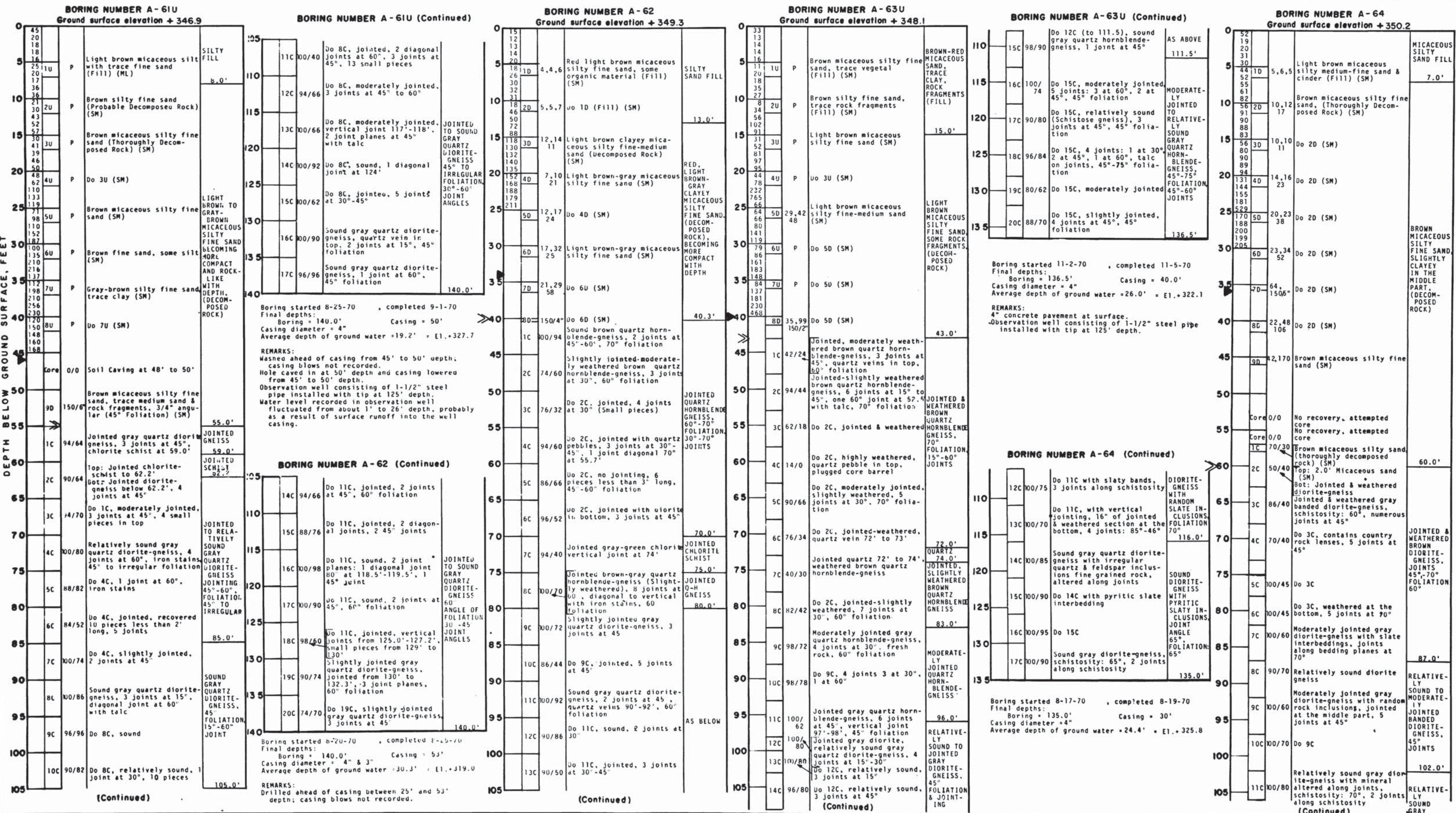
DRAWING NO. A11b-SO-32

M276-48

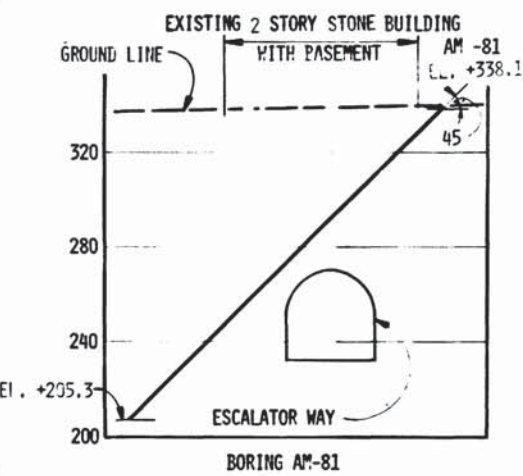
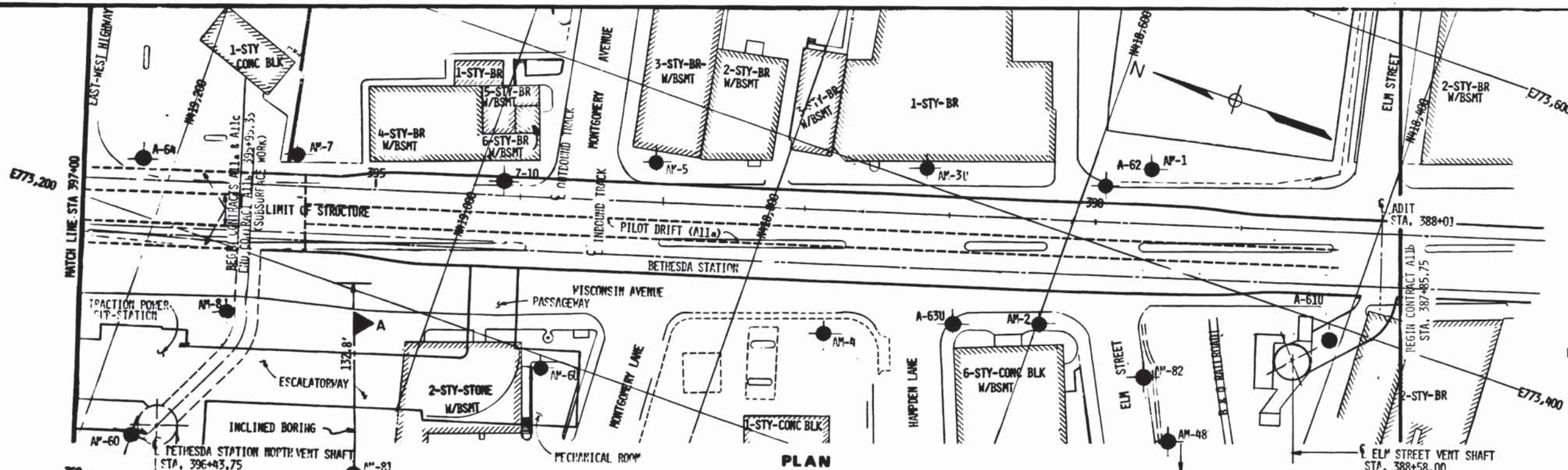




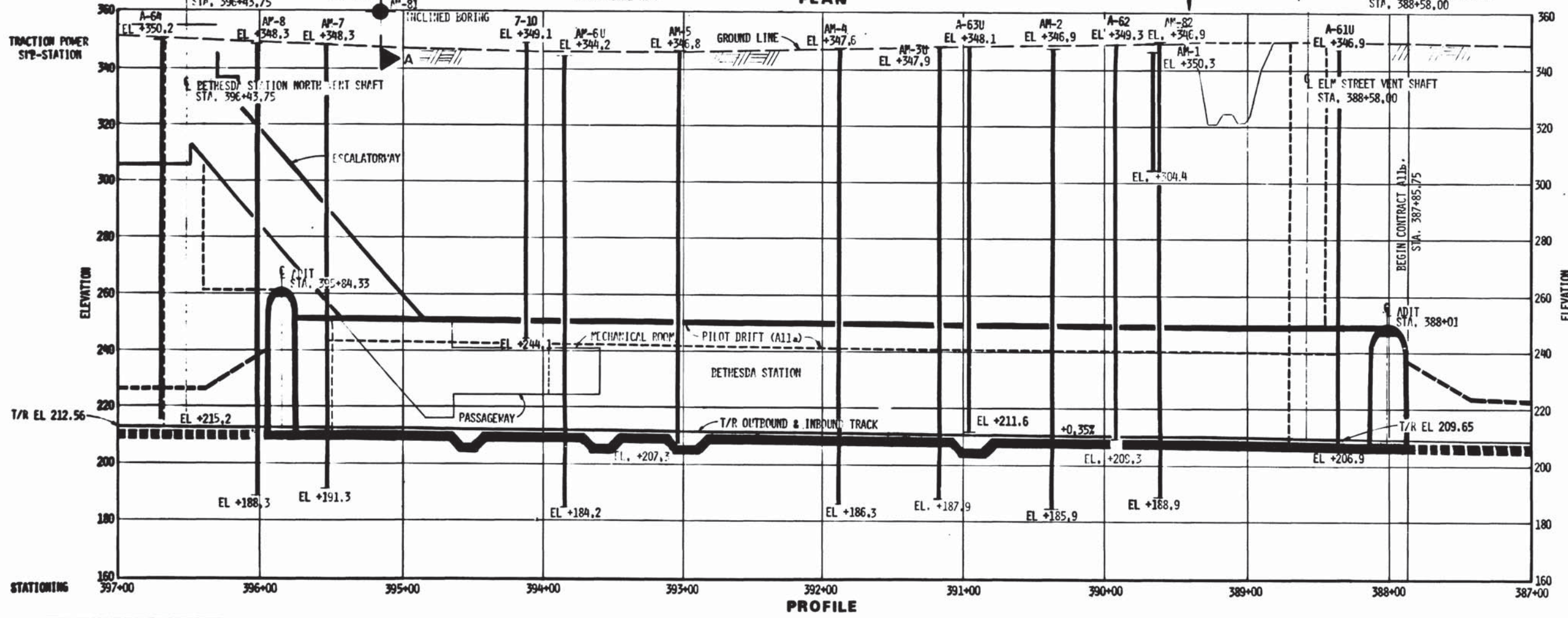








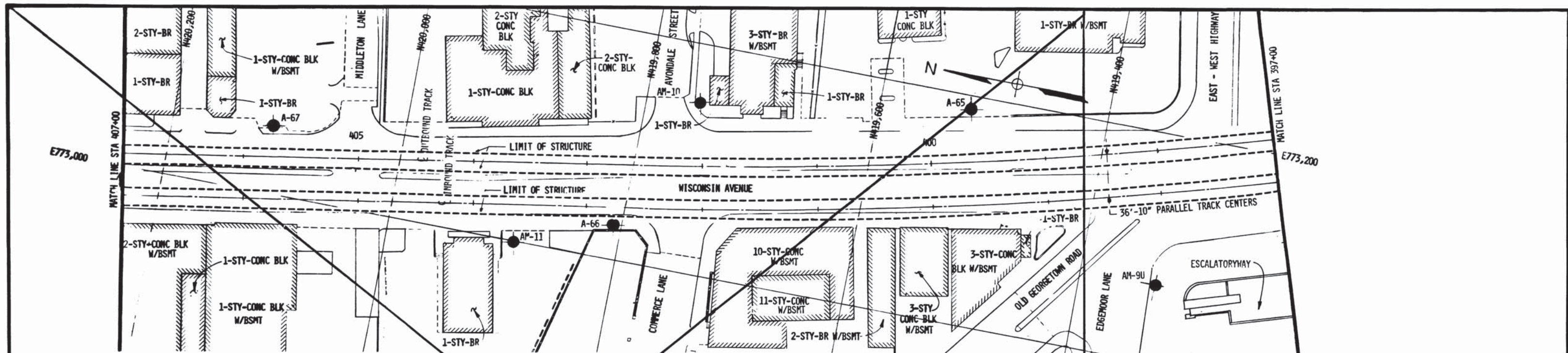
**SECTION A-A**  
SCALE  
HORIZ.: 1" = 40'  
VERT.: 1" = 40'



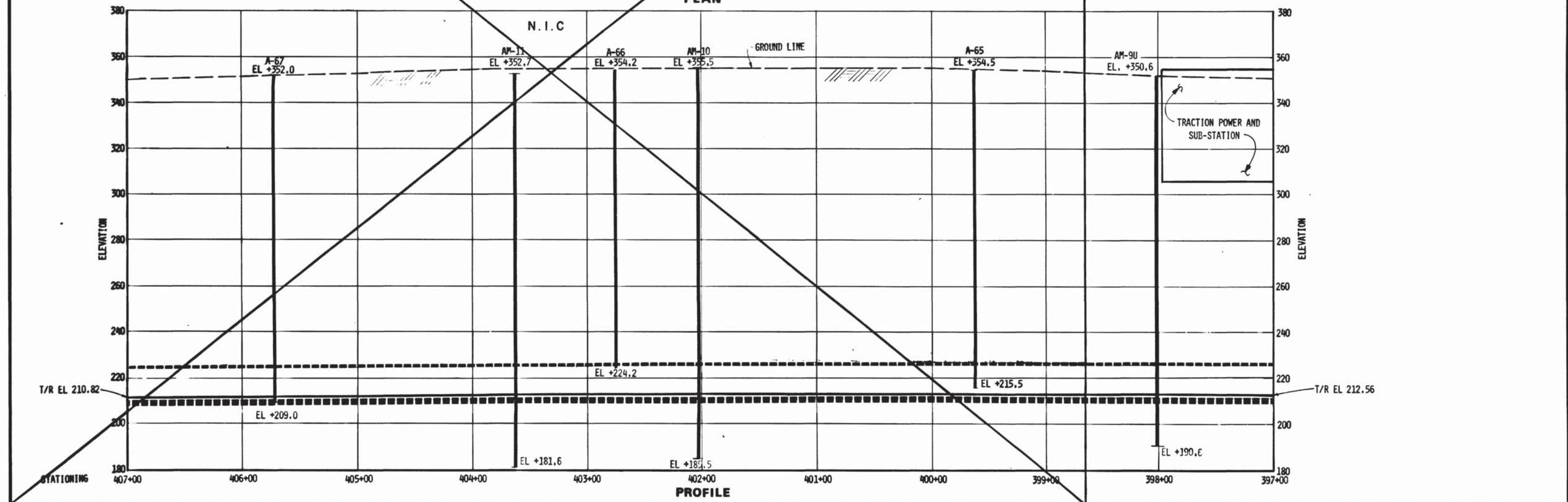
**PROFILE**

DESIGNED <b>J.P. SHRYOFF</b> 10-11-75 DRAWN <b>J.A.D. KEELEY</b> 10-16-75 CHECKED <b>A.B. WIEGAND</b> 10-24-75 APPROVED <b>[Signature]</b>		<table border="1"> <thead> <tr> <th colspan="2">REFERENCE DRAWINGS</th> <th colspan="2">REVISIONS</th> </tr> <tr> <th>NUMBER</th> <th>DESCRIPTION</th> <th>DATE</th> <th>BY</th> </tr> </thead> <tbody> <tr> <td>SO-1</td> <td>KEY PLAN</td> <td></td> <td></td> </tr> <tr> <td>SO-2</td> <td>BORING COORDINATES AND LEGEND</td> <td></td> <td></td> </tr> <tr> <td>SO-3</td> <td>NOTES AND ABBREVIATIONS</td> <td></td> <td></td> </tr> </tbody> </table>		REFERENCE DRAWINGS		REVISIONS		NUMBER	DESCRIPTION	DATE	BY	SO-1	KEY PLAN			SO-2	BORING COORDINATES AND LEGEND			SO-3	NOTES AND ABBREVIATIONS			<div style="text-align: center;"> <p><b>WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY</b></p> <p>MATHEWS • CHATELAIN • BEALL ENGINEERS AND ARCHITECTS SECTION DESIGNER</p> </div> <div style="text-align: center;"> <p>DE LEUW, CATHAR &amp; COMPANY GENERAL ENGINEERING CONSULTANT</p> <p>HARRY WEESE &amp; ASSOCIATES GENERAL ARCHITECTURAL CONSULTANT</p> </div>		<p><b>ROCKVILLE ROUTE</b> BORING LOCATIONS PLAN AND PROFILE STA 397+00 TO STA 387+00</p> <p>SCALE HORIZ.: 1" = 40' VERT.: 1" = 20'</p> <p>DRAWING NO. <b>A11b-SO-18</b></p>	
REFERENCE DRAWINGS		REVISIONS																									
NUMBER	DESCRIPTION	DATE	BY																								
SO-1	KEY PLAN																										
SO-2	BORING COORDINATES AND LEGEND																										
SO-3	NOTES AND ABBREVIATIONS																										





PLAN



PROFILE

DESIGNED <u>T.P. SMIRNOFF</u> 10-13-75 DATE	REFERENCE DRAWINGS		REVISIONS			<b>WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY</b> MATHEWS • CHATELAIN • BEALL ENGINEERS AND ARCHITECTS SECTION DESIGNER		DE LEUW, CATHY & COMPANY GENERAL ENGINEERING CONSULTANT HARRY WEESE & ASSOCIATES GENERAL ARCHITECTURAL CONSULTANT		<b>ROCKVILLE ROUTE</b> <b>BORING LOCATIONS PLAN AND PROFILE</b> <b>STA 407+00 TO STA 397+00</b>		
DRAWN <u>E.L. BURNETT</u> 10-14-75 DATE	NUMBER	DESCRIPTION	DATE	BY		DESCRIPTION	SUBMITTED <u>[Signature]</u> DATE <u>10-13-75</u>		APPROVED <u>[Signature]</u>		SCALE HORIZ. 1"=40' VERT. 1"=20' DRAWING NO. <b>Al1b-SO-17</b> <b>M276-44</b>	
CHECKED <u>A.B. WIEGAND</u> 10-24-75 DATE	SO-1	KEY PLAN										
APPROVED <u>[Signature]</u> DATE	SO-2	BORING COORDINATES AND LEGEND										
	SO-3	NOTES AND ABBREVIATIONS										



GENERAL

1. ELEVATIONS REFER TO USC & OSS MEAN SEA LEVEL DATUM OF 1929, WHICH IS DESIGNATED AS PROJECT DATUM.
2. BORING LOGS ARE REPRODUCED FROM THE REPORTS ON SURFACE INVESTIGATION WITH ONE MODIFICATION: USING INFORMATION FURNISHED BY THE GENERAL SOILS CONSULTANTS, MESEB, RUTLEDGE, WENTWORTH & JOHNSTON, ON FEBRUARY 4, 1975, THE SECTION DESIGNER ADDED THE SYMBOLS FOR TOP OF TRANSITION MATERIAL AND TOP OF WEATHERED BEDROCK TO THE BORING LOGS FROM THE "A" AND "7" SERIES OF BORINGS.
3. SEE NOTES 4 & 5 ON DRAWING SO-32 FOR DEFINITION OF "RELATIVELY SOUND ROCK", "DECOMPOSED ROCK", "TRANSITION MATERIAL."
4. APPROPRIATE GEOLOGICAL SATTLES AND REPORTS ARE AVAILABLE FOR INSPECTION THROUGH U.S.A.T.A.
5. CRUSTALITY LEVELS NOTED ON THE BORING LOGS REPRESENT TYPICAL LEVELS OBSERVED DURING THE PERIOD OF THE BORING OPERATIONS OF SHORTLY AFTER COMPLETION OF THE BOREHOLE. THESE OBSERVATIONS DO NOT REFLECT SEASONAL FLUCTUATIONS IN THE WATER TABLE OR THE EFFECTS OF INTENSE RAINFALL OR DROUGHT.
6. ALL BORINGS WERE MADE UNDER THE CONTINUOUS INSPECTION AND SUPERVISION OF MESEB, RUTLEDGE, WENTWORTH AND JOHNSTON. BORINGS OF THE "A" SERIES WERE MADE BETWEEN SEPTEMBER 1973 AND JANUARY 1975. BORINGS OF THE "7" SERIES WERE MADE BETWEEN MAY 1970 AND JANUARY 1972. BORINGS OF THE "7" SERIES WERE MADE BETWEEN MAY AND AUGUST 1968.
7. THE DEGREE OF CONSISTENCY OR CONTACTNESS OF SAMPLES ARE NOT GIVEN IN THE BORING LOG DESCRIPTIONS BUT ARE INDICATED BY THE FOLLOWING VALUES OF STANDARD SPT PENETRATION RESISTANCE IN POUNDS PER FOOT:

FINE GRAINED SOILS, SILTS AND CLAYS COARSE GRAINED SOILS, SANDS AND GRAVELS

- |                               |                                |
|-------------------------------|--------------------------------|
| (LESS THAN 2 PPF = VERY SOFT) | (LESS THAN 4 PPF = VERY LOOSE) |
| 2 TO 4 PPF = SOFT             | 4 TO 10 PPF = LOOSE            |
| 4 TO 8 PPF = MEDIUM STIFF     | 10 TO 30 PPF = MEDIUM CONTACT  |
| 8 TO 15 PPF = STIFF           | 30 TO 50 PPF = COMPACT         |
| 15 TO 30 PPF = VERY STIFF     | GREATER THAN 50 = VERY CONTACT |
| GREATER THAN 30 = HARD        |                                |

NOTES

8. THE DATA SHOWN ON LOGS OF BORINGS BY MESEB, RUTLEDGE, WENTWORTH & JOHNSTON, GENERAL SOILS CONSULTANTS FOR MTATA, UNDER THE SEAL OF WILLIAM H. MESEB, P.E., REGISTERED IN THE DISTRICT OF COLUMBIA BY NUMBER 4070, AS EXPLAINED IN NOTE 2, ON FEBRUARY 4, 1975, THE SECTION DESIGNER ADDED SYMBOLS FOR TOP OF TRANSITION MATERIAL AND TOP OF WEATHERED BEDROCK TO BORINGS OF THE "A" AND "7" SERIES.
9. SEE DRAWING SO-32 FOR DEFINITION OF "ROCK QUALITY DESIGNATION" (RQD).

ABBREVIATIONS

MISCELLANEOUS		GRAIN SIZE AND SHAPE		COLOR	
APPROXIMATELY	= APPROX.	COARSE	= C	BLACK	= BLK
BOTTOM	= BOT.	COARSE TO FINE	= C-F	BROWN	= BRN.
DEPOSIT	= DEP.	COARSE TO MEDIUM	= C-M	DARK	= DK.
DIAGONAL	= DIA.	FINE	= F	GRAY	= GR.
ELEVATION	= EL.	FINE TO COARSE	= F-C	GREEN	= GRN.
EXCEPT	= EX.	FINE TO MEDIUM	= F-M	LIGHT	= LT.
FOLIATION	= FOL.	MEDIUM	= M	MOTTLED	= MTL.
FRAGMENTS	= FRGTS.	MEDIUM TO COARSE	= M-C	WHITE	= WHT.
FREQUENTLY	= FREQ.	MEDIUM TO FINE	= M-F	YELLOW	= YEL.
HORIZONTAL	= HORIZ.	SHALL	= SHL.	SOILS OF ROCK TYPE	
INCLUDING	= INCL.	CONSISTENCY		FOULDED	= FLDR.
IRREGULAR	= IRREG.	ALTERED	= ALT.	EPICY	= EPC.
INTERBEDDED	= INTERB.	BROKEN	= BRK.	CLAY	= CL.
JOINTED	= JTD.	CONTACT	= CPT.	CLAYEY SAND	= CL. SA.
JOINTING	= JTHG.	MEDIUM CONTACT	= MED. CPT.	CLAYEY SILT	= CL. SI.
JOINT (S)	= JT (S).	DECOMPOSED	= DEC.	DIORITE	= DIOR.
LAYERS	= LYRS.	DITTO	= DO.	GRANITE	= CRT.
LENSES	= LNS.	DISINTEGRATED	= DSINT.	GNEISS	= GNS.
MATERIAL	= MTL.	FRACTURED	= FRCT.	GRAVEL	= GVL.
MATTER	= MTR.	HARD	= HD.	HORNBLENDITE	= HBL.
MECHANICAL	= MECH.	HIGHLY	= HI.	SALT	= SA.
MICACEOUS	= MIC.	MEDIUM	= MD.	SANDY CLAY	= SA. CL.
MISCELLANEOUS	= MISC.	MODERATELY	= MOD.	SCHIST	= SCH.
NUMEROUS	= NUM.	RELATIVELY SOUND	= REL. SND.	SILT	= SI.
OCCASIONAL	= OCC.	SOUND	= SND.	SILTY CLAY	= SI. CL.
PERPENDICULAR	= PERP.	WEATHERED	= WTHRD.	QUARTZ	= QTZ.
PIECES, PARTICLES	= PCS.	WEATHERING	= WTHRG.		
POSSIBLE	= POSS.				
ROCK QUALITY DESIGNATION	= RQD				
SEAMS	= SMS.				
SOFT	= SF.				
TRACE	= TR.				
VARYING OR VARIABLE	= VAR.				
VEGETAL	= VEC.				
VERTICAL	= VERT.				
VITH	= W/				


DESIGNED T.P. SMIRNOFF 05-05-75 DATE	REFERENCE DRAWINGS		REVISIONS			WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY		ROCKVILLE ROUTE		
DRAWN J.A.D. KEELEY 05-07-75 DATE	NUMBER	DESCRIPTION	DATE	BY		DESCRIPTION	MATHews • CHATELAIN • BEALL ENGINEERS AND ARCHITECTS SECTION DESIGNER		SOILS AND GEOLOGICAL INFORMATION NOTES AND ABBREVIATIONS	
CHECKED A.B. WIEGAND 06-09-75 DATE	SO-1	KEY PLAN					DE LEUW, CATHER & COMPANY GENERAL ENGINEERING CONSULTANT			
APPROVED J.C. WIEGAND 05-12-77 DATE	SO-2	BORING COORDINATES AND LEGEND					HARRY WEESE & ASSOCIATES GENERAL ARCHITECTURAL CONSULTANT			
							SUBMITTED <i>[Signature]</i> DATE 05-12-77		SCALE NONE	
						APPROVED <i>[Signature]</i>		DRAWING NO. A1 Ib- SO-3		
								M276-43		



TABLE OF BORING LOCATIONS

BORING NUMBER	HORIZONTAL CONTROL PROJECT COORDINATES		REFERENCE DRAWING NUMBERS	
	EAST	NORTH	BORING LOCATION	LOG OF BORING
A-E1U	E 772,500	N 418,407	SO-18	SO-20
A-E2	E 772,500	N 418,587	SO-18	SO-20
A-E3U	E 772,515	N 418,655	SO-18	SO-20
A-E4	E 772,527	N 419,221	SO-18	SO-20
A-E5	E 772,538	N 419,530	SO-17	SO-21
A-E6	E 772,550	N 419,807	SO-17	SO-21
A-E7	E 772,560	N 420,115	SO-17	SO-21
A-E8	E 772,575	N 420,438	SO-16	SO-22
A-E9	E 772,585	N 420,714	SO-16	SO-22
A-E10	E 772,610	N 421,041	SO-16	SO-22
A-E11	E 772,627	N 421,280	SO-15	SO-22
A-E12	E 772,638	N 421,564	SO-15	SO-23
A-E13	E 772,657	N 422,105	SO-15	SO-23
A-E14	E 772,677	N 422,559	SO-14	SO-23
A-E15	E 772,690	N 422,769	SO-14	SO-23
A-E16	E 772,709	N 423,182	SO-14	SO-24
A-E17	E 772,721	N 423,390	SO-13	SO-24
A-E18	E 772,730	N 423,607	SO-13	SO-24
A-E19	E 772,740	N 423,879	SO-13	SO-24
A-E20	E 772,750	N 424,487	SO-12	SO-25
A-E21	E 772,760	N 424,637	SO-12	SO-25
A-E22	E 772,770	N 424,800	SO-11	SO-25
A-E23	E 772,780	N 425,205	SO-11	SO-26
A-E24	E 772,790	N 425,380	SO-11	SO-26
A-E25	E 772,800	N 425,573	SO-11	SO-26
A-E26	E 772,810	N 425,700	SO-11	SO-26
A-E27	E 772,820	N 425,879	SO-10	SO-27
A-E28	E 772,830	N 425,970	SO-10	SO-27
A-E29	E 772,840	N 426,280	SO-10	SO-27
A-E30	E 772,850	N 426,574	SO-10	SO-27
A-E31	E 772,860	N 426,857	SO-9	SO-27
A-E32	E 772,870	N 427,240	SO-9	SO-28
A-E33	E 772,880	N 427,447	SO-9	SO-28
A-E34	E 772,890	N 427,700	SO-9	SO-28
A-E35	E 772,900	N 428,070	SO-8	SO-28
A-E36	E 772,910	N 428,414	SO-8	SO-28
A-E37	E 772,920	N 428,692	SO-8	SO-29
A-E38	E 772,930	N 428,991	SO-7	SO-29
A-E39	E 772,940	N 429,305	SO-7	SO-29
A-E40	E 772,950	N 429,501	SO-7	SO-29
A-E41	E 772,960	N 429,809	SO-6	SO-29
A-E42	E 772,970	N 430,207	SO-6	SO-30
A-E43	E 772,980	N 430,740	SO-5	SO-30
A-E44	E 772,990	N 431,028	SO-5	SO-30
A-E45	E 773,000	N 422,030	SO-14	SO-31
A-E46	E 773,010	N 423,072	SO-14	SO-31
A-E47	E 773,020	N 418,982	SO-18	SO-32
A-E48	E 773,030	N 420,215	SO-17	SO-32
A-E49	E 773,040	N 422,072	SO-15	SO-30
A-E50	E 773,050	N 423,805	SO-13	SO-19
A-E51	E 773,060	N 425,004	SO-10	SO-19
A-E52	E 773,070	N 427,079	SO-9	SO-19
A-E53	E 773,080	N 430,370	SO-6	SO-10
A-E54	E 773,090	N 418,500	SO-18	SO-32
A-E55	E 773,100	N 418,595	SO-18	SO-32
A-E56	E 773,110	N 418,707	SO-18	SO-33
A-E57	E 773,120	N 418,730	SO-18	SO-33
A-E58	E 773,130	N 418,888	SO-18	SO-33
A-E59	E 773,140	N 418,900	SO-18	SO-34
A-E60	E 773,150	N 419,122	SO-18	SO-34
A-E61	E 773,160	N 419,134	SO-18	SO-34

TABLE OF BORING LOCATIONS

BORING NUMBER	HORIZONTAL CONTROL PROJECT COORDINATES		REFERENCE DRAWING NUMBERS	
	EAST	NORTH	BORING LOCATION	LOG OF BORING
A-E62	E 773,060	N 419,332	SO-17	SO-35
A-E63	E 773,070	N 419,752	SO-17	SO-35
A-E64	E 773,080	N 419,890	SO-17	SO-35
A-E65	E 773,090	N 420,250	SO-16	SO-36
A-E66	E 773,100	N 420,070	SO-16	SO-36
A-E67	E 773,110	N 420,260	SO-16	SO-36
A-E68	E 773,120	N 420,511	SO-16	SO-37
A-E69	E 773,130	N 420,710	SO-16	SO-37
A-E70	E 773,140	N 420,999	SO-9	SO-37
A-E71	E 773,150	N 420,766	SO-8	SO-37
A-E72	E 773,160	N 420,152	SO-7	SO-38
A-E73	E 773,170	N 420,303	SO-7	SO-38
A-E74	E 773,180	N 420,505	SO-7	SO-38
A-E75	E 773,190	N 420,653	SO-7	SO-38
A-E76	E 773,200	N 420,835	SO-6	SO-38
A-E77	E 773,210	N 420,921	SO-6	SO-38
A-E78	E 773,220	N 430,068	SO-6	SO-39
A-E79	E 773,230	N 430,213	SO-6	SO-39
A-E80	E 773,240	N 430,415	SO-6	SO-39
A-E81	E 773,250	N 430,570	SO-6	SO-39
A-E82	E 773,260	N 430,800	SO-5	SO-39
A-E83	E 773,270	N 422,888	SO-14	SO-40
A-E84	E 773,280	N 423,630	SO-13	SO-40
A-E85	E 773,290	N 423,962	SO-13	SO-40
A-E86	E 773,300	N 424,753	SO-12	SO-41
A-E87	E 773,310	N 425,080	SO-11	SO-41
A-E88	E 773,320	N 425,239	SO-11	SO-41
A-E89	E 773,330	N 425,570	SO-11	SO-42
A-E90	E 773,340	N 425,773	SO-11	SO-42
A-E91	E 773,350	N 422,537	SO-14	SO-42
A-E92	E 773,360	N 427,024	SO-9	SO-43
A-E93	E 773,370	N 428,097	SO-8	SO-43
A-E94	E 773,380	N 429,421	SO-7	SO-43
A-E95	E 773,390	N 420,177	SO-10	SO-43
A-E96	E 773,400	N 424,607	SO-12	SO-44
A-E97	E 773,410	N 418,472	SO-18	SO-44
A-E98	E 773,420	N 420,868	SO-17	SO-44
A-E99	E 773,430	N 421,400	SO-15	SO-45
A-E100	E 773,440	N 419,160	SO-18	SO-45
A-E101	E 773,450	N 423,850	SO-13	SO-45
A-E102	E 773,460	N 424,143	SO-13	SO-46
A-E103	E 773,470	N 424,225	SO-18	SO-46
A-E104	E 773,480	N 424,298	SO-12	SO-46
A-E105	E 773,490	N 424,375	SO-12	SO-47
A-E106	E 773,500	N 424,461	SO-12	SO-47
A-E107	E 773,510	N 424,745	SO-12	SO-47
A-E108	E 773,520	N 423,967	SO-13	SO-48
A-E109	E 773,530	N 424,183	SO-13	SO-48
A-E110	E 773,540	N 424,337	SO-12	SO-48
A-E111	E 773,550	N 424,480	SO-12	SO-49
A-E112	E 773,560	N 430,233	SO-52	SO-49
A-E113	E 773,570	N 430,320	SO-52	SO-4
A-E114	E 773,580	N 426,500	SO-10	SO-49
A-E115	E 773,590	N 430,244	SO-52	SO-4
A-E116	E 773,600	N 430,259	SO-52	SO-4
A-E117	E 773,610	N 430,264	SO-52	SO-4
A-E118	E 773,620	N 430,381	SO-52	SO-4
A-E119	E 773,630	N 430,461	SO-52	SO-4
A-E120	E 773,640	N 424,542	SO-12	SO-50
A-E121	E 773,650	N 419,010	SO-18	SO-50
A-E122	E 773,660	N 418,521	SO-18	SO-51
A-E123	E 773,670	N 424,529	SO-12	SO-51
A-E124	E 773,680	N 430,358	SO-52	SO-51
A-E125	E 773,690	N 430,347	SO-52	SO-51
A-E126	E 773,700	N 430,413	SO-52	SO-52

LEGEND FOR BORING LOGS

A	B	C	D	E	F
---	---	---	---	---	---

A = DEPTH BELOW GROUND SURFACE IN FEET.

B = NUMBER OF BLOWS OF 300 LB. HAMMER FALLING 12"

REQUIRED TO DRIVE CASING OF THE SIZE NOTED ONE FOOT.

C = NUMBER AND TYPE OF SAMPLE:

SUFFIX "D" = DRY SAMPLE TAKEN WITH 2" OD SPLIT SPOON

SUFFIX "S" = SHELPLY SAMPLE TAKEN WITH 2" OD THIN TUBE

SUFFIX "R" = DRY SAMPLE TAKEN IN OPEN END DRILL ROD

SUFFIX "U" = UNDISTURBED SAMPLE TAKEN WITH 3" OD THIN

TUBE USING PISTON SAMPLER

SUFFIX "UD" = 3" OD THIN TUBE SAMPLE DISTURBED IN SAMPLING

"NR" = SAMPLE ATTEMPTED BUT NOT RECOVERED

SUFFIX "C" = ROCK CORE RUN USING 3" SIZE DOUBLE TUBE

DIAMOND CORE BARREL PRODUCING CORE APPROXIMATELY 2'-8"Ø

CORE = COPING IN OVERLAP OF CORE IN BEDROCK

D = SAMPLER PENETRATION RESISTANCE IN BLOWS PER C" OF DRIVING

EXCEPT WHERE SPECIFIC DISTANCE IS NOTED, SAMPLER DRIVEN WITH

140 LB. HAMMER FALLING 30".

P = THIN TUBE SAMPLER ADVANCED BY PUSHING

T = THIN TUBE SAMPLER ADVANCED BY TAPPING

— LENGTH OF ROCK CORE RECOVERY EXPRESSED AS A PERCENT

78/25 OF LENGTH OF CORE RUN.

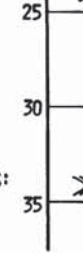
— ROCK QUALITY DESIGNATION, R.Q.D. IN PER CENT.

E = DESCRIPTION OF INDIVIDUAL SOIL SAMPLE, INCLUDING UNIFIED SOIL

CLASSIFICATION SYMBOL, OR DESCRIPTION OF INDIVIDUAL ROCK CORE RUN.

F = DESCRIPTION OF PRINCIPAL SOIL STRATA OR PRINCIPAL DIVISIONS OF BEDROCK.

STRATA DIVISION LINES ARE NOTED WITH DEPTH BELOW GROUND SURFACE.

ON THE BORING LOGS SECTIONS THE TOP OF THE  
TRANSITION STRATUM (D) TO (NR) IS SHOWN THIS:

AND THE TOP OF "WEATHERED BEDROCK" SHOWN THIS:



BORING LOCATION PLAN

BORING LOCATION PROFILE

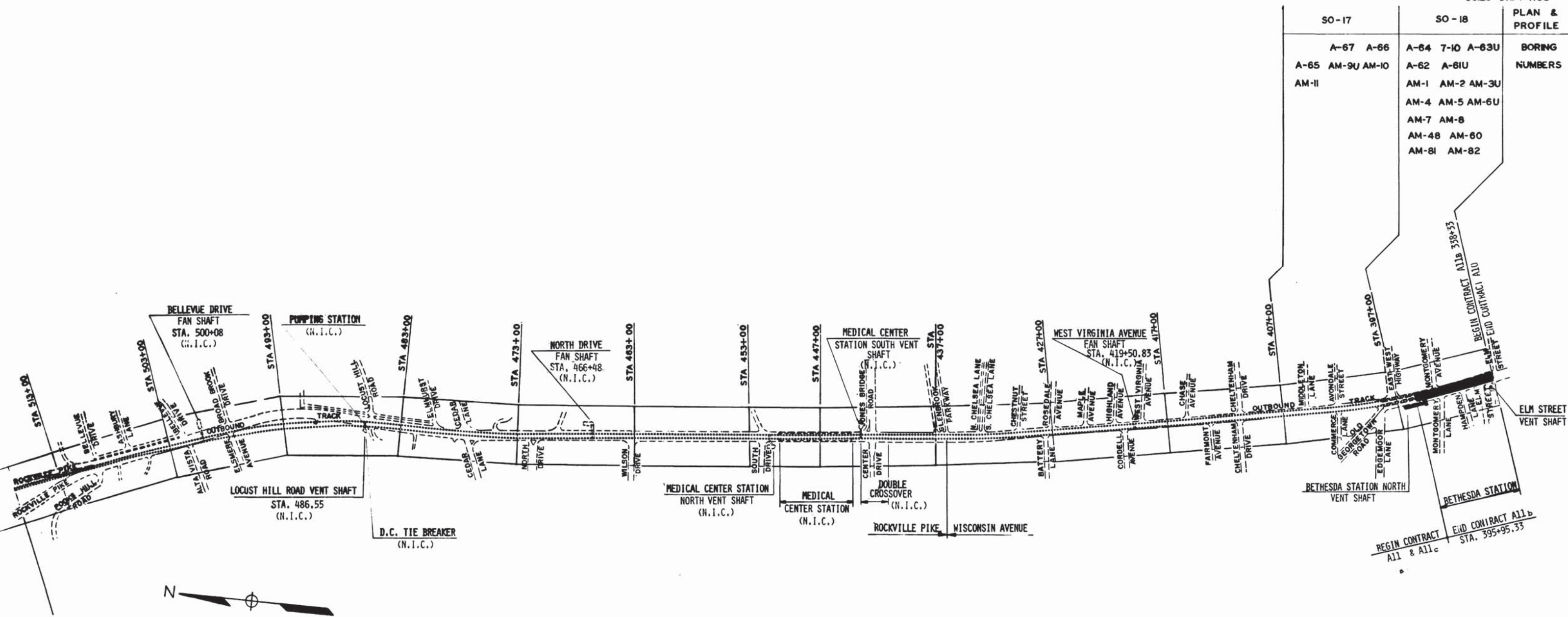
INCLINED BORING

DESIGNED T. P. SMIRNOFF DATE 04-22-75	REFERENCE DRAWINGS	REVISIONS		WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY		ROCKVILLE ROUTE	
DRAWN E. L. BURNETT DATE 04-24-75	NUMBER DESCRIPTION	DATE BY DESCRIPTION		MATHEWS • CHATELAIN • BEALL ENGINEERS AND ARCHITECTS SECTION DESIGNER		SOILS AND GEOLOGICAL INFORMATION BORING COORDINATES AND LEGEND	
CHECKED A. B. WIEGAND DATE 06-11-75				DE LEUW, CATHAR & COMPANY GENERAL ENGINEERING CONSULTANT		HARRY WEESE & ASSOCIATES GENERAL ARCHITECTURAL CONSULTANT	
APPROVED [Signature] DATE 05-12-77				SUBMITTED [Signature] DATE 05-12-77		APPROVED [Signature]	
						SCALE NOT TO SCALE	
					DRAWING NO. A11b-SO-2		M276-42



SOILS DRAWINGS

SO - 17	SO - 18	PLAN & PROFILE
A-67 A-66 A-65 AM-9U AM-10 AM-II	A-64 7-10 A-63U A-62 A-61U AM-1 AM-2 AM-3U AM-4 AM-5 AM-6U AM-7 AM-8 AM-48 AM-60 AM-81 AM-82	BORING NUMBERS



DESIGNED T. P. SMIRNOFF 04-28-75 DATE	REFERENCE DRAWINGS		REVISIONS			WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY		ROCKVILLE ROUTE SOILS AND GEOLOGICAL INFORMATION KEY PLAN		
DRAWN J.A.D. KEELEY 04-30-75 DATE	NUMBER	DESCRIPTION	DATE	BY		DESCRIPTION	MATHEWS • CHATELAIN • BEALL ENGINEERS AND ARCHITECTS SECTION DESIGNER		DE LEUW, CATHER & COMPANY GENERAL ENGINEERING CONSULTANT HARRY WEESE & ASSOCIATES GENERAL ARCHITECTURAL CONSULTANT	
CHECKED A.B. WIEGAND 06-10-75 DATE							SUBMITTED <i>[Signature]</i> DATE 06-13-77		APPROVED <i>[Signature]</i>	
APPROVED <i>[Signature]</i> DATE										
						SCALE 1" = 400' 0 200 400		DRAWING NO. A11b-SO-1 M276-41		



LOADS

CRITERIA

STRUCTURES		DEAD LOADS (DL)	LIVE LOADS (LL) AND OTHER LOADS		DESIGN LOADING COMBINATIONS & ALLOWABLE UNIT STRESSES
			VERTICAL	HORIZONTAL	
DECK STRUCTURE	DECK ELEMENTS (E.G. DECKING AND HORIZONTAL SUPPORTING FRAMEWORK)	OWN WEIGHT	ROADWAY LOADS 1. BASIC LOADING (LL) HS 20-44 APPLICABLE REFERENCES ART 1.2.5, 1.2.7, 1.2.8, 1.3.1 TO 1.3.7 2. IMPACT (I) ART 1.2.12 3. NUMBER AND WIDTH TRAFFIC LANES AS SHOWN ON DRAWINGS OR SPECIFIED 4. ART 1.2.9 (REDUCTION IN LOAD INTENSITY) DOES NOT APPLY OPERATING LOADS FROM CONSTRUCTION EQUIPMENT (LL) WITH NOT LESS THAN 50% IMPACT SIDEWALK AND PEDESTRIAN ISLAND LOADS (LL) 250 PSF OR VEHICULAR LOADS WHICHEVER ARE GREATER	LONGITUDINAL FORCES (LF) ART 1.2.13, EXCEPT REFERENCE TO ART 1.2.9 WIND LOADS (W) 20 PSF ON EXPOSED AREA OF VEHICLES AND EQUIPMENT, BUT NOT LESS THAN 100 LBS PER LINEAR FOOT OF DECK STRUCTURE APPLIED NORMAL TO THE DIRECTION IN WHICH LENGTH IS MEASURED. LATERAL EARTH (E) AND HYDROSTATIC (H) PRESSURE SAME AS FOR EXCAVATION RETAINING STRUCTURES	LOADING SHALL CONSIST OF THE FOLLOWING: DL + LL + I + E + H AT 100% OF UNIT STRESS OR DL + LL + I + E + H + LF + W AT 125% OF UNIT STRESS WHICHEVER IS GREATER NOTE: THE VALUE OF LL IS THE MAXIMUM TOTAL LIVE LOAD OBTAINED BY COMBINING THE VARIOUS LIVE LOADS THAT MIGHT EXIST AT ONE TIME
	RAILINGS	OWN WEIGHT	(LL) ART 1.2.11(C)		
	CURBS AND SIDEWALKS		150 PSF	(LL) ART 1.2.11 (B)	
EXCAVATION - RETAINING STRUCTURE	WALL SYSTEM (ELEMENTS IN CONTACT WITH EARTH, EXCEPT LAGGING)	OWN WEIGHT AND REACTIONS FROM DEAD LOADS OF DECK STRUCTURE AND BRACING SYSTEM	REACTIONS FROM ALL LIVE LOADS, EXCLUDING IMPACT ON DECK STRUCTURE (LL)	LATERAL EARTH PRESSURE DUE TO WEIGHT OF SOIL AND SURCHARGE (E) HYDROSTATIC PRESSURE (H) AXIAL LOADS FROM END BULKHEAD WHERE APPLICABLE (E) AND (H)	DL + LL + E + H AT 120% OF UNIT STRESS
	BRACING SYSTEM MAIN MEMBERS (MEMBERS CARRYING DIRECT LOADS INCLUDING STRUTS AND WALES)			SIMPLE BEAM REACTIONS FROM WALL SYSTEMS (E) AND (H) AXIAL LOADS FROM END WALLS WHERE APPLICABLE (E) AND (H)	DL + LL + E + H AT 100% OF UNIT STRESS
	SECONDARY BRACING		AXIAL LOAD EQUAL TO 2% OF THE DESIGN AXIAL LOAD IN THE BRACED MAIN MEMBER		120% OF UNIT STRESS

\* REFERENCES ARE TO ARTICLES IN "THE STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES," ELEVENTH EDITION OF THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS 1973

1. TEMPORARY EARTH RETAINING AND DECK STRUCTURES SHALL BE DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS SHOWN ON THIS DRAWING ON THE DRAWING TITLED "LATERAL PRESSURES FOR THE DESIGN OF TEMPORARY EARTH RETAINING STRUCTURES" AND APPLICABLE SPECIFICATIONS
2. UNLESS MODIFIED BY THE CONTRACT DRAWINGS AND SPECIFICATIONS THE STRUCTURAL DESIGN SHALL BE GOVERNED BY THE CURRENT EDITIONS OF THE FOLLOWING MANUALS, CODES OR SPECIFICATIONS:  

ROADWAY DECK: 3. "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES OF THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS" EXCEPT DEFLECTION DUE TO LIVE LOAD PLUS IMPACT SHALL NOT EXCEED 1/600 OF THE SPAN.

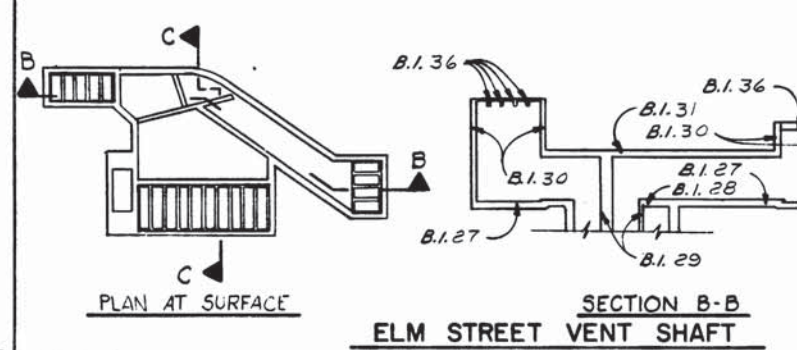
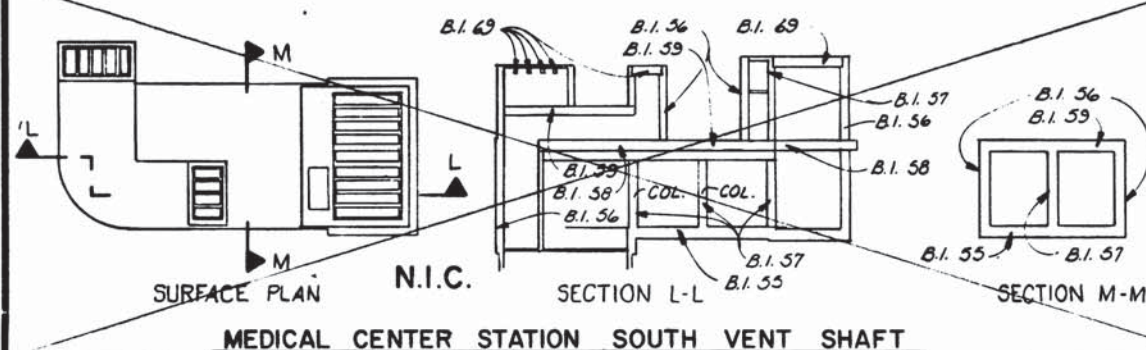
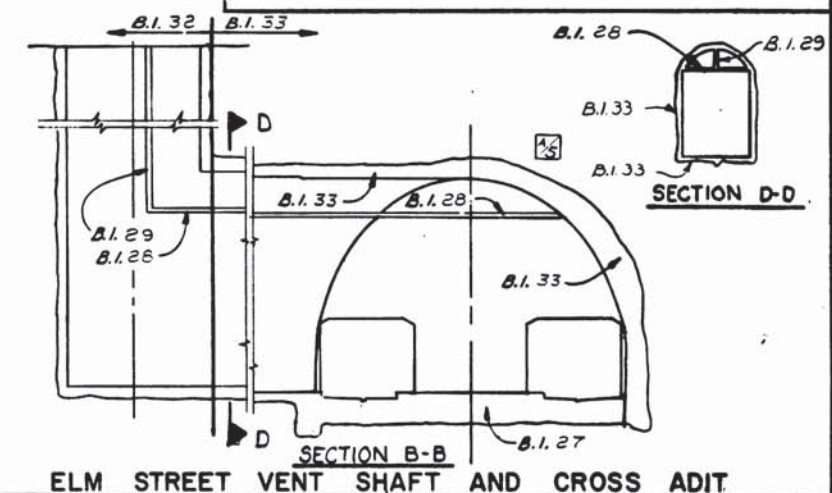
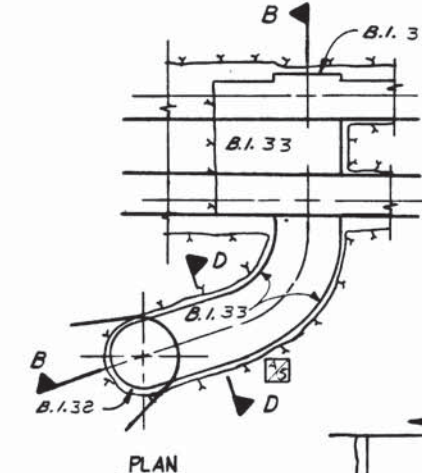
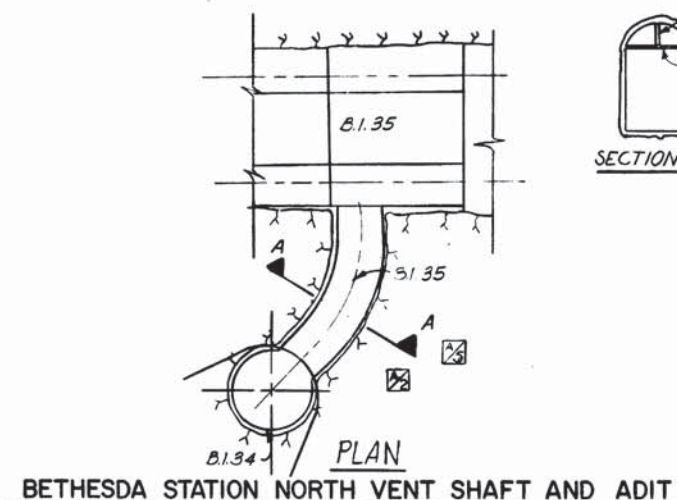
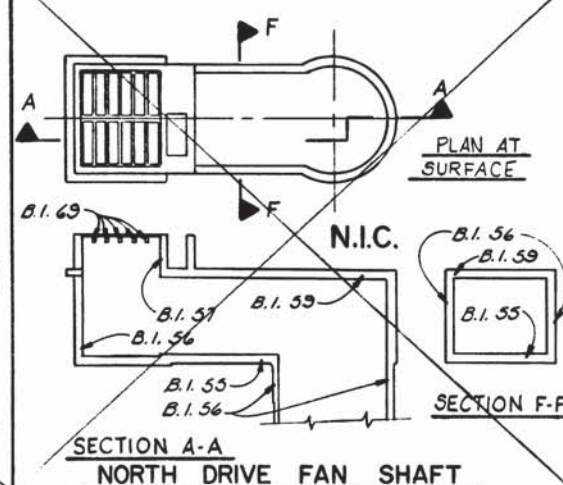
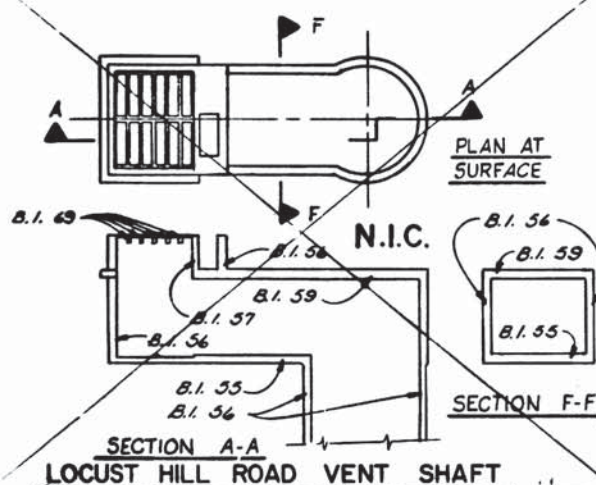
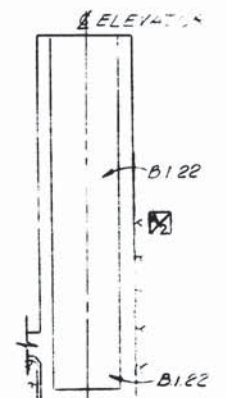
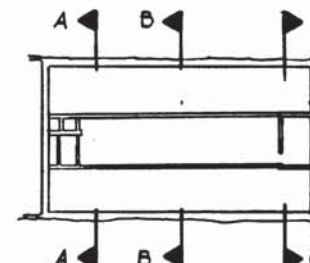
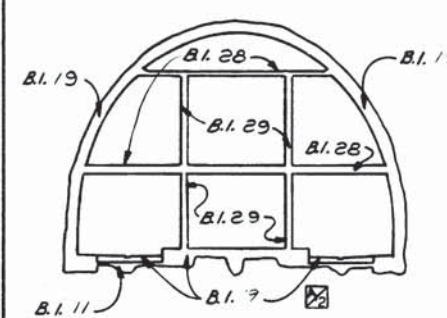
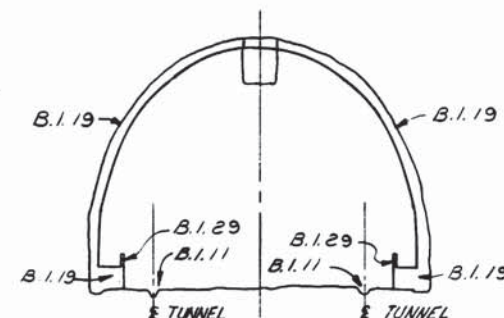
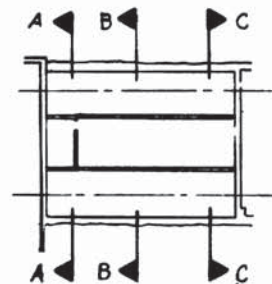
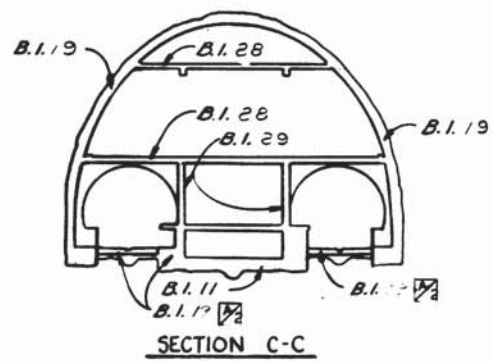
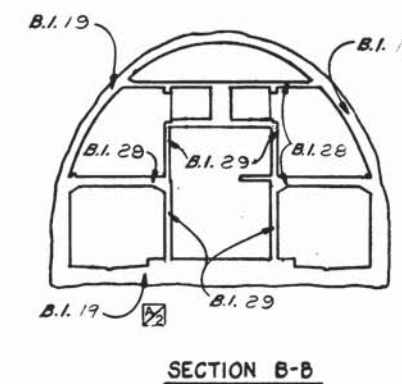
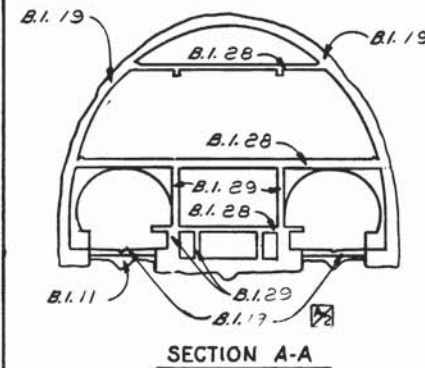
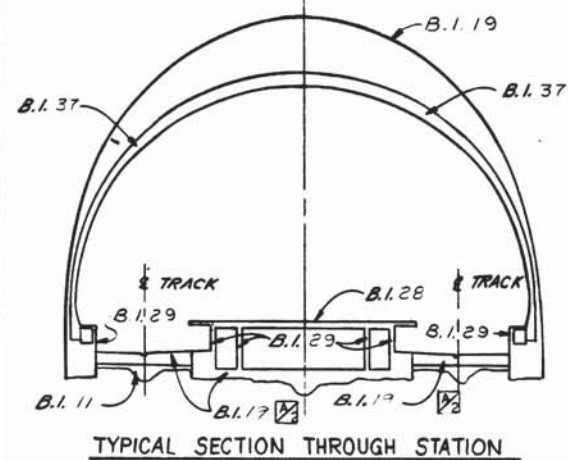
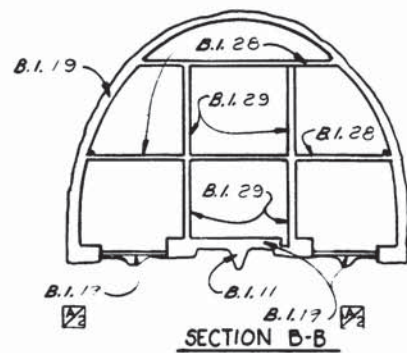
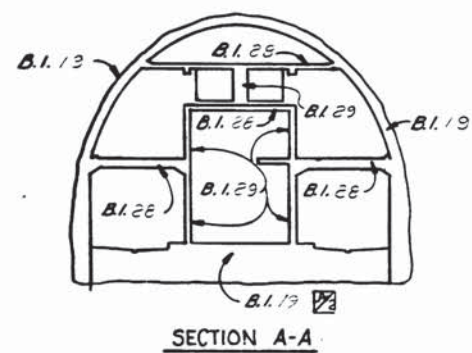
1. TEMPORARY RETAINING STRUCTURES AND OTHER TEMPORARY STRUCTURES:  
STEEL: "SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS" OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION  
WELDING: 3. "STRUCTURAL WELDING CODE OF THE AMERICAN WELDING SOCIETY" D1.1.  
REINFORCED CONCRETE: "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" OF THE AMERICAN CONCRETE INSTITUTE  
LUMBER: "NATIONAL DESIGN SPECIFICATION FOR STRESS-GRADE LUMBER AND ITS FASTENINGS" OF THE NATIONAL FOREST PRODUCTS ASSOCIATION
3. THE CONTRACTOR SHALL SUBMIT FOR REVIEW BY THE ENGINEER COMPLETE COMPUTATIONS AND WORKING DRAWINGS FOR TEMPORARY STRUCTURES. THE DESIGN SHALL BE IN ACCORDANCE WITH THE GIVEN LOADS ON THIS SHEET AND GOOD ENGINEERING PRACTICE AND WILL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR
4. EARTH RETAINING STRUCTURES SHALL BE ANALYZED FOR THE VARIOUS CONDITIONS THAT MAY OCCUR DURING THE LIFE OF THE STRUCTURE, SUCH AS THE SEVERAL STAGES OF EXCAVATION, CONST., INSTALLATION, REMOVAL AND RELOCATION OF STRUTS. THE WORKING DRAWINGS SHALL SHOW CONSTRUCTION SEQUENCE AND DETAILS OF POSTING, DIAGONAL LACING, WEB STIFFENERS, ETC.
5. WHERE THE LOADING CONDITIONS ON OPPOSITE SIDES OF AN EXCAVATION ARE NOT EQUAL, THE STABILITY OF THE TEMPORARY RETAINING STRUCTURE SHALL BE ANALYZED TO TAKE THIS CONDITION INTO ACCOUNT
6. SOLDIER BEAMS MAY BE CONSIDERED FULLY BRACED IN THE PLANE OF THE WALL
7. THE LOADS IN WALES AND STRUTS FOR FLEXIBLE OR RIGID WALL SYSTEMS SHALL BE COMPUTED BY ASSUMING THE WALL TO BE HINGED AT A SUPPORT POINT BELOW THE BOTTOM OF THE EXCAVATION AND AT EACH STRUT EXCEPT THE TOP ONE
8. STRUTS SHALL BE PRESTRESSED TO 50% OF THEIR MAXIMUM DESIGN LOAD
9. ALL COMPRESSION MEMBER CONNECTIONS, IN ADDITION TO BEING DESIGNED FOR THEIR COMPRESSIVE LOADS, SHALL BE DESIGNED FOR TENSION AND SHEAR EQUAL TO A MINIMUM OF 10% OF THE COMPRESSIVE LOAD, UNLESS ACTUAL TENSION AND SHEAR LOADS ARE GREATER
10. WHERE THE BOTTOM OF THE TRACK-DRAIN TRENCH IS BELOW A 1-VERTICAL TO 2-HORIZONTAL INFLUENCE LINE FROM THE BOTTOM OF THE INVERT AT THE SIDE OF EXCAVATION, ADEQUATE BRACING TO RESIST LATERAL PRESSURES SHALL BE INSTALLED IN THE TRACK-DRAIN TRENCH
11. THE CONTRACTOR MAY SUBMIT ALTERNATIVE TEMPORARY EARTH-SUPPORT STRUCTURES FOR REVIEW BY THE ENGINEER

DESIGNED A. BUMANIS DATE 9-25-68	REFERENCE DRAWINGS NUMBER DESCRIPTION	REVISIONS DATE BY DESCRIPTION	WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY		STRUCTURAL STANDARD DRAWING CRITERIA FOR THE DESIGN OF TEMPORARY STRUCTURES SECTION NO. A11b	
DRAWN 3-1-72 DATE 12-2-68		1 CHANGE NOTES 1 AND 2, DATE OF AASHTO REFERENCE AND TITLE	APPROVED BY [Signature] [Signature] 3-1-72		DE LEUW, CATHER & COMPANY GENERAL ENGINEERING CONSULTANT HARRY WEESE & ASSOCIATES GENERAL ARCHITECTURAL CONSULTANT	
CHECKED [Signature] DATE 1-20-69		2 CHANGE: ROADWAY DECK IN CRITERION 2				
APPROVED [Signature] DATE 1-23-69		3 CHANGED WELDING CODE, DATE OF AASHTO REFERENCE				
			APPROVED [Signature]		SCALE NONE	DRAWING NO. ST-S-9 M276-151









			REFERENCE DRAWINGS		REVISIONS		
DESIGNED	J.R.V. DICKSON	11-24-76	NUMBER	DESCRIPTION	DATE	BY	DESCRIPTION
		DATE					
DRAWN	E.L. BURNETT	11-29-76			7/11/77	FLA	REVISED B.I. 27 TO 19 ADDED
		DATE					ELEVATOR & NORTH SHAFT
CHECKED	J.R.V. DICKSON	11-29-76			11/28/77	MFC	ADDED B.I. 28, 29 AND 35
		DATE					
APPROVED	J.S. Maxwell	5-27					
		DATE					



**WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY**

**MATHEWS • CHATELAIN • BEALL**  
ENGINEERS AND ARCHITECTS  
SECTION DESIGNER

SUBMITTED Chen DATE 05-13-77

DATE 9-3-77

DE LEUW, CATHER & COMPANY  
GENERAL ENGINEERING CONSULTANT

**HARRY WEESE & ASSOCIATES**

**APPROVED**

**ROCKVILLE ROUTE**  
**LIMITS OF PAYMENT**

### LIMITS OF PAYMENT

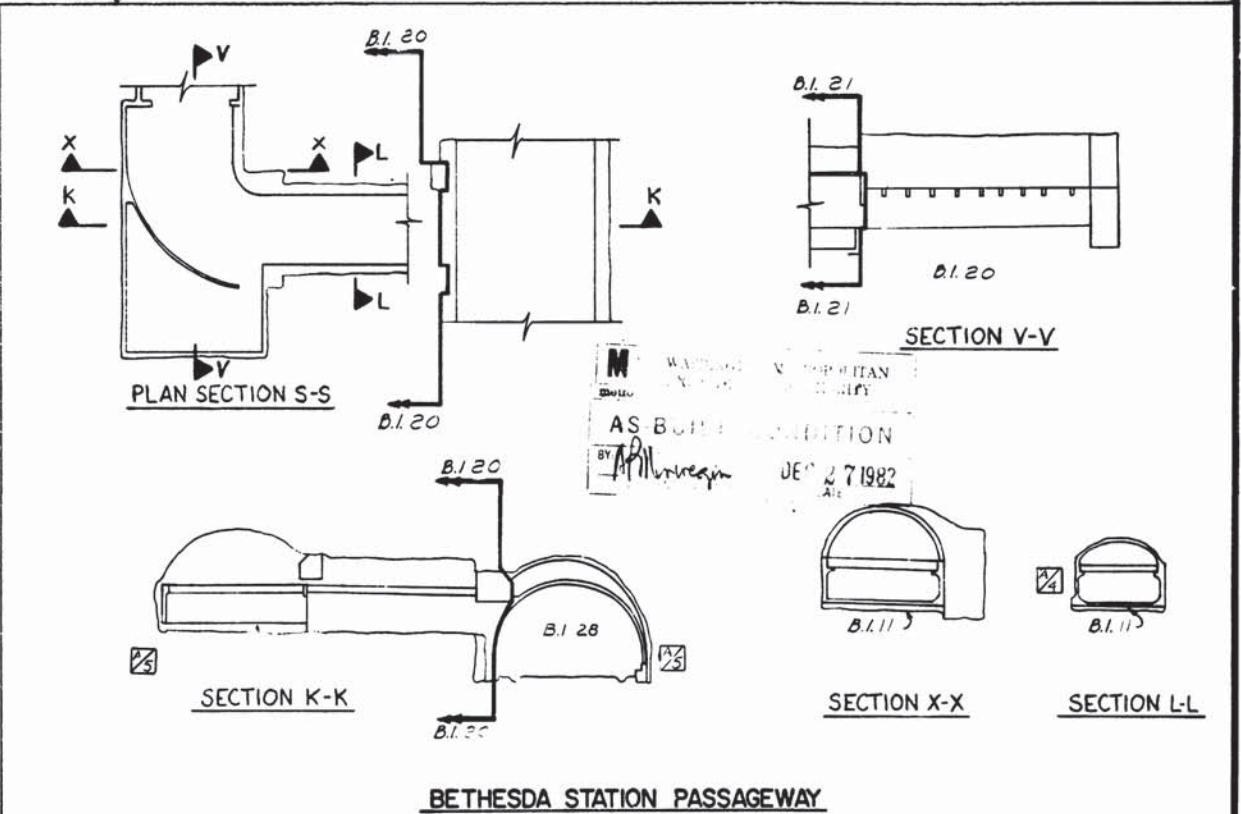
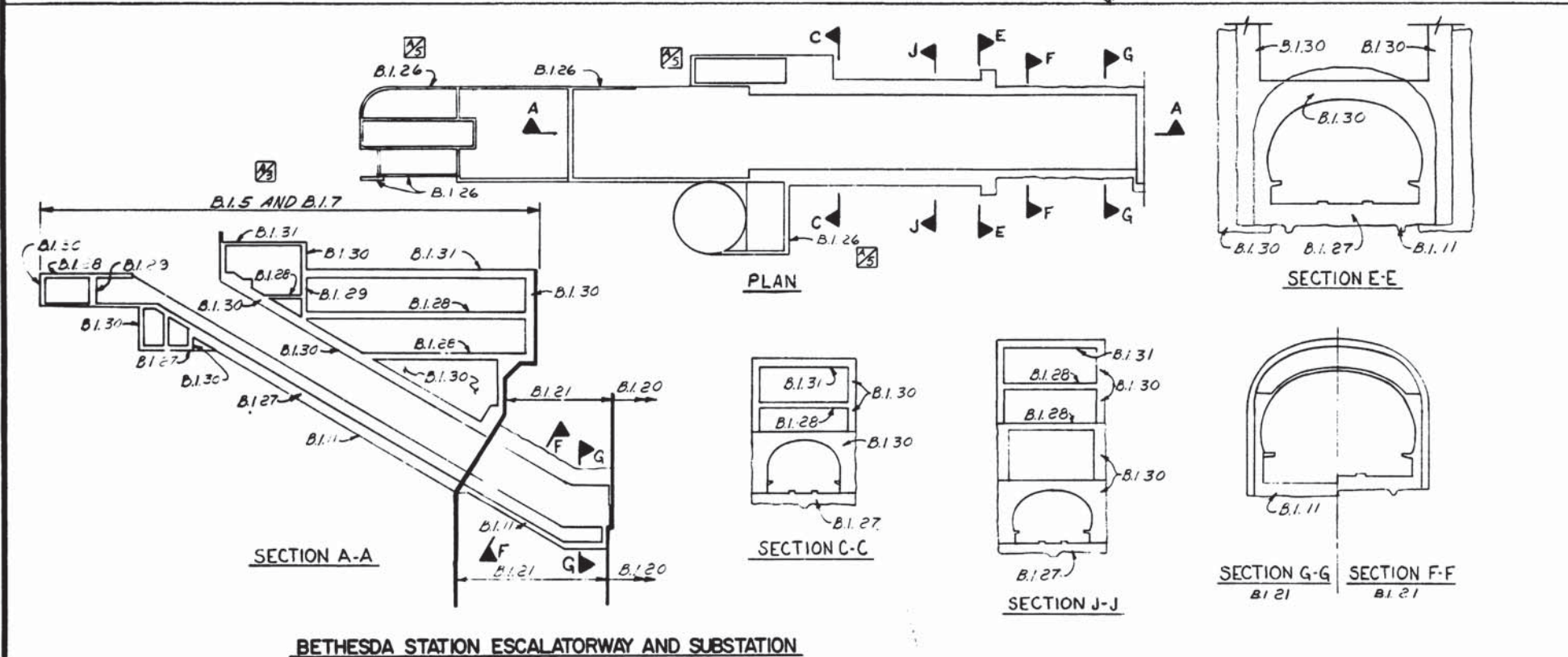
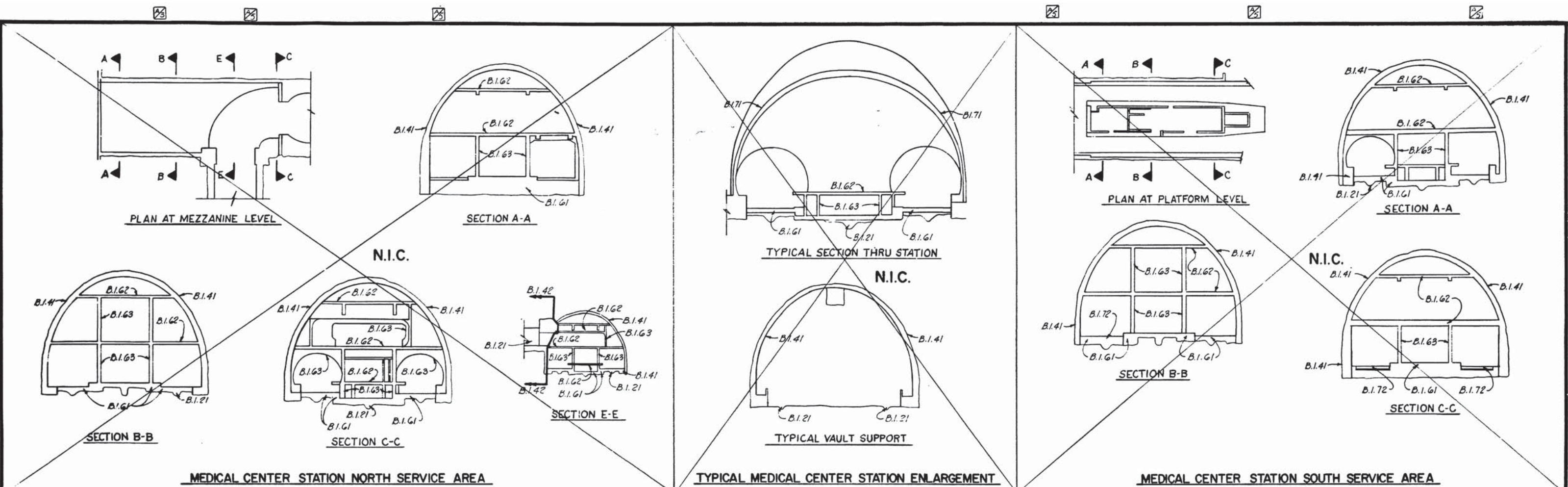
122

### EXAMPLES

Allb-S-92

M276-147





DESIGNED J.R.V. DICKSON 11-22-78	DATE 11-22-78	REFERENCE DRAWINGS	REVISIONS		<b>WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY</b> MATHEWS • CHATELAIN • BEALL ENGINEERS AND ARCHITECTS SECTION DESIGNER	DE LEUW, CATHAR & COMPANY GENERAL ENGINEERING CONSULTANT HARRY WEESE & ASSOCIATES GENERAL ARCHITECTURAL CONSULTANT	<b>ROCKVILLE ROUTE</b> LIMITS OF PAYMENT				
DRAWN F.L. AMOS 11-24-78	DATE 11-24-78	NUMBER	DESCRIPTION				DATE	BY	DESCRIPTION	SCALE	DRAWING NO.
CHECKED J.R.V. DICKSON 11-24-78	DATE 11-24-78										
APPROVED [Signature] 11-27-78	DATE 11-27-78										

BETH. STA. ESC. & SUBSTATION  
 ADD B.1.5 AND B.1.7  
 REVISED B.1.26 AND 28

SUBMITTED [Signature] DATE 05-13-79  
 APPROVED [Signature]

ALL-S-90 M276-146






THE PILOT TUNNEL SHOWN UNDER STEP I HAS BEEN EXCAVATED AND INITIAL SUPPORT HAS BEEN INSTALLED UNDER CONSTRUCTION CONTRACT 1A0111.

- A. PERFORM TOP HEADING EXCAVATION TO LIMITS SHOWN. LENGTH OF ROUND SHALL NOT EXCEED SIX FEET.
- B. APPLY STAGE I SHOTCRETE TO EXPOSED ARCH SURFACE WITHIN TWO HOURS AFTER BLAST.
- C. INSTALL PATTERN OF ROCK BOLTS SHOWN AFTER APPLICATION OF STAGE I SHOTCRETE AND WITHIN TEN HOURS AFTER BLAST.
- D. ERECT STEEL ARCH RIBS AND INSTALL TIE RODS TO PRECEDING STEEL ARCH RIBS.
- E. THE SPACE BETWEEN THE OUTSIDE FLANGE AND THE INTERIOR SURFACE OF STAGE I SHOTCRETE SHALL BE FILLED CONTINUOUSLY BY APPLYING STAGE II SHOTCRETE BLOCKING, OR PLACING STAGE II CONCRETE BLOCKING, OR BOTH, AT CONTRACTOR'S OPTION.
- F. ERECTION OF STEEL RIBS AND APPLICATION OF STAGE II BLOCKING SHALL BE COMPLETED WITHIN 12 HOURS AFTER BLAST AND BEFORE THE BLAST FOR THE NEXT ROUND OF TOP HEADING EXCAVATION.
- G. INSTALL WELDED WIRE FABRIC AND APPLY STAGE III SHOTCRETE TO ENCASE STEEL RIB AND COMPLETE SHOTCRETE APPLICATION BETWEEN RIBS. THIS WORK SHALL BE COMPLETED WITHIN SEVEN CALENDAR DAYS AFTER BLAST AND WITHIN 50 FT OF THE FACE OF TOP HEADING EXCAVATION.
- H. TOP HEADING EXCAVATION AND SUPPORT OF TOP HEADING EXCAVATION MAY BE CARRIED ON AS A CONTINUOUS OPERATION FOR FULL LENGTH OF STATION OPENING.

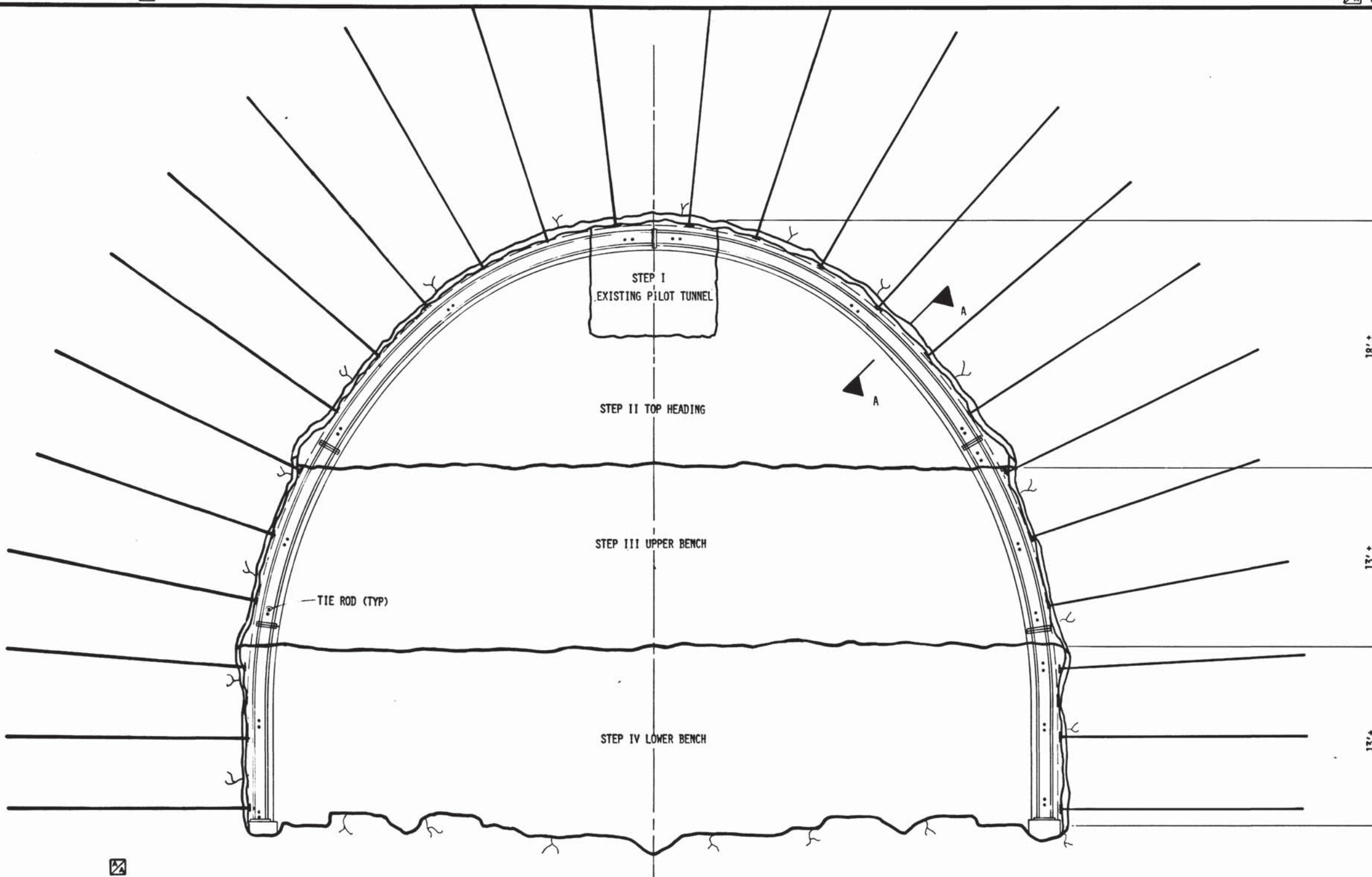
- A. PERFORM UPPER BENCH EXCAVATION TO LIMITS SHOWN.
- B. APPLY STAGE I SHOTCRETE TO EXPOSED HAUNCH SURFACE WITHIN TWO HOURS AFTER BLAST.
- C. INSTALL PATTERN OF ROCK BOLTS SHOWN AFTER APPLICATION OF STAGE I SHOTCRETE AND WITHIN EIGHT HOURS AFTER BLAST.
- D. ERECT STEEL HAUNCH RIBS, CONNECT TO STEEL ARCH RIBS, AND INSTALL TIE RODS TO PRECEDING STEEL HAUNCH RIBS.
- E. THE SPACE BETWEEN THE OUTSIDE FLANGE AND THE INTERIOR SURFACE OF STAGE I SHOTCRETE SHALL BE FILLED CONTINUOUSLY BY APPLYING STAGE II SHOTCRETE BLOCKING, OR PLACING STAGE II CONCRETE BLOCKING, OR BOTH, AT CONTRACTOR'S OPTION.
- F. ERECTION OF STEEL HAUNCH RIBS AND APPLICATION OF STAGE II BLOCKING SHALL BE COMPLETED WITHIN 12 HOURS AFTER BLAST.
- G. INSTALL WELDED WIRE FABRIC AND APPLY STAGE III SHOTCRETE TO ENCASE STEEL RIB AND COMPLETE SHOTCRETE APPLICATION BETWEEN RIBS. THIS WORK SHALL BE COMPLETED WITHIN SEVEN DAYS AFTER BLAST.
- H. UPPER BENCH EXCAVATION MAY BE STARTED AT ANY TIME AFTER TOP HEADING EXCAVATION AND SUPPORT OF EXCAVATION IS SUFFICIENTLY ADVANCED. UPPER BENCH EXCAVATION DOES NOT NECESSARILY HAVE TO BE STARTED UNTIL AFTER TOP HEADING EXCAVATION AND SUPPORT OF EXCAVATION HAS BEEN COMPLETED FOR FULL LENGTH OF STATION OPENING.

- A. PERFORM LOWER BENCH EXCAVATION TO LIMITS SHOWN.
- B. APPLY STAGE I SHOTCRETE TO EXPOSED SIDEWALL SURFACE WITHIN TWO HOURS AFTER BLAST.
- C. INSTALL PATTERN OF ROCK BOLTS SHOWN AFTER APPLICATION OF STAGE I SHOTCRETE AND WITHIN EIGHT HOURS AFTER BLAST.
- ☒ D. ERECT STEEL POSTS, CONNECT TO STEEL HAUNCH RIBS, AND INSTALL TIE RODS TO PRECEDING STEEL POSTS.
- E. PLACE CONCRETE FOOT BLOCKS UNDER STEEL BASE PLATE OF STEEL POSTS. CONCRETE WORK SHALL BE PERFORMED IN A MANNER THAT PROVIDES GOOD CONTACT BETWEEN THE UPPER SURFACE OF CONCRETE AND LOWER SURFACE OF THE STEEL BASE PLATE. AIR RELIEF HOLES ARE PROVIDED IN THE STEEL BASE PLATES TO FACILITATE ACHIEVEMENT OF GOOD CONTACT. CONCRETE FOR FOOT BLOCKS SHALL ATTAIN A COMPRESSIVE STRENGTH OF 2000 PSI WITHIN 72 HOURS.
- F. THE SPACE BETWEEN THE OUTSIDE FLANGE AND THE INTERIOR SURFACE OF STAGE I SHOTCRETE SHALL BE FILLED CONTINUOUSLY BY APPLYING STAGE II SHOTCRETE BLOCKING, OR STAGE II CONCRETE BLOCKING, OR BOTH, AT CONTRACTOR'S OPTION.
- G. ERECTION OF STEEL POSTS, APPLICATION OF STAGE II BLOCKING, AND PLACEMENT OF CONCRETE FOOT BLOCKS SHALL BE COMPLETED WITHIN 12 HOURS AFTER BLAST.
- H. INSTALL WELDED WIRE FABRIC AND APPLY STAGE III SHOTCRETE TO ENCASE STEEL RIB AND COMPLETE SHOTCRETE APPLICATION BETWEEN RIBS. THIS WORK SHALL BE COMPLETED WITHIN SEVEN DAYS AFTER BLAST.
- I. LOWER BENCH EXCAVATION MAY BE STARTED AT ANY TIME AFTER UPPER BENCH EXCAVATION AND SUPPORT OF EXCAVATION IS SUFFICIENTLY ADVANCED. LOWER BENCH EXCAVATION DOES NOT NECESSARILY HAVE TO BE STARTED UNTIL AFTER UPPER BENCH EXCAVATION AND SUPPORT OF EXCAVATION HAVE BEEN COMPLETED FOR FULL LENGTH OF STATION OPENING.

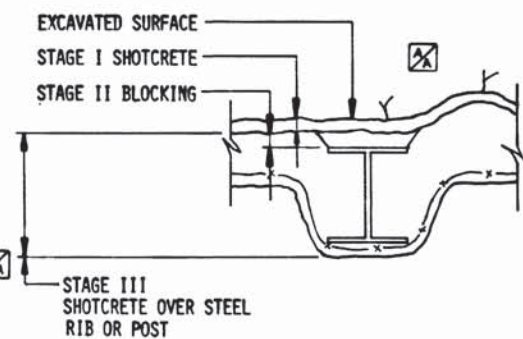
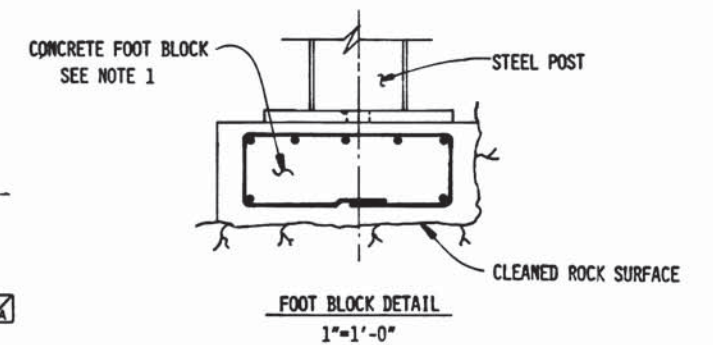
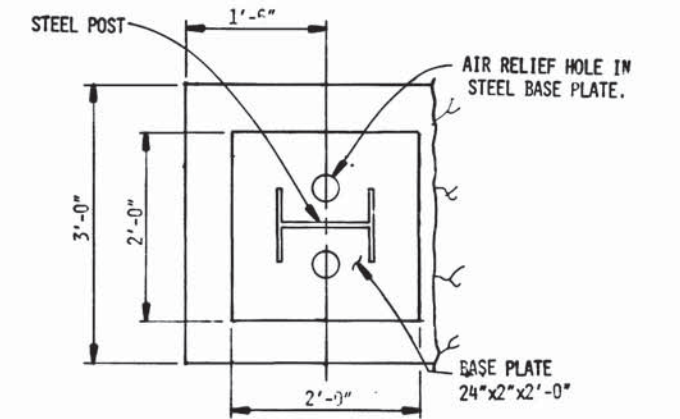
1. INITIAL SUPPORT, CONNECTION OF INITIAL SUPPORT TO PERMANENT LINING, AND METHODS OF TRANSFERRING LOAD FROM PERMANENT LINING THROUGH INITIAL SUPPORT TO ROCK ARE NOT SHOWN.
2. INITIAL SUPPORT, CONNECTION OF INITIAL SUPPORT TO PERMANENT LINING AND METHODS OF TRANSFERRING LOAD FROM PERMANENT LINING THROUGH INITIAL SUPPORT TO ROCK SHALL SUPPORT THE WEIGHT OF THE PERMANENT LINING ITSELF AND LOADS SUCH AS THOSE IMPOSED ON THE PERMANENT LINING BY LOOSENING OF THE ROCK AND OTHER CAUSES SO AS TO ASSURE STABILITY AND SAFETY DURING ALL STAGES OF CONSTRUCTION.

DESIGNED	J E MONSEES	11-21-77	REFERENCE DRAWINGS		REVISIONS				WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY			ROCKVILLE ROUTE		
DRAWN	F L AMOS	11-21-77	NUMBER	DESCRIPTION	DATE	BY	DESCRIPTION		MATHEWS • CHATELAIN • BEALL	DE LEUW, CATHAR & COMPANY	BETHESDA STATION	SEQUENCE OF EXCAVATION AND SUPPORT		
CHECKED	J E MONSEES	11-21-77							ENGINEERS AND ARCHITECTS.	GENERAL ENGINEERING CONSULTANT				
APPROVED		11-28-77								HARRY WEESE & ASSOCIATES		SCALE	DRAWING NO.	
										GENERAL ARCHITECTURAL CONSULTANT		1/8" = 1'-0"	Allb - S-99	
													M276-143	





SEQUENCE OF EXCAVATION AND SUPPORT



NOTES:

1. FOOT BLOCK CONCRETE MUST ATTAIN A COMPRESSIVE STRENGTH OF 2000 PSI WITHIN 72 HOURS.
2. CONNECTION OF STEEL RIPS AND POSTS TO ROCK NOT SHOWN.
3. DETAILS OF INITIAL SUPPORT OF RIPS AND POSTS NOT SHOWN AND TO BE SUBMITTED BY CONTRACTOR

771101

DESIGNED		REFERENCE DRAWINGS		REVISIONS	
J.E. MONSEES	11-21-77	NUMBER	DESCRIPTION	DATE	BY
J.A.D. KEELEY	11-21-77	S-99	SEQUENCE OF EXCAVATION AND SUPPORT	11-28-77	JLH
J.E. MONSEES	11-21-77			1/31/78	JLM
J.E. MONSEES	11-28-77				



WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

MATHEWS • CHATELAIN • BEALL  
ENGINEERS AND ARCHITECTS

SECTION DESIGNER

SUBMITTED *[Signature]* DATE 11-28-77

DE LEUW, CATHAR & COMPANY  
GENERAL ENGINEERING CONSULTANT  
HARRY WEESE & ASSOCIATES  
GENERAL ARCHITECTURAL CONSULTANT

APPROVED

ROCKVILLE ROUTE

BETHESDA STATION  
SEQUENCE OF EXCAVATION AND SUPPORT

SCALE 1/4" = 1'-0" 1 0 1 2 3 4 5

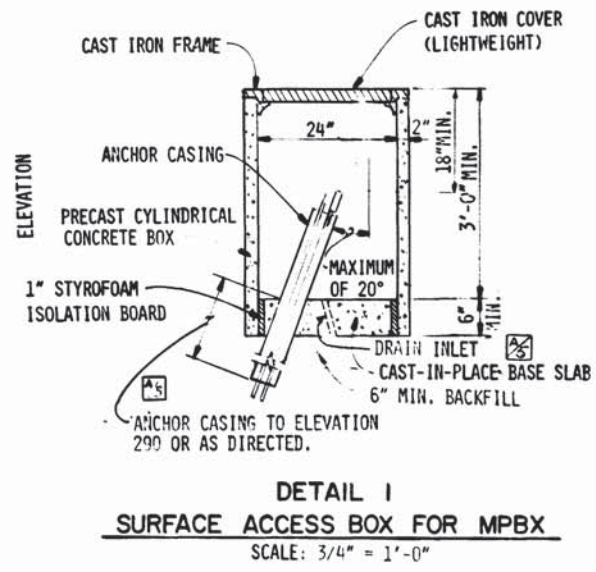
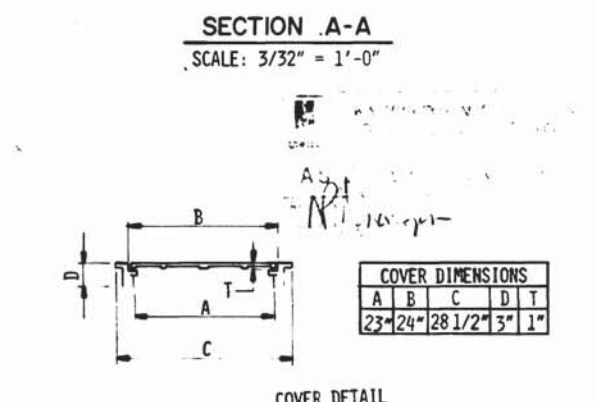
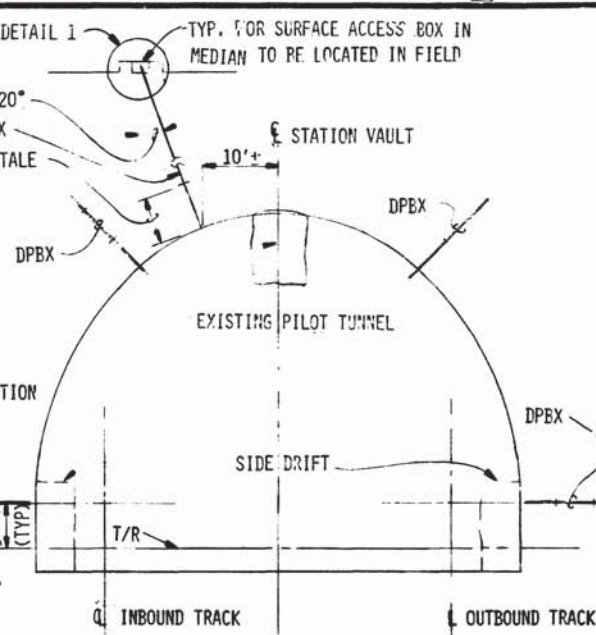
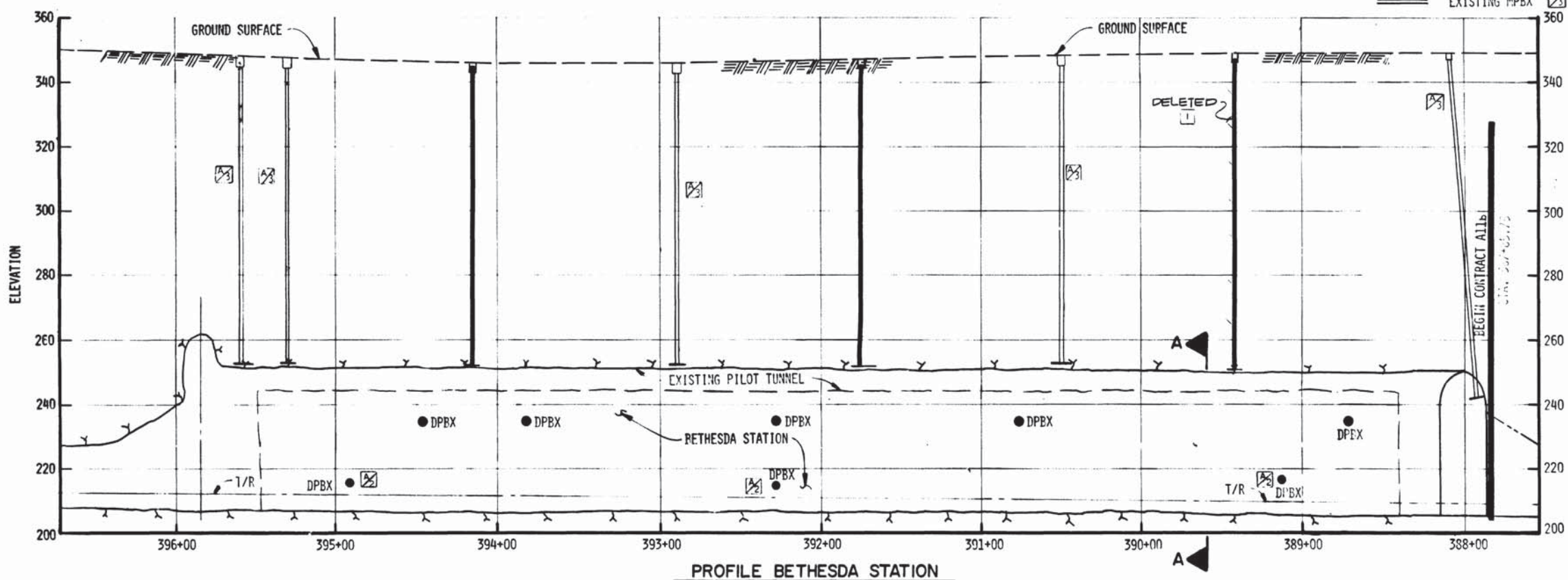
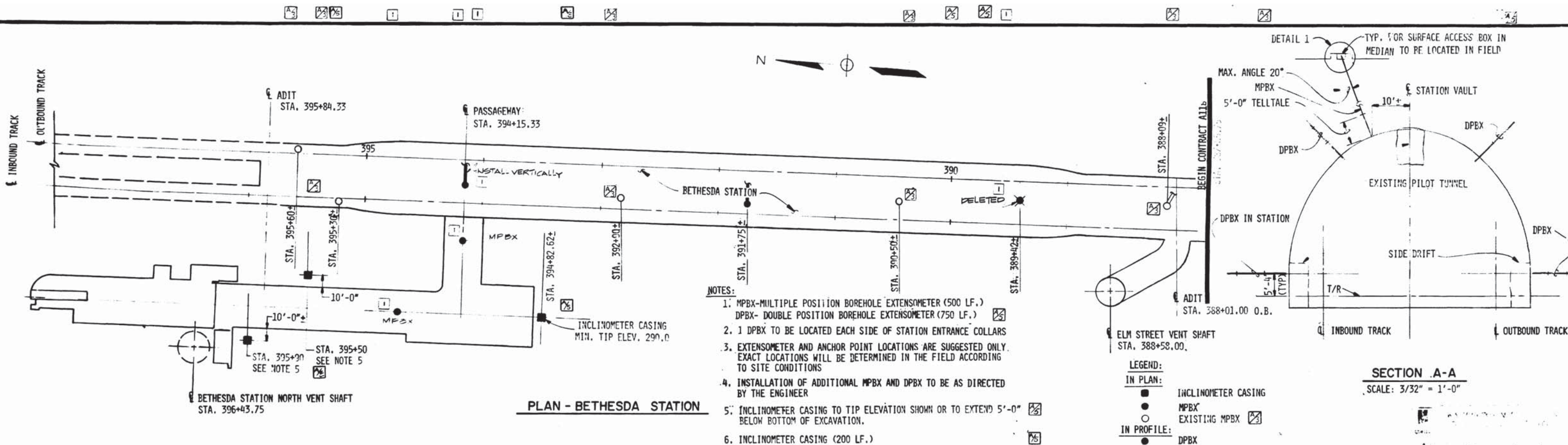
DRAWING NO. A11b-S-98

M276-142









DESIGNED R.A. BULTER 11-01-78 DATE			DRAWN E.L. BURNETT 11-03-76 DATE			CHECKED T.P. SMIRNOFF 11-05-78 DATE			APPROVED [Signature] 11-05-78 DATE		
REFERENCE DRAWINGS			REVISIONS			WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY			ROCKVILLE ROUTE		
NUMBER	DESCRIPTION	DATE	BY	DESCRIPTION		MATHews • CHATELAIN • BEALL			BETHESDA STATION		
S-81	LEGEND AND NOTES	11/11/77	MFC	INSTRUMENTATION NUMBERS & LOCATION		ENGINEERS AND ARCHITECTS			INSTRUMENTATION		
S-100	ABBREVIATIONS & SYMBOLS	12/12/77	JADK	INSTRUMENT NUMBER AND LOCATION CHANGES		DE LEUW, CATHER & COMPANY			SCALE		
S-101	STRUCTURAL NOTES	11/28/77	MFC	INSTRUMENT LOCATION CHANGED AND ADDED NOTE 6.		HARRY WEESE & ASSOCIATES			HORIZ. 1" = 40'		
S-82	STEEL RIB INSTRUMENTATION					GENERAL ARCHITECTURAL CONSULTANT			VERT. 1" = 20'		
						SUBMITTED [Signature] DATE 12-13-77			DRAWING NO.		
						APPROVED [Signature]			A11b-S-80		
									M276-140		