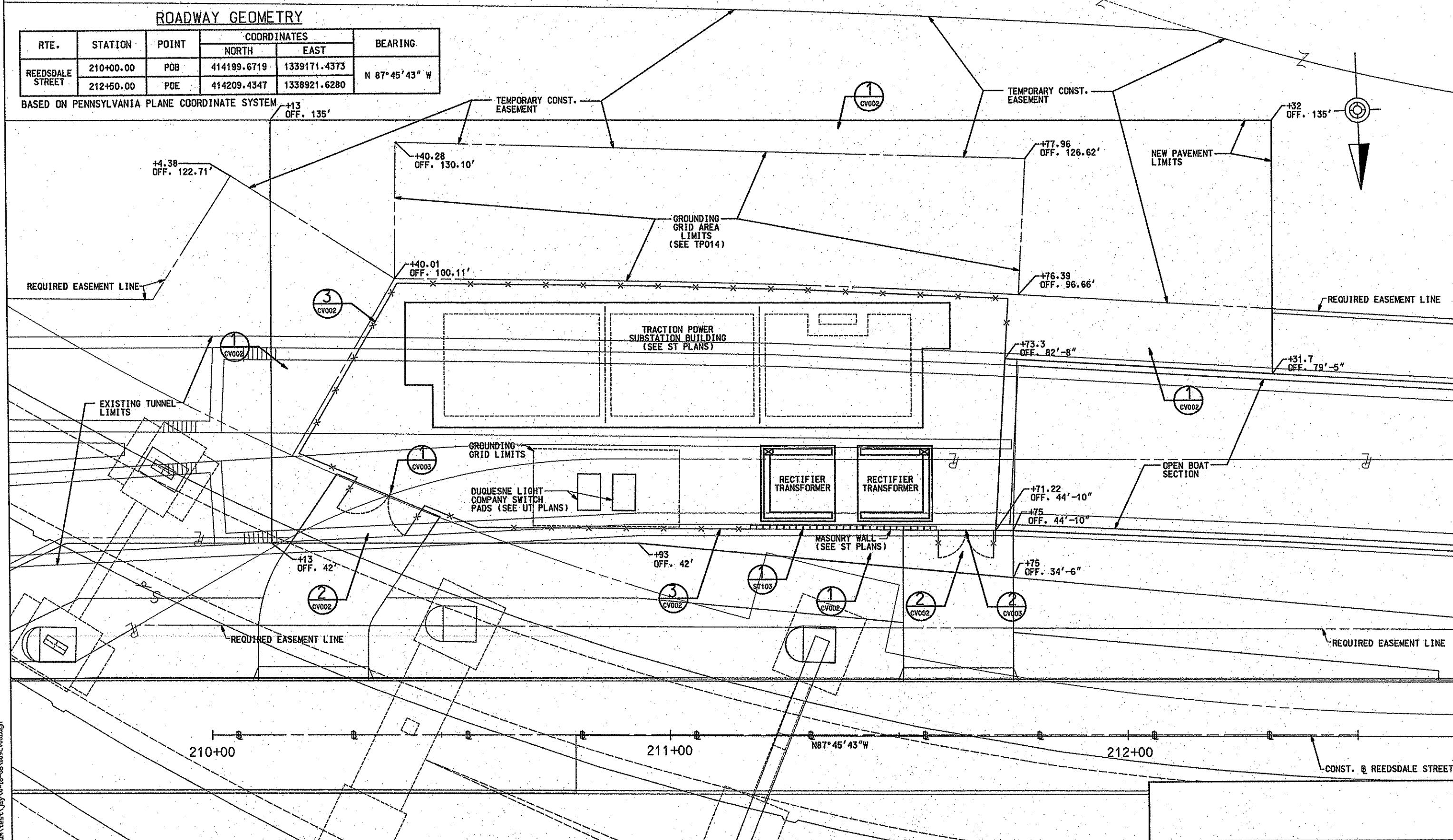


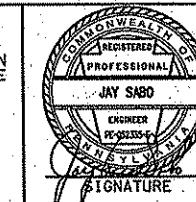
ROADWAY GEOMETRY

RTE.	STATION	POINT	COORDINATES		BEARING
			NORTH	EAST	
REEDSDALE STREET	210+00.00	POB	414199.6719	1339171.4373	N 87° 45' 43" W
	212+50.00	POE	414209.4347	1338921.6280	

BASED ON PENNSYLVANIA PLANE COORDINATE SYSTEM



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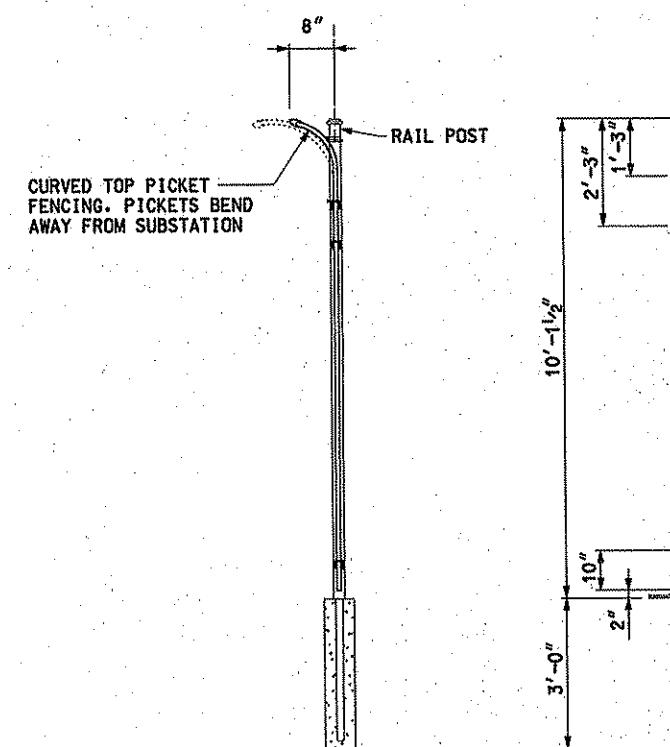
DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222

APPROVED *[Signature]* DATE *[Signature]*

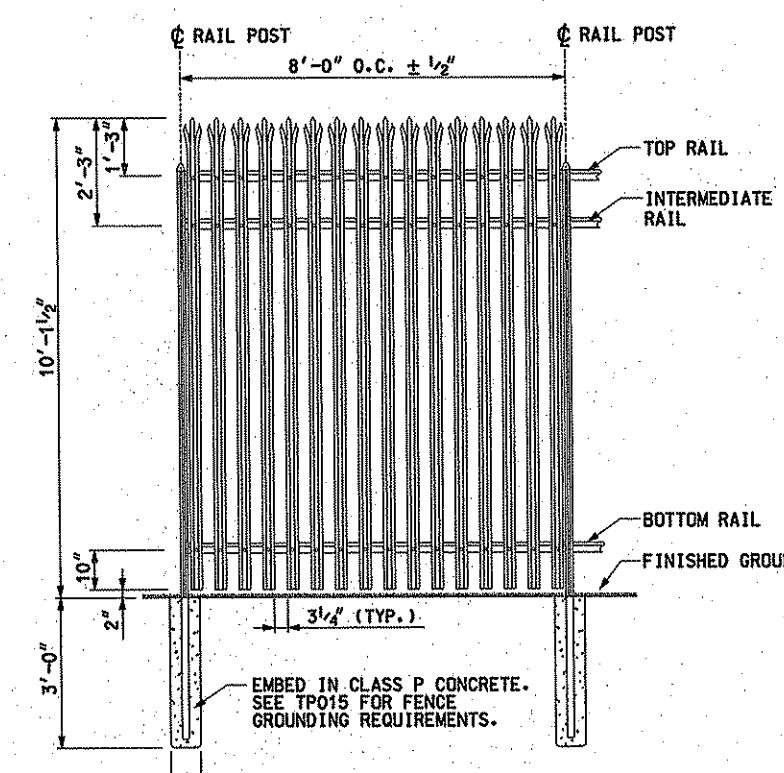
DESIGNED MLH
DRAWN MLH
CHECKED JAS
IN CHARGE DPH
DATE APR. 21, 2008
SCALE 10' 5' 0 10'

PORT AUTHORITY OF ALLEGHENY COUNTY
PENNSYLVANIA
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEMS (SYSTEM WIDE)
TRACTION POWER SUBSTATION
SITE PLAN
Port Authority
CONTRACT NO. NSC-009
DWG. NO. CV001 SHT. 80

NO.	DATE	DESCRIPTION
		REVISIONS



END VIEW

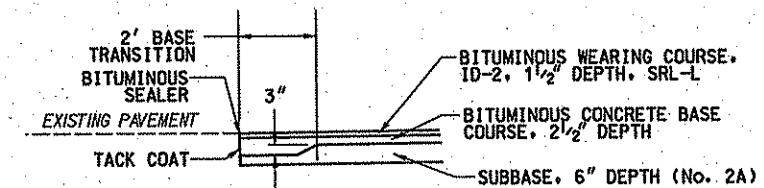


ELEVATION

SECURITY FENCE DETAILS

1

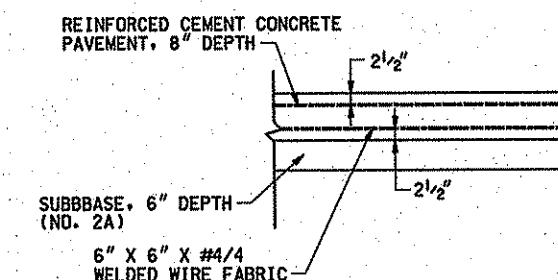
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PAVEMENT DETAIL

1

CV001

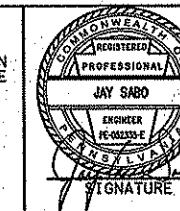


CONCRETE DRIVEWAY DETAIL

2

200

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DMJM HARRIS | AECO

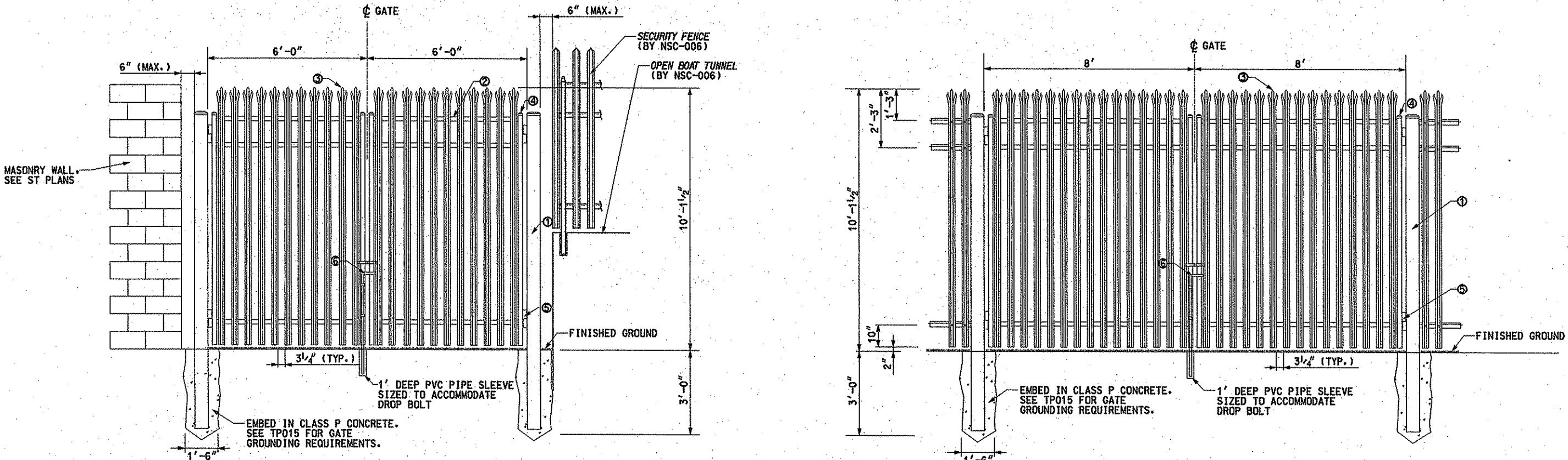
Dad P. B. APPROVED 4/21/6 DATE

DESIGNED MLH
DRAWN JMB
CHECKED JAS
IN CHARGE DPH
DATE APR. 21, 2008
SCALE

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH, PENNSYLVANIA

**NORTH SHORE CONNECTOR
SC TRAIN SYSTEMS (SYSTEM WIDE)
TRACTION POWER SUBSTATION
SITE DETAILS**

SITE DETAILS		
Port Authority connecting people to life	CONTRACT NO.	NSC-009
	DING NO.	CV002
		SHT. 81



**SECURITY FENCE GATE,
10' HEIGHT BY 12' WIDTH DETAIL**

2
CV001

**SECURITY FENCE GATE,
10' HEIGHT BY 16' WIDTH DETAIL**

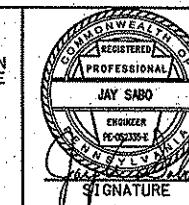
1
CV001

LEGEND

- ① WALL POST
- ② GATE RAIL
- ③ 2 3/4" WIDE PALE
- ④ GATE END
- ⑤ GATE HARDWARE
- ⑥ GATE LOCKING MECHANISM AND PAD LOCK

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NO.	DATE	DESCRIPTION	REVISIONS



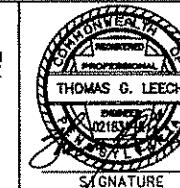
DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
D. P. Harris
APPROVED 4/21/08
SIGNATURE DATE

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEMS (SYSTEM WIDE)
TRACTION POWER SUBSTATION
SECURITY FENCE DETAILS
CONTRACT NO. NSC-009
DWG. NO. CV003 SHT. 82

TABULATION OF QUANTITIES FOR PARKING LOT NO. 1

QUANTITY	ITEM NUMBER	DESCRIPTION	
			UNIT
1	01791.008 EA	REINSTALL PARKING LOT SPECIAL SIGNAGE	
1	01791.013 LS	PERMANENT RELOCATION OF EXISTING PARKING LOT BOOTHS	
486	02316.001 CY	CLASS 1 EXCAVATION	
214	02627.009 LF	6" PAVEMENT BASE DRAIN, MODIFIED	
1255	02721.003 SY	SUBBASE, 6" DEPTH (NO. 2A)	
1255	02740.001 SY	BITUMINOUS BINDER COURSE, ID-2, 2" DEPTH	
2905	02740.002 SY	BITUMINOUS WEARING COURSE, ID-2, 1~ 1/2" DEPTH, SRL-L	
1255	02740.005 SY	BITUMINOUS CONCRETE BASE COURSE, 4 " DEPTH	
1650	02740.005 SY	MILLING OF BITUMINOUS PAVEMENT SURFACE, 1 1/2" DEPTH	
1650	02741.001 SY	BITUMINOUS TACK COAT	
1212	02761.002 LF	EPOXY RESIN PAINT, 4" WHITE EDGE LINE	
210	02761.008 LF	EPOXY RESIN PAINT, 6" BROKEN WHITE SKIP LINE	
247	02781.002 LF	CITY OF PITTSBURGH CONCRETE CURB	
37	02785.002 SY	REINFORCED CONCRETE SIDEWALK, 6" DEPTH	
336	02840.001 LF	TYPE 2-S GUIDE RAIL	
3	02840.002 EA	TERMINAL SECTION	
5	02843.001 EA	BOLLARDS	
50	02891.002 SF	POST MOUNTED SIGNS, TYPE B MODIFIED	
6	02891.020 EA	OVERHEAD CLEARANCE BAR	
375	16111.001 LF	1" DIRECT BURIAL CONDUIT	
375	16111.003 LF	2" DIRECT BURIAL CONDUIT	
375	16111.004 LF	3" DIRECT BURIAL CONDUIT	
1,170	16120.003 LF	AWG NO. 10 DIRECT BURIAL COPPER CABLE, 1 CONDUCTOR	

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DEPARTMENT OF TRANSPORTATION, UNDER THE
URBAN MASS TRANSPORTATION ACT OF 1964,
AS AMENDED, FOR THE PORT AUTHORITY OF
ALLEGHENY COUNTY, PENNSYLVANIA.



DMJM HARRIS | AEC
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222

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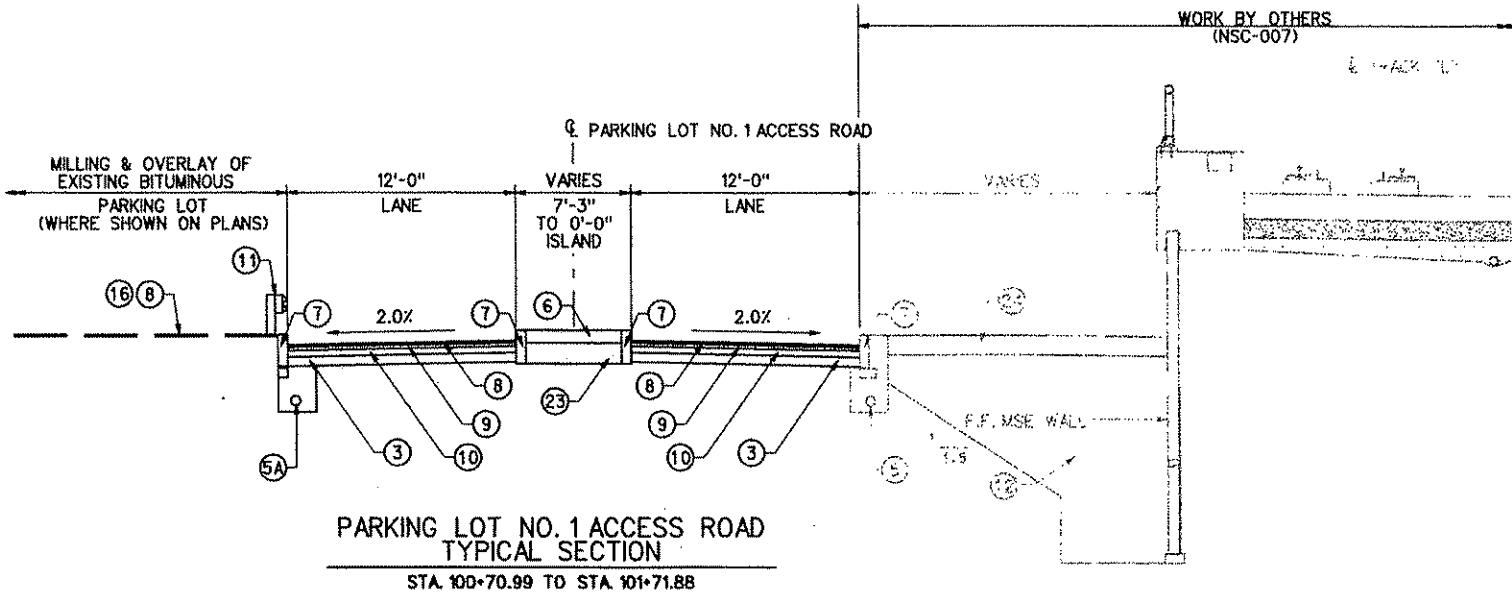
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SYSTEMS
WAY OF
ORDINATE

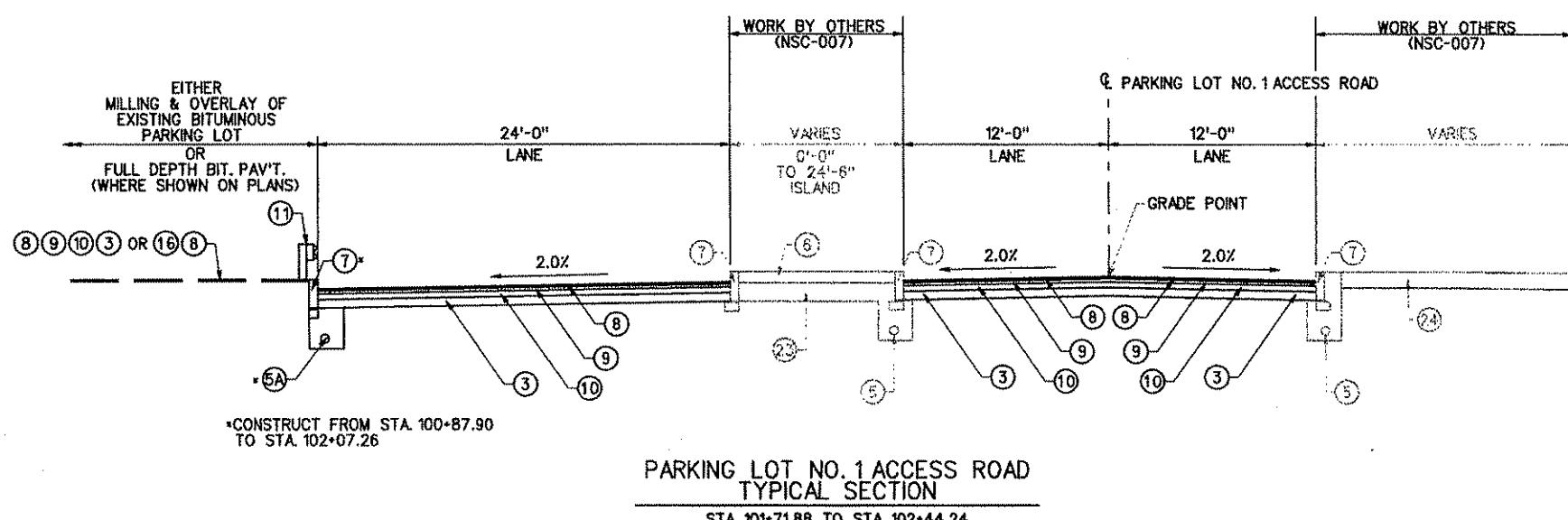
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CONTRACT

PITTSBURGH PORT AUTHORITY OF ALLEGHENY COUNTY PENNSYLVANIA

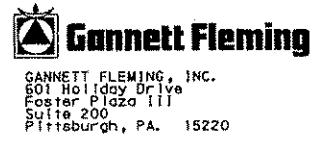
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEMS (SYSTEM WIDE)
ROADWAY QUANTITIES
ROADWAY COORDINATE GEOMETRY TABLE



- LEGEND
- ① REINFORCED CEMENT CONCRETE PAVEMENT, 10" DEPTH
 - ② SUBBASE, 10" DEPTH (NO. 2A)
 - ③ SUBBASE, 6" DEPTH (NO. 2A)
 - ④ GRANITE CURB
 - ⑤ 6" PAVEMENT BASE DRAIN, SPECIAL
 - ⑤A 6" PAVEMENT BASE DRAIN, MODIFIED
 - ⑥ REINFORCED CONCRETE SIDEWALK, 6" DEPTH
 - ⑦ CITY OF PITTSBURGH, CONCRETE CURB
 - ⑧ BITUMINOUS WEARING COURSE, ID-2, 1½" DEPTH, SRL-L
 - ⑨ BITUMINOUS BINDER COURSE, ID-2, 2" DEPTH
 - ⑩ BITUMINOUS CONCRETE BASE COURSE, 4" DEPTH
 - ⑪ TYPE 2-S GUIDE RAIL
 - ⑫ NO. 2A COARSE AGGREGATE
 - ⑬ TEMPORARY BITUMINOUS SIDEWALK
 - ⑭ 15" COMBINATION STORM SEWER AND UNDERDRAINS
 - ⑮ SELECT MATERIAL SURFACING, 6" DEPTH
 - ⑯ MILLING OF BITUMINOUS PAVEMENT SURFACE, 1½" DEPTH
 - ⑰ 30 MIL IMPERVIOUS MEMBRANE
 - ⑱ REINFORCED CEMENT CONCRETE PAVEMENT, 16" DEPTH
 - ⑲ 4" PLAIN CEMENT CONCRETE PAVEMENT
 - ⑳ 6" PERFORATED PIPE UNDERDRAIN
 - ㉑ SUBBASE, 12" DEPTH (NO. 2A)
 - ㉒ AASHTO #57, COARSE AGGREGATE
 - ㉓ SUBBASE MATERIAL (INCIDENTAL TO REINFORCED CONCRETE SIDEWALK OR TEMPORARY BITUMINOUS SIDEWALK OR 4" PLAIN CEMENT CONCRETE PAVEMENT)
 - ㉔ BELGIAN BLOCK SURFACING



DATE

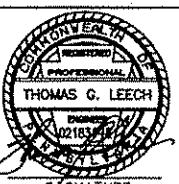


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NO.	DATE	DESCRIPTION
REVISIONS		

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THOMAS G. LEECH
PROFESSIONAL ENGINEER
#0218314
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
David J. Harris
APPROVED 4/21/08
SIGNATURE DATE

DESIGNED FPN
DRAWN DPV

CHECKED KCO

IN CHARGE TGL

DATE 4/21/08

SCALE N.T.S.

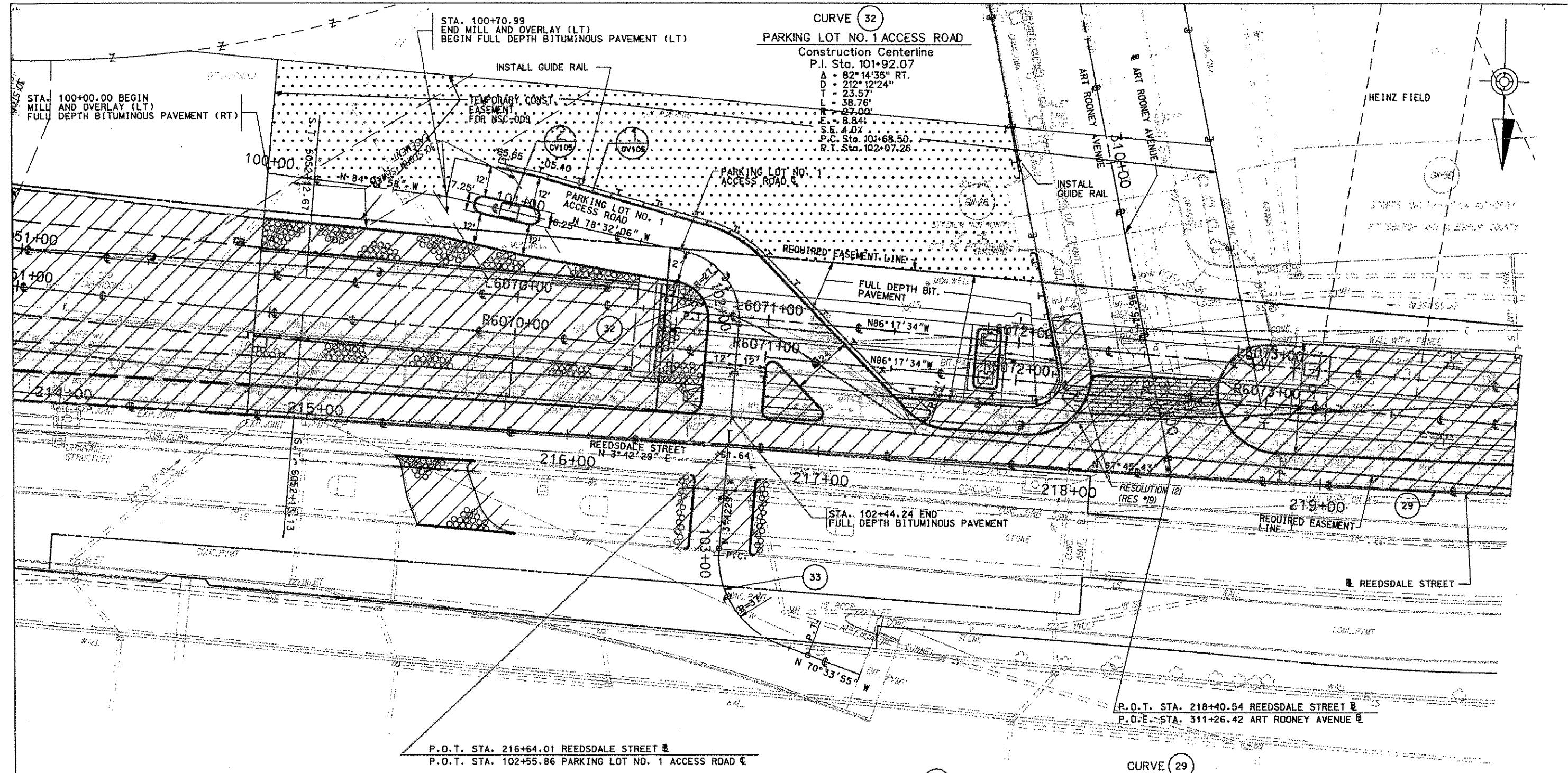
PORT AUTHORITY OF ALLEGHENY COUNTY

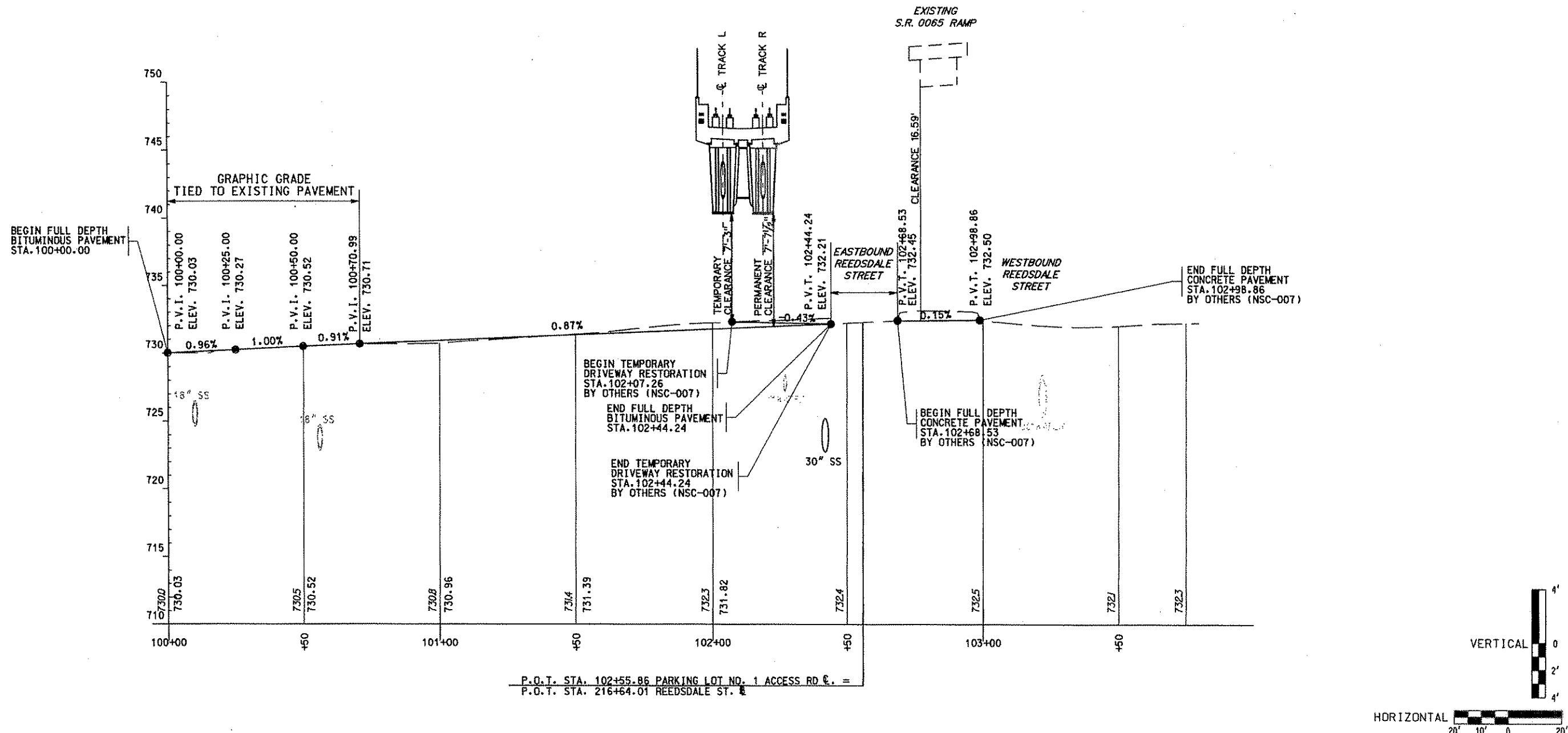
PITTSBURGH

NORTH SHORE CONNECTOR
NSC TRAIN SYSTEMS (SYSTEM WIDE)
ROADWAY TYPICAL SECTIONS
SHEET 1 OF 1

Port Authority

CONTRACT NO. NSC-009
DWG. NO. CV102 SFT. 84





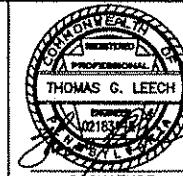
PARKING LOT NO. 1 ACCESS ROAD



GANNETT FLEMING, INC.
601 Holiday Drive
Foster Plaza III
Suite 200
Pittsburgh, PA. 15220

No.	DATE	DESCRIPTION
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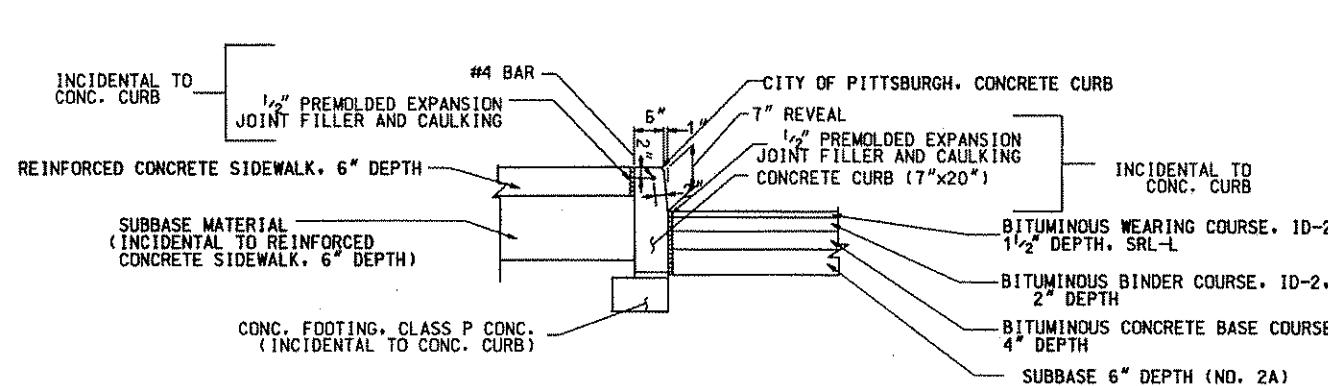
DMJM HARRIS | AEC
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
Daniel P. Harrington 4/21/19
APPROVED DATE

DESIGNED
DRAWN
CHECKED
IN CHARGE
DATE 4/2
SCALE

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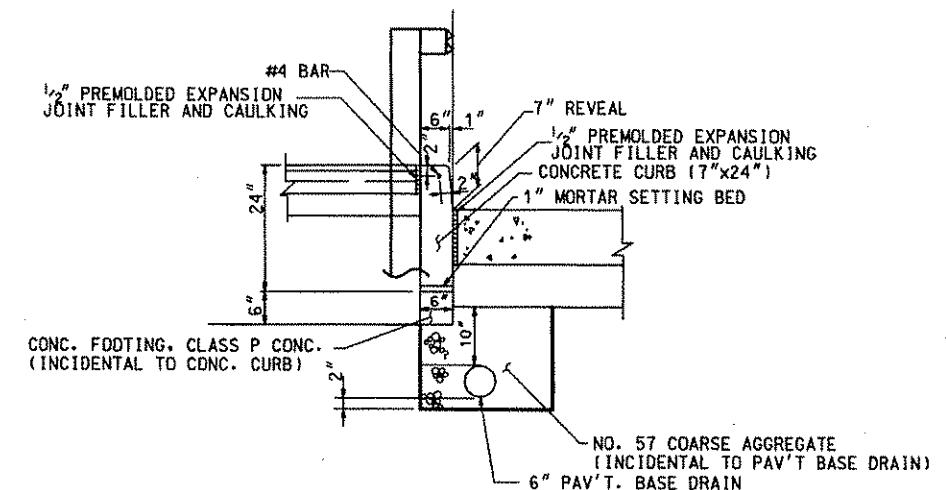
PORT AUTHORITY OF ALLEGHENY COUNTY
 PITTSBURGH, PENNSYLVANIA

NORTH SHORE CONNECTOR
NSC TRAIN SYSTEMS (SYSTEM WIDE)
Roadway Profile
Parking Lot No. 1 Access Road



CONCRETE CURB AND
PLAIN CEMENT CONC. PAVEMENT
AT PARKING LOT BOOTH

(2)
CV103



CITY OF PITTSBURGH
CONCRETE CURB AND
PAVEMENT BASE DRAIN,
MODIFIED DETAIL

(ALONG PARKING LOT NO.1 ACCESS ROAD LT.)

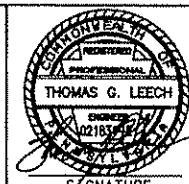
(1)
CV103

Gannett Fleming
GANNETT FLEMING, INC.
601 Holiday Drive
Suite 200
Pittsburgh, PA. 15220

TIME
DATE*
#FILE*

NO.	DATE	DESCRIPTION
REVISIONS		

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DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
SIGNATURE
APPROVED
DATE
4/21/08
N.T.S.

PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH, PENNSYLVANIA	
NORTH SHORE CONNECTOR NSC TRAIN SYSTEMS (SYSTEM WIDE) ROADWAY DETAILS SHEET 1 OF 1	
Port Authority	CONTRACT NO. NSC - 008 DWG. NO. CV105 SHT. 87

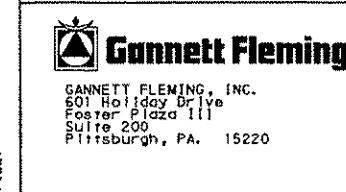
GENERAL NOTES

1. THE DESIGN, LOCATION, AND OPERATION OF ALL OFFICIAL TRAFFIC SIGNS, SIGNALS, AND MARKINGS SHALL BE IN ACCORDANCE WITH THE U.S. DEPARTMENT OF TRANSPORTATION'S MUTCD (LATEST EDITION) AND PENNDOT REGULATIONS LISTED IN PUBLICATIONS 408, 111M, 212, 236M, AND SUPPLEMENTS THERETO.
2. ALL WORK AND MATERIALS SHALL ALSO BE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, INCLUDING TECHNICAL PROVISION 02761, "PAINTING TRAFFIC LINES AND MARKINGS", TECHNICAL PROVISION 02891, "TRAFFIC SIGNING", AND THE DOCUMENT "NORTH SHORE CONNECTOR SUPPLEMENTAL CONSTRUCTION DETAILS FOR THE CITY OF PITTSBURGH."
3. IF STANDARDS ARE IN CONFLICT, THE DOCUMENT "NORTH SHORE CONNECTOR SUPPLEMENTAL CONSTRUCTION DETAILS FOR THE CITY OF PITTSBURGH" WILL PREVAIL.
4. REFER TO THE DOCUMENT "NORTH SHORE CONNECTOR SUPPLEMENTAL CONSTRUCTION DETAILS FOR THE CITY OF PITTSBURGH" FOR DRAWINGS ILLUSTRATING SIGN BRACKET AND MOUNTING DETAILS.
5. ENSURE THAT THE BOTTOM OF EACH POST-MOUNTED SIGN IS A MINIMUM OF 8-FEET ABOVE THE FINAL SIDEWALK ELEVATION, WITH THE EXCEPTION OF TYPE "C" STREET-NAME SIGNS WHICH SHOULD BE AT LEAST 12-FEET ABOVE THE FINAL SIDEWALK ELEVATION.
6. ENSURE THAT ALL PARKING RESTRICTION SIGNS ARE MOUNTED AT 45-DEGREES TO THE CURB. ALL OTHER SIGNS SHALL BE MOUNTED AT 90-DEGREES TO THE CURB.
7. SIGNS DESIGNATED AS EXISTING TO REMAIN (ETR) ARE SHOWN FOR INFORMATION ONLY AND WILL REMAIN IN PLACE DURING AND AFTER CONSTRUCTION. IF ANY ETR SIGNS ARE DAMAGED OR DISPLACED BY CONSTRUCTION ACTIVITIES, THEY WILL BE REPLACED IN-KIND BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE AUTHORITY AND TO THE SATISFACTION OF THE CITY OF PITTSBURGH DEPARTMENT OF PUBLIC WORKS BUREAU OF TRANSPORTATION AND ENGINEERING.

LEGEND

-  - PROPOSED SIGN
-  - EXISTING SIGN
-  - LIGHT POLE
-  - LIGHT POLE
-  - SIGN ASSEMBLY NUMBER
- W/12" - SOLID WHITE LINE/WIDTH (in)
- BW/6" - BROKEN WHITE LINE/WIDTH (in)
- Y/4" - SOLID YELLOW LINE/WIDTH (in)
- DY/4" - DOUBLE YELLOW LINE/WIDTH (in)
- BDY/4" - BROKEN DOUBLE YELLOW LINE/WIDTH (in)
- DW/6" - DOTTED WHITE LINE/WIDTH (in)

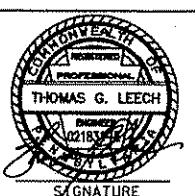
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NO.	DATE	DESCRIPTION
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DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
David J. Harris 4/21/08
APPROVED DATE
SIGNATURE

DESIGNED CDC
DRAWN CDC
CHECKED KCO
IN CHARGE TGL
DATE 4/21/08
SCALE N.T.S.

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH, PENNSYLVANIA

NORTH SHORE CONNECTOR
NSC TRAIN SYSTEMS (SYSTEM WIDE)
SIGNING & PAVEMENT MARKINGS
GENERAL NOTES & LEGEND

Port Authority
Contract No. NSC-009
DWG. No. CV109 Sht. 88

DESIGNATION

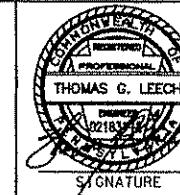
RST - RESET EXISTING SIGN
RMR - REMOVE AND RESET*
ETR - EXISTING TO REMAIN
NA - NOT APPLICABLE
NEW - NEW SIGN
SP - SIGN POST
LP - LIGHT POLE
NSC-007 - WORK WILL BE PERFORMED BY OTHER



GANNETT FLEMING, INC.
601 Holiday Drive
Foster Plaza III
Suite 200
Pittsburgh, PA. 15220

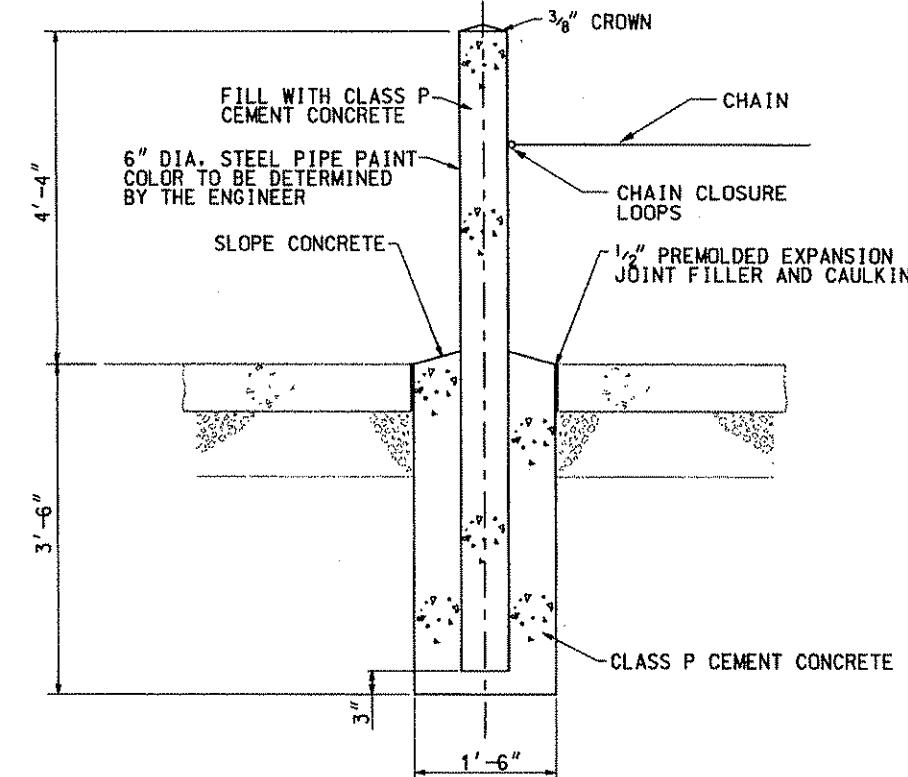
NO.	DATE	DESCRIPTION
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ALLEGHENY COUNTY, PENNSYLVANIA.



DMJM HARRIS | AECO
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
Daniel F. Harris 4/21/00
APPROVED DATE

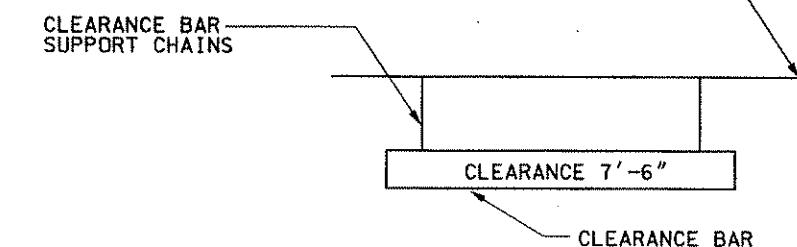
<p>PITTSBURGH</p> <p>PENNSYLVANIA</p> <p>NORTH SHORE CONNECTOR</p> <p>NSC TRAIN SYSTEMS (SYSTEM WIDE)</p> <p>SIGNING & PAVEMENT MARKING</p> <p>SIGN SCHEDULE</p>	
<p>Port Authority</p> <p><small>CONNECTING PEOPLE TO LIFE</small></p>	<p>CONTRACT NO. NSC-009</p>
	<p>DWG. NO. CV110</p>



BOLLARD DETAIL
(PARKING LOT NO. 1)

1
CV112

SUPPORTING SURFACE FROM BRIDGE, VARIES
SEE TECHNICAL PROVISION SECTION 02891.



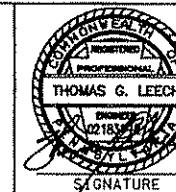
OVERHEAD CLEARANCE BAR

2
CV112

 Gannett Fleming

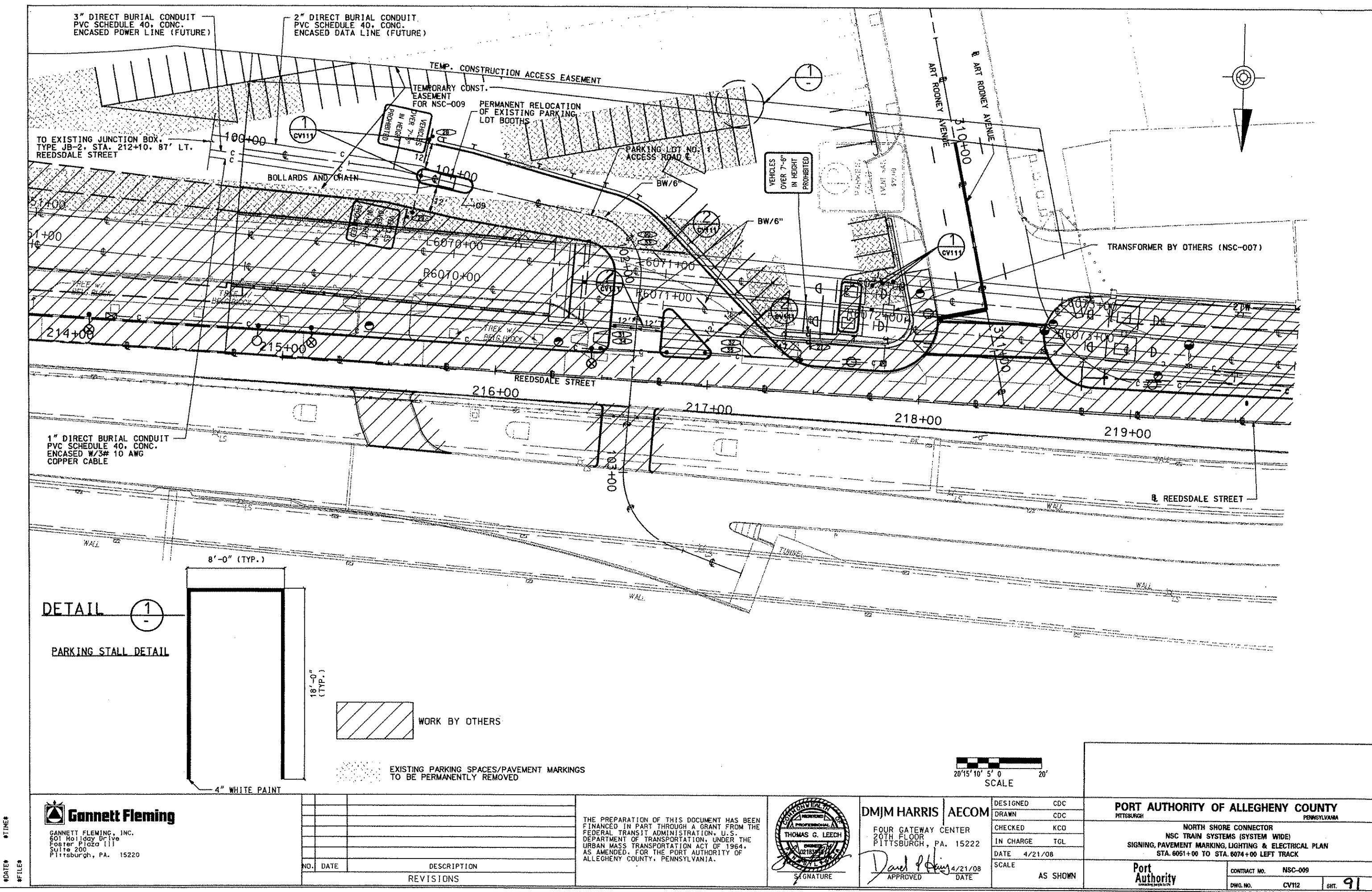
NO.	DATE	DESCRIPTION
REVISIONS		

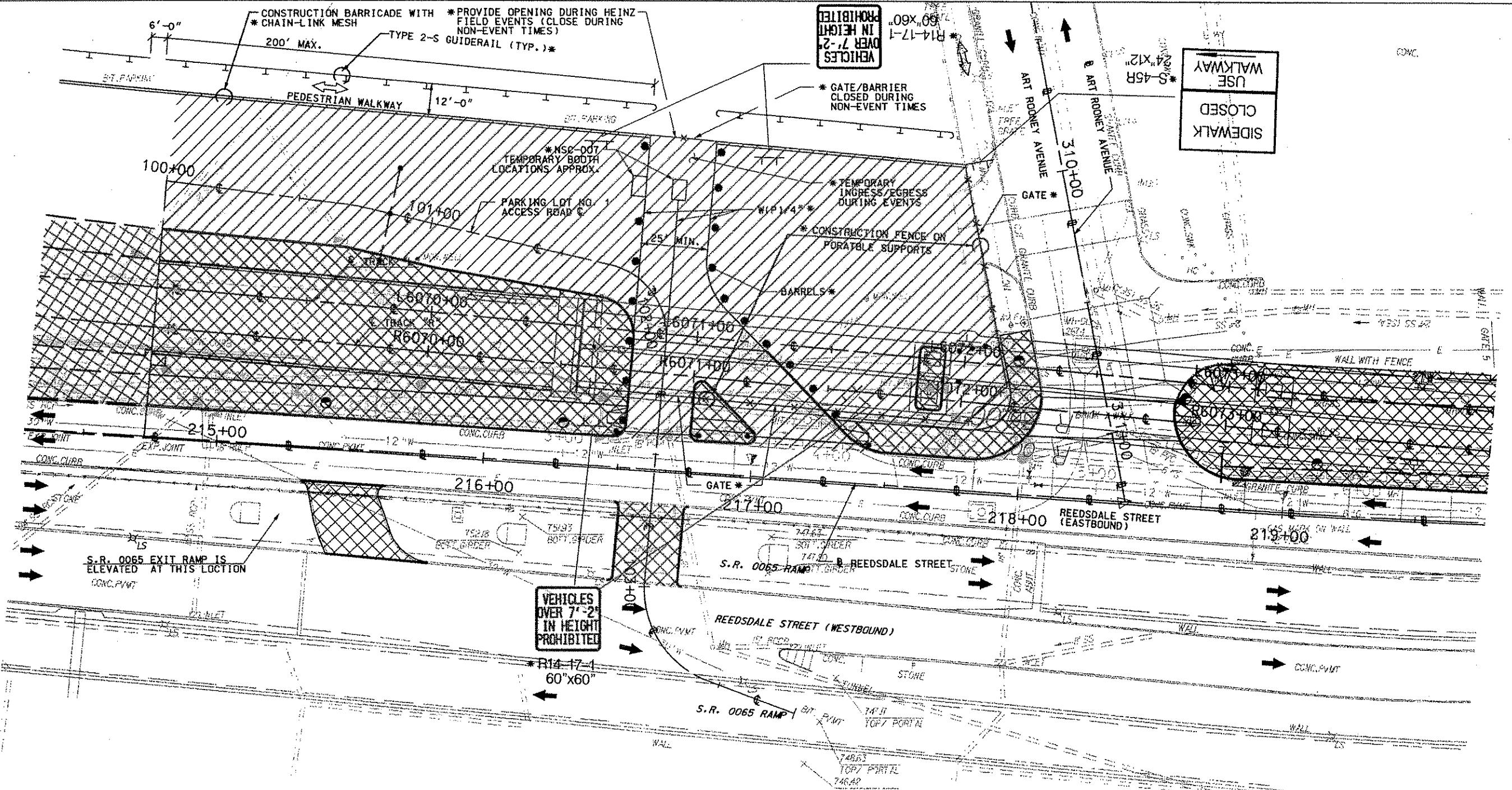
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DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
THOMAS G. LEECH
APPROVED
4/21/08
Signature
APPROVED
4/21/08
Date
N.T.S.

PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH, PENNSYLVANIA	
NORTH SHORE CONNECTOR NSC TRAIN SYSTEMS (SYSTEM WIDE) SIGNING & PAVEMENT MARKING SPECIAL SIGN DETAILS	
Port Authority	CONTRACT NO. NSC-009 DWG. NO. CV111 SHT. 90





LEGEND

- CONSTRUCTION WORK AREA
 - ADJACENT CONSTRUCTION WORK AREAS
 - TEMPORARY PROTECTIVE FENCE
 - TEMPORARY SIGN, TYPE III BARRICADE
 - CHANNELIZING DEVICE
 - TRAFFIC FLOW
 - TEMPORARY WHITE LINE (PAINT) / WIDTH

* TEMPORARY FACILITIES TRANSFERRED FROM NSC-007



GANNETT FLEMING, INC.
601 Holiday Drive
Foster Plaza III
Suite 200
Pittsburgh, Pa. 15220

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DMJM HARRIS | AECO
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222

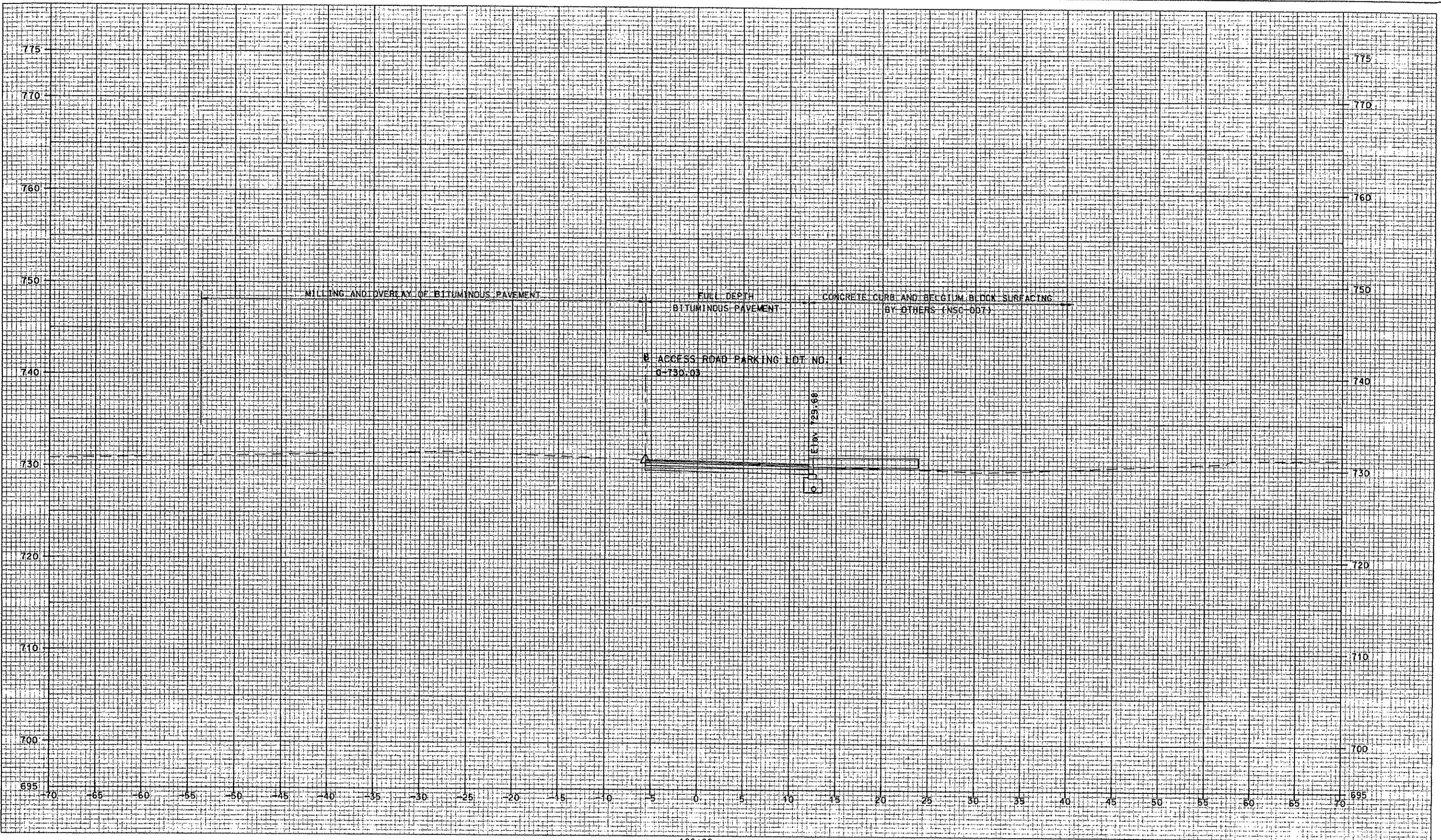
David P. Harris 4/21/08
APPROVED DATE

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SCALE

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH, PENNSYLVANIA

**NORTH SHORE CONNECTOR
NSC TRAIN SYSTEMS (SYSTEM WIDE)
SUGGESTED TRAFFIC CONTROL/SEQUENCING PLAN
STA. 6051+50 TO STA. 6074+00 LEFT TRACK**

Port Authority
Connecting People to the
World



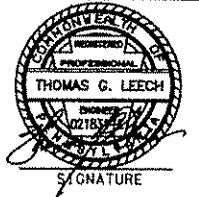
TIME
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Pittsburgh, PA 15220

NO.	DATE	DESCRIPTION	REVISIONS

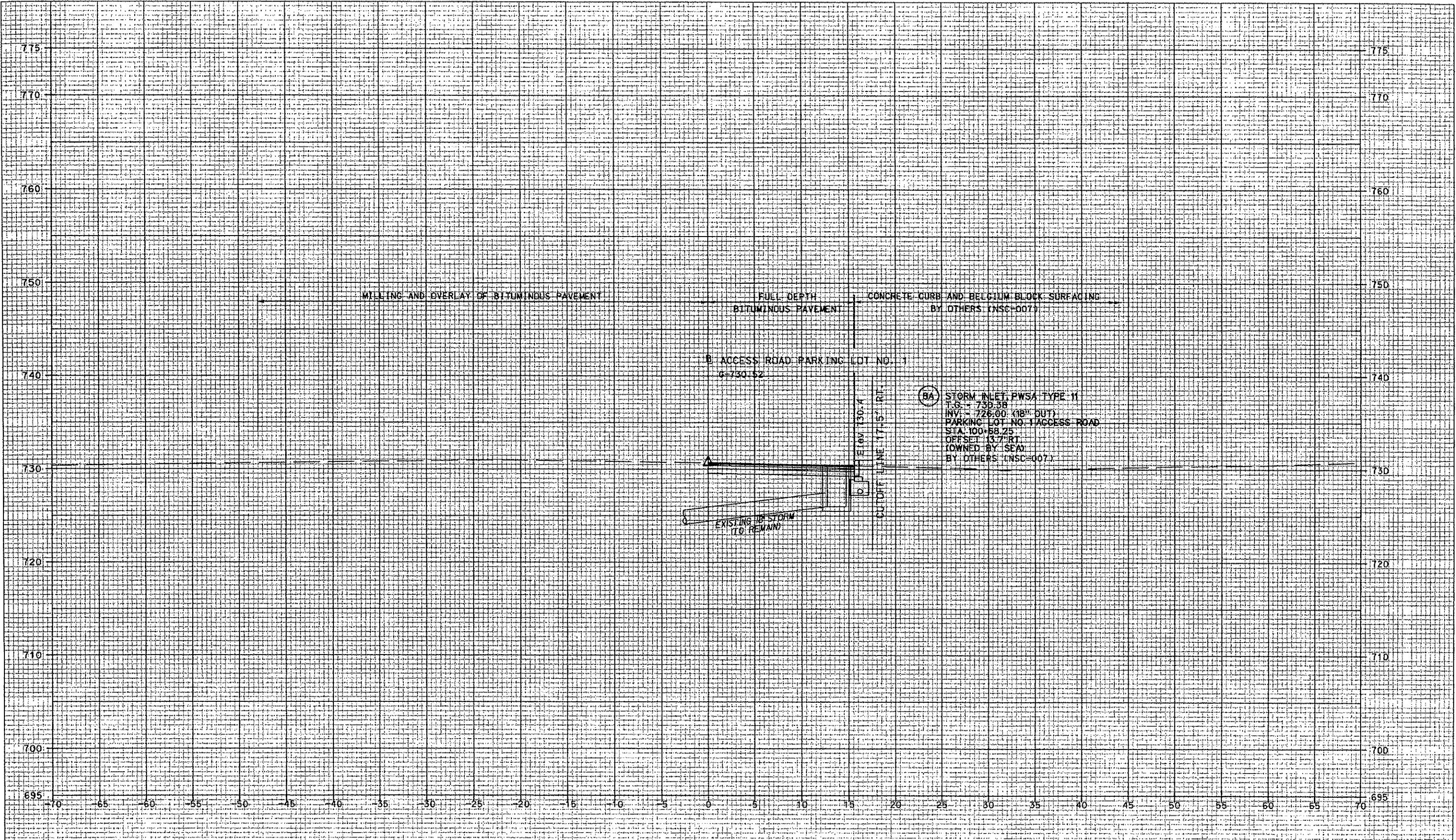
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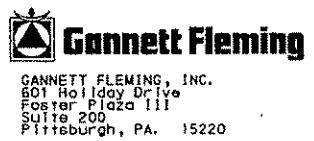
DMJM HARRIS AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
Daniel P. Henry 4/21/08
APPROVED DATE
SIGNATURE

DESIGNED FPN
DRAWN DPV
CHECKED KCO
IN CHARGE TGL
DATE 4/21/08
SCALE 5' 2.5' 0' 5'
CONTRACT NO. NSC-008
DWG. NO. CV114 SHT. 93

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEMS (SYSTEM WIDE)
ROADWAY CROSS SECTIONS
PARKING LOT NO. 1 ACCESS ROAD STA. 100+00
Port Authority CONTRACT NO. NSC-008
DWG. NO. CV114 SHT. 93

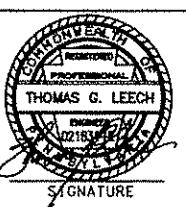


DATE
TITLE



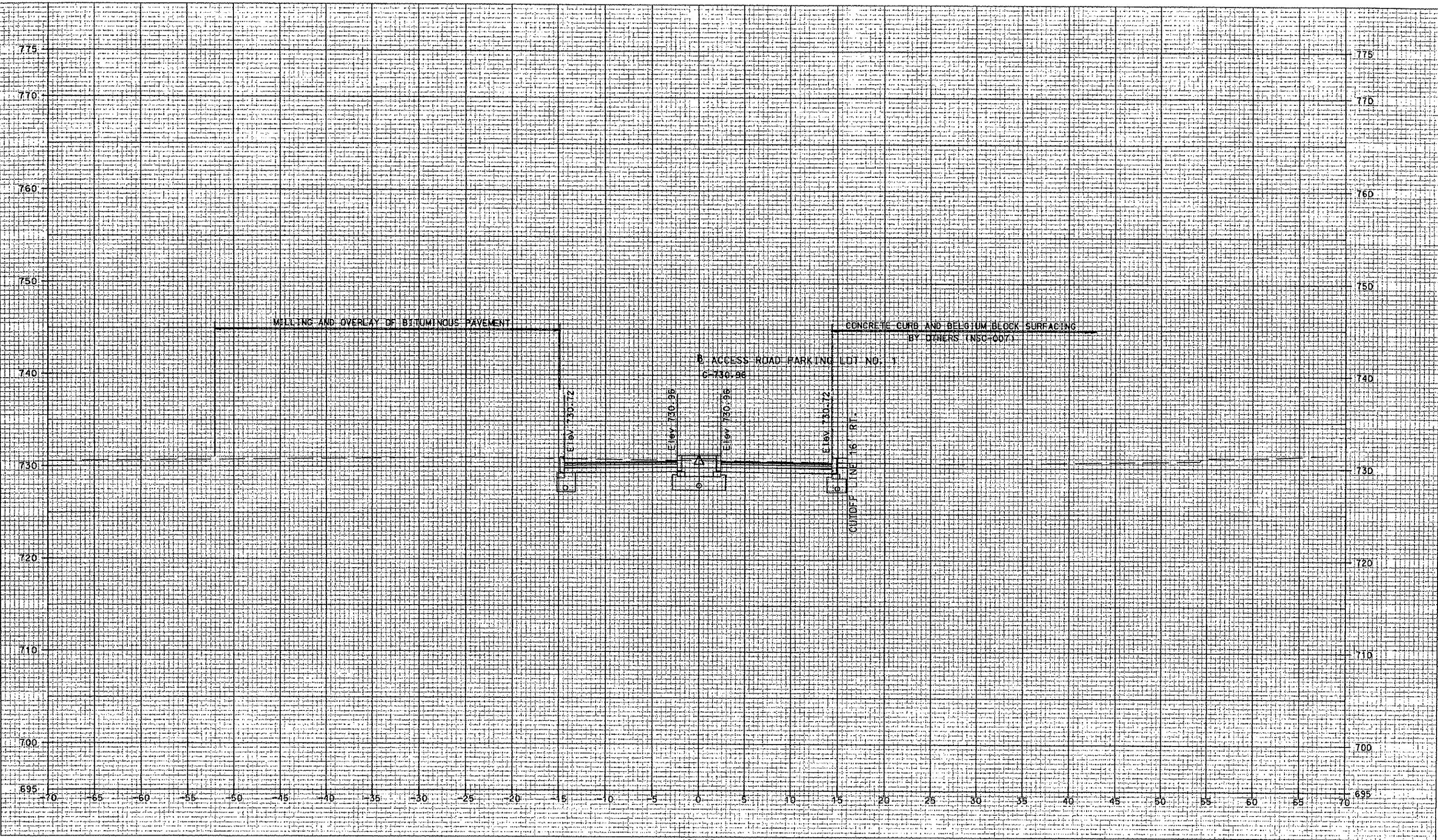
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20TH FLOOR
PITTSBURGH, PA. 15222
David J. Harris 4/21/08
APPROVED DATE
SCALE
5' 2.5' 0' 5'

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEMS (SYSTEM WIDE)
ROADWAY CROSS SECTIONS
PARKING LOT No. 1 ACCESS ROAD STA. 100+50
Port Authority
CONTRACT NO. NSC-009
DWG. NO. CV115 SHT. 94

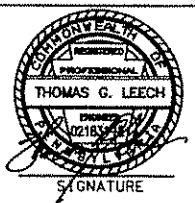


 **Gannett Fleming**

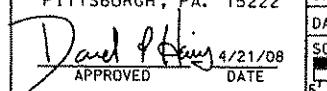
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Suite 200
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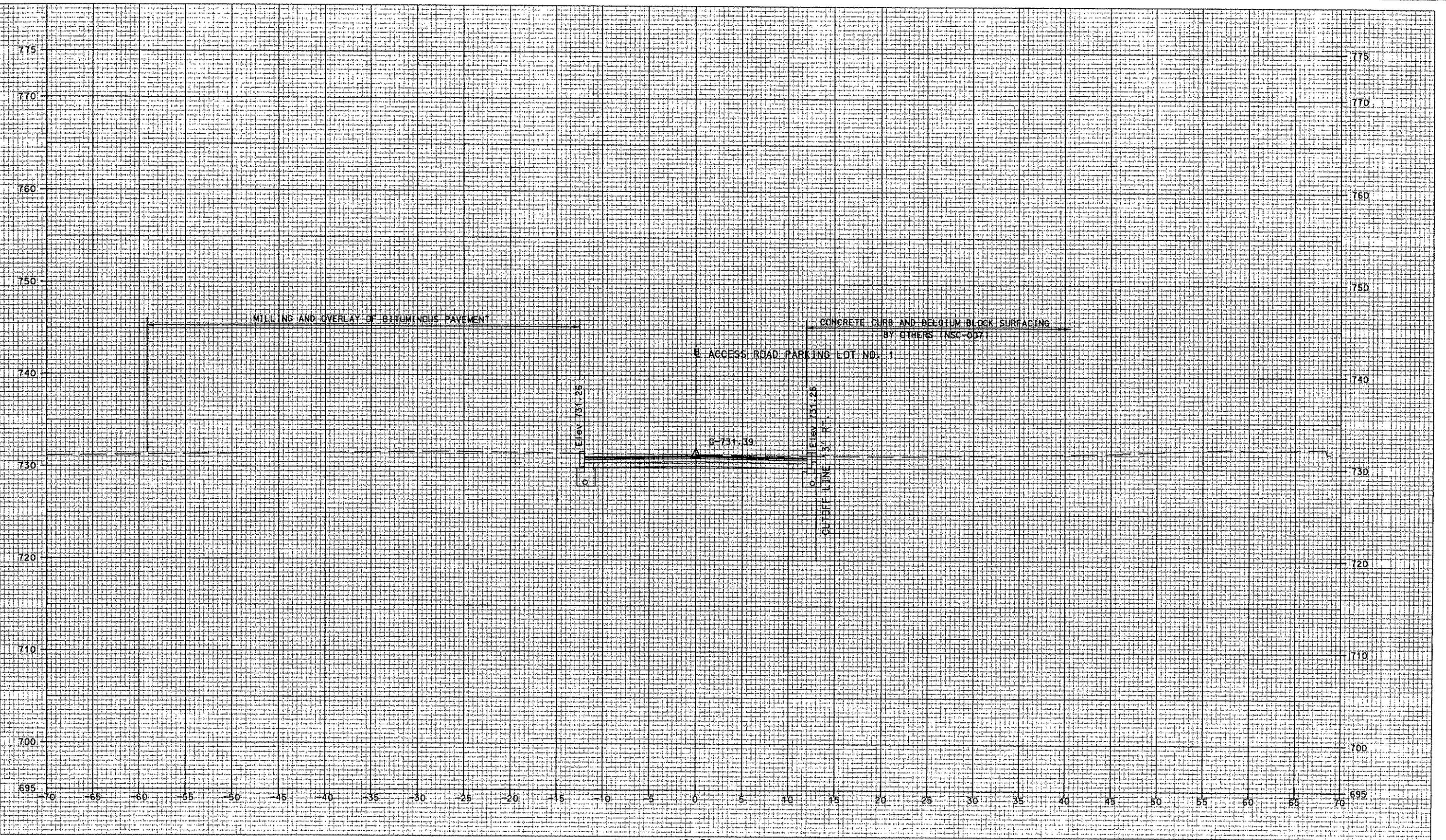


THOMAS G. LEECH
PROFESSIONAL ENGINEER
PENNSYLVANIA
02181347
4/21/08

DMJM HARRIS AECOM
DESIGNED FPN
DRAWN DPV
CHECKED KCD
IN CHARGE TGL
DATE 4/21/08
SCALE 1:200
SIGNATURE 
APPROVED DATE
5' 2.5' 0' 5'

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH
PA
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEMS (SYSTEM WIDE)
ROADWAY CROSS SECTIONS
PARKING LOT NO. 1 ACCESS ROAD STA. 101+00

Port Authority
CONTRACT NO. NSC-009
DWG. NO. CV16 SMT. 95



*THE

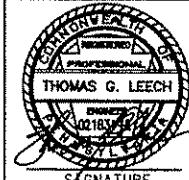
*FILE



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801 Holiday Drive
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Suite 200
Pittsburgh, PA 15220

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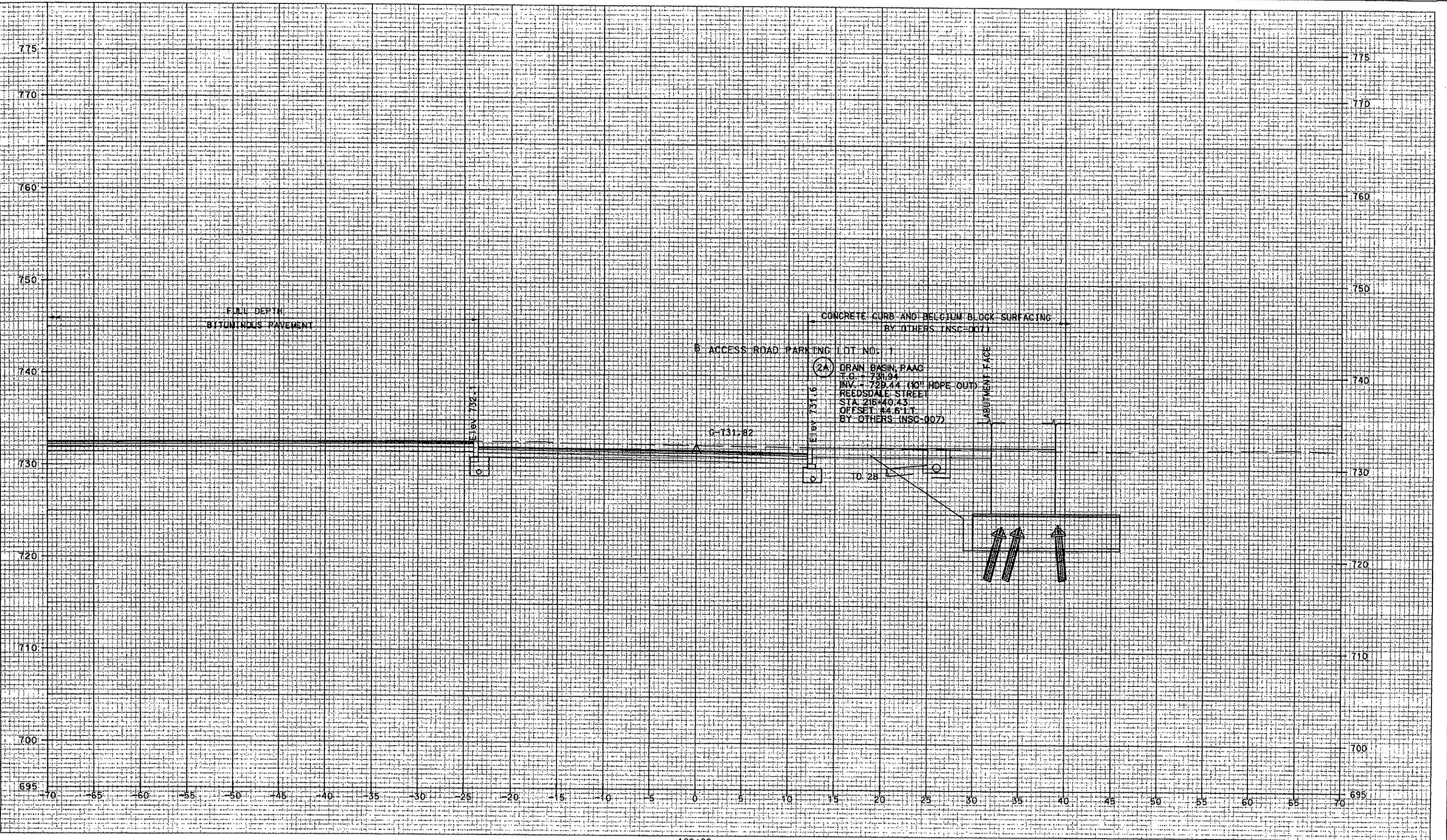
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FOUR GATEWAY CENTER
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PITTSBURGH, PA. 15222
David P. Henry 4/21/08
APPROVED DATE
SIGNATURE

DESIGNED	FPN
DRAWN	DPV
CHECKED	KCO
IN CHARGE	TGL
DATE	4/21/08
SCALE	1'-0" 2'-0" 3'-0" 4'-0" 5'-0"

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEMS (SYSTEM WIDE)
ROADWAY CROSS SECTIONS
PARKING LOT No.1 ACCESS ROAD STA. 101+50
Port Authority
CONTRACT NO. NSC-009
DWG. NO. CV117 SHT. 96



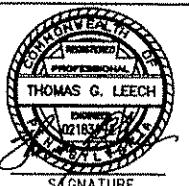
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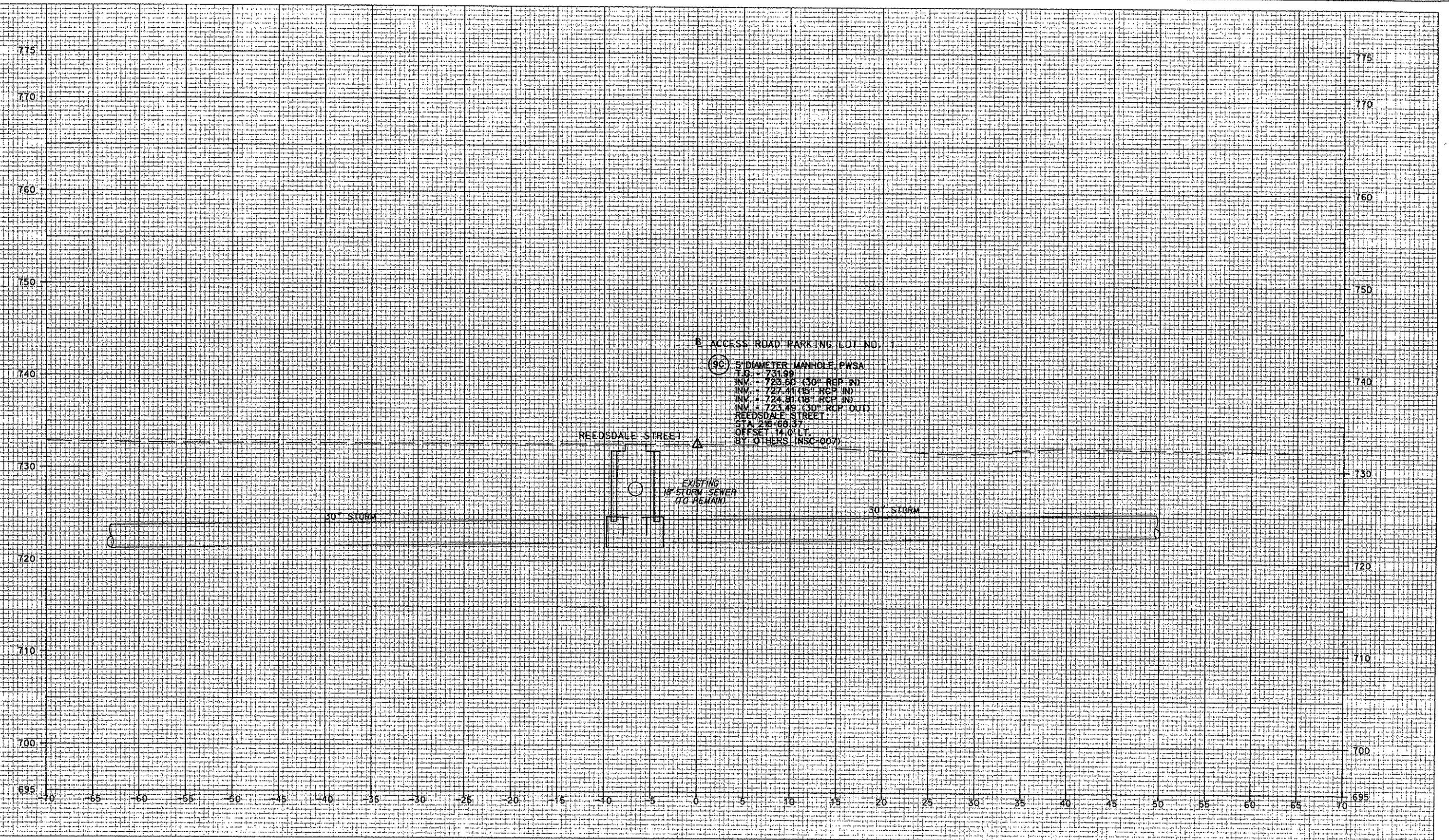
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DMJM HARRIS | AECOM
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PITTSBURGH, PA. 15222
4/21/08
APPROVED DATE
S. 2.5' 0' 5'

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSTURGH, PENNSYLVANIA
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEMS (SYSTEM WIDE)
ROADWAY CROSS SECTIONS
PARKING LOT No.1 ACCESS ROAD STA. 102+00
Port Authority
CONTRACT NO. NSC-009
DWG. NO. CV18 SHT. 97



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SIGNATURE

APPROVED

DATE

4/21/08

4/21/08

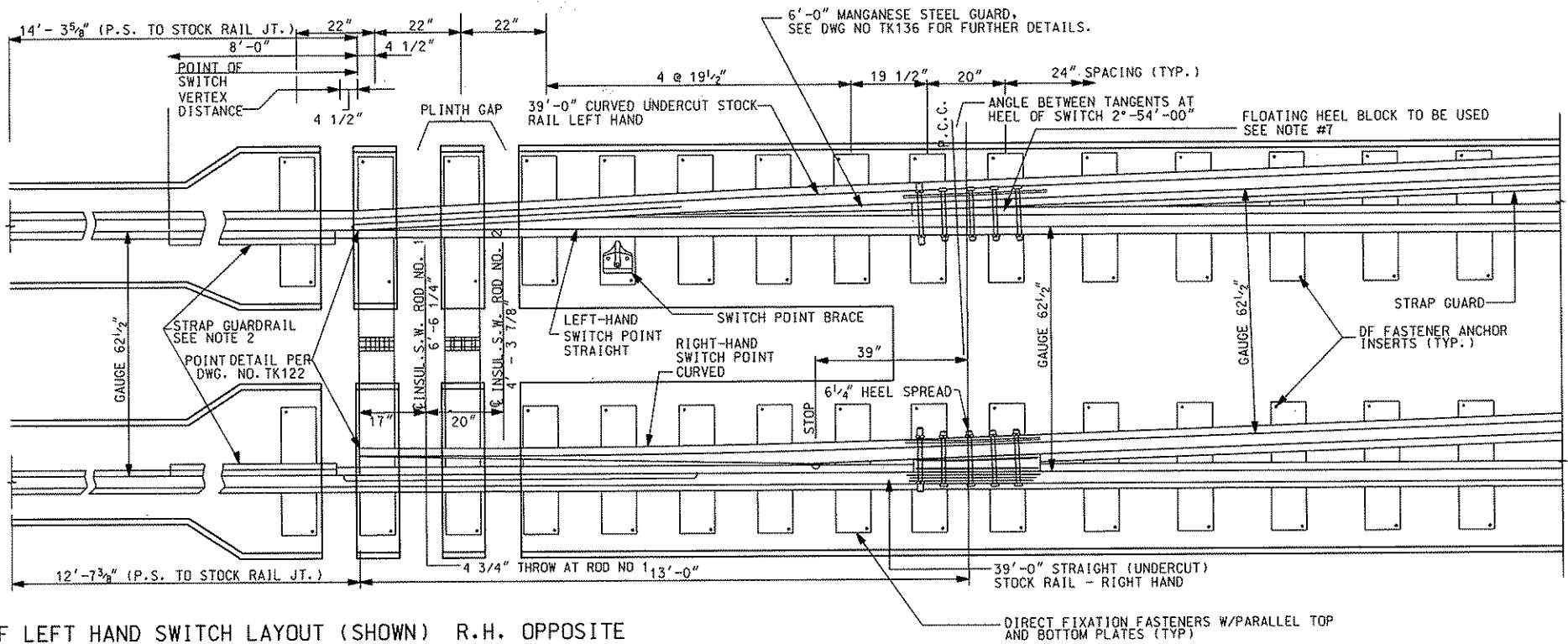
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PITTSBURGH, PA. 15222

DESIGNED FPN
DRAWN DPV
CHECKED KCD
IN CHARGE TGL
DATE 4/21/08
SCALE 5' 2.5' 0' 5'

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEMS (SYSTEM WIDE)
ROADWAY CROSS SECTIONS
PARKING LOT No.1 ACCESS ROAD STA 102+50

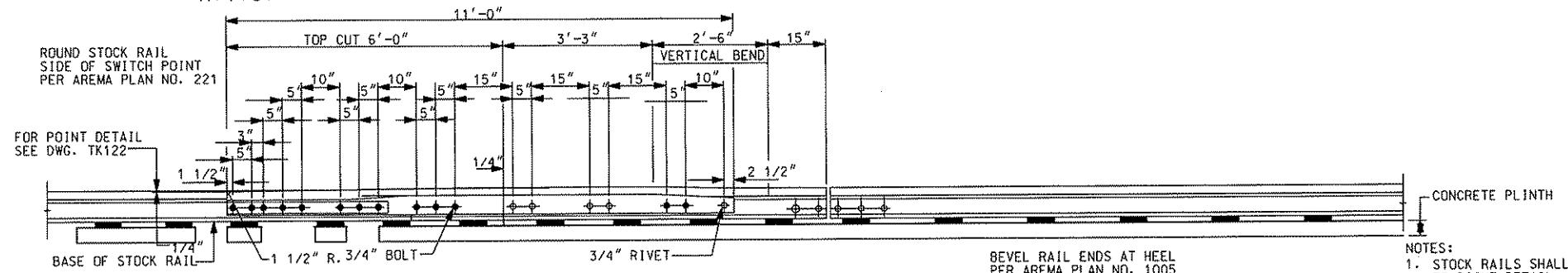
Port Authority

CONTRACT NO. NSC-009
DWG NO. CV119 SHT. 98



PLAN OF LEFT HAND SWITCH LAYOUT (SHOWN) R.H. OPPOSITE

N.T.S.

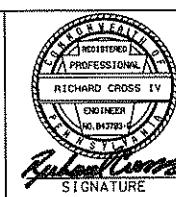


ELEVATION OF RIGHT HAND SWITCH POINT 2
N.T.S.

BILL OF MATERIAL
13'-0" CURVED SPLIT SWITCH w / GRADUATED RISERS

NUMBER	DESCRIPTION
1	DOUBLE REINFORCED CURVED SWITCH POINTS COMPLETE, PLANING PER DRAWING TK121 AND AREMA PLAN NUMBER 221, STOPS PER DETAIL 1024 AREMA PLAN NUMBER 221 WITH VERTICAL DESIGN CLIPS
2	FLOATING HEEL BLOCKS, COMPLETE PER DRAWING TK137 AND NOTE #7, MODIFIED AS NECESSARY FOR 13' SWITCH SET
1	REINFORCED STRAIGHT SWITCHPOINT WITH MANGANESE STEEL GUARD PER DRAWINGS TK136 AND AREMA PLAN NO. 221 WITH VERTICAL CLIPS. MODIFIED AS NECESSARY FOR 13' SWITCH SET
1	SWITCH POINT BRACE AS SHOWN ABOVE
1	INSULATED SWITCH ROD NUMBER 1, VERTICAL DESIGN
1	INSULATED SWITCH ROD NUMBER 2, VERTICAL DESIGN

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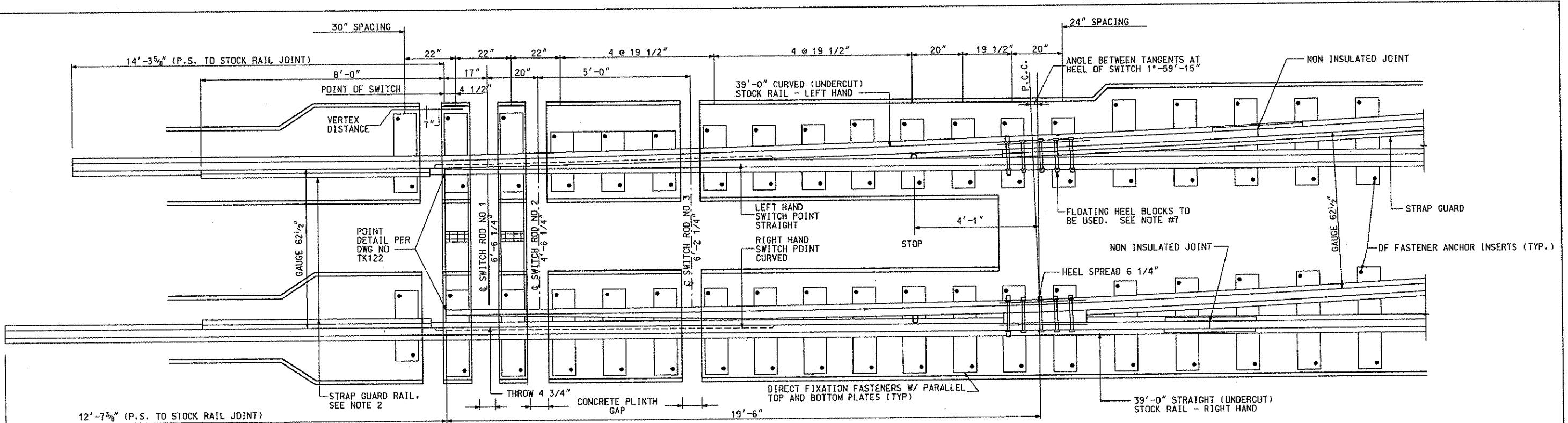


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Daniel P. Harris 4/28/08
SIGNATURE
APPROVED DATE

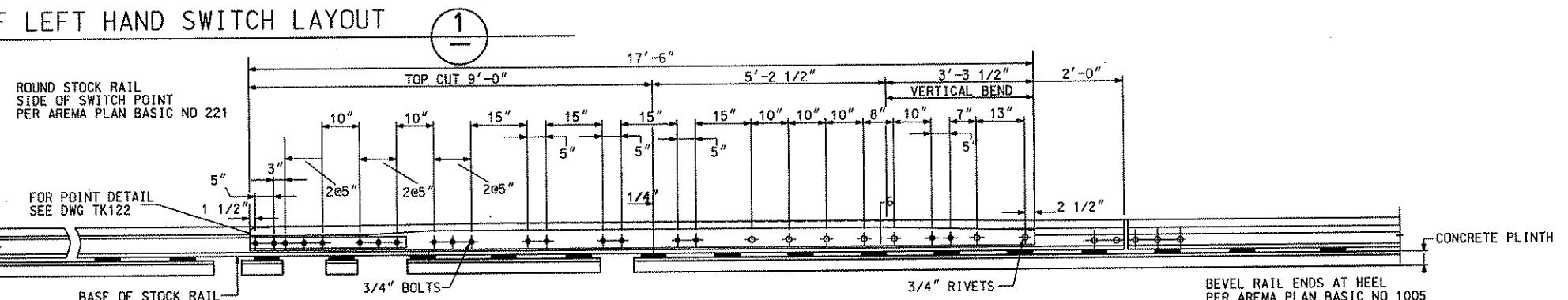
DESIGNED JF BARBIERE
DRAWN JF BARBIERE
CHECKED R CROSS
IN CHARGE R CROSS
DATE APR. 28, 2008
SCALE N.T.S.
Port Authority
CONTRACT NO. NSC-009
DWG NO. TK103 SHT. 99

Gannett Fleming
Transit & Rail Systems

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
STANDARD
13'-0" CURVED SPLIT SWITCH



PLAN OF LEFT HAND SWITCH LAYOUT



ELEVATION OF SWITCH POINT

(2)

NOTES:

1. STOCK RAILS SHALL BE UNDERCUT CONFORMING TO POINT DETAIL. SEE DRAWING TK122
2. FOR STRAP GUARD END FLARE DETAILS SEE DRAWING TK124
3. SWITCH DESIGN AND GEOMETRY APPLICABLE TO NO 8 TURNOUT, AND SHALL GENERALLY CONFORM TO AREMA PLAN NOS. 124 AND 920, MODIFIED AS NECESSARY FOR GAGE AND LAYOUT SHOWN ON TK113.
4. RAIL SECTION SHALL BE 115 RE.
5. STRAP GUARD ON THE CURVED STOCK RAIL SHALL BE MACHINED THROUGH THE HEEL BLOCK SO AS TO PROVIDE CLEARANCE FOR THE STANDARD WHEEL CONTOUR PER DRAWING TK123
6. DIRECT FIXATION FASTENERS FOR SWITCHES SHALL BE DESIGNED AND FURNISHED AS PART OF TURNOUT AND CROSSOVER SET.
7. SWITCH TO BE MODIFIED AS NECESSARY TO INCLUDE HOUSE TOP GUARDS, FLOATING HEEL BLOCKS, AND MANGANESE SWITCH POINT INSERTS.

BILL OF MATERIAL 19'-6" CURVED SPLIT SWITCH w/ GRADUATED RISERS		BILL OF MATERIAL (CONT'D) 19'-6" CURVED SPLIT SWITCH w/ GRADUATED RISERS	
NUMBER	DESCRIPTION	NUMBER	DESCRIPTION
1	PAIR DOUBLE REINFORCED SWITCH POINTS COMPLETE, PLANING PER DRAWING TK122 AND AREMA PLAN BASIC NUMBER 221, STOPS PER DETAIL 1024 AREMA PLAN BASIC NUMBER 221, VERTICAL DESIGN CLIPS	1	INSULATED SWITCH ROD NUMBER 1, VERTICAL DESIGN
		1	INSULATED SWITCH ROD NUMBER 2, VERTICAL DESIGN
2	HEEL BLOCK ASSEMBLIES COMPLETE PER DRAWING TK137. NOTE #7, AND GENERALLY CONFORMING TO AREMA BASIC NUMBER 221	1	INSULATED SWITCH ROD NUMBER 3, VERTICAL DESIGN

NO.	DATE	DESCRIPTION		REVISIONS
		DESCRIPTION	REVISIONS	

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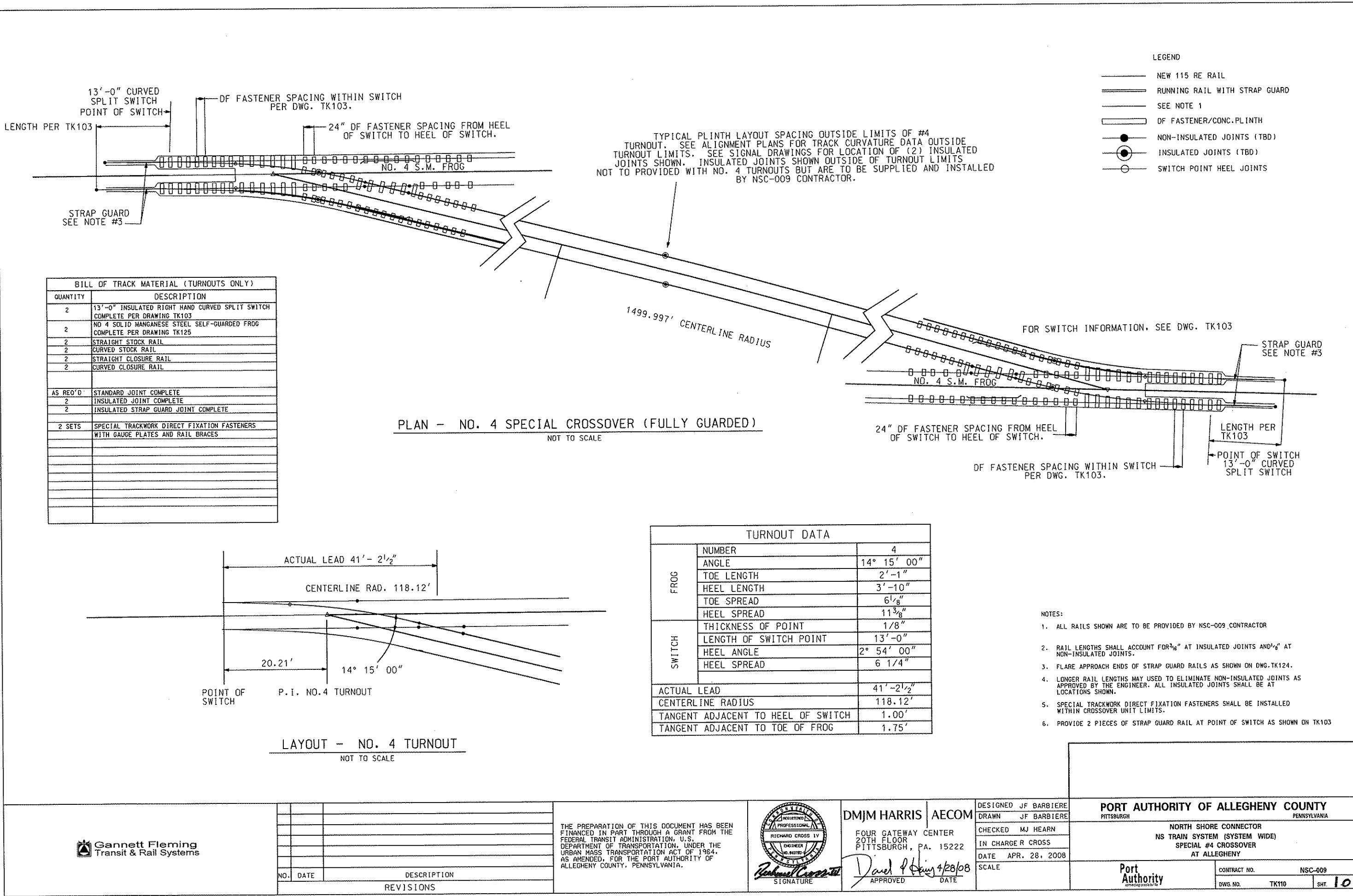


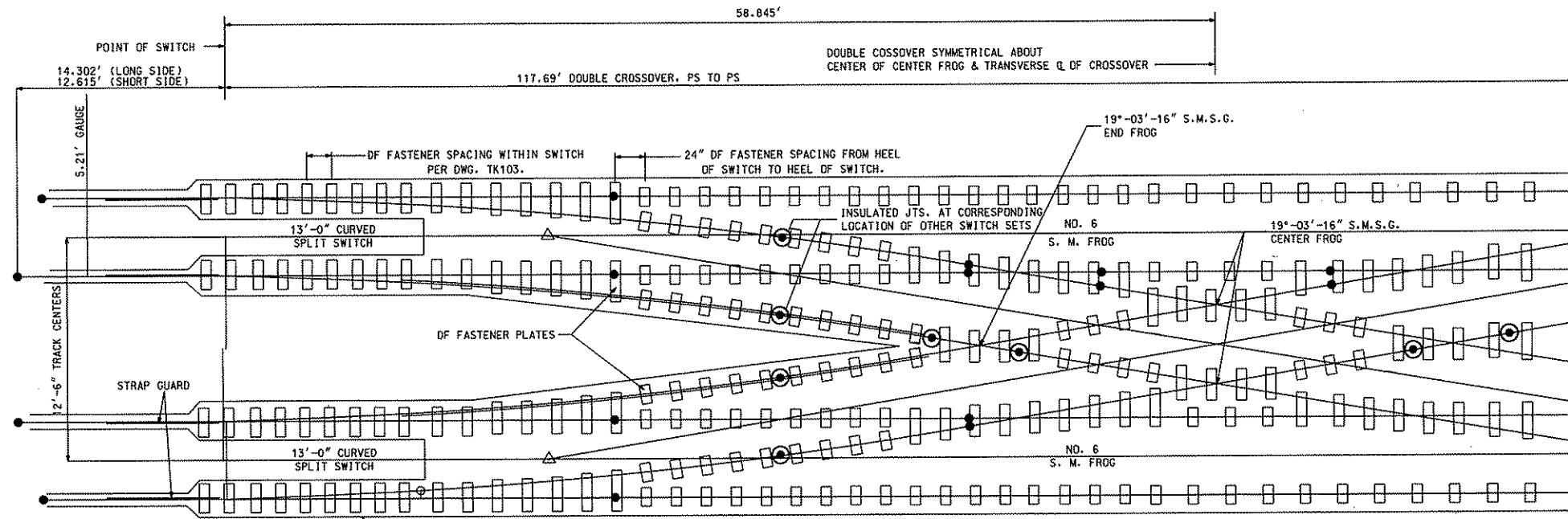
RICHARD CROSS IV
REGISTERED PROFESSIONAL ENGINEER
PA. STATE BOARD OF ENGINEERING EXAMINERS
APRIL 28, 2008

DJMJ HARRIS
AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
IN CHARGE R. CROSS
DATE APR. 28, 2008
SCALE

Port Authority
APPROVED DATE
Signature: *Richard Cross*

PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH, PENNSYLVANIA		NORTH SHORE CONNECTOR NSC TRAIN SYSTEM (SYSTEM WIDE) STANDARD 19'-6" CURVED SPLIT SWITCH	
CONTRACT NO. DWG. NO. TK104	SHT. 100	APPROVED DATE <i>Dave J. Harris 4/28/08</i>	





PLAN NO. 6 DOUBLE CROSSOVER
12'-6" TRACK CENTERS

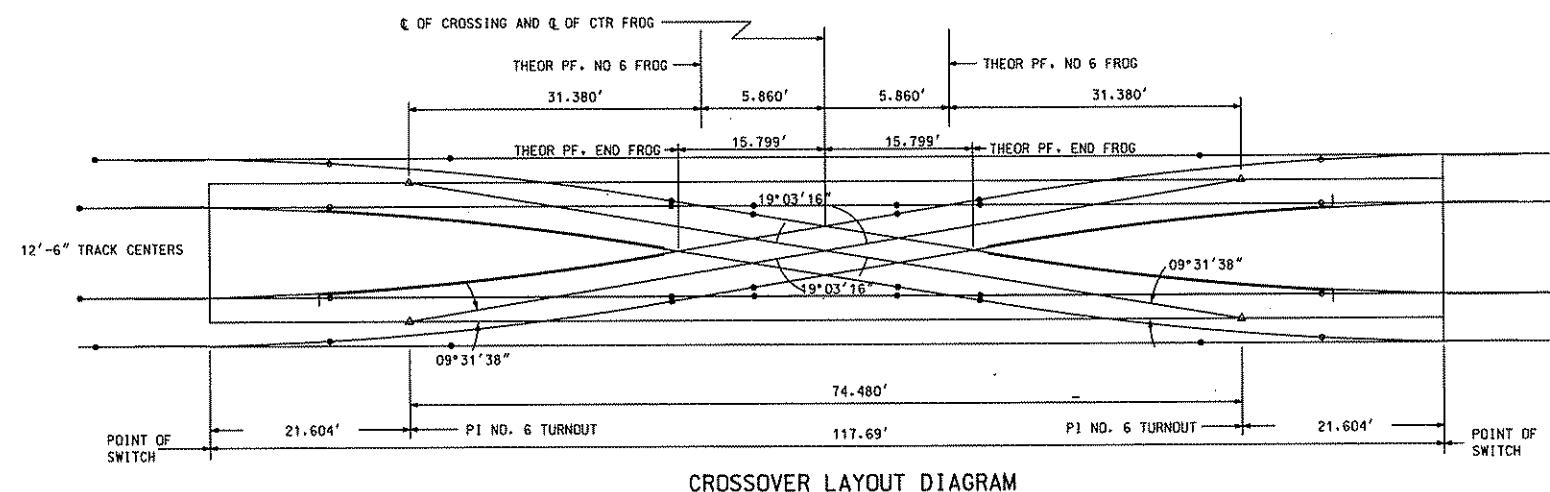
NOT TO SCALE

LEGEND	
—	NEW 115 RE RAIL
—	RUNNING RAIL WITH STRAP GUARD
●	NON-INSULATED JOINTS (TYP.), MAY BE MODIFIED
○	INSULATED JOINTS (MANDATORY)
○	SWITCH POINT HEEL JOINTS
S.M.	SOLID MANGANESE

BILL OF TRACK MATERIAL	
CROSSOVER QUANTITY	DESCRIPTION
2	13'-0" INSULATED RIGHT HAND CURVED SPLIT SWITCH COMPLETE PER DRAWING TK103
2	13'-0" INSULATED LEFT HAND CURVED SPLIT SWITCH COMPLETE PER DRAWING TK103
4	NO 6 SOLID MANGANESE STEEL SELF-GUARDED FROG COMPLETE, PER DRAWING TK126
4	STRAIGHT STOCK RAILS
4	CURVED STOCK RAILS
12	RAIL (SHOP CURVED)
4	RAIL
8	STRAP GUARD (SHOP CURVED)
4	STRAP GUARD
8	PIECES OF STRAP GUARD
2	END FROGS
2	CENTER FROGS
16	STANDARD JOINT COMPLETE
14	INSULATED JOINT COMPLETE (TOTAL QUANTITY)
4	INSULATED STRAP GUARD JT. COMPLETE (INCL. ABOVE)
1 SET	SPECIAL TRACKWORK DIRECT FIXATION PLATES, FASTENERS, GAUGE PLATES AND RAIL BRACES

CROSSOVER DATA	
CENTER FROG	NUMBER N.A. ANGLE 19°-03'-16"
END FROG	NUMBER N.A. ANGLE 19° 03' 16"
CENTER FROG	NUMBER N.A. ANGLE 19° 03' 16"
END FROG	NUMBER N.A. ANGLE 19° 03' 16"

- NOTES:
- ALL RAILS AND TRACK EQUIPMENT SHOWN IS FOR FIELD LAYOUT ONLY. ALL MATERIALS EXCEPT FOR ANCHOR BOLTS AND ANCHOR BOLT INSERTS HAVE BEEN PREVIOUSLY PROCURED.
 - CONTRACTOR TO VERIFY LAYOUT DIMENSIONS SHOWN AGAINST WORKING DRAWINGS PROVIDED BY SPECIAL TRACKWORK MANUFACTURER BEFORE STARTING INSTALLATION.



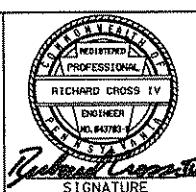
CROSSOVER LAYOUT DIAGRAM

NOT TO SCALE

Gannett Fleming
Transit & Rail Systems

NO.	DATE	DESCRIPTION	REVISIONS

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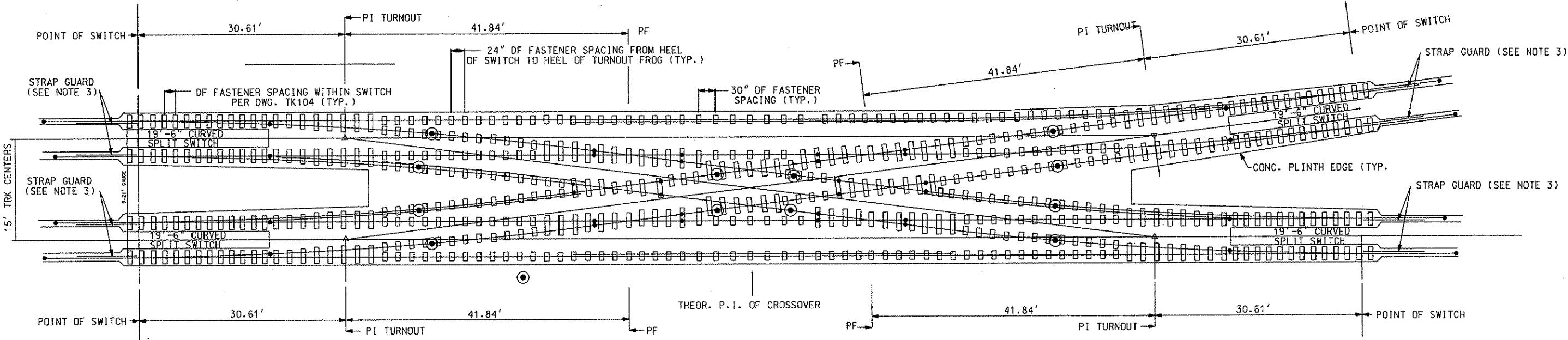


DESIGNED BY BARBIERE
DRAWN BY BARBIERE
CHECKED BY R. CROSS
IN CHARGE R. CROSS
DATE APR. 28, 2008
SCALE N.T.S.
SIGNATURE *Richard Cross*
APPROVED *David J. Harris* DATE *4/28/08*

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH, PENNSYLVANIA

NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
GATEWAY CROSSOVER
#6 DOUBLE CROSSOVER AT WOOD

Port Authority
CONTRACT NO. NSC-009
DWG. NO. TK112 SHT. 102

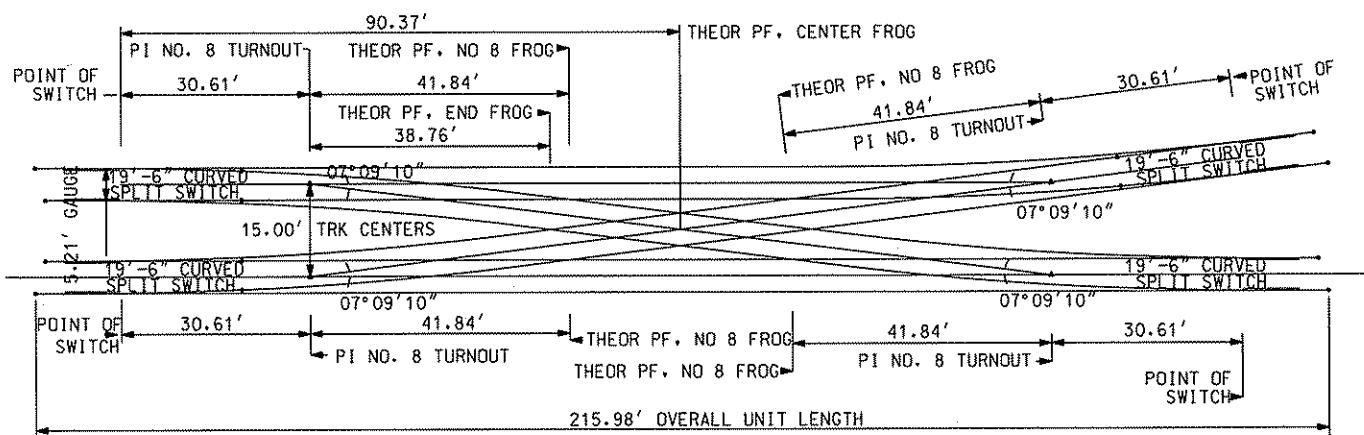


DFF PLATE CONFIGURATION AND SPACING
IN ACCORDANCE WITH NO. 8 TURNOUT.

PLAN - NO. 8 SPECIAL CROSSOVER WITH
19'-6" CURVED SPLIT SWITCHES
FULLY GUARDED
15' TRACK CENTERS

LEGEND	
—	NEW 115 RE RAIL IN TURNOUT SET
—	RUNNING RAIL WITH STRAP GUARD RAIL
●	NON-INSULATED JOINTS (T.B.D.)
○	INSULATED JOINTS (T.B.D.)

BILL OF TRACK MATERIAL	
QUANTITY	DESCRIPTION
4	19'-6" INSULATED CURVED SPLIT SWITCH COMPLETE PER DRAWING TK104
4	NO. 8 RAIL BOUND MANGANESE STEEL FROG COMPLETE PER DRAWING TK127
4	STRAIGHT STOCK RAILS
4	CURVED STOCK RAILS
4	CURVED CLOSURE RAIL
4	STRAIGHT CLOSURE RAIL
4	STANDARD INSULATED JOINT COMPLETE
AS REQ'D	STRAP GUARD JOINT COMPLETE
4	STRAP GUARD (INSULATED JOINT COMPLETE)
4	INSULATED JOINT COMPLETE-FROG AREA
2	RAIL BOUND MANGANESE STEEL END FROG
2	RAIL BOUND MANGANESE STEEL CENTER FROG
AS REQ'D	STRAP GUARD (SHOP CURVED)
AS REQ'D	STRAP GUARD (SEE NOTE 3)
1 SET	CROSSOVER DIRECT FIXATION FASTENER SET



SPECIAL CROSSOVER LAYOUT DIAGRAM
NOT TO SCALE

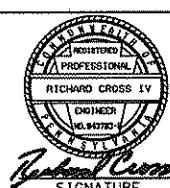
TURNOUT DATA	
FRDG	NUMBER 8
	ANGLE 7° 09' 10"
	TOE LENGTH 5'-1"
	HEEL LENGTH 7'-11"
	TOE SPREAD 7 1/8"
	HEEL SPREAD 12 3/8"
SWITCH	THICKNESS OF POINT 1/8"
	LENGTH OF SWITCH POINT 19'-6"
	HEEL ANGLE 1° 59' 15"
	POINT ANGLE 1° 01' 13"
	HEEL SPREAD 6 1/4"
	ACTUAL LEAD 90'-8 1/2"
	CENTERLINE RADIUS (APPROX.) 460'
	TANGENT ADJACENT TO HEEL OF SWITCH ZERO
	TANGENT ADJACENT TO TOE OF FROG 1.75'

- NOTES:
1. FOR SWITCH DATA AND DETAILS NOT SHOWN, SEE DWG TK104.
 2. ALL RAILS SHOWN ARE TO BE PROVIDED BY THE CROSSOVER MANUFACTURER.
 3. STRAP GUARD RAIL SHALL BE AS CLOSE TO END OF SWITCH POINT AS POSSIBLE WITHOUT BINDING. CONTRACTOR SHALL VERIFY LENGTHS OF STRAP GUARD RAIL BY FIELD MEASUREMENTS.
 4. FOR SWITCH POINT DETAILS SEE DWG. NO. TK122
 5. FOR FROG DETAILS SEE DWG. NO. TK127
 6. RAIL LENGTHS ACCOUNT FOR 3/8" INSULATED JOINTS AND 1/8" NON-INSULATED JOINTS.

Gannett Fleming
Transit & Rail Systems

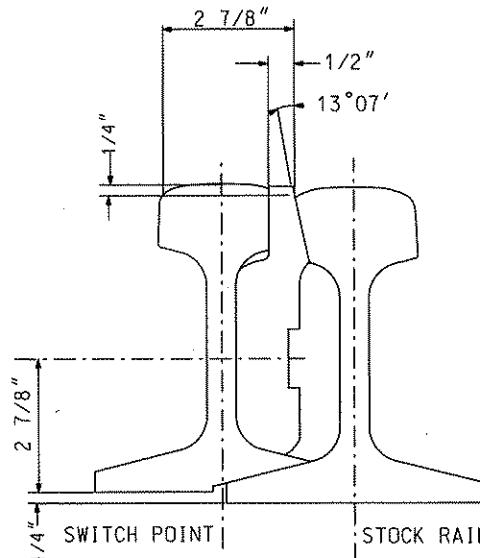
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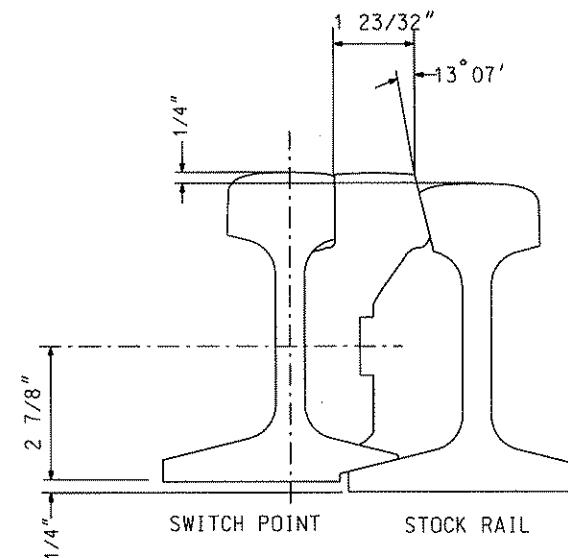


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SCALE
SIGNATURE *[Signature]* APPROVED *[Signature]* DATE *4/28/08*

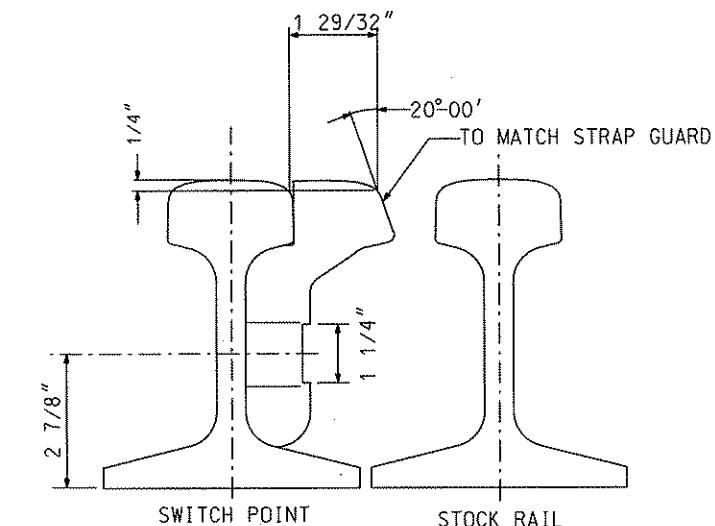
PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
SPECIAL #8 DOUBLE CROSSOVER
AT ALLEGHENY
Port Authority
CONTRACT NO. NSC-009
DWG. NO. TK113 SH. 103



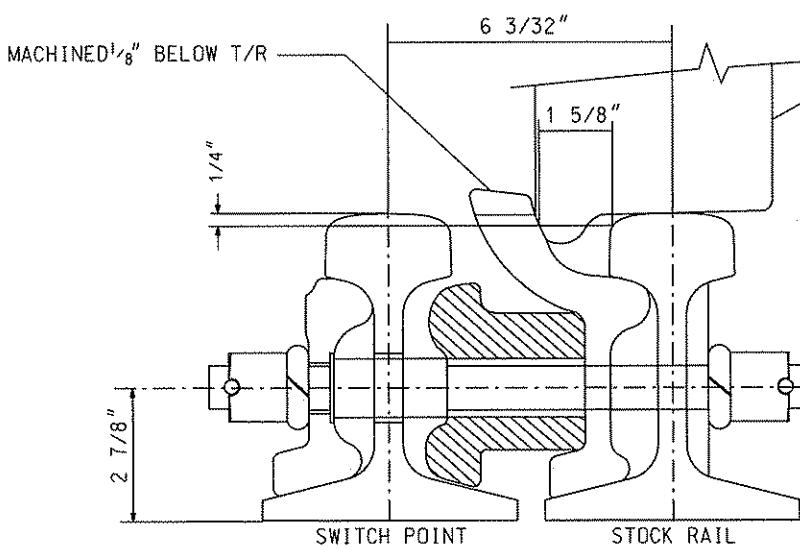
SECTION A
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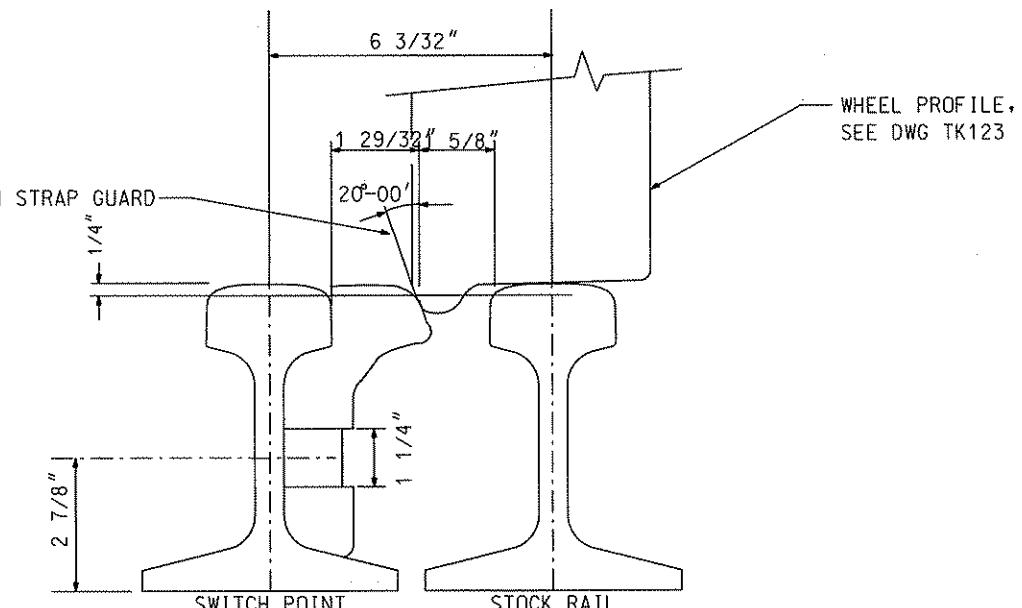
SECTION B
TK121 NOT TO SCALE



SECTION C
TK121 NOT TO SCALE



POINT OPEN
SECTION D
TK121 NOT TO SCALE

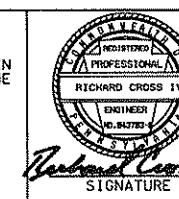


POINT OPEN
SECTION E
TK121 NOT TO SCALE

Gannett Fleming
Transit & Rail Systems

NO.	DATE	DESCRIPTION
REVISIONS		

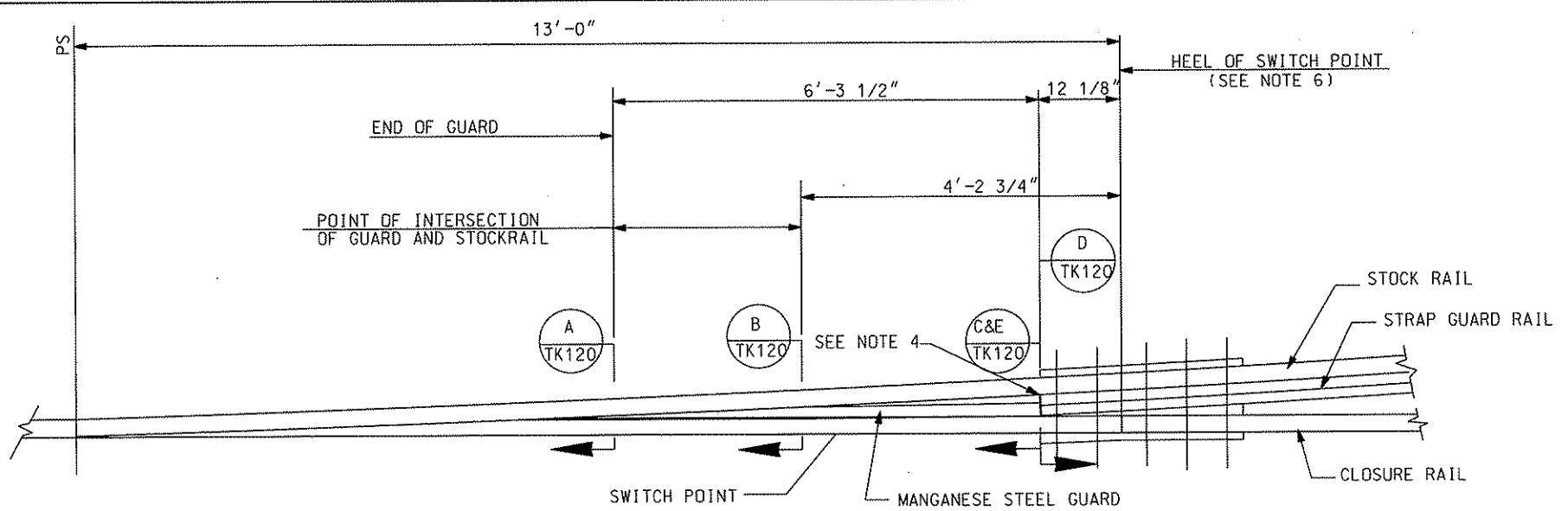
THE PREPARATION OF THIS DOCUMENT HAS BEEN FINANCED IN PART THROUGH A GRANT FROM THE FEDERAL TRANSIT ADMINISTRATION, U.S. DEPARTMENT OF TRANSPORTATION, UNDER THE URBAN MASS TRANSPORTATION ACT OF 1964, AS AMENDED, FOR THE PORT AUTHORITY OF ALLEGHENY COUNTY, PENNSYLVANIA.



DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
Richard Cross
Signature
APPROVED
DATE

DESIGNED JF BARBIERE
DRAWN JF BARBIERE
CHECKED R CROSS
IN CHARGE R CROSS
DATE APR. 28, 2008
SCALE N.T.S.
Port Authority
CONTRACT NO. NSC-009
DWG. NO. TK120 SHT. 104

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH, PENNSYLVANIA
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
STANDARD
SWITCH POINT /GUARD DETAIL



PLAN OF LEFT HAND STRAIGHT SWITCH POINT

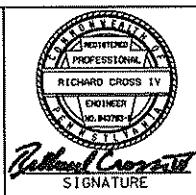
NOT TO SCALE

- NOTES:

 - STOCK RAILS SHALL BE UNDERCUT CONFORMING TO POINT DETAIL, SEE DRAWING TK122.
 - FOR STRAP GUARD DETAILS SEE DRAWING TK124.
 - ALL RAIL TO BE 115LB RE
 - MAXIMUM GAP BETWEEN END OF GUARD AND STRAP GUARD RAIL SHALL BE 1/16" MIN. IN THE CLOSED SWITCH POINT POSITION.
 - STRAP GUARD ON THE CURVED STOCK RAIL SHALL BE MACHINED AS NECESSARY THROUGH THE FLOATING HEEL BLOCK AREA SO AS TO PROVIDE CLEARANCE FOR THE STANDARD WHEEL CONTOUR. PER DRAWING TK123.
 - SWITCH POINTS TO BE MODIFIED FOR USE WITH HOUSE TOP GUARDS, FLOATING HEEL BLOCKS, AND MANGANESE SWITCH POINT INSERTS. SEE DRAWINGS TK133-TK137.



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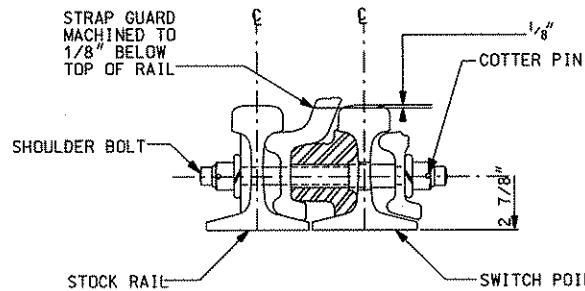
DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
David P. Harrington 4/28/08
APPROVED DATE

PITTSBURGH **PENNSYLVANIA**

PORT AUTHORITY OF ALLEGHENY COUNTY

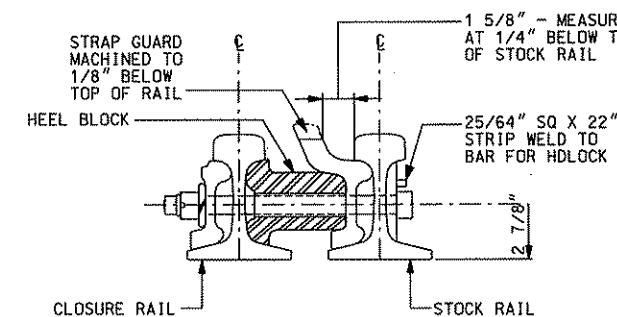
**NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
STANDARDS
13'-0" SWITCH POINT DETAIL**

rity 101251	CONTRACT NO.	NSC-009	
	DWG. NO.	TK121	SHR. 105



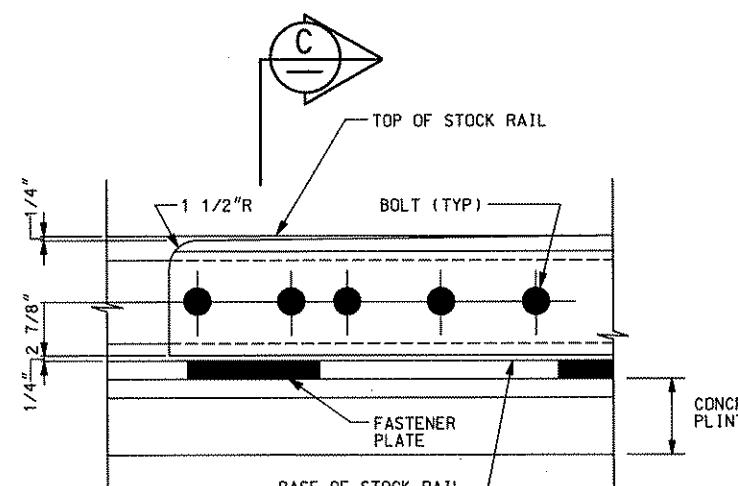
HEEL BLOCK AREA

FLOATING HEEL BLOCK TO BE USED - NOT BOLTED HEEL BLOCK AS SHOWN
SEE DRAWING TK136 & TK137
NOT TO SCALE



HEEL BLOCK AREA

FLOATING HEEL BLOCK TO BE USED - NOT BOLTED HEEL BLOCK AS SHOWN
SEE DRAWING TK136 & TK137
NOT TO SCALE



POINT DETAIL

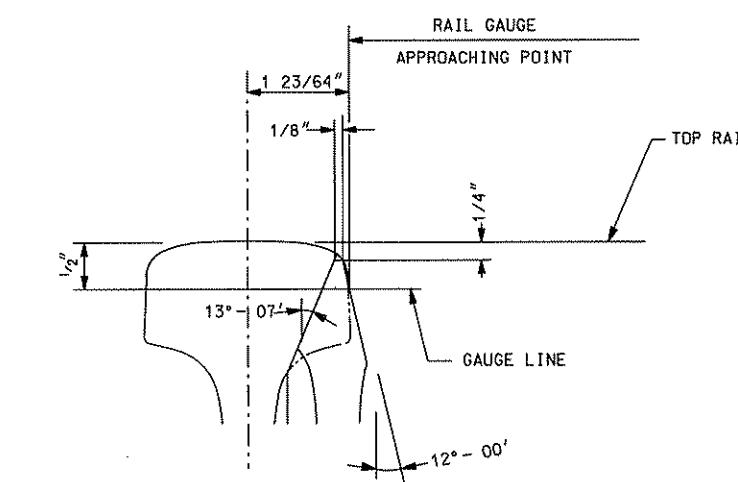
NOT TO SCALE

TK103

SECTION

NOT TO SCALE

C



DETAIL

NOT TO SCALE

4

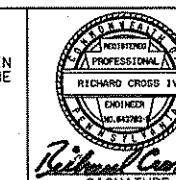
NOTES:

1. A MARKER PLATE SHALL BE PLACED ON THE GAGE SIDE OF BOTH SWITCH POINTS NEAR THE HEEL BLOCK END IN RAISED DEEPLY CUT CHARACTERS TO INDICATE PAAC, MFR, SWITCH POINT LENGTH, CURVED OR STRAIGHT, RAIL SECTION AND DATE.
2. SEE LATEST REVISION AREMA PLAN NUMBER 221 FOR FURTHER DETAILS.
3. SEE DRAWING TK123 FOR WHEEL PROFILE AND STRAP GUARD RAIL.
4. ALL SHARP EDGES SHALL BE REMOVED FROM GROUND PLANES AND HOLES ON ALL SWITCH COMPONENTS.

Gannett Fleming
Transit & Rail Systems

NO.	DATE	DESCRIPTION	REVISIONS

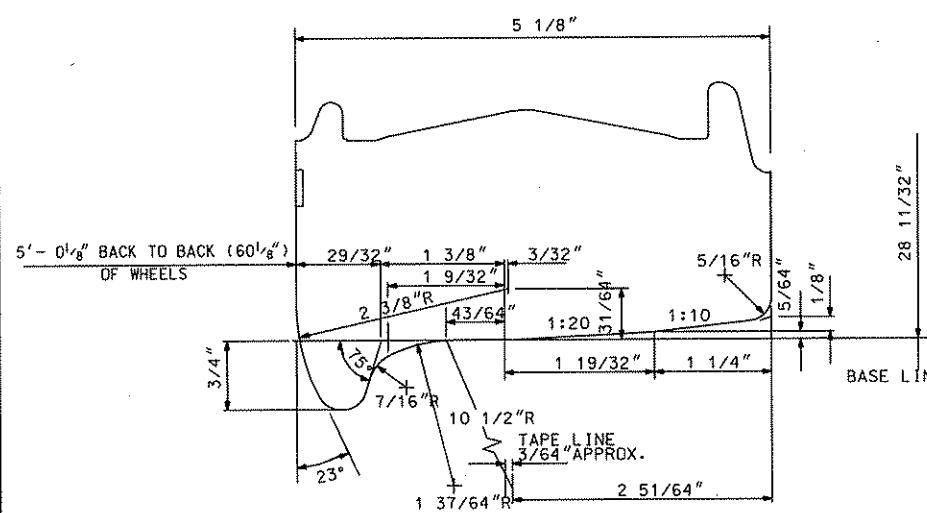
THE PREPARATION OF THIS DOCUMENT HAS BEEN FINANCED IN PART THROUGH A GRANT FROM THE FEDERAL TRANSIT ADMINISTRATION, U.S. DEPARTMENT OF TRANSPORTATION, UNDER THE URBAN MASS TRANSPORTATION ACT OF 1964, AS AMENDED, FOR THE PORT AUTHORITY OF ALLEGHENY COUNTY, PENNSYLVANIA.



DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
Richard Cross
SIGNATURE
APPROVED
DATE

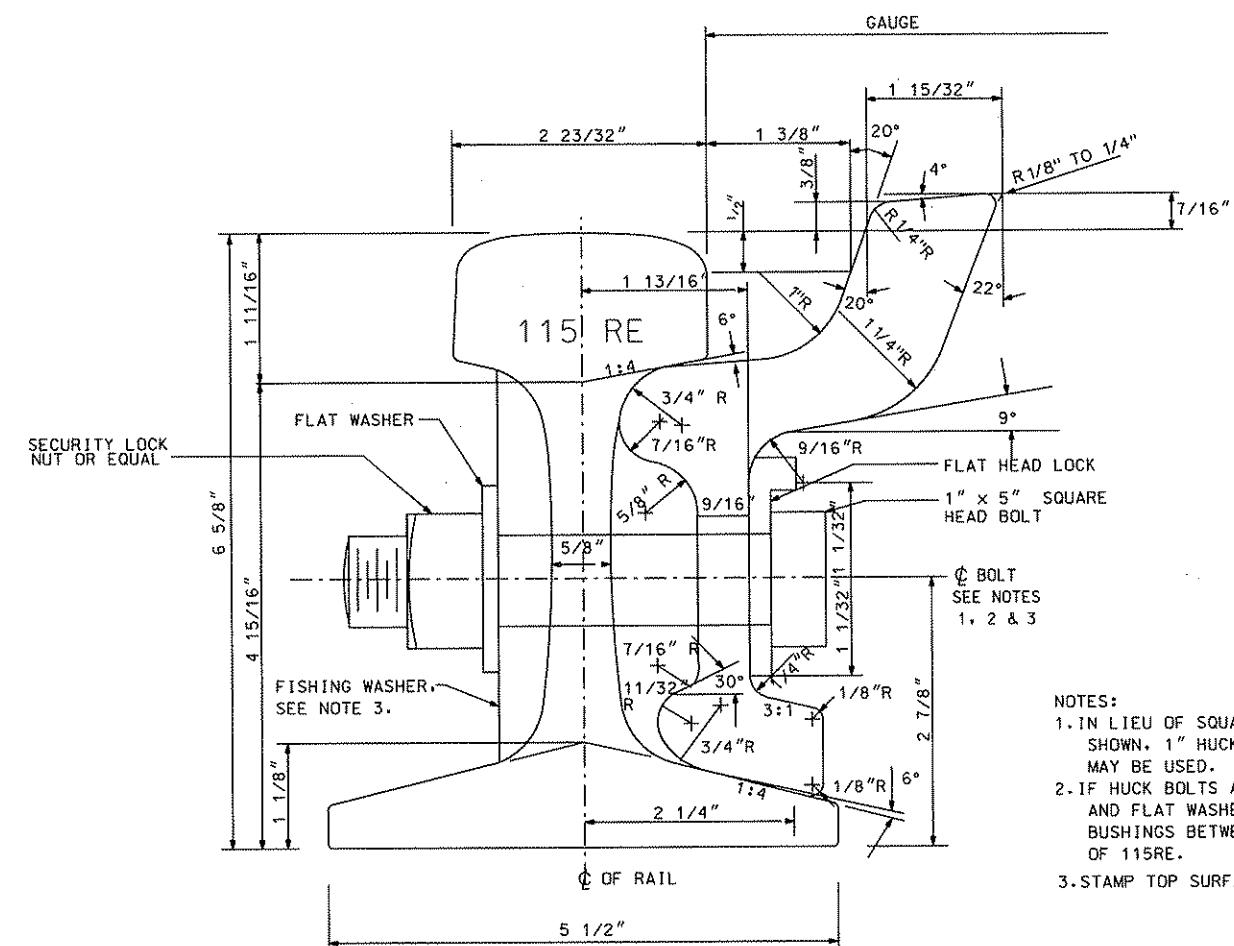
DESIGNED JF BARBIERE
DRAWN JF BARBIERE
CHECKED R CROSS
IN CHARGE R CROSS
DATE APR. 28, 2008
SCALE N.T.S.
N. T.S.
APPROVED
DATE

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
STANDARDS
HEEL BLOCK AREA AND SWITCH POINT DETAILS
Port Authority
CONTRACT NO. NSC-009
DWG. NO. TK122 SHT. 106



MODIFIED LRV WHEEL PROFILE

NOT TO SCALE



115 RE RAIL WITH STRAP GUARD

NOT TO SCALE

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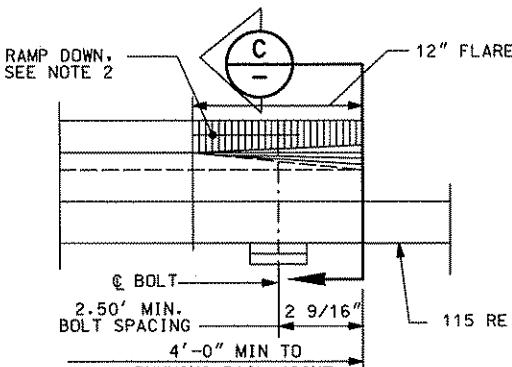


DESIGNED JF BARBIERE
DRAWN JF BARBIERE
CHECKED R CROSS
IN CHARGE R CROSS
DATE APR. 28, 2008
SCALE N.T.S.
Signature: *Dave P. Harris 4/28/08*
APPROVED DATE

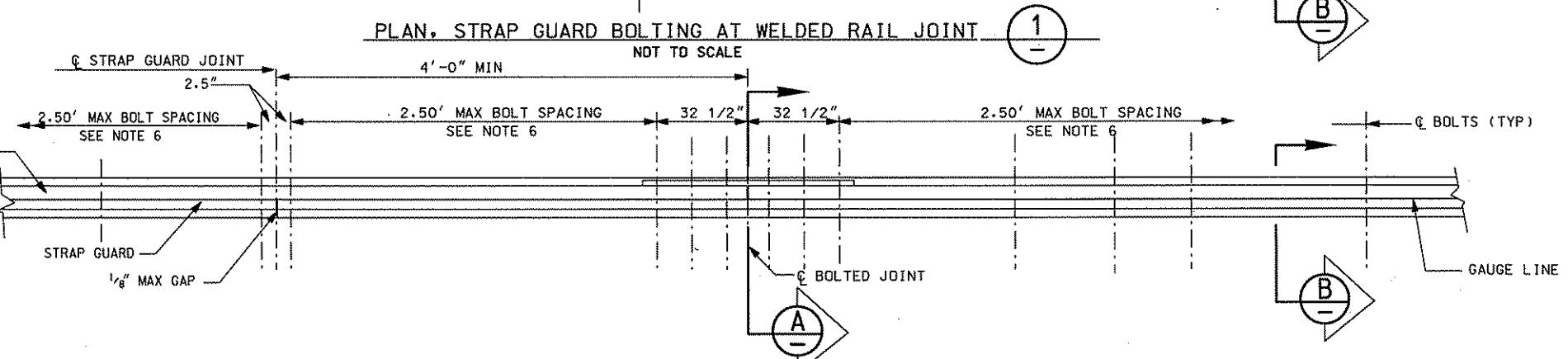
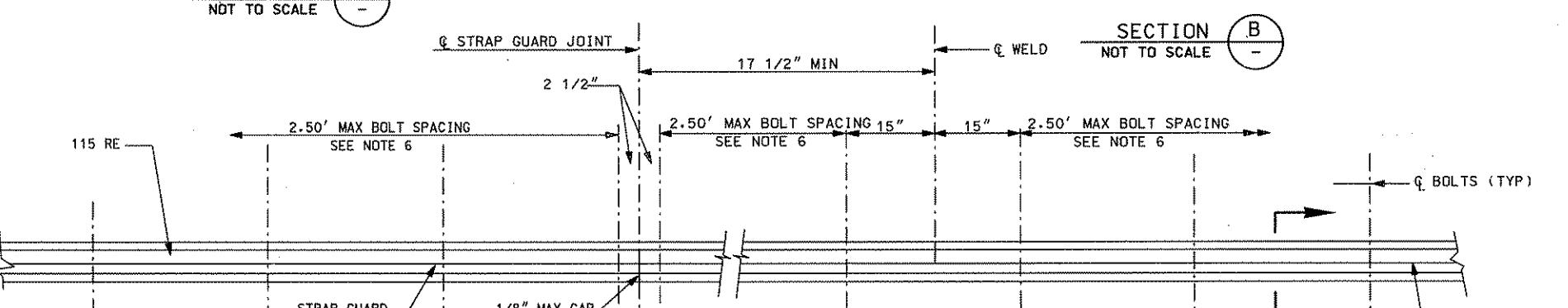
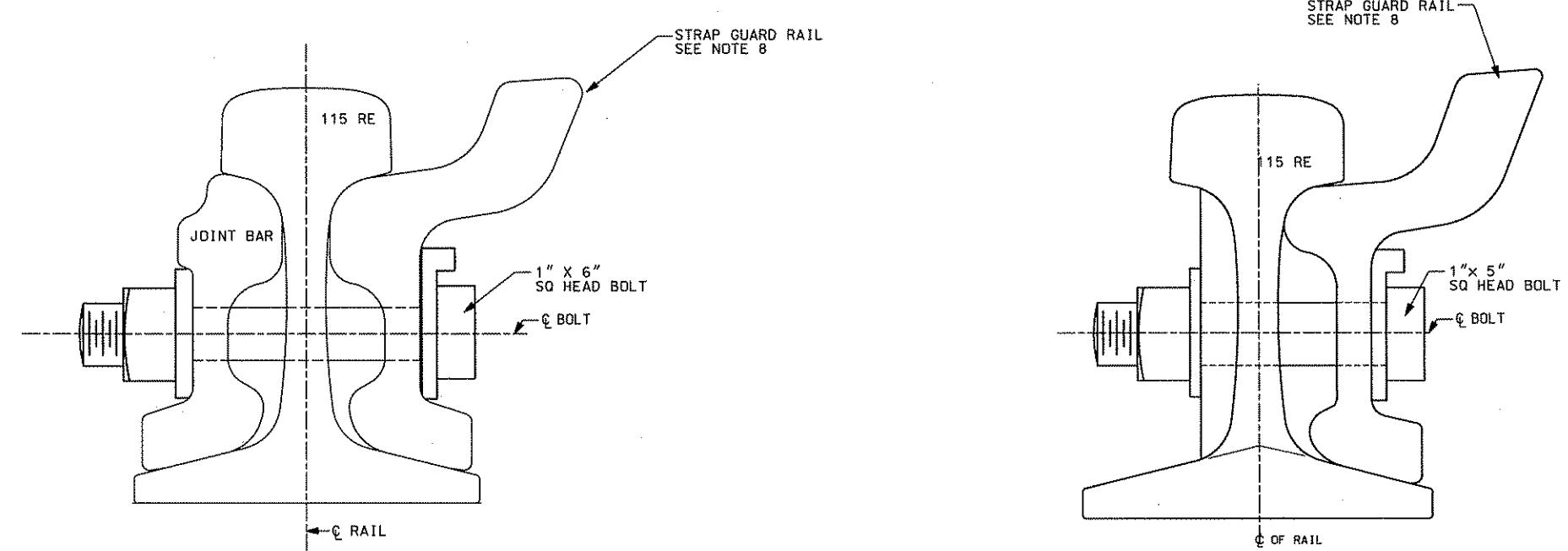
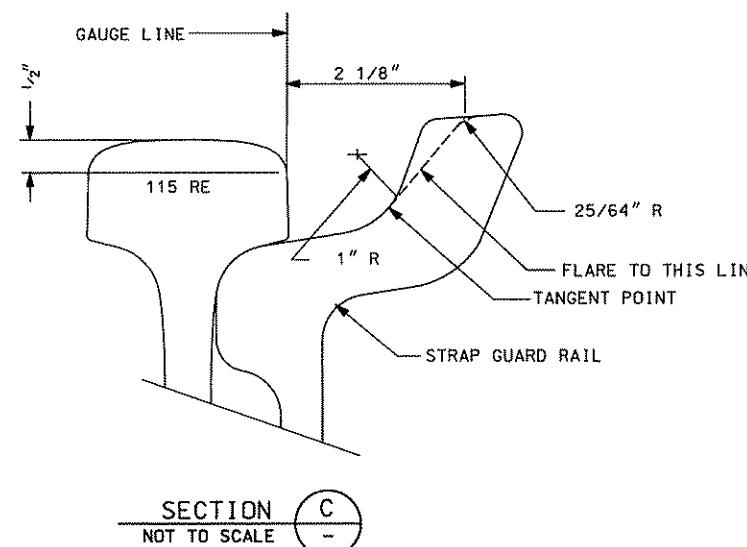
PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH, PENNSYLVANIA
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
STANDARDS
115 RE RAIL STRAP GUARD X-SECTION
Port Authority
CONTRACT NO. NSC-009
DWG. NO. TK123
SHT. 107

NOTES:

1. STRAP GUARD AND WASHER SHALL BE PUNCHED TO ACCEPT BOLTS AS SHOWN. NUTS MUST ALWAYS BE ON FIELD SIDE OF THE RUNNING RAIL. PUNCHING FOR BOLTS SHALL BE IN ACCORDANCE WITH DRAWING BELOW REGARDLESS OF RADIUS OF CURVE.
2. STRAP GUARD SHALL BE FLARED AT THE APPROACH ENDS AS SHOWN FOR DISTANCE OF 12".
3. FLANGE WIDTH MAY VARY. INCREASES FROM THE MINIMUM . STANDARD 5/8", SHALL BE MADE BY GRINDING THE FACE OF THE STRAP GUARD.
4. FLANGeway DIMENSIONS DESIGNED TO ACCOMMODATE VEHICLE WHEEL CONTOUR ON DRAWING TK123
5. GRIND RUNNING RAIL WELDS TO MATE WITH STRAP GUARDRAIL.
6. STRAP GUARD BOLT SPACING BETWEEN JOINT BOLTS SHALL BE APPROXIMATELY EQUAL.
7. SHORT LENGTHS OF STRAP GUARD RAIL SHALL BE AVOIDED. IN NO CASE SHALL LENGTHS SHORTER THAN 9.84' BE USED UNLESS INDICATED ON THE PLANS.
8. STRAP GUARD RAIL SHALL BE BOLTED TO 115RE AS INDICATED ON DRAWING TK123.



STRAP GUARD END FLARE DETAIL 3
NOT TO SCALE

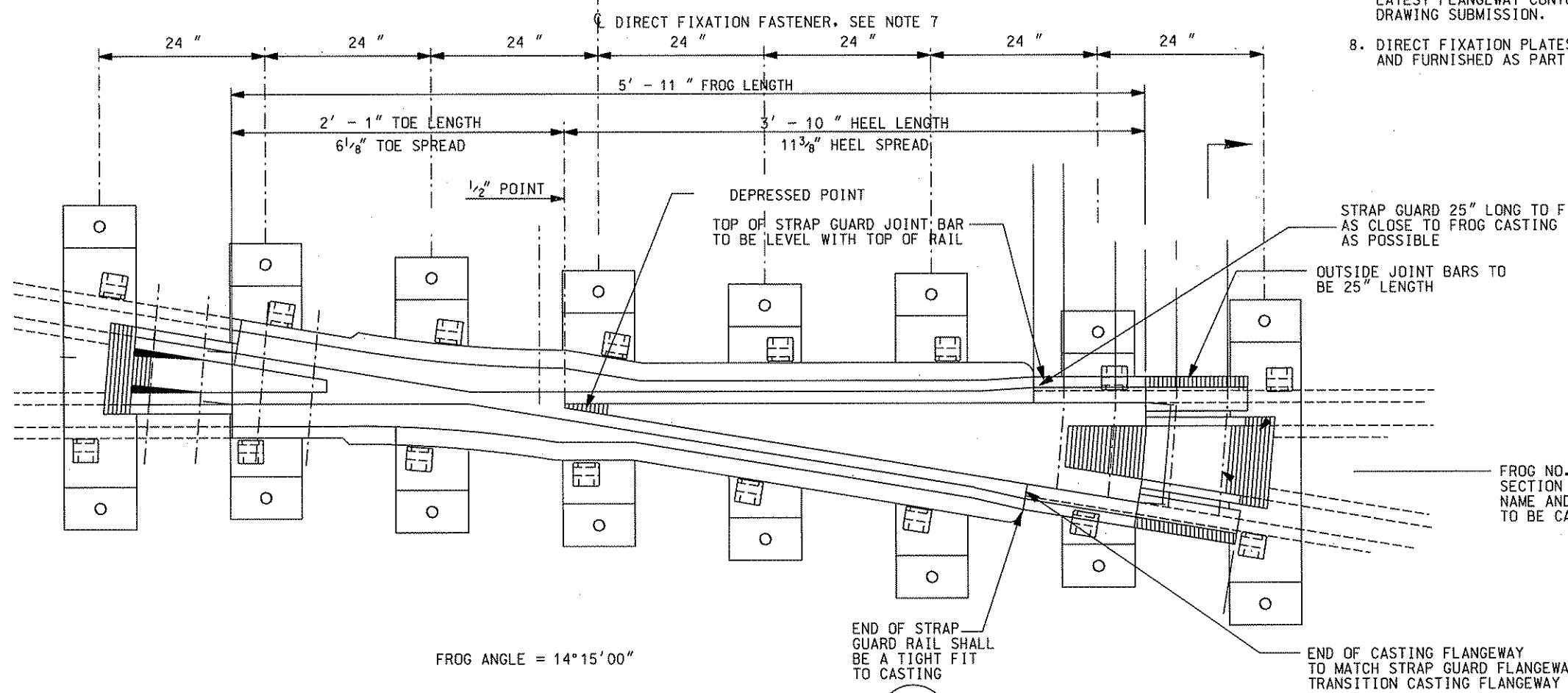


PLAN, STRAP GUARD BOLTING AT BOLTED RAIL JOINT 2
NOT TO SCALE

 Gannett Fleming Transit & Rail Systems				 PROFESSIONAL ENGINEER RICHARD CROSS IV PENNSYLVANIA ENGINEER IN CHARGE NO. 10762	DMJM HARRIS AECOM FOUR GATEWAY CENTER 20TH FLOOR PITTSBURGH, PA. 15222	DESIGNED JF BARBIERE DRAWN JF BARBIERE CHECKED R CROSS IN CHARGE R CROSS DATE APR. 28, 2008 SCALE N.T.S.	PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH PENNSYLVANIA NORTH SHORE CONNECTOR NSC TRAIN SYSTEM (SYSTEM WIDE) STANDARDS STRAP GUARD DRILLING AND FLARING DETAILS
NO.	DATE	DESCRIPTION	REVISIONS				

NOTES:

1. RAIL AND OTHER TRACK MATERIAL SHALL CONFORM TO 115 RE SECTION. TOE JOINT SHALL MATCH STANDARD 4 HOLE DRILLING. HEEL JOINT SHALL MATCH STANDARD 4 HOLE DRILLING.
2. GENERAL DETAIL SHOWS ANGLE, OVERALL FROG LENGTH, TOE LENGTH, HEEL LENGTH, AND HEEL SPREAD. FOR ADDITIONAL DETAIL OF SOLID MANGANESE SELF-GUARDED FROGS, REFER TO AREMA PLAN NO. 641, LENGTHS MODIFIED AS SHOWN.
3. FROG NUMBER, CONNECTING RAIL SECTION, PAAC, MANUFACTURER'S NAME AND YEAR OF MANUFACTURE TO BE CAST ON HEEL EXTENSION AS SHOWN.
4. SPREADS AND ARM LENGTHS GIVEN FROM $\frac{1}{2}$ " POINT OF FROG.
5. REMOVE ALL SHARP EDGES FROM ALL CASTINGS AND HOLES.
6. RIBS AND OTHER STIFFENING ELEMENTS SHALL BE DESIGNED BY THE FROG MANUFACTURER AND SHALL BE AT LEAST EQUAL TO THOSE SHOWN ON AREMA PLAN NO. 641.
7. FROG TO BE OF THE FLANGE BEARING TYPE. PAAC WILL PROVIDE LATEST FLANGEWAY CONTOUR AND PROFILE - CONTRACTOR TO COORDINATE PRIOR TO SHOP DRAWING SUBMISSION.
8. DIRECT FIXATION PLATES AND FASTENERS FOR FROGS SHALL BE DESIGNED AND FURNISHED AS PART OF TURNOUT AND CROSSOVER SETS.



NO. 4 SOLID Manganese STEEL SELF-GUARDED FROG GENERAL DETAIL

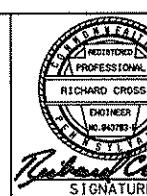
DETAIL NOT REPRESENTATIVE OF SOLID MANGANESE SELF-GUARDED FROG
SHOWN FOR GEOMETRIC DATA ONLY
NOT TO SCALE

TK110

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Transit & Rail Systems

NO.	DATE	DESCRIPTION
REVISIONS		

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DESIGNED JF BARBIERE
DRAWN JF BARBIERE
CHECKED R CROSS
IN CHARGE R CROSS
DATE APR. 28, 2008
SCALE N.T.S.
SIGNATURE *Richard Cross*
APPROVED *David P. Harris* 4/28/08
DATE *4/28/08*

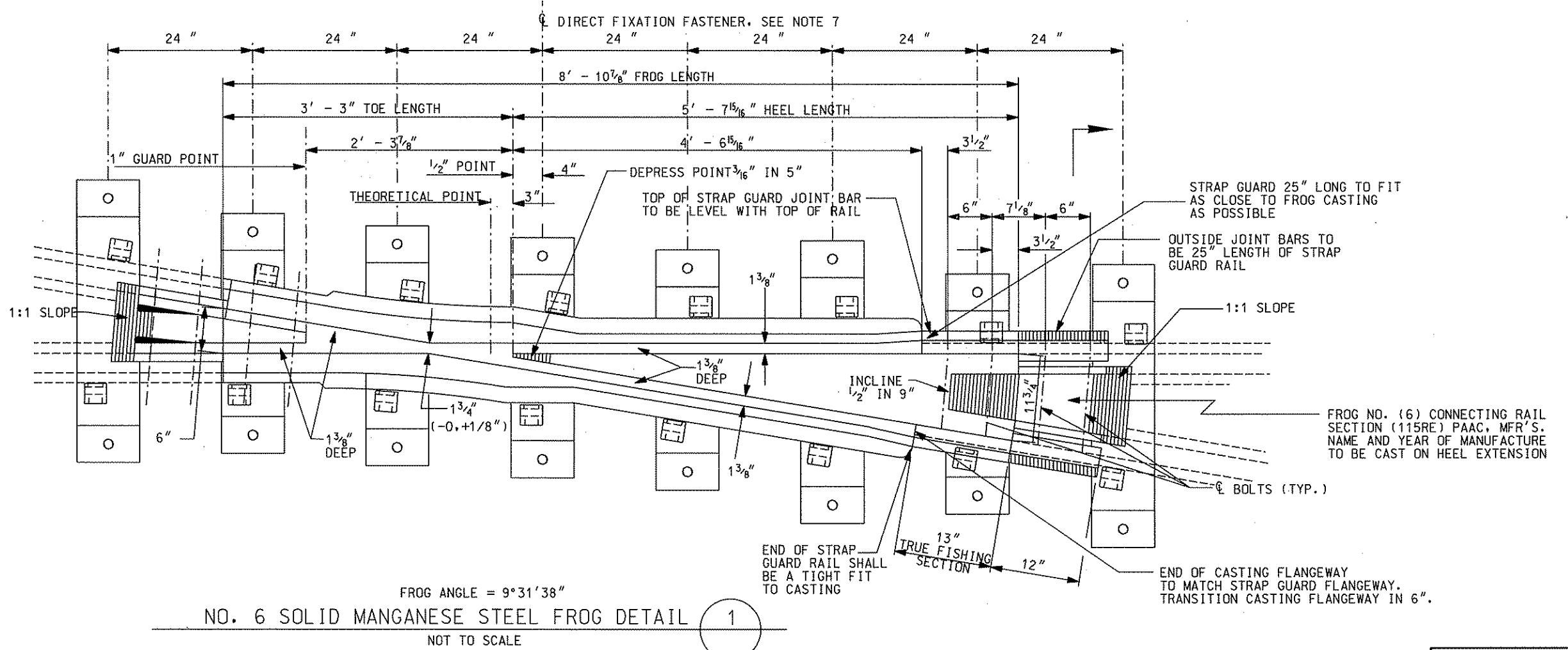
PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH
Pennsylvania

NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
TRACK DETAILS
#4 SOLID MANGANESE SELF-GUARDED FROG (GENERAL DETAIL)

Port Authority	CONTRACT NO.	NSC-009
DWG. NO.	TK125	SHT. 109

NOTES

1. THIS DETAIL PROVIDED FOR REFERENCE AND FIELD LAYOUT ONLY.
ALL MATERIALS EXCEPT FOR ANCHOR BOLTS, WASHERS, AND ANCHOR INSERTS
HAVE BEEN PREVIOUSLY PROCURED UNDER CONTRACT #3002, "EARLY PROCUREMENT"

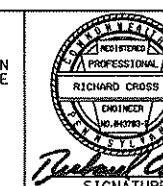


NO. 6 SOLID MANGANESE STEEL FROG DET.

NOT TO SCALE



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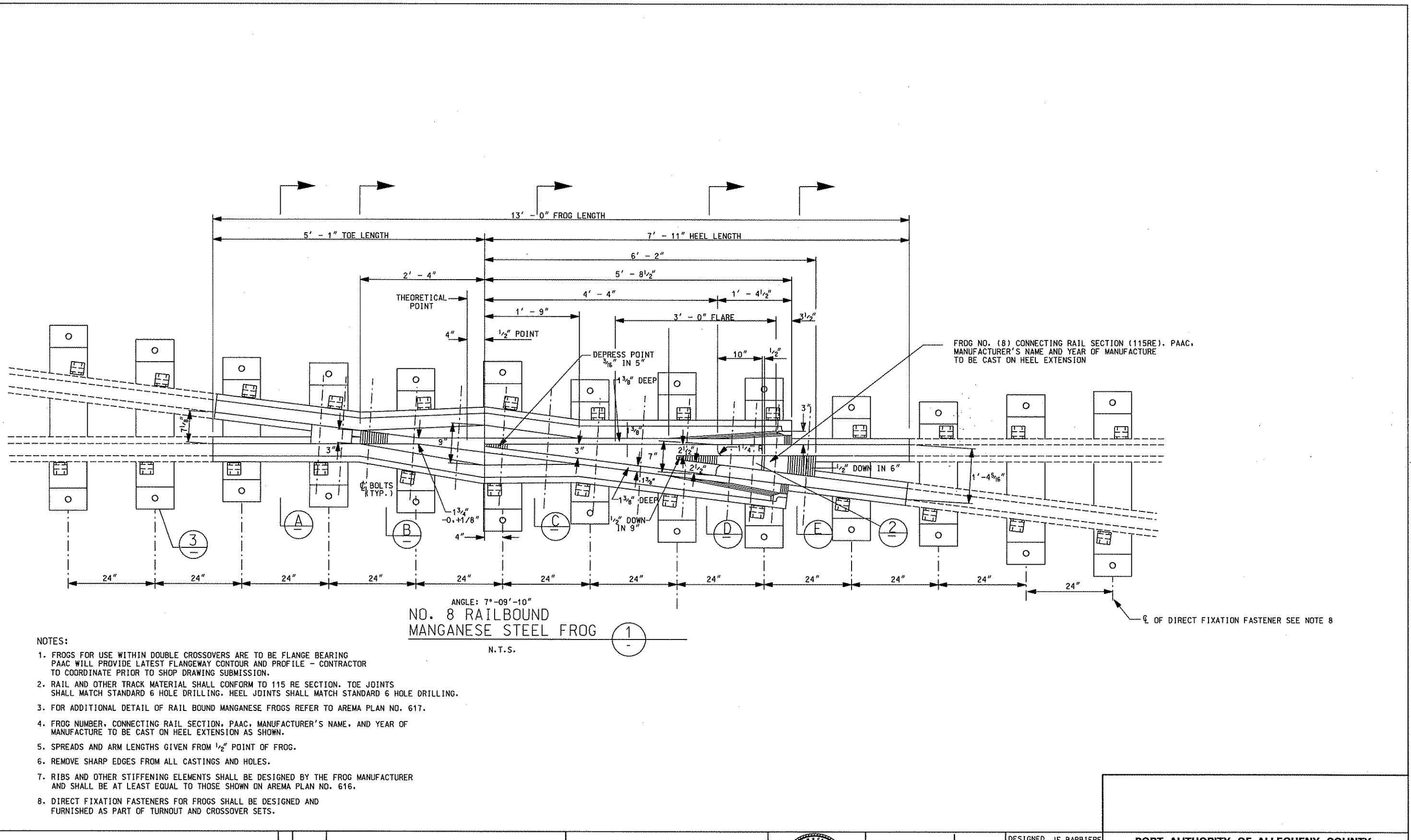


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FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222

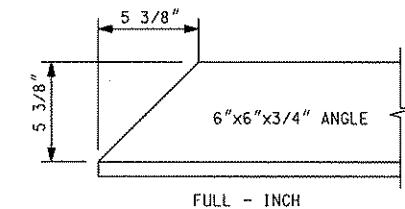
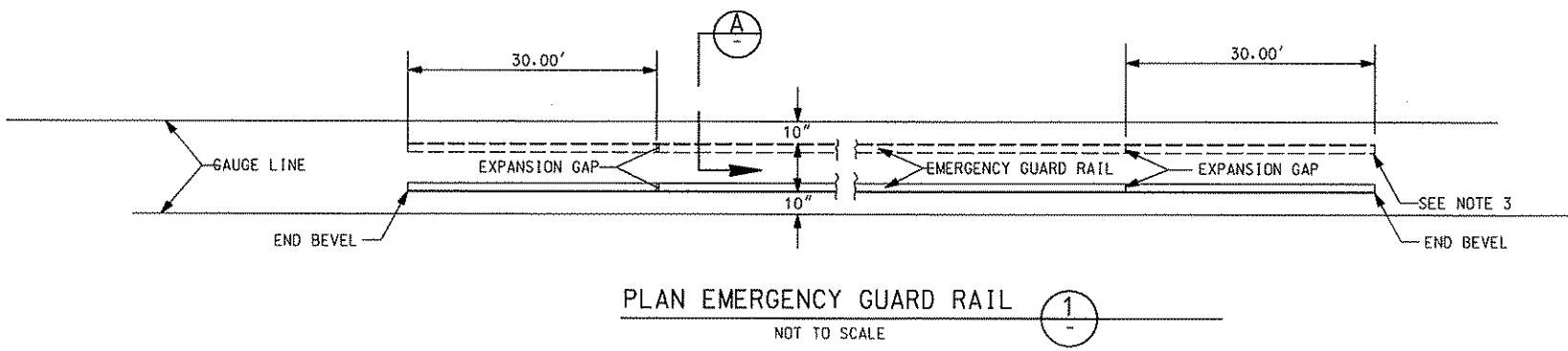
DESIGNED JF BARBIERE
DRAWN JF BARBIERE
CHECKED R CROSS
IN CHARGE R CROSS
DATE APR. 28, 2008
SCALE N.T.S.

PITTSBURGH PORT AUTHORITY OF ALLEGHENY COUNTY
PENNSYLVANIA

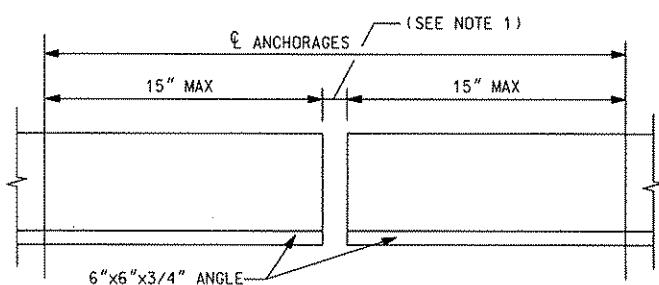
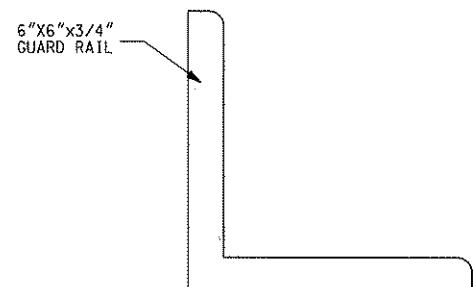
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
TRACK DETAILS
#6 FROG DETAIL



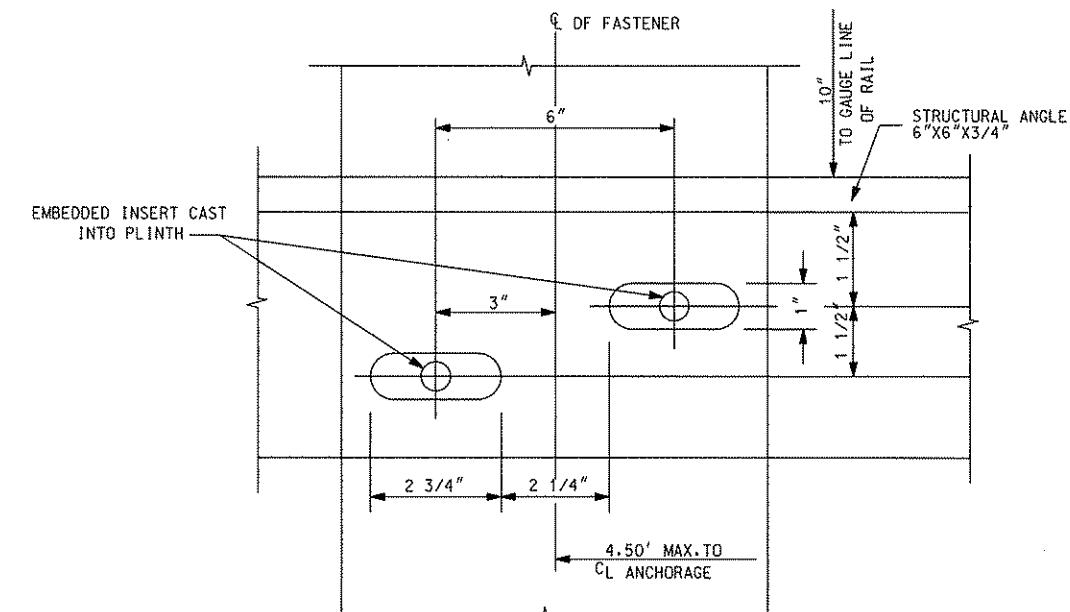
 Gannett Fleming Transit & Rail Systems				THE PREPARATION OF THIS DOCUMENT HAS BEEN FINANCED IN PART THROUGH A GRANT FROM THE FEDERAL TRANSIT ADMINISTRATION, U.S. DEPARTMENT OF TRANSPORTATION, UNDER THE URBAN MASS TRANSPORTATION ACT OF 1964, AS AMENDED, FOR THE PORT AUTHORITY OF ALLEGHENY COUNTY, PENNSYLVANIA.	 RICHARD CROSS IV PROFESSIONAL ENGINEER Pittsburgh, PA SOCIETY OF PROFESSIONAL ENGINEERS	DMJM HARRIS AECOM FOUR GATEWAY CENTER 20TH FLOOR PITTSBURGH, PA. 15222 <i>Richard Cross</i> SIGNATURE	DESIGNED JF BARBIERE	PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH NORTH SHORE CONNECTOR NSC TRAIN SYSTEM (SYSTEM WIDE) TRACK DETAILS #8 FROG DETAIL				
							CHECKED MJ HEARN IN CHARGE R CROSS DATE APR. 28, 2008 SCALE					
<table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> <th>REVISIONS</th> </tr> </thead> </table>				NO.		DATE	DESCRIPTION		REVISIONS	<i>David P. Hearn 4/28/08</i> APPROVED DATE		Port Authority CONTRACT NO. NSC-008 DWG. NO. TK127 SHT. 111
NO.	DATE	DESCRIPTION	REVISIONS									



DETAIL
BEVELLED END OF GUARD RAIL



DETAIL
GUARD RAIL EXPANSION GAP
NOT TO SCALE



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REVISIONS		

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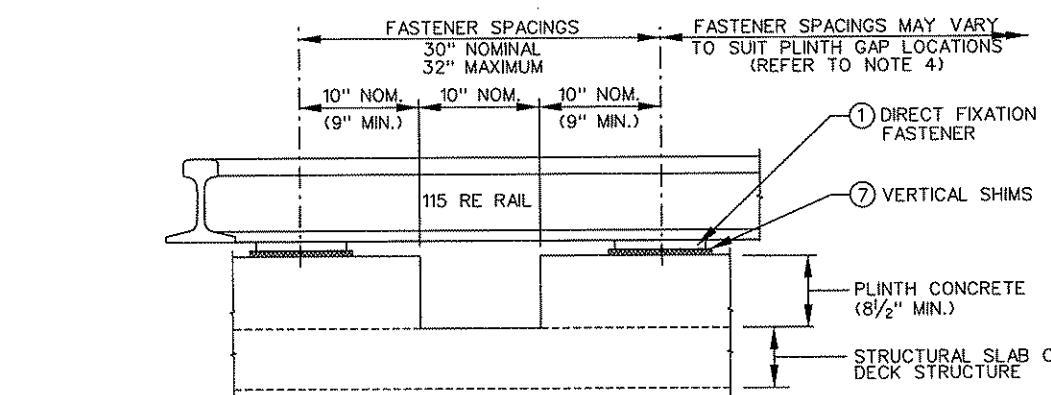


SIGNATURE

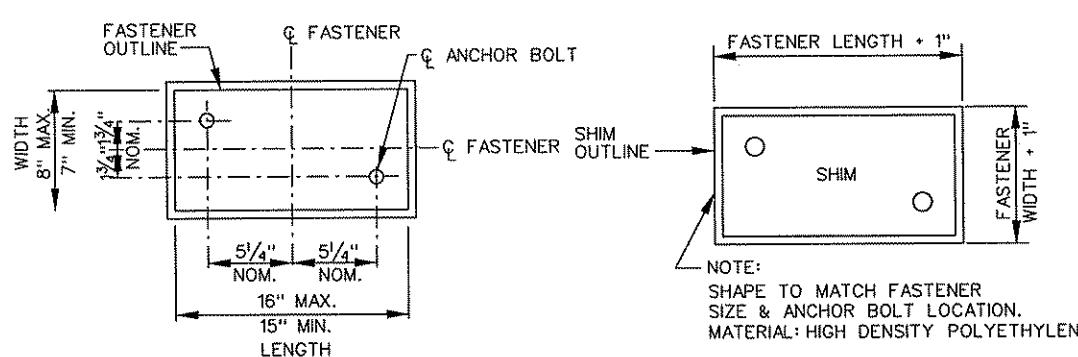
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PITTSBURGH, PA. 15222
David P. Harris 4/28/08
APPROVED DATE

DESIGNED JF BARBIERE
DRAWN JF BARBIERE
CHECKED MJ HEARN
IN CHARGER CROSS
DATE APR. 28, 2008
SCALE

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
EMERGENCY GUARD RAIL
DETAILS
Port Authority
CONTRACT NO. NSC-009
DWG. NO. TK128 SHT. 112



SECTION
SCALE: $\frac{1}{2}$ " - 1'-0"

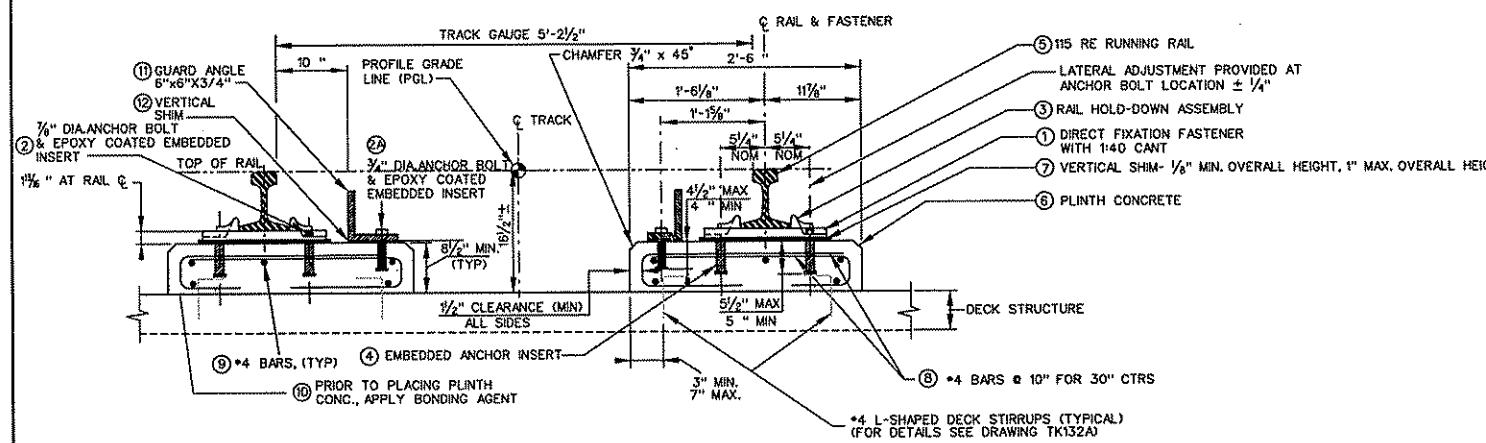
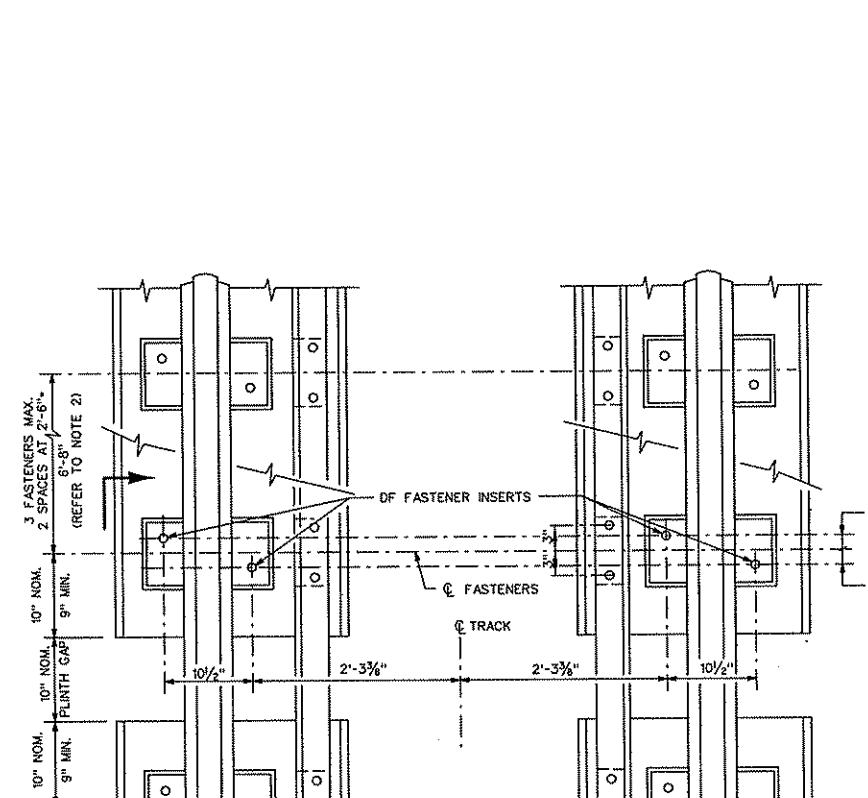
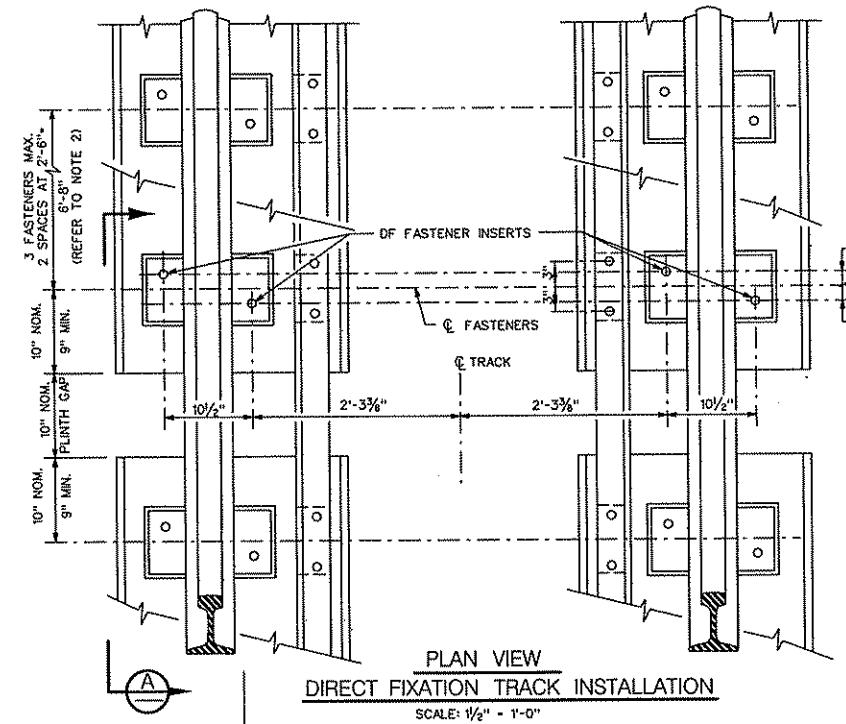


DF FASTENER PLAN

SCALE: 2" - 1'-0"

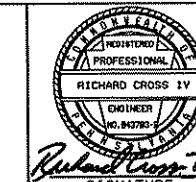
SHIM CONFIGURATION

THICKNESSES: $\frac{1}{16}$ " $\frac{1}{8}$ " $\frac{1}{4}$ " $\frac{3}{8}$ " $\frac{1}{2}$ "



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DMJM HARRIS | AECOM
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PITTSBURGH, PA. 15222
APPROVED DATE
Richard Cross IV
RICHARD CROSS IV
ENGINEER
HO. 040786-0
SIGNATURE
APPROVED 4/28/08
DATE

BILL OF MATERIAL

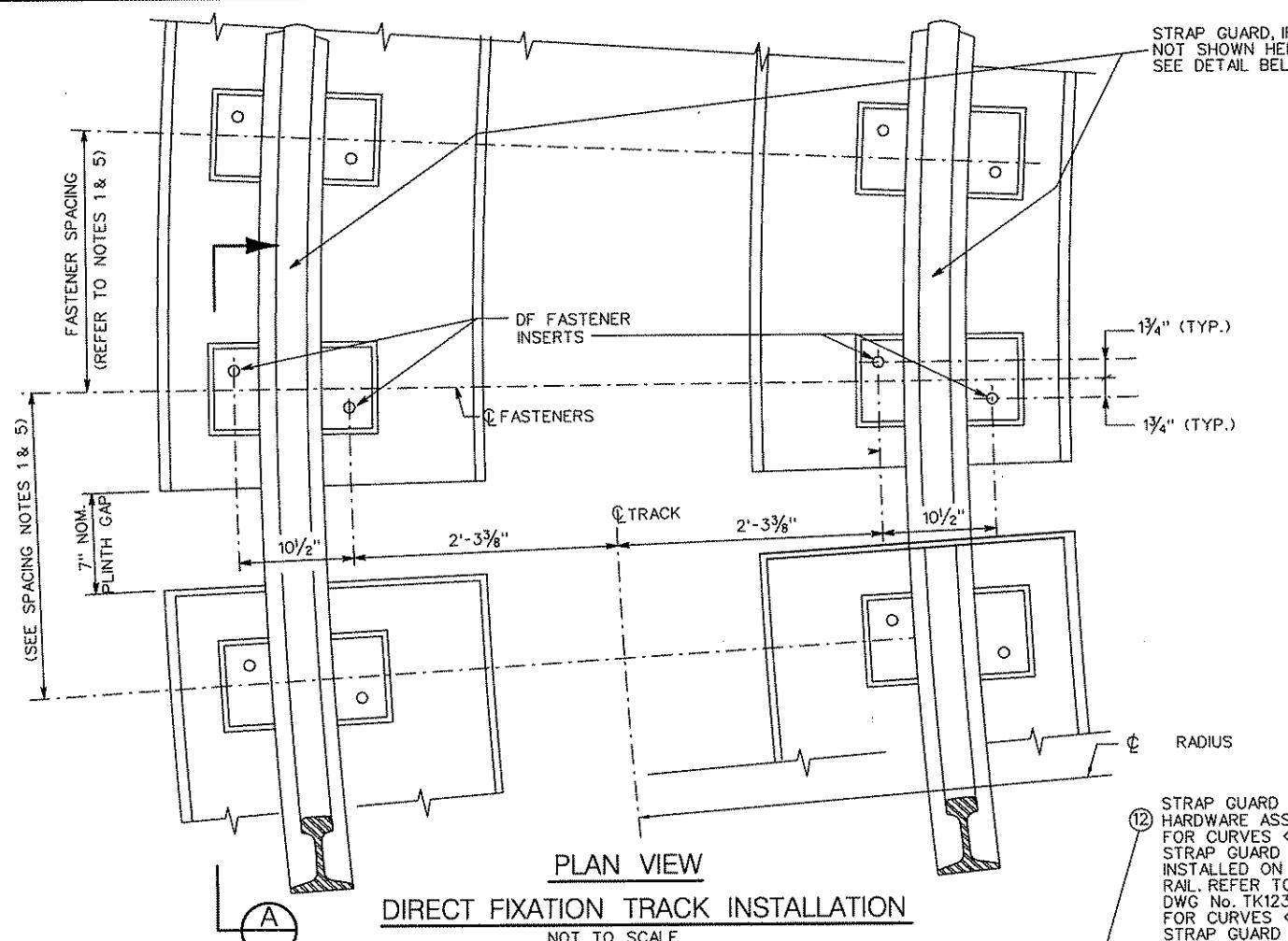
ITEM	DESCRIPTION	QUANTITY PER RAIL SEAT
1	DIRECT FIXATION FASTENER	1 EACH
2	$\frac{7}{8}$ " DIAMETER ANCHOR BOLT AND LOCKING DEVICES FOR FASTENER	2 EACH
2A	$\frac{3}{4}$ " DIAMETER ANCHOR BOLT AND LOCKING DEVICES FOR GUARD ANGLE	2 EACH FOR AERIAL SECTIONS ONLY
3	RAIL HOLD-DOWN ASSEMBLY COMPLETE WITH NECESSARY HARDWARE	2 EACH
4	INSULATED ANCHOR INSERT FOR FASTENERS	2 EACH
5	115 RE RUNNING RAIL (CWR)	AS REQ'D
6	PLINTH CONCRETE FOR RAIL FASTENERS	AS REQ'D
7	VERTICAL SHIMS - $\frac{1}{8}$ " NOMINAL DESIGN (MIN) - $\frac{1}{2}$ " MAX. THICKNESS	PER SPEC AS REQ'D
8	*4 HOOP BARS (EPOXY COATED)	
9	5*4 LONGITUDINAL BARS (EPOXY COATED)	
10	BONDING AGENT	
11	GUARD ANGLE 6"x6"x3/4"	
12	VERTICAL SHIM GUARD ANGLE	

NOTES:

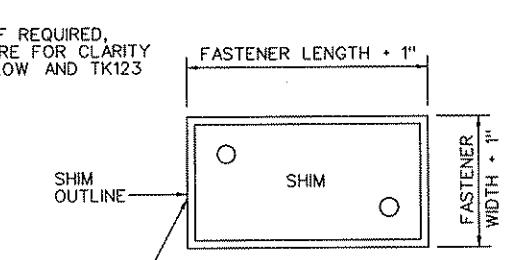
1. FASTENER SPACING 30" NOMINAL ON TANGENT TRACK. FOR CURVED TRACK SEE DWG. NO. TK132
2. PLINTH CONCRETE SHALL BE PLACED IN SEGMENTS. SEGMENTS SHALL BE IN 2 OR 3 FASTENER LENGTHS.
3. PLINTH SHALL NOT OVERLAP ANY STRUCTURAL JOINTS.
4. OTHER GAPS IN PLINTH SHALL BE LOCATED AS REQUIRED FOR STRUCTURAL JOINTS, DRAINAGE AND PASSAGE OF SIGNAL OR OTHER CABLES.
5. FOR ADDITIONAL GUARD ANGLE DETAIL & JOINTS REFER TO DWG. No. TK128

NO.	DATE	DESCRIPTION	REVISIONS

PORT AUTHORITY OF ALLEGHENY COUNTY	
PITTSTON	PENNSYLVANIA
NORTH SHORE CONNECTOR	
NSC TRAIN SYSTEM (SYSTEM WIDE)	
TYPICAL TRACK DETAILS	
DIRECT FIXATION DETAILS - TANGENT TRACK	
Port Authority	CONTRACT NO. NSC-009
DWG. NO. TK131	SHT. 113



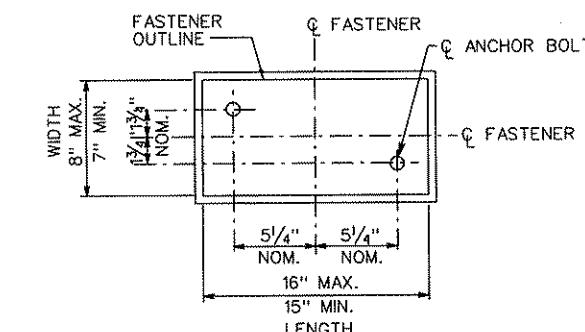
PLAN VIEW
DIRECT FIXATION TRACK INSTALLATION
NOT TO SCALE



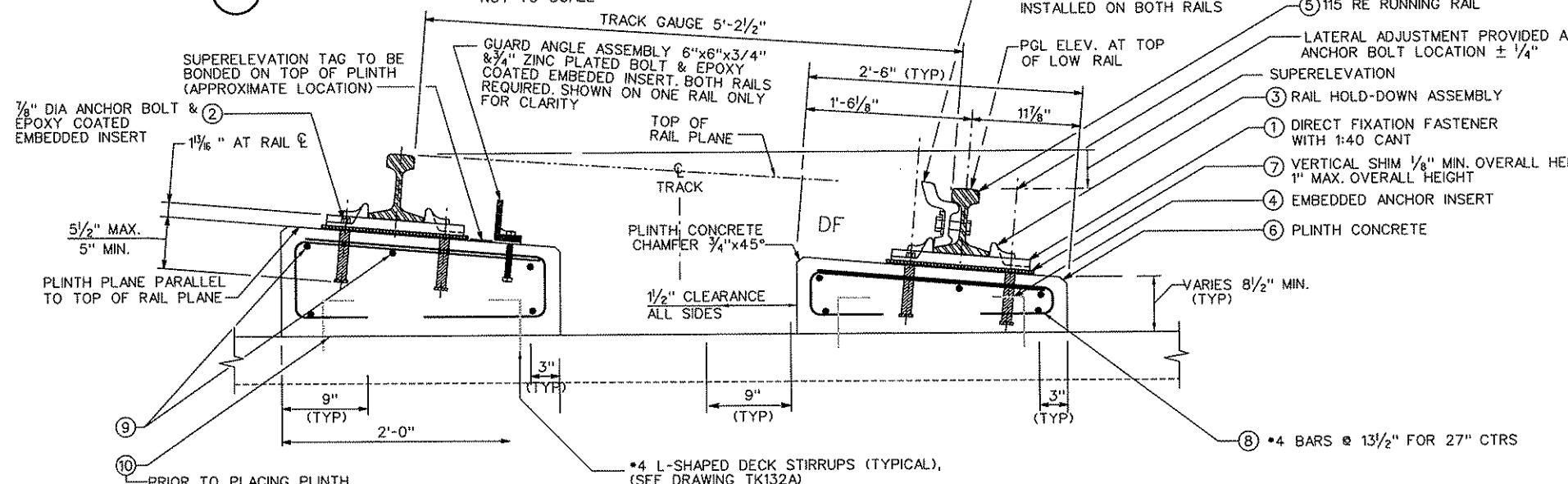
NOTE:
SHAPE TO MATCH FASTENER
SIZE & ANCHOR BOLT LOCATION.
MATERIAL: HIGH DENSITY POLYETHYLENE

SHIM CONFIGURATION

THICKNESSES: $\frac{1}{16}$ " $\frac{1}{8}$ " $\frac{1}{4}$ " $\frac{3}{8}$ " $\frac{1}{2}$ "



DF FASTENER PLAN
NOT TO SCALE

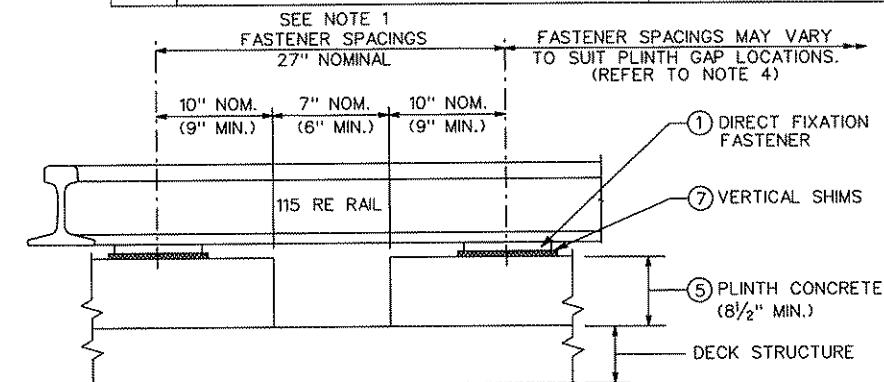


TYPICAL SECTION - CURVED SUPERELEVATED TRACK RADIUS

SCALE: $1\frac{1}{2}$ " = 1'-0"

BILL OF MATERIAL

ITEM	DESCRIPTION	QUANTITY PER RAIL SEAT
1	DIRECT FIXATION FASTENER	2 EACH
2	7/8" DIAMETER ANCHOR BOLT AND LOCKING DEVICES	2 EACH
3	RAIL HOLD-DOWN ASSEMBLY COMPLETE WITH NECESSARY HARDWARE	2 EACH
4	INSULATED ANCHOR INSERT FOR FASTENERS	2 EACH
5	115 RE RUNNING RAIL (CWR)	AS REQ'D
6	PLINTH CONCRETE FOR RAIL FASTENERS	AS REQ'D
7	VERTICAL SHIMS	1 OR 2 PER SPEC
8	*5 HOOP BARS (EPOXY COATED)	
9	*4 LONGITUDINAL BARS (EPOXY COATED)	AS REQ'D
10	BONDING AGENT	
11	ELASTOMERIC JOINT SEALER	
12	RESTRAINING RAIL ASSEMBLY	1 EACH



SECTION
NOT TO SCALE

NOTES:

1. FASTENER SPACING 30" AT CENTERLINE OF OUTER RAIL ON CURVED TRACK OF > 500' RADIUS. FOR CURVED TRACK < 500' RADIUS, 27" FASTENER SPACING APPLIES, ALSO FROM T.S. TO S.T. OF CURVES AND SHORT 100' TANGENT SECTIONS BETWEEN CURVES. FOR CURVED TRACK < 300', 24" FASTENER SPACING APPLIES.

2. PLINTH LENGTHS AND NUMBER OF FASTENERS PER PLINTH VARY (DUE TO SEGMENTAL CONSTRUCTION) AS PER THE FOLLOWING CURVE RADII:

CURVE RADIUS	NO. FASTENERS PER PLINTH	NOM. PLINTH LENGTH
R ≤ 200'	2	3'-8"
200' < R ≤ 500'	3	6'-2"
500' < R ≤ 600'	3	6'-8"

3. PLINTH SHALL NOT OVERLAP ANY STRUCTURAL JOINTS.

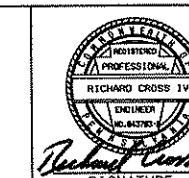
4. OTHER GAPS IN PLINTH SHALL BE LOCATED AS REQUIRED FOR STRUCTURAL JOINTS, DRAINAGE AND PASSAGE OF SIGNAL OR OTHER CABLES.

5. ON CURVED TRACKS DISTANCES SHOWN BETWEEN FASTENERS AND/OR PLINTH ENDS SHALL BE MADE AT THE CENTERLINE OF OUTSIDE RAIL. RAIL FASTENERS ON INSIDE RAIL OF CURVE SHALL BE PLACED RADIALLY FROM OUTSIDE RAIL FASTENERS.

Gannett Fleming
Transit & Rail Systems

NO.	DATE	DESCRIPTION
REVISIONS		

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RICHARD CROSS IV
ENGINEER
IN CHARGE

SIGNATURE

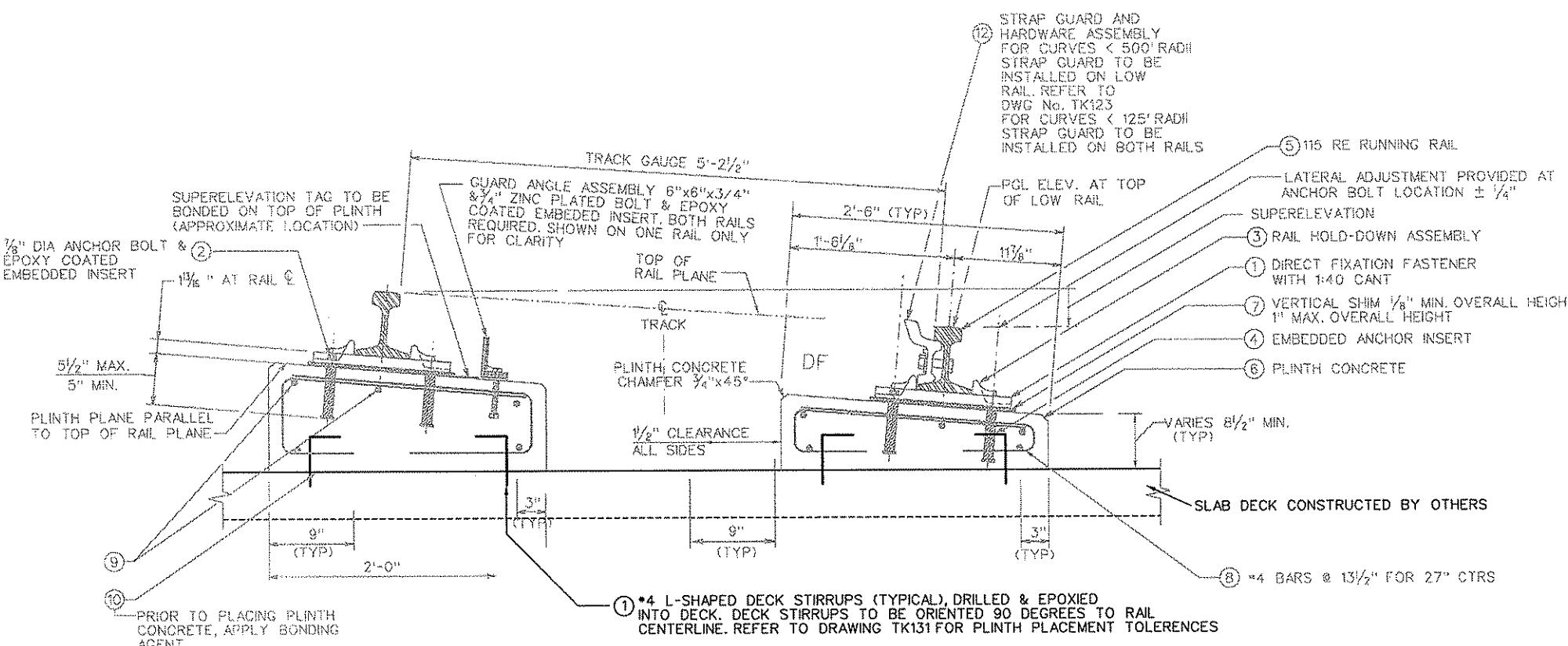
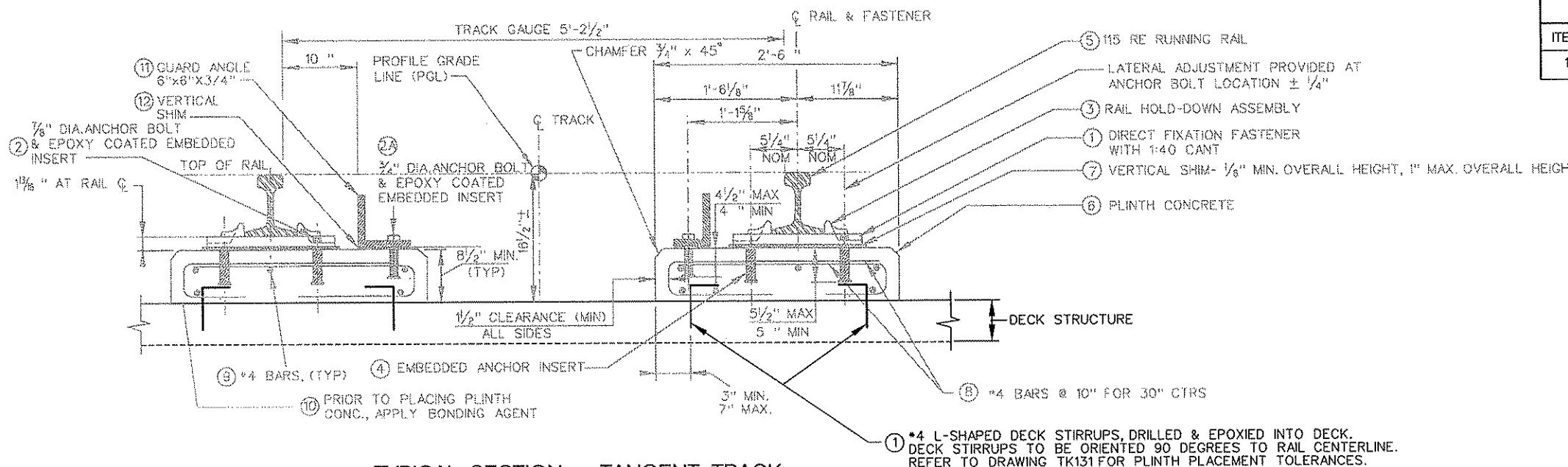
DAVID J. HARRIS
AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
APPROVED
DATE

DESIGNED JF BARBIERE
DRAWN JF BARBIERE
CHECKED MJ HEARN
IN CHARGE R CROSS
DATE APR. 28, 2008
SCALE

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
TYPICAL TRACK SECTIONS
DIRECT FIXATION DETAILS - CURVED TRACK
Port Authority
CONTRACT NO. NSC-009
DWG. NO. TK132
SHT. 114

BILL OF MATERIAL

ITEM	DESCRIPTION	QUANTITY PER RAIL SEAT
1	L-SHAPED EPOXY COATED STIRRUPS	2 EACH



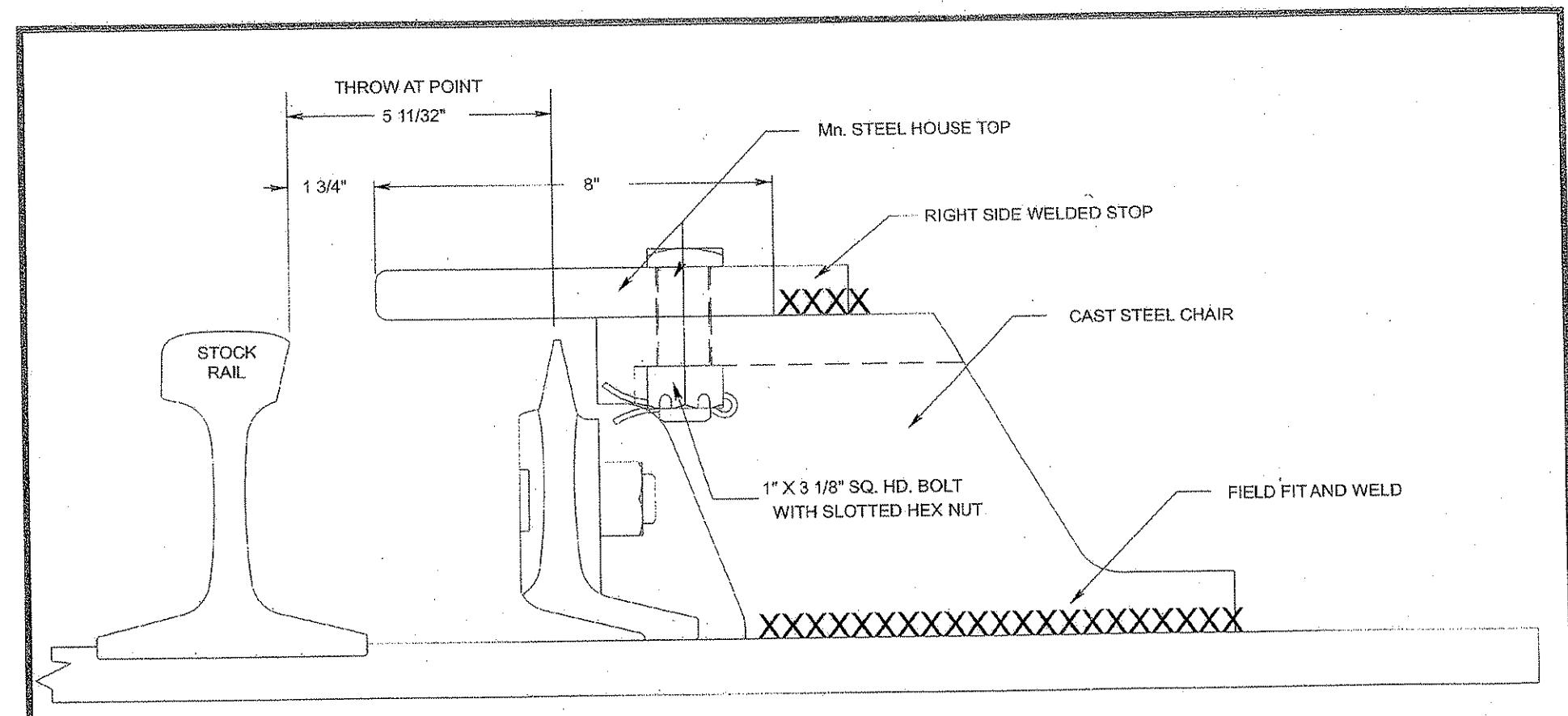
NO.	DATE	DESCRIPTION	
		REVISIONS	REVISIONS

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DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
David P. Henry 4/28/08
APPROVED DATE
SIGNATURE

DESIGNED -
DRAWN -
CHECKED -
IN CHARGE -
DATE APR. 28, 2008
SCALE
CONTRACT NO. NSC-009
DWG. NO. TK132A SHT. 114A

PORT AUTHORITY OF ALLEGHENY COUNTY
Pittsburgh Pennsylvania
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
TYPICAL TRACK SECTIONS
PLINTH ANCHOR DETAILS
Port Authority
CONTRACT NO. NSC-009
DWG. NO. TK132A SHT. 114A



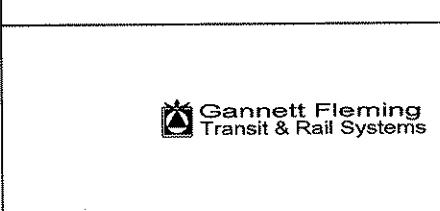
DETAIL OF HOUSE TOP AND CHAIR
AT POINT OF SWITCH

NO.	DATE	DESCRIPTION	REVISIONS	APPROVED	DATE	DESIGNED: TDI DRAWN: TD CHECKED: IN CHARGE: DATE: 2/25/05 SCALE: NONE	PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH TECHNICAL SUPPORT DEPARTMENT PENNSYLVANIA HOUSETOPO AT POINT OF SWITCH ASSEMBLY REF. DWG. NO. TDI9703003 FILE NAME: hstc-sw point assy DWS NO. SHT. 1
							

...housetop-sw point assy.dgn 03/01/2005 08:16:23 AM

NOTES:

1. HOUSE TOP DETAIL SHOWN IS FOR GENERAL INFORMATION ONLY. ACTUAL DIMENSIONS TO BE DESIGNED TO FIT SWITCH SIZE AND SPACING OF LAYOUT.
2. DRAWING USED WITH PERMISSION OF TRACKWORK DESIGN, INC.



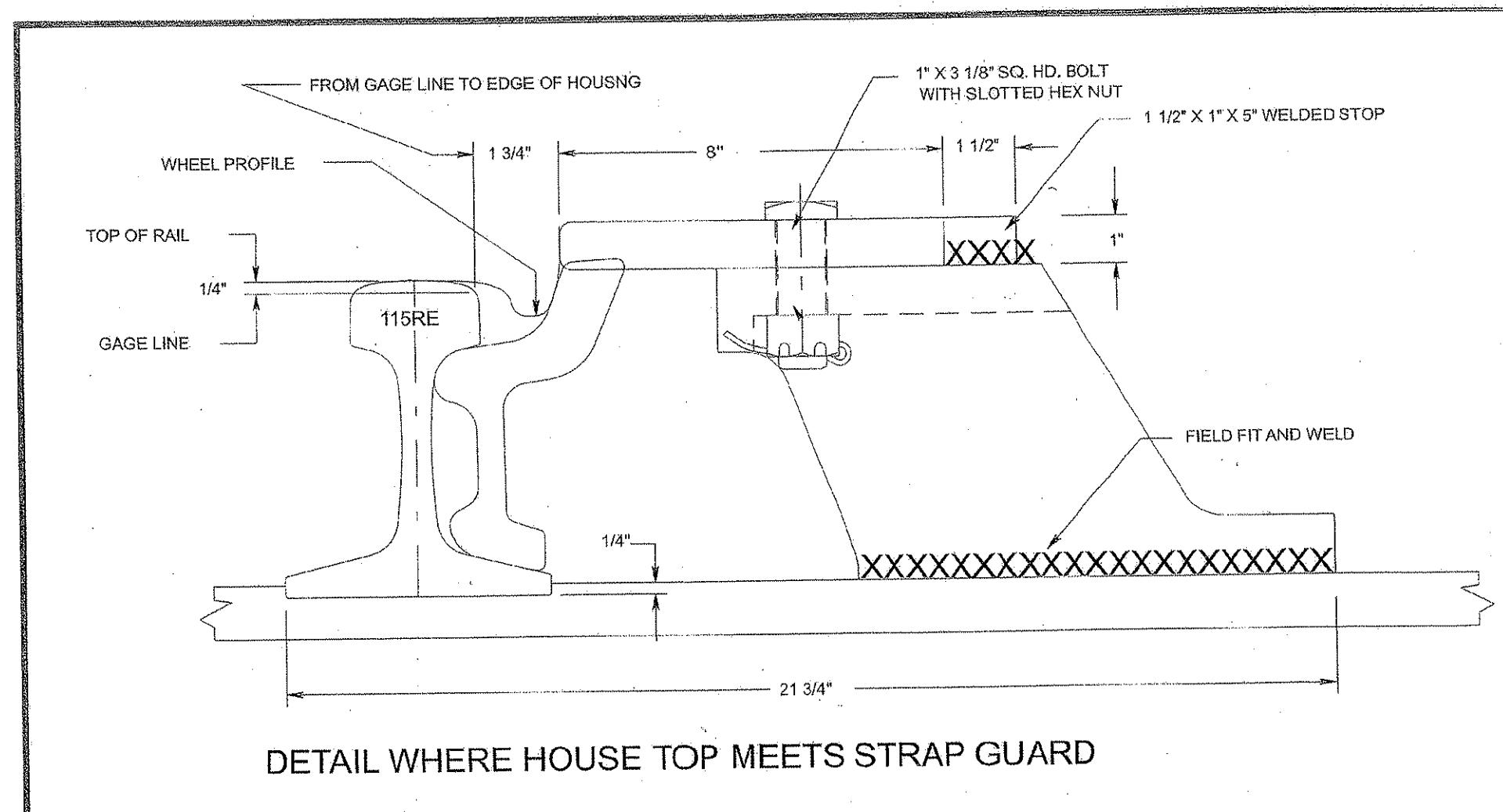
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DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
Richard Cross IV
RICHARD CROSS IV
ENGINEER
ID: MSTR-01
SIGNATURE
APPROVED DATE
Dave P. Hargis 4/28/08

DESIGNED JF BARBIERE DRAWN JF BARBIERE CHECKED BR SMITH IN CHARGE R CROSS DATE APR. 28, 2008 SCALE N.T.S.	PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH PENNSYLVANIA NORTH SHORE CONNECTOR NSC TRAIN SYSTEM (SYSTEM WIDE) TRACK DETAILS HOUSE TOP DETAILS (1 OF 3)
CONTRACT NO. NSC-009 DWG. NO. TK133	SHT. 115



NO.	DATE	DESCRIPTION
REVISIONS		

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APPROVED
DATE



DESIGNED TO:	PITTSBURGH TECHNICAL SUPPORT DEPARTMENT PENNSYLVANIA
DRAWN BY:	
CHECKED:	HOUSETOP TO STRAP GUARD ASSEMBLY
IN CHARGE:	
DATE: 2/25/05	REF. DWG. NO.: IDI9703C02
SCALE: NONE	FILE NAME: hststop_assembly.dwg
	CONTRACT NO.
	DWG. NO.
	SHT. 1

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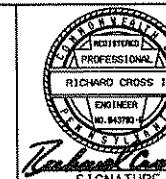
NOTES:

1. HOUSE TOP DETAIL SHOWN IS FOR GENERAL INFORMATION ONLY. ACTUAL DIMENSIONS TO BE DESIGNED TO FIT SWITCH SIZE AND SPACING OF LAYOUT.
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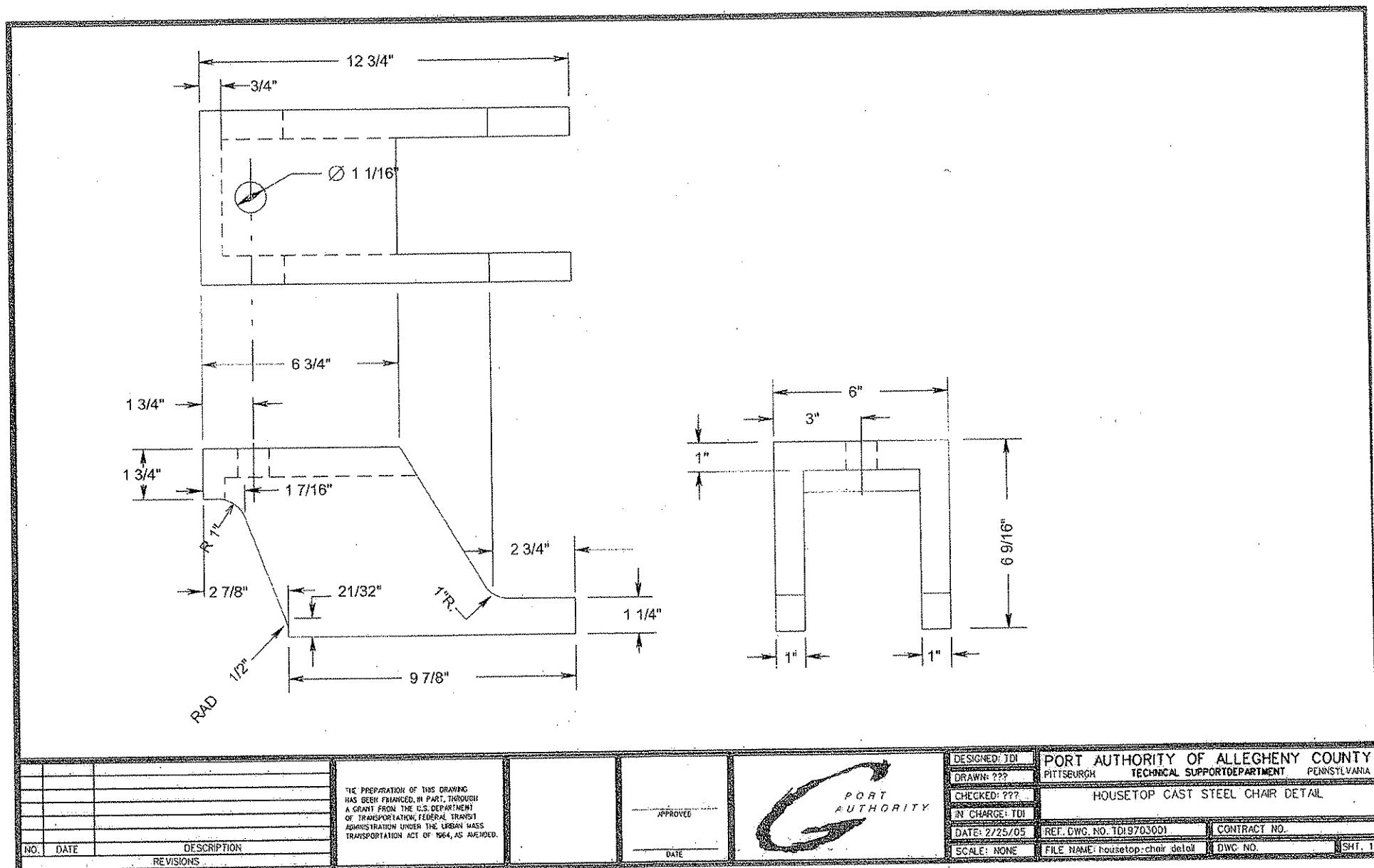
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REVISIONS		

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DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
RICHARD CROSS IV
ENGINEER
ID: 04370
TODAY
Signature
APPROVED
DATE

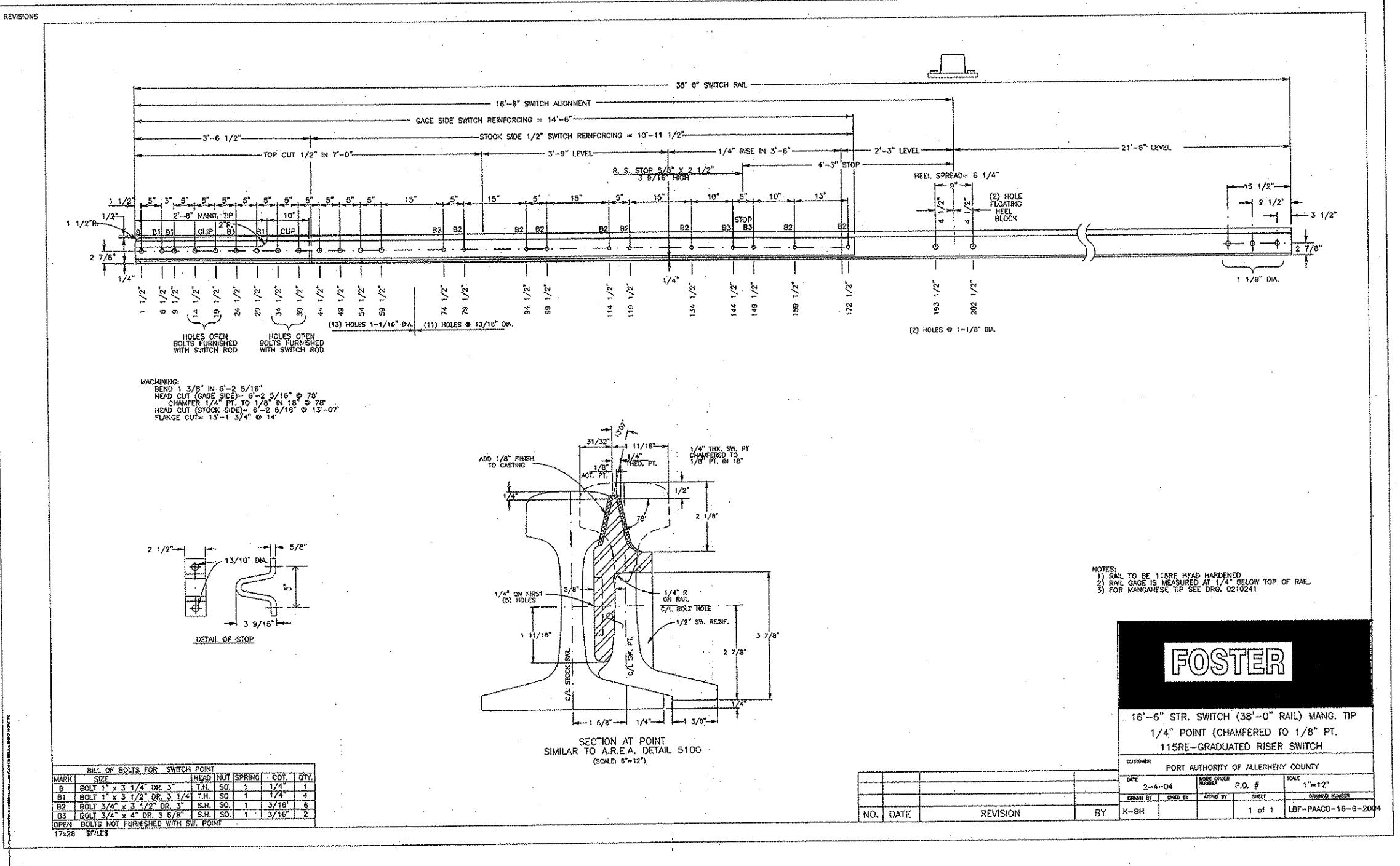
DESIGNED JF BARBIERE	PITTSBURGH	PORT AUTHORITY OF ALLEGHENY COUNTY
DRAWN JF BARBIERE		PENNSYLVANIA
CHECKED BR SMITH		NORTH SHORE CONNECTOR
IN CHARGE R CROSS		NSC TRAIN SYSTEM (SYSTEM WIDE)
DATE APR. 28, 2008		TRACK DETAILS
SCALE N.T.S.		HOUSE TOP DETAILS (2 OF 3)
	Port Authority	CONTRACT NO. NSC-009
		DWG. NO. TK134
		SHT. 116



NOTES:

1. HOUSE TOP DETAIL SHOWN IS FOR GENERAL INFORMATION ONLY. ACTUAL DIMENSIONS TO BE DESIGNED TO FIT SWITCH SIZE AND SPACING OF LAYOUT. GAGE PT. TO BE $\frac{1}{2}$ " BELOW TOP OF RAIL.
2. DRAWING USED WITH PERMISSION OF TRACKWORK DESIGN, INC.

 Gannett Fleming Transit & Rail Systems	<table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> <th>REVISIONS</th> </tr> </thead> </table>	NO.	DATE	DESCRIPTION	REVISIONS	<small>THE PREPARATION OF THIS DOCUMENT HAS BEEN FINANCED IN PART THROUGH A GRANT FROM THE FEDERAL TRANSIT ADMINISTRATION, U.S. DEPARTMENT OF TRANSPORTATION, UNDER THE URBAN MASS TRANSPORTATION ACT OF 1964, AS AMENDED, FOR THE PORT AUTHORITY OF ALLEGHENY COUNTY, PENNSYLVANIA.</small>		DMJM HARRIS AECOM FOUR GATEWAY CENTER 20TH FLOOR PITTSBURGH, PA. 15222 <i>[Signature]</i>	DESIGNED JF BARBIERE DRAWN JF BARBIERE CHECKED BR SMITH IN CHARGER R CROSS DATE APR. 28, 2008 SCALE N.T.S. Port Authority Contract No. NSC-009 DWG. NO. TK135 SHT. 117
		NO.	DATE	DESCRIPTION	REVISIONS				



NOTES:

1. FLOATING HEEL BLOCK AND MANGANESE SWITCH POINT INSERT DETAILS SHOWN ARE FOR GENERAL INFORMATION ONLY. ACTUAL DIMENSIONS TO BE DESIGNED TO FIT SWITCH SIZE AND SPACING OF LAYOUT.

2. DRAWING USED WITH PERMISSION OF L.B. FOSTER CO.

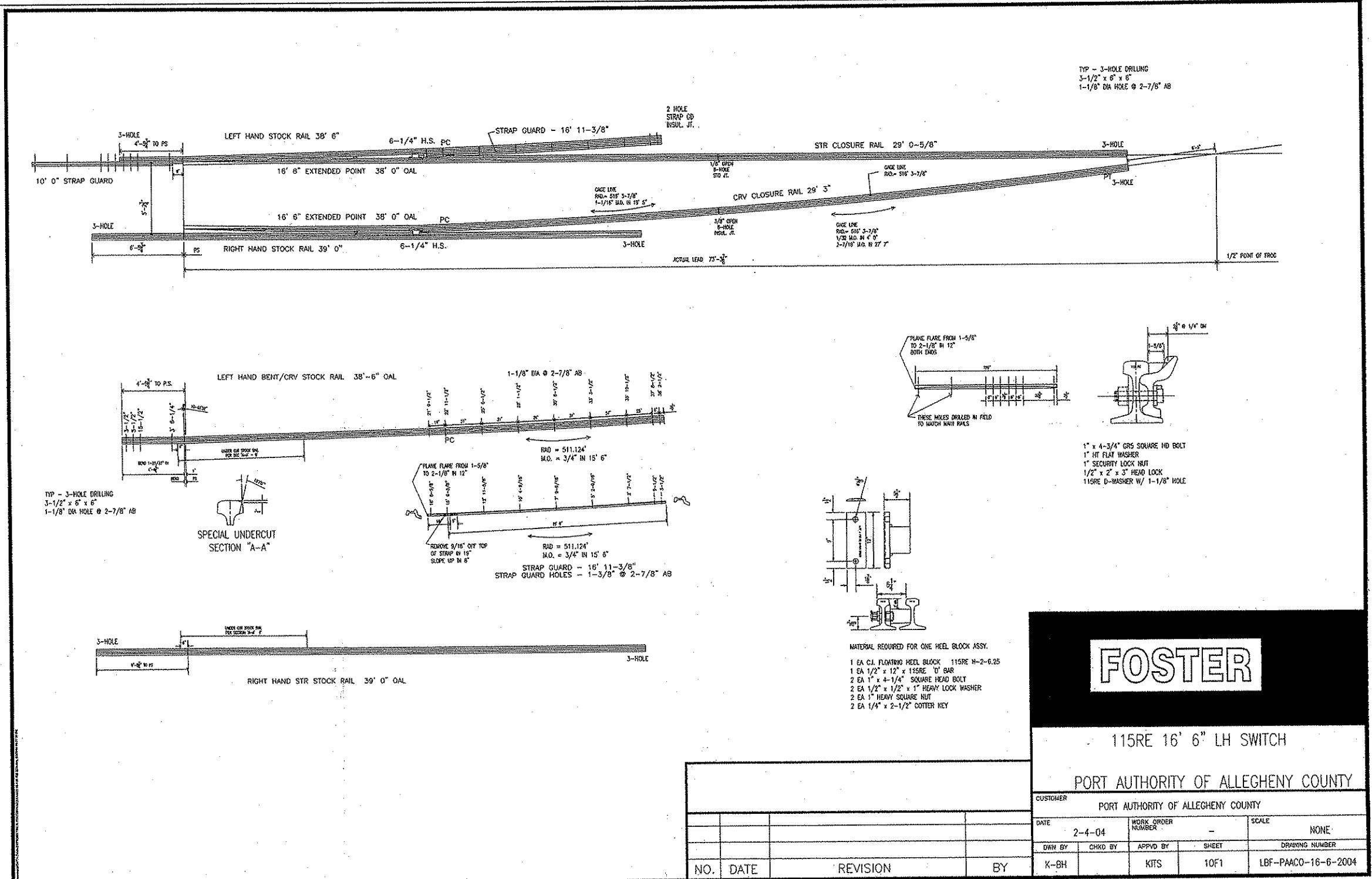
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DMJM HARRIS | **AECOM**
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
Daniel P. Henry 4/28/08
APPROVED DATE

DESIGNED JF BARBIERE
DRAWN JF BARBIERE
CHECKED R CROSS
IN CHARGE R CROSS
DATE APR. 28, 2008
SCALE N.T.S.

PITTSBURGH		PENNSYLVANIA	
NORTH SHORE CONNECTOR NSC TRAIN SYSTEM (SYSTEM WIDE) PLAN TING HEEL BLOCK /MANGANESE SWITCH POINT INSERT DETAILS {1 OF 2}			
Port Authority <small>controlling agency</small>	CONTRACT NO.	NSC-009	
	DWG. NO.	TK136	SHT. 1

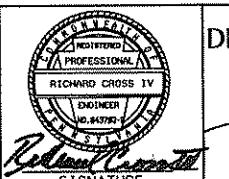


NOTES:

1. FLOATING HEEL BLOCK AND MANGANESE SWITCH POINT INSERT DETAILS SHOWN ARE FOR GENERAL INFORMATION ONLY. ACTUAL DIMENSIONS TO BE DESIGNED TO FIT SWITCH SIZE AND SPACING OF LAYOUT.
2. DRAWING USED WITH PERMISSION OF L.B. FOSTER CO.

NO.	DATE	DESCRIPTION	REVISIONS
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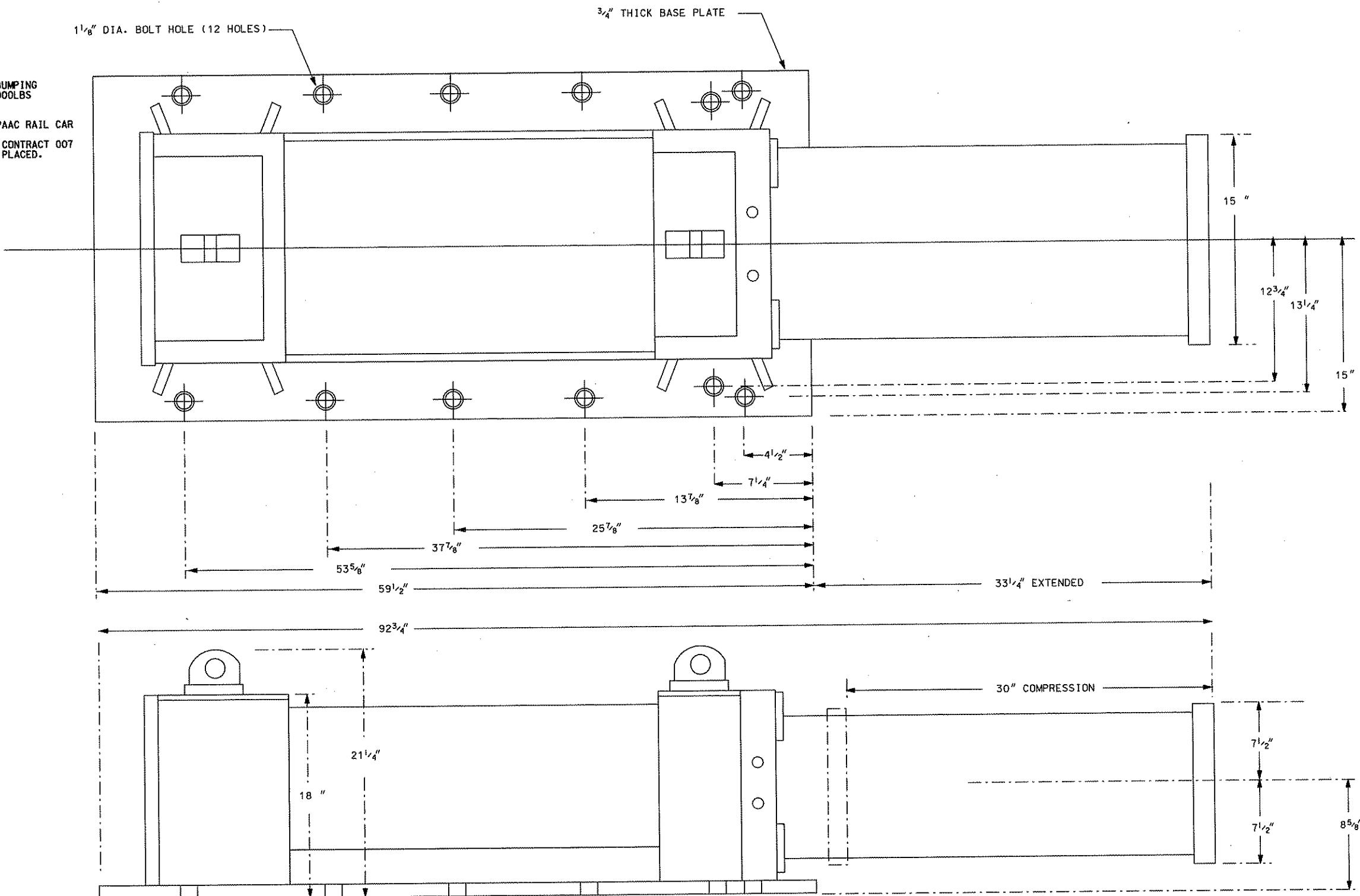


DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
CHECKED BR SMITH
IN CHARGE R CROSS
DATE APR. 28, 2008
SCALE N.T.S.
APPROVED DATE
Signature: David P. Henry 4/28/08
N.T.S.

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH, PENNSYLVANIA
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
TRACK DETAILS
FLOATING HEEL BLOCK /MANGANESE SWITCH POINT INSERT DETAILS (2 OF 2)
Port Authority
CONTRACT NO. NSC-009
DWG. NO. TK137
SHT. 119

NOTES:

1. BUMPING POST TO BE OF THE HYDRAULIC DESIGN, AS PREVIOUSLY MANUFACTURED BY WESTERN-CULLEN-HAYES, OR APPROVED EQUAL. BUMPING POST TO BE CAPABLE OF RESISTING A TWO-CAR PAAC TRAIN, 300,000LBS TOTAL WEIGHT, TRAVELING AT 10MPH.
2. VERTICAL CENTERLINE OF BUMPING POST TO BE COMPATABLE WITH PAAC RAIL CAR
3. CONTRACTOR TO PROVIDE A BUMPING POST BOLT HOLE TEMPLATE TO CONTRACT 007 TO ALLOW REQUIRED BUMPING POST ANCHOR BOLTS TO BE PROPERLY PLACED. REFER TO DRAWING ST004, ST040 & ST041.



 Gannett Fleming
Transit & Rail Systems

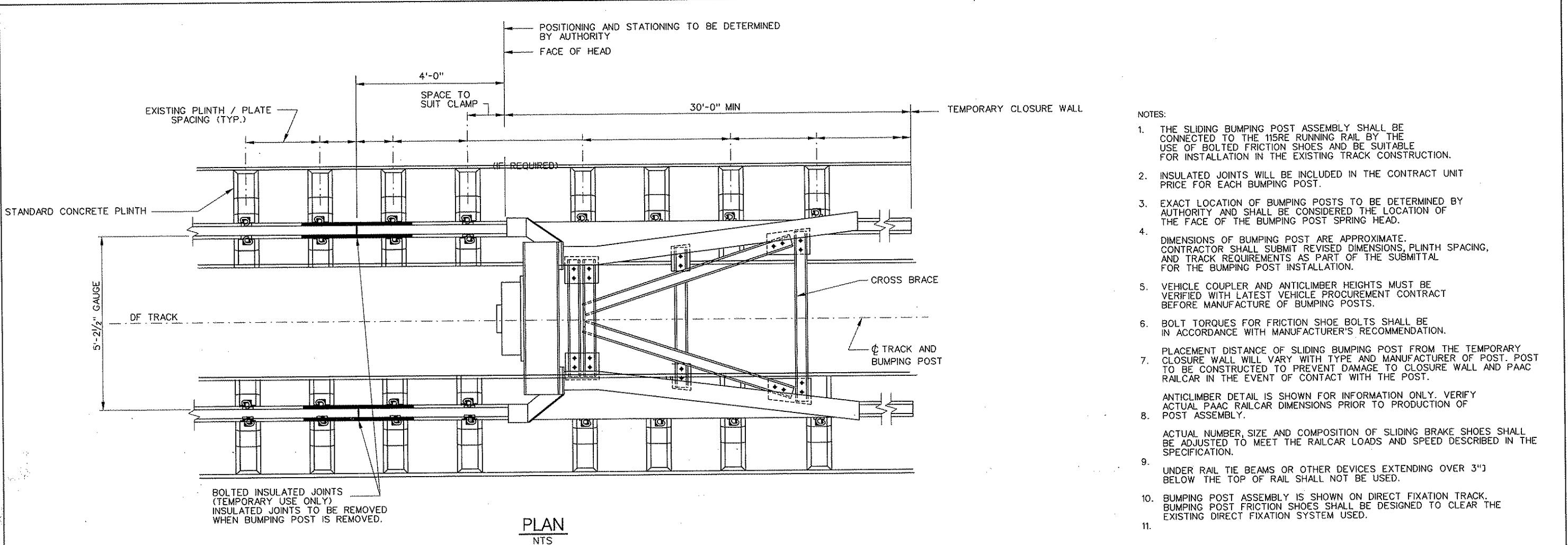
NO.	DATE	DESCRIPTION	REVISIONS

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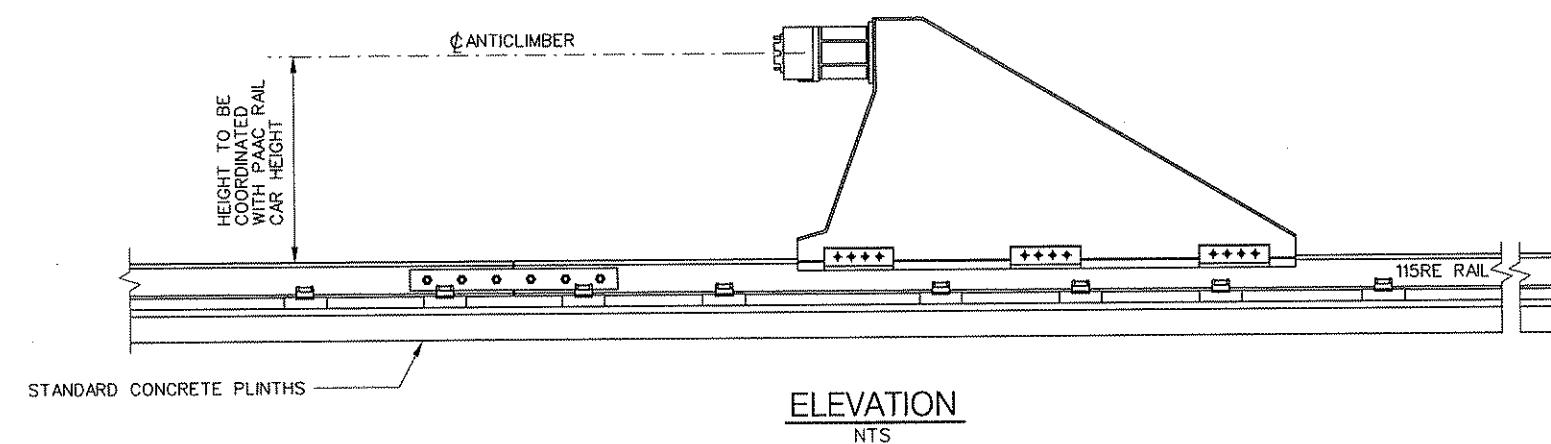
DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
CHECKED R CROSS
IN CHARGE R CROSS
DATE APR. 28. 2008
SCALE N.T.S.
APPROVED DATE
Signature: *Dave P. Hargis 4/28/08*

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH, PENNSYLVANIA
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
PLAN
HYDRAULIC BUMPING POST
Port Authority
CONTRACT NO. NSC-009
DWG. NO. TK140 SHT. 120



NOTES:

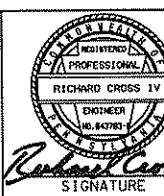
1. THE SLIDING BUMPING POST ASSEMBLY SHALL BE CONNECTED TO THE 115RE RUNNING RAIL BY THE USE OF BOLTED FRICTION SHOES AND BE SUITABLE FOR INSTALLATION IN THE EXISTING TRACK CONSTRUCTION.
2. INSULATED JOINTS WILL BE INCLUDED IN THE CONTRACT UNIT PRICE FOR EACH BUMPING POST.
3. EXACT LOCATION OF BUMPING POSTS TO BE DETERMINED BY AUTHORITY AND SHALL BE CONSIDERED THE LOCATION OF THE FACE OF THE BUMPING POST SPRING HEAD.
4. DIMENSIONS OF BUMPING POST ARE APPROXIMATE. CONTRACTOR SHALL SUBMIT REVISED DIMENSIONS, PLINTH SPACING, AND TRACK REQUIREMENTS AS PART OF THE SUBMITTAL FOR THE BUMPING POST INSTALLATION.
5. VEHICLE COUPLER AND ANCLIMBER HEIGHTS MUST BE VERIFIED WITH LATEST VEHICLE PROCUREMENT CONTRACT BEFORE MANUFACTURE OF BUMPING POSTS.
6. BOLT TORQUES FOR FRICTION SHOE BOLTS SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION.
7. PLACEMENT DISTANCE OF SLIDING BUMPING POST FROM THE TEMPORARY CLOSURE WALL WILL VARY WITH TYPE AND MANUFACTURER OF POST. POST TO BE CONSTRUCTED TO PREVENT DAMAGE TO CLOSURE WALL AND PAAC RAILCAR IN THE EVENT OF CONTACT WITH THE POST.
8. ANCLIMBER DETAIL IS SHOWN FOR INFORMATION ONLY. VERIFY ACTUAL PAAC RAILCAR DIMENSIONS PRIOR TO PRODUCTION OF POST ASSEMBLY.
9. ACTUAL NUMBER, SIZE AND COMPOSITION OF SLIDING BRAKE SHOES SHALL BE ADJUSTED TO MEET THE RAILCAR LOADS AND SPEED DESCRIBED IN THE SPECIFICATION.
10. UNDER RAIL TIE BEAMS OR OTHER DEVICES EXTENDING OVER 3" BELOW THE TOP OF RAIL SHALL NOT BE USED.
11. BUMPING POST ASSEMBLY IS SHOWN ON DIRECT FIXATION TRACK. BUMPING POST FRICTION SHOES SHALL BE DESIGNED TO CLEAR THE EXISTING DIRECT FIXATION SYSTEM USED.



BILL OF MATERIAL	
ITEM	DESCRIPTION
1	BUMPING POST ASSEMBLY, COMPLETE
2	BOLTED INSULATED JOINT ASSEMBLIES

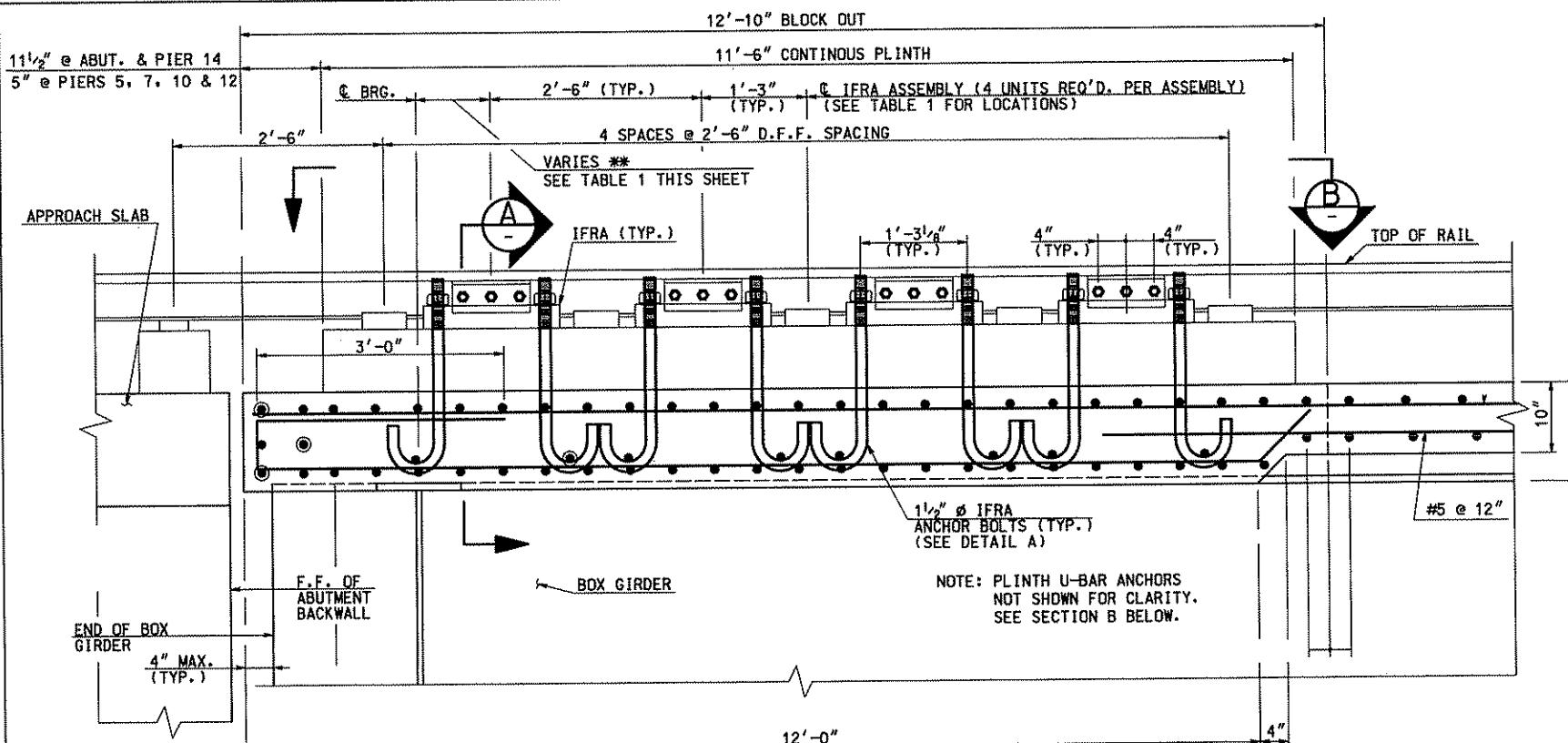
NO.	DATE	DESCRIPTION		REVISIONS
		REVISION	REVISION	
Gannett Fleming Transit & Rail Systems				

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DESIGNED JF BARBIERE
DRAWN JF BARBIERE
CHECKED R CROSS
IN CHARGE R CROSS
DATE APR. 28, 2008
SCALE
Richard Cross *Dave H. 4/28/08*
SIGNATURE APPROVED DATE

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH, PENNSYLVANIA
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
MISCELLANEOUS TRACKWORK
SLIDING BUMPING POST AT WOOD STREET
Port Authority
CONTRACT NO. NSC-009
DWG. NO. TK141 SHT. 121



LEGEND:

IFRA = INSULATED FIXED RAIL ANCHORAGE ASSEMBLY

D.F.F. = DIRECT FIXATION FASTENERS

REFERENCES: (SEE "ALSO DRAWINGS")

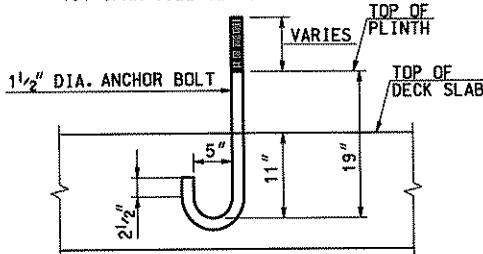
- FOR ADDITIONAL INFORMATION, SEE NSC-007 DECK PLAN DRAWINGS ST085, ST090, ST091, ST094, ST095, ST096, ST098, AND DECK DETAIL DRAWING ST107.

NOTES:

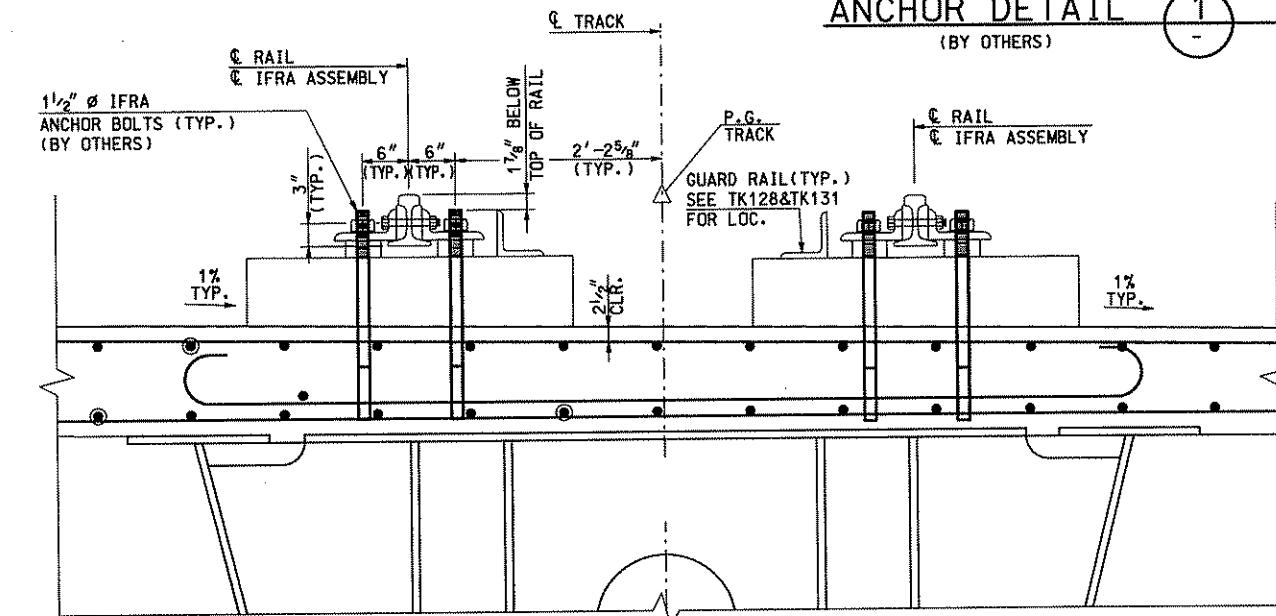
- PLINTHS, PLINTH REINFORCEMENT, PLINTH ANCHORAGE, DIRECT FIXATION FASTENERS (DFF) AND RAIL ANCHORAGE ASSEMBLED BY NSC-009 CONTRACTOR.
- DECK DETAILS SHOWN FOR REFERENCE ONLY. NSC-009 CONTRACTOR TO COORDINATE WITH "AS-BUILT" CONDITIONS CONSTRUCTED AS PART OF NSC-007
- ANCHOR BOLTS SET BY OTHERS.
- NUTS AND WASHERS FOR ANCHOR BOLTS TO BE PROVIDED BY NSC-009 CONTRACT.

TABLE 1 - IFRA ASSEMBLY LOCATION SCHEDULE		
ASSEMBLY NO.	STATION	OFFSET **
1	6070+63.15 L	-2.72' 10.5"
2	6070+63.15 L	+2.72' 10.5"
3	6070+63.15 L	+12.28' 10.5"
4	6070+63.15 L	+17.72' 10.5"
5	6077+11.02 L	-2.72' 12.0"
6	6077+11.02 L	+2.72' 12.0"
7	6077+11.02 L	+12.28' 12.0"
8	6077+11.02 L	+17.72' 12.0"
9	6079+54.52 L	-2.72' 12.0"
10	6079+54.52 L	+2.72' 12.0"
11	6079+66.63 R	-2.72' 13.125"
12	6079+66.63 R	+2.72' 21.125"
13	6083+55.10 L	-2.72' 12.0"
14	6083+55.10 L	+2.72' 12.0"
15	6083+63.86 R	-2.72' 12.0"
16	6083+69.86 R	+2.72' 12.0"
17	6086+12.10 L	-2.72' 12.0"
18	6086+12.10 L	+2.72' 12.0"
19	6086+11.25 R	-2.72' 12.0"
20	6086+11.25 R	+2.72' 12.0"
21	6088+09.72 L	-2.72' 15.0"
22	6088+09.72 L	+2.72' 15.0"
23	6088+00.27 R	-2.72' 15.0"
24	6088+00.27 R	+2.72' 15.0"

** DISTANCE FROM THE C BEARING TO THE 1ST IFRA (SEE SECTION A)

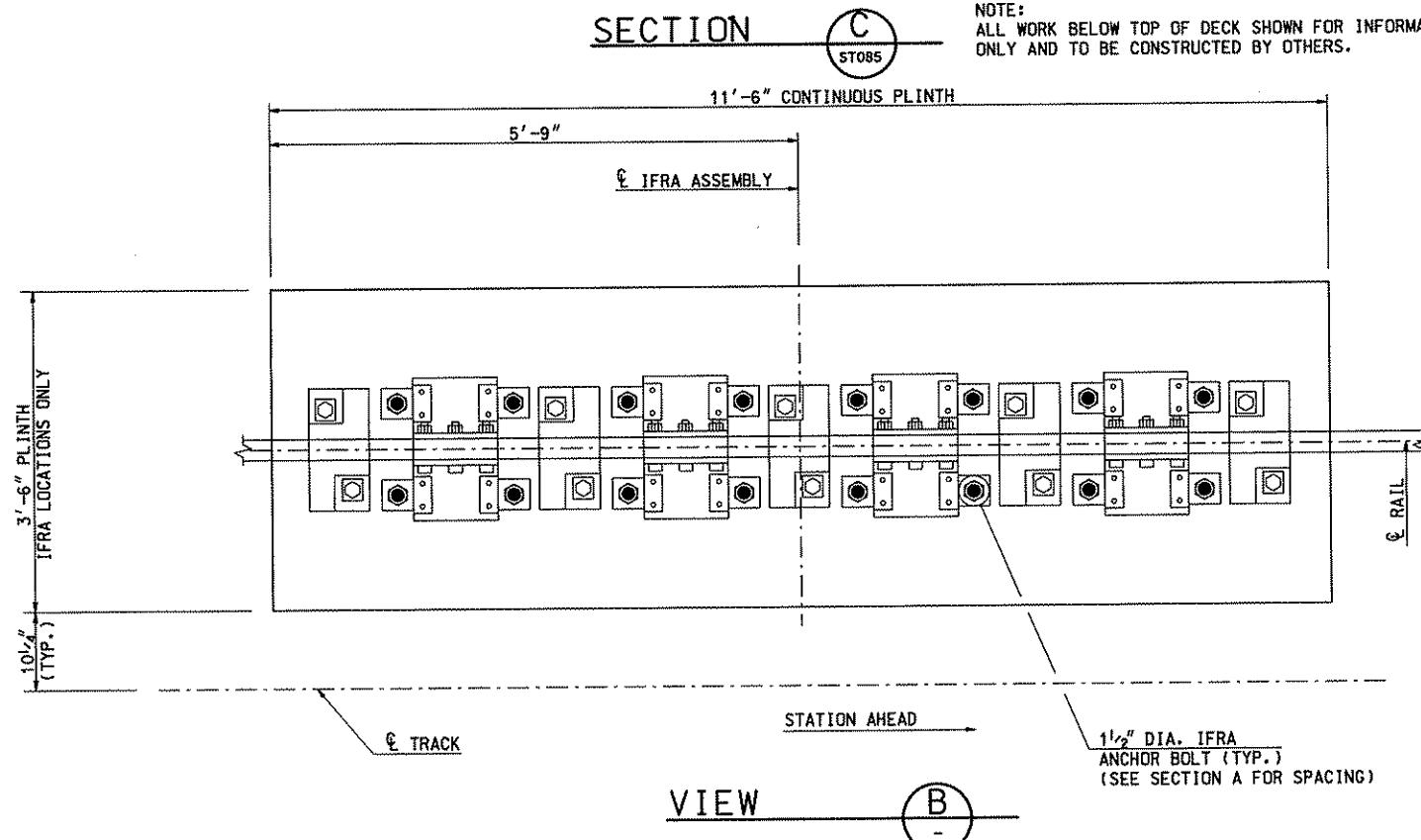


ANCHOR DETAIL (BY OTHERS)



NOTE:
ALL WORK BELOW TOP OF DECK SHOWN FOR INFORMATION
ONLY AND TO BE CONSTRUCTED BY OTHERS.

SECTION A



NO.	DATE	DESCRIPTION	REVISIONS

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DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
CHECKED BR SMITH
IN CHARGE R CROSS
DATE APR. 28, 2008
SCALE N.T.S.
SIGNATURE *Richard Cross* APPROVED DATE *David J. Harris 4/28/08*

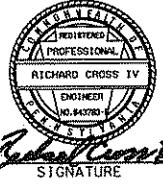
DESIGNED BY BARBIERE
DRAWN BY BARBIERE
CHECKED BY BARBIERE
IN CHARGE BY BARBIERE
DATE APR. 28, 2008
SCALE N.T.S.
APPROVED DATE *Port Authority*

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH, PENNSYLVANIA
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
PLAN
INSULATED FIXED RAIL ANCHOR ASSEMBLY
CONTRACT NO. NSC-009
DWG. NO. TK145 SHT. 122

TRACK TYPE LENGTHS BY STATIONING

PER DESIGN CRITERIA REQUIREMENTS

START STATION	ENDING STATION	TRACK TYPE	TRACK LENGTH (FT)	NOTES
L6009+64.00	L6011+91.44	TYPE III	227.44	
L6011+91.44	L6036+64.09	TYPE I	2472.53	-0.12' EQUALITY STATION
L6036+64.09	L6038+23.35	TYPE III	159.26	
L6038+23.35	L6038+95.58	TYPE II	72.23	
L6038+95.58	L6040+13.31	TYPE III	117.73	
L6040+13.31	L6051+94.00	TYPE I	1180.69	
L6051+94.00	L6077+23.05	TYPE IV	825.7	-1703.35' EQUALITY STATION
L6079+29.80	L6083+59.00	TYPE IV	429.2	
L6084+22.00	L6088+15.48	TYPE IV	393.48	
<hr/>				
R6009+62.01	R6011+99.97	TYPE III	237.96	
R6011+99.97	R6036+52.05	TYPE I	2458.74	+6.66' EQUALITY STATION
R6036+52.05	R6037+86.28	TYPE III	134.23	
R6037+86.28	R6038+37.95	TYPE I	51.67	
R6038+37.95	R6039+56.51	TYPE II	118.56	
R6039+56.51	R6039+95.45	TYPE I	38.94	
R6039+95.45	R6040+72.80	TYPE III	117.73	+40.38' EQUALITY STATION
R6040+72.80	R6051+94.00	TYPE I	1120.81	-0.39' EQUALITY STATION
R6051+94.00	R6077+23.05	TYPE IV	828.52	-1702.89' EQUALITY STATION & +2.36' EQUALITY STATION
R6079+29.80	R6085+53.40	TYPE IV	623.62	+0.02' EQUALITY STATION
R6086+16.40	R6088+06.37	TYPE IV	189.97	

 Gannett Fleming Transit & Rail Systems	NO. DATE DESCRIPTION REVISIONS	THE PREPARATION OF THIS DOCUMENT HAS BEEN FINANCED IN PART THROUGH A GRANT FROM THE FEDERAL TRANSIT ADMINISTRATION, U.S. DEPARTMENT OF TRANSPORTATION, UNDER THE URBAN MASS TRANSPORTATION ACT OF 1964, AS AMENDED, FOR THE PORT AUTHORITY OF ALLEGHENY COUNTY, PENNSYLVANIA.	 RICHARD CROSS IV PROFESSIONAL ENGINEER NO. 44378	DMJM HARRIS AECOM  SIGNATURE	DESIGNED JF BARBIERE DRAWN JF BARBIERE CHECKED R CROSS IN CHARGE R CROSS DATE APR. 28, 2008 SCALE	PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH, PENNSYLVANIA	
						NORTH SHORE CONNECTOR NSC TRAIN SYSTEM (SYSTEM WIDE) TABULATION SHEET TRACK TYPE LENGTHS BY STATION	
Port Authority		CONTRACT NO. NSC-009 DWG. NO. TK146 SHT. 123					

ABBREVIATIONS

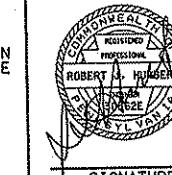
P.S.	POINT OF SWITCH
P.I.T.O.	POINT OF INTERSECTION, TURNOUT
I.	CENTRAL ANGLE OF OVERALL CURVE
Lc	LENGTH OF CURVE (IN FEET)
Ls	LENGTH OF SPIRAL (IN FEET)
Eq	SUPERELEVATION (IN INCHES)
Eu	UNDERBALANCE (IN INCHES)
V	MAXIMUM VELOCITY (MPH)

GENERAL NOTES

1. LENGTH OF CURVE IS IN ARC DEFINITION
2. TRACK "L" THE STATIONING TRACK. ALL TRACKS PARALLEL TO TRACK "L" HAVE TRACK "L" STATIONING.
3. STATION EQUATIONS ARE NOT LISTED ON THE PROFILE SHEETS. FOR STATION EQUATIONS,
SEE TRACK PLAN AND ALIGNMENT TABLE SHEETS.

NO.	DATE	DESCRIPTION	REVISIONS

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SIGNATURE



APPROVED

4/21/08

DATE

N.T.S.

SCALE

CONTRACT NO.

NSC-009

DWG.NO.

TK200

SH. 124

DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
IN CHARGE RJH

DESIGNED JSB
DRAWN JD
CHECKED SDK
IN CHARGE RJH
DATE APRIL 21, 2008

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM-WIDE)
TRACK ABBREVIATION AND GENERAL NOTES

PORT AUTHORITY
CONTRACT NO.
NSC-009
DWG.NO.
TK200
SH. 124

TRACK GEOMETRY - LEFT TRACK

BASED ON PENNSYLVANIA PLANE COORDINATE SYSTEM

TRK.	CURVE #	STATION	POINT	COORDINATES		BEARING
				NORTH	EAST	
LEFT TRACK	1L	6010+00.00	WORK LIMIT P.O.T.	411653.6324	1341270.1564	S 72°31'22" W
		6010+06.89	P.C.	411651.5634	1341263.5854	
		6011+11.46	P.I.	411620.1588	1341163.8452	
		6011+55.44	P.T.	411724.5103	1341157.1278	N 3°41'00" W
	2AL	6014+20.21	P.C.	411988.7405	1341140.1186	
		6014+46.21	P.C.C.	412014.5026	1341136.7695	
		6014+65.80	P.I.	412034.2312	1341137.1903	
		6015+38.83	P.T.	412103.6466	1341111.9583	N 19°58'33" W
	2BL	6016+18.87	T.S.	412178.8661	1341084.6166	
		6016+49.87	S.C.	412208.0339	1341074.1176	
		6016+70.51	P.I.	412227.4027	1341066.9739	
		6016+91.14	C.S.	412247.1241	1341060.8704	
		6017+22.14	S.T.	412276.6654	1341051.4735	
		6017+22.14	EQN. BK.	412276.6654	1341051.4735	
		6017+22.26	EQN. AHD.	412276.6654	1341051.4735	
		6018+03.32	T.S.	412353.9843	1341027.1453	
3L	3L	6018+96.32	S.C.	412441.9858	1340997.1318	
		6020+45.68	P.I.	412585.1755	1340954.4014	
		6021+83.50	C.S.	412677.5248	1340836.9247	
		6022+76.50	S.T.	412737.7707	1340766.1045	N 50°58'44" W
	4L	6025+99.17	T.S.	412940.9223	1340515.4228	
		6026+92.17	S.C.	413001.1682	1340444.6026	
		6028+75.74	P.I.	413115.0563	1340300.5477	
		6030+41.09	C.S.	413295.1123	1340264.4627	
		6031+34.09	S.T.	413385.5635	1340242.9301	N 12°01'27" W
		6037+00.09	P.C.	413939.1391	1340125.0194	
5AL	5AL	6037+45.94	P.I.	413983.9862	1340115.4671	
		6037+87.35	P.T.	414009.9572	1340077.6779	N 55°30'03" W
		6038+52.00	P.C.	414046.5733	1340024.3995	
	5BL	6038+72.83	P.I.	414058.3731	1340007.2301	
		6038+93.57	P.T.	414067.1683	1339988.3445	N 65°01'41" W
		6039+31.58	P.C.	414083.2169	1339953.8841	
	6AL	6039+54.75	P.I.	414092.9988	1339932.8800	
		6039+77.31	P.T.	414093.8838	1339909.7268	N 87°48'39" W
		6044+57.34	T.S.	414112.2198	1339430.0494	
6BL	6BL	6044+88.34	S.C.	414113.4248	1339399.0728	
		6045+10.41	P.I.	414114.2469	1339377.0200	
		6045+32.48	C.S.	414115.3273	1339354.9782	
		6045+63.48	S.T.	414116.7947	1339324.0130	N 87°14'53" W
		6047+85.17	T.S.	414127.4384	1339102.5721	
	7L	6048+16.17	S.C.	414129.0067	1339071.6119	
		6048+47.72	P.I.	414130.4414	1339040.0942	
		6048+79.25	C.S.	414133.5161	1339008.6941	
		6049+10.25	S.T.	414136.3791	1338977.8267	N 84°33'11" W

TRACK GEOMETRY - LEFT TRACK

BASED ON PENNSYLVANIA PLANE COORDINATE SYSTEM

TRK.	CURVE #	STATION	POINT	COORDINATES		BEARING
				NORTH	EAST	
		6050+82.53	T.S.	414152.7327	1338806.3275	
		6051+13.53	S.C.	414155.6266	1338775.4629	
		6051+47.61	P.I.	414158.9100	1338741.5465	
		6051+81.67	C.S.	414161.0644	1338707.5397	
		6052+12.67	S.T.	414163.1177	1338676.6078	N 86°17'34" W
		6052+96.65	P.O.T. EQN. BK.	414168.5478	1338592.8046	
		6070+00.00	P.O.T. EQN. AHD.	414168.5478	1338592.8046	N 86°17'34" W
		6073+71.15	T.S.	414192.5462	1338222.4295	
		6074+33.15	S.C.	414196.0631	1338160.5309	
		6075+04.39	P.I.	414201.1612	1338089.4719	
		6075+75.19	C.S.	414194.1083	1338018.5802	
		6076+37.19	S.T.	414188.8882	1337956.8019	S 84°42'53" W
		6077+36.05	PS	414179.7819	1337858.3635	
		6077+66.66	P.I.T.O.	414176.9619	1337827.8802	S 84°42'53" W
		6078+86.19	P.I.T.O.	414165.9515	1337708.8590	
		6079+16.80	P.S.	414159.3579	1337678.9640	S 77°33'43" W
		6083+72.00	P.S.	414061.3155	1337234.4496	
		6083+92.21	P.I.T.O.	414056.9626	1337214.7140	S 77°33'43" W
		6085+29.93	T.S.	414027.3007	1337080.2295	
		6085+91.93	S.C.	414014.8182	1337019.5043	
		6086+88.94	P.I.	413993.0515	1336924.9472	
		6088+15.48	WORK LIMITS P.O.C.	414010.6360	1336796.8872	N 82°10'52" W

EXISTING LOOP TRACK GEOMETRY (SEE NOTE)

BASED ON PENNSYLVANIA PLANE COORDINATE SYSTEM

TRK.	CURVE #	STATION	POINT	COORDINATES		BEARING
				NORTH	EAST	
		999+53.04	P.O.T.	411766.2686	1341586.2909	
		1001+68.06	P.C.	411701.6959	1341381.2011	
		1003+27.17	P.I.	411653.9114	1341229.4328	
		1002+68.06	P.C.C.	411673.5782	1341285.2373	
		1003+73.24	P.T.	411707.7287	1341192.7399	
		1004+29.24	P.C.	411753.9977	1341161.1935	
		-	P.I.	-	-	
		1007+43.21	P.C.C.	411628.5096	1341056.2737	
		1008+59.25	P.T.	411621.9591	1341169.5959	N 72°31'57" E
		1013+00.00	P.O.T.	411754.2571	1341590.0237	

TRACK GEOMETRY - RIGHT TRACK

BASED ON PENNSYLVANIA PLANE COORDINATE SYSTEM

TRK.	CURVE #	STATION	POINT	COORDINATES		BEARING
				NORTH	EAST	
1R		6008+59.58	P.O.T.	411736.7912	1341492.5974	S 72°30'49" W
		6009+98.01	WORK LIMIT T.S.	411695.1946	1341360.5598	
		6010+60.01	S.C.	411684.2057	1341299.9407	
		6011+17.40	P.I.	411659.3194	1341246.6836	
		6011+63.97	P.T.	411747.2802	1341226.0721	N 13°11'16" W
2R		6014+50.82	T.S.	412026.5676	1341160.6280	
		6014+81.82	S.C.	412056.7128	1341153.3997	
		6015+03.67	P.I.	412078.0265	1341148.5699	
		6015+25.49	C.S.	412098.8244	1341141.8580	
		6015+56.49	S.T.	412128.4425	1341132.7066	N 17°27'58" W
3R		6019+72.49	T.S.	412525.2654	1341007.8470	
		6020+65.49	S.C.	412613.2036	1340977.6599	
		6022+50.98	P.I.	412790.9176	1340924.2601	
		6024+14.84	C.S.	412882.4374	1340762.8352	
		6025+07.84	S.T.	412931.3934	1340683.7929	N 59°42'27" W
4R		6025+88.68	T.S.	412972.1683	1340613.9943	
		6026+81.68	S.C.	413021.1244	1340534.9519	
		6029+00.59	P.I.	413129.4997	1340344.6737	
		6030+88.02	C.S.	413344.1599	1340301.4067	
		6031+81.02	S.T.	413434.5642	1340279.6954	N 12°01'27" W
5AR		6031+81.02	EQN. BK.	413434.5642	1340279.6954	
		6031+74.36	EQN. AHD.	413434.5642	1340279.6954	
		6036+88.05	P.C.	413936.9855	1340172.6805	
		6037+20.75	P.I.	413968.9634	1340165.8692	
		6037+50.28	P.T.	413987.4818	1340138.9239	N 55°30'03" W
5BR		6038+73.95	P.C.	414057.5329	1340036.9958	
		6038+97.29	P.I.	414070.7487	1340017.7661	
		6039+20.51	P.T.	414080.5993	1339996.6143	N 65°01'41" W
6AR		6040+31.45	P.C.	414127.4351	1339896.0461	
		6040+54.62	P.I.	414137.2170	1339875.0420	
		6040+77.18	P.T.	414138.1020	1339851.8888	N 87°48'39" W
		6040+77.18	EQN. BK.	414138.1020	1339851.8888	
		6040+36.80	EQN. AHD.	414138.1020	1339851.8888	
6BR		6044+03.43	T.S.	414152.1066	1339485.5228	
		6044+34.43	S.C.	414153.1907	1339454.5418	
		6044+68.74	P.I.	414154.6011	1339420.2649	
		6045+03.01	C.S.	414153.6768	1339385.9714	
		6045+34.01	S.T.	414153.0320	1339354.9782	S 88°37'24" W
7R		6047+22.21	T.S.	414148.5103	1339166.8334	
		6047+84.21	S.C.	414147.4210	1339104.8440	
		6048+48.60	P.I.	414145.4734	1339040.4728	
		6049+12.76	C.S.	414151.9852	1338976.4022	
		6049+74.76	S.T.	414157.4718	1338914.6465	N 84°33'11" W
		6049+74.76	EQN. BK.	414157.4718	1338914.6465	
		6049+75.15	EQN. AHD.	414157.4718	1338914.6465	

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NO.	DATE	DESCRIPTION
REVISIONS		

TRACK GEOMETRY - RIGHT TRACK

BASED ON PENNSYLVANIA PLANE COORDINATE SYSTEM

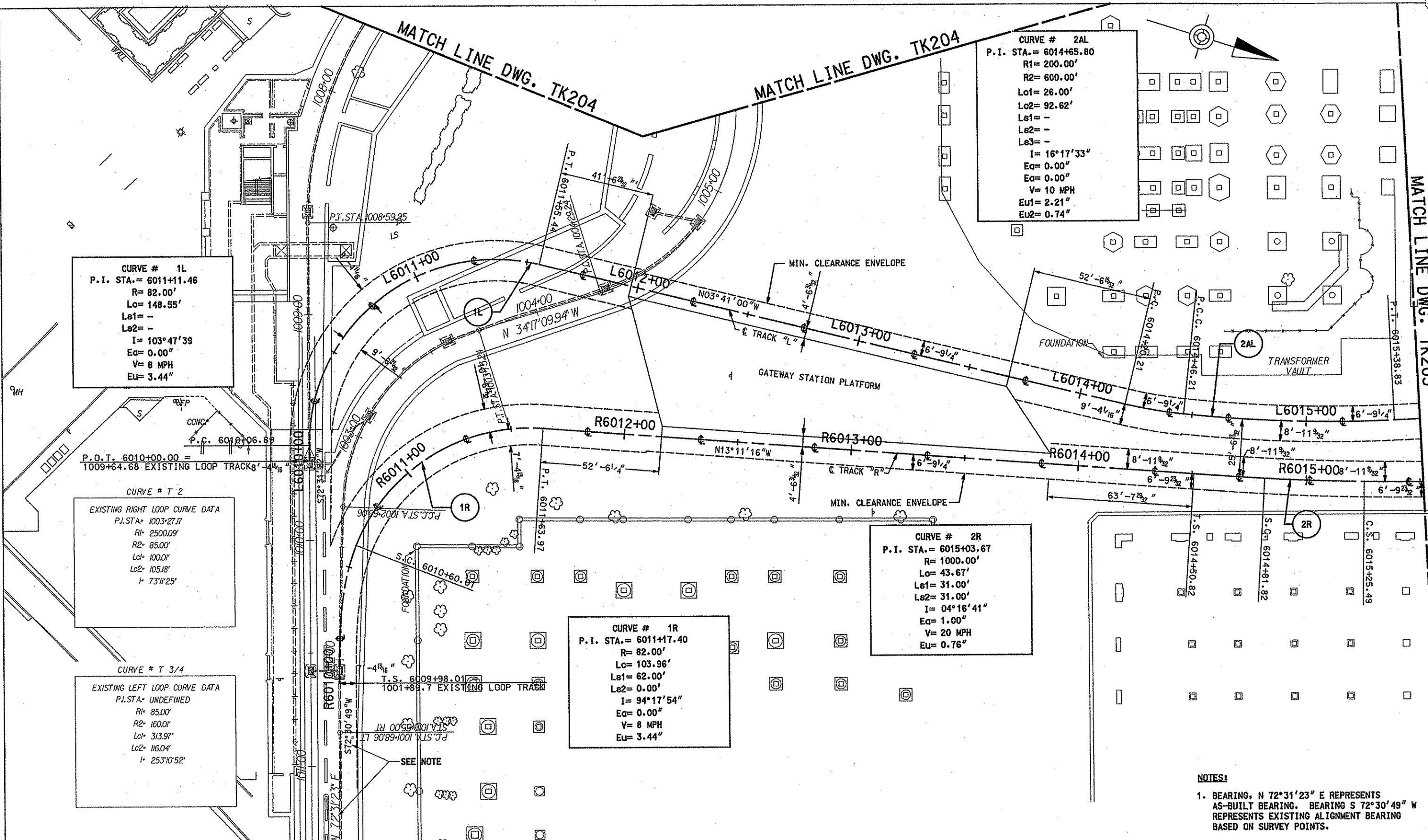
TRK.	CURVE #	STATION	POINT	COORDINATES		BEARING
				NORTH	EAST	
8R		6050+82.53	T.S.	414167.6650	1338807.7514	
		6051+13.53	S.C.	414170.5591	1338776.8868	
		6051+47.83	P.I.	414173.8639	1338742.7437	
		6051+82.13	C.S.	414176.0332	1338708.5096	
		6052+13.13	S.T.	414178.0864	1338677.5777	N 86°17'34" W
9AR		6052+97.11	P.O.T. EQN. BK.	414183.5164	1338593.7749	
		6070+00.00	P.O.T. EQN. AHD.	414183.5164	1338593.7749	N 86°17'34" W
		6073+72.33	T.S.	414207.5911	1338222.2223	
		6074+34.33	S.C.	414211.1080	1338160.3237	
		6075+05.57	P.I.	414216.2061	1338089.2647	
9BR		6075+76.37	C.S.	414209.1531	1338018.3730	
		6076+38.37	S.T.	414203.9331	1337956.5947	
		6076+38.37	EQN. BK.	414203.9331	1337956.5947	S 84°42'53" W
		6076+36.01	EQN. AHD.	414203.9331	1337956.5947	
		6077+36.05	P.S.	414194.7181	1337856.9818	
10R		6077+66.66	P.I.T.O.	414191.8981	1337826.4985	S 84°42'53" W
		6078+86.19	P.I.T.O.	414180.8877	1337707.4773	
		6079+16.80	P.S.	414178.0678	1337676.9939	S 84°42'53" W
		6079+83.65	P.C.	414171.9100	1337610.4285	
		6080+14.80	P.I.	414169.0403	1337579.4077	
		6080+45.92	P.T.	414163.4263	1337548.7644	
		6080+45.92	EQN. BK.	414163.4263	1337548.7644	S 79°37'06" W
		6080+45.90	EQN. AHD.	414163.4263	1337548.7644	
		6085+83.19	P.I.T.O.	414066.6029	13337020.2683	
		6086+03.40	P.S.	414062.9609	1337000.3891	S 79°37'06" W
		6086+78.47	T.S.	414049.4323	1336926.5452	
		6087+09.47	S.C.	414044.1465	1336896.0004	
		6087+50.04	P.I.	414036.5363	1336856.1543	
		6088+06.37	WORK LIMITS P.T.	414038.4033	1336799.4123	N 88°06'56" W

TRACK GEOMETRY - CROSSOVER

BASED ON PENNSYLVANIA PLANE COORDINATE SYSTEM

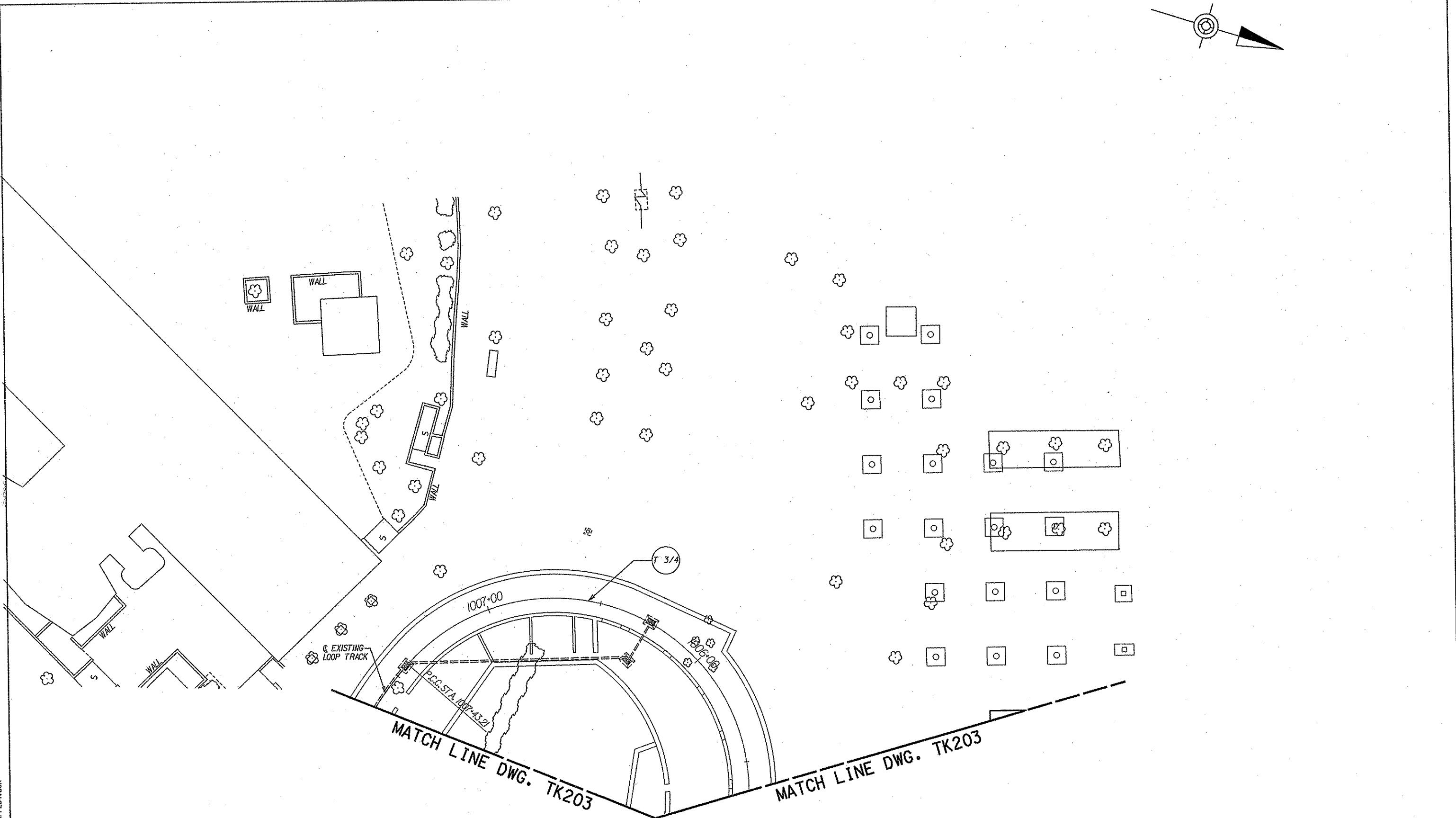
TRK.

MATCH LINE DWG. TK205



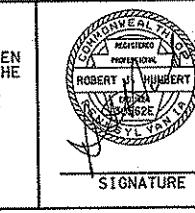
DMJM HARRIS AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
DATE APRIL 21, 2008
SIGNATURE
APPROVED
H. J. LOGUE
DATE
20'15"10' 8' 0" 20'

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH
Pennsylvania
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM-WIDE)
TRACK PLAN
STA. 6010+00 TO STA. 6015+50 LEFT TRACK
CONTRACT NO. NSC-009
DWG. NO. TK203
SHEET 127



NO.	DATE	DESCRIPTION
		REVISIONS

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DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
SIGNATURE
Dick Pihes
APPROVED 4/21/08
DATE

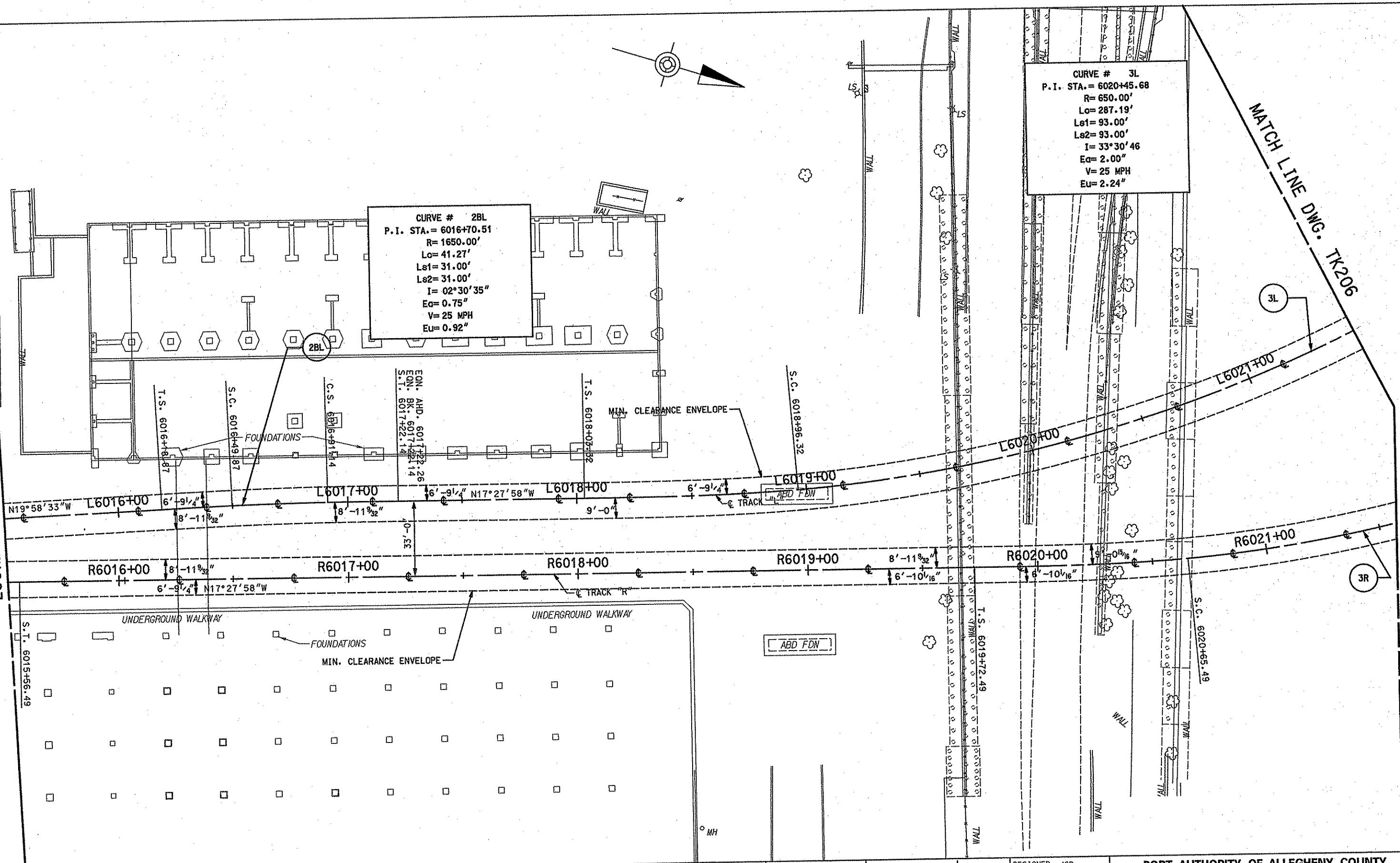
DESIGNED JSB
DRAWN JD
CHECKED SDK
IN CHARGE RJH
DATE APRIL 21, 2008
SCALE 20'15'10' 5' 0
20

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM-WIDE)
EXISTING TRACK PLAN
CONTRACT NO. NSC-009
DWG. NO. TK204 SHT. 128

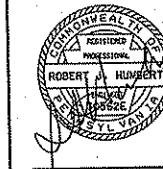
卷之三

104

MATCH LINE DWG. 1K203



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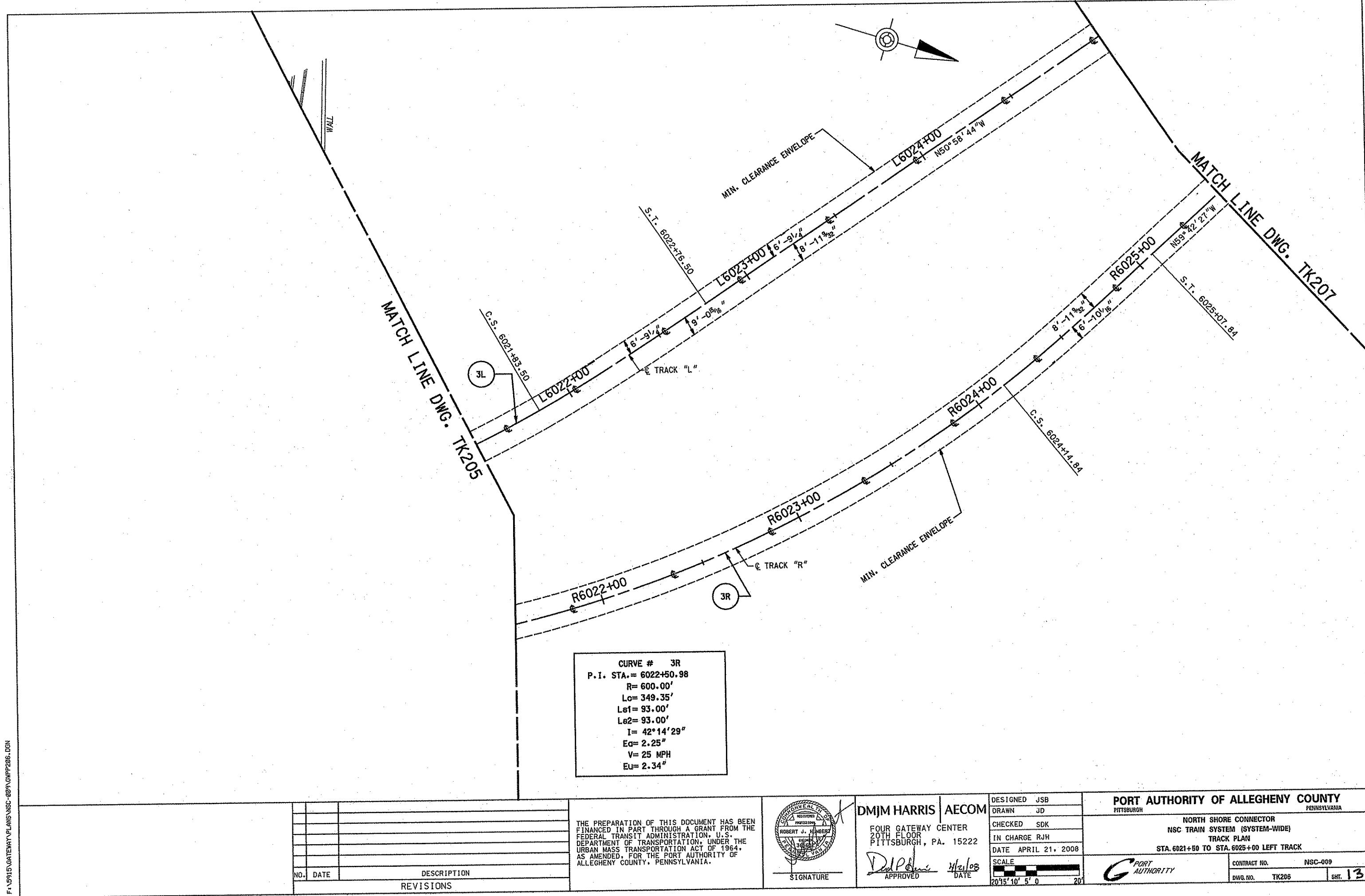
DESIGNED JSB
DRAWN JD
CHECKED SDK
IN CHARGE RJH
DATE APRIL 21,
SCALE

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH PENNSYLVANIA

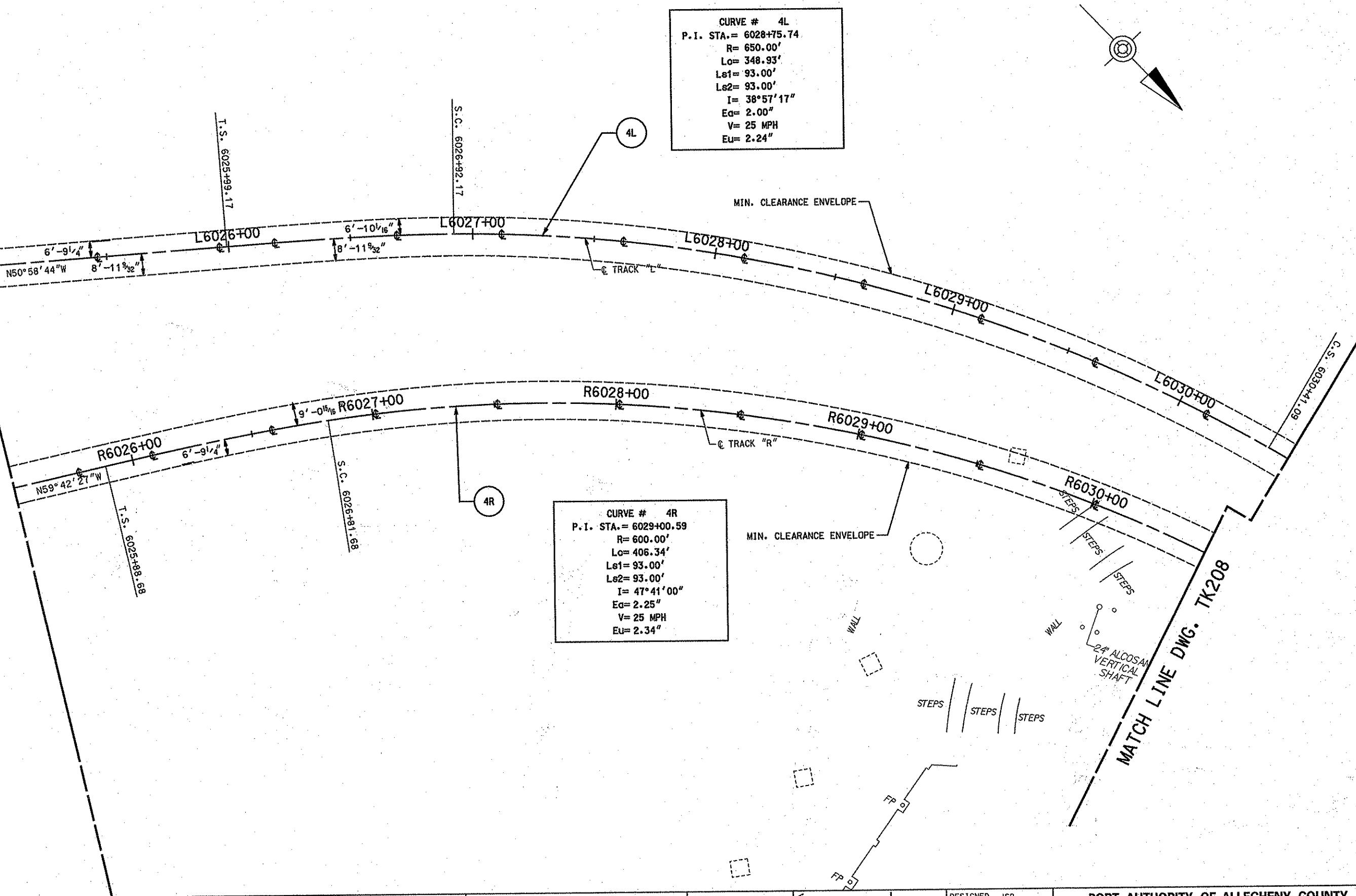
**NORTH SHORE CONNECTOR
SC TRAIN SYSTEM (SYSTEM-WIDE)
TRACK PLAN
6016+50 TO STA. 6021+50 LEFT TRACK**

ITY	CONTRACT NO.	NSC-009
	DWG. NO.	TK205

NO.	DATE	DESCRIPTION
		REVISIONS



MATCH LINE DWG. TK206



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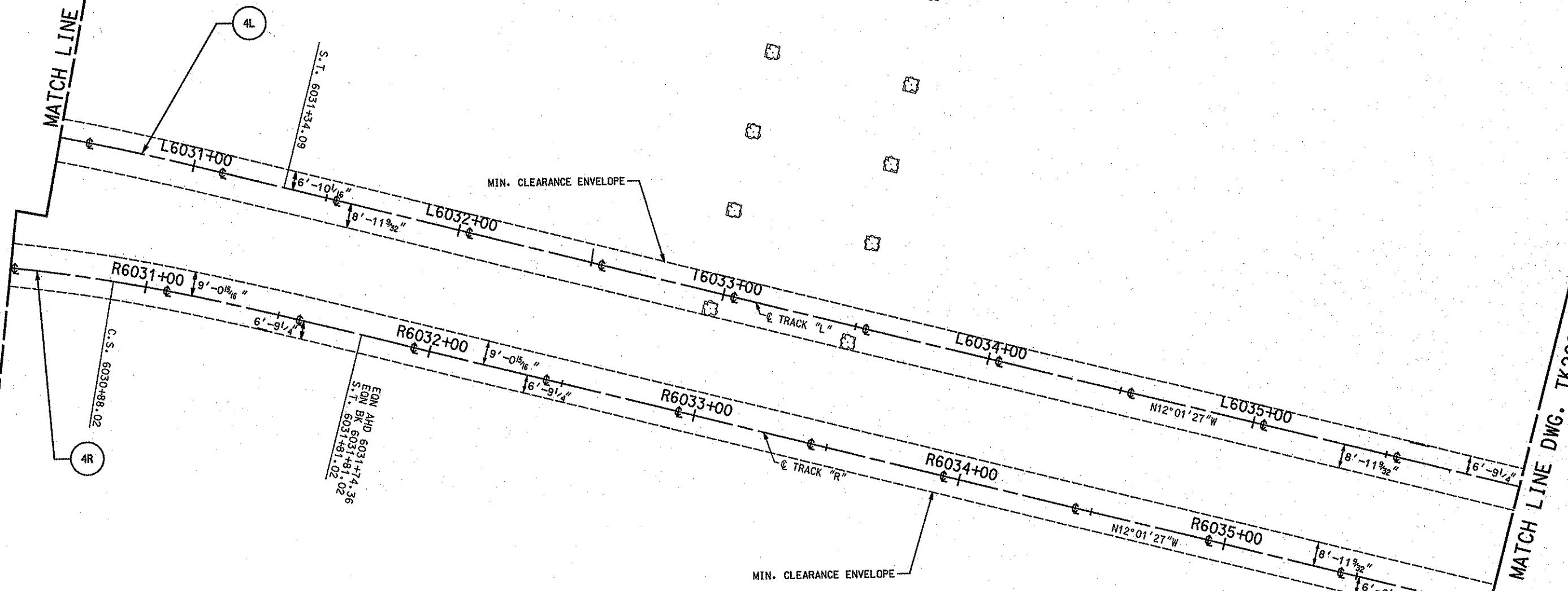
Daryl P. O'Brien APPROVED 4/21/08 DATE

PORT AUTHORITY OF ALLEGHENY COUNTY
 PITTSBURGH, PENNSYLVANIA

**NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM-WIDE)
TRACK PLAN**

TY	CONTRACT NO.	NSC-009
	PROJ. NO.	TK207

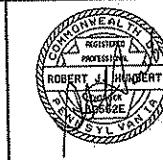
MATCH LINE DWG. TK207



MATCH LINE DWG. TK209

NO.	DATE	DESCRIPTION
REVISIONS		

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PITTSBURGH, PA. 15222
Dal Odeni 4/14/08
SIGNATURE APPROVED DATE

DESIGNED JSB DRAWN JD	PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH
CHECKED SDK	
IN CHARGE RJH	
DATE APRIL 21, 2008	
SCALE 1/2500	

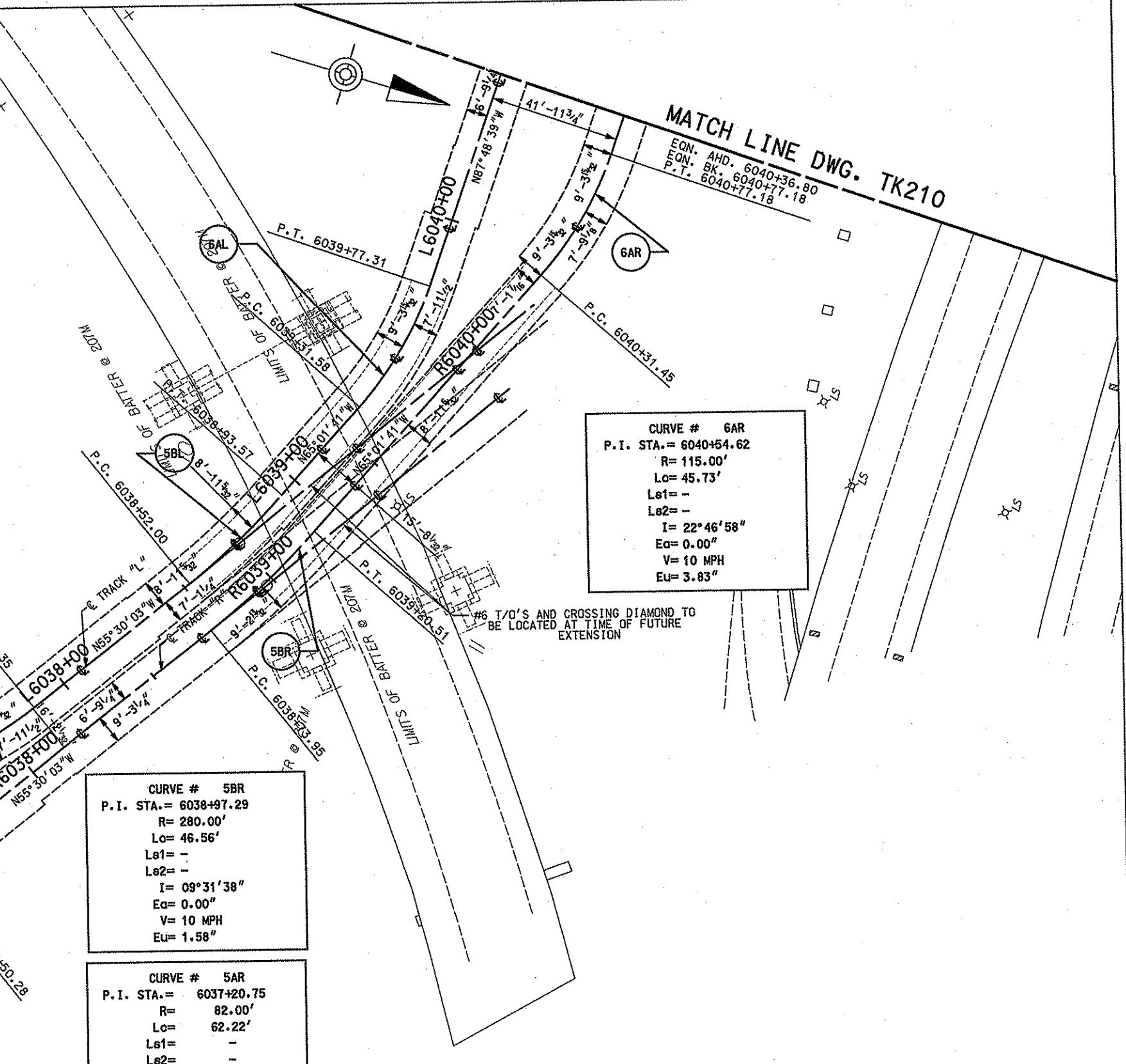
NORTH SHORE CONNECTOR NSC TRAIN SYSTEM (SYSTEM-WIDE) TRACK PLAN STA. 6030+50 TO STA. 6036+00 LEFT TRACK	CONTRACT NO. NSC-009
	DWG. NO. TK208 SHT. 132

MATCH LINE DWG. TK208

CURVE # 6AL
P.I. STA.= 6039+54.75
R= 115.00'
Lo= 45.73'
Le1= -
Le2= -
I= 22° 46' 58"
Eq= 0.00"
V= 10 MPH
Eu= 3.83"

CURVE # 5BL
P.I. STA.= 6038+72.83
R= 250.00'
Lo= 41.57'
Le1= -
Le2= -
I= 09° 31' 38"
Eq= 0.00"
V= 10 MPH
Eu= 1.76"

CURVE # 5AL
P.I. STA.= 6037+45.94
R= 115.00'
Lo= 87.26'
Le1= -
Le2= -
I= 43° 28' 36"
Eq= 0.00"
V= 10 MPH
Eu= 3.83"



NO.	DATE	DESCRIPTION
REVISIONS		

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20TH FLOOR
PITTSBURGH, PA. 15222

Dolphus
APPROVED
DATE
20/05/10 5' 0" 20

DESIGNED	JSB
DRAWN	JD
CHECKED	SDK
IN CHARGE	RJH
DATE	APRIL 21, 2008
SCALE	1:2000

PORT AUTHORITY OF ALLEGHENY COUNTY PENNSYLVANIA	NORTH SHORE CONNECTOR NSC TRAIN SYSTEM (SYSTEM-WIDE) TRACK PLAN STA. 6036+00 TO STA. 6040+50 LEFT TRACK
CONTRACT NO. NSC-009	PORT AUTHORITY

DWG. NO. TK209

SH. 133

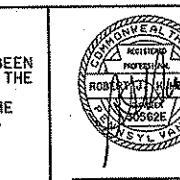
MATCH LINE DWG. TK209

104

This site plan diagram illustrates a station area with the following key features and dimensions:

- Station Platform:** Labeled "NORTH SIDE STATION PLATFORM".
- Tracks:** Labeled "L TRACK 'L'" and "CONC. TRACK 'R'".
- Platform Labels:** L6041+00, L6042+00, L6043+00, L6044+00, L6045+00.
- Reedsdale Street:** Labeled "REEDSDALE STREET".
- Curves:** Curve # 6BL (P.I. STA. = 6045+10.41) and Curve # 6BR (P.I. STA. = 6044+68.74).
- Infrastructure:** Includes BOLLARD, CONC. SWK, CONC. PVMT, EXP. JOINT, CURB CUT, STONE, ATTENDANT BOOTH, and ISLAND.
- Dimensions:** Various dimensions are provided for platforms, tracks, and clearances, such as 8'-11 3/32", 6'-9 1/4", and 41'-11 3/4".
- Coordinates:** Coordinates like N87° 48' 39" W are marked along the tracks.
- Labels:** BIT. PARKING, C.S., T.S., S.C., and various station identifiers like 6BL and 6BR.

MATCH LINE DWG. TK211



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RT
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20TH FLOOR
PITTSBURGH, PA. 15222

Dad O'Brien APPROVED 4/21/10 DATE

APPROVED

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH, PENNSYLVANIA

NORTH SHORE CONNECTOR

SC TRAIN SYSTEM (SYSTEM-WIDE)

TRACK PLAN

STA. 6040+50 TO STA. 6046+00 LEFT TRACK

equity no

CONTRACT NO. _____

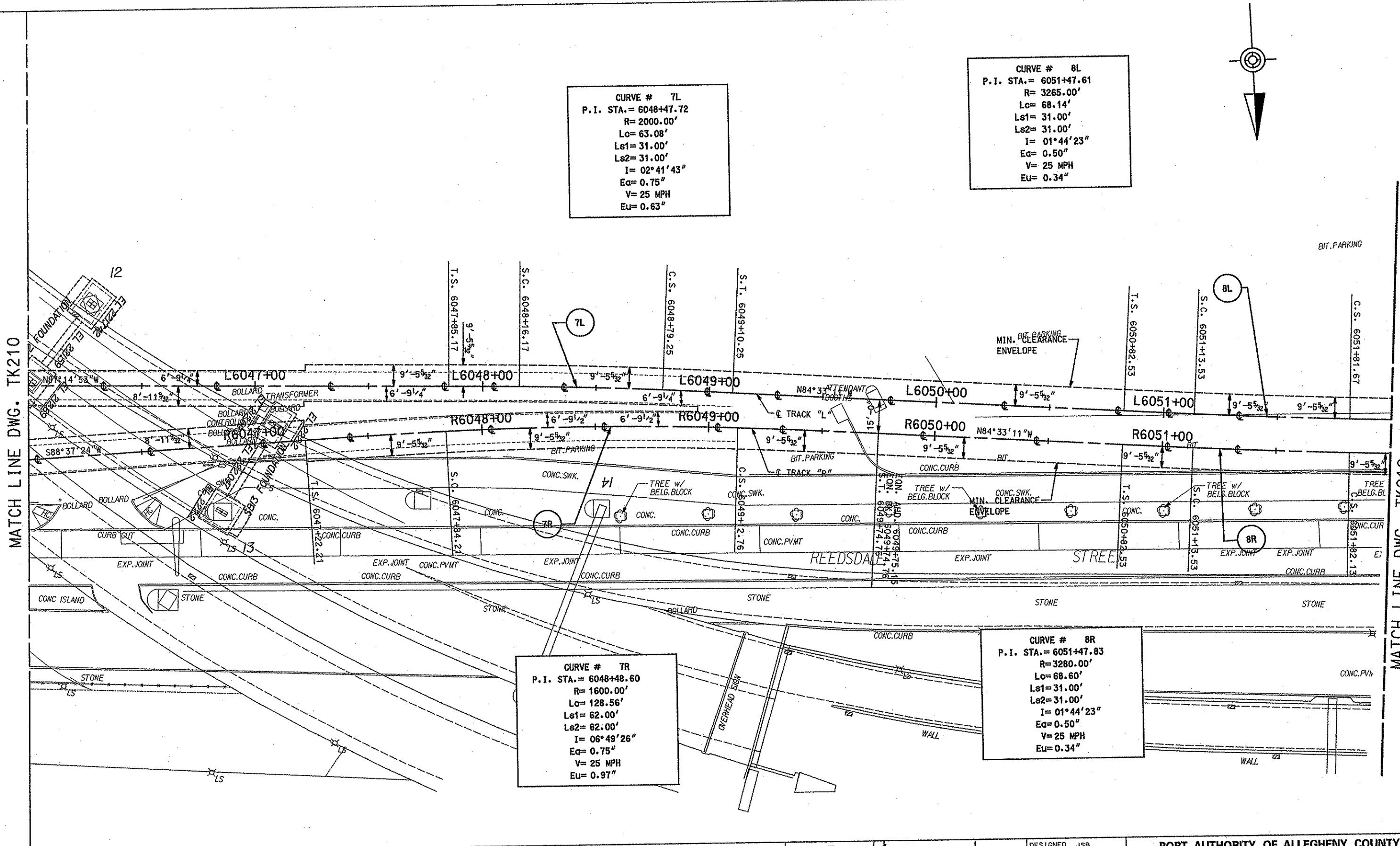
DWG. NO. TK210

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ALLENTOWN, PENNSYLVANIA.

MATCH LINE DWG. TK210

F:\5916\GATEWAY\PLANS\NSC-009\GNPP211.DGN

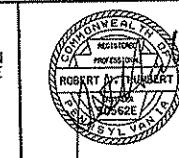


DESIGNED JSB
DRAWN JD
CHECKED SDK
IN CHARGE RJH
DATE APRIL 21, 2008
SCALE 1/2000
APPROVED DDH DATE 4/21/08
SIGNATURE

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH, PENNSYLVANIA
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM-WIDE)
TRACK PLAN
STA. 6046+00 TO STA. 6052+00 LEFT TRACK
CONTRACT NO. NSC-009
DWG. NO. TK211 SHEET 135

NO.	DATE	DESCRIPTION	REVISIONS

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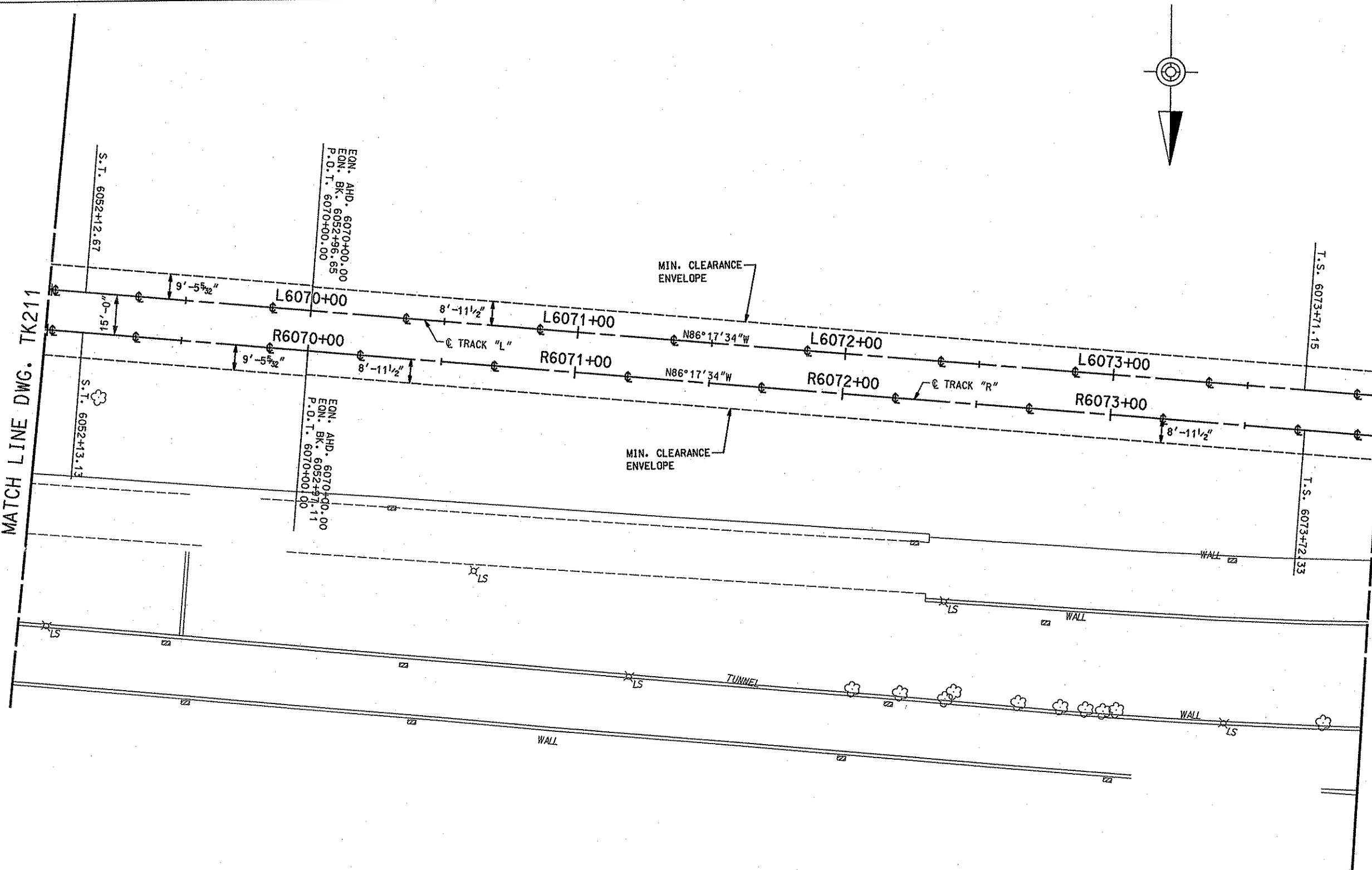


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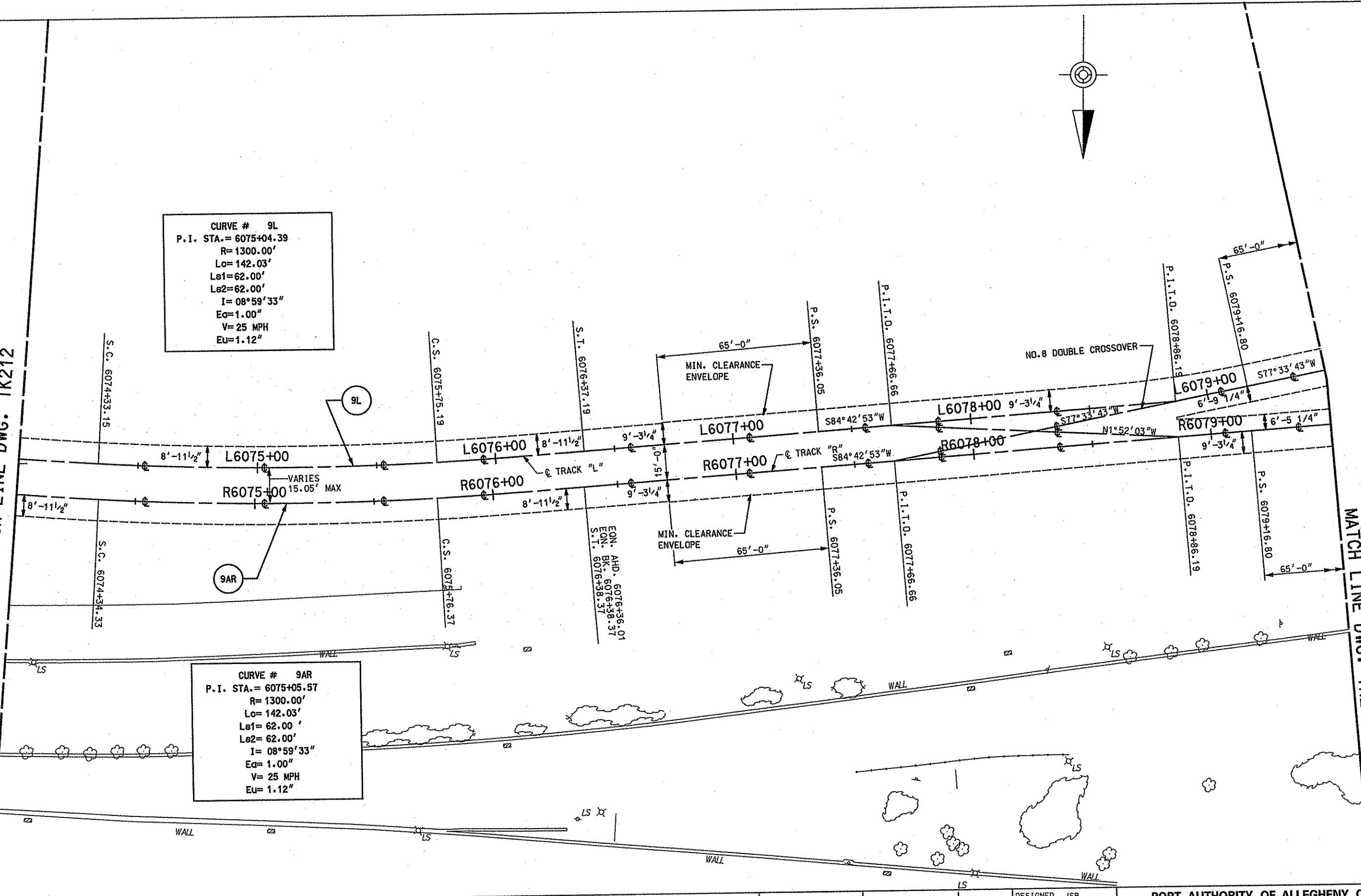
T-S 622-1

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MATCH LINE DWS

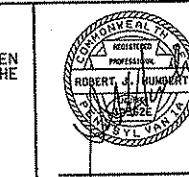


MATCH LINE DWG. TK212



NO.	DATE	DESCRIPTION	REVISIONS

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APPROVED *D. D. Clark* *He/1/08*
SIGNATURE DATE

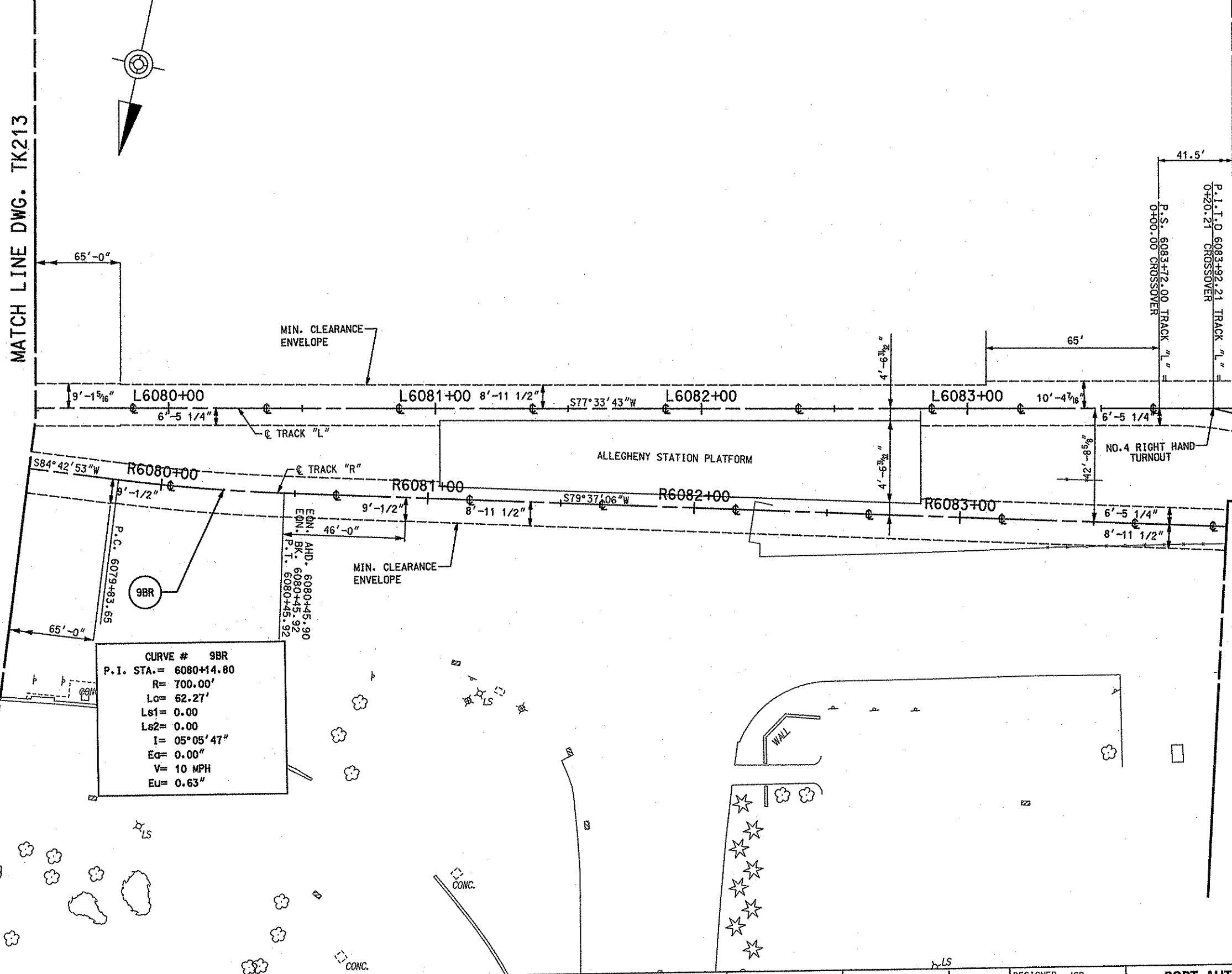
DESIGNED JSB
DRAWN JD
CHECKED SDK
IN CHARGE RJH
DATE APRIL 21, 2008
SCALE

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH, PENNSYLVANIA
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM-WIDE)
TRACK PLAN
STA. 6074+00 TO STA. 6079+50 LEFT TRACK

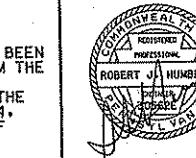
CONTRACT NO. NSC-009
DWG. NO. TK213 SHT. 137

MATCH LINE DWG. TK213

MATCH LINE DWG. TK215



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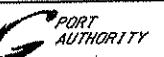


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PITTSBURGH

PENNSYLVANIA

NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM-WIDE)
TRACK PLAN
A. 6079+50 TO STA. 6084+00 LEFT TRACK

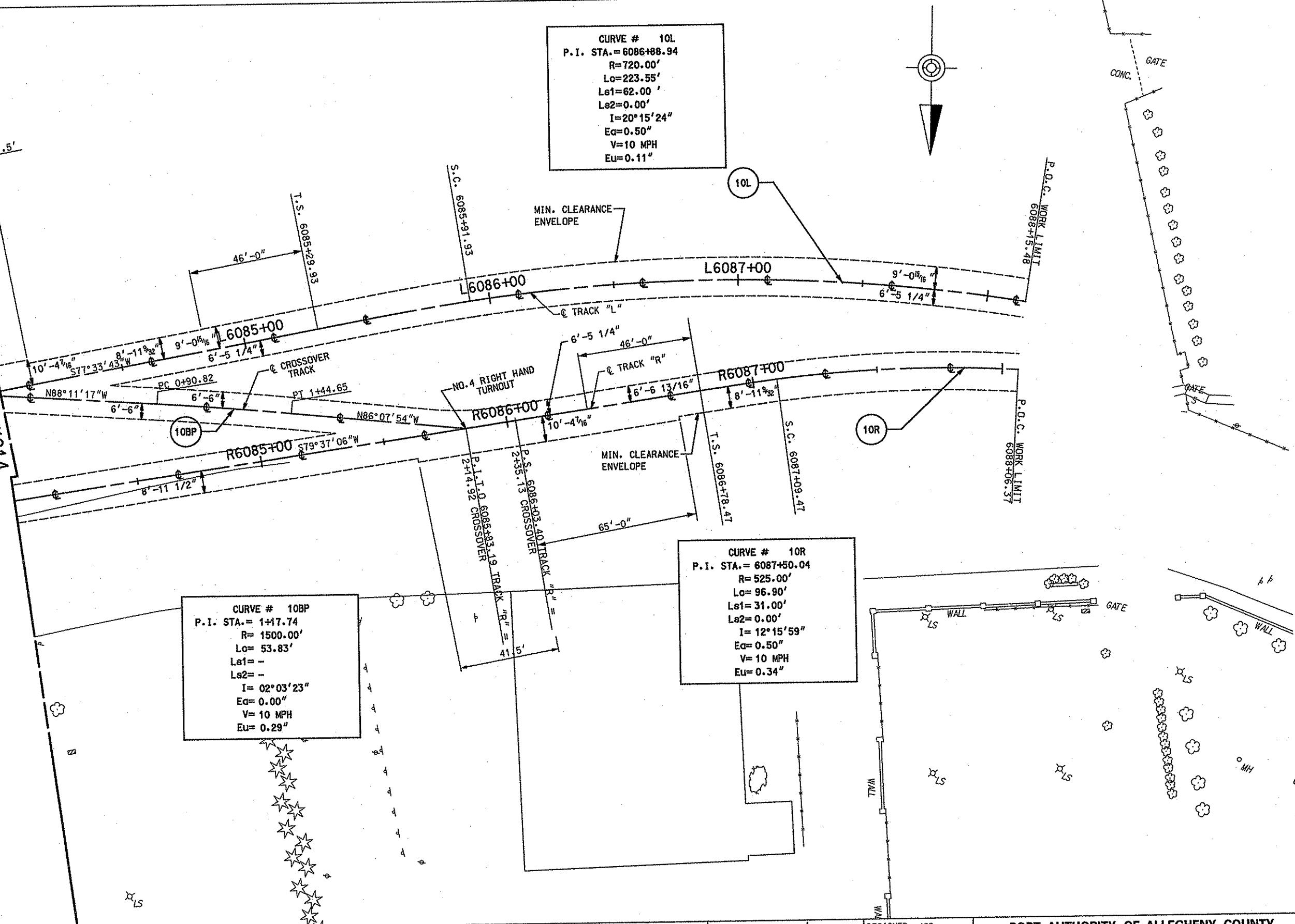


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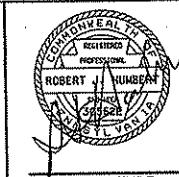
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MATCH LINE DWG. TR214



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Dave DeLoach 4/21/08

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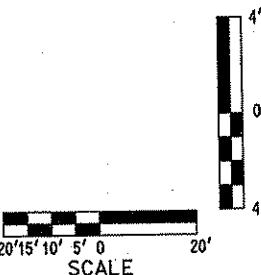
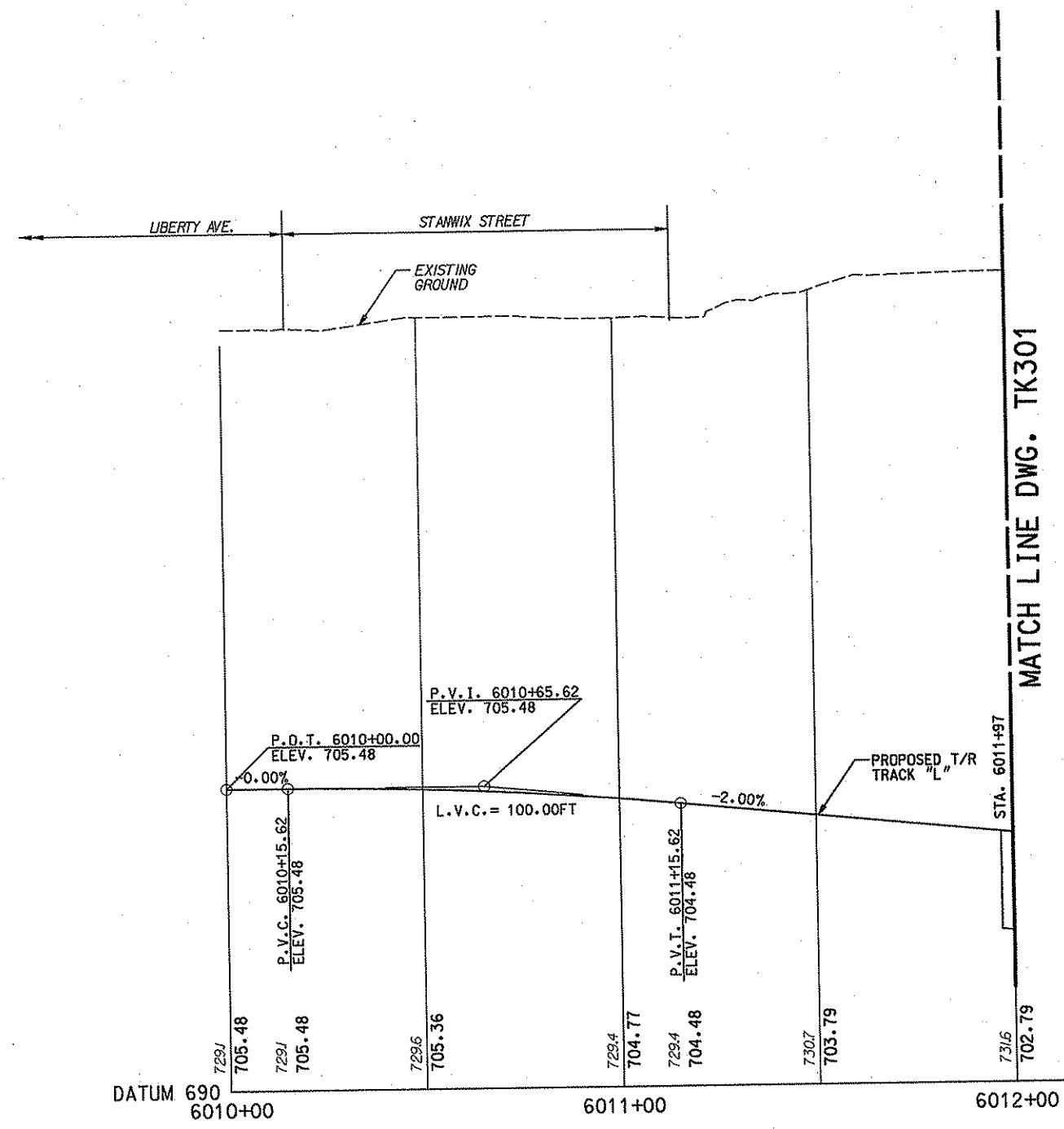
PITTSBURGH, PA. 15222

10/26/03 11/3/03

APPROVED _____ DATE _____

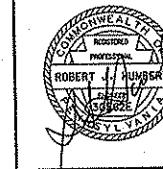
DESIGNED JSB
DRAWN JD
CHECKED SDK
IN CHARGE RJH
DATE APRIL 21,
SCALE

PITTSBURGH PORT AUTHORITY OF ALLEGHENY COUNTY
 NORTH SHORE CONNECTOR
 NSC TRAIN SYSTEM (SYSTEM-WIDE)
 TRACK PLAN
 STA. 6084+00 TO STA. 6088+15.48 LEFT TRACK



NO.	DATE	DESCRIPTION	REVISIONS

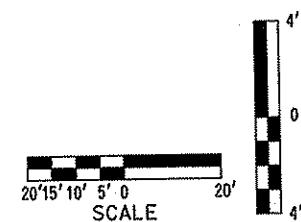
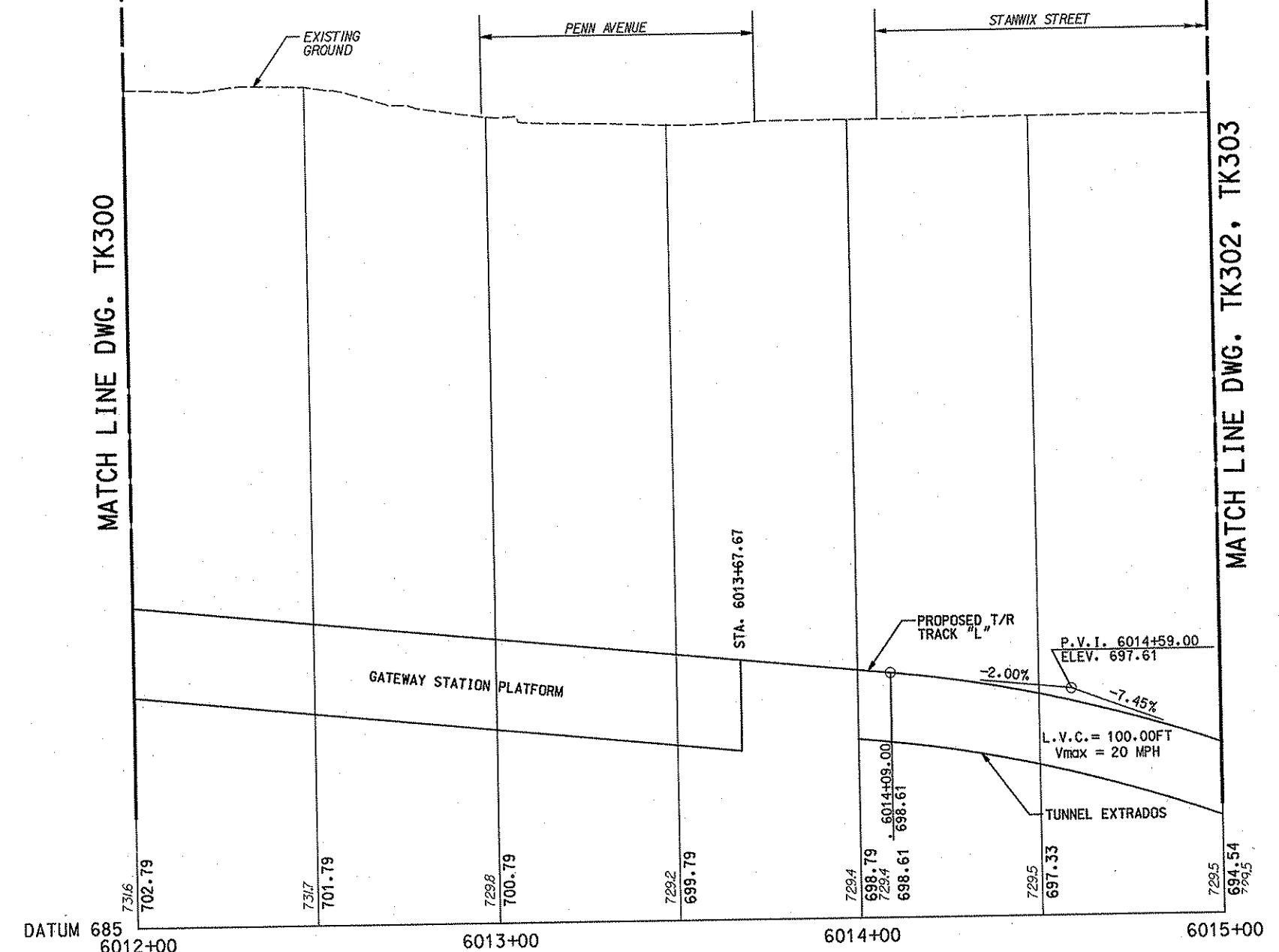
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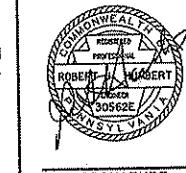
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CHECKED SDK
IN CHARGE RJH
DATE APRIL 21, 2008
SCALE AS SHOWN
PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM-WIDE)
TRACK PROFILE
STA. 6010+00 TO STA. 6012+00 LEFT TRACK
CONTRACT NO. NSC-009
DWG. NO. TK300
SHT. 140

MATCH LINE DWG. TK300



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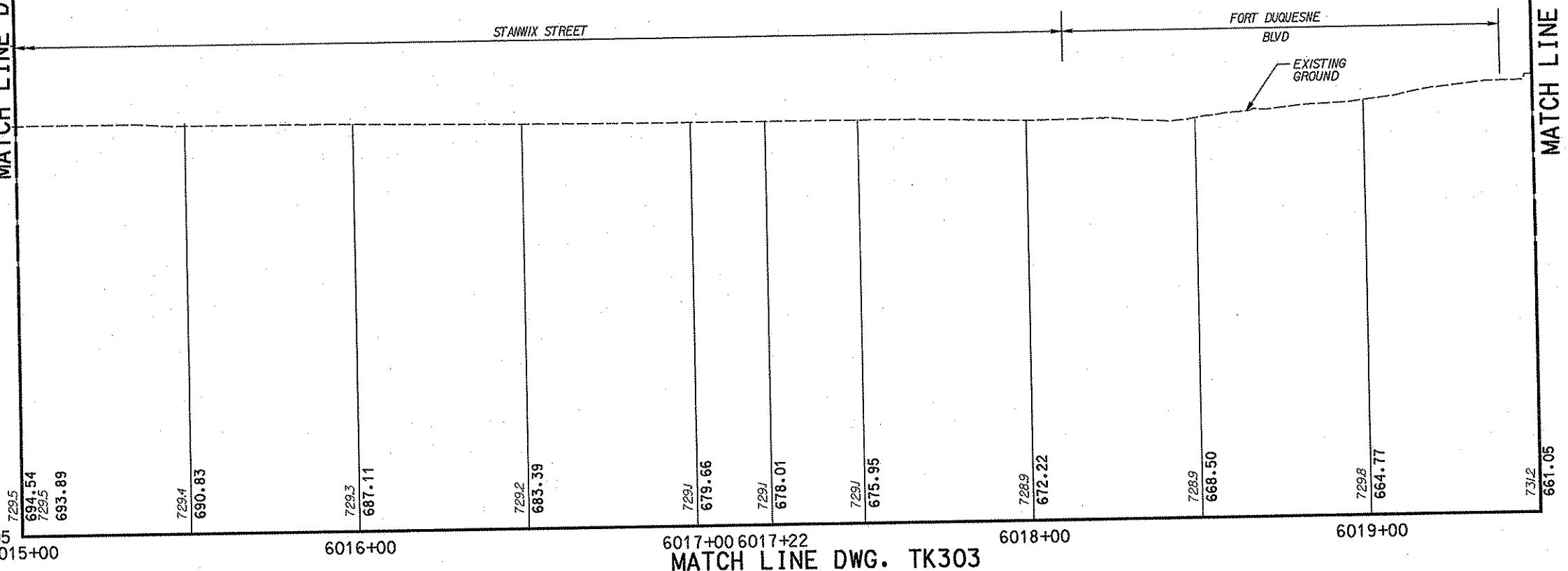


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PITTSBURGH, PA. 15222
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Dale Polini 4/21/08
APPROVED DATE

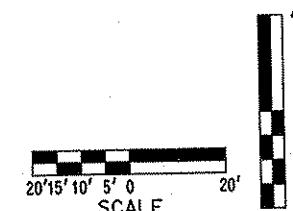
PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH, PENNSYLVANIA
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM-WIDE)
TRACK PROFILE
STA. 6012+00 TO STA. 6015+00 LEFT TRACK
CONTRACT NO. NSC-008
DWG. NO. TK301 SHT. 14

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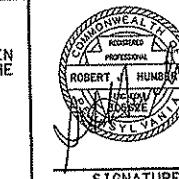
DATUM 70
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WATCH LINE DWG TK 301



MATCH LINE DWG. TK3C



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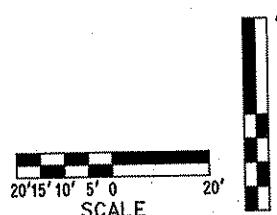
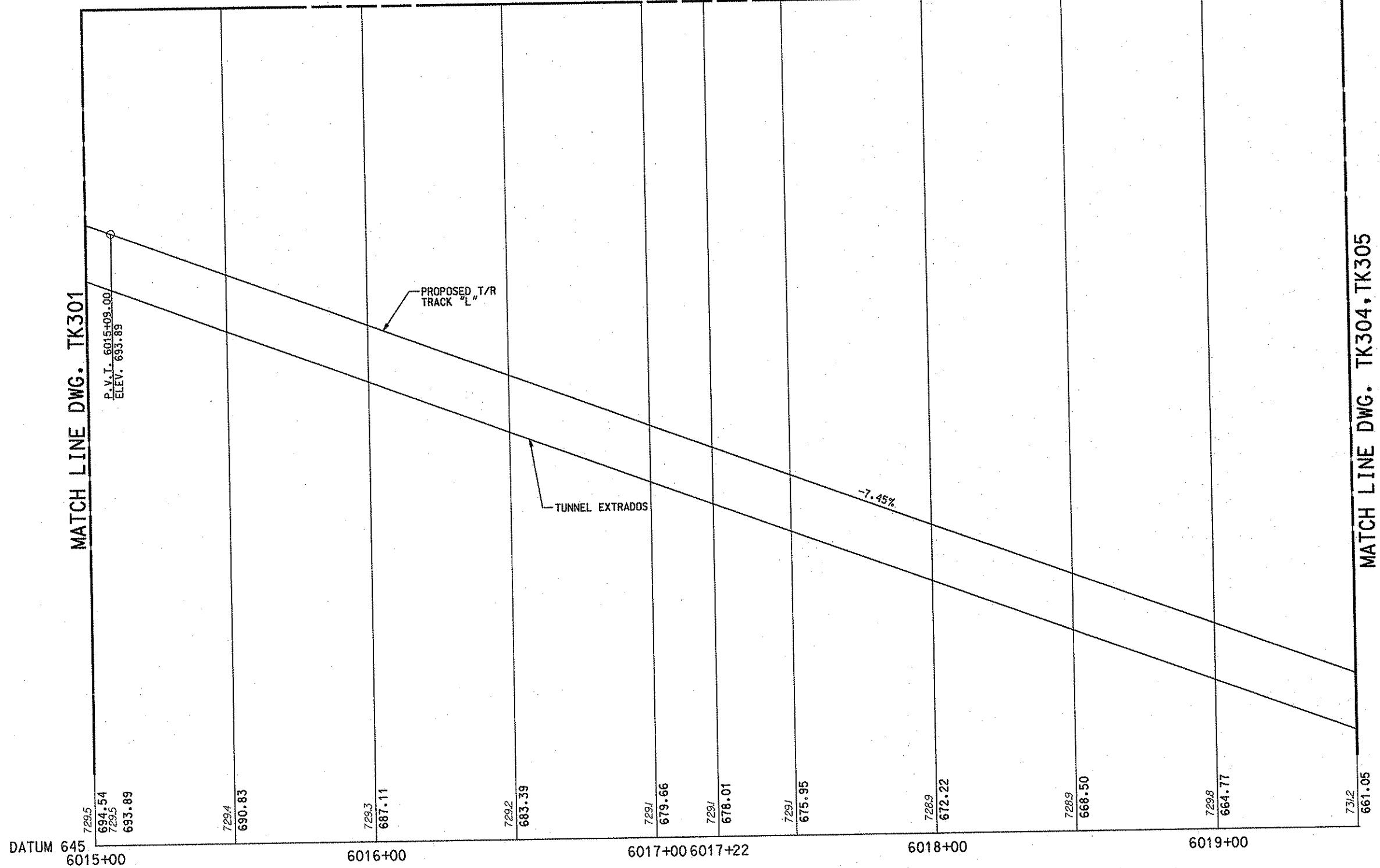
APPROVED 4/21/08
DATE

DESIGNED	JSB
DRAWN	JD
CHECKED	SDK
IN CHARGE	RJH
DATE	APRIL 21, 2008
SCALE	AS SHOWN

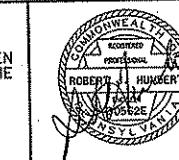
PITTSTON AUTHORITY OF ALLEGHENY COUNTY
 PITTSBURGH PENNSYLVANIA

NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM-WIDE)
TRACK PROFILE
STA. 6015+00 TO STA. 6019+50 LEFT TRACK

MATCH LINE DWG. TK302



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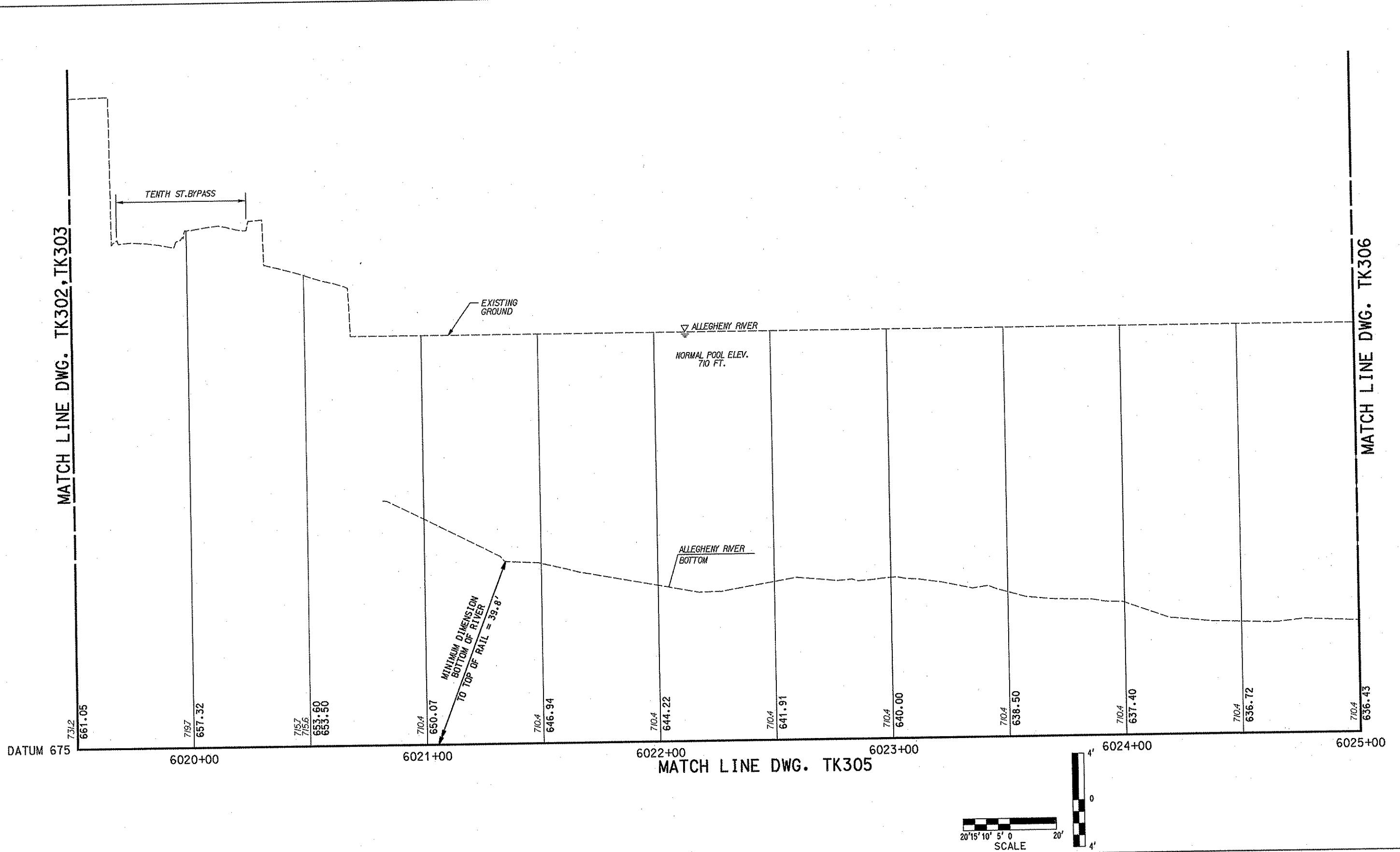
K DMJM HARRIS AECON
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
Dale R. Denner
APPROVED *4/21/02*
DATE

AECOM CENTER A. 15222	DESIGNED JSB DRAWN JD CHECKED SDK IN CHARGE RJH DATE APRIL 21, 2000 SCALE AS SHOWN <i>Yulco</i> DATE
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POR T AUTHORITY OF ALLEGHENY COUNTY

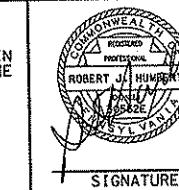
**NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM-WIDE)
TRACK PROFILE
6015+00 TO STA. 6019+50 LEFT TRACK**

CONTRACT NO.	NSC-009	
DWG. NO.	TK303	SHT. 14



4/14/2008 3:19:11 PM

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FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
Dell P. Farnum
APPROVED 4/21/08
DATE

DMJM HARRIS AECON
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
Dell P. Farnum
APPROVED 4/21/08
DATE

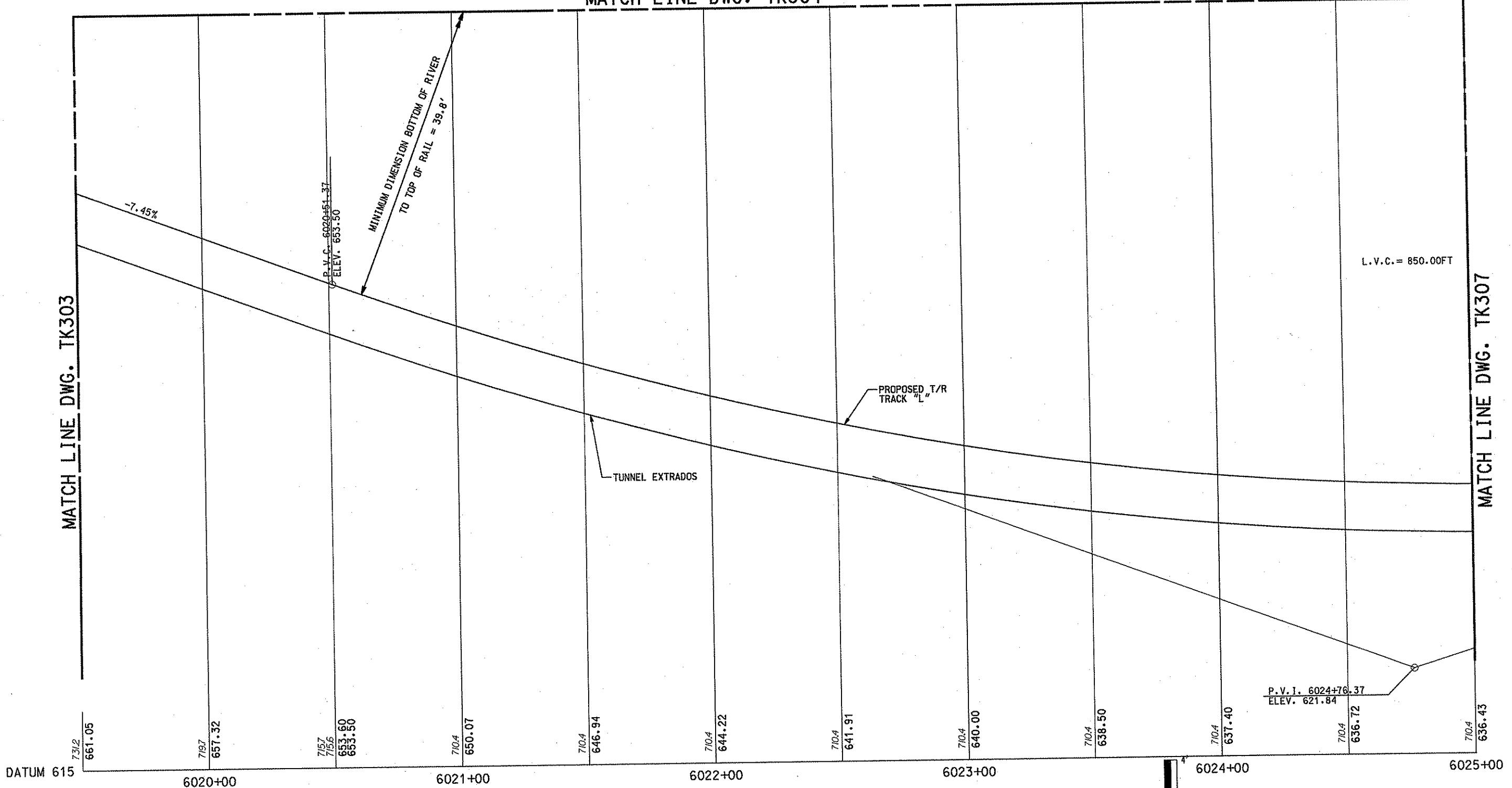
DESIGNED JSB
DRAWN JD
CHECKED SDK
IN CHARGE RJH
DATE APRIL 21, 200
SCALE AS SHOWN

PITTSTON **PORT AUTHORITY OF ALLEGHENY COUNTY**
PITTSBURGH **PENNSYLVANIA**

NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM-WIDE)
TRACK PROFILE
STA. 6019+50 TO STA. 6025+00 LEFT TRACK

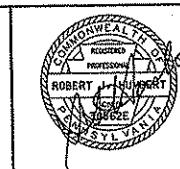
MATCH LINE DWG. TK304

MATCH LINE DWG. TK303



NO.	DATE	DESCRIPTION	REVISIONS

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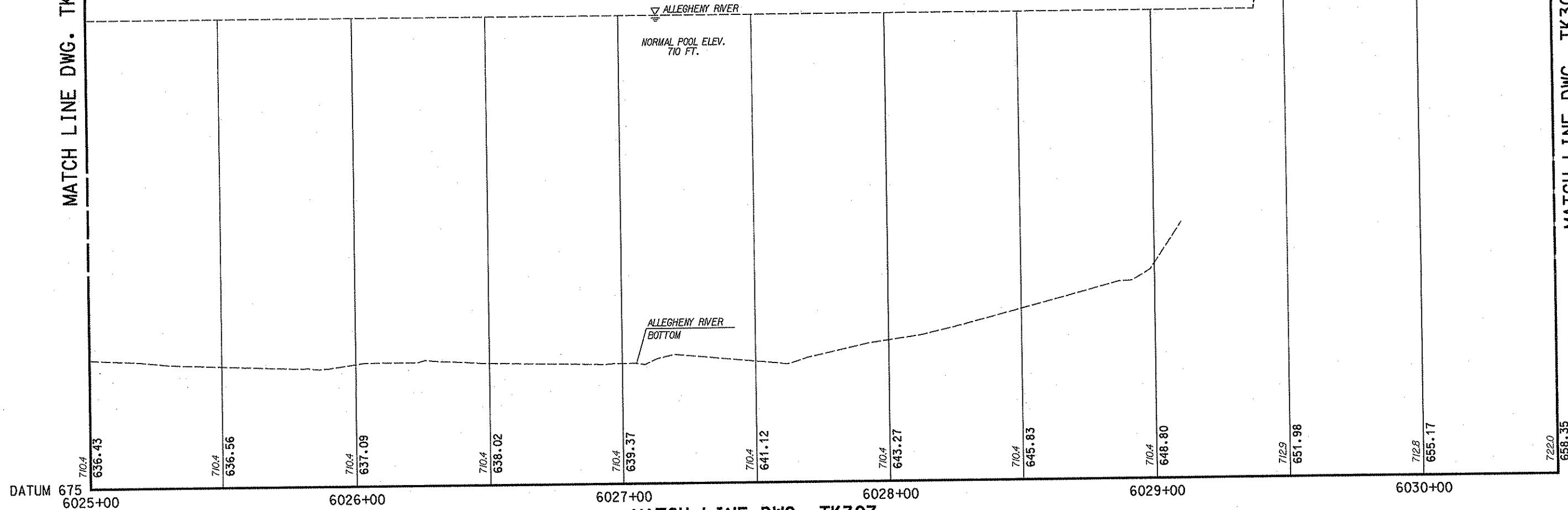


DMJM HARRIS | AECOM
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20TH FLOOR
PITTSBURGH, PA. 15222
SIGNATURE: *[Signature]*
APPROVED: *[Signature]* 4/21/08
DATE: 4/21/08

DESIGNED JSB
DRAWN JD
CHECKED SDK
IN CHARGE RJH
DATE APRIL 21, 2008
SCALE AS SHOWN

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM-WIDE)
TRACK PROFILE
STA. 6019+50 TO STA. 6025+00 LEFT TRACK
CONTRACT NO. NSC-009
DRAWN NO. TK305 SHT. 145

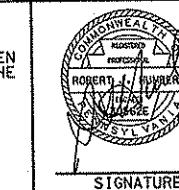
MATCH LINE DWG. TK304



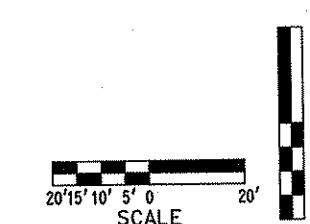
MATCH LINE DWG. TK307

NO.	DATE	DESCRIPTION	REVISIONS

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DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
APPROVED 4/21/08
SIGNATURE DATE



PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM-WIDE)
TRACK PROFILE
STA. 6025+00 TO STA. 6030+50 LEFT TRACK
CONTRACT NO. NSC-009
DWG. NO. TK305 SHT. 146

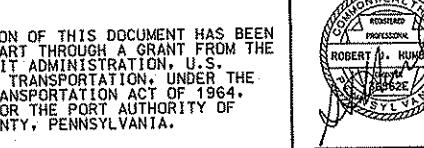
MATCH LINE DWG. TK306

MATCH LINE DWG. TK305

DATUM 615
6025+00704
636.56704
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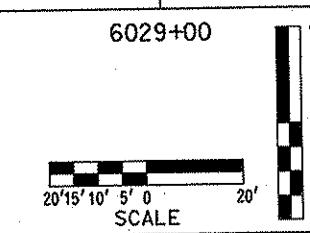


DMJM HARRIS AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
Dad P. [Signature]
APPROVED 4/21/08
SIGNATURE DATE

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSTONIA
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM-WIDE)
TRACK PROFILE
STA. 6025+00 TO STA. 6030+50 LEFT TRACK
CONTRACT NO. NSC-009
DWG. NO. TK307 SHT. 147

NO.	DATE	DESCRIPTION	REVISIONS

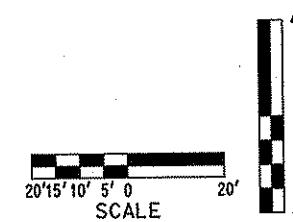
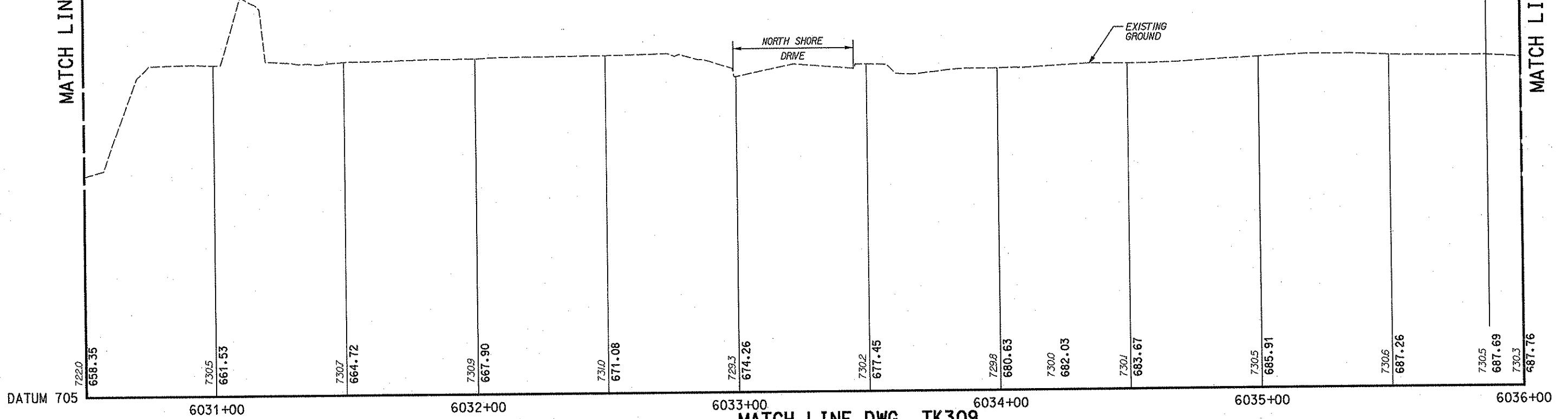
THE PREPARATION OF THIS DOCUMENT HAS BEEN FINANCED IN PART THROUGH A GRANT FROM THE FEDERAL TRANSIT ADMINISTRATION, U.S. DEPARTMENT OF TRANSPORTATION, UNDER THE URBAN MASS TRANSPORTATION ACT OF 1964, AS AMENDED, FOR THE PORT AUTHORITY OF ALLEGHENY COUNTY, PENNSYLVANIA.



6026+00 6027+00 6028+00 6029+00 6030+00

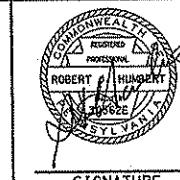
MATCH LINE DWG. TK309

MATCH LINE DWG. TK306



NO.	DATE	DESCRIPTION	REVISIONS

THE PREPARATION OF THIS DOCUMENT HAS BEEN FINANCED IN PART THROUGH A GRANT FROM THE FEDERAL TRANSIT ADMINISTRATION, U.S. DEPARTMENT OF TRANSPORTATION, UNDER THE URBAN MASS TRANSPORTATION ACT OF 1964, AS AMENDED, FOR THE PORT AUTHORITY OF ALLEGHENY COUNTY, PENNSYLVANIA.



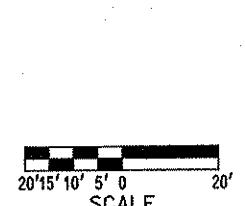
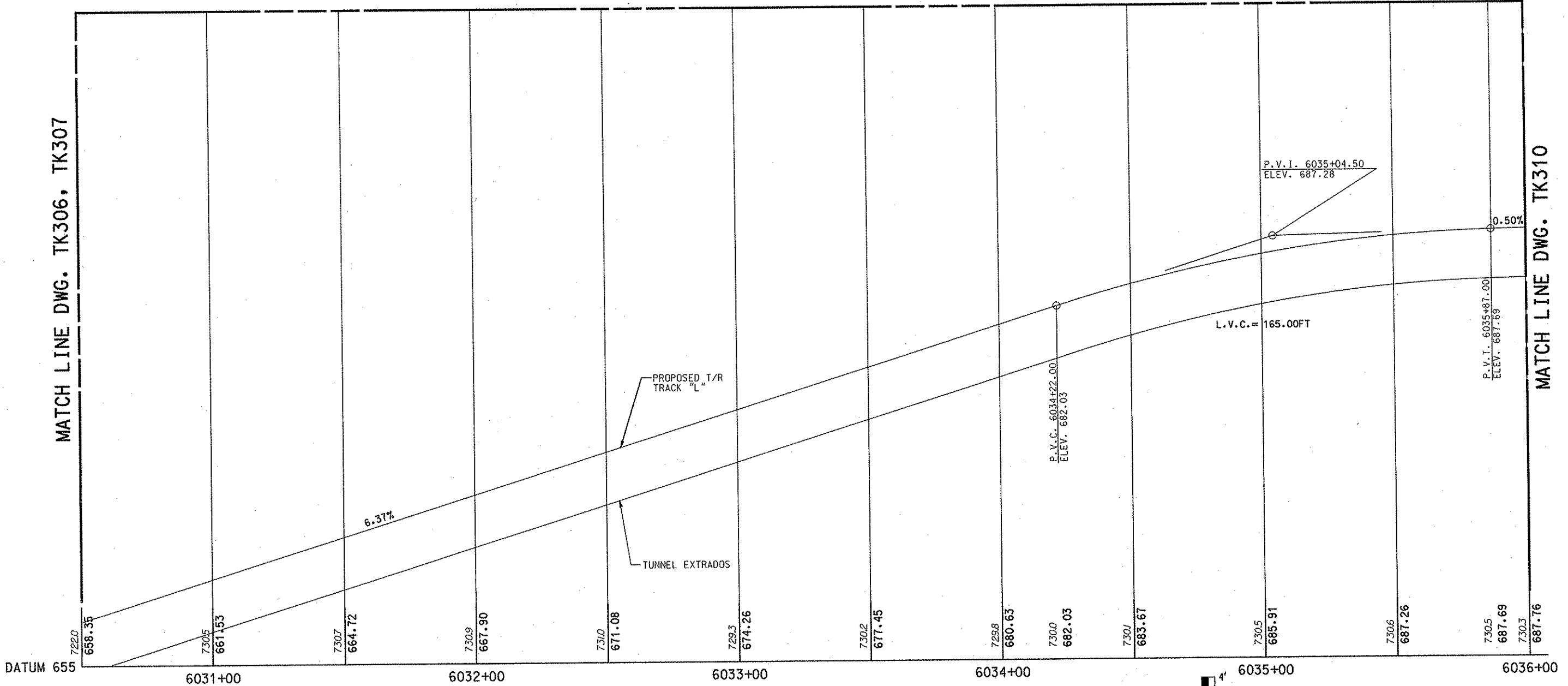
DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
SIGNATURE:
APPROVED:
DATE: 4/16/08

DESIGNED JSB
DRAWN JD
CHECKED SDK
IN CHARGE RJH
DATE APRIL 21, 2008
SCALE AS SHOWN

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM-WIDE)
TRACK PROFILE
STA. 6030+50 TO STA. 6036+00 LEFT TRACK
CONTRACT NO.: NSC-009
DWG. NO.: TK308 SHT. 148

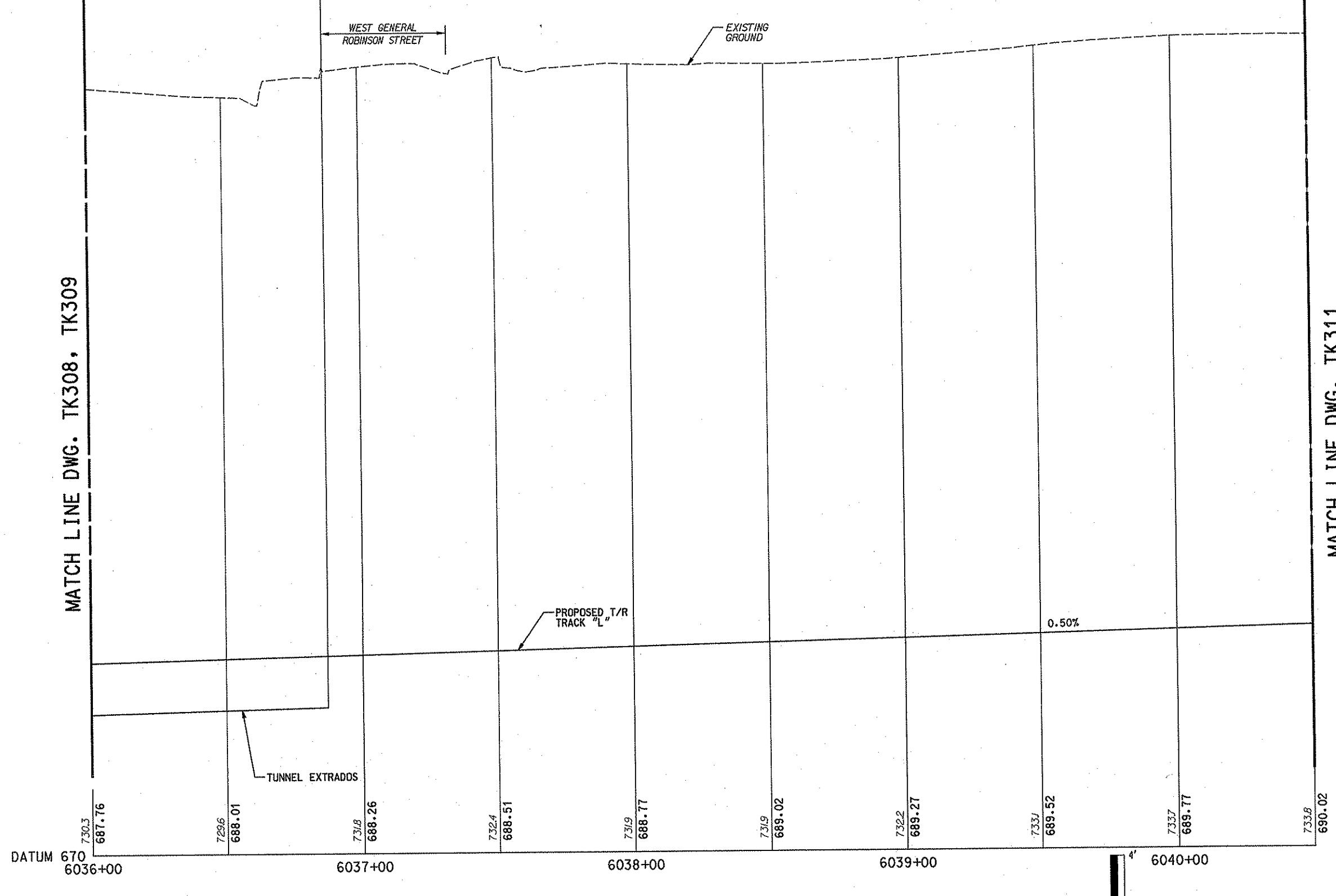
MATCH LINE DWG. TK308

MATCH LINE DWG. TK306, TK307



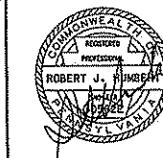
				THE PREPARATION OF THIS DOCUMENT HAS BEEN FINANCED IN PART THROUGH A GRANT FROM THE FEDERAL TRANSIT ADMINISTRATION, U.S. DEPARTMENT OF TRANSPORTATION, UNDER THE URBAN MASS TRANSPORTATION ACT OF 1964, AS AMENDED, FOR THE PORT AUTHORITY OF ALLEGHENY COUNTY, PENNSYLVANIA.	 SIGNATURE	DMJM HARRIS AECOM FOUR GATEWAY CENTER 20TH FLOOR PITTSBURGH, PA. 15222 <i>David Harris</i> <i>4/21/08</i> APPROVED DATE	DESIGNED JSB DRAWN JD CHECKED SDK IN CHARGE RJH DATE APRIL 21, 2008 SCALE AS SHOWN	PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH, PENNSYLVANIA		
NO.	DATE	DESCRIPTION	REVISIONS							
							 PORT AUTHORITY	CONTRACT NO.	NSC-009	
							DWG. NO.	TK309	SHT. 149	

MATCH LINE DWG. TK308, TK309



NO.	DATE	DESCRIPTION
REVISIONS		

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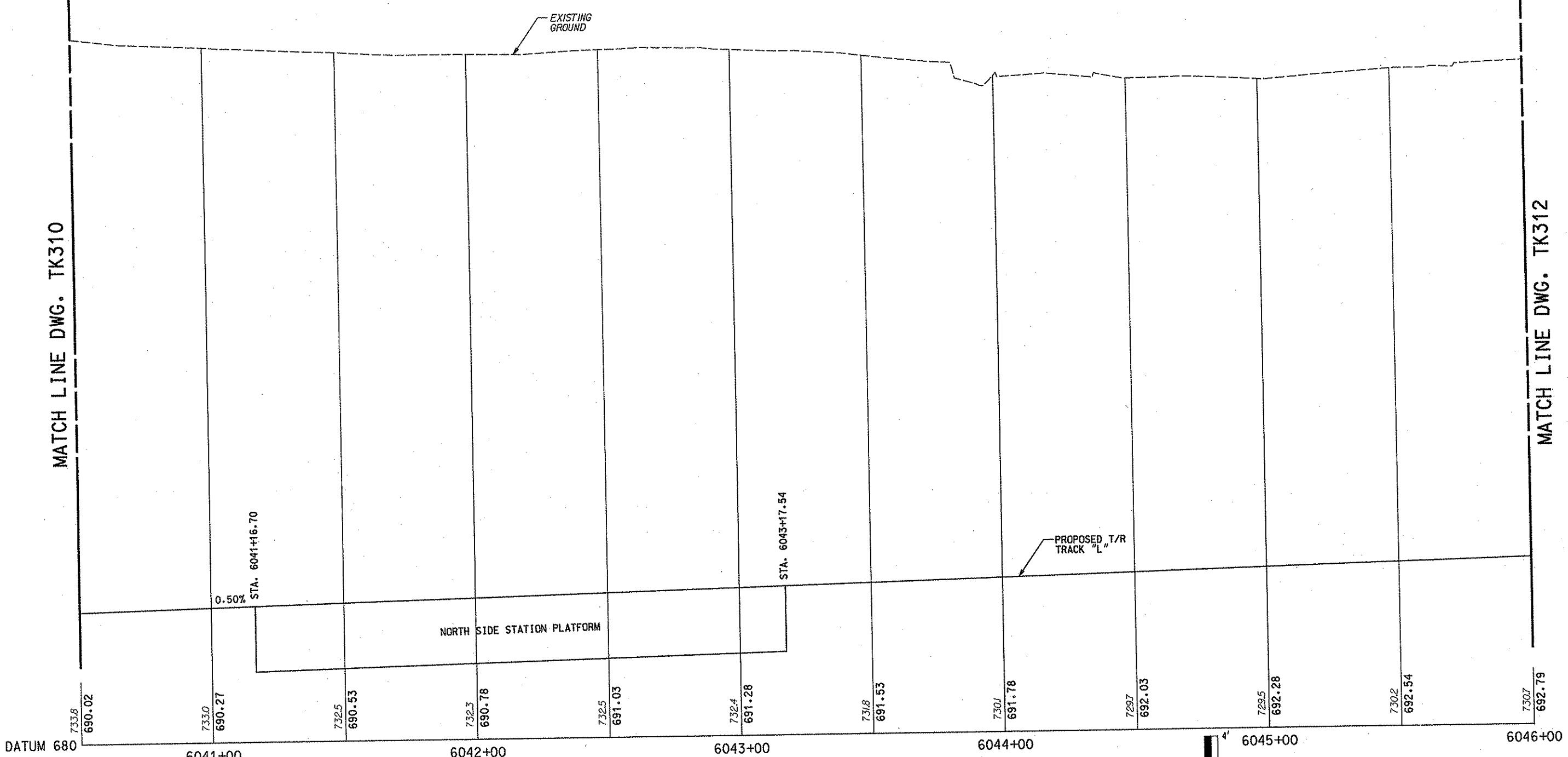
ROBERT J. HARRIS
PRESIDENT
APRIL 21, 2008
APPROVED: *D. J. Harris* DATE: *4/21/08*

DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
SIGNATURE

DESIGNED JSB
DRAWN JD
CHECKED SDK
IN CHARGE RJB
DATE APRIL 21, 2008
SCALE AS SHOWN

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH, PENNSYLVANIA
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM-WIDE)
TRACK PROFILE
STA. 6036+00 TO STA. 6040+50 LEFT TRACK
CONTRACT NO. NSC-009
DWG. NO. TK310 SHT. 150

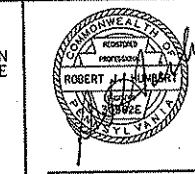
MATCH LINE DWG. TK310



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SCALE 4'
0' 4'

NO.	DATE	DESCRIPTION
REVISIONS		

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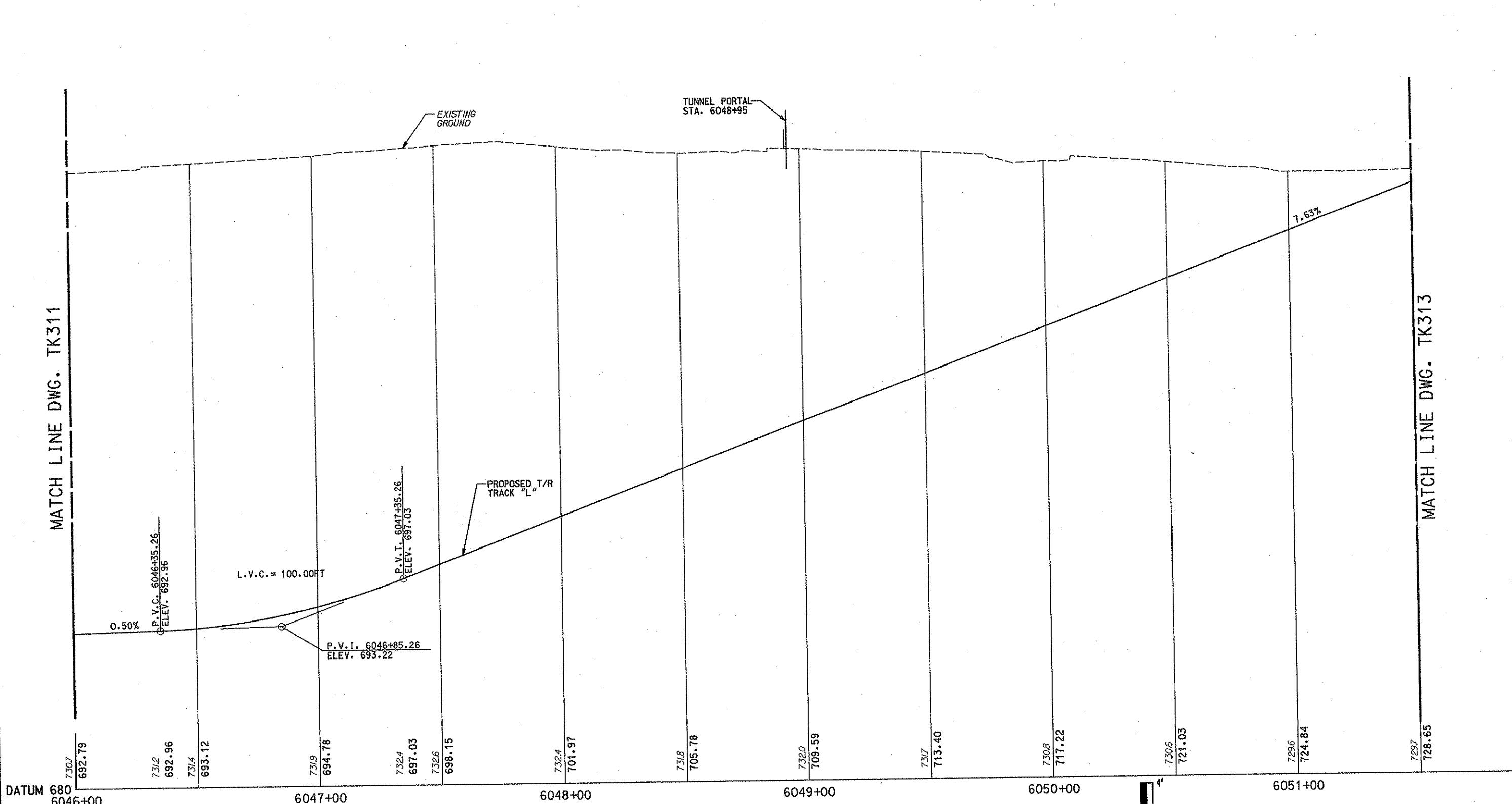


DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
APPROVED *David P. Davis* *4/21/08*
SIGNATURE DATE

DESIGNED JSB
DRAWN JD
CHECKED SDK
IN CHARGE RJH
DATE APRIL 21, 2008
SCALE AS SHOWN

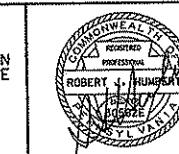
PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM-WIDE)
TRACK PROFILE
STA. 6040+50 TO STA. 6046+00 LEFT TRACK
CONTRACT NO. NSC-009
DWG. NO. TK311 SHT. 151

MATCH LINE DWG. TK311



NO.	DATE	DESCRIPTION	REVISIONS

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DMJM HARRIS AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
[Signature]
APPROVED *[Signature]* DATE *4/21/08*

DESIGNED JSB

DRAWN JD

CHECKED SDK

IN CHARGE RJH

DATE APRIL 21, 2008

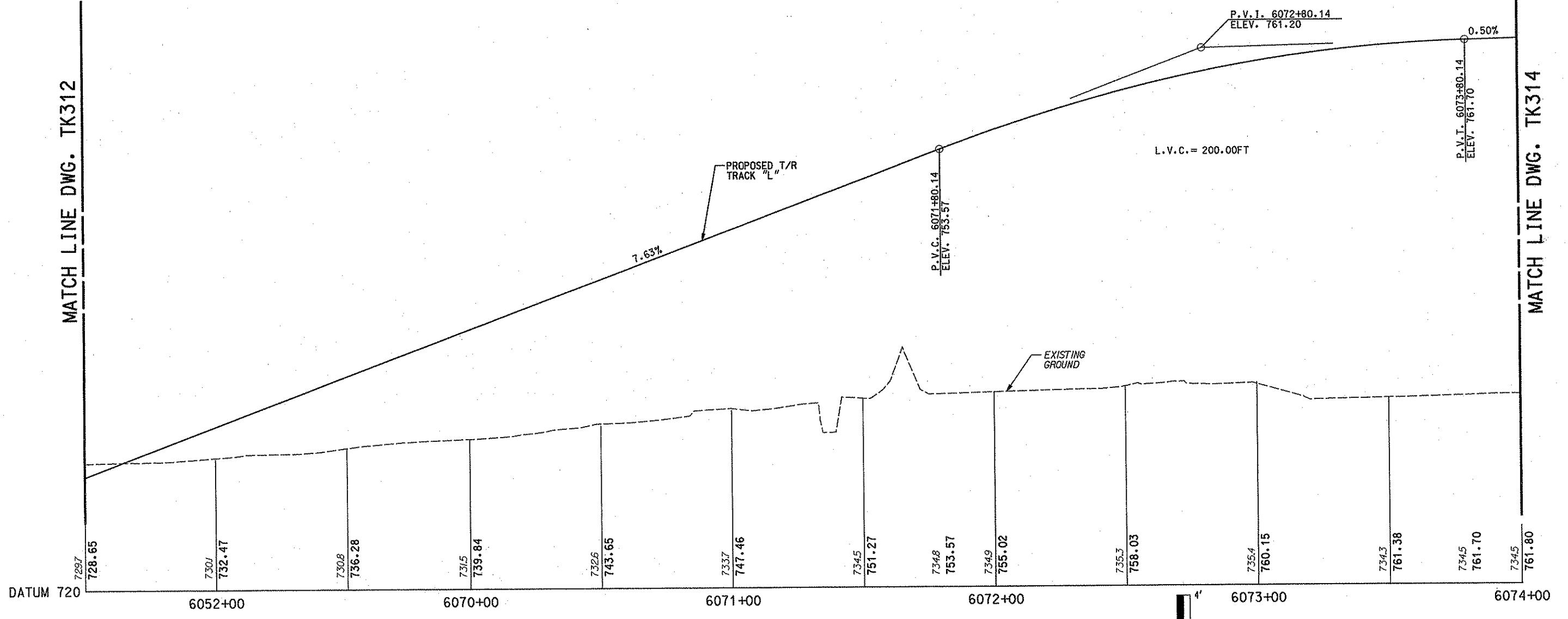
SCALE AS SHOWN

20' 15' 10' 5' 0 20'
SCALE



PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM-WIDE)
TRACK PROFILE
STA. 6046+00 TO STA. 6051+50 LEFT TRACK
CONTRACT NO. NSC-009
DWG. NO. TK312 SHT. 152

MATCH LINE DWG. TK312

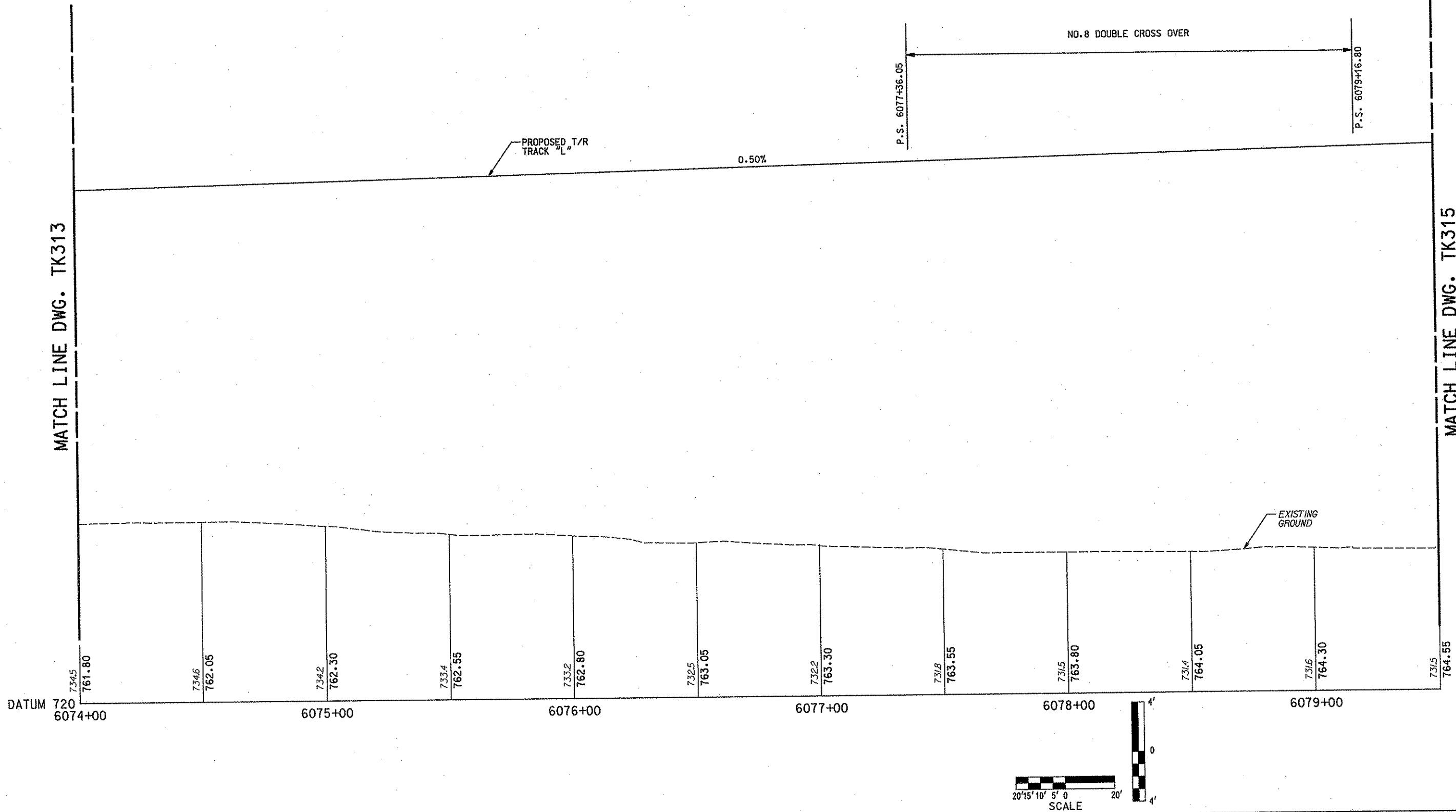


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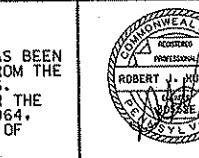
NO.	DATE	DESCRIPTION	DMJM HARRIS	AECOM	DESIGNED JSB DRAWN JD	PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH	NORTH SHORE CONNECTOR NSC TRAIN SYSTEM (SYSTEM-WIDE) TRACK PROFILE STA.6051+50 TO STA.6074+00 LEFT TRACK					
		REVISIONS	ROBERT L. HUBERT PRESIDENT PA. 15222 APR 21 2008 APPROVED	SIGNATURE	CHECKED SDK IN CHARGE RJH DATE APRIL 21, 2008 SCALE AS SHOWN	CONTRACT NO. NSC-009 DWG. NO. TK313 SHT. 153						

/14/2008 3:16:20 PM

MATCH LINE DWG. TK313



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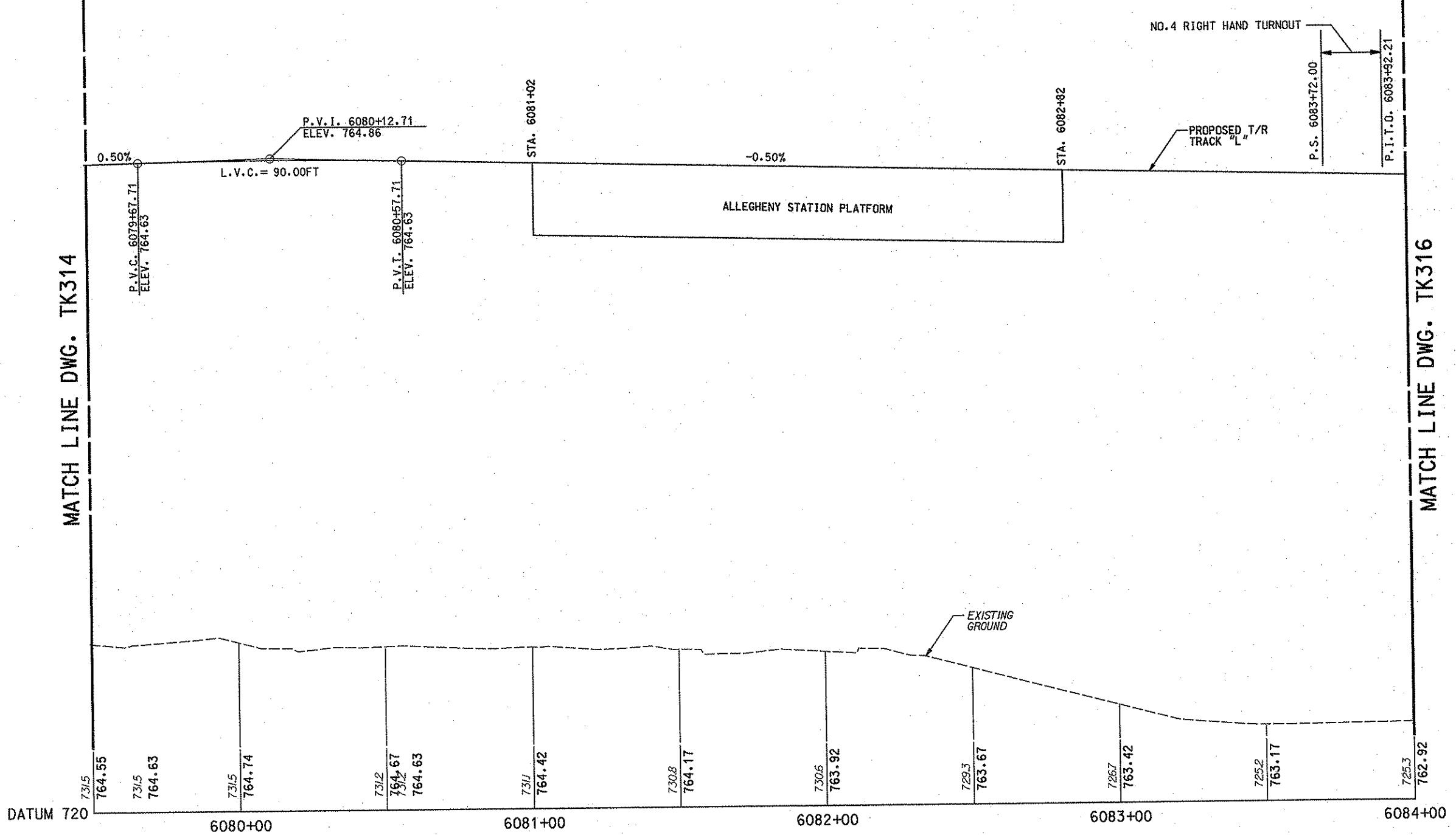
[Signature] DMJM HARRIS AEC
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 152
Dael Rabin APPROVED *7/22/01*
DATE

OM	DESIGNED	JSB
	DRAWN	JD
	CHECKED	SDK
22	IN CHARGE	RJH
	DATE	APRIL 21
(08 E	SCALE	AS SHOWN

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH, PENNSYLVANIA

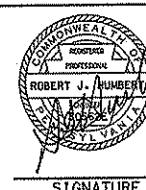
**NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM-WIDE)
TRACK PROFILE
TA.6074+00 TO STA. 6079+50 LEFT TRACK**

CONTRACT NO.	NSC-009	
DWG. NO.	TK314	SHT. 1



4/14/2008 3:15:52 PM

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DMJM HARRIS AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222

DESIGNED JSB
DRAWN JD
CHECKED SDK
IN CHARGE RJH
DATE APRIL 21.
SCALE AS SHOWN

PORT AUTHORITY OF ALLEGHENY COUNTY
 PITTSBURGH PENNSYLVANIA

**NORTH SHORE CONNECTOR
 NSC TRAIN SYSTEM (SYSTEM-WIDE)
 TRACK PROFILE**

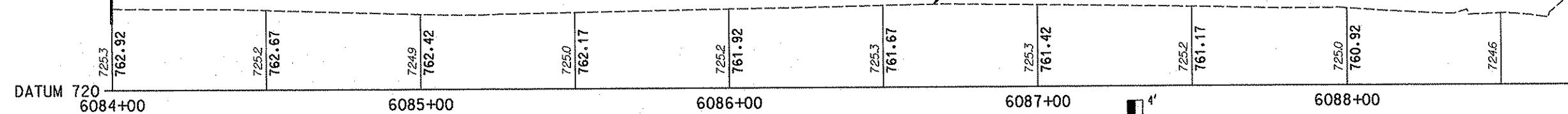
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P.O.T. 6088+15.48
ELEV. 760.85
END OF TRACK

PROPOSED T/R
TRACK "L"

-0.50%

MATCH LINE DWG. TK315



DATUM 720
6084+00

6085+00

6086+00

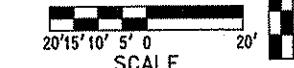
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6088+00

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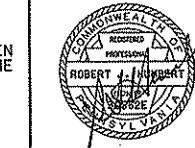
724.6



SCALE

NO.	DATE	DESCRIPTION
REVISIONS		

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DMJM HARRIS

AECOM

SIGNATURE

DESIGNED JSB
DRAWN JD

CHECKED SDK

IN CHARGE RJH

DATE APRIL 21, 2008

SCALE AS SHOWN

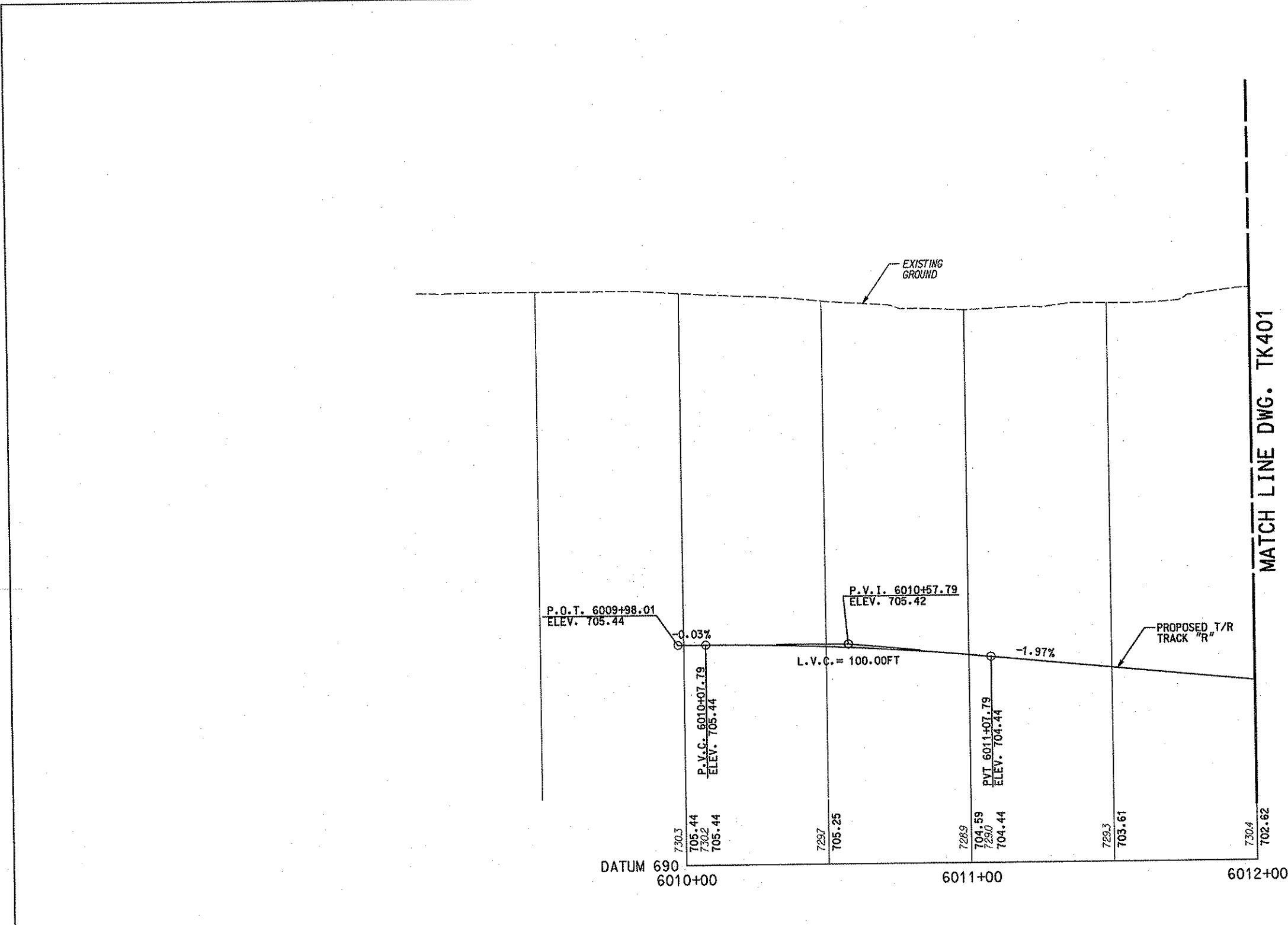
APPROVED DATE

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH, PENNSYLVANIA

NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM-WIDE)
TRACK PROFILE
STA.6084+00 TO STA.6088+15.48 LEFT TRACK

CONTRACT NO. NSC-009

DWG. NO. TK316 SHT. 156

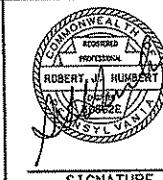


4'
0
4'

20' 15' 10' 5' 0 20'
SCALE

NO.	DATE	DESCRIPTION
		REVISIONS

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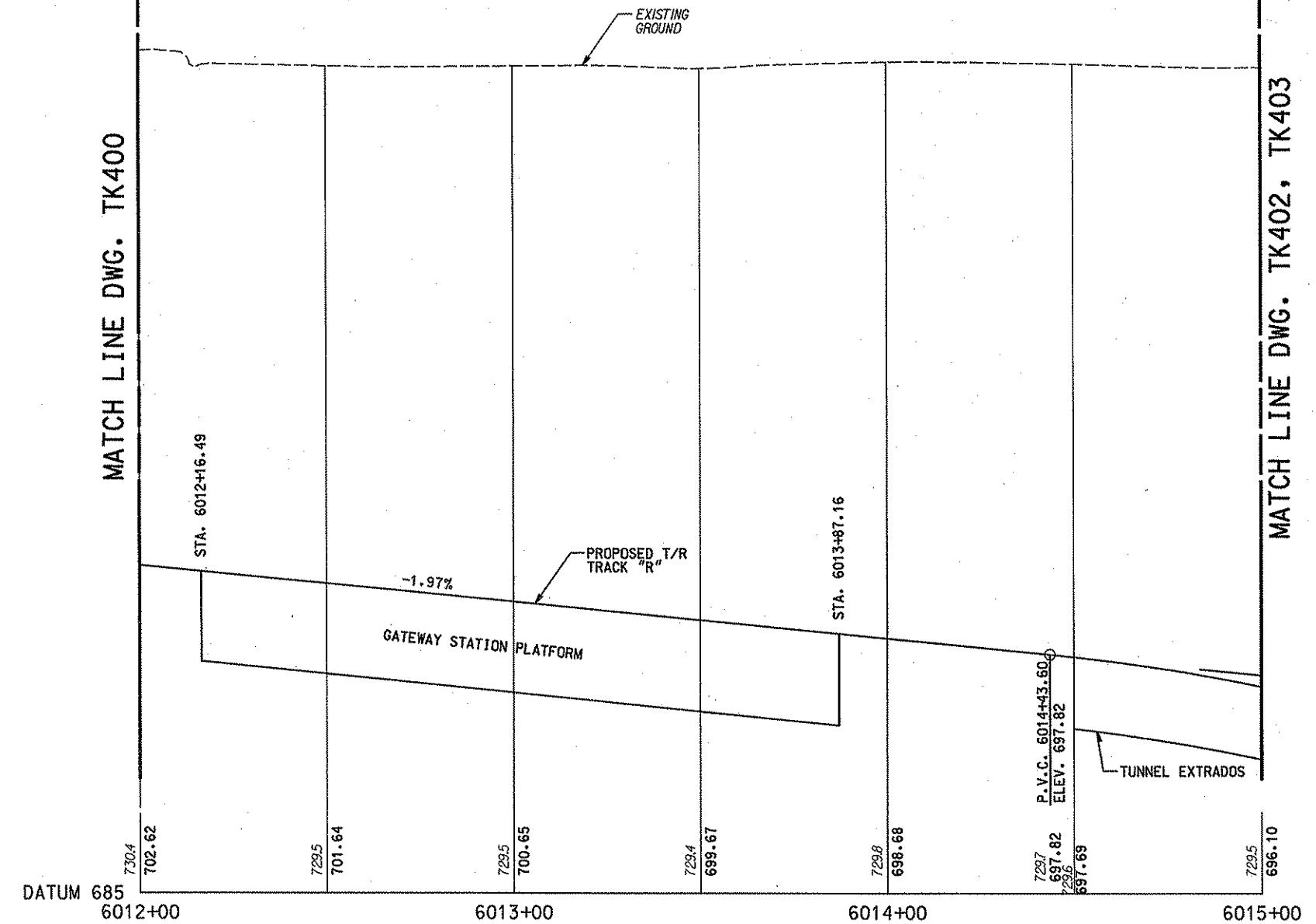


DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
ROBERT W. HUBERT
PRESIDENT & CEO
Sylvia M. Johnson
Vice President
Signature
APPROVED
DATE 4/16/08
SIGNATURE

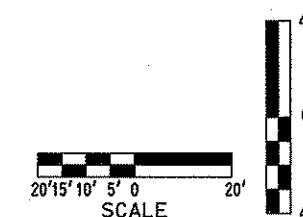
DESIGNED JSB
DRAWN JD
CHECKED SDK
IN CHARGE RJH
DATE APRIL 21, 2008
SCALE AS SHOWN
CONTRACT NO. NSC-009
DWG. NO. TK400
SHT. 157

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM-WIDE)
TRACK PROFILE
STA. 6010+00 TO STA. 6012+00 RIGHT TRACK
G PORT AUTHORITY
CONTRACT NO. NSC-009
DWG. NO. TK400
SHT. 157

MATCH LINE DWG. TK400

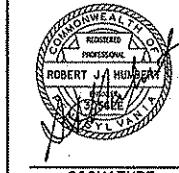


MATCH LINE DWG. TK402, TK403



NO.	DATE	DESCRIPTION	
		REVISIONS	

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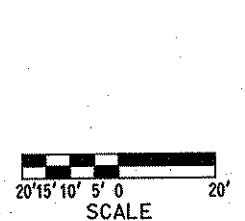
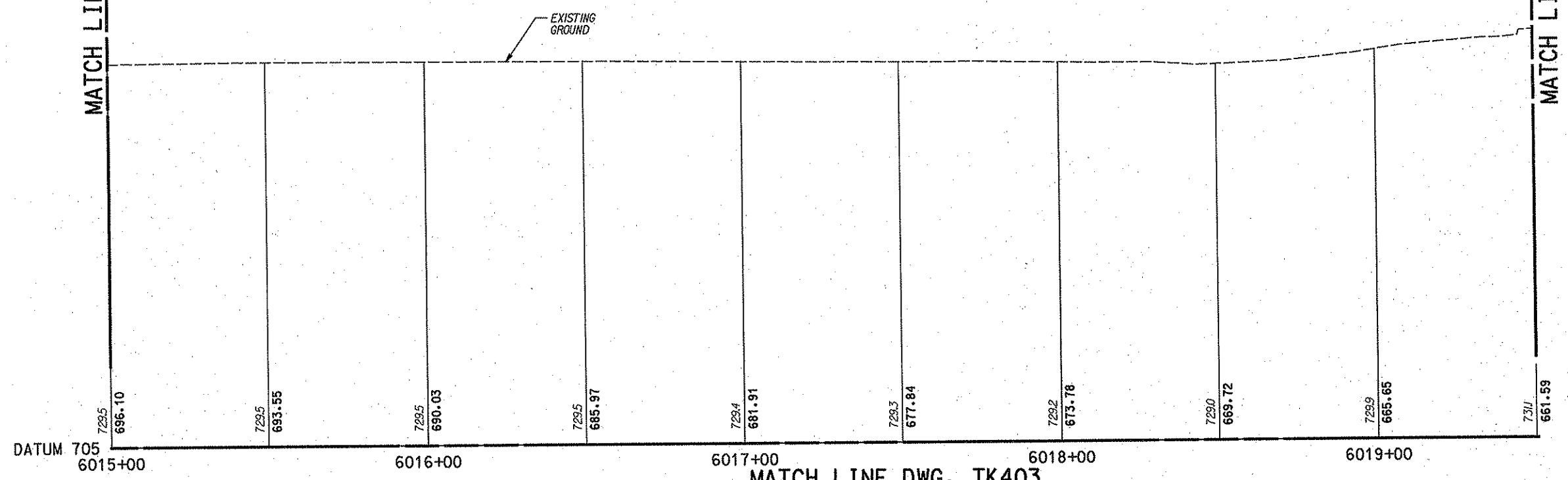


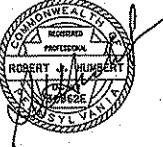
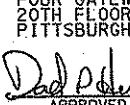
DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
APPROVED *Dad O'Han* DATE *4/21/08*

DESIGNED JSB
DRAWN JD
CHECKED SDK
IN CHARGE RJH
DATE APRIL 21, 2008
SCALE AS SHOWN

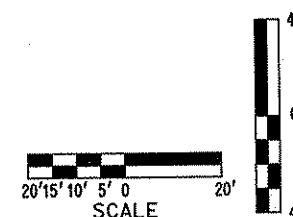
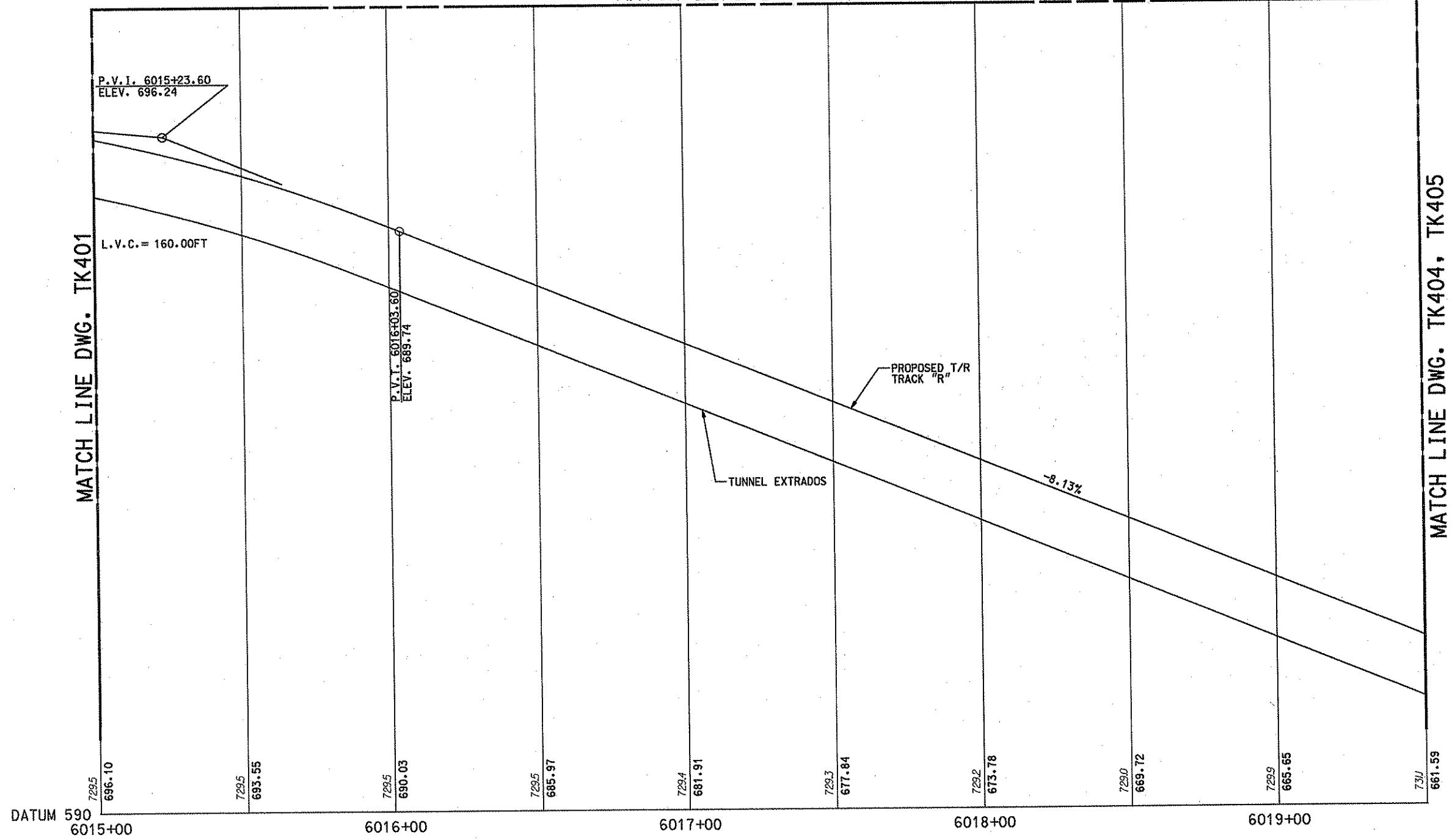
PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM-WIDE)
TRACK PROFILE
STA. 6012+00 TO STA. 6015+00 RIGHT TRACK
CONTRACT NO. NSC-009
DWG. NO. TK401 SH. 158

MATCH LINE DWG. TK401



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NO.	DATE	DESCRIPTION	REVISIONS			

MATCH LINE DWG. TK402



PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH, PENNSYLVANIA

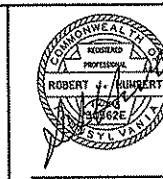
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM-WIDE)
TRACK PROFILE

STA. 6015+00 TO STA. 6019+00 RIGHT TRACK

CONTRACT NO. NSC-009
DWG. NO. TK403 SHT. 160

NO.	DATE	DESCRIPTION	REVISIONS				

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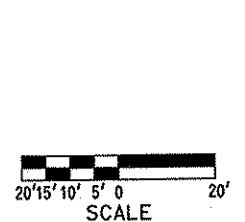
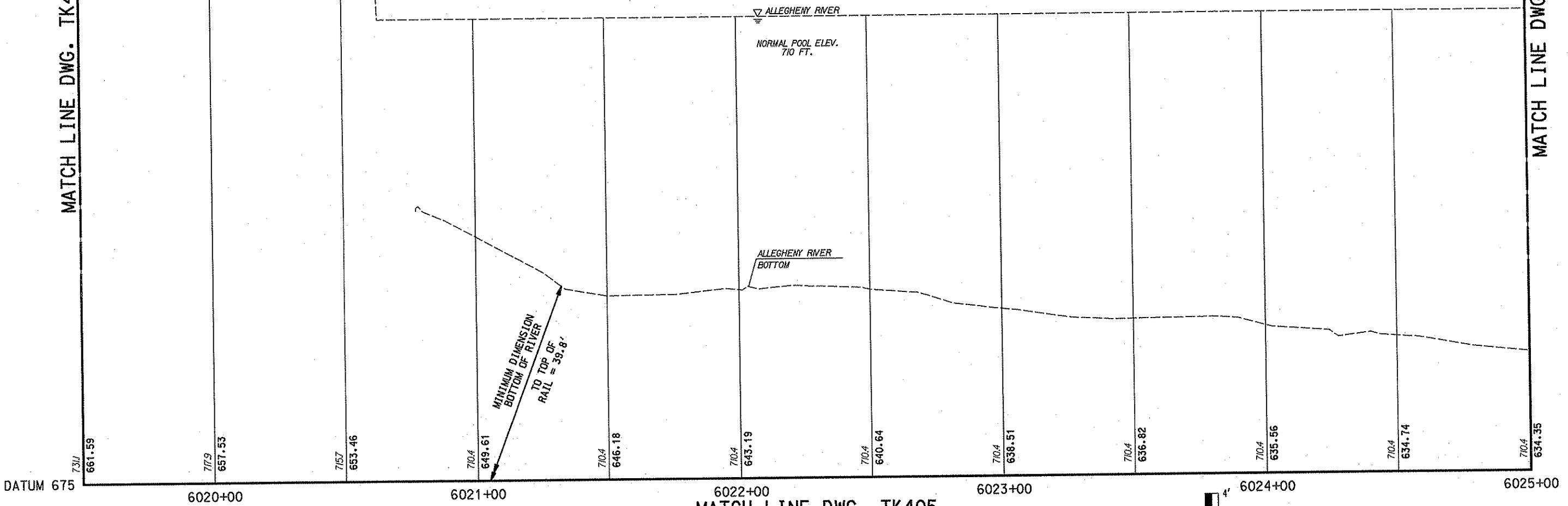


DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
SIGNATURE
APPROVED
DATE
yfu log

DESIGNED JSB
DRAWN JD
CHECKED SDK
IN CHARGE RJH
DATE APRIL 21, 2008
SCALE
AS SHOWN

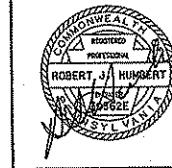


MATCH LINE DWG. TK402, TK403



NO.	DATE	DESCRIPTION
REVISIONS		

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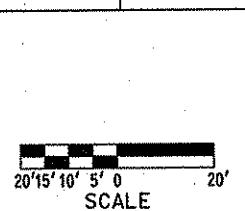
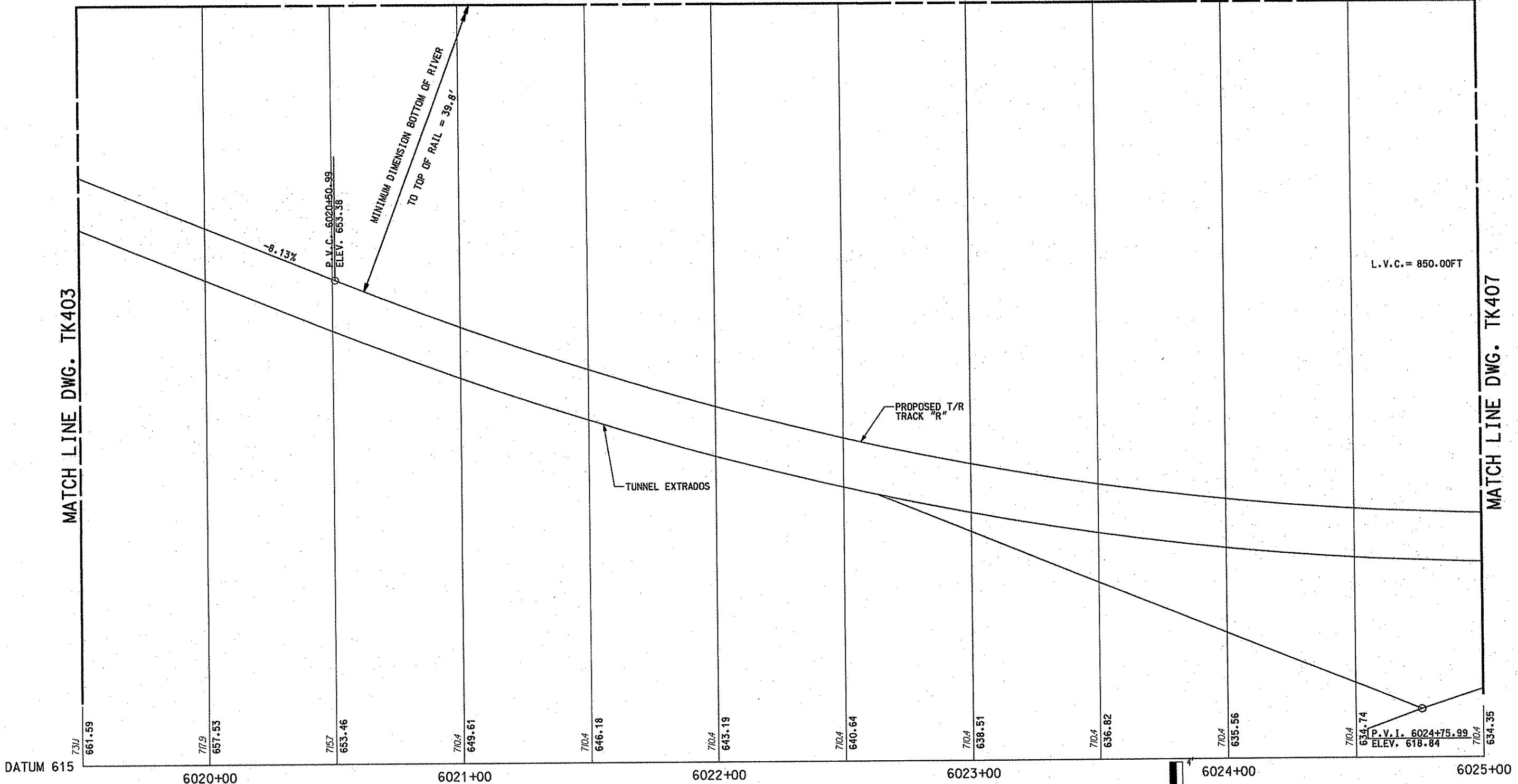
DMJM HARRIS AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
SIGNATURE
David O. Harris
APPROVED 4/21/08
DATE

DESIGNED JSB
DRAWN JD
CHECKED SDK
IN CHARGE RJH
DATE APRIL 21, 2008
SCALE AS SHOWN

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH
PENNSYLVANIA
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM-WIDE)
TRACK PROFILE
STA. 6019+50 TO STA. 6025+00 RIGHT TRACK
CONTRACT NO. NSC-009
DRAW. NO. TK404
SH. 161

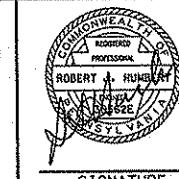
MATCH LINE DWG. TK404

MATCH LINE DWG. TK403



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NO.	DATE	DESCRIPTION
REVISIONS		

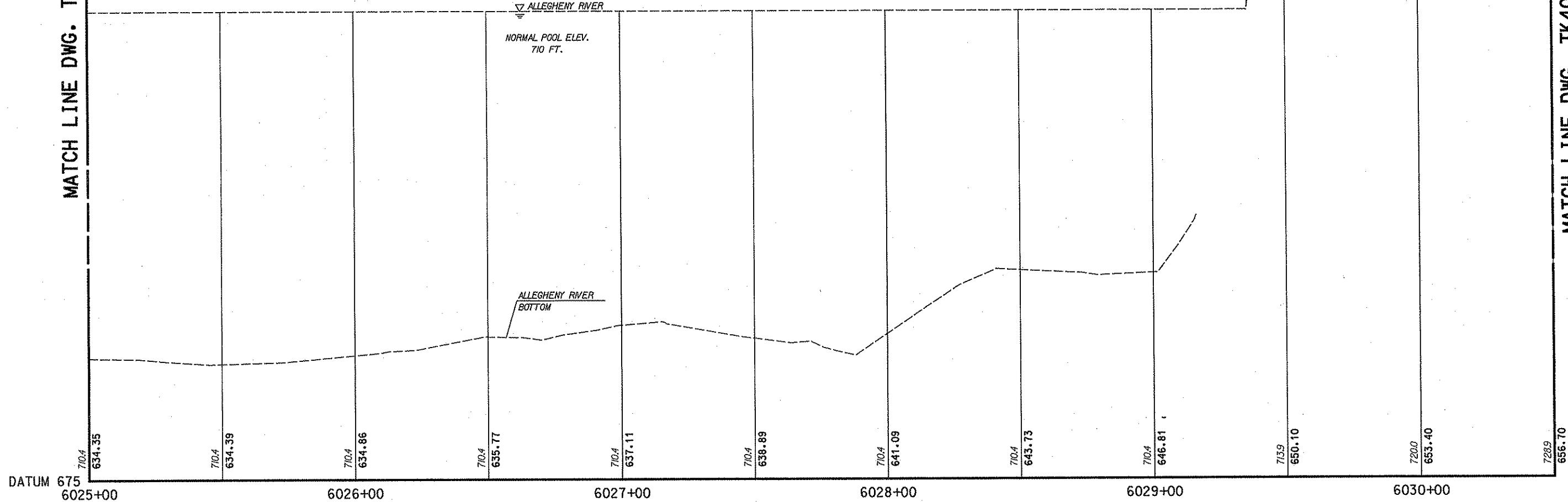


DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
APPROVED 4/21/08
DATE

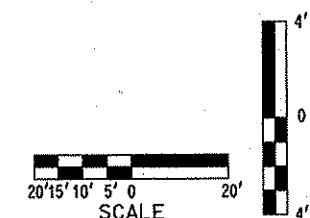
DESIGNED JSB
DRAWN JD
CHECKED SDK
IN CHARGE RJH
DATE APRIL 21, 2008
SCALE AS SHOWN

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH
Pennsylvania
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM-WIDE)
TRACK PROFILE
STA. 6019+50 TO STA. 6025+00 RIGHT TRACK
G PORT AUTHORITY
CONTRACT NO. NSC-009
DWG. NO. TK405 SIT. 162

MATCH LINE DWG. TK404



MATCH LINE DWG. TK407



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A circular seal for a Notary Public in the Commonwealth of Pennsylvania. The outer ring contains the words "NOTARY PUBLIC" at the top and "PAUL R. HARRIS" at the bottom. The inner circle features the state motto "VIRTUE LIBERTY AND INDEPENDENCE" around the perimeter, with "THE COMMONWEALTH OF PENNSYLVANIA" written across the center.

At DMJM HARRIS AECC
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
Dad P. Klein 4/21/01

DESIGNED	JSB
DRAWN	JD
CHECKED	SDK
IN CHARGE	RJH
DATE	APRIL 21
SCALE	AS SHOWN

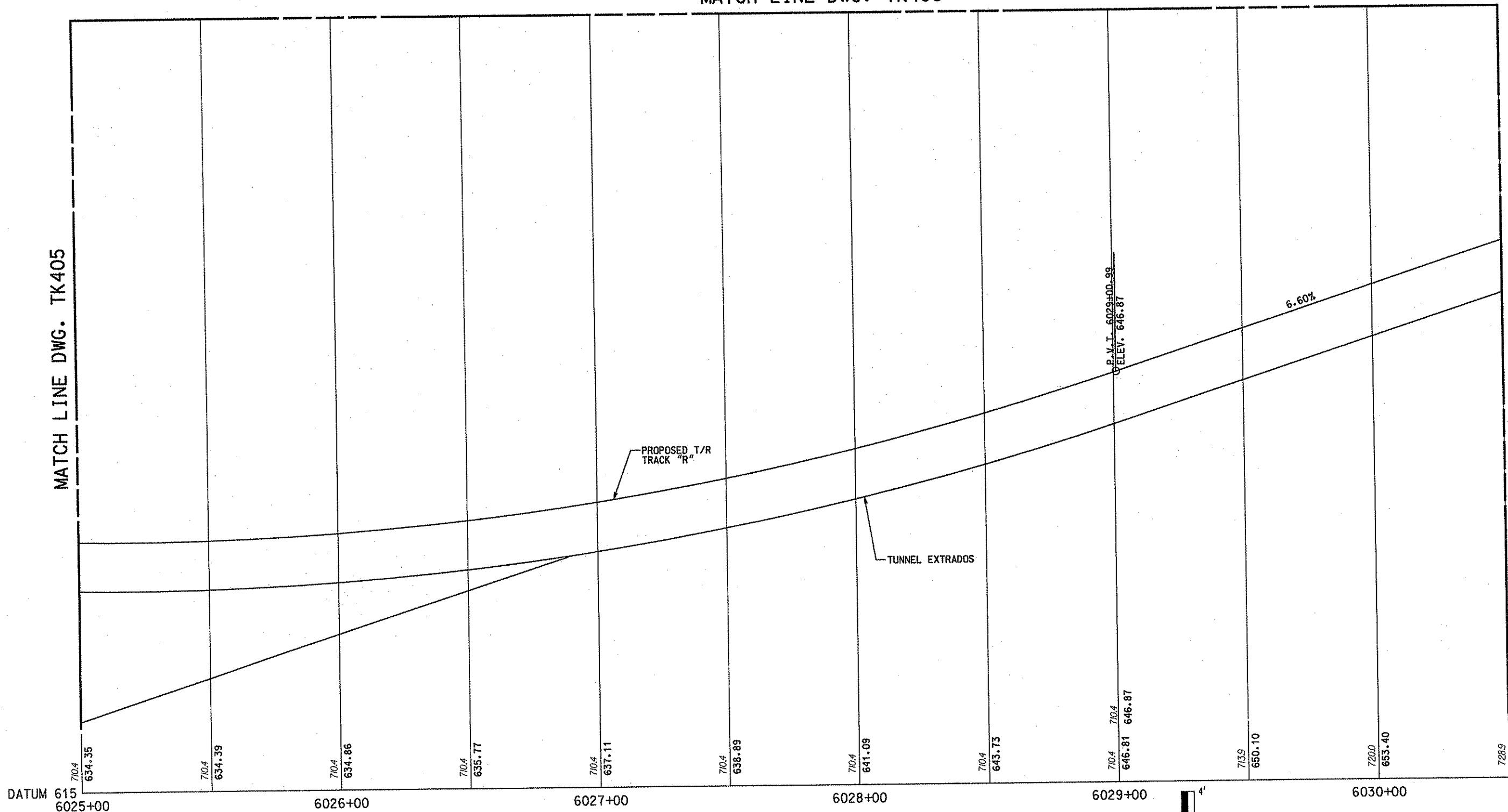
PITTSTON AUTHORITY OF ALLEGHENY COUNTY
 PITTSBURGH PENSYLVANIA

NORTH SHORE CONNECTOR
 NSC TRAIN SYSTEM (SYSTEM-WIDE)
 TRACK PROFILE
 STA. 6025+00 TO STA. 6030+50 RIGHT TRACK

MATCH LINE DWG. TK406

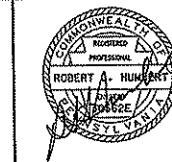
MATCH LINE DWG. TK405

MATCH LINE DWG. TK409



NO.	DATE	DESCRIPTION
REVISIONS		

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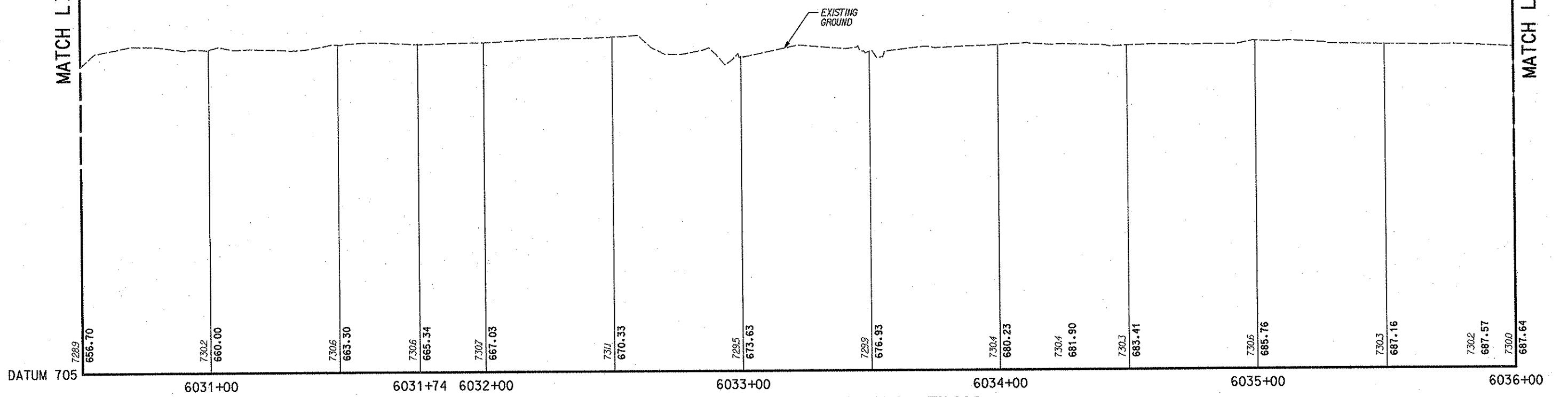
DMJM HARRIS
APPROVED
SIGNATURE

AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
IN CHARGE RJH
DATE APRIL 21, 2008
DATE APPROVED 4/21/08
AS SHOWN

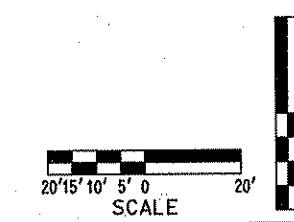
DESIGNED JSB
DRAWN JD
CHECKED SDK
IN CHARGE RJH
DATE APRIL 21, 2008
SCALE
PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM-WIDE)
TRACK PROFILE
STA. 6025+00 TO STA. 6030+50 RIGHT TRACK

CONTRACT NO. NSC-009
DWG. NO. TK407
SHT. 164

MATCH LINE DWG. TK406

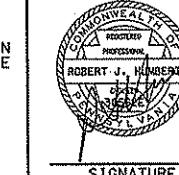


MATCH LINE DWG. TK409



NO.	DATE	DESCRIPTION
REVISIONS		

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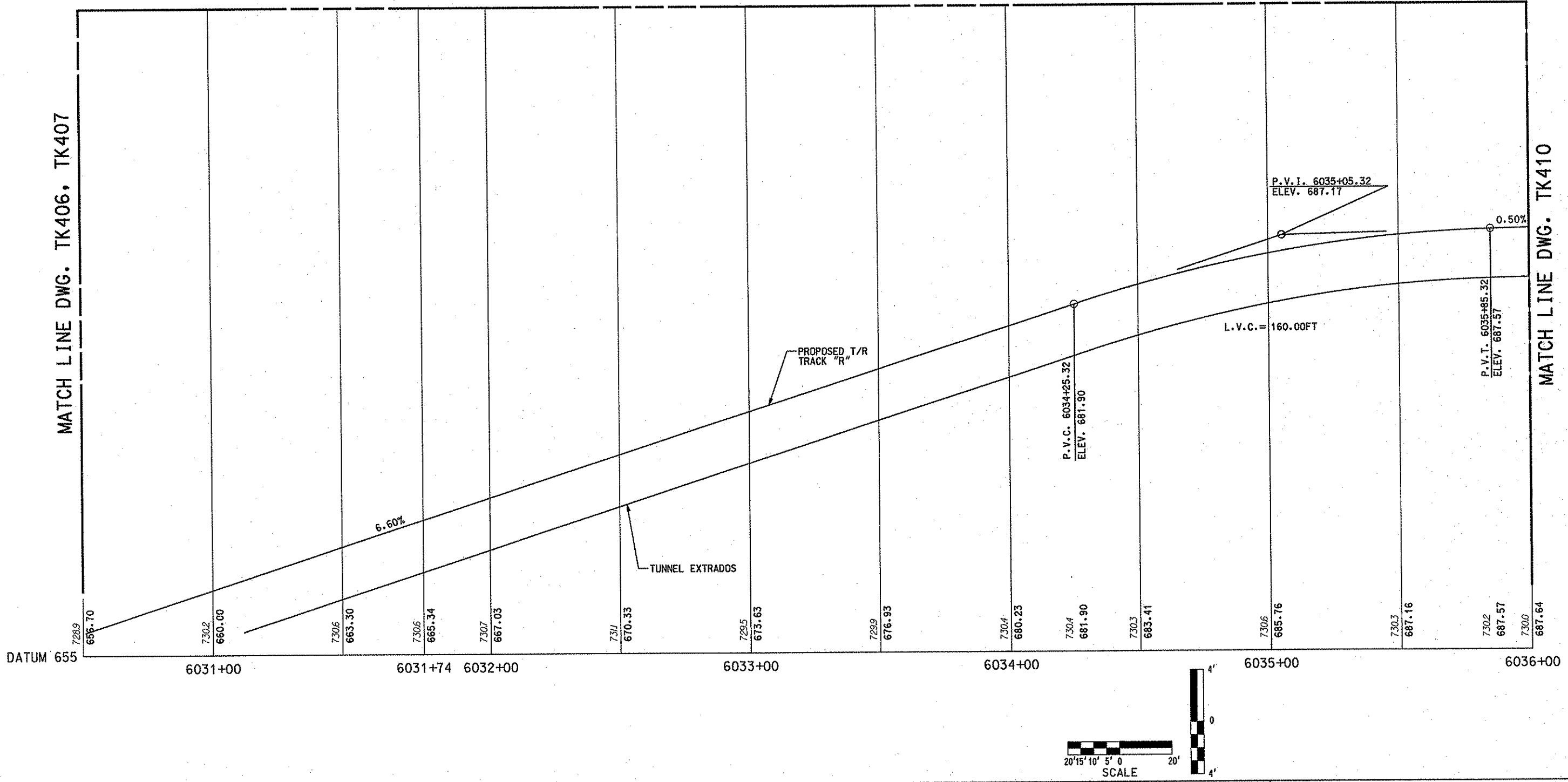
DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
SIGNATURE
APPROVED *D. P. Harris* *He/108*
DATE *April 21, 2008*

DESIGNED JSB
DRAWN JD
CHECKED SDK
IN CHARGE RJH
DATE APRIL 21, 2008
SCALE AS SHOWN

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM-WIDE)
TRACK PROFILE
STA. 6030+50 TO STA. 6036+00 RIGHT TRACK
G PORT AUTHORITY
CONTRACT NO. NSC-009
DWG. NO. TK408 SHT. 165

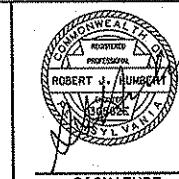
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MATCH LINE DWG. TK406, TK407



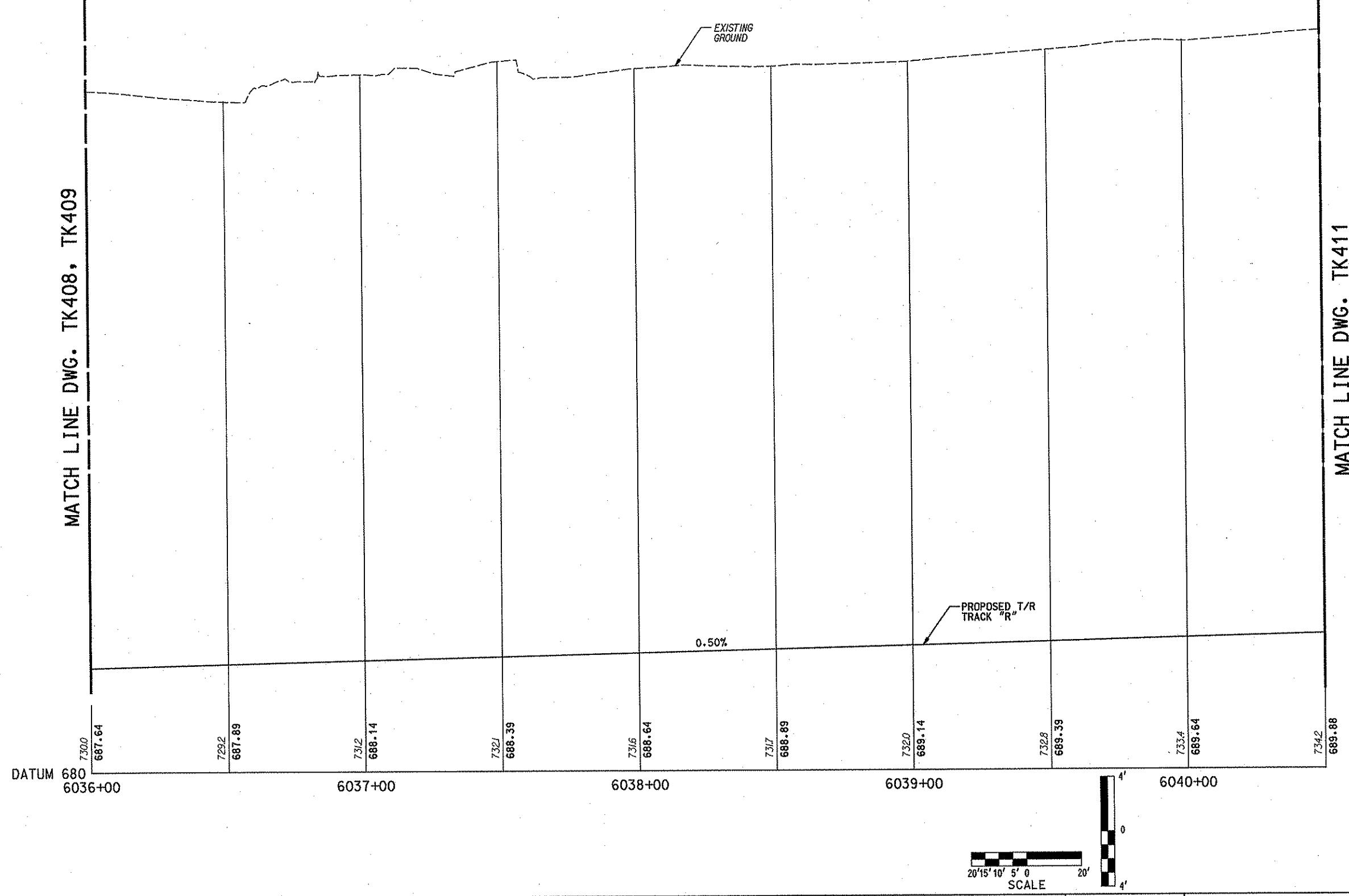
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FINANCED IN PART THROUGH A GRANT FROM THE
FEDERAL TRANSIT ADMINISTRATION, U.S.
DEPARTMENT OF TRANSPORTATION, UNDER THE
URBAN MASS TRANSPORTATION ACT OF 1964.
AS AMENDED, FOR THE PORT AUTHORITY OF
ALLEGHENY COUNTY, PENNSYLVANIA.

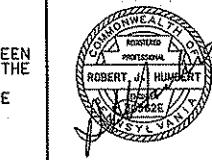


DMJM HARRIS AECO
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
Dad P. Heim 4/21/08
APPROVED DATE

DESIGNED	JSB	PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH			
DRAWN	JD		PENNSYLVANIA		
CHECKED	SDK	NORTH SHORE CONNECTOR			
IN CHARGE	RJH	NSC TRAIN SYSTEM (SYSTEM-WIDE)			
DATE	APRIL 21, 2008	TRACK PROFILE			
SCALE	AS SHOWN	STA. 6030+50 TO STA. 6036+00 RIGHT TRACK			
 PORT AUTHORITY			CONTRACT NO.	NSC-009	
			DWG. NO.	TK409	SHT. 1



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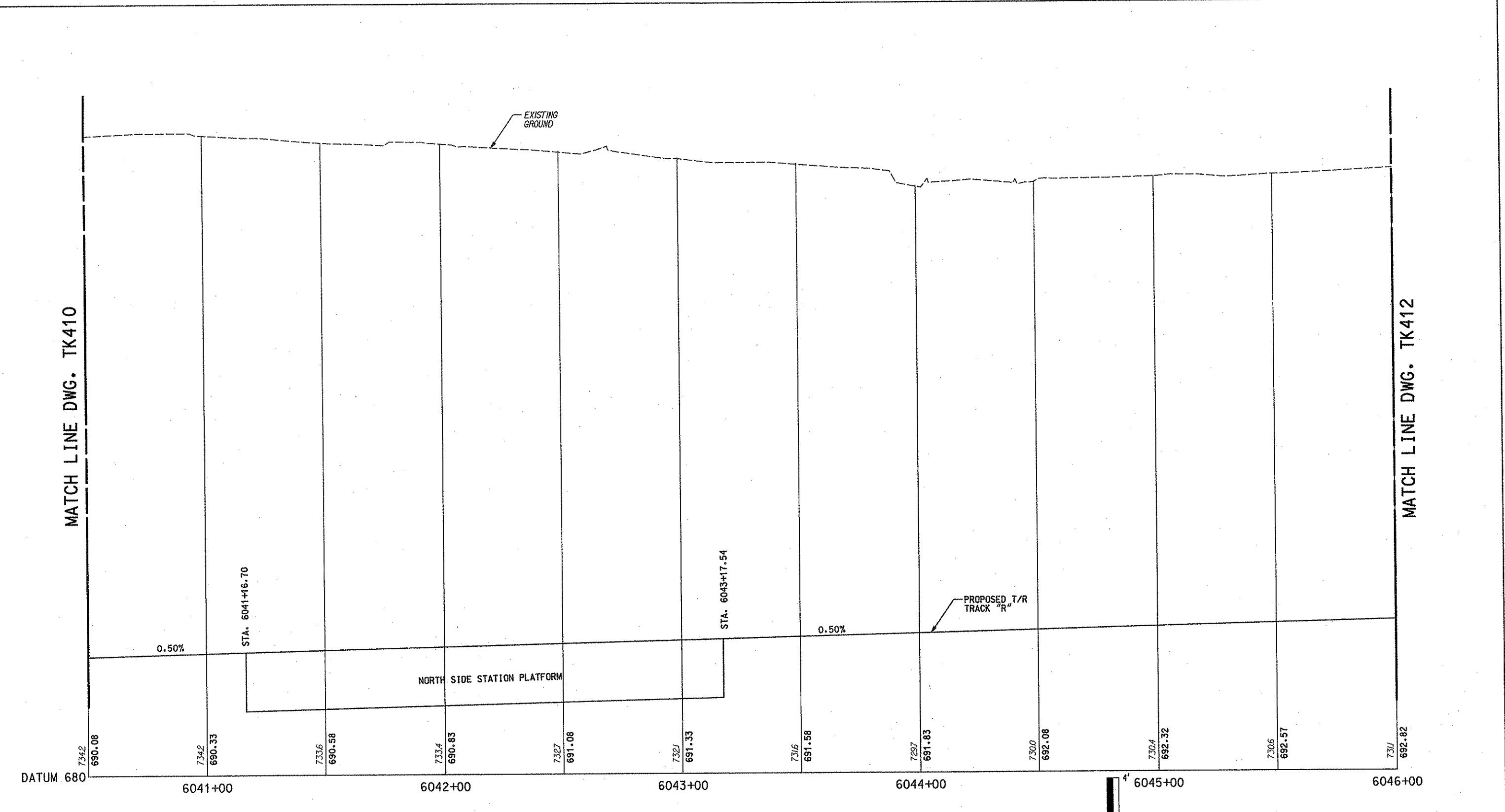


DMJM HARRIS | AECC
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222

M
DESIGNED JSB
DRAWN JD
CHECKED SDK
IN CHARGE RJH
DATE APRIL 21
SCALE AS SHOWN

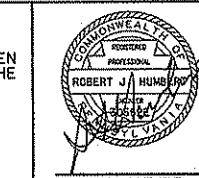
PITTSBURGH PORT AUTHORITY OF ALLEGHENY COUNTY			
PITTSBURGH	PENNSYLVANIA		
NORTH SHORE CONNECTOR NSC TRAIN SYSTEM (SYSTEM-WIDE) TRACK PROFILE STA. 6036+00 TO STA. 6040+60 RIGHT TRACK			
 PORT AUTHORITY	CONTRACT NO.		
	NSC-009		
	DRNG NO.	TK410	CUT

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NO.	DATE	DESCRIPTION
REVISIONS		

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SIGNATURE

ROBERT J. HUMPHREY

APPROVED

4/21/08

DATE

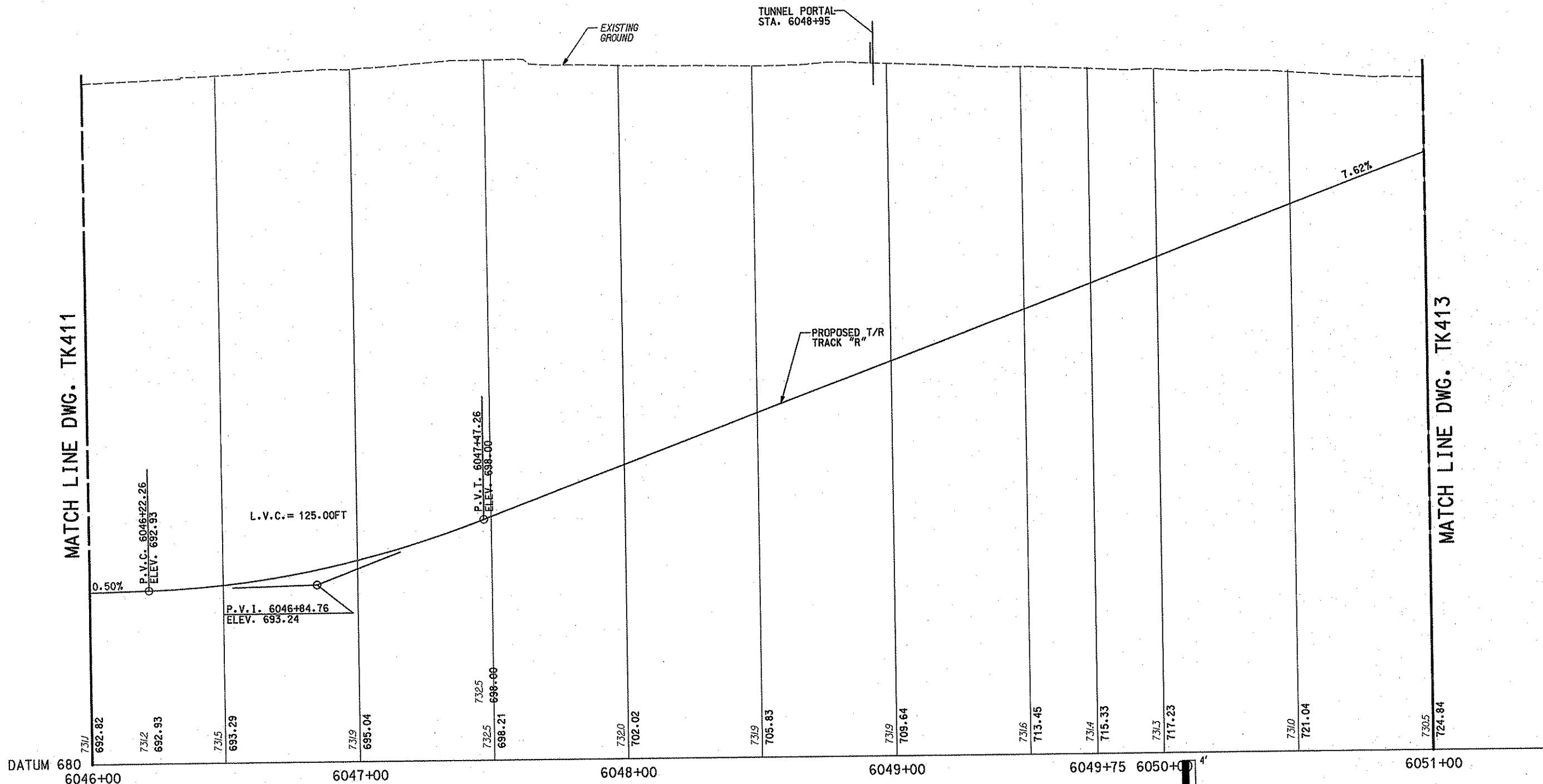
DMJM HARRIS AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
D. L. Harris
APPROVED
4/21/08
DATE

DESIGNED JSB
DRAWN JD
CHECKED SDK
IN CHARGE RJH
DATE APRIL 21, 2008
SCALE AS SHOWN

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM-WIDE)
TRACK PROFILE
STA. 6040+50 TO STA. 6046+00 RIGHT TRACK

CONTRACT NO. NSC-009
DWG. NO. TK411 SHT. 168

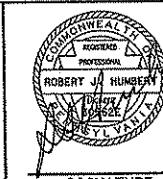
MATCH LINE DWG. TK411



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SCALE
4' 0 4'

NO.	DATE	DESCRIPTION
		REVISIONS

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ROBERT J. HUMBERTS
PROFESSIONAL
ENGINEER
PENNSYLVANIA
SOCIETY OF
CIVIL ENGINEERS
APRIL 2008

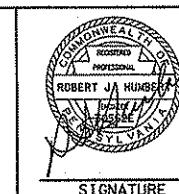
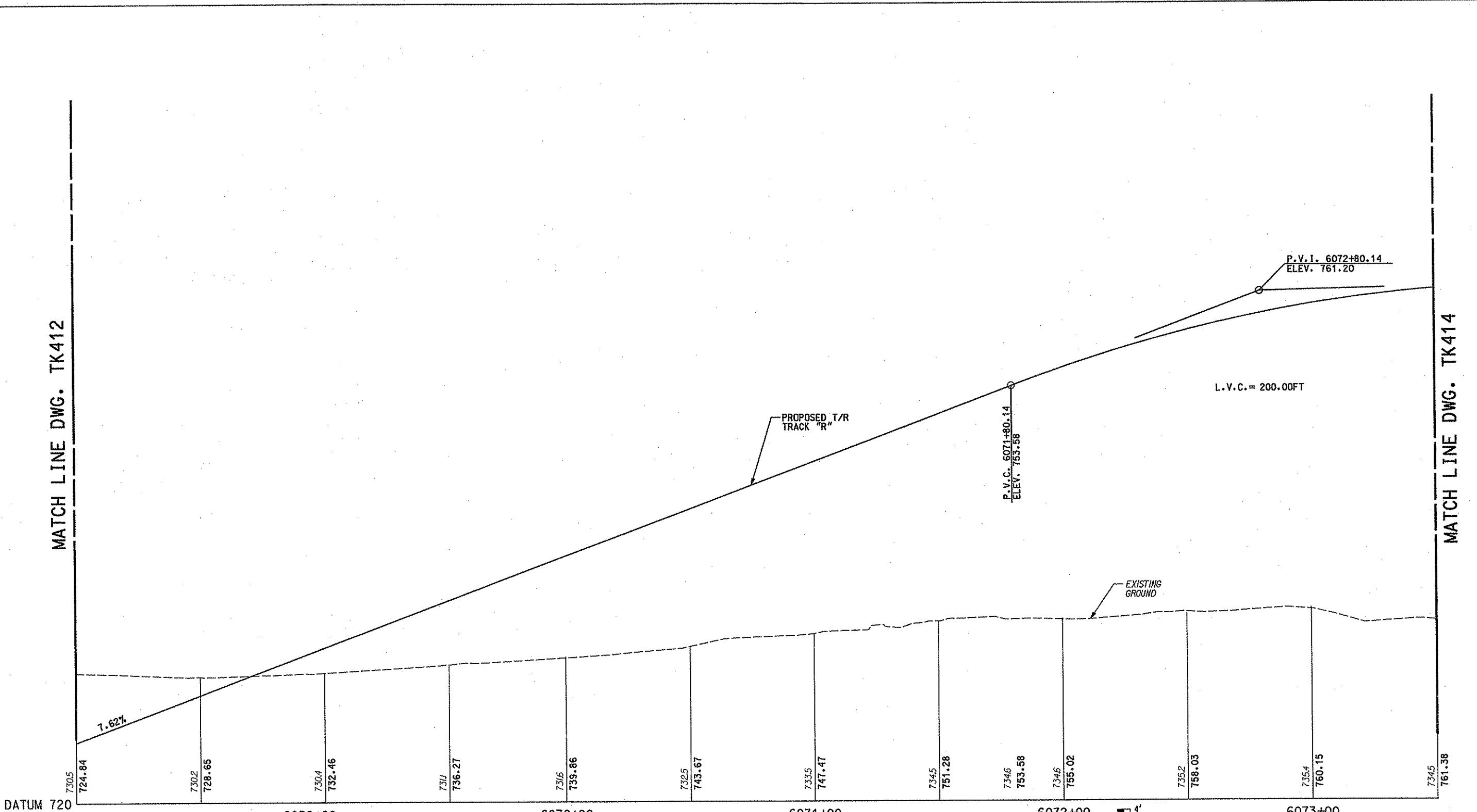
SIGNATURE

DMJM HARRIS AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
APPROVED 4/14/08
SIGNATURE DATE

DESIGNED JSB
DRAWN JD
CHECKED SDK
IN CHARGE RJH
DATE APRIL 21, 2008
SCALE AS SHOWN

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM-WIDE)
TRACK PROFILE
STA. 6046+00 TO STA. 6051+00 RIGHT TRACK
G PORT AUTHORITY
CONTRACT NO. NSC-009
DWG. NO. TK412 SHT. 169

MATCH LINE DWG. TK412



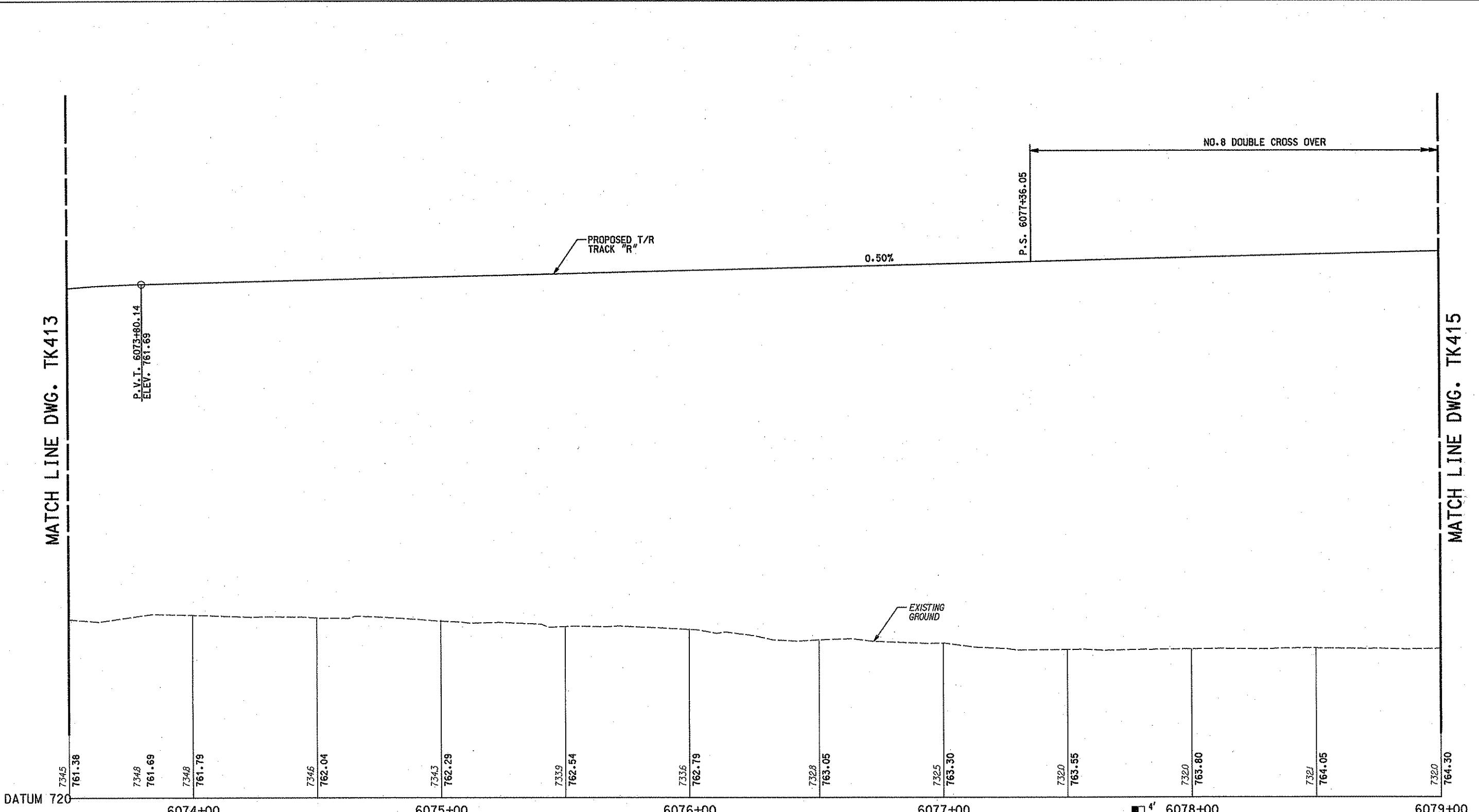
DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
Dan P. Schie 4/21/08
APPROVED DATE

DMJM HARRIS | **AECOM**
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
Dan P. Schin **4/21/08**
APPROVED **DATE**

DESIGNED JSB	DRAWN JD	PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH PENNSYLVANIA	
CHECKED SDK		NORTH SHORE CONNECTOR NSC TRAIN SYSTEM (SYSTEM-WIDE)	
IN CHARGE RJH		TRACK PROFILE	
DATE APRIL 21, 2008		STA.6051+00 TO STA. 6073+50 RIGHT TRACK	
SCALE AS SHOWN		PORT AUTHORITY	CONTRACT NO. NSC-009

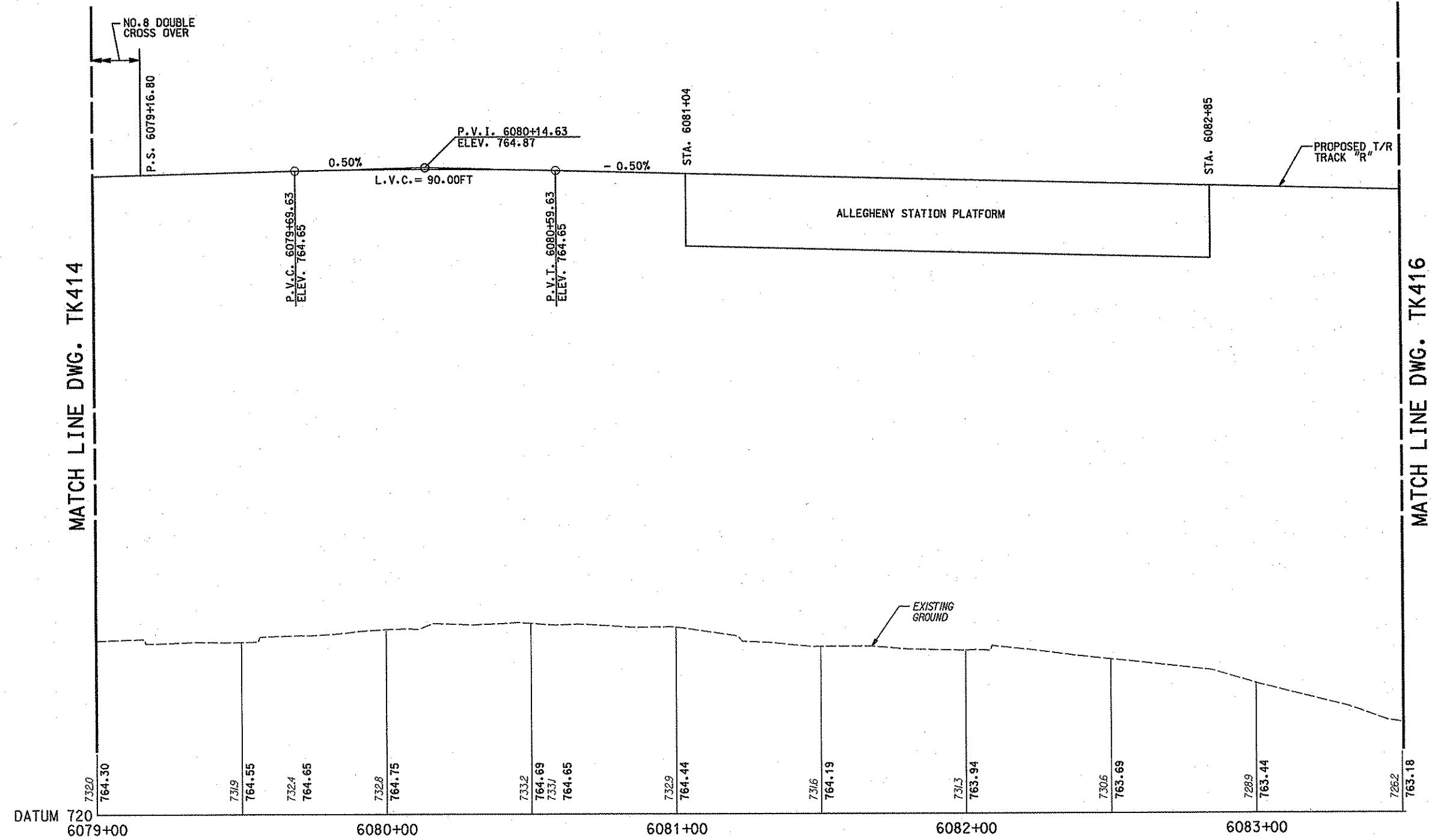
NO.	DATE	DESCRIPTION
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MATCH LINE DWG. TK413



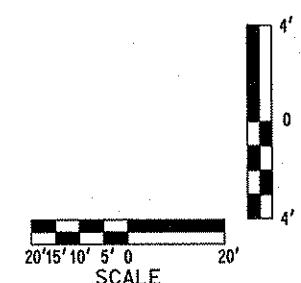
NO.	DATE	DESCRIPTION		SIGNATURE	APPROVED	DATE	PORT AUTHORITY OF ALLEGHENY COUNTY	
		REVISIONS	REVISIONS				PITTSBURGH NORTH SHORE CONNECTOR NSC TRAIN SYSTEM (SYSTEM-WIDE) TRACK PROFILE STA.6073+50 TO STA.6079+00 RIGHT TRACK	CONTRACT NO. NSC-009 DWG. NO. TK414 SHT. 171
				ROBERT J. HUMMEL PROFESSIONAL ENGINEER PENNSYLVANIA LICENSE #4562 HARRISBURG, PA. 17101	DMJM HARRIS AECOM	4/14/08		

MATCH LINE DWG. TK414



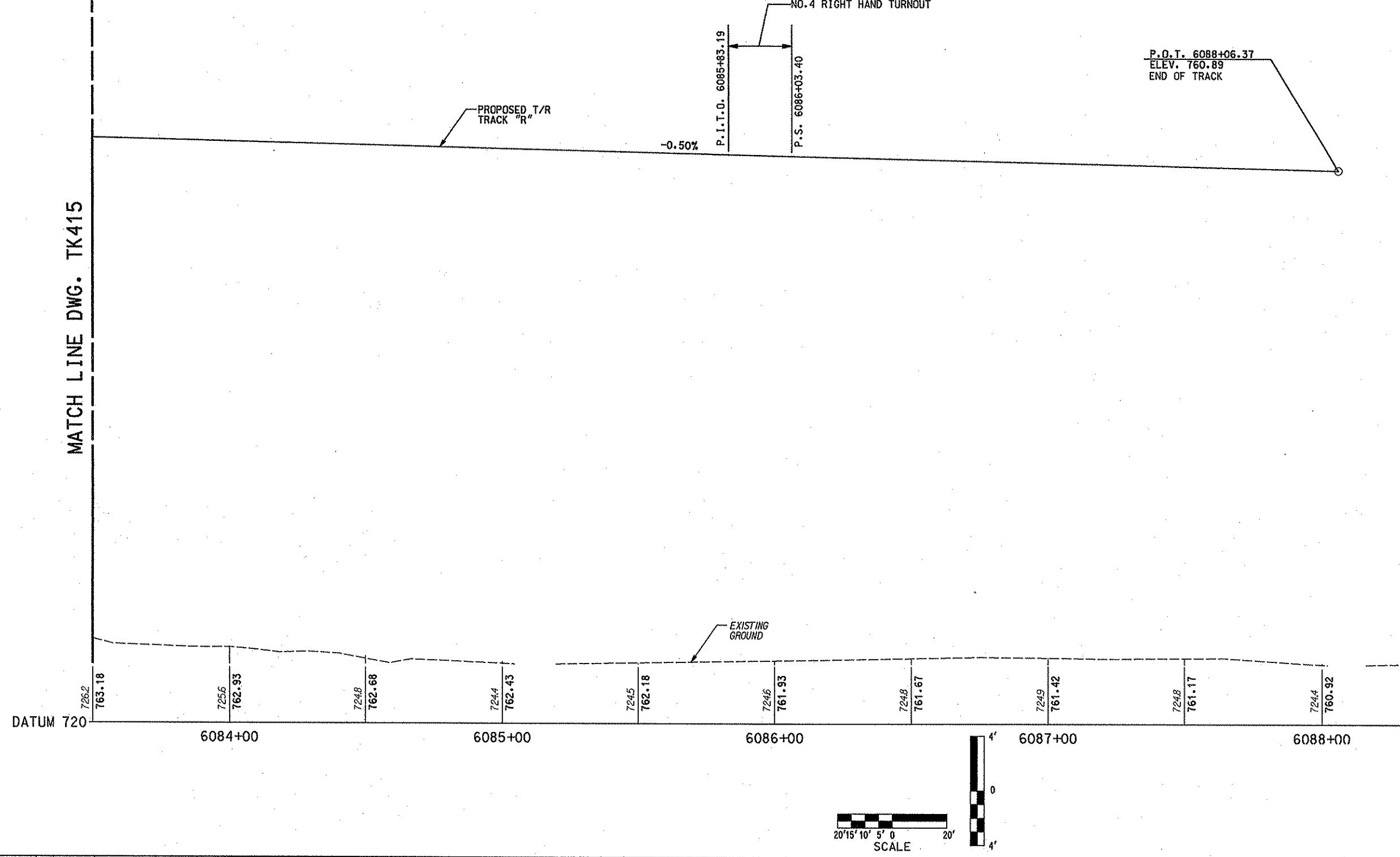
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4'

MATCH LINE DWG. TK416



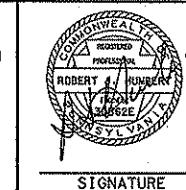
			THE PREPARATION OF THIS DOCUMENT HAS BEEN FINANCED IN PART THROUGH A GRANT FROM THE FEDERAL TRANSIT ADMINISTRATION, U.S. DEPARTMENT OF TRANSPORTATION, UNDER THE URBAN MASS TRANSPORTATION ACT OF 1964, AS AMENDED, FOR THE PORT AUTHORITY OF ALLEGHENY COUNTY, PENNSYLVANIA.		SIGNATURE	DMJM HARRIS	AECOM	DESIGNED JSB DRAWN JD	PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH		
NO.	DATE	DESCRIPTION	CHECKED SDK IN CHARGE RJH DATE APRIL 21, 2008	NORTH SHORE CONNECTOR NSC TRAIN SYSTEM (SYSTEM-WIDE) TRACK PROFILE STA.6079+00 TO STA.6083+50 RIGHT TRACK							
		REVISIONS	APPROVED 4/14/08 DATE				SCALE AS SHOWN	PORT AUTHORITY	CONTRACT NO. NSC-009	DWG. NO. TK416 SHT. 172	

MATCH LINE DWG. TK415



NO.	DATE	DESCRIPTION
		REVISIONS

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ROBERT J. HARRIS
PROFESSIONAL ENGINEER
P.E.
412-246-5222
S.A.M.P.E.

SIGNATURE

DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
Red Paine APPROVED 4/21/08 DATE

DESIGNED JSB
DRAWN JD
CHECKED SDK
IN CHARGE RJH
DATE APRIL 21, 2008
SCALE AS SHOWN

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH, PENNSYLVANIA
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM-WIDE)
TRACK PROFILE
STA.6083+60 TO STA. 6088+06.37 RIGHT TRACK
CONTRACT NO. NSC-009
DWG. NO. TK416 SHT. 173