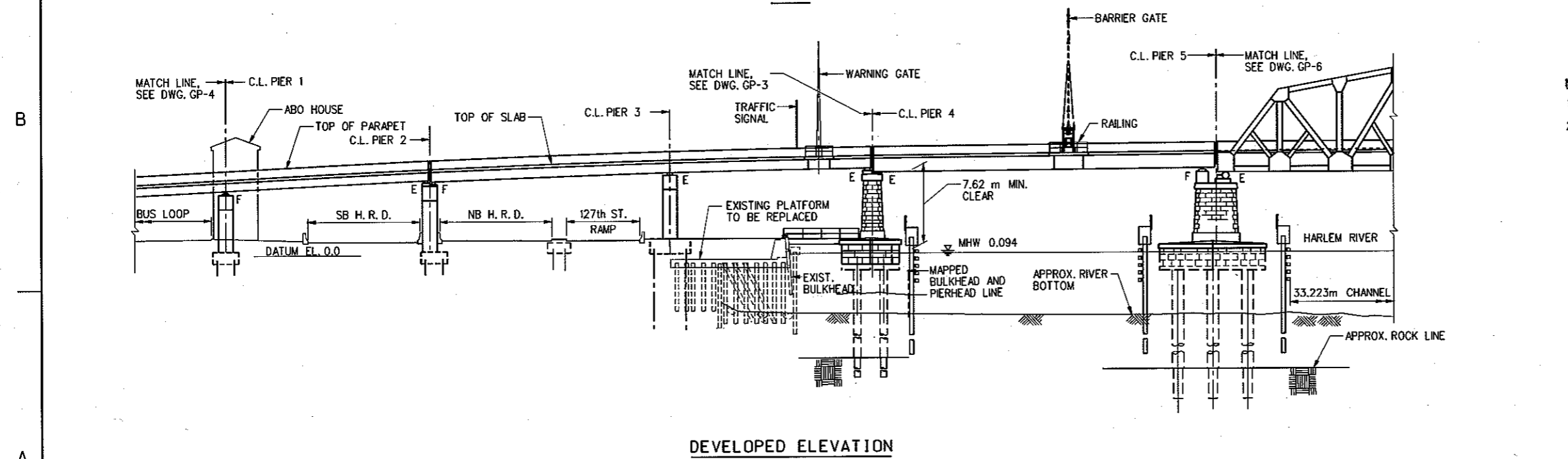
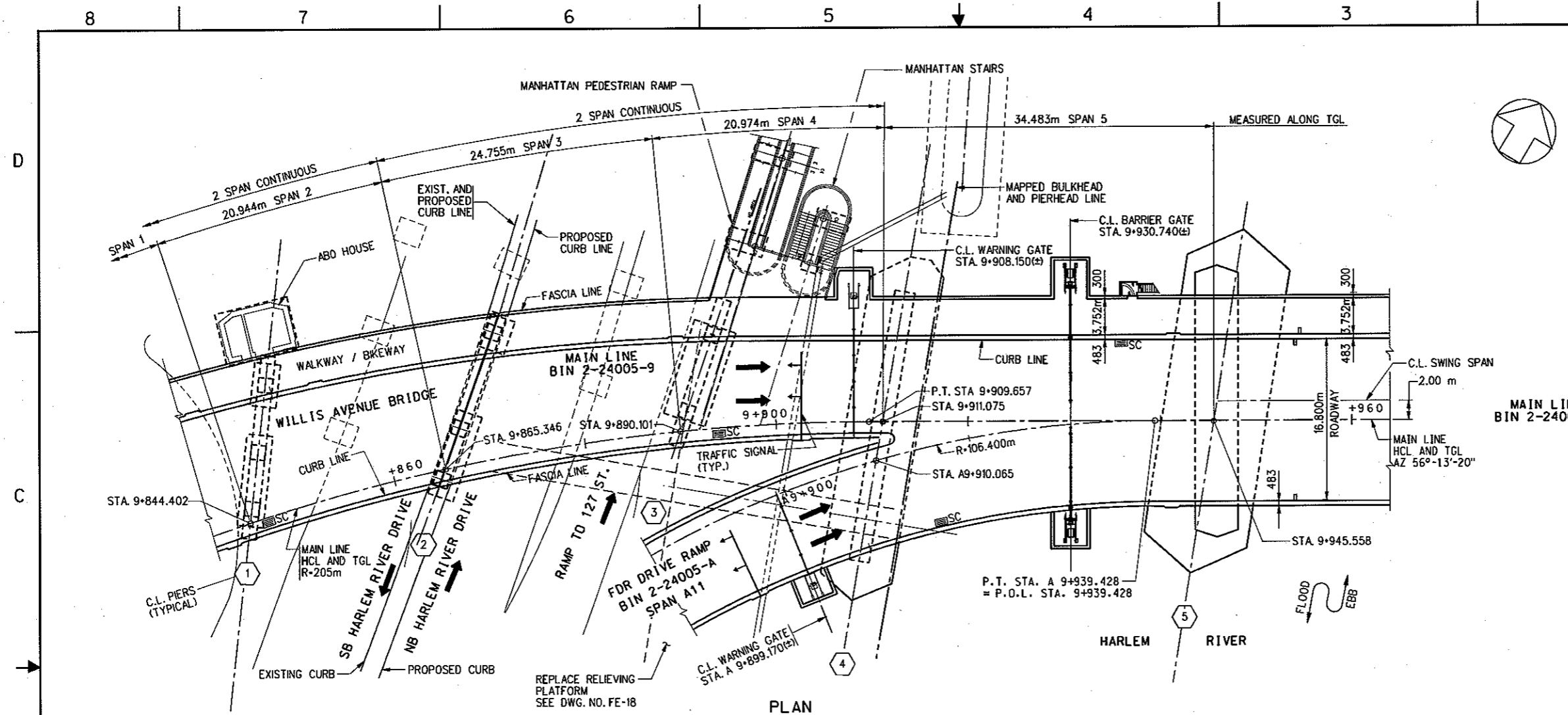


FED. RD. REG. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	NEW YORK	L1C0/L050-X757-003	368	1160
REPLACEMENT OF WILLIS AVENUE BRIDGE OVER THE HARLEM RIVER				
P.I.N. 84106MBR081	NEW YORK AND BRONX COUNTIES	B.I.N. 2-24005-9/A/B		



- NOTES:**
- FOR NOTES AND LEGEND, SEE DWG. NO. GP-2.
 - FOR MANHATTAN PEDESTRIAN RAMP DETAILS SEE DWG. NO. MR-1 AND MR-2.

CITY OF NEW YORK
DEPARTMENT OF TRANSPORTATION
DIVISION OF BRIDGES

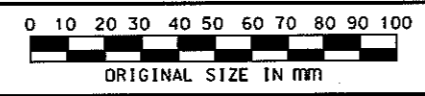
CONTRACT NO. BRCR076

REPLACEMENT OF
WILLIS AVENUE BRIDGE
OVER THE HARLEM RIVER
BOROUGH OF MANHATTAN AND THE BRONX BIN 2-24005-9/A/B

GENERAL PLAN AND ELEVATION
MAINLINE
SPANS 2 THRU 5

DWG. NO. GP-5	SCALE: 1:250	DATE: MAY 2006	SHEET NO. 368
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ENGINEERING
1501 BROADWAY NEW YORK, NY 10036

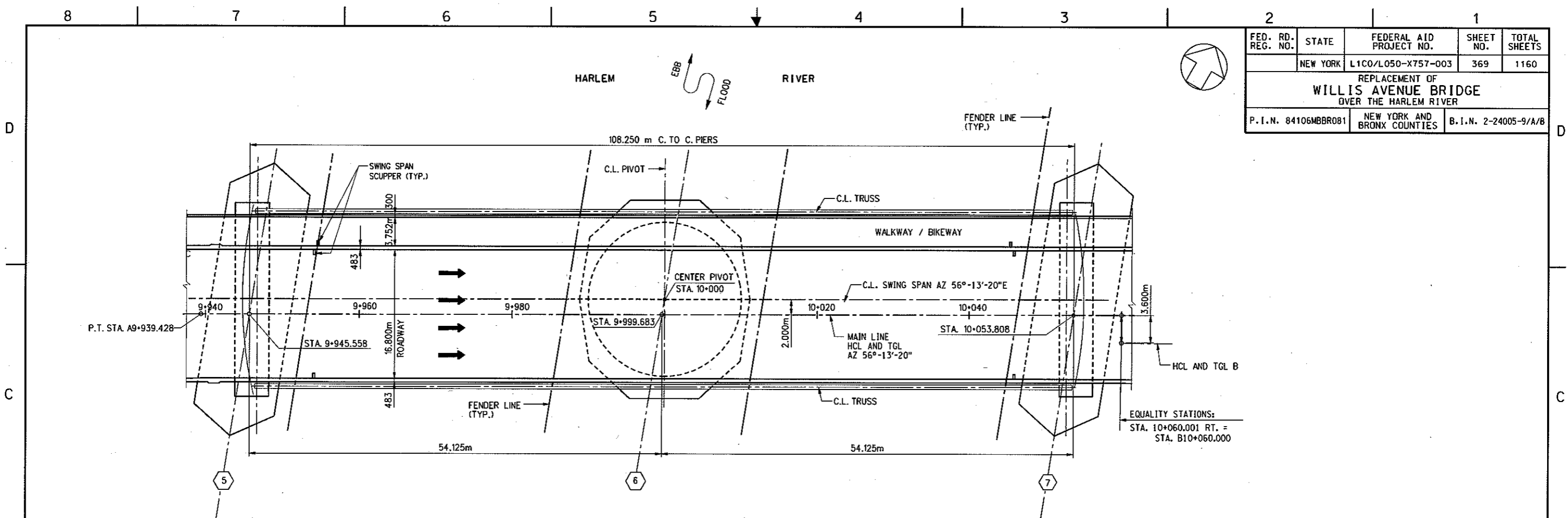


PREPARED BY HARDESTY & HANOVER, LLP
IN CHARGE WEN DRAFTER DWD/DEJ
DESIGNER BGS CHECKER WEN

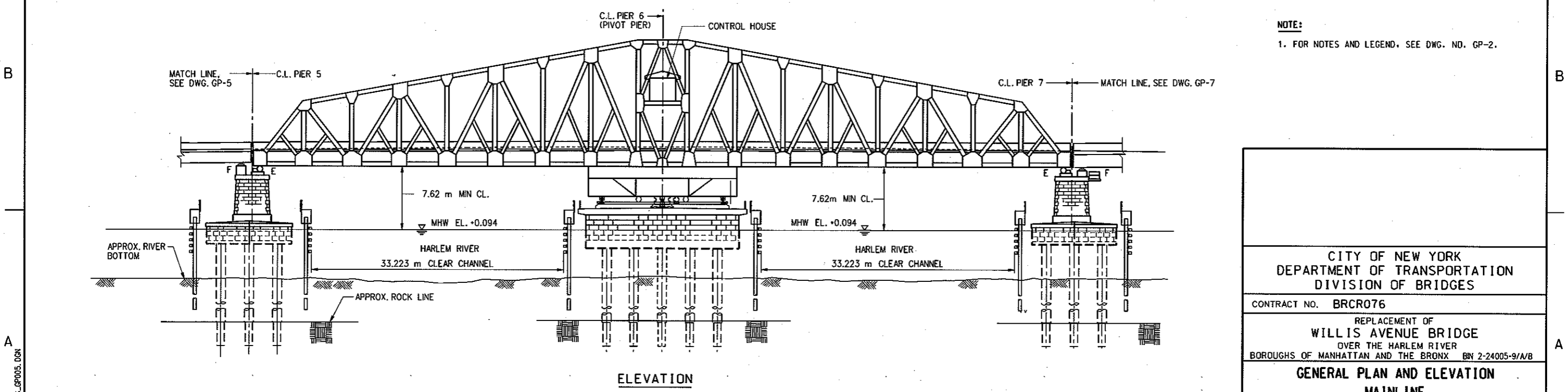
N.Y.C.D.O.T. MICROFILM IDENTIFICATION NUMBER
BIN 2-24005-9/A/B ROLL F95 FRAME 368

HARDESTY & HANOVER, LLP

FED. RD. REG. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	NEW YORK	L1C0/L050-X757-003	369	1160
REPLACEMENT OF WILLIS AVENUE BRIDGE OVER THE HARLEM RIVER				
P.I.N. 84106MBR081	NEW YORK AND BRONX COUNTIES	B.I.N. 2-24005-9/A/B		



PLAN

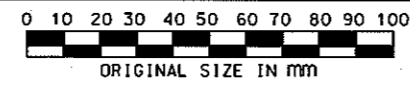


ELEVATION

NOTE:
1. FOR NOTES AND LEGEND, SEE DWG. NO. GP-2.

CITY OF NEW YORK DEPARTMENT OF TRANSPORTATION DIVISION OF BRIDGES			
CONTRACT NO. BRCR076			
REPLACEMENT OF WILLIS AVENUE BRIDGE OVER THE HARLEM RIVER BOROUGH OF MANHATTAN AND THE BRONX BNY 2-24005-9/A/B			
GENERAL PLAN AND ELEVATION MAINLINE SPANS 6 AND 7			
DWG. NO. GP-6	SCALE: 1:250	DATE: MAY 2006	SHEET NO. 369

HARDESTY & HANOVER, LLP
ENGINEERING
1501 BROADWAY NEW YORK, NY 10036

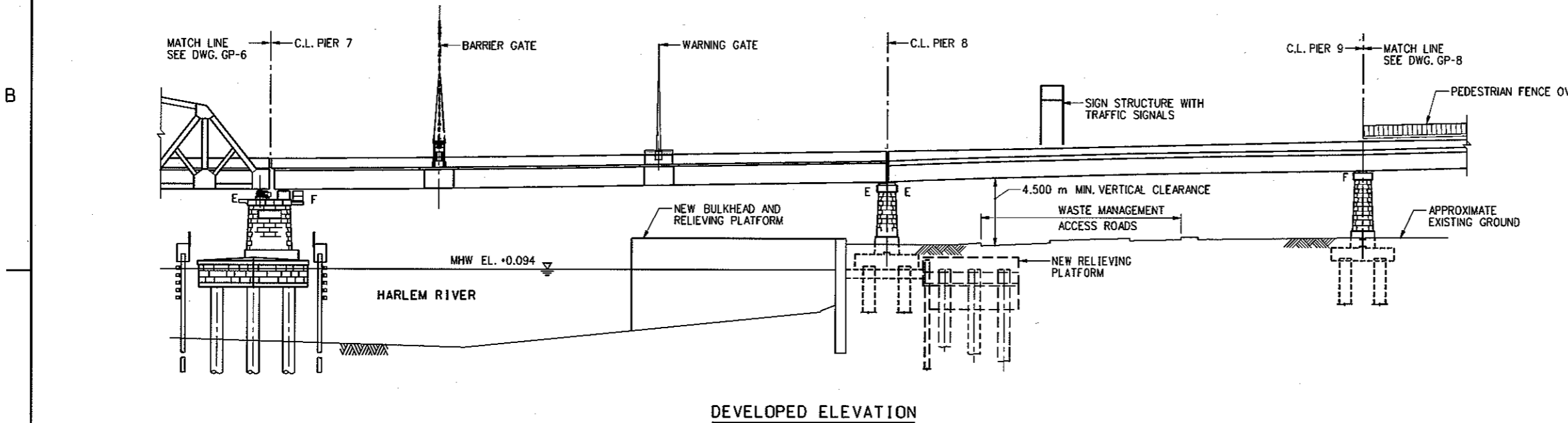
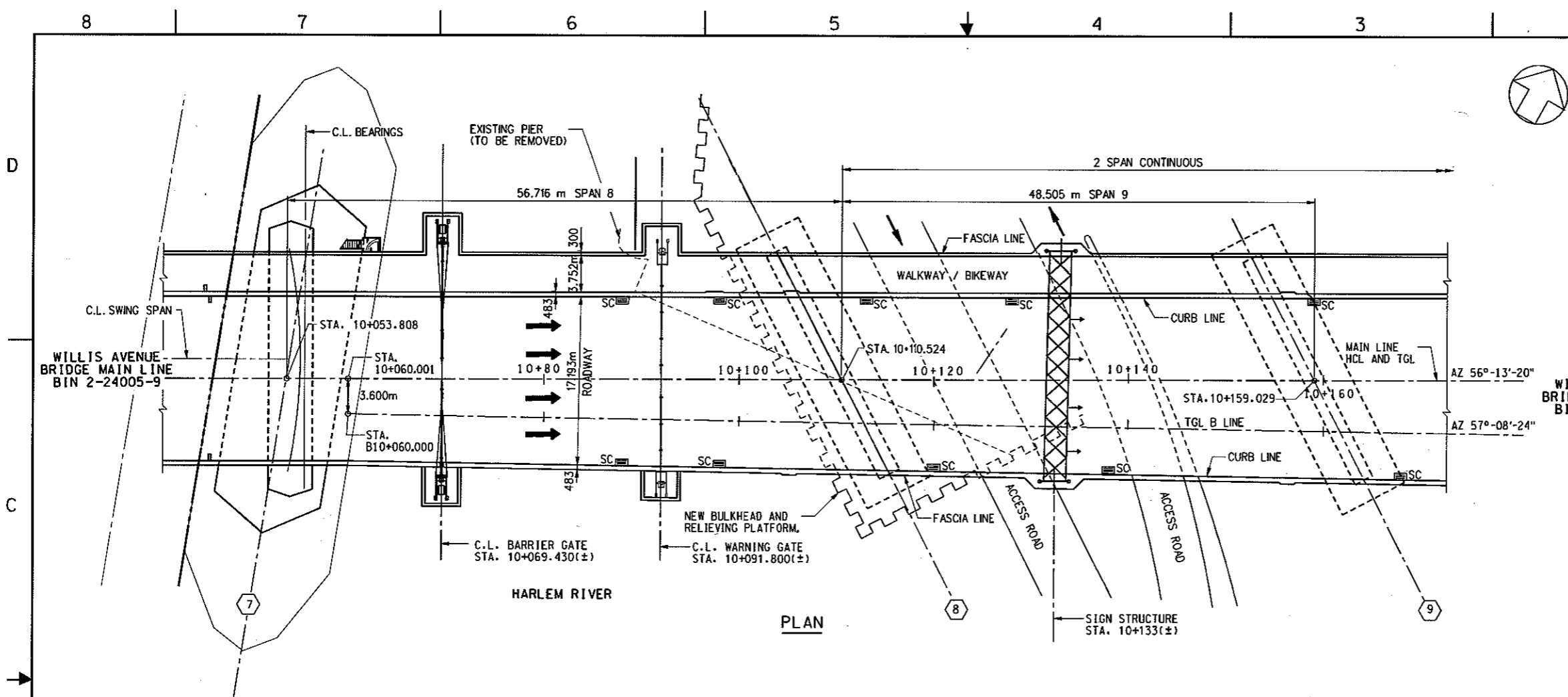


PREPARED BY HARDESTY & HANOVER, LLP
IN CHARGE WEN DRAFTER DEJ
DESIGNER BGS CHECKER WEN

N.Y.C.D.O.T. MICROFILM IDENTIFICATION NUMBER
B I N 2-24005-9/A/B R O L F 95 P R A M E 369

... HARDESTYAS_GPO05.DGN

FED. RD. REG. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	NEW YORK	L1C0/L050-X757-003	370	1160
REPLACEMENT OF WILLIS AVENUE BRIDGE OVER THE HARLEM RIVER				
P.I.N. 84106MBR081	NEW YORK AND BRONX COUNTIES	B.I.N. 2-24005-9/A/B		



NOTE:
1. FOR NOTES AND LEGEND, SEE DWG. NO. GP-2.

CITY OF NEW YORK
DEPARTMENT OF TRANSPORTATION
DIVISION OF BRIDGES

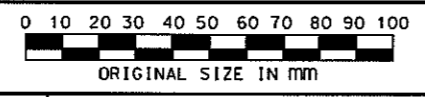
CONTRACT NO. BRCR076

REPLACEMENT OF
WILLIS AVENUE BRIDGE
OVER THE HARLEM RIVER
BOROUGH OF MANHATTAN AND THE BRONX BIN 2-24005-9/A/B

GENERAL PLAN AND ELEVATION
MAINLINE
SPANS 8 AND 9

DWG. NO. GP-7	SCALE: 1:250	DATE: MAY 2006	SHEET NO. 370
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1501 BROADWAY NEW YORK, NY 10036

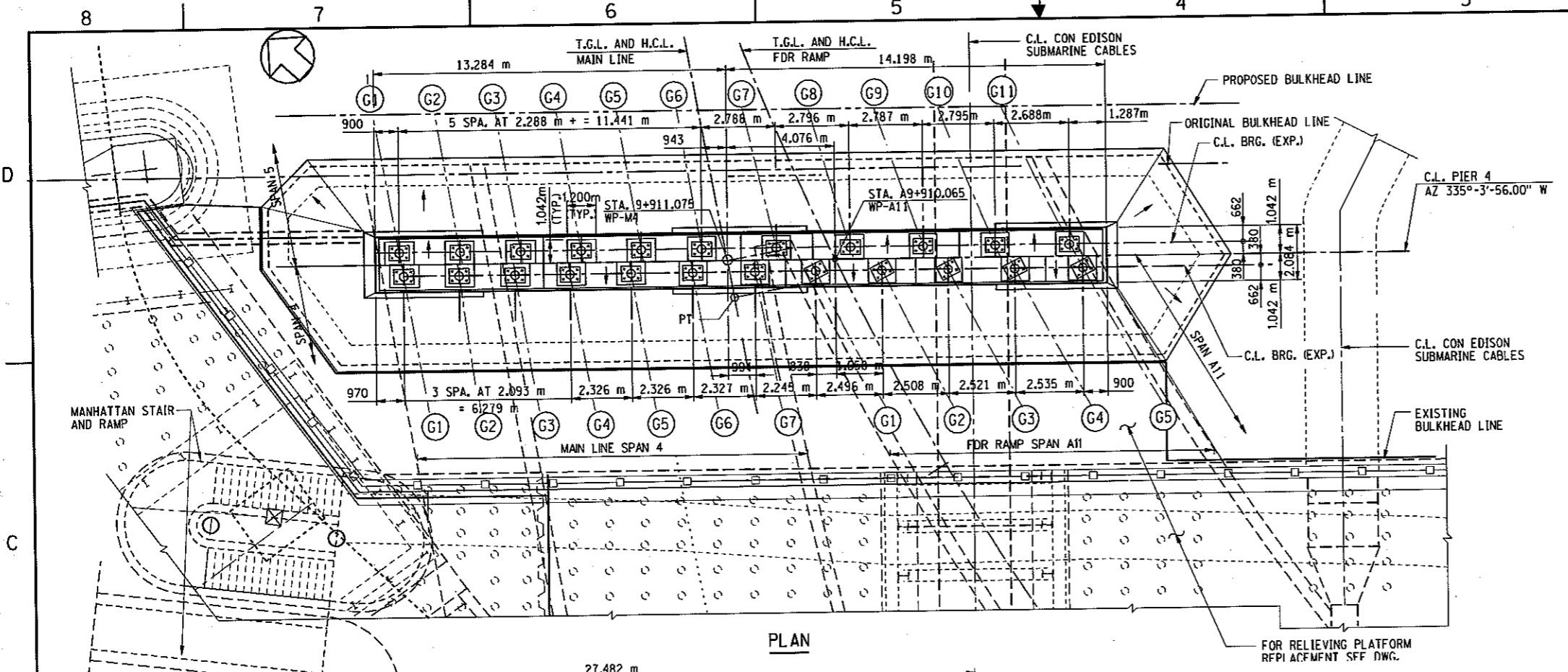


PREPARED BY HARDESTY & HANOVER, LLP
IN CHARGE WEN DRAFTER DEJ
DESIGNER BGS CHECKER WEN

N.Y.C.D.O.T. MICROFILM IDENTIFICATION NUMBER
BIN 2-24005-9/A/B F95 370

HARDESTY & HANOVER, LLP

FED. RD. REG. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	NEW YORK	L1C0/L050-X757-003	427R	1160
REPLACEMENT OF WILLIS AVENUE BRIDGE OVER THE HARLEM RIVER				
P.I.N. 84106MBR081		NEW YORK AND BRONX COUNTIES	B.I.N. 2-24005-9/A/B	



GIRDER	AZIMUTH
G1	236°-10'-03.84"
G2	235°-27'-05.42"
G3	234°-46'-06.58"
G4	234°-06'-59.84"
G5	233°-56'-03.71"
G6	233°-44'-51.87"
G7	233°-33'-23.74"

GIRDER	AZIMUTH
G1	211°-47'-49.56"
G2	211°-30'-41.23"
G3	211°-12'-42.46"
G4	210°-53'-49.27"
G5	210°-33'-57.26"

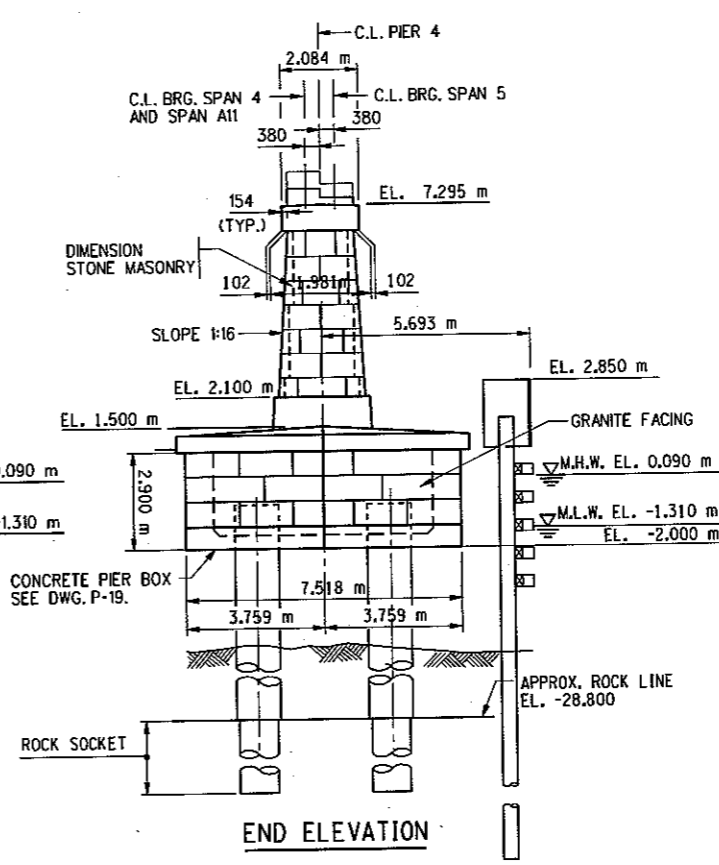
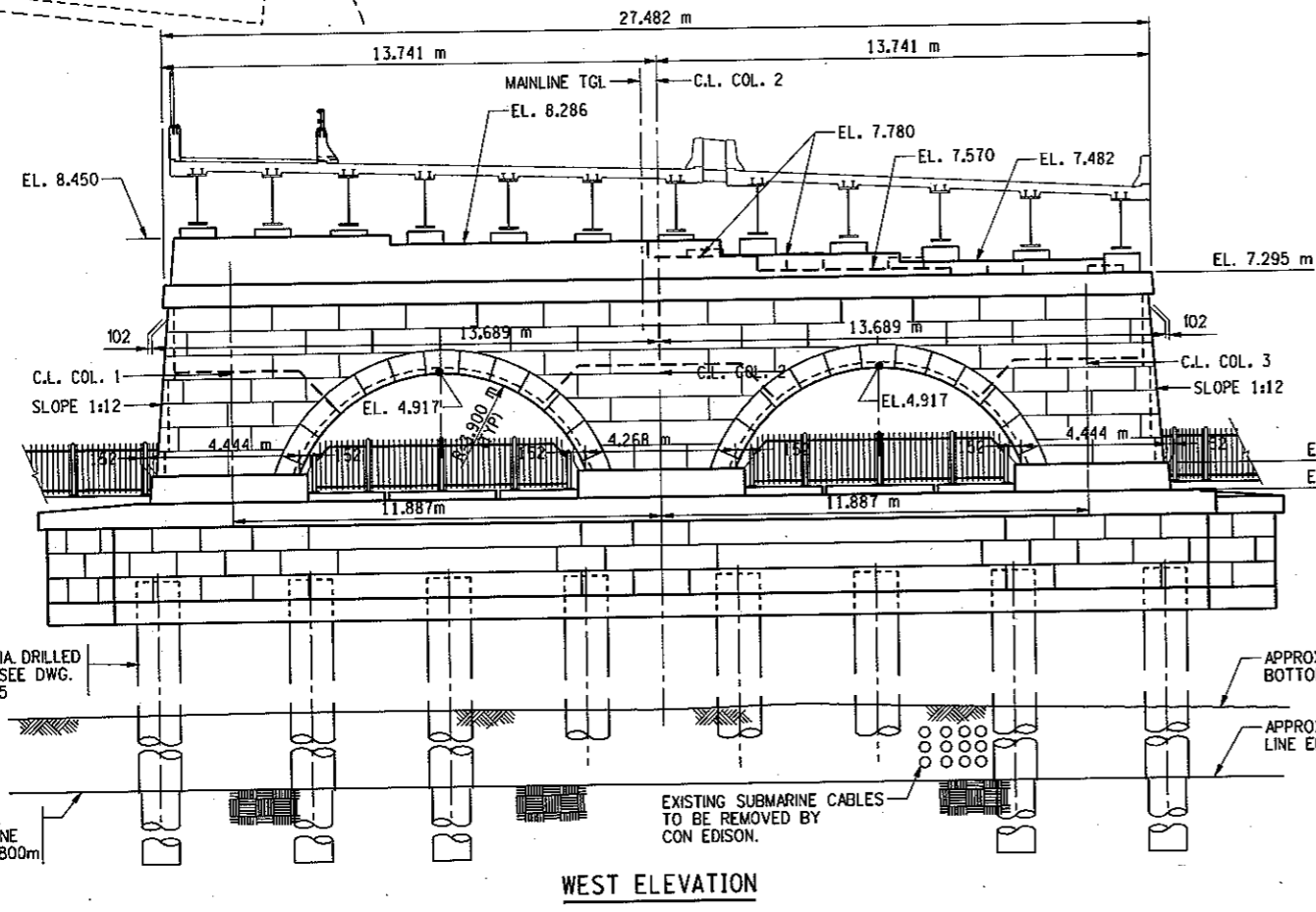
GIRDER	AZIMUTH
G1	56°-13'-20.02"
G2	56°-13'-20.02"
G3	56°-13'-20.02"
G4	56°-13'-20.02"
G5	56°-13'-20.02"
G6	56°-13'-20.02"
G7	54°-35'-27.42"
G8	52°-58'-21.15"
G9	51°-26'-12.70"
G10	49°-54'-56.94"
G11	48°-35'-26.32"

TOP OF PEDESTAL ELEVATION (m)			
GIRDER	SPAN A11	SPAN 4	SPAN 5
G1	8.126	8.717	8.691
G2	7.979	8.710	8.643
G3	7.831	8.652	8.624
G4	7.681	8.617	8.588
G5	7.532	8.576	8.549
G6	-	8.533	8.508
G7	-	8.489	7.947
G8	-	-	7.892
G9	-	-	7.727
G10	-	-	7.562
G11	-	-	7.402

NOTE:
THESE ELEVATIONS MAY HAVE TO BE ADJUSTED TO ACCOMMODATE THE ACTUAL BEARINGS FURNISHED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE ANY CHANGES IN THE BEARINGS WHICH MAY AFFECT THE PEDESTAL ELEVATIONS OR DIMENSIONS.

ESTIMATE OF QUANTITIES PIER 4		
ITEM NUMBER	UNIT	QUANTITY
555.9701--16	(CM)	539.0
555.9702--16	(CM)	550.0
555.06	(CM)	90.6
CONCRETE PIER BOX (TYPE 1 - PIER 4)	LS	1

NOTE: 555.9701--16 INCLUDES PEDESTALS SEE DWG. NO. SB-1 FOR ADDITIONAL PIER BOX PAY ITEMS NOTES



- NOTES:
- SEE SUBSTRUCTURE NOTES ON DWG. SB-1.
 - FOR LEGEND SEE DWG. NO. SB-1.
 - WORK THIS DRAWING WITH DWG. NOS. P-17, AND P-18.
 - FOR EXCAVATION AND EARTHWORK DETAILS NOT SHOWN SEE DWG. NO. SW-4.
 - FOR CONCRETE PIER BOX SEE DWG. NOS. P-19 AND P-20.
 - FOR DRILLED SHAFT DETAILS SEE DWG. NO. P-65.

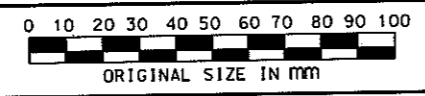
ADDENDUM NO. **△**
AF-118
THIS DRAWING SUPERSEDES DWG. P-16

CITY OF NEW YORK
DEPARTMENT OF TRANSPORTATION
DIVISION OF BRIDGES
CONTRACT NO. BRCR076
REPLACEMENT OF
WILLIS AVENUE BRIDGE
OVER THE HARLEM RIVER
BOROUGH OF MANHATTAN AND THE BRONX BIN 2-24005-9/A/B

**PIER 4
PLAN AND ELEVATION**

DWG. NO. P-16R	SCALE: 1:100	DATE: MAY 2006	SHEET NO. 427R
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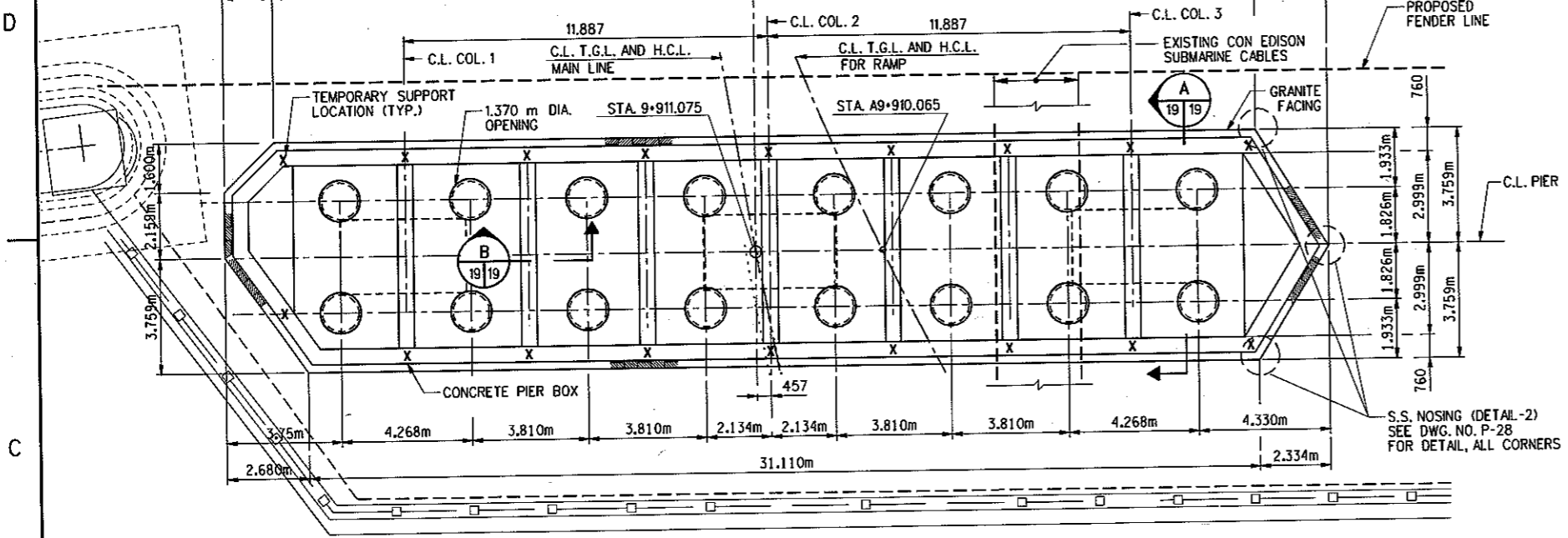
HARDESTY & HANOVER, LLP
ENGINEERING
1501 BROADWAY NEW YORK, NY 10036



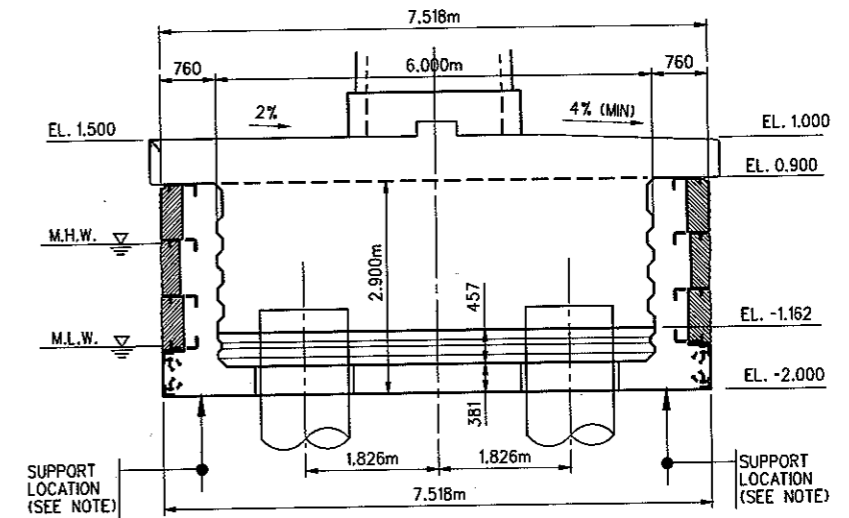
PREPARED BY HARDESTY & HANOVER, LLP
IN CHARGE: WEN DRAFTER: BGS
DESIGNER: MJG CHECKER: BGS

N.Y.C.D.O.T. MICROFILM IDENTIFICATION NUMBER
2-24005-9/A/B F95 427

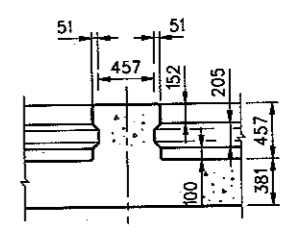
FED. RD. REG. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	NEW YORK	L1C0/L050-X757-003	430	1160
REPLACEMENT OF WILLIS AVENUE BRIDGE OVER THE HARLEM RIVER				
P.I.N. 84106MBR081	NEW YORK AND BRONX COUNTIES	B.I.N. 2-24005-9/A/B		



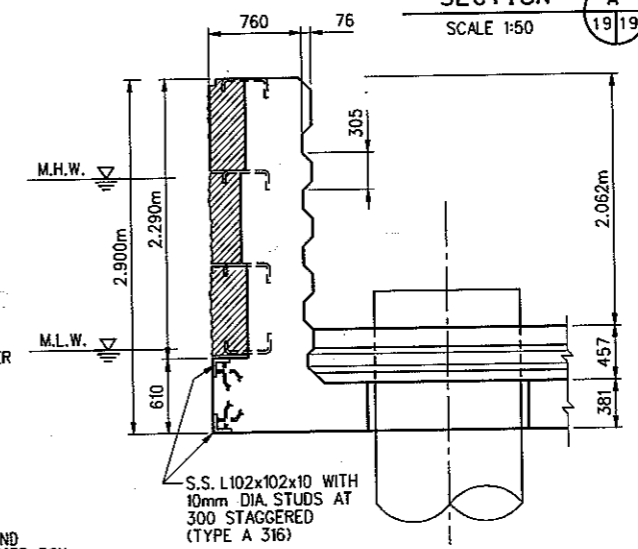
PLAN
SCALE 1:100



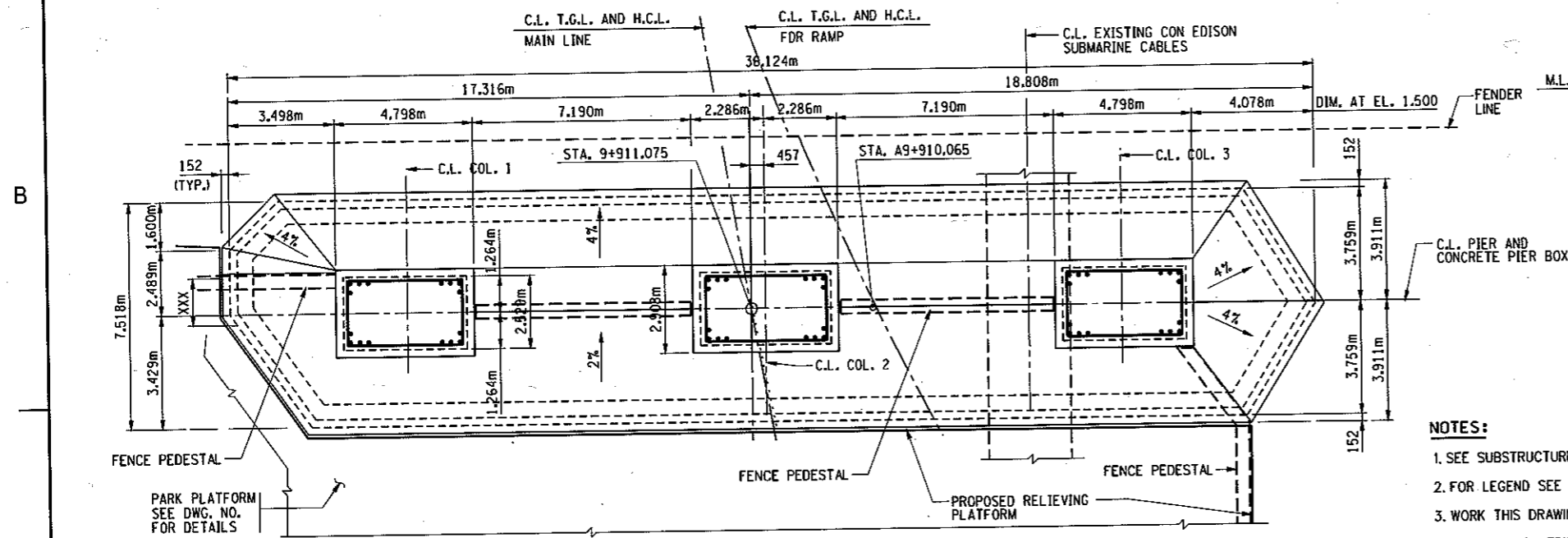
SECTION A
SCALE 1:50



SECTION B
SCALE 1:30



TYPICAL SECTION
SCALE 1:30



PLAN AT EL. 1.500
SCALE 1:100

- NOTES:**
1. SEE SUBSTRUCTURE NOTES ON DWG. SB-1.
 2. FOR LEGEND SEE DWG. NO. SB-1.
 3. WORK THIS DRAWING WITH DWG. NO. P-20.
 4. EXISTING CON EDISON SUBMARINE CABLES TO BE REMOVED BY CON EDISON
 5. FOR PIER DETAILS SEE DWG. NOS. P-16 THRU P-18.
 6. FOR GRANITE AND ANCHOR DETAILS SEE DWG. NO. P-34.
 7. FOR DRILLED SHAFT DETAILS SEE DWG. NO. P-65.

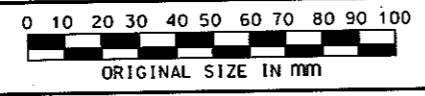
CITY OF NEW YORK
DEPARTMENT OF TRANSPORTATION
DIVISION OF BRIDGES

CONTRACT NO. BRCR076

REPLACEMENT OF
WILLIS AVENUE BRIDGE
OVER THE HARLEM RIVER
BOROUGH OF MANHATTAN AND THE BRONX BIN 2-24005-9/A/B

PIER 4
CONCRETE PIER BOX

HARDESTY & HANOVER, LLP
ENGINEERING
1501 BROADWAY NEW YORK, NY 10036



PREPARED BY HARDESTY & HANOVER, LLP
IN CHARGE WEN DRAFTER BGS
DESIGNER WWC CHECKER BGS

N.Y.C.D.O.T. MICROFILM IDENTIFICATION NUMBER
BIN 2-24005-9/A/B ROLL F95 FRAME 430

DWG. NO. P-19	SCALE: AS NOTED	DATE: MAY 2006	SHEET NO. 430
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FED. RD. REG. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	NEW YORK	L1C0/L050-X757-003	432R	1160
REPLACEMENT OF WILLIS AVENUE BRIDGE OVER THE HARLEM RIVER				
P.I.N. 84106MBR081		NEW YORK AND BRONX COUNTIES	B.I.N. 2-24005-9/A/B	

TOP OF PEDESTAL ELEVATION SPAN	
GIRDER	ELEVATION
G1	8.157
G2	8.222
G3	8.247
G4	8.292
G5	8.337
G6	8.383
G7	8.381
G8	8.345
G9	8.309
G10	8.273
G11	8.238

NOTE:
THESE ELEVATIONS MAY HAVE TO BE ADJUSTED TO ACCOMMODATE THE ACTUAL BEARINGS FURNISHED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE ANY CHANGES IN THE BEARINGS WHICH MAY AFFECT THE PEDESTAL ELEVATIONS OR DIMENSIONS.

ESTIMATE OF QUANTITIES PIER 5		
ITEM NUMBER	UNIT	QUANTITY
555.9701-16	CM	533.3
555.9702-16	CM	1254
555.06	CM	130.4
CONCRETE PIER BOX (TYPE 2 - PIER 5)	LS	1

NOTE: 555.9701-16 INCLUDES PEDESTALS SEE DWG. NO. SB-1 FOR ADDITIONAL PIER BOX PAY ITEMS NOTES

GIRDER	AZIMUTH
G1	236°-13'-20.02"
G2	236°-13'-20.02"
G3	236°-13'-20.02"
G4	236°-13'-20.02"
G5	236°-13'-20.02"
G6	236°-13'-20.02"
G7	234°-35'-27.42"
G8	232°-58'-21.15"
G9	231°-26'-12.70"
G10	229°-54'-56.94"
G11	228°-35'-26.32"

- NOTES:**
- SEE SUBSTRUCTURE NOTES ON DWG. SB-1.
 - FOR LEGEND SEE DWG. NO. SB-1.
 - WORK THIS DRAWING WITH DWG. NOS. P-22 THRU P-27.
 - FOR CONCRETE PIER BOX DETAILS SEE DWG. NOS. P-28 AND P-29.
 - FOR DRILLED SHAFT DETAILS SEE DWG. NO. P-65.

ADDENDUM NO. **△**
AF-120
THIS DRAWING SUPERSEDES DWG. P-21

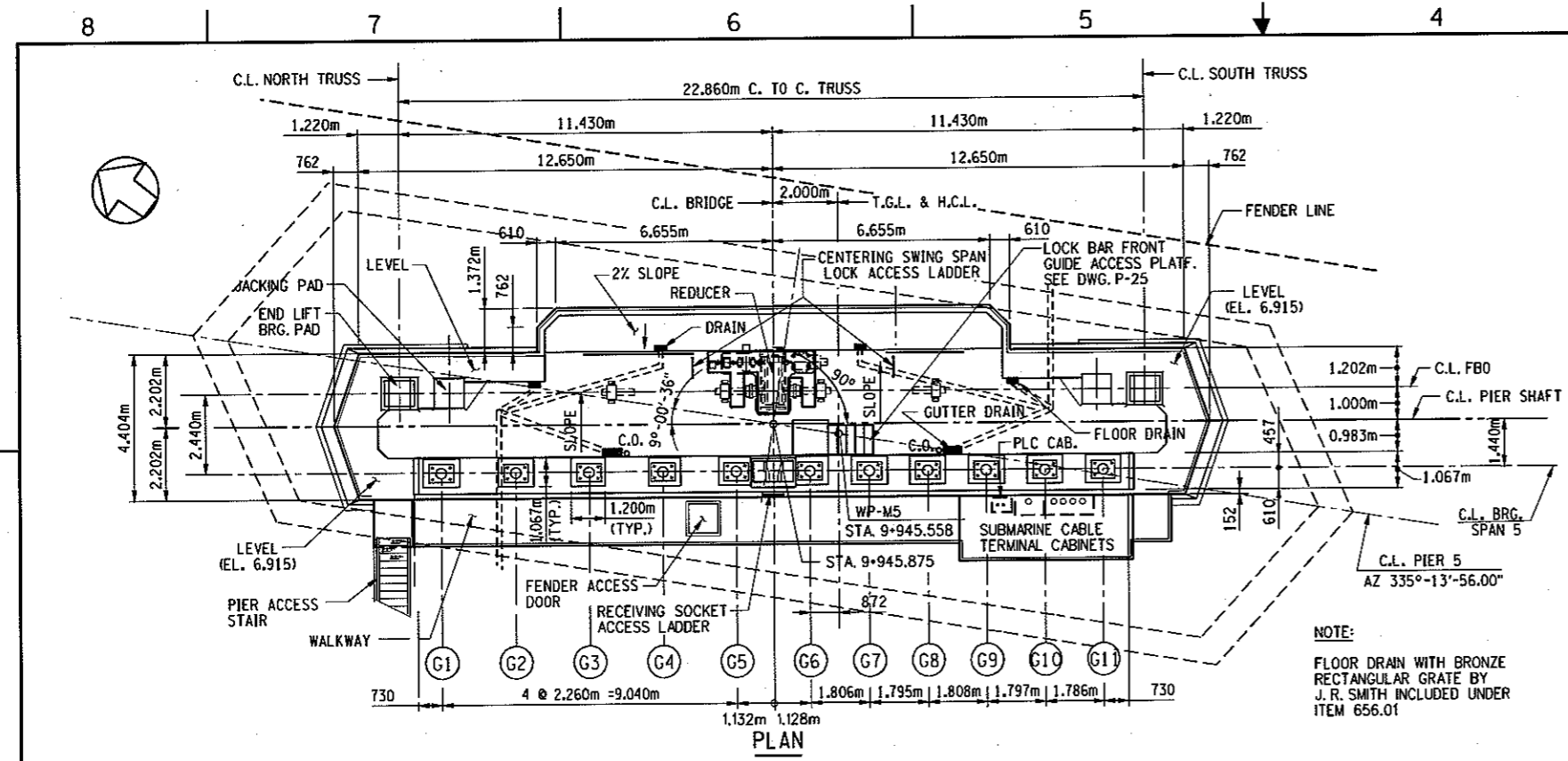
CITY OF NEW YORK
DEPARTMENT OF TRANSPORTATION
DIVISION OF BRIDGES

CONTRACT NO. BRCR076

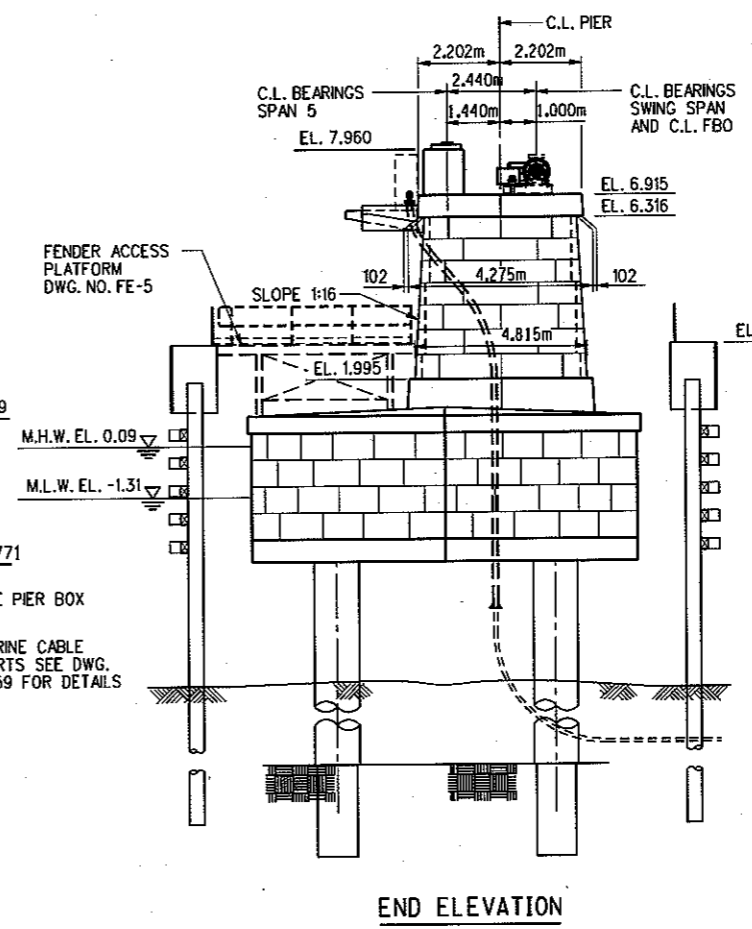
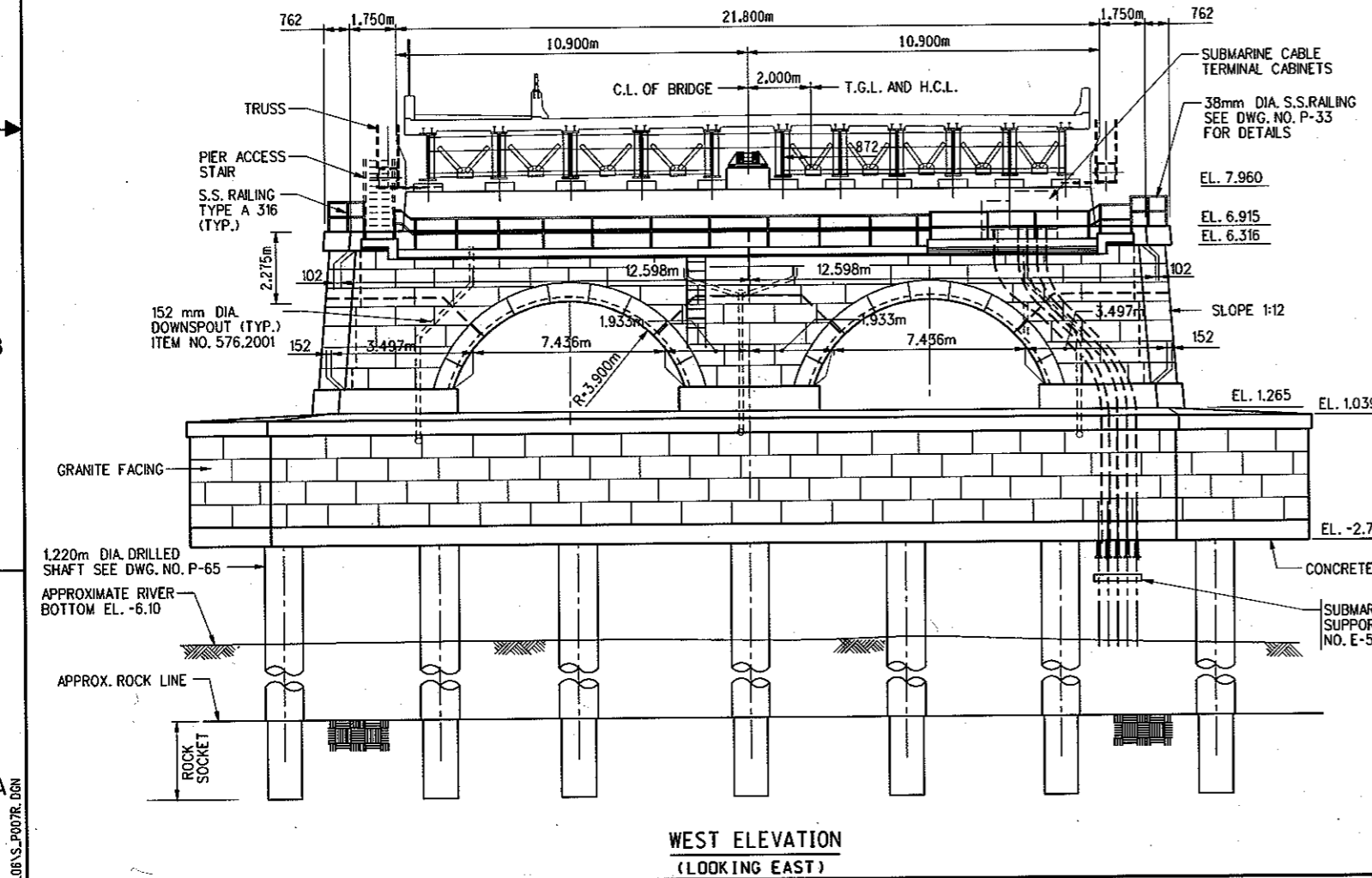
REPLACEMENT OF
WILLIS AVENUE BRIDGE
OVER THE HARLEM RIVER
BOROUGH OF MANHATTAN AND THE BRONX BN 2-24005-9/A/B

PIER 5
MANHATTAN REST PIER
PLAN AND ELEVATION I

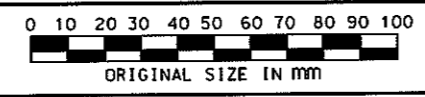
DWG. NO. P-21R	SCALE: 1:100	DATE: MAY 2006	SHEET NO. 432R
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NOTE:
FLOOR DRAIN WITH BRONZE RECTANGULAR GRATE BY J.R. SMITH INCLUDED UNDER ITEM 656.01



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ENGINEERING
1501 BROADWAY NEW YORK, NY 10036

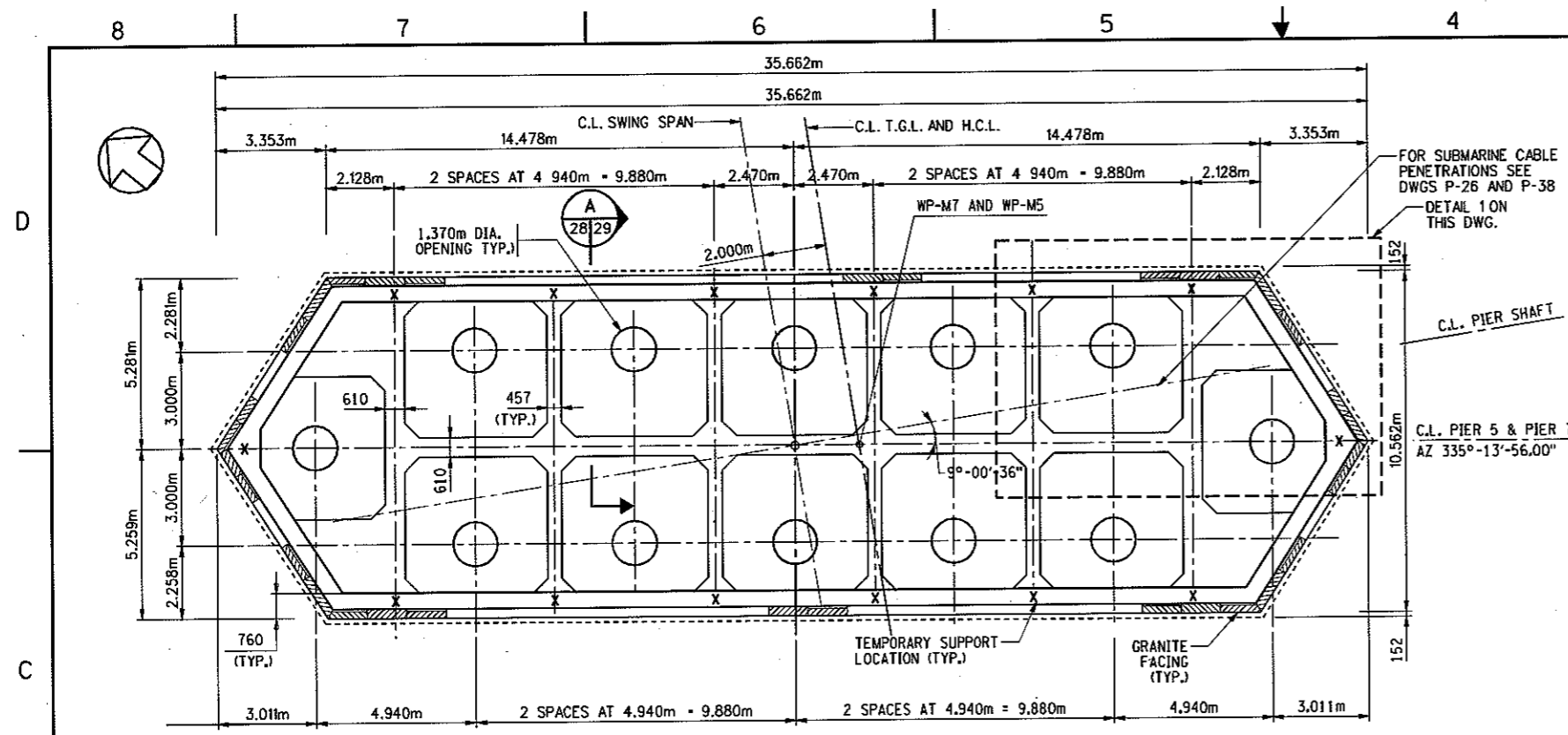


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IN CHARGE: WEN DRAFTER: BGS
DESIGNER: WWC CHECKER: BGS

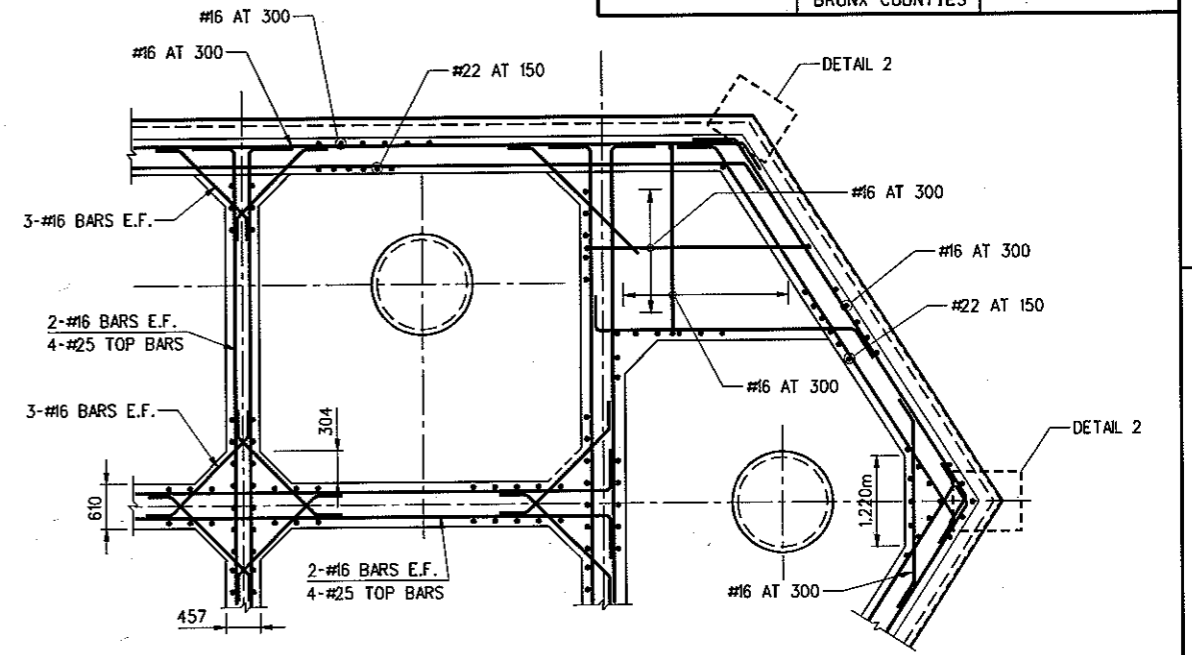
N.Y.C.D.O.T. MICROFILM IDENTIFICATION NUMBER
2-24005-9/A/B F95 432

ADDENDUM 06.S. P007R.DGN

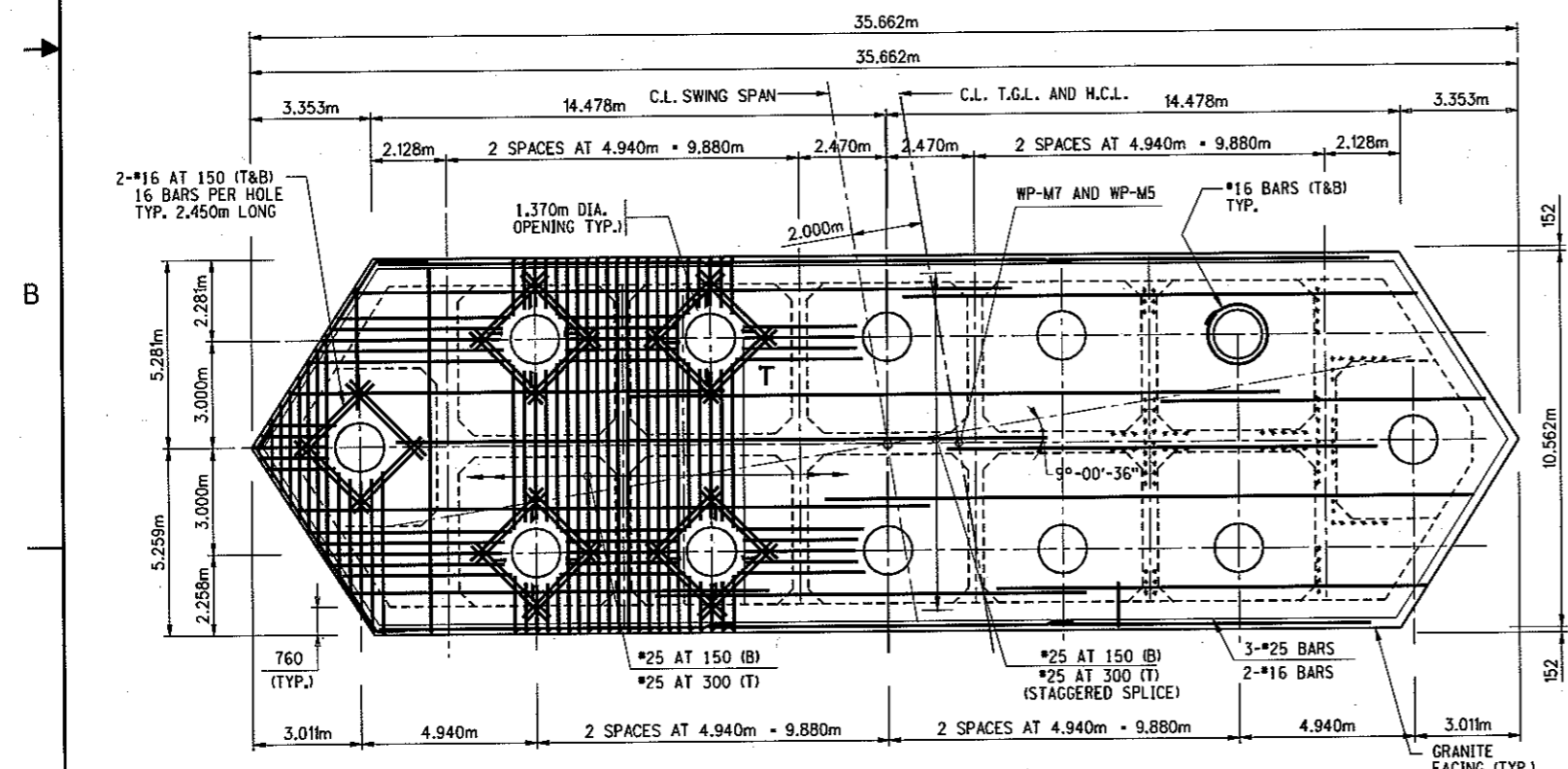
FED. RD. REG. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	NEW YORK	L1C0/L050-X757-003	439	1160
REPLACEMENT OF WILLIS AVENUE BRIDGE OVER THE HARLEM RIVER				
P.I.N. 84106MBR081		NEW YORK AND BRONX COUNTIES	B.I.N. 2-24005-9/A/B	



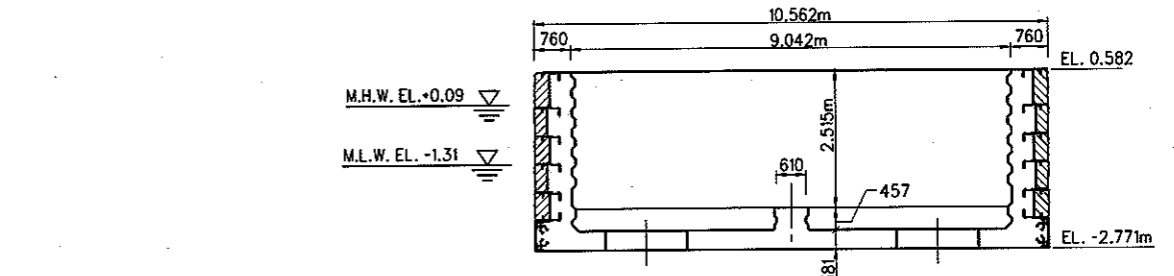
PLAN
SCALE 1:100



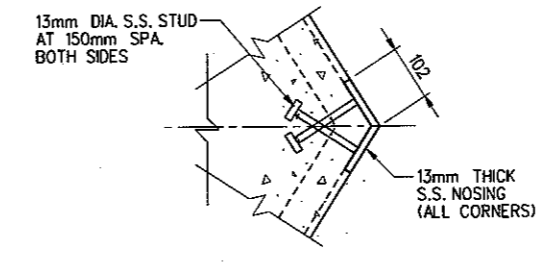
DETAIL 1
SCALE 1:50



REINFORCEMENT PLAN
SCALE 1:100



TYPICAL SECTION
SCALE 1:75



DETAIL-2
SCALE 1:10

- NOTES:**
1. SEE SUBSTRUCTURE NOTES ON DWG. SB-1.
 2. FOR LEGEND SEE DWG. NO. SB-1.
 3. WORK THIS DRAWING WITH DWG. NO. P-29.
 4. FOR PIER DETAILS, SEE DWG. NO. P-21 AND P-37
 5. FOR PIER BOX GRANITE AND ANCHOR DETAILS SEE DWG. NO. P-35.

CITY OF NEW YORK DEPARTMENT OF TRANSPORTATION DIVISION OF BRIDGES			
CONTRACT NO. BRCR076			
REPLACEMENT OF WILLIS AVENUE BRIDGE OVER THE HARLEM RIVER BOROUGH OF MANHATTAN AND THE BRONX BIN 2-24005-9/A/B			
PIER 5 AND PIER 7 CONCRETE PIER BOX			
DWG. NO. P-28	SCALE: AS NOTED	DATE: MAY 2006	SHEET NO. 439

HARDESTY & HANOVER, LLP
ENGINEERING
1501 BROADWAY NEW YORK, NY 10036

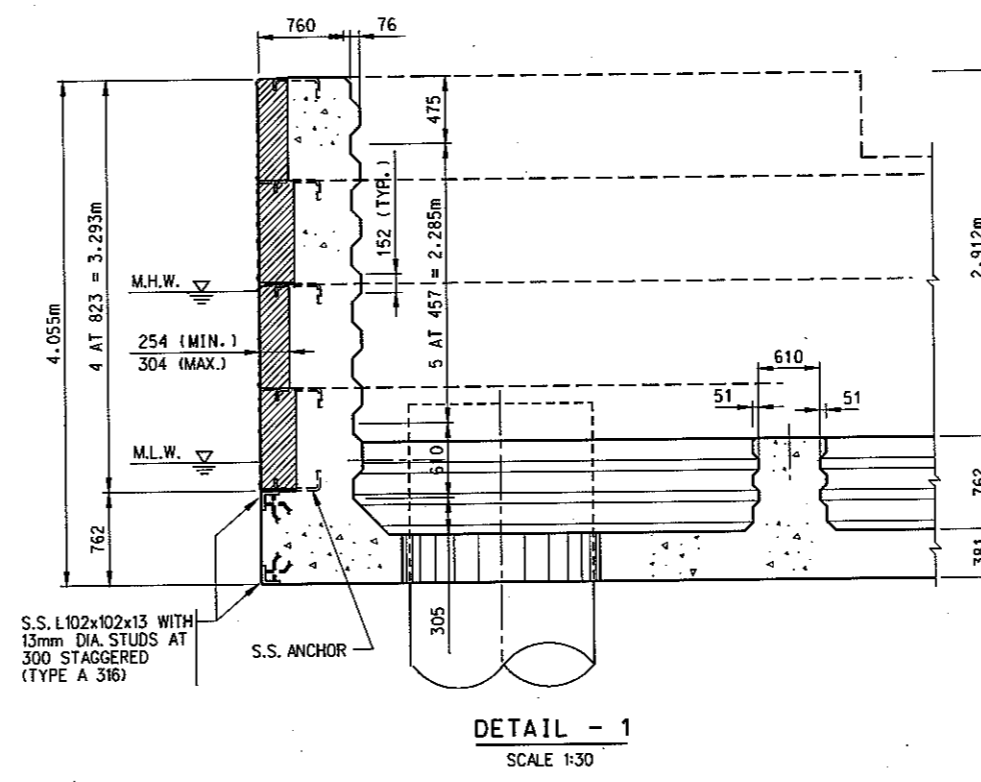
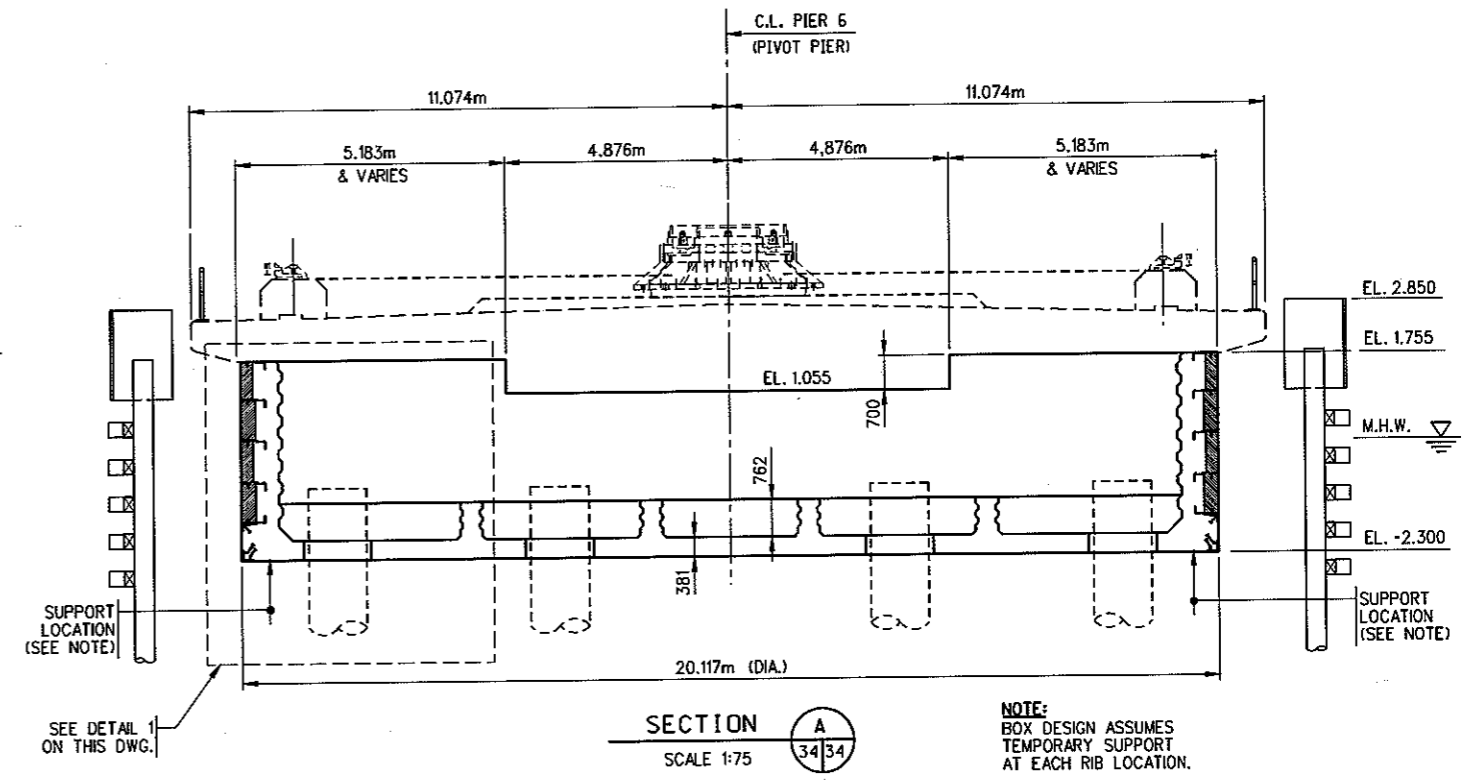
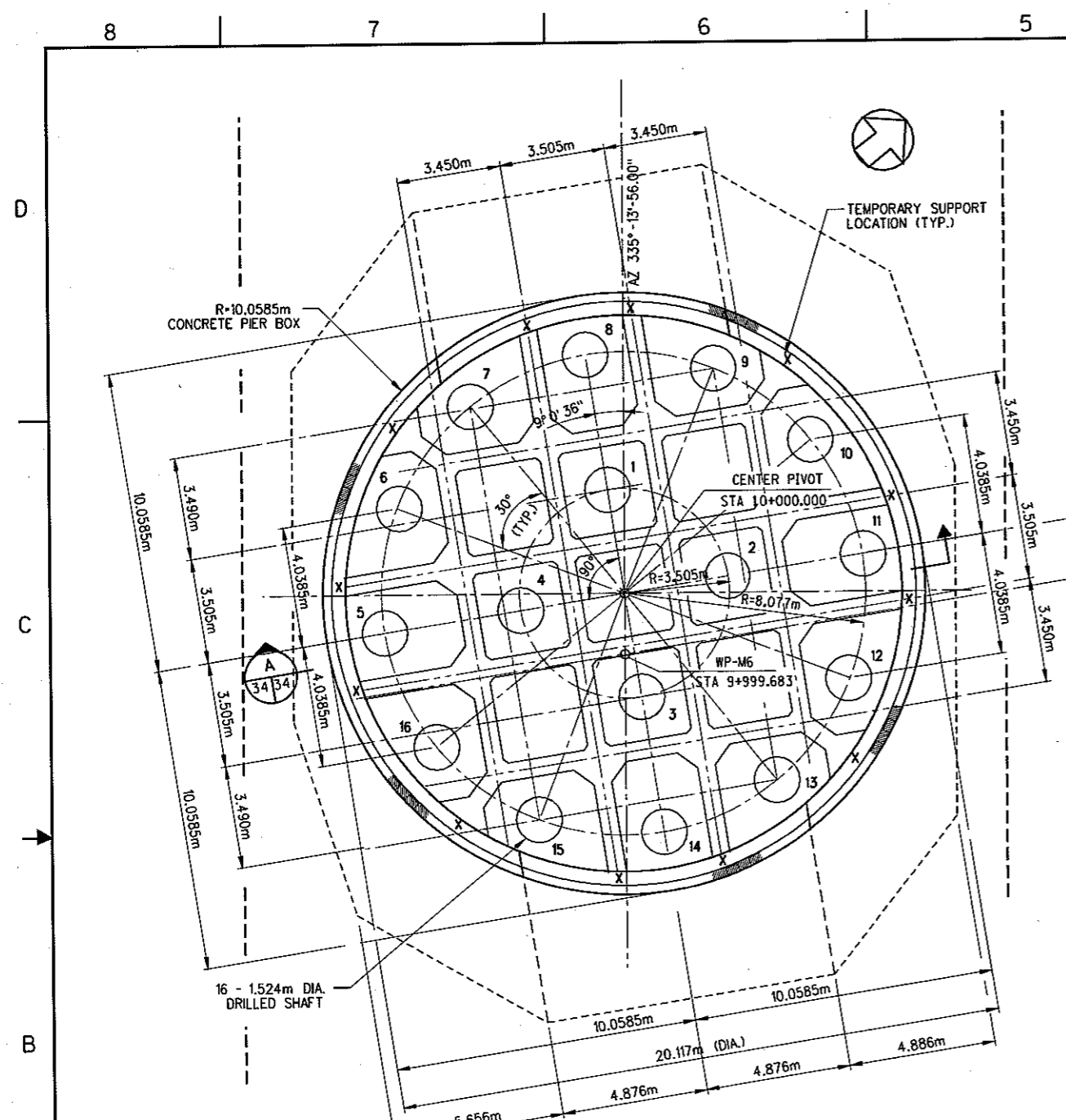
0 10 20 30 40 50 60 70 80 90 100
ORIGINAL SIZE IN MM

PREPARED BY HARDESTY & HANOVER, LLP
IN CHARGE WEN DRAFTER BGS
DESIGNER WWC CHECKER BGS

N.Y.C.D.O.T. MICROFILM IDENTIFICATION NUMBER
BIN 2-24005-9/A/B ROLL F95 FRAME 439

HARDESTY & HANOVER, LLP

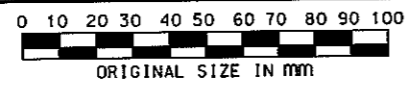
FED. RD. REG. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	NEW YORK	L1C0/L050-X757-003	445	1160
REPLACEMENT OF WILLIS AVENUE BRIDGE OVER THE HARLEM RIVER				
P.I.N. 84106MBBR081		NEW YORK AND BRONX COUNTIES	B.I.N. 2-24005-9/A/B	



- NOTES:**
1. SEE SUBSTRUCTURE NOTES ON DWG. SB-1.
 2. FOR LEGEND SEE DWG. NO. SB-1.
 3. WORK THIS DRAWING WITH DWG. NOS. P-35 AND P-36.
 4. FOR ADDITIONAL PIER DETAILS SEE DWG. NOS. P-30 THRU P-33.
 5. CONCRETE PIER BOX (TYPE 3-PIER 6) PAID FOR UNDER ITEM 555.9993--29.

CITY OF NEW YORK DEPARTMENT OF TRANSPORTATION DIVISION OF BRIDGES			
CONTRACT NO. BRCR076			
REPLACEMENT OF WILLIS AVENUE BRIDGE OVER THE HARLEM RIVER BOROUGH OF MANHATTAN AND THE BRONX BIN 2-24005-9/A/B			
PIER 6 CONCRETE PIER BOX - DETAILS I			
DWG. NO. P-34	SCALE: AS NOTED	DATE: MAY 2006	SHEET NO. 445

HARDESTY & HANOVER, LLP
ENGINEERING
1501 BROADWAY NEW YORK, NY 10036

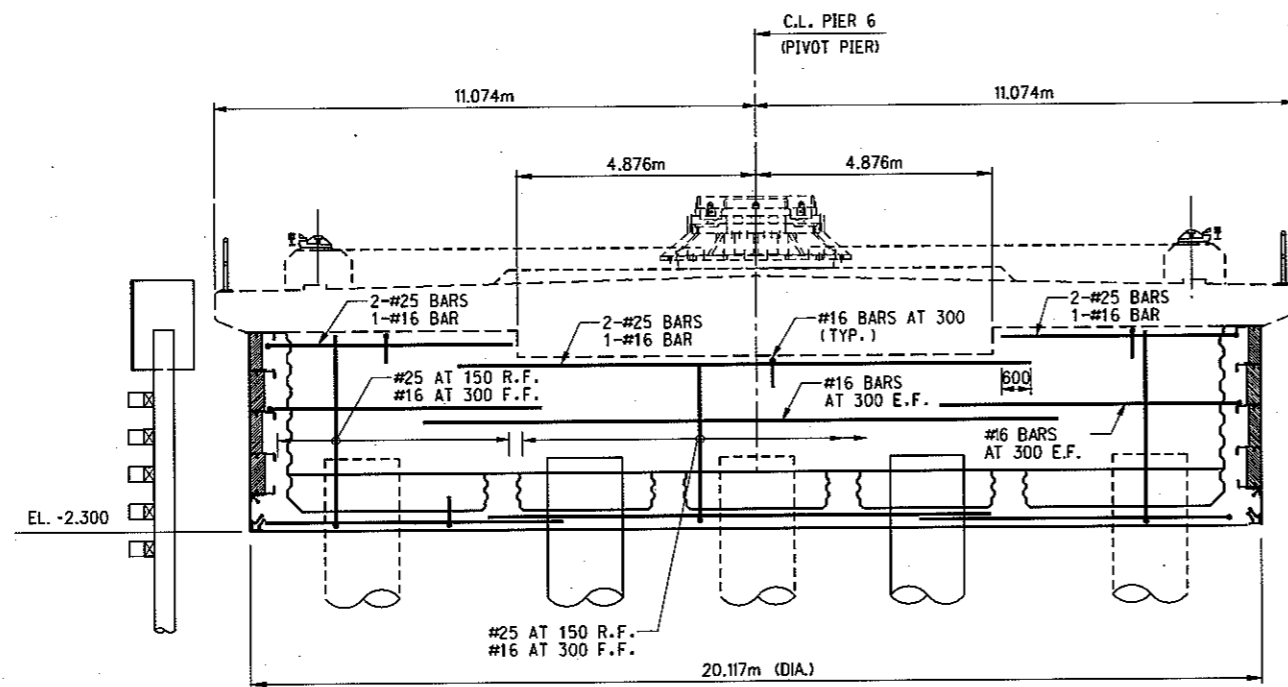


PREPARED BY HARDESTY & HANOVER, LLP
IN CHARGE WEN DRAFTER BGS
DESIGNER WWC CHECKER BGS

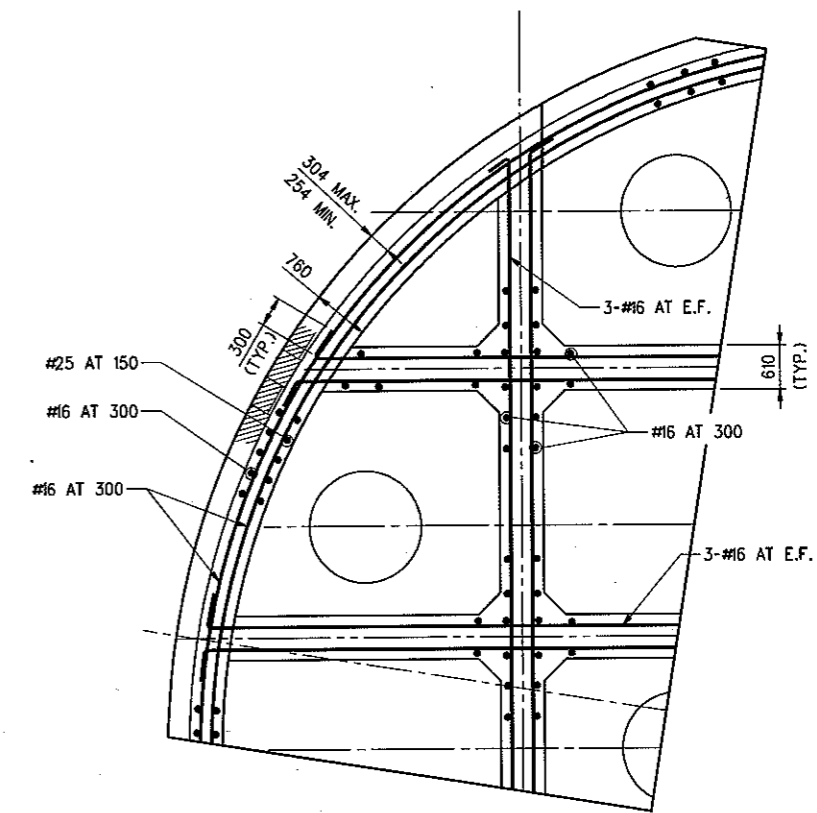
N.Y.C.D.O.T. MICROFILM IDENTIFICATION NUMBER
2-24005-9/A/B F95 445

HARDESTY'S.P057.DGN

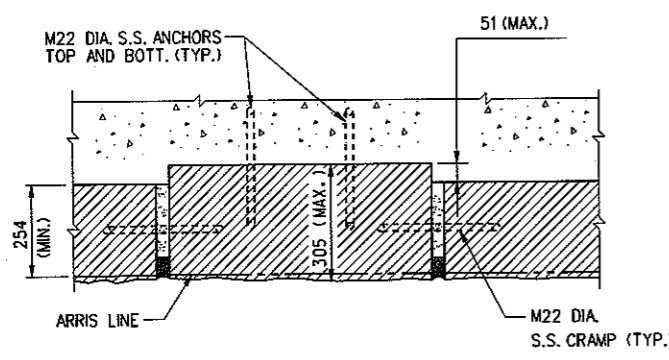
FED. RD. REG. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	NEW YORK	L1C0/L050-X757-003	446	1160
REPLACEMENT OF WILLIS AVENUE BRIDGE OVER THE HARLEM RIVER				
P.I.N. 84106MBBR081	NEW YORK AND BRONX COUNTIES	B.I.N. 2-24005-9/A/B		



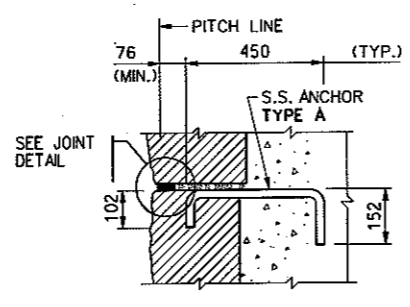
TYPICAL SECTION
SCALE 1:75



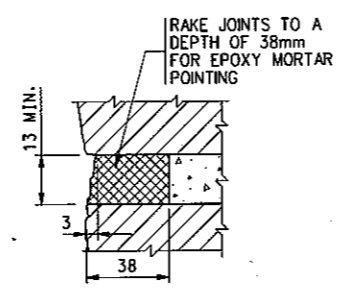
DETAIL 1
SCALE 1:50



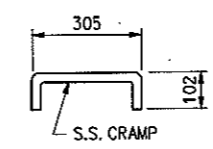
TYPICAL PLAN SECTION
SCALE 1:10



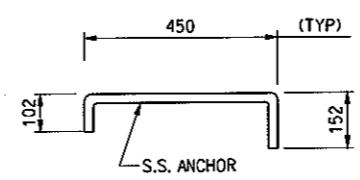
TYPICAL ANCHOR
SCALE 1:10



EPOXY JOINT DETAIL
N.T.S.



TYPICAL CRAMP
SCALE 1:10



TYPICAL ANCHOR TYPE A
SCALE 1:10

GRANITE NOTES:

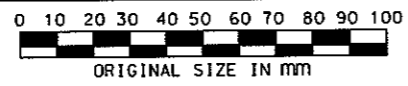
1. GRANITE MASONRY SHALL BE AS PER SECTION 560-2 OF NYS DOT SPECIFICATION.
2. ANCHOR AND CRAMP ASTM A320 TYPE 316.
3. GRANITE MASONRY FOR CONCRETE PIER BOXES, PIER 4, 5, 6, AND PIER 7.
4. GRANITE AND ANCHORS INCLUDED UNDER ITEM CONCRETE PIER BOXES.

NOTES:

1. SEE SUBSTRUCTURE NOTES ON DWG. SB-1.
2. FOR LEGEND SEE DWG. NO. SB-1.
3. WORK THIS DRAWING WITH DWG. NOS. P-34 AND P-36.

CITY OF NEW YORK DEPARTMENT OF TRANSPORTATION DIVISION OF BRIDGES			
CONTRACT NO. BRCR076			
REPLACEMENT OF WILLIS AVENUE BRIDGE OVER THE HARLEM RIVER BOROUGH OF MANHATTAN AND THE BRONX BIN 2-24005-9/A/B			
PIER 6 CONCRETE PIER BOX - DETAILS II			
DWG. NO. P-35	SCALE: AS NOTED	DATE: MAY 2006	SHEET NO. 446

HARDESTY & HANOVER, LLP
ENGINEERING
1501 BROADWAY NEW YORK, NY 10036

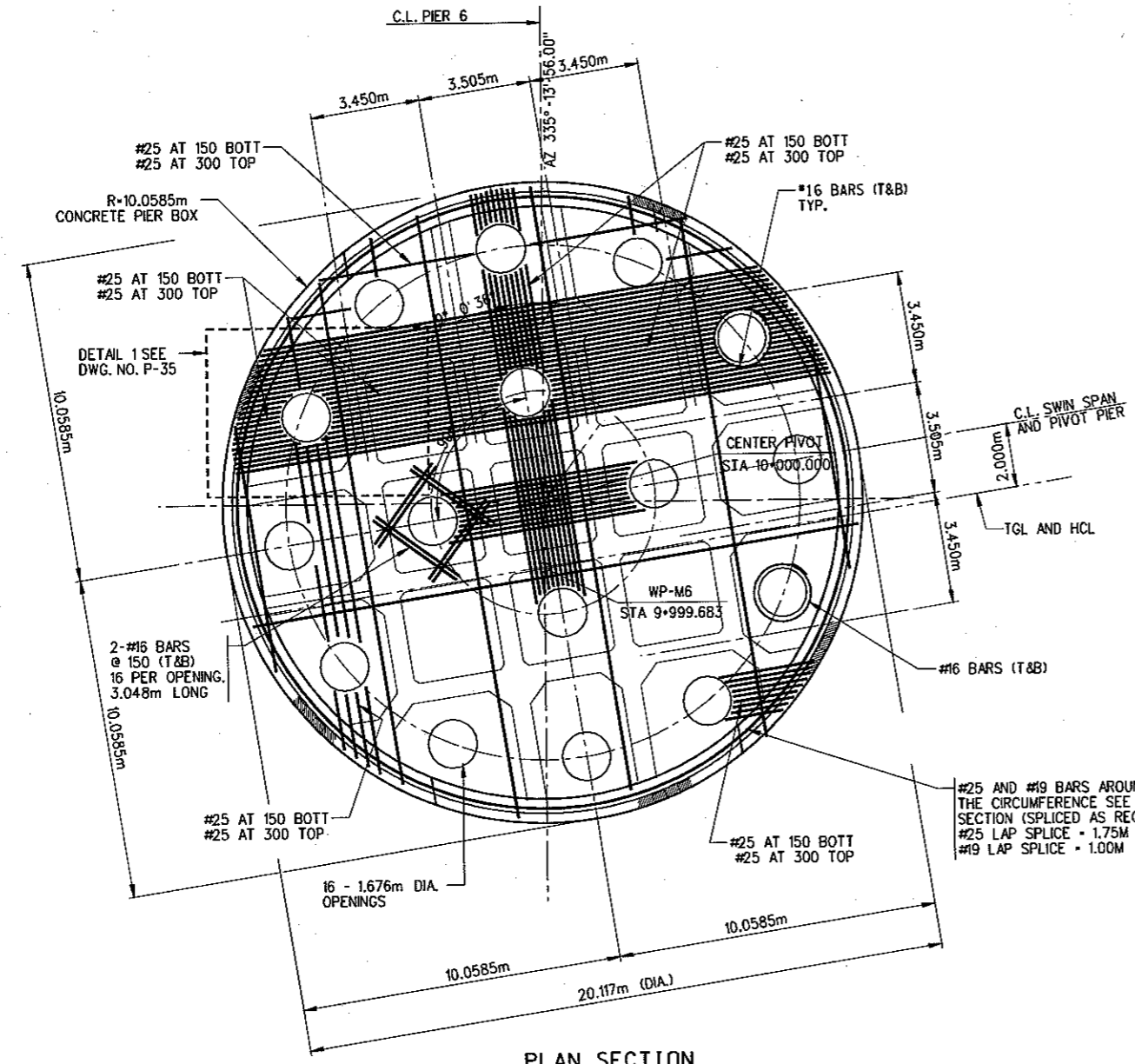


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IN CHARGE WEN DRAFTER BGS
DESIGNER WWC CHECKER BGS

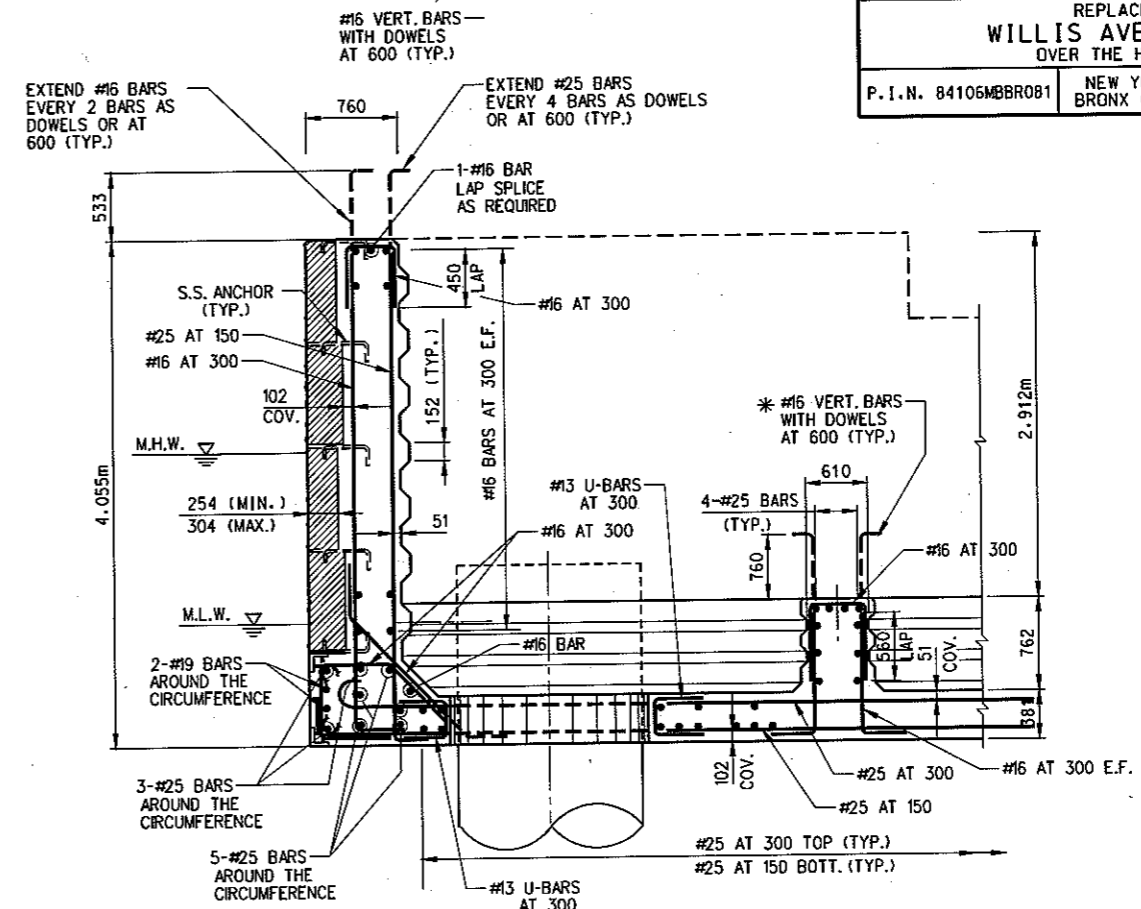
N.Y.C.D.O.T. MICROFILM IDENTIFICATION NUMBER
BIN 2-24005-9/A/B ROLL F95 FRAME 446

HARDESTY.S.P039.DGN

FED. RD. REG. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	NEW YORK	L1C0/L050-X757-003	447	1160
REPLACEMENT OF WILLIS AVENUE BRIDGE OVER THE HARLEM RIVER				
P.I.N. 84106MBR081	NEW YORK AND BRONX COUNTIES	B.I.N. 2-24005-9/A/B		



PLAN SECTION
SCALE 1:100

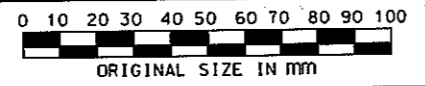


TYPICAL SECTION
SCALE 1:30

- NOTES:**
1. SEE SUBSTRUCTURE NOTES ON DWG. SB-1.
 2. FOR LEGEND SEE DWG. NO. SB-1.
 3. WORK THIS DRAWING WITH DWG. NOS. P-34 AND P-35.

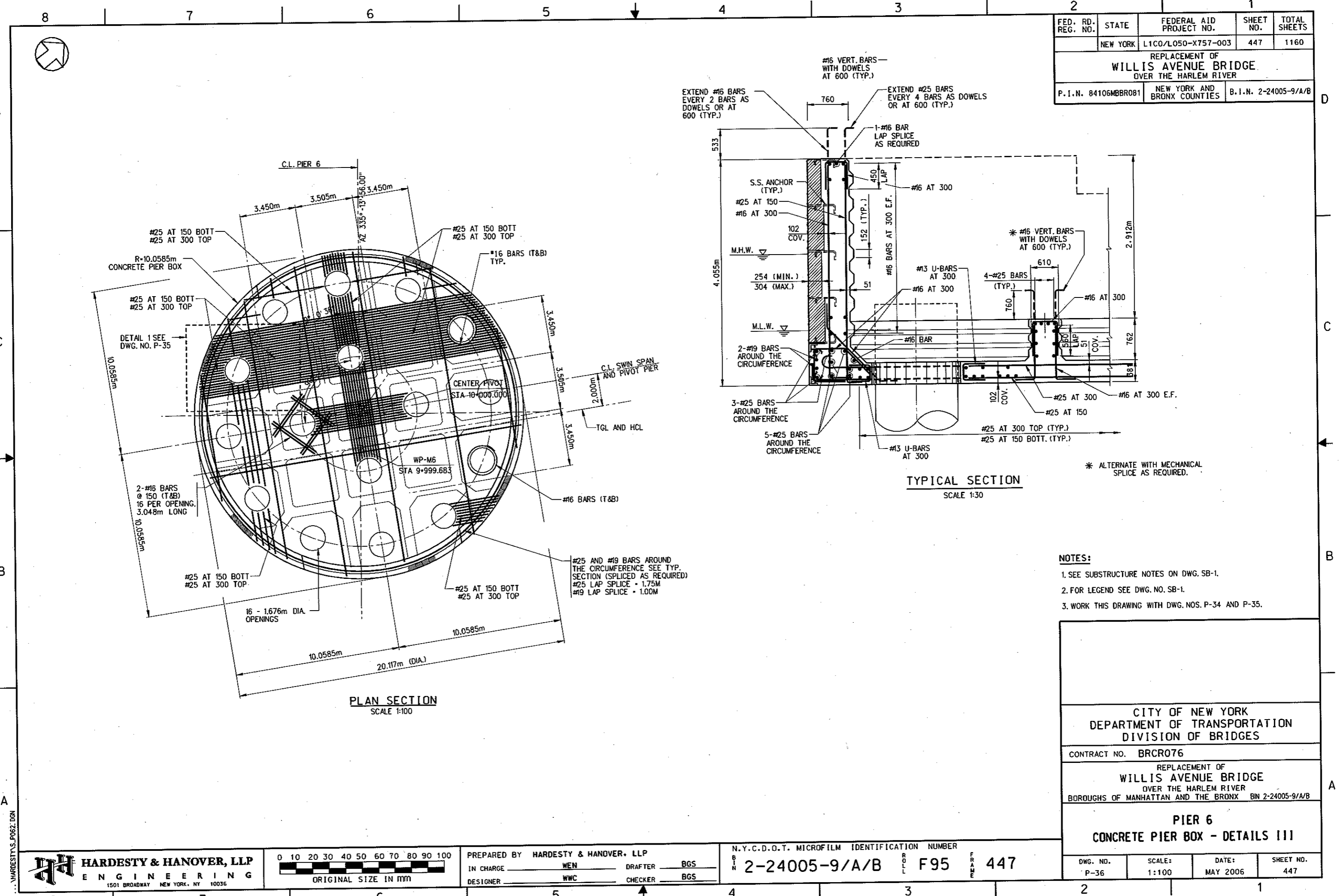
CITY OF NEW YORK DEPARTMENT OF TRANSPORTATION DIVISION OF BRIDGES			
CONTRACT NO. BRCR076			
REPLACEMENT OF WILLIS AVENUE BRIDGE OVER THE HARLEM RIVER BOROUGH OF MANHATTAN AND THE BRONX BIN 2-24005-9/A/B			
PIER 6 CONCRETE PIER BOX - DETAILS III			
DWG. NO. P-36	SCALE: 1:100	DATE: MAY 2006	SHEET NO. 447

HARDESTY & HANOVER, LLP
ENGINEERING
1501 BROADWAY NEW YORK, NY 10036



PREPARED BY HARDESTY & HANOVER, LLP
IN CHARGE WEN DRAFTER BGS
DESIGNER WWC CHECKER BGS

N.Y.C.D.O.T. MICROFILM IDENTIFICATION NUMBER
BIN 2-24005-9/A/B BOLL F95 FRAME 447



FED. RD. REG. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	NEW YORK	L1C0/L050-X757-003	448R	1160
REPLACEMENT OF WILLIS AVENUE BRIDGE OVER THE HARLEM RIVER				
P.I.N. 84106MBR081		NEW YORK AND BRONX COUNTIES	B.I.N. 2-24005-9/A/B	

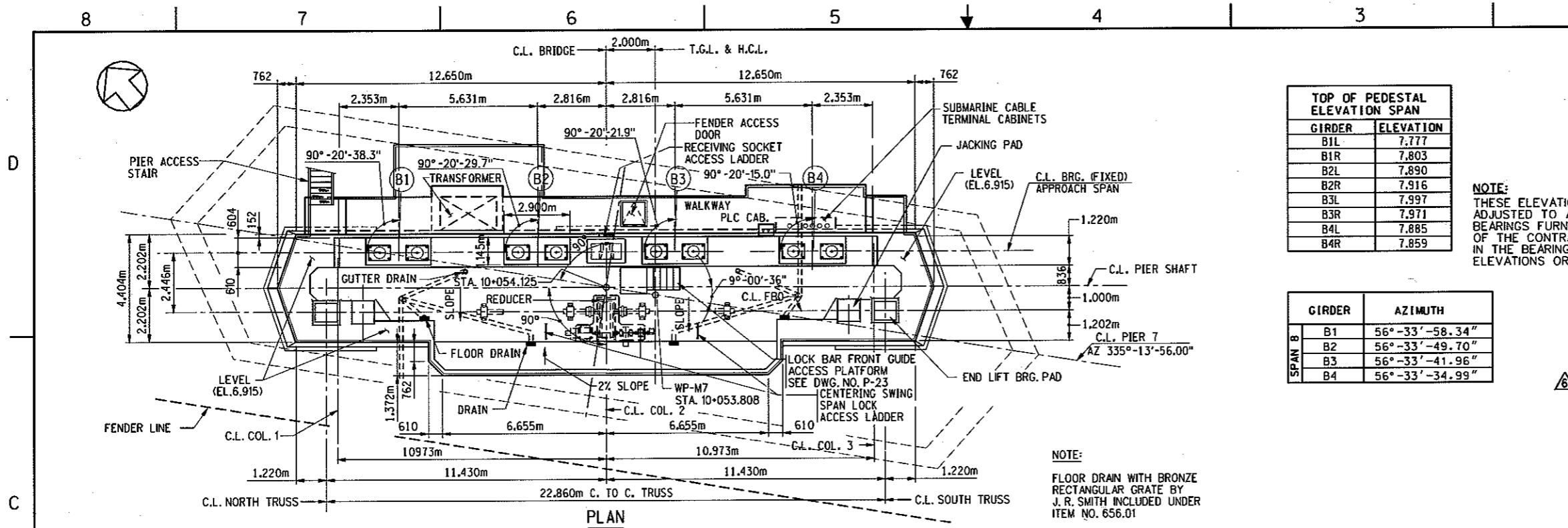
TOP OF PEDESTAL ELEVATION SPAN	
GIRDER	ELEVATION
B1L	7.777
B1R	7.803
B2L	7.890
B2R	7.916
B3L	7.997
B3R	7.971
B4L	7.885
B4R	7.859

NOTE:
THESE ELEVATIONS MAY HAVE TO BE ADJUSTED TO ACCOMMODATE THE ACTUAL BEARINGS FURNISHED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE ANY CHANGES IN THE BEARINGS WHICH MAY AFFECT THE PEDESTAL ELEVATIONS OR DIMENSIONS.

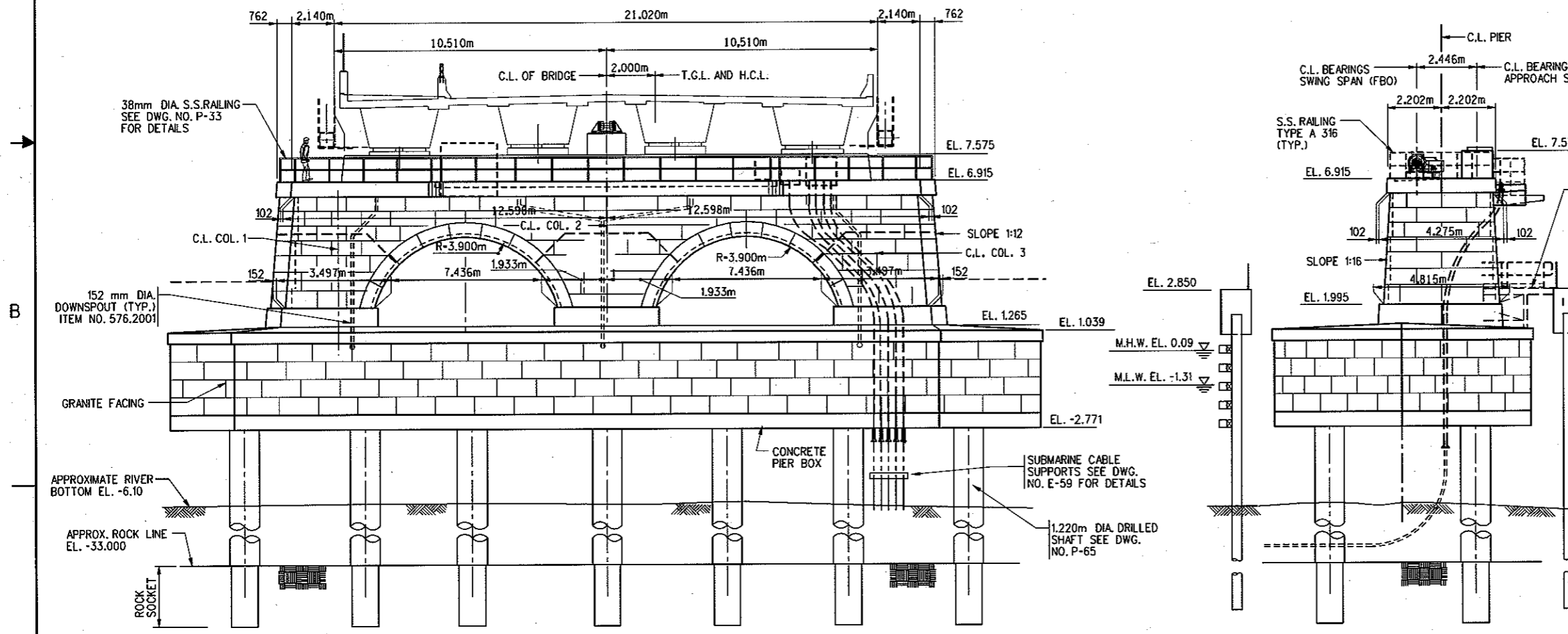
GIRDER		AZIMUTH
B1	56°-33'-58.34"	
B2	56°-33'-49.70"	
B3	56°-33'-41.96"	
B4	56°-33'-34.99"	

ESTIMATE OF QUANTITIES PIER 7		
ITEM NUMBER	UNIT	QUANTITY
555.9701--16	CM	578.7
555.9702--16	CM	1253.6
555.06	CM	130.4
CONCRETE PIER BOX (TYPE 4 - PIER 7)	LS	1

NOTE: 555.9701--16 INCLUDES PEDESTALS
SEE DWG. NO. SB-1 FOR ADDITIONAL PIER BOX PAY ITEMS NOTES



NOTE:
FLOOR DRAIN WITH BRONZE RECTANGULAR GRATE BY J. R. SMITH INCLUDED UNDER ITEM NO. 656.01



- NOTES:**
- SEE SUBSTRUCTURE NOTES ON DWG. SB-1.
 - FOR LEGEND SEE DWG. NO. SB-1.
 - WORK THIS DRAWING WITH DWG. NOS. P-38, AND P-39.
 - FOR CONCRETE BOX DETAILS SEE DWG. NOS. P-28 AND P-29.
 - FOR ADDITIONAL PIER DETAILS SEE DWG. NOS. P-22 THRU P-25.
 - FOR DRILLED SHAFT DETAILS SEE DWG. NO. P-65.

ADDENDUM NO. 6
AF-124
THIS DRAWING SUPERSEDES DWG. P-37

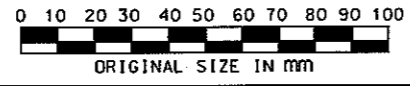
CITY OF NEW YORK
DEPARTMENT OF TRANSPORTATION
DIVISION OF BRIDGES

CONTRACT NO. BRCR076
REPLACEMENT OF
WILLIS AVENUE BRIDGE
OVER THE HARLEM RIVER
BOROUGH OF MANHATTAN AND THE BRONX B.N. 2-24005-9/A/B

**PIER 7
BRONX REST PIER
PLAN AND ELEVATION**

DWG. NO. P-37R	SCALE: 1:100	DATE: MAY 2006	SHEET NO. 448R
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HARDESTY & HANOVER, LLP
ENGINEERING
1501 BROADWAY NEW YORK, NY 10035



PREPARED BY HARDESTY & HANOVER, LLP
IN CHARGE WEN DRAFTER BGS
DESIGNER WWC CHECKER BGS

N.Y.C.D.O.T. MICROFILM IDENTIFICATION NUMBER
2-24005-9/A/B F95 448

FED. RD. REG. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	NEW YORK	L1C0/L050-X757-003	476R2	1160
REPLACEMENT OF WILLIS AVENUE BRIDGE OVER THE HARLEM RIVER				
P.I.N. 84106M8B8081		NEW YORK AND BRONX COUNTIES	B.I.N. 2-24005-9/A/B	

DRILLED SHAFT NOTES:

- PERMANENT STEEL CASINGS FOR DRILLED SHAFT FOUNDATIONS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A252, GRADE 2 OR 3. CASINGS SHALL BE CAPABLE OF WITHSTANDING INSTALLATION STRESSES AS WELL AS STRESSES DUE TO LATERAL EARTH PRESSURES AND CONCRETE FLUID PRESSURES.
- EXCAVATIONS REQUIRED FOR SHAFTS AND ROCK SOCKETS SHALL BE CONSTRUCTED TO THE DIMENSIONS AND ELEVATIONS SHOWN ON THE PLANS. THE METHODS AND EQUIPMENT USED SHALL BE SUITABLE FOR THE INTENDED PURPOSE AND MATERIALS ENCOUNTERED. THE PERMANENT CASING CONSTRUCTION METHOD SHALL BE USED.
- SEE SUBSTRUCTURE NOTES ON DWG. NO. SB-1.
- EACH DRILLED SHAFT DESIGNATED TO BE LOAD TESTED SHALL BE VIDEO SURVEYED WITHIN THE ROCK SOCKET. IN ADDITION, ROCK CORING AND SAMPLING SHALL BE PERFORMED WITHIN THE DRILLED SHAFT SOCKET PRIOR TO ADVANCING THE SOCKET.

THE FOLLOWING PARAMETERS, GUIDELINES AND OPERATIONS SHALL BE ADHERED TO UNLESS DIRECTED OTHERWISE BY THE ENGINEER:
 - AFTER THE ROCK SOCKET HAS BEEN DRILLED, IT SHALL BE THOROUGHLY CLEANED, INSPECTED AND A VIDEO TAPE SHALL BE PREPARED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER.
 - THE VIDEO INSPECTION SHALL BE CONDUCTED USING SPECIALIZED EQUIPMENT PROVIDING SUITABLE FRESH WATER FLUSHING AND LIGHTING SYSTEMS SO THAT THE DETAILS OF THE ROCK SOCKET ARE CLEARLY VISIBLE AND THE EXACT LOCATION AND ORIENTATION OF THE CAMERA ARE KNOWN.
 - THE VIDEO IMAGES SHALL BE VISIBLE TO THE ENGINEER ON A MONITOR DURING THE INSPECTION AND THE ENTIRE INSPECTION SHALL BE RECORDED ON VIDEO TAPE WITH AUDIO DESCRIPTIONS OF THE CAMERA POSITION AND ANY OBSERVATIONS.
 - NX ROCK CORES SHALL BE MADE WHICH EXTEND BELOW THE TOP OF ROCK TO THE LIMITS SHOWN ON THE DETAIL. ROCK CORES SHALL BE MADE AT A MINIMUM OF TWO LOCATIONS PER PIER AT LOCATIONS DETERMINED BY THE ENGINEER.
 - THE ENGINEER WILL REVIEW THE LOAD TEST RESULTS, THE ACCOMPANYING ROCK CORES AND VIDEO SURVEYS, AND THE RECORDS OF ADVANCE OF THE TESTS SHAFTS AND USE THEM AND OTHER SUBSURFACE DATA TO ESTABLISH ACCEPTANCE CRITERIA FOR PRODUCTION INSTALLATION.
 - THE ADEQUACY OF THE ROCK SOCKET WILL BE DETERMINED SOLELY BY THE ENGINEER BASED IN PART ON HIS OBSERVATION OF THE ADVANCE OF THE SOCKET, THE CUTTINGS, MECHANICAL PROBING TO THE SOCKET BOTTOM, AND ROCK CORING AND THE ROCK CORE SAMPLES AT A MINIMUM OF TWO LOCATIONS AT THE GIVEN PIER FOOTING OR RELIEVING PLATFORM LOCATION.
 - ROCK CORING AND SAMPLING AND VIDEO INSPECTION AND RECORDING SHALL BE PERFORMED BY QUALIFIED FIRMS RETAINED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. THE COST OF VIDEO INSPECTION AND RECORDING OPERATIONS SHALL BE INCLUDED UNDER THE SHAFT ITEM.

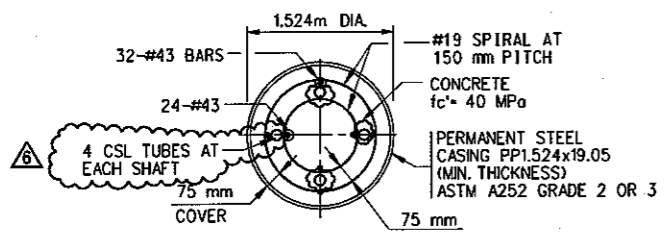
- ADDITIONAL LOCATIONS SHALL BE ROCK CORED AND SAMPLED AT THE DIRECTION OF THE ENGINEER IF IN HIS DETERMINATION THEY ARE NEEDED TO CONFIRM THE ADEQUACY OF THE ROCK SOCKETS AT A GIVEN PIER OR RELIEVING PLATFORM. THIS WORK SHALL BE PAID UNDER ITEM 648.15.
- ADDITIONAL LOCATIONS SHALL BE VIDEO INSPECTED AND RECORDED AT THE DIRECTION OF THE ENGINEER IF IN HIS DETERMINATION THEY ARE NEEDED TO CONFIRM THE ADEQUACY OF THE ROCK SOCKETS AT A GIVEN PIER OR RELIEVING PLATFORM.
- ACTUAL TIP ELEVATION SHALL BE AS NEEDED TO OBTAIN AN ADEQUATE ROCK SOCKET. THE ADEQUACY OF THE ROCK SOCKET SHALL BE AT THE SOLE DETERMINATION OF THE ENGINEER.
- OSTERBERG TEST RESULTS MUST BE SUBMITTED AND APPROVED PRIOR TO STARTING ADDITIONAL SHAFT INSTALLATION, BOTH IN THE SAME PIER AND FOR OTHER SHAFTS IN THE SAME REGION OF THE PROJECT. ALTERNATE OSTERBERG TEST LOCATIONS MAY BE PROPOSED BY THE CONTRACTOR TO REPRESENT EACH OF THE THREE REGIONS OF THE CONTRACT, A) THE MANHATTAN APPROACH AND RELIEVING PLATFORM, B) THE RIVER SPANS, AND C) THE BRONX APPROACH, THE BRONX RELIEVING PLATFORM COULD FALL IN EITHER REGION B OR C.

CROSSHOLE SONIC LOGGING NOTES:

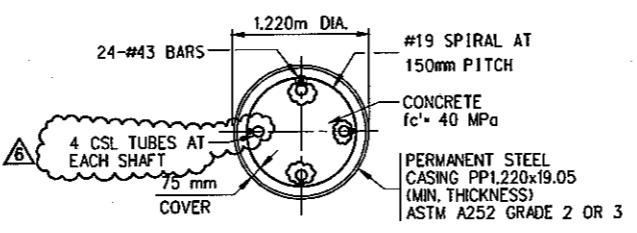
- CROSSHOLE SONIC LOGGING IN ACCORDANCE WITH ASTM D-6760-02 SHALL BE PERFORMED AT EACH DRILLED SHAFT.
- FOUR 38MM DIA. SCHEDULE 40 BLACK STEEL TUBES SHALL BE INSTALLED AT EACH SHAFT. THE TUBES SHALL BE TIED TO THE INSIDE OF THE REBAR AND SHALL EXTEND 1.0M ABOVE THE TOP OF THE SHAFT.
- THE SHAFT CONCRETE SHALL BE CURED A MINIMUM OF 2 DAYS PRIOR TO TESTING. TESTING MUST BE DONE WITHIN 45 DAYS OF CONCRETE PLACEMENT.

DRILLED SHAFT ELEVATION TABLE

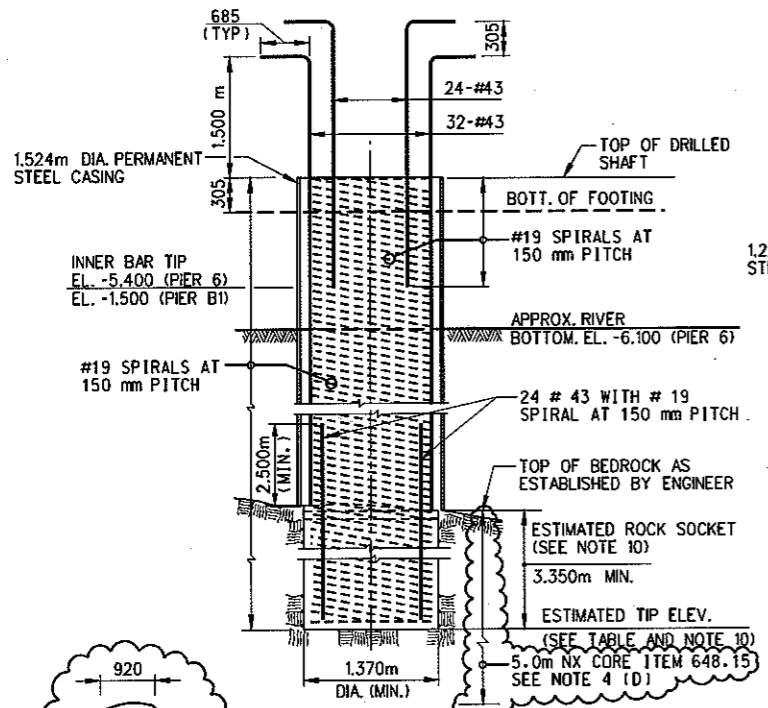
PIER NO.	BOTTOM OF FOOTING EL.	ESTIMATED SHAFT TIP EL. (SEE NOTE 10)
FDR ABUT.	0.140 m	-10.0 m
A1	-0.400 m	-10.0 m
A2	-0.400 m	-17.0 m
A3	-0.400 m	-22.0 m
A4	-0.500 m	-36.0 m
4	-1.162 m	-30.0 m
5	-1.933 m	-30.0 m
6	-1.157 m	-32.0 m
7	-1.933 m	-27.0 m
8	-1.150 m	-23.0 m
9	-0.050 m	-22.0 m
10	-0.300 m	-31.0 m
11	-0.300 m	-33.0 m
B1	2.800 m	-18.0 m
BX. PLAT. A	-0.910 m	-23.0 m
BX. PLAT. B	-0.910 m	-23.0 m
MAN. PLAT. 1	-1.825 m	-30.0 m
MAN. PLAT. 2	-1.825 m	-30.0 m



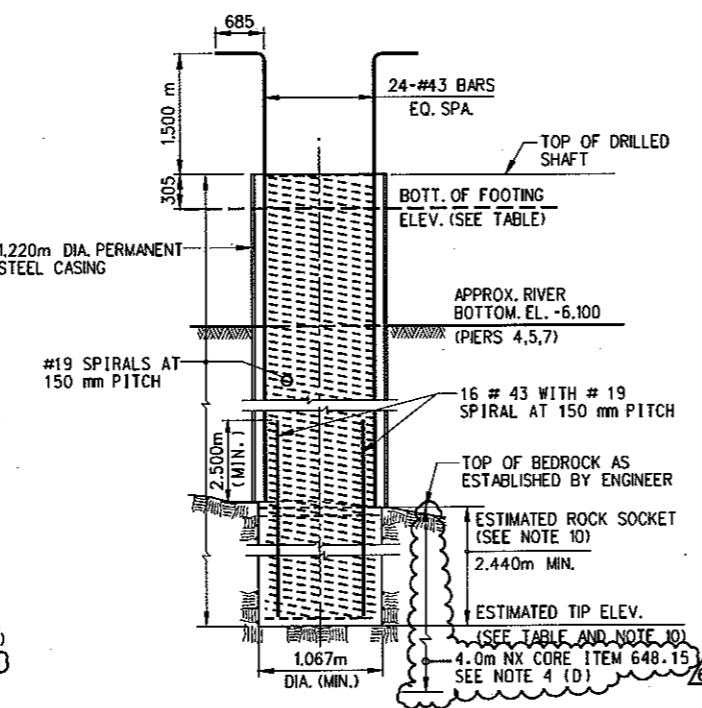
CROSS SECTION



CROSS SECTION



**PIER 6 (PIVOT PIER)
PIER B1**



**FDR RAMP ABUTMENT
PIERS A1, A2, A3, A4, 4, 5, 7, 8, 9, 10, 11
BRONX RELIEVING PLATFORMS A AND B
MANHATTAN RELIEVING PLATFORMS 1 AND 2**

DRILLED SHAFT DETAILS

N.T.S.

AXIAL DESIGN CAPACITY	
PIER NO.	PER DRILLED SHAFT (kN)
FDR RAMP ABUTMENT	9,800
A1	9,800
A2	9,800
A3	9,800
A4	9,800
4	9,800
5	9,800
6	15,100
7	9,800
8	9,800
9	9,800
10	9,800
11	9,800
B1	15,100
BRONX REL. PLAT. A	9,800
BRONX REL. PLAT. B	9,800
MANHATTAN REL. PLAT. 1	9,800
MANHATTAN REL. PLAT. 2	9,800

ITEM NO.	ESTIMATE OF QUANTITIES						FURNISHING EQUIPMENT FOR INSTALLING DRILLED SHAFTS SHALL BE PAID UNDER
	551.99490117 DRILLED SHAFTS 1220mm		551.99500117 DRILLED SHAFTS (LOW OVERHEAD CLEAR.) 1220mm		551.99490217 DRILLED SHAFTS 1524mm		
DESCRIPTION	QUANTITY	METERS	QUANTITY	METERS	QUANTITY	METERS	
FDR RAMP ABUTMENT	6	10.3	-	-	-	-	551.60----17
A1	-	-	4	9.9	-	-	551.62----17
A2	-	-	4	16.9	-	-	551.62----17
A3	-	-	4	21.9	-	-	551.62----17
A4	6	35.8	-	-	-	-	551.60----17
4	16	29.1	-	-	-	-	551.60----17
5	12	28.4	-	-	-	-	551.61----17
6	-	-	-	-	16	30.8	551.61----17
7	12	25.4	-	-	-	-	551.61----17
8	16	22.2	-	-	-	-	551.60----17
9	16	22.3	-	-	-	-	551.60----17
10	7	31.0	7	31.0	-	-	551.60----17 AND
11	8	33.0	8	33.0	-	-	551.62----17
B1	-	-	-	-	6	21.1	551.60----17
BRONX BULKHEAD REL. PLAT. A	23	22.4	7	22.4	-	-	551.60----17
BRONX BULKHEAD REL. PLAT. B	63	22.1	-	-	-	-	551.60----17
MANHATTAN REL. PLAT. 1	18	28.2	-	-	-	-	551.60----17
MANHATTAN REL. PLAT. 2	12	28.2	-	-	-	-	551.60----17
TOTAL	216	5,366	34	834	22	621	

ADDENDUM NO. AH-111
THIS DRAWING SUPERSEDES DWG. P-65R1

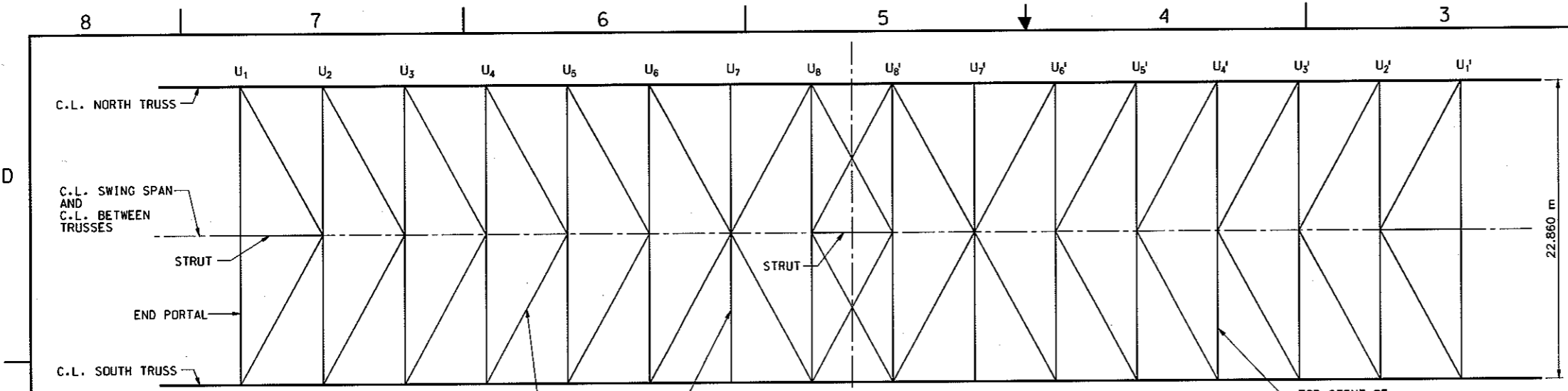
CITY OF NEW YORK
DEPARTMENT OF TRANSPORTATION
DIVISION OF BRIDGES

CONTRACT NO. BRCR076

REPLACEMENT OF
WILLIS AVENUE BRIDGE
OVER THE HARLEM RIVER
BOROUGH OF MANHATTAN AND THE BRONX BN 2-24005-9/A/B

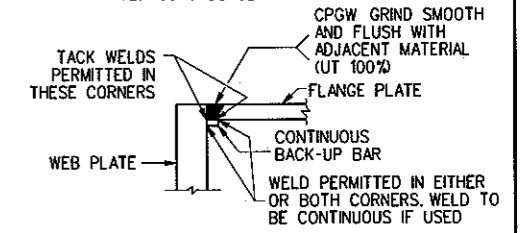
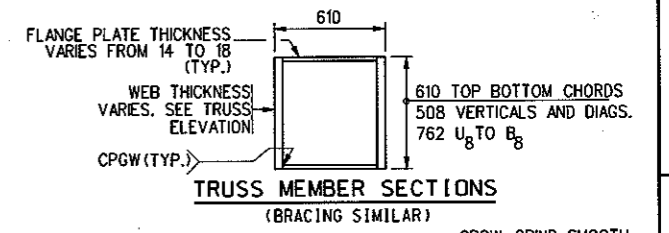
DRILLED SHAFT FOUNDATIONS
FDR RAMP ABUTMENT, PIERS A1 THRU A4
AND PIERS 4 THRU 11 AND B1

FED. RD. REG. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	NEW YORK	L1C0/L050-X757-003	694R	1160
REPLACEMENT OF WILLIS AVENUE BRIDGE OVER THE HARLEM RIVER				
P.I.N. 84106MBR081	NEW YORK AND BRONX COUNTIES	B.I.N. 2-24005-9/A/B		



TOP LATERAL (TYP.) SECTION:
2 WEB PLS. 610x14
2 FLG. PLS. 277x14
WELDS: CPGW

TOP STRUT OF SWAY FRAME (TYP.) SECTION:
2 WEB PLS. 610x14
2 FLG. PLS. 277x14
WELDS: CPGW



WELD DETAILS
(INCLUDING MEMBERS M₈-M_{8'} AND B₈-B_{8'})
TYPICAL BOX MEMBER DETAILS

N.T.S.
(FOR TOP AND BOTTOM CHORDS, VERTICALS AND DIAGONAL TRUSS MEMBERS, INCLUDING BRACING)

NOTES:

- FOR SWING SPAN TRUSS DETAILS, SEE DWG. NOS. SS-4 THRU SS-11.
- FOR FLOORBEAM DETAILS, SEE DWG. NOS. SS-12 THRU SS-15.
- FOR BOTTOM LATERAL BRACING DETAILS, SEE DWG. NOS. SS-17 THRU SS-19.
- FOR SWING SPAN DECK, GRATING, JOINT AND BARRIER DETAILS, SEE DWG. NOS. SS-20 THRU SS-24.
- FOR ROADWAY LIGHTING SUPPORT DETAILS, SEE DWG. NO. SS-11.
- FOR SWING SPAN NOTES AND PAY ITEMS SEE DWG. NOS. SS-2 AND SS-3.
- FOR ORIENTATION OF MC460x64, SEE FLOORBEAM DWG. NO. SS-12 TO SS-15.

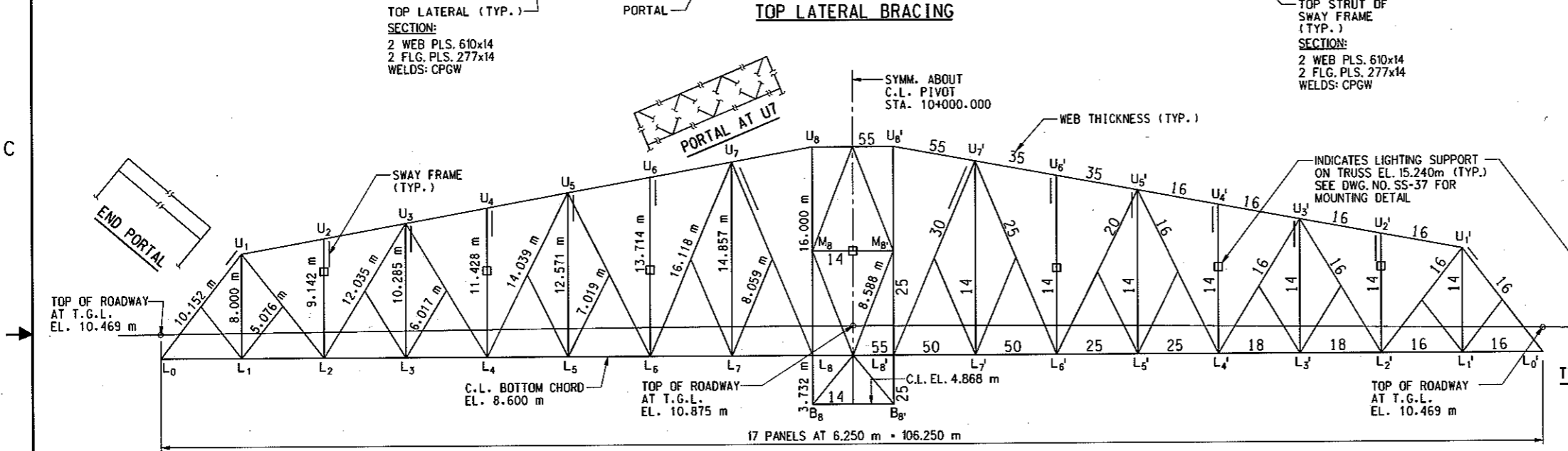
ADDENDUM NO. A
AC-225
THIS DRAWING SUPERSEDES DWG. SS-1

CITY OF NEW YORK
DEPARTMENT OF TRANSPORTATION
DIVISION OF BRIDGES

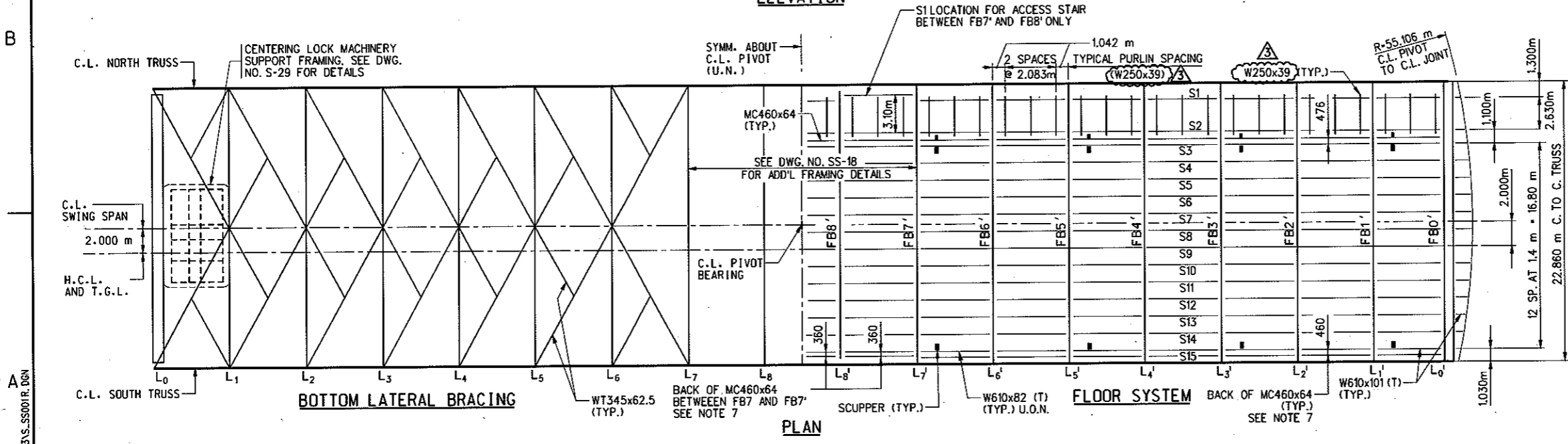
CONTRACT NO. **BRCR076**

REPLACEMENT OF
WILLIS AVENUE BRIDGE
OVER THE HARLEM RIVER
BOROUGH OF MANHATTAN AND THE BRONX **BN 2-24005-9/A/B**

SWING SPAN
FRAMING PLAN

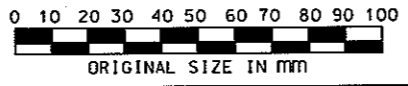


TYPICAL SWAY FRAME



PLAN

HA HARDESTY & HANOVER, LLP
ENGINEERING
1501 BROADWAY NEW YORK, NY 10036

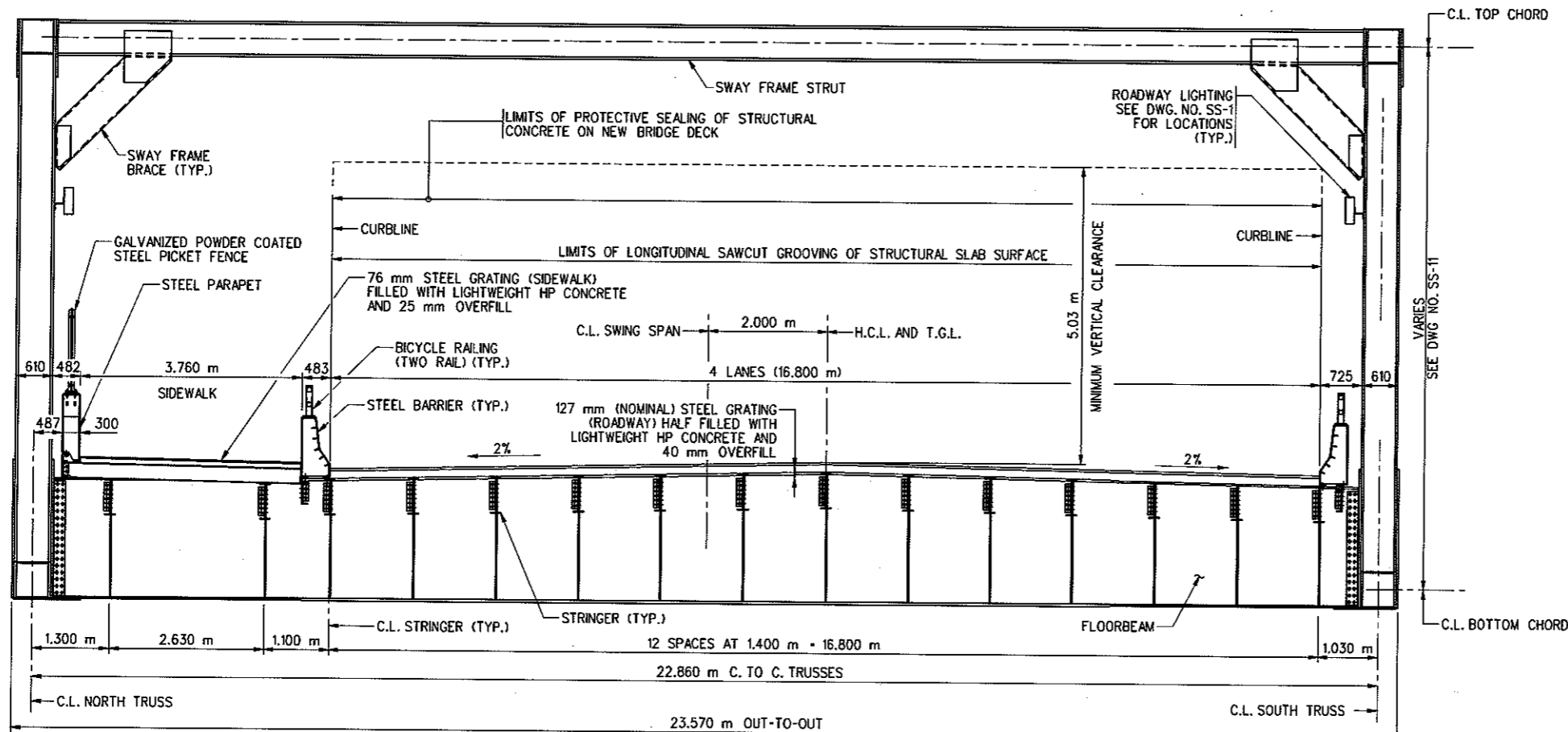


PREPARED BY **HARDESTY & HANOVER, LLP**
IN CHARGE **WEN** DRAFTER **DJD**
DESIGNER **WVC** CHECKER **DST**

N.Y.C.D.O.T. MICROFILM IDENTIFICATION NUMBER
2-24005-9/A/B F96 194

DWG. NO.	SCALE:	DATE:	SHEET NO.
SS-1R	1:200	MAY 2006	694R

FED. RD. REG. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	NEW YORK	L1C0/L050-X757-003	695	1160
REPLACEMENT OF WILLIS AVENUE BRIDGE OVER THE HARLEM RIVER				
P.I.N. 84106MBR081	NEW YORK AND BRONX COUNTIES	B.I.N. 2-24005-9/A/B		



TYPICAL SECTION (FB1-FB6)
(FB4 SHOWN)

NOTES:

1. FOR SWING SPAN TRUSS DETAILS, SEE DWG. NOS. SS-4 THRU SS-11.
2. FOR FLOORBEAM DETAILS, SEE DWG. NOS. SS-12 THRU SS-15.
3. FOR PIVOT GIRDER DETAILS, SEE DWG. NO. SS-16.
4. FOR BOTTOM LATERAL BRACING DETAILS, SEE DWG. NOS. SS-17 THRU SS-19.
5. FOR SWING SPAN DECK, GRATING, AND JOINT DETAILS, SEE DWG. NOS. SS-20 THRU SS-22.
6. FOR DRAINAGE DETAILS, SEE DWG. NOS. SS-22 AND SS-24.
7. FOR STEEL BARRIER, PARAPET DETAILS, PEDESTRIAN FENCING AND BICYCLE RAILING (TWO RAIL) DETAILS, SEE DWG. NOS. SS-23, SS-24, GD-4 AND GD-5.
8. FOR MACHINERY SUPPORT DETAILS, SEE DWG. NOS. SS-25 THRU SS-31.
9. FOR ROADWAY LIGHTING SUPPORT DETAILS, SEE DWG. NO. SS-11.
10. FOR SWING SPAN NOTES, SEE DWG. NO. SS-3.
11. FOR ESTIMATED PAINT AREA, SEE DWG. NO. AS-1.

ESTIMATE OF QUANTITIES

ITEM NO.	DESCRIPTION	UNIT	QUANTITY	REMARKS
557.34----10	LIGHTWEIGHT HIGH PERFORMANCE CONCRETE	SQM	2,425	ROADWAY AND SIDEWALK DECKS PLUS THE CONTROL HOUSE AND MACHINERY LEVEL FLOORS, INCLUDING REINFORCEMENT
558.02	LONGITUDINAL SAWCUT GROOVING OF STRUCTURAL SLAB SURFACE	SQM	1,814	SWING SPAN ONLY
559.1896--18	PROTECTIVE SEALING OF STRUCTURAL CONCRETE ON NEW BRIDGE DECK	SQM	2,220	SWING SPAN ONLY
564.0503	STRUCTURAL STEEL (TYPE 3 - SWING SPAN)	LS	1	INCLUDES STEEL BARRIERS; PARAPETS; MACHINERY SUPPORTS; ALL RAILINGS, LADDERS, OPEN GRATING, STAIRS, AND WALKWAYS ON THE PIVOT PIER AND BOTH REST PIERS (THE CONTROL HOUSE STAIRS AND PLATFORM TO BE PAID UNDER THE CONTROL HOUSE ITEM), AND ALL MISCELLANEOUS ITEMS (SCUPPERS, ACCESS HATCHES, DOORS AND HARDWARE IS ALSO INCLUDED), U.O.N. THE SWING SPAN DECK JOINT, TWO MATED SETS - TWO LOCATIONS, IS ALSO INCLUDED
568.90	BICYCLE RAILING (TWO RAIL)	M	212	SWING SPAN ONLY
596.10----10	STEEL GRID DECK	SQM	2,425	ROADWAY AND SIDEWALK DECKS PLUS THE CONTROL HOUSE MACHINERY LEVEL FLOORS.
607.4002--29	GALVANIZED POWDER COATED STEEL PICKET FENCE	M	106	SWING SPAN ONLY
831.0103	SYSTEM A - ALL COATS APPLIED IN SHOP (SPI0/INORGANIC ZINC/EPOXY INTERMEDIATE/URETHANE FINISH)	LS	1	SWING SPAN ONLY
831.250001	SYSTEM CG - OVERCOATING FOR GALVANIZED STEEL	LS	1	STEEL BARRIER AND STEEL PARAPET ON SWING SPAN

CITY OF NEW YORK
DEPARTMENT OF TRANSPORTATION
DIVISION OF BRIDGES

CONTRACT NO. BRCR076

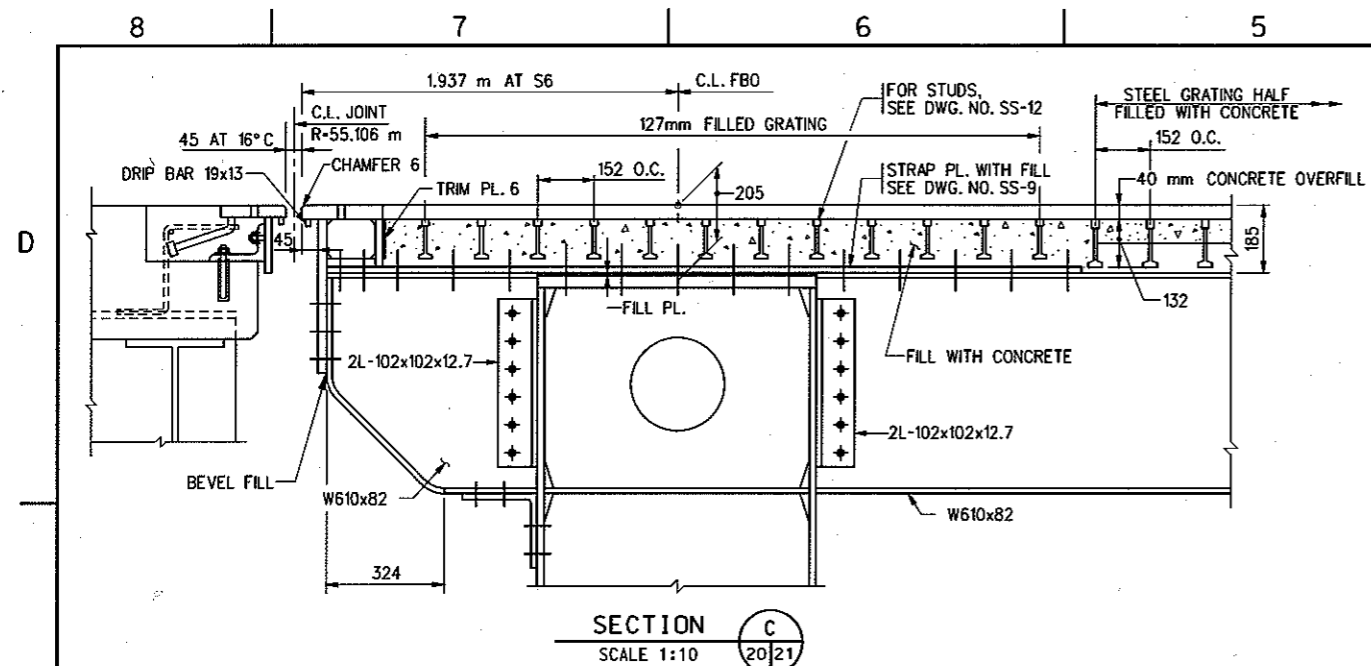
REPLACEMENT OF
WILLIS AVENUE BRIDGE
OVER THE HARLEM RIVER
BOROUGH OF MANHATTAN AND THE BRONX BN 2-24005-9/A/B

**SWING SPAN
TYPICAL SECTION**

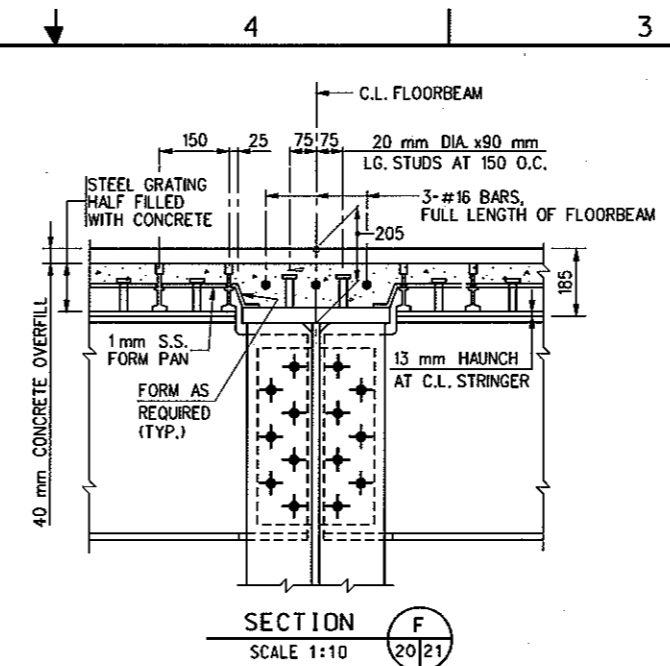
DWG. NO. SS-2	SCALE: 1:50	DATE: MAY 2006	SHEET NO. 695
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A HARDESTY & HANOVER, LLP

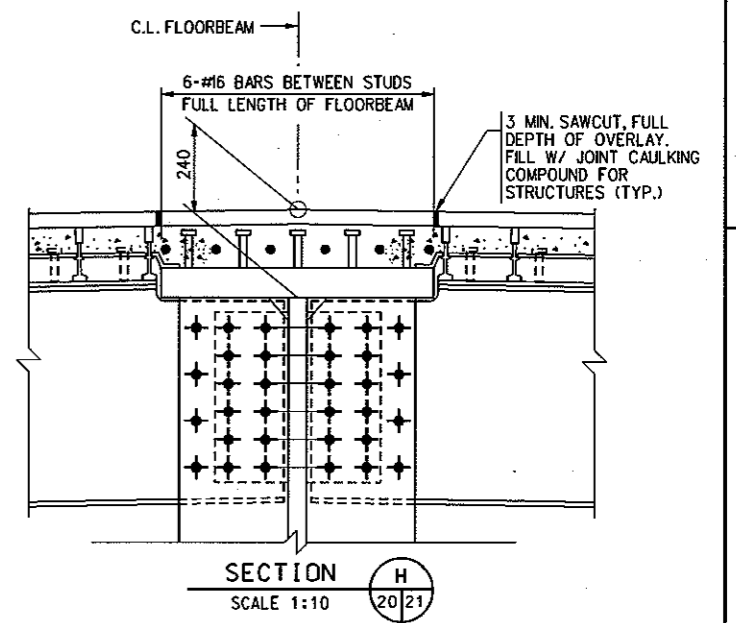
FED. RD. REG. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	NEW YORK	L1CO/L050-X757-003	714R	1160
REPLACEMENT OF WILLIS AVENUE BRIDGE OVER THE HARLEM RIVER				
P.I.N. 84106MBB081	NEW YORK AND BRONX COUNTIES		B.I.N. 2-24005-9/A/B	



TYPICAL ROADWAY SECTION AT FBO (ROADWAY)

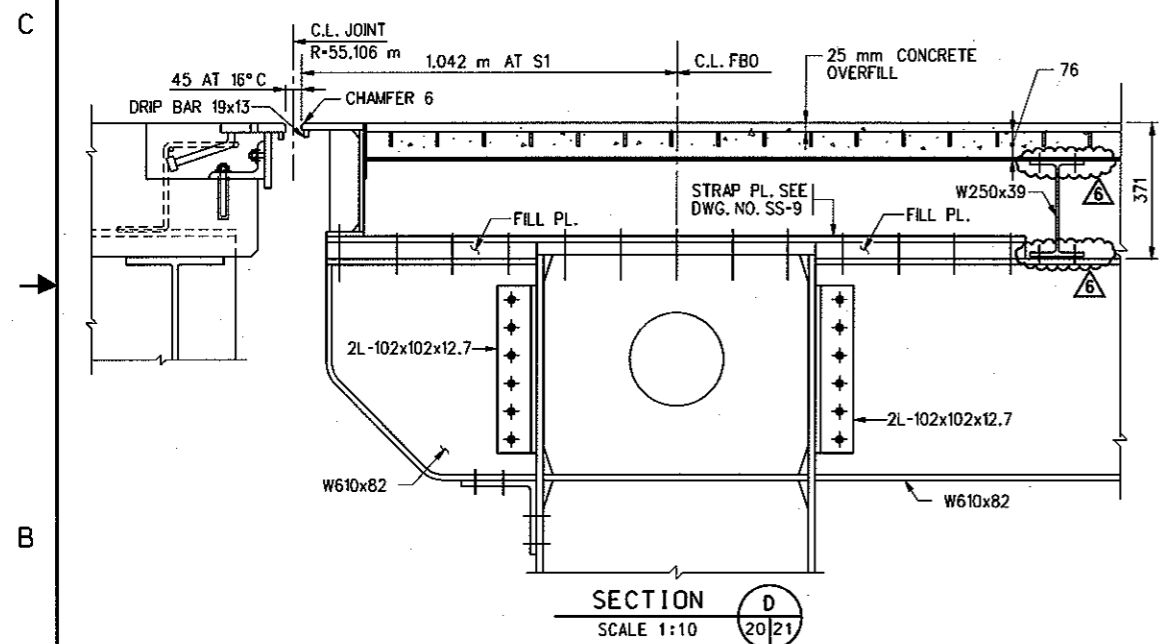


**TYPICAL SECTION AT INTERMEDIATE FLOORBEAM
FB1 THRU FB6 SHOWN FB7 SIMILAR**

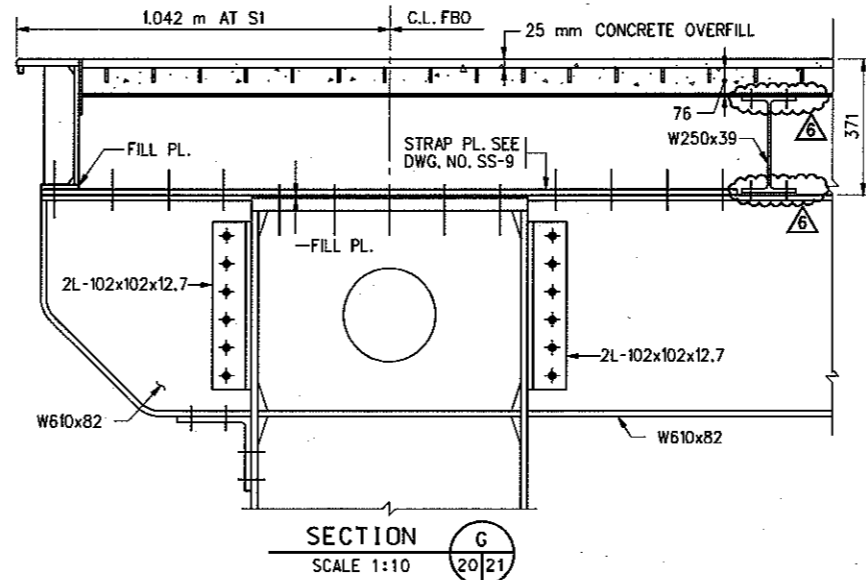


SECTION H
SCALE 1:10

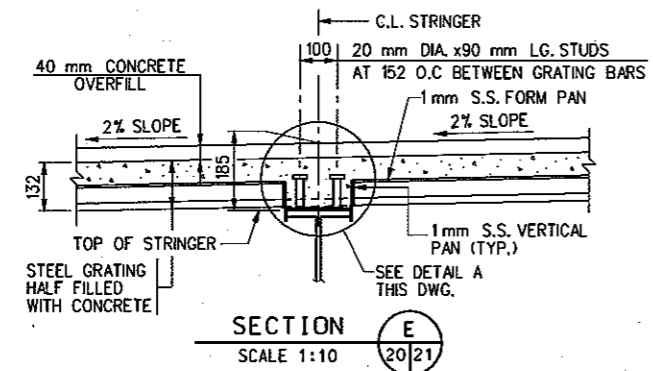
- NOTES:**
- FOR SWING SPAN FRAMING PLAN SEE DWG. NO. SS-1.
 - FOR SWING SPAN TRUSS DETAILS, SEE DWG. NOS. SS-5 THRU SS-7.
 - FOR FLOORBEAM DETAILS, SEE DWG. NOS. SS-12 THRU SS-15.
 - FOR PIVOT GIRDER DETAILS, SEE DWG. NO. SS-16.
 - FOR STRUCTURAL STEEL NOTES, SEE DWG. NO. SS-3.
 - THE CONTRACTOR MAY PROPOSE MODIFICATIONS TO THE END JOINT SUPPORT DETAILS SHOWN TO FACILITATE SPAN INSTALLATION OPERATIONS, IN ACCORDANCE WITH APPENDIX D OF THE SPECIFICATIONS.
 - THE END JOINT SHALL BE PAID FOR UNDER THE SWING SPAN STRUCTURAL STEEL ITEM, THE END JOINT INCLUDES ALL STEEL MOUNTED ON THE SWING SPAN AND THE MATING JOINT STEEL ON THE ADJACENT APPROACH SPANS (2 REQUIRED).



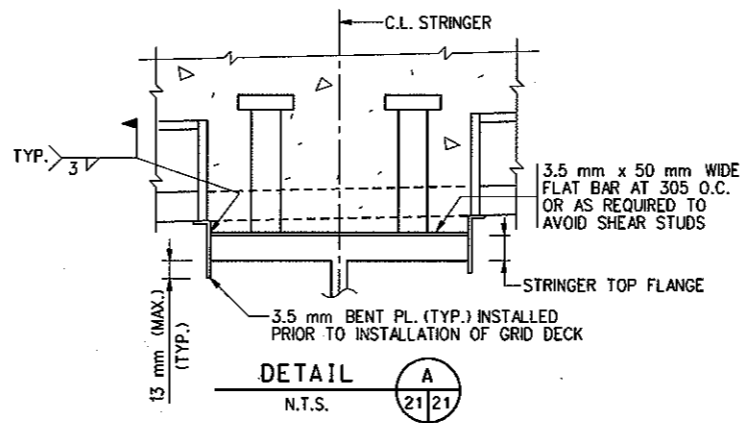
TYPICAL SIDEWALK SECTION AT FBO (SIDEWALK) - STRINGER S2



TYPICAL SIDEWALK SECTION AT FBO (SIDEWALK) - STRINGER S1
SEE SECTION D FOR DETAILS NOT SHOWN



TYPICAL SECTION AT STRINGER



DETAIL A
N.T.S.

ADDENDUM NO. A
AF-145
THIS DRAWING SUPERSEDES DWG. SS-21

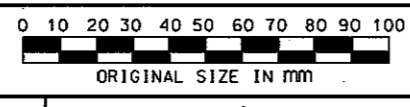
CITY OF NEW YORK
DEPARTMENT OF TRANSPORTATION
DIVISION OF BRIDGES

CONTRACT NO. BRCR076
REPLACEMENT OF
WILLIS AVENUE BRIDGE
OVER THE HARLEM RIVER
BOROUGH OF MANHATTAN AND THE BRONX B.N. 2-24005-9/A/B

**SWING SPAN
DECK AND JOINT DETAILS**

DWG. NO.	SCALE:	DATE:	SHEET NO.
SS-21R	AS NOTED	MAY 2006	714R

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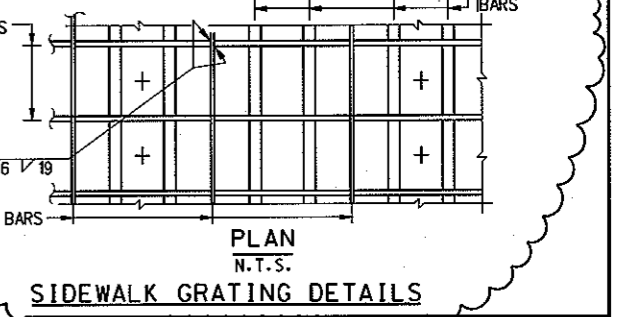
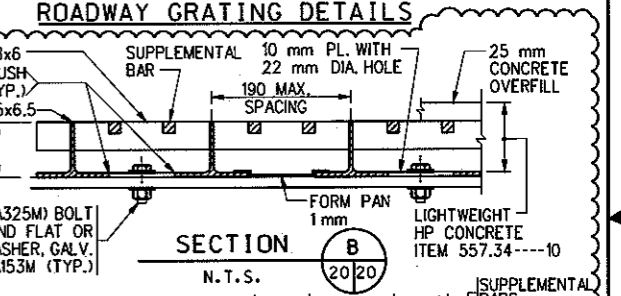
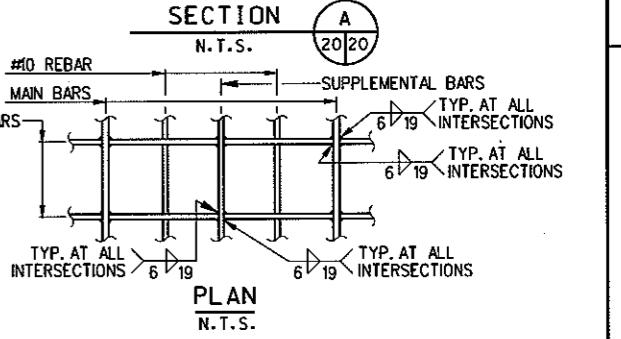
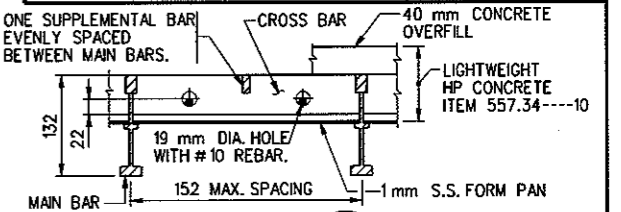


PREPARED BY HARDESTY & HANOVER, LLP
IN CHARGE: WEN DRAFTER: DJD
DESIGNER: DJD CHECKER: DST

N.Y.C.D.O.T. MICROFILM IDENTIFICATION NUMBER
2-24005-9/A/B F96 214

VADEVDL065.SS014BR.DGN

FED. RD. REG. NO.	STATE	FEDERAL AID PROJECT NO.	SHEET NO.	TOTAL SHEETS
	NEW YORK	L1C0/L050-X757-003	713R	1160
REPLACEMENT OF WILLIS AVENUE BRIDGE OVER THE HARLEM RIVER				
P.I.N. 84106MBR081	NEW YORK AND BRONX COUNTIES	B.I.N. 2-24005-9/A/B		



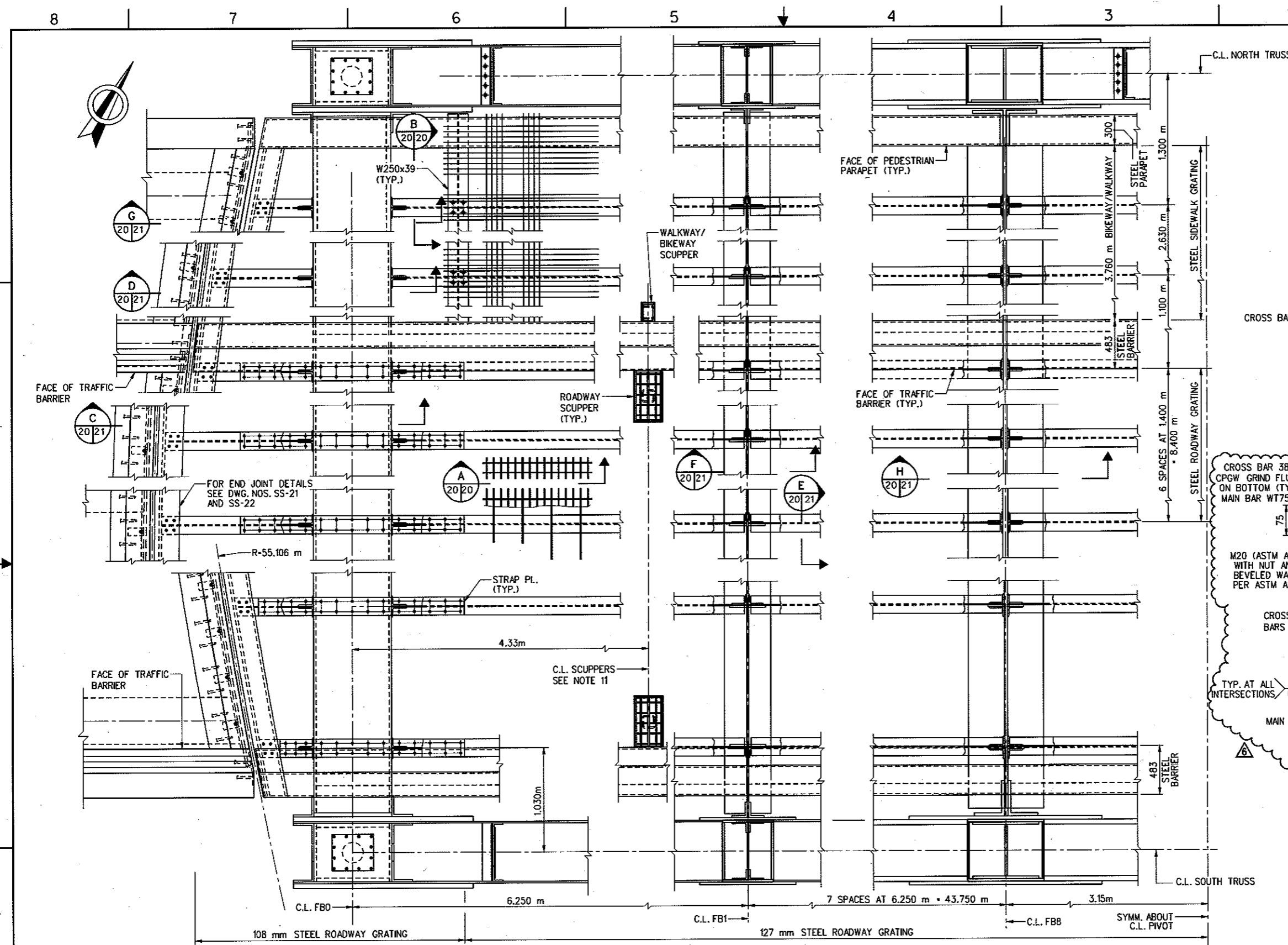
ADDENDUM NO. **A**
AF-144
THIS DRAWING SUPERSEDES DWG. SS-20

CITY OF NEW YORK
DEPARTMENT OF TRANSPORTATION
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CONTRACT NO. BRCR076
REPLACEMENT OF
WILLIS AVENUE BRIDGE
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BOROUGH OF MANHATTAN AND THE BRONX BN 2-24005-9/A/B

**SWING SPAN
DECK PLAN**

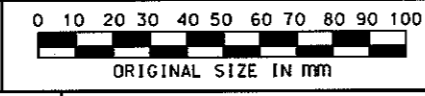
DWG. NO.	SCALE:	DATE:	SHEET NO.
SS-20R	AS NOTED	MAY 2006	713R



PARTIAL DECK PLAN
SCALE 1:20

- NOTES:**
- ALL BOLTS M22 - A325M UNLESS NOTED.
 - FOR FRAMING PLAN SEE DWG. NO. SS-1.
 - FOR BOTTOM LATERAL BRACING DETAILS SEE DWG. NO. SS-17.
 - FOR STEEL BARRIER AND DRAINAGE DETAILS SEE DWG. NO. SS-24.
 - FOR FLOORBEAM DETAILS SEE DWG. NOS. SS-12 THRU SS-15.
 - FOR PIVOT GIRDER DETAILS SEE DWG. NOS. SS-16.
 - FOR STRUCTURAL STEEL NOTES SEE DWG. NO. SS-3.
 - FOR RAIL POSTS AND BASE PLATES NOT SHOWN, SEE DWG. NOS. SS-23 AND SS-24.
 - FOR PAY ITEMS, SEE DWG. NO. SS-2.
 - STEEL ROADWAY GRATING AND STEEL SIDEWALK GRATING SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A123M. (PAINTING NOT REQUIRED.)
 - SCUPPERS ARE LOCATED 4.330 m FROM FBO, FB2, FB4 AND FB6.

HARDESTY & HANOVER, LLP
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PREPARED BY **HARDESTY & HANOVER, LLP**
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DESIGNER **DJD** CHECKER **DST**

N.Y.C.D.O.T. MICROFILM IDENTIFICATION NUMBER
2-24005-9/A/B F96 213

ADDENDUM 06 SS-2014R.DGN