

FORT STREE BRIDGE INDEX OF SHEETS

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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.

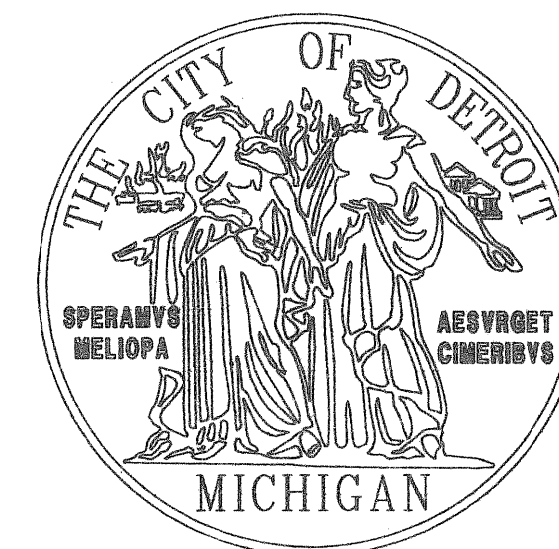
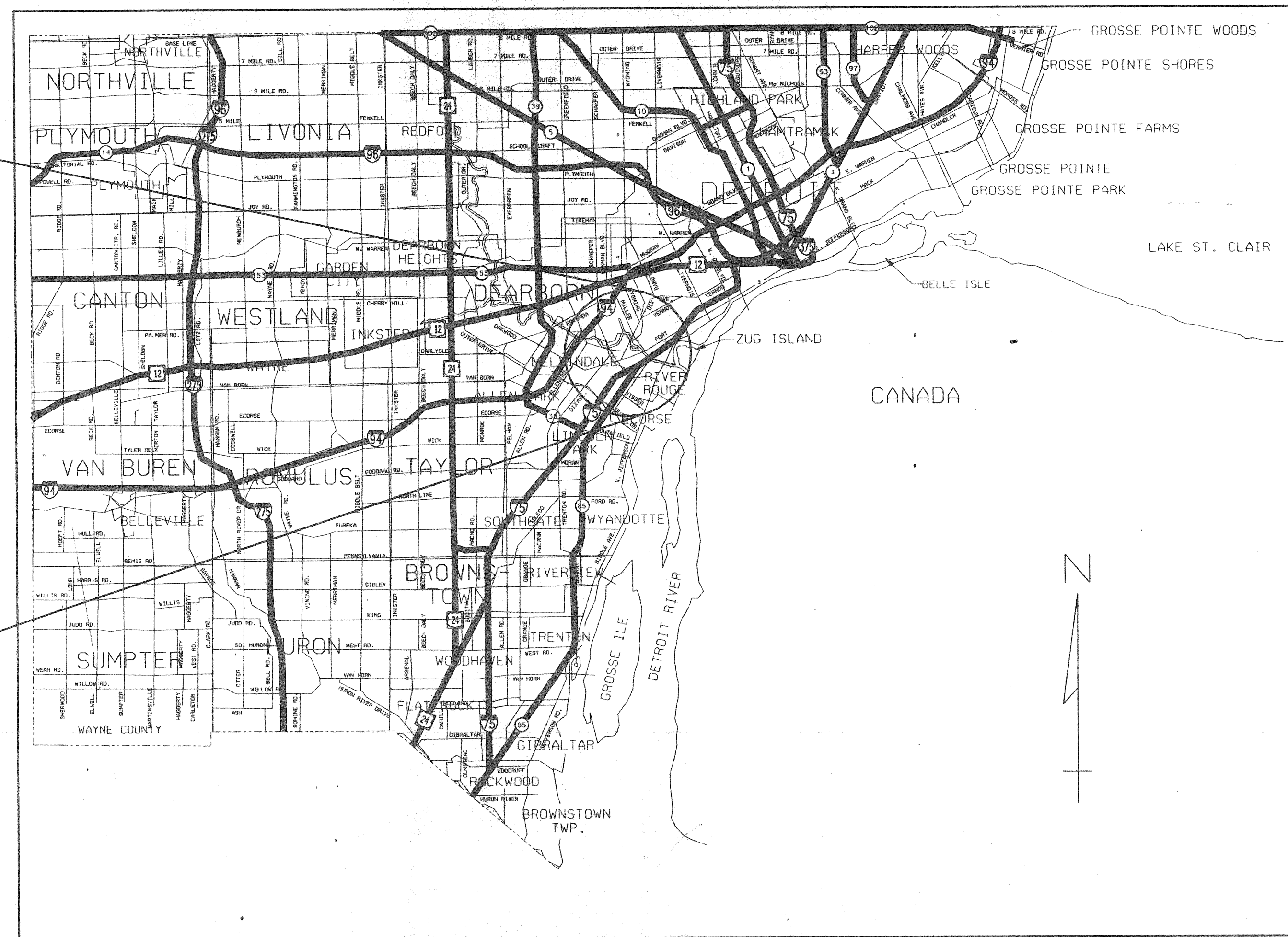
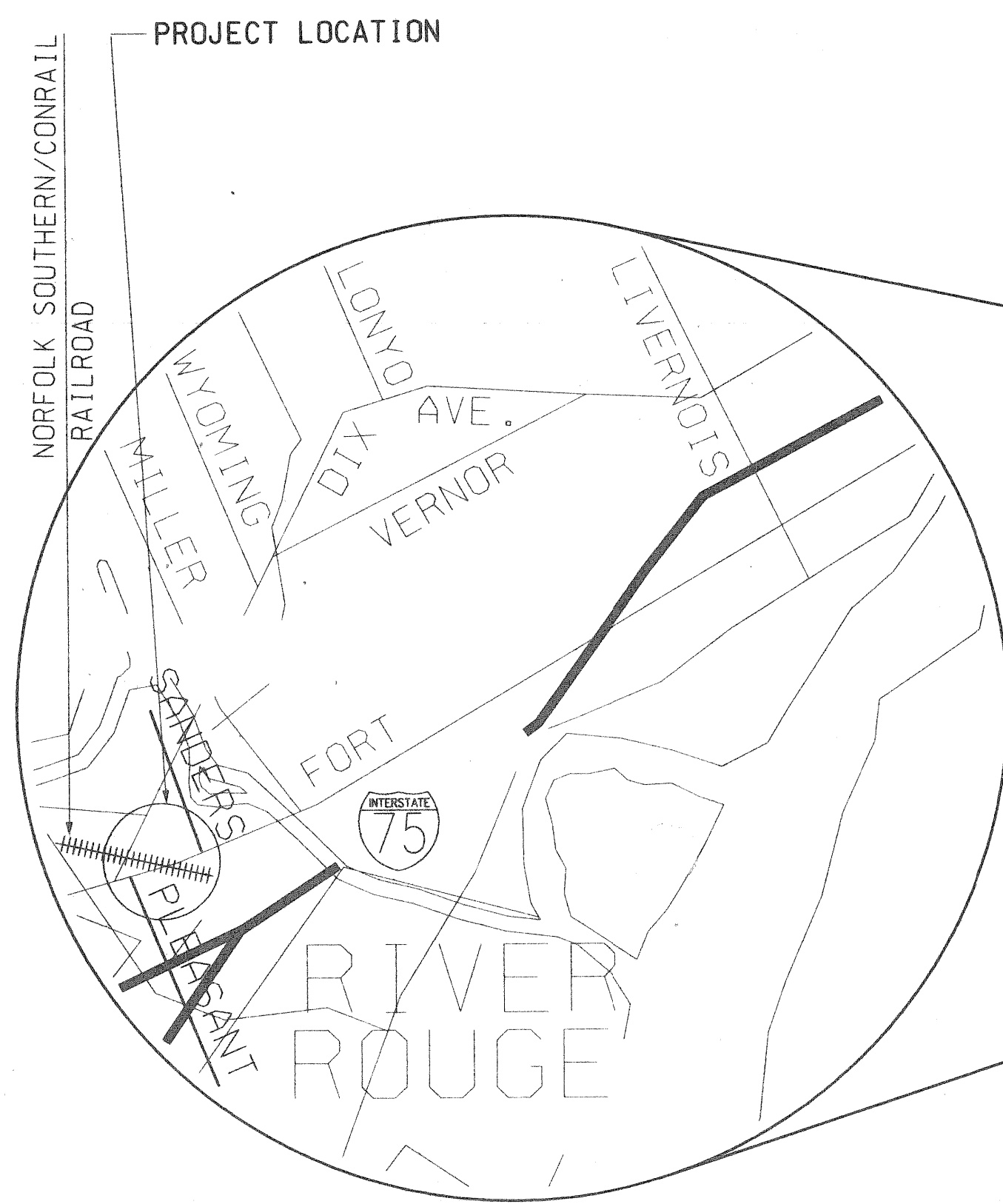
EXCEPT WHERE OTHERWISE INDICATED ON THESE PLANS THE PROPOSAL AND SUPPLEMENTAL SPECIFICATIONS CONTAINED HEREIN, ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE MICHIGAN DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION 1996 EDITION.

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 MPa
CONCRETE: GRADE D	f'c = 28 MPa
STEEL REINFORCEMENT:	f y = 400 MPa
STEEL REINFORCEMENT: STIRRUPS	
FOR PRESTRESSED BEAMS	f y = 300 MPa
PRESTRESSED CONCRETE	f'c = 35 MPa
PRESTRESSING STRANDS	f s = 1860 MPa



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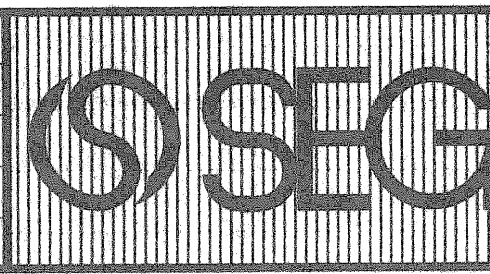
RECOMMENDED FOR APPROVAL	STRUCTURAL ENGINEER	DATE
RECOMMENDED FOR APPROVAL	BUILDINGS AND BRIDGES ENGINEER	DATE
APPROVED	HEAD ENGINEER	DATE
APPROVED	CITY ENGINEER	DATE

DATE	DRWG. NO.
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TITLE SHEET	SCALE NOT TO SCALE
PROJECT NO. 9641-5160-06	SHEET NO. 1 OF 13

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.D.	4-99
	CK'D BY	R.G.W.	4-99
	FINAL CK'D BY		4-99
	APP'D BY		



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



CITY OF DETROIT
 MICHIGAN

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

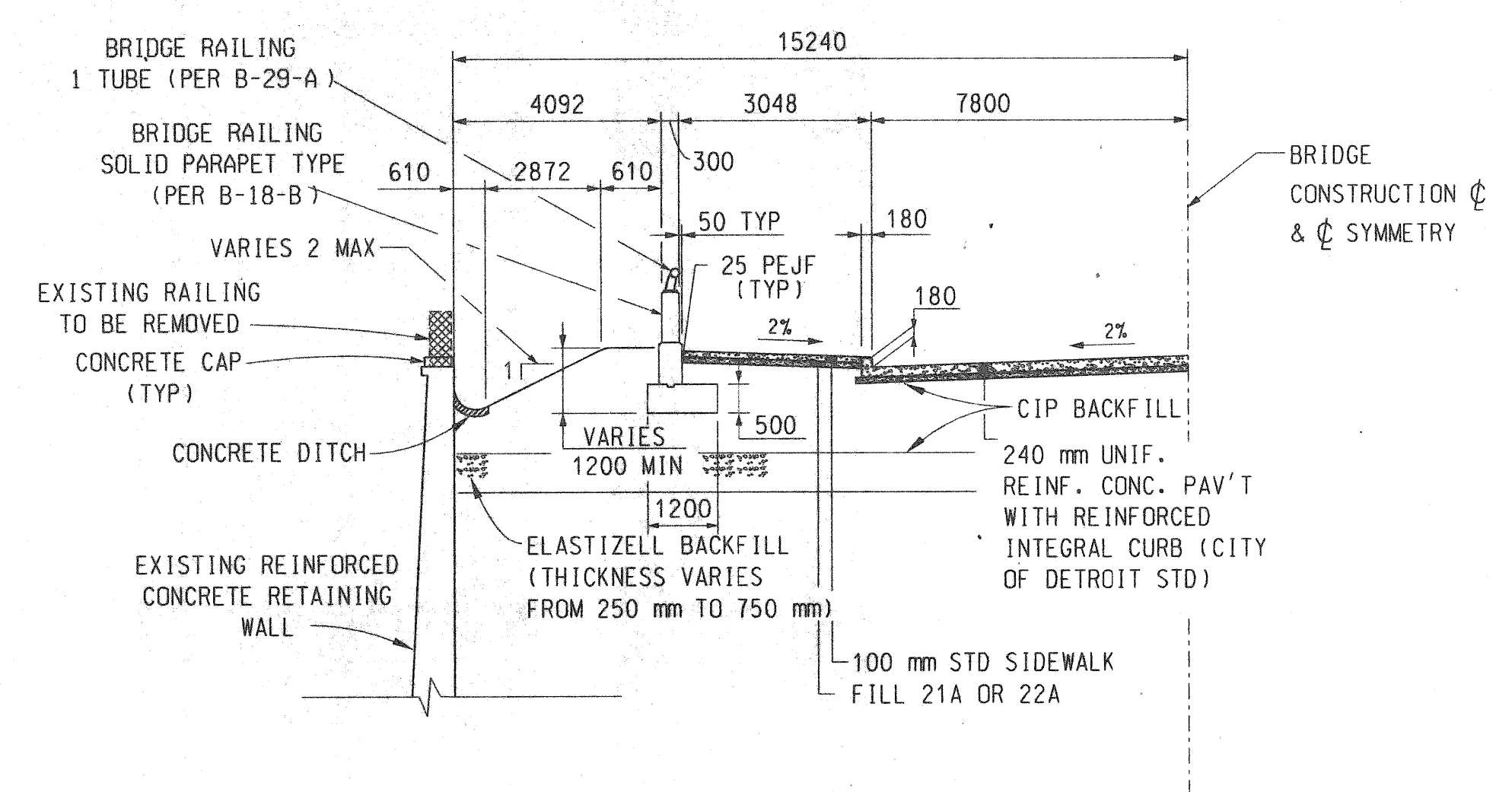
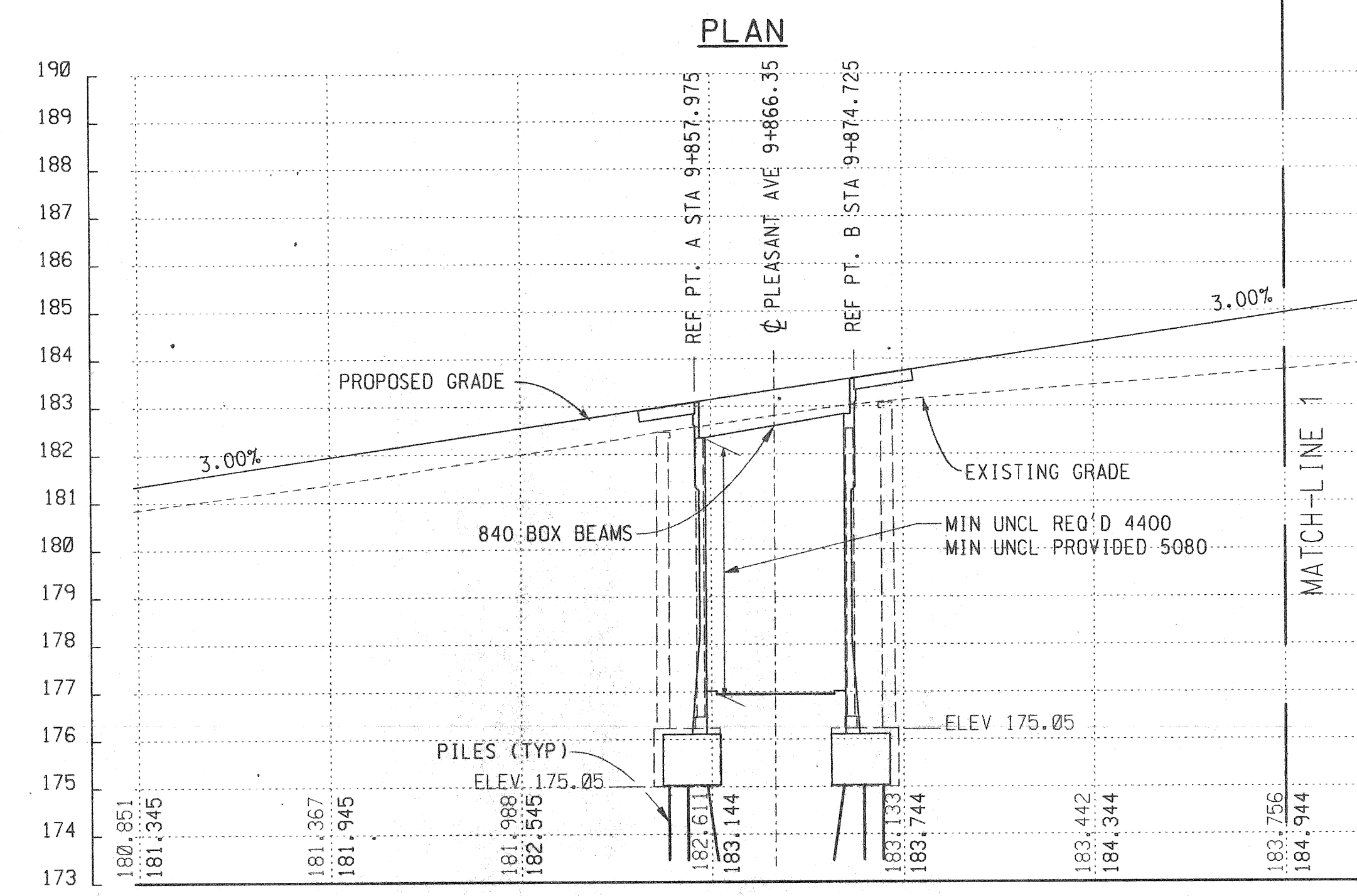
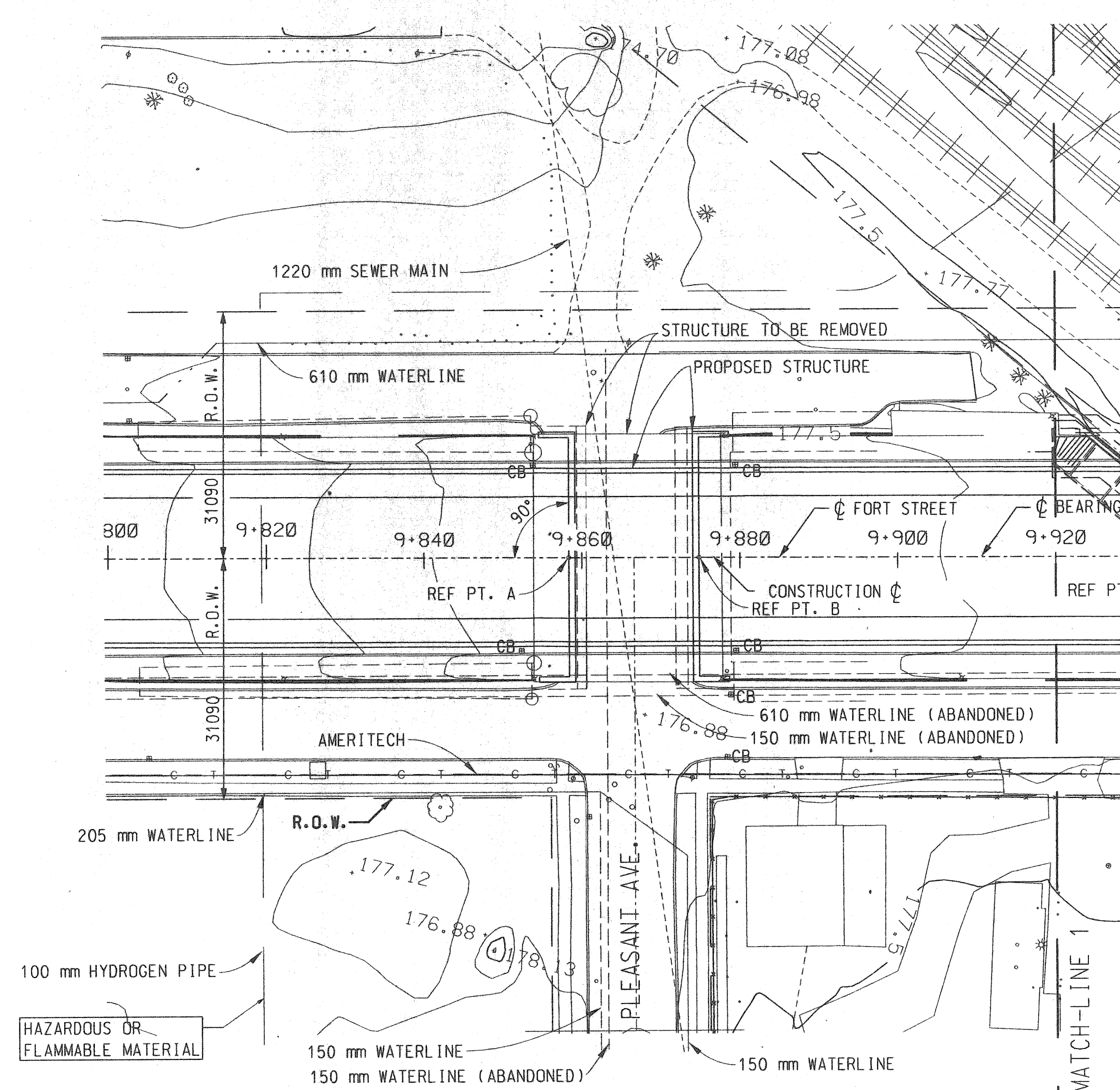
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REVISIONS			
NO.	DESCRIPTION	DATE	BY

WITNESSES			
WITNESS TO BRIDGE CONSTRUCTION @ FORT STREET	STA. 9+580.000		
N27°E	PK NAIL IN POWER POLE	5.220	m
S145°W	60d NAIL IN 458mm ELM	24.825	m
S34°W	PK NAIL IN POWER POLE	22.450	m
WITNESS TO BRIDGE CONSTRUCTION @ FORT STREET	STA 10+410.000		
N58°W	PK NAIL IN PAVEMENT	26.476	m
S195°E	PK IN POWER POLE	29.588	m
S41°E	PK NAIL IN POWER POLE	33.110	m

BENCH MARK	
B.M. #4	ELEV. 176.615 TOP OF NORTH BOLT OF HYDRANT @ SOUTH BOUND TURNAROUND SW END OF BRIDGE
B.M. #3	ELEV. 177.229 RR SPIKE IN EASTERLY FACE OF LIGHT POLE WEST OF BRIDGE, WEST END OF PLEASANT ST.
B.M. #2	ELEV. 178.479 CHISELED SQUARE IN TOP OF CONCRETE RET. WALL N. OR R.R. TRACKS & 8420mm W. OF FACE

UTILITIES	
AMERITECH	TELEPHONE
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	
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	
3200 HOBSON DETROIT, MI 48201 ATTN.: PAUL HARTMAN PHONE No.: (313) 577-7470	
PUBLIC LIGHTING DEPARTMENT	
9449 GRINNEL DETROIT, MI 48213 ATTN.: STANELY TOTOLEWESKI 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	



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.

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

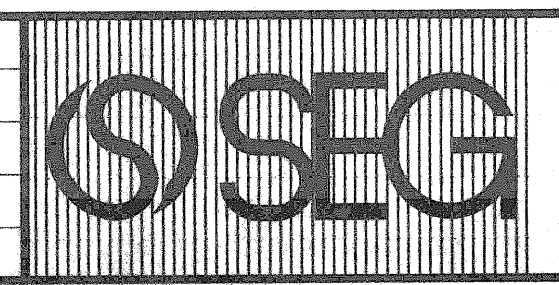
PROFILE ALONG FORT STREET OVER PLEASANT AVE.

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

DRWG. NO.	SCALE NOT TO SCALE
GENERAL PLAN OF SITE	PROJECT NO. 9641-5160-06
	SHEET NO. 2 OF 13

REVISIONS

NO.	DESCRIPTION	DATE	BY



SNELL ENVIRONMENTAL GROUP, INC. A DL2 Company
151 W. CONGRESS, SUITE 328
DETROIT, MICHIGAN 48226
TELEPHONE (313) 961-4040



CITY OF DETROIT MICHIGAN

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

CORRECTED BY:

DATE: 2/16/99

DRAWN BY: E. OLIVER

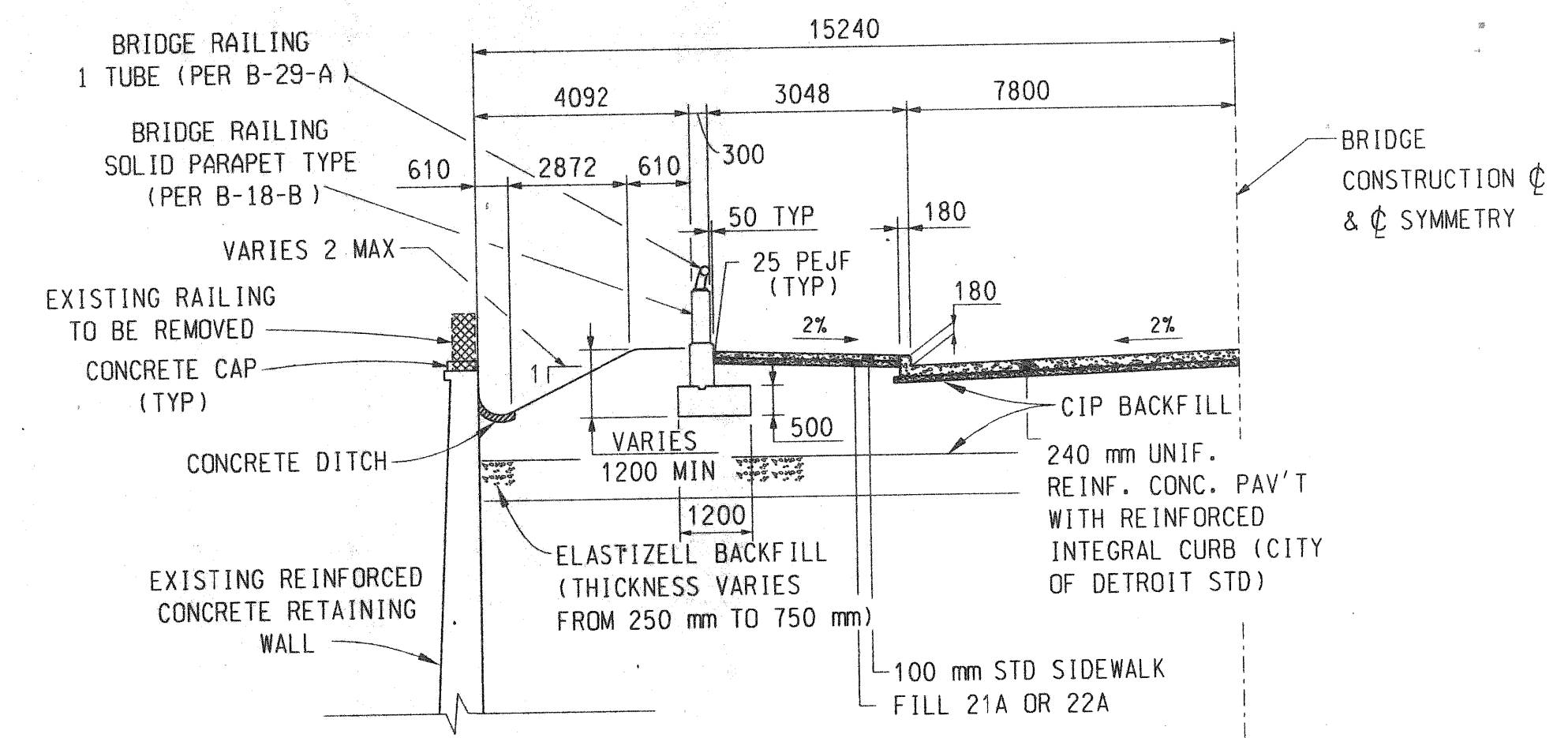
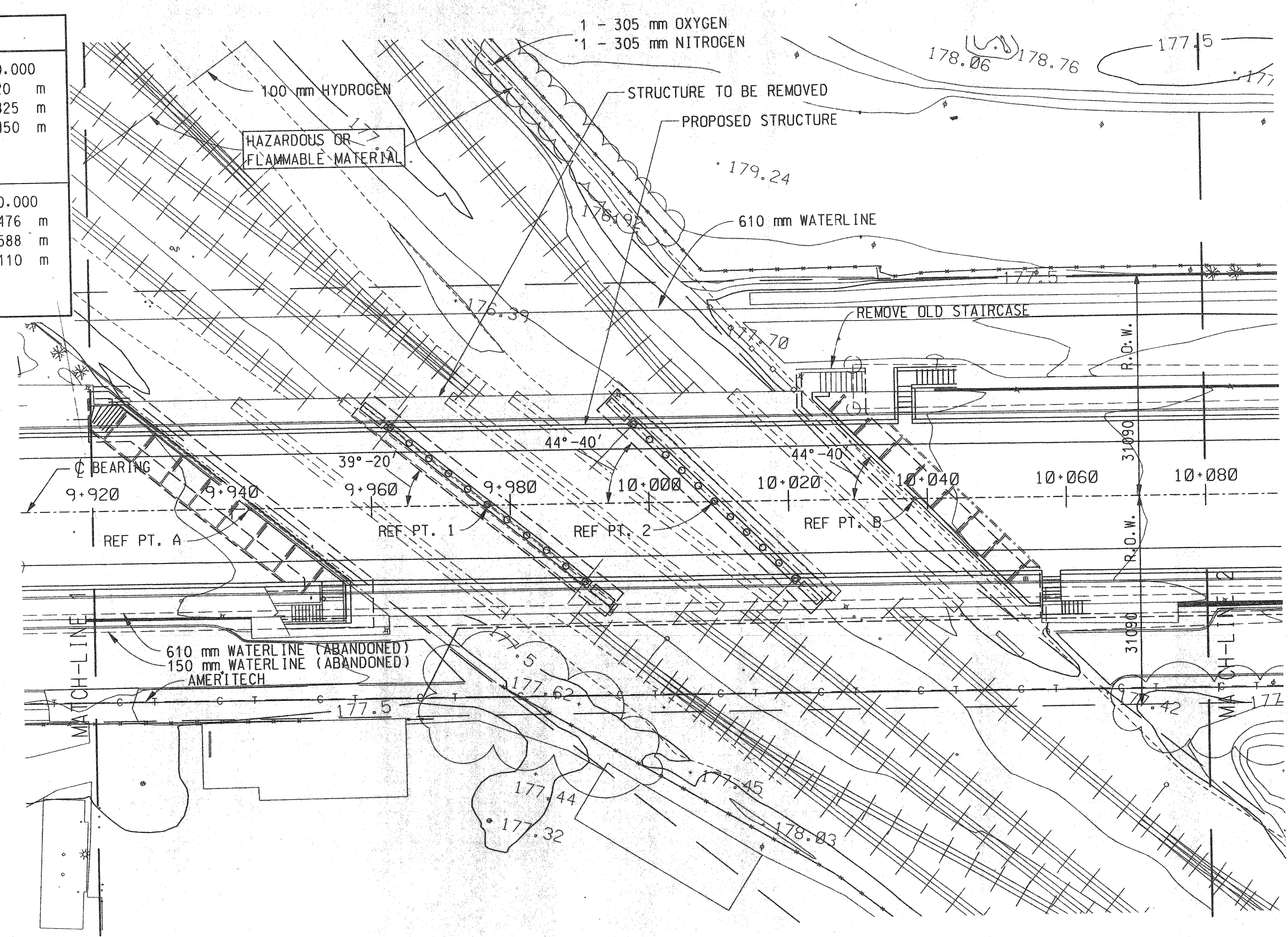
FILE NAME: 010PSTE.DGN

REVISIONS			
NO.	DESCRIPTION	DATE	BY

WITNESSES		
WITNESS TO BRIDGE CONSTRUCTION @ FORT STREET	STA. 9+580.000	
N27°E	PK NAIL IN POWER POLE	5.220 m
S145°W	60d NAIL IN 458mm ELM	24.825 m
S34°W	PK NAIL IN POWER POLE	22.450 m
WITNESS TO BRIDGE CONSTRUCTION @ FORT STREET	STA 10+410.000	
N58°W	PK NAIL IN PAVEMENT	26.476 m
S195°E	PK IN POWER POLE	29.588 m
S41°E	PK NAIL IN POWER POLE	33.110 m

BENCH MARK		
B.M. #F2	ELEV. 178.479	
CHILSED SQUARE IN TOP OF CONCRETE WALL NORTH OF RR TRACKS		
B.M. #F1	ELEV. 177.624	
R.R. SPIKE IN SOUTH FACE OF LIGHT POLE IN SW QUADRANT OF SANDERS & FORT		
B.M. #F3	ELEV. 177.229	
RR SPIKE IN EASTERLY FACE OF LIGHT POLE W. SIDE OF BRIDGE & W. END OF PLEASANT AVE		

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 8105 VALLEYWOOD LANE PORTAGE, MI 49024-5251 ATTN.: FRED W. HIPPSHEAR PHONE No.: (734) 428-8386	
DETROIT EDISON 1880 STARBATT DRIVE ROCHESTER HILLS, MI 48309 ATTN.: LEON JOHNSON PHONE No.: (248) 299-9411	
MICHCON 3200 HOBSON DETROIT, MI 48201 ATTN.: PAUL HARTMAN PHONE No.: (313) 577-7470	
PUBLIC LIGHTING DEPARTMENT 9449 GRINNEL DETROIT, MI 48213 ATTN.: STANLEY TOTOLEWESKI 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	



TYPICAL APPROACH HALF SECTION
NTS

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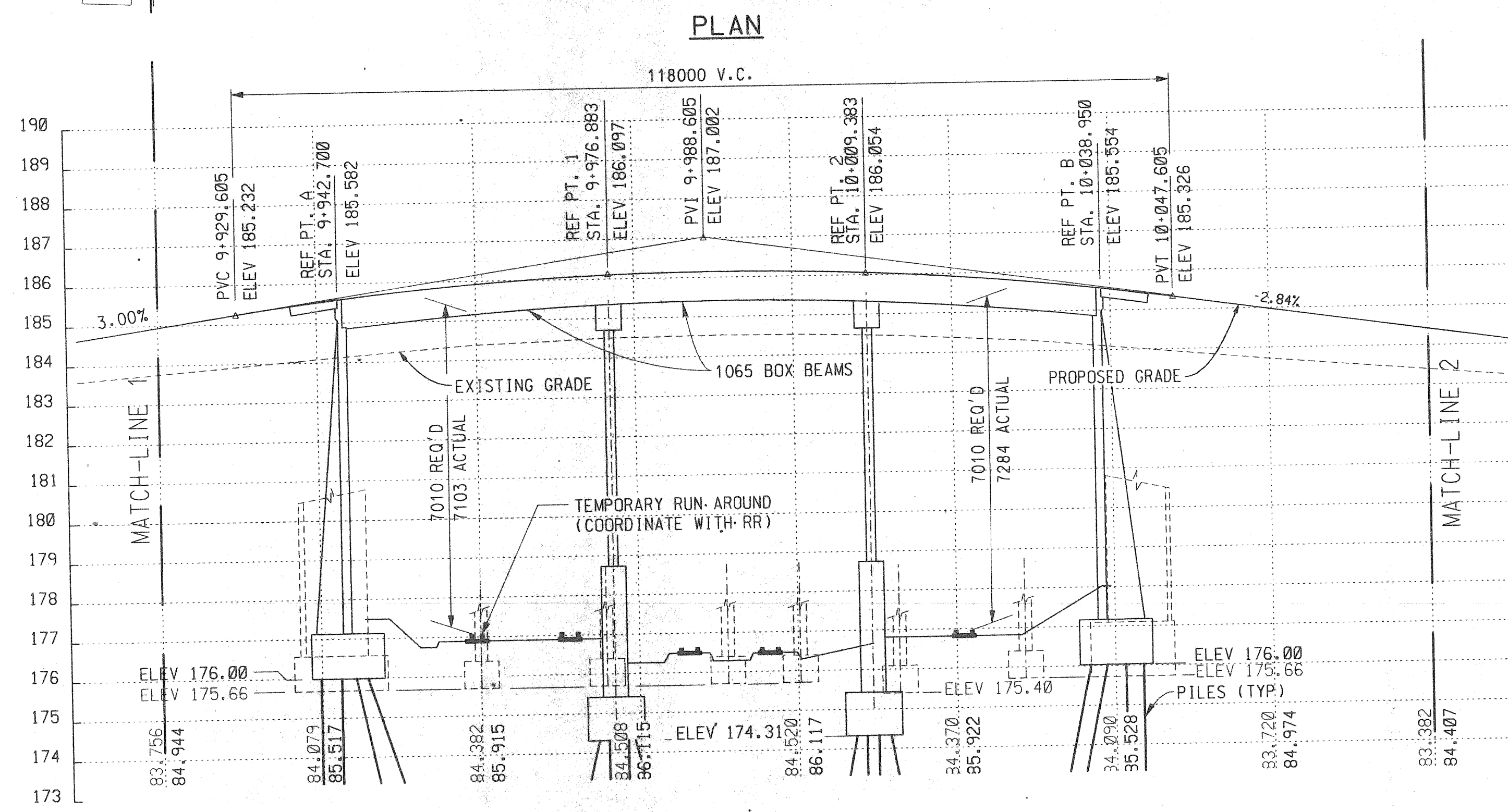
TRAFFIC IS TO BE DETOURED OVER EXISTING STREETS

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 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.



PROFILE ALONG FORT STREET
OVER NORFOLK SOUTHERN 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
7 SPAN CONC. ENCASED STEEL BEAM SUPERSTRUCTURE SUPPORTING DECK SLAB 31700 mm WIDE, SUPPORTED BY 6 REINF. CONC. PIERS AND 2 REINF. CELLULAR WALLED ABUTMENTS, ALL SPREAD FOOTINGS. CONSTRUCTED IN 1928.

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



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



CITY OF DETROIT
MICHIGAN

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

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

CORRECTED BY:

DATE: 2/16/99

DRAWN BY: E. OLIVER

FILE NAME: 01GPSITE.DGN

FILE NAME: .DGN

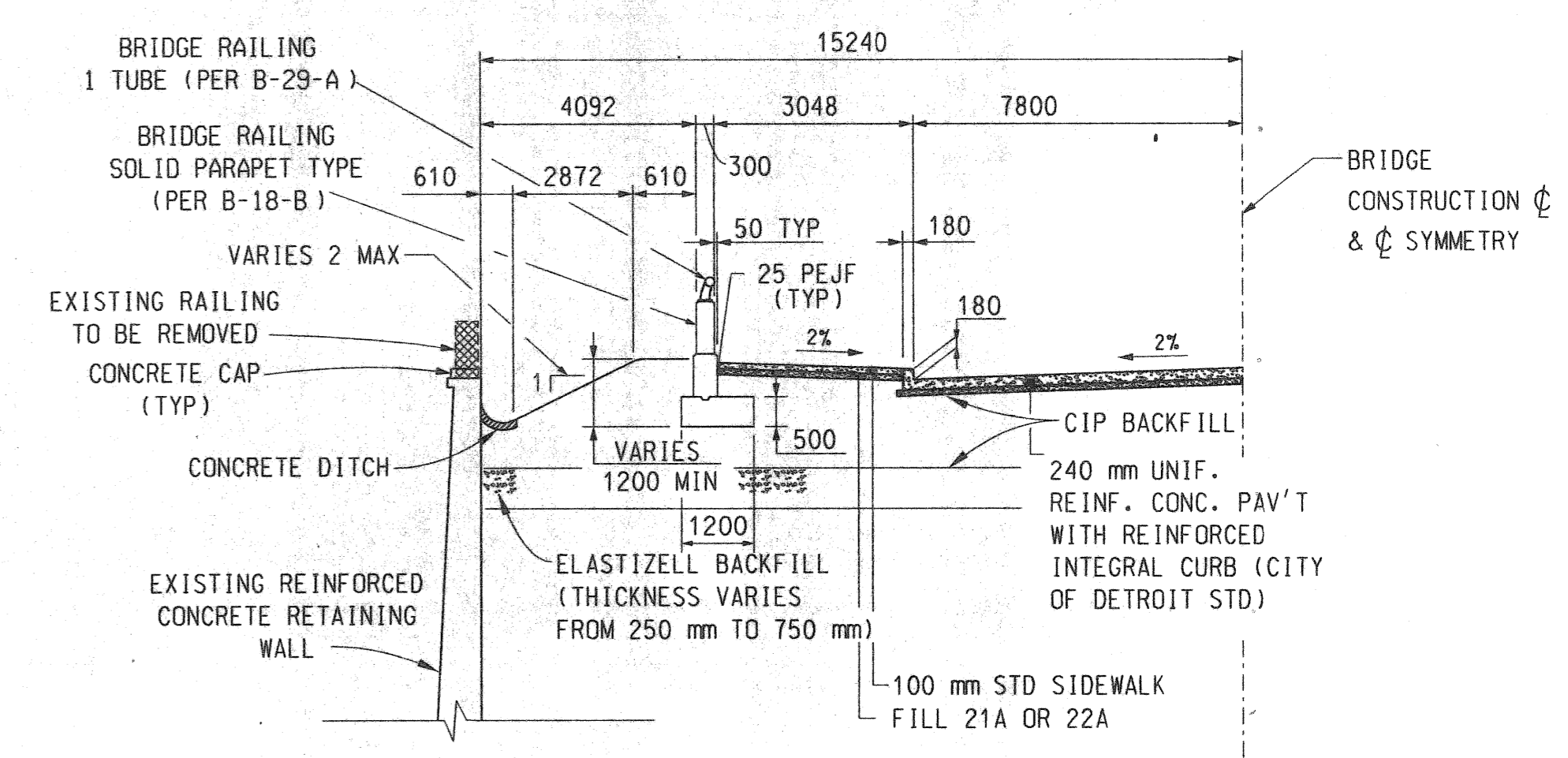
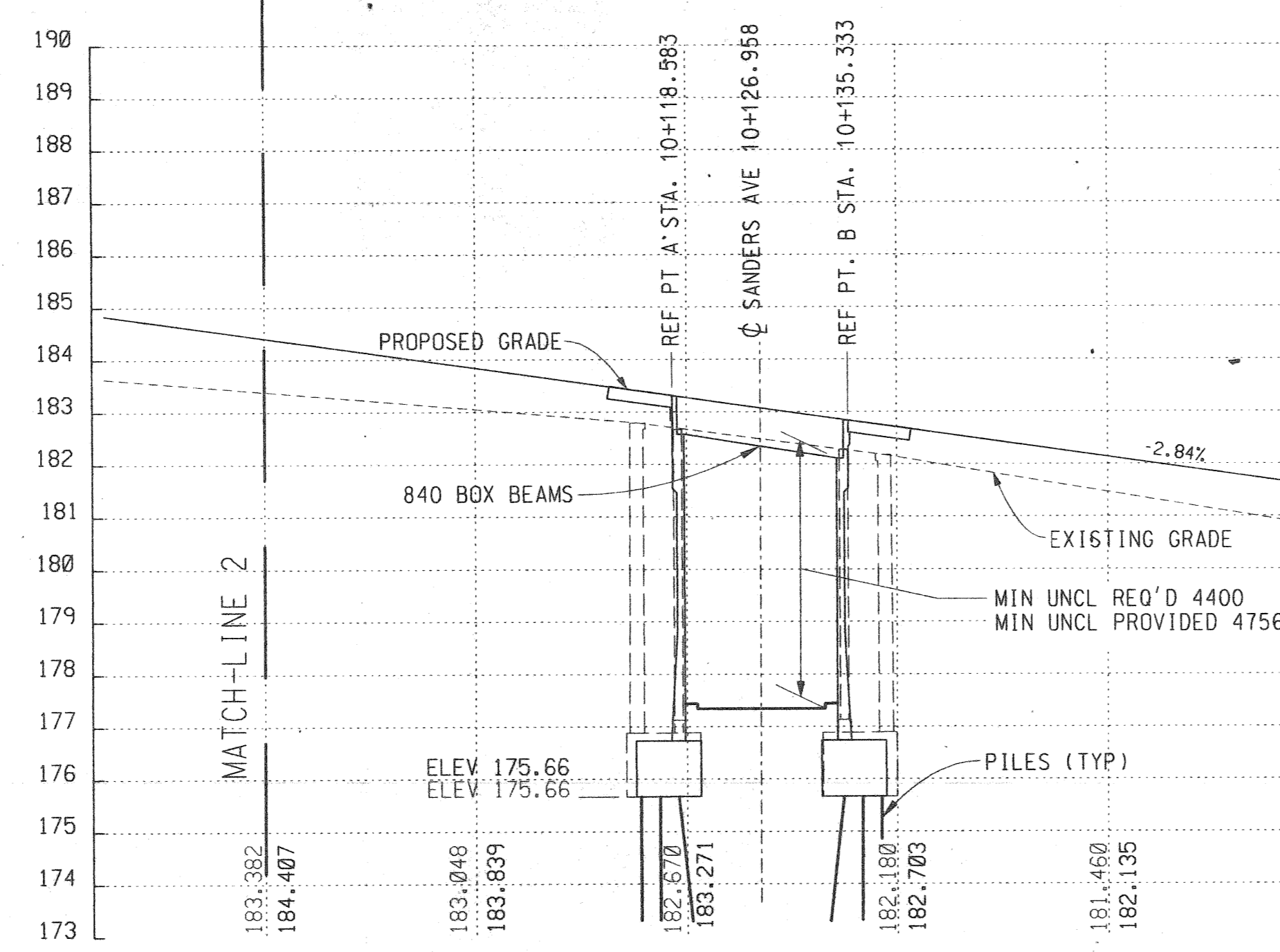
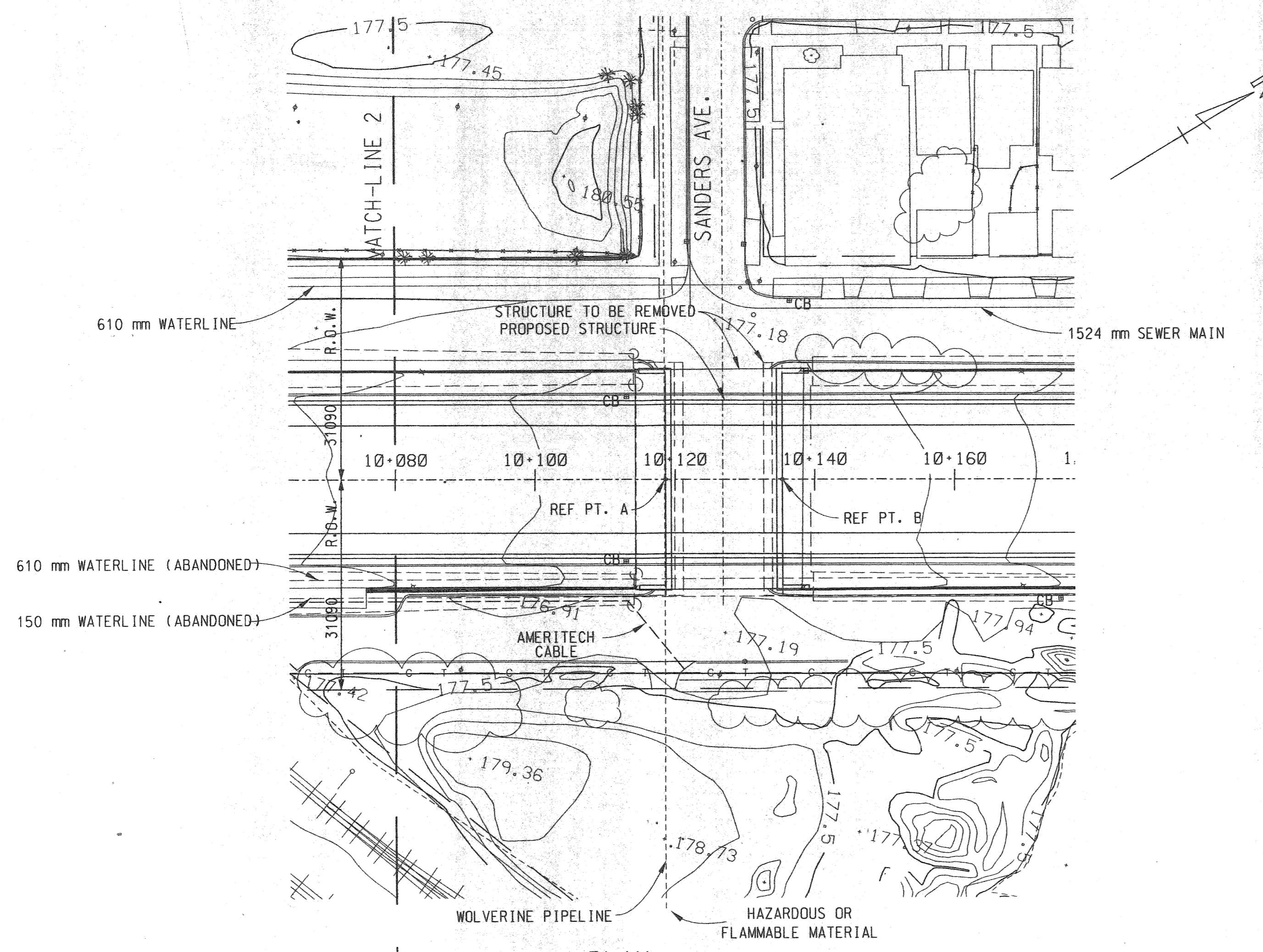
REVISIONS			
NO.	DESCRIPTION	DATE	BY

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BENCH MARK	
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2018 ESTIMATED TRAFFIC DISTRIBUTION

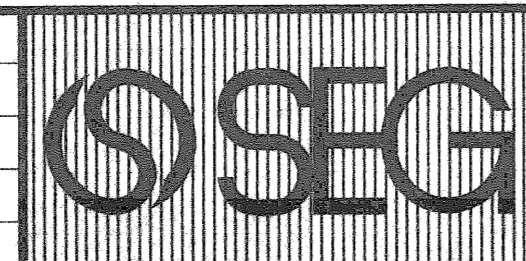
LEGEND

- (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.

DRWG. NO.

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	FINAL CK'D BY		4-99
	APP'D BY		



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151 W. CONGRESS, SUITE 328
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

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

CORRECTED BY:

DATE: 2/16/99

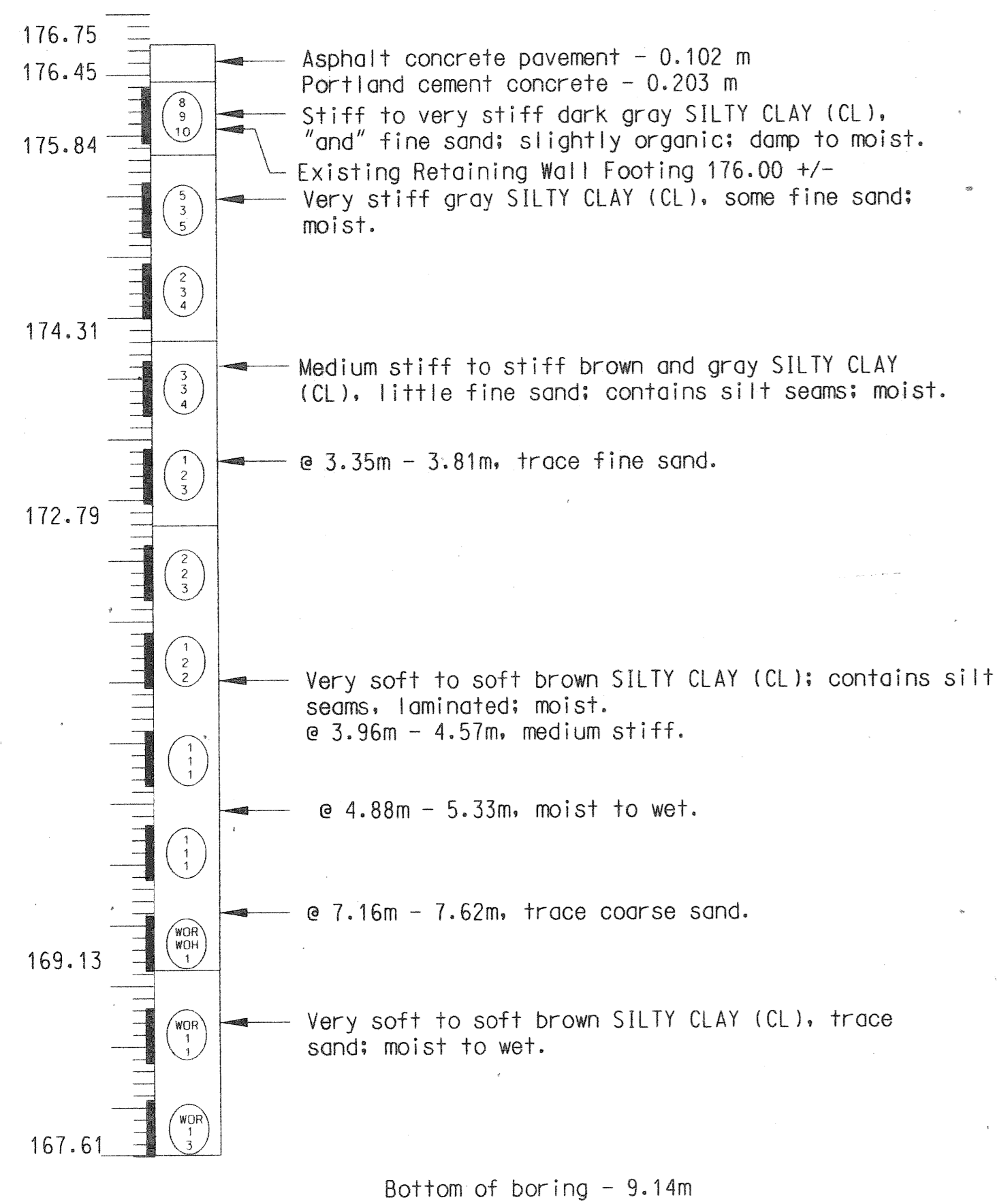
DRAWN BY: E. OLIVER

FILE NAME: 010PSTE-00N

TEST HOLE TB-#SB-1

STA. 9+806.3, 18.4 m LT.

ELEV. GROUND SURFACE ELEVATION 176.75



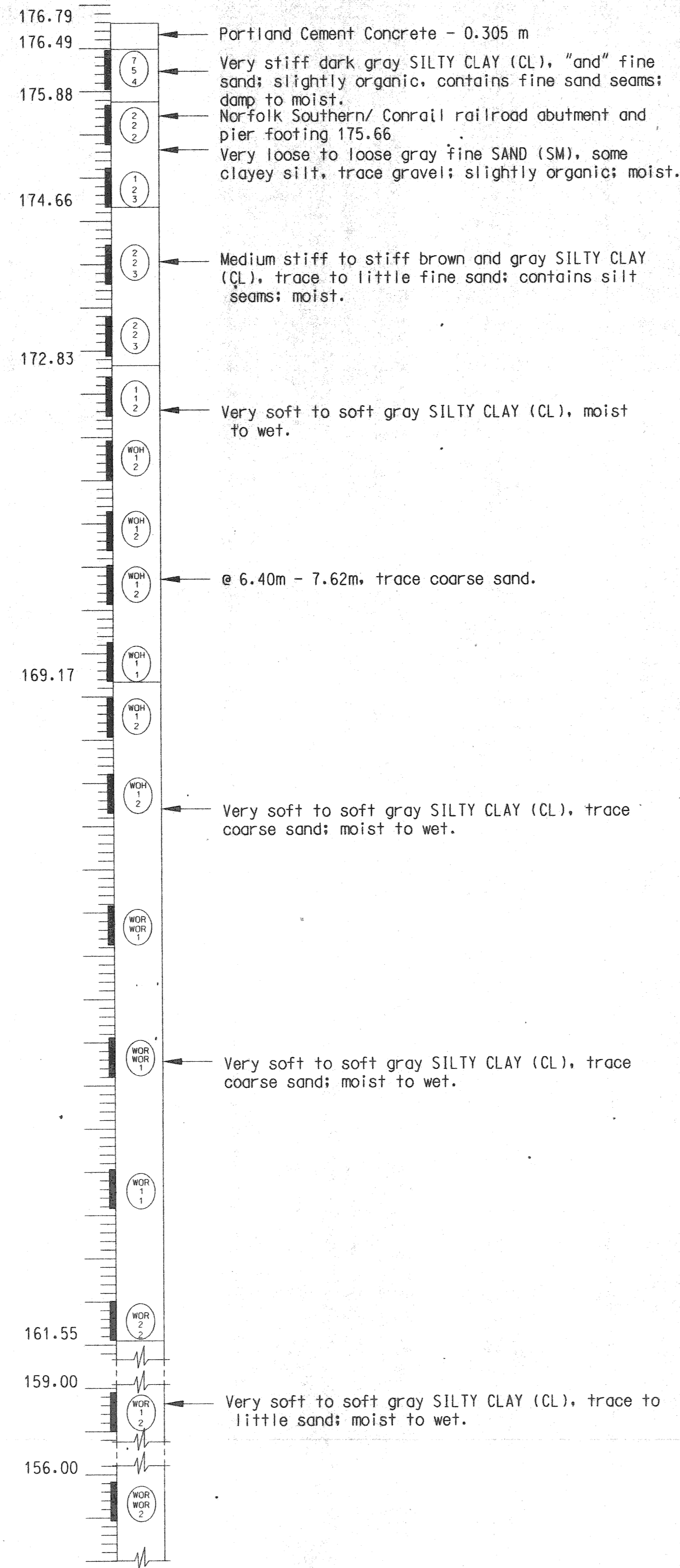
NOTE: WATER SEEPAGE AT: N/A
WATER LEVEL AT COMPLETION: N/A
(INSIDE HOLLOWSTEM AUGERS)

BORING DATE 8/15/96

TEST HOLE TB-#SB-2

STA. 9+939.2, 21.1 m LT.

ELEV. GROUND SURFACE ELEVATION 176.79



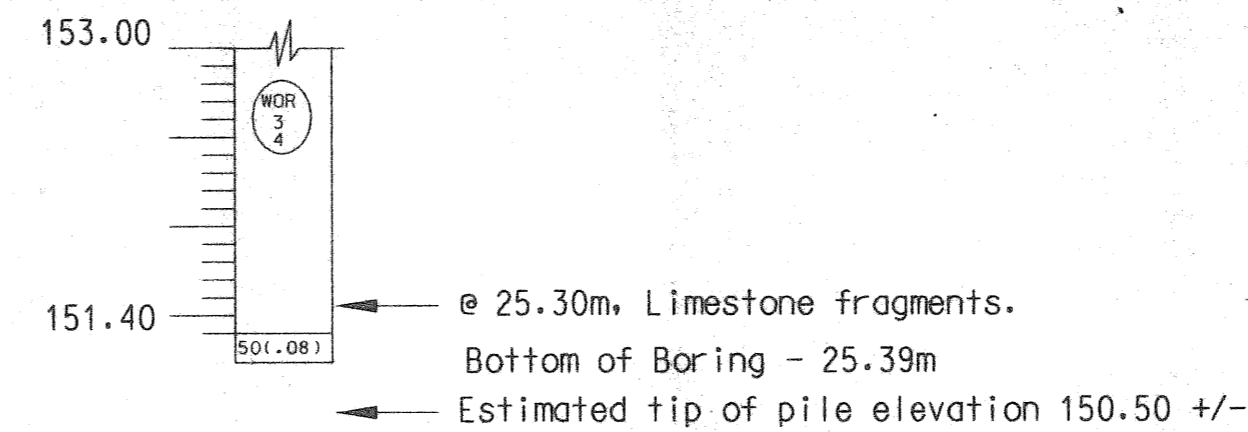
NOTE: WATER SEEPAGE AT: N/A
WATER LEVEL AT COMPLETION: N/A
(INSIDE HOLLOWSTEM AUGERS)

BORING DATE 8/15/96

TEST HOLE TB-#SB-2 (con.)

STA. 9+806.3, 18. m RT.

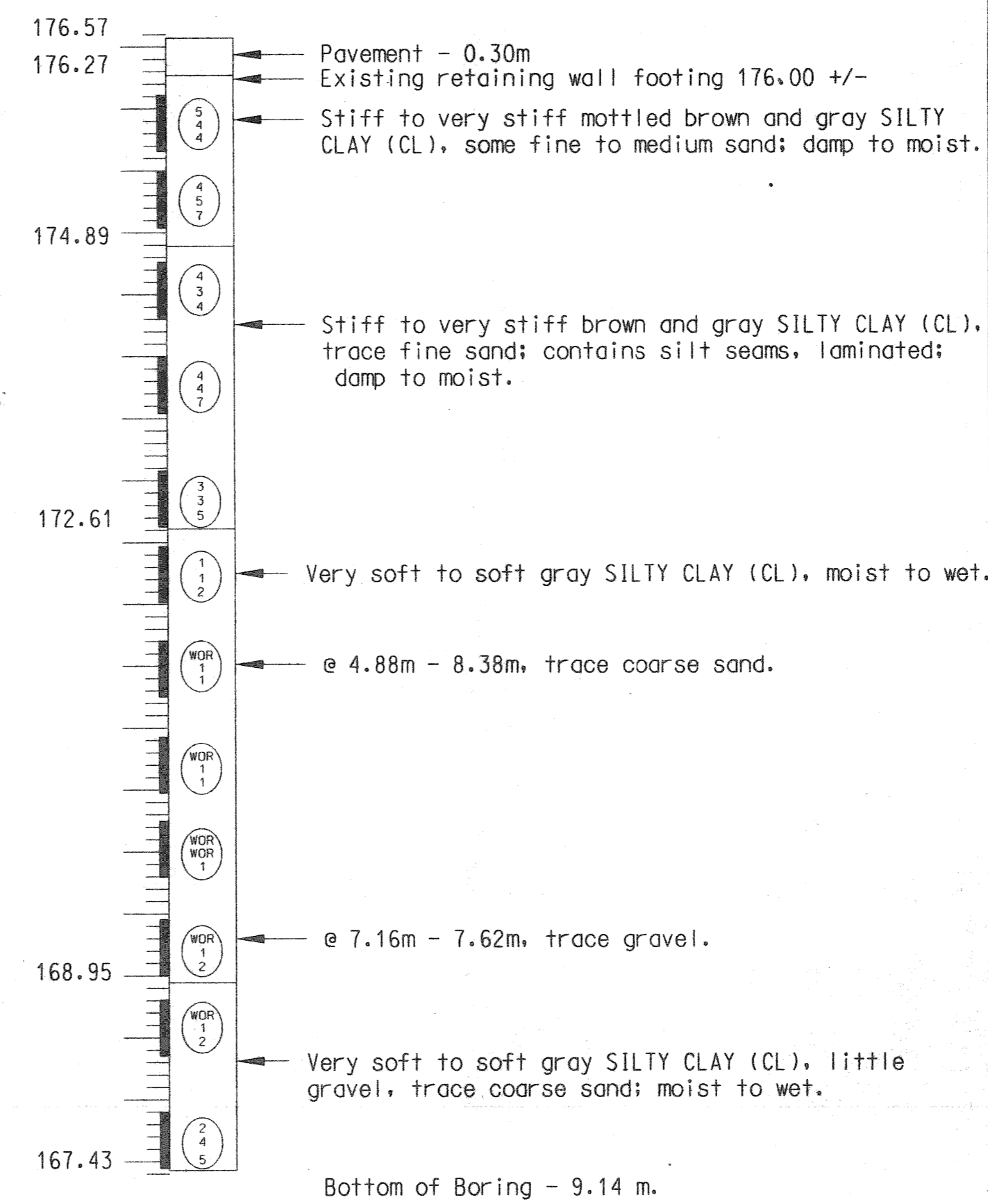
ELEV. GROUND SURFACE ELEVATION 176.79



TEST HOLE TB-#SB-3

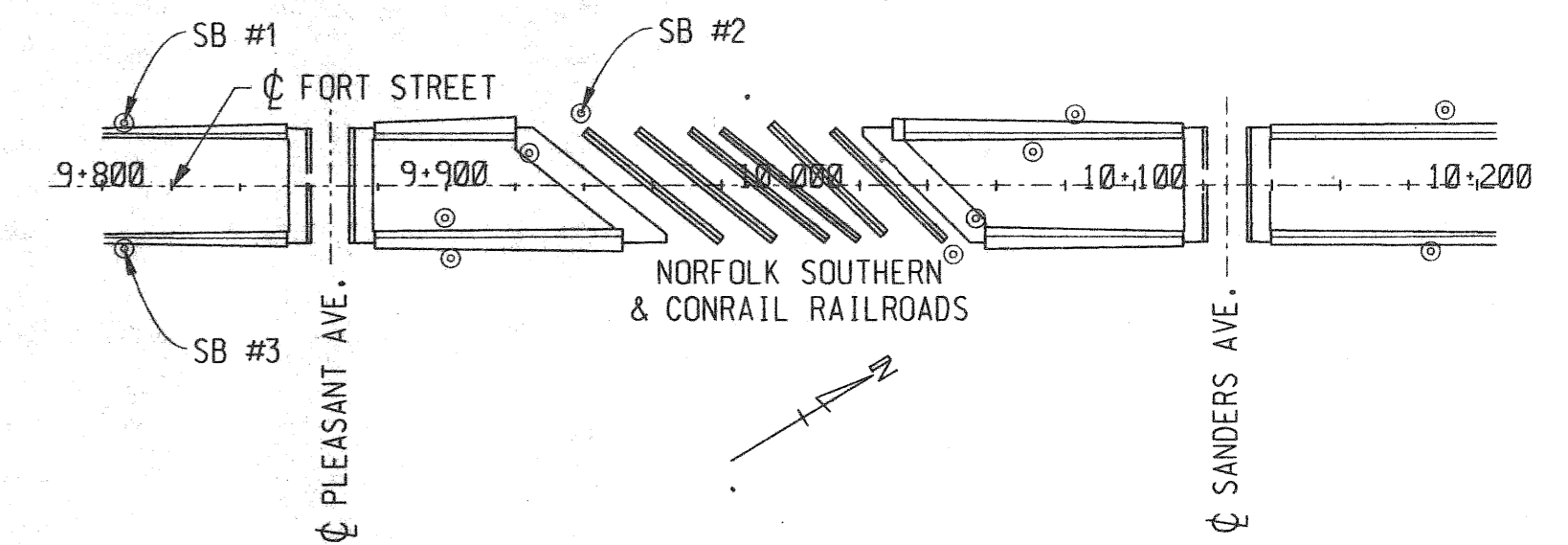
LOCATION STATION T.

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

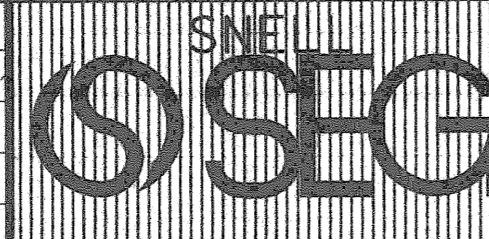
SOIL BORINGS WERE PERFORMED ON DATES SHOWN BELOW BORING.

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	EWO	4-97
	CK'D BY	RGN	-97
	APP'D BY		-97



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



CITY OF DETROIT MICHIGAN

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

LOG OF BORING

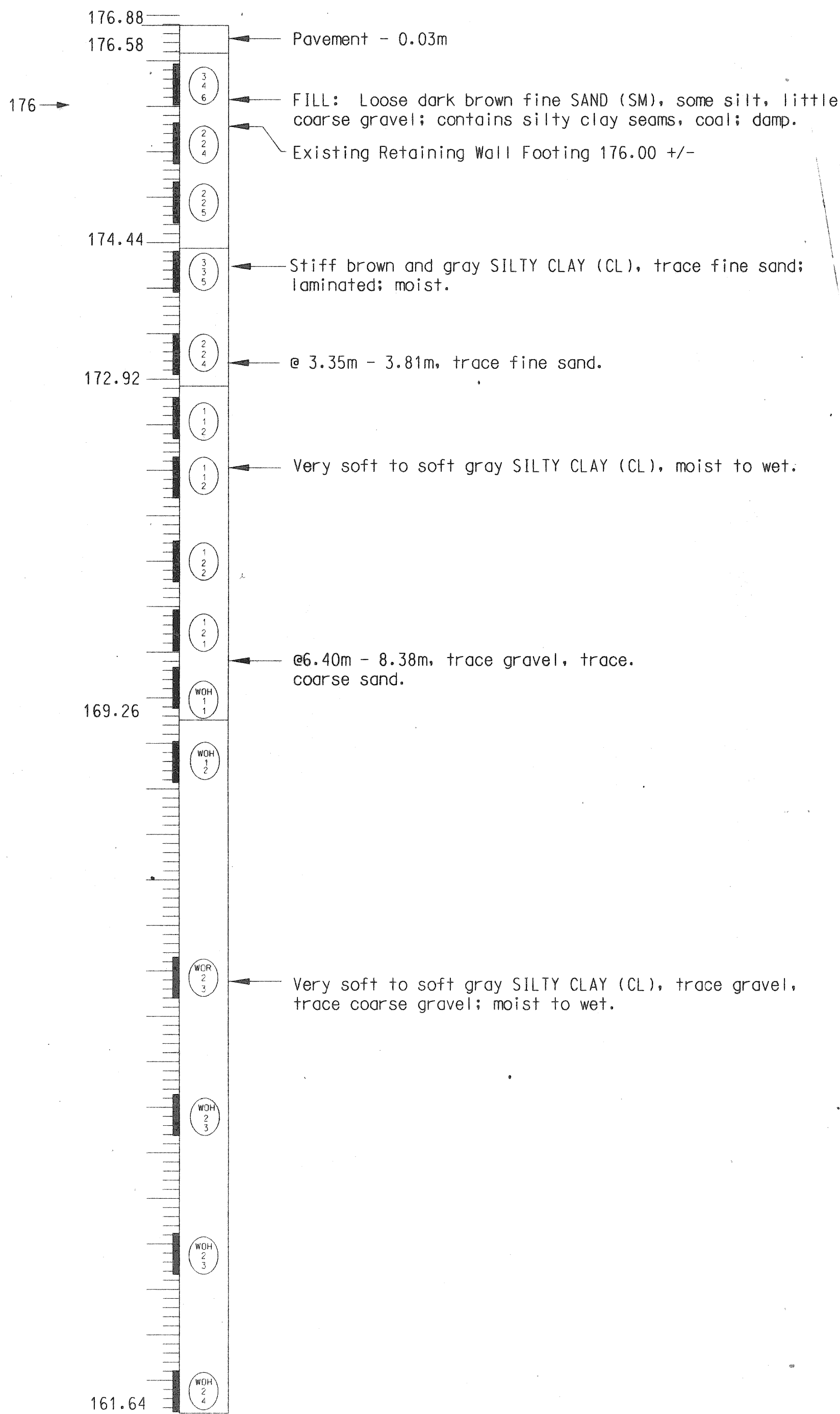
SCALE	NTS
PROJECT NO.	9641-5160-06
SHEET NO.	5 OF 13

FILE NAME: 02BORING.DGN

TEST HOLE TB-#SB-4

STA. 9+901.3 21.4 m RT.

ELEV. GROUND SURFACE ELEVATION 176.88



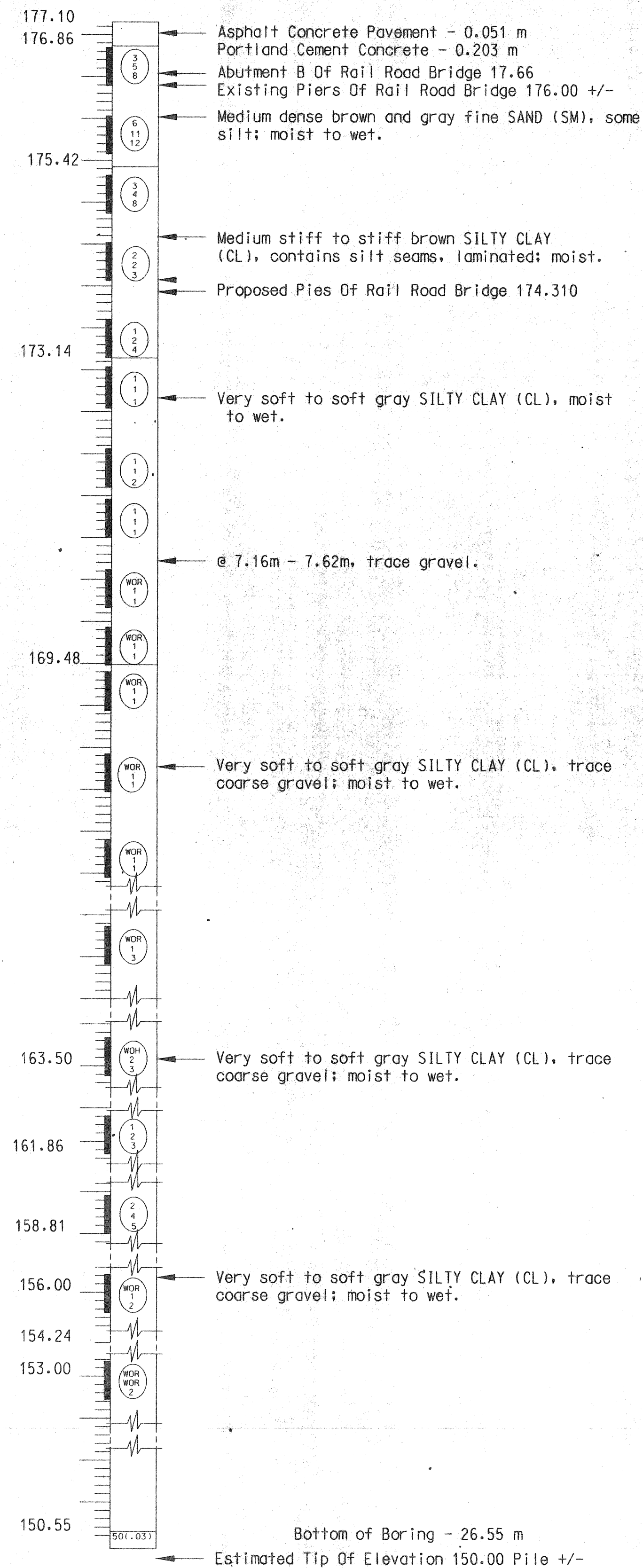
NOTE: WATER SEEPAGE AT: N/A
WATER LEVEL AT COMPLETION: N/A
(INSIDE HOLLOWSTEM AUGERS)

BORING DATE 8/15/96

TEST HOLE TB-#SB-5

STA. 10+047.5 20.40 m RT.

ELEV. GROUND SURFACE ELEVATION 177.10



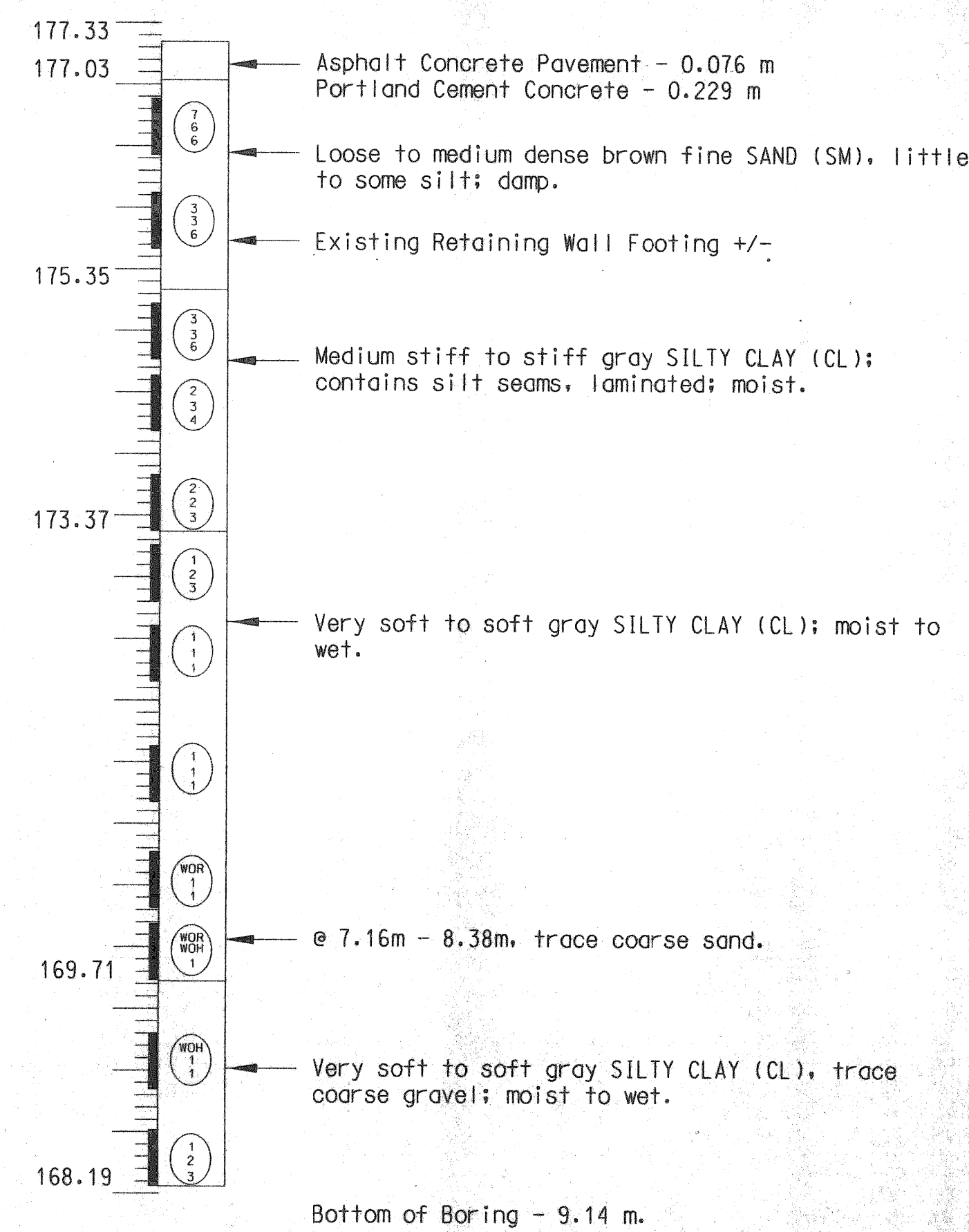
NOTE: WATER SEEPAGE AT: N/A
WATER LEVEL AT COMPLETION: N/A
(INSIDE HOLLOWSTEM AUGERS)

BORING DATE 8/15/96

TEST HOLE TB-#SB-6

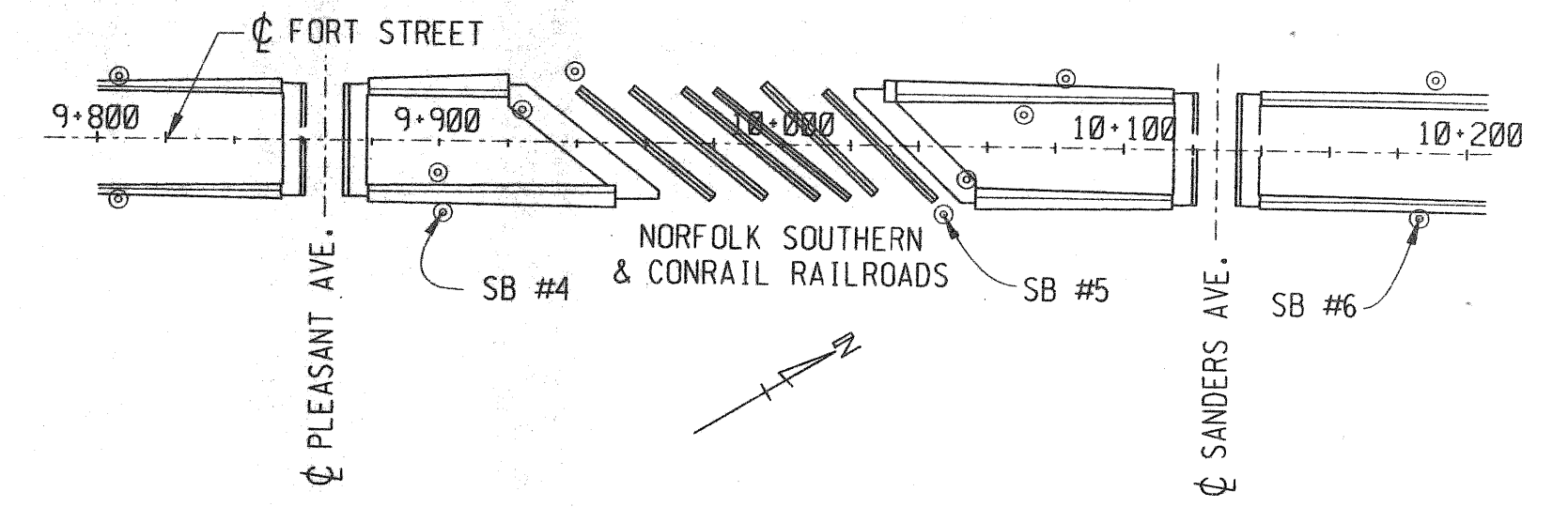
STA. 10+186.5 19.50 m RT.

ELEV. GROUND SURFACE ELEVATION 177.33



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

BORING DATE 8/15/96



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 PARENTHESIS TO THE RIGHT OF THE NUMBER OF BLOWS.

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

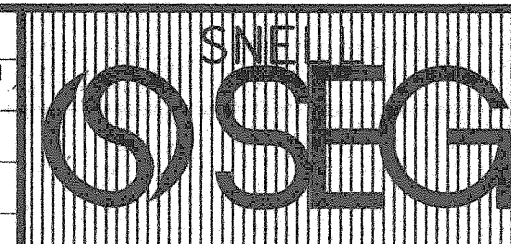
BY: DODSON-STILSON, INC.
6121 Huntley Road
Columbus, OH 43229-1003
PHONE: (614) 848-6712

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	-97
	DR'N BY	R. J. D. 4-97
	CK'D BY	-97
	APP'D BY	-97

DR'N BY	R. J. D.	4-97
CK'D BY		-97
APP'D BY		-97



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



CITY OF DETROIT MICHIGAN

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

LOG OF BORING

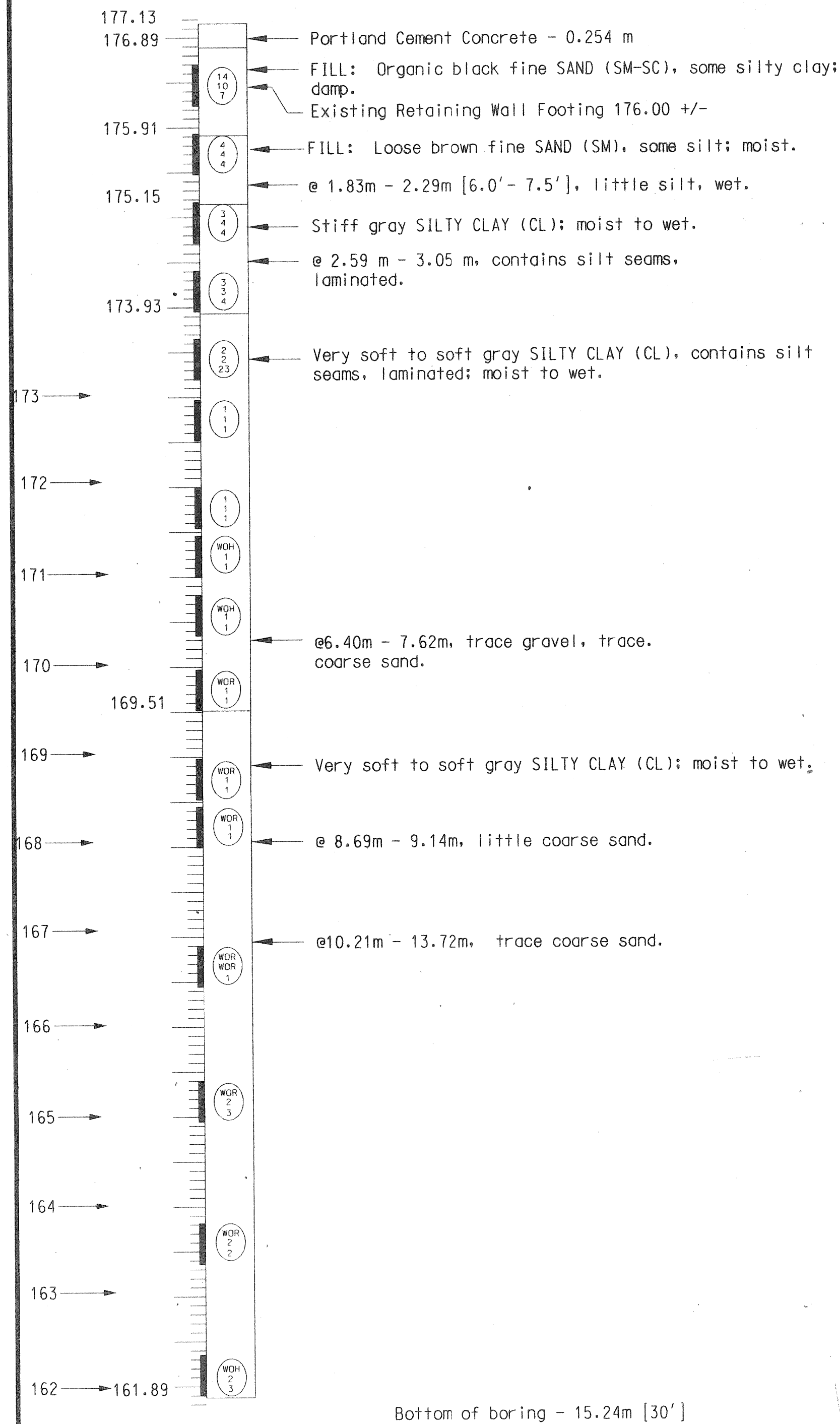
SCALE	NTS
PROJECT NO.	9641-5160-06
SHEET NO.	6 OF 13

FILE NAME: 06B02.DGN

TEST HOLE TB-#SB-7

STA. 10+082.7, 20.7 m LT.

ELEV. GROUND SURFACE ELEVATION 177.13



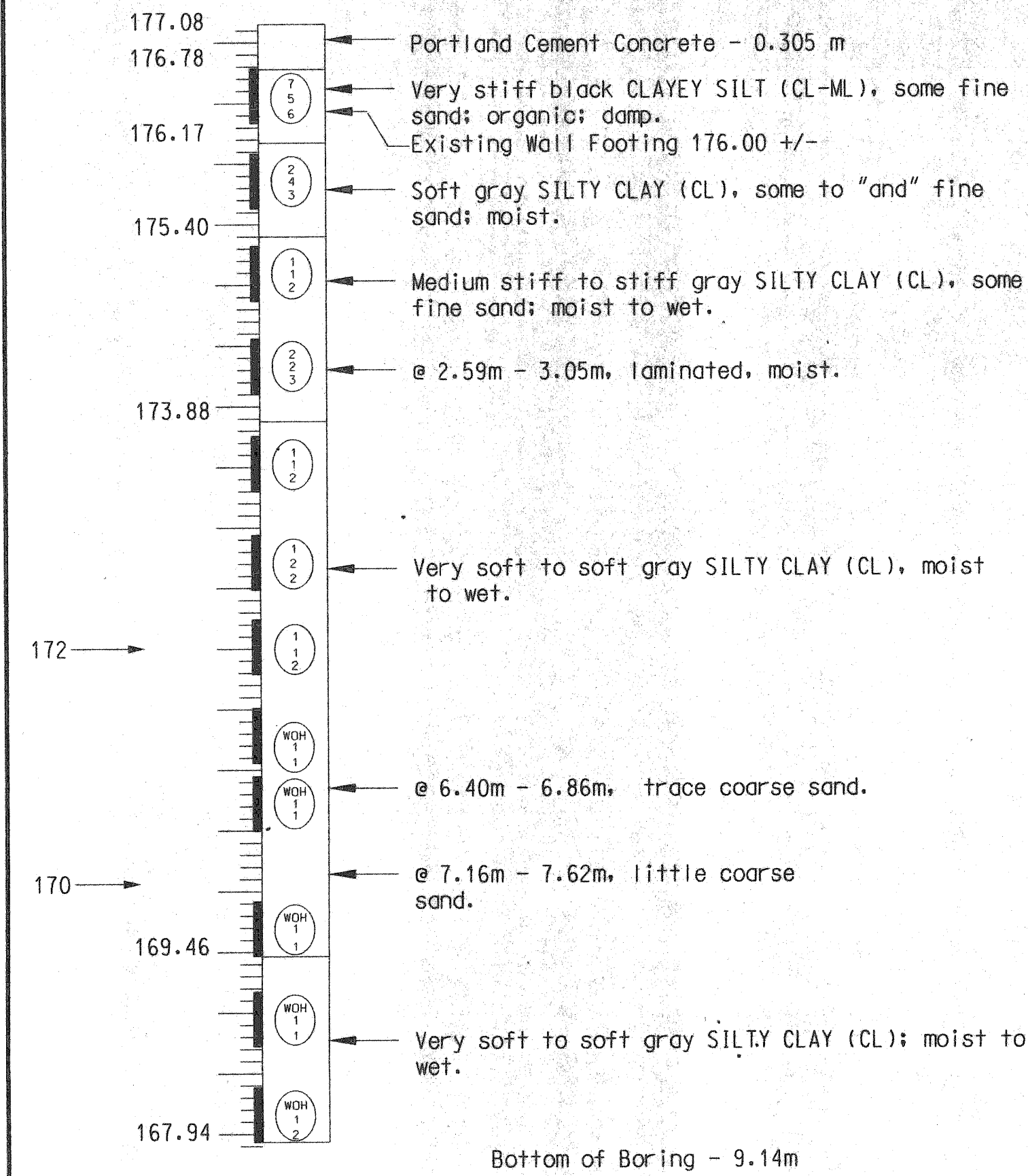
NOTE: WATER SEEPAGE AT: N/A
WATER LEVEL AT COMPLETION: N/A
m (INSIDE HOLLOWSTEM AUGERS)

BORING DATE 8/15/96

TEST HOLE TB-#SB-8

STA. 10+190.7 20.9 m LT.

ELEV. GROUND SURFACE ELEVATION 177.08



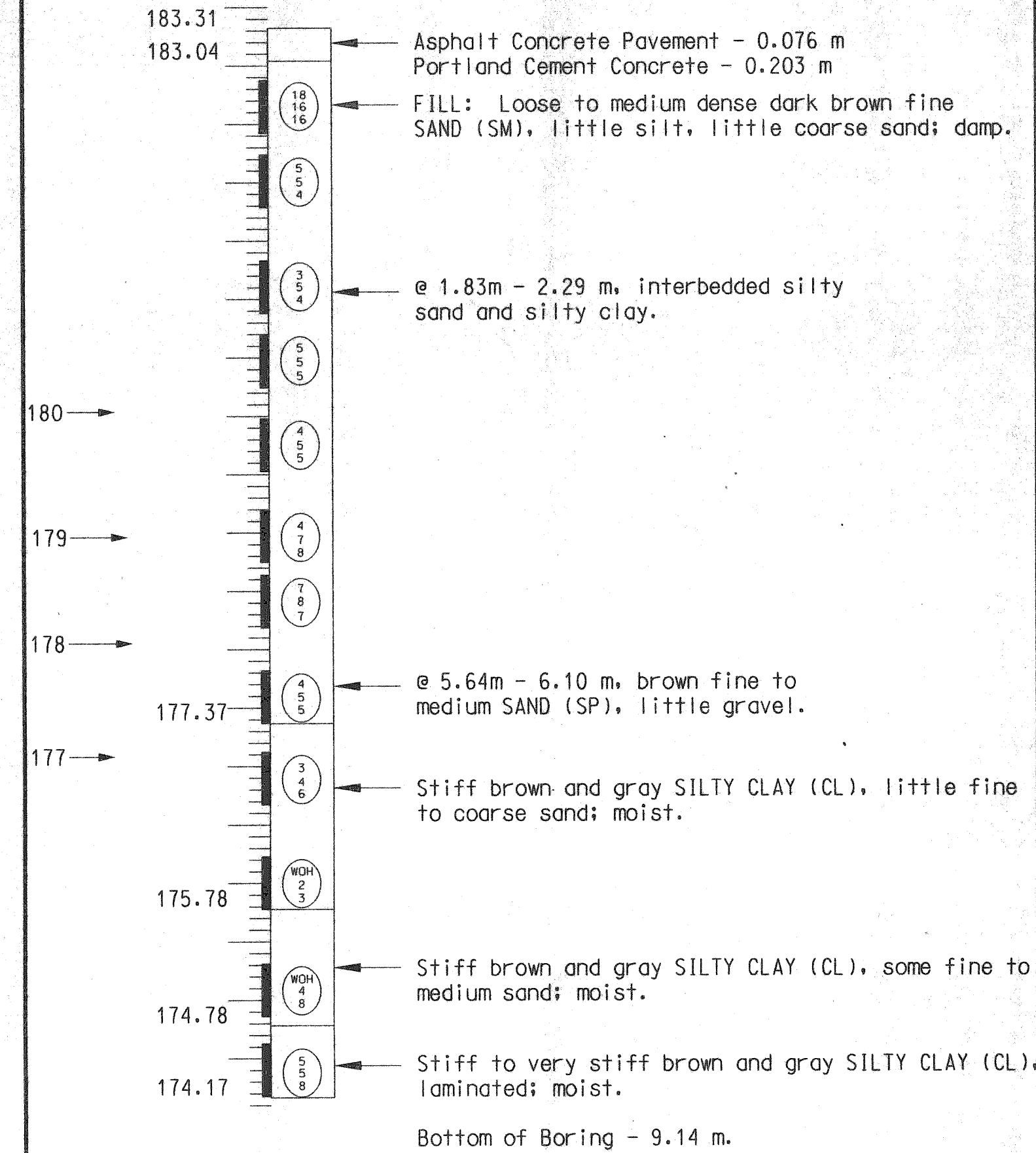
NOTE: WATER SEEPAGE AT: N/A
WATER LEVEL AT COMPLETION: N/A
m (INSIDE HOLLOWSTEM AUGERS)

BORING DATE 8/15/96

TEST HOLE TB-#SB-9

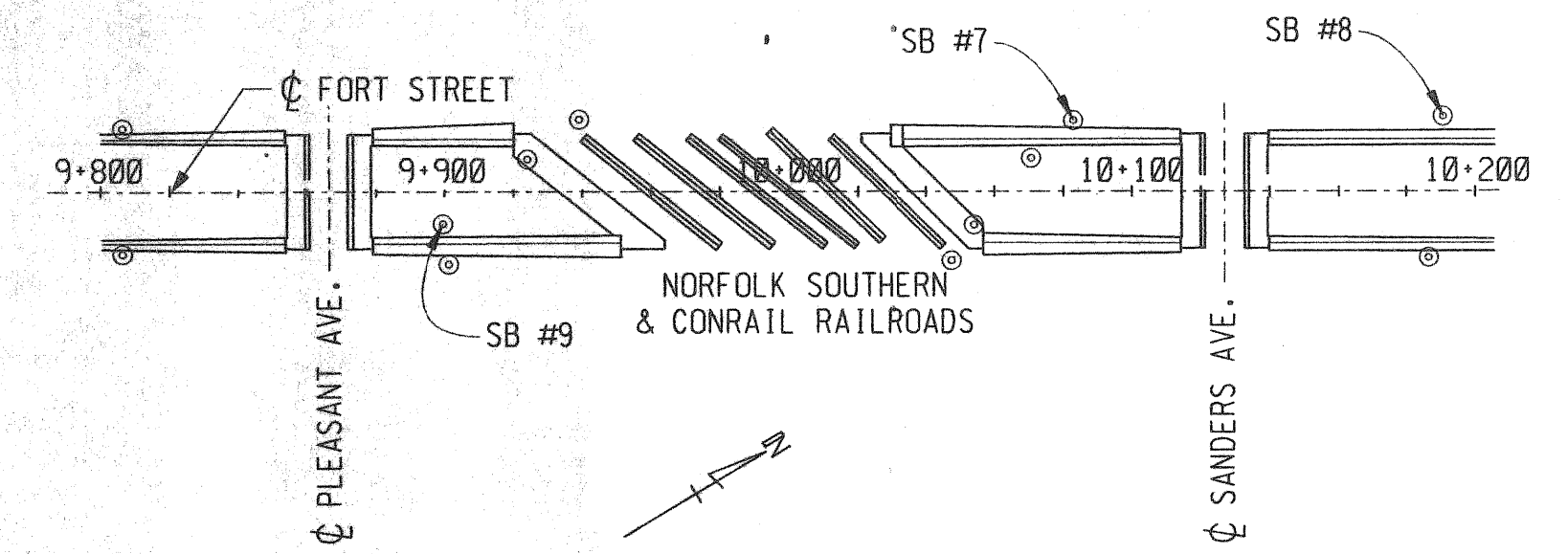
STA. 9+900.4 9.5 m RT.

ELEV. GROUND SURFACE ELEVATION 183.31



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

BORING DATE 8/15/96



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 IN PARENTS OTHER THAN THE 0.15 m INCREMENT, THE DISTANCE IS SHOWN IN PARENTHESIS TO THE RIGHT OF THE NUMBER OF BLOWS.

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WOH INDICATES REQUIRED PENETRATION ACHIEVED BY THE WEIGHT OF HAMMER ALONE
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SOIL BORINGS WERE PERFORMED ON DATES SHOWN BELOW BORING.

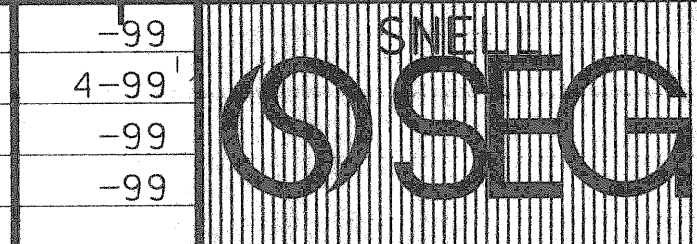
BY: DODSON-STILSON, INC.
6121 Huntley Road
Columbus, OH 43229-1003
PHONE: (614) 848-6712

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

ENVIRONMENTAL GROUP, INC.



ENVIRONMENTAL GROUP, INC. A DLZ Company
151 W. CONGRESS, SUITE 328
DETROIT, MICHIGAN 48226
TELEPHONE (313) 561-4040



CITY OF DETROIT
MICHIGAN

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

LOG OF BORING

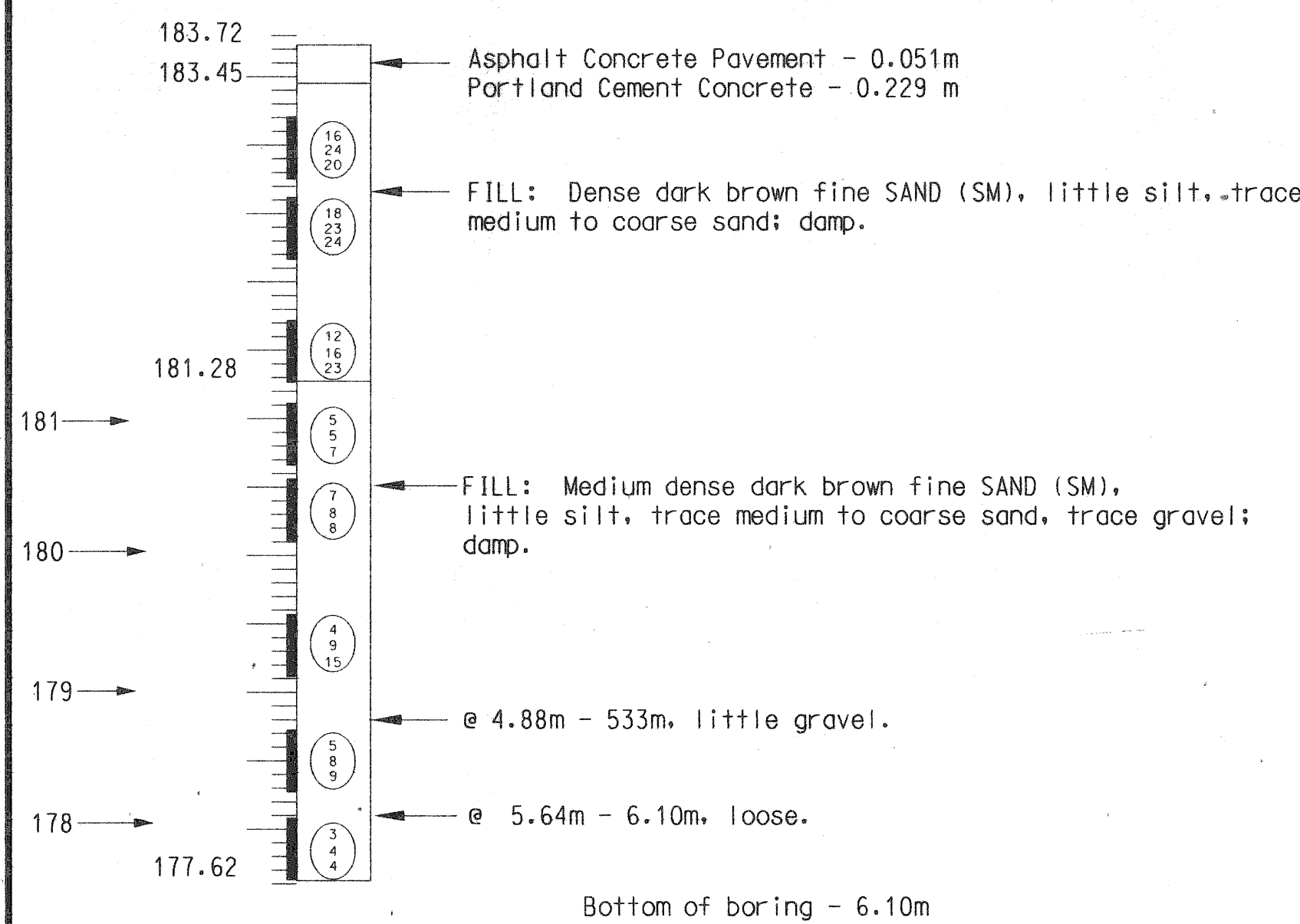
SCALE	NTD
PROJECT NO.	9641-5160-06
SHEET NO.	7 OF 13

FILE NAME: 07B083.DGN

TEST HOLE TB-#SB-10

STA. 9+924.1, 9.5 m LT.

ELEV. GROUND SURFACE ELEVATION 183.72



Bottom of boring - 6.10m

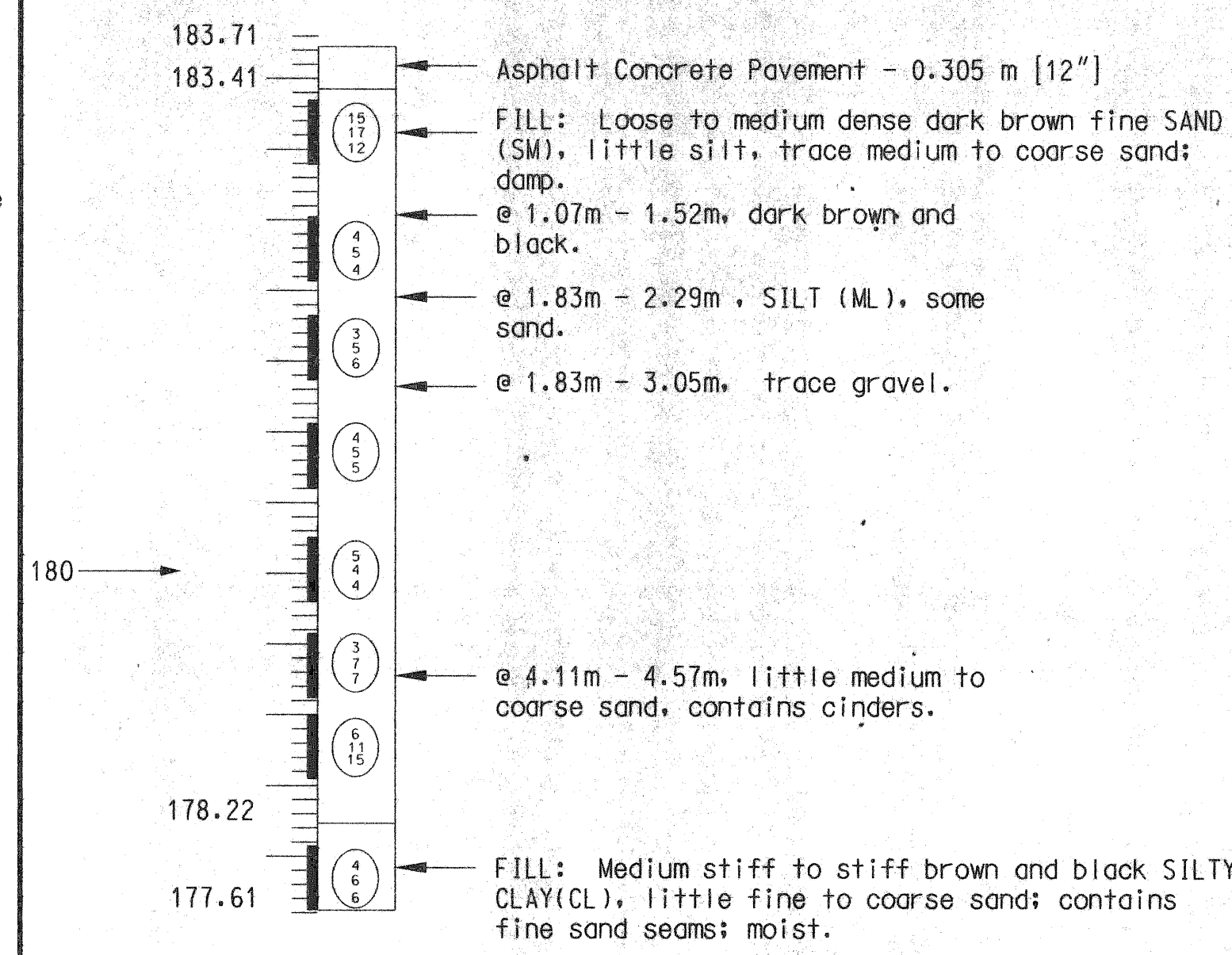
NOTE: WATER SEEPAGE AT: N/A
WATER LEVEL AT COMPLETION: N/A
(INSIDE HOLLOWSTEM AUGERS)

BORING DATE 8/15/96

TEST HOLE TB-#SB-11

STA. 10+054.1, 9.8 m RT.

ELEV. GROUND SURFACE ELEVATION 183.71



Bottom of Boring - 6.10m

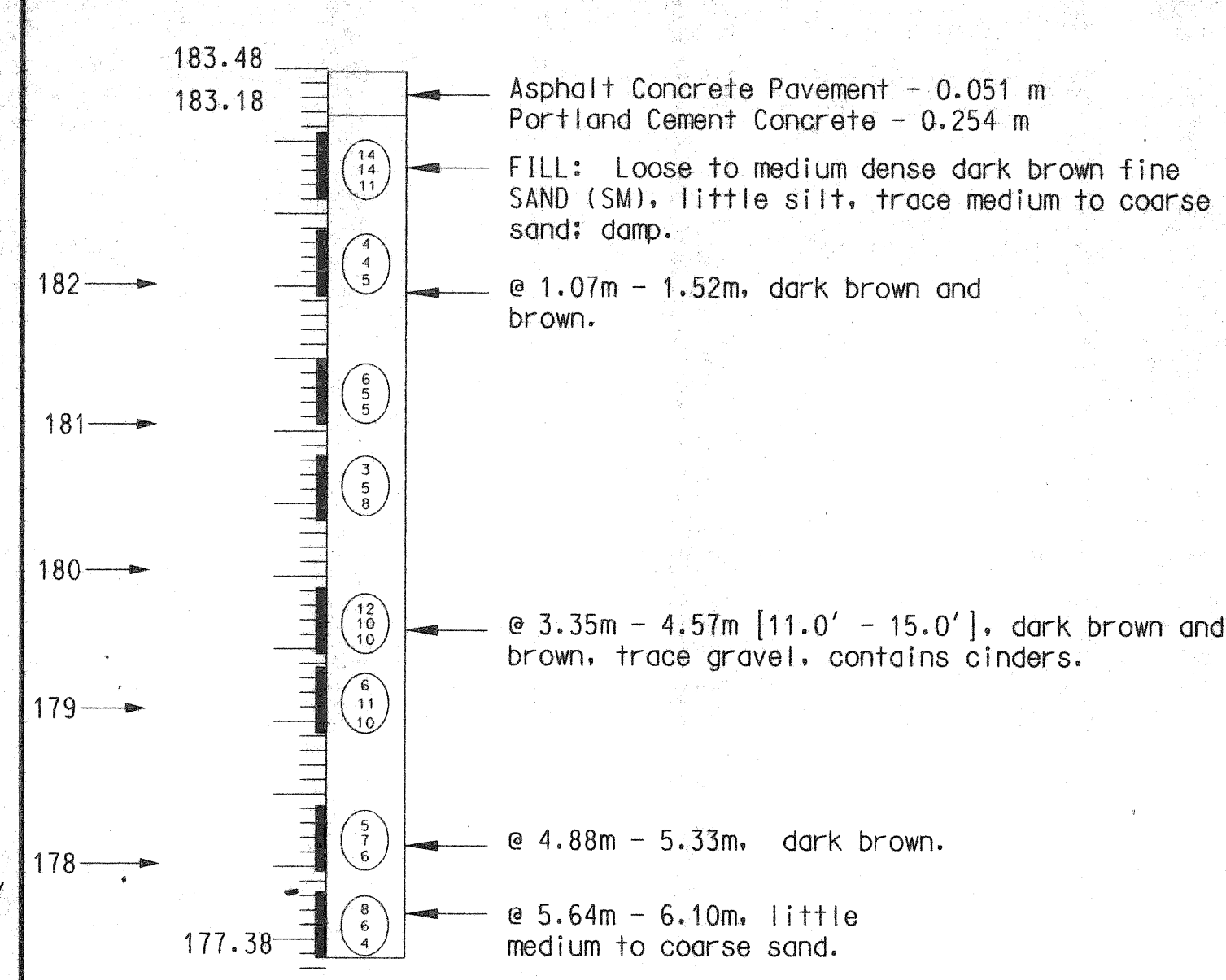
NOTE: WATER SEEPAGE AT: N/A
WATER LEVEL AT COMPLETION: N/A
(INSIDE HOLLOWSTEM AUGERS)

BORING DATE 8/15/96

TEST HOLE TB-#SB-12

STA. 10+070.6, 9.7 m LT.

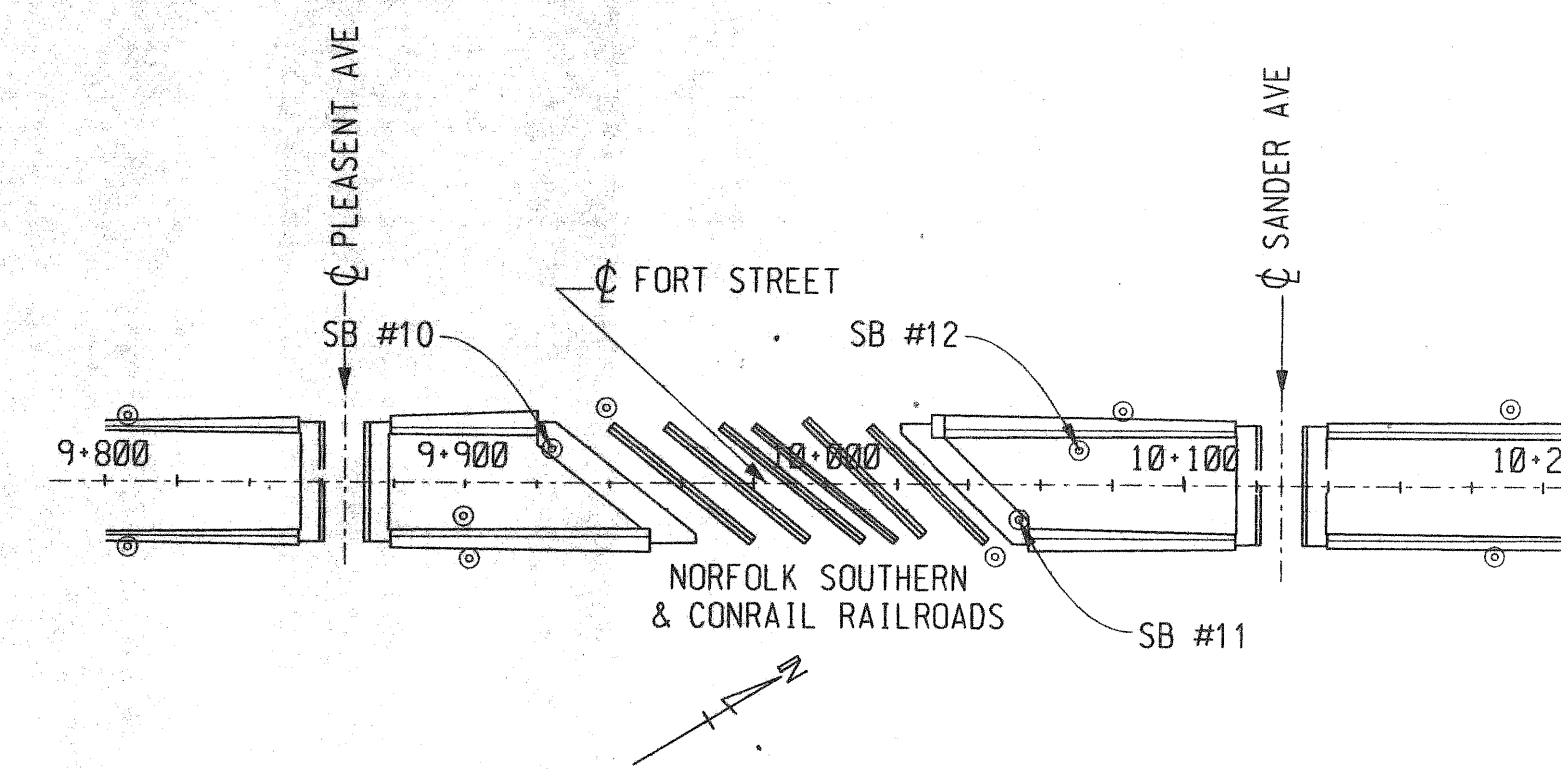
ELEV. GROUND SURFACE ELEVATION 183.48



Bottom of Boring - 6.10m. [20.0']

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

BORING DATE 8/15/96



PLAN
SCALE: NTS

NOTES:

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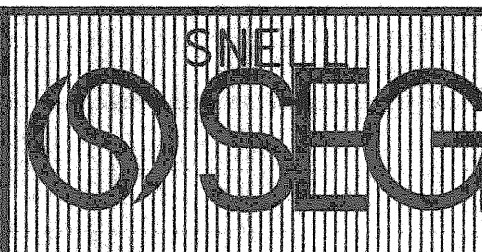
BY: DODSON-STILSON, INC.
6121 Huntley Road
Columbus, OH 43229-1003
PHONE: (614) 848-6712

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

ENVIRONMENTAL GROUP, INC.
151 W. CONGRESS, SUITE 328
DETROIT, MICHIGAN 48226
TELEPHONE (313) 961-4040



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



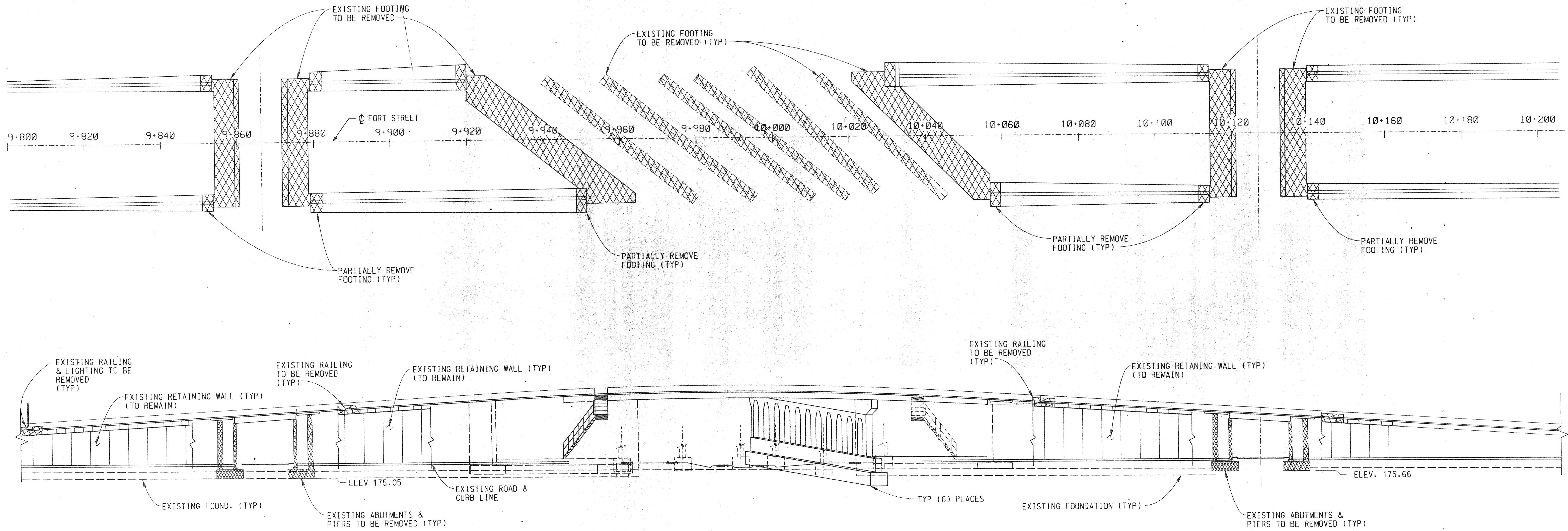
CITY OF DETROIT
MICHIGAN

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. 8 OF 13

REVISIONS			
NO.	DESCRIPTION	DATE	BY

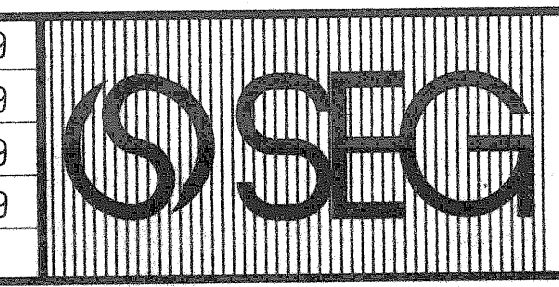


METRIC

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REVISIONS	NO.	DESCRIPTION

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		



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



CITY OF DETROIT MICHIGAN

FORT STREET BRIDGE OVER SANDERS AND PLEASANT AVENUES AND NORFOLK

GENERAL PLAN OF THE STRUCTURE

SCALE	NOT TO SCALE
PROJECT NO.	9641-5160-06
SHEET NO.	9 OF 13

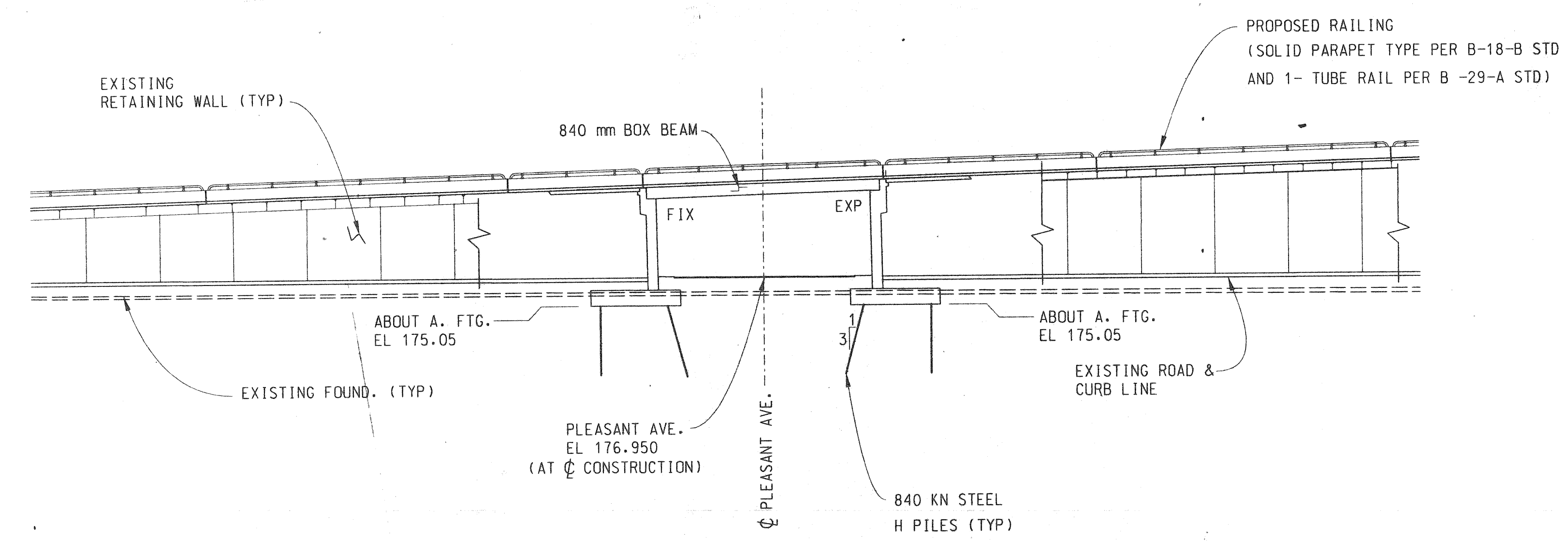
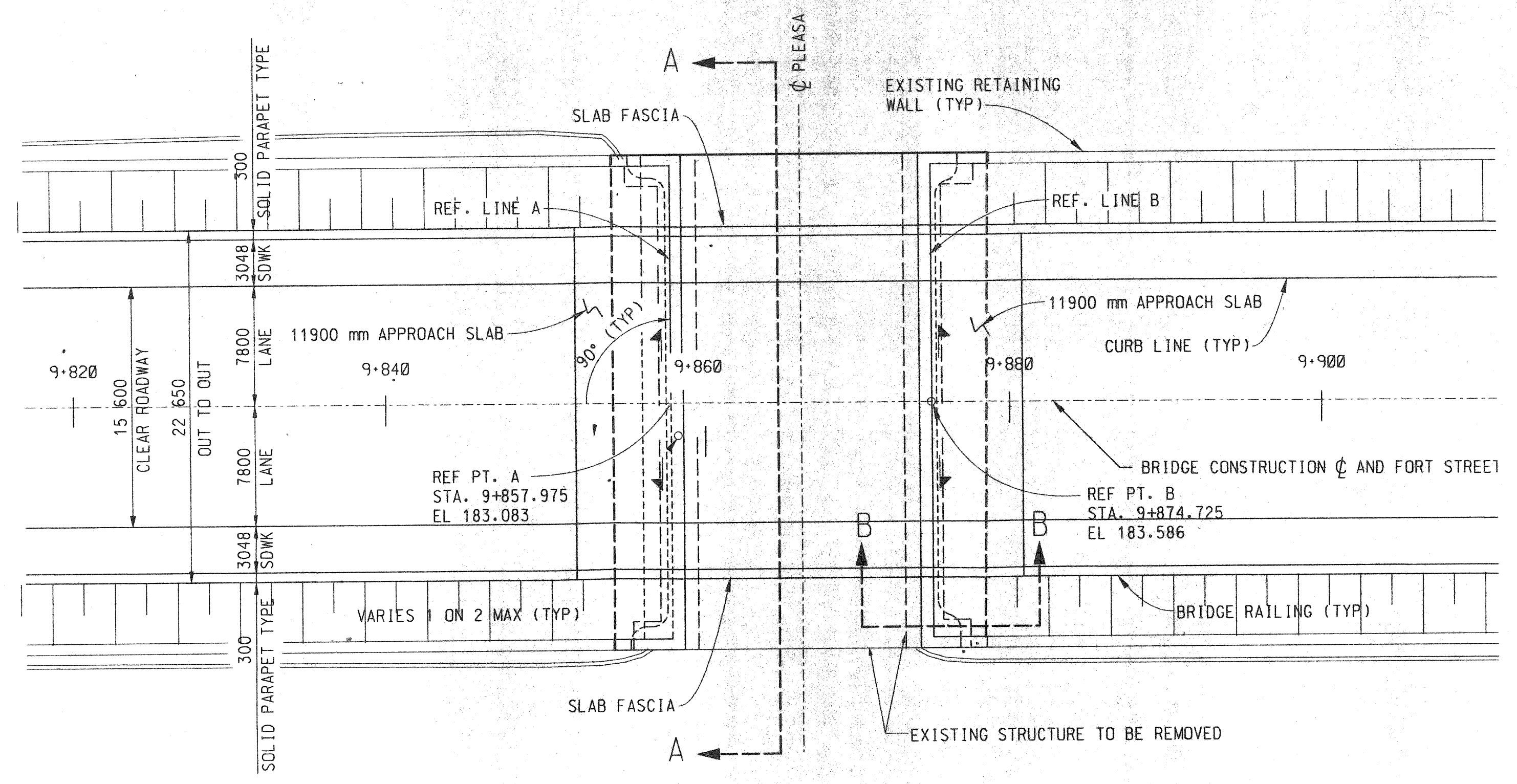
FILE NAME: .DCN

REVISIONS			
NO.	DESCRIPTION	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:

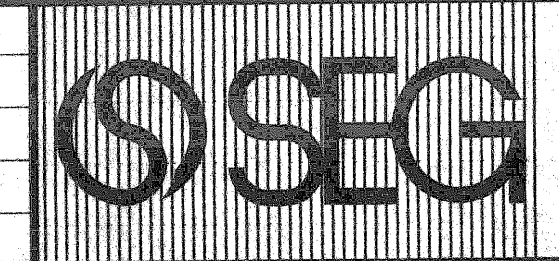
EXISTING RETAINING WALLS 144 kPa +/-
 FOR SECTIONS A-A AND B-B SEE SHEET 13 OF 13



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		



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 151 W. CONGRESS, SUITE 328
 DETROIT, MICHIGAN 48226
 TELEPHONE (313) 961-4040



CITY OF DETROIT MICHIGAN

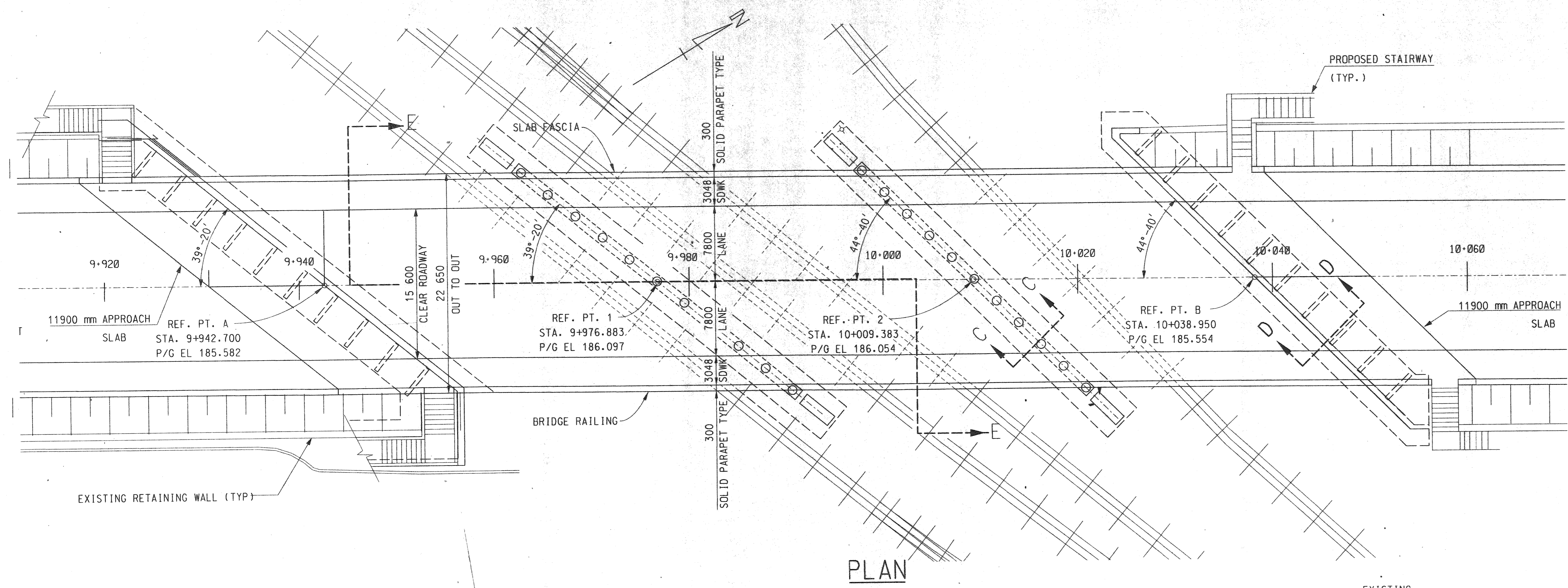
FORT STREET BRIDGE OVER SANDERS AND PLEASANT AVENUES AND NORFOLK

GENERAL PLAN OF THE STRUCTURE

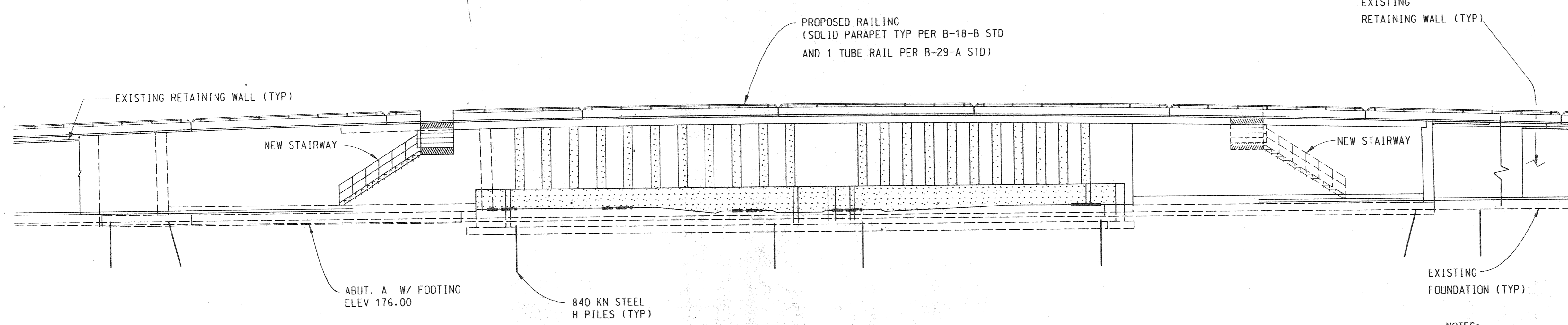
SCALE	NOT TO SCALE
PROJECT NO.	9641-5160-06
SHEET NO.	10 OF 13

FILE NAME: .CDN

REVISIONS			
NO.	DESCRIPTION	DATE	BY



PLAN



ELEVATION

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:

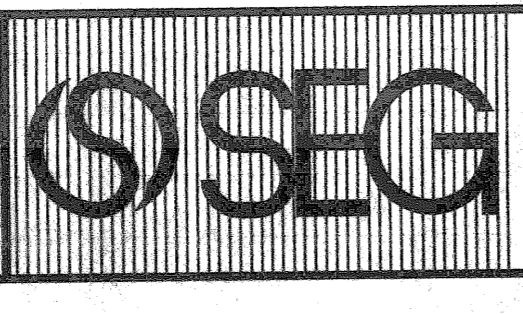
EXISTING RETAINING WALLS 155 kPa
 FOR SECTIONS C-C, D-D AND E-E, SEE SHEET 13 OF 13

METRIC

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

REVISIONS	NO.	DESCRIPTION	DATE	BY

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		



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



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.	11 OF 13

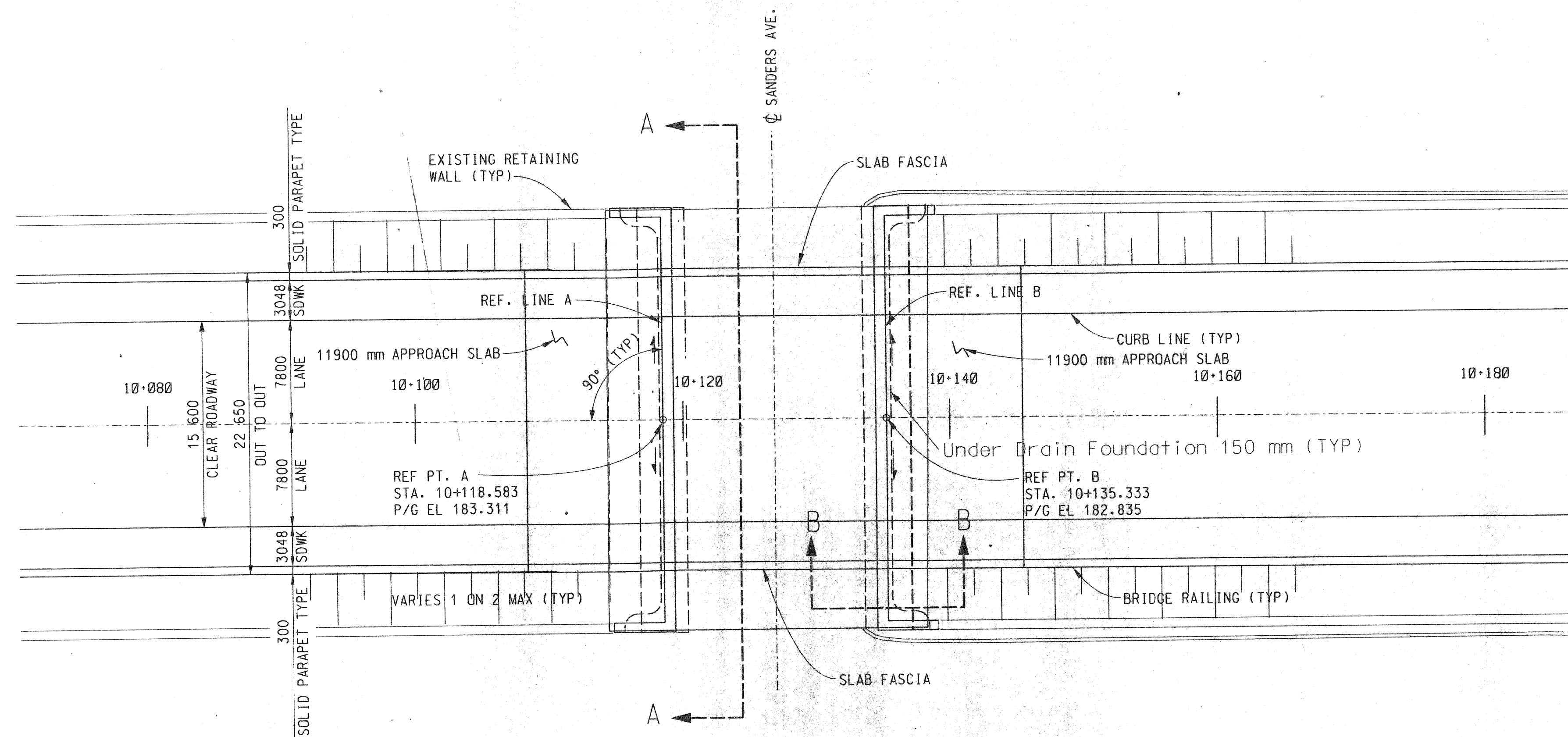
FILE NAME: .CDGN

REVISIONS			
NO.	DESCRIPTION	DATE	BY

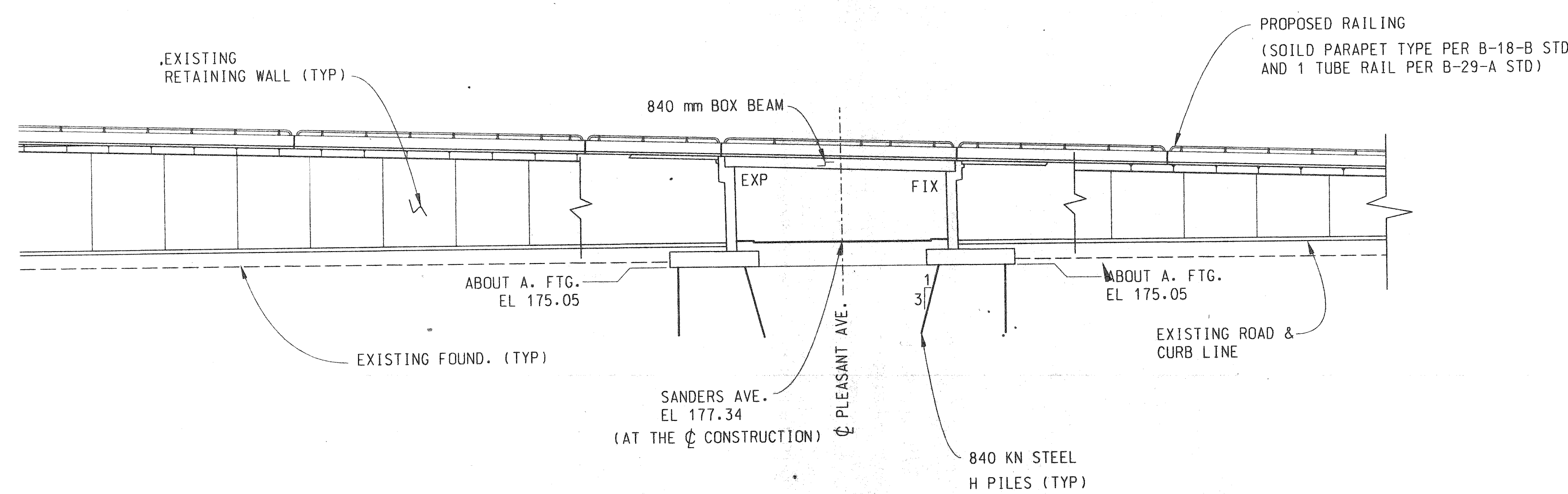
NOTES:
 THE RECONSTRUCTION DESIGN IS BASED ON CURRENT AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES MS18 LOADING. LIVE LOAD PLUS IMPACT DEFLECTION DOES NOT EXCEED (1/1000) OF SPAN LENGTH. THE LOAD FACTOR METHOD WAS USED FOR THIS DESIGN.

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



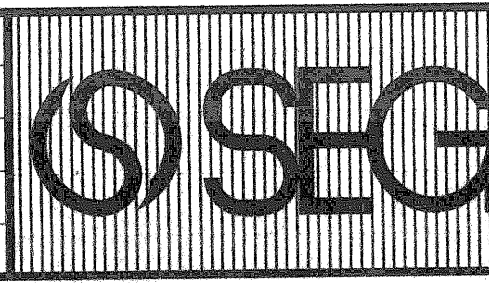
ELEVATION
 (ALONG THE CL CONSTRUCTION)

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		



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 151 W. CONGRESS, SUITE 328
 DETROIT, MICHIGAN 48226
 TELEPHONE (313) 961-4040



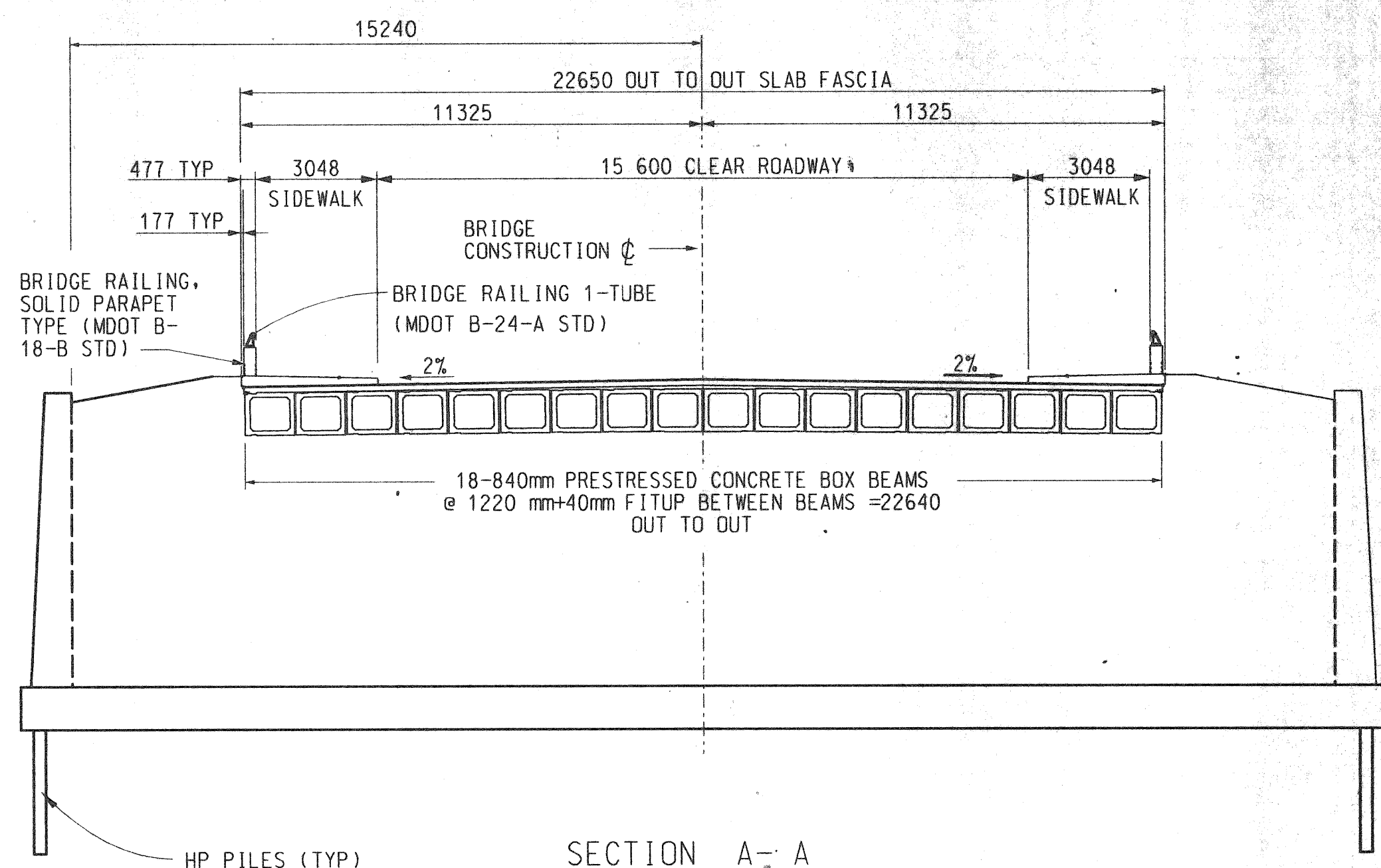
CITY OF DETROIT
 MICHIGAN

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

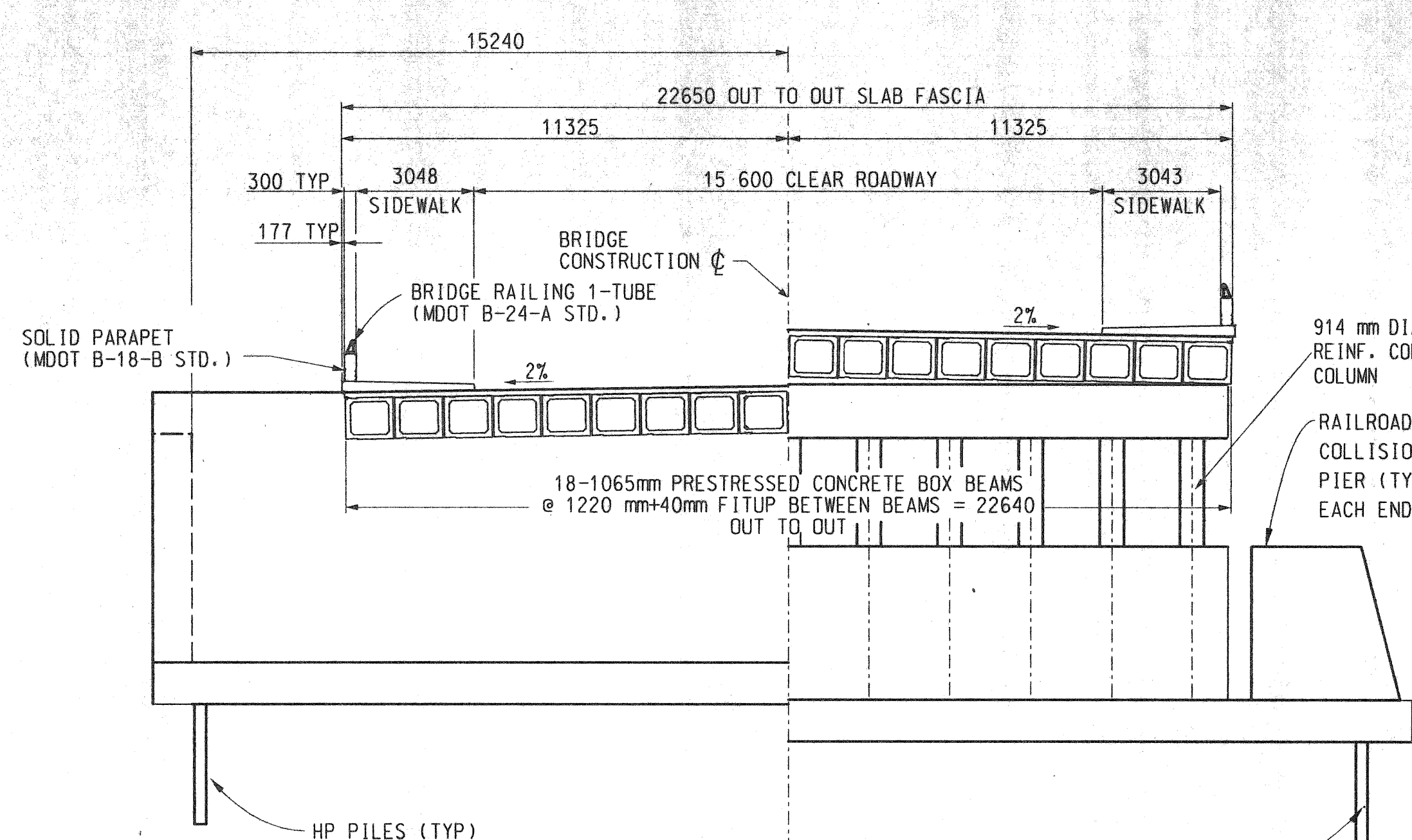
GENERAL PLAN OF THE STRUCTURE

SCALE NOT TO SCALE
 PROJECT NO. 9641-5160-06
 SHEET NO. 12 OF 13

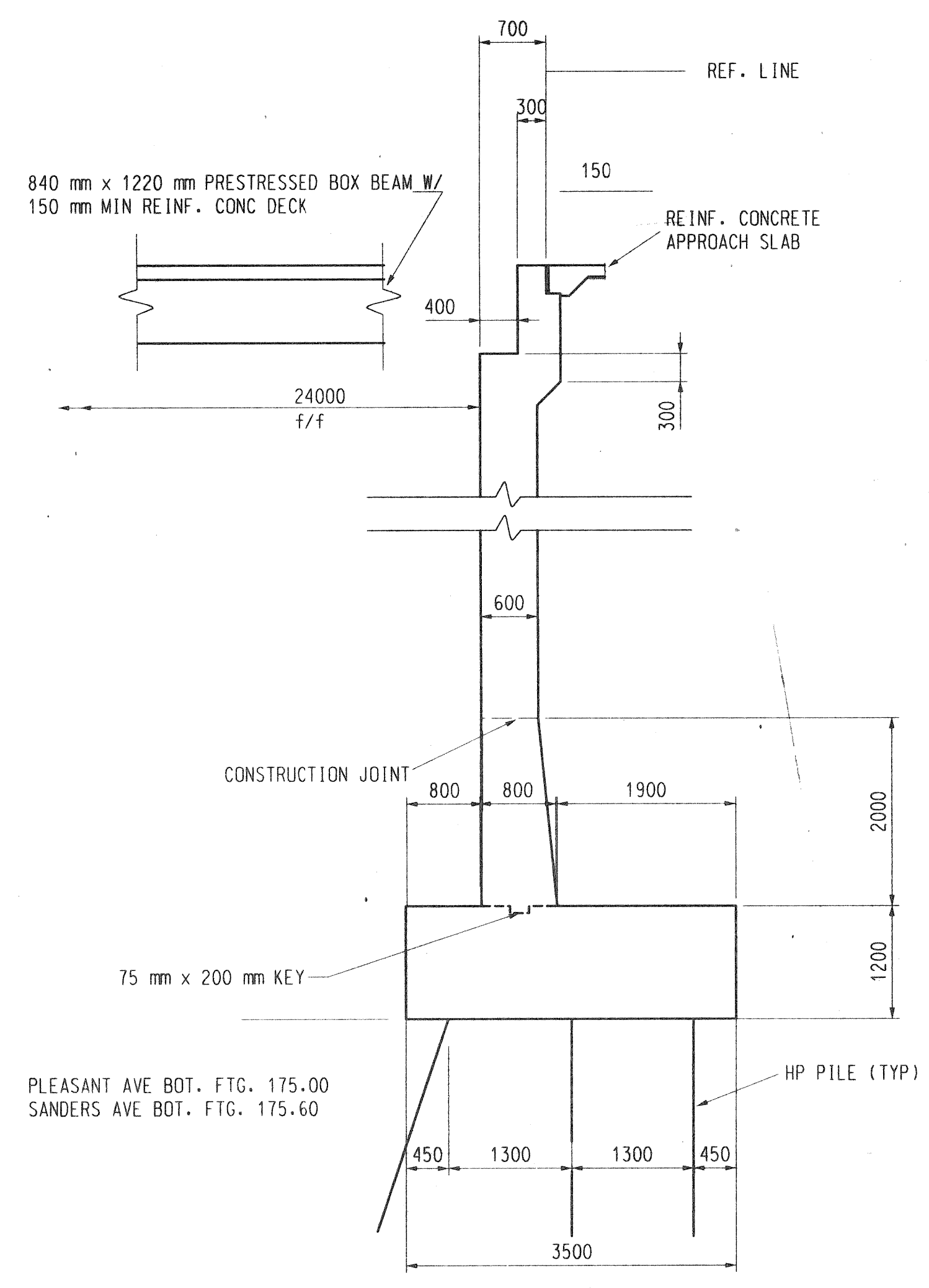
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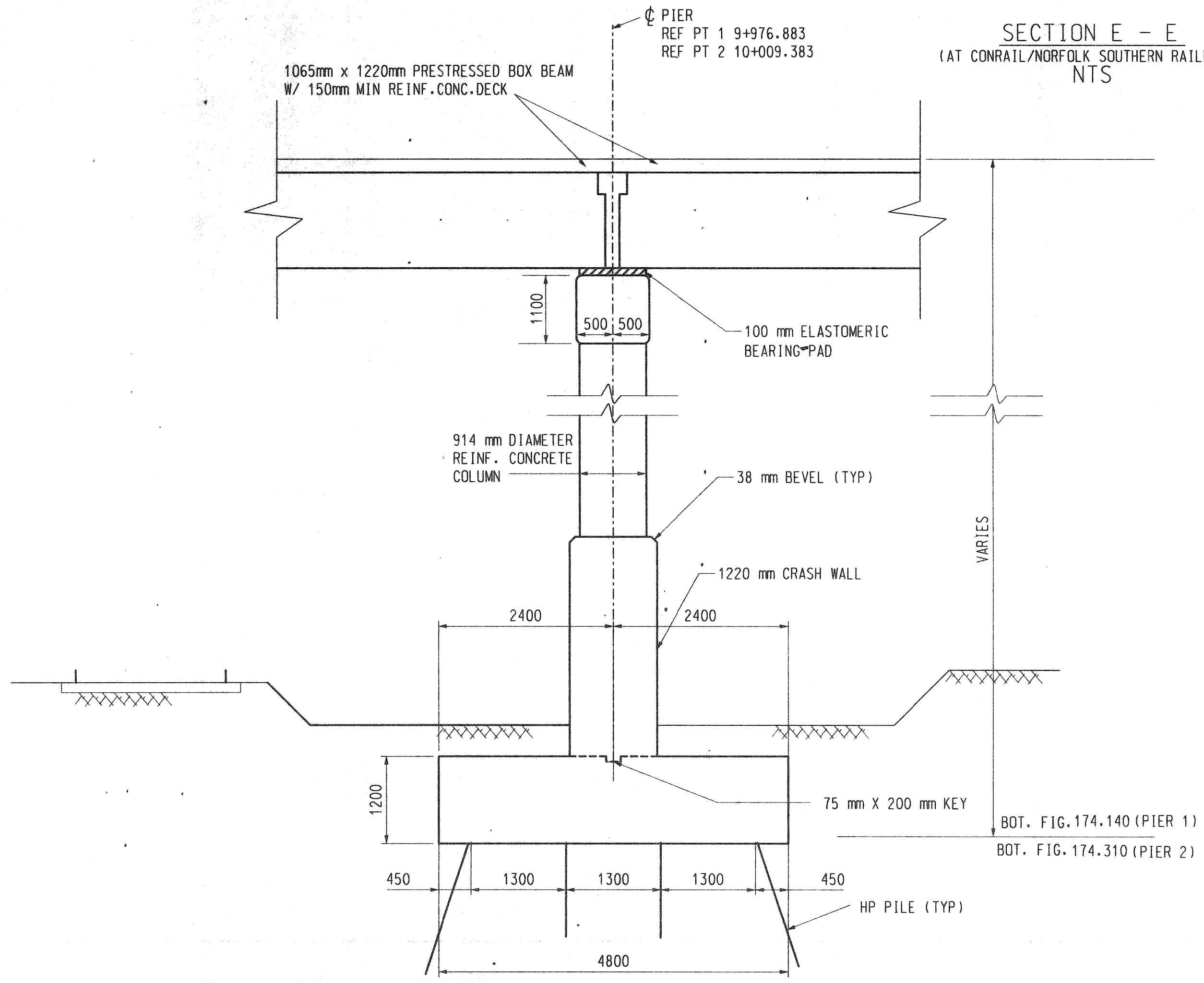
SECTION A-A
(AT SANDERS AVE. & PLEASANT AVE.)
NTS



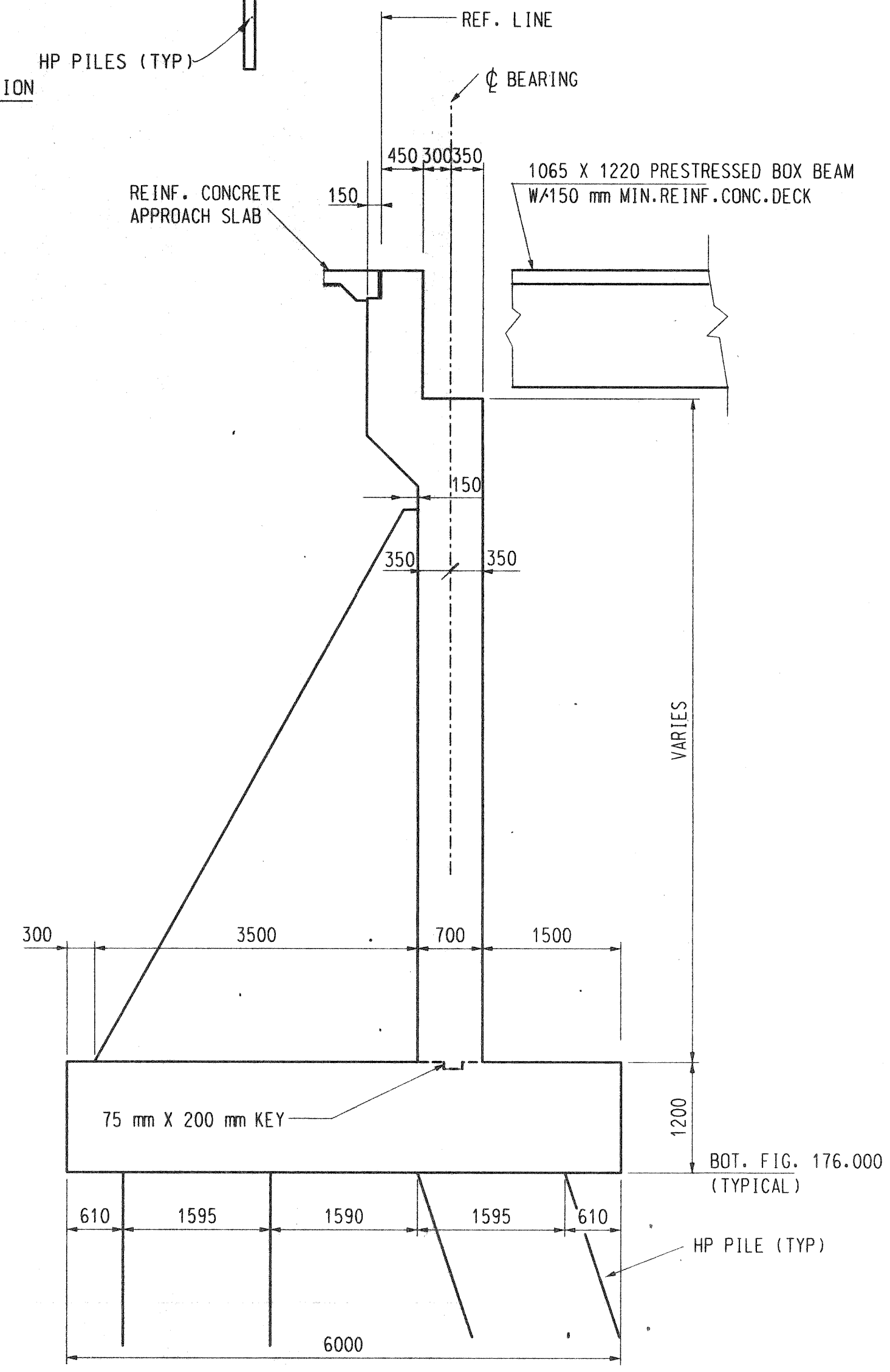
SECTION E-E
(AT CONRAIL/NORFOLK SOUTHERN RAILROAD BRIDGE)
NTS



SECTION B-B
(AT SANDERS AVE. & PLEASANT AVE.)
NTS



SECTION C-C
(AT CONRAIL/NORFOLK SOUTHERN RAILROAD)
NTS



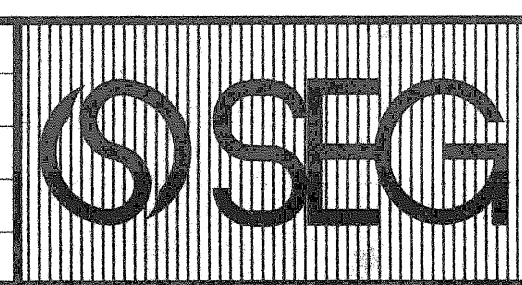
SECTION D-D
(AT CONRAIL/NORFOLK SOUTHERN RAILROAD)
NTS

GENERAL PLAN OF THE STRUCTURE

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

REVISIONS	DESCRIPTION	DATE

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		



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CITY OF DETROIT MICHIGAN

FORT STREET BRIDGE OVER SANDERS AND PLEASANT AVENUES AND NORFOLK SOUTHERN RR

GENERAL PLAN OF THE STRUCTURE

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

FILE NAME: -06N