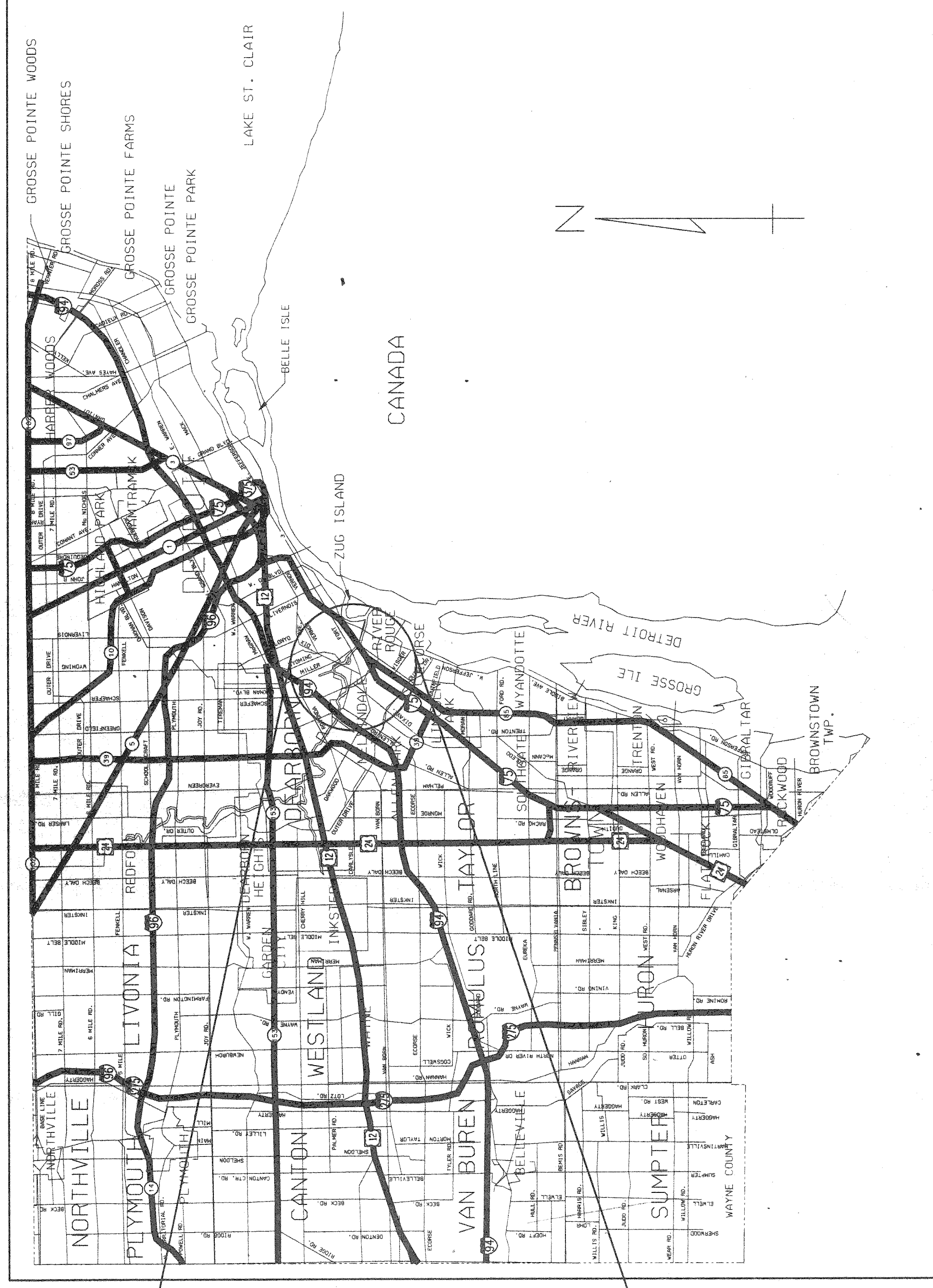
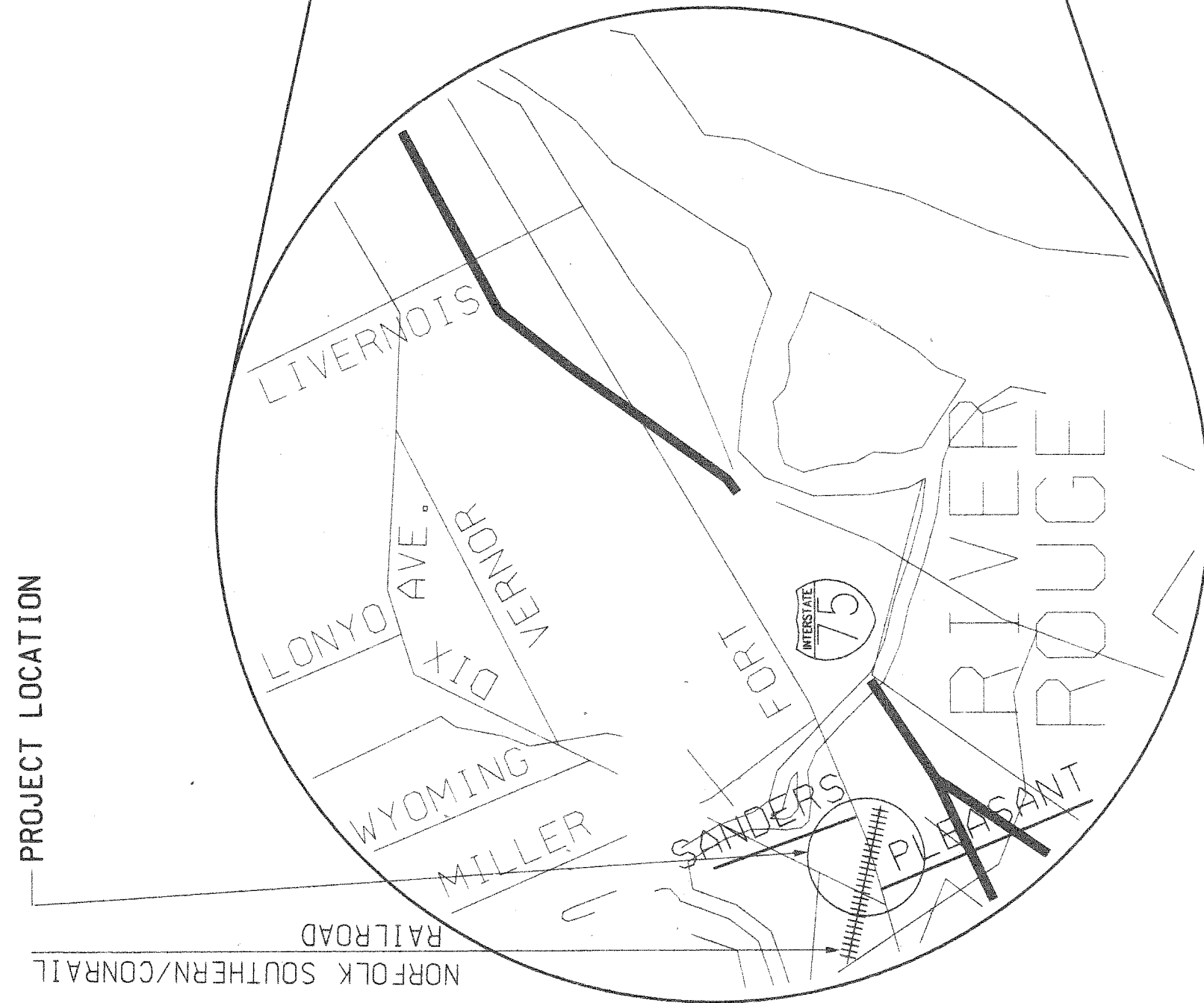


FORT STREE BRIDGE INDEX OF SHEETS

PLANS	SHEET No.
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EXISTING PLAN OF STRUCTURE	9
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MISCELLANEOUS DETAILS	13

CITY OF DETROIT
DENNIS W. ARCHER-MAYOR
CITY ENGINEERING DIVISION
DEPARTMENT OF PUBLIC WORKS
PRELIMINARY PLANS FOR PROPOSED
REPLACEMENT OF FORT STREET BRIDGE OVER PLEASANT
AVE., SANDERS AVE., AND NORFOLK SOUTHERN/CONRAIL RAILROAD

STRUCTURE LOCATION	PLEASANT AVE	NORFOLK SOUTHERN RAILROAD	SANDERS AVE
STRUCTURE NUMBER	12712	12347	12731



NOTES:
THE DESIGN OF THIS STRUCTURE IS BASED ON CURRENT AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES MS18 LOADING. LIVE LOAD PLUS IMPACT DEFLECTION DOES NOT EXCEED 1/1000 OF THE SPAN LENGTH. THE LOAD FACTOR METHOD OF DESIGN WAS USED FOR THIS STRUCTURE.
EXCEPT WHERE OTHERWISE INDICATED ON THESE PLANS THE PROPOSAL AND SUPPLEMENTAL SPECIFICATIONS CONTAINED HEREIN, ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION 1996 EDITION.
THE STATIONING AS SHOWN ON THESE PLANS FOR THE INTERSECTION OF THE CENTERLINE OF BRIDGE AND ROADWAY CENTERLINE IS BELIEVED TO BE CORRECT. IT SHALL, HOWEVER, BE CHECKED AT THE TIME OF STARTING CONSTRUCTION, AND IF THE STATIONING SHOWN ON THESE PLANS IS INCORRECT, IT SHALL BE REPORTED TO THE DESIGN OFFICE, AND THE STRUCTURE SHALL BE STAKED OUT USING THE ACTUAL INTERSECTION OF THE CENTERLINE OF THE BRIDGE AND ROADWAY CENTERLINE AS THE CONTROL POINT.

ALL EXPOSED CONCRETE CORNERS SHOWN SQUARE ON THE PLANS SHALL BE BEVELED WITH 13 mm TRIANGULAR MOLDINGS EXCEPT AS OTHERWISE NOTED.

THE DESIGN OF THE STRUCTURAL MEMBERS IS BASED ON MATERIAL OF THE FOLLOWING GRADES AND STRESSES:

- CONCRETE: GRADE S2 $f'c = 21 \text{ MPa}$
- CONCRETE: GRADE D $f'c = 28 \text{ MPa}$
- STEEL REINFORCEMENT: $f_y = 400 \text{ MPa}$
- FOR PRESTRESSED BEAMS $f_y = 300 \text{ MPa}$
- PRESTRESSING CONCRETE $f'c = 35 \text{ MPa}$
- PRESTRESSING STRANDS $f_s = 1860 \text{ MPa}$

PROJECT: REMOVAL AND REPLACEMENT OF THE STRUCTURES AT FORT STREET BRIDGE OVER SANDERS AVE., NORFOLK SOUTHERN R.R. AND PLEASANT AVE.	CONTRACT NO.
PLANS PREPARED BY SNELL ENVIRONMENTAL GROUP, INC. FOR CITY ENGINEERING DIVISION	
RECOMMENDED FOR APPROVAL	STRUCTURAL ENGINEER
RECOMMENDED FOR APPROVAL	BUILDINGS AND BRIDGES ENGINEER
APPROVED	HEAD ENGINEER
APPROVED	CITY ENGINEER
DATE	DATE
DATE	DATE
DATE	DATE
DATE	DATE
DATE	DATE
DATE	DATE



72 HOURS
OF WORKING DAYS!
BEFORE YOU DIG
CALL MISS DIG
800-482-7171
(TOLL-FREE)

METRIC
DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN. ELEVATIONS, COORDINATES, CURVE AND ALIGNMENT DATA ARE IN METERS. STATIONS ARE IN KILOMETERS + METERS.

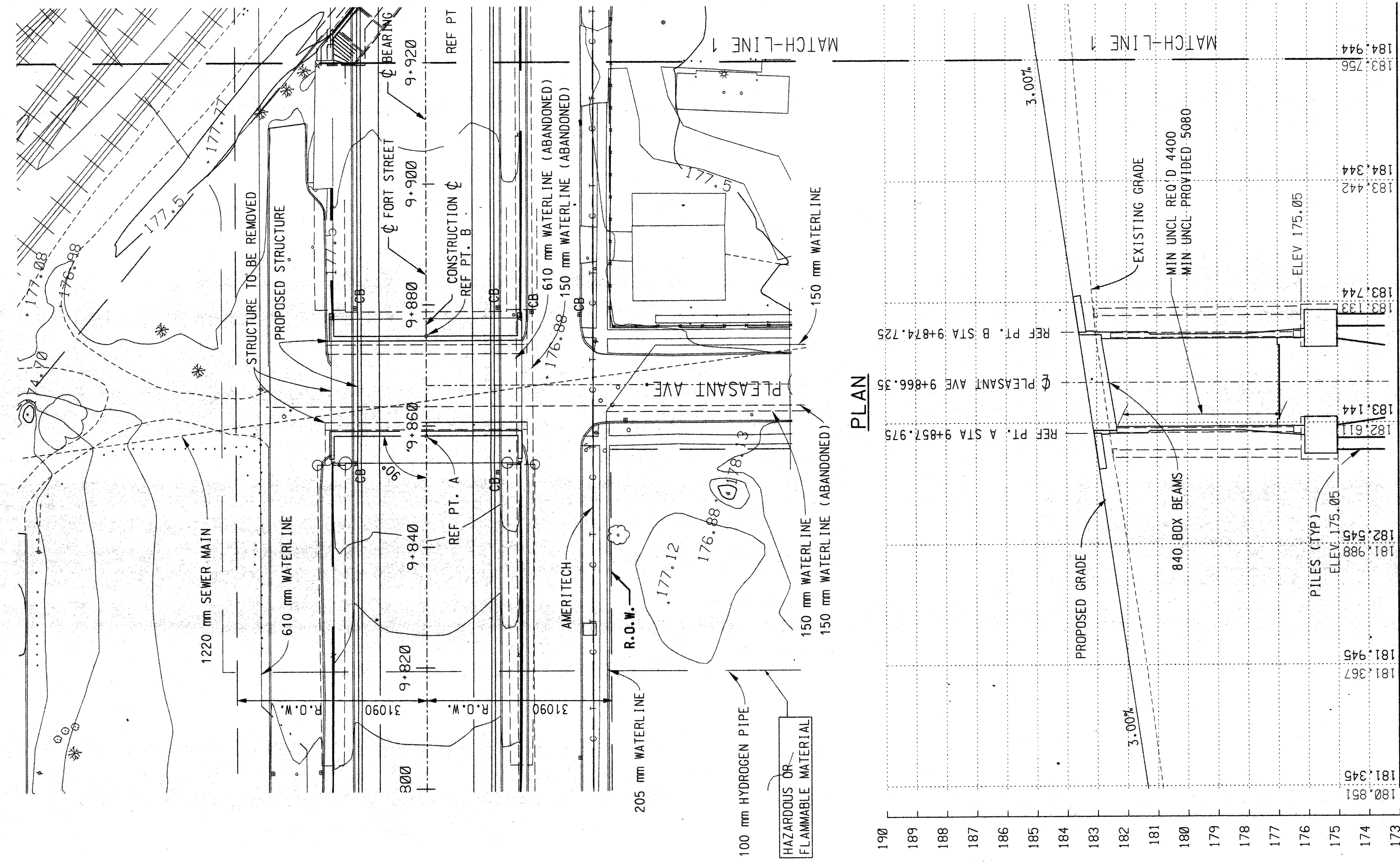
REVISIONS	DSGN BY	N. G. H.	4-99
	DR'N BY	E. W. O.	4-99
	CK'D BY	R. G. W.	4-99
	FINAL CK'D BY		4-99
	APP'D BY		
SEEG			
SNELL ENVIRONMENTAL GROUP, INC. A D.L.Z. COMPANY 151 W. CONGRESS, SUITE 328 DETROIT, MI 48226 TELEPHONE (313) 961-4640			
CITY OF DETROIT MICHIGAN			
FORT STREET BRIDGE OVER SANDERS AND PLEASANT AVENUES, AND NORFOLK AND CONRAIL RAILROADS			
DATE		DRWG. NO.	
SCALE		NOT TO SCALE	
PROJECT NO.		9641-5160-06	
SHEET NO.		1 OF 13	

WITNESSES	
WITNESS TO BRIDGE CONSTRUCTION @ FORT STREET N27°E S145°W S34°W	STA. 9+580.000 5.220 m 24.825 m 22.450 m
WITNESS TO BRIDGE CONSTRUCTION @ FORT STREET N58°W S195°E S41°E	STA 10+410.000 26.476 m 29.588 m 33.110 m

BENCH MARK	
B.M. #4 TOP OF NORTH BOLT OF HYDRANT @ SOUTH BOUND TURNAROUND SW END OF BRIDGE	ELEV. 176.615
B.M. #3 PR SPIKE IN EASTERLY FACE OF LIGHT POLE WEST OF BRIDGE, WEST END OF PLEASANT ST.	ELEV. 177.229
B.M. #2 CHISELED SQUARE IN TOP OF CONCRETE RET. WALL N. OR R.R. TRACKS & 842mm W. OF FACE	ELEV. 178.479

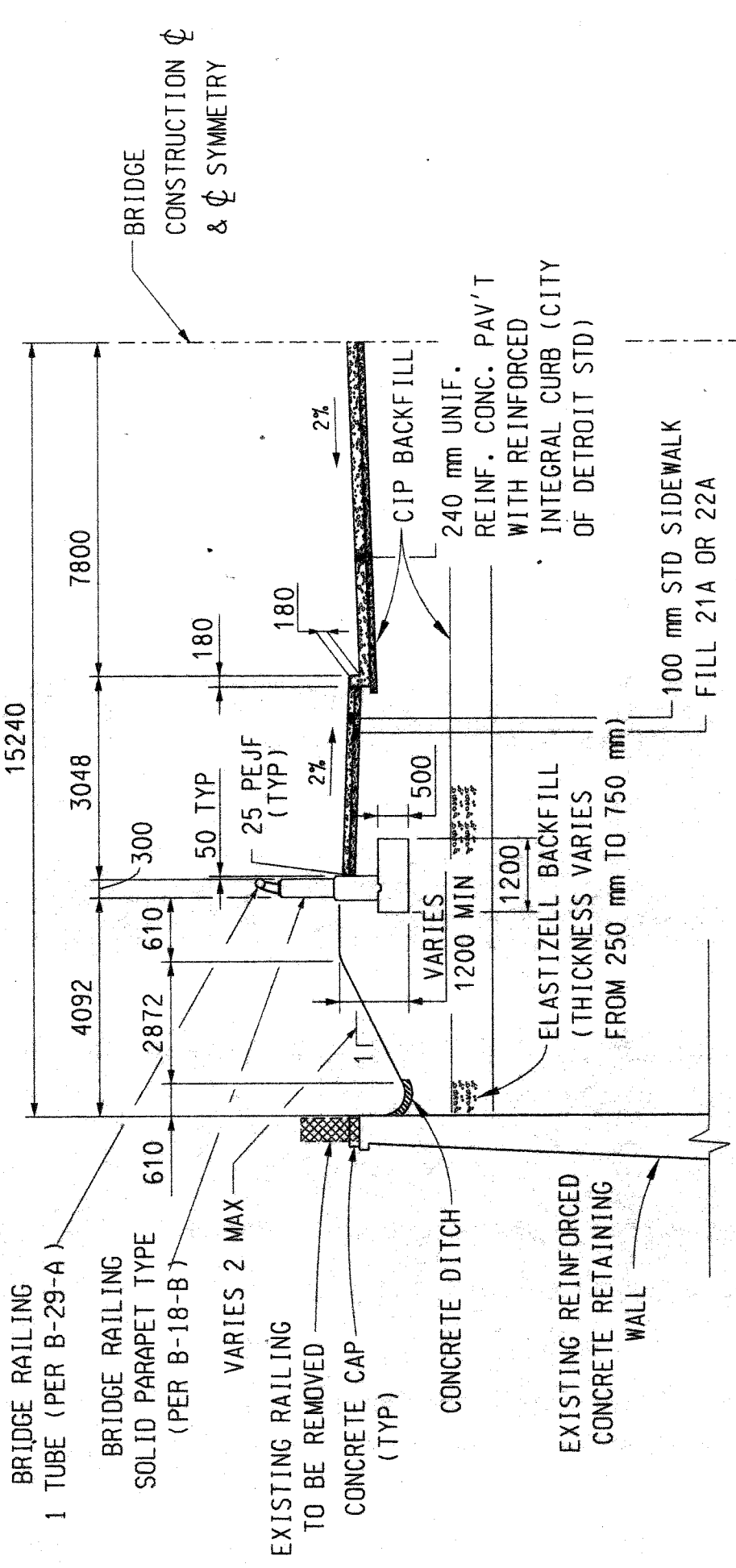
UTILITIES	
AMERTECH 4000 ALLEN ROAD, ROOM 101 ALLEN PARK, MI 48101 ATTN.: DAVE BUCIENSKI PHONE No.: (313) 389-9819	TELEPHONE
PRAXAIR, INC. MIDWEST RELIABILITY CENTER 4450 KENNEDY AVENUE EAST CHICAGO, IN 46312 ATTN.: JERRY DEWITT PHONE No.: (219) 391-5114	
CITY OF DETROIT WATER & SEWAGE DEPARTMENT 735 RANDOLPH STREET DETROIT, MI 48226-2830 ATTN.: DALJIT SINGH, P.E. PHONE No.: (313) 224-4800	
WOLVERINE PIPELINE COMPANY 8105 VALLEYWOOD LANE PORTAGE, MI 49024-5251 ATTN.: FRED W. HIPSHEAR PHONE No.: (734) 428-8386	
DETROIT EDISON 1880 STARBATT DRIVE ROCHESTER HILLS, MI 48309 ATTN.: LEON JOHNSON PHONE No.: (248) 299-9411	
MICHCON 5200 HOBSON DETROIT, MI 48201 ATTN.: PAUL HARTMAN PHONE No.: (313) 577-7470	
PUBLIC LIGHTING DEPARTMENT 9449 GRINWELL DETROIT, MI 48213 ATTN.: STANLEY TOTALWESKI PHONE No.: (313) 267-7232	
AMERTECH 4000 ALLEN RD., ROOM 101 ALLEN PARK, MI 48101 ATTN.: E. REDMER/SJIE WHITE PHONE No.: (248) 456-0860	

DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN. ELEVATIONS, COORDINATES, CURVE AND ALIGNMENT DATA ARE IN METERS. STATIONS ARE IN KILOMETERS + METERS.



PROFILE ALONG @ FORT STREET
OVER PLEASANT AVE.

VERT. SCALE 1:100
HOR. SCALE 1:500



TYPICAL APPROACH HALF SECTION
NTS

THE WORK COVERED BY THESE PLANS INCLUDES MAINTAINING TRAFFIC, GRADING FOR TEMPORARY AND PERMANENT TRACK WORK, CONSTRUCTION OF THE PROPOSED BRIDGE, PLACING SLOPE PROTECTION, SODDING AND/OR SEEDING TO THE LIMITS SHOWN. ALL OTHER WORK IS TO BE DONE BY OTHERS AND IS NOT A PART OF THIS CONTRACT.

REMOVAL OF FENCES AND BUILDINGS IS NOT A PART OF THIS CONTRACT.

THE CONTRACTOR SHALL LOCATE ALL ACTIVE UNDERGROUND UTILITIES PRIOR TO STARTING WORK AND SHALL CONDUCT HIS/HER OPERATIONS IN SUCH A MANNER AS TO ENSURE THAT THOSE UTILITIES NOT REQUIRING RELOCATION WILL NOT BE DISTURBED.

TRAFFIC IS TO BE DETOURED OVER EXISTING STREETS

PLAN ELEVATION REFER TO NAVD 88 DATUM

TOPOGRAPHY SHOWN HERE REPRESENTS CONDITIONS EXISTING AT THE TIME THE FIELD SURVEY WAS MADE. HOWEVER, THESE CONDITIONS MAY HAVE BEEN MATERIALLY ALTERED BY THE OPERATIONS OF OTHERS PRIOR TO THIS CONTRACT.

THE FOLLOWING ITEMS ARE RAILROAD OWNED (FITTINGS, TIES, RAILS, ETC) AND ANY OF THESE ITEMS SALVAGED SHALL BECOME THE PROPERTY OF THE RAILROAD.

2018 ESTIMATED TRAFFIC DISTRIBUTION

LEGEND	
(1290)	DESIGN HOURLY VOLUME
12900	AVERAGE DAILY TRAFFIC
5%	COMMERCIAL
75 KPH	DESIGN SPEED
MS18	DESIGN LOAD

EXISTING STRUCTURE

3-SPAN CONCRETE ENCASED STEEL BEAM SUPERSTRUCTURE SUPPORTING DECK SLAB
31700 mm WIDE, SUPPORTED BY 2 REINFORCED CONCRETE PIERS 15240 mm C/C CENTERED OVER
12200 mm ROADWAY WIDTH AND BY 2 FULL HEIGHT REINF CONC. ABUTMENTS 22250 mm F.F. WITH
COMMON SPREAD FOOTINGS AT ADJACENT PIER/ABUTMENT. CONSTRUCTED IN 1928.

DRWG. NO.

FORT STREET BRIDGE OVER SANDERS
AND PLEASANT AVENUES AND NORFOLK
AND CONRAIL RAILROADS

CITY OF DETROIT
MICHIGAN



SNELL
ENVIRONMENTAL
GROUP, INC. A DLZ Company
151 W. CONGRESS, SUITE 328
DETROIT, MICHIGAN 48226
TELEPHONE (313) 961-0640



DESIGN BY	N.G.H.	4-99
DR'N BY <td>E.W.O.</td> <td>4-99</td>	E.W.O.	4-99
CK'D BY <td>R.G.W.</td> <td>4-99</td>	R.G.W.	4-99
FINAL CK'D BY <td></td> <td>4-99</td>		4-99
APP'D BY <td></td> <td></td>		

GENERAL PLAN OF SITE

SCALE	NOT TO SCALE
PROJECT NO.	9641-5160-06
SHEET NO.	2 OF 13

WITNESSES

WITNESS TO BRIDGE CONSTRUCTION @ FORT STREET		WITNESS TO BRIDGE CONSTRUCTION @ FORT STREET	
NZ7*E PK NAIL IN POWER POLE	STA. 9+580.000	N58*W PK NAIL IN PAVEMENT	STA. 10+410.000
S145*W 60G NAIL IN 458MM ELM	5.220 m	S195*E PK IN POWER POLE	26.476 m
S34*W PK NAIL IN POWER POLE	24.825 m	S41*E PK NAIL IN POWER POLE	29.588 m
	22.450 m		33.110 m

BENCH MARK

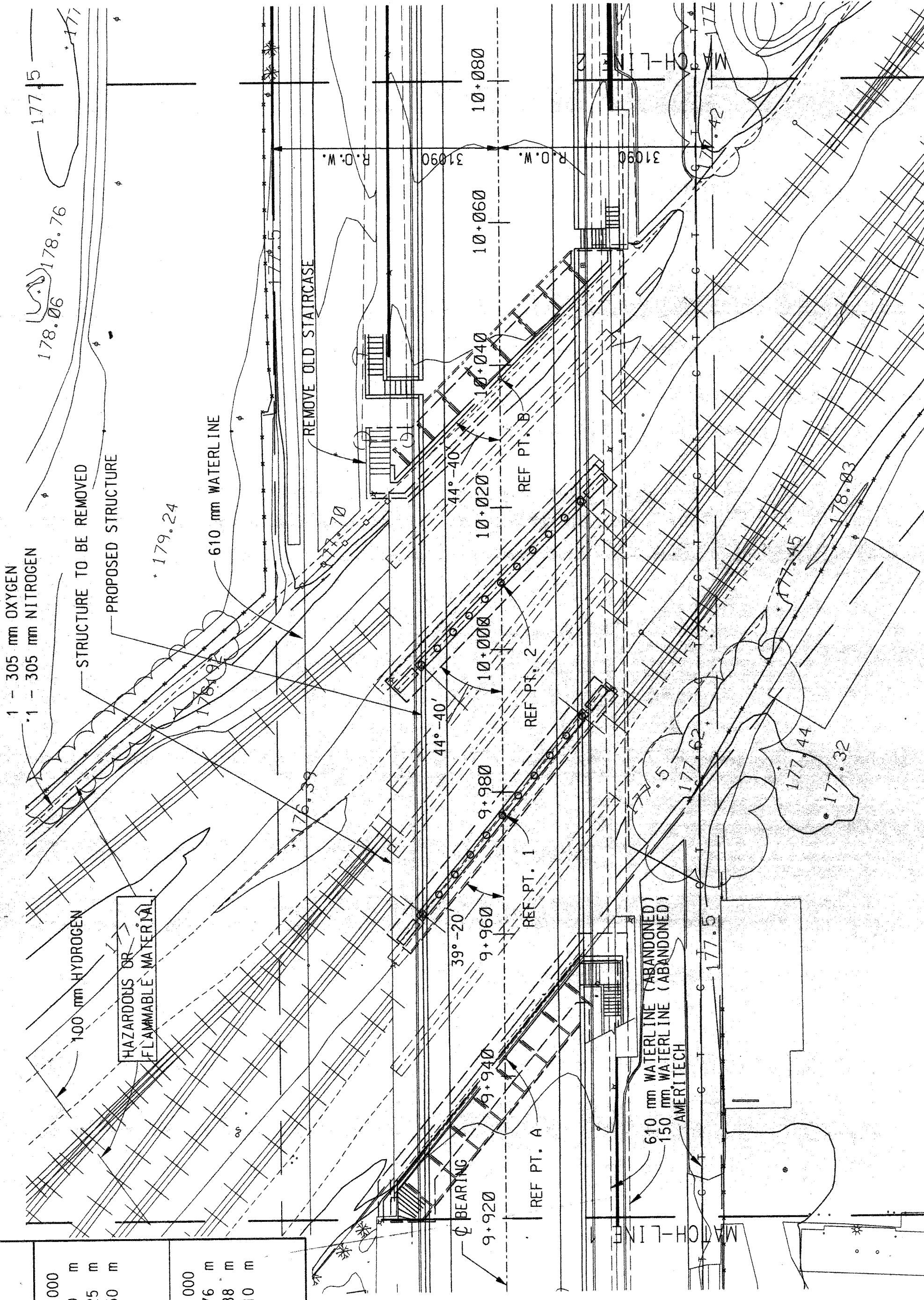
B.M. #2 CHILDED SQUARE IN TOP OF CONCRETE WALL NORTH OF RR TRACKS	ELEV. 178.479
B.M. #1 P.R. SPIKE IN SOUTH FACE OF LIGHT POLE IN SW QUADRANT OF SANDERS & FORT	ELEV. 177.624
B.M. #3 RR SPIKE IN EASTERLY FACE OF LIGHT POLE W. SIDE OF BRIDGE & W. END OF PLEASANT AVE	ELEV. 177.229

UTILITIES

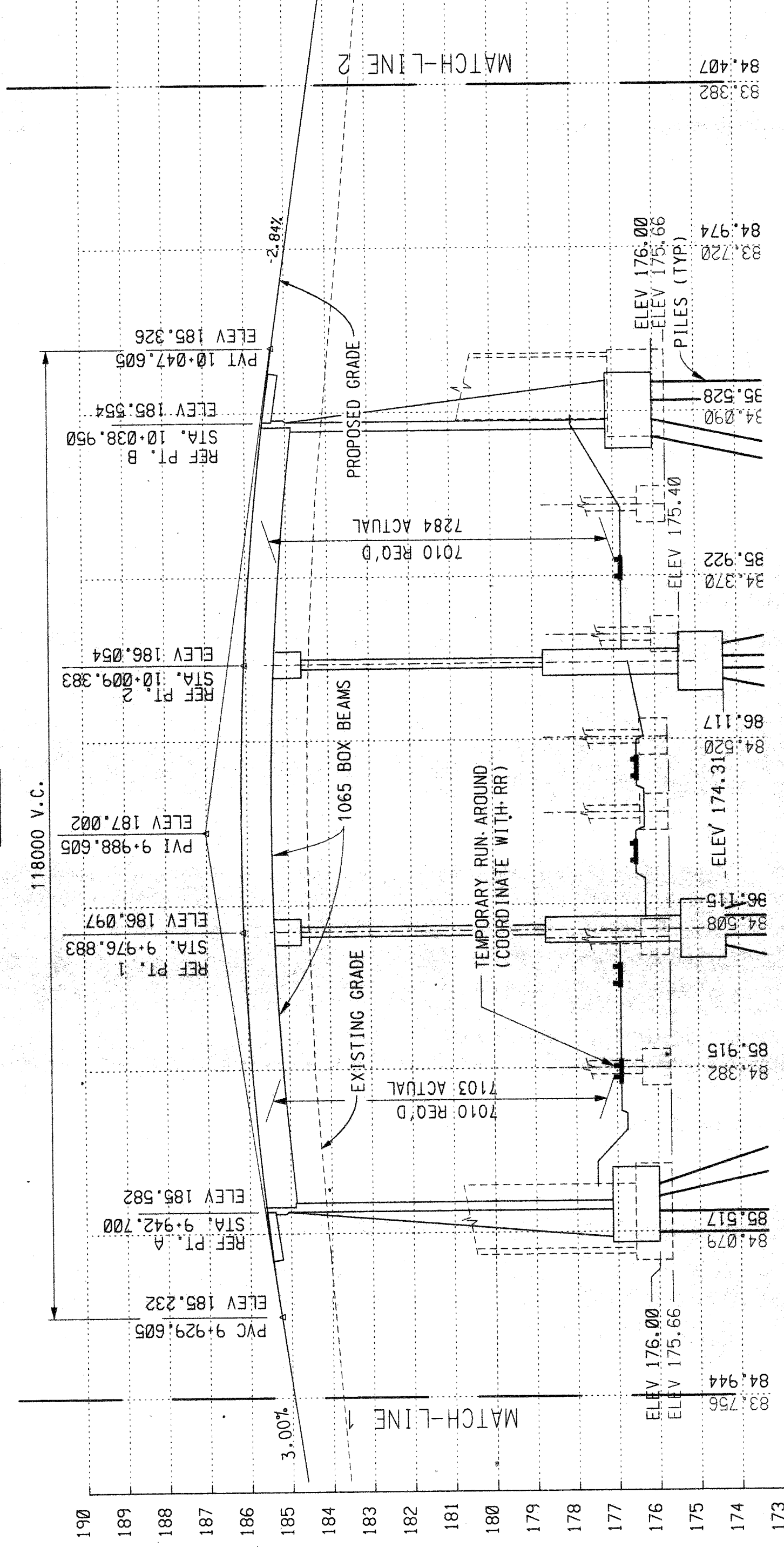
UTILITIES	TELEPHONE
AMERITECH 4000 ALLEN ROAD, ROOM 101 ALLEN PARK, MI 48101 ATTN.: DAVE BUCIENSKI PHONE NO.: (313) 389-9819	
PRAXAIR, INC. MIDWEST RELIABILITY CENTER 4450 KENNEDY AVENUE EAST CHICAGO, IN 46312 ATTN.: JERRY DEWITT PHONE NO.: (219) 391-5114	
CITY OF DETROIT WATER & SEWAGE DEPARTMENT 735 RANDOLPH STREET DETROIT, MI 48226-2830 ATTN.: DALJIT SINGH, P.E. PHONE NO.: (313) 224-4800	
WOLVERINE PIPELINE COMPANY 8705 VALLEYWOOD LANE PORTAGE, MI 49024-5251 ATTN.: FRED W. HIPSHEAR PHONE NO.: (734) 428-6366	
DETROIT EDISON 1880 STARBUCK DRIVE ROCHESTER HILLS, MI 48309 ATTN.: LEON JOHNSON PHONE NO.: (248) 299-9411	
MICHIGAN 3200 JOHNSON DETROIT, MI 48201 ATTN.: PAUL HARTMAN PHONE NO.: (313) 577-1470	
PUBLIC LIGHTING DEPARTMENT 949 GRAINE DETROIT, MI 48213 ATTN.: STANLEY TOTOLEWSKI PHONE NO.: (313) 267-7232	
AMERITECH 4000 ALLEN RD, ROOM 101 ALLEN PARK, MI 48101 ATTN.: E. REDMER/SUE WHITE PHONE NO.: (248) 456-0860	

METRIC

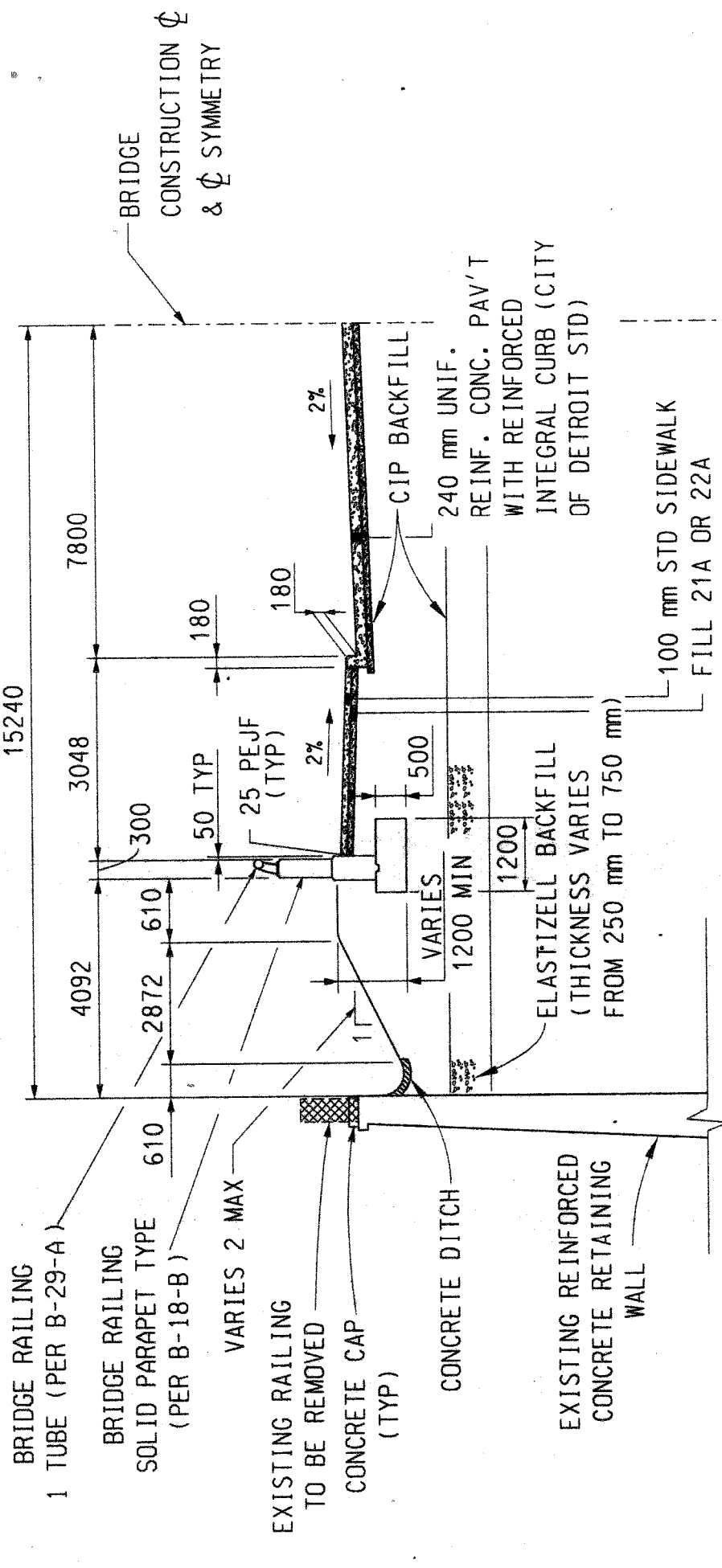
DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN. ELEVATIONS, COORDINATES, CURVE AND ALIGNMENT DATA ARE IN METERS. STATIONS ARE IN KILOMETERS + METERS.



PLAN



PROFILE ALONG CENTERLINE OF FORT STREET OVER NORFOLK SOUTHERN RAILROAD



TYPICAL APPROACH HALF SECTION
NTS

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TRAFFIC IS TO BE DETOURD OVER EXISTING STREETS

PLAN ELEVATION REFER TO NAVD 88 DATUM

TOPOGRAPHY SHOWN HERE REPRESENTS CONDITIONS EXISTING AT THE TIME THE FIELD SURVEY WAS MADE. HOWEVER, THESE CONDITIONS MAY HAVE BEEN MATERIALLY ALTERED BY THE OPERATIONS OF OTHERS PRIOR TO THIS CONTRACT.

THE TRAIN INFORMATION SHOWN IN THE PROPOSAL DOES NOT REPRESENT A COMMITMENT BY THE GIVEN RAILROAD(S) AND IS SUBJECT TO CHANGE WITHOUT NOTICE.

THE FOLLOWING ITEMS ARE RAILROAD OWNED (FITTINGS, TIES, RAILS, ETC.) AND ANY OF THESE ITEMS SALVAGED SHALL BECOME THE PROPERTY OF THE RAILROAD.

2018 ESTIMATED TRAFFIC DISTRIBUTION

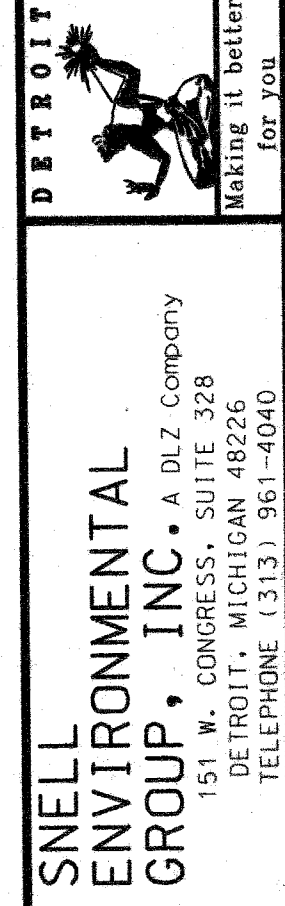
LEGEND

(1290)	DESIGN HOURLY VOLUME
12900	AVERAGE DAILY TRAFFIC
57	COMMERCIAL
75 MPH	DESIGN SPEED
MS18	DESIGN LOAD

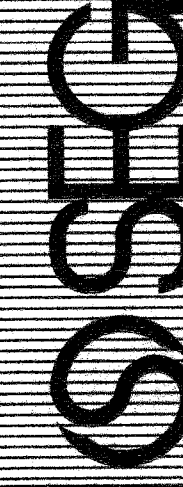
EXISTING STRUCTURE
7 SPAN CONC. ENCASED STEEL BEAM SUPERSTRUCTURE SUPPORTING DECK SLAB 31000 mm WIDE, SUPPORTED BY 6 REINF. CONC. PIERS AND 2 REINF. CELLULAR WALLED ABUTMENTS, ALL SPREAD FOOTINGS. CONSTRUCTED IN 1928.

DRWG. NO.

CITY OF DETROIT
MICHIGAN



SNELL ENVIRONMENTAL GROUP, INC. A D.L.Z. Company
151 W. CONGRESS, SUITE 328
DETROIT, MICHIGAN 48226
TELEPHONE (313) 961-4040



DSON BY	N.C.H.	4-99
DR'N BY	E.W.O.	4-99
CK'D BY	R.G.W.	4-99
FINAL CK'D BY		4-99
APP'D BY		

REVISIONS	

FORT STREET BRIDGE OVER SANDERS AND PLEASANT AVENUES AND NORFOLK AND CONRAIL RAILROADS

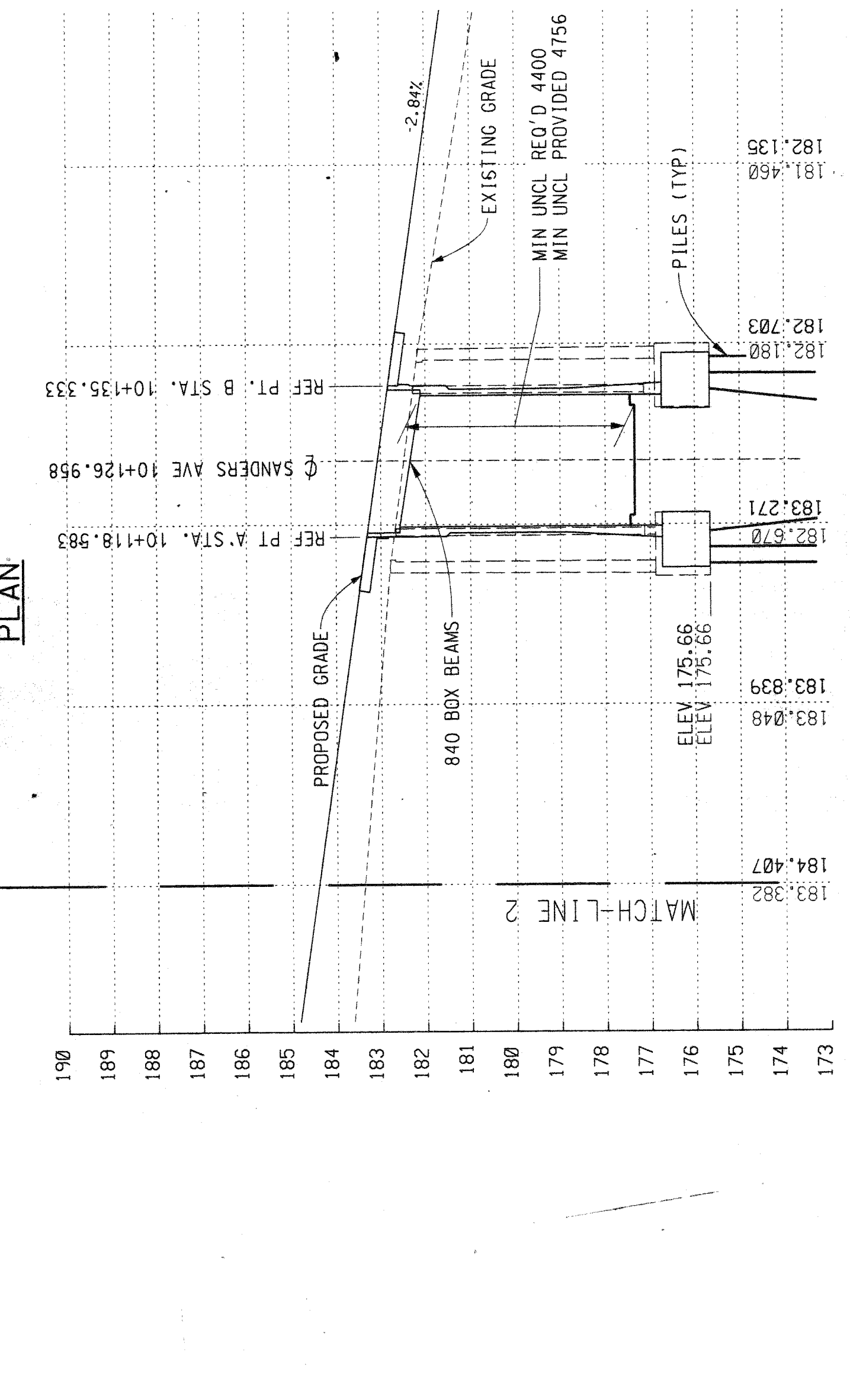
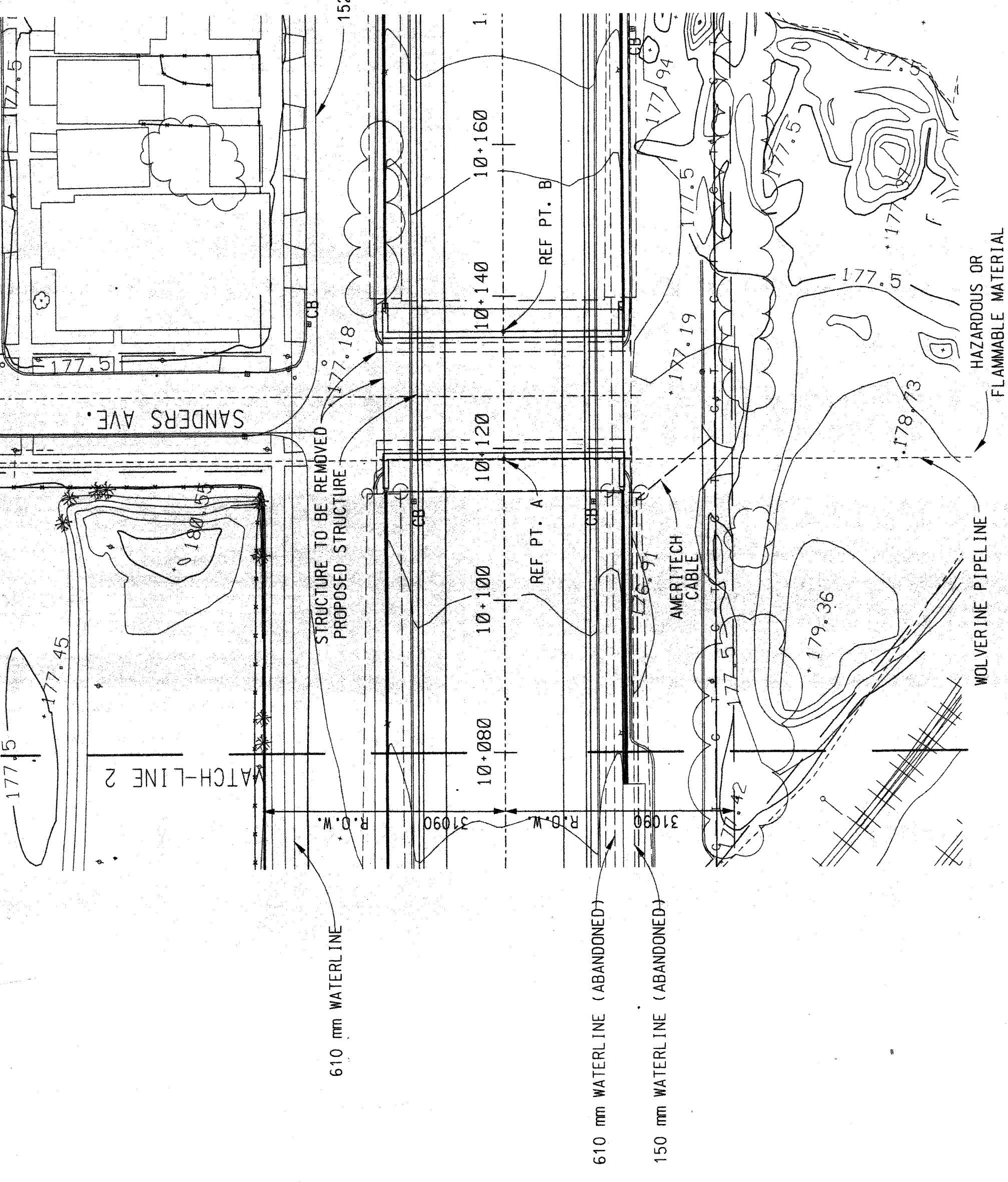
SCALE NOT TO SCALE
PROJECT NO. 9641-5160-06
SHEET NO. 3 OF 13

WITNESSES	
WITNESS TO BRIDGE CONSTRUCTION & FORT STREET N27°E S145°W S34°W	STA. 9+580.000 5.220 m 24.825 m 22.450 m
WITNESS TO BRIDGE CONSTRUCTION & FORT STREET N58°W S195°E S41°E	STA 10+410.000 26.476 m 29.588 m 33.110 m

BENCH MARK	
B.M. #1 RR SPIKE IN SOUTH FACE OF LIGHT POLE IN SW QUADRANT OF SANDERS & FORT	ELEV. 177.624
B.M. #5 RR SPIKE IN EAST FACE OF SECOND LIGHT POLE WEST SIDE NORTH OF BRIDGE	ELEV. 178.185
B.M. #2 CHISELED SQUARE IN TOP OF CONCRETE WALL NORTH OF RR TRACKS	ELEV. 178.479

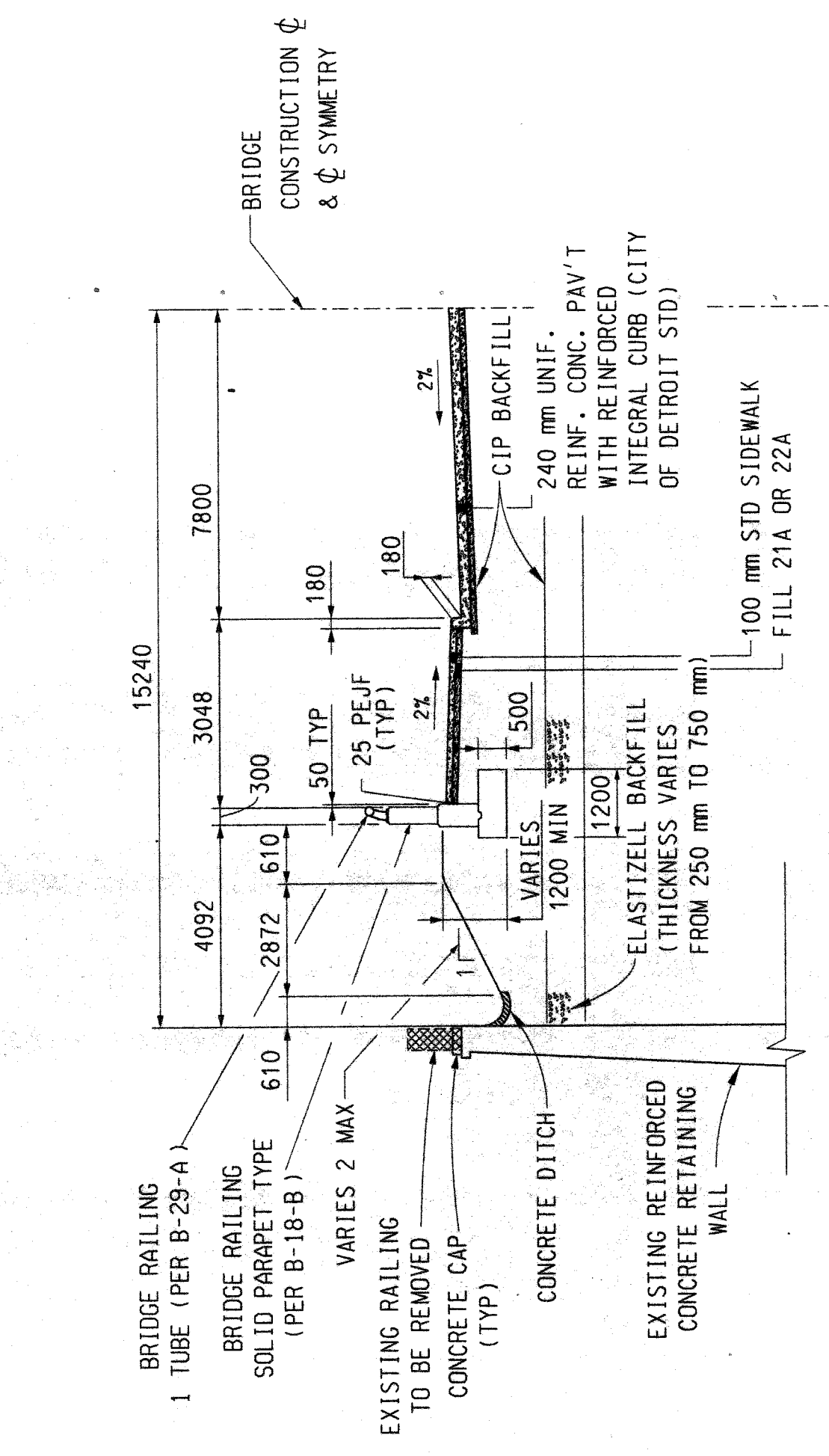
UTILITIES	
AMERITECH 4000 ALLEN ROAD, ROOM 101 ALLEN PARK, MI 48101 ATTN.: DAVE BUCIENSKI PHONE No.: (313) 389-9819	TELEPHONE
PRAXAIR, INC. MIDWEST RELIABILITY CENTER 4450 KENNEDY AVENUE EAST CHICAGO, IN 46312 ATTN.: JERRY DEMITT PHONE No.: (219) 391-5114	
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DETROIT EDISON 1880 STARBATT DRIVE ROCHESTER HILLS, MI 48309 ATTN.: LEON JOHNSON PHONE No.: (248) 299-9411	
MICHIGAN 3200 HOBSON DETROIT, MI 48201 ATTN.: PAUL HARTMAN PHONE No.: (313) 577-7470	GAS
PUBLIC LIGHTING DEPARTMENT 9449 GRINNEL DETROIT, MI 48213 ATTN.: STANLEY TOTOLEWSKI PHONE No.: (313) 267-7232	
AMERITECH 4000 ALLEN RD., ROOM 101 ALLEN PARK, MI 48101 ATTN.: E. REDMER/SUE WHITE PHONE No.: (248) 456-0860	

METRIC
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PROFILE ALONG & FORT STREET
OVER SANDERS AVE.

VERT. SCALE 1:100
HOR. SCALE 1:500



TYPICAL APPROACH HALF SECTION
NTS

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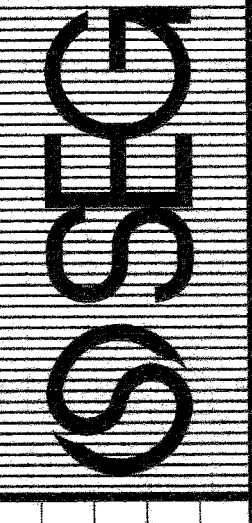
2018 ESTIMATED TRAFFIC DISTRIBUTION

LEGEND

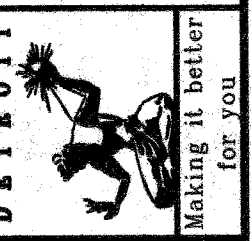
(1290)	DESIGN HOURLY VOLUME
12900	AVERAGE DAILY TRAFFIC
5%	COMMERCIAL
75	KPH DESIGN SPEED
MS18	DESIGN LOAD

EXISTING STRUCTURE
3-SPAN CONCRETE ENCASED STEEL BEAM SUPERSTRUCTURE SUPPORTING DECK SLAB
31700 mm WIDE, SUPPORTED BY 2 REINFORCED CONCRETE PIERS 15240 mm C/C CENTERED OVER
12200 mm ROADWAY WIDTH AND BY 2 FULL HEIGHT REINF CONC. ABUTMENTS 22250 mm F/F, WITH
COMMON SPREAD FOOTINGS AT ADJACENT PIER/ABUTMENT. CONSTRUCTED IN 1928.

REVISIONS	
DSGN BY	N.C.H. 4-99
DR'N BY	E.W.D. 4-99
CK'D BY	R.G.W. 4-99
FINAL CK'D BY	
APP'D BY	



SNELL ENVIRONMENTAL GROUP, INC. A D/E Company
1500 CONGRESS AVE. SUITE 206
DETROIT, MICHIGAN 48226
TELEPHONE (313) 961-4040



CITY OF DETROIT
MICHIGAN

FORT STREET BRIDGE OVER SANDERS AND PLEASANT AVENUES AND NORFOLK AND CONRAIL RAILROADS

TITLE SHEET

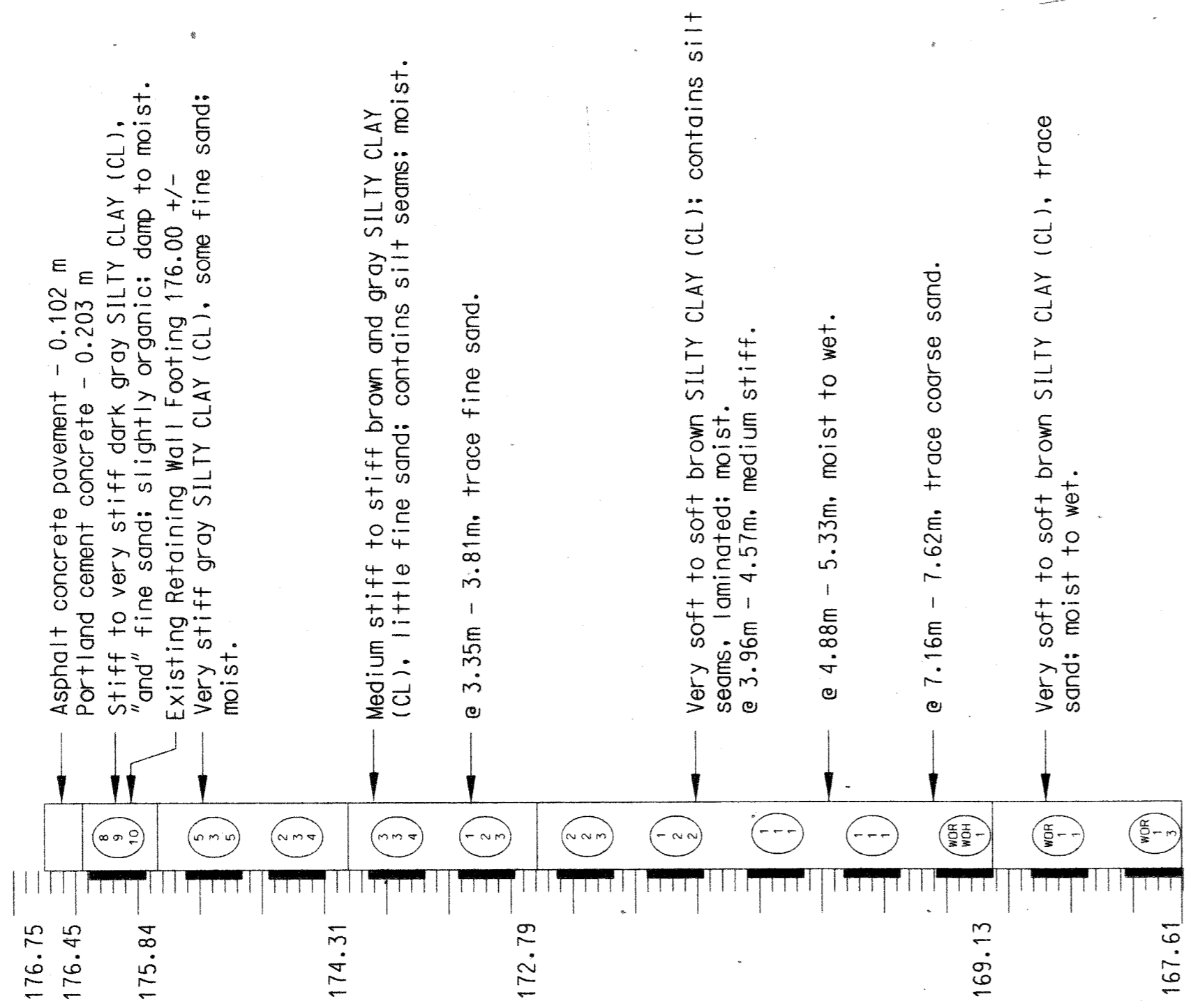
DRWG. NO.

SCALE	NOT TO SCALE
PROJECT NO.	9641-5160-06
SHEET NO.	4 OF 13

REVISIONS	
NO.	DESCRIPTION
DATE	BY

TEST HOLE TB-#SB-1
STA. 9+806.3, 18.4 m LT.

ELEV. | GROUND SURFACE ELEVATION 176.75

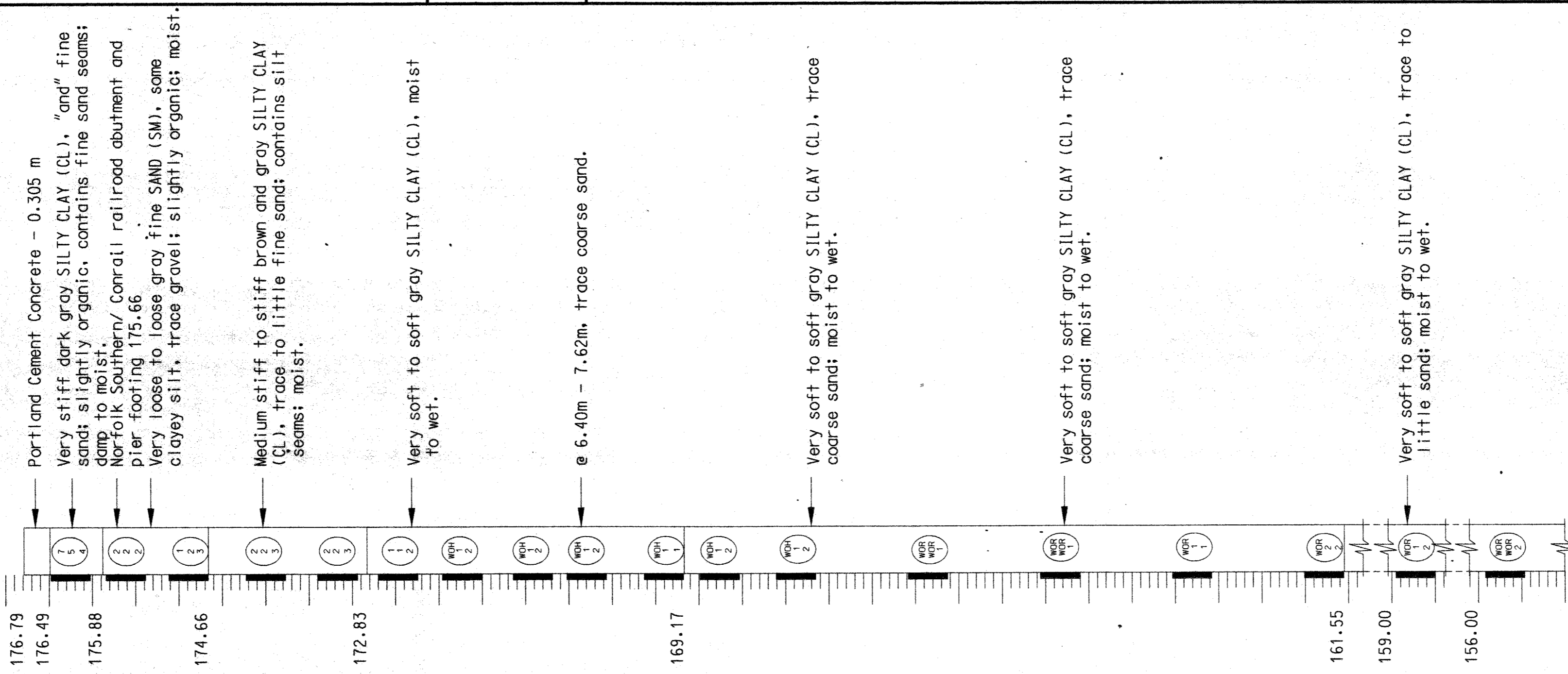


NOTE: WATER SEEPAGE AT: N/A
WATER LEVEL AT COMPLETION: N/A
(INSIDE HOLLOWSTEM AUGERS)

BORING DATE 8/15/96

TEST HOLE TB-#SB-2
STA. 9+939.2, 21.1 m LT.

ELEV. | GROUND SURFACE ELEVATION 176.79

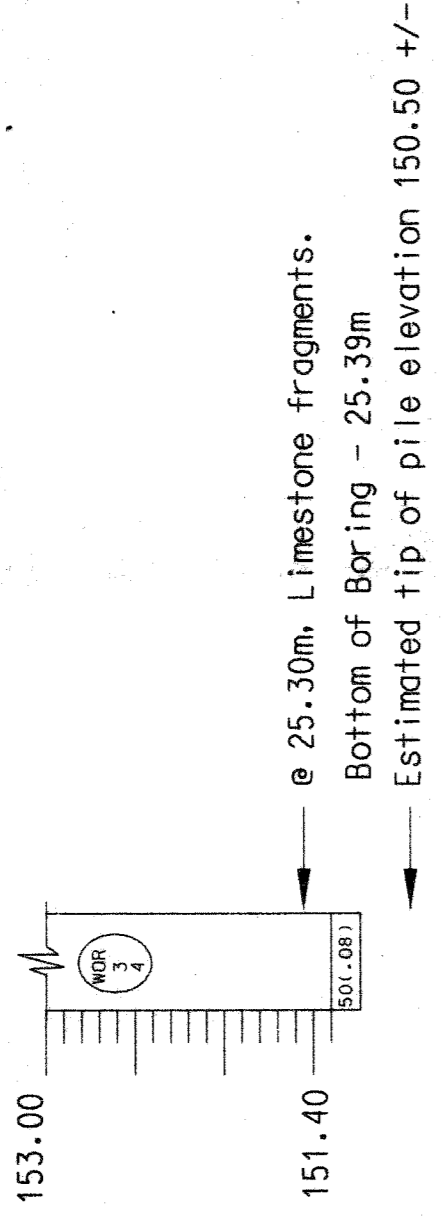


NOTE: WATER SEEPAGE AT: N/A
WATER LEVEL AT COMPLETION: N/A
(INSIDE HOLLOWSTEM AUGERS)

BORING DATE 8/15/96

TEST HOLE TB-#SB-2 (CON.)
STA. 9+806.3, 18. m RT.

ELEV. | GROUND SURFACE ELEVATION 176.79

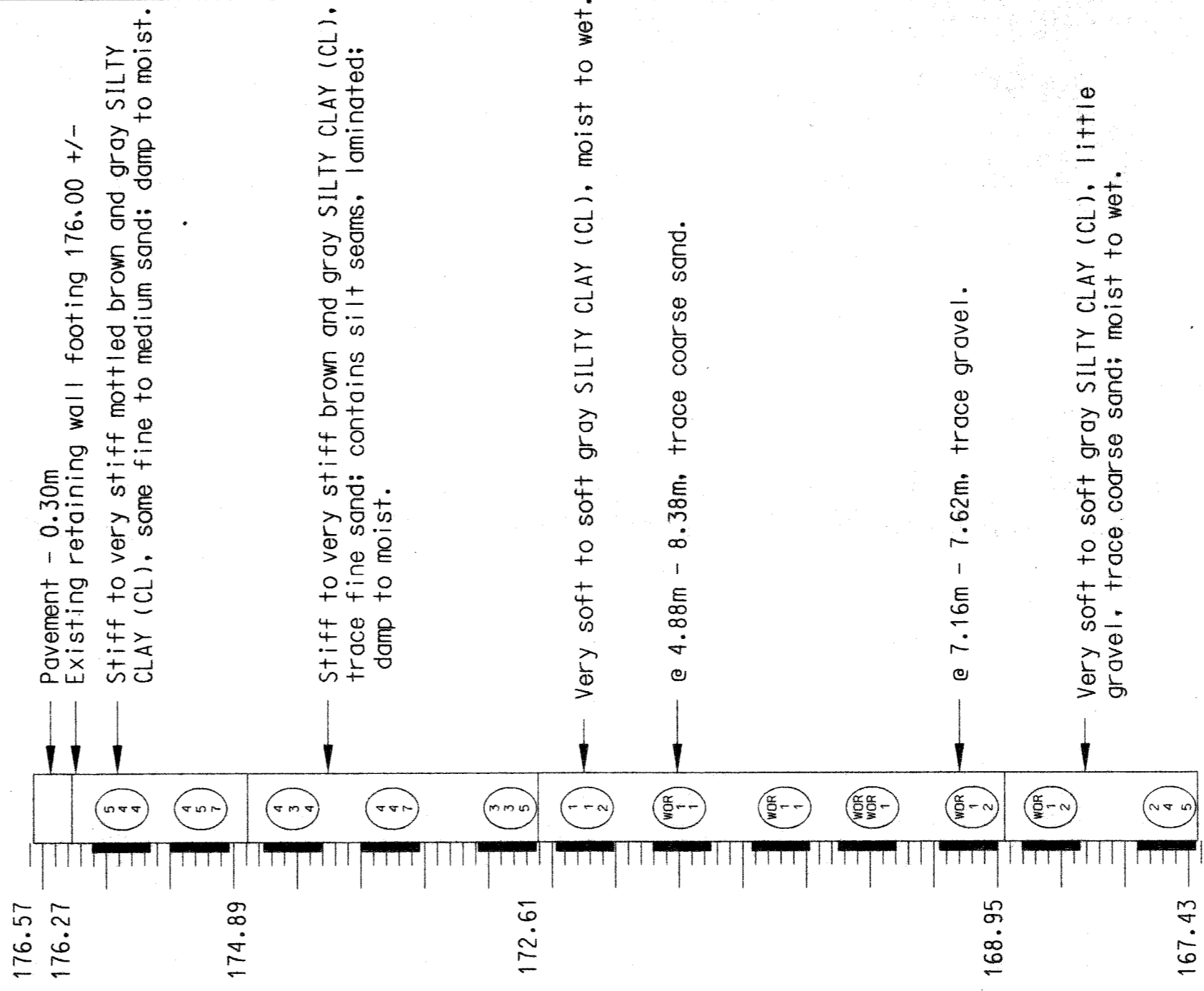


BORING DATE 8/15/96

TEST HOLE TB-#SB-3
T.

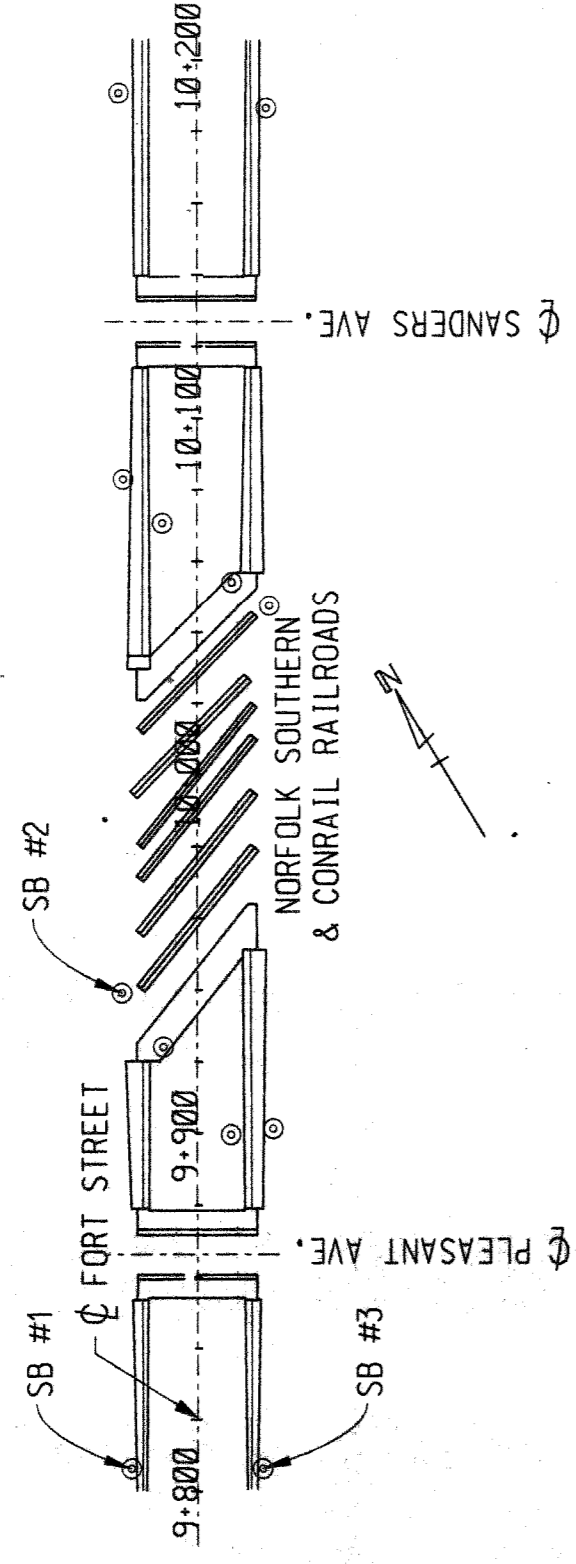
LOCATION STATION

ELEV. | GROUND SURFACE ELEVATION 176.57



NOTE: WATER SEEPAGE AT: N/A
WATER LEVEL AT COMPLETION: N/A
(INSIDE HOLLOWSTEM AUGERS)

BORING DATE 8/15/96



PLAN
SCALE: NTS

NOTES:

NUMBERS IN CIRCLES DENOTE NUMBER OF BLOWS REQUIRED TO DRIVE A 51 mm O.D. SPLIT SPOON SAMPLER 3 SUCCESSIVE 0.15 m INCREMENTS USING A 63.5 kg HAMMER FALLING 0.76 m. WHERE THE SAMPLER IS DRIVEN DISTANCES OTHER THAN THE 0.15 m INCREMENT, THE DISTANCE IS SHOWN IN PARENTHESES TO THE RIGHT OF THE NUMBER OF BLOWS.

- (X) NUMBER OF BLOWS PER 0.15 m
- (X X) NUMBER OF BLOWS PER 0.15 m
- (X X X) NUMBER OF BLOWS PER 0.15 m
- (X X (XX)) NUMBER OF BLOWS PER DISTANCE
- (XX (XX)) NUMBER OF BLOWS PER DISTANCE

WOR INDICATES REQUIRED PENETRATION ACHIEVED BY THE WEIGHT OF ROD ALONE
WOH INDICATES REQUIRED PENETRATION ACHIEVED BY THE WEIGHT OF HAMMER ALONE
CONSISTENCY WAS DETERMINED BY INSPECTION OF SAMPLES AND SUBSTANTIATED BY SOILS RESISTANCE TO DRILLING TOOLS.
WATER LEVELS MAY BE INFLUENCED BY RESIDUAL BORING WATER.

THE SOIL BORING LOGS REPRESENT POINT INFORMATION. PRESENTATION OF THIS INFORMATION IN NO WAY IMPLIES THAT SUBSURFACE CONDITIONS ARE THE SAME AT LOCATIONS OTHER THAN THE EXACT LOCATION OF THE BORING.

SOIL BORINGS WERE PERFORMED ON DATES SHOWN BELOW BORING.

BY: DODSON-STILSON, INC.
6121 Huntley Road
Columbus, OH 43229-1003
PHONE: (614) 848-6712

METRIC

DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN. ELEVATIONS, COORDINATES, CURVE AND ALIGNMENT DATA ARE IN METERS. STATIONS ARE IN KILOMETERS + METERS.

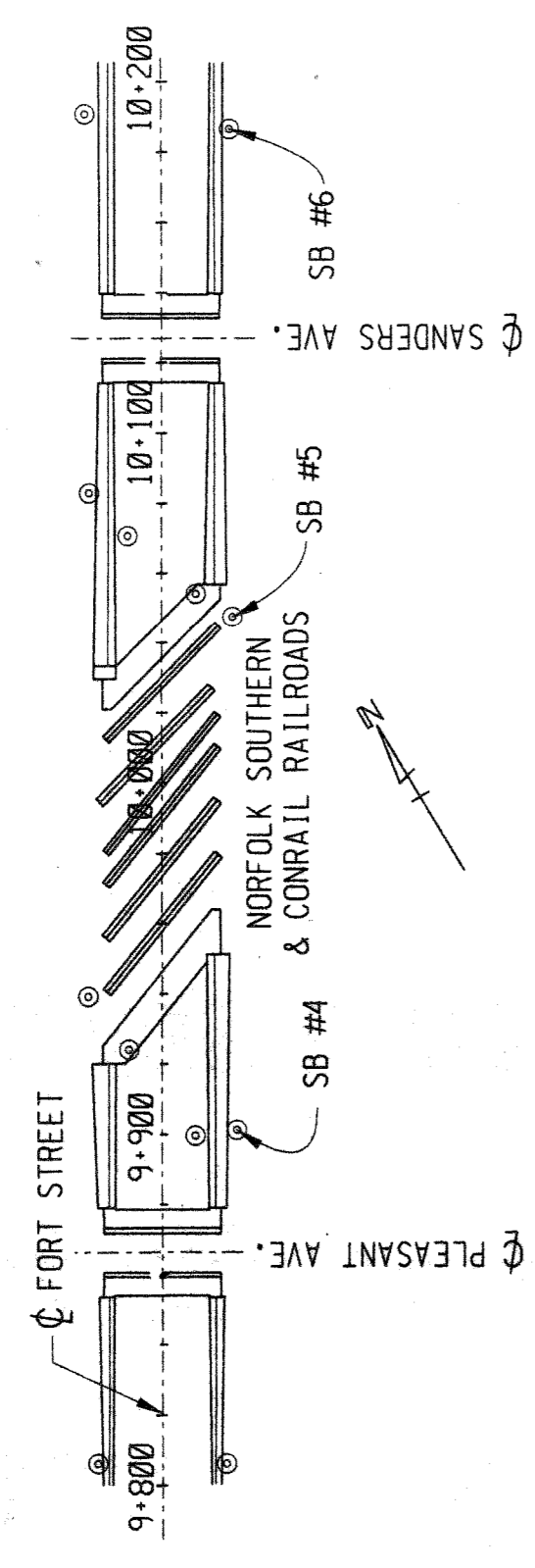
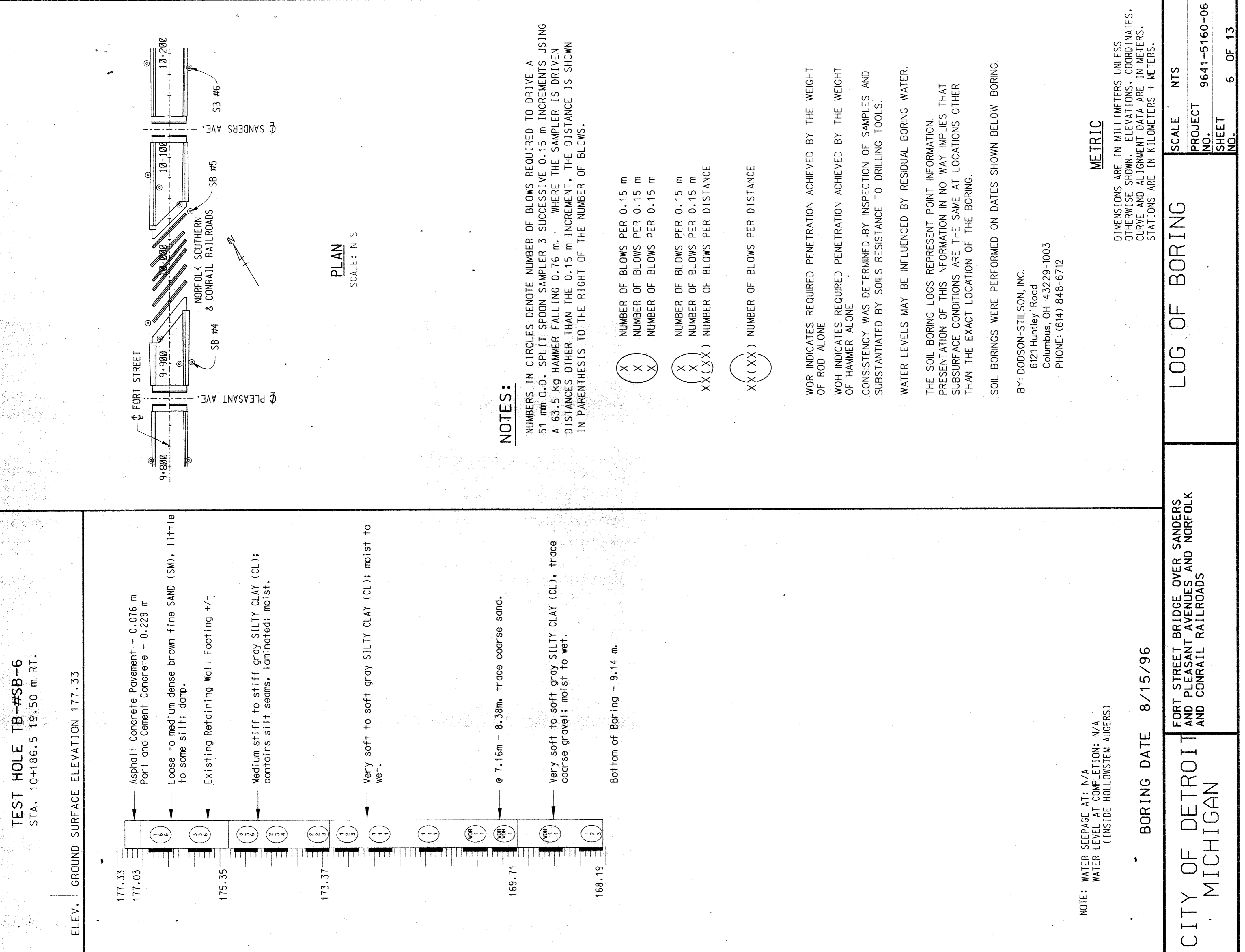
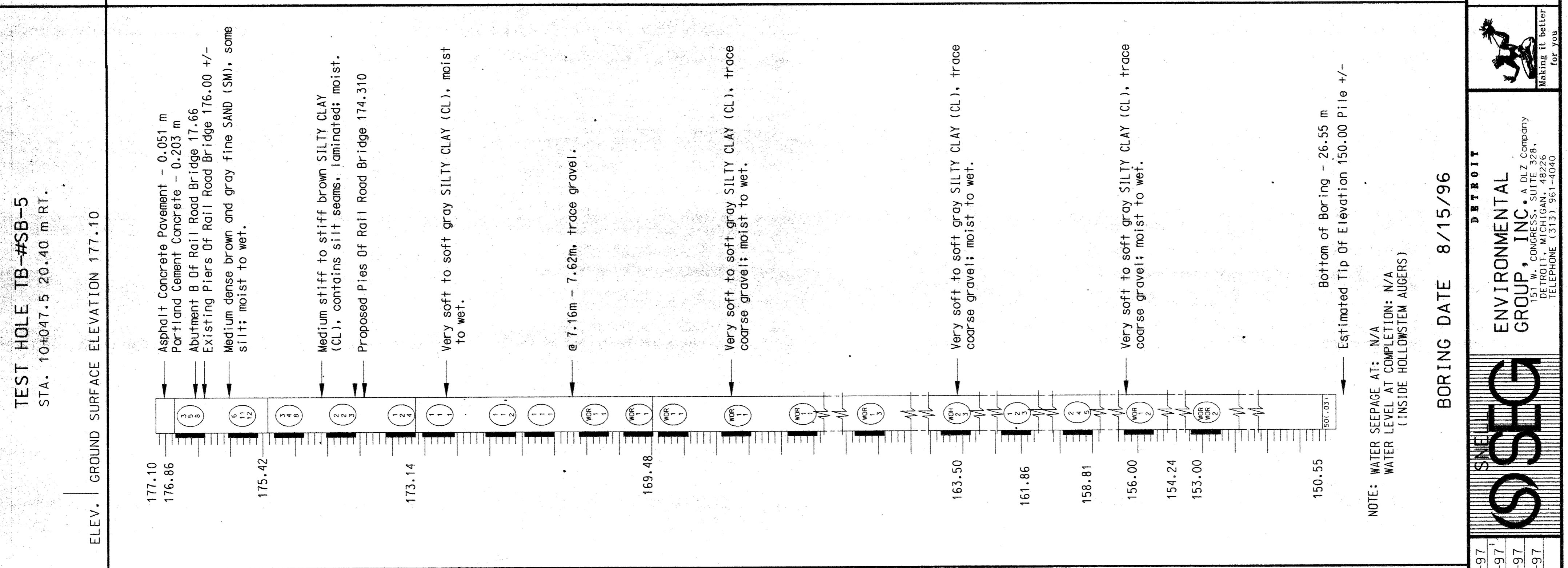
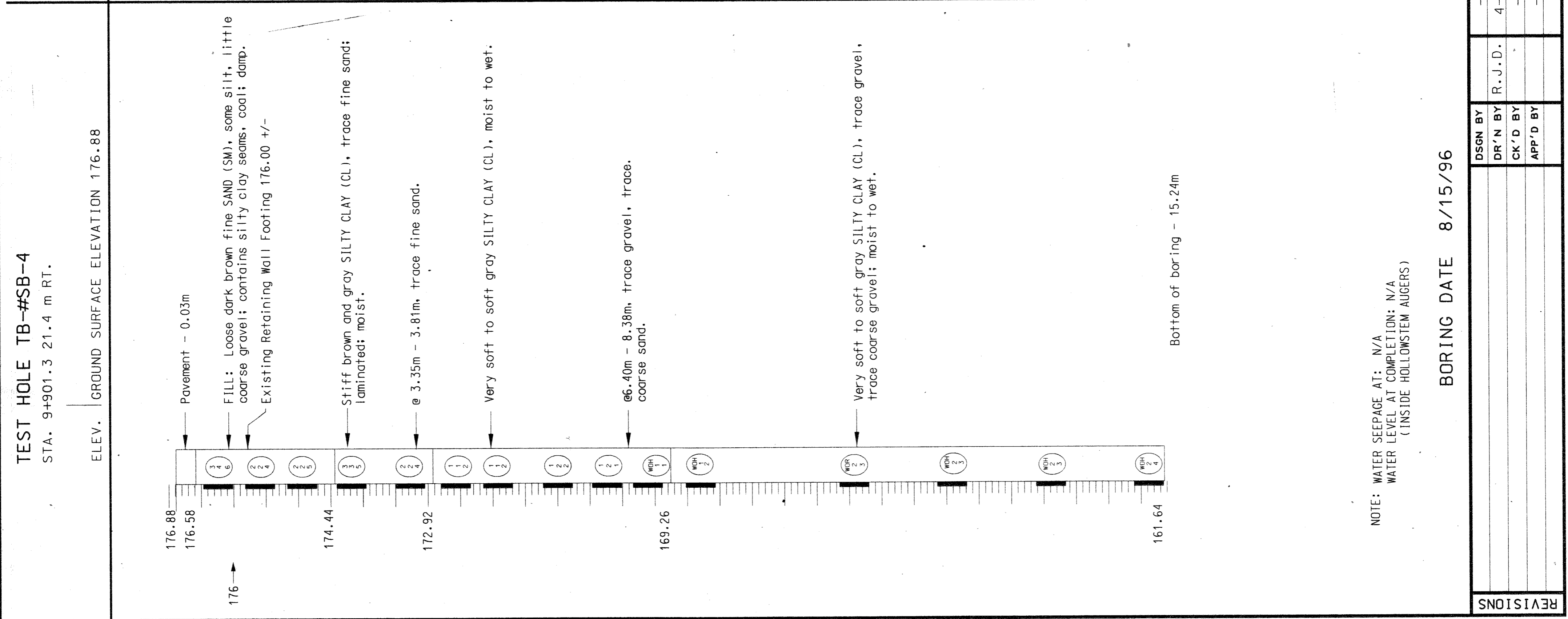
REVISIONS

DSGN BY	NGH	-97
DR'N BY	EWG	4-97
CK'D BY	RGN	-97
APP'D BY		-97

SS&G
DETROIT
ENVIRONMENTAL GROUP, INC. • P. O. Box 228
DETROIT, MICHIGAN 48226
TELEPHONE (313) 361-0600

CITY OF DETROIT MICHIGAN
FORT STREET BRIDGE OVER SANDERS AND PLEASANT AVENUES AND NORFOLK AND CONRAIL RAILROADS

LOG OF BORING
SCALE NTS
PROJECT NO. 9641-5160-06
SHEET NO. 5 OF 13



NOTES:

NUMBERS IN CIRCLES DENOTE NUMBER OF BLOWS REQUIRED TO DRIVE A 51 mm O.D. SPLIT SPOON SAMPLER 3 SUCCESSIVE 0.15 m INCREMENTS USING A 63.5 kg HAMMER FALLING 0.76 m. WHERE THE SAMPLER IS DRIVEN DISTANCES OTHER THAN THE 0.15 m INCREMENT, THE DISTANCE IS SHOWN IN PARENTHESES TO THE RIGHT OF THE NUMBER OF BLOWS.

- (X) NUMBER OF BLOWS PER 0.15 m
- (X X) NUMBER OF BLOWS PER 0.15 m
- (X X X) NUMBER OF BLOWS PER 0.15 m
- (X X X X) NUMBER OF BLOWS PER 0.15 m
- (X X X X X) NUMBER OF BLOWS PER 0.15 m
- (X X X X X X) NUMBER OF BLOWS PER DISTANCE

WOR INDICATES REQUIRED PENETRATION ACHIEVED BY THE WEIGHT OF ROD ALONE
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 PRESENTATION OF THIS INFORMATION IN NO WAY IMPLIES THAT SURFACE CONDITIONS ARE THE SAME AT LOCATIONS OTHER THAN THE EXACT LOCATION OF THE BORING.
 SOIL BORINGS WERE PERFORMED ON DATES SHOWN BELOW BORING.

BY: DODSON-STILSON, INC.
 6121 Huntley Road
 Columbus, OH 43229-1003
 PHONE: (614) 848-6712

METRIC

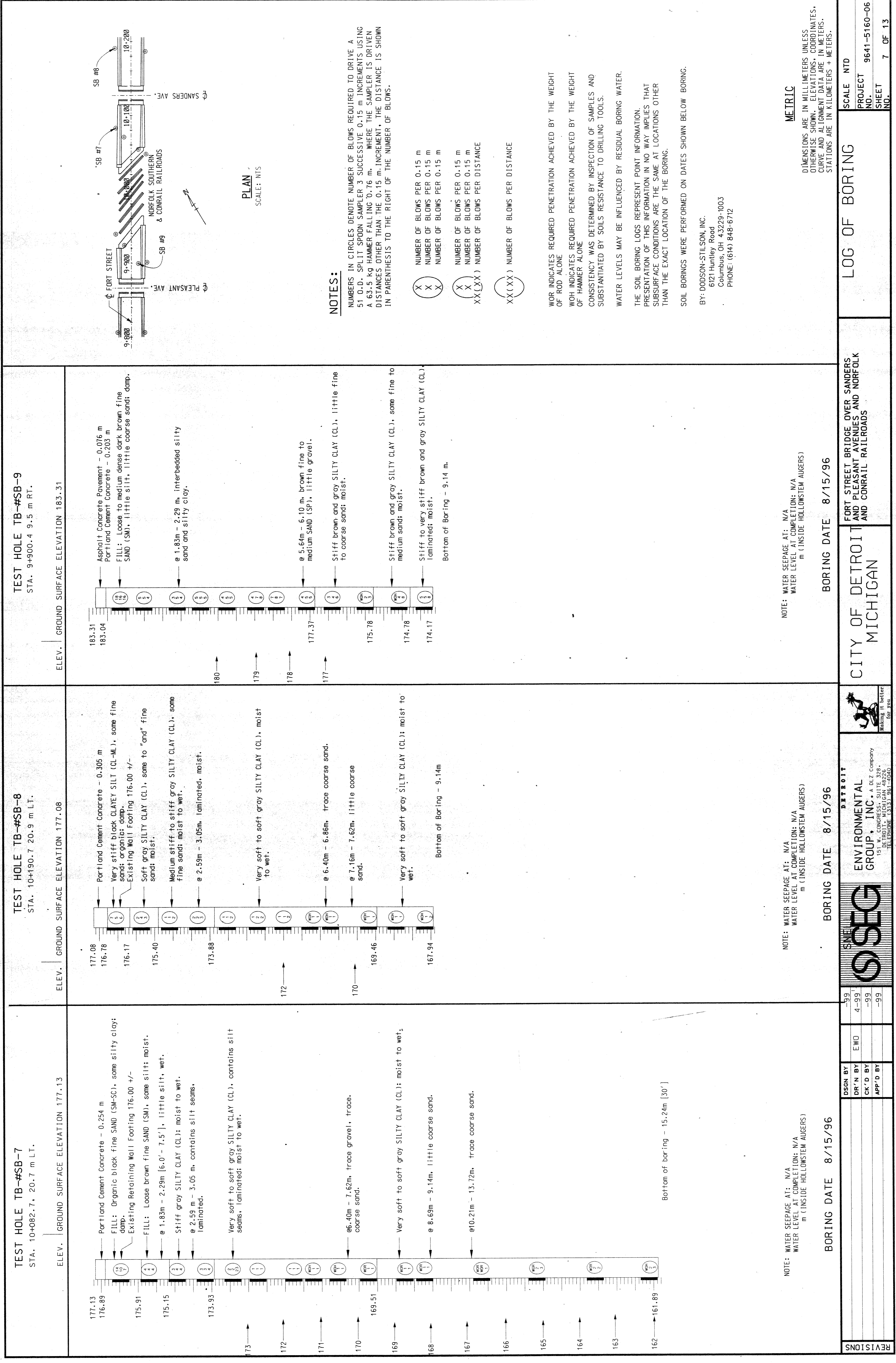
DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN. ELEVATIONS, COORDINATES, CURVE AND ALIGNMENT DATA ARE IN METERS. STATIONS ARE IN KILOMETERS + METERS.

REVISIONS	DSN BY	-97	BORING DATE	8/15/96	CITY OF DETROIT MICHIGAN	LOG OF BORING	SCALE	NTS
	DR'N BY	R. J. D.						
	CK'D BY	-97					PROJECT NO.	9641-5160-06
	APP'D BY	-97					SHEET NO.	6 OF 13

SSIG

DETROIT ENVIRONMENTAL GROUP, INC. A DLZ COMPANY
 151 W. CONGRESS, SUITE 328, DETROIT, MICHIGAN 48226
 TELEPHONE (313) 281-6660

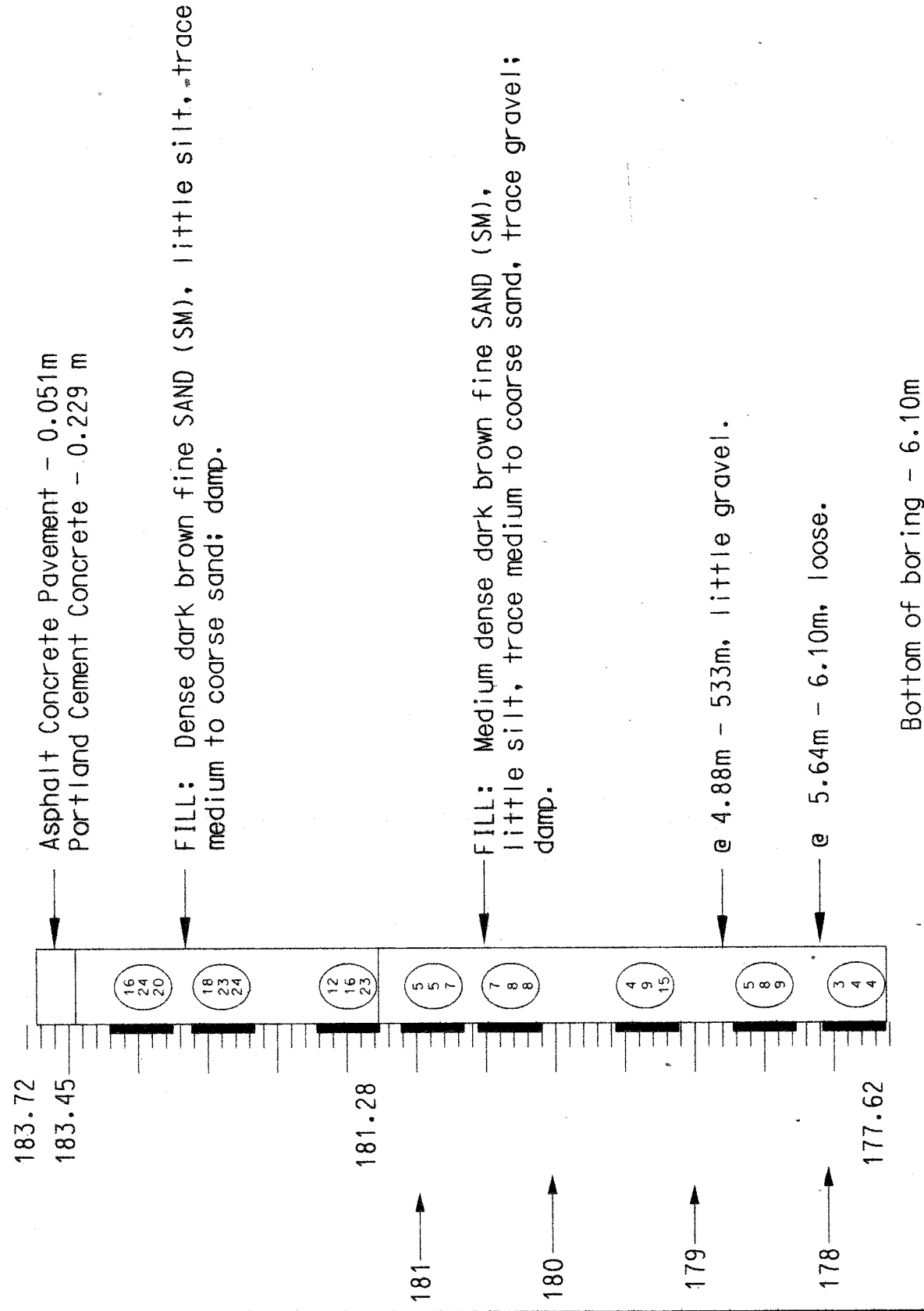
Making it better for you



REVISIONS	DSGN BY	DR'N BY	EWD	99
	CK'D BY	APP'D BY		99
ENVIRONMENTAL GROUP, INC. 151 W. CONGRESS, SUITE 328 DETROIT, MICHIGAN 48226 TELEPHONE (313) 561-4940				CITY OF DETROIT MICHIGAN
BORING DATE 8/15/96				BORING DATE 8/15/96
NOTE: WATER SEEPAGE AT: N/A WATER LEVEL AT COMPLETION: N/A m (INSIDE HOLLOWSTEM AUGERS)				NOTE: WATER SEEPAGE AT: N/A WATER LEVEL AT COMPLETION: N/A m (INSIDE HOLLOWSTEM AUGERS)
FORT STREET BRIDGE OVER SANDERS AND PLEASANT AVENUES AND CONRAIL RAILROADS				LOG OF BORING
SCALE NTD				PROJECT NO. 9641-5160-06
SHEET NO. 7				OF 13

TEST HOLE TB-#SB-10
STA. 9+924.1, 9.5 m LT.

ELEV. GROUND SURFACE ELEVATION 183.72



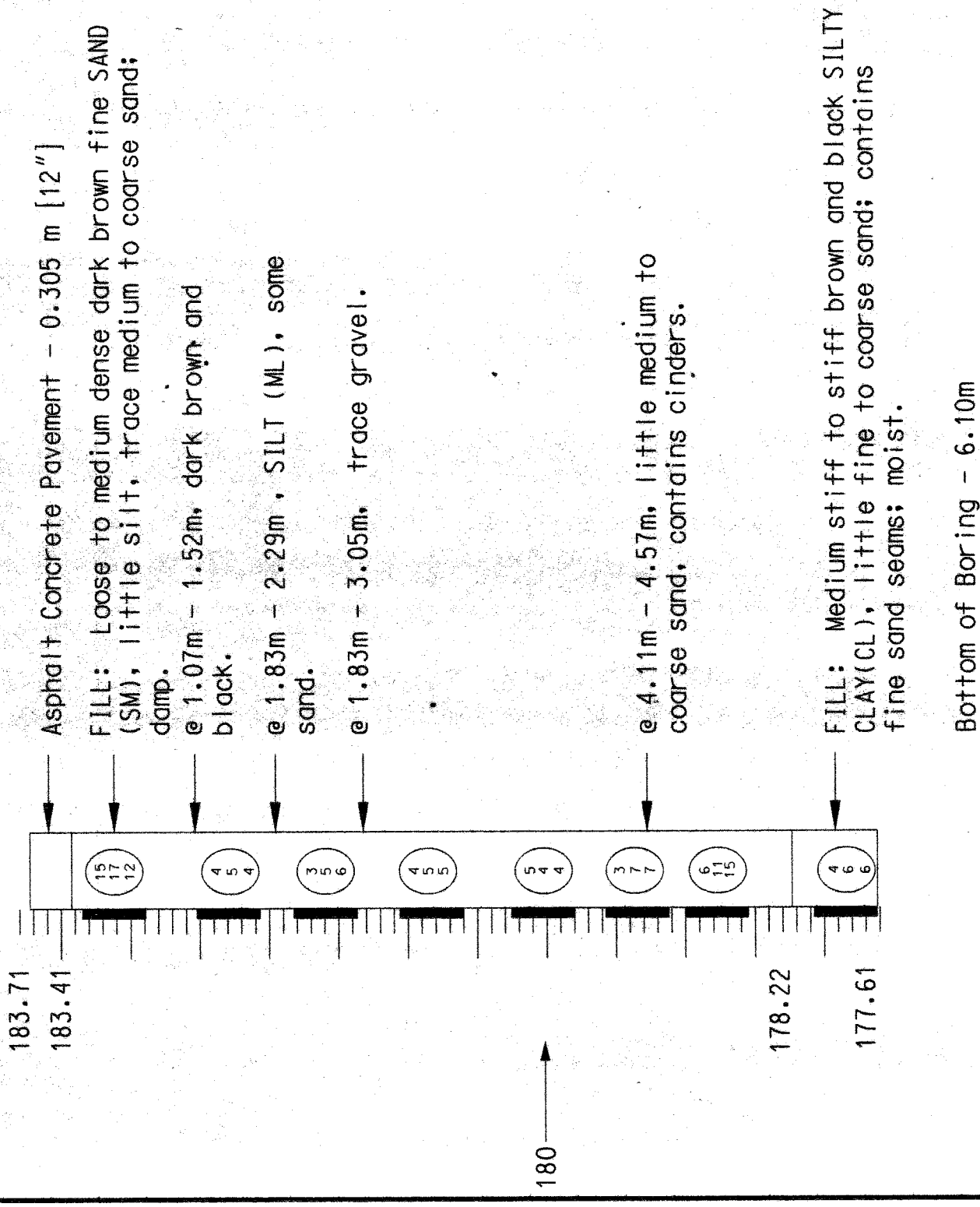
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WATER LEVEL AT COMPLETION: N/A
(INSIDE HOLLOWSTEM AUGERS)

BORING DATE 8/15/96

DESIGN BY	EWO	-99
DR'N BY		4-99
CK'D BY		-99
APP'D BY		-99

TEST HOLE TB-#SB-11
STA. 10+054.1, 9.8 m RT.

ELEV. GROUND SURFACE ELEVATION 183.71



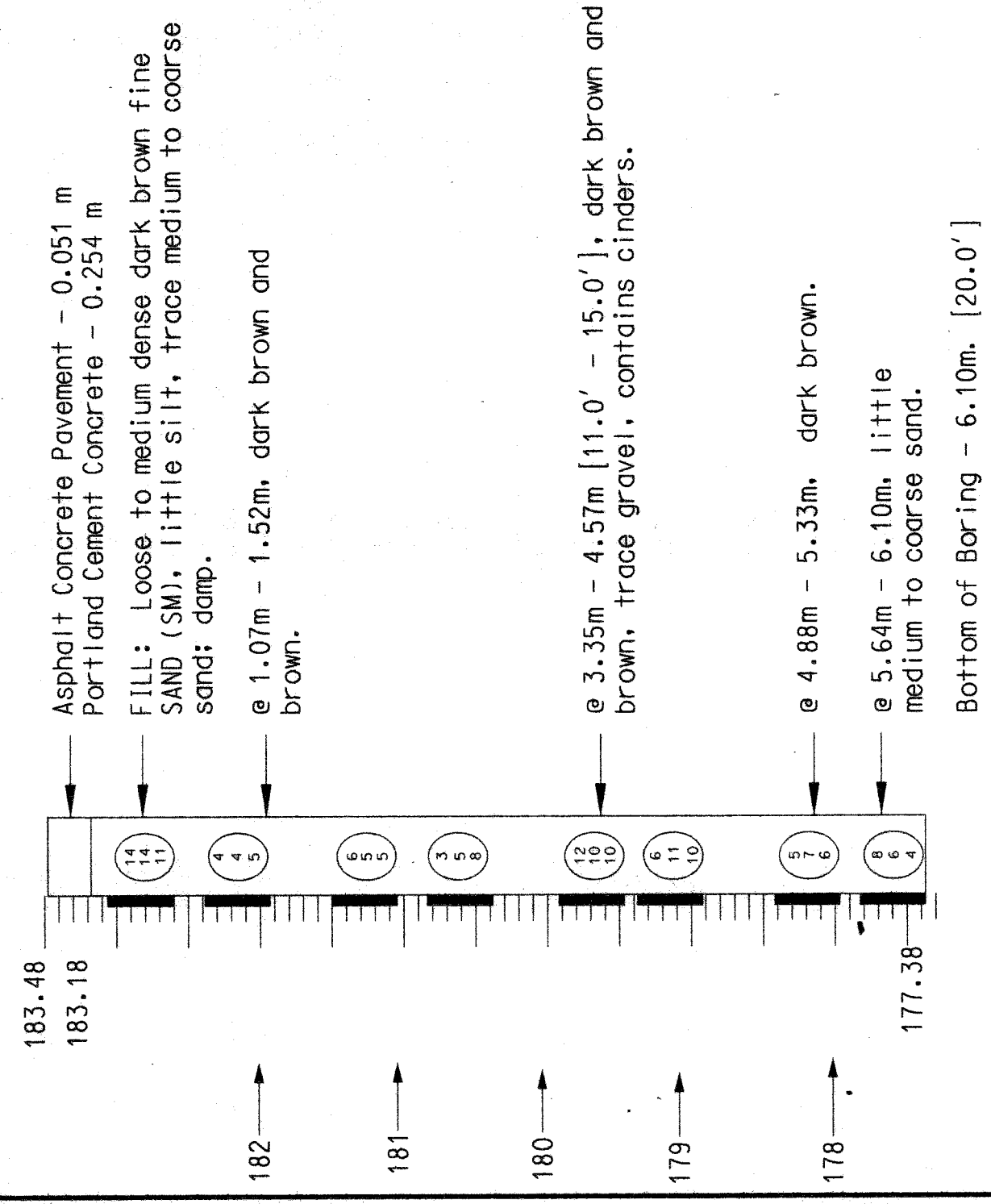
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WATER LEVEL AT COMPLETION: N/A
(INSIDE HOLLOWSTEM AUGERS)

BORING DATE 8/15/96

DESIGN BY	EWO	-99
DR'N BY		4-99
CK'D BY		-99
APP'D BY		-99

TEST HOLE TB-#SB-12
STA. 10+070.6, 9.7 m LT.

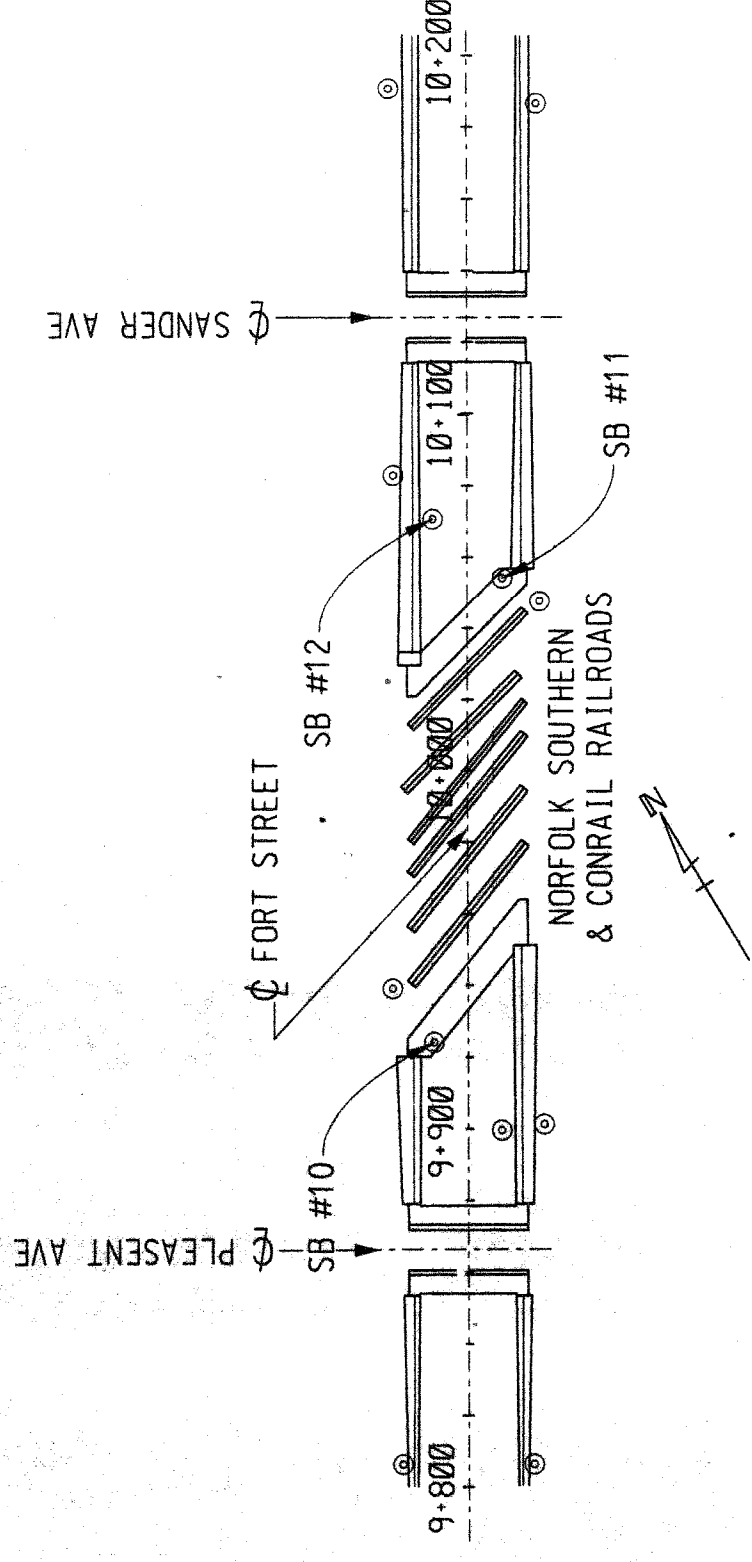
ELEV. GROUND SURFACE ELEVATION 183.48



NOTE: WATER SEEPAGE AT: N/A
WATER LEVEL AT COMPLETION: N/A
(INSIDE HOLLOWSTEM AUGERS)

BORING DATE 8/15/96

DESIGN BY	EWO	-99
DR'N BY		4-99
CK'D BY		-99
APP'D BY		-99



NOTES:

NUMBERS IN CIRCLES DENOTE NUMBER OF BLOWS REQUIRED TO DRIVE A 51 O.D. SPLIT SPOON SAMPLER 3 SUCCESSIVE 0.15 m INCREMENTS USING A 63.5 kg HAMMER FALLING 0.76 m. WHERE THE SAMPLER IS DRIVEN DISTANCES OTHER THAN THE 0.15 m INCREMENT, THE DISTANCE IS SHOWN IN PARENTHESES TO THE RIGHT OF THE NUMBER OF BLOWS.

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SOIL BORINGS WERE PERFORMED ON DATES SHOWN BELOW BORING.

BY: DODDSON-STILSON, INC.
6121 Huntley Road
Columbus, OH 43229-1003
PHONE: (614) 848-6712

METRIC

DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN. ELEVATIONS, COORDINATES, CURVE AND ALIGNMENT DATA ARE IN METERS. STATIONS ARE IN KILOMETERS + METERS.

PROJECT NO.	9641-5160-06
SHEET NO.	8 OF 13

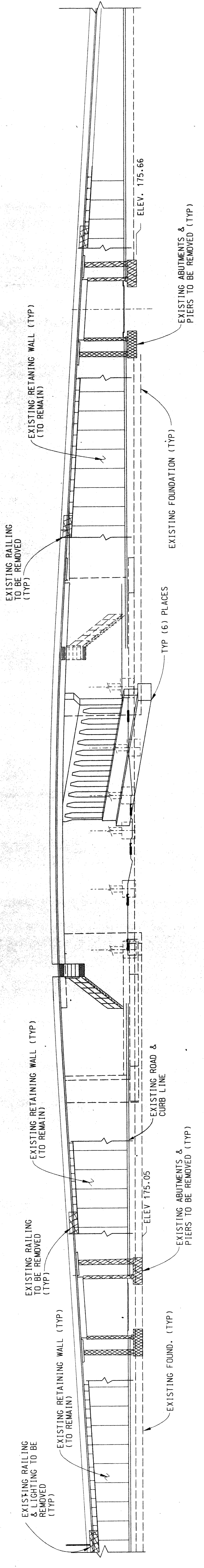
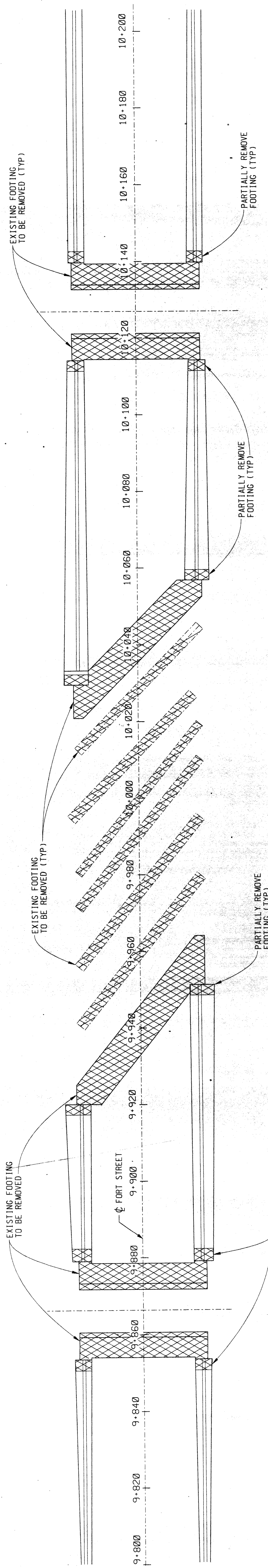
LOG OF BORING

CITY OF DETROIT MICHIGAN
FORT STREET BRIDGE OVER SANDERS AND PLEASANT AVENUES AND NORFOLK AND CONRAIL RAILROADS

SEEG
ENVIRONMENTAL GROUP, INC. A D & Z Company
151 W. CONGRESS, SUITE 328
DETROIT, MICHIGAN 48226
TELEPHONE 432-1391 FAX 432-1392

REVISIONS		
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NO.	REVISIONS	DATE	BY



METRIC.

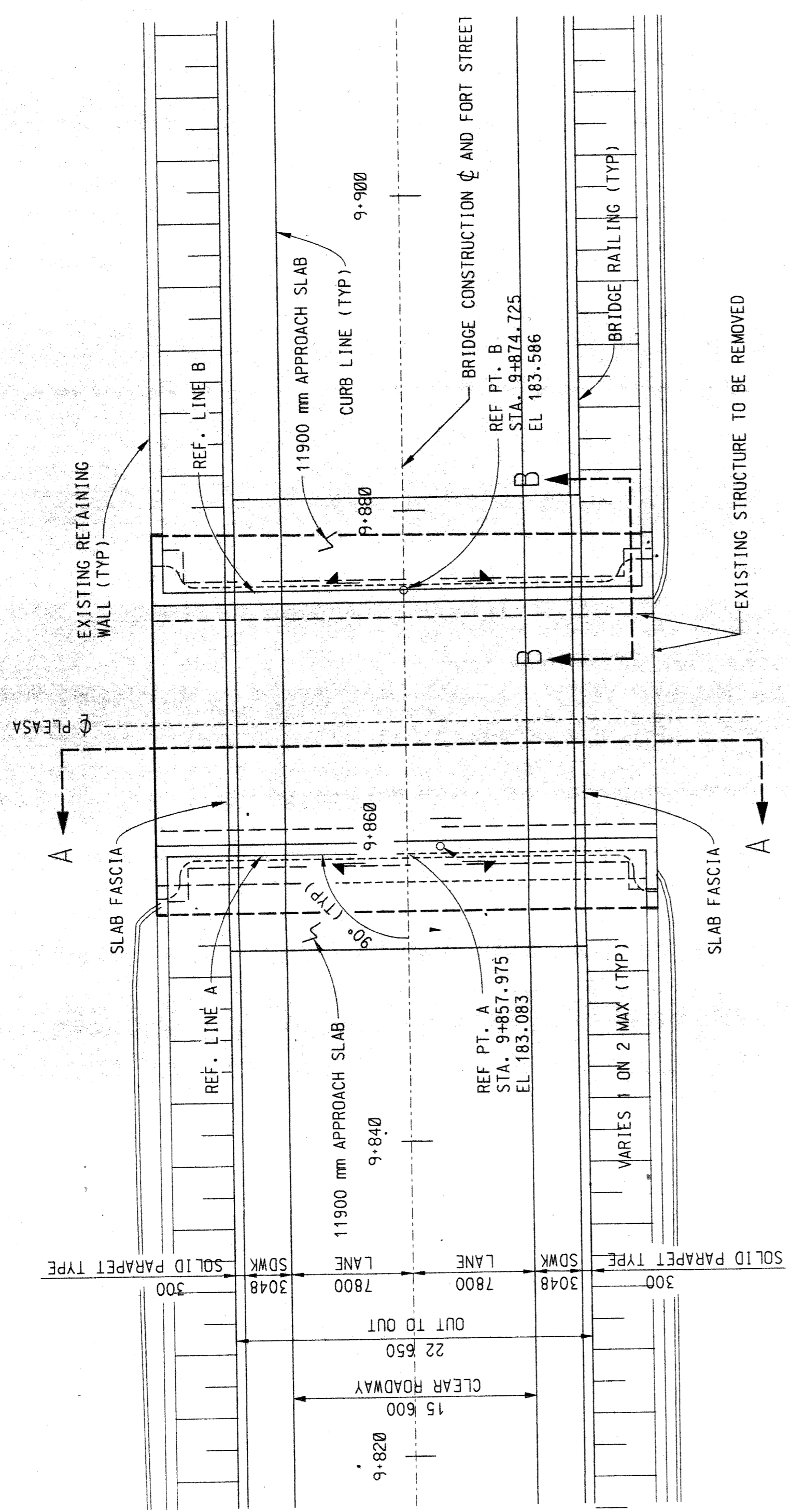
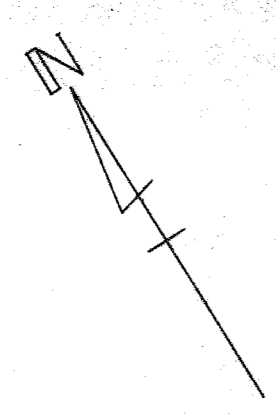
DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN. ELEVATIONS, COORDINATES, CURVE AND ALIGNMENT DATA ARE IN METERS. STATIONS ARE IN KILOMETERS + METERS.

REVISIONS				CITY OF DETROIT MICHIGAN		FORT STREET BRIDGE OVER SANDERS AND PLEASANT AVENUES AND NORFOLK		SCALE NOT TO SCALE PROJECT NO. 9641-5160-06 SHEET NO. 9 OF 13	
DSGN BY DR'N BY CK'D BY FINAL CK'D BY APP'D BY	N.C.H. 4-99 E.W.O. 4-99 R.C.W. 4-99 4-99		SNELL ENVIRONMENTAL GROUP, INC. A DLZ Company 15100 LONGMEAD AVENUE #8226 TROY, MICHIGAN 48068 TELEPHONE (313) 961-4040				DETROIT MICHIGAN for you		FILE NAME: .DGN

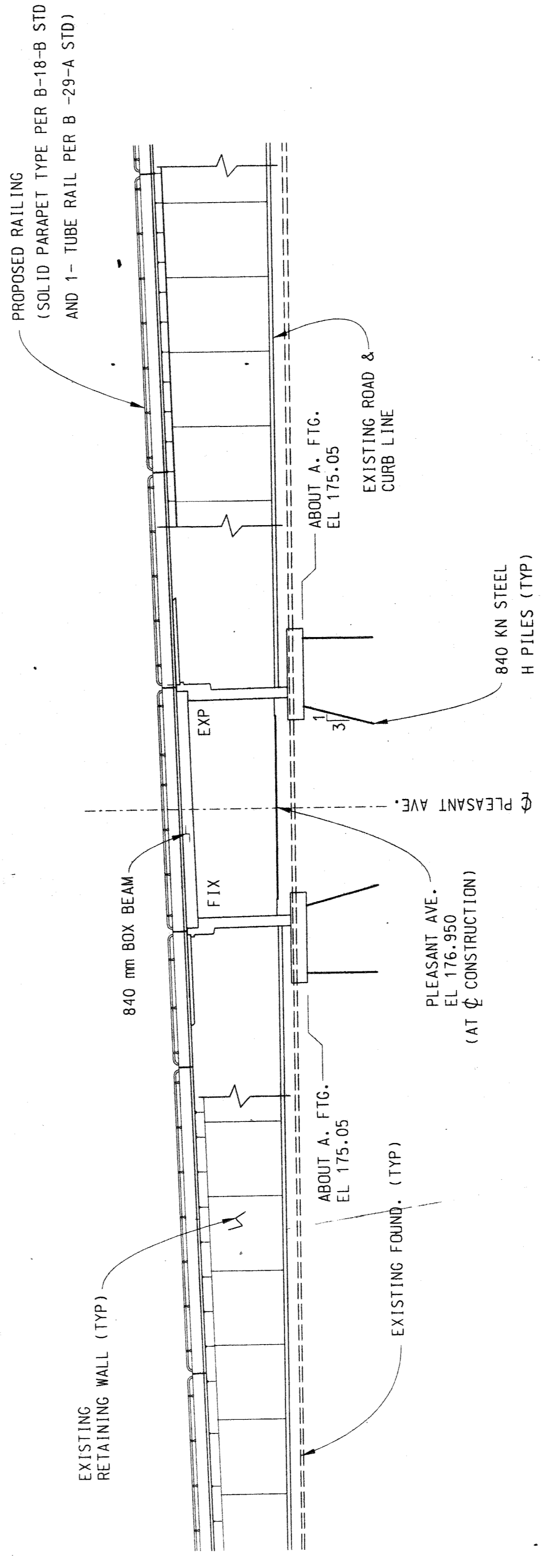
NO.	REVISION	DATE	BY

NOTES:
 THE RECONSTRUCTION DESIGN IS BASED ON CURRENT AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES. MS18 LOADING. LIVE LOAD PLUS IMPACT DEFLECTION DOES NOT EXCEED (1/1000) OF SPAN LENGTH. THE LOAD FACTOR METHOD WAS USED FOR THIS DESIGN.

THE MAXIMUM FOUNDATIONS PRESSURES ARE CALCULATED TO BE:
 EXISTING RETAINING WALLS 144 kPa +/-
 FOR SECTIONS A-A AND B-B SEE SHEET 13 OF 13



PLAN



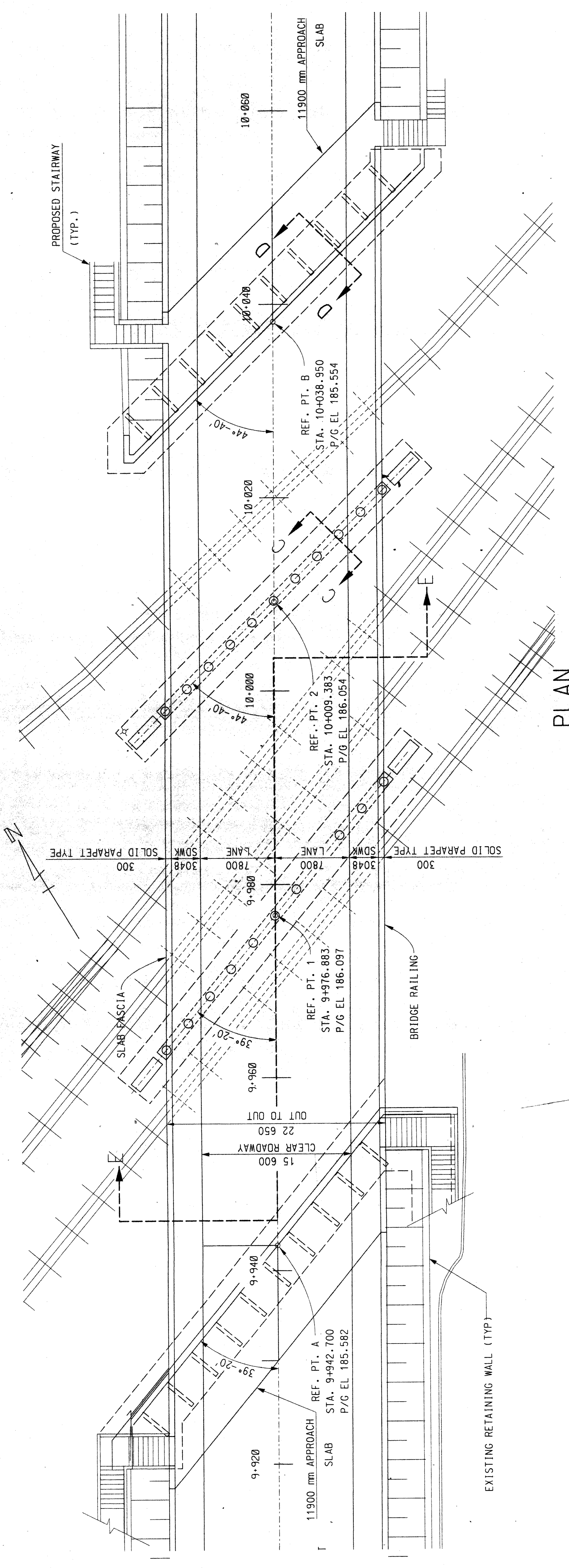
ELEVATION
 (ALONG THE Q CONSTRUCTION)

METRIC

DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN. ELEVATIONS, COORDINATES, CURVE AND ALIGNMENT DATA ARE IN METERS. STATIONS ARE IN KILOMETERS + METERS.

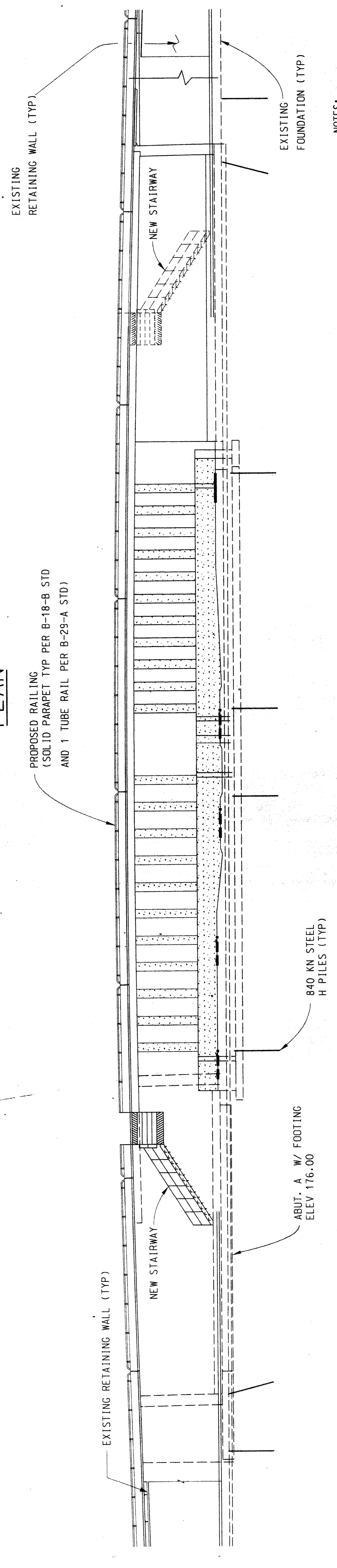
		FORT STREET BRIDGE OVER SANDERS AND PLEASANT AVENUES AND NORFOLK	GENERAL PLAN OF THE STRUCTURE	SCALE NOT TO SCALE	
	SNELL ENVIRONMENTAL GROUP, INC.	CITY OF DETROIT MICHIGAN	PROJECT NO. 9641-5160-06	SHEET NO. 10 OF 13	
	151 W. CONGRESS, SUITE 328 DETROIT, MICHIGAN 48226 TELEPHONE (313) 961-4040	DETROIT Making it better for you	N.G.H. 4-99 E.W.O. 4-99 R.G.W. 4-99 FINAL CK'D BY 4-99	DR'N BY CK'D BY APP'D BY	REVISIONS
	DSGN BY DR'N BY CK'D BY APP'D BY	N.G.H. 4-99 E.W.O. 4-99 R.G.W. 4-99 FINAL CK'D BY 4-99	DSGN BY DR'N BY CK'D BY APP'D BY	N.G.H. 4-99 E.W.O. 4-99 R.G.W. 4-99 FINAL CK'D BY 4-99	REVISIONS

NO.	REVISIONS	DATE	BY



PLAN

PROPOSED RAILING
(SOLID PARAPET TYP PER B-18-B STD
AND 1 TUBE RAIL PER B-29-A STD)



ELEVATION

NOTES:
THE RECONSTRUCTION DESIGN IS BASED ON CURRENT AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES. LIVE LOAD PLUS IMPACT DEFLECTION DOES NOT EXCEED (1/1000) OF SPAN LENGTH. THE LOAD FACTOR METHOD WAS USED FOR THIS DESIGN.

THE MAXIMUM FOUNDATIONS PRESSURES ARE CALCULATED TO BE:
EXISTING RETAINING WALLS 155 KPa
FOR SECTIONS C-C, D-D AND E-E, SEE SHEET 13 OF 13

METRIC

DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN. ELEVATIONS, COORDINATES, CURVE AND ALIGNMENT DATA ARE IN METERS. STATIONS ARE IN KILOMETERS + METERS.

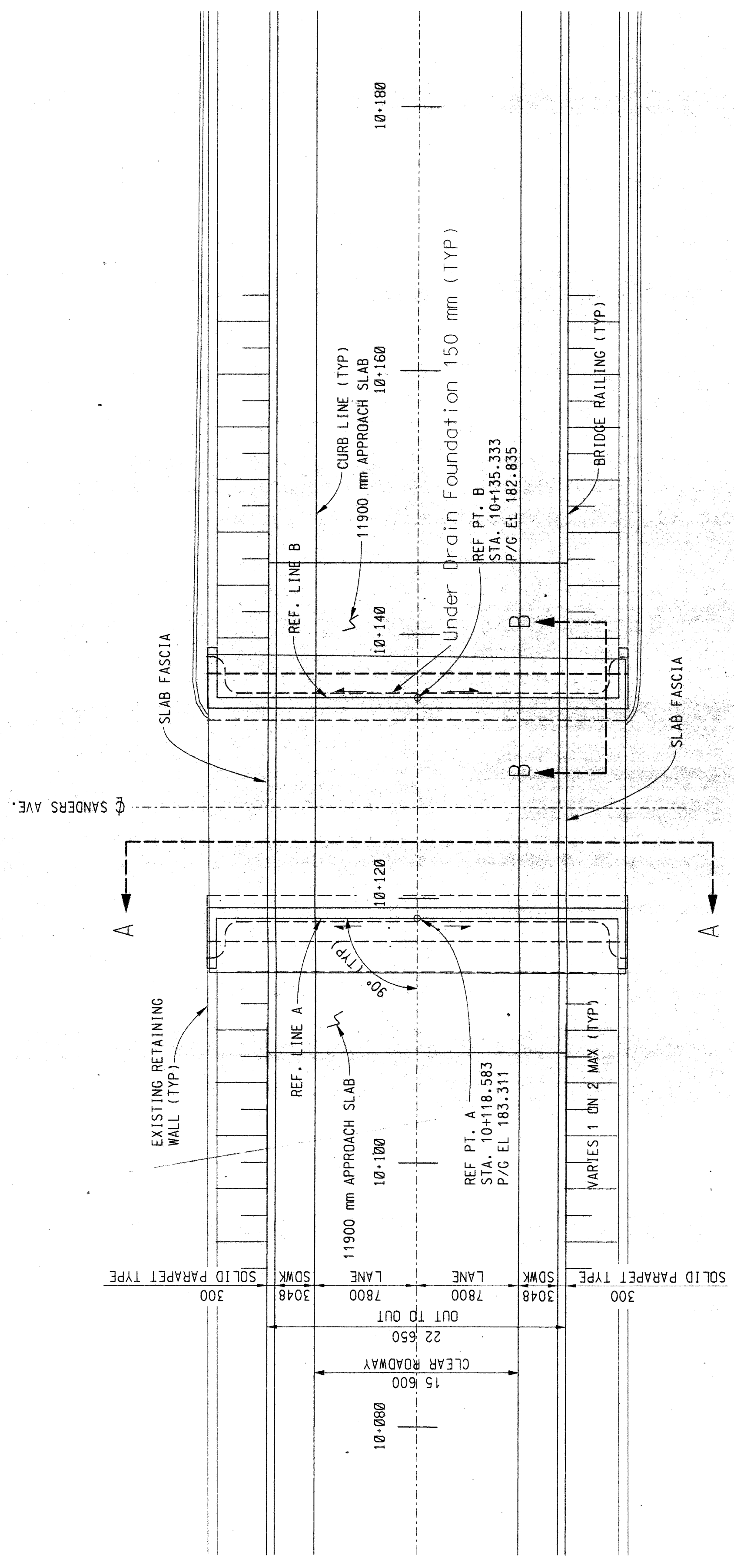
	DSN BY N.G.H. 4-99 DR'N BY E.W.O. 4-99 CK'D BY R.G.W. 4-99 FINAL CK'D BY APP'D BY	CITY OF DETROIT MICHIGAN	FORT STREET BRIDGE OVER SANDERS AND PLEASANT AVENUES AND NORFOLK AND CONRAIL RAILROADS	SCALE NOT TO SCALE PROJECT NO. 9641-5160-06 SHEET NO. 11 OF 13
	DETROIT Making it better for you	SNELL ENVIRONMENTAL GROUP, INC. A D.L.Z. COMPANY 151 W. CONGRESS, SUITE 328 DETROIT, MICHIGAN 48226 TELEPHONE (313) 961-4040	GENERAL PLAN OF THE STRUCTURE	

NO.	DESCRIPTION	DATE	BY

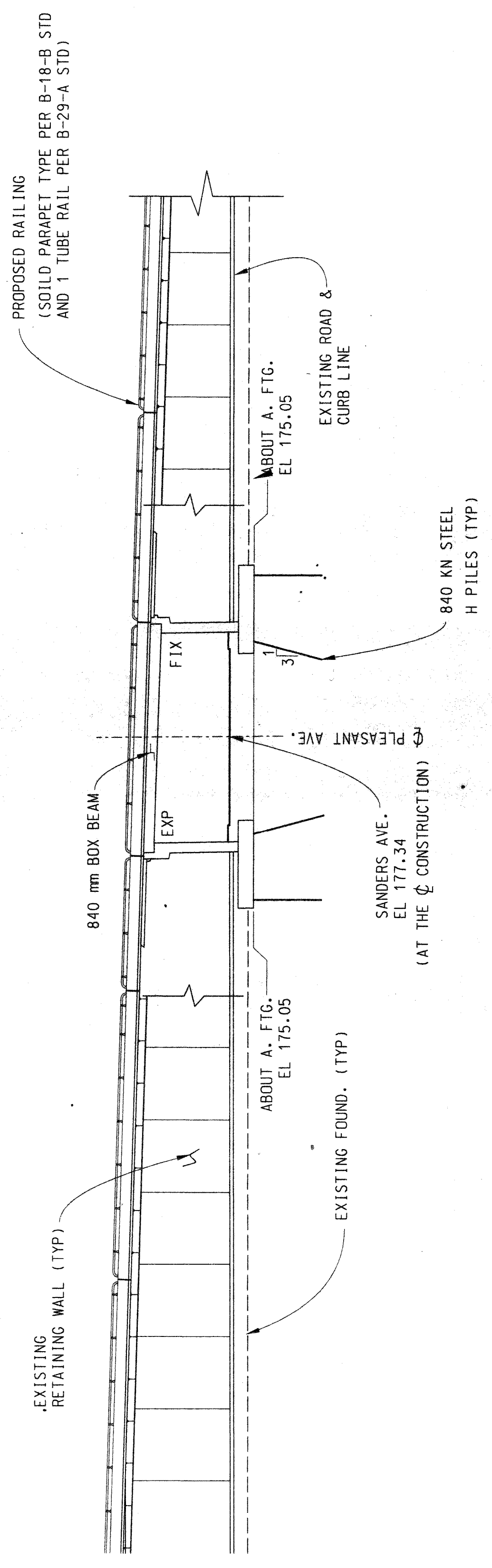
NOTES:
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THE MAXIMUM FOUNDATIONS PRESSURES ARE CALCULATED TO BE:

EXISTING RETAINING WALLS 144 KPa +/-
 FOR SECTIONS A-A AND B-B SEE SHEET 13 OF 13



PLAN

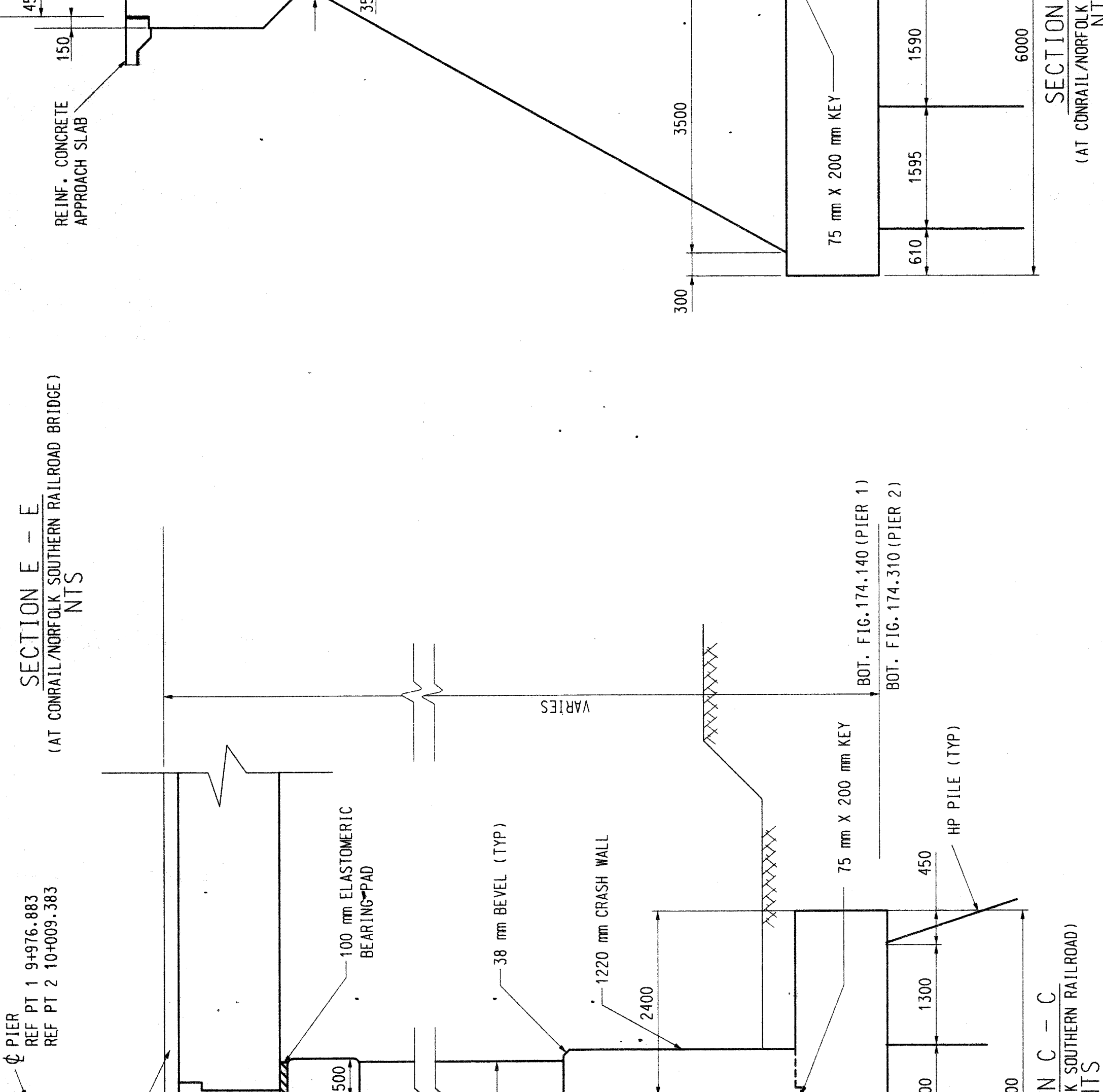
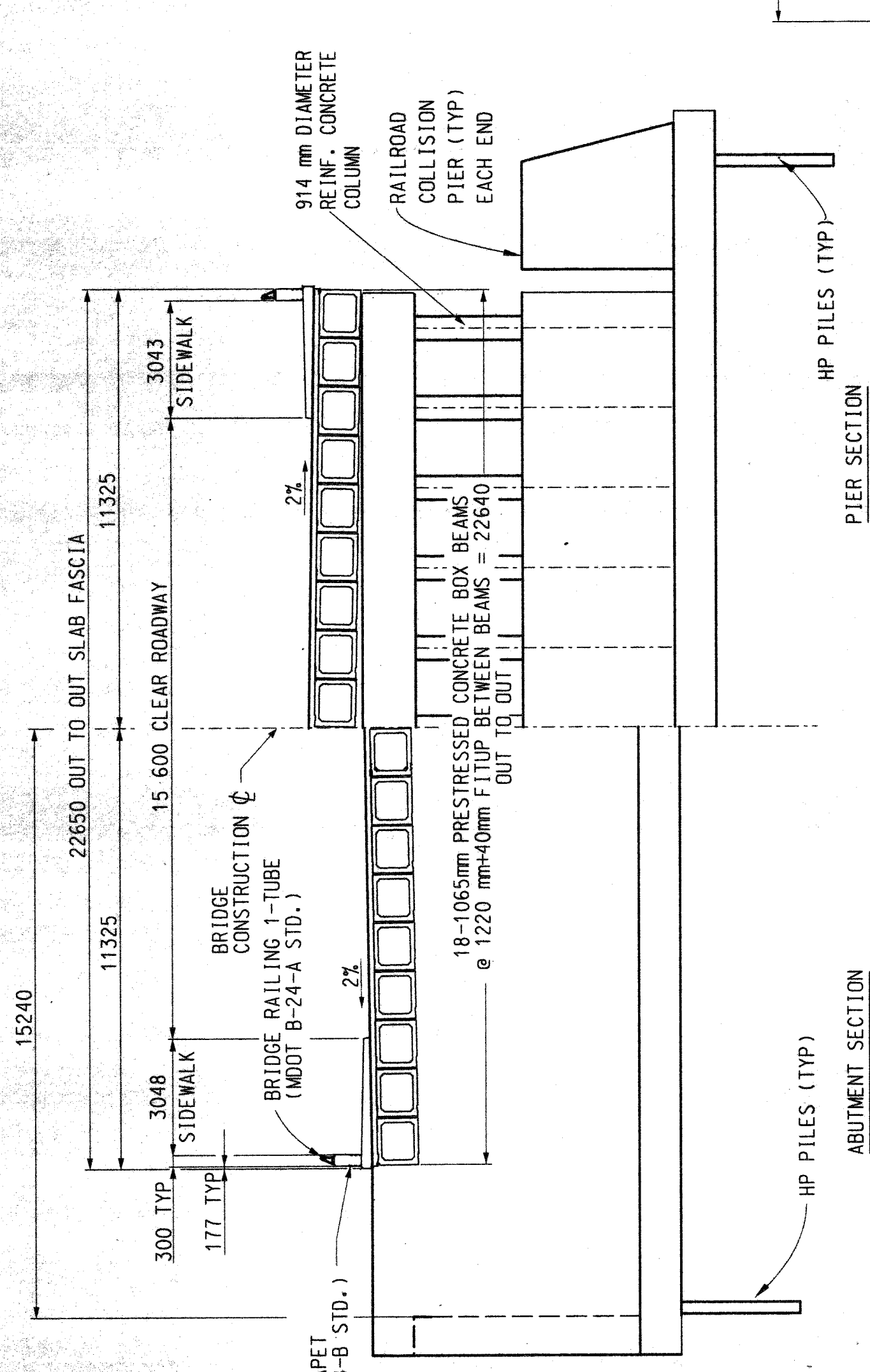
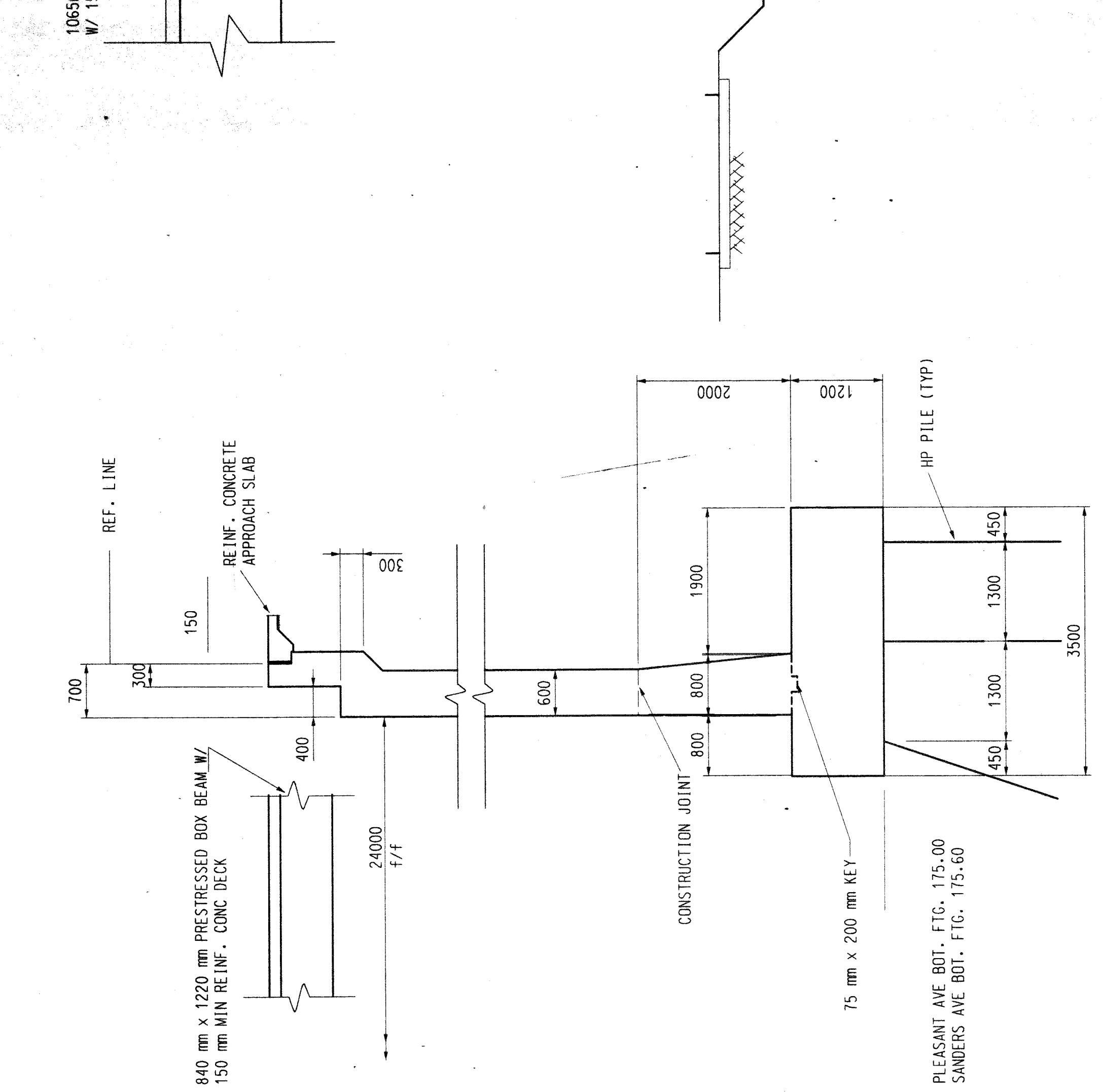
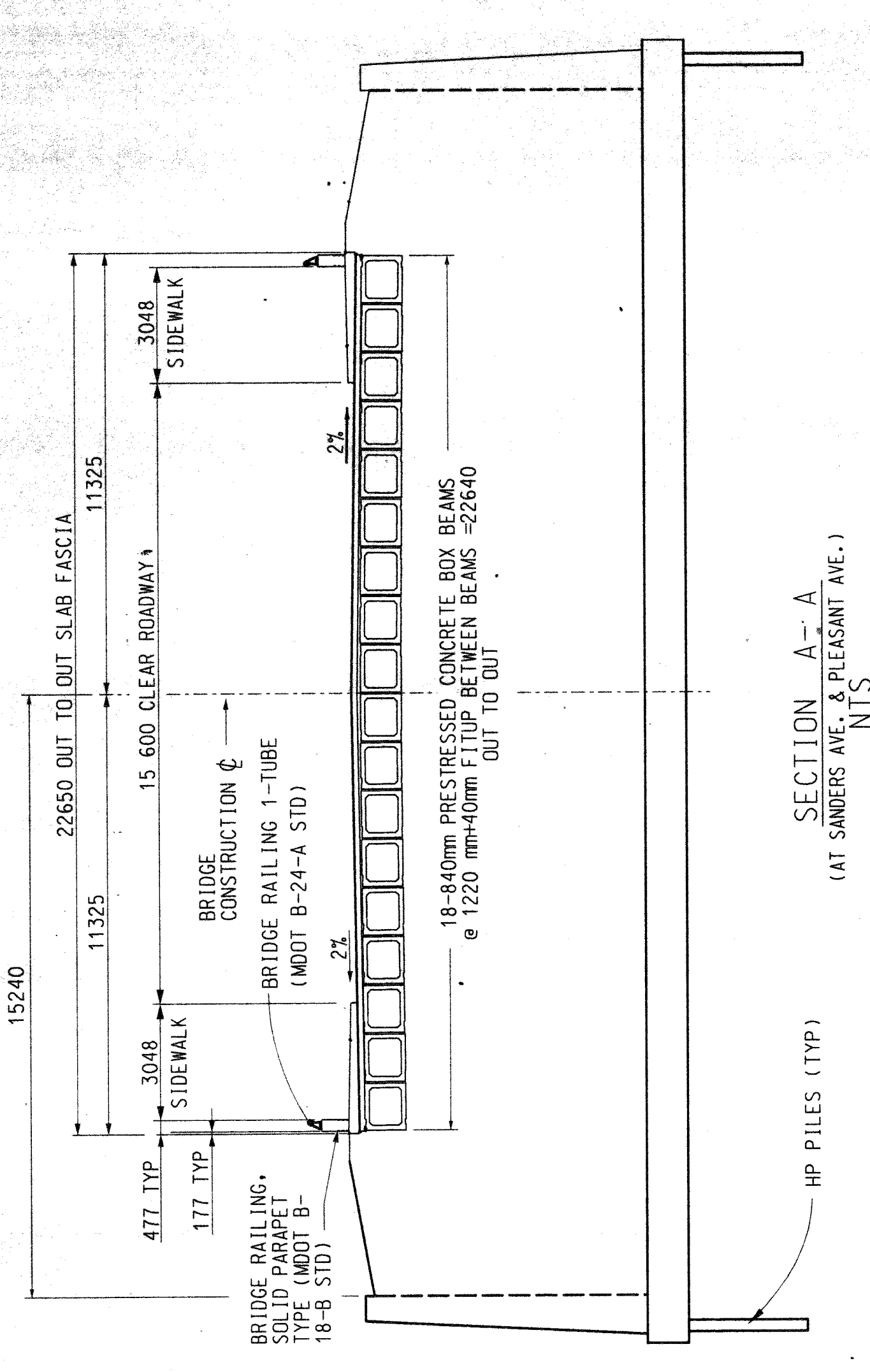


ELEVATION
 (ALONG THE ϕ CONSTRUCTION)

METRIC

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REVISIONS	DSGN BY N.C.H. 4-99	SNELL ENVIRONMENTAL GROUP, INC. A DLZ Company 151 W. CONGRESS, SUITE 328 DETROIT, MICHIGAN 48226 TELEPHONE (313) 261-6040	DETROIT MICHIGAN Marking it better for you	CITY OF DETROIT MICHIGAN	FORT STREET BRIDGE OVER SANDERS AND PLEASANT AVENUES AND NORFOLK AND CONRAIL RAILROADS	GENERAL PLAN OF THE STRUCTURE	SCALE NOT TO SCALE PROJECT NO. 9641-5160-06 SHEET NO. 12 OF 13
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METRIC

DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SHOWN. ELEVATIONS, COORDINATES, CURVE AND ALIGNMENT DATA ARE IN METERS. STATIONS ARE IN KILOMETERS + METERS.

GENERAL PLAN OF THE STRUCTURE

REVISIONS	DSGN BY	N.C.H.	4-99	CITY OF DETROIT MICHIGAN	FORT STREET BRIDGE OVER SANDERS AND PLEASANT AVENUES AND NORFOLK SOUTHERN RR	SCALE NOT TO SCALE
	DR'N BY	E.W.O.	4-99		GENERAL PLAN OF THE STRUCTURE	PROJECT NO. 9641-5160-06 SHEET NO. 13 OF 13
	CK'D BY	R.G.W.	4-99			
	FINAL CK'D BY		4-99			
	APP'D BY			SNELL ENVIRONMENTAL GROUP, INC. - A D.L.Z. COMPANY 151 W. CONGRESS ST., SUITE 308 DETROIT, MICHIGAN 48226 TELEPHONE (313) 961-4040		