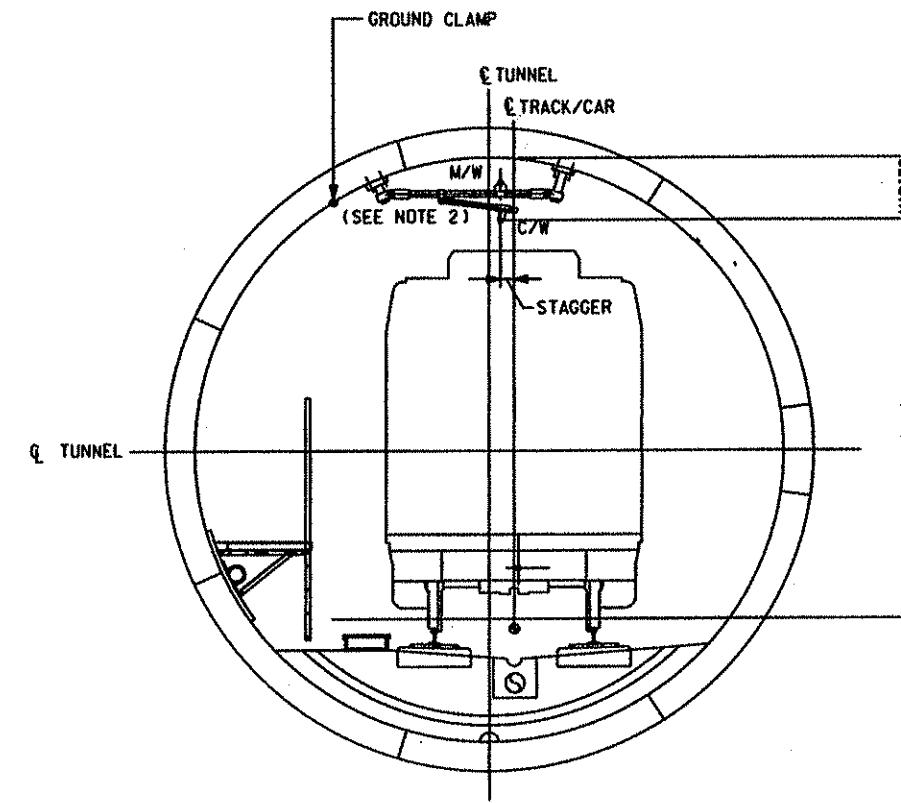
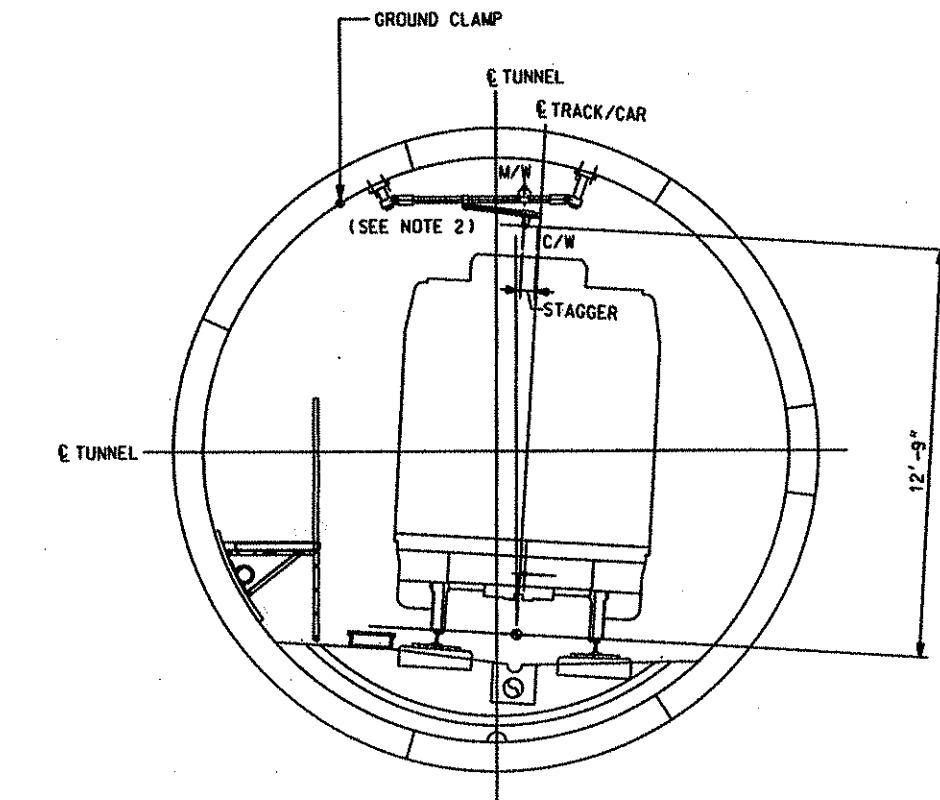


LEFT HAND CURVE, SUPERELEVATION



ZERO SUPERELEVATION



RIGHT HAND CURVE, SUPERELEVATION

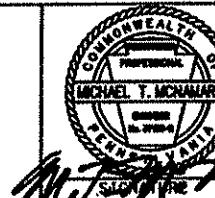
NOTES:

1. BORED TUNNEL SECTION STARTS AT 6014+50 AND ENDS AT 6036+85.
2. FOR TUNNEL ASSEMBLIES SEE DWG. OC193.
3. THE CONTRACTOR SHALL BE ALLOWED A SIX (6) INCH MAXIMUM EMBEDMENT DEPTH INTO THE BORED TUNNEL SEGMENT AT A MINIMUM DISTANCE FROM SEGMENTAL JOINTS EQUAL TO OR GREATER THAN THE EMBEDMENT DEPTH. PRIOR TO ANY DRILLING, CONTRACTOR NEEDS TO IDENTIFY LOCATION AND GET APPROVAL OF ENGINEER.

Gannett Fleming
Transit & Rail Systems

NO.	DATE	DESCRIPTION
1	09/23/08	ADDENDUM 8 - DRAWING MODIFIED
2	08/20/08	ADDENDUM 3 - DRAWING MODIFIED

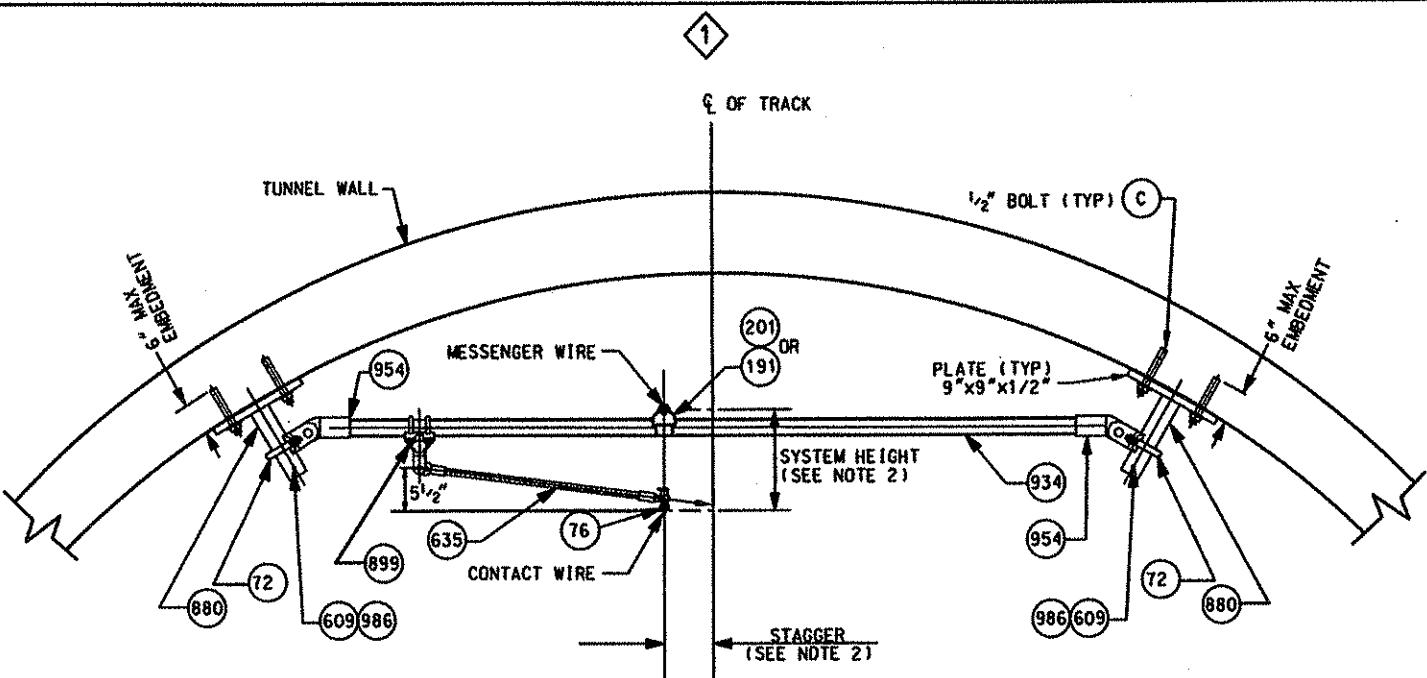
THE PREPARATION OF THIS DOCUMENT HAS BEEN FINANCED IN PART THROUGH A GRANT FROM THE FEDERAL TRANSIT ADMINISTRATION, U.S. DEPARTMENT OF TRANSPORTATION, UNDER THE URBAN MASS TRANSPORTATION ACT OF 1964, AS AMENDED, FOR THE PORT AUTHORITY OF ALLEGHENY COUNTY, PENNSYLVANIA.



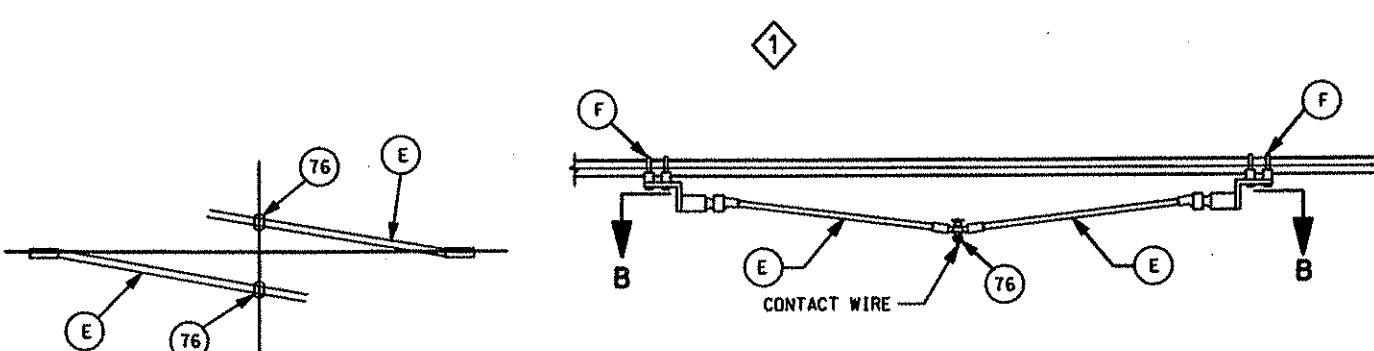
DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
[Handwritten signatures over the company name]

DESIGNED SR ADKINS
DRAWN KA BRANDT
CHECKED TA SHANTZ
IN CHARGE CD JONES
DATE APR. 28, 2008
SCALE NTS

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH, PENNSYLVANIA
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM-WIDE)
BORED TUNNEL SECTION
TYPICAL - OCS SUPPORT DETAILS
Port Authority
CONTRACT NO. NSC-009
DWG. NO. OC192 INT. 206

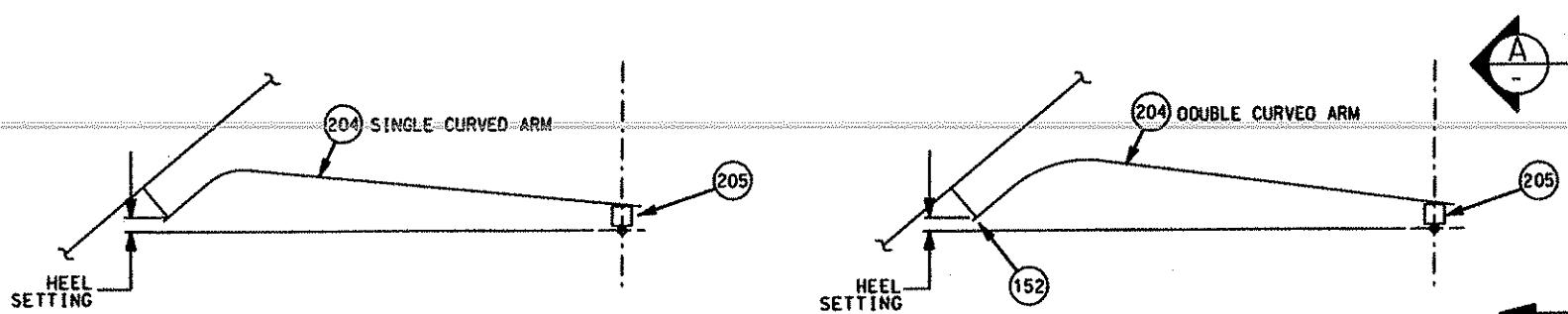


LIGHT PULL-OFF ASSEMBLY (TA-31L)



VIEW B-B

ELASTIC TUNNEL ASSEMBLY (UP-LIFT CONTROL) (TA-31E)

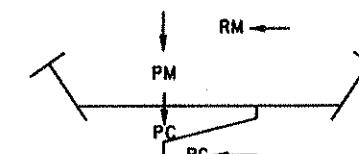


MEDIUM PULL-OFF ASSEMBLY (TA-31M)

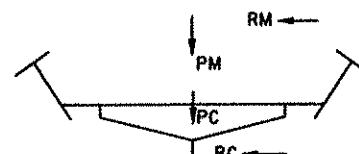
HEAVY PULL-OFF ASSEMBLY (TA-31H)

BILL OF MATERIAL							
ITEM NO.	DESCRIPTION	MANUFACTURER	PART NO.	QTY.			
				TA-31L	TA-31M	TA-31H	TA-31E
C	KWIK BOLT 3. 304 STS STL. 1/2 DIA X 4 1/2	HILTI	00282559	8	8	8	8
E	ELASTIC ARM CONTACT WIRE, CLAMP 5/8" TO 2.0" PIPE	K & M	102177	-	-	-	2
F	PIPE CLAMP TO 2.0" PIPE	K & M	02336-01	-	-	-	2
72	CLAMP - CLEVIS 2" PIPE	IMPULSE NC	055375-3001	2	2	2	2
76	CLAMP - SWIVEL TROLLEY 0.63" STUD	IMPULSE NC	055755-3001	1	-	-	2
152	Y - CLEVIS EYE ASSEMBLY	IMPULSE NC	059687-3001	-	-	1	-
191	SADDLE INSULATOR - DBL. HORIZ MESSENDER	IMPULSE NC	057217-3001	-	-	1	-
201	SADDLE - 2" HRZ MESSENDER	IMPULSE NC	057183-3003	1	1	-	1
204	ARM - UNINSULATED STEADY	IMPULSE NC	057823-8060	-	1	2	-
205	CLAMP - INSULATED SWIVEL	IMPULSE NC	0674999	-	1	2	-
609	COTTER	IMPULSE NC	315902-136	2	2	2	2
635	STEADY ARM, TRANSLITE 24.7"	IMPULSE NC	060756-6247	1	-	-	-
880	SUPPORT, DROP TUBE	IMPULSE NC		2	2	2	2
899	BRACKET, DROP 2" (6.00")	IMPULSE NC	060758-3001	1	1	1	-
934	PIPE - 2" SCHEDULE 80 (HDG) ASTM A500 STEEL, GRADE B	-	-	*	*	*	*
954	TRANSLITE STRUT, 2"/80 LONG EYE	IMPULSE NC	056909-3010	2	2	2	2
986	PIN, CLEVIS .375 X 2.5 STSTL	IMPULSE NC	315920-127	2	2	2	2

* = QUANTITY AS REQUIRED.



LOADING DIAGRAM



LOADING DIAGRAM

SUPPORT TYPE	MAXIMUM LOADING (LBS)		
	RC	RM	PM+PC
TA-31L	320	460	250
TA-31M	710	1040	250
TA-31H	1030	1520	250

LOADING TABLE

SUPPORT TYPE	MAXIMUM LOADING (LBS)		
	RC	RM	PM+PC
TA-31E	650	1040	250

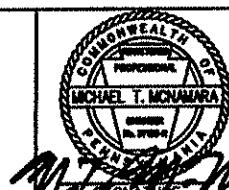
MAXIMUM WORKING LOADS

LOADING TABLE

PLATE DETAIL

NOTES:

1. FOR ABBREVIATIONS, SYMBOLS AND GENERAL NOTES. SEE DRAWINGS GN203, GN310 AND OC007
 2. FOR CONDUCTOR HEIGHTS AND SYSTEM HEIGHT REFER TO DCS PROFILE DRAWINGS.
FOR STAGGER VALUES AND DIRECTION, REFER TO DCS LAYOUT DRAWINGS.
 3. TUNNEL SUPPORTS MUST ALLOW FOR 8" ADJUSTMENTS IN BOTH DIRECTIONS FOR MESSENGER AND CONTACT WIRES
 4. USE TWO INSULATED MESSENGER WIRE CLAMPS OR AN ALTERNATIVE ARRANGEMENT, AS APPROVED BY THE ENGINEER, FOR HEAVY CONDITION
 5. USE TWO STEADY ARMS FOR HEAVY LOAD CONDITIONS
 6. THE CONTRACTOR SHALL BE ALLOWED A SIX (6) INCH MAXIMUM EMBEDMENT DEPTH INTO THE BORED TUNNEL SEGMENT AT A MINIMUM DISTANCE FROM SEGMENTAL JOINTS EQUAL TO OR GREATER THAN THE EMBEDMENT DEPTH, PRIOR TO ANY DRILLING. CONTRACTOR NEEDS TO IDENTIFY LOCATION AND GET APPROVAL OF ENGINEER.



DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
Dad Phil 9/13/08
APPROVED DATE

DESIGNED	SR ADKINS
DRAWN	KA BRANDT
CHECKED	TA SHANTZ
IN CHARGE	CD JONES
DATE	APR. 28, 2008
SCALE	NTS

PITTSBURGH PORT AUTHORITY OF ALLEGHENY COUNTY

**NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM-WIDE)
LIGHT, MEDIUM AND HEAVY BORED TUNNEL SUPPORT
PULL - OFF**

Port Authority	CONTRACT NO.	NSC-009
	ITEM NO.	OC193 SHT. 207

TYPICAL GROUNDING CONNECTION AT NORTH SIDE TUNNELS
NOT TO SCALE

GWS-1 GROUND WIRE SUPPORT ASSEMBLY
NOT TO SCALE

GWS-2 GROUND WIRE SUPPORT ASSEMBLY FOR CONCRETE BEAMS
NOT TO SCALE

(IN BORED TUNNEL, ROUTE GROUND WIRE DOWN TUNNEL WALL AND THROUGH UNDERSIDE OF RAILING)

GWS-3 GROUND WIRE SUPPORT ASSEMBLY FOR RAILING
NOT TO SCALE

NOTES:

1. INSTALL GROUND WIRE ON THE SAME SIDE AS WALKWAY IN BORED TUNNEL.
2. USE GROUND WIRE SUPPORT, GWS-1, SPACED 5' APART TO SUPPORT GROUND WIRE ABOVE WALKWAY.
3. USE GROUND WIRE SUPPORT GWS-2 AT EACH CATENARY SUPPORT.
4. GROUND CONDUIT AND WALKWAY EVERY 500'.
5. THE CONTRACTOR SHALL BE ALLOWED A SIX (6) INCH MAXIMUM EMBODIMENT DEPTH INTO THE BORED TUNNEL SEGMENT AT A MINIMUM DISTANCE FROM SEGMENTAL JOINTS EQUAL TO OR GREATER THAN 3' THE EMBODIMENT DEPTHS PRIOR TO ANY DRILLING. CONTRACTOR NEEDS TO IDENTIFY LOCATION AND GET APPROVAL OF ENGINEER.

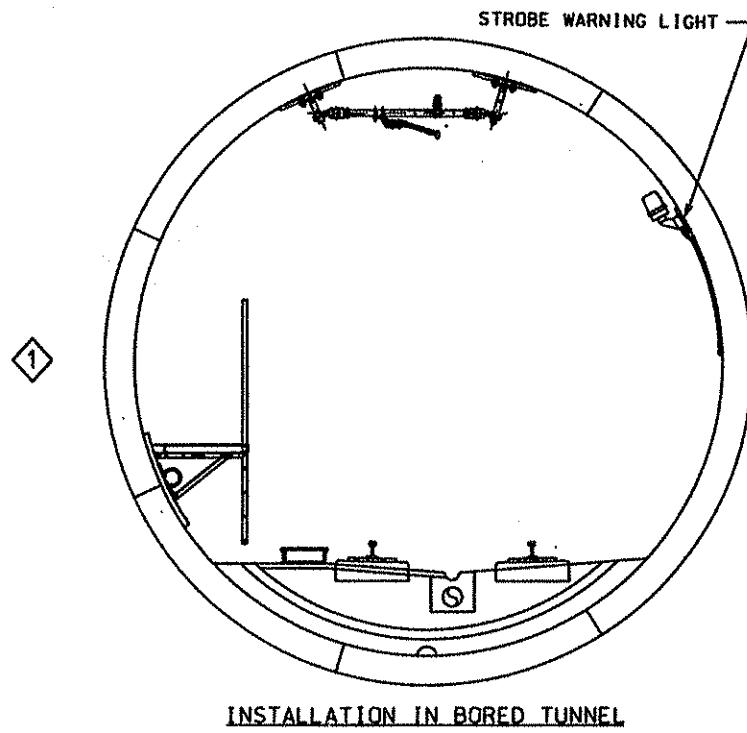
BILL OF MATERIAL

ITEM NO.	DESCRIPTION	MANUFACTURER	PART NO.	QTY.			
				GWS-1	GWS-2	GWS-3	GWS-4
1	KWIK BOLT 3, STS STL, $\frac{1}{2}$ " x $3\frac{3}{4}$ " LONG	HILTI	00282558	1	-	4	-
9	TAP, CABLE WEDGE, 2/0 TD 2/0	AMP	1-257187-5	-	-	-	1
11	CARTRIDGE AMPACT, WHITE	AMP	69338-5	-	-	-	1
21	GROUND CLAMP FOR CABLE TO FLAT SURFACE	ANDERSON	GC-141-07	1	-	4	-
27	SIZE 2/0 COPPER CABLE			*	*	*	*
28	SERVIT POST CONNECTOR, $\frac{5}{8}$ "-11 x $3\frac{3}{4}$ " STUD	BURNDY	KC28	*	1	1	-
29	GROUND TERMINAL	OZ GEONEY	GWD-25B	-	-	-	1
30	GROUND CLAMP FOR LARGE PIPE, BRONZE	OZ GEONEY	TYPE G	-	-	-	1
31	PARALLEL HORIZONTAL WELD CONNECTION, 2/0 - 2/0	ERICO	PTC-2G2G	-	1	1	-

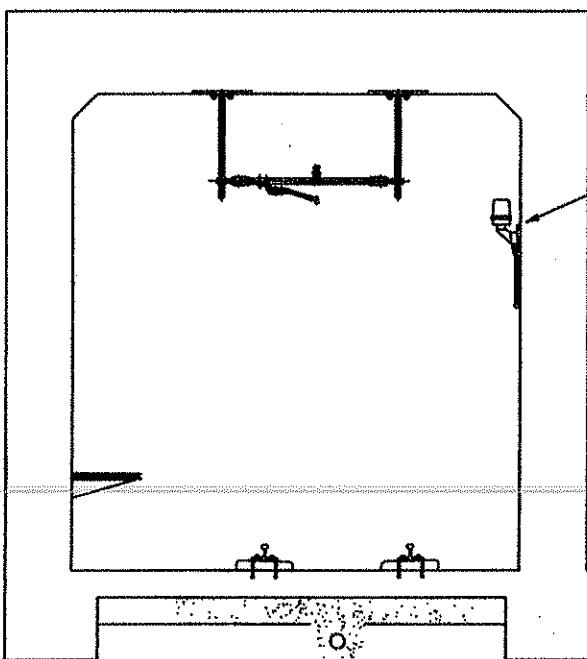
* = QUANTITY AS REQUIRED.

TYPICAL GROUNDING CONNECTION AT BORED TUNNEL
NOT TO SCALE

Gannett Fleming Transit & Rail Systems					<p>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.</p> <p>09/23/08 ADDENDUM 8 - DRAWING MODIFIED 08/20/08 ADDENDUM 3 - DRAWING MODIFIED</p> <p>NO. DATE DESCRIPTION</p> <p>REVISIONS</p>		DMJM HARRIS AECOM FOUR GATEWAY CENTER 20TH FLOOR PITTSBURGH, PA. 15222 MICHAELE T. HORNIGRASS MICHAEL T. HORNIGRASS PRESIDENT Pittsburgh, PA 9/23/08 APPROVED Signature	DESIGNED BY M PATCHA DRAWN BY M PATCHA CHECKED BY TA SHANTZ IN CHARGE BY CO JONES DATE APR. 28, 2008 SCALE NTS APPROVED Signature 9/23/08 DATE	PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH NORTH SHORE CONNECTOR NSC TRAIN SYSTEM (SYSTEM WIDE) BONDING AND GROUNDING DETAIL TUNNEL SECTION CONTRACT NO. NSC-008 DWG. NO. OC606 SHT. 200	

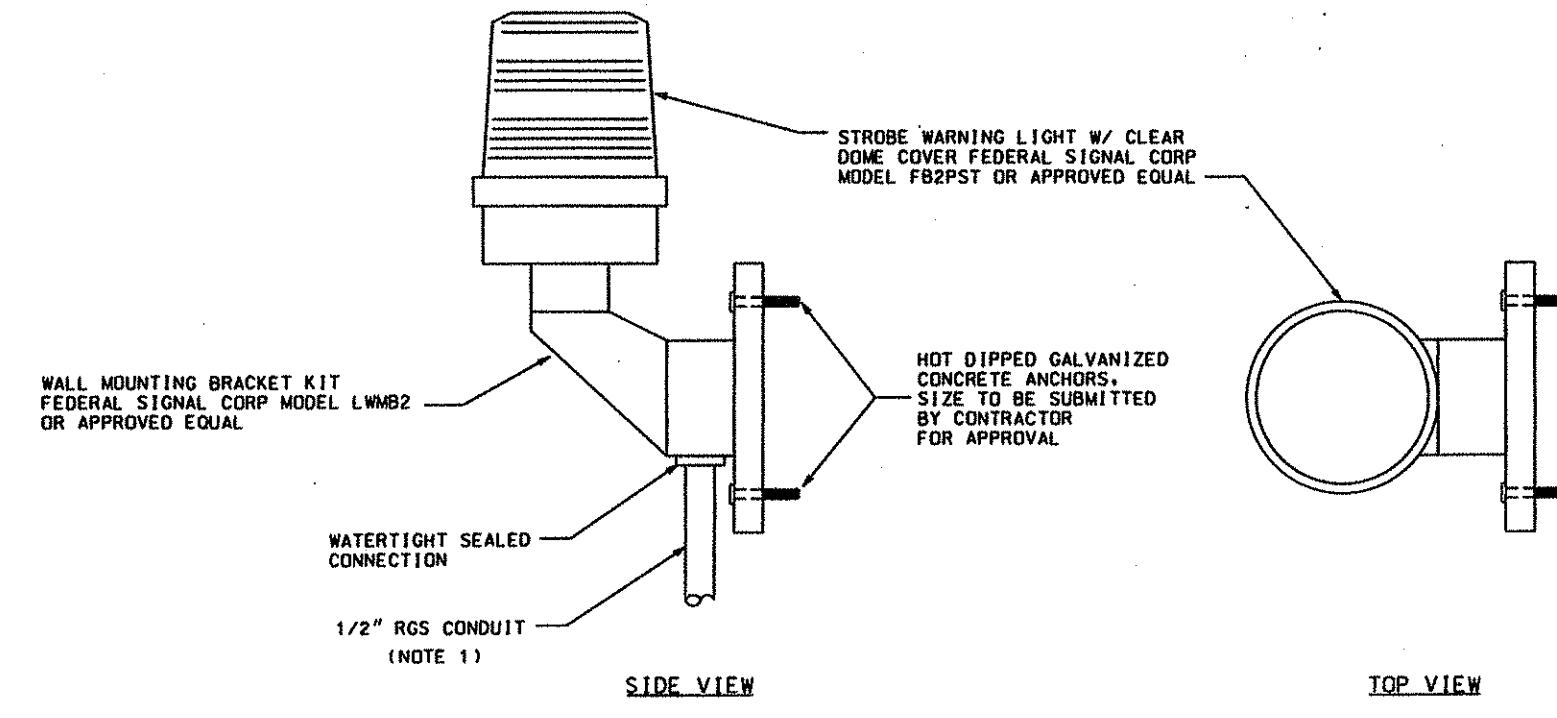


INSTALLATION IN BORED TUNNEL



INSTALLATION IN BOXED TUNNEL

STROBE LIGHT TUNNEL INSTALLATION



STROBE LIGHT MOUNTING

SIDE VIEW

TOP VIEW

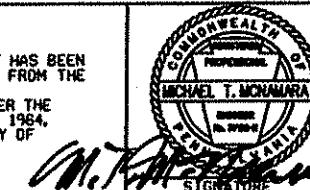
NOTES:

1. DETAILS SHOWN ARE TYPICAL. CONTRACTOR TO INSTALL STROBE LIGHTS IN ACCORDANCE WITH MANUFACTURER REQUIREMENTS AND SPECIFICATIONS.
2. CONTRACTOR TO VERIFY STROBE LIGHT INSTALLATION DOES NOT VIOLATE PAAC TRAIN CAR DYNAMIC MOVEMENT ENVELOPE.
3. CONDUIT TO BE INSTALLED FROM STROBE LIGHT MOUNTING DOWN ALONG WALL TO MEET THE EXPRESS CONDUITS.
4. THE CONTRACTOR SHALL BE ALLOWED A SIX (6) INCH MAXIMUM EMBEADMENT DEPTH INTO THE BORED TUNNEL SEGMENT AT A MINIMUM DISTANCE FROM SEGMENTAL JOINTS EQUAL TO OR GREATER THAN THE EMBEADMENT DEPTH. PRIOR TO ANY DRILLING, CONTRACTOR NEEDS TO IDENTIFY LOCATION AND GET APPROVAL OF ENGINEER.

Gannett Fleming
Transit & Rail Systems

NO.	DATE	DESCRIPTION
09/23/08		ADDENDUM 8 - DRAWING MODIFIED
08/20/08		ADDENDUM 3 - DRAWING MODIFIED

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DMJM HARRIS | AECOM

FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222

DESIGNED J. TRAUM
DRAWN J. TRAUM

CHECKED J. SAMEAN

IN CHARGE C.D. JONES

DATE APR. 28, 2008

SCALE NTS

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH

NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
TRAINWAY PROTECTION STROBE LIGHT SYSTEM
INSTALLATION DETAILS

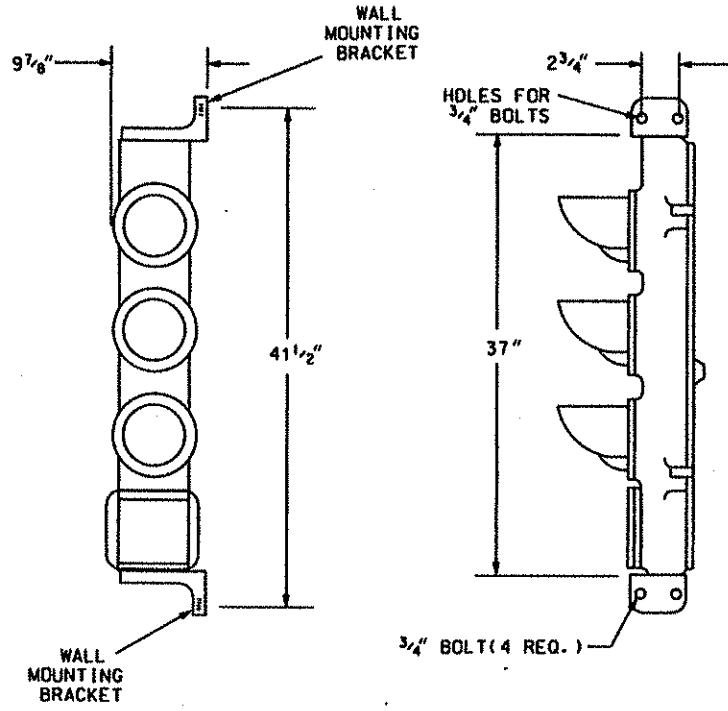
Contract No. NSC-008
Dwg. No. SG148 Rev. 400

M.T. McGinnis
Signature

APPROVED

9/23/08

DATE



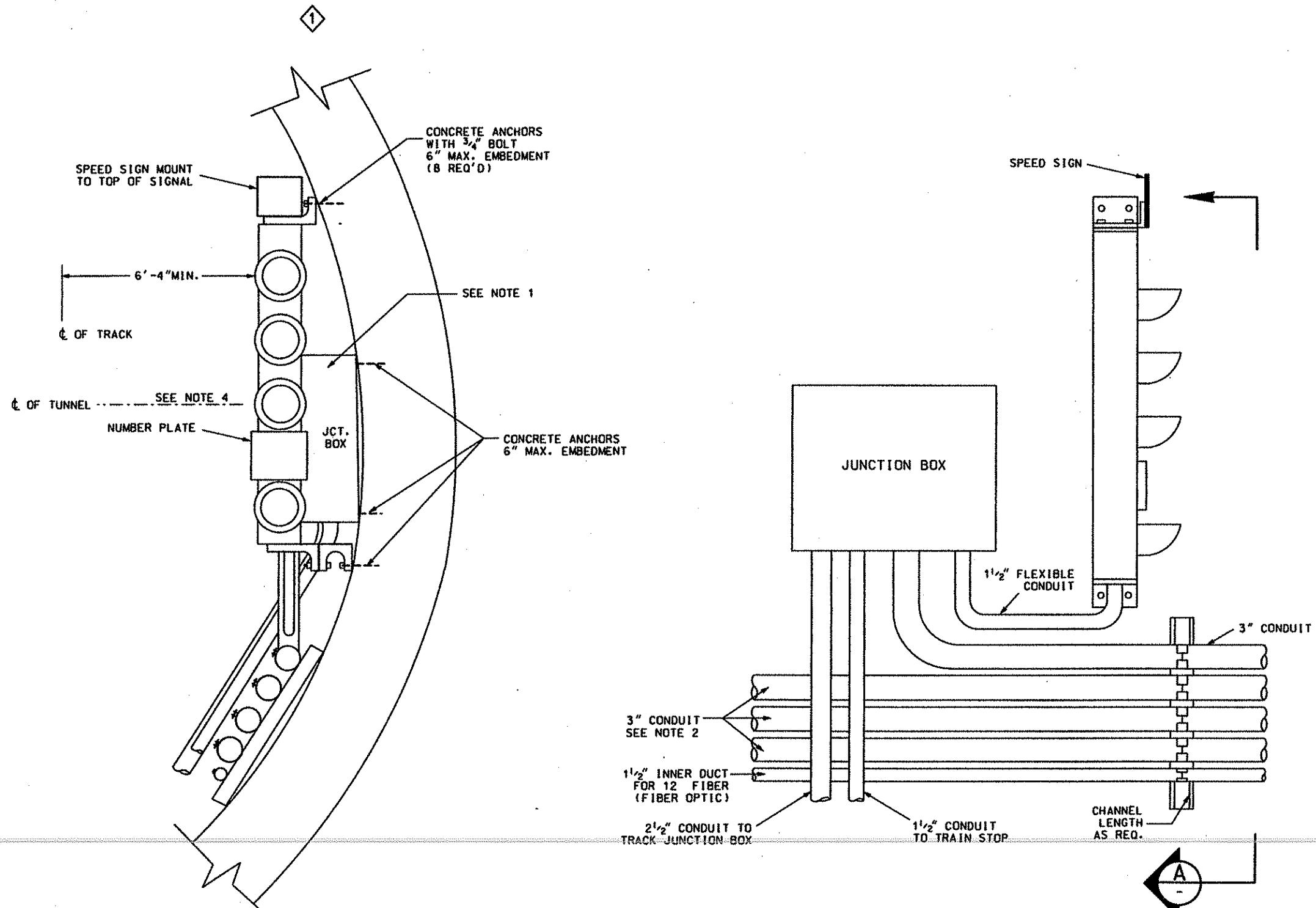
NOTE: CONFIGURATION OF HEAD VARY. SEE DWG# SG154.

TYPICAL TUNNEL WALL-MOUNTED SIGNAL

NOTES:

1. JUNCTION BOX SIZE TO BE DETERMINED BY EQUIPMENT REQUIREMENTS BUT SHALL NOT BE DEEPER THAN 8".
2. CONDUITS TO ADDITIONAL SIGNAL AND/OR CUT SECTIONS (CS) AS REQUIRED. NUMBER OF CONDUITS AND SIZE VARIES ACCORDING TO LOCATIONS.
3. CONTRACTOR TO VERIFY CONDUIT SIZES BASED ON CABLE USED.
4. SIGNAL TO BE CENTERED ON TUNNEL CENTER LINE.
5. DEPTH OF MOUNTING PENETRATION SHALL NOT EXCEED 7".
6. THE CONTRACTOR SHALL BE ALLOWED A SIX (6) INCH MAXIMUM EMBEDMENT DEPTH INTO THE BORED TUNNEL SEGMENT AT A MINIMUM DISTANCE FROM SEGMENTAL JOINTS EQUAL TO OR GREATER THAN THE EMBEDMENT DEPTH. PRIOR TO ANY DRILLING, CONTRACTOR NEEDS TO IDENTIFY LOCATION AND GET APPROVAL OF ENGINEER.

② *Circled 2*



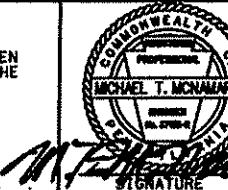
SECTION A

TYPICAL BORED TUNNEL WALL MOUNTING DETAILS

ND.	DATE	DESCRIPTION	REVISIONS
①	09/23/08	ADDENDUM 8 - DRAWING MODIFIED	
②	06/20/08	ADDENDUM 3 - DRAWING MODIFIED	

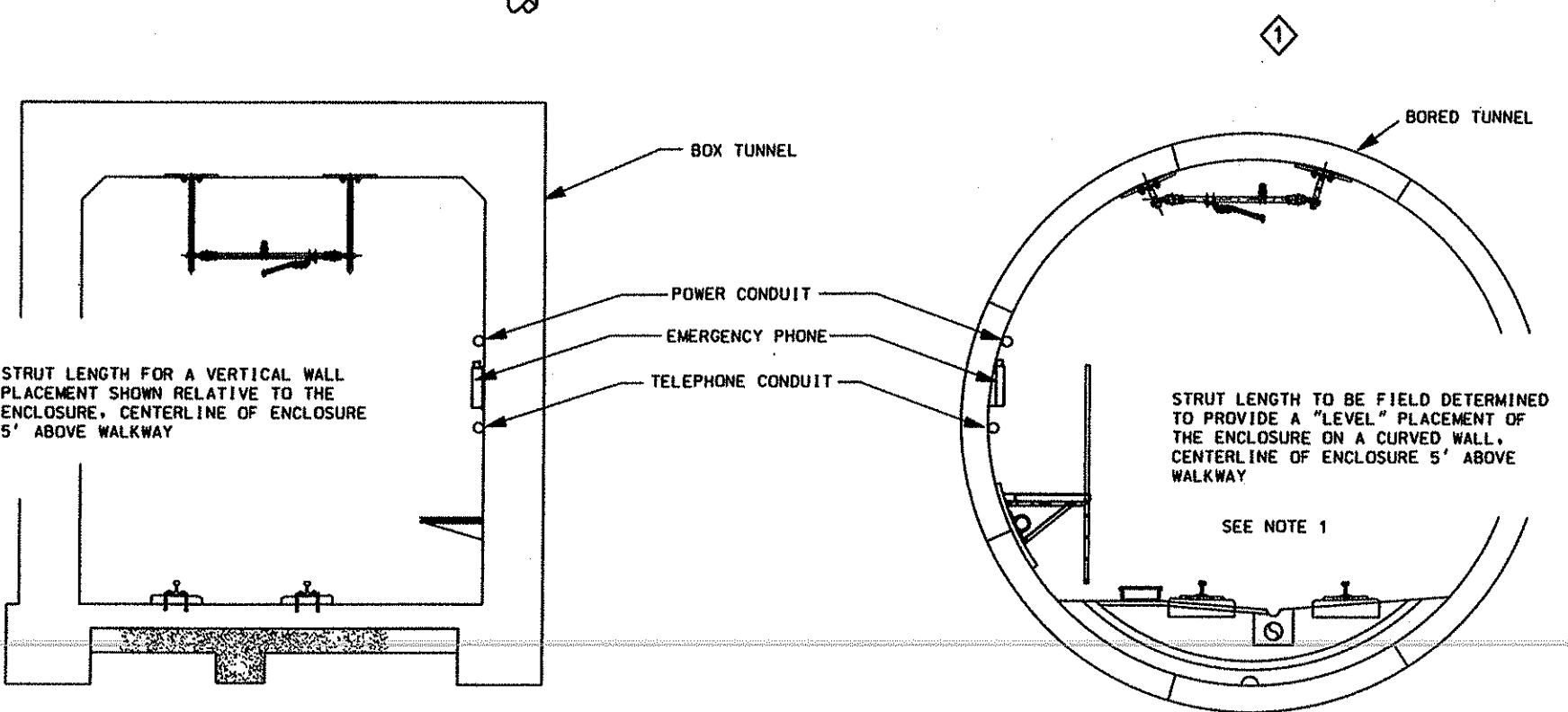
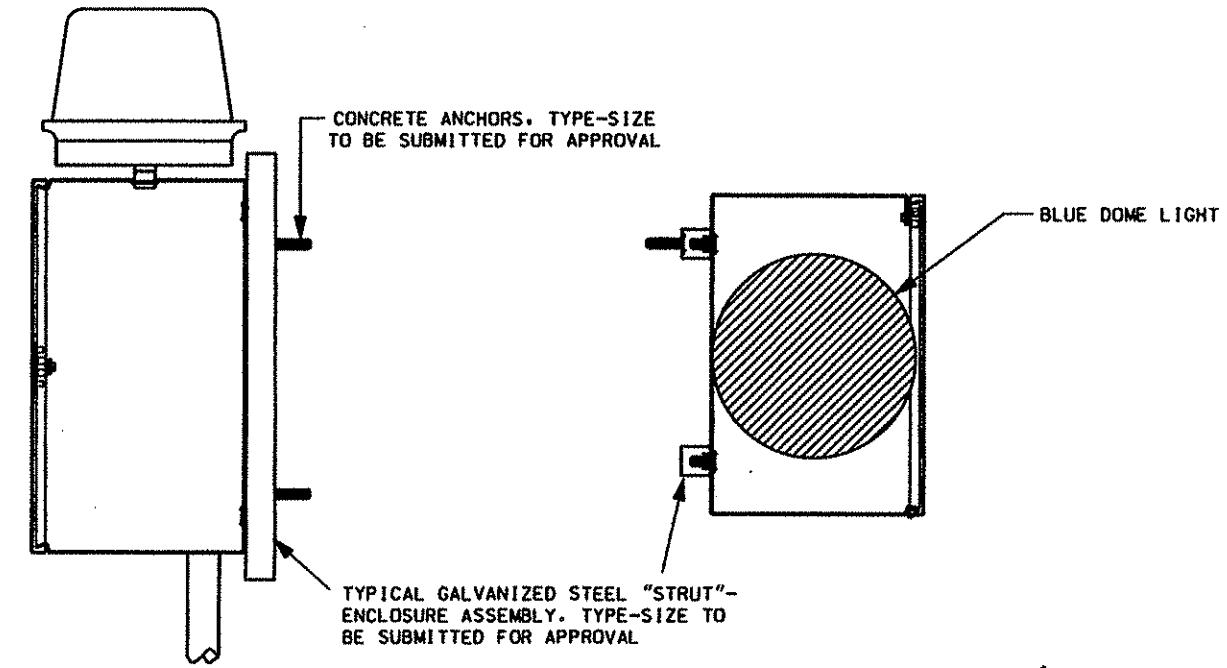
Gannett Fleming
Transit & Rail Systems

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.



DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
[Signature]
APPROVED 9/23/08 DATE

PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH		NORTH SHORE CONNECTOR NSC TRAIN SYSTEM (SYSTEM WIDE) TYPICAL SIGNAL LAYOUT - BORED TUNNEL WALL MOUNTED DETAILS	
SCALE	NTS	Port Authority	CONTRACT NO. NSC-009 DWG. NO. SG152 INT. 403



NOTES:

1. PENETRATION DEPTH OF DRILLED ANCHOR SHALL NOT EXCEED 3" IN BORED TUNNELS.
2. TELEPHONE GAS PROTECTION BLOCK CONNECTED TO AERIAL GROUND WIRE WITH #6 AWG GROUND WIRE.
3. THE CONTRACTOR SHALL BE ALLOWED A SIX (6) INCH MAXIMUM EMBODIMENT DEPTH INTO THE BORED TUNNEL SEGMENT AT A MINIMUM DISTANCE FROM SEGMENTAL JOINTS EQUAL TO OR GREATER THAN 3" THE EMBODIMENT DEPTH. PRIOR TO ANY DRILLING, CONTRACTOR NEEDS TO IDENTIFY LOCATION AND GET APPROVAL OF ENGINEER.

DETAIL "B" FLATWALL

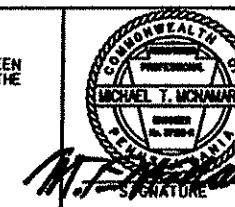
DETAIL "A" CURVED WALL

BLUE LIGHT EMERGENCY PHONE - TUNNEL INSTALLATION

Gannett Fleming
Transit & Rail Systems

NO.	DATE	DESCRIPTION
REVISIONS		

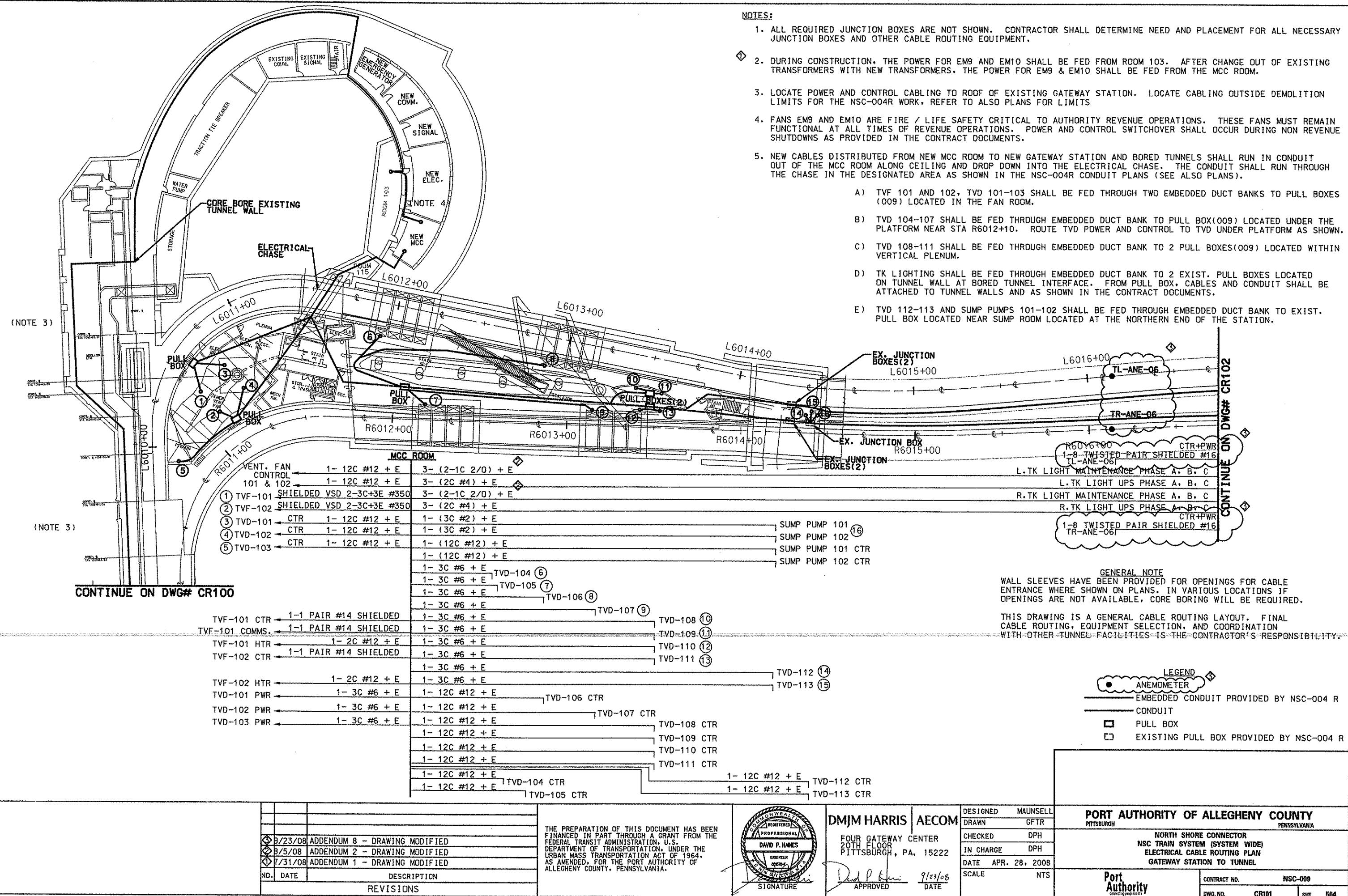
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DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
APPROVED *[Signature]*
DATE 9/23/08

DESIGNED R WEIDNER
DRAWN HT TRAN
CHECKED D ZUCK
IN CHARGE CD JONES
DATE APR. 28, 2008
SCALE

PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH		NORTH SHORE CONNECTOR NSC TRAIN SYSTEM (SYSTEM WIDE) SYSTEM WIDE SIGNALS & COMMUNICATION SYSTEMS TYPICAL EMERGENCY PHONE - TUNNEL	
Contract No.	NSC-009	Dwg. No.	CMD041
Sheet	544		



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GENERAL NOTES:

WALL SLEEVES HAVE BEEN PROVIDED FOR OPENINGS FOR CABLE ENTRANCE WHERE SHOWN ON PLANS. IN VARIOUS LOCATIONS IF OPENINGS ARE NOT AVAILABLE, CORE BORING WILL BE REQUIRED.

LEGENDS



THIS DRAWING IS A GENERAL CABLE ROUTING LAYOUT. FINAL CABLE ROUTING, EQUIPMENT SELECTION, AND COORDINATION WITH OTHER TUNNEL FACILITIES IS THE CONTRACTOR'S RESPONSIBILITY.

NOTES:

1. ALL REQUIRED JUNCTION BOXES ARE NOT SHOWN. CONTRACTOR SHALL DETERMINE NEED AND PLACEMENT FOR ALL NECESSARY JUNCTION BOXES AND OTHER CABLE ROUTING EQUIPMENT.
 2. ATTACH TK LIGHTING CABLES AND CONDUIT TO TUNNEL WALLS AS SHOWN IN THE CONTRACT DOCUMENTS.

L6017+00

018400

R6017+00

6018+00

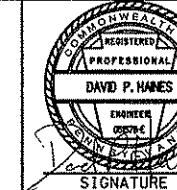
3 - (2-1C 1/0) + E

CTR + PWR
TL-ANE-05 2-8 TWISTED PAIR SHIELDED

3- (2-1C 1/0)

CTR + PWR
TR-ANF-05 2-B TWISTED PAIR SHIELDED

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DMJM HARRIS AECO

Dad P. Davis APPROVED 9/23/08 DATE

DESIGNED	MAUNSELL
DRAWN	GFTR
CHECKED	DPH
IN CHARGE	DPH
DATE	APR. 28, 2008
SCALE	NTS

PITTSBURGH **PENNSYLVANIA**

PORT AUTHORITY OF ALLEGHENY COUNTY

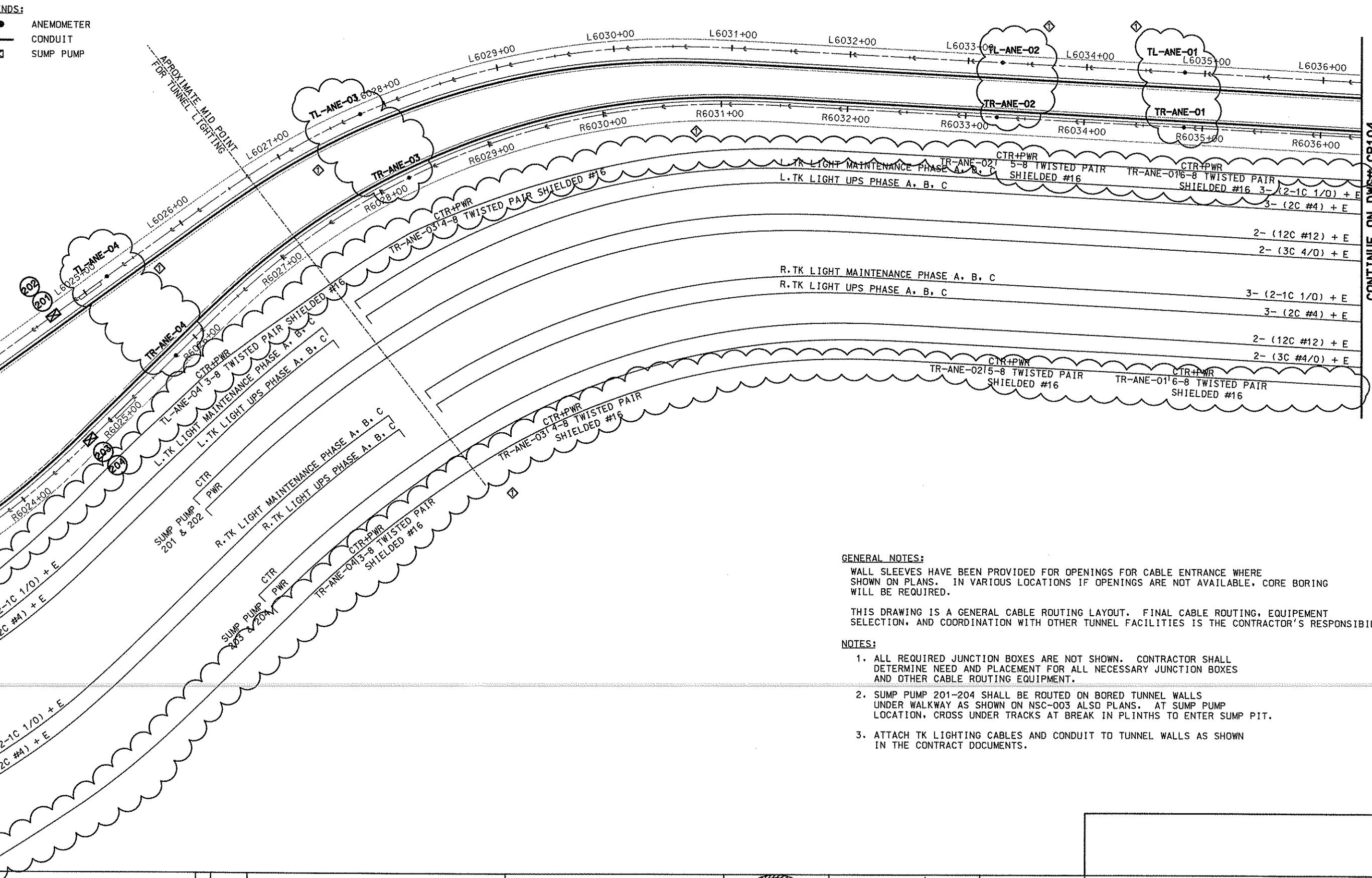
**NORTH SHORE CONNECTOR
SC TRAIN SYSTEM (SYSTEM WIDE)
ELECTRICAL CABLE ROUTING PLAN
TUNNEL SECTION**

CONTRACT NO. NSC-069

LEGENDS:

- ANEMOMETER
- CONDUIT
- ☒ SUMP PUMP

CONTINUE ON DWG# CR102



GENERAL NOTES:

WALL SLEEVES HAVE BEEN PROVIDED FOR OPENINGS FOR CABLE ENTRANCE WHERE SHOWN ON PLANS. IN VARIOUS LOCATIONS IF OPENINGS ARE NOT AVAILABLE, CORE BORING WILL BE REQUIRED.

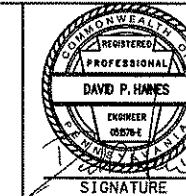
THIS DRAWING IS A GENERAL CABLE ROUTING LAYOUT. FINAL CABLE ROUTING, EQUIPMENT SELECTION, AND COORDINATION WITH OTHER TUNNEL FACILITIES IS THE CONTRACTOR'S RESPONSIBILITY.

NOTES:

1. ALL REQUIRED JUNCTION BOXES ARE NOT SHOWN. CONTRACTOR SHALL DETERMINE NEED AND PLACEMENT FOR ALL NECESSARY JUNCTION BOXES AND OTHER CABLE ROUTING EQUIPMENT.
2. SUMP PUMP 201-204 SHALL BE ROUTED ON BORED TUNNEL WALLS UNDER WALKWAY AS SHOWN ON NSC-003 ALSO PLANS. AT SUMP PUMP LOCATION, CROSS UNDER TRACKS AT BREAK IN PLINTHS TO ENTER SUMP PIT.
3. ATTACH TK LIGHTING CABLES AND CONDUIT TO TUNNEL WALLS AS SHOWN IN THE CONTRACT DOCUMENTS.

DATE	DESCRIPTION	REVISIONS
9/23/08	ADDENDUM 8 - DRAWING MODIFIED	

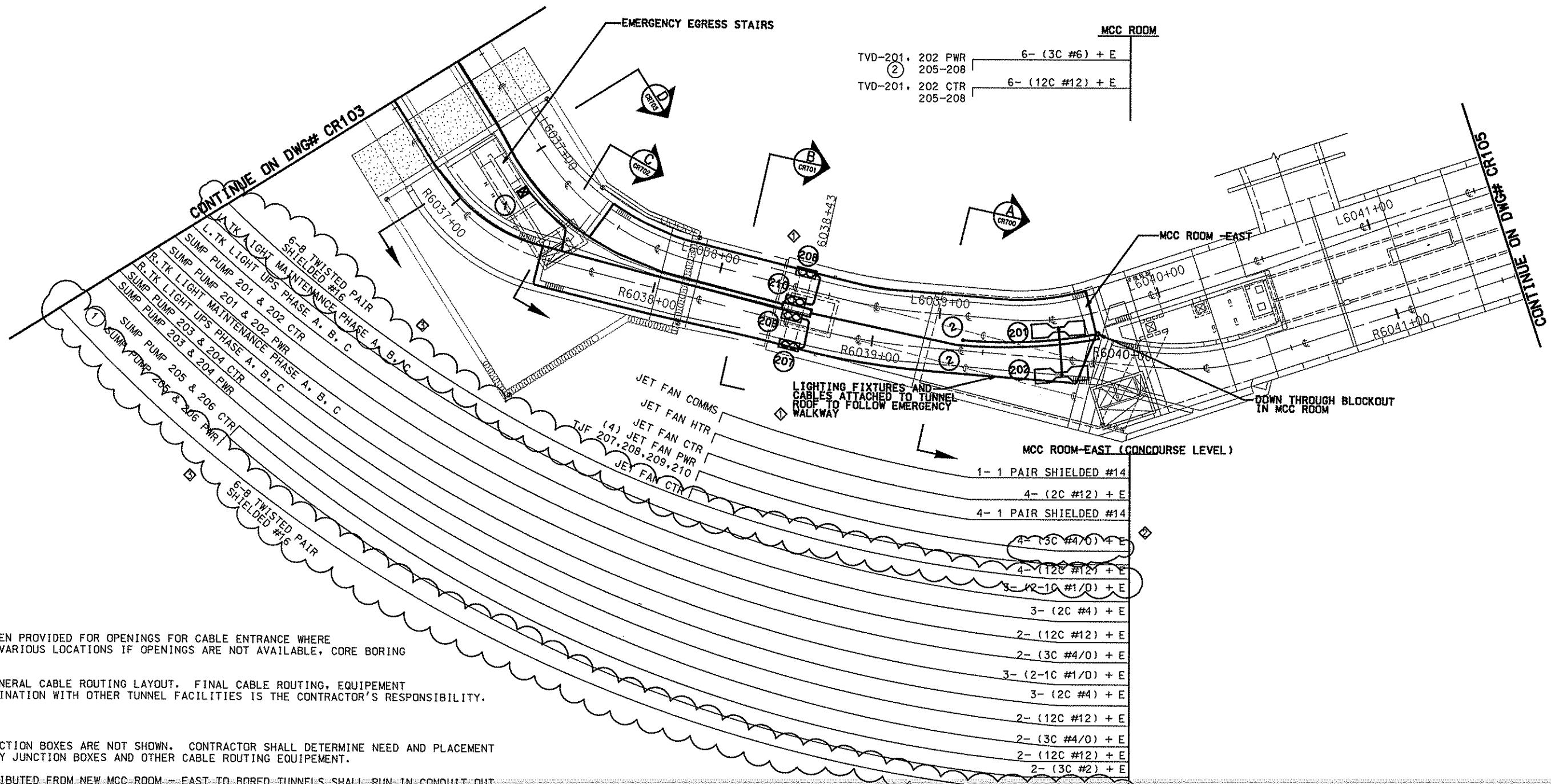
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DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
Paul P. Harris
APPROVED 9/23/08
SIGNATURE DATE

DESIGNED MAUNSELL
DRAWN GFTR
CHECKED DPH
IN CHARGE DPH
DATE APR. 28, 2008
SCALE NTS
DATE

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
ELECTRICAL CABLE ROUTING PLAN
TUNNEL SECTION
Port Authority
CONTRACT NO. NSC-009
DWG. NO. CR103 SHT. 566



NOTES:

1. ALL REQUIRED JUNCTION BOXES ARE NOT SHOWN. CONTRACTOR SHALL DETERMINE NEED AND PLACEMENT FOR ALL NECESSARY JUNCTION BOXES AND OTHER CABLE ROUTING EQUIPMENT.
2. NEW CABLES DISTRIBUTED FROM NEW MCC ROOM - EAST TO BORED TUNNELS SHALL RUN IN CONDUIT OUT OF THE MCC ROOM - EAST THROUGH BLOCKOUT IN FLOOR AND RUN CONDUIT ALONG THE ROOF OF THE TUNNEL AND WALLS AS SHOWN IN THE CONTRACT DOCUMENTS.
 - A. TJF'S 207, 208, 209 AND 210 SHALL BE FED FROM CABLES AND CONDUIT ATTACHED TO THE TUNNEL CEILING.
 - B. TK LIGHTING FOR LEFT AND RIGHT TUNNEL SHALL CROSS EACH TRACK ON THE TUNNEL CEILING AT EACH CROSS PASSAGE LOCATED AT APPROXIMATE STA. R6040+00 AND PROCEED TOWARD THE BORED TUNNEL THROUGH CABLES ATTACHED TO THE TUNNEL WALLS. AT THE CROSS PASSAGES LOCATED AT APPROXIMATE STA. R6037+50 CABLES AND CONDUIT SHALL CROSS BACK OVER TRACK TO CENTER (INSIDE) WALLS AND PROCEED INTO THE BORED TUNNELS.
 - C. SUMP PUMPS 201, 202, 203, 204, 205 AND 206 SHALL BE FED FROM CABLES AND CONDUIT ATTACHED TO THE TUNNEL CEILING, PROCEEDING PAST TJF 207-210 TO THE CENTER TUNNEL WALL. SUMP PUMPS 203, 204, 205 AND 206 SHALL PROCEED DOWN THE RIGHT TRACK CENTER WALL AND INTO THE BORED TUNNEL AND EGRESS SUMP ROOM. SUMP PUMP 201 AND 202 SHALL PROCEED DOWN THE LEFT TRACK CENTER WALL AND INTO THE BORED TUNNEL.
 - D. TVF 201 AND 202 AND TVD 201, 202, 205 - 208 SHALL BE FED FROM THE MCC ROOM - EAST TO THE FAN ROOM THROUGH BLOCKOUT IN MCC CEILING.

TVF-201 CTR	1- (12C #12) + E
TVF-201 PWR	SHIELDED VSD 1-3C+3E 500 MCM
TVF-201 CTR	1- 1 PAIR #14 SHIELDED
TVF-201 COMMS.	1- 1 PAIR #14 SHIELDED
TVF-201 HTR	1- (2C #12) + E
TVF-202 CTR	1- (12C #12) + E
TVF-202 PWR	SHIELDED VSD 1-3C+3E 500 MCM
TVF-202 CTR	1- 1 PAIR #14 SHIELDED
TVF-202 HTR	1- (2C #12) + E

LEGENDS:

- CONDUIT
- ◎ JET FAN
- TV FAN
- SUMP PUMPS

						PORT AUTHORITY OF ALLEGHENY COUNTY	
						Pittsburgh, Pennsylvania	
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.		PROFESSIONAL	DMJM HARRIS AECOM	DESIGNED	MAUNSELL	NORTH SHORE CONNECTOR	
9/23/08 ADDENDUM 8 - DRAWING MODIFIED		REGISTERED	DRAWN	GFTF		NSC TRAIN SYSTEM (SYSTEM WIDE)	
8/5/08 ADDENDUM 2 - DRAWING MODIFIED		PROFESSIONAL	CHECKED	DPH		ELECTRICAL CABLE ROUTING PLAN	
7/31/08 ADDENDUM 1 - DRAWING MODIFIED		ENGINEER	IN CHARGE	DPH		NORTH SIDE STATION	
NO. DATE	DESCRIPTION	SIGNATURE	DATE	APR. 28, 2008	NTS	Port Authority	Contract No. NSC-009
	REVISIONS	APPROVED	9/23/08				Dwg. No. CR104
9/23/2008	11:40:26 PM	dwg\1\dwg\009\dwg\009CR104-AB.dgn	SHT.	567			

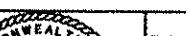
INDEX OF ALSO DRAWINGS

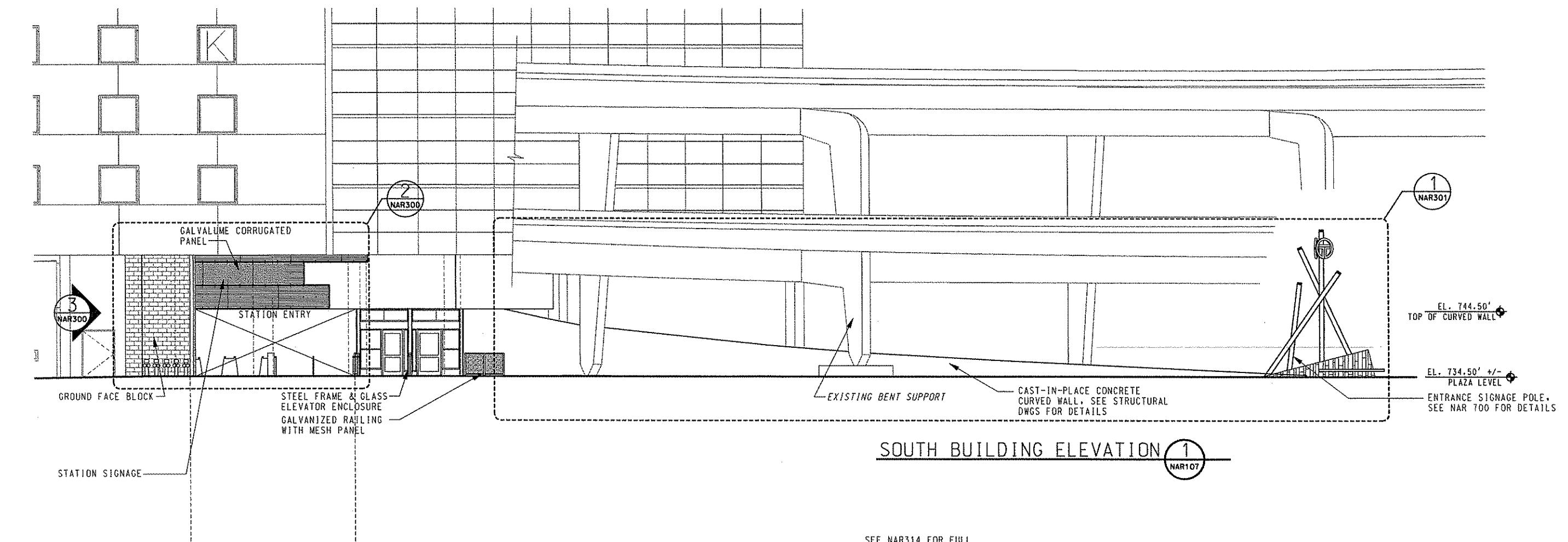
CONTRACT NO.	DRAWING NO.	DRAWING TITLE	CONTRACT NO.	DRAWING NO.	DRAWING TITLE			
NORTHSIDE STATION FINISHES								
NSC-011	NGN017	STANDARD SYMBOLS 9 OF 10	NSC-011	NEL118	PARTIAL CONCOURSE LEVEL POWER PLAN C			
NSC-011	NGN018	STANDARD SYMBOLS 10 OF 10	NSC-011	NEL119	PARTIAL CONCOURSE LEVEL POWER PLAN B			
NSC-011	NAR104	PARTIAL STREET LEVEL PLAN A VENTILATION BULKHEAD AT STAIR 'D'	NSC-011	NEL120	PARTIAL PLATFORM LEVEL POWER PLAN B			
NSC-011	NAR106	PARTIAL STREET LEVEL PLAN C VENTILATION BULKHEAD AT STAIR 'A'	NSC-011	NEL121	PARTIAL PLATFORM LEVEL POWER PLAN C			
NSC-011	NAR107A	PARTIAL STREET LEVEL PLAN D ALTERNATE	NSC-011	NEL402	COMMUNICATION DEVICE SCHEDULE AND SYMBOL LIST			
NSC-011	NAR108	PARTIAL CONCOURSE LEVEL PLAN A	NSC-011	NEL501	PANEL SCHEDULE			
NSC-011	NAR109	PARTIAL CONCOURSE LEVEL PLAN B	NSC-011	NEL606	SINGLE LINE DIAGRAM			
NSC-011	NAR110	PARTIAL CONCOURSE LEVEL PLAN C	NSC-011	NFP001	FIRE PROTECTION GENERAL INFORMATION			
NSC-011	NAR111	PARTIAL CONCOURSE LEVEL PLAN D	NSC-011	NFP105	FIRE PROTECTION PARTIAL CONCOURSE LEVEL PLAN A			
NSC-011	NAR113	PARTIAL PLATFORM LEVEL PLAN B	NSC-011	NFP106	FIRE PROTECTION PARTIAL CONCOURSE LEVEL PLAN B			
NSC-011	NAR114	PARTIAL PLATFORM LEVEL PLAN C	NSC-011	NFP107	FIRE PROTECTION PARTIAL CONCOURSE LEVEL PLAN C			
NSC-011	NAR300	ELEVATION SOUTH ENTRANCE - SHEET 52	NSC-011	NFP108	FIRE PROTECTION PARTIAL CONCOURSE LEVEL PLAN D			
NSC-011	NAR315	PARTIAL ELEVATION SLOPED METAL PANEL WALL	NSC-011	NFP109	FIRE PROTECTION PARTIAL PLATFORM LEVEL PLAN B			
NSC-011	NAR316	PARTIAL ELEVATION SLOPED METAL PANEL WALL	NSC-011	NFP110	FIRE PROTECTION PARTIAL PLATFORM LEVEL PLAN C			
NSC-011	NAR400	BUILDING SECTION CENTER OF PLATFORM - C	NORTHSIDE STATION FINISHES					
NSC-011	NAR402	BUILDING SECTION CENTER OF PLATFORM - A	NSC-011	NEL118	PARTIAL CONCOURSE LEVEL POWER PLAN C			
NSC-011	NAR403	BUILDING SECTION EAST STA 6040+70.00	NSC-011	NEL119	PARTIAL CONCOURSE LEVEL POWER PLAN B			
NSC-011	NAR406	BUILDING SECTION WEST STA 6040+85.00	NSC-011	NEL120	PARTIAL PLATFORM LEVEL POWER PLAN B			
NSC-011	NAR407	BUILDING SECTIONS TUNNEL STA 6042+00 & 6043+00	NSC-011	NEL121	PARTIAL PLATFORM LEVEL POWER PLAN C			
NSC-011	NAR515	WALL SECTIONS SLOPED METAL PANEL WALL	NSC-011	NEL402	COMMUNICATION DEVICE SCHEDULE AND SYMBOL LIST			
NSC-011	NAR516	SECTION DETAILS SLOPED METAL PANEL WALL: 1 OF 3	NSC-011	NEL501	PANEL SCHEDULE			
NSC-011	NAR517	SECTION DETAILS SLOPED METAL PANEL WALL: 2 OF 3	NSC-011	NEL606	SINGLE LINE DIAGRAM			
NSC-011	NAR525	WALL SECTIONS & ELEVATION WEST WALL: PERFORATED METAL PANEL	NSC-011	NFP001	FIRE PROTECTION GENERAL INFORMATION			
NSC-011	NAR600	STAIR 'A' PLANS	NSC-011	NFP105	FIRE PROTECTION PARTIAL CONCOURSE LEVEL PLAN A			
NSC-011	NAR601	STAIR 'A' SECTION	NSC-011	NFP106	FIRE PROTECTION PARTIAL CONCOURSE LEVEL PLAN B			
NSC-011	NAR602	STAIR 'A' SECTION	NSC-011	NFP107	FIRE PROTECTION PARTIAL CONCOURSE LEVEL PLAN C			
NSC-011	NAR604	STAIR 'C' PLANS & SECTION	NSC-011	NFP108	FIRE PROTECTION PARTIAL CONCOURSE LEVEL PLAN D			
NSC-011	NAR605	STAIR 'D' PLANS & SECTION	NSC-011	NFP109	FIRE PROTECTION PARTIAL PLATFORM LEVEL PLAN B			
NSC-011	NAR700	ENTRANCE SIGNAGE POLE PLANS & ELEVATIONS	NSC-011	NFP110	FIRE PROTECTION PARTIAL PLATFORM LEVEL PLAN C			
NSC-011	NAR710	PLATFORM SIGNAGE POLE PLANS & ELEVATIONS	ALLEGHENY STATION					
NSC-011	NAR711	PLATFORM SIGNAGE POLE DETAILS	NSC-012-G	AR102	PARTIAL STREET LEVEL CONSTRUCTION PLAN - WEST			
NSC-011	NAR720	SIGNAGE FRAME STRUCTURES PLANS & ELEVATIONS	NSC-012-G	AR104	PARTIAL MEZZANINE LEVEL CONSTRUCTION PLAN - WEST			
NSC-011	NAR909	PARTIAL CONCOURSE LEVEL REFLECTED CEILING PLAN PLAN B	NSC-012-G	AR300	NORTH AND SOUTH EXTERIOR ELEVATIONS			
NSC-011	NAR910	PARTIAL CONCOURSE LEVEL REFLECTED CEILING PLAN PLAN C	NSC-012-G	AR303	EAST AND WEST STATION AND STAIR "C" ELEVATIONS			
NSC-011	NAR911	PARTIAL CONCOURSE LEVEL REFLECTED CEILING PLAN PLAN D	NSC-012-G	AR400	LONGITUDINAL BUILDING SECTION - NORTH AND SOUTH			
NSC-011	NAR913	PARTIAL PLATFORM LEVEL REFLECTED CEILING PLAN PLAN B	NSC-012-G	AR401	PARTIAL LONGITUDINAL BUILDING SECTION - NORTH			
NSC-011	NAR914	PARTIAL PLATFORM LEVEL REFLECTED CEILING PLAN PLAN C	NSC-012-G	AR402	PARTIAL LONGITUDINAL BUILDING SECTION - SOUTH			
NSC-011	NAR920	CEILING DETAILS PERFORATED METAL SUSPENDED CEILING	NSC-012-G	AR403	TRANSVERSE BUILDING SECTIONS			
NSC-011	NAR930	DEVICE MOUNTING DETAILS 1 OF 2	NSC-012-G	AR404	TRANSVERSE BUILDING SECTIONS			
NSC-011	NAR931	DEVICE MOUNTING DETAILS 2 OF 2	NSC-012-G	AR500	WALL SECTION AND DETAILS			
NSC-011	NSN102	PARTIAL CONCOURSE LEVEL PLAN A	NSC-012-G	AR508	ROOF AND PARAPET DETAILS			
NSC-011	NSN103	PARTIAL CONCOURSE LEVEL PLAN B	NSC-012-G	AR514	ELEVATOR "A", NORTH - SOUTH SECTION			
NSC-011	NSN104	PARTIAL CONCOURSE LEVEL PLAN C	NSC-012-G	AR608	DEVICE INTEGRATION DETAILS			
NSC-011	NSN105	PARTIAL CONCOURSE LEVEL PLAN D	NSC-012-H	AR609	DEVICE INTEGRATION DETAILS			
NSC-011	NSN106	PARTIAL PLATFORM LEVEL PLAN B	NSC-012-H	MC102	PARTIAL STREET LEVEL HVAC PLAN - WEST			
NSC-011	NSN107	PARTIAL PLATFORM LEVEL PLAN C	1	NSC-012-E001	ELECTRICAL NOTES AND LEGENDS			
NSC-011	NSN701	(SIGN TYPE G)	NSC-012-E002		ELECTRICAL SITE PLAN			
NSC-011	NSN702	PLATFORM SIGNAGE POLE PLANS AND ELEVATIONS	NSC-012-E004		STREET LEVEL LIGHTING PLAN - WEST			
NSC-011	NSN711	(SIGN TYPE E1)	NSC-012-E009		STREET LEVEL POWER PLAN - WEST			
NSC-011	NEL107	PARTIAL CONCOURSE LEVEL LIGHTING PLAN A	NSC-012-E012		STREET LEVEL COMMUNICATIONS PLAN - WEST			
NSC-011	NEL108	PARTIAL CONCOURSE LEVEL LIGHTING PLAN B	NSC-012-E013		MEZZANINE LEVEL COMMUNICATIONS PLAN - WEST			
NSC-011	NEL109	PARTIAL CONCOURSE LEVEL LIGHTING PLAN C	NSC-012-E014		PLATFORM LEVEL COMMUNICATIONS PLAN - EAST			
NSC-011	NEL110	PARTIAL CONCOURSE LEVEL LIGHTING PLAN D	NSC-012-E015		PLATFORM LEVEL COMMUNICATIONS PLAN - WEST			
NSC-011	NEL111	PARTIAL PLATFORM LEVEL LIGHTING PLAN B	NSC-012-E016		ELECTRICAL DIAGRAMS AND SCHEDULES			
NSC-011	NEL112	PARTIAL PLATFORM LEVEL LIGHTING PLAN C	NSC-012-E017		ELECTRICAL DIAGRAMS AND SCHEDULES			
NSC-011	NEL113	PARTIAL STREET LEVEL POWER PLAN A	NSC-012-E018		ELECTRICAL DETAILS			
NSC-011	NEL116	PARTIAL CONCOURSE LEVEL POWER PLAN A	NSC-012-E019		ELECTRICAL DETAILS			
NSC-011	NEL117	PARTIAL CONCOURSE LEVEL POWER PLAN B	NSC-012-E020		ELECTRICAL DETAILS			
			NSC-012-E021		GROUNDING/LIGHTING PROTECTION PLAN			
			NSC-012-E024		CONDUIT-RUN PLAN			
			NSC-012-C	SG107	PARTIAL PLATFORM LEVEL SIGN LOCATION PLAN			
			NSC-012-C	SG204	SIGN TYPES B&G - ELEVATION			
			NSC-012-C	SG301	SIGN DETAILS			
			NSC-012-C	SG302	SIGNAGE DETAILS			
			NSC-012-P	FP102	PARTIAL STREET LEVEL FIRE PROTECTION PLAN - WEST			
			NSC-012-P	PL102	PARTIAL STREET LEVEL PLUMBING PLAN - WEST			

 Gannett Fleming Transit & Rail Systems		 JOSEPH C. TRAUM JR. PROFESSIONAL ENGINEER Pittsburgh, PA		DESIGNED DRAWN CHECKED IN CHARGE DATE SCALE	PORT AUTHORITY OF ALLEGHENY COUNTY Pittsburgh NORTH SHORE CONNECTOR NSC TRAIN SYSTEM (SYSTEM-WIDE) INDEX OF ALSO DRAWINGS FOR NSC CONTRACT INTERFACES SHEET 4 OF 4	
				APPROVED	9/26/08	DATE
				Port Authority	CONTRACT NO.	NSC-009
					DRAWING NO.	GN005A
					SHT.	

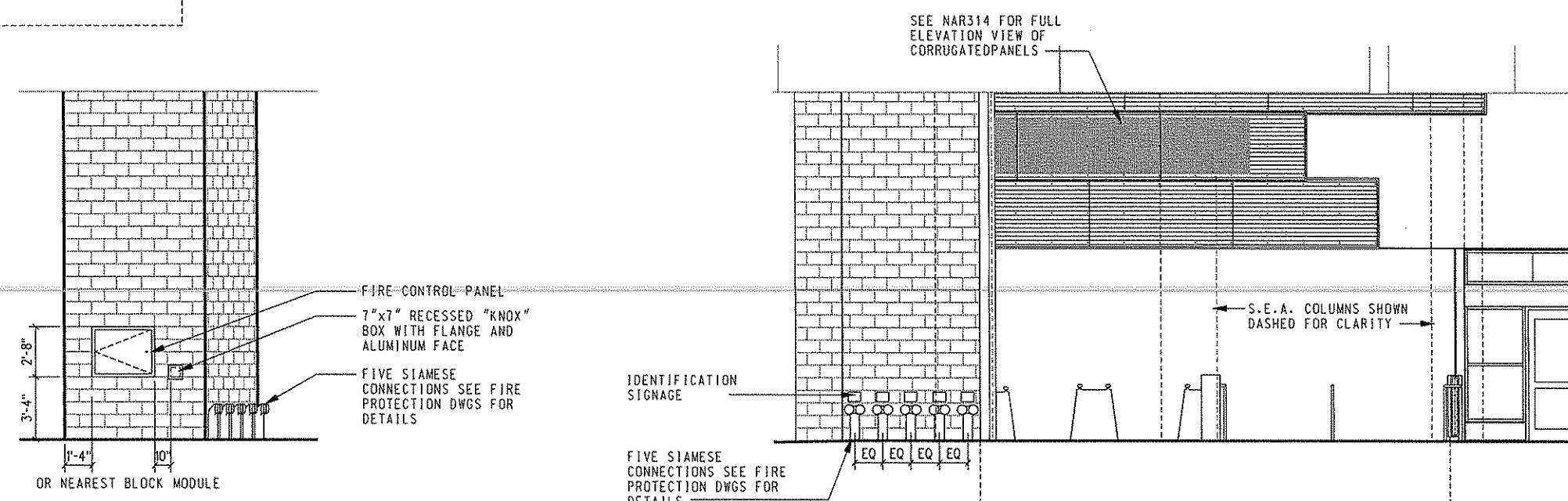
INDEX OF ALSO DRAWINGS

CONTRACT NO.	DRAWING NO.	DRAWING TITLE	CONTRACT NO.	DRAWING NO.	SHEET NO.	DRAWING TITLE	
OPERATION CONTROL CENTER (OCC)							
LRS-98-05	CC0010	OCC Block Diagram	CY-111	T1373	668-2	CABLE PLAN	
LRS-98-05-R	CC0208	PAAC OCC Network Diagram, Rack 4 Terminal Server Connections	CY-111	T1373	668-76	TRAIN TO WAYSIDE COILS #47, #48	
LRS-98-05-R	CC0209	PAAC OCC Network Diagram, Rack 5 Terminal Server Connections	CY-111	T1373	668-W3	RACK 1 TERMINAL BOARDS A, B, & C	
LRS-98-05	CC321	IDF 1st Floor to 2nd Floor Wiring (1 of 8)				STAGE 1 - TRACKWORK DRAWING	
LRS-98-05	CC322	IDF 1st Floor to 2nd Floor Wiring (2 of 8)	TRKWRK-18				
LRS-98-05	CC323	IDF 1st Floor to 2nd Floor Wiring (3 of 8)	TRKWRK-20				
LRS-98-05	CC324	IDF 1st Floor to 2nd Floor Wiring (4 of 8)					
LRS-98-05	CC325	IDF 1st Floor to 2nd Floor Wiring (5 of 8)					
LRS-98-05	CC326	IDF 1st Floor to 2nd Floor Wiring (6 of 8)					
LRS-98-05	CC327	IDF 1st Floor to 2nd Floor Wiring (7 of 8)					
LRS-98-05	CC328	IDF 1st Floor to 2nd Floor Wiring (8 of 8)					
LRS-98-05	CC330	Terminal Server Wiring (1 of 4)	CY 810	TS 010-0		TRACKWORK STANDARD - DIRECT FIXATION NO. 6 TURNOUT & CROSSOVER	
LRS-98-05	CC331	Terminal Server Wiring (2 of 4)	CY 810	TS 012-0		TRACKWORK STANDARD - NO. 6 SOLID MANGANESE FLANGE BEARING FROG	
LRS-98-05	CC332	Terminal Server Wiring (3 of 4)	CY 810	TS 030-1		SUBWAY-DIRECT FIXATION DETAILS	
LRS-98-05	CC333	Terminal Server Wiring (4 of 4)	CY-111	T1373	TS-15	DOUBLE LINE TRACK & SIGNAL PLAN	
LRS-98-05	CC340	Modem IDF Wiring (1 of 6)	CY-810	C-077-0	142	TRACK ALIGNMENT DATA CA-425 - SIXTH AVENUE SPUR LINE	
LRS-98-05	CC341	Modem IDF Wiring (2 of 6)	CY-810	C-078-0	143	TRACK ALIGNMENT DATA CA-440 - SIXTH AVENUE	
LRS-98-05	CC342	Modem IDF Wiring (3 of 6)	CY-810	C-079-0	144	TRACK ALIGNMENT DATA CA-450	
LRS-98-05	CC343	Modem IDF Wiring (4 of 6)				STAGE 1 - GATEWAY CENTER STATION FINISHES	
LRS-98-05	CC344	Modem IDF Wiring (5 of 6)					
LRS-98-05	CC345	Modem IDF Wiring (6 of 6)					
LRS-98-05	CC350	Data IDF Wiring (1 of 7)	CA-456P	M-027-0		PLATFORM LEVEL - WEST - FIRE SUPPRESSION	
LRS-98-05	CC351	Data IDF Wiring (2 of 7)	CA-456P	M-028-0		PLATFORM LEVEL - EAST - FIRE SUPPRESSION	
LRS-98-05	CC352	Data IDF Wiring (3 of 7)	CA-456P	M-029-0		PLATFORM LEVEL - NORTH - FIRE SUPPRESSION	
LRS-98-05	CC353	Data IDF Wiring (4 of 7)	CA-456-E	E-009-2		LIGHTING PLAN & SECTIONS	
LRS-98-05	CC354	Data IDF Wiring (5 of 7)	CA-456-E	E-		LIGHTING PLAN	
LRS-98-05	CC355	Data IDF Wiring (6 of 7)	CA-456-E	E-007-5		LIGHTING PLAN	
LRS-98-05	CC356	Data IDF Wiring (7 of 7)	CA-456-E	E-006-5		LIGHTING PLAN	
LRS-98-05	CC360	VCS IDF Wiring (1 of 8)	CA-456-E	E-010-2		LIGHTING PLAN & SECTIONS	
LRS-98-05	CC361	VCS IDF Wiring (2 of 8)	CA-456-E	E-003-2		LIGHTING PLAN	
LRS-98-05	CC362	VCS IDF Wiring (3 of 8)	CA-456-E	E-004-6		LIGHTING PLAN	
LRS-98-05	CC363	VCS IDF Wiring (4 of 8)	CA-456-E	E-005-4		LIGHTING PLAN	
LRS-98-05	CC364	VCS IDF Wiring (5 of 8)				STAGE 2 LIGHT RAIL TRANSIT SYSTEM FIBER NODES	
LRS-98-05	CC365	VCS IDF Wiring (6 of 8)	CA-456H	M-004-0	32	PLATFORM LEVEL - WEST - HVAC	
LRS-98-05	CC366	VCS IDF Wiring (7 of 8)	CA-456H	M-006-1	34	PLATFORM LEVEL - NORTH - HVAC	
LRS-98-05	CC367	VCS IDF Wiring (8 of 8)	CA-456H	M-008-0	36	LIBERTY AVENUE SUBWAY - HVAC	
LRS-98-02-E	EL901	Ground Floor Power/Systems & Lighting Plan	CA-456H	M-009-0	37	EMERGENCY VENT. SYSTEM - DETAILS & SCHEDULES	
LRS-98-02-E	EL902	Second Floor Power/Systems & Lighting Plan	CA-456H	M-010-1	38	EMERGENCY VENT. SYSTEM - DETAILS & SCHEDULES	
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LRS-98-02-E	EL905	Enlarged Plans & Details	CA-456H	M-012-0	40	BOOSTER FAN DETAILS - SCHEDULES & AUTOMATIC TEMP. CONTROL DIAGRAMS	
LRS-98-02-E	EL906	Enlarged Plans & Details	CA-456P	M-017-1	44	GATEWAY CENTER STATION FINISHES / PLATFORM LEVEL - WEST - PLUMBING	
LRS-98-02-E	EL907	Riser Diagrams, Notes and Schedules	CA-456P	M-023-0	50	GATEWAY CENTER STATION FINISHES / PUMP ROOMS - DETAILS	
LRS-98-02-E	EL908	Panelboard Schedules	CA-456P	M-024-0	51	GATEWAY CENTER STATION FINISHES / DETAILS & SCHEDULES - PLUMBING	
LRS-98-02-E	EL909	Panelboard Schedules					
LRS-98-02-E	EL910	Existing Panelboard Schedules					
LRT-006	FM-06-EC-119	System Design (Fiber Optic) By Node Locations.					

 Gannett Fleming Transit & Rail Systems	09/26/08	ADDENDUM 6 - DRAWING MODIFIED	<p>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.</p> <p><i>D. H. Harris</i></p>	 JOSEPH C. TRAUM JR. <i>D. H. Harris</i> APPROVED SIGNATURE	DMJM HARRIS AECOM	DESIGNED JC TRAUM DRAWN JC TRAUM	PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH PENNSYLVANIA	
	09/12/08	ADDENDUM 7 - DRAWING MODIFIED			CHECKED CD JONES	NORTH SHORE CONNECTOR NSC TRAIN SYSTEM (SYSTEM-WIDE)		
	09/08/08	ADDENDUM 6 - DRAWING MODIFIED			IN CHARGE CD JONES	INDEX OF ALSO DRAWINGS FOR NSC CONTRACT INTERFACES		
	09/03/08	ADDENDUM 4 - DRAWING MODIFIED			DATE APR. 28. 2008	SHEET 5 OF 5		
	08/20/08	ADDENDUM 3 - DRAWING MODIFIED			SCALE NTS	Port Authority	CONTRACT NO. NSC-009	
	NO. DATE	DESCRIPTION			9/16/08	DWG. NO. GN005A	SHR.	
	REVISIONS							

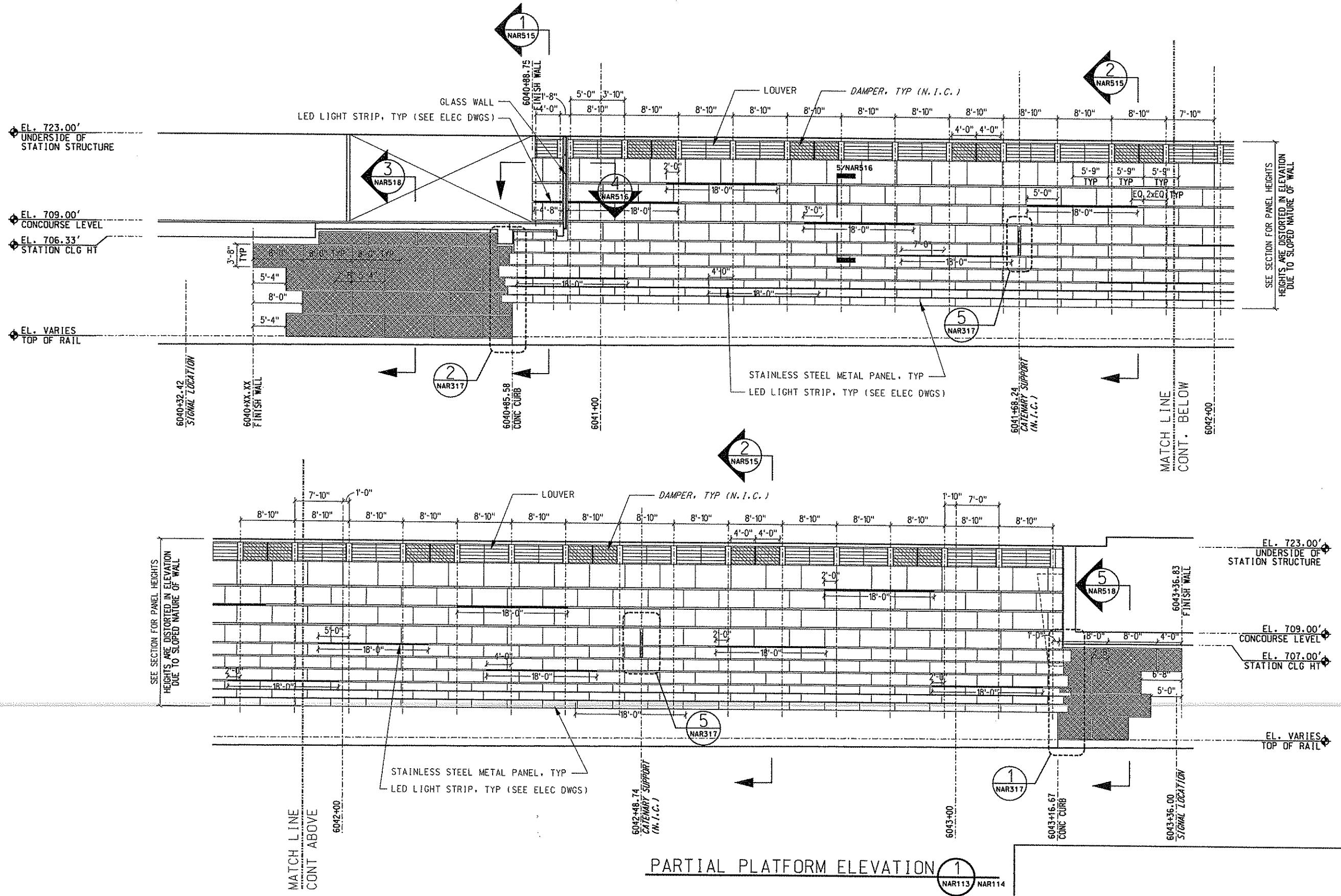


SOUTH BUILDING ELEVATION 1
NAR107



PARTIAL SOUTH BUILDING ELEVATION 3
NAR300

PARTIAL SOUTH BUILDING ELEVATION 2
NAR300



STIMES



50 WEST 14TH STREET
12TH FLOOR
NEW YORK, NY 10011
212-691-0271
WWW.COOPERCARRY.COM

09/26/08 Addendum 8 - Drawing Modified

NO. DATE DESCRIPTION

REVISIONS

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DMJM HARRIS | AECOM

FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA 15222

DESIGNED JBW
DRAWN AW, BM, CP

CHECKED LC

IN CHARGE CR

DATE OCT. 01, 2008

SCALE

0' 4' 8' 16'

NAR113 NAR114

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH, PENNSYLVANIA

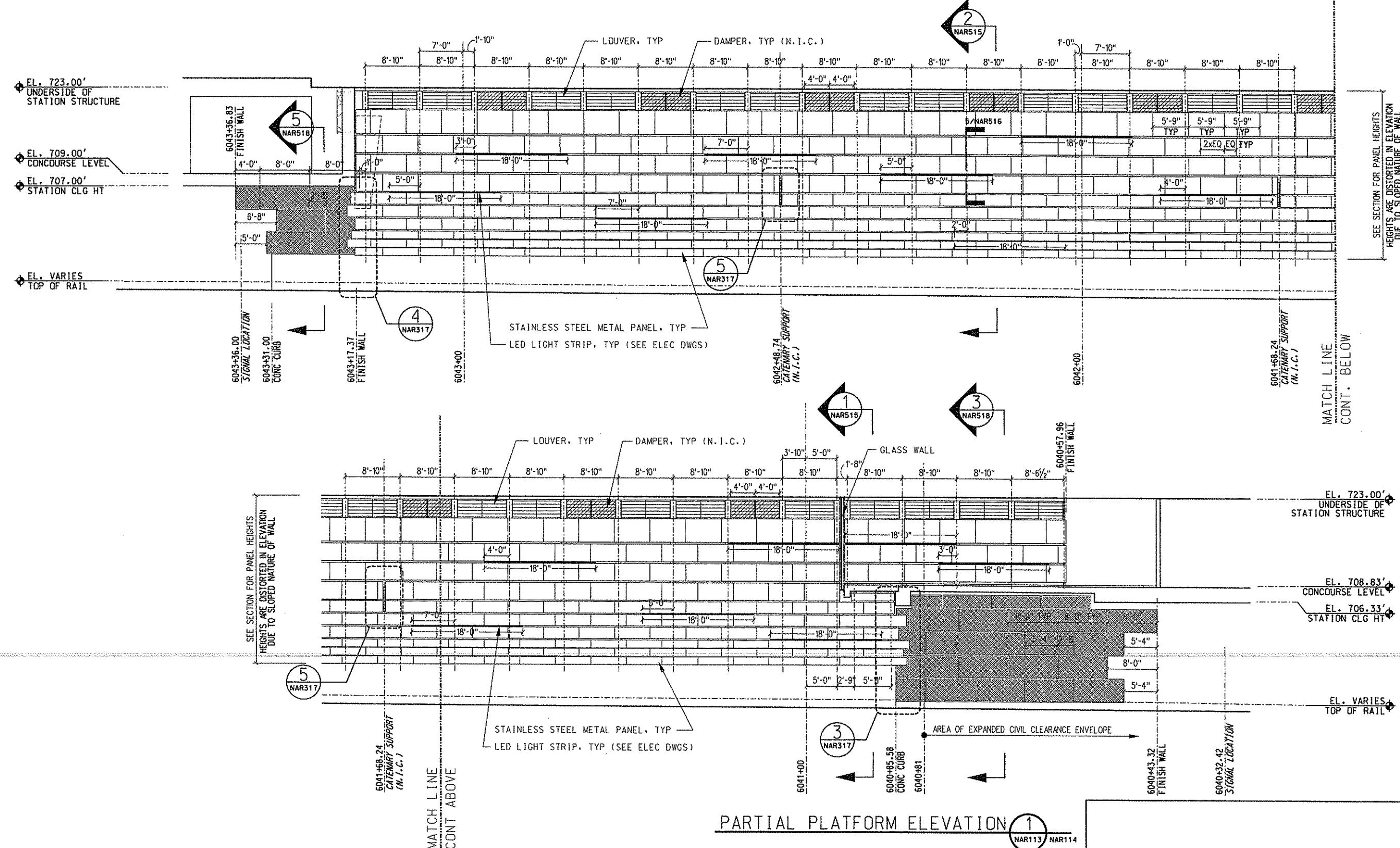
NORTH SHORE CONNECTOR
NORTH SIDE STATION FINISHES
PARTIAL ELEVATION
SLOPED METAL PANEL WALL: 1 OF 3

Port Authority

CONTRACT NO. NSC-011

DWG. NO. NAR315

SHT. 69



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.

DESIGNED BY
DRAWN AW, BM, CF
CHECKED LC
IN CHARGE CR
DATE OCT. 01, 2008
SCALE 0' 4' 8' 16'

DMJM HARRIS

AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA 15222

SIGNATURE

APPROVED

DATE

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH
PENNSYLVANIA

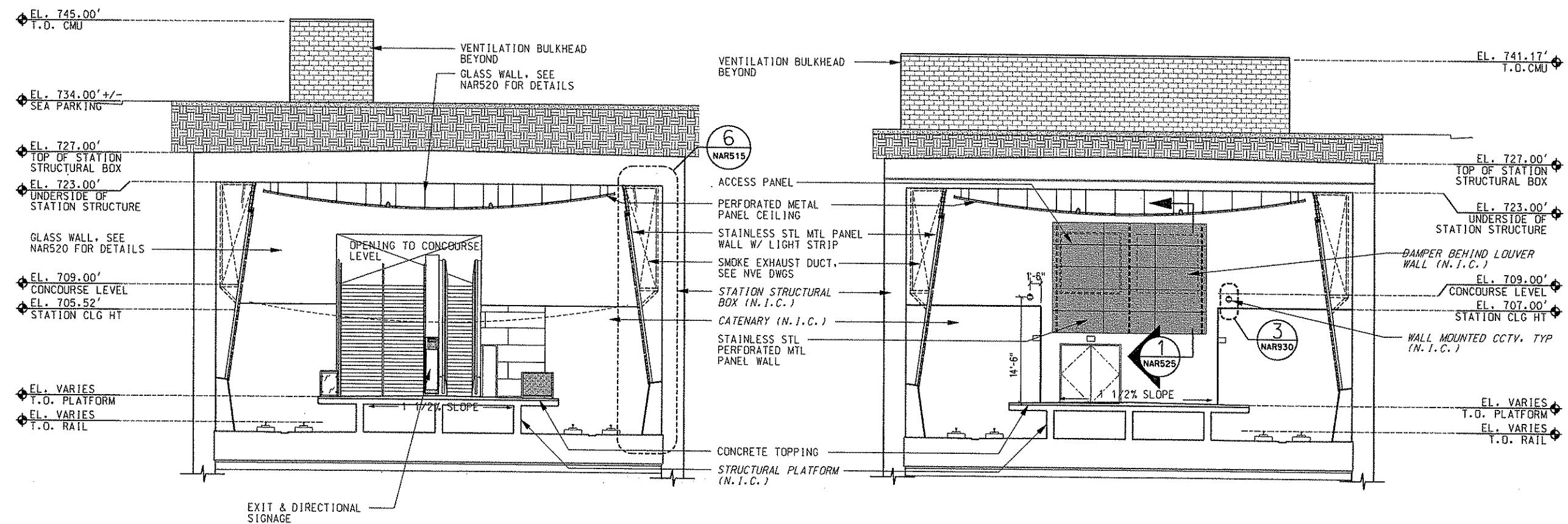
NORTH SHORE CONNECTOR
NORTH SIDE STATION FINISHES
PARTIAL ELEVATION
SLOPED METAL PANEL WALL: 2 OF 3

Port Authority

CONTRACT NO. NSC-011
DWG. NO. NAR316

SHT. 60

NO.	DATE	DESCRIPTION	REVISIONS
10/26/08 Addendum 8 - Drawing Modified			



BUILDING SECTION @
TUNNEL STA. 6042+0

2 NAR101 NAR

BUILDING SECTION @
TUNNEL STA. 6043+00

1



60 WEST 17TH STREET
12TH FLOOR
NEW YORK, NY 10011
212-681-0271
WWW.COOPERCCARRY.COM

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**

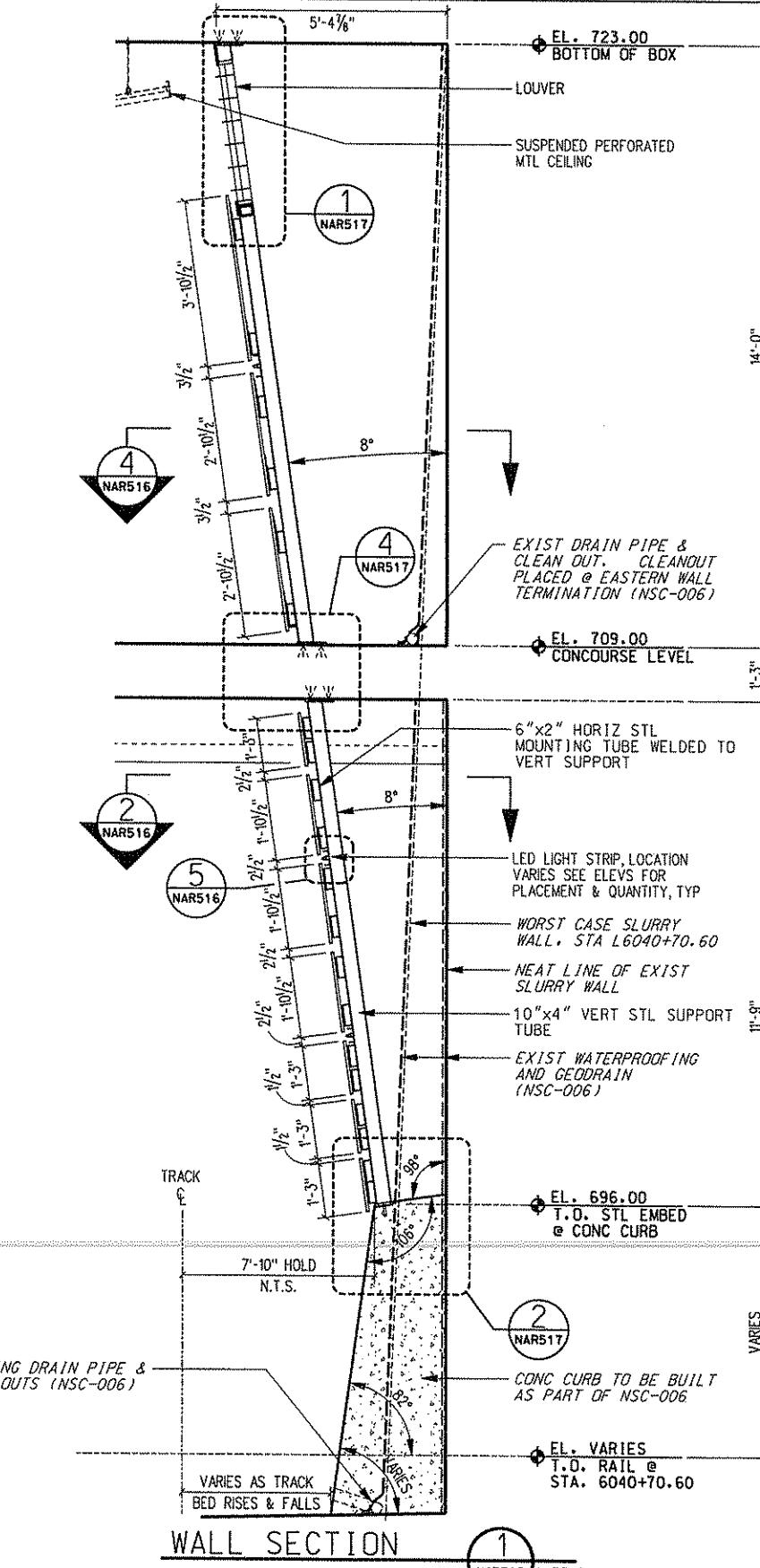
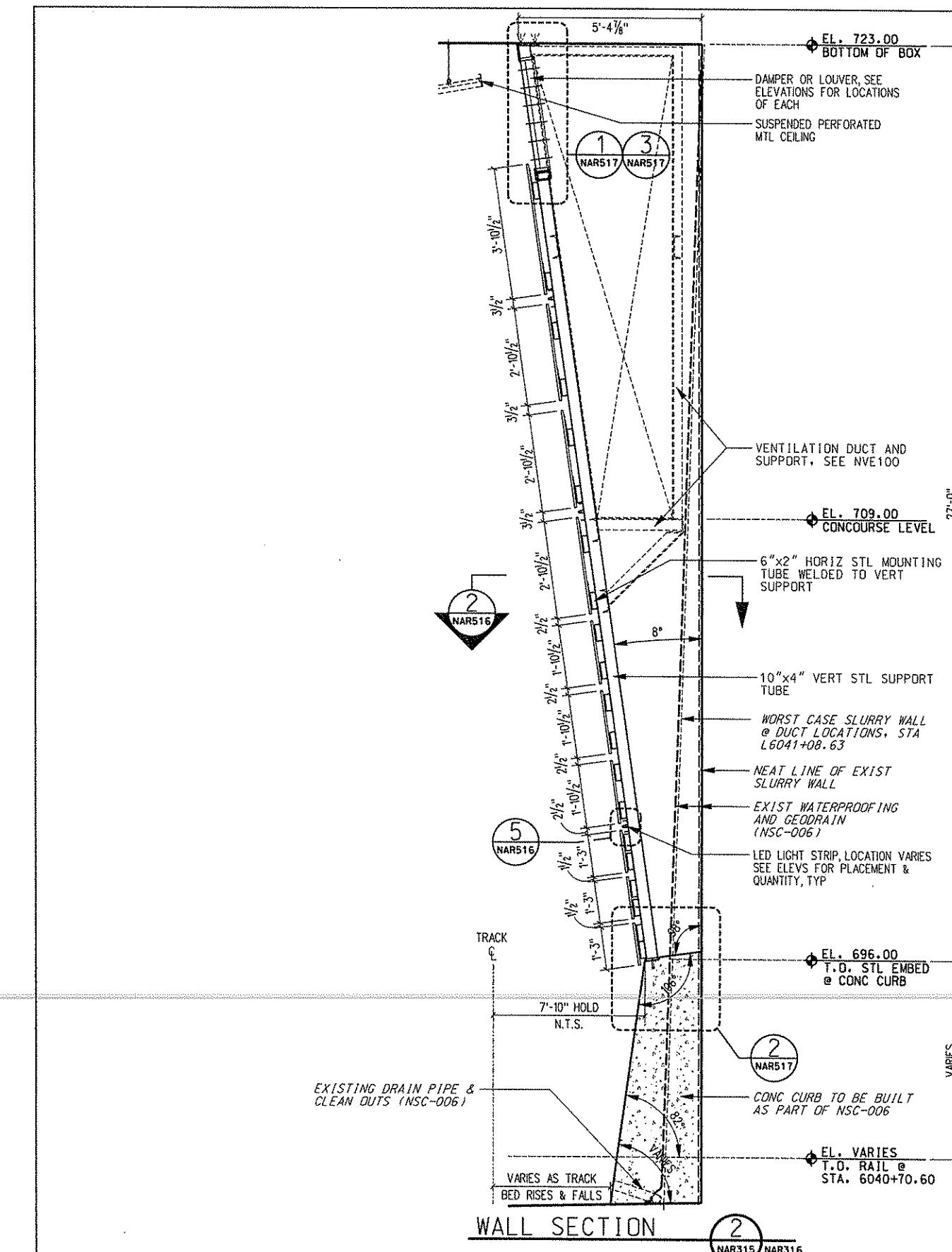
DESIGNED	JBW
DRAWN	AW, BM.
CHECKED	LC
IN CHARGE	CR
DATE	OCT. 01, 200
SCALE	

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH **PENNSYLVANIA**

**NORTH SHORE CONNECTOR
NORTH SIDE STATION FINISHES
BUILDING SECTIONS
TUNNEL STA 6042+00 & 6043+00**

CONTRACT NO. NSC-011

三七



NOTES:

1. ALL NON STAINLESS STL TO BE PAINTED BLACK UNLESS OTHERWISE NOTED



FILED		Addendum 8 - Drawing Modified	
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 _____

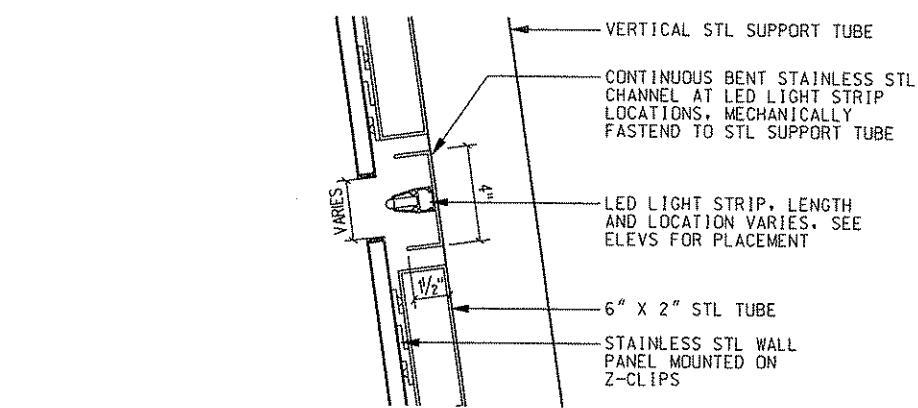
DESIGNED JBW
DRAWN AW, BM, CF
CHECKED LC
IN CHARGE CR
DATE OCT. 01, 2008
SCALE 0' 1' 2' 4'

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH, PENNSYLVANIA

NORTH SHORE CONNECTOR
NORTH SIDE STATION FINISHES
WALL SECTIONS
SLOPED METAL PANEL WALL

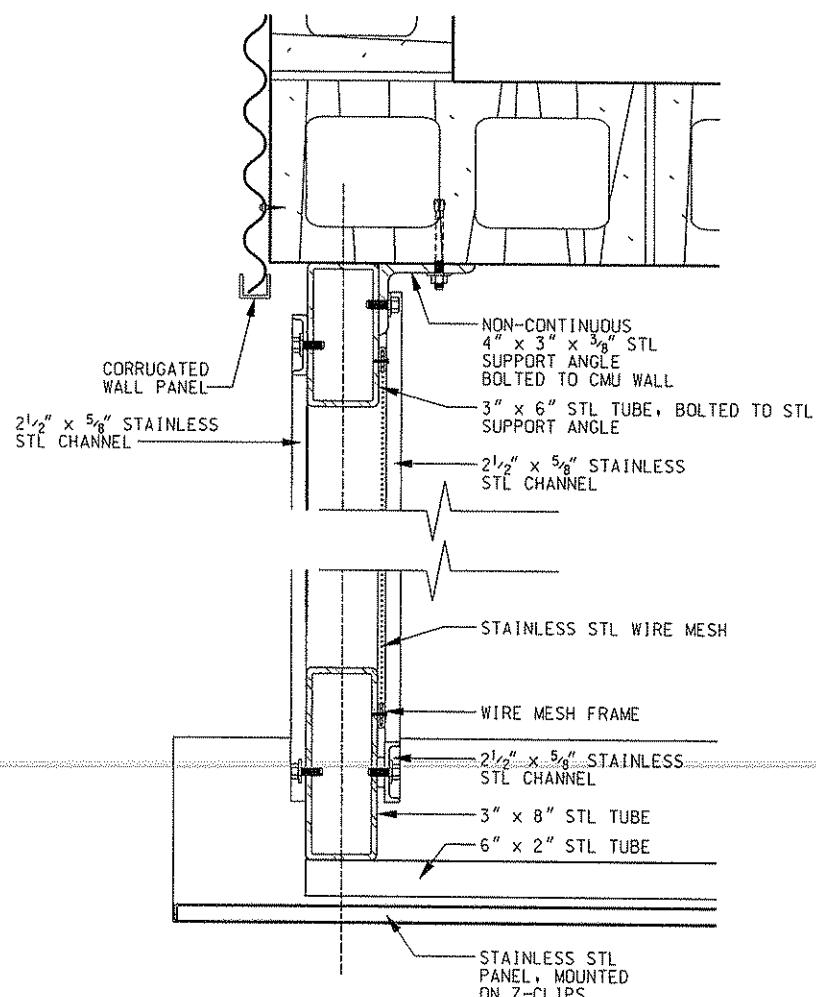
Port Authority

CONTRACT NO. NSC-011
DWG. NO. NAR515



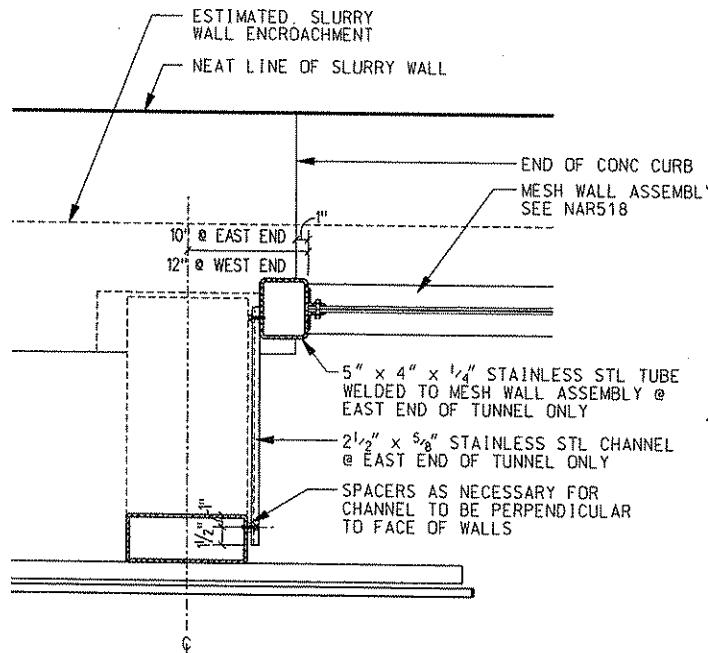
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NAR515 NAR315 NAR316



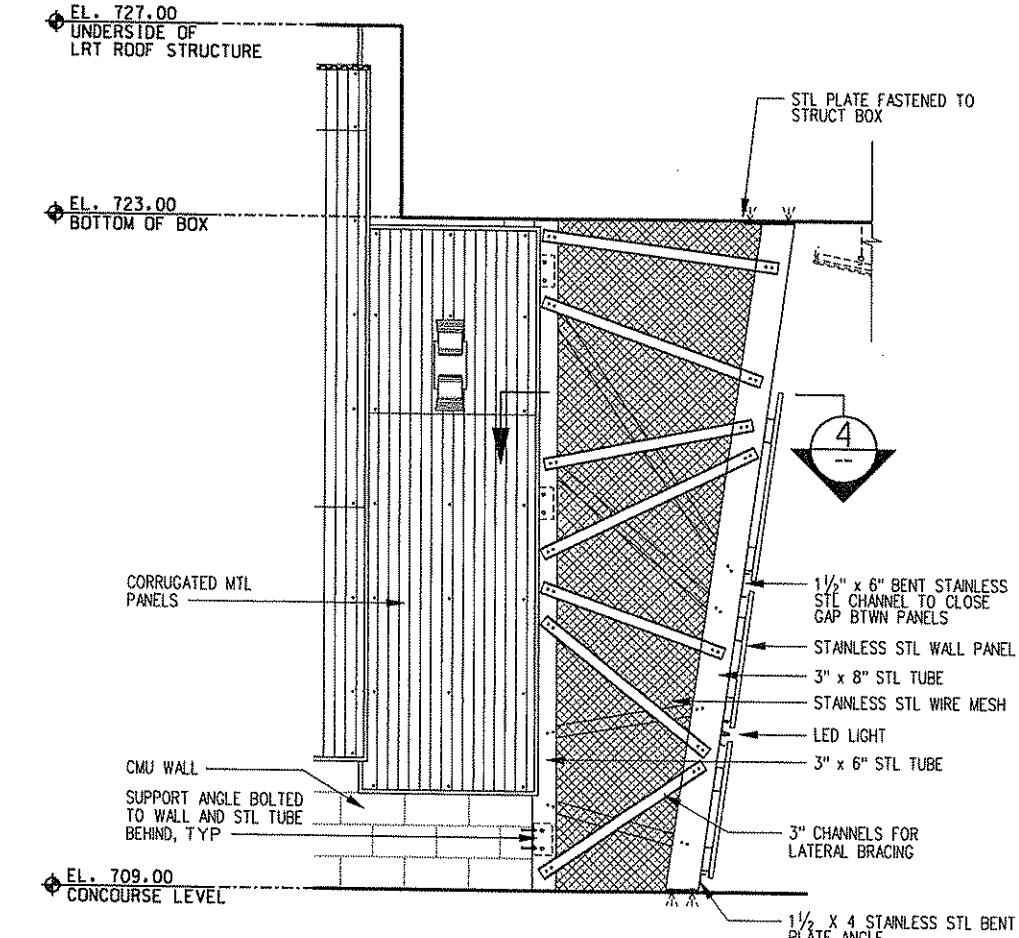
PLAN DETAIL

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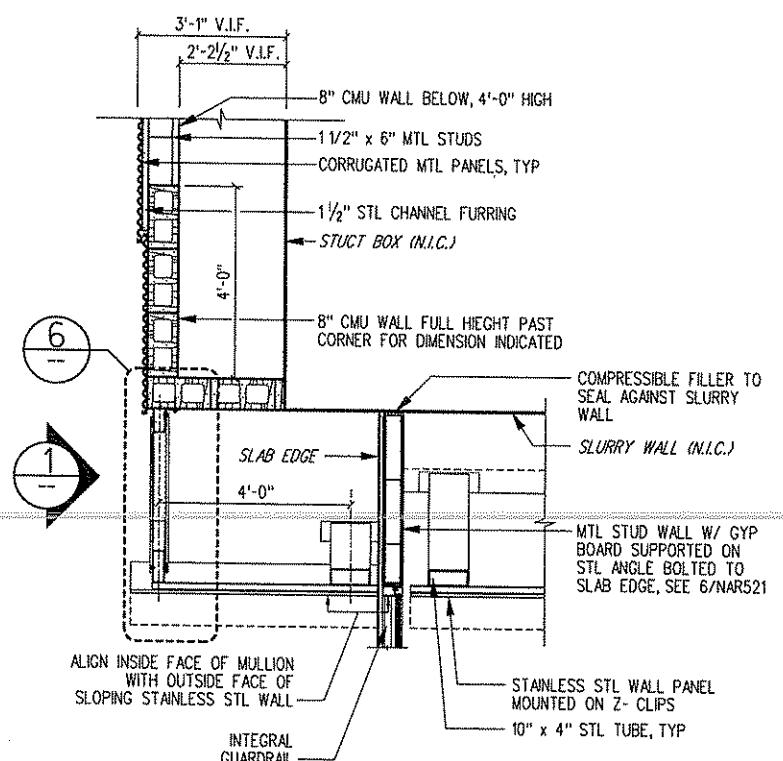
PLAN DETAIL

0 2" 4" 6"



ELEVATION DETAIL

NAR516 NAR406

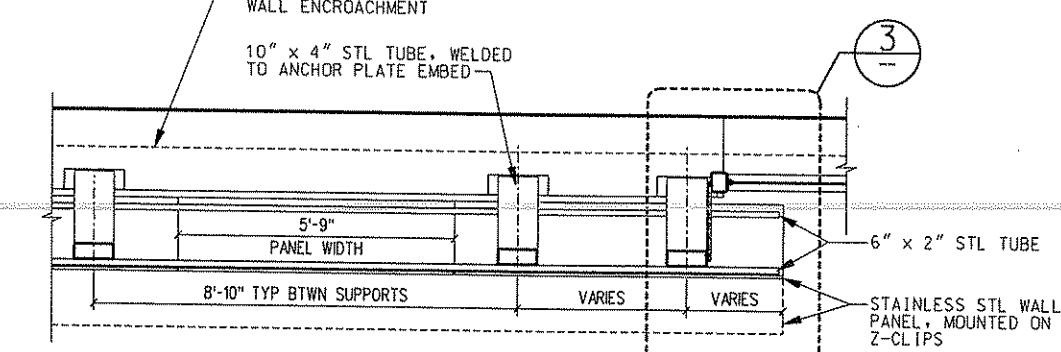


PLAN DETAIL

6 NAR109 NAR515 NAR516

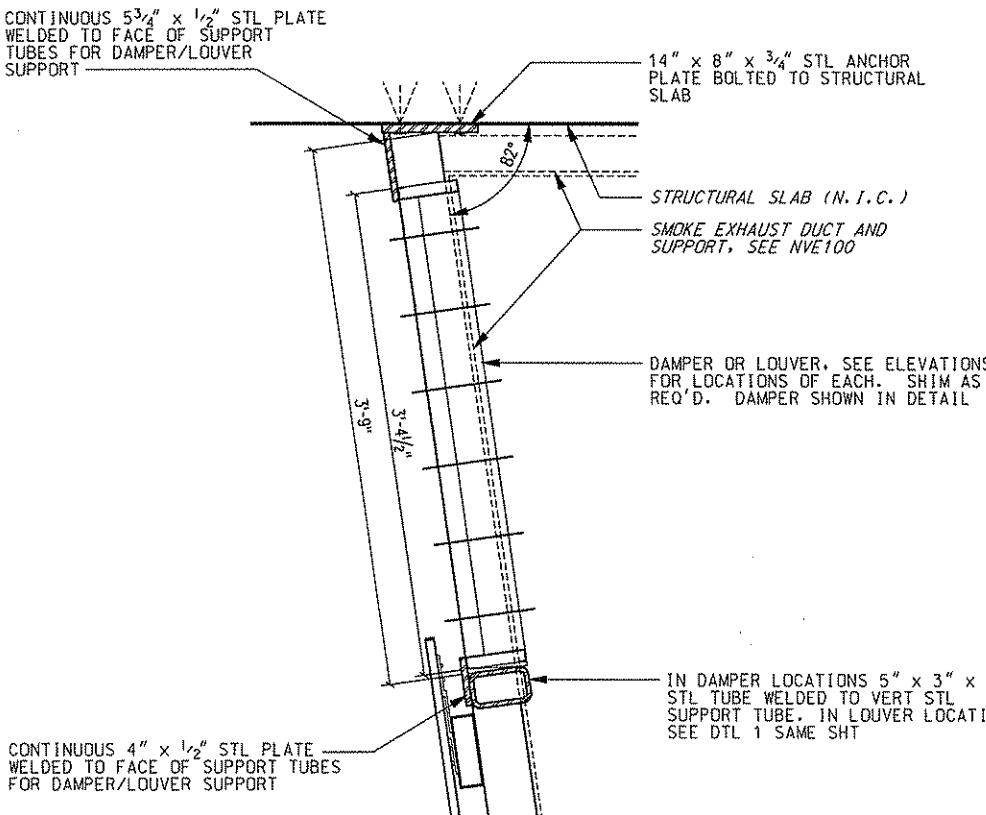
NOTES:

1. ALL NON STAINLESS STL TO BE PAINTED BLACK UNLESS NOTED OTHERWISE



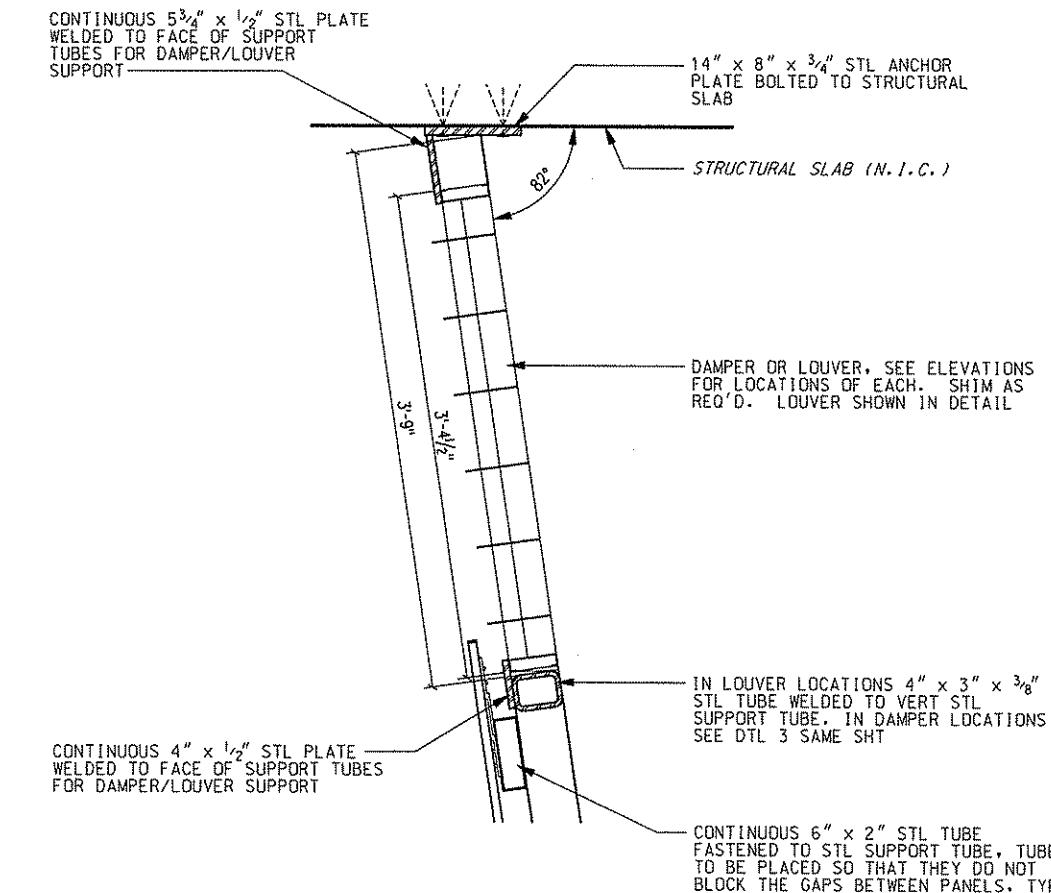
PLAN DETAIL

2 NAR515 NAR518



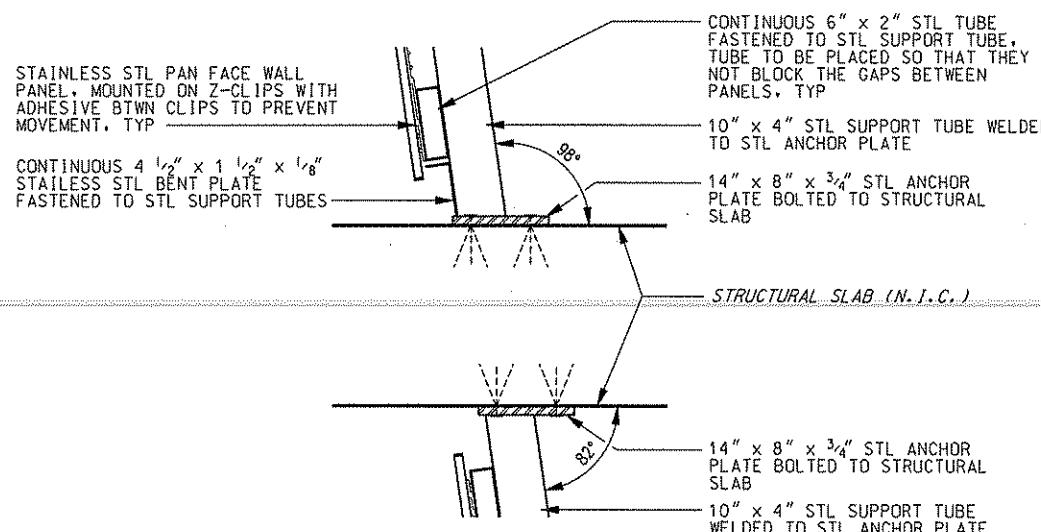
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3
NARS15



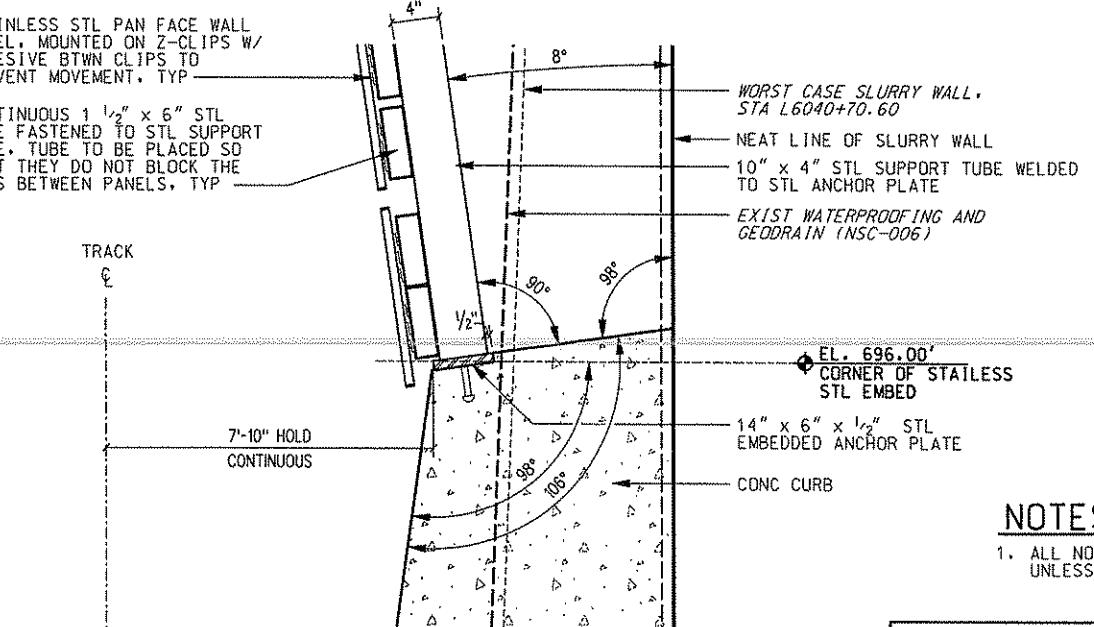
SECTION DETAIL AT LOUVER

1
NARS15



SECTION DETAIL 4

4
NARS15



SECTION DETAIL 2

2
NARS15

- NOTES:
- ALL NON STAINLESS STL TO BE PAINTED BLACK UNLESS NOTED OTHERWISE

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DMJM HARRIS | AECOM

FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA 15222

SIGNATURE

APPROVED

DATE

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH

NORTH SHORE CONNECTOR
NORTH SIDE STATION FINISHES
SECTION DETAILS
SLOPED METAL PANEL WALL: 2 OF 3

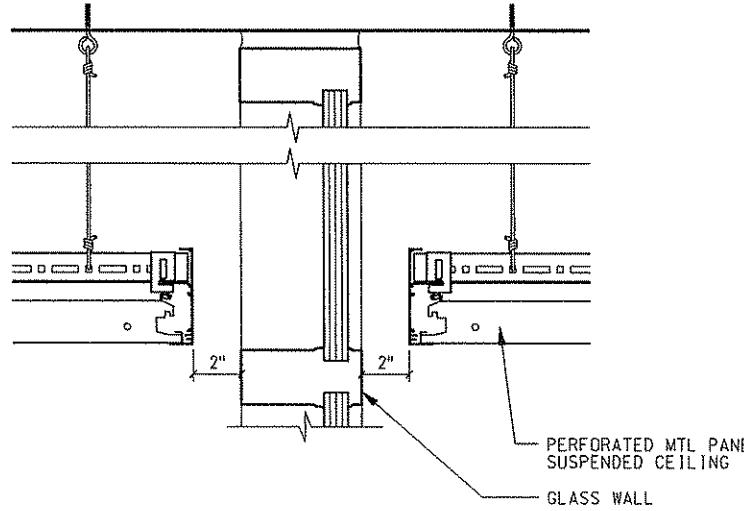
Port Authority

CONTRACT NO. NSC-011

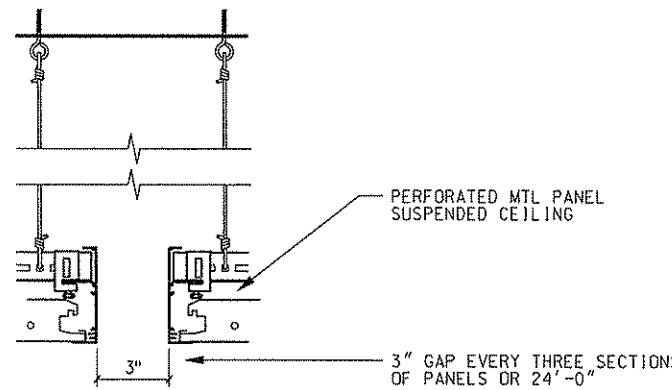
DWG. ND. NARS15

SHT. 81

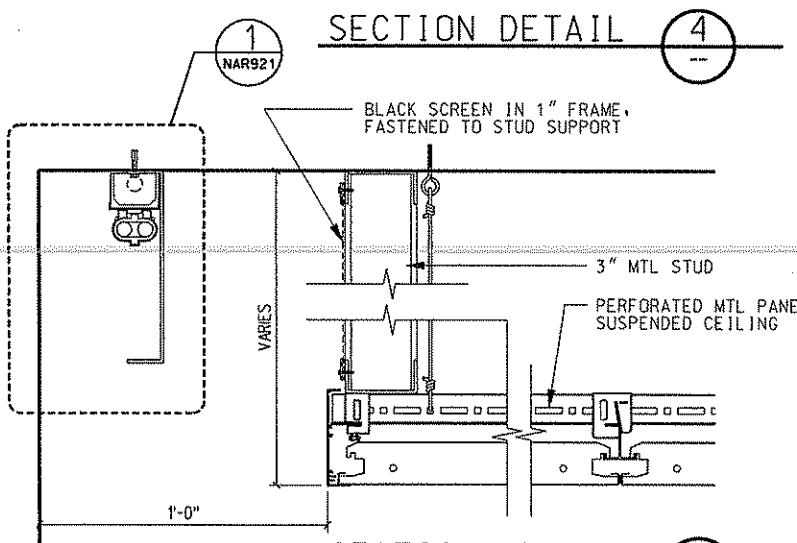
NO.	DATE	DESCRIPTION	REVISIONS
092608	Addendum 8 ~ Drawing Added		



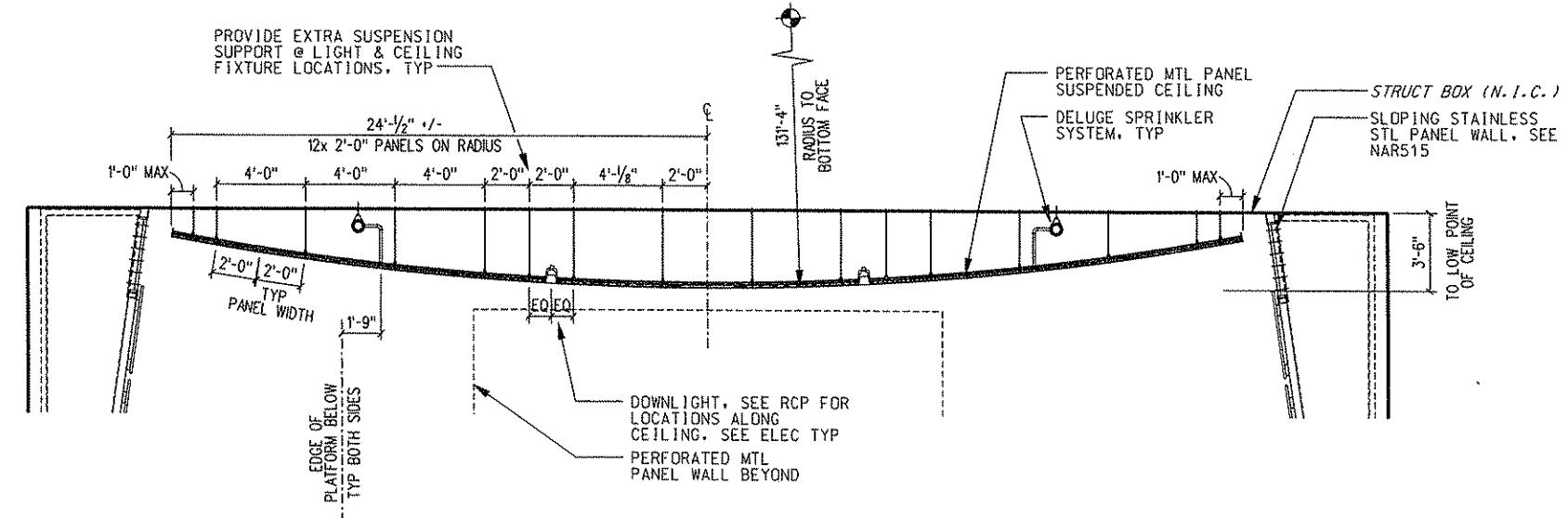
SECTION DETAIL



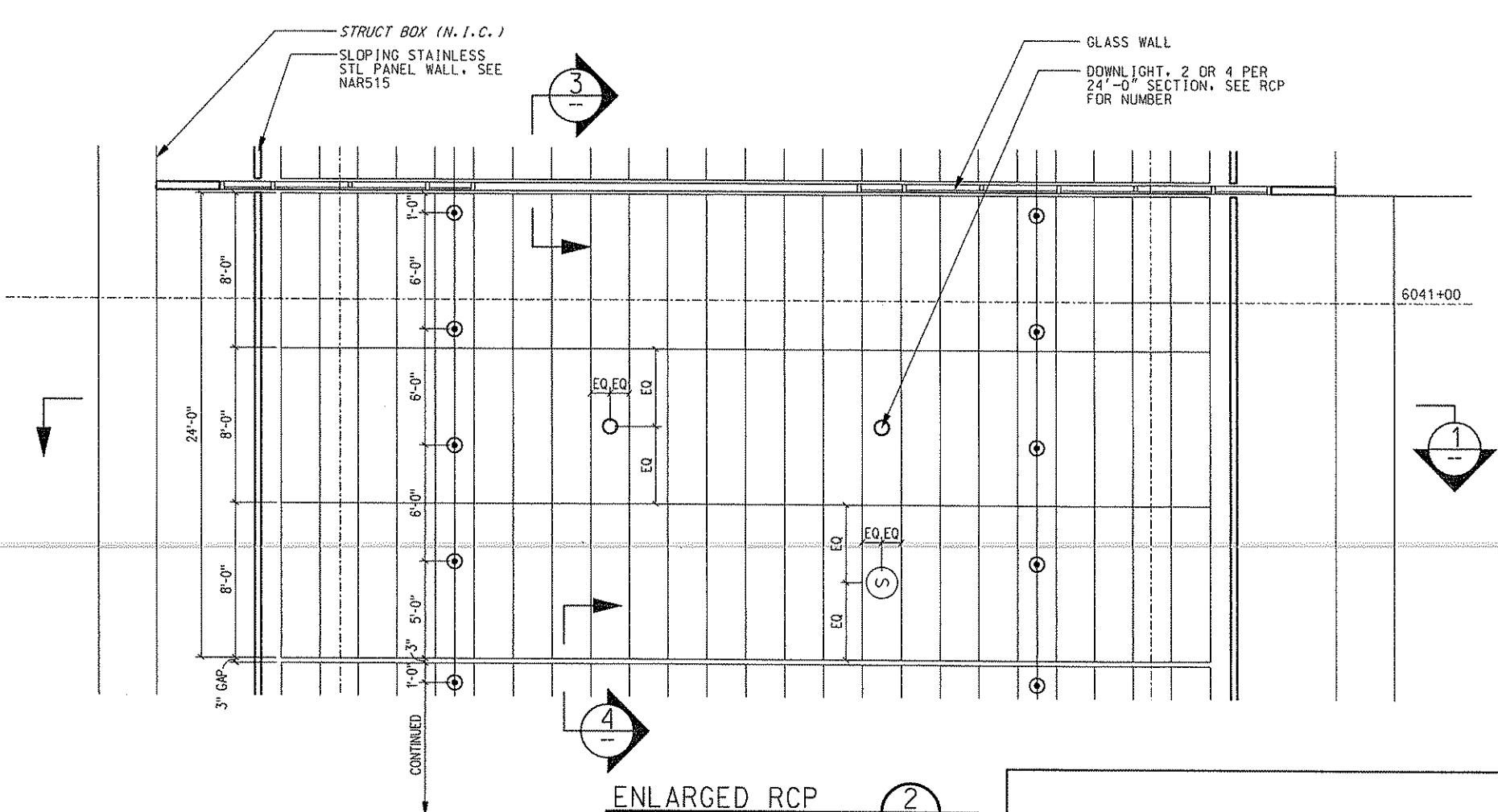
SECTION DETAIL



SECTION DETAIL 5 NAR909 NAR40



CEILING SECTION 1
NAR909 NAR910



ENLARGED RCP  2



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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

FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA 15222

APPROVED _____ DATE _____

PITTSBURGH

PENNSYLVANIA

**NORTH SHORE CONNECTOR
ORTH SIDE STATION FINISHES
CEILING DETAILS**

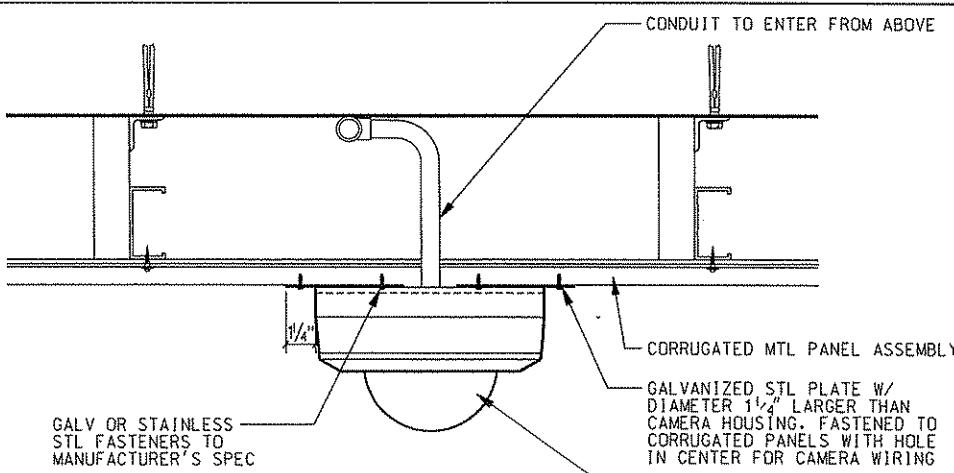
DECORATED METAL SUSPENDED CEILING

Port Authority

CONTRACT NO. NSC-071

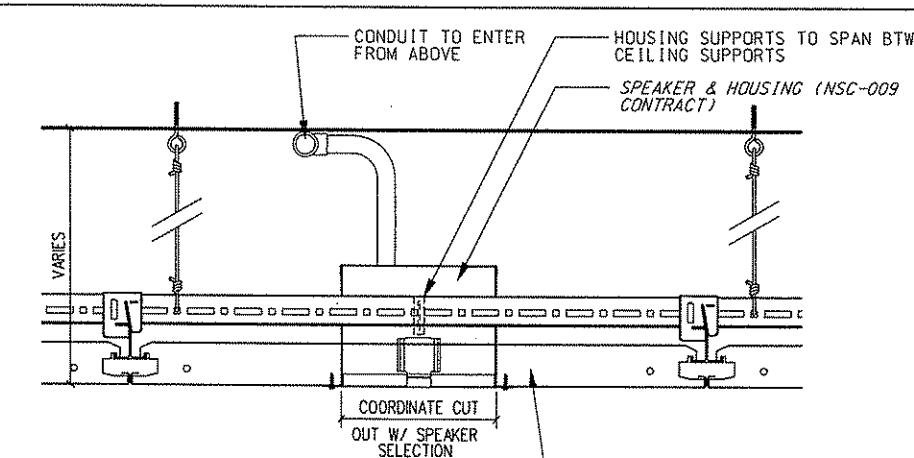
DWG. NO. NAR920

128



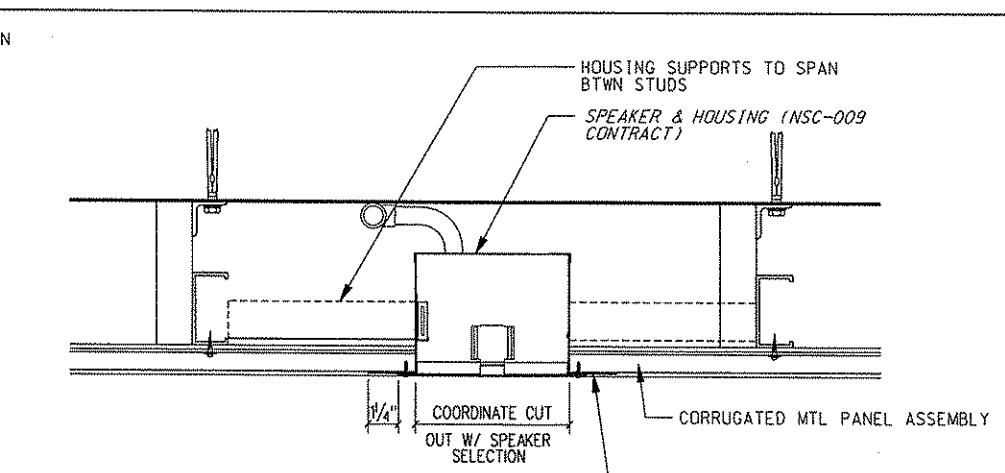
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RCP SIM TO SPKR DETL

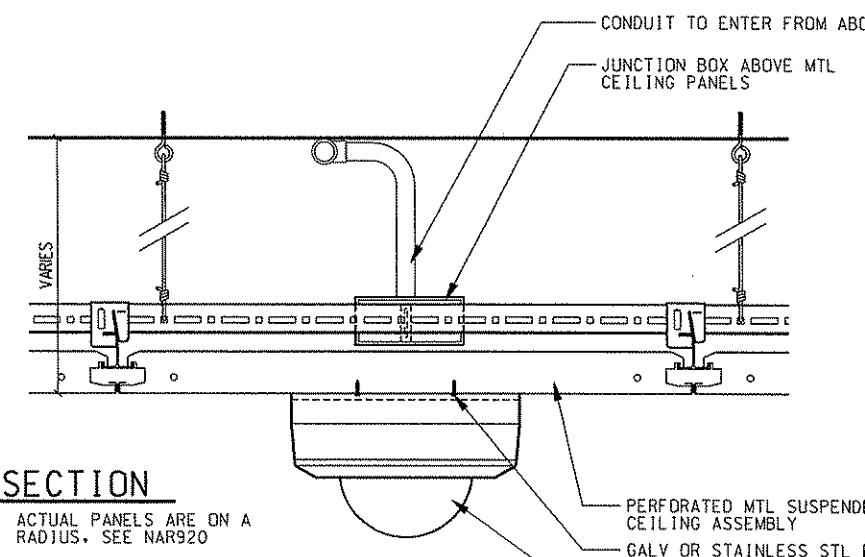


SECTION

ACTUAL PANELS ARE ON A RADIUS. SEE NAR920

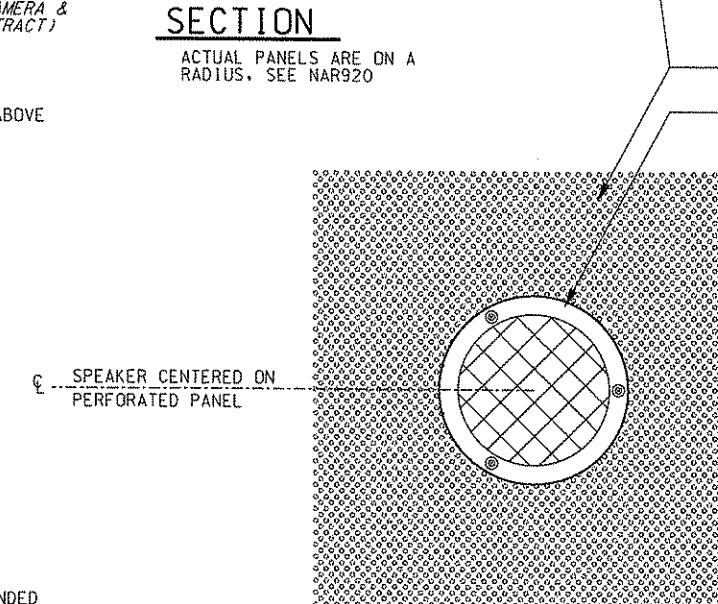


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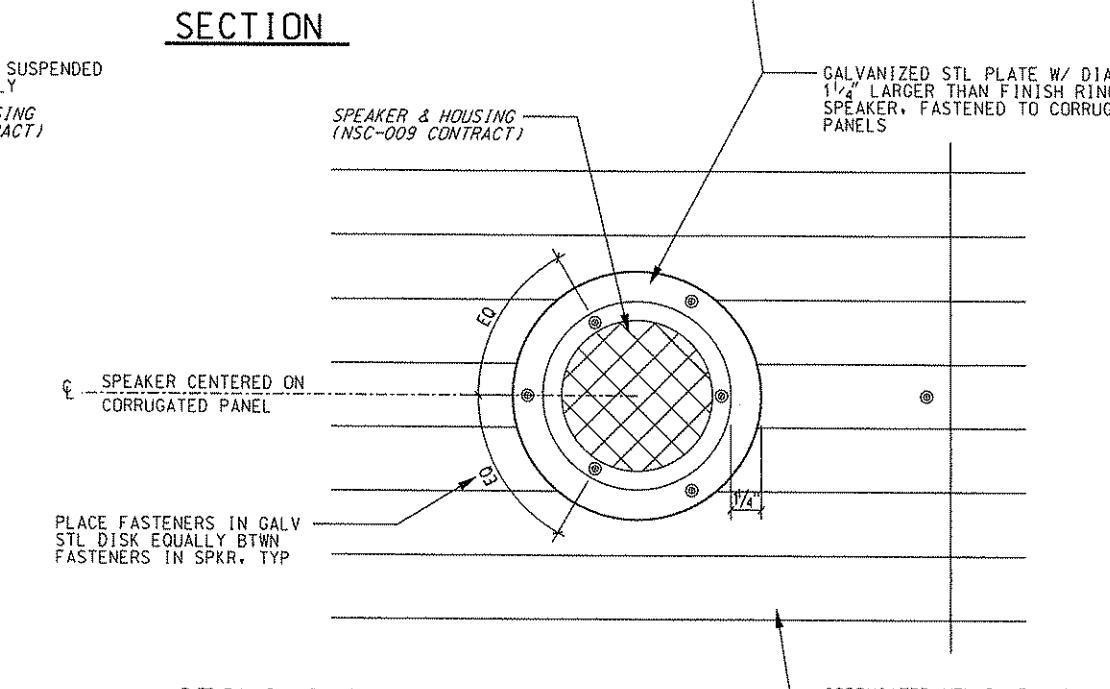


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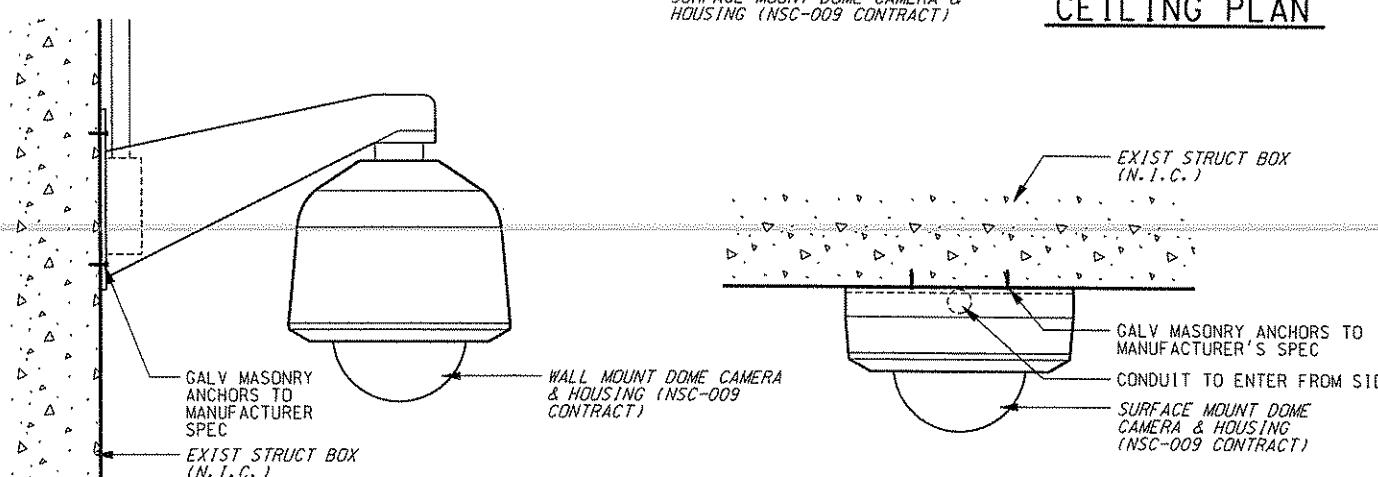
ACTUAL PANELS ARE ON A RADIUS. SEE NAR920
RCP SIM TO SPKR DETL



CEILING PLAN



CEILING PLAN



SECTION

SECTION

SPEAKER DETAILS 2

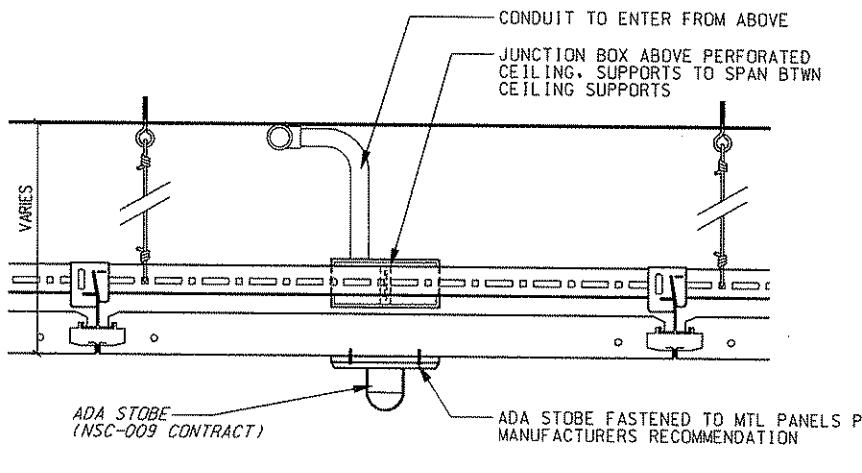
NAR909

SPEAKER DETAILS 1

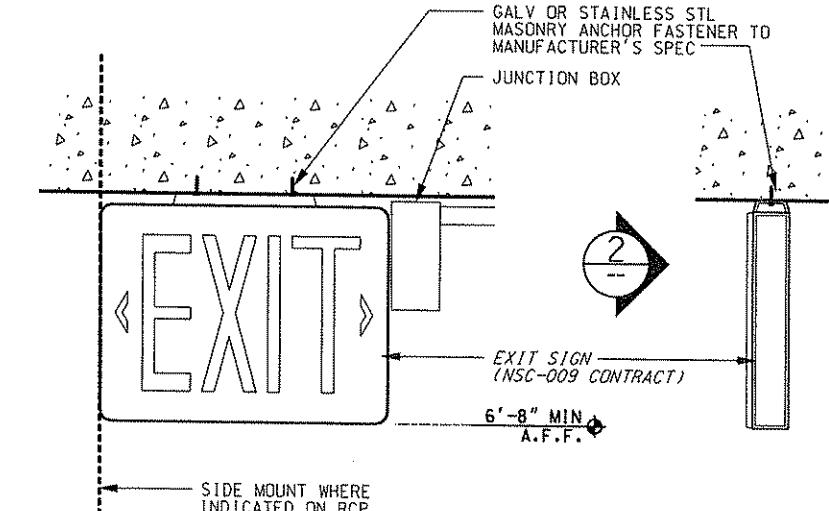
NAR510
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NAR911

NOTES:

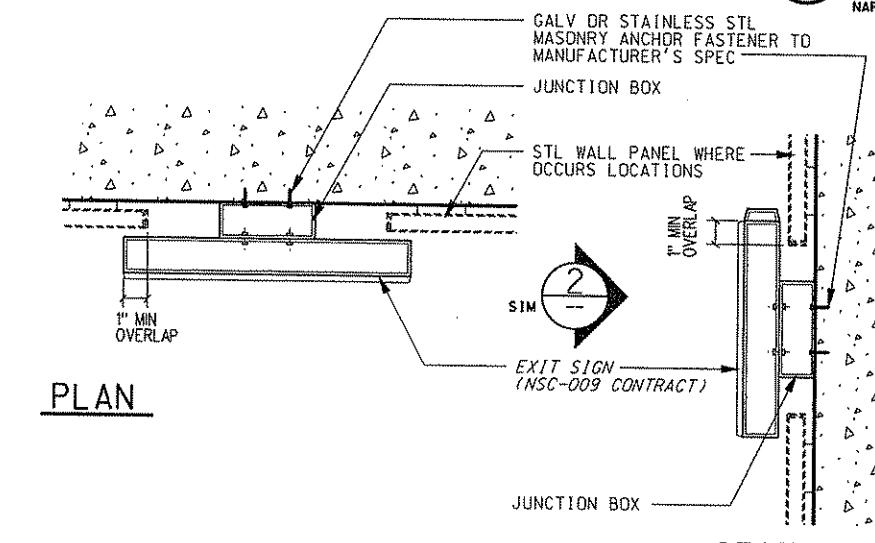
1. ACTUAL DEVICES MAY VARY. DRAWINGS REPRESENT DESIGN INTENT



ADA STROBE 5
NAR909 NAR910

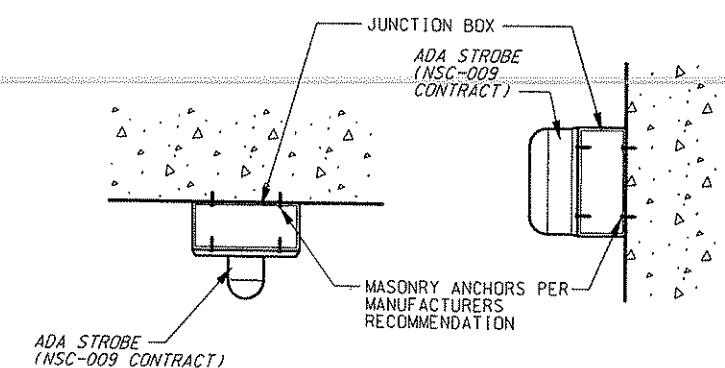


EXIT SIGN DETAILS 2
NAR908 NAR909 NAR913 NAR914

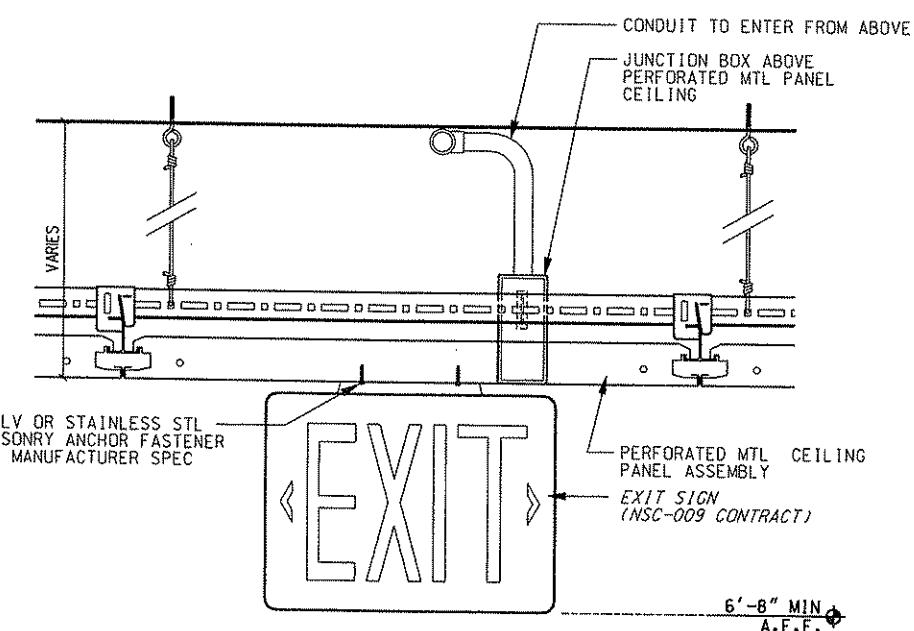
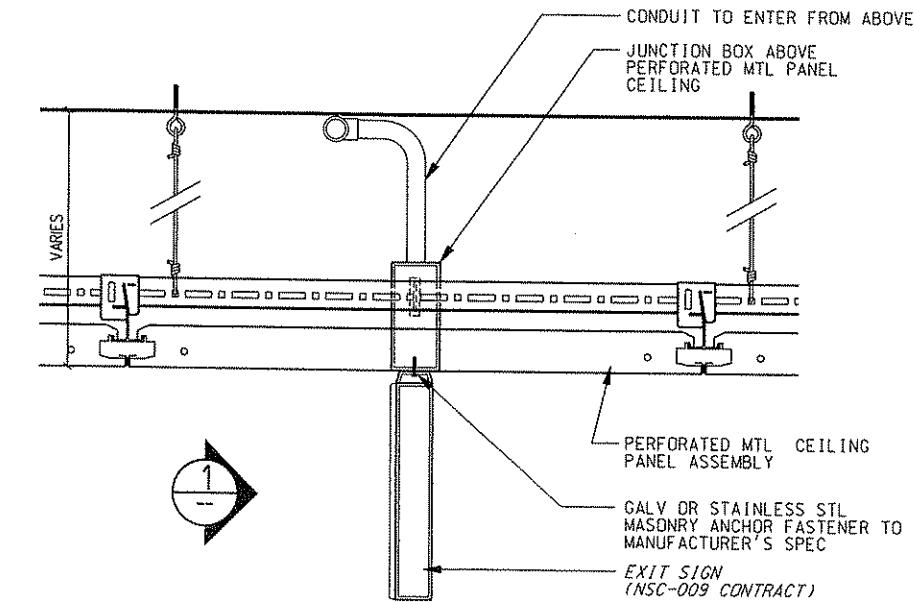


PLAN

EXIT SIGN DETAILS 3
NAR909 NAR914



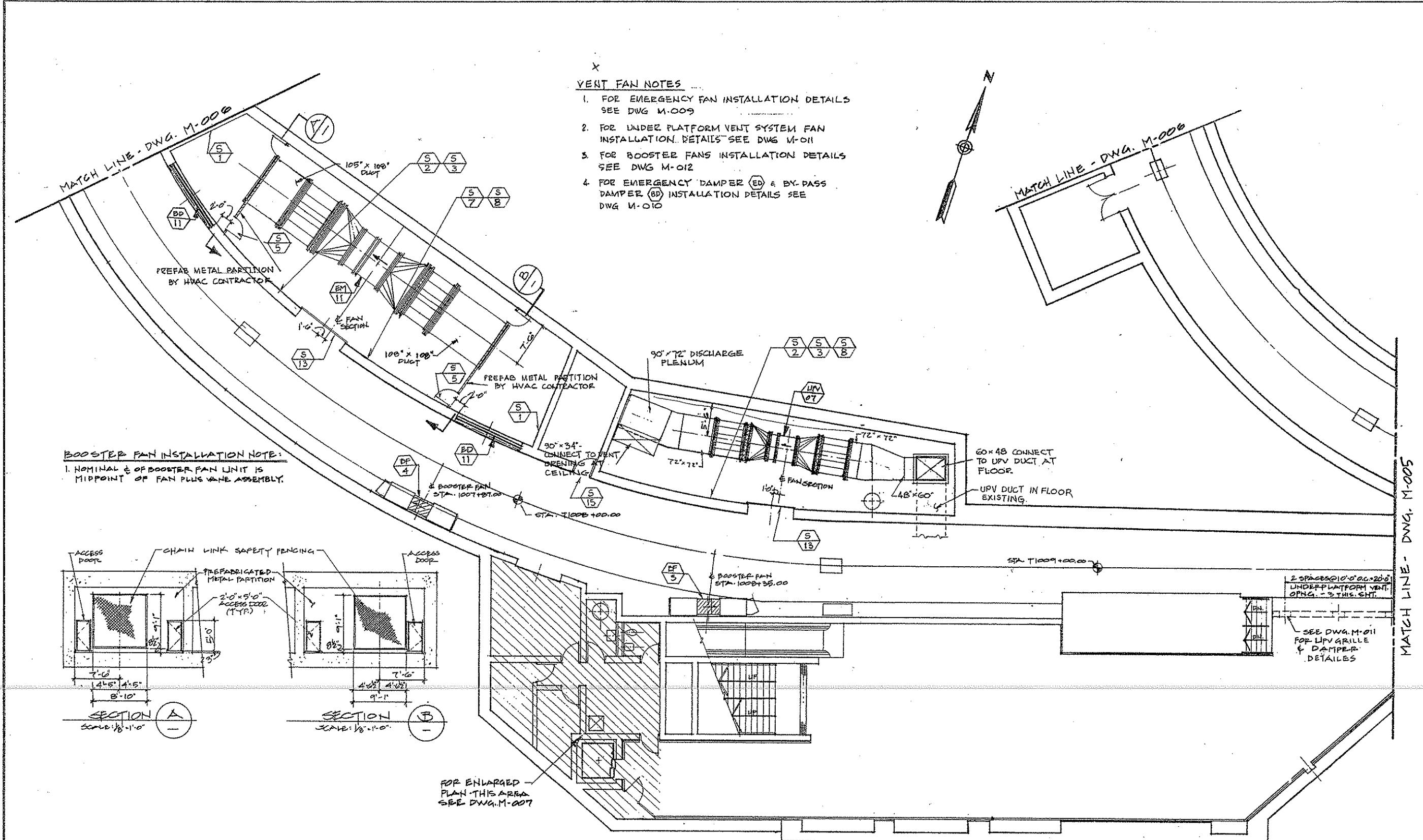
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NAR908 NAR911



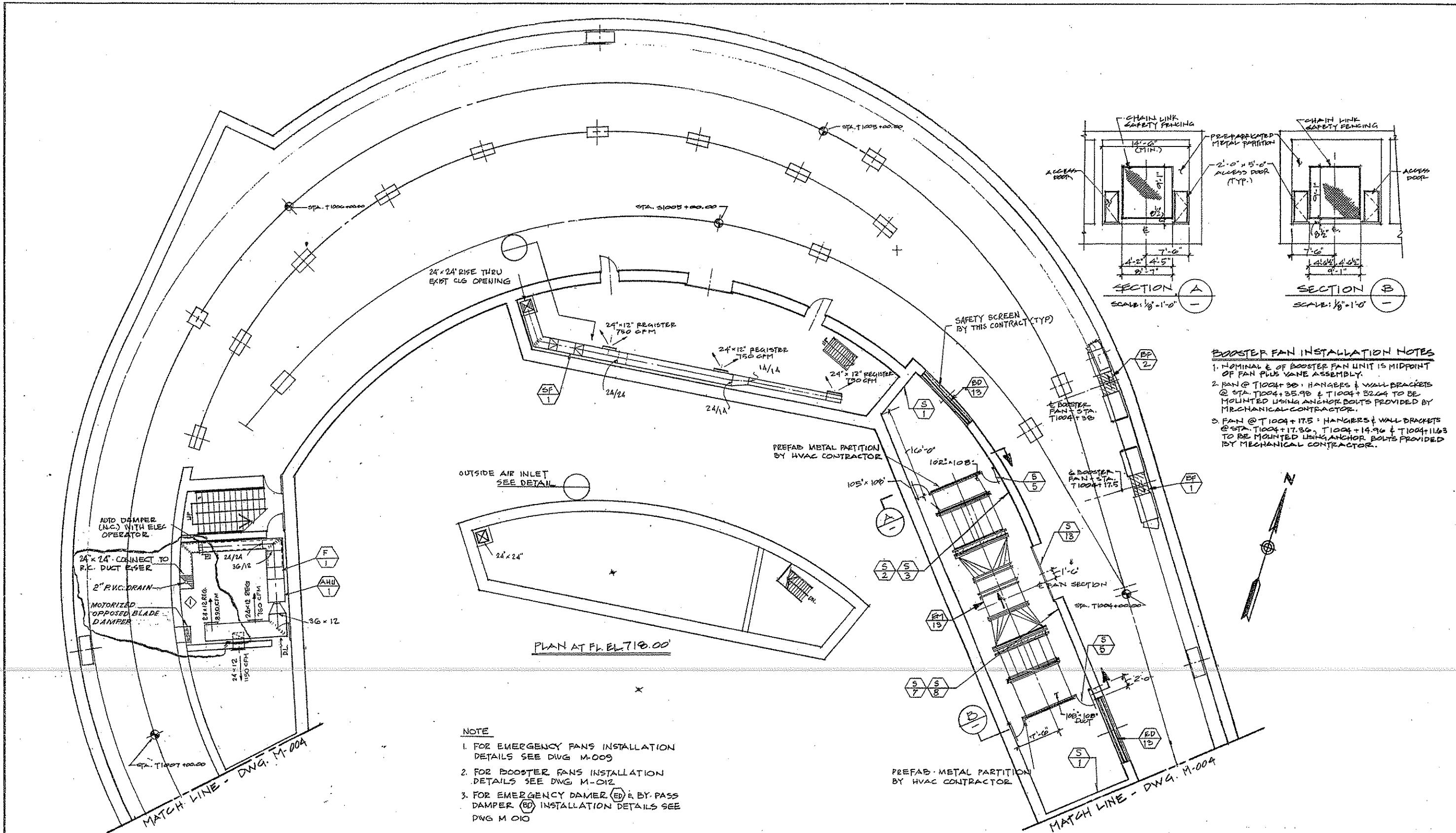
EXIT SIGN DETAILS 1
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NOTES:

- ACTUAL DEVICES MAY VARY. DRAWINGS REPRESENT DESIGN INTENT

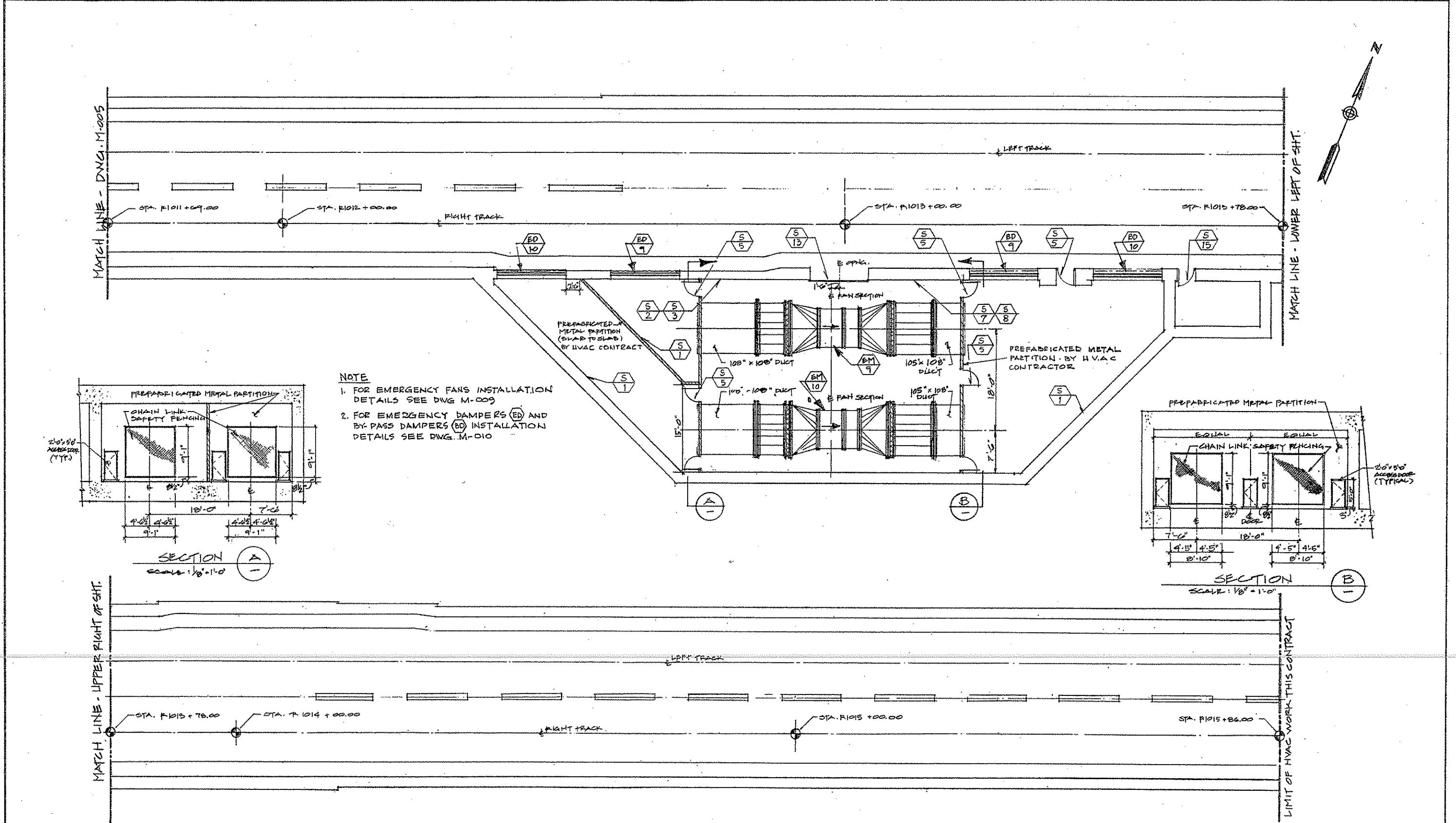


DESIGNED: M.A.P.	DRAWN: S.J.C.	CHECKED: S.J.P.	IN CHARGE: S.J.P.	DATE: JUNE 3, 1983	SCALE: 1/8"=1'-0"	THE PREPARATION OF THIS DRAWING HAS BEEN FINANCED, IN PART, THROUGH A GRANT FROM THE U. S. DEPARTMENT OF TRANSPORTATION, URBAN MASS TRANSPORTATION ADMINISTRATION UNDER THE URBAN MASS TRANSPORTATION ACT OF 1964, AS AMENDED	PARSONS BRINCKERHOFF Consulting Engineers GIBBS & HILL APPROVED	PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH STAGE I LIGHT RAIL TRANSIT SYSTEM GATEWAY CENTER STATION FINISHES PLATFORM LEVEL - WEST - HVAC	PARSONS BRINCKERHOFF - GIBBS & HILL A JOINT VENTURE PITTSBURGH, PENNSYLVANIA CONTRACT NO. CA-456H DWG. NO. M-004-0 SHEET 32
NO. DATE	DESCRIPTION	REVISIONS				SUBMITTED	DATE	DATE	
DWG. No.	REFERENCE								

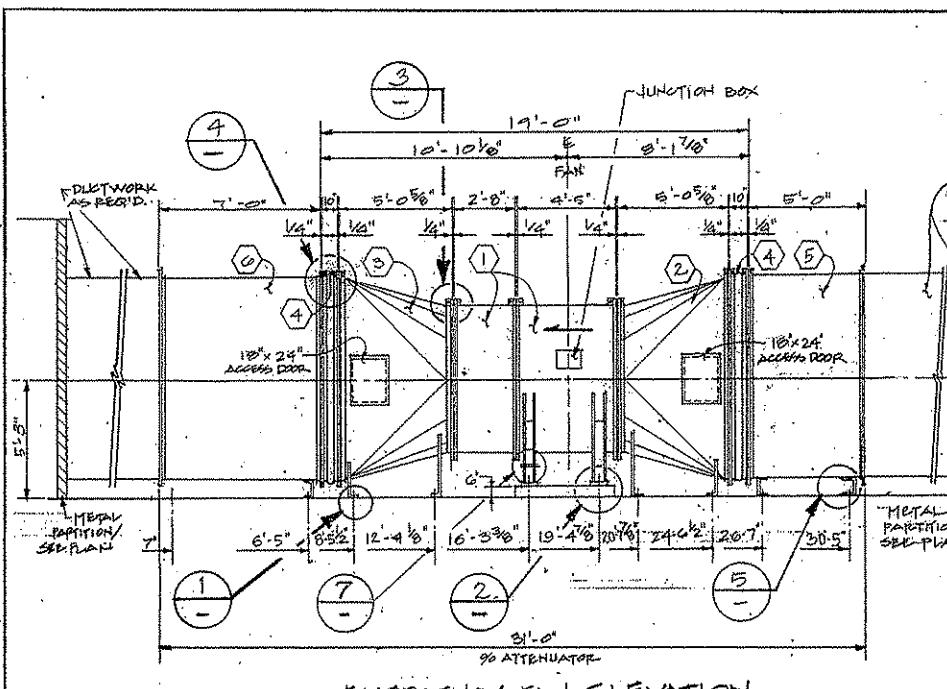


PROJECT RECORD COPY

			DESIGNED: M.A.P.	DRAWN: S.J.C.	<p>THE PREPARATION OF THIS DRAWING HAS BEEN FINANCED, IN PART, THROUGH A GRANT FROM THE U.S. DEPARTMENT OF TRANSPORTATION, URBAN MASS TRANSPORTATION ADMINISTRATION UNDER THE URBAN MASS TRANSPORTATION ACT OF 1964, AS AMENDED</p> <p>IN CHARGE: S.J.P.</p> <p>DATE: JUNE 3, 1983</p> <p>SCALE: 1/8" = 1'-0"</p> <p><input checked="" type="checkbox"/> 11/91. REVD AS SHOWN / AS BUILT.</p> <p>NO. DATE DESCRIPTION</p> <p>REVISIONS</p>	 <p>Parsons Brinckerhoff GIBBS & HILL <i>R.A. Rizzo</i> APPROVED</p>	<p>PAGE 1 Consulting Engineers</p> <p>SUBMITTED</p> <p>DATE</p> <p>DATE</p>
DWG. No.	REFERENCE						

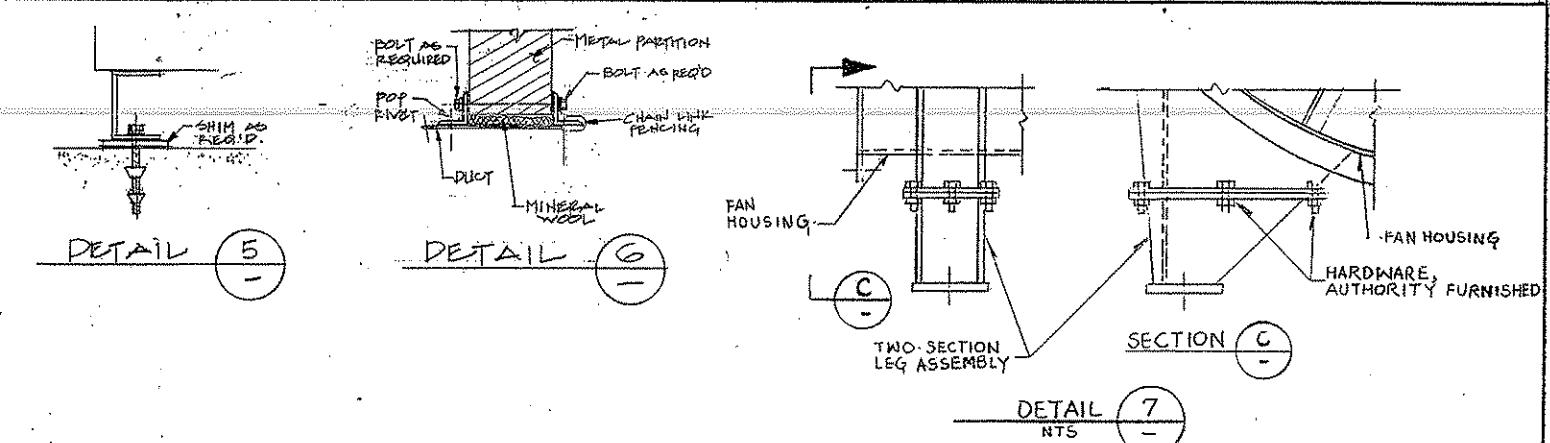
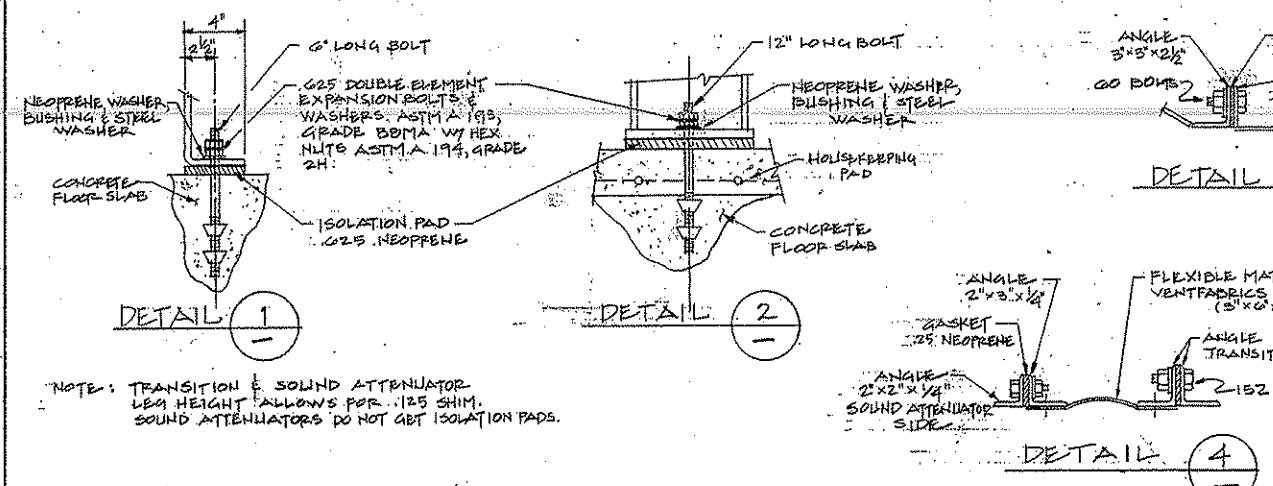
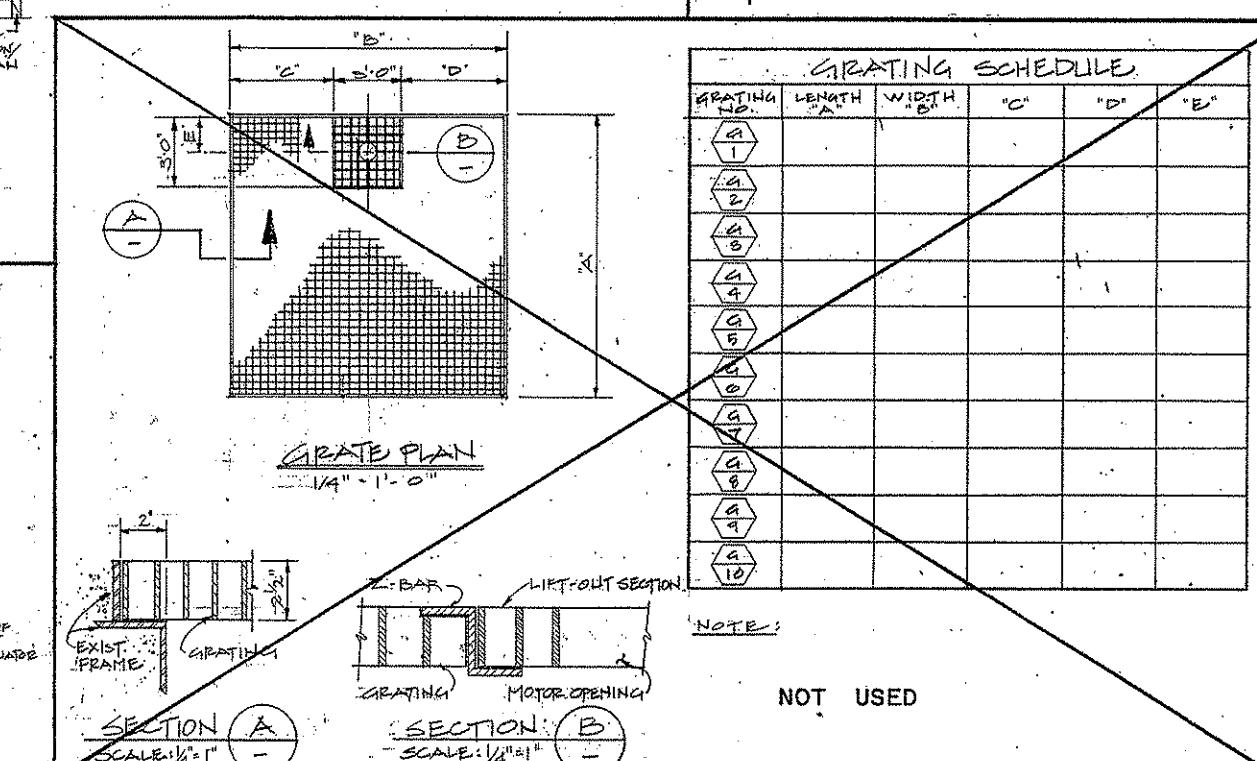
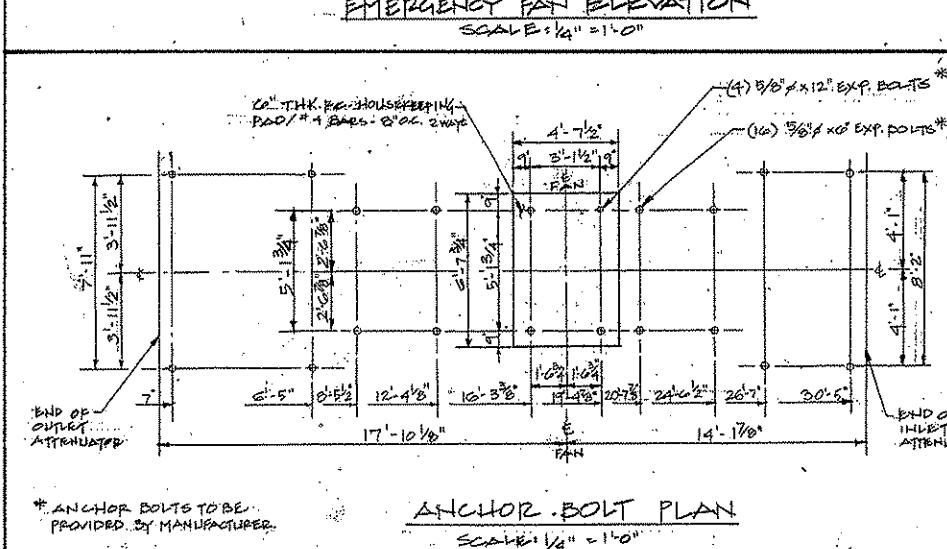


DWG. No.	REFERENCE	NO. DATE	DESCRIPTION	REVISIONS	DESIGNED: M.A.P. DRAWN: S.J.C. CHECKED: S.J.P. IN CHARGE: S.J.P. DATE: JUNE 3, 1983 SCALE: 1/8"=1'-0"	THE PREPARATION OF THIS DRAWING HAS BEEN FINANCED, IN PART, THROUGH A GRANT FROM THE U. S. DEPARTMENT OF TRANSPORTATION, URBAN MASS TRANSPORTATION ADMINISTRATION UNDER THE URBAN MASS TRANSPORTATION ACT OF 1964, AS AMENDED	Consulting Engineers PARSONS BRINCKERHOFF - GIBBS & HILL ROSARIO A. RIZZO APPROVED SUBMITTED	PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH STAGE I LIGHT RAIL TRANSIT SYSTEM GATEWAY CENTER STATION FINISHES LIBERTY AVENUE SUBWAY - HVAC PARSONS BRINCKERHOFF - GIBBS & HILL A JOINT VENTURE PITTSBURGH, PENNSYLVANIA CONTRACT NO. CA-456H DWG. NO. M-008-O SHEET 36
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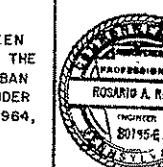


LEGEND	
ITEM NO.	DESCRIPTION
①	FAN SECTION
②	INLET TRANSITION
③	OUTLET TRANSITION
④	FLEXIBLE CONNECTION
⑤	SOUND ATTENUATOR - (INLET) 5'0" LONG X 9'-0" H X 9'-0" W
⑥	SOUND ATTENUATOR - (OUTLET) 7'0" LONG X 9'-0" H X 8'-0" W

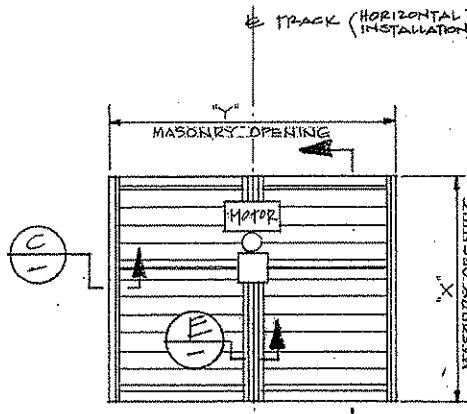
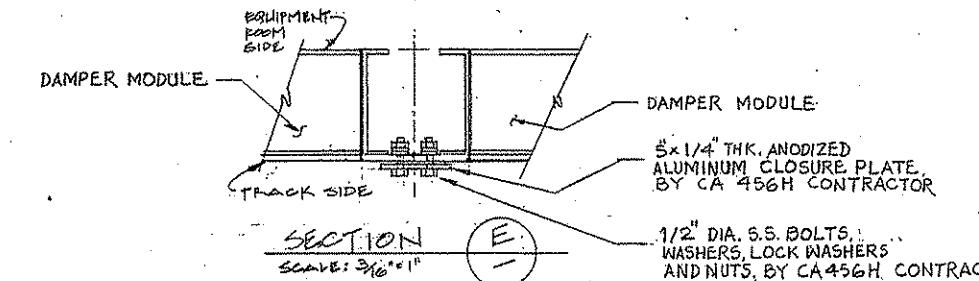
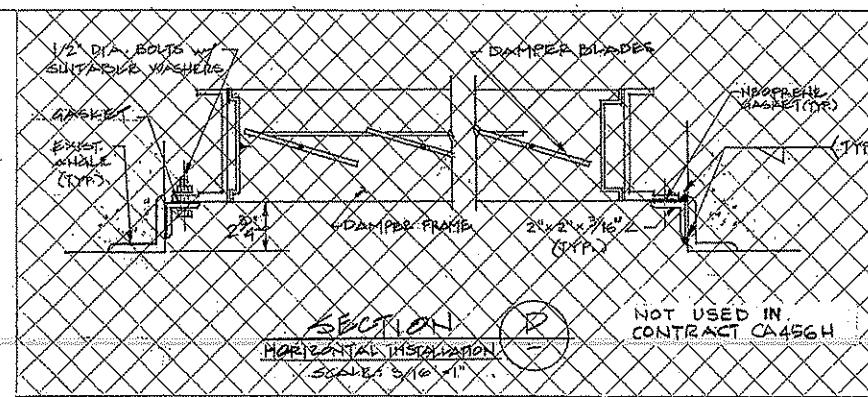
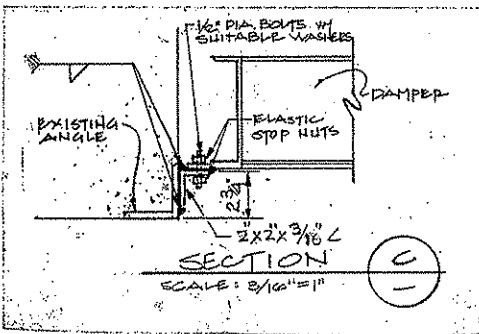
EMERGENCY VENTILATION SYSTEM DESIGNATION									
SYSTEM NO.	PAAC. FAN NO.	PLATE NO. TRANSITION INLET/OUTLET	PLATE NO. FLEXIBLE CONNECTION INLET/OUTLET	PAAC. NO. ATTENUATOR (INLET)	PAAC. NO. ATTENUATOR OUTLET	PAAC. NO. BY-PASS DAMPER	PAAC. NO. EMERGENCY DAMPER	REMARKS	
EM-9	GW-EM-09	SKC-358	SKC-376	SKC-361	SKC-377	GW-RA-09.2	GW-RA-09.1	GW-BD-09	GW-ED-09
EM-10	GW-EM-10	SKC-358	SKC-376	SKC-361	SKC-377	GW-RA-10.2	GW-RA-10.1	GW-BD-10	GW-ED-10
EM-11	GW-EM-11	SKC-358	SKC-376	SKC-361	SKC-377	GW-RA-11.2	GW-RA-11.1	GW-BD-11	GW-ED-11
EM-13	GW-EM-13	SKC-358	SKC-376	SKC-361	SKC-377	GW-RA-13.2	GW-RA-13.1	GW-BD-13	GW-ED-13



THE PREPARATION OF THIS DRAWING HAS BEEN
FINANCED, IN PART, THROUGH A GRANT FROM
U.S. DEPARTMENT OF TRANSPORTATION, URBAN
MASS TRANSPORTATION ADMINISTRATION UNDER
THE URBAN MASS TRANSPORTATION ACT OF 19
AS AMENDED.



 Parsons Brinckerhoff Gibbs & Hill <i>P.B. & G.H.</i> APPROVED	<p style="text-align: center;">PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH</p> <p style="text-align: center;">PENNSYLVANIA</p> <p style="text-align: center;">STAGE I LIGHT RAIL TRANSIT SYSTEM</p> <p style="text-align: center;">GATEWAY CENTER STATION FINISHES</p> <p style="text-align: center;">EMERGENCY VENT. SYSTEM - DETAILS & SCHEDULES</p>		
		PARSONS BRINCKERHOFF - GIBBS & HILL A JOINT VENTURE PITTSBURGH, PENNSYLVANIA	CONTRACT NO. CA-456H DWG. NO. M-009-0 SHT. 37
DATE			

DAMPER - FACE VIEW
N.T.S.

DWG. No.	REFERENCE	REVISIONS	DESIGNED: M.A.P.	DRAWN: S.J.C.	CHECKED: S.J.P.	IN CHARGE: S.J.P.	DATE: JUNE 3, 1983	SCALE:
		2-17-84 REVISED DAMPER MOUNTING ANGLE SIZE (PCN 101A)						AS SHOWN

DAMPER SCHEDULE						
DAMPER CALLOUT NO.	PARA.C. DESIGNATION	"X" LENGTH	"Y" WIDTH	MOUNTING POSITION	NO. OF OPERABLE SECTIONS	MFR. DWG. NO.
BD 9	GW-BD-09	12'-3"	12'-5"	VERTICAL	4	8178
BD 10	GW-BD-10	12'-3"	12'-3"	VERTICAL	4	8178
BD 11	GW-BD-11	12'-6"	12'-0"	VERTICAL	4	8179
BD 13	GW-BD-13	12'-6"	12'-0"	VERTICAL	4	8179
ED 9	GW-ED-09	12'-3"	12'-3"	VERTICAL	4	8178
ED 10	GW-ED-10	12'-3"	12'-3"	VERTICAL	4	8178
ED 11	GW-ED-11	12'-6"	12'-0"	VERTICAL	4	8179
ED 13	GW-ED-13	12'-6"	12'-0"	VERTICAL	4	8179

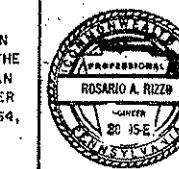
NOTE:
DAMPERS & OPERATORS WILL BE SHIPPED SEPARATELY & FIELD ASSEMBLED.

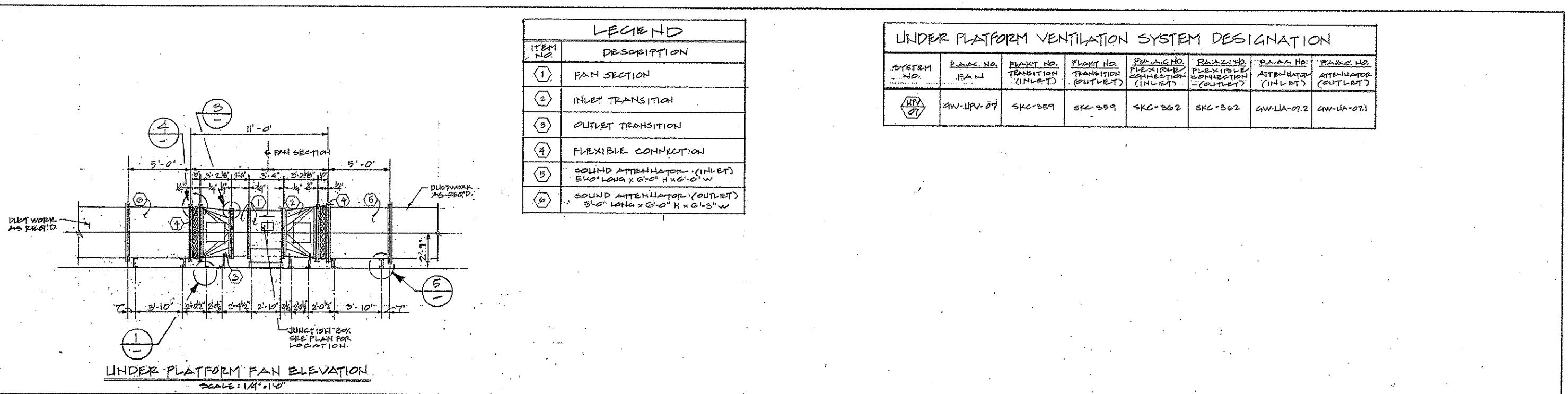
PORT AUTHORITY FURNISHED EQUIPMENT WEIGHT SCHEDULE		
EQUIPMENT	ESTIMATED WEIGHT	ESTIMATED SHIPPING WEIGHT
EMERGENCY FANS	7030 LBS.	7230 LBS
TRANSITION (INLET)	1560 LBS.	1760 LBS
TRANSITION (OUTLET)	1560 LBS.	1760 LBS
ATTENUATOR (INLET)	3700 LBS.	3900 LBS
ATTENUATOR (OUTLET)	5400 LBS.	5600 LBS
DAMPERS:	—	—
BD 9 BD 10 ED 9 ED 10	1360 LBS.	1560 LBS
BD 11 BD 13 ED 11 ED 13	1360 LBS.	1560 LBS

NOTE:

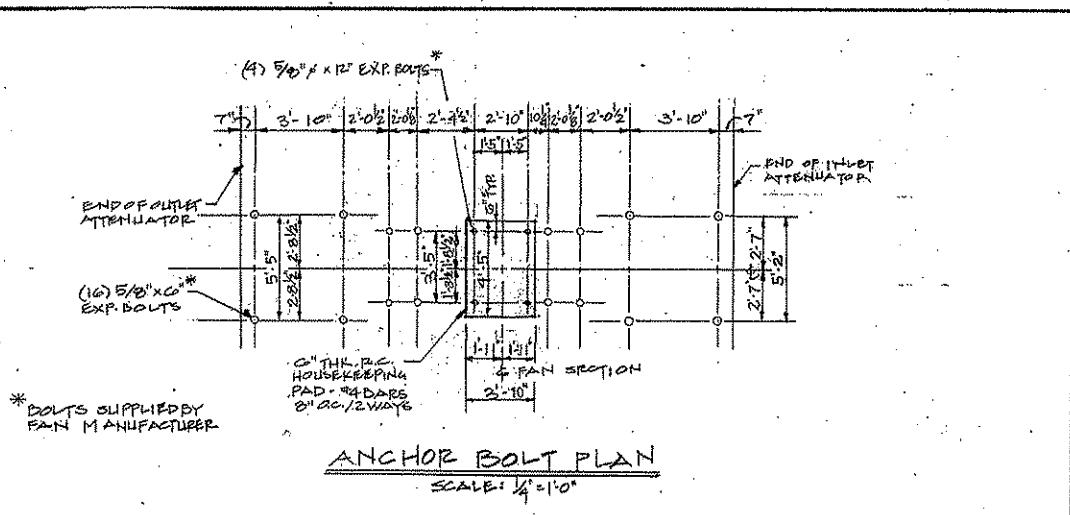
PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH PENNSYLVANIA			
STAGE 1 LIGHT RAIL TRANSIT SYSTEM			
GATEWAY CENTER STATION FINISHES			
EMERGENCY VENT. SYSTEM - DETAILS & SCHEDULES			
PARSONS BRINCKERHOFF - CONSULTING ENGINEERS	ROARIO A. RIZZI	SUBMITTED	APPROVED
GIBBS & HILL	J.C. [Signature]	DATE	DATE
A JOINT VENTURE	PITTSBURGH, PENNSYLVANIA	CONTRACT NO. CA-456H	DWG. NO. M-010-1
PITTSBURGH, PENNSYLVANIA		SKT. 38	

THE PREPARATION OF THIS DRAWING HAS BEEN FINANCED, IN PART, THROUGH A GRANT FROM THE U. S. DEPARTMENT OF TRANSPORTATION, URBAN MASS TRANSPORTATION ADMINISTRATION UNDER THE URBAN MASS TRANSPORTATION ACT OF 1964, AS AMENDED

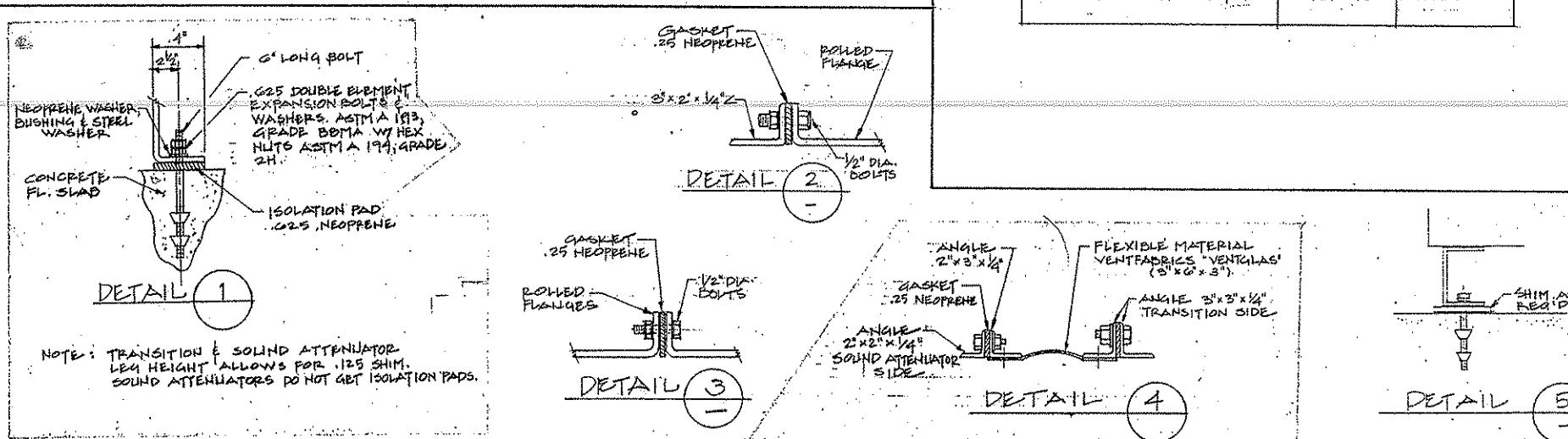
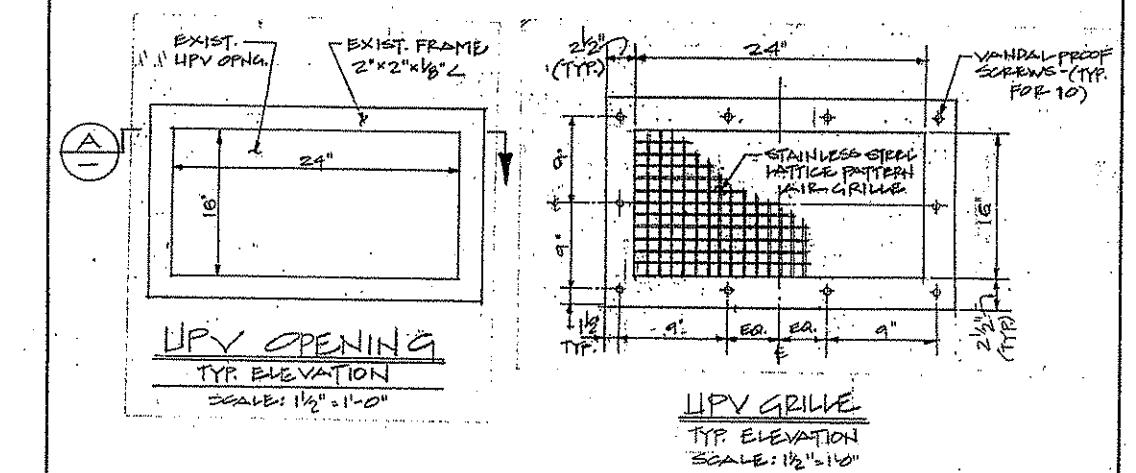




UNDER PLATFORM VENTILATION SYSTEM DESIGNATION							
SYSTEM NO.	PLATE NO.	PLATE NO. TRANSITION (INLET)	PLATE NO. TRANSITION (OUTLET)	PLATE NO. FLEXIBLE CONNECTION (INLET)	PLATE NO. FLEXIBLE CONNECTION (OUTLET)	PLATE NO. ATTENUATOR (INLET)	PLATE NO. ATTENUATOR (OUTLET)
UPV 01	GW-UPV-07	SKC-359	SKC-359	SKC-362	SKC-362	GW-UU-07.2	GW-UU-07.1

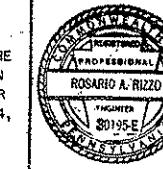


PORT AUTHORITY FURNISHED EQUIPMENT WEIGHT SCHEDULE		
EQUIPMENT	ESTIMATED WEIGHT	ESTIMATED SHIPPING WEIGHT
UPV FAN	1619 LBS.	1819 LBS
INLET TRANSITION	811 LBS.	1011 LBS
OUTLET TRANSITION	840 LBS.	1040 LBS
INLET ATTENUATOR	1600 LBS.	1800 LBS
OUTLET ATTENUATOR	1750 LBS.	1950 LBS



DESIGNED: M.A.P.	DRAWN: S.J.C.	CHECKED: S.J.P.	IN CHARGE: S.J.P.	DATE: JUNE 3, 1983	SCALE: AS SHOWN
NO. DATE	DESCRIPTION	REVISIONS			
DWG. No.	REFERENCE	REVISIONS			

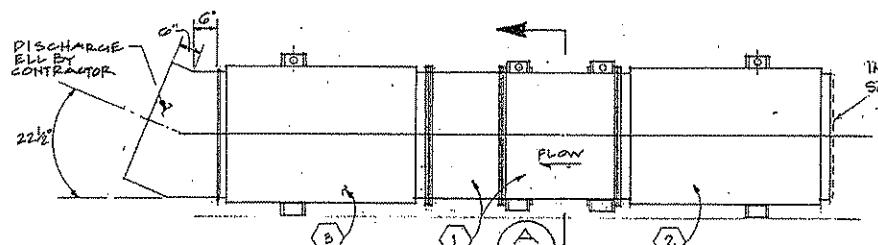
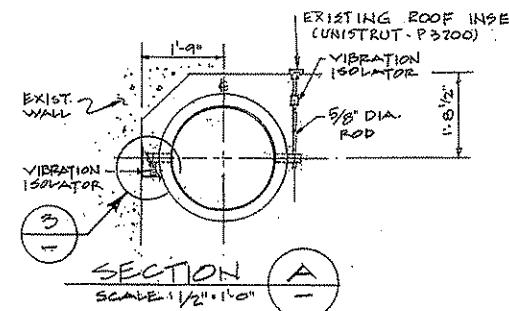
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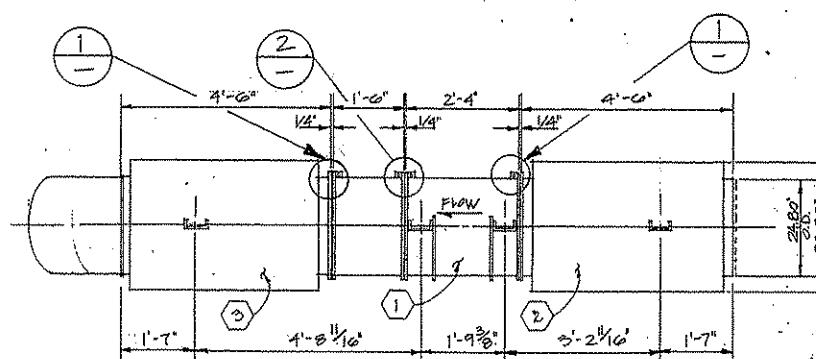
Parsons Brinckerhoff Consulting Engineers
GIBBS & HILL
R. A. Rizzo APPROVED
SUBMITTED DATE

STAGE I LIGHT RAIL TRANSIT SYSTEM
PITTSTON
GATEWAY CENTER STATION FINISHES
UPV SYSTEM - DETAILS & SCHEDULES
Parsons Brinckerhoff - Gibbs & Hill
A JOINT VENTURE
Pittsburgh, Pennsylvania
Contract No. CA-456H
DWG. No. M-011-0 SH. 39

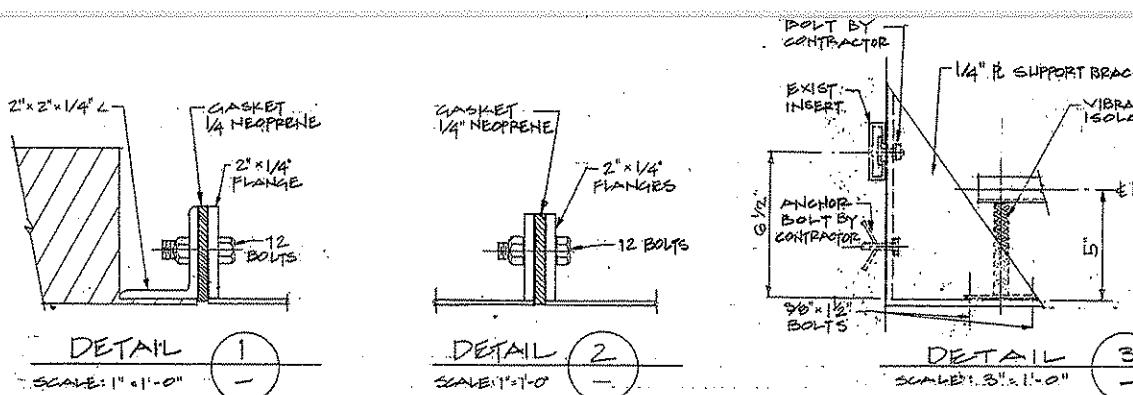
LEGEND	
ITEM NO.	DESCRIPTION
①	FAN SECTION
②	INLET ATTENUATOR
③	OUTLET ATTENUATOR



BOOSTER FAN - PLAN VIEW



BOOSTER FAN ELEVATION



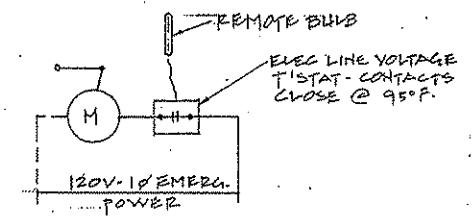
BOOSTER FAN SCHEDULE						
ITEM	BOOSTER FAN PARC. NO.	INLET ATTENUATOR PARC. NO.	OUTLET ATTENUATOR PARC. NO.	BRACKETS (FAN) PLATE, NO.	BRACKETS (ATTENUATOR) PLATE, NO.	REMARK
BF 1	GW-BF-01	GW-BA-01.1	GW-BA-01.2	SKB-615	SKB-613	
BF 2	GW-BF-02	GW-BA-02.1	GW-BA-02.2			
BF 3	GW-BF-03	GW-BA-03.1	GW-BA-03.2			
BF 4	GW-BF-04	GW-BA-04.1	GW-BA-04.2			

ELECTRIC UNIT HEATER SCHEDULE				
ITEM	KILOWATT CAPACITY	CAPACITY CFM	ELECTRICAL REQUIREMENTS	REMARKS
ITEM 1	4.5 KW	300 MIN	460 / 3Ø / 60 HZ	3 STEP CONTROL

ELECTRIC BASEBOARD HEATER SCHEDULE				
ITEM	KILOWATT CAPACITY	LENGTH	ELECTRICAL REQUIREMENTS	REMARKS
EBB 1	.75 KW	3'-0"	277V/1Φ/60HZ	BUILT-IN THERMOSTAT
EBB 2	1.25 KW	3'-0"	277V/1Φ/60HZ	BUILT-IN THERMOSTAT

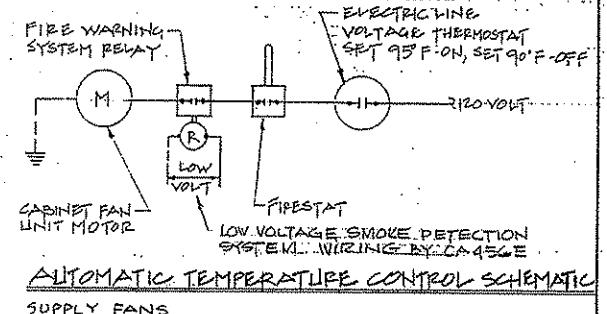
AIR HANDLING UNIT SCHEDULE										
ITEM	CAPACITY CFM.	S.P. IN. WG.	RPM. (MAX)	MAX. OUTLET VELOCITY F.P.M.	MOTOR	HEATING COIL ELECTRICAL PROBLEMS	MIN. FACE AREA SQ.FT.	FILTERS	REMA	
AHU 1	2800	.05"	1000	1600	1 H.P.	1750 RPM	NONE	5.0	F 1	

SUPPLY & EXHAUST FAN SCHEDULE									
ITEM	CAPACITY C.F.M.	EXTERNAL S.P. IN. W.G.	R.P.M. MAX.	WHEEL DIA. (IN.)	DRIVE	TYPE	MOTOR		REMARKS
							H.P.	R.P.M.	
EF-1	450	.375	1150	12"	DIRECT	INLINE CABINET FAN	1/4	1150	
EF-C	60	.21	1750	8"	DIRECT	INLINE CABINET FAN	1/12	1750	
SP-1	2250	.18	1750	16"	DIRECT	TUBE AXIAL	1/3	1750	

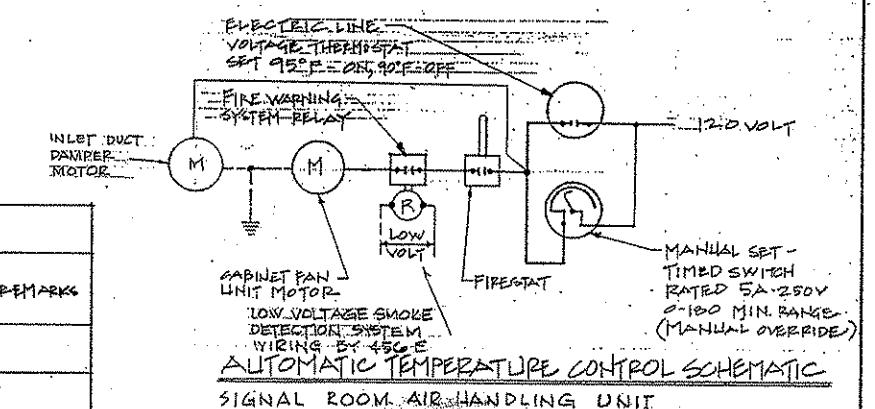


MOTORIZED DAMPER CONTROL DIAGRAM

EMERGENCY GENERATOR DAMPER



AUTOMATIC TEMPERATURE CONTROL SCHEMATIC



TEMPERATURE CONTROL NOTES:

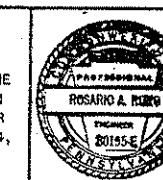
EXHAUST FAN EF-1 CONTROLLED BY WALL SWITCH. BY CONTRACT CA156E
EXHAUST FAN EF-2 CONTROLLED WITH TOILET ROOM LIGHTS BY CA156E
ALL SUPPLY & EXHAUST FANS AND AIR HANDLING UNIT FAN, EXCEPT
EMERGENCY & UPV FANS SHALL BE INSTALLED WITH IONIZATION SMOKE
DETECTOR IN DUCTWORK TO SHUT DOWN FAN IF SMOKE IS PRESENT
PER NEPA 50A.

• CONTROL OF EMERGENCY AND UPV FANS IS PROVIDED UNDER ANOTHER CONTRACT FOR SYSTEM WIDE FAN CONTROLS.

AIR FILTER SCHEDULE				
MARK	FILTER TYPE	SIZE	FILTER BOX	NOTE
F 1	30/30, EXTENDED SURFACE PLEATED MEDIA	AS REQD.	BY AHU UNIT IN FG	MAX VEL. 600 FPM
F 2	THROWAWAY	TWO 24" x 16" x 2"	VEE	IN OUTSIDE AIR IN

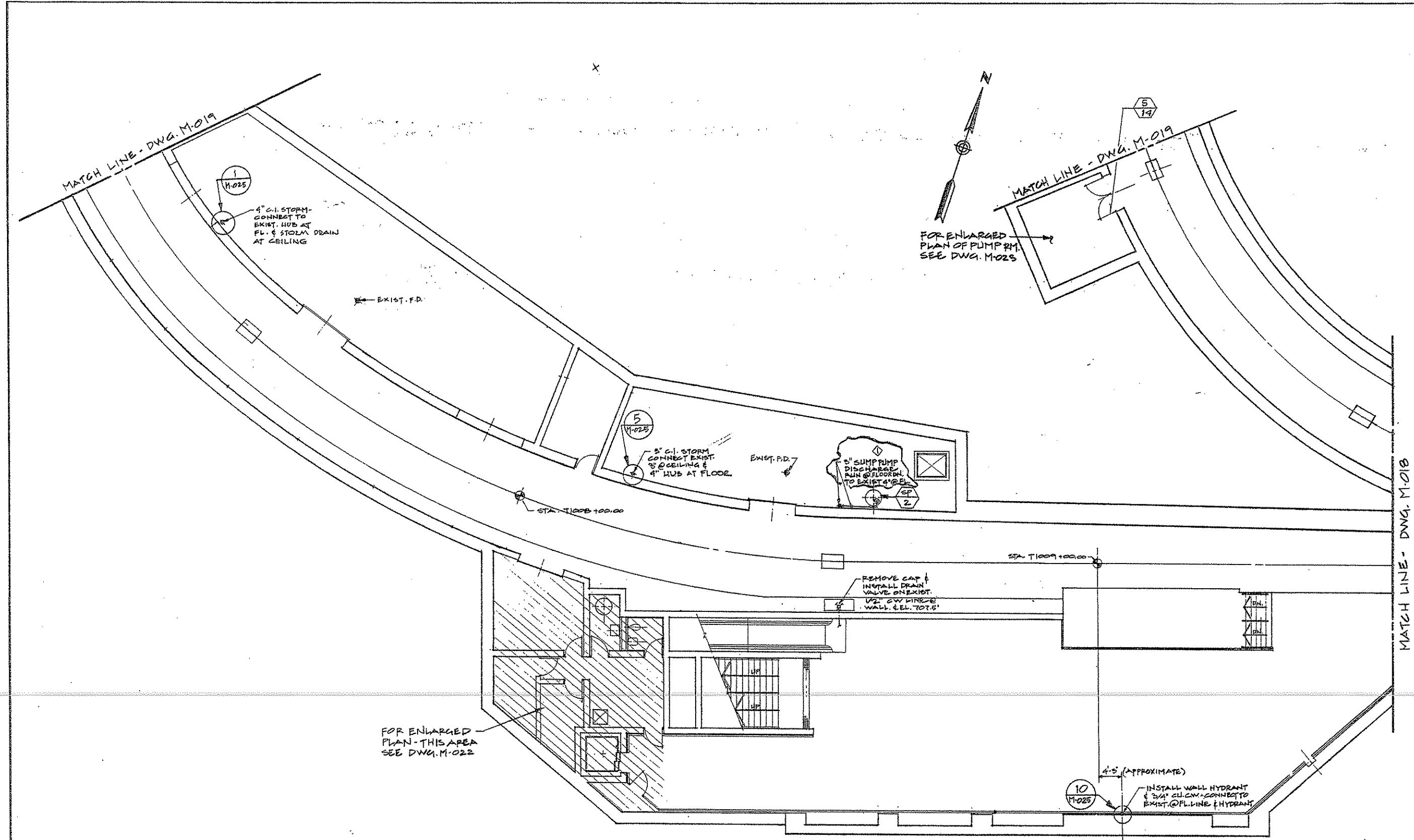
J.C.
J.P.
J.R.
1983

THE PREPARATION OF THIS DRAWING HAS BEEN
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U. S. DEPARTMENT OF TRANSPORTATION, URBAN
MASS TRANSPORTATION ADMINISTRATION UNDER
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ED
PARSONS

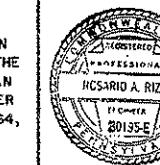
 CONSULTING ENGINEERS	PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH		
	PENNSYLVANIA		
STAGE 1 LIGHT RAIL TRANSIT SYSTEM GATEWAY CENTER STATION FINISHES BOOSTER FAN DETAILS SCHEDULES & AUTOMATIC TEMP. CONTROL DIAGRAMS			
PARSONS BRINCKERHOFF - GIBBS & HILL A JOINT VENTURE PITTSBURGH, PENNSYLVANIA		CONTRACT NO. CA-456 H <hr/> DWG. NO. M-012-O SHT. 40	



PROJECT RECORD COPY

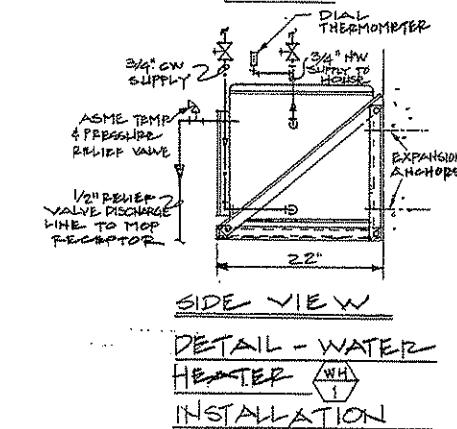
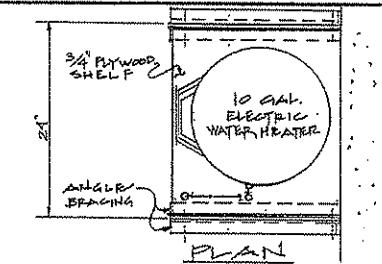
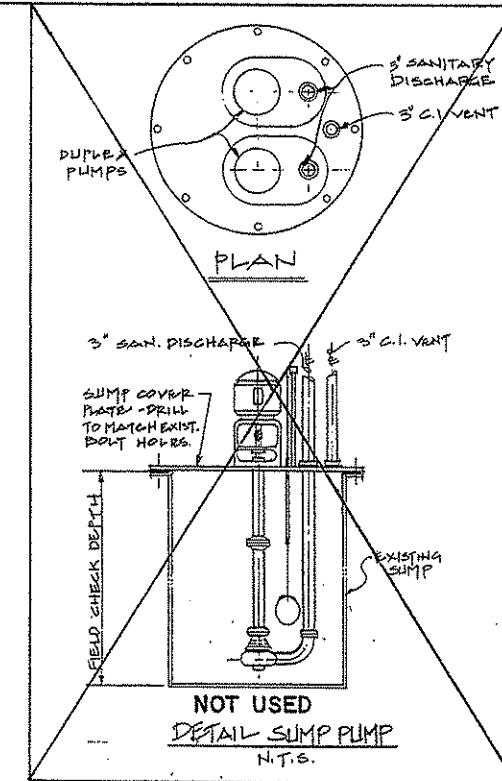
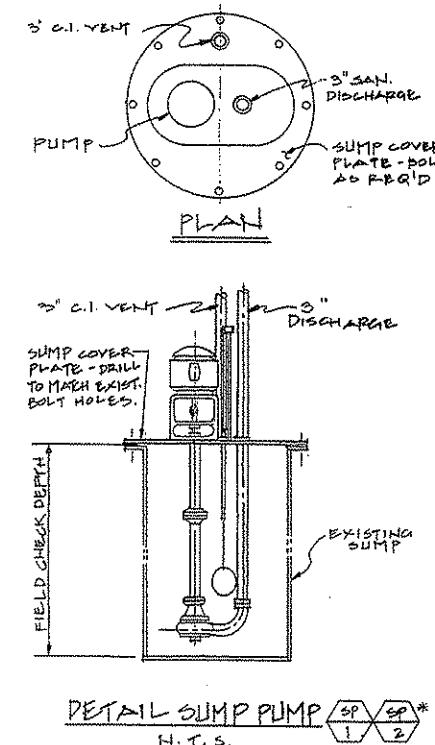
			DESIGNED: M.A.P.
			DRAWN: S.J.C.
			CHECKED: S.J.P.
			IN CHARGE: S.J.P.
			DATE: JUNE 3, 1983
			SCALE: 1/8" = 1'-0"
REV'D. AS SHOWN & AS BUILT.			
NO. DATE		DESCRIPTION	
REVISIONS			
DWG. No.	REFERENCE		

THE PREPARATION OF THIS DRAWING HAS BEEN
FINANCED, IN PART, THROUGH A GRANT FROM THE
U. S. DEPARTMENT OF TRANSPORTATION, URBAN
MASS TRANSPORTATION ADMINISTRATION UNDER
THE URBAN MASS TRANSPORTATION ACT OF 1964,
AS AMENDED



SUBMITTED	
DATE	
SUBMITTED	
DATE	

PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH PENNSYLVANIA	
STAGE 1 LIGHT RAIL TRANSIT SYSTEM GATEWAY CENTER STATION FINISHES PLATFORM LEVEL-WEST-PLUMBING	
PARSONS BRINCKERHOFF - GIBBS & HILL A JOINT VENTURE PITTSBURGH, PENNSYLVANIA	CONTRACT NO. CA-456P
DWG. No. M-017-1	Sheet 44



SUMP PUMPS SCHEDULE

MARK NO.	GPM	TOTAL DYNAMIC HEAD	TYPE	MOTOR		REMARKS
				HP	CURRENT	
SP 1	30	45'	COVER PLATE MTD. SIMPLEX	1	400 VOLT/ 3 PHASE/ 60 HZ	OVAL BASE PLATE SEE NOTE
SP 2	20	15'	COVER PLATE MTD. SIMPLEX	1/4	120 VOLT/ 1PH/60 HZ	OVAL BASE PLATE SEE NOTE
SP 3	500	35'	SUBMERSIBLE GUIDE RAIL MOUNTED	10	400 VOLT/ 3 PHASE/ 60 HZ	SEE PUMP RM.DETAIL DWG.M-023
SP 4	150	35'	SUBMERSIBLE GUIDE RAIL MOUNTED	5	400 VOLT/ 3 PHASE/ 60 HZ	SEE PUMP RM.DETAIL DWG.M-023

NOTE

- 1. SUMP RECEIVER COVER PROVIDED UNDER THIS CONTRACT. GASKETTED, BOLTED TO EXISTING RECEIVER
- 2. PROVIDE AUXILIARY HIGH WATER ALARM IN ADDITION TO STANDARD PUMP CONTROLLER CONTACTS, RATED 15AMPS/24 VOLTS

PLUMBING FIXTURE SCHEDULE

MARK NO.	DESCRIPTION	CONNECTIONS PER ID			MOUNTING HEIGHT TO RIM	REMARKS
		CW	HW	WASTE		
P 1	WALL MTD. WATER CLOSET - HANDICAPPED	1"	-	3"	17"	-
P 2	WALL MTD. LAVATORY - WHEELCHAIR	1/2"	1/2"	1/2"	32 1/2"	-
P 3	MOP RECEPTOR	1/2"	1/2"	EXIST.	-	FLOOR-MOUNTED WALL FAUCETS

WATER HEATER SCHEDULE

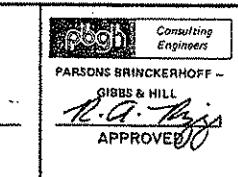
MARK NO.	TYPE	STORAGE CAPACITY (GAL.)	RATED RECOVERY (MIN.)	INPUT KW	NO. OF ELEMENTS	POWER REQUIREMENTS	REMARKS
WH 1	ELECTRIC STORAGE WATER HEATER	10 GAL.	6 G.P.H.	2	1	240 VOLTS/ 1 PHASE/ 60 HZ	T&P RELIEF - ASME RATED

REFERENCE	NO. DATE	DESCRIPTION
		REVISONS
DWG. No.	AS SHOWN	

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SUBMITTED
DATE



APPROVED
DATE

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH
PA
STAGE 1 LIGHT RAIL TRANSIT SYSTEM
GATEWAY CENTER STATION FINISHES
DETAILS & SCHEDULES-PLUMBING
PARSONS BRINCKERHOFF - GIBBS & HILL
A JOINT VENTURE
PITTSBURGH, PENNSYLVANIA
CONTRACT NO. CA-456P
DWG. NO. M-024-0 SHT. 51

NOTES

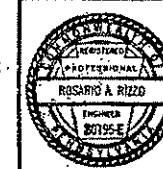
1. ALL COORDINATES ARE BASED ON PENNSYLVANIA STATE PLANE COORDINATES, LAMBERT PROJECTION, SOUTHZONE AS ESTABLISHED BY U.S.C.G. SURVEY STATIONS AT SHANNON POINT AND VEDO TWO, STATE PLANE COORDINATES WERE DATUM ADJUSTED TO THE PROJECT DATUM FOR HORIZONTAL CONTROL AT ELEVATION 100 ABOVE MEAN SEA LEVEL, 1929 DATUM.
2. SUPERELEVATION TRANSITIONS ARE INDICATED ON THE GENERAL PLANS.
3. ALL CURVATURES ARE BASED ON THE ARC DEFINITION.
4. ALL TRACK PROFILES REPRESENT THE TOP OF THE LOW RAIL.
5. ELEVATIONS ARE BASED ON U.S.C.G. 1929 DATUM AS ADJUSTED.

EXPRESS LINE - TRACK ALIGNMENT DATA					
CURVE Nº	POINT	STATION	COORDINATES		CURVE DATA
			NORTH	EAST	
POT	L 664+65.75 BK+	410,689.331	1,375,209.147		
PI-AT	L 665+00.000 AHD.	410,689.331	1,375,209.147		
PI-X	L 665+63.927	410,782.908	1,375,216.821		
	R 1666+26.891	410,817.552	1,375,222.807		
PC	L 666+56.842	410,845.316	1,375,226.522	$\Delta = 00^{\circ}08'23.5''$	
PI	L 666+69.048	410,857.465	1,375,226.797	$R = 10,000.00'$	
PRC	L 666+81.253	410,869.597	1,375,228.041	$L_c = 0.000'$	
				$L_{e1} = 24.41'$	
				$L_{e2} = 0.000'$	
				$T_c = 12.206'$	
				$V = 83.14 MPH$	
				$E = 0^{\circ} U = 3^{\circ}$	
PRC	L 666+81.253	410,869.597	1,375,228.041	$\Delta = 00^{\circ}37'22.5''$	
PI	L 667+02.997	410,881.228	1,375,230.259	$R = 4000.00'$	
PT	L 667+24.741 BK+			$L_{e1} = 0.000'$	
	L 667+24.744 AHD.	410,912.834	1,375,232.711	$L_c = 43.488'$	
POT	R 664+71.38 BK+			$L_{e2} = 0.000'$	
	R 665+00.000 AHD.	410,688.139	1,375,220.301	$T_c = 21.744'$	
				$V = 52.58 MPH$	
PI-AT	R 665+83.973	410,771.653	1,375,229.268	$E = 0^{\circ} U = 3^{\circ}$	
PC	R 666+11.973	410,799.500	1,375,232.192	$\Delta = 42^{\circ}58'1''$	
PI	R 666+34.845	410,822.247	1,375,234.580	$R = 600.000'$	
PRC	R 666+57.695	410,849.747	1,375,238.692	$L_{e1} = 0.000'$	
				$L_c = 45.722'$	
				$L_{e2} = 0.000'$	
				$T_c = 22.872'$	
				$V = 20.37 MPH$	
				$E = 0^{\circ} U = 3^{\circ}$	
PRC	R 666+57.695	410,844.747	1,375,238.692	$\Delta = 3^{\circ}52'58''$	
PI	R 666+78.035	410,864.755	1,375,242.350	$R = 600.000'$	
PT	R 666+98.356 BK+			$L_{e1} = 0.000'$	
	R 666+98.370 AHD.	410,884.964	1,375,244.644	$L_c = 40.663'$	
				$L_{e2} = 0.000'$	
				$T_c = 20.340'$	
				$V = 20.37 MPH$	
				$E = 0^{\circ} U = 3^{\circ}$	
PC	R 670+03.024	411,187.674	1,375,279.006	$\Delta = 7^{\circ}09'10''$	
PI	R 670+24.899	411,209.410	1,375,281.473	$R = 350.000'$	
PT	R 670+46.716	411,231.283	1,375,281.214	$L_{e1} = 0.000'$	
				$L_c = 43.694'$	
				$L_{e2} = 0.000'$	
				$T_c = 21.875'$	
				$V = 15.55 MPH$	
				$E = 0^{\circ} U = 3^{\circ}$	
PI-BT	R 671+45.309				
	L 671+44.455	411,329.867	1,375,280.050		
TS	L 671+84.657	411,369.808	1,375,284.584	$\Delta = 21^{\circ}55'30.0''$	
				$R = 720.000'$	
				$L_{e1} = 60.000'$	
				$L_c = 215.518'$	
				$L_{e2} = 60.000'$	
				$T_c = 169.503'$	
				$V = 28.80 MPH$	
				$E = 2^{\circ} U = 3^{\circ}$	
P.O.S.	L 671+91.540 BK+	411,372.827	1,375,284.927		

PROJECT RECORD COPY

DESIGNED: ERR
DRAWN: MMA
CHECKED: CEG
IN CHARGE: LGL
DATE: 4/8/83
SCALE: 1:4000
40 0 40

THE PREPARATION OF THIS DRAWING HAS BEEN FINANCED, IN PART, THROUGH A GRANT FROM THE U.S. DEPARTMENT OF TRANSPORTATION, URBAN MASS TRANSPORTATION ADMINISTRATION UNDER THE URBAN MASS TRANSPORTATION ACT OF 1964 AS AMENDED



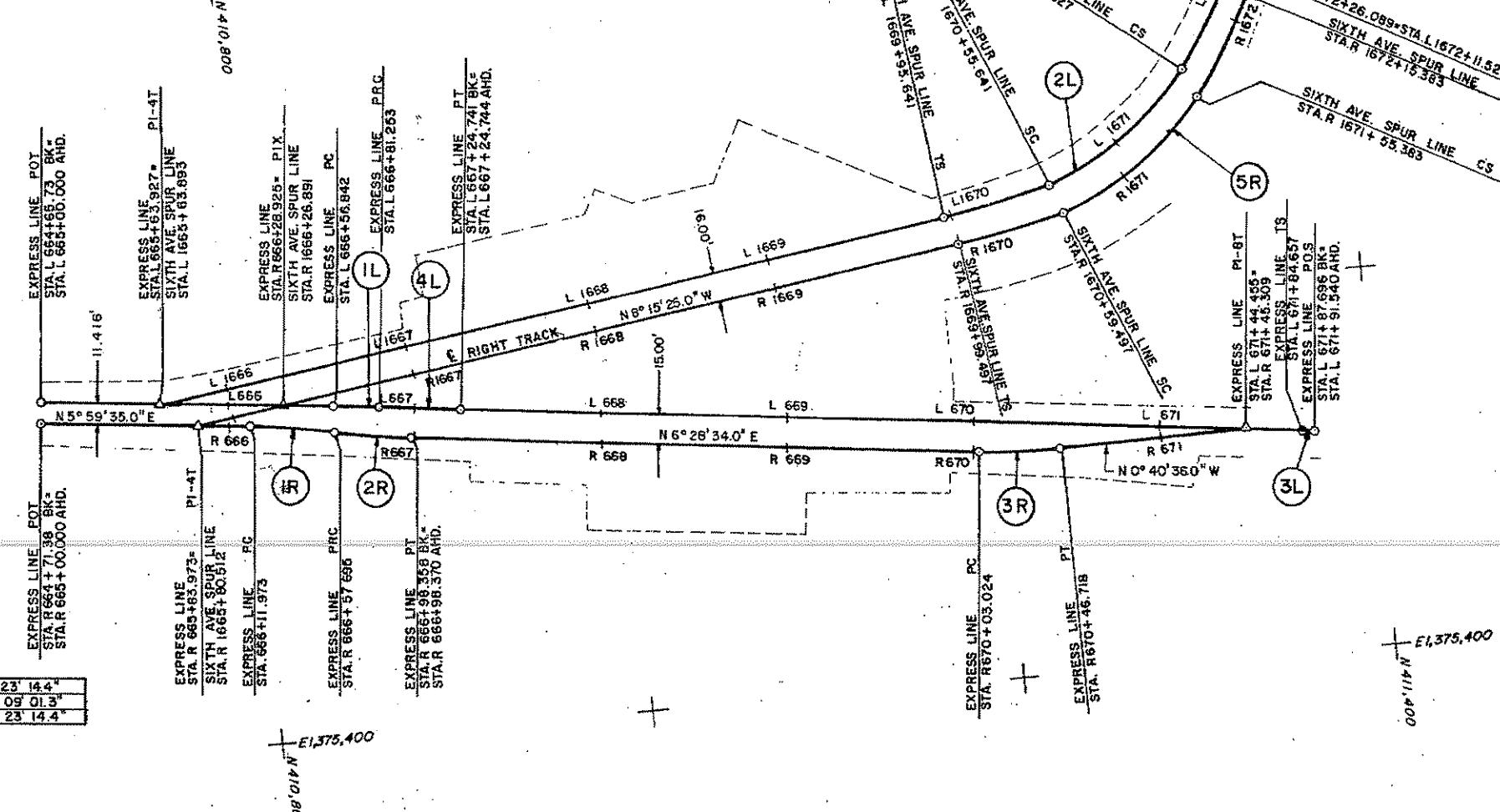
Engineering Consulting
Parsons Brinckerhoff
Rosario & Rizzo
10-18

APPROVED
APR 8 1983
SUBMITTED
DATE

CONTRACT NO. CY-810
Parsons Brinckerhoff - Gibbs & Hill
A JOINT VENTURE
Pittsburgh, Pennsylvania
DATE

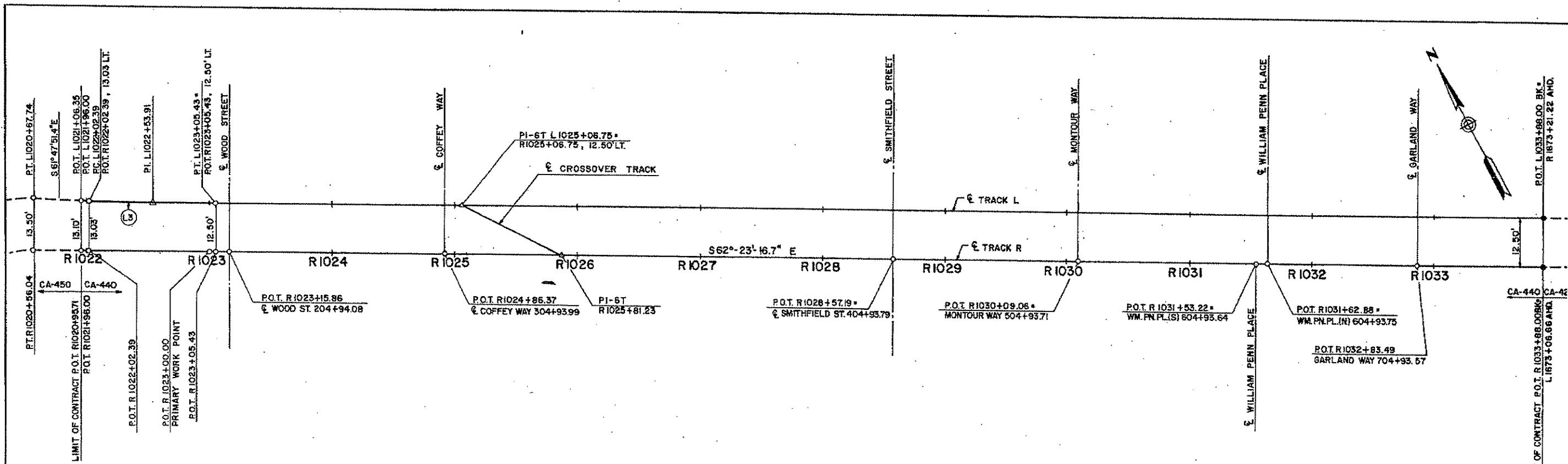
PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH
STAGE I LIGHT RAIL TRANSIT SYSTEM
TRACK ALIGNMENT AND DATA CA-425
EXPRESS LINE - STA.R 665+00 TO STA.R 672+00
SIXTH AVENUE SPUR LINE - STA.R 665+00 TO STA.R 673+21
Parsons Brinckerhoff - Gibbs & Hill
Contract No. CY-810
Pittsburgh, Pennsylvania
DATE

SIXTH AVENUE SPUR LINE - TRACK ALIGNMENT DATA					
CURVE Nº	POINT	STATION	COORDINATES		CURVE DATA
			NORTH	EAST	
2L	TS	L 1669+95.641	411,180.181	1,375,153.816	$\Delta = 54^{\circ}07'51.7''$
	SC	L 1670+55.641	411,236.842	1,375,141.638	$R = 165.000'$
	PI	L 1671+10.362	411,293.732	1,375,137.358	$L_{e1} = 60.000'$
	CS	L 1671+51.527	411,315.960	1,375,086.976	$L_c = 95.886'$
	ST	L 1672+11.527	411,346.912	1,375,035.666	$L_{e2} = 60.000'$
					$\Theta_{e1} = 10^{\circ}25'02.6''$
					$\Delta_c = 33^{\circ}17'46.4''$
					$\Theta_{e2} = 10^{\circ}25'02.6''$
					$T = 114.741'$
					$V = 13.79 MPH$
					$E = 2^{\circ} U = 3^{\circ}$
	POT	L 1673+06.661	411,391.005	1,374,951.367	
5R	TS	R 1669+99.497	411,186.295	1,375,169.097	$\Delta = 54^{\circ}07'51.7''$
	SC	R 1670+59.497	411,244.956	1,375,156.918	$R = 165.000'$
	PI	R 1671+14.238	411,299.846	1,375,152.619	$L_{e1} = 60.000'$
	CS	R 1671+55.383	411,322.094	1,375,102.256	$L_c = 95.886'$
	ST	R 1672+15.383	411,353.026	1,375,050.946	$L_{e2} = 60.000'$
					$\Theta_{e1} = 10^{\circ}25'02.6''$
					$\Theta_{e2} = 10^{\circ}25'02.6''$
					$T = 114.741'$
					$V = 13.79 MPH$
					$E = 2^{\circ} U = 3^{\circ}$
	POT	R 1673+21.224	411,402.081	1,374,957.160	



E1,375,400

E

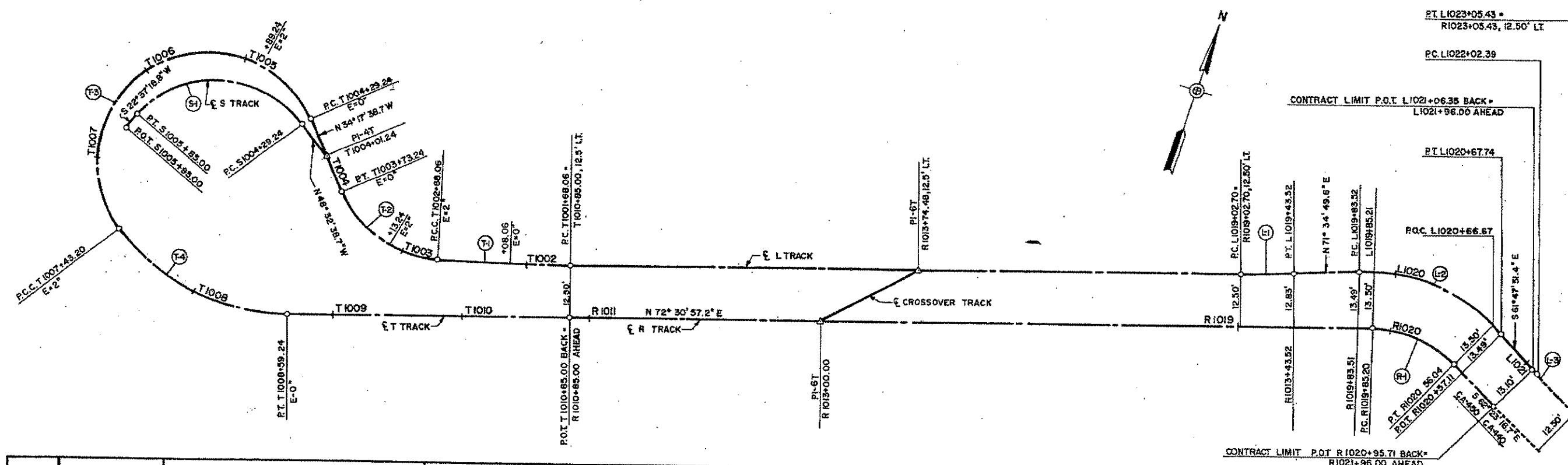
**NOTES**

1. ALL COORDINATES ARE BASED ON PENNSYLVANIA STATE PLANE COORDINATES, LAMBERT PROJECTION, SOUTHZONE AS ESTABLISHED BY U.S.C.G. SURVEY STATIONS AT SHANNON POINT AND VIDEO TWO. STATE PLANE COORDINATES WERE DATUM ADJUSTED TO THE PROJECT DATUM FOR HORIZONTAL CONTROL AT ELEVATION 1100 ABOVE MEAN SEA LEVEL, 1929 DATUM.
2. PROFILE OF THE LEFT TRACK IS THE SAME AS THE PROFILE OF THE RIGHT TRACK UNLESS OTHERWISE NOTED.
3. ALL CURVATURES ARE BASED ON THE ARC DEFINITION.
4. ALL TRACK PROFILES REPRESENT THE TOP OF THE LOW RAIL.
5. ELEVATIONS ARE BASED ON U.S.C.G. 1929 DATUM AS ADJUSTED.
6. P.O.T. R1023+00.00 IS THE PRIMARY WORK POINT FOR THE WOOD STREET SHELL.
7. ALL TRACK PLAN OR PROFILE INFORMATION IS FOR REFERENCE ONLY, AS THE INSTALLATION OF TRACK IS NOT INCLUDED IN THIS CONTRACT.

SIXTH AVENUE-TRACK ALIGNMENT DATA					
CURVE NO.	POINT	STATION	COORDINATES		CURVE DATA
			NORTH	EAST	
P.O.T.	R 1021+96.00	41° 943.476	1,373,895.128		
P.O.T.	L 1021+96.00	41° 955.081	1,373,901.198		
P.O.T.	R 1022+02.39	41° 940.514	1,373,900.790		
P.C.	L 1022+02.59	41° 952.061	1,373,906.830	$\Delta_c = 0^\circ - 35' - 25.3''$	
L3	P.I.	L 1022+03.91	41° 927.713	1,373,952.233	$L_c = 103.04' R = 10,000.00'$
	P.T.	L 1023+05.43	41° 903.838	1,373,997.885	$T_c = 51.52'$
	P.O.T.	R 1023+05.43	41° 892.758	1,373,992.092	$E = 0 \quad U = 3.0^\circ$
P.O.T.	R 1023+15.85	41° 887.925	1,374,001.335	V = 65 MPH	
P.O.T.	R 1024+06.37	41° 808.895	1,374,152.430		
PI-6T	L 1025+06.75	41° 810.526	1,374,176.276		
PI-6T	R 1025+01.23	41° 764.930	1,374,236.480		
P.O.T.	R 1028+57.19	41° 637.026	1,374,481.013		
P.O.T.	R 1030+09.06	41° 566.636	1,374,615.586		
P.O.T.	R 1031+53.22	41° 499.821	1,374,743.327		
P.O.T.	R 1031+62.88	41° 495.342	1,374,751.890		
P.O.T.	R 1032+03.49	41° 439.443	1,374,858.761		
P.O.T.	R 1033+08.00	41° 391.005	1,374,951.367		
P.O.T.	L 1033+08.00	41° 402.081	1,374,957.160		
P.O.T.	R 1023+00.00	41° 895.273	1,373,987.283	PRIMARY WORK POINT	

PROJECT RECORD COPY

DESIGNED: NSP/EBV	DRAWN: J.J.M.	CHECKED: ERR/MDN	IN CHARGE: H.L.H.	DATE: 4/8/83	SCALE: N.T.S.	THE PREPARATION OF THIS DRAWING HAS BEEN FINANCED, IN PART, THROUGH A GRANT FROM THE U.S. DEPARTMENT OF TRANSPORTATION, URBAN MASS TRANSPORTATION ADMINISTRATION UNDER THE URBAN MASS TRANSPORTATION ACT OF 1964, AS AMENDED	CONSULTING ENGINEERS ROSARIO A. RIZZO E. BRINCKERHOFF - GIBBS & HILL T.A. [Signature]	SUBMITTED	APPROVED APR 8 1983	PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH STAGE I LIGHT RAIL TRANSIT SYSTEM TRACK ALIGNMENT DATA CA-440 SIXTH AVENUE	CONTRACT NO. CY-810 A JOINT VENTURE PITTSBURGH, PENNSYLVANIA DWG. NO. C-078-0
DWG. No.	REFERENCE	NO. DATE	DESCRIPTION	REVISIONS				DATE	DATE		



CURVE NO.	P.C. or P.C.C. STATION	P.C. or P.C.C. COORDINATES		P.C.C. or PT. STATION	P.C.C. or PT. COORDINATES		C.C. COORDINATES		R	Δ_c	L_c	T_c	e	E	V (MPH)
		N	E		N	E	N	E							
T1	T1001+68.06	411,709.421	1,372,928.850	T1002+68.06	411,681.292	1,372,832.895	411,093.921	1,372,177.747	2500'	2°17'30.6"	100.00'	50.01'	0.50'	0"	20
T2	T1002+68.06	411,681.292	1,372,832.895	T1003+73.24	411,715.429	1,372,740.396	411,763.321	1,372,810.620	85'	70°53'53.5"	105.18'	60.52'	19.34'	2"	8
T3	T1004+29.24	411,761.694	1,372,708.844	T1007+43.20	411,636.192	1,372,603.953	411,713.801	1,372,638.620	85'	211°38'09.7"	313.97'	*	*	2"	8
T4	T1007+43.20	411,636.192	1,372,603.953	T1008+59.24	411,629.672	1,372,717.280	411,782.280	1,372,669.209	160'	41°33'14.6"	116.04'	60.70'	11.13'	1"	8
R1	R1019+85.20	411,967.957	1,373,791.220	R1020+56.04	411,961.864	1,373,859.973	411,882.114	1,373,818.260	90'	45°05'46.1"	70.84'	37.37'	7.45'	0"	8
L1	L1019+02.70	411,955.093	1,373,708.778	L1019+43.52	411,967.673	1,373,747.607	411,539.594	1,372,957.675	2500'	0°56'07.6"	40.82'	20.41'	0.08'	0"	20
L2	L1019+83.52	411,980.312	1,373,785.557	L1020+67.74	411,973.327	1,373,867.173	411,882.114	1,373,818.260	103.50'	46°37'19.0"	84.22'	44.60'	9.20'	0"	8
L3	L1022+02.39	411,952.061	1,373,906.831	L1023+05.43	411,903.835	1,373,997.886	420,764.898	1,378,632.707	10,000	0°35'25.32"	103.04'	51.52'	0.13'	0"	*
S1	S1004+29.24	411,757.098	1,372,703.635	S1005+85.00	411,727.183	1,372,573.656	411,695.642	1,372,649.347	82'	108°50'02.5"	155.76'	114.61'	*	0"	8

NOTES

- ALL COORDINATES ARE BASED ON PENNSYLVANIA STATE PLANE COORDINATES, LAMBERT PROJECTION, SOUTHZONE AS ESTABLISHED BY U.S.C.G. SURVEY STATIONS AT SHANNON POINT AND VIDEO TWO. STATE PLANE COORDINATES WERE DATUM ADJUSTED TO THE PROJECT DATUM FOR HORIZONTAL CONTROL AT ELEVATION 1100 ABOVE MEAN SEA LEVEL, 1929 DATUM.
- SUPERELEVATION TRANSITIONS ARE LINEAR.
- ALL CURVATURES ARE BASED ON THE ARC DEFINITION.
- ALL TRACK PROFILES REPRESENT THE TOP OF THE LOW RAIL.

5. GEOMETRIC VALUES HAVING NO PRACTICAL UTILIZATION ARE DESIGNATED WITH AN ASTERISK (*).

6. ELEVATIONS ARE BASED ON U.S.C.G. 1929 DATUM AS ADJUSTED.

PROJECT RECORD COPY

DESIGNED: J.H.A.	DRAWN: R.J.K.	CHECKED: H.E.D.	IN CHARGE: H.E.D.	DATE: 4/8/83	SCALE: NTS	THE PREPARATION OF THIS DRAWING HAS BEEN FINANCED, IN PART, THROUGH A GRANT FROM THE U.S. DEPARTMENT OF TRANSPORTATION, URBAN MASS TRANSPORTATION ADMINISTRATION UNDER THE URBAN MASS TRANSPORTATION ACT OF 1964, AS AMENDED		APPROVED: APR 888	CONTRACT NO. CY-810	PITTSBURGH	STAGE I LIGHT RAIL TRANSIT SYSTEM	PORT AUTHORITY OF ALLEGHENY COUNTY	PENNSYLVANIA
REFERENCE:	NO. DATE	DESCRIPTION:	REVISIONS:					APPROVED: APR 888	CONTRACT NO. CY-810				
DWG. No.								APPROVED: APR 888	CONTRACT NO. CY-810				
A JOINT VENTURE PITTSBURGH, PENNSYLVANIA													
DWG. NO. C-079-0													
INT. 144													