

**NOTES:**

1. THE CONTRACTOR SHALL REFER TO SECTION 15885 "TUNNEL DRY STANDPIPE SYSTEM" AND 15884 "TUNNEL FIRE EXTINGUISHERS AND CABINETS" OF THE CONTRACT DOCUMENTS FOR FURTHER DETAILS.
  2. STANDPIPES SHALL CONFORM TO NFPA 14 CLASS 1 DRY SYSTEM. MINIMUM FLOW RATE OF 500gpm AT 100psi AT THE HYDRAULICALLY MOST REMOTE HYDRANT LOCATION.
  3. EXTINGUISHERS SHALL CONFORM TO NFPA 10 CLASS C.
  4. REFER TO TYPICAL DETAILS (DRAWING FP-106) FOR FURTHER INFORMATION.
  5. THE FILL TIME FOR THE DRY STANDPIPE SYSTEM SHALL NOT EXCEED 10 MINUTES.

## PLAN FOR CUT AND COVER TUNNEL

CHAINAGE - L6047+50 TO NORTH SIDE STATION

6" STANDPIPE LOCATED UNDER WALKWAY.

6" STANDPIPE NOT LOCATED UNDER WALKWAY.  
ON WALLS OR UNDERSIDE OF ROOF.

## RISER / DROPPER

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**DMJM HARRIS | AECOM**

FOUR CATTLEMAN CENTER

**STANLEY** FOUR GATEWAY CENTER  
20TH FLOOR

5128 PITTSTURGH, PA. 15222

*Imperial*

APPROVED

APPROVED

PORT AUTHORITY OF ALLEGHENY COUNTY

PITTSBURGH PITTSTON TOWNSHIP OF ALLEGHENY COUNTY PENNSYLVANIA

NORTH SHORE CONNECTOR

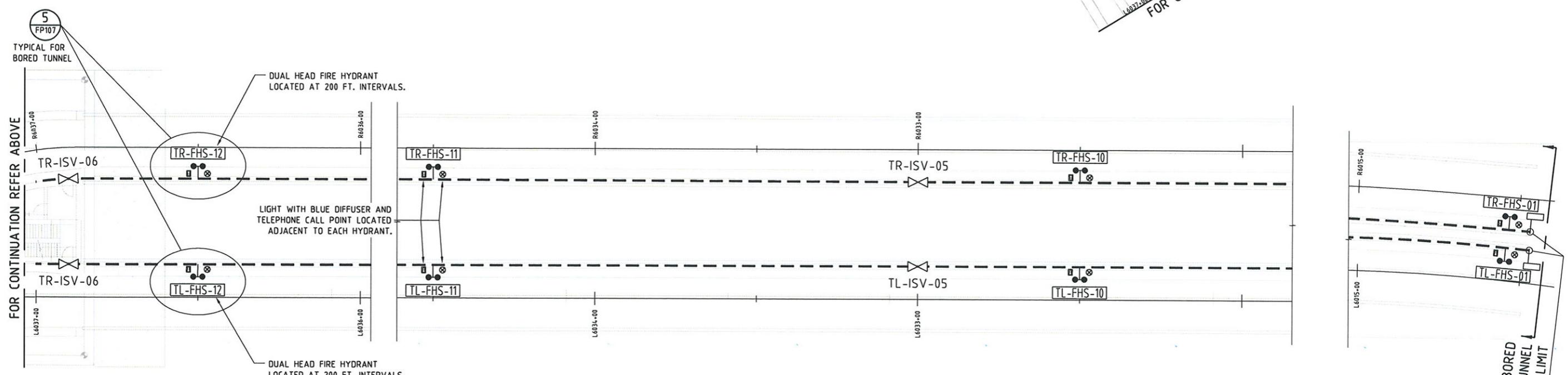
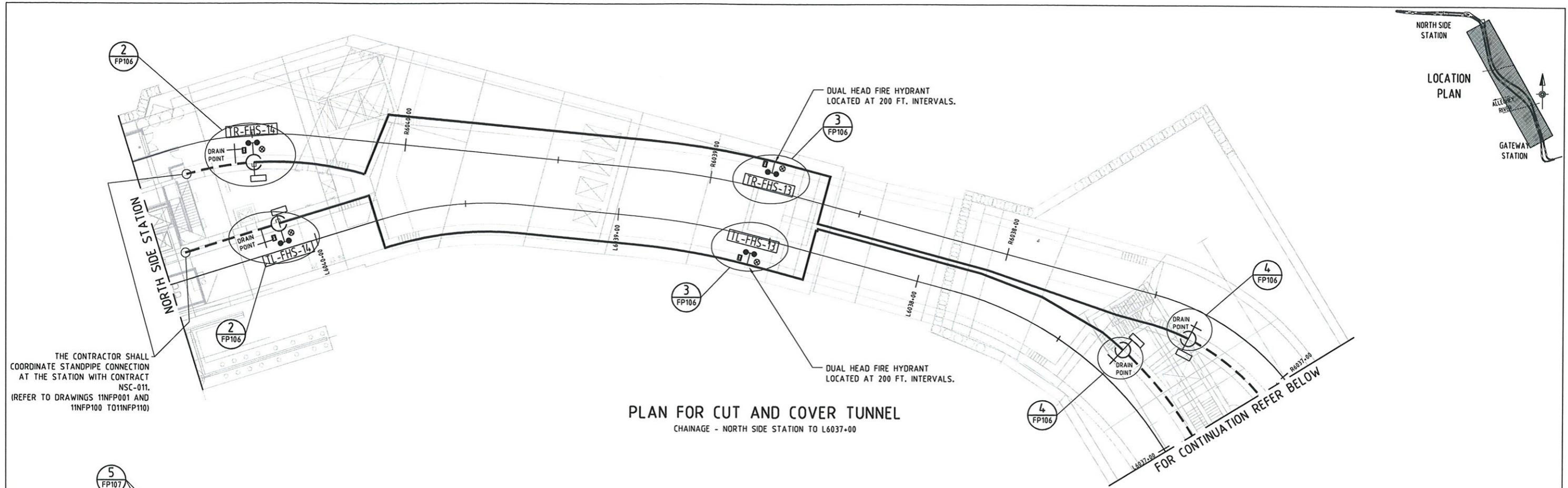
NSC TRAIN SYSTEM (SYSTEM WIDE)

GATEWAY LINE  
TUNNEL FIRE HYDRANT PLAN SHEET 1 OF 3

TUNNEL FIRE HYDRANT PLAN, SHEET 1 OF 2

CONTRACT NO. NSC-

DWG. NO. FP-101



**NOTES:**

1. THE CONTRACTOR SHALL REFER TO SECTION 15885 "TUNNEL DRY STANDPIPE SYSTEM" AND 15884 "TUNNEL FIRE EXTINGUISHERS AND CABINETS" OF THE CONTRACT DOCUMENTS FOR FURTHER DETAILS.
2. STANDPIPES SHALL CONFORM TO NFPA 14 CLASS 1 DRY SYSTEM. MINIMUM FLOW RATE OF 500gpm AT 100psi AT THE HYDRAULICALLY MOST REMOTE HYDRANT LOCATION.
3. EXTINGUISHERS SHALL CONFORM TO NFPA 10 CLASS C.
4. REFER TO TYPICAL DETAILS (DRAWING FP-106) FOR FURTHER INFORMATION.
5. THE FILL TIME FOR THE DRY STANDPIPE SYSTEM SHALL NOT EXCEED 10 MINUTES.

CONTRACTOR SHALL COORDINATE STANDPIPE CONNECTION AT THE STATION WITH CONTRACT NSC-010.

MAUNSELL   AECOM			
Maunsell Australia Pty Ltd A.B.N. 20 093 846 925			
C. Stacey APPROVED JUNE 27, 2008 DATE			
NO.	DATE	DESCRIPTION	REVISIONS

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REGISTERED PROFESSIONAL ENGINEER OF QUEENSLAND  
CONRAD H.B. STACEY  
RPEQ 5128  
SIGNATURE: C. Stacey  
PATP #002194

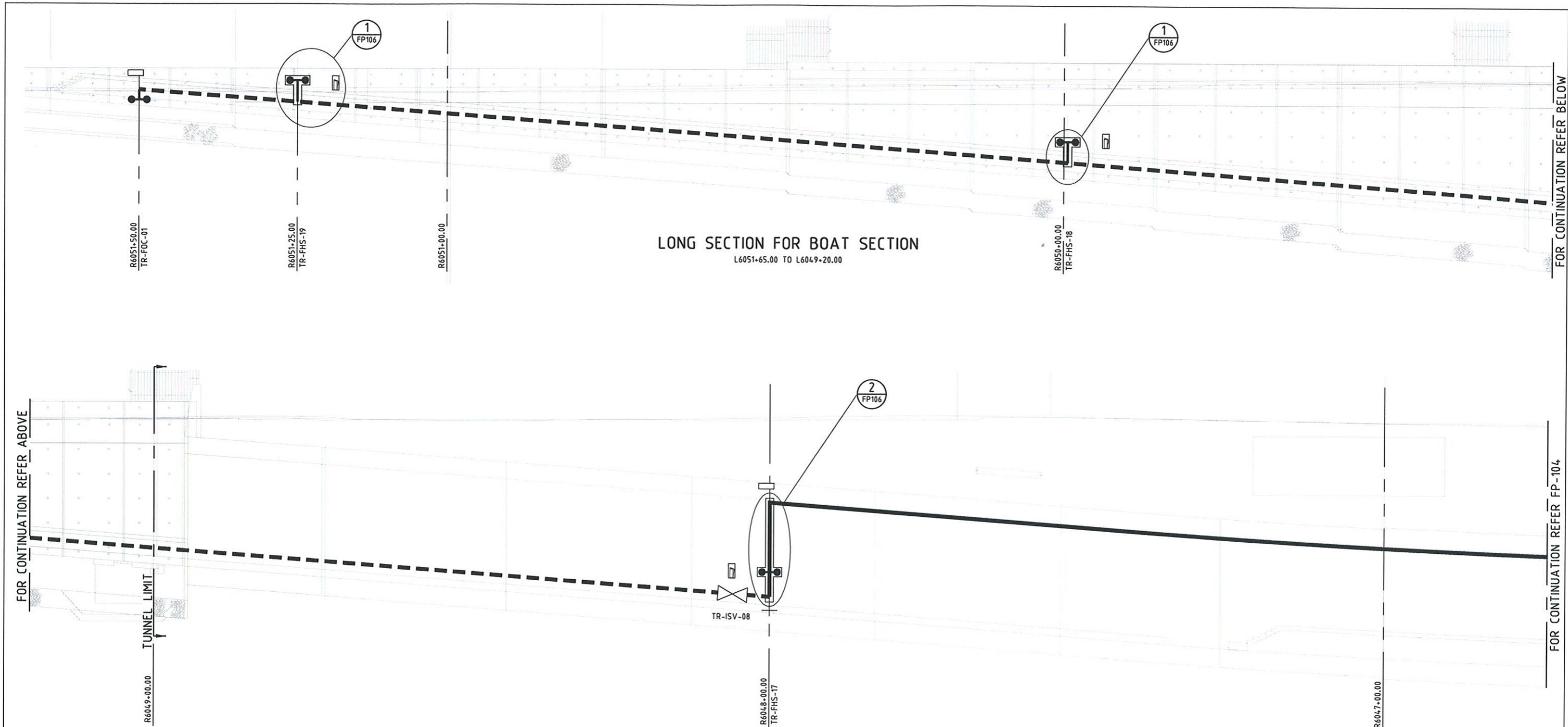
DMJM HARRIS | AECOM  
FOUR GATEWAY CENTER  
20TH FLOOR  
PITTSBURGH, PA. 15222

DESIGNED AP  
DRAWN K  
CHECKED PG  
IN CHARGE CS  
DATE 06/27/08  
SCALE 1/16" - 1'-0"

RISER / DROPPER  
APPROVED DATE

**PORT AUTHORITY OF ALLEGHENY COUNTY**  
PITTSBURGH PENNSYLVANIA  
NORTH SHORE CONNECTOR  
NSC TRAIN SYSTEM (SYSTEM WIDE)  
GATEWAY LINE  
TUNNEL FIRE HYDRANT PLAN, SHEET 2 OF 2

Port Authority	CONTRACT NO. NSC-009
	DWG. NO. FP-102 SHT. 610



**NOTES:**

1. THE CONTRACTOR SHALL REFER TO SECTION 15885 "TUNNEL DRY STANDPIPE SYSTEM" AND 15884 "TUNNEL FIRE EXTINGUISHERS AND CABINETS" OF THE CONTRACT DOCUMENTS FOR FURTHER DETAILS.
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3. EXTINGUISHERS SHALL CONFORM TO NFPA 10 CLASS C.
4. REFER TO TYPICAL DETAILS (DRAWING FP-106) FOR FURTHER INFORMATION.
5. THE FILL TIME FOR THE DRY STANDPIPE SYSTEM SHALL NOT EXCEED 10 MINUTES.

<b>MAUNSELL   AECOM</b>	Maunsell Australia Pty Ltd A.B.N. 20 093 846 925	APPROVED <i>C. Stacey</i>	DATE JUNE 27, 2008	NO. DATE	DESCRIPTION	REVISIONS

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REGISTERED  
PROFESSIONAL  
ENGINEER OF  
QUEENSLAND  
CONRAD H.B. STACEY  
RPEQ 5128  
*C. Stacey*  
SIGNATURE  
PATP #002194

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

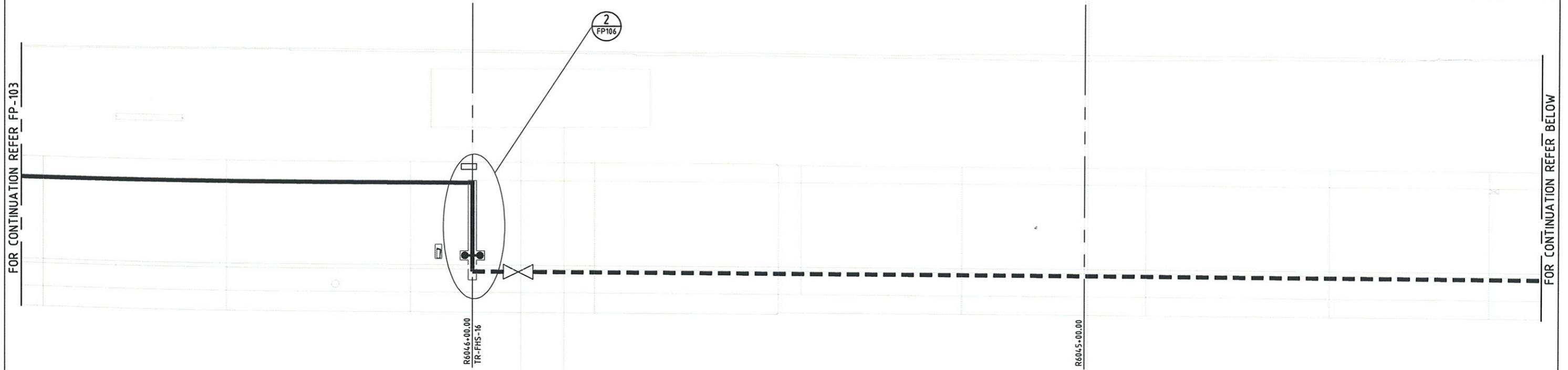
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DRAWN K  
CHECKED PG  
IN CHARGE CS  
DATE 06/27/08  
SCALE 1/8" - 1'-0"

APPROVED  
DATE

**PORT AUTHORITY OF ALLEGHENY COUNTY**  
PITTSBURGH PENNSYLVANIA  
NORTH SHORE CONNECTOR  
NSC TRAIN SYSTEM (SYSTEM WIDE)  
GATEWAY LINE  
TUNNEL FIRE HYDRANT LONG SECTIONS, SHEET 1 OF 3  
Port Authority  
CONTRACT NO. NSC-009  
DWG. NO. FP-103 SHT. 611

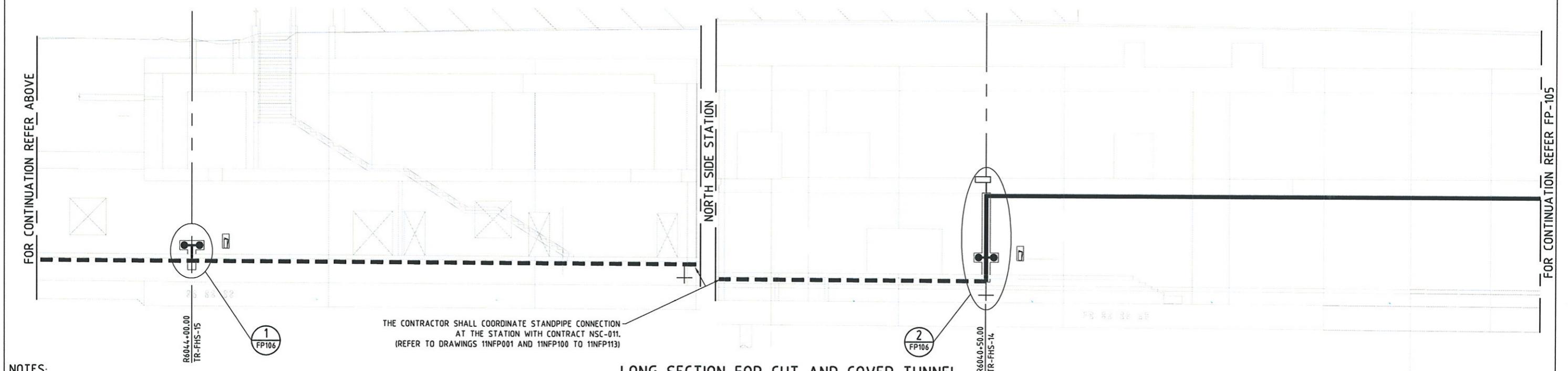
FOR CONTINUATION REFER BELOW

FOR CONTINUATION REFER FP-104



LONG SECTION FOR CUT AND COVER TUNNEL

L6046+74.00 TO L6044+25.00



LONG SECTION FOR CUT AND COVER TUNNEL

L6044+25.00 TO L6039+19.00

NOTES:

1. THE CONTRACTOR SHALL REFER TO SECTION 15885 "TUNNEL DRY STANDPIPE SYSTEM" AND 15884 "TUNNEL FIRE EXTINGUISHERS AND CABINETS" OF THE CONTRACT DOCUMENTS FOR FURTHER DETAILS.
2. STANDPIPES SHALL CONFORM TO NFPA 14 CLASS 1 DRY SYSTEM. MINIMUM FLOW RATE OF 500gpm AT 100psi AT THE HYDRAULICALLY MOST REMOTE HYDRANT LOCATION.
3. EXTINGUISHERS SHALL CONFORM TO NFPA 10 CLASS C.
4. REFER TO TYPICAL DETAILS (DRAWING FP-106) FOR FURTHER INFORMATION.
5. THE FILL TIME FOR THE DRY STANDPIPE SYSTEM SHALL NOT EXCEED 10 MINUTES.

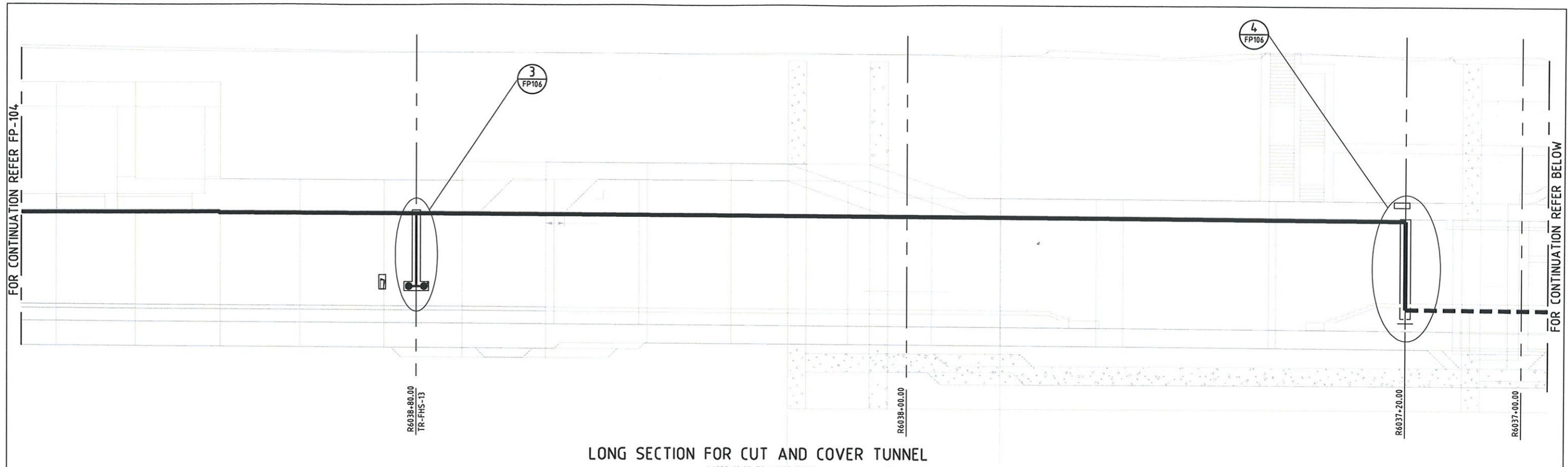
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REGISTERED  
PROFESSIONAL  
ENGINEER OF  
QUEENSLAND  
**CONRAD H. STACEY**  
RPEQ 5128  
SIGNATURE  
PATP #002194

**DMJM HARRIS AECOM**  
FOUR GATEWAY CENTER  
20TH FLOOR  
PITTSBURGH, PA. 15222  
APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

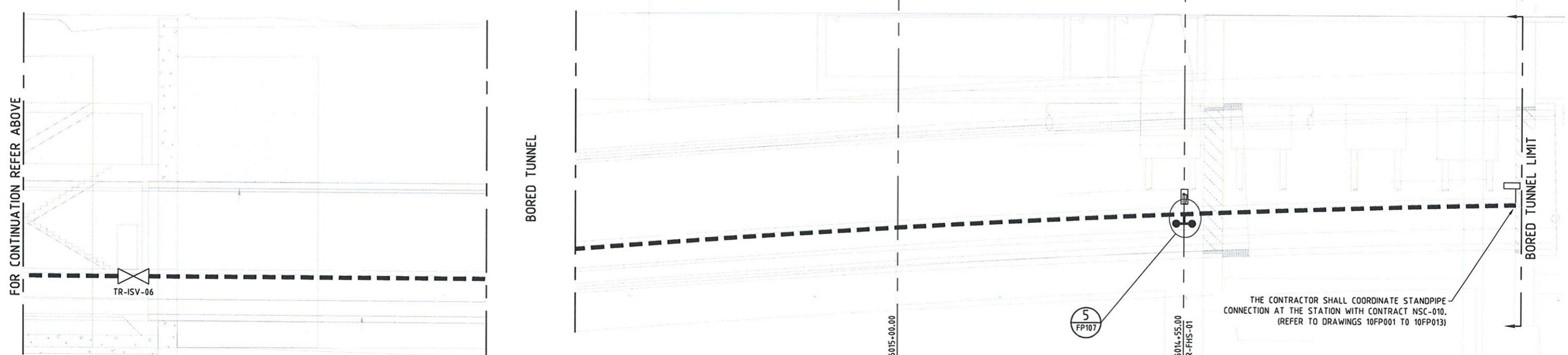
DESIGNED AP  
DRAWN KK  
CHECKED PG  
IN CHARGE CS  
DATE 06/27/08  
SCALE 1/8" - T-8"

<b>PORT AUTHORITY OF ALLEGHENY COUNTY</b>	
PITTSBURGH	PENNSYLVANIA
NORTH SHORE CONNECTOR	
NSC TRAIN SYSTEM (SYSTEM WIDE)	
GATEWAY LINE	
TUNNEL FIRE HYDRANT LONG SECTIONS, SHEET 2 OF 3	
Port Authority	CONTRACT NO. NSC-009
	DWG. NO. FP-104 SHT. 612



LONG SECTION FOR CUT AND COVER TUNNEL

L6039+19.00 TO L6037+70.00



NOTES:

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2. STANDPIPES SHALL CONFORM TO NFPA 14 CLASS 1 DRY SYSTEM. MINIMUM FLOW RATE OF 500gpm AT 100psi AT THE HYDRAULICALLY MOST REMOTE HYDRANT LOCATION.
3. EXTINGUISHERS SHALL CONFORM TO NFPA 10 CLASS C.
4. REFER TO TYPICAL DETAILS (DRAWING FP-106) FOR FURTHER INFORMATION.
5. THE FILL TIME FOR THE DRY STANDPIPE SYSTEM SHALL NOT EXCEED 10 MINUTES.

LONG SECTION FOR BORED TUNNEL

L6037+70.00 TO GATEWAY STATION

6" STANDPIPE LOCATED UNDER WALKWAY.

6" STANDPIPE NOT LOCATED UNDER WALKWAY.  
ON WALLS OR UNDERSIDE OF ROOF.

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REGISTERED  
PROFESSIONAL  
ENGINEER OF  
QUEENSLAND  
CONRAD H.B. STACEY  
RPEQ 5128

STACEY  
PATP #002194

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

APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

PORT AUTHORITY OF ALLEGHENY COUNTY

PITTSBURGH PENNSYLVANIA

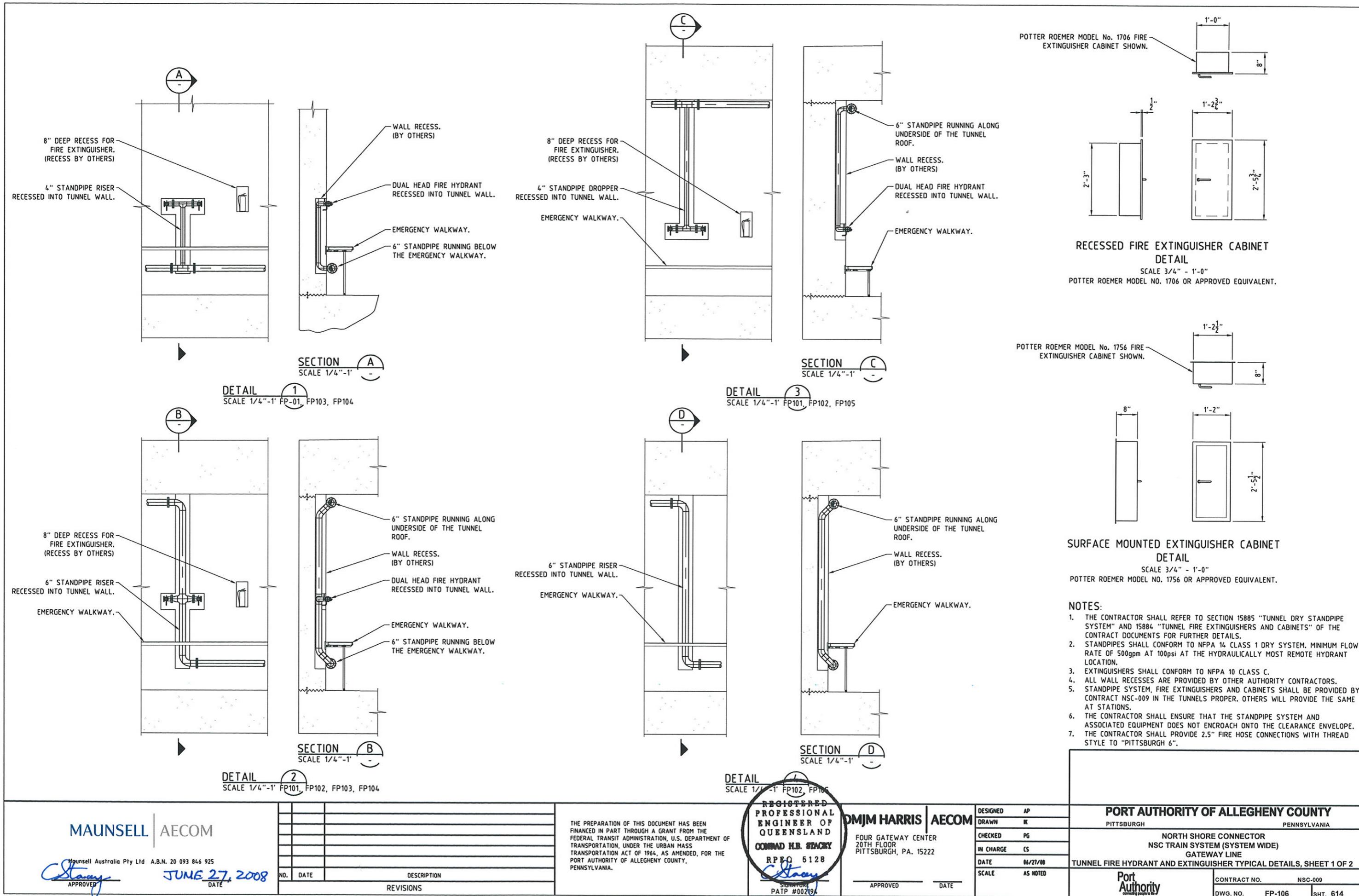
NORTH SHORE CONNECTOR  
NSC TRAIN SYSTEM (SYSTEM WIDE)  
GATEWAY LINE

TUNNEL FIRE HYDRANT LONG SECTIONS, SHEET 3 OF 3

Port Authority	CONTRACT NO. NSC-009
	DWG. NO. FP-105 SHT. 613

MAUNSELL   AECOM	
Maunsell Australia Pty Ltd A.B.N. 20 093 846 925	
JUNE 27, 2008	
APPROVED	DATE
NO. DATE DESCRIPTION	
REVISIONS	

REGISTERED PROFESSIONAL ENGINEER OF QUEENSLAND CONRAD H.B. STACEY RPEQ 5128	APPROVED _____ DATE _____
AP DRAWN K	IN CHARGE CS
CHECKED PG	DATE 06/27/08
IN CHARGE CS	SCALE 1/8" - T-8"
DATE 06/27/08	
SCALE 1/8" - T-8"	



MAUNSELL | AECOM

C. Stacey  
APPROVED  
Munsell Australia Pty Ltd A.B.N. 20 093 846 925

JUNE 27, 2008

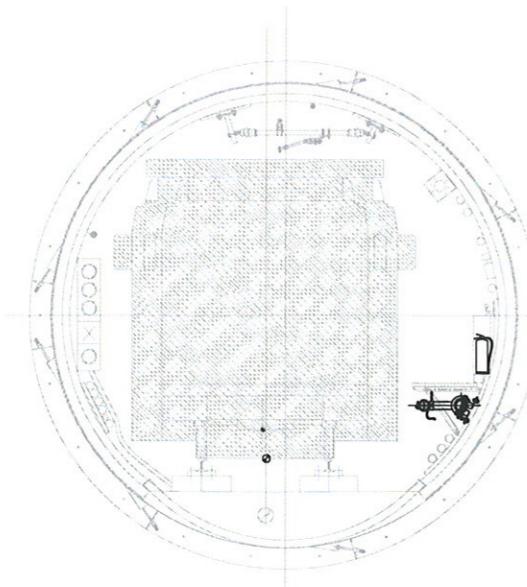
NO.	DATE	DESCRIPTION
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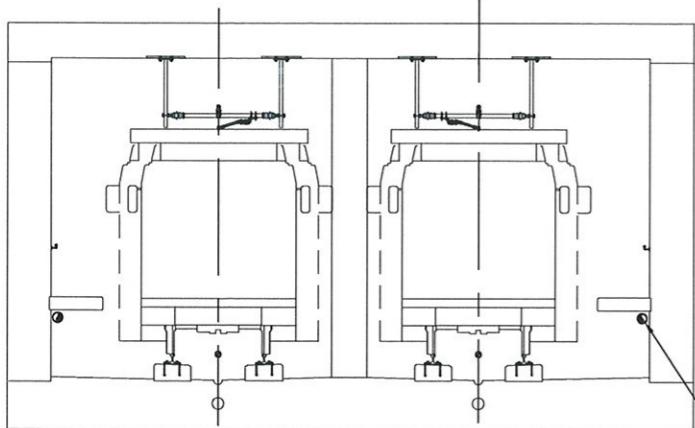
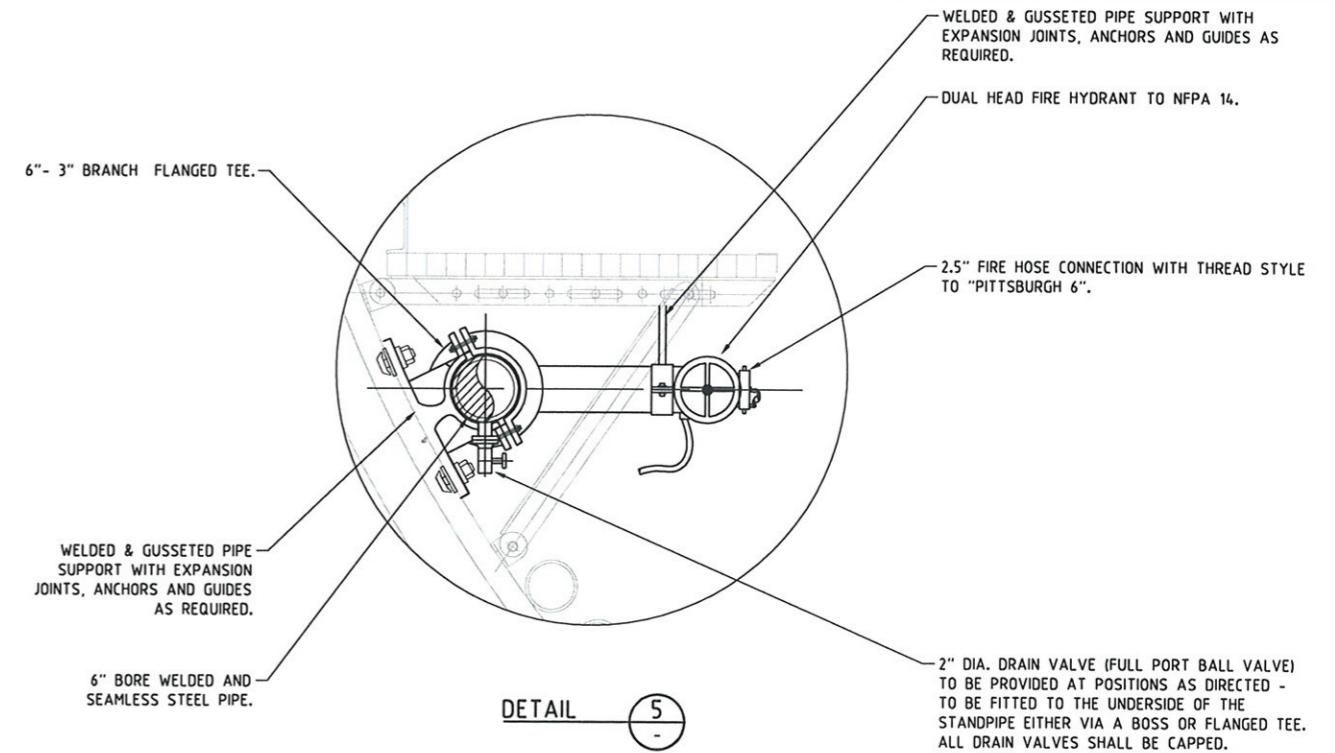
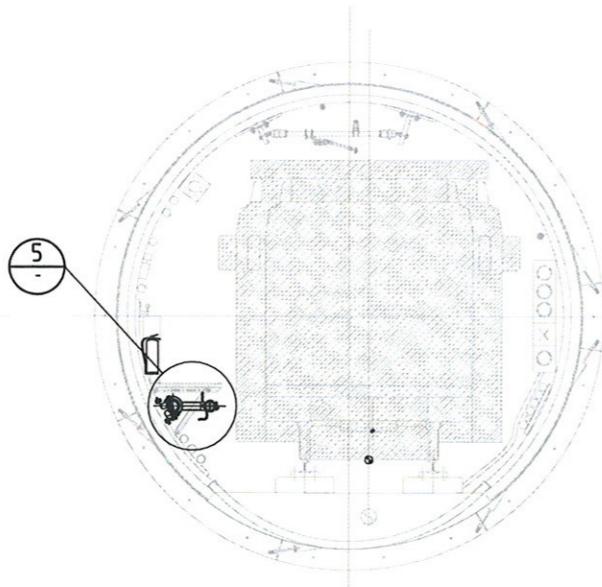
REGISTERED PROFESSIONAL ENGINEER OF QUEENSLAND  
CONRAD H.B. STACEY  
RPEQ 6128  
C. Stacey  
SIGNATURE  
PATP #00210

OMJM HARRIS | AECOM  
FOUR GATEWAY CENTER  
20TH FLOOR  
PITTSBURGH, PA. 15222  
APPROVED DATE

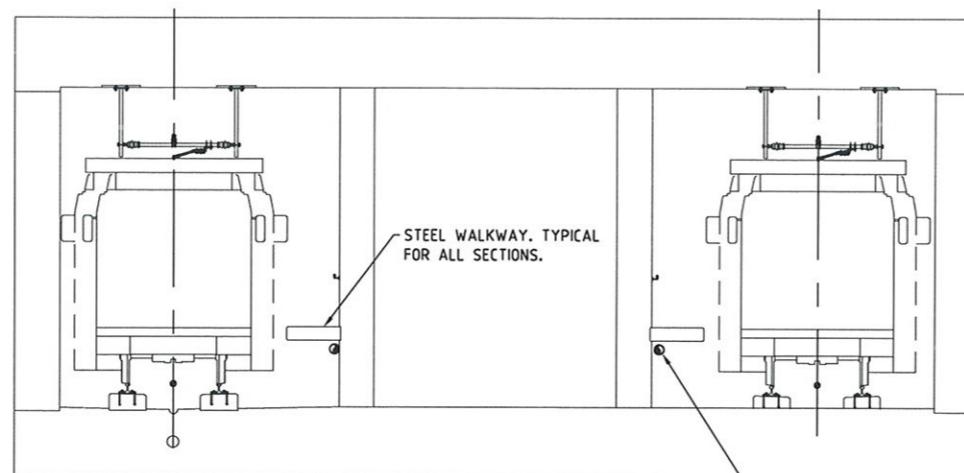
PORT AUTHORITY OF ALLEGHENY COUNTY  
PITTSBURGH PENNSYLVANIA  
NORTH SHORE CONNECTOR  
NSC TRAIN SYSTEM (SYSTEM WIDE)  
GATEWAY LINE  
TUNNEL FIRE HYDRANT AND EXTINGUISHER TYPICAL DETAILS, SHEET 1 OF 2  
Port Authority CONTRACT NO. NSC-009  
DWG. NO. FP-106 SHT. 614



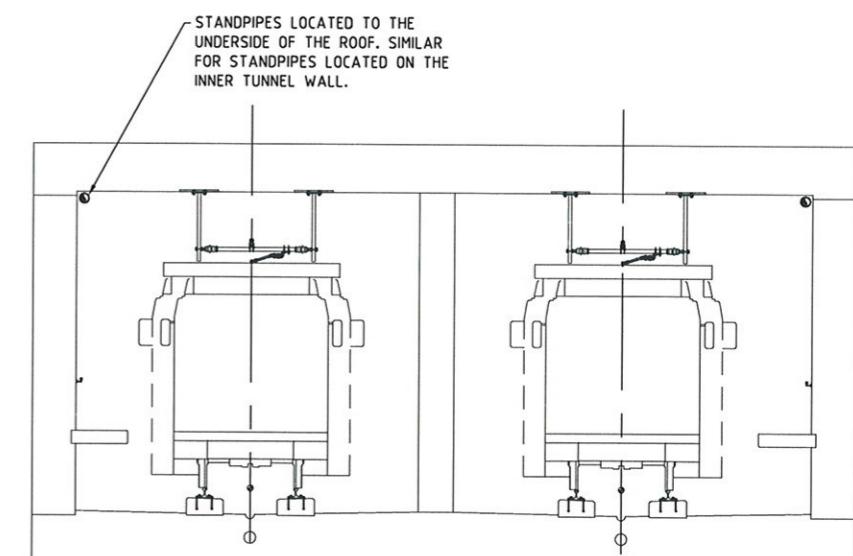
**TYPICAL BORED TUNNEL SECTION**  
(ZERO CANT SHOWN ONLY)



**TYPICAL SECTION A**  
(ZERO CANT SHOWN ONLY)



**TYPICAL SECTION B**  
(ZERO CANT SHOWN ONLY)



**TYPICAL SECTION C**  
(ZERO CANT SHOWN ONLY)

**NOTES:**

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2. STANDPIPES SHALL CONFORM TO NFPA 14 CLASS 1 DRY SYSTEM, MINIMUM FLOW RATE OF 500gpm AT 100psi AT THE HYDRAULICALLY MOST REMOTE HYDRANT LOCATION.
3. EXTINGUISHERS SHALL CONFORM TO NFPA 10 CLASS C.
4. SECTIONS ARE INDICATIVE ONLY AND VARY ACCORDING TO CHAINAGE.
5. STANDPIPE SYSTEM, FIRE EXTINGUISHERS AND CABINETS SHALL BE PROVIDED BY

6. CONTRACT NSC-009 IN THE TUNNELS PROPER. OTHERS WILL PROVIDE THE SAME AT STATIONS.
7. WALL FIXTURES SHALL BE COORDINATED WITH OTHER AUTHORITY CONTRACTS (NSC-003, NSC-006) AS REQUIRED.
8. THE CONTRACTOR SHALL ENSURE THAT THE STANDPIPE SYSTEM AND ANY ASSOCIATED EQUIPMENT DOES NOT ENROACH INTO THE CLEARANCE ENVELOPE.
9. THE CONTRACTOR SHALL PROVIDE 2.5" FIRE HOSE CONNECTION WITH THREAD STYLE TO "PITTSBURGH 6".

MAUNSELL | AECOM

Maunsell Australia Pty Ltd A.B.N. 20 093 846 925

*C. Stacey*  
APPROVED  
*JUNE 27, 2008*

DATE

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SIGNATURE  
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DMJM HARRIS | AECOM  
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PITTSBURGH, PA. 15222

APPROVED \_\_\_\_\_ DATE \_\_\_\_\_

**PORT AUTHORITY OF ALLEGHENY COUNTY**  
PITTSBURGH PENNSYLVANIA

NORTH SHORE CONNECTOR  
NSC TRAIN SYSTEM (SYSTEM WIDE)  
GATEWAY LINE

TUNNEL FIRE HYDRANT TYPICAL DETAILS, SHEET 2 OF 2

Port Authority CONTRACT NO. NSC-009  
DWG. NO. FP-107 SHT. 615