Torres Rojas, Genara

From: lbs4@columbia.edu
Sent: Friday, November 07, 2014 4:18 PM
To: Duffy, Daniel
Cc: Torres Rojas, Genara; Van Duyne, Sheree
Subject: Freedom of Information Online Request Form

Information:

First Name: lynne
Last Name: sagalyn
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Required copies of the records: Yes

List of specific record(s):
2008 Report of the Transportation Hub Design Alternatives Working Group. 2003 Contract between the Port Authority and the Downtown Design Partnership for professional architectural and engineering services, plus amendments and riders.

THE PORT AUTHORITY OF NY & NJ

FOI Administrator

November 17, 2014

Ms. Lynne Sagalyn
Columbia Business School
3022 Broadway, Uris 816
New York, NY 10027

Re: Freedom of Information Reference No. 15468

Dear Ms. Sagalyn:

This is in response to your November 7, 2014 request, which has been processed under the Port Authority's Freedom of Information Code (the "Code", copy attached) for copies of the "2008 Report of the Transportation Hub Design Alternatives Working Group. 2003 Contract between the Port Authority and the Downtown Design Partnership for professional architectural and engineering services, plus amendments and riders."

Material responsive to your request and available under the Code can be found on the Port Authority's website at http://www.panynj.gov/corporate-information/foi/15468-WTC.pdf. Paper copies of the available records are available upon request.

Certain portions of the material responsive to your request are exempt from disclosure pursuant to exemption (4) of the Code.

Please refer to the above FOI reference number in any future correspondence relating to your request.

Very truly yours,

Daniel D. Duffy
FOI Administrator

Attachment

225 Park Avenue South, 17th FL
New York, NY 10003
T: 212 435 3642 F: 212 435 7555

WTC DESIGN
&
CONSTRUCTION ANALYSIS

HUB WORKING GROUP

STEERING COMMITTEE REPORT

SEPTEMBER 25, 2008

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I. INTRODUCTION

September 25, 2008

HUB WORKING GROUP

FINAL REPORT

INTRODUCTION

In July, 2008, the Port Authority formed four working groups to study options for improving the schedule and cost performance of four key elements of the World Trade Center Project; 1) the Greenwich Street Corridor, 2) the Transportation HUB, 3) the Memorial and, 4) the VSC. These initiatives were undertaken following the PA's acknowledgement of serious cost overruns and extensive projected delays on all four projects. The recommendations of these Working Groups is intended to provide data to the Steering Committee for decision making and to give PA Executive Director Chris Ward input for his report to Governor Paterson at the end of September.

This report contains the final recommendations of the HUB Working Group. In addition to the material presented to the Steering Committee in mid-September 2008, we have included additional detailed drawings and other supporting material that was not part of the presentation.

The HUB Working Group included representatives of all the major stakeholders in these projects:

- City of New York
- Port Authority
- FTA
- Memorial
- MTA
- Silverstein Properties

The group utilized the following four primary outside consultants to provide expert design and construction input:

- Constructability, Cost and Schedule - Turner
- Structural - LERA
- MEP - AKF
- Architecture – Beyer, Blinder, Belle

From time to time, the design group sought advice from specialty consultants in specific technical areas, e.g., Weidlinger (blast design/criteria), DVS (security criteria), and ARUP (CFD modeling).

While the HUB Working Group was developing alternative concepts, there were parallel efforts underway by the Calatrava/DDP team and a PA Engineering Department team, which focused on the West Bathtub portion of the PATH HUB. The HUB Working Group was asked to comment on these efforts and compare them to the concepts developed by the HUB Group. It should be noted that the charter[1] of each group was different and, therefore, there

[1] The respective charter of each group can be summarized as follows:
- **DDP/CALATRAVA** – Save as much of the existing design as possible while improving schedule and cost performance.
- **Port Authority** – Minimize design breakage while improving schedule and cost performance.
- **HUB Working Group –** No boundaries on concepts to be considered, save hundreds of millions dollars and help neighboring projects meet their schedules

should be no surprise that their recommendations are quite different. The recommended concept of the HUB Working Group has four basic elements:

- Add columns/caissons under the 1 Line Box, eliminating very heavy and difficult to construct trusses.
- Make Oculus 25% smaller and simplify design
- Save existing structure in the West Bathtub and simplify the roof structure.
- Revise and relocate MEP systems.

These concepts and the resulting cost and schedule benefits are described in more detail in this report. Collectively, these four elements have the following benefits:

- The Memorial Plaza slab is available May 2010, which meets their schedule.
- The PATH HUB Oculus is completed by June, 2012.
- The West Bathtub portion of the HUB is completed by December 2012.
- There are savings in excess of $500+ million compared to the base design estimate.
- The structure is much simpler/less risky.
- There is created an additional 15,000 s.f. of retail and an additional 62,000 s.f. of program space on the B4 level.

In our opinion, the only possible negative to the concept described above relates to the architectural design of the passenger mezzanine in the West Bathtub. While the dramatic design and clear span has been modified for the sake of schedule, cost and constructability, we fully anticipate that whenever executed, the design would provide an attractive and compatible design solution to this ceiling.

And, finally, the HUB Working Group recommends careful reviews of practices and procedures, regardless of which scheme is selected. In our opinion, it would be a serious mistake to continue “business as usual” in light of the results to date.

Respectfully Submitted

HUB WORKING GROUP

II. STEERING COMMITTEE PRESENTATION SEPTEMBER 25, 2008

WTC DESIGN AND CONSTRUCTION ANALYSIS HUB WORKING GROUP RECOMMENDATIONS

STEERING COMMITTEE PRESENTATION
SEPTEMBER 25, 2008

HUB WORKING GROUP

CHARTER

- NO LIMITS ON CONCEPTS TO BE CONSIDERED
- SHAKE OFF OLD “BAGGAGE” AND ATTITUDES
- THE INTERESTS OF ALL STAKEHOLDERS MUST BE CONSIDERED

OBJECTIVES

- SUBSTANTIAL REDUCTIONS IN COST (HUNDREDS OF MILLIONS)
- SHORTEN SCHEDULE TO SUPPORT DESIRED SCHEDULES OF NEIGHBORING PROJECTS (DELIVER THE MEMORIAL PARK BY 9/11/2011)
- IMPROVE FUNCTIONALITY / PEOPLE FLOW
- PRESERVE ABOVE GRADE OCULUS GENERAL CONCEPT

HUB WORKING GROUP

TEAM / PARTICIPANTS

- PORT AUTHORITY
- CITY OF NEW YORK
- MEMORIAL
- MTA
- LMCCC
- FTA
- SILVERSTEIN PROPERTIES
- CONSULTANTS
  - TCCo – Constructability, Cost, Schedule
  - Beyer Blinder Belle – Architecture
  - LERA – Structure
  - AKF – Mechanical Engineering

HUB WORKING GROUP
RECOMMENDATIONS

CONCEPT	$/Million COST SAVINGS*
1. ADD COLUMNS UNDER THE 1 LINE BOX (IN LIEU OF TRUSS)	75
2. SAVE EXISTING STRUCTURE IN WEST BATHTUB. EXTEND EXISTING COLUMNS UP. SIMPLIFY ROOF STRUCTURE	200
3. MAKE OCULUS SMALLER AND SIMPLIFY DESIGN	215
4. REVISE & RELOCATE MEP SYSTEMS	25
5. VALUE OF NEW PROGRAM SPACE ON LEVEL B4 (62,000GSF)	25
6. VALUE OF ADDITIONAL RETAIL SPACE (15,000GSF)	35
TOTAL	575
▪ GREENWICH BENEFIT FOR "NO ROOF REMOVAL"	60

** Savings based on Turner estimate;*
Compared against "Hub Cost Summary – 90% Fitout & Structure to Grade / 50% Oculus";
Net of redesign costs

HUB WORKING GROUP
SCHEDULE SUMMARY

SCHEDULE MILESTONE	HUB WORKING GROUP SCHEME	RE-MODIFIED DDP/CALATRAVA SCHEME*
1. MEMORIAL PLAZA STRUCTURE COMPLETE	May 2010	November 2010 Partial August 2011 Complete
2. WEST BATHTUB COMPLETE	December 2012	May 2014
3. OCULUS TO GRADE	July 2011	?
4. OCULUS COMPLETE	June 2012	May 2014

** DDP/Calatrava Scheme Completion dates based on 3-page handout distributed by the PA on 9-23-08.*

RECOMMENDATION
ADD COLUMNS UNDER THE NO. 1 LINE BOX

- IMPROVES GREENWICH STREET AND MEMORIAL SCHEDULES
- SOLVES SUBWAY ACCESS ISSUES
- IMPROVES CONSTRUCTION LOGISTICS

EXEMPTION (4)

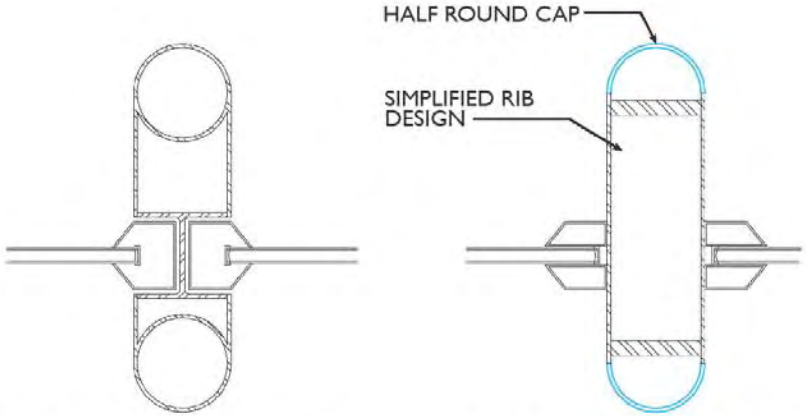
DRAWINGS OF NON-PUBLIC AREAS

RECOMMENDATION

MAKE OCULUS SMALLER AND SIMPLIFY DESIGN

- REDUCE ABOVE-GRADE STRUCTURE BY 25% IN BOTH THE X & Y AXES; RETAINS BASIC EXTERIOR DESIGN. PROPOSED "REDUCED" HUB IS STILL 10 STORIES HIGH AND ALMOST AS LONG AS A FOOTBALL FIELD.
- REDUCTION IN ABOVE GRADE FOOTPRINT FACILITATES MORE AREA BEING AVAILABLE FOR CONSTRUCTION LOGISTICS
- INCREASE SPACING OF RIBS & REDUCE QUANTITY
- SIMPLIFY PROFILES OF RIBS, RESULTING IN QUICKER FABRICATION AND ERECTION
- OCULUS STRUCTURE TO BE SUPPORTED ON MORE CONVENTIONAL BELOW GRADE STRUCTURE, INSTEAD OF CANTILEVERED STRUCTURE
- ELIMINATION OF SKYLIGHT AT TOP RESULTS IN A SIMPLE "A-FRAME" STRUCTURE THAT IS EASIER TO ERECT; RESULTS IN FEWER SHORING TOWERS & BETTER SITE LOGISTICS

OCULUS & GRAND CENTRAL COMPARISON

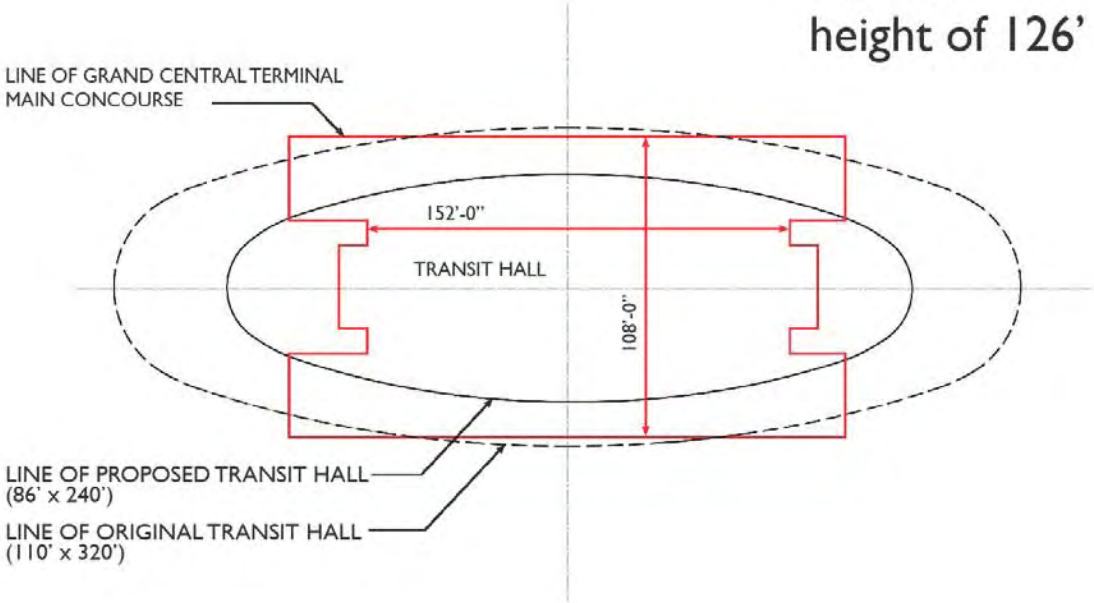


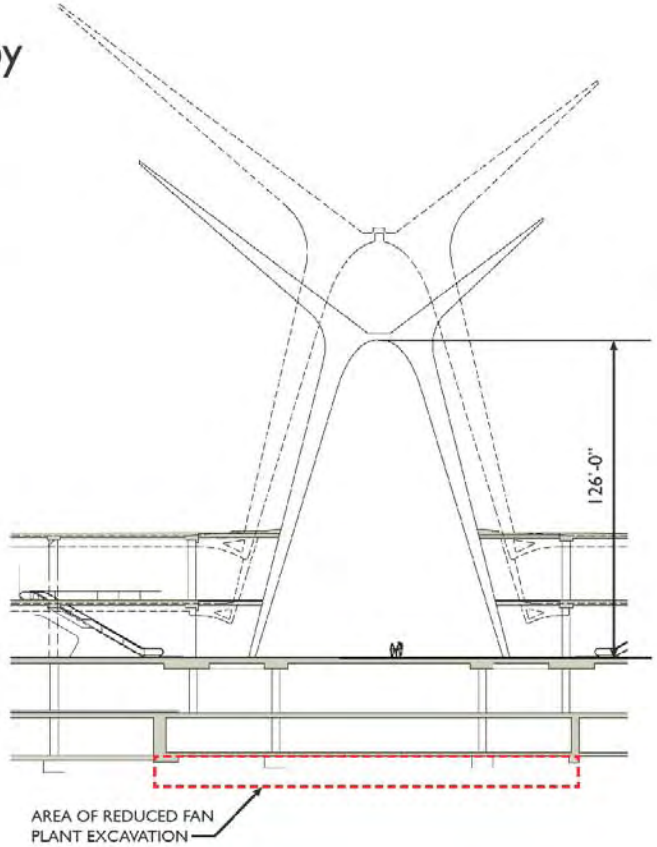
ORIGINAL HUB GLAZING

PROPOSED HUB GLAZING

Oculus reduced by
25% in plan,
50% in volume

Clear interior
height of 126'

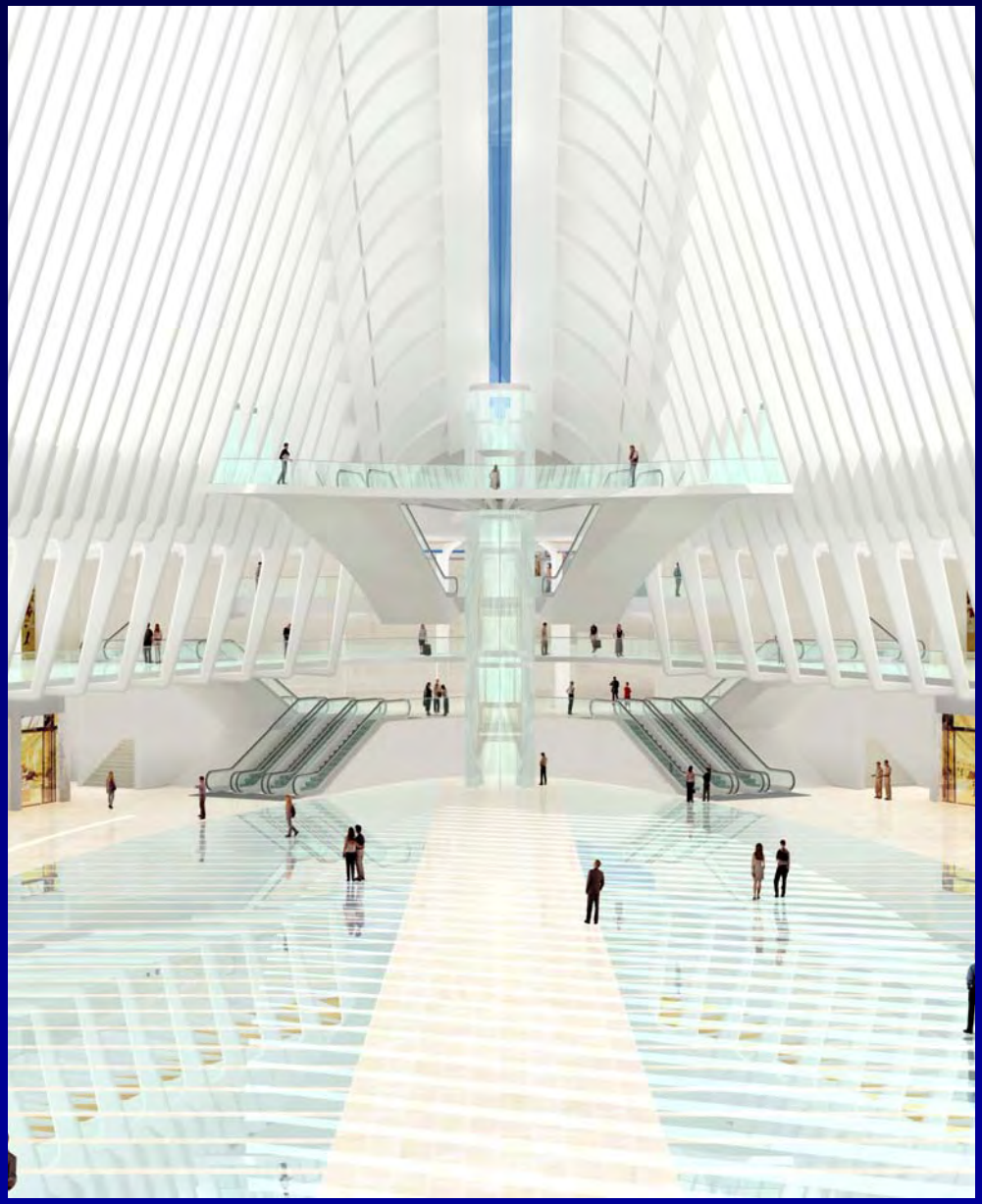




COMPARISON OF OCULUS & GRAND CENTRAL TERMINAL FLOOR SPACE

PROPOSED OCULUS SECTION | North - South

OCULUS SIZE REDUCTION COMPARISON



EXEMPTION (4)

DRAWINGS OF NON-PUBLIC AREAS

RECOMMENDATION
SAVE EXISTING STRUCTURE IN WEST BATHTUB

- RETAIN AS MUCH OF EXISTING STRUCTURE AS POSSIBLE
- EXISTING COLUMNS & FOOTINGS CONTAIN SUFFICIENT CAPACITY FOR BUILD-OUT ABOVE
- EXTEND EXISTING COLUMNS UP TO SUPPORT NEW SLABS & PLAZA
- FACILITATES FASTER CONSTRUCTION OF PLAZA LEVEL; MAJOR TIME AND COST SAVINGS; CRITICAL TO MEETING MEMORIAL SCHEDULE (JUNE 2010 STRUCTURE COMPLETED FOR SEPTEMBER 2011 OPENING)
- ALLOWS PROGRAM RELOCATION THAT WILL HELP GREENWICH ST. SCHEDULE
- RETAIN AS MUCH OF EXISTING PLATFORMS AS POSSIBLE; RECONFIGURE PATH PLATFORM “A” TO ACCOMMODATE LEVEL OF SERVICE IN PROGRAM

SECURITY STRATEGY

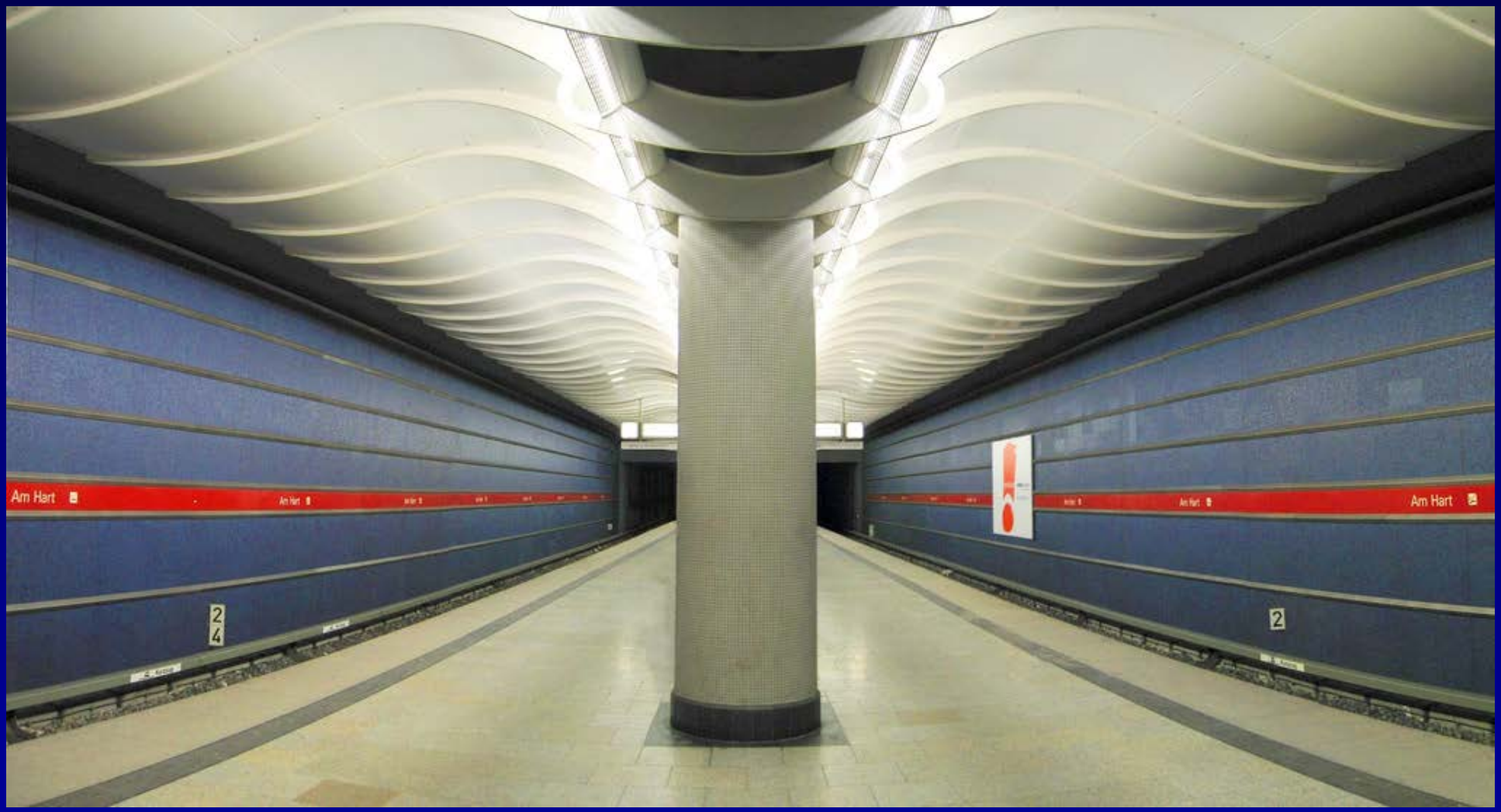
DESIGN APPROACH

- ALTERNATIVE LOAD PATH (ALP)
- AVOIDANCE OF DISPROPORTIONATE PROGRESSIVE COLLAPSE
- STRATEGIC ROUTING OF MEP SYSTEMS

EXEMPTION (4)

DRAWINGS OF NON-PUBLIC AREAS

COMPARATIVE IMAGES



CEILING HEIGHTS AND POTENTIAL CEILING TREATMENTS

COMPARATIVE IMAGES

4 METER CEILING HEIGHT – BEN GURION AIRPORT

COMPARATIVE IMAGES

15 FOOT CEILING HEIGHT – SFO AIRPORT

COMPARATIVE IMAGES

14 FOOT CEILING HEIGHT – ATLANTA AIRPORT

RECOMMENDATION
REVISE & RELOCATE MEP SYSTEMS

- RELOCATE FAN ROOM FROM EAST BATHTUB (UNDER OCULUS) TO NEW FAN ROOM IN WEST BATHTUB
- ELIMINATES THE NEED FOR THE B4 LEVEL FAN ROOM AND EXPENSIVE ROCK EXCAVATION BELOW THE B4 LEVEL, FACILITATING EARLIER COMMENCEMENT OF OCULUS SUPERSTRUCTURE WORK
- RESULTS IN INDEPENDENT MECHANICAL SYSTEMS FOR THE EAST & WEST BATHTUBS
- MORE EFFICIENT SYSTEM SINCE FAN ROOM WOULD NOW BE ADJACENT TO AREA SERVED
- SHORTER DISTRIBUTION RESULTS IN BETTER EQUIPMENT PERFORMANCE & EFFICIENCIES
- ELIMINATES THE NEED FOR A LARGE SERVICE TUNNEL CONNECTING EAST & WEST BATHTUBS

EXEMPTION (4)

DRAWINGS OF NON-PUBLIC AREAS

RE-DESIGN EFFORT

APPROXIMATE AREA OF WORK

• WEST BATHTUB:	230,000
• EAST BATHTUB:	490,000
• No. 1 UNDERPASS:	12,000
• TOTAL	732,000

ESTIMATED NUMBER OF DRAWINGS

• GENERAL	20
• CIVIL	30
• ARCHITECTURAL:	480
• STRUCTURAL:	300
• MEPF:	295
• SECURITY:	60
• SIGNAGE:	50
• MISCELLANEOUS:	50
• TOTAL:	1285

ESTIMATED EFFORT TO COMPLETE THE DOCUMENTS

- MANHOURS: 115,000
- 60 PEOPLE OVER A 12 MONTH DOCUMENTATION DURATION

HUB WORKING GROUP

PREMISE

- MUST LOOK AT NEW WAYS TO EXPEDITE PROCESSES AND DECISION MAKING:
  - EXPEDITED REVIEWS OF MILESTONE SUBMISSIONS
  - IMPLEMENT TRADITIONAL CONSTRUCTION FAST-TRACK STRATEGIES
  - STREAMLINE THE PROCUREMENT PROCESS

REDESIGN TIME

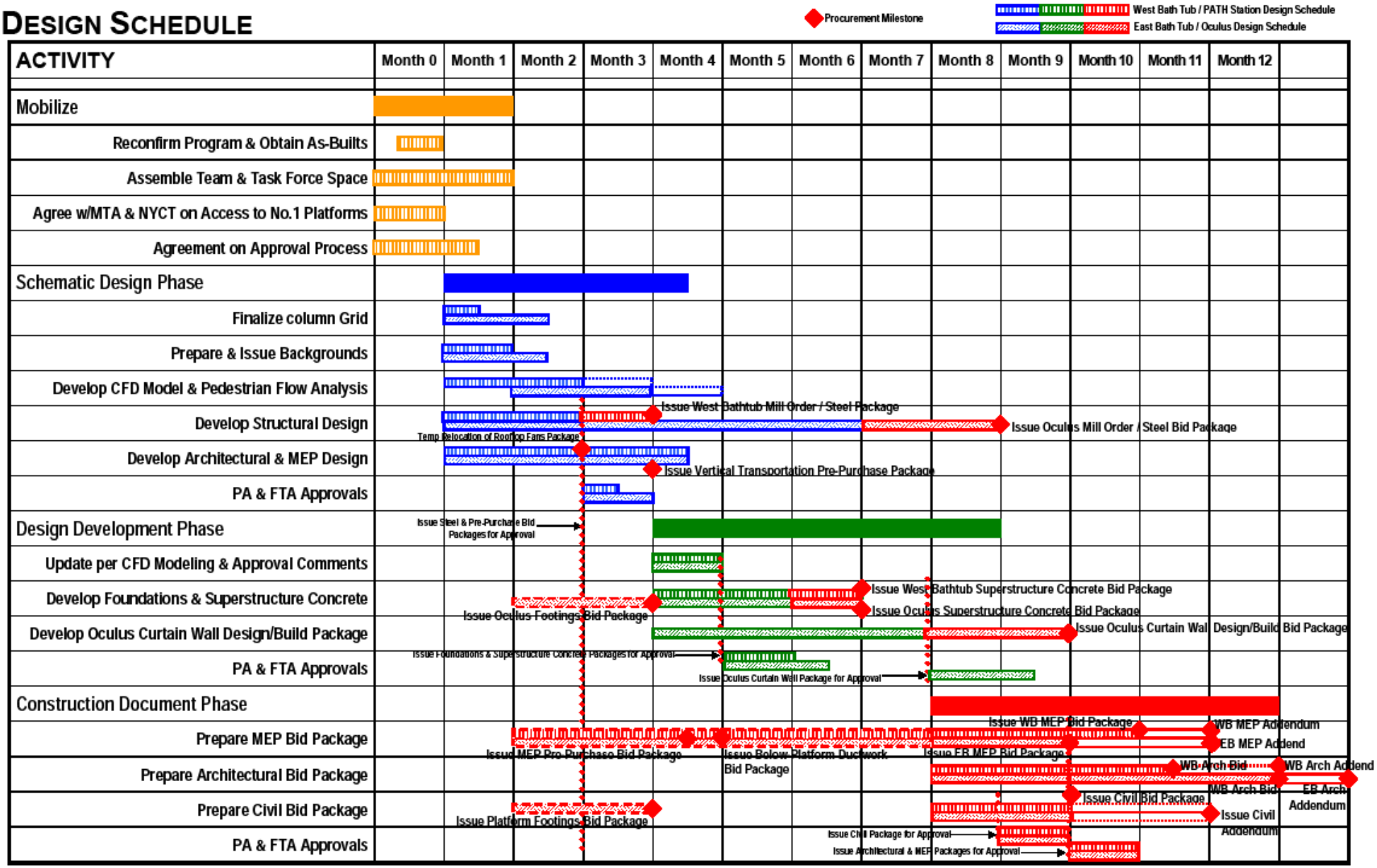
WEST BATHTUB (including re-coordination)

- ARCHITECTURAL 10 MONTHS
- STRUCTURAL
  - •STEEL 3 MONTHS
  - •CONCRETE 6 MONTHS
- MECHANICAL
  - •PRE-PURCHASE EQUIPMENT 4 MONTHS
  - •COMPLETE 10 MONTHS

OCULUS (including re-coordination)

- ARCHITECTURAL 12 MONTHS
- STRUCTURAL
  - •STEEL 8 MONTHS
  - •CONCRETE 6 MONTHS
- MECHANICAL 9 MONTHS

DESIGN SCHEDULE



COST ESTIMATES SUMMARY - $/BN

	DDP	TURNER
BASE DESIGN		
TOTAL	3.8	4.2+
ALLOCATION	(0.3)-(0.9)?	(0.3)-(0.9)?
NET	2.9-3.5	3.3-3.9+
OPTION 1		
NEW DDP/CALATRAVA CONCEPT	(0.10)*	-
NEW TOTAL	2.8-3.4	-
OPTION 2		
HUB WORKING GROUP CONCEPT	-	(0.58)
NEW TOTAL	-	2.72-3.32+

** DDP/Calatrava Scheme Savings based on 3-page handout distributed by the PA on 9-23-08.*

HUB WORKING GROUP: SUMMARY

ISSUE	IMPACTS
o Schedule	▪ Surest approach to delivering Memorial Plaza on time ▪ Saves 30 Months on West Bathtub Schedule ▪ Saves 15 Months on the Oculus Schedule ▪ Big Help to the Greenwich Street Schedule
o Cost	Saves $575 Million from the Baseline Estimate
o Risk	▪ Reduces cost, schedule, and constructability risks by dramatically simplifying the systems ▪ Eliminates expensive fan room that requires a great deal of rock excavation
o Benefit to Other Projects	▪ Saves costs for neighboring Projects ▪ Helps all neighboring project schedules ▪ Improves MTA access ▪ Potentially reduces PATH shutdowns
o Program	▪ PATH pragmatic requirements will be met ▪ Increases Retail Area by 15,000 SF ▪ Reduces almost 25,000 cu.yds. of rock excavation on the B4 Level under the Oculus by relocating Fan Rooms to upper levels, and to the West Bathtub
o Design	▪ Keeps the basic Exterior Design of the Oculus ▪ Changes the architecture of the West Bathtub Passenger Mezzanine
o Redesign	▪ The redesign effort is manageable and factored into the Cost Savings and Schedule Reduction estimates

HUB WORKING GROUP

CLOSING SUMMARY:

- SAVINGS OF WELL OVER $500M
- MOST POSITIVE APPROACH TO DELIVERING THE MEMORIAL PLAZA ON TIME
- OVERALL SCHEDULE REDUCTION ON THE WEST BATHTUB AND OCULUS
- REDUCES RISK
- HELPS LOGISTICS

WTC DESIGN AND CONSTRUCTION ANALYSIS

HUB WORKING GROUP

STEERING COMMITTEE PRESENTATION
SEPTEMBER 25, 2008

III. RECOMMENDATIONS

RECOMMENDATION "A":

ADD COLUMNS UNDER THE NO. 1 LINE BOX

- **IMPROVES GREENWICH STREET AND MEMORIAL SCHEDULES**
- **SOLVES SUBWAY ACCESS ISSUES**
- **IMPROVES CONSTRUCTION LOGISTICS**

RECOMMENDATION "B":

MAKE OCULUS SMALLER AND SIMPLIFY DESIGN

- **REDUCE ABOVE-GRADE STRUCTURE BY 25% IN BOTH THE X & Y AXES**
- **RETAINS BASIC EXTERIOR DESIGN. PROPOSED "REDUCED" HUB IS STILL 10 STORIES HIGH AND ALMOST AS LONG AS A FOOTBALL FIELD.**
- **REDUCTION IN ABOVE GRADE FOOTPRINT FACILITATES MORE AREA BEING AVAILABLE FOR CONSTRUCTION LOGISTICS**
- **INCREASE SPACING OF RIBS & REDUCE QUANTITY**
- **SIMPLIFY PROFILES OF RIBS, RESULTING IN QUICKER FABRICATION AND ERECTION**
- **OCULUS STRUCTURE TO BE SUPPORTED ON MORE CONVENTIONAL BELOW GRADE STRUCTURE, INSTEAD OF CANTILEVERED STRUCTURE**
- **ELIMINATION OF SKYLIGHT AT TOP RESULTS IN A SIMPLE "A-FRAME" STRUCTURE THAT IS EASIER TO ERECT; RESULTS IN FEWER SHORING TOWERS & BETTER SITE LOGISTICS**

RECOMMENDATION "C":

SAVE EXISTING STRUCTURE IN WEST BATHTUB

- **RETAIN AS MUCH OF EXISTING STRUCTURE AS POSSIBLE**
- **EXISTING COLUMNS & FOOTINGS CONTAIN SUFFICIENT CAPACITY FOR BUILD-OUT ABOVE**
- **EXTEND EXISTING COLUMNS UP TO SUPPORT NEW SLABS & PLAZA**
- **FACILITATES FASTER CONSTRUCTION OF PLAZA LEVEL; MAJOR TIME AND COST SAVINGS; CRITICAL TO MEETING MEMORIAL SCHEDULE (JUNE 2010 STRUCTURE COMPLETED FOR SEPTEMBER 2011 OPENING)**
- **ALLOWS PROGRAM RELOCATION THAT WILL HELP GREENWICH ST. SCHEDULE**
- **RETAIN AS MUCH OF EXISTING PLATFORMS AS POSSIBLE; RECONFIGURE PATH PLATFORM "A" TO ACCOMMODATE LEVEL OF SERVICE IN PROGRAM**

RECOMMENDATION "D":

REVISE & RELOCATE MEP SYSTEMS

- **RELOCATE FAN ROOM FROM EAST BATHTUB (UNDER OCULUS) TO NEW FAN ROOM IN WEST BATHTUB**
- **ELIMINATES THE NEED FOR THE B4 LEVEL FAN ROOM AND EXPENSIVE ROCK EXCAVATION BELOW THE B4 LEVEL, FACILITATING EARLIER COMMENCEMENT OF OCULUS SUPERSTRUCTURE WORK**
- **RESULTS IN INDEPENDENT MECHANICAL SYSTEMS FOR THE EAST & WEST BATHTUBS**
- **MORE EFFICIENT SYSTEM SINCE FAN ROOM WOULD NOW BE ADJACENT TO AREA SERVED**
- **SHORTER DISTRIBUTION RESULTS IN BETTER EQUIPMENT PERFORMANCE & EFFICIENCIES**
- **ELIMINATES THE NEED FOR A LARGE SERVICE TUNNEL CONNECTING EAST & WEST BATHTUBS**

IV. ARCHITECTURAL DIAGRAMS

EXEMPTION (4)

DRAWINGS OF NON-PUBLIC AREAS

V. STRUCTURAL DIAGRAMS

EXEMPTION (4)

DRAWINGS OF NON-PUBLIC AREAS

VI. MECHANICAL DIAGRAMS

EXEMPTION (4)

DRAWINGS OF NON-PUBLIC AREAS

VII. ESTIMATES & SHEDULES

Turner Construction Company

WTC Transportation Hub Estimate Review

New York, New York

22 July 2008

	Quantity	UM	DDP Unit Price	DDP Price Adjusted	TCCO Proposed UP	Direct Work Potential Impact	percent variance	percent of total
Oculus								
Steel (including premiums)	10,600	TONS	7,048.00	7,682.32	20,000.00	$130,567,000	160.3%	42.2%
Concrete	6,684	CY	1,044.00	1,137.96	1,700.00	$3,757,000	49.4%	3.9%
Masonry	4,280	SF	22.41	24.43	45.00	$88,000	84.2%	0.1%
Oculus Glazing	27,325	SF	207.00	225.63	450.00	$6,131,000	99.4%	3.2%
Storefront	996	SF	95.00	103.55	175.00	$71,000	69.0%	0.1%
Skylight	3,374	SF	399.00	434.91	1,000.00	$1,907,000	129.9%	0.8%
Moveable Roof Hydraulic System	1	LS	10,700,000.00	11,663,000.00	???			6.0%
						$142,521,000	143.1%	56.3%
1 Line								
Steel Truss	2,400	TONS	8,760.00	9,548.40	12,000.00	$5,884,000	25.7%	37.5%
Balance of steel	3,596	TONS	4,480.00	4,883.20	6,500.00	$5,814,000	33.1%	28.7%
Concrete	10,268	CY	1,305.00	1,422.45	1,700.00	$2,850,000	19.5%	23.9%
						$14,548,000	28.8%	90.1%
Structure to Grade East Bath Tub								
Rock Excav - blast	29,754	CY	221.54	241.48	330.00	$2,634,000	36.7%	6.2%
Rock Excav - non-blast	9,150	CY	444.29	484.28	450.00	($314,000)	-7.1%	3.8%
footings	2,334	CY	632.51	689.44	850.00	$375,000	23.3%	1.4%
Slabs - on deck?	5,950	CY	1,057.98	1,153.20	1,500.00	$2,063,000	30.1%	5.9%
Slabs - Formed?	20,802	CY	1,583.82	1,726.36	2,000.00	$5,692,000	15.9%	30.9%
Concrete walls/columns	4,502	CY	2,156.80	2,350.91	2,350.00	($4,000)	0.0%	9.1%
Structural steel	2,076	TONS	6,698.65	7,301.53	6,500.00	($1,664,000)	-11.0%	13.0%
						$8,782,000	11.7%	70.3%
Structure to Grade West Bath Tub								
track bed footings	1,595	CY	460.49	501.94	850.00	$555,000	69.3%	0.3%
CP utility tunnel complete	1,743	CY	977.82	1,065.82	1,500.00	$757,000	40.7%	0.8%
foundation concrete balance	3,983	CY	1,017.99	1,109.61	1,000.00	($437,000)	-9.9%	1.9%
superstructure concrete total	30,067	CY	1,593.62	1,737.05	1,750.00	$389,000	0.7%	22.3%
steel - box girder (incl erection steel)	1,982	TONS	12,192.41	13,289.73	12,000.00	($2,556,000)	-9.7%	11.2%
steel - verendeel trusses (incl erection steel)	1,672	TONS	14,371.53	15,664.97	17,500.00	$3,068,000	11.7%	11.2%
steel - arches (incl erection steel)	2,762	TONS	14,906.75	16,248.36	17,500.00	$3,457,000	7.7%	19.2%
Steel - balance	3,362	TONS	7,897.80	8,608.61	7,500.00	($3,727,000)	-12.9%	12.4%
						$1,506,000	0.9%	79.3%
Fitout - Architectural								
Painted Steel Floor Rail	2,168	LF	224.00	244.16	250.00	$13,000	2.4%	0.7%
Painted metal cladding	16,801	SF	46.00	50.14	75.00	$418,000	49.6%	1.1%
Demountable acoustic metal panels	60,600	SF	40.00	43.60	50.00	$388,000	14.7%	3.4%
Masonry Walls	177,960	SF	26.00	28.34	45.00	$2,965,000	58.8%	6.5%
Storefronts	8,206	SF	97.00	105.73	225.00	$979,000	112.8%	1.1%
Glass railing	6,619	LF	406.00	442.54	550.00	$711,000	24.3%	3.8%
GWB partitions (Inclrated soffits & duct enclosures)	470,672	SF	11.00	11.99	16.00	$1,887,000	33.4%	7.2%
GWB ceilings	51,055	SF	12.78	13.93	15.00	$55,000	7.7%	0.9%
ACT ceilings	18,718	SF	6.20	6.76	10.00	$61,000	48.0%	0.2%
Metal panel ceiling	167,058	SF	40.38	44.01	50.00	$1,000,000	13.6%	9.4%
Seamless flooring	84,010	SF	3.78	4.12	9.00	$410,000	118.4%	0.4%
						$8,887,000	35.8%	34.6%
Fitout mechanical								
Fire protection								
Sprinkler heads	5,146	EA	392.00	427.28	600.00	$889,000	40.4%	8.9%
						$889,000	44.1%	8.9%
Plumbing - No significant differences								
HVAC								
Ductwork	2,024,638	LBS	9.66	10.53	11.00	$953,000	4.5%	22.1%
CHW/HW Piping 16"	280	LF	324.72	353.94	340.00	($4,000)	-3.9%	0.1%
CHW/HW Piping 10"	880	LF	185.71	202.42	206.00	$3,000	1.8%	0.2%
CHW/HW Piping 8"	915	LF	144.93	157.97	171.00	$12,000	8.2%	0.1%
CHW/HW Piping 6"	9,720	LF	108.74	118.53	130.00	$112,000	9.7%	1.2%
CHW/HW Piping 4"	6,879	LF	67.37	73.43	95.00	$148,000	29.4%	0.5%
CHW/HW Piping 3"	7,456	LF	57.67	62.86	86.00	$173,000	36.8%	0.5%
CHW/HW Piping 2-1/2"	5,648	LF	52.73	57.48	85.00	$155,000	47.9%	0.3%
CHW/HW Piping 2"	8,862	LF	35.80	39.02	79.00	$354,000	102.4%	0.4%
CHW/HW Piping 1-1/2"	14,512	LF	27.12	29.56	73.00	$630,000	146.9%	0.4%
CHW/HW Piping 1"	2,027	LF	19.32	21.06	62.00	$83,000	194.4%	0.0%
Fuel oil Piping 6"	1,130	LF	108.74	118.53	130.00	$13,000	9.7%	0.1%
Fuel oil Piping 4"	1,130	LF	67.37	73.43	95.00	$24,000	29.4%	0.1%
Fuel oil Piping 3"	1,463	LF	57.67	62.86	86.00	$34,000	36.8%	0.1%
Fuel oil Piping 2-1/2"	452	LF	52.73	57.48	85.00	$12,000	47.9%	0.0%
Fuel oil Piping 2"	1,082	LF	35.80	39.02	79.00	$43,000	102.4%	0.0%
						$2,745,000	11.8%	26.3%
Fitout Electrical								
6" RGS conduit	3,900	LF	211.00	229.99	347.27	$457,000	51.0%	1.0%
5" RGS conduit	34,000	LF	104.57	113.98	190.00	$2,585,000	66.7%	4.4%
4", 3", 2 1/2", 2", 1 1/2",1 1/4", 1", 3/4" RGS Conduit	232,895	LF	80.62	87.88	85.33	($592,000)	-2.9%	23.2%
500KCMIL wire	245,180	LF	19.90	21.69	26.00	$1,056,000	19.9%	6.0%
						$3,506,000	12.5%	34.6%

OTHER ISSUES	Direct Work	Total
Oculus DEDUCT in current 50% Estimate	$68,000,000	$142,800,000
Fireproofing?		
Premiums associated with architectural details?		
Premiums associated with perceived PA/WTC site restrictions?		
Escalation?		
Logistics/Hoisting/Protection?		

Turner Construction Company

WTC Transportation Hub Estimate Review - Hub Group

New York, New York

VE Summary 8/18/08, revised 9/10/08

	DDP Unit Price	TCCo Unit Price	Project Cost DDP Total	Project Cost TCCo Total
Fix the Oculus, No movement			**($45,712,000)**	**($82,374,000)**
Reduce Oculus size by 25%			**($50,151,000)**	**($114,783,000)**
Eliminate Skylight			**($6,779,000)**	**($13,139,000)**
Eliminate Hanging Structure			**($7,523,000)**	**($18,806,000)**
Reduce # of Ribs only			**w/Reduced Size**	**w/Reduced Size**
Shorten Ribs (Rafters)			**w/Reduced Size**	**w/Reduced Size**
Add columns under the 1 Line Box			**($36,504,000)**	**($45,878,000)**
Add columns to roof structure over west bathtub Option 8.1 (Keep existing PATH Structure)			**($162,304,000)**	**($178,023,000)**
Relocate West Fan Room			**($25,670,000)**	**($25,670,000)**
MAXIMUM SAVINGS WITH ALL OPTIONS			**($334,643,000)**	**($478,673,000)**

Turner Construction Company

WTC Transportation Hub Estimate Review - Hub Group

New York, New York

VE Summary 8/18/08, revised 9/10/08

			DDP Unit Price	TCCo Unit Price			DDP Direct Work	Project Cost DDP Total	TCCo Direct Work	Project Cost TCCo Total
Fix the Oculus, No movement										
reduce steel by 2000 TONS	(2,000)	TONS	$8,800.00	$20,000.00	$ (17,600,000)	$ (40,000,000)				
Delete Hydraulics	(1)	LS	$11,600,000.00	$11,600,000.00	$ (11,600,000)	$ (11,600,000)				
Add Retracting Skylight	3,374	SF	$1,000.00	$1,500.00	$ 3,374,000	$ 5,061,000				
Fix the Oculus, No movement							($25,826,000)	**($45,712,000)**	($46,539,000)	**($82,374,000)**
Reduce Oculus size by 25%			DDP unit	TCCo Unit	DDP total	TCCo total				
Delete 40% of steel	(2,750)	TONS	$7,682.00	$20,000.00	$ (21,129,000)	$ (55,008,000)				
delete 43% of wall	(11,750)	SF	$225.63	$450.00	$ (2,651,000)	$ (5,287,000)				
Reduce HVAC by 20%	(1)	LS	$4,553,600.00	$4,553,600.00	$ (4,554,000)	$ (4,554,000)				
Reduce Oculus size by 25%							($28,334,000)	**($50,151,000)**	($64,849,000)	**($114,783,000)**
Eliminate Skylight										
Delete Skylight	(3,374)	SF	$435.00	$1,000.00	$ (1,468,000)	$ (3,374,000)				
Add Back Roofing	6,748	SF	$150.00	$150.00	$ 1,012,000	$ 1,012,000				
Delete Retracting Skylight	(3,374)	SF	$1,000.00	$1,500.00	$ (3,374,000)	$ (5,061,000)				
Eliminate Skylight							($3,830,000)	**($6,779,000)**	($7,423,000)	**($13,139,000)**
Eliminate Hanging Structure										
delete 1700 tons of steel (less 50% for smaller size	(850)	TONS	$5,000.00	$12,500.00	$ (4,250,000)	$ (10,625,000)				
Eliminate Hanging Structure							($4,250,000)	**($7,523,000)**	($10,625,000)	**($18,806,000)**
Reduce # of Ribs only										
Reduce tonnage (-14 ea, -22% of 2057+2275 tons)	-	TONS	$7,682.00	$20,000.00	$ -	$ -				
Reduce # of Ribs only								$0 **w/Reduced Size**		$0 **w/Reduced Size**
Shorten Ribs (Rafters)										
Reduce tonnage (-50% of 2275 tons)	(1,138)	TONS			$ -	$ -				
Shorten Ribs (Rafters)								$0 **w/Reduced Size**		$0 **w/Reduced Size**
Add columns under the 1 Line Box										
Delete trusses	(2,400)	TONS	$9,548.40	$12,000.00	$ (22,916,000)	$ (28,800,000)				
Add allowance for columns	240	TONS	$9,548.40	$12,000.00	$ 2,292,000	$ 2,880,000				
deleted super columns wash with added columns					$ -	$ -				
Add columns under the 1 Line Box							($20,624,000)	**($36,504,000)**	($25,920,000)	**($45,878,000)**
Add columns to roof structure over west bathtub Option 8.1 (Keep existing PATH Structure)										
delete box girder	(1,982)	TONS	$13,300.00	$15,000.00	$ (26,361,000)	$ (29,730,000)				

Turner Construction Company

WTC Transportation Hub Estimate Review - Hub Group

New York, New York

VE Summary 8/18/08, revised 9/10/08

			DDP Unit Price	TCCo Unit Price			DDP Direct Work	Project Cost DDP Total	TCCo Direct Work	Project Cost TCCo Total
delete verendeel trusses	(1,672)	TONS	$15,600.00	$17,500.00	$ (26,083,000)	$ (29,260,000)				
delete arches	(2,762)	TONS	$16,250.00	$17,500.00	$ (44,883,000)	$ (48,335,000)				
add new roof structure	56,000	SF	$298.00	$298.00	$ 16,688,000	$ 16,688,000				
delete demo	1	LS	($4,000,000.00)	($4,000,000.00)	$ (4,000,000)	$ (4,000,000)				
Fitout upper Mezz floor	1	LS	$4,000,000.00	$4,000,000.00	$ 4,000,000	$ 4,000,000				
Delete Track Platform Structure										
Delete partial new Foundations	1	LS	($3,000,000.00)	($3,000,000.00)	$ (3,000,000)	$ (3,000,000)				
delete Platform Conc Walls	1	LS	($6,670,000.00)	($6,670,000.00)	$ (6,670,000)	$ (6,670,000)				
delete Platform Conc Slabs	1	LS	($5,240,000.00)	($5,240,000.00)	$ (5,240,000)	$ (5,240,000)				
Delete platform Precast	1	LS	($6,500,000.00)	($6,500,000.00)	$ (6,500,000)	$ (6,500,000)				
reduce balance of steel (30%)	(1,009)	TONS	$8,608.00	$7,500.00	$ (8,682,000)	$ (7,565,000)				
MEP Phasing reductions	1	LS	($4,000,000.00)	($4,000,000.00)	$ (4,000,000)	$ (4,000,000)				
Encase Columns	56,000	SF	$63.00	$63.00	$ 3,528,000	$ 3,528,000				
Lower Roof/MER Slab	56,000	SF	$117.00	$117.00	$ 6,552,000	$ 6,552,000				
Add Bracing	56,000	SF	$13.00	$13.00	$ 728,000	$ 728,000				
Raise Mezz Slab	56,000	SF	$34.00	$34.00	$ 1,904,000	$ 1,904,000				
Add BI Ductwork for Smoke Exhaust	240,120	LBS	$15.00	$15.00	$ 3,602,000	$ 3,602,000				
Insulation	36,000	SF	$20.00	$20.00	$ 720,000	$ 720,000				
Relocate A Platform at Track Level	200 -500	LF	$25,000.00	$25,000.00	$ 5,000,000	$ 5,000,000				
Remove 5 columns at A Platform	1	ALLOW	$1,000,000.00	$1,000,000.00	$ 1,000,000	$ 1,000,000				
Add columns to roof structure over west bathtub Option 8.1 (Keep existing PATH Structure)							($91,697,000)	**($162,304,000)**	($100,578,000)	**($178,023,000)**
Relocate West Fan Room										
Relocate west fan room	1	LS	($14,503,000.00)	($14,503,000.00)	$ (14,503,000)	$ (14,503,000)				
Delete Concrete ducts to west fan room					$ -	$ -				
Relocate West Fan Room							($14,503,000)	**($25,670,000)**	($14,503,000)	**($25,670,000)**
							($163,238,000)			
MAXIMUM SAVINGS WITH ALL OPTIONS								**($334,643,000)**		**($478,673,000)**

Turner Construction Company

Relocate West Fan Room

New York, New York
Conceptual Assessment 9-10-08
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BUILDING SYSTEM	CURRENT SYSTEM TOTALS	62,000 GSF $/SF
EXCAVATIONS AND FOUNDATIONS	($8,508,200)	($137.23)
STRUCTURAL FRAME	($12,139,000)	($195.79)
ROOFING AND WATERPROOFING	$0	$0.00
EXTERIOR WALL	$0	$0.00
INTERIOR PARTITIONS & FINISHES	$3,720,000	$60.00
SPECIALTIES	$0	$0.00
EQUIPMENT & FURNISHINGS	$0	$0.00
VERTICAL TRANSPORTATION	$0	$0.00
PLUMBING	$0	$0.00
FIRE PROTECTION	$0	$0.00
H.V.A.C.	$2,423,400	$39.09
ELECTRICAL	$0	$0.00
SUBTOTAL:	($14,503,800)	($233.93)
SITE WORK	$0	$0.00
DEMOLITION & JOINING	$0	$0.00
HOISTING & PUBLIC PROTECTION	$0	$0.00
TOTAL: DIRECT COST	($14,503,800)	($233.93)

Turner Construction Company

Relocate West Fan Room

New York, New York
Conceptual Assessment 9-10-08
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Ranking	BUILDING SYSTEM	Quantity	Unit	Unit Cost	Estimate	Intermediate Totals	CURRENT SYSTEM TOTALS
1	**EXCAVATIONS AND FOUNDATIONS**						
2							
3	**Earthwork**						
4							
5	Delete Fan Room - stop excavation at Elev +237 (car parking)						
6	Rock Excavation	(18,235)	CY	$400.00	($7,294,100)		
7	Line drill, etc		Included		$0		
8	Delete Pipe Tunnel - stop excavation at Elev +237 (car parking)						
9	Rock Excavation	(1,129)	CY	$400.00	($451,800)		
10	Line drill, etc		Included		$0		
11	**Subtotal: Earthwork**					($7,745,900)	
12							
13	**Foundations**						
14			No Change		$0		
15					$0		
16					$0		
17					$0		
18							
19	**Subtotal: Foundations**					$0	
20							
21	**Basement Walls**						
22	Delete Foundation Walls at Fan Rm	(296)	CY	$1,500.00	($444,700)		
23	Delete Foundation Walls at Pipe Tunnel	(212)	CY	$1,500.00	($317,600)		
24	**Subtotal: Basement Walls**					($762,300)	
25							
26	**Pits**						
27					$0		
28	**Subtotal: Pits**					$0	
29							
30	**Slab-On-Grade**						
31			w/elev 237				
32					$0		
33							
34	**Subtotal: Slab-On-Grade**					$0	
35							
36	**Waterproofing**						
37					$0		
38	**Subtotal: Waterproofing**					$0	
39							
40	**EXCAVATIONS AND FOUNDATIONS**						**($8,508,200)**
41							
42	**STRUCTURAL FRAME**						
43	**Deck and Deck Fill**						
44							
45	Delete OA Shaft to Tower 3				$0		
46	Horizontal duct		w/HVAC		$0		
47	Vertical Conc Duct	(603)	CY	$2,000.00	($1,206,700)		
48	Shaft Liner		w/HVAC		$0		
49	Delete SX Shaft to Tower 4				$0		
50	Horizontal duct	(369)	CY	$2,000.00	($738,500)		
51	Vertical Conc Duct	(188)	CY	$2,000.00	($376,500)		
52	Shaft Liner		N/A		$0		
53	Delete Spill Air Shaft to Tower 2				$0		
54	Horizontal duct	(204)	CY	$2,000.00	($407,800)		
55	Vertical Conc Duct (2 sides only)	(309)	CY	$2,000.00	($617,600)		
56	Shaft Liner		N/A		$0		
57	Delete Supply & rtn ducts to Train Hall				$0		
58	Horizontal supply duct	(235)	CY	$2,000.00	($470,600)		
59	Horizontal return duct	(122)	CY	$2,000.00	($244,700)		
60	Vertical Conc Duct	(147)	CY	$3,000.00	($440,000)		
61	Shaft Liner		N/A		$0		
62	Delete Horizontal ducts in train Hall				$0		
63	Supply Ducts	(267)	CY	$15,000.00	($4,011,800)		

Turner Construction Company

Relocate West Fan Room

New York, New York
Conceptual Assessment 9-10-08
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Ranking	BUILDING SYSTEM	Quantity	Unit	Unit Cost	Estimate	Intermediate Totals	CURRENT SYSTEM TOTALS
64	exhaust Ducts	(486)	CY	$15,000.00	($7,294,100)		
65	Add Back supply & exhaust duct in Train Hall				$0		
66	Supply Ducts Galv at 600LF 98x60	42,000	LBS	$12.50	$525,000		
67	Insulation	17,000	SF	$4.00	$68,000		
68	Exh duct 10ga Black Iron	166,750	LBS	$15.00	$2,501,300		
69	Cal Sil Insulation	28,750	SF	$20.00	$575,000		
70							
71	**Subtotal: Deck and Deck Fill**					**($12,139,000)**	
72							
73	**Columns, Girders, and Beams**						
74					$0		
75					$0		
76					$0		
77					$0		
78							
79							
80	**Subtotal: Columns, Girders, and Beams**					**$0**	
81							
82	**Fireproofing**						
83					$0		
84							
85	**Subtotal: Fireproofing**					**$0**	
86							
87	**STRUCTURAL FRAME**						**($12,139,000)**
88							
125	**ROOFING AND WATERPROOFING**						**$0**
126							
180	**EXTERIOR WALL**						**$0**
181							
182	**INTERIOR PARTITIONS & FINISHES**						
183	**Partitions**						
184					$0		
185					$0		
186					$0		
187					$0		
188							
189	**Subtotal: Partitions**					$0	
190							
227							
228	**Ornamental Iron**						
229					$0		
230							
231	**Subtotal: Ornamental Iron**					$0	
232							
233	**Stairs**						
234					$0		
235					$0		
236	**Subtotal: Stairs**					$0	
237							
238	**Premiums**						
239	Fitout Allowance for new space at elev 237	62,000	SF	$60.00	$3,720,000		
240							
241	**Subtotal: Premiums**					$3,720,000	
242							
243	**INTERIOR PARTITIONS & FINISHES**						**$3,720,000**
244							
269	**SPECIALTIES**						**$0**
270							
293	**EQUIPMENT & FURNISHINGS**						**$0**
294							
313	**VERTICAL TRANSPORTATION**						**$0**
314							
344	**PLUMBING**						**$0**

Turner Construction Company

Relocate West Fan Room

New York, New York
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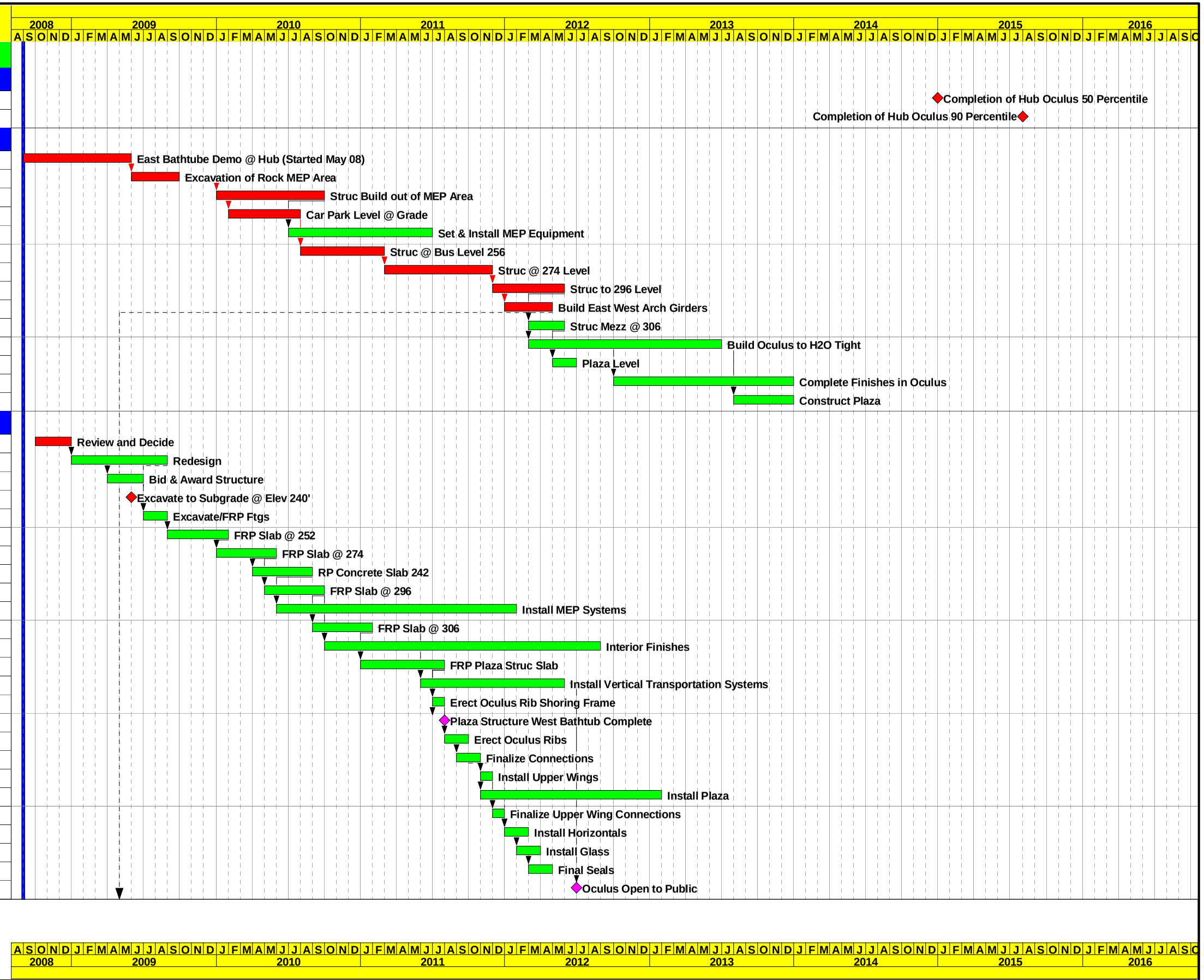
Ranking	BUILDING SYSTEM	Quantity	Unit	Unit Cost	Estimate	Intermediate Totals	CURRENT SYSTEM TOTALS
345							
351	**FIRE PROTECTION**						**$0**
352							
353	**H.V.A.C.**						
354	**HVAC**						
355					$0		
356	Delete OA Shaft to Tower 3				$0		
357	Horizontal duct	(16,000)	LBS	$11.00	($176,000)		
358	Insulation	(6,600)	SF	$3.00	($19,800)		
359	Vertical Conc Duct		w/struct				
360	Shaft Liner(20ga, 2" insulated)	(15,386)	SF	$15.00	($230,800)		
361	Delete SX Shaft to Tower 4				$0		
362	Horizontal duct		w/struct				
363	Vertical Conc Duct		w/struct				
364	Shaft Liner		N/A		$0		
365	Delete Spill Air Shaft to Tower 2				$0		
366	Horizontal duct		w/struct				
367	Vertical Conc Duct (2 sides only)		w/struct				
368	Shaft Liner		N/A		$0		
369	Delete Supply & rtn ducts to Train Hall				$0		
370	Horizontal supply duct		w/struct				
371	Horizontal return duct		w/struct				
372	Vertical Conc Duct		w/struct		$0		
373	Shaft Liner		N/A		$0		
374	Add SX Fans	190,000	CFM	$15.00	$2,850,000		
375							
376							
377							
378	**Subtotal: HVAC**					$2,423,400	
379							
380	**H.V.A.C.**						**$2,423,400**
381							
438	**ELECTRICAL**						**$0**
439							
440	**SUBTOTAL:**						**($14,503,800)**
441							
485	**SITE WORK**						**$0**
486							
502	**DEMOLITION & JOINING**						**$0**
503							
514	**HOISTING & PUBLIC PROTECTION**						**$0**
515							
517	**TOTAL: DIRECT COST**				**($14,503,800)**	**($14,503,800)**	**($14,503,800)**
518							

Activity ID	Activity Description	Orig Dur	Early Start	Early Finish
Oculus Construction				
WTC Team Risk Assessment of HUB Schedule				
A0100100	Completion of Hub Oculus 50 Percentile	0		31DEC14*
A0100110	Completion of Hub Oculus 90 Percentile	0		31JUL15*
Baseline HUB Scheme				
A020100	East Bathtube Demo @ Hub (Started May 08)	9	01SEP08*	31MAY09
A020110	Excavation of Rock MEP Area	4	01JUN09	30SEP09
A020120	Struc Build out of MEP Area	9	01JAN10	30SEP10
A020140	Car Park Level @ Grade	6	01FEB10	31JUL10
A020130	Set & Install MEP Equipment	12	01JUL10	30JUN11
A020150	Struc @ Bus Level 256	7	01AUG10	28FEB11
A020160	Struc @ 274 Level	9	01MAR11	30NOV11
A020170	Struc to 296 Level	6	01DEC11	31MAY12
A020180	Build East West Arch Girders	4	01JAN12	30APR12
A020190	Struc Mezz @ 306	3	01MAR12	31MAY12
A020210	Build Oculus to H2O Tight	16	01MAR12	30JUN13
A020200	Plaza Level	2	01MAY12	30JUN12
A020220	Complete Finishes in Oculus	15	01OCT12	31DEC13
A020230	Construct Plaza	5	01AUG13	31DEC13
SIMPLFIED OCULUS				
A1001210	Review and Decide	3	01OCT08*	31DEC08
A1001220	Redesign	8	01JAN09	31AUG09
A1001230	Bid & Award Structure	3	01APR09	30JUN09
A1001000	Excavate to Subgrade @ Elev 240'	0		31MAY09*
A1001010	Excavate/FRP Ftgs	2	01JUL09	31AUG09
A1001020	FRP Slab @ 252	5	01SEP09	31JAN10
A1001030	FRP Slab @ 274	5	01JAN10	31MAY10
A1001150	RP Concrete Slab 242	5	01APR10	31AUG10
A1001040	FRP Slab @ 296	5	01MAY10	30SEP10
A1001170	Install MEP Systems	20	01JUN10	31JAN12
A1001050	FRP Slab @ 306	5	01SEP10	31JAN11
A1001190	Interior Finishes	23	01OCT10	31AUG12
A1001060	FRP Plaza Struc Slab	7	01JAN11	31JUL11
A1001180	Install Vertical Transportation Systems	12	01JUN11	31MAY12
A1001070	Erect Oculus Rib Shoring Frame	1	01JUL11	31JUL11
A1001240	Plaza Structure West Bathtub Complete	0		31JUL11
A1001080	Erect Oculus Ribs	2	01AUG11	30SEP11
A1001090	Finalize Connections	2	01SEP11	31OCT11
A1001130	Install Upper Wings	1	01NOV11	30NOV11
A1001160	Install Plaza	15	01NOV11	31JAN13
A1001140	Finalize Upper Wing Connections	1	01DEC11	31DEC11
A1001100	Install Horizontals	2	01JAN12	29FEB12
A1001110	Install Glass	2	01FEB12	31MAR12
A1001120	Final Seals	2	01MAR12	30APR12
A1001200	Oculus Open to Public	0		30JUN12



Start Date	01SEP08
Finish Date	31JUL15
Data Date	01SEP08
Run Date	18SEP08 15:59

Early Bar
Progress Bar
Critical Activity

HUBB

Sheet 1 of 2

Turner Construction Company

Hub and 1-Line Special Studies

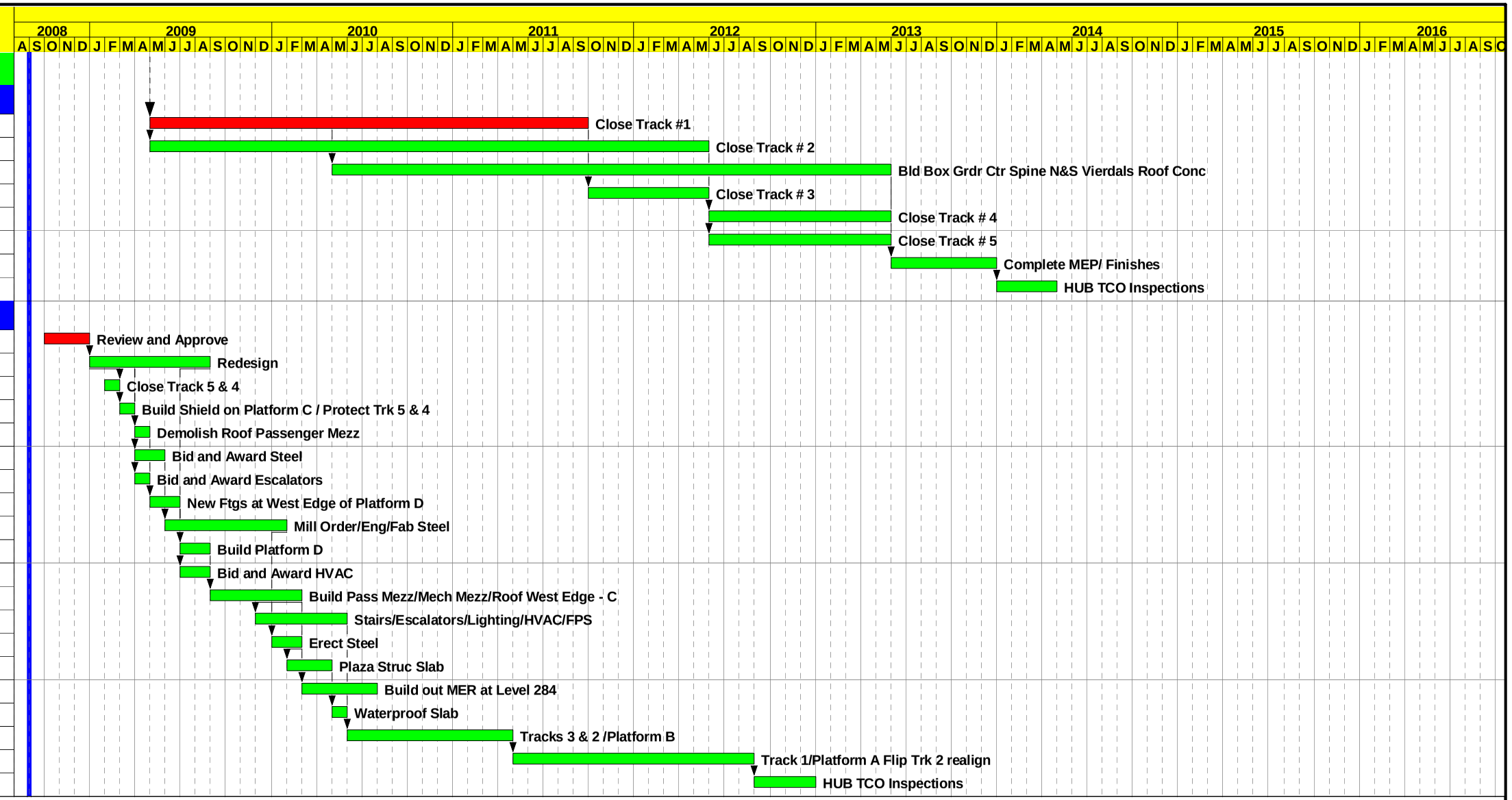
Classic Schedule Layout

Date	Revision	Checked	Approved

© Primavera Systems, Inc.

Train Shed West Bathtub

Activity ID	Activity Description	Orig Dur	Early Start	Early Finish
Baseline HUB Scheme				
A020240	Close Track #1	29	01MAY09*	30SEP11
A020250	Close Track # 2	37	01MAY09	31MAY12
A020290	Bld Box Grdr Ctr Spine N&S Vierdals Roof Conc	37	01MAY10	31MAY13
A020260	Close Track # 3	8	01OCT11	31MAY12
A020270	Close Track # 4	12	01JUN12	31MAY13
A020280	Close Track # 5	12	01JUN12	31MAY13
A020300	Complete MEP/ Finishes	7	01JUN13	31DEC13
A020310	HUB TCO Inspections	4	01JAN14	30APR14
SIMPLIFIED PATH TRAINSHED				
A020320	Review and Approve	3	01OCT08*	31DEC08
A020330	Redesign	8	01JAN09	31AUG09
A020370	Close Track 5 & 4	1	01FEB09	28FEB09
A020410	Build Shield on Platform C / Protect Trk 5 & 4	1	01MAR09	31MAR09
A020380	Demolish Roof Passenger Mezz	1	01APR09	30APR09
A020340	Bid and Award Steel	2	01APR09	31MAY09
A020350	Bid and Award Escalators	1	01APR09	30APR09
A020390	New Ftgs at West Edge of Platform D	2	01MAY09	30JUN09
A020460	Mill Order/Eng/Fab Steel	8	01JUN09	31JAN10
A020400	Build Platform D	2	01JUL09	31AUG09
A020360	Bid and Award HVAC	2	01JUL09	31AUG09
A020420	Build Pass Mezz/Mech Mezz/Roof West Edge - C	6	01SEP09	28FEB10
A020430	Stairs/Escalators/Lighting/HVAC/FPS	6	01DEC09	31MAY10
A020470	Erect Steel	2	01JAN10	28FEB10
A020480	Plaza Struc Slab	3	01FEB10	30APR10
A020500	Build out MER at Level 284	5	01MAR10	31JUL10
A020490	Waterproof Slab	1	01MAY10	31MAY10
A020440	Tracks 3 & 2 /Platform B	11	01JUN10	30APR11
A020450	Track 1/Platform A Flip Trk 2 realign	16	01MAY11	31AUG12
A020510	HUB TCO Inspections	4	01SEP12	31DEC12



Start Date	01SEP08
Finish Date	31JUL15
Data Date	01SEP08
Run Date	18SEP08 15:59

Early Bar
Progress Bar
Critical Activity

© Primavera Systems, Inc.

HUBB

Sheet 2 of 2

Turner Construction Company

Hub and 1-Line Special Studies

Classic Schedule Layout

Date	Revision	Checked	Approved

VIII. RE-DESIGN EFFORT

A. ESTIMATED NUMBER OF DRAWINGS:

General:

General Sheets & Indexes	5
General Notes, Overall & Geometry Plans	15
	Total = 20

Civil:

General Notes & Details	10
Instrumentation	5
Overall & Geometry Plans	15
	Total = 30

Architectural:

Overall Sections	5
Part Plans	50
Ceiling Plans	50
Partial Sections	15
Exterior Elevations	20
Interior Elevations	35
Exterior Wall Sections & Enlarged Plans	40
Exterior Wall Details	60
Interior Sections & Details	35
Elevator, Escalator & Stair Plans & Details	10
Alteration Details	15
Specialty Details	55
Finishes Plans	50
Finishes Details	40
	Total = 480

Structural:

Structural Notes, Legend, Geometry	5
Foundation/Footing Plans	10
Framing Plans	60
Partial Structural Sections	15
Part Footing/Foundation Plans	10
Bracing Elevations	5
Brace Wall Sections	20
Brace Wall Details	35
Column & Brace Schedules	5
Superstructure & Shear Wall Sections & Details	35
Typical Foundation Details	25
Typical Concrete Details	15
Typical Steel Details	25
Alteration Details	20
Miscellaneous Details	15
	Total = 300

MEP:

▪ MEP Notes & Legends	5
▪ Part Plans	150
▪ Central Plant/Electrical Room Part Plans	15
▪ Schedules	30
▪ MEP Details	20
▪ One-Line Diagrams & Details	25
▪ Riser Diagrams	15
▪ Specialty Details (Stray Current, Phasing, etc.)	10
▪ Customer Information Package	25
	Total = 295

Electronic Security:

▪ Part Plans	40
▪ Exterior Elevations	5
▪ Interior Elevations	10
▪ Interior Details	5
	Total = 60

Signage:

▪ Part Plans	40
▪ Interior Elevations	5
▪ Interior Details	5
	Total = 50

Miscellaneous:

▪ Miscellaneous Specialty Plans	10
▪ Miscellaneous Specialty Details	10
▪ Miscellaneous Specialty Risers/Schedules	10
▪ Miscellaneous Elevations	10
▪ Other	10
	Total = 50

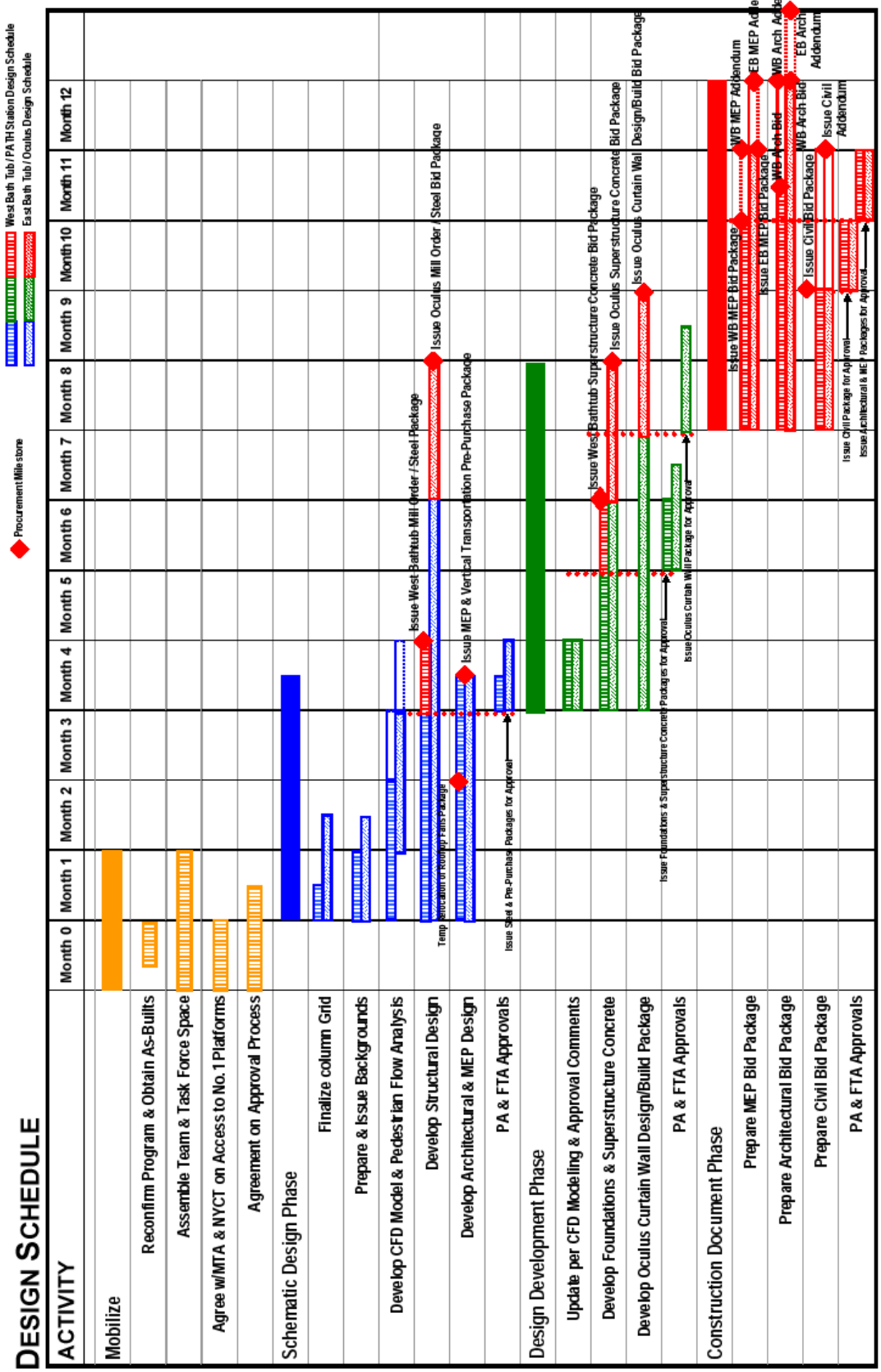
B. ESTIMATED EFFORT TO COMPLETE THE DOCUMENTS:

- **MANHOURS: 1285 SHEETS X 120 MANHOURS/SHEET**
  = <u>154,200 MANHOURS</u>

- 154,200 MANHOURS LESS 25% (FOR CONSTRUCTION PHASE SERVICES)
  = <u>115,650 MANHOURS FOR DRAWINGS/DESIGN</u>

- **<u>80 PEOPLE</u> OVER AN 8 MONTH DOCUMENTATION DURATION**
  OR
- **<u>60 PEOPLE</u> OVER A 12 MONTH DOCUMENTATION DURATION**

C. DESIGN SCHEDULE



X. NEXT STEPS

- **DECIDE ON SCHEME**
  Review the Hub Working Group Concept against the New DDP/Calatrava Concept, and the PA West Bathtub Concept. Schedule, Costs, Aesthetics, Functionality and other aspects of each Concept to be reviewed and advantages/disadvantages weighed against each other.

- **CONFIRM THE PROGRAM**
  Confirm that all displaced, relocated, new, and obsolete Program requirements are accounted for in the Concept selected, or is accommodated and coordinated with adjacent projects. Confirm the new “Contract Limit” lines, and which aspect of the Concept(s) will be incorporated.

- **AGREE ON APPROVAL PROCESS**
  Discuss and agree upon the Approval process, durations, milestones, and submissions, and confirm it against assumed durations noted in Design and Construction Schedules. The considerable portion of Schedule savings can be achieved through expediting the Approval Process.

- **ESTABLISH NEW GROUND RULES**
  Identify streamlined communications, negotiated bid process, and other means to expedite the schedule.

- **OBTAIN AS-BUILT DOCUMENTATION**
  Assemble documentation of existing elements currently under construction, both in terms of Design Documents, As-Built Conditions, and extent of work in place and Contracts purchased.

- **IDENTIFY SCOPE OF EARLY BID PACKAGE NECESSARY TO SUPPORT THE MEMORIAL COMPLETION SCHEDULE**
  Identify early fast-track bid packages. Consider scope of work necessary to deliver the Memorial Project plaza structure on time.

- **ASSEMBLE TASK-FORCE SPACE FOR DESIGN & CONSTRUCTION TEAM**
  Identify potential location(s) for Task Force work space, inform Design Team of strategy, procure Design services accordingly, and implement fit-out of space.

X. APPENDIX

WTC DESIGN AND CONSTRUCTION ANALYSIS

WORKING GROUP: HUB

STEERING COMMITTEE PRESENTATION
JULY 29, 2008

WORKING GROUP: HUB

CHALLENGES

- VERY COMPLEX BUILDING
- MAJOR IMPACT ON OTHER STAKEHOLDERS
- COMPLEXITY MEANS SCHEDULE, COST, RISK
- KEEP BASIC ABOVE GRADE DESIGN

ISSUES AND OPPORTUNITIES

- SIGNIFICANTLY REDUCE COST
- SHORTEN SCHEDULE, MINIMIZE IMPACT ON OTHER PROJECTS
- IMPROVE TRANSIT ACCESS
- REDUCE MAJOR ASPECTS OF RISK

WORKING GROUP: HUB

DESCRIPTION OF OPTIONS

OCULUS

- MAKE OCULUS 25% SMALLER
- FIX BENTS & WINGS, ELIMINATE ARCHES
- NO SKYLIGHT
- ELIMINATE HANGING STRUCTURE
- REDUCE THE NUMBER OF RIBS
- MAKE WINGS SHORTER
- MAKE WINGS STRUCTURALLY MORE EFFICIENT

ONE LINE BOX – ADD COLUMNS UNDER THE ONE LINE BOX AND ELIMINATE THE LARGE TRUSSES

WEST BATHTUB – SAVE EXISTING PLATFORMS AND REINFORCE AND EXTEND EXISTING COLUMNS TO SUPPORT PLAZA. SIMPLIFY ROOF STRUCTURE

TRANSIT ACCESS – REDESIGN SUBWAY ACCESS AT EAST AND WEST ENDS OF THE OCULUS

MEP – ELIMINATE FAN PLANT IN EAST BATHTUB AND REDISTRIBUTE TO MORE EFFICIENT LOCATION. RETHINK MEP SYSTEMS

EXEMPTION (4)

DRAWINGS OF NON-PUBLIC AREAS

WORKING GROUP: HUB

WORKING GROUP: HUB

IMPACTS

- COST SAVINGS - $400-600 MILLION

- SCHEDULE REDUCTION – 12-24 MONTHS
POSITIVE IMPACT ON MEMORIAL AND GREENWICH STREET SCHEDULES

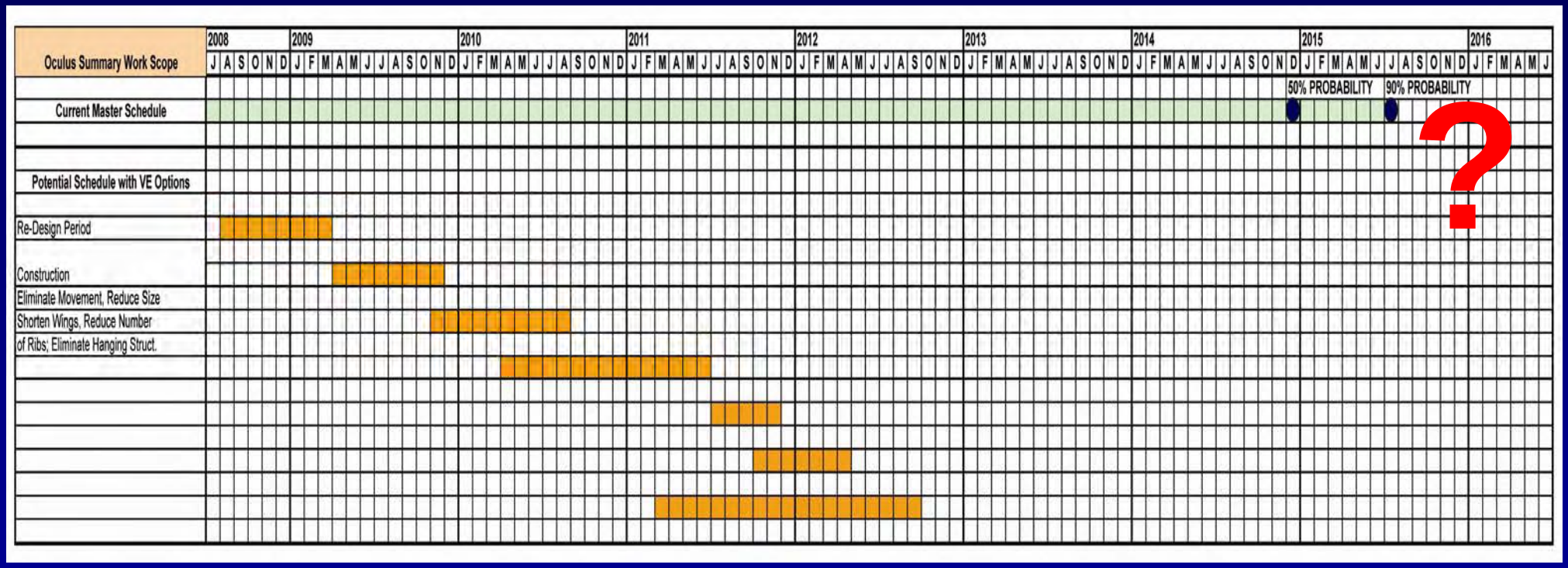
- RISK – SIMPLIFIED CONSTRUCTION SIGNIFICANTLY REDUCES RISK

- REDESIGN

- MODIFICATION OF SOME CURRENT DESIGN ASPECTS

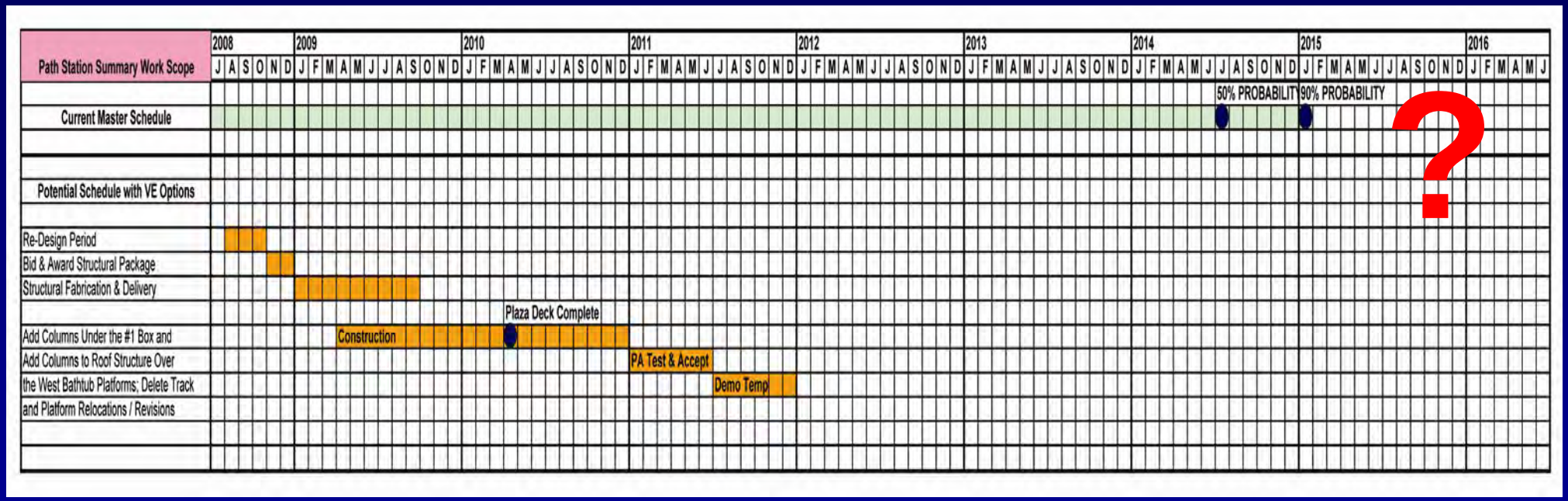
WORKING GROUP: HUB

OCULUS SCHEDULE



WORKING GROUP: HUB

PATH STATION SCHEDULE



WORKING GROUP: HUB

IMPLEMENTATION - THE ISSUE!

START ORGANIZATION/ PLANNING ACTIVITIES NOW

DON’T WAIT UNTIL SEPTEMBER 30

CHANGE THE APPROACH, OTHERWISE THE RESULTS WILL BE THE SAME

WORKING GROUP: HUB

REQUIRED FOLLOW-UP – HUB TEAM

- FURTHER DEVELOPMENT OF CONCEPTS
- INVESTIGATE PLATFORM COLUMNS FOR REQUIRED REINFORCING, IF ANY
- DEVELOP MEANINGFUL COST ESTIMATE AND SCHEDULE
- INTEGRATE CONCEPTS WITH ADJACENT STAKEHOLDERS
- DEVELOP AN IMPLEMENTATION PLAN FOR THE ENTIRE PROJECT WHICH REFLECTS THE NEEDS OF ADJACENT STAKEHOLDERS
- CONTRIBUTE TO THE DEVELOPMENT OF CONSENSUS, CURRENT AND ACCURATE IMS
- FORM AN “IMPLEMENTATION” WORKING GROUP

WTC DESIGN AND CONSTRUCTION ANALYSIS

WORKING GROUP: HUB

STEERING COMMITTEE PRESENTATION
JULY 29, 2008

WTC DESIGN
&
CONSTRUCTION ANALYSIS

HUB WORKING GROUP

Drawings
and
Diagrams

Drawings
and
Diagrams

as of

September 24, 2008

EXEMPTION (4)

DRAWINGS OF NON-PUBLIC AREAS

Drawings
and
Diagrams

as of

September 9, 2008

EXEMPTION (4)

DRAWINGS OF NON-PUBLIC AREAS

Drawings
and
Diagrams

as of

July 29, 2009

EXEMPTION (4)

DRAWINGS OF NON-PUBLIC AREAS

HUB WORKING GROUP/PA

JOINT SESSION

August 26, 2008

- ACCOMMODATING 10 CAR TRAINS
- MECHANICAL SYSTEMS/SMOKE EXHAUST
- VERTICAL TRANSPORTATION
- PLATFORM LAYOUT

SILVERSTEIN PROPERTIES

September 2, 2008

To: WTC HUB WORKING GROUPS

cc: Attendees, David Tweedy, Steve Plate, Andy Winters, Joan Gerner, Lou Mendes, Mark Pagliettini, Janno Lieber, David Worsley, Serge Demerjian, Melissa Morea, Nate Matisoff

Re: World Trade Center
HUB Working Group
Meeting Minutes – August 26, 2008

Attendees

Richard Southwick/BBB
Dan Sesil/LERA
Doug Gonzalez/LERA
George Giaquinto/Westfield
Marc Pucci/Westfield
Gary Negrycz/Turner
Kevin Morin/CCI
Kelly Eaton/AKF
Virginia Borkoski/MTACC
Eric Pulido/AKF
Craig Goodall/Jacobs
Mickey Kupperman/SPI
Guy Punzi/SPI

On Tuesday, August 26, the HUB Working Group met at 7WTC. This was a design working session to address the issues raised the previous week by the PA engineering staff during discussions of the HUB Group concepts for the West Bathtub. A copy of the agenda is attached.

The four major issues that were raised by the PA were addressed as follows:

- **Ten Car Trains** – Platforms will be extended to accommodate.
- **Mechanical System/Smoke Exhaust** – A meeting was scheduled for Wednesday, August 27, 2008 at the PA with AKF to review mechanical design criteria and systems.
- **Vertical Transportation** – To deal with this issue it was decided that the HUB scheme would simply duplicate the number of escalators and stairs shown on the PA/DDP layouts and locate them appropriately.
- **Platform Layout** – It was decided to relocate platform A to give the same track/platform layout as shown on the DDP/PA scheme.

A meeting was scheduled for Friday, August 29, 2008 to review the further development of these concepts.

Mickey Kupperman

ks
Enclosure

WTC WORKING GROUPS

JOINT SCHEDULING MEETING

August 28, 2008

AGENDA

- INTRODUCTION
- OBJECTIVES
- WORK TO DATE
- SCHEDULE AND STAFFING
- NEXT MEETING

SILVERSTEIN PROPERTIES

September 2, 2008

To: WTC HUB AND GREENWICH WORKING GROUPS

cc: Attendees, David Tweedy, Steve Plate, Andy Winters Josh Wallach, J. Kraus, Joan Gerner, Lou Mendes, Janno Lieber, David Worsley, Serge Demerjian, Craig Goodall

Re: World Trade Center
HUB Working Group
Meeting Minutes – August 28, 2008

Attendees

Don Free/PA Retail
Ray Sandiford/PA
John Kamocsai/PA
Robert Eisenstat/PA
Mark Pagliettini/PA
Joe Riopel/PA
Frank Lombardi/PA
Peter Rinaldi/PA
Jim Murphy/PA
Steve Plate/PA
Lennart Stenman/Phoenix
Damien McShane/PA
Tony Marino/PA
David Caruth/PA
Lou Mendes, NSEP11MM
Mark Pucci/Westfield
George Giaquinto/Westfield
Chris Zegler/Turner
Gary Negrycz/Turner
Luigi Morfea/Turner
Bob Prieto/Phoenix
Darrell Waters/Phoenix
Brian Peters/Phoenix
John Salpas/Phoenix
Walter Reichert/Phoenix
Jason Brown/Jacobs
Mike McLoughlin/PCJV
Dave Puza/MCSI/PA
Mickey Kupperman, SPI
Guy Punzi/SPI
Melissa Morea/SPI
Nate Matisoff/SPI

On Thursday, August 28, 2008, a joint meeting of the HUB and Greenwich Street working groups was held at 7WTC. A copy of the agenda is attached. The primary purpose of the meeting was to introduce Phoenix to the Working Group process and discuss progress to date.

The following is a summary of the discussion and decisions reached:

- The work to date by the HUB Working Group was described to Phoenix. Copies of the material used in the presentation were given to PA/Phoenix for further reference. The Phoenix group was already familiar with the PA concept for the West Bathtub as well as the recent DDP/Calatrava changes so no further briefing was necessary.
- The key staffing for the cost, schedule and logistics analyses for the various concepts was discussed. Attached to this memorandum is a matrix of the assignments for each of the tasks.

- Darrell Waters of Phoenix said that they would have a first pass evaluation of the cost and schedule impacts for the various schemes by Friday, September 5th. Turner will also be ready with their input.

- All stakeholders were urged to give Dave Puza and Jim Murphy input/comments on the recently issued IMS40. In particular, the focus should be on linkages.

- Turner said they would respond by Tuesday. Actually, some SPI/Turner comments were forwarded late last week.

- Phoenix had not seen IMS40. The PA was going to get them the information by the end of the day.

- The PA was also going to get Turner a copy of the 9X estimate.

- It was confirmed that the baseline schedule and estimate is based on the unaltered Calatrava design, before the recent changes.

- Bob Prieto of Phoenix suggested doing a risk analysis to give senior management a better basis for making decisions. It was subsequently decided that LMCCC would do this work with a target completion date of Friday, September 12, 2008.

The next meeting of this joint group will be Friday, September 5, 2008, on the 38th floor at 7WTC. The meeting will convene at 8:00 a.m. and run until we finish. It could take 2-4 hours to review and discuss the budget and schedule updates for the various alternatives. There is also a HUB Working Group design meeting scheduled for Wednesday, September 3, 2008 at 3:00 p.m. at 7WTC, 38th floor.

Mickey Kupperman

ks

Enclosure

HUB WORKING GROUP

August 29, 2008

AGENDA

- REVIEW STATUS OF PREVIOUSLY IDENTIFIED ISSUES:
  - PLATFORM LAYOUT
  - SPLICE CHAMBERS
  - COLUMNS ON "A" PLATFORM
  - TRACK GEOMETRY
  - PLATFORM LENGTH – 10 CAR TRAINS
  - SPACE UNDER THE PLATFORMS
  - UTILITY TUNNEL
  - VERTICAL TRANSPORTATION
  - MECHANICAL SYSTEMS/SMOKE EXHAUST
  - EGRESS MODELING
- INFORMATION UPDATE TO TURNER AND PHOENIX
- NEXT MEETING

SILVERSTEIN PROPERTIES

September 2, 2008

To: WTC HUB WORKING GROUPS

cc: Attendees, David Tweedy, Andy Winters, Joan Gerner, Lou Mendes, Craig Goodall, Rob Gibson, Janno Lieber, David Worsley, Serge Demerjian,

Re: World Trade Center
HUB Working Group
Meeting Minutes – August 29, 2008

Attendees

Tony Marino/PA
Ray Sandiford/PA
Dharam Pal/PA
Joe Riopel/PA
Frank Lombardi/PA
Peter Rinaldi/PA
Mark Pagliettini/PA
Donald Fram/PA
Robert Eisenstat/PA
Damian McShane/PA
David Caruth/PA
Doug Gonzalez/LERA
Dan Sesil/LERA
Gary Negrycz/Turner
Richard Southwick/BBB
Virginia Borkoski/MTACC
Kelly Eaton/AKF
Eric Pulido/AKF
Bob Prieto/Phoenix
Brian Peters/Phoenix
Lennart Stenman/Phoenix
Darrell Waters/Phoenix
Mickey Kupperman/SPI
Guy Punzi/SPI
Melissa Morea/SPI
Nate Matisoff/SPI

On Friday, August 29, 2008, the HUB Working Group met at 7WTC. This was a follow-up to the design meeting on Tuesday, August 26, 2008. The primary purpose of the meeting was to describe the further development of the HUB Group's concepts, particularly for the West Bathtub. A copy of the agenda is attached.

Richard Southwick started the meeting by reviewing the architectural plans and sections. There was much discussion about headroom and column spacing in relation to the vertical circulation. It was Richard's opinion that all the concerns had or will be addressed in the concept being developed.

Dan Sesil then reviewed the structural concepts. The existing platform columns and footings have adequate capacity. Blast loading/redundancy will have to be considered. The loads and columns from the VOC will have to be accommodated into the framing system. Dan felt the structural concept was coming together quite nicely.

Kelly Eaton reviewed the progress on the mechanical systems. This is an area which requires more definition, but Kelly felt comfortable that the mechanical systems, as envisioned by the HUB Group, were quite workable. A follow-up meeting on the mechanical systems was scheduled for Wednesday, September 3, 2008 at 3:00 p.m. on the 38th floor at 7WTC.

In summary, all of the issues which have been raised have either been addressed in the current HUB Group concepts or are manageable through the design process.

Phoenix was given additional documentation for their use in developing schedule and cost data.

Mickey Kupperman

ks

Enclosure

EXEMPTION (4)

WTC WORKING GROUPS

HUB AND GREENWICH STREET

September 5, 2008

AGENDA

- **HUB**

  - **ESTIMATE**
  - **SCHEDULE**
  - **LOGISTICS**

- **GREENWICH STREET**

  - **ESTIMATE**
  - **SCHEDULE**
  - **LOGISTICS**

- **MATERIAL FOR NEXT WEEK'S STEERING COMMITTEE**

- **NEXT STEPS**

- **FOLLOW-UP MEETING ON BASELINE SCHEDULE**

EXEMPTION (4)

September 9, 2008

To: WTC HUB WORKING GROUP

cc: Attendees, J. Kraus, Joan Gerner, A. Winters, S. Myers

Re: World Trade Center
HUB Working Group / Greenwich Working Group
Meeting Minutes – September 8, 2008

Attendees

David Tweedy/PA
Steve Plate/PA
Alan Reiss/PA
Jim Murphy/PA
Dave Puza/PA
Mark Pagliettini/PA
Ed Orlando/PA
Gary Winsper/Phoenix
Lennart Steinman/Phoenix
Walter Reichert/Phoenix
Mike McLoughlin/Phoenix
Charlie Avolio/Turner
Gary Negrycz/Turner
Dave McNallan/Turner
Mickey Kupperman/SPI
David Worsley/SPI
Guy Punzi/SPI
Serge Demerjian/SPI

On Monday, September 8th, 2008, the HUB Working Group and Greenwich Working Group met at 7WTC. This was a follow-up to the meeting held on Friday, September 5th, 2008. The primary purpose of the meeting was to develop a work plan for Turner & Phoenix to review and compare Schedule and Cost impacts concerning the HUB Working Group's proposed modifications to the design of the Oculus and West Bathtub, and for the Greenwich corridor options. The following is a summary of the discussion and decisions reached:

Steering Committee:

- David Tweedy indicated that there should be as much "cross-connect" work done as possible, among the various Working Groups, before presentations are made to the Steering Committee.
- It appears there will not be a Steering Committee Meeting this week, but more likely early next week. Therefore, the goal is to complete the work by this Friday in preparation for a possible presentation on Monday, September 15th.

Work Plan:

- David also indicated that the PA & Phoenix have now jointly identified a team of their representatives who will address the HUB options, and a separate team to address the Greenwich corridor options.
- The primary goals will be to review scheduling, design/operations issues, constructability, and cost.
- These teams will work with Turner Construction, and it was noted that although Phoenix will not be preparing their own schedules and estimates, they would be providing comment, agreement, and/or quantitative opinions (i.e., "range of impact") on Turner's estimates and schedules.
- It was agreed that each Working Group would meet as follows:
  - HUB: Tuesday through Friday, 8:00am-Noon, 38th Floor, 7WTC*
  - Greenwich: Tuesday through Friday, 8:00am-Noon, 10th Floor, 7WTC

(The Tuesday meeting was subsequently cancelled by Phoenix and the Wednesday meeting was changed to 10:00am-2:00pm.)*

- David Tweedy urged the teams to complete the exercises by Friday, September 12th, and present the findings of their product to the Steering Committee next week.
- SPI indicated that the first step was to confirm and agree upon the Baseline Schedule (IMS40), and committed to providing comments to the PA by the end of the day.
- It was agreed that all Stakeholders, including MTA, Retail, etc., would be asked to participate in the work sessions, so that they can have an opportunity to provide input.

Next Steps:

- Continue meeting in work sessions throughout the week.
- Prepare final products by Friday
- Present to Steering Committee next week (to be scheduled)

The next meetings and work sessions are noted above. The dates for follow-up Working Group meetings will be determined at each of the work sessions.

Prepared By: Guy Punzi, Mickey Kupperman

* * *

PATH Hub Working Group Responses
to the
September 18, 2008 PA Comments*
on the
Hub Working Group Proposal

The Hub Working Group (HWG) has reviewed the September 18, 2008 comments received from the Port Authority on September 19, 2008. We believe the PA comments do not address the overall advantages and benefits of the proposed Hub Working Group Concept. Many PA comments reflect a misunderstanding of the HWG proposals. Other PA comments focus on issues that can be easily addressed during the normal evolution of the design process. The comments also fail to realize the advantages of trading off the severe construction risks attributable to the shortcomings of the current base design against the much more limited risk associated with a more conventionally configured project. And – most important – the PA Comments do not acknowledge any of the HWG proposal's numerous benefits to other Stakeholders.

It is important to review the HWG's basic Charter, approved at the outset of the Steering Committee process:

- There will be no limits to the concepts to be considered.
- We must all shake off old "baggage" and attitudes.
- The interests of all Stakeholders must be considered.

The Hub Working Group effort included the following Objectives:

- Attain substantial reductions in cost (hundreds of millions)
- Shorten the Schedule to support the desired Schedules of neighboring Projects (deliver the Memorial Park by 9/11/2011)
- Improve functionality/people flow
- Preserve above-grade Oculus general concept

One note on Security, which the PA comments invoke on several occasions. In developing solutions, the HWG always considered the Design Criteria & Security Criteria that have been provided to us. The HWG understands that meeting these Criteria is essential to the validity of any new design concepts. Where Criteria were not made available (and the PA did not reply to our requests in several instances) the HWG elected to replicate the solutions, quantities, and configurations that were indicated in the base design. An example of this was the replication of the base scheme Vertical Circulation Elements, or VCE, into the HWG Concept Design.

The following pages include the original PA Comments, followed by the Hub Working Group's ***responses in bold italics***.

* Comments were transmitted to Steering Committee and Working Group members on September 20, 2008

EXEMPTION (4)

END OF REPORT

THE PORT AUTHORITY OF NY & NJ

ENGINEERING DEPARTMENT
GATEWAY 2
100 MULBERRY STREET
NEWARK, NJ 07102

CONFORMED

P.A. Agreement #407-03-013
October 10, 2003

Downtown Design Partnership
A Joint Venture of DMJM+HARRIS, Inc. and STV Incorporated
C/O DMJM+HARRIS, Inc.
605 Third Avenue
New York, New York 10158

Attention: Mr. Ira Allan Levy, PE
DMJM+HARRIS, Inc. Executive Vice President

SUBJECT: PERFORMANCE OF EXPERT PROFESSIONAL ARCHITECTURAL AND ENGINEERING SERVICES FOR THE PERMANENT WORLD TRADE CENTER PATH TERMINAL ON A TASK ORDER BASIS

Dear Mr. Levy:

1. The Port Authority of New York and New Jersey (hereinafter referred to as the "Authority") hereby offers to retain Downtown Design Partnership, A Joint Venture of DMJM+HARRIS, Inc. and STV Incorporated (hereinafter referred to as "the Consultant" or "you") to provide expert professional services as more fully set forth in Attachment A, which is attached hereto and made a part hereof, on a Task Order basis. Funding for this Agreement is being provided by the Federal Transit Administration (FTA). DMJM+HARRIS, Inc. is a wholly owned subsidiary of AECOM Technology Corporation ("AECOM"). AECOM owns a number of wholly owned subsidiaries. Any employee of any AECOM subsidiary company may work on this contract under the terms and conditions outlined below. STV Incorporated is a wholly owned subsidiary of STV Group, Incorporated. STV Group, Incorporated owns a number of wholly owned subsidiaries. Any employee of any STV Group, Incorporated subsidiary company may work on this contract under the terms and conditions outlined below. Such employees shall be deemed employees of the Joint Venture for compensation purposes hereunder. The Joint Venture shall ensure that such employees are covered in accordance with the Workers Compensation insurance requirements of this agreement; and in all other respects, the Joint Venture shall have the same liabilities for the acts or omissions of such employees in connection with this Agreement as it has for employees of the Joint Venture members per se.

As used herein "Chief Engineer" shall mean the Chief Engineer or the Deputy Chief Engineer of the Authority, acting either personally or through their duly authorized representatives acting within the scope of the particular authority vested in them unless specifically stated to mean acting personally. The Chief Engineer does not guarantee the ordering of services beyond those described in Attachment A, Section IV, Tasks A-D (Preliminary Engineering Phase).

For the purpose of administering this Agreement, I have designated Jerrold Dinkels, Engineering Program Manager, Downtown Restoration Program, to act as my duly authorized representative. The Project Manager for this project is Thomas L. Grassi, at 212 216-5623.

2. Your services hereunder shall include, but not be limited to, those specified in Attachment A, as ordered by the Chief Engineer.

2.A. In response to a request for specific services hereunder and prior to the performance of any such services, you shall submit to the Chief Engineer for approval an estimated cost based upon the rates forming a part of this Agreement and the applicable cost estimate previously submitted to the Authority as part of the proposal process for this Agreement, as well as a staffing analysis of such services to the Authority. Approval in writing of such cost and establishment of a maximum compensation or "true upset" amount for the services and direction from the Chief Engineer in writing to proceed shall effectuate the performance of services under this Agreement. Each such written approval in the form issued by the Chief Engineer shall constitute a Task Order under this Agreement. Preparation of the cost estimate and staffing analysis shall not be a compensable service hereunder.

2.B. At any time during the term of this Agreement the Authority may give oral or written notice to the Consultant to furnish the Authority with information and to meet with designated representatives of the Authority relating to its qualifications and ability to fulfill the Consultant's obligations hereunder. The requested information shall be submitted no later than three (3) business days after said notice unless otherwise indicated. Matters upon which the Authority may inquire shall include, but not be limited to, the following:

a. The Consultant may be required to demonstrate that it is financially capable of performing this Contract, and the determination of the Consultant's financial qualifications will be made by the Authority in its sole discretion. The Consultant shall submit such financial and other relevant information as may be required by the Authority from time to time including, but not limited to, the following:

1) (i) Certified financial statements, including applicable notes, reflecting the Consultant's assets, liabilities, net worth, revenues, expenses, profit or loss and cash flow for the most recent calendar year or the Consultant's most recent fiscal year.

(ii) Where the certified financial statements set forth in (i) above are not available, then either reviewed or compiled statements from an independent accountant setting forth the aforementioned information shall be provided.

(iii) Where neither certified financial statements nor financial statements from an independent accountant are available, as set forth in (i) and (ii) above, then financial statements containing such information prepared directly by the Consultant may be submitted; such financial statements, however, must be accompanied by a signed copy of the Consultant's most recent Federal income tax return and a statement in writing from the Consultant, signed by an executive officer or his/her designee, that such statements accurately reflect the financial condition of the Consultant.

Where the statements submitted pursuant to subparagraphs (i) and (ii) aforementioned do not cover a period which includes a date not more than forty-five (45) days prior to the date on which the information request was made, then the Consultant shall also submit a statement in writing, signed by an executive officer or his/her designee, that the present financial condition of the Consultant is at least as good as that shown on the statements submitted.

2) A statement of work which the Consultant has on hand, including any work on which a bid has been submitted, containing a description of the work, the annual dollar value, the location by city and State, the current percentage of completion, the expected date for completion, and the name of an individual most familiar with the Consultant's work on these jobs.

3) The name and address of the Consultant's banking institution, chief banking representative handling the Consultant's account, the Consultant's Federal Employer Identification Number (i.e., the number assigned to firms by the Federal Government for tax purposes), the Consultant's Dun and Bradstreet number, if any, the name of any other credit service to which the Consultant furnished information, and the number, if any, assigned by such service to the Consultant's account.

3. Upon receipt of a copy of this Agreement executed by the Authority, you shall submit your specific Quality Control/Assurance Program for performance of the professional services specified in Attachment "A".

When services to be performed by the Consultant include the preparation of contract documents, or the performance of post award services, the Consultant shall submit his specific Quality Control/Assurance Program to the Engineer prior to the performance of said services. When the Consultant has completed preparation of any contract documents required hereunder he shall submit a letter to the Engineer certifying the Consultant's conformance with the aforementioned Quality Control/Assurance Program.

When the services to be performed by the Consultant include the preparation of computer aided design and drafting (CADD) documents, said documents must be prepared using the latest available revision of Autodesk's "AUTOCAD" software or Integraph's "Microstation" software unless otherwise noted in Attachment A.

When the services to be performed by the Consultant include the preparation of Architectural Graphics and said graphics are to be prepared using a computer system said system shall be a Macintosh. The graphics shall be prepared using the latest revision of the following software packages, as required: "Adobe Illustrator", "Quark Xpress", "Microsoft Word" and shall be submitted to the Authority on compact disks, 3.5 inch diskettes and/or as otherwise required.

4. Your services shall be performed as expeditiously as possible and at the time or times required by the Chief Engineer, and shall, in any case, be completed in accordance with the

schedule specified in the applicable Task Order. Time is of the essence in the performance of all your services under this Agreement. Notwithstanding anything in this Agreement, Consultant, including Consultant's subconsultants, if any, shall not be responsible hereunder for any delay, default or nonperformance of this Agreement, if and to the extent that such delay, default or nonperformance is caused by an act of God, weather, accident, labor strike, fire, explosion, riot, war, rebellion, terrorist activity, sabotage, flood, epidemic, act of government authority in either its sovereign or contractual capacity, labor, material, equipment or supply shortage, or any other cause beyond the reasonable control of such party.

5. The Consultant shall meet and consult with Authority staff as requested by the Chief Engineer in connection with the services to be performed herein. Any Contract Drawings and Technical Specifications and other items to be submitted or prepared by the Consultant hereunder shall be subject to the review of the Chief Engineer. The Chief Engineer may disapprove, if in his sole opinion the said items are not in accordance with the requirements of this Agreement, sound engineering principles, or are impractical, uneconomical or unsuited in any way for the purpose for which the contemplated construction is intended. If any of the said items or any portion thereof are so disapproved, the Consultant shall forthwith revise them until they meet the approval of the Chief Engineer, but the Consultant shall not be compensated under any provision of this Agreement for performance of such revisions. No approval or disapproval or omission to approve or disapprove, however, shall relieve the Consultant of his responsibility under this Agreement to furnish in accordance with the schedule herein, a complete, practical, economical design and Contract Drawings and Technical Specifications, and corrections and changes therein which are best suited for the contemplated construction, are done in accordance with sound engineering principles and are signed and sealed by a licensed Professional Engineer.

6. Unless otherwise specified in Attachment A or in a Task Order, in order to effectuate the policy of the Authority, the designs and the concepts in the Contract Drawings and Technical Specifications and other items to be submitted and all changes therein formulated by the Consultant shall comply with all provisions of Federal, State, municipal, local and departmental laws, ordinances, rules, regulations, and orders which would affect or control said designs and concepts if the construction were being performed for a private corporation, unless the Authority standard is more stringent, in which case the Authority standard shall be followed, or unless the Consultant shall receive a written notification to the contrary signed by the Chief Engineer personally, in which case the requirements of said notification shall apply.

7. Your total compensation for all services under each issued Task Order shall not exceed the "true upset" amount established in each such Task Order. You shall inform the Chief Engineer when your compensation reaches 80% of such amount. You shall continue to render services to completion after the point when your compensation reaches 100% of such amount.

Your total compensation for performance of all services as identified in Section IV, Tasks A-D (Preliminary Engineering Phase) of Attachment A, shall not exceed the "true upset" amount of $19,219,869.00. You shall inform the Chief Engineer when your compensation reaches 80% of

such amount. You shall continue to render services to completion after the point when your compensation reaches 100% of such amount.

8. As full compensation for all your services and obligations in connection with this Agreement, the Authority will pay you the total of the amounts computed under subparagraphs A, B, C and D below, subject to the limits on compensation and provisions set forth in paragraph 7 above.

A. An amount equal to 2.62 times the actual salaries paid by you to architects, engineers, designers, drafters or other professional and technical personnel but not partners, principals for time actually spent by them in the performance of services hereunder, plus an amount equal to the number of hours actually spent by partners and principals in the performance of services hereunder times the billing rate (no multiplier applied) described below but in each case excluding premium payments for overtime work or night work or for performing hazardous duty. Attached hereto is a schedule of actual salaries and titles of architects, engineers, designers, drafters or other permanent professional and technical personnel employed by you, as well as rates customarily billed for partners and principals on projects such as this. For compensation purposes under this Agreement, no said salary or amount shall exceed the salary or amount received by said personnel or rate customarily billed for a partner or principal as of the effective date of this Agreement unless the Chief Engineer has been notified in advance, in writing, of the increased salary, rate or amount and approves the increase. When requesting salary adjustments for one or more of its personnel, the Consultant shall submit his/her name, title, current direct hourly rate, proposed new direct hourly rate, resulting percentage increase, effective date and reason for the requested change. The Authority reserves the right of approval of all personnel, amounts and salaries of said personnel performing services under this Agreement. For adjustments submitted after the effective date of this Agreement approval will not be withheld if the Consultant demonstrates that increases in salary, or partner's or principal's rate or amount are in accordance with the program of periodic merit and cost of living increases normally administered by it. For the purposes of this agreement, the multiplier set forth in the first line of this sub-paragraph shall be fixed and not subject to increase for the performance of all contemplated services hereunder.

Notwithstanding the above, the multiplier set forth in the first line of this subparagraph shall be applied only in the case of personnel other than partners or principals who are permanent employees.

B. An amount equal to the premium payments for overtime work or night work or for performing hazardous duty, actually paid to partners, principals, architects, engineers, designers, drafters, or other professional and technical employees for time actually spent by them in the performance of services hereunder when such overtime or other premium payments have been demonstrated to be in accordance with the Consultant's normal business practice and have been authorized in advance by the Chief Engineer in writing. The Project Manager for the Authority shall have the right to authorize and approve premium payments up to a total amount of $1,000 per occasion. Payments above said total amount shall be subject to the prior written authorization of the Chief Engineer. Such premium payments to supervisory employees, who do

not receive such payments in the Consultant's normal business practice shall not be given under this Agreement.

C. An amount equal to the amounts actually paid to subconsultants hereunder who have been retained after the written approval by the Chief Engineer of the subconsultant and the compensation to be paid the subconsultant. The Consultant shall submit a copy of the terms and conditions of the subconsultant's compensation (including multiplier, if applicable), as well as an estimate of the number of hours required by the subconsultant to perform his services, as part of any request for approval of the subconsultant.

D. An amount equal to the out-of-pocket expenses, approved in advance by the Chief Engineer, necessarily and reasonably incurred and actually paid by you in the performance of your services hereunder. Out-of-pocket expenses are expenses that are unique to the performance of your services under this Agreement and generally contemplate the purchase of outside ancillary services, except that for the purpose of this Agreement, out-of-pocket expenses do include amounts for mailing and delivery charges for submittal of drawings, specifications and reports; long distance telephone calls; rentals of equipment; travel and local transportation; and meals and lodging on overnight trips.

Notwithstanding the above the Authority will pay an amount approved in advance by the Chief Engineer and computed as follows for the reproduction of submittal drawings, specifications and reports:

1) If the Consultant uses its own facilities to reproduce such documents, an amount computed in accordance with the billing rates the Consultant customarily charges for reproduction of such documents on agreements such as this, or

2) If the Consultant uses an outside vendor for the reproduction of such documents, the actual, necessary and reasonable amounts for the reproduction of such documents.

Out-of-pocket expenses do not include expenses that are usually and customarily included as part of the Consultant's overhead. For the purposes of this Agreement out-of-pocket expenses do not include amounts for typing, utilization of computer systems, computer aided design and drafting (CADD), cameras, recording or measuring devices, flashlights and other small, portable equipment, safety supplies, phones, telephone calls, electronic messaging including FAX, Telex and telegrams, or expendable office supplies. Unless otherwise indicated, required insurance is not a reimbursable expense.

You shall obtain the Chief Engineer's written approval prior to making expenditures for out-of-pocket expenses in excess of $1,000 per specific expenditure and for all overnight trips which are reimbursable expenditures as set forth above. You shall substantiate all billings for out-of-pocket expenses in excess of $25 with receipted bills and provide said receipts with the appropriate billing.

"Salaries paid to employees" or words of similar import shall mean salaries and amounts actually paid (excluding payments or factors for holidays, vacations, sick time, bonuses, profit

participations and other similar payments) to architects, engineers, designers, drafters or other professional and technical employees of the Consultant, for time actually spent directly in the performance of technical services hereunder and recorded on daily time records which have been approved by the employee's immediate supervisor, excluding the time of any employee of the Consultant to the extent that, the time of such employee of the Consultant is devoted to typing/word processing, stenographic, clerical or administrative functions. Such functions shall be deemed to be included in the multiplier referred to in subparagraph A above.

9. You shall keep, and shall cause any subconsultants under this Agreement to keep, daily records of the time spent in the performance of services hereunder by all persons whose salaries or amounts paid thereto will be the basis for compensation under this Agreement as well as records of the amounts of such salaries and amounts actually paid for the performance of such services and records and receipts of reimbursable expenditures hereunder, and, notwithstanding any other provisions of this Agreement, failure to do so shall be a conclusive waiver of any right to compensation for such services or expenses as are otherwise compensable hereunder. The Authority shall have the right to audit all such records.

The Authority shall have the right to inspect your records, and those of your subconsultants, pertaining to any compensation to be paid hereunder, such records to be maintained by you and your subconsultants for a period of one year after completion of services to be performed under this Agreement.

10. On or about the fifteenth day of each month, you shall render a bill for services performed and reimbursable out-of-pocket expenses incurred in the prior month, accompanied by such records and receipts as required, to the Project Manager. Each invoice shall bear your taxpayer number and the purchase order number(s) provided by the Engineer. Upon receipt of the foregoing, the Chief Engineer will estimate and certify to the Authority the approximate amount of compensation earned by you up to that time. As an aid to you the Authority shall, within fifteen days after receipt of such certification by the Chief Engineer, advance to you by check the sum certified minus all prior payments to you for your account, but subject to the limitation on compensation set forth in paragraph 7.

11. The Authority may at any time for cause terminate this Agreement as to any services not yet rendered, and may terminate this Agreement without cause upon three (3) days notice to you. You shall have no right of termination as to any services under this Agreement without just cause. Termination by either party shall be by certified letter addressed to the other at its address hereinbefore set forth. Should this Agreement be terminated by either party as above provided, you shall receive no compensation for any services not yet performed, but if termination is without fault on your part, the Authority shall pay you as the full compensation to which you shall be entitled in connection with this Agreement the amounts computed under paragraph 8, A, B, C, and D above for the services satisfactorily performed through the date of termination, but in no event shall the amounts to be paid to the Consultant under said paragraph exceed the amount provided for in Paragraph 7 above.

12. As a member of the Design Team for the WTC Permanent PATH Station, without the express written approval of the Chief Engineer you shall keep confidential, and shall require your subconsultants and your employees to keep confidential

a) all information disclosed by the Authority or PATH or its consultants or contractors to you or

b) developed by you or your subconsultants in the performance of services hereunder.

You may be required to execute, and have your employees, subconsultants and their employees execute, non-disclosure agreements as directed by the Authority concerning intellectual property and proprietary information of the Authority, PATH and third persons. Disclosure of any such information shall constitute a material breach of the Agreement. The obligation of confidentiality shall not however pertain to information

a) which is in the public domain;

b) information lawfully received from a third party; or

c) information which must be disclosed under law, provided the Authority's General Counsel is first advised of the legal obligation or legal process.

13. You shall not issue or permit to be issued any press release, advertisement, or literature of any kind, which refers to the Authority or the services performed in connection with this Agreement, unless you first obtain the written approval of the Chief Engineer. Such approval may be withheld if for any reason the Chief Engineer believes that the publication of such information would be harmful to the public interest or is in any way undesirable.

14. Under no circumstances shall you or your subconsultant communicate in any way with any contractor, department, board, agency, commission or other organization or any person whether governmental or private in connection with the services to be performed hereunder except upon prior written approval and instructions of the Chief Engineer, provided, however that data from manufacturers and suppliers of material shall be obtained by you when you find such data necessary unless otherwise instructed by the Chief Engineer.

15. Any services performed for the benefit of the Authority at any time by you or on your behalf, even though in addition to those described herein, even if expressly and duly authorized by the Authority, shall be deemed to be rendered under and subject to this Agreement (unless referable to another express written, duly executed agreement by the same parties), whether such additional services are performed prior to, during or subsequent to the services described herein, and no rights or obligations shall arise out of such additional services.

16. No certificate, payment (final or otherwise), acceptance of any work nor any other act or omission of the Authority or the Chief Engineer shall operate to release you from any obligations under or upon this Agreement, or to estop the Authority from showing at any time that such certificate, payment, acceptance, act or omission was incorrect or to preclude the Authority from

recovering any money paid in excess of that lawfully due, whether under mistake of law or fact or to prevent the recovery of any damages sustained by the Authority.

17. During the term of this Agreement, you shall not participate in any way in the preparation, negotiation or award of any contract to which it is contemplated the Authority may become a party (other than a contract for your own services to the Authority) or participate in any way in the review or resolution of a claim in connection with such a contract, if you have a substantial financial interest in the contractor or potential contractor of the Authority or if you have an arrangement for future employment or for any other business relationship with said contractor or potential contractor, nor shall you at any time take any other action which might be viewed as or give the appearance of a conflict of interest on your part. If the possibility of such an arrangement for future employment or for another business arrangement has been or is the subject of a previous or current discussion or if you have reason to believe such an arrangement may be the subject of future discussion, or if you have any financial interest, substantial or not, in a contractor or potential contractor of the Authority, and your participation in the preparation, negotiation or award of any contract with such a contractor or the review or resolution of a claim in connection with such a contract is contemplated or if you have reason to believe that any other situation exists which might be viewed as or give the appearance of a conflict of interest, you shall immediately inform the Chief Engineer in writing of such situation giving the full details thereof. Unless you receive the specific written approval of the Chief Engineer, you shall not take the contemplated action which might be viewed as or give the appearance of a conflict of interest. In the event the Chief Engineer shall determine that the performance by you of a portion of your services under this Agreement is precluded by the provisions of this numbered paragraph, or a portion of your said services is determined by the Chief Engineer to be no longer appropriate because of such preclusion, then the Chief Engineer shall have full authority on behalf of both parties to order that such portion of your services not be performed by you, reserving the right, however, to have the services performed by others. Your execution of this Agreement shall constitute a representation by you that at the time of such execution you know of no circumstances, present or anticipated, which come within the provisions of this paragraph or which might be viewed as or give the appearance of a conflict of interest on your part.

18. All mylars of the contract drawings, originals of technical specifications, estimates, reports, records, data, charts, documents, renderings, computations, computer tapes or discs or computer programs, and other papers of any type whatsoever, whether in the form of writing, figures or delineations, which are prepared or compiled in connection with this Agreement, shall become the property of the Authority, and the Authority shall have the right to use or permit the use of them and any ideas or methods represented by them for any purpose and at any time without other compensation than that specifically provided herein. The Consultant hereby warrants and represents that the Authority will have at all times the ownership and rights provided for in the immediately preceding sentence free and clear of all claims of third persons whether presently existing or arising in the future and whether presently known to either of the parties of this Agreement or not. Notwithstanding the above, Consultant and its subconsultants shall not be liable or responsible for any use of said documents except for the specific originally intended use of such documents. Although the Authority is the owner of said documents, the

Consultant and its subconsultants will retain any preexisting copyright and other intellectual property rights expressed or embodied in Consultant's and its subconsultants work and services. This Agreement shall not be construed, however, to require the Consultant to obtain for the Authority the right to use any idea, design, method, material, equipment or other matter which is the subject of a valid patent, unless such patent be owned by the Consultant or one of his employees, or his subconsultant or the subconsultant's employees, in which case such right shall be obtained without additional compensation. Whether or not your Proposal is accepted by the Authority, it is agreed that all information of any nature whatsoever which is in any way connected with the services performed in connection with this Agreement, regardless of the form of communication, which has been or may be given by you or on your behalf, whether prior or subsequent to the execution of this Agreement, to the Authority, its Commissioners, officers, agents or employees, is not given in confidence and may be used or disclosed by or on behalf of the Authority without liability of any kind, except as may arise under valid existing or pending patents, if any.

19. If research or development is furnished in connection with the performance of this Agreement and if in the course of such research or development patentable subject matter is produced by the Consultant, his officers, agents, employees, or subconsultants, or if any copyrighted subject matter is produced by the Consultant, his officers, agents, employees, or subconsultants, the Authority shall have, without cost or expense to it, an irrevocable, non-exclusive royalty-free license to make, have made, and use, either itself or by anyone on its behalf, such subject matter in connection with any activity now or hereafter engaged in or permitted by the Authority in respect to the Project. Promptly upon request by the Authority, the Consultant shall furnish or obtain from the appropriate person a form of license satisfactory to the Authority, but it is expressly understood and agreed that, as between the Authority and the Consultant the license herein provided for shall nevertheless arise for the benefit of the Authority immediately upon the production of said subject matter, and shall not await formal exemplification in a written license agreement as provided for above. Such license agreement may be transferred by the Authority to its successors, immediate or otherwise, in the operation or ownership of any real or personal property now or hereafter owned or operated by the Authority but such license shall not be otherwise transferable.

20. You shall promptly and fully inform the Chief Engineer in writing of any patents or patent disputes, whether existing or potential, of which you have knowledge, relating to any idea, design, method, material, equipment or other matter related to the subject matter of this Agreement or coming to your attention in connection with this Agreement.

21. This Agreement being based upon your special qualifications for the services herein contemplated, any assignment, subletting or other transfer of this Agreement or any part hereof or of any monies due or to become due hereunder without the express consent in writing of the Authority shall be void and of no effect as to the Authority, provided, however, that you may sublet services to subconsultants with the express consent in writing of the Chief Engineer. All persons to whom you sublet services, however, shall be deemed to be your agents and no subletting or approval thereof shall be deemed to release you from your obligations under this

Agreement or to impose any obligation on the Authority to such subconsultant or give the subconsultant any rights against the Authority.

22. The Authority has a long-standing practice of encouraging Minority Business Enterprises (MBEs) and Women Business Enterprises (WBEs) to seek business opportunities with it, either directly or as subconsultants or subcontractors. "Minority-owned business" or "MBE" means a business entity which is at least 51 percent owned by one or more members of one or more minority groups, or, in the case of a publicly held corporation, at least 51 percent of the stock of which is owned by one or more members of one or more minority groups; and whose management and daily business operations are controlled by one or more such individuals who are citizens or permanent resident aliens. "Women-owned business" or "WBE" means a business which is at least 51 percent owned by one or more women, or, in the case of a publicly held corporation, 51 percent of the stock of which is owned by one or more women; and whose management and daily business operations are controlled by one or more women who are citizens or permanent resident aliens.

"Minority group" means any of the following racial or ethnic groups:

(1) Black persons having origins in any of the Black African racial groups not of Hispanic origin;

(2) Hispanic persons of Puerto Rican, Mexican, Dominican, Cuban, Central or South American culture origin, regardless of race;

(3) Asian and Pacific Islander persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent or the Pacific Islands;

(4) American Indian or Alaskan Native persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and or community identification.

The Chief Engineer has set a goal of 12 percent participation by qualified and certified MBEs and 5 percent to qualified and certified WBEs on consultant projects.

To be "certified" a firm must be certified by the Authority's Office of Business and Job Opportunity.

In order to facilitate the meeting of this goal, the Consultant shall use every good faith effort to utilize subconsultants who are certified MBEs or WBEs to the maximum extent feasible.

The Authority has a list of certified MBE/WBE service firms, which is available to you at your request. The Consultant will be required to submit to the Authority's Office of Business and Job Opportunity for certification the names of MBE/WBE firms he proposes to use who are not on the list of certified MBE/WBE firms.

23. FTA REQUIREMENTS

This Agreement is anticipated to be partially funded by the Federal Transportation Administration, which expects to enter into a Master Agreement with the Port Authority. Under

that Master Agreement the Port Authority's contractor, consultant or vendor, and each subcontractor, sub-consultant and sub-vendor under this Agreement is bound to perform its services in connection with transportation facilities in accordance with the following provisions as if it was the direct signatory of the Master Agreement, the "Recipient or "Grantee".

Master Agreement References

Section 2.c(1)

c. Application of Federal, State, and Local Laws and Regulations.

(1) Federal Laws and Regulations. Federal law or specific laws authorizing Project approval control Project implementation. Implementing regulations, policies, and related administrative practices applicable on the effective date of this Grant may be modified after the date when the Recipient executes the Grant Agreement, and might apply to this project. New Federal laws, regulations, policies, and administrative practices may be promulgated after the date when the Recipient executes the Grant Agreement, and might apply to this project. The most recent of such Federal requirements will govern the administration of the Project at any particular time, unless FTA issues a written determination otherwise. All standards or limits within this Lower Manhattan Recovery Master Agreement are minimum requirements, unless modified by FTA.

Section 2.f

f. No Federal Government Obligations to Third Parties. Absent the Federal Government's express written consent, the Federal Government shall not be subject to any obligations or liabilities to any subrecipient, any third party contractor, or any other person not a party to the Grant Agreement in connection with the performance of the Project. Notwithstanding that the Federal Government may have concurred in or approved any solicitation, subagreement, or third party contract, the Federal Government has no obligations or liabilities to any party, including any subrecipient or any third party contractor.

Section 3.b

b. Debarment and Suspension. The Recipient will itself comply, and assure the compliance of each third party contractor and subrecipient at any tier, with Executive Orders Nos. 12549 and 12689, "Debarment and Suspension," 31 U.S.C. § 6101 note, and U.S. DOT regulations, "Government wide Debarment and Suspension (Nonprocurement)," within 49 C.F.R. Part 29. Recipients, third party contractors and subrecipients will review the Excluded Parties Listing System at http://epls.arnet.gov before entering into any contracts.

Section 3.d

d. Lobbying Restrictions. The Recipient will itself comply and assures the compliance of each third party contractor at any tier and each subrecipient at any tier, with U.S. DOT regulations, "New Restrictions on Lobbying," 49 C.F.R. Part 20, modified as necessary by 31 U.S.C. § 1352.

Section 3.f

f. False or Fraudulent Statements or Claims. The Recipient certifies or affirms the truthfulness and accuracy of each statement it has made, it makes, or it may make in connection with the Project covered by the Grant Agreement pursuant to the Program Fraud Civil Remedies Act of 1986, as amended, 31 U.S.C. §§ 3801 et seq. and U.S. DOT regulations, "Program Fraud Civil Remedies," 49 C.F.R. Part 31 and 18 U.S.C. § 1001.

Section 8(e)

e. Access to Records of Recipients and Subrecipients. Upon request, the Recipient will permit, and require its Subrecipients to permit, the U.S. Secretary of Transportation, the Comptroller General of the United States, and, to the extent appropriate, the State, or their authorized representatives, to inspect all Project work, materials, payrolls, and other data, and to audit the books, records, and accounts of the Recipient and its Subrecipients pertaining to the Project.

Section 12. Civil Rights.

The Recipient will comply with all applicable civil rights statutes and implementing regulations including, but not limited to, the following:

a. Nondiscrimination in General. The Recipient will comply, and assures the compliance of each third party contractor at any tier and each subrecipient at any tier under the Project with 42 U.S.C. §5151, which requires the distribution of supplies, the processing of applications, and other relief and assistance activities in an equitable and impartial manner, without discrimination on the grounds of race, color, religion, nationality, sex, age, or economic status, and with 49 U.S.C. §5332, which prohibits discrimination on the basis of race, color, creed, national origin, sex, or age, and prohibits discrimination in employment or business opportunity.

b. Nondiscrimination -- Title VI of the Civil Rights Act. The Recipient will comply, and assures the compliance of each third party contractor and each subrecipient at any tier under the Project, with all requirements prohibiting discrimination on the basis of race, color, or national origin of Title VI of the Civil Rights Act of 1964, as amended, 42 U.S.C. § 2000d et seq., and U.S. DOT regulations, "Nondiscrimination in Federally-Assisted Programs of the Department of Transportation--Effectuation of Title VI of the Civil Rights Act," 49 C.F.R. Part 21.

c. Equal Employment Opportunity.

(1) The Recipient will comply, and assures the compliance of each third party contractor at any tier and each subrecipient at any tier, with all requirements of Title VII of the Civil Rights Act of 1964, as amended, 42 U.S.C. § 2000e. Accordingly, the Recipient agrees that it will not discriminate against any employee or applicant for employment because of race, color, creed, sex, disability, age, or national origin. The Recipient will take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their race,

color, creed, sex, disability, age, or national origin. Such action shall include, but not be limited to, employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

(2) Equal Employment Opportunity Requirements for Construction Activities. With respect to activities deemed by the U.S. Department of Labor (U.S. DOL) to qualify as "construction," the Recipient will comply, and assures the compliance of each third party contractor at any tier and each subrecipient at any tier, with all applicable EEO requirements of U.S. DOL regulations, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor," 41 C.F.R. Parts 60 et seq., (which implement Executive Order No. 11246, "Equal Employment Opportunity," as amended by Executive Order No. 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," 42 U.S.C. § 2000(e) note,) and any Federal statutes, executive orders, regulations, and Federal policies affecting construction undertaken as part of the Project.

d. Contracting with Small and Minority Firms, Women's Business Enterprise and Labor Surplus Area Firms. Pursuant to Executive Order 12432 as implemented by 49 CFR § 18.36(e). Recipient and its subrecipients will take all necessary affirmative steps to assure that minority firms, women's business enterprises, and labor surplus area firms are used when possible.

e. Nondiscrimination on the Basis of Sex. The Recipient will comply with all applicable requirements of Title IX of the Education Amendments of 1972, as amended, 20 U.S.C. §§ 1681 et seq., with U.S. DOT regulations, "Nondiscrimination on the Basis of Sex in Education Programs or Activities Receiving Federal Financial Assistance," 49 C.F.R. Part 25, and with any implementing directives that U.S. DOT or FTA may promulgate, which prohibit discrimination on the basis of sex.

f. Nondiscrimination on the Basis of Age. The Recipient will comply with all applicable requirements of the Age Discrimination Act of 1975, as amended, 42 U.S.C. §§ 6101 et seq., and implementing regulations, which prohibit employment and other discrimination against individuals on the basis of age.

g. Access Requirements for Persons with Disabilities. The Recipient will comply with all applicable requirements of section 504 of the Rehabilitation Act of 1973, as amended, 29 U.S.C. § 794, which prohibits discrimination on the basis of handicaps, with the Americans with Disabilities Act of 1990 (ADA), as amended, 42 U.S.C. §§ 12101 et seq., which requires that accessible facilities and services be made available to persons with disabilities, including any subsequent amendments to that Act, and with the Architectural Barriers Act of 1968, as amended, 42 U.S.C. §§ 4151 et seq., which requires that buildings and public accommodations be accessible to persons with disabilities, including any subsequent amendments to that Act. In addition, the Recipient will comply with all applicable requirements of the following regulations and any subsequent amendments thereto:

(1) U.S. DOT regulations, "Transportation Services for Individuals with Disabilities (ADA)," 49 C.F.R. Part 37;

(2) U.S. DOT regulations, "Nondiscrimination on the Basis of Handicap in Programs and Activities Receiving or Benefiting from Federal Financial Assistance," 49 C.F.R. Part 27;

h. Drug or Alcohol Abuse - Confidentiality and Other Civil Rights Protections. The Recipient will comply with confidentiality and other civil rights protections of the Drug Abuse Office and Treatment Act of 1972, as amended, 21 U.S.C. §§ 1174 et seq., with the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970, as amended, 42 U.S.C. §§ 4581 et seq., and with the Public Health Service Act of 1912, as amended, 42 U.S.C. §§ 290dd-3 and 290ee-3, and any subsequent amendments to these acts.

i. Access to Services for Persons with Limited English Proficiency. The Recipient will comply with guidance set forth in Executive Order No. 13166,"Improving Access to Services for Persons with Limited English Proficiency," August 11, 2000, 42 U.S.C. § 2000d-1 note, and with the requirements and provisions of U.S. DOT Notice, "DOT Guidance to Recipients on Special Language Services to Limited English Proficient (LEP) Beneficiaries," 66 Fed. Reg. 6733 et seq., January 22, 2001.

j. Environmental Justice. The Recipient will comply with the policies of Executive Order No. 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," 42 U.S.C. § 4321 note.

k. Other Nondiscrimination Statutes. The Recipient will comply with applicable requirements of other nondiscrimination statute(s) that may apply to the Project.

Section 14. Preference for United States Products and Services.

a. Not Applicable.

b. Not Applicable.

c. Fly America. The Federal Government will not participate in the costs of international air transportation of any persons involved in or property acquired for the Project unless that air transportation is provided by U.S.-flag air carriers to the extent service by U.S.-flag air carriers is available, in accordance with the International Air Transportation Fair Competitive Practices Act of 1974, as amended, 49 U.S.C. § 40118, and with U.S. GSA regulations, "Use of United States Flag Air Carriers," 41 C.F.R. §§ 301-10.131 through 301-10.143.

Section 15. Procurement.

a. Federal Standards. The Recipient will comply with 49 CFR § 18.36.

Section 15.f

f. Clean Air and Clean Water. The Recipient will include in third party contracts and subgrants exceeding $100,000 adequate provisions to ensure that Project participants report the use of facilities placed or likely to be placed on U.S. EPA's "List of Violating Facilities," refrain from using violating facilities, report violations to FTA and the Regional EPA Office, and

comply with the inspection and other applicable requirements of:

(1) Section 306 of the Clean Air Act, as amended, 42 U.S.C. § 7414, and other applicable provisions of the Clean Air Act, as amended, 42 U.S.C. §§ 7401 et seq.; and

(2) Section 508 of the Federal Water Pollution Control Act, as amended, 33 U.S.C. § 1368, and other provisions of the Federal Water Pollution Control Act, as amended, 33 U.S.C. §§ 1251 et seq.

Section 15.g

g. Preference for Recycled Products. To the extent applicable, the Recipient will comply with U.S. EPA's "Comprehensive Procurement Guidelines for Products Containing Recovered Materials," 40 C.F.R. Part 247, implementing section 6002 of the Resource Conservation and Recovery Act, as amended, 42 U.S.C. § 6962, and otherwise provide a competitive preference for products and services that conserve natural resources and protect the environment and are energy efficient.

Section 15.s

s. Electronic and Information Technology. Electronic and information technology procured under this Project will meet the applicable accessibility standards of section 508 of the Rehabilitation Act of 1973, as amended, 29 U.S.C. § 794d, and Architectural and Transportation Barriers Compliance Board regulations, "Electronic and Information Technology Accessibility Standards," 36 C.F.R. Part 1194.

Section 17. Patent Rights.

a. General. If any invention, improvement, or discovery of the Recipient or any of its third party contractors is conceived or first actually reduced to practice in the course of or under the Project, and that invention, improvement, or discovery is patentable under the laws of the United States of America or any foreign country, the Recipient will notify FTA immediately and provide a detailed report.

b. Federal Rights. The rights and responsibilities of the Recipient, and those of each third party contractor at any tier and each subrecipient at any tier, pertaining to that invention, improvement, or discovery will be determined in accordance with applicable Federal laws, regulations, including any waiver thereof.

Section 18. Rights in Data and Copyrights.

a. Definition. The term "subject data" used in this section means recorded information, whether or not copyrighted, that is delivered or specified to be delivered under the Project. Examples include, but are not limited to: computer software, standards, specifications, engineering drawings and associated lists, process sheets, manuals, technical reports, catalog item identifications, and related information. "Subject data" does not include financial reports, cost analyses, or similar information used for Project administration.

b. General Requirement. Except for its own internal use, the Recipient may not publish or reproduce "subject data" whether in whole or in part, in any manner or form, nor may the Recipient authorize others to do so, without the prior written consent of the Federal Government, unless the Federal Government has previously released or approved the release of such data to the public.

c. – h. Requirements condensed into a. & b. above.

Section 23(e)

e. Seismic Safety. The Recipient will comply with the Earthquake Hazards Reduction Act of 1977, as amended, 42 U.S. C. §§ 7701 et seq., Executive Order No. 12699, "Seismic Safety of Federal and Federally-Assisted or Regulated New Building Construction," 42 U.S.C. § 7704 note, and implementing U.S. DOT regulations, "Seismic Safety,"49 C.F.R. Part 41, (specifically, 49 C.F.R. § 41.117).

Section 24. Employee Protections.

a. Construction Activities. The Recipient will comply, and assures the compliance of each third party contractor at any tier and each subrecipient at any tier, with the following employee protection requirements for construction employees:

(1) Davis-Bacon Act, as amended, 40 U.S.C. §§ 276a - 276a(7), requiring compliance with the Davis-Bacon Act, and U.S. DOL regulations, "Labor Standards Provisions Applicable to Contracts Governing Federally Financed and Assisted Construction (also Labor Standards Provisions Applicable to Nonconstruction Contracts Subject to the Contract Work Hours and Safety Standards Act)," 29 C.F.R. Part 5.

(2) Contract Work Hours and Safety Standards Act, as amended, particularly with the requirements of section 102 of the Act, 40 U.S.C. §§ 327 - 332; and U.S. DOL regulations, "Labor Standards Provisions Applicable to Contracts Governing Federally Financed and Assisted Construction (also Labor Standards Provisions Applicable to Nonconstruction Contracts Subject to the Contract Work Hours and Safety Standards Act)," 29 C.F.R. Part 5; and with section 107 of the Act, 40 U.S.C. § 333, and U.S. DOL regulations, "Safety and Health Regulations for Construction," 29 C.F.R. Part 1926; and

(3) Copeland "Anti-Kickback" Act, as amended, 18 U.S.C. § 874 and 40 U.S.C. § 276c, and U.S. DOL regulations, "Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in part by Loans or Grants from the United States," 29 C.F.R. Part 3.

Section 24.b

b. Activities Not Involving Construction. The Recipient will comply, and assure the compliance of each third party contractor and each subrecipient at any tier, with any applicable employee protection requirements for nonconstruction employees of section 102 of the Contract Work Hours and Safety Standards Act, as amended, 40 U.S.C. §§ 327 - 332, and U.S. DOL

regulations, "Labor Standards Provisions Applicable to Contracts Governing Federally Financed and Assisted Construction (also Labor Standards Provisions Applicable to Nonconstruction Contracts Subject to the Contract Work Hours and Safety Standards Act)," 29 C.F.R. Part 5.

Section 26. Energy Conservation.

The Recipient will comply with the mandatory energy efficiency standards and policies within the applicable State energy conservation plans issued in compliance with the Energy Policy and Conservation Act, 42 U.S.C. §§ 6321 et seq.

49 CFR § 18.36

(b) Procurement Standards.

(11) Grantees and subgrantees alone will be responsible, in accordance with good administrative practice and sound business judgment, for the settlement of all contractual and administrative issues arising out of procurements. These issues include, but are not limited to source evaluation, protests, disputes, and claims. These standards do not relieve the grantee or subgrantee of any contractual responsibilities under its contracts. Federal agencies will not substitute their judgment for that of the grantee or subgrantee unless the matter is primarily a Federal concern. Violations of law will be referred to the local, State, or Federal authority having proper jurisdiction.

(12) Grantees and subgrantees will have protest procedures to handle and resolve disputes relating to their procurements and shall in all instances disclose information regarding the protest to the awarding agency. A protestor must exhaust all administrative remedies with the grantee and subgrantee before pursuing a protest with the Federal agency. Reviews of protests of the Federal agency will be limited to:

(i) Violations of Federal law or regulations and the standards of this section (violations of State or local law will be under the jurisdiction of State or local authorities) and

(ii) Violations of the grantee's or subgrantee's protest procedures for failure to review a complaint or protest. Protests received by the Federal agency other than those specified above will be referred to the grantee or subgrantee.

(i) Contract provisions. A grantees and subgrantee's contracts must contain provisions in paragraph (i) of this section. Federal agencies are permitted to require changes, remedies, changed conditions, access and records retention, suspension of work, and other clauses approved by the Office of Federal Procurement Policy.

(2) Termination for cause and for convenience by the grantee or subgrantee including the manner by which it will be effected and the basis for settlement. (All contracts in excess of $10,000)

(k) Section 3(a)(2)(C) of the UMT Act of 1964, as amended, prohibits the use of grant or loan funds to support procurements utilizing exclusionary or discriminatory specifications.

(l) 46 U.S.C. 1241(b)(1) and 46 CFR Part 381 impose cargo preference requirements on the shipment of foreign made goods.

Section 18.44 Termination for Convenience.

Except as provided in Section 18.43 awards may be terminated in whole or in part only as follows: (a) By the awarding agency with the consent of the grantee or subgrantee in which case the two parties shall agree upon the termination conditions, including the effective date and in the case of partial termination, the portion to be terminated, or (b) By the grantee or subgrantee upon written notification to the awarding agency, setting forth the reasons for such termination, the effective date, and in the case of partial termination, the portion to be terminated. However, if in the case of a partial termination, the awarding agency determines that the remaining portion of the award will not accomplish the purposes for which the award was made, the awarding agency may terminate the award in its entirety under either Sec. 1843 or paragraph (a) of this section.

24. NOTIFICATION OF SECURITY REQUIREMENTS

The Port Authority of New York & New Jersey has facilities, systems, and projects where terrorism or other criminal acts may have a significant impact on life safety and key infrastructures. The Authority reserves the right to impose multiple layers of security requirements on the Consultant, its staff and subconsultants and their staffs depending upon the level of security required, as determined by the Authority. These security requirements may include but are not limited to the following:

- Consultant/subconsultant identity checks and background screening, including but not limited to: inspection of not less than two forms of valid/current government issued identification (at least one having an official photograph) to verify staff's name and residence; screening federal, state, and/or local criminal justice agency information databases and files; screening of any terrorist identification files; multi-year check of personal, employment and/or credit history; access identification to include some form of biometric security methodology such as fingerprint, facial or iris scanning, or the like;
    - Issuance of Photo Identification cards;
    - Access control, inspection, and monitoring by security guards.
- The Consultant may be required to have its staff, and any subconsultant's staff, authorize the Authority or its designee to perform background checks. Such authorization shall be in a form acceptable to the Authority. The Consultant may also be required to use an organization designated by the Authority to perform the background checks. The cost for said background checks shall be reimbursable to the Consultant as an out-of-pocket expense as provided herein.

The Authority may impose, increase, and/or upgrade security requirements for the Consultant and its staff and subconsultants during the term of this agreement to address changing security conditions and/or new governmental regulations.

25. With regard to services performed at the former World Trade Center site, the Consultant assumes the following distinct and several risks that arise from the negligent acts or omissions of Consultant or its subconsultants:

A. The risk of loss or damage to Authority property but only to the extent arising out of or in connection with the negligent performance of services hereunder:

B. The risk or loss or damage to any property of the Consultant or its subconsultants but only to the extent arising out of or in connection with the negligent performance of services hereunder;

C. The risk of claims, but only to the extent arising out of or in connection with the negligent performance of services hereunder, whether made against the Consultant or its subconsultants or the Authority, for loss or damage to any property of the Consultant's agents, employees, subcontractors, subconsultants, materialmen or others performing services hereunder:

D. The risk of claims, just or unjust, by third persons made against the Consultant or its subconsultants or the Authority on account of injuries (including wrongful death), loss or damage of any kind whatsoever but only to the extent arising out of or in connection with the negligent performance of services hereunder (whether or not actually caused by or resulting from the performance of the services hereunder) including claims against the Consultant or its subconsultants or the Authority for the payment of workers' compensation, whether such claims are made and whether such injuries, damage and loss are sustained at any time both before and after the completion of services hereunder.

The Consultant shall indemnify the Authority against all claims described in subparagraphs A through D above and for all expense incurred by it in the defense, settlement or satisfaction thereof, including expenses of attorneys. If so directed, the Consultant shall defend against any claim described in subparagraphs B, C and D above, in which event he shall not without obtaining express advance permission from the General Counsel of the Authority raise any defense involving in any way jurisdiction of the tribunal, immunity of the Authority, governmental nature of the Authority or the provisions of any statues respecting suits against the Authority, such defense to be at the Consultant's cost.

The provisions of this clause shall also be for the benefit of the Commissioners, officers, agents and employees of the Authority, so that they shall have all the rights which they would have under this clause if they were named at each place above at which the Authority is named, including a direct right of action against the Consultant to enforce the foregoing indemnity, except, however, that the Authority may at any time in its sole discretion and without liability on its part cancel the benefit conferred on any of them by this clause, whether or not the occasion for invoking such benefit has already arisen at the time of such cancellation.

Neither the completion of services hereunder nor the making of payment (final or otherwise) shall release the Consultant from his obligations under this clause. Moreover, neither the enumeration in this clause or the enumeration elsewhere in this Agreement of particular risks assumed by the Consultant or of particular claims for which he is responsible shall be deemed (a)

to limit the effect of the provisions of this clause or of any other clause of this Agreement relating to such risks or claims, (b) to imply that he assumes or is responsible for risks or claims only of the type enumerated in this clause or in any other clause of this Agreement, or (c) to limit the risks which he would assume or the claims for which he would be responsible in the absence of such enumerations.

This paragraph shall not limit the responsibilities the Consultant would have in the absence of this paragraph. No third party rights are created by the Agreement, except to the extent that the Agreement specifically provides otherwise by use of the words "benefit" or "direct right of action".

26. COMMERCIAL GENERAL LIABILITY INSURANCE AND WORKERS' COMPENSATION INSURANCE

A. Commercial General Liability Insurance

1. Each Partner of the Consultant shall take out and maintain at his own expense Commercial General Liability Insurance including but not limited to Premises-Operations, Completed Operations and Independent Contractor coverages and Comprehensive Automobile Liability Insurance (covering any, owned, non-owned, and hired autos) in limits of not less than $5,000,000 combined single limit per occurrence for Bodily Injury Liability and Property Damage Liability. In addition, the policy shall include the Authority and the Port Authority Trans-Hudson Corporation (PATH) as an additional insured and shall contain a provision that the policy may not be canceled, terminated or modified without thirty days written advance notice to the Project Manager as noted below. Moreover, the Commercial General Liability policy shall not contain any provisions (other than a Professional Liability exclusion, if any) for exclusions from liability other than provisions for exclusions from liability forming part of the standard, basic unamended and unendorsed Commercial General Liability policy.

2. Further, the Commercial General Liability Policy shall be specifically endorsed to prohibit the insurance carrier from raising any defense involving in any way jurisdiction of the tribunal, immunity of the Authority or PATH, governmental nature of the Authority or the provisions of any statutes respecting suits against the Authority or PATH without obtaining express written advance permission from the General Counsel of the Authority.

3. The Consultant shall have the Policy endorsed to eliminate any exclusions applying to the under-ground property, explosion and collapse hazards.

B. Additional Coverages: The Consultant shall have the Commercial General Liability Policy endorsed when required by the Engineer for specific services hereunder and include the additional premium cost thereof as an out-of-pocket expense:

1. The Consultant shall have the policy endorsed to eliminate any exclusions on account of ownership, maintenance, operation, use, loading or unloading of watercraft.

B. Workers' Compensation Insurance

1. The Consultant shall also take out and maintain Workers' Compensation Insurance in accordance with the requirements of law.

2. Additional Coverages: The Consultant shall have the policy endorsed when required by the Engineer for specific services hereunder and include the additional premium cost thereof as an out-of-pocket expense:

a) United States Longshoremen's and Harbor Workers' Compensation Act Endorsement.

b) Coverage B Endorsement - Maritime (Masters or Members of the Crew of Vessels), in limits of not less than $1,000,000 per occurrence.

3. The Consultant shall have the policy include Amendments to Coverage B, Federal Employers' Liability Act, in limits of not less than $1,000,000 per occurrence.

C. Compliance

1) Prior to commencement of work at the site, the Consultant shall deliver a certificate from his insurer evidencing the policies of the above insurance, stating the title of this Agreement, the agreement number, and containing a separate express statement of compliance with each of the requirements above set forth in this clause, to the Risk Management/Treasury of the Authority at the following address:

The Port Authority of NY & NJ
Supervisor, Contract Insurance
Risk Management/Treasury
225 Park Avenue South – 12th Floor
New York, NY 10003

2) The Consultant shall also forward a copy of the aforementioned certificate to the Project Manager, at the following address:

Mr. Thomas L. Grassi
The Port Authority of NY & NJ
115 Broadway, 7th Floor
New York, NY 10006

3) Upon request of the Manager, Risk Management/Treasury Division, the Consultant shall furnish to the Authority a certified copy of each policy itself, including the provisions establishing premiums.

27. CERTIFICATION OF NO INVESTIGATION (CRIMINAL OR CIVIL ANTI-TRUST), INDICTMENT, CONVICTION, DEBARMENT, SUSPENSION, DISQUALIFICATION AND DISCLOSURE OF OTHER INFORMATION

By signing this Agreement, the Consultant and each person signing on behalf of the Consultant certifies, and in the case of a joint proposal each party thereto certifies as to its own organization, that the Consultant and each parent and/or affiliate of the Consultant has not:

A. been indicted or convicted in any jurisdiction;

B. been suspended, debarred, found not responsible or otherwise disqualified from entering into any agreement with any governmental agency or been denied a government agreement for failure to meet standards related to the integrity of the Consultant;

C. had an agreement terminated by any governmental agency for breach of agreement or for any cause based in whole or in part on an indictment or conviction;

D. ever used a name, trade name or abbreviated name, or an Employer Identification Number different from those inserted in the Proposal;

E. had any business or professional license suspended or revoked or, within the five years prior to proposal opening, had any sanction imposed in excess of $50,000 as a result of any judicial or administrative proceeding with respect to any license held or with respect to any violation of a federal, state or local environmental law, rule or regulation;

F. had any sanction imposed as a result of a judicial or administrative proceeding related to fraud, extortion, bribery, proposal rigging, embezzlement, misrepresentation or anti-trust regardless of the dollar amount of the sanctions or the date of their imposition; and

G. been, and is not currently, the subject of a criminal investigation by any federal, state or local prosecuting or investigative agency and/or a civil anti-trust investigation by any Federal, state or local prosecuting or investigative agency.

28. NON-COLLUSIVE PROPOSING, AND CODE OF ETHICS CERTIFICATION, CERTIFICATION OF NO SOLICIATION BASED ON COMMISION, PERCENTAGE, BROKERAGE, CONTINGENT OR OTHER FEES

By proposing on this Agreement, each Consultant and each person signing on behalf of any Consultant certifies, and in the case of a joint proposal, each party thereto certifies as to its own organization, that:

A. the prices in its proposal have been arrived at independently without collusion, consultation, communication or agreement for the purpose of restricting competition, as to any matter relating to such prices with any other consultant or with any competitor;

B. the prices quoted in its proposal have not been and will not be knowingly disclosed directly or indirectly by the Consultant prior to the official opening of such proposal to any other consultant or to any competitor;

C. no attempt has been made and none will be made by the Consultant to induce any other person, partnership or corporation to submit or not to submit a proposal for the purpose of restricting competition;

D. this organization has not made any offers or agreements or taken any other action with respect to any Authority employee or former employee or immediate family member of either which would constitute a breach of ethical standards under the Code of Ethics dated April 11, 1996 (a copy of which is available upon request to the individual named in the clause hereof entitled "Consultant's Questions"), nor does this organization have any knowledge of any act on

the part of an Authority employee or former Authority employee relating either directly or indirectly to this organization which constitutes a breach of the ethical standards set forth in said Code; and

E. no person or selling agency other than a bona fide employee or bona fide established commercial or selling agency maintained by the Consultant for the purpose of securing business, has been employed or retained by the Consultant to solicit or secure this Agreement on the understanding that a commission, percentage, brokerage, contingent, or other fee would be paid to such person or selling agency.

The foregoing certifications shall be deemed to be made by the Consultant as follows:

* if the Consultant is a corporation, such certification shall be deemed to have been made not only with respect to the Consultant itself, but also with respect to each parent, affiliate, director, and officer of the Consultant, as well as, to the best of the certifier's knowledge and belief, each stockholder of the Consultant with an ownership interest in excess of 10%;

* if the Consultant is a partnership, such certification shall be deemed to have been made not only with respect to the Consultant itself, but also with respect to each partner.

Moreover, the foregoing certifications, if made by a corporate Consultant, shall be deemed to have been authorized by the Board of Directors of the Consultant, and such authorization shall be deemed to include the signing and submission of the proposal and the inclusion therein of such certification as the act and deed of the corporation.

In any case where the Consultant cannot make the foregoing certifications, the Consultant shall so state and shall furnish with the signed proposal a signed statement, which sets forth in detail the reasons therefor. If the Consultant is uncertain as to whether it can make the foregoing certifications, it shall so indicate in a signed statement furnished with its proposal, setting forth in such statement the reasons for its uncertainty.

Notwithstanding that the Consultant may be able to make the foregoing certifications at the time the proposal is submitted, the Consultant shall immediately notify the Authority in writing during the period of irrevocability of proposals on this Agreement or any extension of such period of any change of circumstances which might under this clause make it unable to make the foregoing certifications or require disclosure. The foregoing certifications or signed statement shall be deemed to have been made by the Consultant with full knowledge that they would become a part of the records of the Authority and that the Authority will rely on their truth and accuracy in awarding this Agreement. In the event that the Authority should determine at any time prior or subsequent to the award of this Agreement that the Consultant has falsely certified as to any material item in the foregoing certifications or has willfully or fraudulently furnished a signed statement which is false in any material respect, or has not fully and accurately represented any circumstance with respect to any item in the foregoing certifications required to be disclosed, the Authority may determine that the Consultant is not a responsible Consultant with respect to its proposal on the Agreement or with respect to future proposals on Authority agreements and may exercise such other remedies as are provided to it by the Agreement with respect to these matters. In addition, Consultants are advised that knowingly providing a false certification or

statement pursuant hereto may be the basis for prosecution for offering a false instrument for filing (see, e.g. New York Penal Law, Section 175.30 et seq.). Consultants are also advised that the inability to make such certification will not in and of itself disqualify a Consultant, and that in each instance the Authority will evaluate the reasons therefor provided by the Consultant.

29. CONSULTANT ELIGIBILITY FOR AWARD OF AGREEMENTS – DETERMINATION BY AN AGENCY OF THE STATE OF NEW YORK OR NEW JERSEY CONCERNING ELIGIBILITY TO RECEIVE PUBLIC AGREEMENTS

Consultants are advised that the Authority has adopted a policy to the effect that in awarding its agreements it will honor any determination by an agency of the State of New York or New Jersey that a consultant is not eligible to propose on or be awarded public agreements because the consultant has been determined to have engaged in illegal or dishonest conduct or to have violated prevailing rate of wage legislation.

The policy permits a consultant whose ineligibility has been so determined by an agency of the State of New York or New Jersey to submit a proposal on a Port Authority agreement and then to establish that it is eligible to be awarded an agreement on which it has submitted a proposal because (i) the state agency determination relied upon does not apply to the consultant, or (ii) the state agency determination relied upon was made without affording the consultant the notice and hearing to which the consultant was entitled by the requirements of due process of law, or (iii) the state agency determination was clearly erroneous or (iv) the state agency determination relied upon was not based on a finding of conduct demonstrating a lack of integrity or violation of a prevailing rate of wage law.

The full text of the resolution adopting the policy may be found in the Minutes of the Authority's Board of Commissioners meeting of September 9, 1993.

30. NO GIFTS, GRATUITIES, OFFERS OF EMPLOYMENT, ETC.

During the term of this Agreement, the Consultant shall not offer, give or agree to give anything of value either to a Port Authority employee, agent, job shopper, consultant, construction manager or other person or firm representing the Port Authority, or to a member of the immediate family (i.e., a spouse, child, parent, brother or sister) of any of the foregoing, in connection with the performance by such employee, agent, job shopper, consultant, construction manager or other person or firm representing the Port Authority of duties involving transactions with the Consultant on behalf of the Port Authority, whether or not such duties are related to this Agreement or any other Port Authority agreement or matter. Any such conduct shall be deemed a material breach of this Agreement.

As used herein "anything of value" shall include but not be limited to any (a) favors, such as meals, entertainment, transportation (other than that contemplated by the Agreement or any other Port Authority agreement), etc. which might tend to obligate the Port Authority employee to the Consultant, and (b) gift, gratuity, money, goods, equipment, services, lodging, discounts not available to the general public, offers or promises of employment, loans or the cancellation thereof, preferential treatment or business opportunity. Such term shall not include

compensation contemplated by this Agreement or any other Port Authority agreement. Where used herein, the term "Port Authority" shall be deemed to include all subsidiaries of the Port Authority.

The Consultant shall insure that no gratuities of any kind or nature whatsoever shall be solicited or accepted by it and by its personnel for any reason whatsoever from the passengers, tenants, customers or other persons using the Facility and shall so instruct its personnel.

In addition, during the term of this agreement, the Consultant shall not make an offer of employment or use confidential information in a manner proscribed by the Code of Ethics and Financial Disclosure dated April 11, 1996 (a copy of which is available upon request to the Office of the Secretary of the Port Authority).

The Consultant shall include the provisions of this clause in each subagreement entered into under this Agreement.

31. CONFLICT OF INTEREST

During the term of this agreement, the Consultant shall not participate in any way in the preparation, negotiation or award of any contract (other than a contract for its own services to the Authority) to which it is contemplated the Port Authority may become a party, or participate in any way in the review or resolution of a claim in connection with such a agreement if the Consultant has a substantial financial interest in the consultant or potential contractor of the Port Authority or if the Consultant has an arrangement for future employment or for any other business relationship with said contractor or potential contractor, nor shall the Consultant at any time take any other action which might be viewed as or give the appearance of conflict of interest on its part. If the possibility of such an arrangement for future employment or for another business arrangement has been or is the subject of a previous or current discussion, or if the Consultant has reason to believe such an arrangement may be the subject of future discussion, or if the Consultant has any financial interest, substantial or not, in a consultant or potential consultant of the Authority, and the Consultant's participation in the preparation, negotiation or award of any agreement with such a consultant or the review or resolution of a claim in connection with such a agreement is contemplated or if the Consultant has reason to believe that any other situation exists which might be viewed as or give the appearance of a conflict of interest, the Consultant shall immediately inform the Chief Engineer in writing of such situation giving the full details thereof. Unless the Consultant receives the specific written approval of the Chief Engineer, the Consultant shall not take the contemplated action which might be viewed as or give the appearance of a conflict of interest. In the event the Chief Engineer shall determine that the performance by the Consultant of a portion of its services under this Agreement is precluded by the provisions of this numbered paragraph, or a portion of the Consultant's said services is determined by the Chief Engineer to be no longer appropriate because of such preclusion, then the Chief Engineer shall have full authority on behalf of both parties to order that such portion of the Consultant's services not be performed by the Consultant, reserving the right, however, to have the services performed by others and any lump sum compensation payable hereunder which is applicable to the deleted work shall be equitably adjusted by the parties. The Consultant's execution of this document shall constitute a representation by the

Consultant that at the time of such execution the Consultant knows of no circumstances, present or anticipated, which come within the provisions of this paragraph or which might otherwise be viewed as or give the appearance of a conflict of interest on the Consultant's part. The Consultant acknowledges that the Authority may preclude it from involvement in certain disposition/privatization initiatives or transactions that result from the findings of its evaluations hereunder or from participation in any agreements which result, directly or indirectly, from the services provided by the Consultant hereunder.

32. DEFINITIONS

As used in sections 26 to 31 above, the following terms shall mean:
Affiliate - Two or more firms are affiliates if a parent owns more than fifty percent of the voting stock of each of the firms, or a common shareholder or group of shareholders owns more than fifty percent of the voting stock of each of the firms, or if the firms have a common proprietor or general partner.

Agency or Governmental Agency - Any federal, state, city or other local agency, including departments, offices, public authorities and corporations, boards of education and higher education, public development corporations, local development corporations and others.

Investigation - Any inquiries made by any federal, state or local criminal prosecuting agency and any inquiries concerning civil anti-trust investigations made by any federal, state or local governmental agency. Except for inquiries concerning civil anti-trust investigations, the term does not include inquiries made by any civil government agency concerning compliance with any regulation, the nature of which does not carry criminal penalties, nor does it include any background investigations for employment, or Federal, state, and local inquiries into tax returns.

Officer - Any individual who serves as chief executive officer, chief financial officer, or chief operating officer of the consultant by whatever titles known.

Parent - An individual, partnership, joint venture or corporation, which owns more than 50% of the voting stock of the consultant.

33. The entire agreement between the parties is contained herein and no change in or modification, termination or discharge of this Agreement in any form whatsoever shall be valid or enforceable unless it is in writing and signed by the party to be charged therewith, or his duly authorized representative, provided, however, that termination in the manner hereinbefore expressly provided shall be effective as so provided.

34. No Commissioner, officer, agent or employee of the Authority shall be charged personally by you with any liability or held liable to you under any term or provision of this Agreement, or because of its execution or attempted execution or because of any breach hereof.

35. This Agreement shall be governed by and construed in accordance with the Laws of the State of New York.

36. This agreement shall be effective as of August 5, 2003.

37. If the foregoing meets with your approval, please indicate your acceptance by signing the original and the additional enclosed copy in the lower left-hand corner and returning them to the Authority.

Very truly yours,

THE PORT AUTHORITY OF
NEW YORK AND NEW JERSEY

Francis J. Lombardi, P.E.
Chief Engineer

Date: 10/10/03

ACCEPTED:
Downtown Design Partnership, a Joint Venture of DMJM+HARRIS, Inc. and STV Incorporated

DMJM+HARRIS, Inc.

By: _____

Title: EXECUTIVE VICE PRESIDENT

Date: 10/10/03

STV Incorporated

By: _____

Title: CEO

Date: 10/10/03

ATTACHMENT A

PERFORMANCE OF EXPERT PROFESSIONAL ARCHITECTURAL AND ENGINEERING SERVICES FOR THE PERMANENT WORLD TRADE CENTER PATH TERMINAL ON A TASK ORDER BASIS

I. INTRODUCTION

The services of the Consultant shall consist of assisting The Port Authority of New York and New Jersey (the Authority) in the performance of Preliminary Engineering, Final Design, and post award services, for the design and construction of the Permanent World Trade Center PATH Terminal (Terminal). The initial authorization for the performance of services under this Agreement will be limited to the performance of the Preliminary Engineering phase as described in Section IV, Tasks A-D. Additional authorization(s) for performance of the subsequent tasks in the Final Design phase will be provided on a "task order" basis as determined by the Authority, and are not guaranteed. This project is subject to receipt of funding to be provided through the Federal Transit Administration (FTA), and environmental review pursuant to the National Environmental Policy Act (NEPA).

When operating, PATH provides the primary transit link to Lower Manhattan from New Jersey; serving local markets in Hudson and Essex counties and providing a key link for New Jersey Transit rail commuters on routes at major transit hubs at Newark Penn Station and Hoboken Terminal. Prior to September 11, 2001, over 67,000 PATH riders boarded PATH at the World Trade Center (WTC) station each day. The facility was operating at capacity during peak rush hours. Although the temporary WTC PATH station (currently under construction) will allow restoration of PATH service to Lower Manhattan in November 2003, it will not fully restore all of the facilities and capacities that previously existed at the World Trade Center.

The Authority has identified over $2 billion in transportation recovery projects at the WTC to restore and enhance mass transit services to and from Lower Manhattan, and to provide for other transportation functions. In particular, the Permanent WTC PATH Terminal project is needed to re-establish and enhance transportation facilities and infrastructure that existed at the WTC complex prior to September 11, 2001. The project will greatly contribute to the recovery of Lower Manhattan by meeting the transportation needs of commuters, residents, and visitors to the proposed WTC Memorial.

As part of the immediate recovery of Lower Manhattan, a temporary PATH station at the World Trade Center (WTC) site has been designed and is now being constructed. The temporary WTC PATH station project is a stand-alone transit facility, that was designed only to provide the most basic services. The Permanent WTC PATH Terminal project is proposed to be a fully developed, regional transportation hub that will be coordinated with existing and future transportation infrastructure, WTC site development, and development of the surrounding area.

The Permanent WTC PATH Terminal will be a world-class transportation facility. The Terminal will be fully climate controlled and feature sufficient openness to provide passengers with a sense of security as well as clear visual orientation to both interior and exterior building functions. The Terminal facilities shall incorporate sustainable architectural

design, introduce natural light where possible, conform to Americans with Disabilities Act (ADA) requirements, and ensure safety and security as required by code, and engineering analysis.

Prior to September 11, 2001, more than 150,000 pedestrians traveled through the World Trade Center complex each day, including over 100,000 daily PATH and subway riders. The future WTC PATH Terminal will act as a gateway to Lower Manhattan potentially for as many as 250,000 pedestrians daily (upon full build-out of WTC site). The Terminal will include subgrade pedestrian connections that will connect the PATH lines with the New York City Transit (NYCT) subway system, surrounding site development, and other transit facilities. These connections would extend from the WTC site into the World Financial Center (WFC) Winter Garden on the west; the planned MTA/NYCT Fulton Street Transit Center on the east; 7 World Trade Center and Tribeca to the north; and Wall Street and the Financial District on the south.

World Trade Center Site Master Plan:

On February 27, 2003 the "Memory Foundations" concept by Studio Daniel Libeskind was announced by Governor George E. Pataki, Mayor Michael Bloomberg, the Lower Manhattan Development Corporation (LMDC), and the Authority as the draft master plan concept for redevelopment of the WTC site. This Master Plan is now being refined and finalized by Studio Daniel Libeskind (SDL) in conjunction with the Authority, LMDC, and other public and private entities to establish parameters for future development of transportation, memorial and cultural facilities, public spaces, infrastructure, and commercial development at the site. The WTC PATH Terminal is a primary component of the Master Plan and would establish a grand point of arrival for the WTC site for daily commuters, workers, and local residents, as well as visitors to the memorial and cultural facilities.

Consistent with the overall WTC Site Master Plan, there is anticipated to be Architectural Design Guidelines for the Permanent WTC PATH Terminal that would be developed by SDL. The specific Architectural Design Guidelines will provide a framework for the Consultant to perform a complete preliminary design of the Terminal during the Preliminary Engineering phase. The Consultant shall be solely responsible for the complete architectural design (including all involved engineering disciplines) of specific components (as described in Section III, below) of the WTC PATH Terminal project. The Consultant's design will be reviewed by the Authority for compatibility with both the overall WTC Site Master Plan and the Architectural Design Guidelines for the Terminal (which are expected to be substantially complete within a few months from the start of the Consultant's work).

II. PROJECT SCOPE OVERVIEW

The project scope of the Permanent WTC PATH Terminal, approximately 650,000 SF, shall incorporate the components broadly outlined below. Please also refer to the attached diagrams that depict the areas of the Consultant's responsibility. The Consultant shall be responsible for the architectural and engineering design of certain project components, and shall collaborate with Authority staff performing the design for other project components of the Terminal. Roles and responsibilities with respect to the design of the Terminal are described in Section III below.

The Terminal project includes the following physical components:

- Site Preparation and Site Stabilization
- PATH Facilities (tracks, platforms, mezzanine)
- PATH Terminal Building (Transit Hall)
- North/South Pedestrian Connections (including Liberty Park Underpass)
- East/West Pedestrian Connections (including World Financial Center Underpass)

The project also includes the following major specialty areas that would be integrated throughout the Terminal:

- Security
- Sustainable Design
- Vertical Transportation and Conveyances
- Public Wayfinding Systems

A. Permanent WTC Site Stabilization and Site Preparation

The damage resulting from the destruction of the World Trade Center requires significant repair and stabilization to ensure the permanent structural integrity of the Terminal foundations. Site preparation work also needs to be performed to provide for efficient reconstruction of the major components of the WTC complex, including the Permanent WTC PATH Terminal. Work includes repairs and permanent reinforcement of the slurry wall that surrounds the WTC site (WTC "bathtub") including structural slabs to provide lateral bracing under a plan to be developed by the Authority, demolition of remaining damaged structures, underpinning of the NYCT 1/9 and N/R subway tunnels for pedestrian connections, new site foundations, and related excavation on the WTC site (particularly the area east of the NYCT 1/9 subway).

B. PATH Tracks and Platforms

The PATH tracks, platforms, and mezzanine levels would all be located within the WTC "bathtub" as they were prior to September 11, 2001. At platform level, work includes full restoration of three station platforms to accommodate 10-car PATH trains (the current temporary platforms accommodate 8-car trains), and adding a fourth platform and possibly another (sixth) track that would enable passengers to enter and leave PATH cars from both sides. The project also includes installation of permanent escalators, elevators and stairs. In addition, the wooden tie and ballast track system leading to the platforms would be replaced with a direct fixation, concrete track bed.

C. PATH Mezzanine Level

The mezzanine/fare zone level would be expanded to allow for multiple points of entry/exit from platform level, including construction of a two-story mezzanine with east and west fare zones, additional turnstiles and expansion of operational spaces and Authority police facilities. This will include installation of heating and air conditioning systems and vertical circulation components (escalators and elevators). These facilities would provide all-weather protection and facilitate circulation for PATH riders, restoring functions that existed prior to September 11, 2001. New fare collection equipment utilizing the latest technology would also be installed.

D. PATH Terminal Building (Transit Hall)

This component is defined by the creation of a multi-level transit hall (above and below grade), approximately 28,000 SF footprint, including highly visible connections to all mass transit services and streets, which would enable passengers to connect quickly and easily to subway, bus and PATH services, similar to transit functions provided at Grand Central Terminal in midtown Manhattan. The PATH Terminal Building would incorporate direct entrances to the PATH lines, as well as the NYCT IRT 1/9, BMT N/R, and IND E subway lines, and would accommodate pedestrian connections extending in all directions to connect with the rest of the WTC site development and adjacent streets. The PATH Terminal will be configured in such a way as to not preclude potential future transit facilities and connections on or immediately adjacent to the WTC site.

E. Pedestrian Connections

The pedestrian connections, approximately 170,000 SF, are a system of underground public circulation spaces connecting the WTC site development with PATH, the NYCT transit system, the World Financial Center Winter Garden, and various street access points around the perimeter of the site. The connections would be environmentally controlled spaces that would introduce natural light where possible. Pedestrian access through the space will be accommodated by multiple locations of vertical circulation including high performance escalators, moving walkways, and glass elevators where possible.

a. North/South Pedestrian Connections

Conceptually, these include circulation corridors located east of the NYCT 1/9, extending north from the Terminal Building to provide access to the NYCT E subway line, and to Church Street (at the corner of Vesey Street). Other north-south pedestrian circulation corridors would be located west of the NYCT 1/9, extending north from the east-west corridor in the area of the World Trade Center bathtub to provide access to future World Trade Center site development, 7 World Trade Center, and Vesey Street. A Liberty Park underpass would extend south from the PATH Terminal Building to provide access to the NYCT N/R subway lines and a southeastern link under Church Street to connect with Liberty Park.

b. East/West Pedestrian Connections

Conceptually, these would include circulation corridors extending from the PATH Terminal Building west to the World Financial Center's Winter Garden. This fare-free concourse would be developed as a major public transportation space and provide access to World Trade Center site development. The eastern portion of this connection would provide direct access to PATH lines, the planned NYCT Fulton Street Transit Center (incorporating the NYCT 2/3, 4/5, A/C and J/M/Z subway lines), as well as potential future mass transit lines. The western portion of this connection would extend to the future World Trade Center memorial, and West Street. An underpass would extend below West Street to connect with the World Financial Center (WFC) and Winter Garden, and improve access to the expanded World Financial Center Ferry Terminal being constructed by the Port Authority. The potential location of this World Financial Center underpass would not preclude a future depressed configuration for West Street.

F. Street Entries

The Terminal would provide various street entrances on Church, Greenwich, Vesey, and Liberty Streets. These entrances are either contained within the building base or are free standing as kiosks in exterior public spaces. Each entrance connects the Terminal with the neighborhoods in and around Lower Manhattan.

G. Specialty Areas

a. Security

A security strategy, and physical components required to implement that strategy are to be integrated throughout the project design, in interior and exterior public areas and operational spaces, to provide appropriate levels of protection against various threat scenarios. Mitigation measures may include blast protection using protective construction, CCTV systems, physical intrusion protection, and chemical, biological, and radiological security.

Note: Due to the sensitive nature of this particular analysis, documents produced including all back-up calculations, data, and other materials may be subject to confidentiality restrictions and produced as separate packages.

b. Sustainable Design

Principles of Sustainable Design are to be integrated for the entire scope of work for all project components and shall be incorporated with related construction stage services and through building commissioning. Sustainable design scope shall conform to Sustainable Guidelines, to be established by the Authority and shall include, but may not be limited to the following:

- Energy efficient systems
- Indoor Environmental Quality
- Operations and Maintenance Considerations
- Material and Resource Conservation (including construction)
- Water Conservation

c. Vertical Transportation and Conveyance Systems

As the vertical circulation and conveyance systems are critical to the successful functioning of the Terminal and pedestrian connections, the elements selected to comprise these systems must be heavy duty, reliable, maintainable, and not negatively impact passenger security within the station.

d. Public Wayfinding Systems

A wayfinding and information program, that is intelligent, continuous, and dynamic as well as static, will be developed to direct passengers to a variety of destinations. Emerging technology will be utilized to incorporate this wayfinding system, with multi-media displays of transit information, news and advertising.

In order to advance the design process, the Authority will make available to the Consultant, previous planning studies of these project components. These studies, including technical analyses, address conceptual designs and issues related to the project components and specialty areas discussed above.

In tandem with these studies, the Consultant will be provided information from other WTC site planning efforts currently under way that have identified common site utility infrastructure needed to support the transportation facilities, as well as the overall future WTC site redevelopment program, including commercial office and retail development, open public space and a significant WTC Memorial. These studies, analyses, and reports will be in addition to the WTC Site Master Plan and the specific Architectural Design Guidelines for the WTC PATH Terminal previously described.

III. PROJECT DESIGN RESPONSIBILITIES

To produce the design of the project components and specialty areas described in Section II in an expeditious and timely manner, it is anticipated that the Consultant shall provide design services for the Permanent WTC PATH Terminal in collaboration with the Authority's (in-house) design staff. As previously indicated, all design work shall be consistent with the WTC Site Master Plan and the Architectural Design Guidelines for the WTC PATH Terminal (that are expected to be substantially complete within a few months from the start of the Consultant's work). The following describes the respective roles and responsibilities of major groups involved in design management and coordination, and design preparation of the Permanent WTC PATH Terminal project. Please also refer to the attached Organization Structure chart, included herewith and made a part hereof.

A. The Authority's Priority Capital Programs Department

The Director, Priority Capital Programs (PCP) and PCP staff are responsible for overall implementation of the Permanent WTC PATH Terminal program, as part of an overall Downtown Restoration Program. PCP staff are involved in establishing and controlling the project scope, schedules, and budgets; as well as interfacing with all internal (Authority and PATH) staff and external entities (including the FTA, LMDC, WTC net lessees, MTA/NYCT and other public and private entities) to guide and advance the design and construction in relation to operational, financial, legal, business and other public objectives of the program.

B. WTC Site Master Plan Architect

Studio Daniel Libeskind (SDL) will be the Master Plan Architect responsible for preparation of the final WTC Site Master Plan, and is expected to have an ongoing review and oversight role. SDL shall function as the coordinating entity for WTC site plan elements, providing input and guidance to the various public and private entities responsible for the implementation of specific components, including the transportation, memorial, cultural, commercial development programs. Consistent with the overall WTC Site Master Plan, there is anticipated to be specific Architectural Design Guidelines for the Permanent WTC PATH Terminal that would be developed by SDL, to establish the framework for the architectural and engineering design work by the Consultant and others.

C. The Authority's Engineering Department - Program Management Division

The Engineering Program Manager (EPM) and his staff will be responsible for the overall management and coordination of all project design activities of the Consultant and in-house Engineering Department design staff. The EPM staff will insure the

coordination and collaboration of work amongst all Consultant and in-house design staff, during the performance of their respective design roles and responsibilities. The EPM staff will also provide coordination with the WTC Master Plan Architect through the Priority Capital Programs Department.

D. The Authority's Engineering Department - Design Staff

The Authority's Engineering Department will perform, with its in-house design staff, the Preliminary Engineering and Final Design for PATH facilities (platforms, mezzanine, tracks), including interfaces with other WTC site and surrounding area development. Said staff will also perform the Preliminary Engineering and Final Design for WTC site stabilization and site preparation, work within the existing WTC bathtub including diaphragm (slurry) slabs, tie back wall supports, and any excavation and demolition.

E. Architecture & Engineering Consultant

The Consultant shall perform the Preliminary Engineering, and (only upon additional authorization from the Authority) the Final Design of the WTC PATH Terminal Building and most of the pedestrian connections. The Consultant's work shall include (but is not be limited to) all of the architecture and engineering design disciplines listed in Section IV. Architectural design for these WTC PATH Terminal components would be the responsibility of the Consultant's lead architectural consultant. It is required that the Consultant's Mechanical Electrical Plumbing (MEP) services shall be provided by a single entity.

The Consultant's general project responsibilities shall also include (but may not be limited to) development of a Basis of Design Report, Preliminary Engineering documents, and (if further authorized by the Authority) the Final Design and contract documents, all including meeting participation, cost estimating, report preparation, preparation of drawings and specifications, construction schedule and construction cost estimates, post award services, as well as related briefings, reviews, and presentations.

F. Major Design Responsibilities of the Consultant

As indicated above, the Consultant shall provide significant design services for the WTC PATH Terminal Building and most of the pedestrian connections, which are primarily located to the east of the existing WTC bathtub and NYCT 1/9 subway structure, and would include underpinning of that subway line as a major project element. The following highlights major design activities to be performed by the Consultant, that are more fully detailed in Section IV:

1. Architectural

   a. Design of new transportation facilities that meet intent of the WTC Site Master Plan framework and adherence to Architectural Design Guidelines for the WTC PATH Terminal (to be prepared by others).

   b. Prepare an overall code analysis for the WTC PATH Terminal

   c. Ongoing coordination with other elements of the WTC Site Master Plan, including memorial and commercial development

   d. Develop and incorporate design criteria for all specialty areas listed in Section II,

B, above.

e. Analyze project implementation issues relative to staging and schedule.

2. Structural/Civil/Geotechnical Engineering

   a. Accommodate security criteria (to be provided to the Consultant by the Authority) throughout the structural design

   b. Design for any permanent lateral support for diaphragm walls as required to implement the Terminal project.

   c. Develop design methodologies for tunneling/underpinning under Church St., Vesey St., and the IRT 1/9 subway consistent with the WTC Site Master Plan and Architectural Design Guidelines.

   d. Perform subsurface investigations for new structures and present findings.

   e. Provide analysis and design necessary for all existing structures (e.g., the temporary WTC PATH Station, NYCT 1/9 subway tunnel), as affected by each of the anticipated stages of construction of the terminal. Perform staging and sequencing design to minimize disruption of service to active PATH and MTA facilities as well as local adjacent streets and utilities.

3. Pedestrian Traffic Engineering

   a. Analyze flows and their relation to corridor widths and access points

   b. Verify number and size and evaluate location of vertical circulation elements

   c. Identify areas requiring maintenance of traffic and protection of pedestrians in and around the transit facilities, such as protective enclosures, detours and diversions, or other special devices

   d. Develop computer based pedestrian models demonstrating and evaluating the operation of proposed facility designs.

   e. Determine application and design of security treatments for high volume pedestrian flow and congregating areas including perimeter barriers, access, control and patron screening.

4. Mechanical/Electrical/Plumbing

   a. Prepare computational fluid dynamics (CFD) and other modeling including emergency ventilation and smoke control for PATH facilities, including the PATH projections (subgrade portals under West Street)

   b. Design HVAC systems, building management control systems, storm water management systems, ventilation systems, and domestic water systems.

   c. Provide design for electrical power systems and electronic systems, including fire protection and SCADA, emergency backup for life safety systems, and tertiary power sources

   d. Coordinate with other WTC Site development to establish how all WTC site utility systems would tap into originating sources based on a plan to be developed.

5. Vertical Circulation and Conveyances

Recommend and prepare designs for APTA escalators, ADA elevators, and moving walkways.

6. Communications

   a. Recommend and prepare designs of systems for CCTV, radios, access controls, fire alarm systems, public address systems, and vertical circulation controls

   b. Evaluate how all systems would interface with the central PATH HOBAN control center (in Jersey City).

7. Construction Cost Estimates and Schedules

   a. Prepare construction cost estimates at 15%, 30%, 60% and 90% of completion the total design.

   b. Prepare construction schedules including staging, and phasing impacts, at 15%, 30%, 60%, and 90% of completion of the total design, as well as final contract documents. Identification of elements that need to be coordinated with other public and private entities in the overall WTC site redevelopment.

   c. Reconcile cost estimates with other cost estimates to be developed (independently) by others

8. Sustainable Design

   a. Complete studies for certain sustainable design elements such as water conservation, energy, and resource renewal methodologies

   b. Preparation of certain life cycle and cost/benefit analysis as part of sustainable design studies in Preliminary Engineering

   c. Incorporate sustainable design recommendations throughout the project design as appropriate

H. Other Consultant Design Responsibilities

The Consultant shall also participate in a collaborative design effort with Authority Engineering Department (in-house) design staff during Preliminary Engineering, and (if authorized by the Authority) the Final Design stages on all program components identified for development by in-house staff. The project components to be designed in-house are anticipated to include the PATH mezzanine and platforms, all PATH related track work and signal systems, and structural design for any new aspects of slurry wall foundations, as well as repairs and rehabilitation of the existing WTC bathtub slurry walls.

IV. DESCRIPTION OF CONSULTANT'S TASKS

Upon authorization from the Authority to proceed with the performance of services hereunder the Consultant shall submit a schedule (subject to the approval of the Authority) for performance of services consistent with the milestones contained in Section V, below. Said schedule shall identify all required meetings and submissions.

TASK A. MEETINGS

1. Meetings will typically take place at Port Authority offices. The Authority's Downtown

Restoration Program offices are currently located at 115 Broadway, NY, NY. Other primary Port Authority office locations are located at 3 Gateway Center, Newark, NJ, as well as 225 Park Avenue South, NY, NY.

2. Consultant shall schedule and attend quarterly performance meetings with the Authority and parties associated with the project and principal of Professional Firm to review performance, discuss staffing of Project and plans for the upcoming quarter. Prepare a summary record of each meeting and initiate and implement any required follow-up action.

3. Schedule and attend an orientation meeting at the beginning of the Preliminary Engineering Phase and the Final Design Phase with the Authority and all Key Personnel and other feasible personnel of the Consultant and the Consultant's Subconsultants who will be working on the Project in such phase, to assure complete understanding of the goals, schedules, and objectives.

4. Attend bi-weekly meetings throughout the Preliminary Engineering Phase and the Final Design (Construction Documents) Phase, which will include design progress review, discussions, conferences, or presentations requested or required to complete design work. Prepare agendas for all the meetings, and submit to the Authority two working days in advance of the meetings.

5. Attend all required meetings, discussions, conferences, or presentations, such as internal Authority meetings, meetings with state or city authorities, community representatives, or others requested or required to complete the work.

6. Submit brief minutes to the Authority of all meetings (both formal and informal) held during the Preliminary Engineering and Final Design Phases within three business days of the meeting. Minutes will be accepted upon review, discussion and Port Authority approval at the subsequent meeting.

7. Attend weekly Construction Phase meetings, as well as other Construction Phase meetings if authorized for Task E.

TASK B. FIELD VERIFICATION AND SURVEY

1. Conduct a field inspection and survey of the World Trade Center site and associated project areas.

2. Verify existing field conditions including taking all appropriate field measurements of existing surfaces and topographical survey information of the site and nearby adjacent area as appropriate.

3. Prior to inspection meet with Authority staff to review Authority data relevant to the inspection.

4. Provide all equipment including rigging, scaffolds and ladders as required to inspect the structure and to maintain traffic under and over the structure. Staging of inspection work may be required.

5. Submit copies of completed field findings on inspection reporting forms (which will be provided by the Consultant and approved by the Port Authority) and meet with Authority staff to discuss those findings.

6. Conduct a field inspection and/or layout test pits as necessary to verify and identify utility location and alignment.

TASK C. BASIS OF DESIGN REPORT

The Consultant shall prepare a Basis of Design Report (BDR) to be reviewed and approved by the Authority, consistent with the Architectural Design Guidelines for the WTC PATH Terminal. The BDR should establish the scope, relationships, forms, size and appearance of the project through Preliminary Engineering submittals, and indicate the coordinated development of the project across all professional disciplines.

1. The Consultant shall review the WTC Site Master Plan and the Architectural Design Guidelines for the WTC PATH Terminal (expected to be substantially complete within a few months from the start of the Consultant's work).
2. The Consultant shall prepare a Basis of Design Report for all disciplines that shall include but may not be limited to Design Criteria, Code Analysis (see the following item 3), Program Requirements for project components, a summary of scope of work, design and construction schedule(s), list of issues requiring resolution (decisions required to advance design progress), graphics depicting key scope elements or issues, executive summary and identified alternates for analysis. Upon approval of the Basis of Design Report, the Consultant may be directed to proceed with performance of Preliminary Engineering (Task C). Applicable codes and standards shall include, but are not limited to those contained in section IV, C, below.
3. Consultant shall prepare a detailed code analysis report (as a separate component of the Basis of Design Report) to include a NFPA 130 Analysis and NYC Building Code Analysis for the program. The report shall include all life safety requirements, evaluations, calculations, construction classifications, use groups, and engineered analyses required for special conditions.

TASK D. PRELIMINARY ENGINEERING DOCUMENTS
Authority Stage II Design

The Preliminary Engineering documents to be prepared by the Consultant based upon the approved Basis For Design Report shall include, but are not limited to: drawings, technical evaluations, calculations, construction cost estimates, and construction schedules, and presentation materials for approval by the Authority. A complete Preliminary Engineering document package shall include design development of all architectural and engineering disciplines components up to a 30% level of total design completion (which is inclusive of both the Preliminary Engineering and Final Design phases). This task shall also include the following:

1. General Requirements
   a. In developing the design, the Consultant shall consider availability of materials, equipment and labor, construction sequencing and scheduling, economic analysis of construction and operations, maintenance requirements and energy conservation. The Consultants design shall comply with all Authority requirements. In the case of a conflict the more stringent requirement shall apply. All drawings shall be prepared at a final working scale (to be determined and approved by the Authority) and shall be sufficiently detailed to explain all decisions that have been made for the project. The

Consultant shall coordinate the work of all involved disciplines and shall be responsible for the resolution of any discrepancies as approved by the Authority.

b. The Consultant shall present the Preliminary Engineering Package to Authority staff and others as required by the Authority.

c. The Preliminary Engineering submittal shall include but may not be limited to drawings, outline specifications, three-dimensional sketches, 3D CADD renderings, sample boards with material selections for approval, scope, alternates, add/alternates and options, models, animations, calculations and reports.

d. Drawings: Coordinated design development drawings at a working scale sufficiently detailed to explain the design intent. Detailing shall be sufficient to allow an accurate cost estimate to be made. Major equipment not in scope (for clearances, space requirements, power requirements, etc.) should be depicted for coordination purposes.

e. The following items shall be shown on the Preliminary Engineering drawings for all disciplines:

- Major demolition and removals
- Hazardous material removals
- Major construction partitioning or protection
- General phasing and sequencing of installations

f. The Preliminary Engineering documents shall be submitted for Authority review at 50% and 100% levels of development for this Phase (or 15% and 30% of total design completion).

2. Site Utilities / Infrastructure

a. Layout of all site electrical power, storm and sanitary systems including existing and proposed utility locations and intended storm and wastewater disposal points.

b. Include types and one-line schematic distribution diagrams and locations of all underground utilities (including capacity and condition of existing utilities) and a statement of adequacy of same.

c. Combined site and/or utility plans shall also show all related site elements such as vaults, curbs, steps, grating and associated site drainage with proposed levels and elevations, existing and proposed surface treatments.

3. Architectural

a. Detailed building plans for every level (including roof), to include the following:

- Location of major or typical new penetrations
- Partition configurations and types
- Alterations required for accessibility
- All aspects of fire safety and fire protection configuration
- Location of rated partitions
- Compartmentation
- Separations
- Egress routes, occupancy calculations

- Reconfigurations and improvements

b. Space allocation plans for every level of the project

c. Reflected ceiling plans for Public Spaces, Typical Floors and Special Areas including typical locations for all ceiling items: lighting, soffits, detectors, sprinkler heads, speakers, diffusers, ceiling material patterns and any other ceiling element

d. Large Scale Floor Plans indicating:

- Building cores elements such as: Stairs, Toilet Rooms, Elevators, MEP Spaces, Shafts, Janitors' Closets, Typical Exterior Wall
- Special Use Spaces such as Police Areas, Retail
- Public Spaces such as Lobbies, Escalator, Elevators, Moving Walkways locations and framing

e. Building Section(s) indicating:

- Large Scale Sections, including ceiling conditions and floor cell
- Exterior Wall
- Typical Conditions
- Non-Typical Conditions
- Stair Shafts
- Elevator Hoistways
- Loading Dock
- Vertical Transportation Diagram
- Exterior Building Elevations (Direct View)
- Large Scale Exterior Building Elevations

f. Exterior Wall drawings indicating Typical, Grade-Level, Entrances, Special Ornamental Elements

g. Large Scale Interior Elevations including

- Public Spaces
- Toilet Rooms
- Elevator Cabs
- Special Areas
- Atrium
- Other

h. Preliminary hardware plans

i. Materials - Provide a preliminary finish schedule and preliminary color and materials selection boards for all interior and exterior of public spaces and building interiors and exteriors. Provide finish specifications and samples.

j. Models/Presentation Materials as approved by the Authority

- All presentation material shall be of scale and quality sufficient for significant public presentations.
- Color elevations or other representations of significant spaces shall be provided.

- Graphic presentation (drawings and renderings) material shall be in electronic formats for use in various programs such as PowerPoint and other print media.
- 3D animations shall be required for significant project components such as the PATH Terminal Building.
- Architectural Presentation Models shall be required for public display and shall be constructed at architectural scales no less than 1/8"=1'0 minimum for project details and 1/32" min for site models.

4. Landscape (Interior)

   a. Floor plan(s), sections and elevations of landscape and hardscape concepts, with typical planting layouts and details, preliminary layouts of irrigation systems

   b. Outline specifications for planting and maintenance agreements

   c. Catalogue cuts and typical details for furniture and other accessories located within the public areas

5. Graphics/Wayfinding/Signage

   a. Develop preliminary design standards manual and signage specifications for typical signage, such as room signage (e.g. number, name, function, application) egress signage (exit signs, egress information signs, painting, arrows, lines, colors, application), code compliance information signage (fire code signs, stair numbering, no smoking, occupancy limits), way-finding directional signage and informational signs, both permanent and temporary based upon standards furnished by the Authority.

   b. Develop a Wayfinding system for public Wayfinding signage and graphic specification controls manual and specification for review and approval by the Authority. Provide preliminary message schedule and signage layout indicating typical sign sizes and messages.

6. Sustainable Design and Analysis

   The planning and design of buildings, equipment, systems, and services shall conform to current Authority and emerging resource efficiency and sustainability guidelines identified in the Basis of Design Report. The design shall demonstrate responsible environmental behavior that will promote 'green buildings'. The WTC PATH Terminal should seek to obtain a LEED certification award. The Consultant shall provide a detailed report identifying design and construction elements that are included and the point rating to receive a LEED award.

   a. Energy Efficiency

      (1) Apply energy efficient design strategies to the building envelope. Optimize the design of the building envelope through a systematic evaluation of options to find the best combination of strategies that will cost effectively improve performance.

      (2) Evaluate building loads and determine building's most significant energy requirements.

      (3) Perform energy simulation modeling such as DOE 2.1. Develop a 'base case'

building that represents energy code minimum design against which design options for energy conservation are measured.

(4) Study Daylighting opportunities as well as lighting and controls provisions.

b. Indoor Environmental Quality Considerations

(1) Identify methods and systems to improve air quality, interior lighting and thermal comfort in public spaces and operational paces. Identify ways to utilize maximum outdoor air and eliminate unhealthy emissions from building materials.

(2) Study ways to reduce noise and vibration during facility operation and construction and propose appropriate mitigation measures.

c. Material and Resource Conservation

Recommend 'green building' materials that are made from recycled or renewable resources, are themselves recyclable, and that have been manufactured in a manner that is least damaging to the environment. Materials should be consistent with EPA procurement guidelines and have low energy consumption

d. Water Conservation

(1) The Consultant shall investigate emerging technologies and equipment and systems design that further promote sustainable buildings and can further reduce resource consumption, waste and impact on the environment. The Consultant shall recommend Sustainable Design options and provide analysis, design modeling and reports as directed by the Authority

(2) Investigate ways to re-use storm water runoff and use of gray water

e. Operations and Maintenance

(1) Analyze and recommend building management control systems including systems for commissioning and certification

(2) Prepare LEED Certification Checklist with required documentation materials, including LEED application and tracking of progress throughout design and construction

(3) Prepare cost/benefit analysis and life cycle cost analysis of certain elements and systems proposed for implementation.

7. Geotechnical

a. Presentation of subsurface conditions

b. Compilation of engineering properties

c. Geotechnical design criteria

d. Geotechnical staging plans

e. Instrumentation and monitoring requirements

8. Structural

a. Basic structural system and dimensions

b. Final structural design criteria

c. Foundation design criteria

d. Preliminary sizing of major structural components

e. Drawings indicating staging of the construction, coordinated with the cost estimate.

f. Staging drawings shall clearly indicate the assumed progress of construction, as well as necessary outages and service interruptions of transportation facilities, site operations, and local utilities.

g. Critical coordination clearances

h. Foundation Plan

i. Foundation and Basement Wall Sections and Details

j. Typical Below-Grade Plan

k. Ground Level Plan

l. Typical Floor Plans

m. Roof Plan

n. Preliminary Column and Beam Schedules

o. Typical and Special Details

p. Typical and Special Sections

q. Preliminary framing layouts for new openings, new elements or repairs, showing main member sizes, roof loads, floor loads, wind loads, soil bearing capacity, pile capacity and plans; grades of structural steel; strength of concrete, slab thickness

r. Preliminary design for all repairs, and enhancements to structure or joints

9. Civil

a. Drawings shall depict at a minimum the following information:

(1) Base drawings shall include but not be limited to existing surface features, topography, utility information, underground building structures, tunnels and subways based on given Horizontal and Vertical Control Datums and in accordance with latest Authority CAD standards.

(2) All utility conflicts/impacts and subsequent design modification/relocation of such, including, but not limited to, storm, sanitary, sub drainage, gas, water, river water intakes, electrical, telephone, and fiber optics.

(3) Locations of tie ins and accommodation for future utility work.

(4) Bypass and/or staging plans of utility relocations so as not to disrupt utility service.

(5) Staging plans and sequence of construction to minimize disruption to West, Vesey, Church and Liberty Streets vehicular and pedestrian traffic as, well as, other adjacent streets.

(6) General site work including, grading, drainage, roadway and sidewalk paving, bus parking and entry & egress ramps.

(7) Study methodologies for underpinning the IRT 1/9 and study impacts on subway operations

b. In addition, Consultant shall:

(1) Coordinate utility modifications/relocations with appropriate New York City & New York State Agencies, (i.e. NYSDOT, NYCDOT, NYCDEP, NYCT) and private Utility Companies/Owners (i.e. Consolidated Edison, Verizon, Keyspan)

(2) Prepare applications and associated drawings, sketches and calculations required for such on behalf of the Authority for applicable permits from New York City and New York State Agencies.

10. Traffic:

a. Design documents of proposed pedestrian facilities including the sizing and capacity analyses

b. Design plans for Terminal Entry Building vertical circulation and wayfinding elements

c. Design plans showing security applications for high pedestrian volume areas including perimeter barriers, access control and patron check alcove.

d. Design plans showing maintenance and protection of traffic schemes with street and sidewalk closures, detours, diversions and special devices illustrated.

11. Mechanical/Electrical/Plumbing

a. General Components

(1) Systems process and instrument diagrams

(2) Service capacities and connected load calculations

(3) Fire safety assessments, hydraulic calculations for sprinkler and dry gas systems

(4) Typical floor plans and sections

(5) Major equipment room layouts, elevations and details

(6) One-line diagrams

(7) Control and block diagrams

(8) Riser diagrams

(9) Calculations, equipment sizing, efficiencies and selections

(10) Equipment schedules

(11) Electrical closets and cables management system

(12) Heating, Cooling, Ventilation and Energy Load consumption calculations

(13) System failure analysis and service and equipment back-ups for life safety and mission-critical functions

(14) Redundancy

(15) Power, water, heating and cooling requirements and systems

(16) Major distribution routes

(17) Phasing and installation sequences

(18) Measurement and verification provisions

(19) Metering system

(20) Grounding

(21) Provide electrical engineering design for electrical/electronics and related trades required to support the entire project, including normal and emergency power, grounding, normal and emergency lighting, exit lighting and signs, and fire alarm system

b. For each MEP service provide schematic one line diagrammatic flow riser distribution diagram(s) from the point of connection.

(1) Refrigeration Plant

(2) River Water Plant Rehabilitation

(3) Heating Plant

(4) River Water Distribution

(5) Chilled Water Distribution

(6) Hot Water Distribution

(7) Pumping systems

(8) Air Plants (Fans)

(9) HVAC Fit Out for all spaces

(10) Smoke Purge System

(11) HVAC for electric spaces and elevator machine rooms

(12) Smoke Control / Emergency Ventilation Systems

(13) Fuel oil

(14) Compressed Air

(15) Gas

(16) Power distribution system

(17) Emergency generators plant(s)

(18) UPS system(s)

(19) Fire Alarm system

(20) Normal and emergency lighting

c. HVAC plans shall depict at a minimum:

(1) Incoming steam, water, river water services and distribution

(2) Major equipment, such as chillers, fans, pumps, compressors, fan-coil units, heating and cooling coils, heat exchangers, cooling tower, etc., sizes and locations

(3) Summer and winter outdoor/indoor design conditions

(4) Process and instrument diagrams along with distribution systems shown diagrammatically with appropriate sizes, and energy efficiency considerations

(5) Typical Below-Grade Plans

(6) Typical Floor Plans

(7) Major Equipment Room Plans

(8) Exhaust and Intake Penetration Locations

(9) Riser Diagrams

(10) System Schematic Diagrams

(11) Major Equipment Schedules

(12) Ventilation rates and energy use considerations

(13) Measurements, verifications and systems balancing diagrams

(14) Controls System Architecture for all systems

(15) Determine technology and procurement approach for a multi use facility built in phases.

(16) Riser Diagrams

(17) System Schematic Diagrams

(18) Major Equipment Schedules

(19) Ventilation rates and energy use considerations

(20) Measurements, verifications and systems balancing diagrams

d. Smoke Management

Prepare Computational Fluid Dynamics (CFD) and egress analysis models to determine technical approach and sizing of smoke control and emergency ventilation systems to be implemented for all major spaces (i.e., PATH Terminal Building and atriums). Prepare complete smoke control and emergency ventilation control sequence for all scenarios.

e. Plumbing Drawings depicting at a minimum:

(1) Incoming water, fire water, storm and sewer services

(2) Major equipment, such as tanks, pumps, heat exchangers, pressure regulating valves, etc., sizes and locations

(3) Process and instrument diagrams

(4) Piping layouts with major sizes shown

(5) Fixture locations

(6) Roof and roof drain locations

(7) Major equipment locations

(8) Layout of special systems including fire protection systems

(9) Redundancy provisions

(10) Typical Below-Grade Plans

(11) Typical Floor Plans

(12) Major Equipment Room Plans

(13) Riser Diagrams

(14) System Schematic Diagrams

(15) Major Equipment sizing calculations and schedules

(16) Measurements and verifications systems

f. Electrical Drawings and Fire Alarm Drawings depicting at a minimum:

(1) Major equipment, such as electrical vaults, switchgear, distribution panels, lighting panels, motors, MCC generators, UPS systems, battery systems, communication, control and security equipment, etc., including sizes, types and locations, etc.

(2) sizes and locations.

(3) Incoming services and distribution

(4) Electrical one-line diagrams

(5) Riser Diagrams

(6) Block Diagrams

(7) Control Diagrams

(8) Equipment locations, elevations and details as necessary.

(9) Plans for exterior building lighting

(10) Substations and communication rooms locations

(11) Transformer vaults and switchgear protection

(12) Metering System

(13) Grounding

(14) Energy conservation considerations

(15) Typical Below-Grade Plans

(16) Typical Floor Plans

(17) Power control and communication cables management plans, schedules and routes

(18) Receptacle and exit lighting layout

(19) Fire Alarm system layout, description and notes

(20) Major Equipment Room Plans

(21) SCADA system

(22) Back-up generators, transfer switches and distribution

(23) Power conditioning equipment, UPS and batter systems sizing and distribution

(24) Major Equipment Schedules and list of approved manufacturers

g. All MEP documents shall include but not limited to the following:

(1) Load studies and other necessary calculations.

(2) Recommended lighting levels

(3) One line diagrams for layouts (equipment, grounding, wiring/conduit)

(4) Fire Alarm risers including system description, layouts

(5) Lighting calculations, layouts

(6) Emergency power and lighting systems

(7) Exit lighting and signs.

(8) Layout and dimension of electrical and cable duct banks (power, telephone, communication and data)

(9) Conduit routing and necessary installation details

(10) Size and locations of electrical, communication and telephone rooms and closets

(11) Future and spare capacities

(12) All necessary elevations, views and details

h. Fire Protection

(1) Incoming fire water service and interconnection to domestic water service

(2) Process and instrument diagrams

(3) Fire water and sprinkler systems hydraulic calculations

(4) Typical Below-Grade Plans

(5) Typical Floor Plans

(6) Major Equipment Room Plans

(7) Riser Diagrams

(8) System Schematic Diagrams

(9) Major Equipment Schedules

(10) Typical Floor Sprinkler Layout Plan(s)

(11) Testing, measurement and verification systems

i. Communications

(1) Identify and design communications systems

- Telephone and wireless systems
- Public address systems
- CCTV system and access control systems
- Public Address System
- Electronic Signage systems
- Primary and Secondary Command and Control Centers

(2) Provide 1-line distribution diagrams from point of connection for all systems

(3) Provide documents indicating locations and sizes of communication closets, equipment rooms, and cable management system

(4) Provide major equipment room plans

(5) Provide Building Management System communication systems riser and block diagrams, layouts and specifications

(6) Provide Security systems riser and block diagrams, layouts and specifications

(7) Provide coordination with Fare Control system

j. Vertical Transportation and Conveyance Systems

Provide plans, sections and outline specifications, and model data for all vertical transportation systems including but not limited to passenger and freight elevators, escalators, and moving walkways.

k. Security

Note: Due to the sensitive nature of this particular analysis, documents produced including all back-up calculations, data, and other materials may be subject to confidentiality restrictions and produced as separate packages.

(1) During the Preliminary Engineering phase, the Consultant shall prepare security design standards and specifications as directed by the Authority, for all security-related building components as previously mentioned, based upon criteria to be approved by the Authority.

(2) The project standards shall be included in the Preliminary Engineering phase and fully integrated into the project design and coordinated with the work of project.

(3) Prepare a computer model for airflow for the entire complex to be used as an evacuation aid during fire, biological, or chemical threat evacuations. A detailed airflow model should study likely air intake paths and contamination risks and determine the combination of dampers/air intake isolations, that could lower the risk and the recommend paths for evacuation.

(4) Perform further blast analysis for specific areas, threats, or design alternatives. or other nearby targets, and to provide recommendation on the best way to provide blast mitigation for these buildings.

(5) Determine the inherent resistance of representative components of existing or proposed curtain wall assemblies, other exterior building envelope elements, or structures to ascertain if they are strong enough to withstand the predicted blast loads and what mitigating measures should be taken

(6) Deliverables:

- Design Standards Report including text, graphics and drawings for typical applications, with each design standard and specification explained and summarized, and exceptions or alternatives noted.
- Review and confirm proposed integration policy for security equipment and systems and building information and communication systems. Based on approved Scope Confirmation Report, incorporate revised integration policy into all design work and guidelines.
- Security Options: include Design Services and consultations with the host government, and representatives of the City and State of New York to identify options to further enhance security
- Prepare a computer model for airflow for the entire complex to be used as an evacuation aid during fire, chemical, or biological threat evacuations.
- Blast Analysis Report including a table of contents, an executive summary of findings and recommendations for blast mitigation. Photographs, drawings, charts and sketches shall be included as required. Report shall also include calculations of representative blast loadings on all buildings.

l. Outline Specifications

Provide a listing of all specification sections intended for the project, items requiring long lead-time, mock-up testing and materials that may be sole sourced.

m. Construction Estimates and Schedules

(1) Prepare a Construction Cost Estimate(s) based on Preliminary Engineering documents, which would include a design contingency of up to 15%.

(2) Estimates shall be prepared at program milestones indicated in Section V. At a minimum, estimates shall be prepared at 50% and 100% level of the completion of the Preliminary Engineering documents (equivalent to 15% and 30% of the total design completion).

(3) Provide estimates of time and schedules required to complete construction, as well as estimates of delivery times for all long lead-time items. Present the Construction Schedule in bar chart form using days, weeks or months as appropriate for the unit of time. Schedules shall be provided at 50% and 100% level of completion of the Preliminary Engineering documents (equivalent to 15% and 30% of the total design completion).

n. Other Miscellaneous Work

(1) At the end of Preliminary Engineering phase, the Consultant shall provide final Preliminary Engineering Documents that shall include but may not be limited to drawings, outline specifications, three-dimensional sketches, 3D CADD

renderings, sample boards with proposed materials, models, animations, calculations, reports, cost estimates, and construction schedules.

(2) Ongoing Design Reviews: The Consultant shall participate in ongoing design reviews with the Authority and other public and private entities. This is also expected to include Consultant's participation in periodic value planning, value engineering, and project risk assessment evaluations.

(3) Environmental Process Support. The Consultant shall be required to perform its work in accordance with the public environmental review (NEPA) process for the WTC PATH Terminal project. Specific work including presentation materials and analyses will be requested by the Authority to support the environmental process.

(4) Constructability Review: The project will be implemented in conjunction other WTC site development as well as PATH operations. The Consultant must perform constructability analyses of construction within this operating transit environment and make recommendations pertaining to construction feasibility on integrating transit operational requirements, regulator requirements, availability of specialized equipment (including work trains), available areas and available transit system down time. The Consultant must prepare construction phased program schedules that identify critical paths of individual projects and entire programs, sequence construction contracts and staging, and consider long lead materials and equipment.

(5) Project Implementation Strategy: The Consultant shall evaluate and recommend design and construction sequencing and contract packaging options to allow for fast-tracking of Final Design and construction to meet target schedule milestones outlined in Section VI.

(6) Related to other components of the WTC PATH Terminal project, the Consultant will be requested to provide certain expert professional services to support the Port Authority and Engineering Department in-house design staff in their assigned components of design work, including but not limited to, the following:

- Architectural lighting
- Computer rendering and animation
- Architectural model maker
- CAD Drafting
- Graphics
- Security
- Sustainable design
- Cost Estimating
- Acoustical
- Building envelope consultant
- Retail consultant
- Code consultant
- Landscape Architect
- Vertical Transportation Consultant

TASK E. FINAL DESIGN AND CONTRACT DOCUMENTS

The Consultant shall not proceed with performance of this task unless expressly authorized in writing by the Authority to do so.

The following items should be included, but are not limited to, the Final Design Package for each discipline.

1. General Requirements

   When the services of the Consultant include the preparation of a Final Design, which includes preparation of contract documents the Consultant, shall conform with the following requirements:

   a. Prior to the performance of this task the Consultant shall submit a specific Quality Control/Quality Assurance Program for the professional services to be performed in connection with the Final Design Phase and the preparation of Contract Drawings and Specifications specified herein.

   b. Upon completion of the Contract Documents required hereunder, the Consultant shall submit a letter to the Engineer certifying that the Consultant has performed the Quality Control/Quality Assurance Program as defined by the Consultant at the start of this Task.

   c. Contract Drawings: Prepare a final design and Contract Drawings for work to be performed by a Contractor based on the approved Preliminary Design which shall include, but not be limited to, the appropriate work items contained in the foregoing tasks. For contract drawings, observe the following signature procedures:

      (1) All Consultant Contracts shall have a cover sheet containing the facility name, contract title and contract number. The cover sheet shall have the appropriate places for signature by Authority staff. No other information shall appear on the cover sheet. This will be the only Contract Drawing prepared by the Consultant that will be signed by Authority staff.

      (2) Sign and seal all drawings prepared by the Consultant

      (3) Subconsultants shall sign and seal their own drawings. The Consultant's logo shall appear on each drawing prepared by a subconsultant.

      (4) All drawings prepared for New York contracts shall be signed and sealed by a Principal of the firm with a New York Professional Engineer or New York Registered Architect License.

   d. Design Calculations and Diagrams: The Consultant shall submit complete design computations and design drawings covering all structural framing and supports, such as primary framing members, bracing, foundations, siding, girts, roofing and architectural finishes. The Consultant shall also submit calculations necessary to support MEP design.

      (1) Calculations shall clearly distinguish between new and existing construction. Documents from which existing dimensions and existing member properties were obtained shall be referenced in the calculations.

(2) All engineering calculation sheets shall be numbered, dated, and indexed. The index sheets shall define the total number of the sheets submitted and shall bear the seal and signature of an experienced engineer holding a Professional Engineer's license in either the State of New York and who is familiar with and responsible for the design.

(3) If computations are submitted in computer print-out form, furnish the following. Description and proof of adequacy of the program. The description of each program shall include:

- The type of problems solved by the program.
- The nature and extent of the analysis.
- The assumptions made in the program.
- Instructions for interpreting the computer output format.

(4) Indicate the design criteria used and the diagrams showing the loading conditions and loading combinations.

(5) The design constants and equations used, including all references.

(6) Submit indexed and clearly identified input and output sheets for the entire structure or for those portions of the structure, which will be sufficient to enable the Authority to evaluate the structure.

(7) Submit a clear diagram of all member forces (axial, shear, bending or other forces, as appropriate) for each loading condition controlling the design.

e. The Final Design documents shall be formally submitted for Port Authority review at 60%, 90%, and 100% of the total design completion.

f. Construction Documents Deliverables

(1) Technical bid documents for all disciplines, including Drawings, and specifications. Documents are to be complete, clear, fully coordinated between disciplines, and accurate, describing in detail all of the work, to include all schedules, details, plans, dimensions and diagrams necessary for full understanding, accurate bidding and construction of the work.

(2) Provide complete Construction Documents corresponding to individual construction bid packages, as directed by the Authority. The Professional Firm shall provide the Authority with a complete set of reproducible drawings and documents as well as electronic files conforming to the project Standards.

(3) Major equipment not in scope (for clearances, space requirements, power requirements, etc.) should be depicted for coordination purposes.

(4) All demolition and removals shall be indicated as part of the contract documents.

(5) Site Utilities / Infrastructure:

- Detailed plans of all site water supply systems including but not limited to final layout of all site water supply and distribution, back flow prevention electrical power, storm and sanitary systems including existing and proposed utility locations and intended storm and wastewater disposal points.

- Detailed plans of all, water meters, pumps, hydrants, etc

- Types and distribution diagrams and locations of all underground utilities (including capacity and condition of existing utilities) and a statement of adequacy of same. Types and locations of all underground utilities (including capacity and condition of existing utilities) and a statement of adequacy of same.
- Combined site and/or utility plans shall also show all roof grading and drainage, proposed levels and elevations, existing and proposed surface treatments. Utility plans shall include all other work necessary to fully define the intended design including final functional and relocation programming with existing conditions.
- Final site electrical power distribution plans including vaults, manholes, pull boxes, etc. with typical details and sections.
- Final storm and sanitary distribution plans and details including finalized existing and proposed utility locations and intended storm and wastewater disposal points.

(6) Architectural

- Finalized detailed building plans for every level (including roof plans), indicating design details and locations of all elements, including:
  - partition schedules and details
  - All telecommunications, audio/visual, power and data, lighting, and security systems
  - Finalized door and finish schedules, including hardware plans and schedules
  - Large Scale Floor Plans indicating:
  - Vertical Circulation and Conveyance packages
  - Fare Control Area
  - Special Operational Spaces
  - Street Entries
  - Public Spaces
  - Building Section(s)
  - Exterior Wall Detail
  - Large Scale Interior Elevations
  - Finish materials
  - Detailed final color and materials palettes for all interior and exterior materials
  - Finish specifications and samples.
  - Color elevations or other representations of significant spaces
  - Color and material boards for furniture selections
  - Final layout and schedules of all equipment and furniture

(7) Landscape (Interior)

- Final site plan(s), sections and elevations including landscape and hardscape components, planting details and irrigation systems.
- Final specifications for planting and maintenance agreements

- Catalogue cuts and final details for furniture and other accessories located within the public areas

(8) Graphics/Wayfinding/Signage
Provide all necessary details of signage elements including but not limited to sign boxes, illumination details, support structures, signage schedules and location plans for all public spaces within buildings and above grade for the program.

(9) Sustainability Design Components

(10)As part of the Construction Document phase, the Consultant shall develop for review and approval by the Authority for all projects the following:

Develop standards for commissioning procedures and requirements. Standards shall include requirements for systems testing and commissioning in accordance with recommendations of ASHRAE, IEEE, NFPA, US Green Building Council and the WTC Sustainable Guidelines to ensure that the instruments and controls are properly calibrated, water and air flows are properly balanced and systems respond properly to controls for optimum operation.

(11)As part of the Post Award Services, the Consultant shall coordinate with and participate in commissioning, testing, balancing and quality assessment prior to turnover and acceptance of each system for every project. The firms for commissioning, testing and balancing support will be selected in cooperation with the Authority.

(12)Verify that final systems selected provide a life cycle cost/benefit

(13)Indicate operations and maintenance requirements of all systems specified

(14)Geotechnical
- Final Geotechnical design criteria
- Geotechnical report
- Geotechnical specifications and drawings
- Geotechnical staging drawings
- Instrumentation and monitoring specifications and drawings

(15)Structural:
- Roof loads, floor loads, wind loads, earthquake zone, soil bearing capacity, grades of structural steel; strength of concrete, slab thick nesses, special mix design and placement considerations.
- Temporary shoring requirements of in place construction shall be indicated
- All alterations to existing and new structural systems and dimensions
- Drawings indicating the assumed staging of the construction. Structural staging drawings should clearly indicate the assumed progress of construction, as well as applicable notes and sequences to ensure all work is performed in accordance with minimal agreed upon outages and service interruptions.
- Final sizing of major structural components
- Critical coordination clearances
- Below-Grade Plans
- Final Column and Beam Schedules and details

- Final framing layouts for new opening, new elements or repairs, showing main member sizes, roof loads, floor loads, wind loads, soil bearing capacity, pile capacity and plans; grades of structural steel; strength of concrete, slab thick nesses, etc.
- Final design and details for all repairs, and enhancements to structure or joints

(16)Civil

- Alignment plan(s) showing horizontal and vertical alignments curve data tables, existing and proposed roadway, track work and ramp profiles where required
- Removal plan(s) showing the removal or abandonment of existing roadways and utilities and all appurtenances.
- Plan and design for underpinning the NYCT 1/9 subway
- Utility plan showing the layout and data table providing the coordinates (station and offset) of the manholes and catch basins, pipe sizes, inverts, materials, valves
- Profiles for water main and sanitary/combined utility installation.
- Provide locations and details of all underground existing utilities requiring supporting, relocation or exercising care during construction within the area (underneath and east of the NYCT 1/9 subway)
- Detail sheets showing details of pavement sections, curbs, sidewalks, drainage, water & sanitary systems, pipe bedding, manholes, catch basins

(17)Traffic:

Re-run computer flow model to verify level of service and egress

(18)Mechanical/Electrical/Plumbing:

General Components:

- Service capacities and connected load calculation
- Detailed plans of major equipment sizes and locations
- Detailed floor and reflected ceiling plans
- Major equipment room layouts, sections and detail
- Details of system and riser diagrams
- Equipment schedules, indicating final selections and all relevant energy conservation measures.
- Energy consumption calculations
- HVAC fit out for all spaces
- Smoke Management System
- Controls
- Determine technology and procurement approach for controls for multi-use facility built in stages.
- System diagrams for each system
- Process and Instrumentation Diagrams for each system
- System architecture drawings
- Control and monitoring point matrices for each system
- Audit controls testing and commissioning
- Narrative sequence of operations for each system

- Meetings with utility and regulatory companies upon request.
- Energy consumption calculations
- System failure analysis and service and equipment back-ups for life safety and mission-critical functions
- Redundancy
- HVAC fit out for all spaces

Plumbing:

- Detailed core / toilet plans
- Layout of all major mechanical spaces,
- Location and layout of special systems and major equipment, such as tanks, pumps, heat exchangers, pressure regulating valves, etc., sizes and locations
- Piping layouts with all sizes shown
- Details of systems and riser diagrams
- Detailed final System Diagrams
- Electrical/Electronics and Fire Alarm and Communications
- Finalized detailed site and building plans including light, power, control, communication, signal, life safety and special systems,
- System details block and riser diagrams
- Electrical/Electronics equipment and light fixture types
- Schedules and details and all relevant energy conservation measures.
- Final layout of all major electrical equipment and spaces, such as electrical vaults, closets, switchgear, distribution panels, lighting panels, motors, generators, UPS systems, battery systems, etc., sizes and locations
- Site plans for exterior lighting
- Normal, emergency and exit lighting
- Normal and emergency power
- Below-Grade Plans
- Floor Plans
- Cables management plans and routes
- Major Equipment Room Plans and details including fire alarm system devices, risers, command centers and interconnection to HVAC, elevator recall and other life safety systems
- Load, voltage drop, short circuit, lighting, battery size and other necessary calculations.
- CCTV and Access Control Diagrams
- Coordinate with Fare Control System

Fire Protection

- Detailed plans of all fire protection systems, control panels, etc
- All Below-Grade Plans
- All Floor Plans
- Final detailed System Diagrams
- All Sprinkler Layout Plan(s)
- Testing, measurement and verification systems
- Vertical Transportation and Conveyance Systems

- Provide plans, sections, machine room details and specifications for all elements of vertical transportation (escalators, freight elevators, passenger elevators and moving walkways). For the elevators, provide pit and overhead details.

(19)Security

- Consultant shall implement the design of security components based on approved criteria and standards. All security systems and equipment will be designed by a professional Security firm (while the partitions, finishes, structure, HVAC, electrical work, will be included in the work of the MEP Firm)
- Consultant shall participate in Contract Document preparation and prepare specifications and other documentation as required for the project security requirements.
- Prepare security specifications for all security-related building components included in individual projects, such as required ballistic ratings, required adjustments to receive security devices, required characteristics and details, required lighting levels, configuration, dimensions and characteristics for Secondary Security Control Center

(20)Specifications and Construction Staging Drawings

- Provide recommended construction phasing and staging plan for all the project components
- Prepare Contract Specifications to include:
  - Division 1 - Provide the following information for the Authority Standard Division 1 Specifications which will be prepared by Authority staff:
    > Information specifically related to Conditions and Precautions, Staging, Available Property, Temporary Structures, and other General Provision Requirements of the subject contract.
    > A list of the Contract Drawings.
    > A list of unit price items, where appropriate, with description and estimated quantities for each item.

(21)Technical Specifications

- The Authority has prepared certain standard technical specifications, which will be made available in hard copy and/or on CD as requested by the Consultant. These standard technical specifications must be used by the Consultant and may not be altered or revised in any way by the Consultant. Since these standard Technical Specifications may contain materials and related procedures, which are not appropriate to the specific Contract being proposed, the contract drawings must clearly define the materials and scope of work. Division 1 of the Authority's specifications dealing with general provisions, includes the following language:

  "In case of a conflict between a requirement of the Contract Drawings and a requirement in Division 1 of the Specifications, the requirement of Division 1 shall control. In case of a conflict between a requirement contained in other Divisions of the Specifications and a requirement of the

Contract Drawings, the requirement of the Contract Drawings shall control."

- The Consultant shall prepare any technical specifications, which are not available from the Authority. Any technical specifications prepared by the Consultant shall be in the same format as the Authority standard technical specifications and the Consultant shall make any changes therein requested by the Authority throughout its various reviews.
- The Consultant shall comply with the "Instructions to Consultants for Preparation of Port Authority Construction Contract Documents" which will be made available upon commencement of work by the Consultant.
- Other than hard copies of specifications prepared by the Consultant that are to be submitted to the Authority as noted herein, the Consultant shall submit compact disk copies of said specifications. One disk copy shall contain the specifications in the format of the original word processing program used by the Consultant, and shall labeled to clearly indicate the contract title, the name of the word processing program used and the revision number of said program. Another disk copy of the software program shall be submitted in ASCII format.

(22)Construction Estimate and Construction Schedule

- Prepare a Construction Cost Estimate(s) based on the final Contract Drawings and Specifications and in accordance with the Authority's "Construction Estimating Guide" (a copy of which is available from the Project Manager).
- Estimates shall be prepared at program milestones indicated in Section V. At a minimum, estimates shall be prepared for the Final Design phase for all program components at a minimum of 60%, 90% and 100% of total design completion.
- Provide estimates of the time and schedule required to complete construction, as well as estimates of delivery times for all long lead-time items. Present the Construction Schedule in bar chart form using days, weeks or months as appropriate for the unit of time, at the 60%, 90%, and 100% of the total design completion.

(23)Miscellaneous

- At the end of Final Design and Contract Documents phase, the Consultant shall provide final documents that shall include but may not be limited to drawings, contract specifications, three-dimensional sketches, 3D CADD renderings, sample boards with proposed materials, models, animations, calculations, reports, cost estimates, and construction schedules.
- Ongoing Design Reviews. The Consultant shall participate in ongoing design reviews with the Authority and other public and private entities. This is also expected to include Consultant's participation in periodic value planning, value engineering, and project risk assessment evaluations.
- Participate in an on-going review of the various design documents, specifications, cost estimates, schedules, etc. so as to incorporate the various

project wide design, engineering, and other project controls established by the Authority. This may include but not be limited to project-wide design controls, project-wide engineering criteria, urban design guidelines, signage master planning, lighting system design, standard detailing, environmental and regulatory requirements, master project scheduling, value engineering, graphic and/or electronic drawing standards, master specification formatting, correspondence and document control.

- Environmental Process Support. The Consultant shall be required to perform its work in accordance with the public environmental review (NEPA) process for the WTC PATH Terminal project. Specific work including presentation materials and analyses will be requested by the Authority to support the environmental process.
- Consult with the Authority to establish structure of Construction Document Submittal and bid documents, in terms of scope and number of construction contracts and timing of each bid, Construction Phase policies or procedures.
- Constructability Review. The project will be implemented in conjunction other WTC site development as well as PATH operations. The Consultant must perform constructability analyses of construction within this operating transit environment and make recommendations pertaining to construction feasibility on integrating transit operational requirements, regulator requirements, availability of specialized equipment (including work trains), available areas and available transit system down time. The Consultant must prepare construction phased program schedules that identify critical paths of individual projects and entire programs, sequence construction contracts and staging, and consider long lead materials and equipment.
- Related to other components of the WTC PATH Terminal project, the Consultant will be requested to provide certain expert professional services to support the Port Authority and Engineering Department in-house design staff in their assigned components of design work including, but not limited to, the following:

  - Architectural lighting
  - Computer rendering and animation
  - Architectural model maker
  - CAD Drafting
  - Graphics
  - Security
  - Sustainable design
  - Cost Estimating
  - Acoustical
  - Building envelope consultant
  - Retail consultant
  - Code consultant
  - Landscape Architect
  - Vertical Circulation

TASK F. SERVICES DURING THE CONSTRUCTION PHASE (TASK ORDER)

Authority Stage IV Construction

The Consultant shall not proceed with any work on this Task without express written consent of the Port Authority's Project Manager.

(1) Submit your specific Quality Control/Quality Assurance Program for the professional services to be performed in connection with the performance of your Post Award Duties specified hereunder.

(2) Review, and approve or disapprove all working drawings, catalog cuts and samples for conformance with the Specifications and Contract Drawings within 10 working days after receipt of said articles from the Contractor, for those articles for which the Consultant is the Engineer-of-Record. Indicate any corrections and additions as required. Advise the Authority thereof giving the reasons for your decisions. Make all required distributions through final approval. Six copies of each working drawing will be required.

(3) In addition to any on-site observations the Consultant may require as the Engineer-of-Record, attend, at the request of the Authority, two pre-construction meetings and one field meeting for each month of the construction period.

(4) Prepare and submit, at the first pre-construction meeting, an outline list of required contractor's submittals to include but not be limited to, working drawings, catalog cuts, samples, certificates and test reports.

(5) Upon completion of construction, modify the Contract Drawings to "as-built" conditions and certify the same. The Authority will furnish the "as-built" information to be verified and incorporated.

(6) Evaluate alternative construction details and materials, as requested by the Authority.

(7) Make post-award contract changes with detailed estimates and make site inspections as required for the changes.

(8) Maintaining clear, dated records of all pertinent documents including but not limited to transmittals, submittals, and responses, RFI's and responses, meeting minutes, shop drawing mark-ups; designs, calculations or drawings prepared during the construction phase. These documents shall be made readily available to the Authority upon request. Upon project completion or at the request of the Authority, all of these documents shall be listed, filed, and submitted to the Authority for their files.

(9) Compensation for the evaluations and changes referred to in paragraphs 6 and 7 above shall be computed in accordance with the paragraphs of the Agreement relating to compensation and shall not be charged against the estimated cost, provided that none of these items result from non-compensable work.

(10) Commissioning Services for all projects:

- Develop standards for commissioning procedures and requirements, integrated into Design Standards. Include requirements for systems testing and commissioning in accordance with recommendations of ASHRAE, IEEE, NFPA and US Green Building Council to ensure that the instruments and controls are properly calibrated, water and air flows are properly balanced and systems respond properly to controls

for optimum operation.

- Coordinate with and participate in commissioning, testing, balancing and quality assessment prior to turnover and acceptance of each system for every Project. The firms for commissioning, testing and balancing support will be selected in cooperation with the Authority.

During the Post Award phase, the Consultant shall prepare maintenance, testing, installation, instruction manual(s) or any other written or graphic material as directed by the Authority for the installation, use, maintenance and operation of the security program.

TASK G. WTC SITE DEVELOPMENT COMPONENTS (TASK ORDER SERVICES)

There are site development and infrastructure components, particularly on the eastern portion of the WTC site that may be incorporated as coordinating elements with the WTC PATH Terminal, including potential lower level structural slabs, new slurry walls, and associated demolition, excavation, and foundations. The Authority will determine whether any such work would become part of the WTC PATH Terminal project, in conjunction with the progress of other WTC site development. Any such work if authorized, would be performed as an additional task.

V. SCHEDULE AND SUBMISSIONS

A. Anticipated Program Schedule

The following project design durations are expected on the Consultant's Tasks as described herein:

1. Basis of Design Report - completed within 3 months after authorization to proceed by the Authority
2. Preliminary Engineering Documents - completed within 9 months after authorization to proceed by the Authority (may be concurrent with the Basis of Design Report)
3. Final Design and Contract Documents - completed within 12 months after authorization to proceed by the Authority. Discrete project components may be authorized for Final Design at different times.

These durations are meant as general timeframes, and may be impacted by progress of other WTC Site redevelopment work, as well as the public environmental review (NEPA) process. The Authority currently anticipates the start of construction for the Permanent WTC PATH Terminal in late 2004 or early 2005. Completion of the certain portions of the project are targeted by the end of 2006, with other components by late 2009.

B. Quality Control/Quality Assurance

1. Submit your specific Quality Control/Quality Assurance Program for the professional services to be performed in connection with the final design and the preparation of Contract Drawings and Specifications specified herein.
2. Submit a letter to the Engineer certifying your compliance with the Quality Control/Quality Assurance Program established by the Consultant for the preparation of Contract Documents as required herein, along with one set of original mylar tracings of the complete Contract Drawings, reproducible masters of the Technical

Specifications and a final construction cost estimate.

3. Submit your specific Quality Control/Quality Assurance Program for the professional services to be performed in connection with the performance of your Post Award Duties specified hereunder.

4. The completed Contract Drawings and Technical Specifications submitted above will be reviewed by the Port Authority's Law Department. The Consultant shall make any changes to the Contract Drawings and Technical Specifications resulting from this legal review and submit the revised Contract Drawings and Technical Specifications, which will be used for bidding purposes.

VI. ADDITIONAL INFORMATION FOR PREPARATION OF DESIGN DOCUMENTS AND CONSTRUCTION COST ESTIMATES

Except as otherwise noted herein, the Preparation of Preliminary Engineering and Final Design (Contract Documents) shall conform to Port Authority standards, and codes which would be applicable if the Authority were a private corporation. In case of a conflict, the more stringent requirement shall apply.

A. General Requirements

1. Prepare all Contract Drawings on standard size Port Authority mylar tracings to be furnished by the Authority. Contract Drawings may be reduced to one-half size prints before distribution to contractors for bidding. Tracings shall, therefore, be prepared in such manner as to produce clearly legible drawings after reduction. Scales shall be graphical rather than numerical, and include a metric conversion scale.

2. Meet with the Authority and incorporate Port Authority comments after submittals.

3. The following additional services shall be provided as part of this Agreement:

4. Answer questions asked of the Authority staff by bidders during the bid period.

5. Prepare Contract addenda including Contract Drawing revisions and engineering calculations, as necessary or as requested by the Chief Engineer, for Port Authority approval and issuance by the Port Authority. Furnish originals for final printing.

6. Conform Technical Specifications and Contract Drawings to addenda when directed by the Chief Engineer after award of the Contract.

7. Upon request, assist Port Authority staff in performance of tasks below:

   a. Prepare Information for Bidders, Form of Contract, Division 1 of the Specifications and the Analysis of Bid and Contract Progress Schedule.

   b. Meet with Consultant from time to time to review all Specifications, Contract Drawings, construction cost estimates and schedules prepared.

   c. Review with, and transmit comments from, various Port Authority Departments to the Consultant for incorporation by him into the Contract Documents.

   d. Review addenda with and obtain approval of various Port Authority Departments.

   e. Solicit, receive, open bids, and award Contract or reject bids.

8. Document Management Standards

a. The Consultant shall maintain clear, dated records of all pertinent documents including but not limited to transmittals, submittals and responses, Consultant or Port Authority requests and responses, meeting journals and minutes, drawings, original marked shop drawings; engineering design, calculation and drawings prepared during each project stage. These documents shall be made readily available for review by the Engineer upon request. Upon the completion of each project stage, or at the request of the Authority, all these documents shall be listed, filed and submitted to the Authority.

b. Submit proposed paper and electronic formats of all deliverables for Authority approval prior to first or draft submittal; include this process on the appropriate schedule. In every instance when information can be communicated in several ways, propose the clearest and least complex method: outlines are preferred over text, matrices are preferred over narrative, complete diagrams are preferred over incomplete detailed drawings, and sketches and photographic images are preferred over complex rendered images.

c. Utilize Port Authority drawing and CADD standards.

d. Develop an internal document control and version control system for documents.

e. Consult with the Authority and fully coordinate electronic strategy, so that all deliverables are accessible, and the drawings, specifications, schedules and estimates become the basis for computer aided facilities management of the buildings as each construction phase is completed. Review anticipated Port Authority electronic strategy, and utilize approved hardware and software. The systems presently anticipated are:

- Primavera Project Planner (P3) construction scheduling and construction management
- Microsoft Excel 2000: budgeting, cost monitoring, tables, and charts
- Microsoft Word 2000: word processing
- Microsoft PowerPoint: graphics and presentations
- Microsoft Project 2000: design schedules
- Prolog Manager 6: construction document management.
- Prolog Website: web browser interface for construction document management
- Authority CADD Standards
  - Submit all documents to the Authority in both hard copy and electronic version simultaneously, three hard copies and a CD ROM.
  - All Reports will be submitted in 8 ½ " by 11" black and white format.
  - All Graphics will be submitted in 8 ½ " by 11" color format
  - All Drawings will be submitted in either 11" x 17" or 36" x 60". Half-size sets will also be used.
  - Follow Approved Quality Control Plan requirements for minutes, schedules, transmittals, correspondence and all other documents

- Update software as required, in consultation with the Authority.

9. Applicable Codes and Standards

The following is a summary of criteria to be used in the design of the transportation facilities. Criteria shall include the latest edition of all applicable codes and requirements and shall include but not be limited to those indicated below. Within the World Trade Center site, all work shall be designed in accordance with latest standards and requirements of the Authority. Other applicable design criteria and guidelines will be provided or developed by the Authority in conjunction with the Consultant's work. The Consultant will also be required to perform a search through Port Authority Engineering Files, PATH files and all other sources, to gather all available existing information necessary to perform the design.

a. General Code Requirements and Standards

All buildings systems and elements will be designed to be in compliance with applicable Federal, New York State, New York City, and International Codes in accordance to law.

b. The following are the major applicable codes and standards:

- Building Code of the City Of New York ("City Code"), including Reference Standards, Local Laws and International Building Code that New York City is likely to adopt in near future.
- Compliance with City Codes pertaining to, but not limited to, the New York City Fire Safety Codes, Electric, Plumbing, energy and water conservation, environmental safety, building structural, wind and seismic codes.
- Latest edition of the following Federal Regulations
  - Americans with Disabilities Act
  - Clean Water & Clean Air Act
  - US energy, water conservation and Green Building Regulations
  - US Occupational Safety & Health Administration regulations.
- National Fire Protection Association (NFPA) Guidelines & Recommendations.
- American Society of Heating, Refrigeration & Air Conditioning Engineers ventilation and energy performance standards.
- Port Authority Tenant Construction Review Manual
- Port Authority World Trade Center Site Sustainability Guidelines (TBD)
- New York State Executive Order 111
- US Environmental Protection Agency (EPA) regulations
- NYC Department of Environmental Protection (DEP) regulations
- In addition to those indicated above, the Consultant's design should also conform to the following criteria and the latest versions of the codes and standards identified (but not limited to) those below, listed by discipline.

b. Sustainable Design

- Port Authority World Trade Center Site Sustainability Guidelines (TBD)
- New York State Executive Order 111
- New York City Transit Sustainable Guidelines
- US DOE/EPA Energy Star Program
- US Clean Air & Clean Water Acts for any discharges
- American Society of Heating, Ventilation and Air Conditioning Engineers, Standard 62 for ventilation and Standard 90.1 for energy efficiency.
- National Institute for Occupational Safety & Health (NIOSH) Guidelines.
- US Green Building Council (USGBC), Leadership in Energy & Environmental Design Guidelines (LEED 2.1) for existing buildings.
- Sustainable Buildings Industry Council (SIBC) Guidelines.
- US Federal & Canadian Guidelines for procurement of Green Materials and for Renewable Energy Resources.

c. Structural

- American Institute of Steel Construction (AISC) Steel Construction Manual - Allowable Stress Design
- America Concrete Institute (ACI) Building Code Requirements for Reinforced Concrete
- American Railway Engineering and Maintenance-of-Way Association (AREMA)
- Port Authority Plaster Ceiling Design Standard and Lightweight Ceiling Design Criteria

d. Civil

- Sanitary and Combined sewers shall be designed in accordance with latest standards and requirements of NYCDEP.
- Water mains, lateral lines, fire hydrants and associated appurtenances shall be designed in accordance with latest standards and requirements of NYCDEP-Bureau of Water & NYC Building Department.
- New and proposed private utilities shall be designed in accordance to Port Authority standards and requirements or that of applicable Utility Company's/Owner's standards and requirements. Private Utility Companies that are expected to be affected include, but are not limited to, Consolidated Edison, Verizon, and Keyspan.
- New York City Transit track work standards
- American with Disabilities Act (ADA) Standard for Accessibility Design.
- Port Authority's Codes, Standard Details and Specifications.
- Port Authority's Engineering Department Engineering/Architecture Division Civil Engineering Design Guidelines (CEDG).

e. Traffic
   - Analyses of facility's pedestrian capacity shall based on the Transportation Research Board's Highway Capacity Manual
   - National Electrical Manufacturers Association (NEMA)
   - Americans with Disabilities Act (ADA) Standard for Accessibility Design
   - Port Authority Codes, Standard Details and Specifications.
   - Port Authority's Engineering Department Engineering/Architecture Design Division Traffic Engineering Traffic Standard Details

f. Geotechnical
   - New York City Building Code
   - Authority Technical Specifications
   - American Institute of Steel Construction (AISC) Steel Construction Manual – Allowable Stress Design
   - America Concrete Institute (ACI) Building Code Requirements for Reinforced Concrete

g. Mechanical/Plumbing/Fire Protection/Electrical/Electronics
   - ASME American Society of Mechanical Engineers
   - ANSI American National Standards Institute
   - ASTM American Society of Testing and Materials
   - SMACNA Sheet Metal and Condition Contractors National Association
   - AMCA Air Movement and Control Association
   - ARI Air Conditioning and Refrigeration Institute
   - API American Petroleum Institute
   - HI Hydraulic Institute
   - UL Underwriters Laboratories
   - AWWA American Water Works Association
   - FM Factory Mutual
   - AGA American Gas Association
   - ABMA American Boiler Manufactures Association
   - APTA American Public Transportation Association
   - New York State Energy Code
   - NFPA National Fire Protection Association
   - NEMA National Electrical Manufacturer's Association
   - IES Illuminating Engineering Society
   - CBM Certified Ballast Manufacturer's Association
   - ETL Electrical Testing Laboratories
   - IEEE Institute of Electrical and Electronic Engineers

VI. INFORMATION AND MATERIALS PROVIDED BY THE AUTHORITY

The documents specified below were prepared for the subject work and form a part of this Agreement.

All documents, will be made available to the recipients of the Request for Proposals and the Consultant from the Project Manager listed herein at the Port Authority offices at ***, New York, New York 10048 during regular business hours.

Said documents are as follows:

Permanent World Trade Center PATH Terminal:
- Section Looking North
- Upper Concourse Level Plan
- Lower Concourse Level Plan
- Church Street Level Plan
- PATH Platform Level
- PATH Mezzanine Level

VI. CONDITIONS AND PRECAUTIONS

A. General

The Consultant shall immediately inform the Authority of any unsafe condition discovered at any time during the course of this work.

Vehicular traffic at the World Trade Center Site shall always have priority over any of the Consultant's operations

B. Work Areas

The Consultant shall limit his inspection work to the areas necessary for the performance of such inspection and shall not interfere with the operation of the facility without first obtaining specific approval from the Chief Engineer.

During all periods of time when he is not performing operations at the work site, the Consultant shall store all equipment being used for the inspection in areas designated by the Chief Engineer and shall provide all security required for such equipment.

The Consultant shall not permit any objects or pieces of equipment to lie unattended on sidewalks, roadways or structures at any time.

C. Work Hours

The Consultant shall perform his work at the site between the hours of 8:00 A.M. and 4:00 P.M., Monday through Friday, unless otherwise directed by the Chief Engineer.

In any case, no work shall be performed at the site on a legal holiday of either the State of New York or the State of New Jersey, unless otherwise directed by the Chief Engineer.

Approved By:
Jerrold Dinkels, PE
Engineering Program Manager

DMJM+HARRIS
Permanent WTC PATH Terminal
Personnel/Salary Roster

Adams, Paul	Senior Project Controls	$ 75.97
Boucher, Paul A.	Project Controls	$ 35.34
Butler, Nancy **	FTA Liasion	$ 85.00
Cohen, Edward	Senior Architect	$ 62.55
Dorkings, Danielle I.	Engineer	$ 24.04
Edwards, F Ross	Senior Project Management	$ 79.33
Elmeged, Amr A.	Senior Project Controls	$ 69.01
Escobar, Roxana Y.	Engineer	$ 23.55
Fung, Dominic C.	Project Controls	$ 24.53
Green, Jim *	Principal Architect	$ 80.62
Griffin, Kenneth W.	Senior Architect	$ 73.08
Kolb, Kelly	Project Controls	$ 36.06
Leverenz, David G.	Project Integration	$ 66.83
Levy, David **	Constructibility	$ 85.00
Lipson, Enoch	Senior Engineer	$ 63.95
Lowe, Robert	Senior Engineer	$ 64.91
Mauritz, Peter	Engineer	$ 49.61
McManus, Timothy **	Constructibility	$ 85.00
Mueller, Werner *	Architect	$ 45.30
Pierce, Kevin	Senior Project Management	$ 75.97
Pinghero, Robert	Senior Engineer	$ 63.71
Procell, Adam	Senior Engineer	$ 67.31
Raine, Alden	Principal Planner	$ 80.77
Russo, Frank	Constructibility	$ 88.94
Samach, Raffie	Senior Architect	$ 71.79
Schiff, Michael	Architect	$ 38.97
Scurci, Louis	Architect	$ 38.43
Sewell, William	Principal Engineer	$ 86.54
Spooner, Herbert G.	Principal Project Management	$ 88.95
Tiernan, Christine	Senior Environmental Planner	$ 60.10
Walker, Bernard	Senior Engineer	$ 63.71
Weinstein, James **	Agency Interface	$ 85.00

* DMJM Design Employee
** Salary capped

Approved By:
Jerrold Dinkels, PE
Engineering Program Manager

STV Incorporated
Permanent WTC PATH Terminal
Personnel/Salary Roster

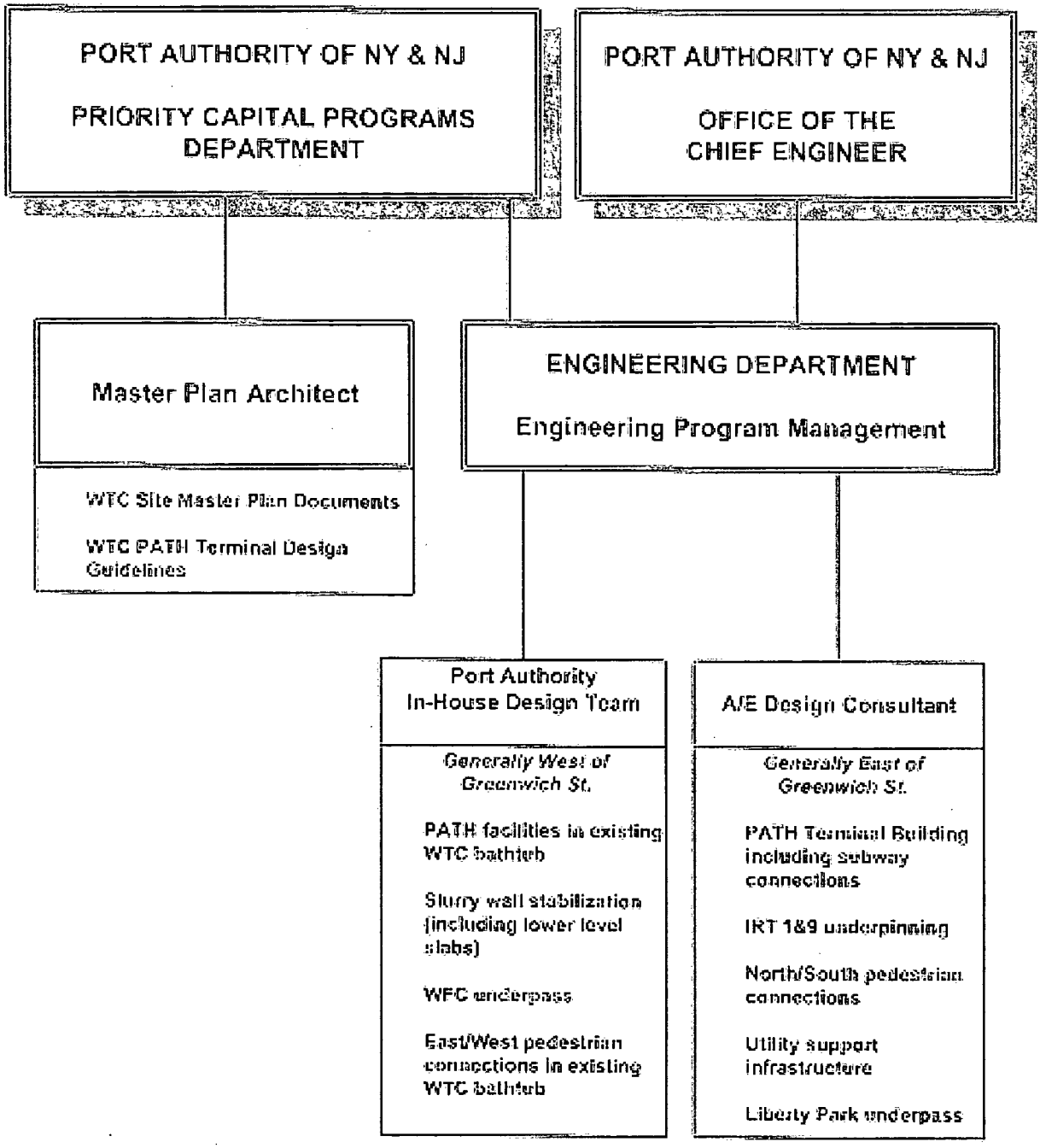
Employee	*Title*	*Rate*
Alexiou, C.	Junior Planner	29.57
Amodei, R.	Planning Engineer	56.04
Augustine, D.	Chief Architect	63.60
Bank, B.	Senior Engineer	42.60
Basta, A.	Project Control Manager	56.38
Bayer, A.	Supervising Engineer	55.01
Bayuelo, A.	Engineer	33.62
Bianco, J.	Technical Assistant	27.29
Bonamusa, J.	Technical Assistant	35.63
Boyajian, A.	Scheduler	65.88
Bracco, S.	Senior Architect	38.94
Brodsky, V.	Chief Engineer	77.95
Cerovesek, H.	Supervising Engineer	50.50
Chang, E.	Architect	28.37
Chen, C.S.	Engineer	44.50
Cohn, J.	Chief Architect	53.02
Costello, P.	Technical Assistant	38.95
Dennis, Y.	Document Control Technician	25.44
Dewes, P.	Task Manager	67.00
Doshi, K.	Chief Structural Engineer	75.63
Friedman, M.	Supervising Engineer	51.10
Frisina, V.	Chief Environmental	61.00
Gagliardi, M.	Project Management	88.33
Gan, A.	Architect	25.09
Gilboa, J.	Supervising Engineer	56.30
Gombos, B.	Design Manager	70.12
Gorodetsky, J.	Designer/CADD	20.09
Goykham, D.	Supervising Engineer	43.32
Hannah, J.	Assistant Chief Engineer	61.92
Hartman, M.	Assistant Chief Engineer	59.74
Ho, W.	Senior Engineer	37.50
Jabbonsky, B.	Facilities Architect	56.66
Jepsen, P.	Senior Planner	46.29
Jin, L.	Senior Architect	33.90
Kissoon, V.	Estimator	63.97
Koumjian, G.	Chief Engineer	68.17
Lajci, N.	Engineer	21.30
Lam, M.	Senior Engineer	68.32
Lee, J-H	Designer/CADD	22.20
Lem, R.	Project Architect	45.67
Livshitz, S.	Designer/CADD	22.82
Lucca, J.	Package Manager	64.06
MacQueen, M.	Senior Env. Planner	62.86
Magella, J.	Senior Architect	30.35
Malek-Mansour, A.	Project Controls Coordinator	50.50
Marcus, G.	Geotechnical Engineer	31.49
McIntyre, S.	Deputy Project Director	73.90
Ni, H.Y.	Engineer	42.55

Approved By:
Jerrold Dinkels, PE
Engineering Program Manager

STV Incorporated
Permanent WTC PATH Terminal
Personnel/Salary Roster

Employee	*Title*	*Rate*
Nitichaivorrakul, N.	Geotechnical Engineer	27.77
Petrou, E.	Chief Civil	98.56
Pinuela, L.	Senior Architect	34.20
Quickel, R.	Scheduler	30.79
Rajan, M.	Supervising Engineer	47.68
Ramabhushanam, E.	Chief Engineer	69.18
Romeo, J.	Junior Planner	28.04
Rosenberg, L.	Project Management	85.10
Scalici, S.	Task Leader	63.28
Schuller, P.	Chief Engineer	72.00
Shaaban, S.	Supervising Engineer	54.34
Sirakis, C.	Engineer	28.72
Son, J.	Supervising Engineer	38.78
Sparacin, W.	Chief Geotechnical Engineer	71.48
Thompson, A.	Supervising Engineer	64.10
Ungar, H.	Senior Engineer	55.85
Wingate, R.	Designer/CADD	26.38
Yue, D.	Chief Civil Engineer	77.64

PERMANENT WTC PATH TERMINAL
Organizational Structure
June 2003



EXEMPTION (4)

DRAWINGS OF NON-PUBLIC AREAS

WTC CONSTRUCTION DEPARTMENT

WORLD TRADE CENTER TRANSPORTATION HUB

August 3, 2011

Downtown Design Partnership
A Joint Venture of AECOM, Inc. and STV Incorporated
605 Third Avenue
New York, NY 10158

Attention: Ira Allan Levy, PE
President, AECOM, Inc.

SUBJECT: **CREDIT CHANGE ORDER FOR UNUSED FUNDS – CHANGE ORDER #CO-09-007(A), PROFESSIONAL SERVICES FOR STAND-ALONE vs. INTEGRATED DESIGN – EAST BATHTUB – DESIGN DEVELOPMENT/ PRELIMINARY ENGINEERING AND FINAL DESIGN – DESIGN CONTRACT CHANGE [DCC] #505**

Ref.: (1) Performance of Expert Architectural and Engineering Services for the Permanent World Trade Center PATH Terminal on a Task Order Basis (P.A. Agreement No. 407-03-013, Contract No. 4600004824 and P.O. No. 4900000675)

(2) CHANGE ORDER #CO-09-007 – DESIGN CONTRACT CHANGE [DCC] #505 - STAND-ALONE vs. INTEGRATED DESIGN – EAST BATHTUB – DESIGN DEVELOPMENT/PRELIMINARY ENGINEERING AND FINAL DESIGN

Dear Mr. Levy:

This letter acknowledges that you have performed and completed expert professional architectural and engineering services for Stand-Alone vs. Integrated Design – East Bathtub – Design Development/Preliminary Engineering and Final Design (DCC #505) for the Permanent World Trade Center PATH Terminal and have identified unused funds from the total amount obligated for the original scope of work under Change Order #CO-09-007. Therefore, the Authority hereby accepts your proposal, dated July 29, 2011, for the remaining amount, which is attached hereto and incorporated into the subject agreement by reference.

The total unused funds remaining in the total amount obligated under the original base scope of work for Change Order #CO-09-007, as identified in your proposal dated July 29, 2011, is

($1,581,996). Therefore, the previously authorized total amount for this change order is hereby decreased from **$6,500,000** to **$4,918,004**.

The total amount for the referenced agreement in decreased from $256,511,529 to 254,929,533.

The above referenced agreement remains in full force and effect and the performance of the requested additional services is subject to the terms and conditions of such referenced agreement.

Please return two signed originals of this letter to the attention of Kathy L. Murphy, Contract Specialist, FTA/WTC Site Projects, Procurement Department, 115 Broadway, 19th Floor, New York, NY 10006.

Any questions relating to the performance of the subject services may be directed to Mr. Frank Gallo, Assistant Director, WTC Construction, telephone no. (212) 435-5333.

Sincerely,

Frank Gallo
Assistant Director
WTC Construction Department

Accepted:
Downtown Design Partnership
A Joint Venture of AECOM, Inc. and STV Incorporated

D. Servedio, Chairman, CEO — Date 8/10/11

I. Levy, President — Date 8/9/11

DOWNTOWN
DESIGN PARTNERSHIP

100 Broadway, 3rd & 4th Floor, • New York, NY 10005
Phone: 917-522-2800 • Fax: 212-785-2951

July 29, 2011

Ref #: DDP-PA-0824-11

Port Authority of New York and New Jersey
115 Broadway – 19th Floor
New York, NY 10006

Attention: **Kathy Murphy**

Subject: **Change Order #09-007 - Credit**
Design Contract Change (DCC 505)

Reference: **WTC Transportation Hub Project**

Dear Ms. Murphy,

With regards to CO#09-007, DCC 505 – Stand Alone vs. Integrated Design, East Bathtub Design Development – Preliminary Engineering – Final Design (Plan B), it is our understanding that this task is complete and that no further effort will be required by the Port Authority.

This charge order had an approved budget of $6,500, 000. The costs incurred to date are $ 4,918,003.77, leaving an unspent balance of $1,581,996.23. Therefore, based on the Port Authority's confirmation that the CO#09-007 is complete, DDP is agreeable to a credit to the change order as follows:

CO-09-007 Original Amount	$6,500,000.00
CO-09-007 Credit Amount	$1,581,996.23
CO-09-007 Final Amount	$4,918,003.77

Sincerely,

Downtown Design Partnership

Scott McIntyre, P.E
Project Director

RECEIVED
AUG 01 2011
Control #: GA-11-00116
WTC Construction
Records & Information Management

CC: R. Perez/PANYNJ, F. Gallo/PANYNJ,
J. Zafonte, J. Son, File

WTC CONSTRUCTION DEPARTMENT

WORLD TRADE CENTER TRANSPORTATION HUB

July 23, 2013

Downtown Design Partnership
A Joint Venture of AECOM, Inc. and STV Incorporated
605 Third Avenue
New York, NY 10158

Attention: Ira Allan Levy, PE
President, AECOM, Inc.

SUBJECT: **PROFESSIONAL SERVICES CHANGE ORDER #13-002 - ADDITIONAL DESIGN SERVICES FOR THE WORLD TRADE CENTER TRANSPORTATION HUB**

Reference: (a) Performance of Expert Architectural and Engineering Services for the Permanent World Trade Center PATH Terminal on a Task Order Basis (Contract No. 4600004824, PA Agreement No. 407-03-013 and PO No. 4900000675), as amended – Supplemental Agreement #1

Dear Mr. Levy:

The Authority hereby accepts your proposal dated May 20, 2013, which is attached hereto and incorporated into the referenced agreement by reference, for performance of the services in the scope of additional services request, which formed the basis for submission of your proposal.

Total compensation for the performance of the above-mentioned services shall not exceed the amount of **$2,561,698** (inclusive of Consultant's Fixed Fee). The Consultant shall employ, to every extent possible, the most cost effective methods of performing the Scope of Services as defined in the attached. This includes, but is not limited to, utilizing appropriate staff as needed (i.e. combining management and technical efforts) and tracking hours of technical staff. Accordingly, the Consultant shall inform the Director when the Consultant's expenditures reach 80% of the not-to-exceed total amount noted above. The Consultant shall continue to render the additional services to the point when the Consultant's compensation reaches 100% of such amount, at which time either additional written authorization will be given to continue or the scope of work will be deemed complete. Consultant shall provide reasonable efforts to submit all deliverables by August 15, 2013.

The total Fixed Fee for this Change Order is $174,035.

WTC CONSTRUCTION DEPARTMENT

WORLD TRADE CENTER TRANSPORTATION HUB

The previously authorized total amount for the referenced agreement is increased from $314,654,594 to $317,216,292.

The above referenced agreement remains in full force and effect and the performance of the requested additional services is subject to the terms and conditions of such referenced agreement.

Upon receipt by the Authority of a copy of this letter executed by a principal of your firm, you are authorized to proceed with performance of the requested additional services.

Any questions relating to the performance of the subject services may be directed to Mr. Gallo at (212) 435-5333.

Sincerely,

Frank Gallo

Frank Gallo, Assistant Director
WTC Construction

Approved:

Steven Plate, Deputy Chief of Capital Planning/Director
WTC Construction

8/14/13
Date

Copy To: T. Grassi, M. Pagliettini, R. Perez, N. Ranalli, M. Socrates, WTCC Document Control

Accepted:
Downtown Design Partnership
A Joint Venture of AECOM, Inc. and STV Incorporated

D. Servedio, Chairman, CEO

8/20/13
Date

I. Levy, President

8/16/13
Date

115 Broadway, 7th Floor
New York, NY 10006

DOWNTOWN
DESIGN PARTNERSHIP

100 Broadway, 3rd Floor • New York, NY 10005
Phone: 917.522.2800 Fax: 212.566.5214

May 20, 2013

Ref #: DDP-PA-0163-13

Port Authority of New York and New Jersey
115 Broadway – 19th Floor
New York, NY 10006

Attention: **Richard Perez**

Subject: **P.A. Agreement No. 407-03-013**
Performance of Expert Professional
Architectural and Engineering Services for the
World Trade Center Transportation Hub

Reference: **Technical and Revised Cost Proposal for Port Authority**
Change Order # 13-002 - Additional Design Services

Dear Mr. Perez,

Per your request, attached please find Downtown Design Partnership's technical and revised cost proposal for Port Authority Change Order No. 13-002 - Additional Design Changes.

This proposal supersedes our earlier proposal attached to letter Ref. #DDP-PA-0121-13, dated April 26, 2013.

Should you have any questions regarding the attached, please do not hesitate to call.

Sincerely,

Downtown Design Partnership

Scott R. McIntyre, P.E
Project Director

CC: J. Zafonte, J. Son, File

FOR EXPERT PROFESSIONAL ARCHITECTURAL AND ENGINEERING SERVICES FOR THE PERMANENT WORLD TRADE CENTER PATH TERMINAL WITH DOWNTOWN DESIGN PARTNERSHIP (DDP), A JOINT VENTURE OF AECOM AND STV, INC.

PA AGREEMENT #407-03-013
Purchase Order #4900000675
SCOPE OF WORK DESCRIPTION

Change Order (CO) # 13-002
Additional Design Services

Under DDP Change Order (CO) #10-002 and Task Order (TO) #10-002, the Port Authority authorized DDP to proceed with Final Design Wrap-Up services. However, due to unforeseen changes to the scope, staging, phasing, sequencing, and logistics of the Hub project, it is necessary for DDP to perform additional design services. The following scope is to provide architectural and engineering services as outlined below. The scope of services for this proposal includes the following:

I. SCOPE OF WORK DESCRIPTION

TASK A - ADDITIONAL ESTIMATING SERVICES

Scope of Work (Task is complete).

DDP shall:

1. Separate each addendum estimate submission for the WTC 264 contract starting with Addendum 11 dated February 1, 2010 into four distinct estimate packages as listed below:
    - Contract WTC 234.544 – Structural Steel, Precast and Intumescent (DCM) Scope of work for the West Bathtub/1-Line Scope of Work. (Areas 1 & 2).
    - DCM Scope of Work estimate for East Bathtub Scope of Work. (Area 3).
    - Skanska Granite Skanska JV (SGS) Scope of Work Estimate.
    - Remaining portion of estimate for the east side trade contracts.

    All estimate details to be broken down per plan sheet.

2. Provide estimating services for various PIN's directly affecting DDP Design Drawings for scope of work related to Contract WTC-234.544. (I.e. transfer of scope from one contractor to another, RFI's not incorporated into Addendums, etc.)

3. Continue negotiation support services for the DCM Contract including addendums 23, 25, 26 and all future applicable addenda. Services to include: attendance at scope clarification and negotiation/pre-negotiation meetings as required by the PA/TTJV. Submission of variance analysis from the contractor's proposals and recommendations for reconciliation of major scope variances between estimates and proposals.

4. Provide negotiation support services for the SGS contract for all applicable addendum beyond Addendum #11and all future applicable addenda. Services to include attendance at scope clarification and negotiation/pre-negotiation meetings as required by the PA/TTJV. Submission of variance analysis from the contractor's proposals and recommendations for reconciliation of major scope variances between estimates and proposals.

5. Provide additional estimating support for DCM/URSSA scope related to Addenda 23 and 25.

6. Provide additional estimating support.

TASK B - UPDATE WTC TRANSPORTATION HUB WBS DIAGRAMS

Scope of Work (Task is complete).

DDP shall update the WTC Transportation Hub WBS diagrams to reflect the design as issued in Addendum #31.

TASK C - WP 18BY ADDITIONAL WORK

Scope of Work (Task is complete).

DDP shall perform the following additional work on Package 18BY:

1. DDP shall provide construction sequence for Package 18BY, previously shown on S806 and S807, and determine if there are any changes to truss bracing shown on drawings S815 – S818. The assumptions that DDP shall follow for the construction sequence are as follows:
   a) Package 18BY work will not begin until Phoenix work in the 9A Underpass in Package 18B is complete
   b) When Phoenix completes their work at the 9A Underpass they will remove the bracing struts that are currently in place
   c) Package 18BY work will not begin until the backfill and drivable surface are installed above the roof of the Phoenix portion of the 9A Underpass.

2. DDP shall obtain drawings from the Port Authority Security Project Management group of the existing track level concrete encased duct banks on either side of the tracks. DDP shall determine if these existing track level duct banks necessitate a change in the column encasement of columns 84/1 and 84/5. If a change is required, DDP shall contact Weidlinger Associates and advise on time required to revise the design.

3. DDP shall revise & issue shielding drawing S832 showing concrete and metal deck pre-slab to be installed below the existing slab at the ceiling of the Signal Relay Room.

4. DDP shall revise drawings with the existing slab of Signal Relay Room to remain and a 12" slab being installed under it. DDP will revise drawings to show new slab will be placed in area of existing slab with the pre-slab under it.

5. DDP shall issue sketches showing the Limits of Work of Package 18BY. Sketches will used by TTJV as part of the scope description.

6. DDP shall provide the required design loads for the el 253' debris shield.

7. DDP shall review and revise if necessary the Instrumentation drawing for the 18BY work.

TASK D - REDESIGN/ANALYSIS OF AS1/D19 AND BS1/D19 COLUMNS FROM 70 KSI TO 50 KSI

Scope of Work (Task is complete).

DDP shall:

1. Redesign AS1/D19 and BS1/D19 Columns from 70Ksi to 50 Ksi

2. Perform additional structural analysis resulting from the redesign of AS1/D19 & BS1/D19 Columns from 70Ksi to 50 Ksi

3. Revise WTC Transportation Hub drawings because of items 1 and 2 above.

TASK E - ANALYSIS OF H&M WALL ALONG NYCT R&W LINE

Scope of Work (Task is complete).

The current Transit Hall construction sequence requires the completion of the construction of the structure at and below El 274' including T2 and T3 prior to the removal of the H&M wall per S9301. DDP shall provide analysis to verify the feasibility of H&M wall removal after the construction of the portion of the Transit Hall slabs and walls east of and including shear wall 3 to El 274 without the presence of T2 and T3 and without the horizontal struts at the corner of the H&M and slurry walls.

TASK F - ANALYSIS OF DISASSEMBLING THE 18000 CRANE ON THE 237' SLAB

Scope of Work (Task is complete).

DDP shall analyze the impact of disassembling the 18000 crane on the 237' slab adjacent to the crane perch to mitigate schedule delays in the East Basement.

DDP shall evaluate demobilization of the 18000 crane from the 237' slab.

TASK G - POST INSTALLATION ALTERNATIVES FOR PHTH - COLUMNS @ 266'

Scope of Work (Task is complete).

DDP shall investigate possible alternative design for security protection of columns AP2/D25 and AP2/D4. Alternatives are to be based on existing conditions relative to the construction of Stair U.

Upon concurrence by PA, structural drawings shall be revised to reflect the chosen alternative in a future addendum.

TASK H - STUDY/REDESIGN FOR MTA GRATINGS ALONG CHURCH STREET

Scope of Work (Task is complete).

NYCT vent grates exist at the sidewalk along Church Street (fronting Hub Plaza). It was the Hub project's understanding that they were to be removed. NYCT identified these vent grates as existing to remain. There are portions of structure that cannot be built, as well as the proposed R/W to E connector. DDP shall:

1. Attend meetings with PA and NYCT.
2. Visit the site to observe existing conditions.
3. Develop alternative venting approach.
4. Develop contract plans based on architectural sketches, dated 9/30/10. For design purposes, existing conditions assumed to be in accordance with drawings as provided by NYCT and PA.

TASK I - NORTH PROJECTION LINER WALL

Scope of Work (Task is complete).

DDP shall evaluate and modify the proposed liner wall inside the North Projection fin, a localized area, to accommodate the Flood Gate Project's request. DDP shall:

1. Perform Model Development/Analysis
    - Revisit previously developed model.
    - Replace 30" liner with 12" liner system.
    - Strengthen stairwell slab system.
2. Prepare hardening calculations.

3. Prepare written report documenting model development, analysis details, interpretation of results and recommendations.

4. Implement design changes resulting from analysis.

TASK J - DRAINAGE TROUGH IN THE EAST COFFERDAM OF THE ROUTE 9A UNDERPASS

Scope of Work (Task is complete).

DDP shall develop one (1) concept design and prepare contract documents (WP 18B – Bulletin #TBD) based on the concept design for a secondary under drainage system, for the Route 9A Underpass running east/west in zones 3, 4 and 5. The proposed drainage system shall run along the north and south walls and shall tie into the existing sump pit on the western end of the underpass.

TASK K - STUDY TEMPORARY LINK BETWEEN NTA AND E/W CONNECTOR

Scope of Work (Task is complete).

DDP shall perform a study to provide a 30'wide temporary pedestrian passageway connection for North Temporary Access with East/West Connector.

TASK L - EVALUATION OF OCULUS STEEL FIRE RESISTANCE

Scope of Work (Task is complete).

DDP shall provide structural fire engineering services related to the potential elimination of intumescent fireproofing from portions of structural steel in the World Trade Center Transportation Hub. Based on the large size of these members and the separation of these from potential fire locations, it is expected that applied fireproofing material may not be required. In order to review the possibility of eliminating intumescent fireproofing from the structural elements above the Plaza elevation (per drawing SK-4706), DDP shall provide the following:

1. Analysis to establish exposure temperatures from fires originating on the upper concourse (el. 296') including a limited sensitivity study.

2. Compare exposure temperatures to steel failure temperatures established by building codes and associated structural fire resistance standards.

3. Develop a letter report to document the findings of the above reviews and to support approval of the removal of intumescent fireproofing, if deemed appropriate based on this analysis.

4. Meet with PA to discuss the findings of the above analysis, if required.

TASK M - ESTIMATING SUPPORT SERVICES FOR SORBARA CHANGE ORDER FROM BID DOCUMENTS (A5) THROUGH CONFORMED SET (A26)

Scope of Work (Task is complete).

DDP shall:

1. Identify, quantify, and estimate design changes between contract drawings in the Sorbara bid set (Rev. 00 through Addendum 5) and the next update of each contract drawing to determine costs related re-base lining the Sorbara Contract to current design scheme (as it pertains solely to Sorbara contract scope).

2. Provide estimate deliverable that includes new estimates (as identified above) for inclusion with previously submitted estimates to support negotiation of Sorbara contract change order through contractor's conformed set (Addendum 06 though Addendum 26).

3. Provide support for negotiation, as required, regarding any remaining variances between estimate and contractor's proposal.

TASK N - ALTERNATIVE FIRE PROTECTION COATING SPECIFICATION AND DESIGN REVISIONS

Scope of Work (Task is complete).

DDP will assist the PA in obtaining approval from the CoNY DOB for acceptance of the inherent fire resistance of the oculus steel (above grade) without application of a fire protection system.

Upon approval by the CoNY DOB, DDP will prepare an alternative specification for the fire protection coating for those steel elements in the transit hall and oculus that still require such coating. DDP shall:

1. Prepare specification for water based intumescent.

2. Revise drawings in PHTH package and the Oculus package to reflect the change in the extent and detail of the coating system.

3. The Documents (new specification and revised drawings) shall be issued as an addendum, as directed by PA.

TASK O - SUPPORT FOR NCRS (AREAS 1-3)

Scope of Work (Task is complete).

Scope of Work:

DDP shall perform additional structural evaluation and analysis involving revisiting the design models and making changes to the models to simulate as-built conditions. Accordingly, the retrofit details will be developed, if necessary, and submitted as a remedial measure. This approach will be implemented on the following NCRs:

1. 10-MED-TP-027: Evaluation of shear walls in Area 3 where the average concrete 28-day strength from three cylinder breaks came out as 4433 psi vs. 5000 psi.
2. 10-MED-TP-029: Evaluation of shear wall 16 in Area 2 where additional end of wall reinforcement was placed such that reinforcing bars are closely spaced and do not conform to ACI requirements.
3. 10-MED-TP-102: Evaluation of shear wall 26 in Area 3 where adequate splice length for drilled and grouted #11 bars was not provided at the 274' slab.
4. 10-MED-TP-115.17: Evaluation of SW33 in Area 1 where concrete cover to reinforcement measures 2"-3" that is in excess of the required 1" cover.

TASK P - OCULUS BOLTED CONNECTIONS ALTERNATIVE DESIGN

Scope of Work (Task is complete).

See Attachment – A.

DDP shall perform additional services related to Skanska-Koch (SK) submittal of alternate connection designs for the Oculus steel structure. There are four main connections under consideration that will require review by DDP.

a. Intermediate Rafter Connection
b. Rafter Base Connection
c. Upper Portal to Transition Connection
d. Arch to Arch Connection

The scope of work shall include:

1. Review of the engineer's (Buckland & Taylor) detailed signed and sealed design calculations for proposed alternate connection details. The review shall include confirming conformance with all conventional load conditions (dead loads, live loads, lateral loads and fatigue) and design intent, but will not include a review of the security loads or adherence to the project security performance criteria. DDP shall review, evaluate, and provide comments on the contractors alternate bolted connections for the following:
   a. Rafter Base Connections (110) - Assuming 11 connections
   b. Intermediary Rafter Connections (50) - Assuming 5 connection types
   c. Upper Portal to Arch Connections (110) - Assuming 11 connection types

d. Arch to Arch Connection (112) - Assuming 11 connection types

2. It is understood that SK will not address security loads in their design, as the security performance criteria will not be provided to them. Per direction of the Port Authority, DDP shall retain Weidlinger Associates, as a sub-consultant, to review the Buckland & Taylor design for conformance to the project security performance criteria. An indemnity clause will be included as part of this DCC authorization to allow DDP to retain Weidlinger without incurring liability for Weidlinger's efforts relative to Buckland & Taylor's design. The indemnity clause shall be as follows,

   "The Port Authority acknowledges that DDP has retained Weidlinger Associates for the purpose of providing a review of connection designs by Buckland & Taylor, relative to the project security performance criteria, as a convenience to the Port Authority and that DDP shall have no control over or responsibility for these sub-consultants or their services. Accordingly, the Port Authority shall release and hold DDP harmless for any liability resulting from said services performed by Weidlinger Associates. Furthermore, the Port Authority shall defend, indemnify, and protect DDP, its partners and their officers, directors and employees, from and against any and all losses, expenses, claims, demands and causes of action asserted against DDP, its partners and their officers, directors and employees by any third person, entity or party, including but not limited to death, or for loss of or damage to property, loss of use of property, or economic loss attributable to the services performed by Weidlinger Associates in connection with their work reviewing Buckland & Taylor's design. Notwithstanding the foregoing, the Port Authority has no obligation to defend indemnify, or protect DDP, its partners and their officers, directors and employees, from and against any and all losses, expenses, claims, demands and causes of actions arising out of their wrongful or intentional conduct."

   Weidlinger will function as a Specialty Sub consultant to the Port Authority and, as such, the Port Authority alone will direct and manage Weidlinger's efforts relative to Buckland & Taylor's design.

3. Buckland & Taylor will be required to submit the proposed alternate connection detail and calculations, signed and sealed, to Weidlinger. Weidlinger will be required to analyze the proposed alternate connection details relative to security loading, and to propose design connection modifications, where necessary, to enable the connections to meet the security performance criteria. If modifications to Buckland & Taylor's design are required, Weidlinger will collaborate with Buckland & Taylor on the necessary changes. A final report that includes the connection design, including signed and sealed calculations for conventional loads by Buckland & Taylor, along with a signed and sealed report by Weidlinger stating that the connection design satisfies the project security performance criteria, will then be submitted to DDP.

4. Upon receipt of the design by Buckland & Taylor, DDP shall then review for approval the connections as stated in item 1 above. It is understood that a separate review by Weidlinger will not be necessary, as a signed and sealed report by Weidlinger, confirming that the design meets the project security performance criteria, would be

provided along with the Buckland & Taylor details and calculations as part of the design package.

DDP shall attend a maximum of two meetings with PA and SK to review/resolve comments, including Weidlinger Associates.

TASK Q - ANALYSIS OF DIAGONAL FIT UP WEST TRUSS

Scope of Work (Task is complete).

DDP shall perform an analysis of the west truss diagonal due to fit up issues based on the as-built survey information.

TASK R - DESIGN CHANGES TO FRESH AIR PLENUM - EL 229-6

Scope of Work (Task is complete).

DDP shall review the non-conforming concrete wall built around an under-excavated corner of the Fresh Air Plenum at EL 229'-6".

DDP shall evaluate if there is a solution to keep the non-conforming wall in place and maintain the performance of the plenum. Drawing A1106 demonstrates a potential work around, but results in the following design changes:

1. Stair BJ (precast) is required to be relocated north and redesigned to a switch back configuration.
2. Stair BJ top landing slab is required to be extended.
3. Additional & reconfigured insulated wall panels along eastern side of plenum are required.
4. Additional & reconfigured CIP roof slab and insulated ceiling panels along affected area of plenum is required.
5. Additional 12-ft of new 18" concrete wall is required.
6. Demolition of existing 18" concrete wall is required.

TASK S - UPDATE EAST/WEST CONNECTOR PEDESTRIAN CIRCULATION ANALYSIS

Scope of Work:

DDP shall:

1. Review the actual pedestrian counts provide by PATH and counts taken in February 2012.

2. Attend up to a maximum of two meetings.
3. Update the current Pedestrian Circulation Analysis to reflect the info provided by C. DeGraffe on 3/1/12.
4. Input new AM PATH ridership figures into STEPS model and rerun model.
5. Update the 2012 to 2016 ridership forecasts.
6. Summarize results in a brief Technical Memorandum, updating most recent model report.

TASK T - SHORING REMOVAL AT EBT AREA 3

Scope of Work (Task is complete).

Per a meeting on 4/12/12, PA informed DDP that removal of shores below the El 254 slab is required to allow trade work to proceed for the Central Fan Plant (CFP) fit-out. This is expected to take place before the SGS slabs will be placed under the 1 Line Box west of D1 line.

DDP shall perform the following checks on the existing structure:

1. Assume the elevation 274 slab is placed up to the D1 line except for within limits of grand stair where it is held back to ring beam with the following conditions:
   - The elevation 274 slab shored down to the elev 254 slab only with its own dead load and reasonable construction live load (75 psf) imposed.
   - No tie from grand stair to elevation 266 SGS slab will be in place.

2. Assume the elevation 254 slab is placed up to D1 columns, including the edge beam between columns with the following conditions:
   - The slab from west face of D1 columns westward will not be placed.
   - All shoring below the elevation 254 slab is removed with slab under its own dead load and reasonable construction live load (75 psf) imposed, in addition to elevation 274 level shores above.

3. Should there be overstresses, additional limited shore post locations may be acceptable to the program, such as utilizing the DCM steel. These shall be reviewed on a case-by-case basis, as requested by PA.

TASK U - ANALYSIS NORTHEAST CORNER- COLUMN EXISTING TOPO AT PROPOSED BEAM LOCATION

Scope of Work (Task is complete).

DDP shall:

1. Review survey data received from PA survey showing the concrete surface elevations for the northeast column to be relocated.
2. Attend a maximum of three meetings as requested by PA.
3. Prepare sketches showing a temporary erection post below the permanent base plate.
4. Perform analysis on the NE corner column.
5. Update contract drawings and calculations to reflect agreed upon final layouts based on field conditions.
6. Review new beam connections and fabrication drawings required by the Contractor to accommodate final layouts.

TASK V - INDEPENDENT INSTRUMENTATION PATH ROOF & 1-LINE LOAD TRANSFER

Scope of Work (Task is complete).

In accordance with discussions with PA, DDP shall monitor load transfer of PATH Hall Roof Structure and 1-Line tied arches. DDP shall install strain gages at various locations. During the load transfer operations, strain gage readings shall be taken at regular intervals on a daily basis to monitor structural behavior of various elements.

TASK W - PATH HALL ROOF CONSTRUCTION SEQUENCE ANALYSIS

Scope of Work (Task is complete).

DDP shall utilize sub-consultant Halcrow Yolles to perform the below noted professional services. See Attachment – B.

1. Halcrow Yolles (HY) shall perform a sensitivity analysis of the PATH Hall Roof structure by creating a model of the original construction sequence as described by the contract documents and a revised model of the construction sequence provided by the Port Authority describing steps 1-4.
2. HY analysis shall include a comparative analysis between the baseline model and revised model of the stresses/deflections in the temporary shoring as well as the temporary stresses/deflections in the permanent structure at specific milestones during the construction process. Milestones to include:
    a. Before/After Vierendeel is connected
    b. Before/After AS-1/BS-1 Girders are attached
    c. Before/After Shoring is fully released
3. HY shall perform specific analysis as needed that vary from revised construction sequence to aid in coordinating concrete operations and steel erection to ensure

ongoing construction is not adversely affecting permanent structure displacement and stress distribution as well as in the temporary supports.

4. HY shall perform design and support during construction services for bracing modifications to the PATH Hall roof to provide temporary openings in tree pit slab areas in order to provide additional construction access and ventilation in the PATH Hall roof.
5. HY shall review and comment on as-built survey information of horizontal and vertical position of permanent structural elements before and after each milestone (See item 2. a, b, c above) to verify predicted displacements are being realized. Elements will include free ends of ribs at future vierendeel connection, vierendeel location, and concrete slab elevations. Surveys will be provided by others.
6. HY shall provide design and construction support services to perform temporary bracing design detailing to support the BS2 Concrete Girder and the Fulton Street concrete slab between BS1 and BS2. Bracing to be designed for use of the Fulton Street slab in its full design capacity as a working street. Loading condition from the future PAC area is to be excluded. Coordinate the design with the provided SGSJV shoring system to construct the aforementioned work.
7. HY shall perform H Frame reinforcement design to enable concrete protection slab to be placed in service alleys before roof jack down.
8. HY shall perform a super column bracing analysis. Determine whether first lift of concrete is sufficient for bracing of super columns for PATH Hall Load Transfer and 1 Line Gravity Load transfer (steel dead weight only).
9. HY shall perform a feasibility study for alternate 1 Line load transfer methodology from suggested sequence on contract documents.
10. All design and analysis work by HY will be stamped by a New York State Licensed Professional Engineer.

DDP shall review drawings and calculations submitted by HY for impacts to the WTC Transportation Hub permanent design for studies described in items 1 through 10 above.

Upon notification by the Port Authority or its representatives (TTJV or PB/URS), the engineering analysis for the items identified above shall be provided by entities hired by DDP as sub consultants. The Port Authority acknowledges that DDP is providing the services of sub consultants for the purpose of providing an engineering analysis (per the above scope of services) as a convenience to the Port Authority and that DDP shall have no control over or responsibility for these sub consultants or their services. Accordingly, the Port Authority shall release and hold DDP harmless for any liability resulting from said services. Furthermore, the Port Authority shall defend, indemnify and protect the DDP, its partners and their officers, directors and employees, from and against any and all losses, expenses, claims, demands and causes of action asserted against DDP, its partners and their officers, directors and employees by any third person, entity or party, including but not limited to death, or for loss of or damage to property, loss of use of property, or economic loss.

TASK X – NYCT NO. 1 SUBWAY LINE JACKING CONSTRUCTION SEQUENCE ANALYSIS

Scope of Work (Task is complete).

DDP shall utilize sub-consultant Halcrow Yolles (HY) to perform the below noted professional services. See Attachment – C.

1. HY will develop an engineered procedure to perform the 1 Line load transfer from existing temporary pin pile structure to permanent east and west arches and invert structure based on 2012 field conditions. Deliverables will include verification of current field conditions, written procedure, sketches and calculations to substantiate procedure. Impacts and effects on both the existing 1 Line Invert and new 1 line arches, invert beams, and backspin support system will be analyzed, documented and submitted including resultant expected stresses and deflections. Analysis and result documentation will reflect the systematic sequential approach and modifications thereto as the work progresses and sequence adjustments are made if and as necessary.
2. HY will provide site support services (services during construction) during the jacking, pile cutting and load transfer operations: HY will provide a written report highlighting the results of each procedure.
3. HY will provide other services related to the 1 Line load transfer if, as, and when requested by the PANYNJ.
4. All design and analysis work by HY will be stamped by a New York State Licensed Professional Engineer.

DDP shall review drawings and calculations submitted by HY for impacts to the WTC Transportation Hub permanent design for studies described in items 1 through 3 above.

Item #3 above allows for further deflection analysis if deemed necessary to coordinate with track alignment and skeletonization of track work associated with Cortland Street Station project.

Upon notification by the Port Authority or its representatives (TTJV or PB/URS), the engineering analysis for the items identified above shall be provided by entities hired by DDP as sub consultants. The Port Authority acknowledges that DDP is providing the services of sub consultants for the purpose of providing an engineering analysis (per the above scope of services) as a convenience to the Port Authority and that DDP shall have no control over or responsibility for these sub consultants or their services. Accordingly, the Port Authority shall release and hold DDP harmless for any liability resulting from said services. Furthermore, the Port Authority shall defend, indemnify and protect the DDP, its partners and their officers, directors and employees, from and against any and all losses, expenses, claims, demands and causes of action asserted against DDP, its partners and their officers, directors and employees by any third person, entity or party, including but not

limited to death, or for loss of or damage to property, loss of use of property, or economic loss.

Deliverables:
DDP shall provide revised construction documents including, but not limited to, partial plans, geometry plans, elevations, sections, reflected ceiling plans, and applicable discipline plans, sections, schedules, etc. necessary to complete the above noted tasks. DDP shall attend meetings, as needed, at the Port Authority's request.

END STAGE IV SCOPE OF WORK

ATTACHEMENT - A

375 HUDSON STREET
NEW YORK NY
10014-3656
PHONE 212 367.3000
FAX 212 367.3030

http://www.wai.com

WEIDLINGER ASSOCIATES® INC
CONSULTING ENGINEERS

11 July 2011

Mark Pagliettini, P.E.
Assistant Director, WTC Construction Department
Port Authority of New York and New Jersey
115 Broadway
New York, NY

Re: Oculus Bolted Connections Alternative Design

Dear Mr. Pagliettini,

Weidlinger Associates, Inc. (WAI) is pleased to submit a fee proposal to the Port Authority of New York and New Jersey to review the Buckland & Taylor alternate connection designs for compliance with the contract documents related to the security loads and the project security performance criteria. WAI have provided structural security analysis and design services for the WTC PATH Hub and we developed detailed nonlinear explicit dynamic finite element models of the current portal leg concept. WAI is therefore well suited to revise the existing finite element models and to review the proposed alternate connection designs and determine whether they satisfy the project security criteria. WAI will not determine the performance of the alternate connection details in response to conventional service loads. In the event the proposed alternate details do not satisfy the security criteria, WAI will determine the extent to which the alternate connection details must be modified, in the form of dynamic connection forces, which Buckland & Taylor will use to develop revised connection details. WAI will not redesign the connection details but will reanalyze the modified details.

The scope of work was highlighted in the 7 June 2011 memo to Scott McIntyre titled "Oculus Bolted Connections Alternative Design." The memo references three main connections under consideration: intermediate rafter connection, rafter base connection, and arch to arch connection. The memo further states:

> *"DDP shall retain Weidlinger Associates, as a sub-consultant, to review the Buckland & Taylor design for conformance to the project security performance criteria....Weidlinger will function as a Specialty Subconsultant to the Port Authority and, as such, the Port Authority alone will direct and manage Weidlinger's efforts relative to Buckland & Taylor's design.*
>
> *Buckland & Taylor will be required to submit the proposed alternate connection details and calculations, signed and sealed, to Weidlinger. Weidlinger will be required to analyze the proposed alternate connection details relative to security loading, and to propose design connection modifications, where necessary, to enable the connections to meet the security performance criteria. If modifications to Buckland & Taylor's design are required, Weidlinger will collaborate with*

Buckland & Taylor on the necessary changes. A Final Report that includes the connection design, including signed and sealed calculations for conventional loads by Buckland & Taylor, along with a signed and sealed report by Weidlinger stating that the connection design satisfies the project security performance criteria, will then be submitted to DDP....

...DDP should assume two meetings with SK to review/resolve comments, including Weidlinger Associates.

WAI obtained the following Skanska Koch Inc. documents summarizing the three alternate connection design concepts that were used as a basis for this proposal:

- "WTC Transportation Hub Alternate Connection Design Submittal, Volume 1: Rafter Base Connection: ½" Rafter Web Thickness," Revision 1, Dated 03/18/2011, Ref#: CP-SK-SUB.05120.0002
- "WTC Transportation Hub Alternate Connection Design Submittal, Volume 2: Intermediate Rafter Connection: 3/8" Rafter Web Thickness," Revision 00, Dated 03/30/2011, Ref#: CP-SK-SUB.05120.0007
- "WTC Transportation Hub Alternate Connection Design Submittal, Arch to Arch Connection," Dated 06/08/2011, Ref#: CP-SK-SUB.05120.0019

Based on the contents of the Skanska Koch, Inc. documents, listed above, WAI will complete the following tasks:

- Revise the finite element models of the Oculus structure, as per the signed and sealed drawings developed by Buckland and Taylor depicting the details of the alternate connection design
- Reanalyze the structure, as per the signed and sealed structural security calculations of the Oculus structure, that demonstrated compliance of the Downtown Design Partnership, Structural Security Strategy for the Oculus Structural System, Revision 0, June 25, 2009 and the Ducibella, Venter & Santore, "World Trade Center Permanent World Trade Center PATH Terminal: Security Performance Criteria," March 7, 2007.
- Calculate the performance of the alternate connection details relative to the Structural Security Strategy.
- Provide an interim summary of initial findings to the PANYNJ prior to finalizing the calculation package.
- In the event the revised connection detail is non-compliant with the Structural Security Strategy, WAI will identify the magnitude of forces that must be developed by the connection and Buckland & Taylor will provide modified connection details to WAI for reanalysis. WAI will perform one cycle of reanalysis.
- Prepare a signed and sealed calculation summary report for the vulnerability assessment. The detailed calculation submittal will follow quality assurance and quality control (QA/QC) protocols in a manner consistent with all calculation submittals provided to date in support of the DDP.

- WAI will support two meetings with the Port Authority to discuss matters pertaining to project specifics or technical details.

The level of effort required to evaluate the performance of the three Oculus alternate connection details is 10 FTE weeks ($48,619.62), as indicated in the following breakdown. The initial analyses will be completed no sooner than an 7 calendar weeks from the notice to proceed; however, this does not include the time it takes for Buckland & Taylor to modify the connection detail. Evaluations of a subsequent revision to all three connections will take an additional 5 FTE weeks ($25,998.41).

Base Effort

	Engineer IV	Engineer VI	Principal	
Model Modifications	80 hours	24 hours	16 hours	
Analysis	96 hours	32 hours	8 hours	
Post-processing	40 hours	16 hours	8 hours	
Calculation Summary	40 hours	16 hours	8 hours	
Total	**256 FTE hrs**	**88 FTE hrs**	**40 FTE hrs**	384 FTE hrs
Estimated Value	**$25,431.70**	**$15,157.92**	**$8,000.00**	$48,619.62

Reanalysis Effort

	Engineer IV	Engineer VI	Principal	
Model Modifications	64 hours	16 hours	8 hours	
Analysis	96 hours	24 hours	8 hours	
Total	**160 FTE hrs**	**40 FTE hrs**	**16 FTE hrs**	216 FTE hrs
Estimated Value	**$15,894.81**	**$6,903.60**	**$3,200.00**	$25,998.41

Weidlinger is looking forward to working with the Port Authority, Downtown Design Partnership, and Buckland and Taylor to evaluate the alternate connection designs for the Oculus structure.

Sincerely,

Dr. Robert Smilowitz
Principal

ATTACHEMENT - B

Halcrow Yolles
A CH2M HILL Company
22 Cortlandt Street 31st Floor, New York NY 10007
tel +1 212 608 3990 fax +1 212 566 5059
halcrowyolles.com

Halcrow Yolles
A CH2M HILL COMPANY

May 16th, 2012

Mr. Scott McIntyre, P.E.
Project Director
Downtown Design Partnership
100 Broadway, 3rd Floor
New York, NY 10005

Dear Mr. McIntyre

Re: PATH Hall Roof Construction Sequence Analysis
BS2 Concrete Girder and Fulton Street Slab between BS1 ad BS2
H-Frame reinforcement
Super Column Bracing analysis
Feasibility Study for Alternate 1 Line Load Transfer Methodology
Change Order #09-006 – Task 3.14
Your reference: DDP-HY-003-11
Our Reference: PKA276

Thank you for inviting us to submit a revised proposal for consulting engineering services for the scope of work outlined in the attached appendix.

We have outlined below our understanding of the project and our proposed scope of services, together with our fee proposal and the assumptions made in arriving at our fee.

Project Description

Based on the revised scope outlined in the attached appendix, on several discussions and meetings held between your office, that of the PANYNJ and our office, we understand our mandate to be generally defined as follows:

1. General

   The scope of work of applies solely to the areas for which the Downtown Design Partnership (DDP) has responsibility as Engineers of Record.

   The fabrication and subsequent erection of steel members and the ensuing concreting sequence are proposed to vary from the suggested baseline construction sequence as depicted in the Contract Documents prepared by DDP. This will have an effect on two contracts, namely those of the structural steel erector and of the concrete contractor. An engineering analysis is required to allow DDP to verify that the change in sequence will not adversely affect the permanent structure, either structural steel or concrete. An engineering analysis is

also required to verify that changing the construction sequence does not adversely affect the existing shoring system as it will be subjected to different loading conditions from those for which it was originally designed. The Port Authority of New York and New Jersey has requested that Halcrow Yolles perform these studies.

2. Consultant Scope of Work includes:
   1. A sensitivity analysis of the PATH Hall Roof structure by creating a construction sequencing model, based on DDP's analytical SAP model, of the original construction sequence as described by the base building contract documents prepared by DDP, and a revised model of the construction sequence distributed by the Port Authority described in steps 2 to 4 below.

   2. An analysis including comparative analyses of the stresses and deflections in the temporary shoring elements as well as the temporary stresses and deflections in the permanent structure at specific milestones during the construction process. The comparison is between result for the baseline model following the sequence originally suggested in the base building construction documents and the results for the revised model following the revised construction sequence. Comparisons are between the following milestones:
      a. Before/After Vierendeel is connected
      b. Before/After AS-l/BS-I Girders are attached
      c. Before/After Shoring is fully released

      A design, where judged appropriate and necessary, of modifications to the temporary shoring elements, after discussion with DDP and the PANYNJ, and the contractors if/as necessary, so as to allow the work to proceed along the proposed revised construction sequence.

      Providing also the shear forces in the pins at the end of the ribs along the AS-1 and BS-1 lines for the condition when the shoring is fully released.

      Performing specific analysis of the sequence already agreed to with DDP and the PANYNJ and that reflect the variation from the revised construction sequence to aid in coordinating concrete operations and steel erection to ensure the additional proposed revisions to the construction sequence do not adversely effect the temporary shoring elements and the permanent structure, their displacement behavior, and their stress distribution. Design, where judged appropriate and necessary, modifications to the temporary shoring elements, after discussion with DDP and the PANYNJ, and the contractors if/as necessary, so as to allow the work to proceed along the proposed revised construction sequence.

3. Perform analyses of the PATH Hall roof structure incorporating temporary openings in tree pit slab areas that will provide additional construction access and ventilation to the spaces below. This analysis is broken down into two phases. In the first phase, a high level evaluation and analysis, identify if such openings are feasible and, if so, what the best location from a structural point of view are. In a second phase, if these openings are deemed necessary by the client, carry out a full analysis and design of the support systems and of the necessary strengthening of the resulting unbraced permanent structure in and around these temporary openings so as to allow the construction sequence to otherwise continue in accordance with its general intended sequence.

4. Review and comment, if requested, on as-built survey information, if provided to us, of horizontal and vertical position of permanent structural elements before and after each milestone (See item 2. a, b, c above) to verify that predicted displacements are being realized. Elements to include free ends of ribs at future vierendeel connection, vierendeel at axes locations, concrete slab elevations. The surveys are to be provided by others in a timely manner.

5. Provide analysis, design and construction support services associated with the temporary bracing to support the BS2 Concrete Girder and the Fulton Street concrete slab between grids BS1 and BS2. The intent of the bracing is to be designed to allow the full use of the Fulton Street slab in its final design capacity intent as a working street. Loading condition from the future Performing Arts Center area is to be excluded for this purpose. The design is to be coordinated with the Skanska Granite shoring system necessary to construct the aforementioned work.

6. Analyze the structure, in its sequential construction, to include the advanced placement of the super-imposed dead load of the water proofing membrane and the companion concrete top protection slab as per the request of the PANYNJ.

7. Perform Path Hall roof support H-Frame reinforcement analysis and design to enable concrete protection slab to be placed in service alleys before roof jack down

8. Undertake Super Column Bracing analysis for various incremental construction conditions and loading cases. In particular, determine whether first lift of concrete is sufficient for bracing of super columns for PATH Hall Load Transfer and 1 Line Gravity Load transfer (Steel dead weight only).

9. Undertake a preliminary feasibility study for an approach to the 1 Line load transfer methodology alternate to the load transfer method and sequence shown on the contract documents.

10. All our design and analysis work will be stamped by a New York State Licensed Professional Engineer.

Deliverables

Deliverables are:

1. Regular updates of our progress in developing and analyzing the models of the structure as defined in the base contract documents and the revised structure and its temporary supports, and its revised construction sequence,

2. Reports, as requested by DDP and the PANYNJ, summarizing at critical milestones as established above, the loads imposed, the construction sequence steps to the milestone in question, the deflections and forces at strategic locations in both the permanent structure in its various stages of partial erection and construction and in the temporary support structure forming part of the means and methods of erection and construction.

3. Reports on the analysis and reinforcement and modifications to the temporary support works to enable the proposed sequence of construction to be implemented.

4. Design calculations and drawings for the reinforcement and modifications to the temporary support works necessary to enable the proposed sequence of construction to be implemented.

PATH Hall Roof Construction Sequence Analysis
BS2 Concrete Girder and Fulton Street Slab between BS1 ad BS2
H-Frame reinforcement
Super Column Bracing analysis
Feasibility Study for Alternate 1 Line Load Transfer Methodology
Change Order #09-006 – Task 3.14
Your reference: DDP-HY-003-11
Our Reference: PKA276
May 16, 2012

We will also:

1. Participate in meetings with DDP and the PANYNJ and their contractors as necessary,

2. Review the contractors' work as it pertains to the temporary supports and their reinforcement and modifications,

3. Provide written reports of our observations and any deficiencies noted in the reviewed work defined above.

Fees and Related Invoicing

Our proposed fee for our services will be invoiced on an hourly basis in accordance with the unit rates embodied in our subcontracting agreement with DDP.

At this time we anticipate, based on the knowledge we currently have, the discussions that have occurred between our offices and with the PANYNJ, our understanding of the project and its complexities and the importance of the schedule, that our fees will be approximately $455,000

Our fees will be invoiced monthly on an hourly basis. Payment is due in accordance with the terms of our subcontracting agreement with DDP.

PATH Hall Roof Construction Sequence Analysis
BS2 Concrete Girder and Fulton Street Slab between BS1 ad BS2
H-Frame reinforcement
Super Column Bracing analysis
Feasibility Study for Alternate 1 Line Load Transfer Methodology
Change Order #09-006 – Task 3.14
Your reference: DDP-HY-003-11
Our Reference: PKA276
May 16, 2012

Fee Assumptions

Our proposed fee is based on the assumptions that if the scope of the project changes significantly, or if re-design and re-drawing of the structural components is required, we will advise you that the estimated fee will need to be revised upwards to reflect the additional services.

We trust this proposal meets with your approval. As you are aware, we have already started our work on this project quite some time ago and will continue unless instructed in writing to stop. Should you have any comments or questions, please contact me.

Sincerely,
Halcrow Engineers PC doing business as Halcrow Yolles

Pierre Desautels

Digitally signed by Pierre Desautels
DN: cn=Pierre Desautels, o=Halcrow Yolles, ou, email=pierre.desautels@halcrowyolles.com, c=US
Date: 2012.05.16 15:48:55 -04'00'

Per: Pierre Desautels
Principal, Vice-President
pierre.desautels@halcrowyolles.com
Direct dial +1 646 253-8620

ATTACHEMENT - C

Halcrow Yolles, a CH2M HILL Company
22 Cortlandt Street New York NY 10007
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Halcrow Yolles
A CH2M HILL COMPANY

17 December 2012

Mr. Scott McIntyre, P.E.
Project Director
Downtown Design Partnership
100 Broadway, 3rd Floor
New York, NY 10005

Re: WTC Transportation Hub - Request for Proposal
MTA 1-Line Jacking
Our project PKA276-203942, Rev 1.0
Your reference: DDP-HY-001-12

Dear Mr. McIntyre

Thank you for your letter of November 15, 2012, in which you request a proposal for our services for the MTA 1-Line Jacking.

We have read the RFP, have familiarized ourselves and agree with the scope of work you have outlined, understand the immediacy of services required on the active site and will respond to deliver technical services in a timely and expedited manner. We have read and taken note of the insurance requirements which are the same as in the prime agreement dated 15 March, 2011 defining the terms and conditions of our agreement for our previous work for you at the WTC. We are treating this part of the project with the same confidentiality as we did our previous work for you.

We have met with the PANYNJ this afternoon to receive their comments and have taken those into account in our revised proposal. We submit herewith our services proposal including our firm qualifications, our approach to the work and our proposed consultant staff. Please do not hesitate to call me if you have any questions on our submission. We look forward to working with you again on this project.

Halcrow Yolles, a CH2M HILL Company
Yours sincerely

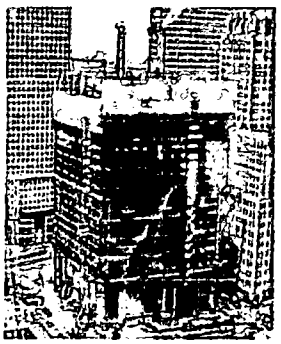
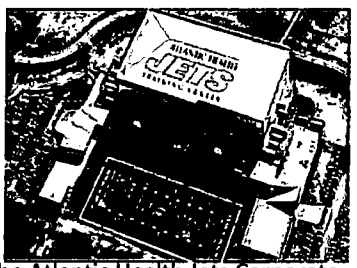
2012
12-17

Pierre Desautels
Principal / Vice President
pierre.desautels@halcrowyolles.com
Direct dial +1 646 253 8620

WTC Transportation Hub
MTA 1-Line Jacking

FIRM QUALIFICATIONS

The Halcrow Group, now part of the CH2M HILL family since November 2011, has established itself globally as one of the premier consulting engineering practices. Now with 30,000 staff worldwide the CH2M HILL group provides a full range of engineering services globally. The Property Group, Halcrow Yolles, operates from North American offices in New York, Chicago, Las Vegas, Toronto, Calgary; it also offers services from London and throughout the UK, and the Middle East. Its portfolio includes projects in the Americas, Europe, North Africa, the Middle East and Asia. Halcrow Yolles has developed a solid reputation in the commercial, hospitality, sports, parking, entertainment, healthcare, residential, transportation and institutional building sectors. Notable project experience includes New York projects such as the World Trade Center means and methods work for the Transit Hub, including work in the vicinity of the MTA's 1-Line; work at the WTC also includes means and methods for WTC Tower1 and WTC Tower 4. Other New York area work includes the World Financial Center, 200 West Street in Battery Park City, The Intrepid Sea, Air and Space Museum, Rockefeller University, as well as projects in many other locations such as Canary Wharf in London, Daimler Chrysler Canada Headquarters, the NY Knicks, Liberty and Rangers Training Center in Greenburgh, NY and Swiss Reinsurance Headquarters in New Castle, NY, Pearson International Airport in Toronto, MGM Las Vegas City Center. Our clients include architects, developers such as Tishman Speyer, and contractors such as Tishman Construction and Turner Construction. Our means and methods experience at the WTC in New York includes work we have undertaken for structural steel and concrete contractors. The work includes the worker access and protective three dimensional cocoons atop WTC-1 and WTC-4, the single structural unit 16 levels external inter floor access construction stairways on WTC1, and the material delivery draw bridge platform systems on WTC1. A few sample projects are shown below.

 WTC1 Cocoon, Access Stair and Drawbridges	 The Atlantic Health Jets Corporate Headquarters and Training Facility, Florham Park, NJ	New York Knicks, Liberty & Rangers Training Center
CityCenter, Block C, Las Vegas	World Financial Center	The Bow, Corporate HQ Calgary

WTC Transportation Hub
MTA 1-Line Jacking

APPROACH TO THE WORK

Our approach to the scope of work:

- Developing an understanding of the base structure of the MTA 1-Line and east and west arches from contract documents and from the existing conditions in the field,
- Develop an understanding of the temporary works in place supporting the MTA 1-Line,
- Study, in a general and global manner, the MTA 1-Line structure behavior in response to loads and to jacking,
- Understand the recommended construction sequence indicated on the contract documents and its effects, at a high level, on the MTA 1-Line,
- Understand how the existing conditions in the field, deviating from the contract documents, affect the behavior of the MTA 1-Line under the jacking process,
- Listen to and understand the needs of the Client and the Contractors for a revised construction sequence,
- Appreciate the schedule and deliverable constraints that are driving the project, from the client's, the Engineers of Record and the MTA points of view,
- Devise a jacking sequence responding to all of the above,
- Provide site review and assistance as requested from time to time in the framework of our scope and areas of responsibility..

Our modeling and analytical work consists of developing three dimensional time lapsed general models representing the existing conditions and reflecting the proposed jacking sequences along with support reduction and eventual release sequence.

Loads considered include self weight of the 1-Line box, the east and west arches, the top and bottom girders and the concrete slabs superimposed loads, jacking loads, and construction live loads. These loads vary through time due to the construction sequence with the analysis reflecting these realities.

The jacking sequence reflects the available jacking material, the time constraints associated with jacking and required shutting down of the MTA operations, deflection value estimates, interim and final at the end of the jacking.

Our services include availability and presence during all jacking sequences with staff on site to review progress and monitor developments.

WTC Transportation Hub
MTA 1-Line Jacking

PROPOSED CONSULTANT STAFF

Our proposed consultant staff roster will be composed of individuals who are very familiar with the WTC Site project, having been involved in various aspects of its construction in providing structural engineering services for means and methods to structural steel and concrete contractors as well as to the Port Authority of New York and New Jersey for the Transit Hub west of the MTA's 1-Line. Our work at the WTC started in late April 2009 and continued uninterrupted since then until late summer 2012. Our very dedicated team is located across the street from the WTC Site and our offices at 22 Cortlandt Street overlook the site.

Our staff team will be composed of the following people with their respective roles and positions:

Role	Staff Member	Company Classification
Project Director	Pierre Desautels	Principal / Vice-President
Senior Project Engineer	Bill Ding	Senior Engineer
Senior Project Manager	Andy Chan	Senior Engineer
Intermediate Project Engineer	Franz Mirko Seborga	Intermediate Engineer
Intermediate Project Engineer	Alex Weinberg	Intermediate Engineer
Junior Project Engineer	Pawel Kolakowski	Junior Engineer
Project BIM Modeler/Cad Drafter	John Figueroa	BIM/CAD Modeler

ATTACHMENT C

Halcrow Yolles
A CH2M HILL COMPANY

WTC Transportation Hub Project
New York, NY

COST PROPOSAL
Task: 1-Line Jacking

Labor Classification[1]	Average Direct Salary Rate/Hour	Multiplier	Hourly Charge-out Rate[2]	Person-Hours	Total Labor Cost
Pierre Desautels - Principal			$ 260.00	120	$ 31,200.00
Andy Chan - Associate - Senior Engineer			$ 191.00	130	$ 24,830.00
Franz Mirko Seborga - Project Engineer			$ 135.00	50	$ 6,750.00
Alexander Weinberg - Intermediate Engineer			$ 135.00	600	$ 81,000.00
Pawel Kolakowski - Junior Engineer			$ 111.00	60	$ 6,660.00
Subtotal labor					$ 150,440.00
Direct Expenses (details of categories below)			1.50% (Estimate)		$ 2,256.60
Total Amount Proposed					$ 152,696.60

[1] Same Staff and Designation as for Base Contract

[2] Same Rates used here as for 2011 Base Contract

Direct Expenses
- SWAC Registration/renewal costs and fees
- Meals, ONLY when working significant evening overtime
- Supplies for inspections
- Transportation to home, ONLY when working significant evening overtime

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Halcrow Yolles
A CH2M HILL COMPANY

6 July 2011
Revisited and unchanged, 3 December 2012

WTC Path HUB PA Concrete Sequence, New York, NY
Project code: PKA276

Unit Rates

Classification	Hourly Rate
Principal	$ 260.00
Senior Engineer	$ 191.00
Senior BIM Modeler	$ 140.00
Intermediate Engineer	$ 135.00
Intermediate BIM Modeler	$ 128.00
Junior Engineer	$ 111.00

GRAND SUMMARY
PROFESSIONAL SERVICES
CHANGE ORDER #13-002
ADDITIONAL DESIGN SERVICES

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTALS	
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$85.93		$54.03			
	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
TASK A - Additional Estimating Services	-	$0	500.0	$101,398	1,000.0	$154,102	2,329	$253,591	-	$0	-	$0	-	$0	3,828.8	$509,091
Fee (On all Labor, excluding Principals):																$50,909
Labor Subtotal (Incl. Overhead & Fee):																$560,000
Other Direct Costs:																$0
Total Task A:																**$560,000**
TASK B - Update WTC Transp. Hub WBS Diagrams	-	$0	40	$8,112	110	$16,951	187	$20,392	-	$0	-	$0	-	$0	337	$45,455
Fee (On all Labor, excluding Principals):																$4,545
Labor Subtotal (Incl. Overhead & Fee):																$50,000
Other Direct Costs:																$0
Total Task B:																**$50,000**
TASK C - WP 18BY Add'l Work	-	$0	80	$16,224	220	$33,903	313	$34,050	-	$0	240	$15,824	-	$0	853	$100,000
Fee (On all Labor, excluding Principals):																$10,000
Labor Subtotal (Incl. Overhead & Fee):																$110,000
Other Direct Costs:																$0
Total Task C:																**$110,000**
TASK D - Redesign/Analysis of AS1/D19 and BS1/D19 Columns	-	$0	8	$1,622	7	$1,105	-	$0	-	$0	-	$0	-	$0	15	$2,727
Fee (On all Labor, excluding Principals):																$273
Labor Subtotal (Incl. Overhead & Fee):																$3,000
Other Direct Costs:																$0
Total Task D:																**$3,000**

GRAND SUMMARY
PROFESSIONAL SERVICES
CHANGE ORDER #13-002
ADDITIONAL DESIGN SERVICES

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTALS	
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
TASK E - Analysis of H&M Wall Along NYCT R/W Line	-	$0	60	$12,168	90	$13,869	95	$10,327	-	$0	-	$0	-	$0	245	$36,364
Fee (On all Labor, excluding Principals):																$3,638
Labor Subtotal (Incl. Overhead & Fee):																$40,000
Other Direct Costs:																$0
Total Task E:																**$40,000**
TASK F - Analysis of Disassembling the 1800 Crane	-	$0	16	$3,245	20	$3,119	-	$0	-	$0	-	$0	-	$0	36	$6,364
Fee (On all Labor, excluding Principals):																$636
Labor Subtotal (Incl. Overhead & Fee):																$7,000
Other Direct Costs:																$0
Total Task F:																**$7,000**
TASK G - Post Installation Alt. for PHTHG - Column @ 266'	-	$0	80	$16,224	80	$12,328	97	$10,539	-	$0	-	$0	-	$0	257	$39,091
Fee (On all Labor, excluding Principals):																$3,909
Labor Subtotal (Incl. Overhead & Fee):																$43,000
Other Direct Costs:																$0
Total Task G:																**$43,000**
TASK H - Study/Redesign fro MTA Gratings along Church St.	-	$0	80	$16,224	80	$12,328	40	$4,356	-	$0	80	$5,275	-	$0	280	$38,182
Fee (On all Labor, excluding Principals):																$3,818
Labor Subtotal (Incl. Overhead & Fee):																$42,000
Other Direct Costs:																$0
Total Task H:																**$42,000**

GRAND SUMMARY
PROFESSIONAL SERVICES
CHANGE ORDER #13-002
ADDITIONAL DESIGN SERVICES

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTALS	
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
TASK I - North Projection Liner Wall	-	$0	16	$3,245	16	$2,466	-	$0	-	$0	24	$1,563	-	$0	56	$7,273
TASK J - Drainage Trough in E. Cofferdam of Rte. 9A Underpass	-	$0	20	$4,056	30	$4,623	20	$2,178	-	$0	84	$5,507	-	$0	154	$16,364
TASK K - Study Temp. Link bet. NTA and E/W Connector	-	$0	140	$28,391	200	$30,820	208	$22,607	-	$0	-	$0	-	$0	548	$81,819
TASK L - Evaluation of Oculus Steel Fire Resistance	-	$0	30	$6,084	40	$6,164	13	$1,388	-	$0	-	$0	-	$0	83	$13,636

Fee (On all Labor, excluding Principals):	$727
Labor Subtotal (Incl. Overhead & Fee):	$8,000
Other Direct Costs:	$0
Total Task I:	**$8,000**
Fee (On all Labor, excluding Principals):	$1,636
Labor Subtotal (Incl. Overhead & Fee):	$18,000
Other Direct Costs:	$0
Total Task J:	**$18,000**
Fee (On all Labor, excluding Principals):	$8,182
Labor Subtotal (Incl. Overhead & Fee):	$90,000
Other Direct Costs:	$0
Total Task K:	**$90,000**
Fee (On all Labor, excluding Principals):	$1,364
Labor Subtotal (Incl. Overhead & Fee):	$15,000
Other Direct Costs:	$0
Total Task L:	**$15,000**

GRAND SUMMARY
PROFESSIONAL SERVICES
CHANGE ORDER #13-002
ADDITIONAL DESIGN SERVICES

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTALS	
Average Rate	$413.36		$88.95		$86.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
TASK M - Estimating Support Services for Sobara CO	-	$0	220	$44,615	300	$46,294	-	$0	-	$0	-	$0	-	$0	520	$90,909
Fee (On all Labor, excluding Principals):																$9,091
Labor Subtotal (Incl. Overhead & Fee):																$100,000
Other Direct Costs:																$0
Total Task M:																**$100,000**
TASK N - Alt. Fire Protection Coating Specification	-	$0	20	$4,056	20	$3,082	60	$6,499	-	$0	-	$0	-	$0	100	$13,637
Fee (On all Labor, excluding Principals):																$1,364
Labor Subtotal (Incl. Overhead & Fee):																$15,000
Other Direct Costs:																$0
Total Task N:																**$15,000**
TASK O - Support for NCR's (Areas 1-3)	-	$0	80	$16,224	300	$46,231	94	$10,273	-	$0	-	$0	-	$0	474	$72,728
Fee (On all Labor, excluding Principals):																$7,273
Labor Subtotal (Incl. Overhead & Fee):																$80,000
Other Direct Costs:																$0
Total Task O:																**$80,000**
TASK P - Oculus Bolted Connections Alternative Design	-	$0	740	$150,069	900	$138,692	899	$97,950	-	$0	-	$0	-	$0	2,539	$386,711
Fee (On all Labor, excluding Principals):																$38,671
Labor Subtotal (Incl. Overhead & Fee):																$425,382
Other Direct Costs:																$39,618
Total Task P:																**$465,000**

Other Direct Costs (PA Specialty Subconsultant): Weidlinger Associates

See Weidlinger Proposal dated, 7/11/11.

GRAND SUMMARY
PROFESSIONAL SERVICES
CHANGE ORDER #13-002
ADDITIONAL DESIGN SERVICES

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTALS	
Average Rate	$413.36		$88.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
Task Q - Analysis of Diagonal Fit Up West Truss	-	$0	20	$4,056	33	$5,035	-	$0	-	$0	-	$0	-	$0	53	$9,091
Task R - Design Changes to Fresh Air Plenum - El. 229-6	-	$0	80	$16,224	160	$24,656	-	$0	-	$0	83	$5,484	-	$0	323	$46,364
Task S - Update E/W Connector Pedestrian Circulation Analysis	-	$0	40	$6,112	40	$6,164	36	$3,906	-	$0	-	$0	-	$0	116	$18,182
Task T - Shoring Removal at EBT Area 3	-	$0	16	$3,245	20	$3,119	-	$0	-	$0	-	$0	-	$0	36	$6,364

Fee (On all Labor, excluding Principals):	$909
Labor Subtotal (Incl. Overhead & Fee):	$10,000
Other Direct Costs:	$0
Total Task Q:	**$10,000**
Fee (On all Labor, excluding Principals):	$4,636
Labor Subtotal (Incl. Overhead & Fee):	$51,000
Other Direct Costs:	$0
Total Task R:	**$51,000**
Fee (On all Labor, excluding Principals):	$1,818
Labor Subtotal (Incl. Overhead & Fee):	$20,000
Other Direct Costs:	$0
Total Task S:	**$20,000**
Fee (On all Labor, excluding Principals):	$636
Labor Subtotal (Incl. Overhead & Fee):	$7,000
Other Direct Costs:	$0
Total Task T:	**$7,000**

GRAND SUMMARY
PROFESSIONAL SERVICES
CHANGE ORDER #13-002
ADDITIONAL DESIGN SERVICES

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTALS	
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
Task U - Analysis NE Corner - Column Existing Topo	-	$0	120	$24,335	240	$36,985	105	$11,407	-	$0	-	$0	-	$0	465	$72,727
Task V - Instrumentation PATH Roof & 1-Line Load Transfer	-	$0	400	$81,118	241	$37,063	-	$0	-	$0	-	$0	-	$0	641	$118,181
Task W - PATH Hall Roof Construction Seq. Analysis	-	$0	30	$6,084	20	$3,007	-	$0	-	$0	-	$0	-	$0	50	$9,091
Task X - No. 1-Line Subway Jacking Construction Sequence	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0

Task U - Analysis NE Corner - Column Existing Topo

Fee (On all Labor, excluding Principals):	$7,273
Labor Subtotal (Incl. Overhead & Fee):	$80,000
Other Direct Costs:	$0
Total Task U:	**$80,000**

Task V - Instrumentation PATH Roof & 1-Line Load Transfer

Fee (On all Labor, excluding Principals):	$11,818
Labor Subtotal (Incl. Overhead & Fee):	$130,000
Other Direct Costs:	$0
Total Task V:	**$130,000**

Task W - PATH Hall Roof Construction Seq. Analysis

Other Direct Costs (PA Specialty Subconsultant): Halcrow

See Halcrow Yolles Proposal dated, May 16, 2012.

Fee (On all Labor, excluding Principals):	$909
Labor Subtotal (Incl. Overhead & Fee):	$10,000
Other Direct Costs:	$455,000
Total Task W:	**$465,000**

Task X - No. 1-Line Subway Jacking Construction Sequence

Other Direct Costs (PA Specialty Subconsultant): Halcrow

See Halcrow Yolles Proposal dated, December 17, 2012.

Fee (On all Labor, excluding Principals):	$0
Labor Subtotal (Incl. Overhead & Fee):	$0
Other Direct Costs:	$152,696
Total Task X:	**$152,696**

GRAND SUMMARY
PROFESSIONAL SERVICES
CHANGE ORDER #13-002
ADDITIONAL DESIGN SERVICES

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTALS	
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
TOTAL CO#13-002	-	$0	2,836.0	$575,129	4,166.8	$642,107	4,495	$489,462	-	$0	510.4	$33,651	-	$0	12,007.9	$1,740,349

Fee (On all Labor, excluding Principals):	$174,035
Subtotal Labor (Incl. Overhead & Fee):	$1,914,384
Subtotal Other Direct Costs :	$647,314
Grand Total CO#13-0012	**$2,561,698**

DOWNTOWN DESIGN PARTNERSHIP

Professional Services Task Order # CO-13-002
Task A

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
TASK A	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
TASK A - Additional Estimating Services	-	$0	500.0	$101,398	1,000.0	$154,102	2,328.8	$253,591	0.0	$0	0.0	$0	0.0	$0	3,828.8	$509,091
															0.0	$0
Labor & Overhead:	-	$0	500.0	$101,398	1,000.0	$154,102	2,328.8	$253,591	0.0	$0	0.0	$0	0.0	$0	3,828.8	$509,091

Fee (On all Labor, excluding Principals):	$50,909
Total Labor Cost:	$560,000
Other Direct Costs:	$0
Grand Total Task A:	$560,000

DOWNTOWN DESIGN PARTNERSHIP

CO#13-002 - Task A
Breakdown by Staff Classification

Task A

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	1	x	0.0	x	1	=	0.0
Arch/Eng A	2	x	12.5	x	20	=	500.0
Arch/Eng B	2	x	25.0	x	20	=	1,000.0
Arch/Eng C	3	x	38.8	x	20	=	2,328.8
Arch/Eng D	1	x	0.0	x	1	=	0.0
CADD	1	x	0.0	x	1	=	0.0
Technical Assistant	1	x	0.0	x	1	=	0.0
							3,828.8

DOWNTOWN DESIGN PARTNERSHIP

Professional Services Task Order # CO-13-002
Task B

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate	$413.36		$86.95		$66.08		$48.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
TASK B	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
TASK B - Update WTC Transp. Hub WBS Diagrams	-	$0	40.0	$8,112	110.0	$16,951	187.3	$20,392	0.0	$0	0.0	$0	0.0	$0	337.3	$45,455
Labor & Overhead:	-	$0	40.0	$8,112	110.0	$16,951	187.3	$20,392	0.0	$0	0.0	$0	0.0	$0	337.3	$45,455

Fee (On all Labor, excluding Principals):	$4,545
Total Labor Cost:	$50,000
Other Direct Costs:	$0
Grand Total Task B:	$50,000

DOWNTOWN DESIGN PARTNERSHIP

CO#13-002 - Task B
Breakdown by Staff Classification

Task B

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	1	x	0.0	x	1	=	0.0
Arch/Eng A	3	x	4.4	x	3	=	40.0
Arch/Eng B	2	x	18.3	x	3	=	110.0
Arch/Eng C	2	x	31.2	x	3	=	187.3
Arch/Eng D	1	x	0.0	x	1	=	0.0
CADD	1	x	0.0	x	1	=	0.0
Technical Assistant	1	x	0.0	x	1	=	0.0
							337.3

DOWNTOWN DESIGN PARTNERSHIP

Professional Services Task Order # CO-13-002
Task C

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate		$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17		
Average Overhead		1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322		
Average Rate with Overhead		$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		
TASK C	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
TASK C - WP 18BY Add'l Work	-	$0	80.0	$16,224	220.0	$33,903	312.7	$34,050	0.0	$0	240.0	$15,824	0.0	$0	852.7	$100,000
Labor & Overhead:	-	$0	80.0	$16,224	220.0	$33,903	312.7	$34,050	0.0	$0	240.0	$15,824	0.0	$0	852.7	$100,000

Fee (On all Labor, excluding Principals):	**$10,000**
Total Labor Cost:	**$110,000**
Other Direct Costs:	**$0**
Grand Total Task C:	**$110,000**

DOWNTOWN DESIGN PARTNERSHIP

CO#13-002 - Task C
Breakdown by Staff Classification

Task C

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	1	x		x	1	=	0.0
Arch/Eng A	1	x	20.0	x	4	=	80.0
Arch/Eng B	2	x	27.5	x	4	=	220.0
Arch/Eng C	3	x	26.1	x	4	=	312.7
Arch/Eng D	1	x	0.0	x	4	=	0.0
CADD	3	x	20.0	x	4	=	240.0
Technical Assistant	1	x	0.0	x	1	=	0.0
							852.7

DOWNTOWN DESIGN PARTNERSHIP

Professional Services Task Order # CO-13-002
Task D

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate	$413.36		$86.95		$68.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
TASK D	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
TASK D - Redesign/Analsyis of AS1/D19 and BS1/D19 Columns	-	$0	8.0	$1,622	7.2	$1,105	0.0	$0	0.0	$0	0.0	$0	0.0	$0	15.2	$2,727
Labor & Overhead:	-	$0	8.0	$1,622	7.2	$1,105	0.0	$0	0.0	$0	0.0	$0	0.0	$0	15.2	$2,727

Fee (On all Labor, excluding Principals):	$273
Total Labor Cost:	$3,000
Other Direct Costs:	$0
Grand Total Task D:	$3,000

DOWNTOWN DESIGN PARTNERSHIP

CO#13-002 - Task D
Breakdown by Staff Classification

Task D

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	1	x	0.0	x	1	=	0.0
Arch/Eng A	1	x	8.0	x	1	=	8.0
Arch/Eng B	1	x	7.2	x	1	=	7.2
Arch/Eng C	1	x	0.0	x	1	=	0.0
Arch/Eng D	1	x	0.0	x	1	=	0.0
CADD	1	x	0.0	x	1	=	0.0
Technical Assistant	1	x	0.0	x	1	=	0.0
							15.2

DOWNTOWN DESIGN PARTNERSHIP

Professional Services Task Order # CO-13-002
Task E

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
TASK E	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
TASK E - Analysis of H&M Wall Along NYCT R/W Line	-	$0	60.0	$12,168	90.0	$13,869	94.8	$10,327		$0	0.0	$0	0.0	$0	244.8	$36,364
Labor & Overhead:	-	$0	60.0	$12,168	90.0	$13,869	94.8	$10,327	0.0	$0	0.0	$0	0.0	$0	244.8	$36,364

Fee (On all Labor, excluding Principals):	$3,636
Total Labor Cost:	$40,000
Other Direct Costs:	$0
Grand Total Task E:	$40,000

DOWNTOWN DESIGN PARTNERSHIP

CO#13-002 - Task E
Breakdown by Staff Classification

Task E

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	1	x	0.0	x	1	=	0.0
Arch/Eng A	2	x	15.0	x	2	=	60.0
Arch/Eng B	2	x	22.5	x	2	=	90.0
Arch/Eng C	2	x	23.7	x	2	=	94.8
Arch/Eng D	1	x	0.0	x	1	=	0.0
CADD	1	x	0.0	x	1	=	0.0
Technical Assistant	1	x	0.0	x	1	=	0.0
							244.8

DOWNTOWN DESIGN PARTNERSHIP

Professional Services Task Order # CO-13-002
Task F

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
TASK F	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
TASK F - Analysis of Disassembling the 1800 Crane	-	$0	16.0	$3,245	20.2	$3,119	0.0	$0	0.0	$0	0.0	$0	0.0	$0	36.2	$6,364
Labor & Overhead:	-	$0	16.0	$3,245	20.2	$3,119	0.0	$0	0.0	$0	0.0	$0	0.0	$0	36.2	$6,364

Fee (On all Labor, excluding Principals):	**$636**
Total Labor Cost:	**$7,000**
Other Direct Costs:	**$0**
Grand Total Task F:	**$7,000**

DOWNTOWN DESIGN PARTNERSHIP

CO#13-002 - Task F
Breakdown by Staff Classification

Task F

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	1	x	0.0	x	4	=	0.0
Arch/Eng A	1	x	4.0	x	4	=	16.0
Arch/Eng B	1	x	5.1	x	4	=	20.2
Arch/Eng C	1	x	0.0	x	4	=	0.0
Arch/Eng D	1	x	0.0	x	4	=	0.0
CADD	1	x	0.0	x	4	=	0.0
Technical Assistant	1	x	0.0	x	4	=	0.0
							36.2

DOWNTOWN DESIGN PARTNERSHIP

Professional Services Task Order # CO-13-002
Task G

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
TASK G	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
TASK G - Post Installation Alt. for PHTHG - Column @ 266'	-	$0	80.0	$16,224	80.0	$12,328	96.8	$10,539	0.0	$0	0.0	$0	0.0	$0	256.8	$39,091
Labor & Overhead:	-	$0	80.0	$16,224	80.0	$12,328	96.8	$10,539	0.0	$0	0.0	$0	0.0	$0	256.8	$39,091

Fee (On all Labor, excluding Principals):	**$3,909**
Total Labor Cost:	**$43,000**
Other Direct Costs:	**$0**
Grand Total Task G:	**$43,000**

DOWNTOWN DESIGN PARTNERSHIP

CO#13-002 - Task G
Breakdown by Staff Classification

Task G

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	1	x	0.0	x	1	=	0.0
Arch/Eng A	1	x	26.7	x	3	=	80.0
Arch/Eng B	1	x	26.7	x	3	=	80.0
Arch/Eng C	1	x	32.3	x	3	=	96.8
Arch/Eng D	1	x	0.0	x	1	=	0.0
CADD	1	x	0.0	x	1	=	0.0
Technical Assistant	1	x	0.0	x	1	=	0.0
							256.8

DOWNTOWN DESIGN PARTNERSHIP

Professional Services Task Order # CO-13-002
Task H

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
TASK H	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
TASK H - Study/Redesign fro MTA Gratings along Church St.	-	$0	80.0	$16,224	80.0	$12,328	40.0	$4,356	0.0	$0	80.0	$5,275	0.0	$0	280.0	$38,182
Labor & Overhead:	-	$0	80.0	$16,224	80.0	$12,328	40.0	$4,356	0.0	$0	80.0	$5,275	0.0	$0	280.0	$38,182

Fee (On all Labor, excluding Principals):	**$3,818**
Total Labor Cost:	**$42,000**
Other Direct Costs:	**$0**
Grand Total Task H:	**$42,000**

Note: Design estimate includes GC Solutions (Per Diem Subconsultant) as an ODC.

DOWNTOWN DESIGN PARTNERSHIP

CO#13-002 - Task H
Breakdown by Staff Classification

Task H

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	1	x	0.0	x	1	=	0.0
Arch/Eng A	2	x	10.0	x	4	=	80.0
Arch/Eng B	2	x	10.0	x	4	=	80.0
Arch/Eng C	2	x	5.0	x	4	=	40.0
Arch/Eng D	1	x	0.0	x	4	=	0.0
CADD	2	x	10.0	x	4	=	80.0
Technical Assistant	1	x	0.0	x	4	=	0.0
							280.0

DOWNTOWN DESIGN PARTNERSHIP

Professional Services Task Order # CO-13-002
Task I

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
TASK I	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
TASK I - North Projection Liner Wall	-	$0	16.0	$3,245	16.0	$2,466	0.0	$0	0.0	$0	23.7	$1,563	0.0	$0	55.7	$7,273
Labor & Overhead:	-	$0	16.0	$3,245	16.0	$2,466	0.0	$0	0.0	$0	23.7	$1,563	0.0	$0	55.7	$7,273

Fee (On all Labor, excluding Principals):	$727
Total Labor Cost:	$8,000
Other Direct Costs:	$0
Grand Total Task I:	$8,000

DOWNTOWN DESIGN PARTNERSHIP

CO#13-002 - Task I
Breakdown by Staff Classification

Task I

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	1	x	0.0	x	1	=	0.0
Arch/Eng A	1	x	16.0	x	1	=	16.0
Arch/Eng B	1	x	16.0	x	1	=	16.0
Arch/Eng C	1	x	0.0	x	1	=	0.0
Arch/Eng D	1	x	0.0	x	1	=	0.0
CADD	1	x	23.7	x	1	=	23.7
Technical Assistant	1	x	0.0	x	1	=	0.0
							55.7

DOWNTOWN DESIGN PARTNERSHIP

Professional Services Task Order # CO-13-002
Task J

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
TASK J	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
TASK J - Drainage Trough in E. Cofferdam of Rte. 9A Underpass	-	$0	20.0	$4,056	30.0	$4,623	20.0	$2,178	0.0	$0	83.5	$5,507	0.0	$0	153.5	$16,364
Labor & Overhead:	-	$0	20.0	$4,056	30.0	$4,623	20.0	$2,178	0.0	$0	83.5	$5,507	0.0	$0	153.5	$16,364

Fee (On all Labor, excluding Principals):	**$1,636**
Total Labor Cost:	**$18,000**
Other Direct Costs:	**$0**
Grand Total Task J:	**$18,000**

DOWNTOWN DESIGN PARTNERSHIP

CO#13-002 - Task J
Breakdown by Staff Classification

Task J

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	1	x	0.0	x	1	=	0.0
Arch/Eng A	1	x	10.0	x	2	=	20.0
Arch/Eng B	2	x	7.5	x	2	=	30.0
Arch/Eng C	1	x	10.0	x	2	=	20.0
Arch/Eng D	1	x	0.0	x	2	=	0.0
CADD	2	x	20.9	x	2	=	83.5
Technical Assistant	1	x	0.0	x	1	=	0.0
							153.5

DOWNTOWN DESIGN PARTNERSHIP

Professional Services Task Order # CO-13-002
Task K

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
TASK K	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
TASK K - Study Temp. Link bet. NTA and E/W Connector	-	$0	140.0	$28,391	200.0	$30,820	207.6	$22,607	0.0	$0	0.0	$0	0.0	$0	547.6	$81,819
Labor & Overhead:	-	$0	140.0	$28,391	200.0	$30,820	207.6	$22,607	0.0	$0	0.0	$0	0.0	$0	547.6	$81,819

Fee (On all Labor, excluding Principals):	**$8,182**
Total Labor Cost:	**$90,000**
Other Direct Costs:	**$0**
Grand Total Task K:	**$90,000**

DOWNTOWN DESIGN PARTNERSHIP

CO#13-002 - Task K
Breakdown by Staff Classification

Task K

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	1	x	0.0	x	1	=	0.0
Arch/Eng A	2	x	23.3	x	3	=	140.0
Arch/Eng B	2	x	33.3	x	3	=	200.0
Arch/Eng C	2	x	34.6	x	3	=	207.6
Arch/Eng D	2	x	0.0	x	3	=	0.0
CADD	1	x	0.0	x	1	=	0.0
Technical Assistant	1	x	0.0	x	1	=	0.0
							547.6

DOWNTOWN DESIGN PARTNERSHIP

Professional Services Task Order # CO-13-002
Task L

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
TASK L	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
TASK L - Evaluation of Oculus Steel Fire Resistance	-	$0	30.0	$6,084	40.0	$6,164	12.8	$1,388	0.0	$0	0.0	$0	0.0	$0	82.8	$13,636
Labor & Overhead:	-	$0	30.0	$6,084	40.0	$6,164	12.8	$1,388	0.0	$0	0.0	$0	0.0	$0	82.8	$13,636

Fee (On all Labor, excluding Principals):	**$1,364**
Total Labor Cost:	**$15,000**
Other Direct Costs:	**$0**
Grand Total Task L:	**$15,000**

DOWNTOWN DESIGN PARTNERSHIP

CO#13-002 - Task L
Breakdown by Staff Classification

Task L

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	1	x	0.0	x	1	=	0.0
Arch/Eng A	2	x	15.0	x	1	=	30.0
Arch/Eng B	2	x	20.0	x	1	=	40.0
Arch/Eng C	1	x	12.8	x	1	=	12.8
Arch/Eng D	1	x	0.0	x	1	=	0.0
CADD	1	x	0.0	x	1	=	0.0
Technical Assistant	1	x	0.0	x	1	=	0.0
							82.8

DOWNTOWN DESIGN PARTNERSHIP

Professional Services Task Order # CO-13-002
Task M

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant			
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		TOTAL	
TASK M	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
TASK M - Estimating Support Services for Sobara CO	-	$0	220.0	$44,615	300.4	$46,294	0.0	$0	0.0	$0	0.0	$0	0.0	$0	520.4	$90,909
Labor & Overhead:	-	$0	220.0	$44,615	300.4	$46,294	0.0	$0	0.0	$0	0.0	$0	0.0	$0	520.4	$90,909

Fee (On all Labor, excluding Principals):	$9,091
Total Labor Cost:	$100,000
Other Direct Costs:	$0
Grand Total Task M:	$100,000

DOWNTOWN DESIGN PARTNERSHIP

CO#13-002 - Task M
Breakdown by Staff Classification

Task M

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	1	x	0.0	x	1	=	0.0
Arch/Eng A	2	x	27.5	x	4	=	220.0
Arch/Eng B	3	x	25.0	x	4	=	300.4
Arch/Eng C	1	x	0.0	x	1	=	0.0
Arch/Eng D	1	x	0.0	x	1	=	0.0
CADD	1	x	0.0	x	1	=	0.0
Technical Assistant	1	x	0.0	x	1	=	0.0
							520.4

DOWNTOWN DESIGN PARTNERSHIP

Professional Services Task Order # CO-13-002
Task N

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate	$413.36		$86.95		$68.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
TASK N	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
TASK N - Alt. Fire Protection Coating Specification	-	$0	20.0	$4,056	20.0	$3,082	59.7	$6,499		$0		$0		$0	99.7	$13,637
Labor & Overhead:	-	$0	20.0	$4,056	20.0	$3,082	59.7	$6,499	0.0	$0	0.0	$0	0.0	$0	99.7	$13,637

Fee (On all Labor, excluding Principals):	$1,364
Total Labor Cost:	$15,000
Other Direct Costs:	$0
Grand Total Task N:	$15,000

DOWNTOWN DESIGN PARTNERSHIP

CO#13-002 - Task N
Breakdown by Staff Classification

Task N

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	1	x	0.0	x	1	=	0.0
Arch/Eng A	1	x	20.0	x	1	=	20.0
Arch/Eng B	1	x	20.0	x	1	=	20.0
Arch/Eng C	2	x	29.8	x	1	=	59.7
Arch/Eng D	1	x	0.0	x	1	=	0.0
CADD	1	x	0.0	x	1	=	0.0
Technical Assistant	1	x	0.0	x	1	=	0.0
							99.7

DOWNTOWN DESIGN PARTNERSHIP

Professional Services Task Order # CO-13-002
Task O

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate	$413.36		$86.95		$68.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
TASK O	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
TASK O - Suport for NCR's (Areas 1-3)	-	$0	80.0	$16,224	300.0	$46,231	94.3	$10,273		$0		$0		$0	474.3	$72,728
Labor & Overhead:	-	$0	80.0	$16,224	300.0	$46,231	94.3	$10,273	0.0	$0	0.0	$0	0.0	$0	474.3	$72,728

Fee (On all Labor, excluding Principals):	**$7,273**
Total Labor Cost:	**$80,000**
Other Direct Costs:	**$0**
Grand Total Task O:	**$80,000**

DOWNTOWN DESIGN PARTNERSHIP

CO#13-002 - Task O
Breakdown by Staff Classification

Task O

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	1	x	0.0	x	1	=	0.0
Arch/Eng A	1	x	5.0	x	16	=	80.0
Arch/Eng B	2	x	9.4	x	16	=	300.0
Arch/Eng C	1	x	5.9	x	16	=	94.3
Arch/Eng D	1	x	0.0	x	1	=	0.0
CADD	1	x	0.0	x	1	=	0.0
Technical Assistant	1	x	0.0	x	1	=	0.0
							474.3

DOWNTOWN DESIGN PARTNERSHIP

Professional Services Task Order # CO-13-002
Task P

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate	$413.36		$88.95		$86.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
TASK P	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
TASK P - Oculus Bolted Connections Alternative Design	-	$0	740.0	$150,069	900.0	$138,692	899.5	$97,950		$0		$0		$0	2,539.5	$386,711
Labor & Overhead:	-	$0	740.0	$150,069	900.0	$138,692	899.5	$97,950	0.0	$0	0.0	$0	0.0	$0	2,539.5	$386,711

Fee (On all Labor, excluding Principals):	**$38,671**
Total Labor Cost:	**$425,382**
Other Direct Costs:	**$39,618**
Grand Total Task P:	**$465,000**

Note:

Weidlinger (WAI) is a Specialty Support Subconsultant (Pass-Through). See attached Weidlinger proposal dated, 7/11/11.

(See attached)

DOWNTOWN DESIGN PARTNERSHIP

CO#13-002 - Task P
Breakdown by Staff Classification

Task P

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	1	x	0.0	x	1	=	0.0
Arch/Eng A	2	x	14.2	x	26	=	740.0
Arch/Eng B	2	x	17.3	x	26	=	900.0
Arch/Eng C	2	x	17.3	x	26	=	899.5
Arch/Eng D	1	x	0.0	x	1	=	0.0
CADD	1	x	0.0	x	1	=	0.0
Technical Assistant	1	x	0.0	x	1	=	0.0
							2,539.5

DOWNTOWN DESIGN PARTNERSHIP

Professional Services Task Order # CO-13-002
Task Q

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate		$413.36		$88.95		$66.08		$46.69		$31.91		$28.27		$23.17		
Average Overhead		1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322		
Average Rate with Overhead		$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		
TASK Q	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
Task Q - Analysis of Diagonal Fit Up West Truss	-	$0	20.0	$4,056	32.7	$5,035	0.0	$0		$0		$0		$0	52.7	$9,091
Labor & Overhead:	-	$0	20.0	$4,056	32.7	$5,035	0.0	$0	0.0	$0	0.0	$0	0.0	$0	52.7	$9,091

Fee (On all Labor, excluding Principals):	**$909**
Total Labor Cost:	**$10,000**
Other Direct Costs:	**$0**
Grand Total Task Q:	**$10,000**

DOWNTOWN DESIGN PARTNERSHIP

CO#13-002 - Task Q
Breakdown by Staff Classification

Task Q

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	1	x	0.0	x	1	=	0.0
Arch/Eng A	1	x	10.0	x	2	=	20.0
Arch/Eng B	1	x	16.3	x	2	=	32.7
Arch/Eng C	1	x	0.0	x	1	=	0.0
Arch/Eng D	1	x	0.0	x	1	=	0.0
CADD	1	x	0.0	x	1	=	0.0
Technical Assistant	1	x	0.0	x	1	=	0.0
							52.7

DOWNTOWN DESIGN PARTNERSHIP

Professional Services Task Order # CO-13-002
Task R

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
TASK R	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
Task R - Design Changes to Fresh Air Plenum - El. 229-6	-	$0	80.0	$16,224	160.0	$24,656	0.0	$0		$0	83.2	$5,484		$0	323.2	$46,364
Labor & Overhead:	-	$0	80.0	$16,224	160.0	$24,656	0.0	$0	0.0	$0	83.2	$5,484	0.0	$0	323.2	$46,364

Fee (On all Labor, excluding Principals):	**$4,636**
Total Labor Cost:	**$51,000**
Other Direct Costs:	**$0**
Grand Total Task R:	**$51,000**

DOWNTOWN DESIGN PARTNERSHIP

CO#13-002 - Task R
Breakdown by Staff Classification

Task R

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	1	x	0.0	x	1	=	0.0
Arch/Eng A	2	x	13.3	x	3	=	80.0
Arch/Eng B	2	x	26.7	x	3	=	160.0
Arch/Eng C	1	x	0.0	x	1	=	0.0
Arch/Eng D	1	x	0.0	x	1	=	0.0
CADD	2	x	13.9	x	3	=	83.2
Technical Assistant	1	x	0.0	x	1	=	0.0
							323.2

DOWNTOWN DESIGN PARTNERSHIP

Professional Services Task Order # CO-13-002
Task S

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
TASK S	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
Task S - Update E/W Connector Pedestrian Circulation Analysis	-	$0	40.0	$8,112	40.0	$6,164	35.9	$3,906		$0		$0		$0	115.9	$18,182
Labor & Overhead:	-	$0	40.0	$8,112	40.0	$6,164	35.9	$3,906	0.0	$0	0.0	$0	0.0	$0	115.9	$18,182

Fee (On all Labor, excluding Principals):	**$1,818**
Total Labor Cost:	**$20,000**
Other Direct Costs:	**$0**
Grand Total Task S:	**$20,000**

DOWNTOWN DESIGN PARTNERSHIP

CO#13-002 - Task S
Breakdown by Staff Classification

Task S

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	1	x	0.0	x	1	=	0.0
Arch/Eng A	2	x	5.0	x	4	=	40.0
Arch/Eng B	1	x	10.0	x	4	=	40.0
Arch/Eng C	1	x	9.0	x	4	=	35.9
Arch/Eng D	1	x	0.0	x	1	=	0.0
CADD	1	x	0.0	x	1	=	0.0
Technical Assistant	1	x	0.0	x	1	=	0.0
							115.9

DOWNTOWN DESIGN PARTNERSHIP

Professional Services Task Order # CO-13-002
Task T

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
TASK T	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
Task T - Shoring Removal at EBT Area 3	-	$0	16.0	$3,245	20.2	$3,119	0.0	$0		$0		$0		$0	36.2	$6,364
Labor & Overhead:	-	$0	16.0	$3,245	20.2	$3,119	0.0	$0	0.0	$0	0.0	$0	0.0	$0	36.2	$6,364

Fee (On all Labor, excluding Principals):	$636
Total Labor Cost:	$7,000
Other Direct Costs:	$0
Grand Total Task T:	$7,000

DOWNTOWN DESIGN PARTNERSHIP

CO#13-002 - Task T
Breakdown by Staff Classification

Task T

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	1	x	0.0	x	1	=	0.0
Arch/Eng A	1	x	8.0	x	2	=	16.0
Arch/Eng B	1	x	10.1	x	2	=	20.2
Arch/Eng C	1	x	0.0	x	1	=	0.0
Arch/Eng D	1	x	0.0	x	1	=	0.0
CADD	1	x	0.0	x	1	=	0.0
Technical Assistant	1	x	0.0	x	1	=	0.0
							36.2

DOWNTOWN DESIGN PARTNERSHIP

Professional Services Task Order # CO-13-002
Task U

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate		$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17		
Average Overhead		1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322		
Average Rate with Overhead		$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		
TASK U	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
Task U - Analysis NE Corner - Column Existing Topo	-	$0	120.0	$24,335	240.0	$36,985	104.8	$11,407		$0		$0		$0	464.8	$72,727
Labor & Overhead:	-	$0	120.0	$24,335	240.0	$36,985	104.8	$11,407	0.0	$0	0.0	$0	0.0	$0	464.8	$72,727

Fee (On all Labor, excluding Principals):	$7,273
Total Labor Cost:	$80,000
Other Direct Costs:	$0
Grand Total Task U:	$80,000

DOWNTOWN DESIGN PARTNERSHIP

CO#13-002 - Task U
Breakdown by Staff Classification

Task U

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	1	x	0.0	x	1	=	0.0
Arch/Eng A	1	x	24.0	x	5	=	120.0
Arch/Eng B	2	x	24.0	x	5	=	240.0
Arch/Eng C	2	x	10.5	x	5	=	104.8
Arch/Eng D	1	x	0.0	x	1	=	0.0
CADD	1	x	0.0	x	1	=	0.0
Technical Assistant	1	x	0.0	x	1	=	0.0
							464.8

DOWNTOWN DESIGN PARTNERSHIP

Professional Services Task Order # CO-13-002
Task V

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
TASK V	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
Task V - Instrumentation PATH Roof & 1-Line Load Transfer	-	$0	400.0	$81,118	240.5	$37,063	0.0	$0	0.0	$0	0.0	$0	0.0	$0	640.5	$118,181
Labor & Overhead:	-	$0	400.0	$81,118	240.5	$37,063	0.0	$0	0.0	$0	0.0	$0	0.0	$0	640.5	$118,181

Fee (On all Labor, excluding Principals):	**$11,818**
Total Labor Cost:	**$130,000**
Other Direct Costs:	**$0**
Grand Total Task V:	**$130,000**

DOWNTOWN DESIGN PARTNERSHIP

CO#13-002 - Task V
Breakdown by Staff Classification

Task V

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	1	x	0.0	x	1	=	0.0
Arch/Eng A	3	x	22.2	x	6	=	400.0
Arch/Eng B	2	x	20.0	x	6	=	240.5
Arch/Eng C	1	x	0.0	x	1	=	0.0
Arch/Eng D	1	x	0.0	x	1	=	0.0
CADD	1	x	0.0	x	1	=	0.0
Technical Assistant	1	x	0.0	x	1	=	0.0
							640.5

DOWNTOWN DESIGN PARTNERSHIP

Professional Services Task Order # CO-13-002
Task W

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate	$413.36		$86.95		$68.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$164.10		$108.90		$74.42		$55.93		$54.03			
TASK W	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
Task W - PATH Hall Roof Construction Seq. Analysis (Halcrow)	-	$0	30.0	$6,084	19.5	$3,007	0.0	$0		$0		$0		$0	49.5	$9,091
Labor & Overhead:	-	$0	30.0	$6,084	19.5	$3,007	0.0	$0	0.0	$0	0.0	$0	0.0	$0	49.5	$9,091

Fee (On all Labor, excluding Principals):	$909
Total Labor Cost:	$10,000
Other Direct Costs (PA Specialty Subconsultant):	$455,000
See Halcrow Yolles Proposal dated, May 16, 2012.	
Grand Total Task W:	$465,000

DOWNTOWN DESIGN PARTNERSHIP

CO#13-002 - Task W
Breakdown by Staff Classification

Task W

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	1	x	0.0	x	1	=	0.0
Arch/Eng A	1	x	3.8	x	8	=	30.0
Arch/Eng B	1	x	2.4	x	8	=	19.5
Arch/Eng C	1	x	0.0	x	1	=	0.0
Arch/Eng D	1	x	0.0	x	1	=	0.0
CADD	1	x	0.0	x	1	=	0.0
Technical Assistant	1	x	0.0	x	1	=	0.0
							49.5

DOWNTOWN DESIGN PARTNERSHIP

CO#13-002 - Task X
Breakdown by Staff Classification

Task X

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	1	x	0.0	x	1	=	0.0
Arch/Eng A	1	x	0.0	x	1	=	0.0
Arch/Eng B	1	x	0.0	x	1	=	0.0
Arch/Eng C	1	x	0.0	x	1	=	0.0
Arch/Eng D	1	x	0.0	x	1	=	0.0
CADD	1	x	0.0	x	1	=	0.0
Technical Assistant	1	x	0.0	x	1	=	0.0
							0.0

DOWNTOWN DESIGN PARTNERSHIP

Professional Services Task Order # CO-13-002
Task X

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
TASK X	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
Task X - No. 1-Line Subway Jacking Construction Sequence (Halcrow)	-	$0	0.0	$0	0.0	$0	0.0	$0		$0		$0		$0	0.0	$0
Labor & Overhead:	-	$0	0.0	$0	0.0	$0	0.0	$0	0.0	$0	0.0	$0	0.0	$0	0.0	$0

Fee (On all Labor, excluding Principals): $0

Total Labor Cost: $0

Other Direct Costs (PA Specialty Subconsultant): $152,696

See Halcrow Yolles Proposal dated, December 17, 2012.

Grand Total Task X: $152,696

WTC CONSTRUCTION DEPARTMENT

WORLD TRADE CENTER TRANSPORTATION HUB

January 31, 2013

Downtown Design Partnership
A Joint Venture of AECOM, Inc. and STV Incorporated
605 Third Avenue
New York, NY 10158

Attention: Ira Allan Levy, PE
President, AECOM, Inc.

SUBJECT: **SUPPLEMENTAL SERVICES TASK ORDER #TO-12-003 - STRUCTURAL FEASIBILITY STUDY OF RETAIL REQUESTED SLAB OPENINGS AT LEVEL B1 – NORTHEAST OCULUS QUADRANT**

Reference: Performance of Expert Architectural and Engineering Services for the Permanent World Trade Center PATH Terminal on a Task Order Basis (Contract No. 4600004824, PA Agreement No. 407-03-013 and PO No. 4900000675), as amended – Supplemental Agreement #1

Dear Mr. Levy:

The Authority hereby accepts your proposal dated December 6, 2012, which is attached hereto and incorporated into the referenced agreement by reference, for performance of the services in the scope of additional services request, which formed the basis for submission of your proposal.

Total compensation for the performance of the above-mentioned services shall not exceed the amount of **$22,000**. The Consultant shall employ, to every extent possible, the most cost effective methods of performing the Scope of Services as defined in the attached. This includes, but is not limited to, utilizing appropriate staff as needed (i.e. combining management and technical efforts) and tracking hours of technical staff. Accordingly, the Consultant shall inform the Director when the Consultant's expenditures reach 80% of the not-to-exceed total amount noted above. The Consultant shall continue to render the additional services to the point when the Consultant's compensation reaches 100% of such amount, at which time either additional written authorization will be given to continue or the scope of work will be deemed complete. The time for completion for the additional services is three (3) weeks from the NTP.

The previously authorized total amount for the referenced agreement is increased from $77,820,887 to $77,842,887.

The above referenced agreement remains in full force and effect and the performance of the requested additional services is subject to the terms and conditions of such referenced agreement.

WTC CONSTRUCTION DEPARTMENT

WORLD TRADE CENTER TRANSPORTATION HUB

Upon receipt by the Authority of a copy of this letter executed by a principal of your firm, you are authorized to proceed with performance of the requested additional services.

Any questions relating to the performance of the subject services may be directed to Mr. Joe Pinheiro, Project Manager, telephone (212) 435-6558 or Mr. Jeff Bryant, Senior Project Manager, telephone (212) 435-5322.

Sincerely,

Frank Gallo
Assistant Director
WTC Construction Department

Accepted:
Downtown Design Partnership
A Joint Venture of AECOM, Inc. and STV Incorporated

D. Servedio, Chairman, CEO — Date 1/31/13

I. Levy, President — Date 1/31/13

115 Broadway, 7th Floor
New York, NY 10006

DOWNTOWN
DESIGN PARTNERSHIP

100 Broadway, 3rd Floor • New York, NY 10005
Phone: 917.522.2800 Fax: 212.566.5214

12-07-12 A09:44 RCVD

December 6, 2012

Ref #: DDP-PA-0348-12

Port Authority of New York and New Jersey
115 Broadway – 19th Floor
New York, NY 10006

Attention: **Kathy Murphy**

Subject: **P.A. Agreement No. 407-03-013**
Performance of Expert Professional
Architectural and Engineering Services for the
World Trade Center Transportation Hub

Reference: **Revised - Technical and Cost Proposal for Port Authority**
Task Order # 12-003
Structural Feasibility Study of Retail Requested Slab Openings at Level B1
Northeast Oculus Quadrant

Dear Ms. Murphy,

Attached please find Downtown Design Partnership's revised proposal for Port Authority Task Order # 12-003 for Structural Feasibility Study of Retail Requested Slab Openings at Level B1 - Northeast Oculus Quadrant. The attached supersedes our earlier proposal attached to letter Ref. # DDP-PA- 0330-12, dated November 16, 2012.

Please provide a letter authorizing budget for this work.

Should you have any questions regarding the attached, please do not hesitate to call.

Sincerely,

Downtown Design Partnership

Scott R. McIntyre, P.E
Project Director

CC: J. Zafonte, J. Charalambous, J. Parnes, B. Altabba,
K. Patel, J. Son, File

PERFORMANCE OF EXPERT PROFESSIONAL ARCHITECTURAL AND ENGINEERING SERVICES FOR THE PERMANENT WORLD TRADE CENTER PATH TERMINAL ON A TASK ORDER BASIS

CONTRACT #4600004824
PA AGREEMENT #407-03-013
Supplemental Agreement #1
Purchase Order #4900000675
SCOPE OF WORK DESCRIPTION

Revised - Supplemental Services Task Order #TO-12-003
Structural Feasibility Study of Retail Requested Slab Openings at Level B1
Northeast Oculus Quadrant

The following Scope is to provide additional engineering services as an additional work item. Unless stated otherwise, all scope of work and associated design costs do not include Stage IV - Services During Construction efforts. The scope of services for this proposal includes the following:

1. Structural Feasibility Study of Retail-Requested Slab Openings at Level B1

Background:

The PANYNJ and their Retail Joint Venture Partner, Westfield, require the performance of a structural feasibility study on providing openings in the Level B1 structural slab for a future potential Tenant stair and elevator. These openings are intended to make this particular Retail Tenant space attractive for a potential Duplex Retail Tenant.

Scope of Work:

DDP shall provide a structural analysis **only** to determine the feasibility of providing slab openings where located and sized per the accompanying Westfield Sketch #W-SK-005. The objective of this study is to understand the magnitude of the changes necessary to the structure as currently designed to determine whether the changes are cost feasible. At this time, changes to plans and specifications are NOT required.

The study shall entail two openings: one for a future elevator; and another for a future stair. Penetrations to the Level B2 structural slab are not necessary for this study. The elevator pit will not penetrate the Level B2 structure. Instead, the B2 structural slab will serve as the pit floor.

PA to provide the following information prior to the start of work:

- Sketches/drawings of proposed stairs and elevator with estimates of weight and design loads (if available)

DDP shall

- Evaluate El. 296 for new opening and proposed additional loads.
- Evaluate Elevation 274 for proposed additional loads.

- Prepare memo report.

PANYNJ is **not** requesting DDP to perform an investigation of MEP encumbrances in these locations. The World Trade Center Redevelopment Department has performed an analysis and has determined that the MEP impacts were minimal.

Deliverables

1. An electronic copy of the narrative and sketch describing and showing changes to existing structure, if any, and new structural elements required for requested framed openings.

2. Revisions to Construction documents are **NOT** being requested at this time.

END SCOPE OF WORK

Downtown Design Partnership
WTC Transportation Hub

GRAND SUMMARY
PROFESSIONAL SERVICES
REVISED - TASK ORDER #12-003
Structural Feasibility Study of Retail Requested Slab Openings at Level B1
Northeast Oculus Quadrant

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTALS	
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
1. TASK 1 - Feasibility Study	-	$0	60.0	$12,168	40.0	$6,164	-	$0	-	$0	25.3	$1,668	-	$0	125.3	$20,000
Fee (On all Labor, excluding Principals):																$2,000
Labor Subtotal (Incl. Overhead & Fee):																$22,000
Other Direct Costs:																$0
Total Task 1:																$22,000
TOTAL TO#12-003	-	$0	60.0	$12,168	40.0	$6,164	-	$0	-	$0	25.3	$1,668	-	$0	125.3	$20,000
Fee (On all Labor, excluding Principals):																$2,000
Subtotal Labor (Incl. Overhead & Fee):																$22,000
Subtotal Other Direct Costs :																$0
Grand Total TO#12-003 :																$22,000

12/6/2012

GRAND SUMMARY
PROFESSIONAL SERVICES
REVISED - TASK ORDER #12-003

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
I. TASK 1	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A. FEASIBILITY STUDY	-	$0	60.0	$12,168	40.0	$6,164	-	$0	-	$0	25.3	$1,668	-	$0	125.3	$20,000
															-	$0
Labor & Overhead:	-	$0	60	$12,168	40	$6,164	-	$0	-	$0	25	$1,668	-	$0	125.3	$20,000

Fee (On all Labor, excluding Principals):	$2,000
Total Labor Cost:	$22,000
Other Direct Costs:	$0
Grand Total Task 1:	$22,000

Task 1
Breakdown by Staff Classification

I. Task 1

A. FEASIBILITY STUDY

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	1	x	0.0	x	3	=	0.0
Arch/Eng A	1	x	20.0	x	3	=	60.0
Arch/Eng B	1	x	13.3	x	3	=	40.0
Arch/Eng C	1	x	0.0	x	3	=	0.0
Arch/Eng D	1	x	0.0	x	3	=	0.0
CADD	2	x	4.2	x	3	=	25.3
Technical Assistant	1	x	0.0	x	3	=	0.0
							125.3

02-14-13A10:07 RCVD

THE PORT AUTHORITY OF NY & NJ

WTC CONSTRUCTION DEPARTMENT

WORLD TRADE CENTER TRANSPORTATION HUB

January 25, 2013

Downtown Design Partnership
A Joint Venture of AECOM, Inc. and STV Incorporated
605 Third Avenue
New York, NY 10158

Attention: Ira Allan Levy, PE
President, AECOM, Inc.

SUBJECT: **TASK ORDER #TO-12-002, ADDED SCOPE AND SCOPE MODIFICATIONS FOR THE REDESIGN & RECONSTRUCTION OF MTA #1 SUBWAY LINE CORTLANDT STREET STATION**

RE: Performance of Expert Architectural and Engineering Services for the Permanent World Trade Center PATH Terminal on a Task Order Basis (Contract No. 4600004824, PA Agreement No. 407-03-013 and PO No. 4900000675), as amended – Supplemental Agreement #1

Dear Mr. Levy:

The Authority hereby accepts your proposal dated December 11, 2012, which is attached hereto and incorporated into the referenced agreement by reference, for performance of the services in the scope of additional services request, which formed the basis for submission of your proposal.

Total compensation for the performance of the above-mentioned services shall not exceed the amount of **$626,000**. The Consultant shall employ, to every extent possible, the most cost effective methods of performing the Scope of Services as defined in the attached. This includes, but is not limited to, utilizing appropriate staff as needed (i.e. combining management and technical efforts) and tracking hours of technical staff. Accordingly, the Consultant shall inform the Director when the Consultant's expenditures reach 80% of the not-to-exceed total amount noted above. The Consultant shall continue to render the additional services to the point when the Consultant's compensation reaches 100% of such amount, at which time either additional written authorization will be given to continue or the scope of work will be deemed complete.

The previously authorized total amount for the referenced agreement is increased from $77,194,887 to $77,820,887.

The above referenced agreement remains in full force and effect and the performance of the requested additional services is subject to the terms and conditions of such referenced agreement.

115 Broadway, 7th Floor
New York, NY 10006

WTC CONSTRUCTION DEPARTMENT

WORLD TRADE CENTER TRANSPORTATION HUB

Upon receipt by the Authority of a copy of this letter executed by a principal of your firm, you are authorized to proceed with performance of the requested additional services.

Any questions relating to the performance of the subject services may be directed to Mr. Damian McShane, Senior Program Manager, telephone (212) 435-3166.

Sincerely,

Frank Gallo
Assistant Director
WTC Construction Department

Accepted:
Downtown Design Partnership
A Joint Venture of AECOM, Inc. and STV Incorporated

D. Servedio, Chairman, CEO — Date 1/31/13

I. Levy, President — Date 1/31/13

DOWNTOWN DESIGN PARTNERSHIP

100 Broadway, 3rd Floor • New York, NY 10005
Phone: 917.522.2800 Fax: 212.566.5214

12-12-12 A10:15 IN

December 11, 2012

Ref #: DDP-PA-0349-12

Port Authority of New York and New Jersey
115 Broadway – 19th Floor
New York, NY 10006

Attention: **Mario Socrates**

Subject: **P.A. Agreement No. 407-03-013**
Performance of Expert Professional Architectural and Engineering Services for the World Trade Center Transportation Hub

Reference: **Technical and Cost Proposal for Port Authority Task Order # 12-002**
Additional Scope of Work for the Redesign and Reconstruction of MTA #1 Subway Line Cortlandt Street Station

Dear Mr. Socrates,

Per your RFP, dated November 29, 2012, attached please find Downtown Design Partnership's proposal for Port Authority Task Order # 12-002 for Additional Scope of Work for the Redesign and Reconstruction of MTA #1 Subway Line Cortlandt Street Station.

Please provide a letter authorizing budget for this work.

Should you have any questions regarding the attached, please do not hesitate to call.

Sincerely,

Downtown Design Partnership

Scott R. McIntyre, P.E
Project Director

CC: J. Zafonte, K. Doshi, M. Rajan, J. Son,
File

PERFORMANCE OF EXPERT PROFESSIONAL ARCHITECTURAL AND ENGINEERING SERVICES FOR THE PERMANENT WORLD TRADE CENTER PATH TERMINAL ON A TASK ORDER BASIS

CONTRACT #4600004824
PA AGREEMENT #407-03-013
Supplemental Agreement #1
Purchase Order #4900000675
SCOPE OF WORK DESCRIPTION

Supplemental Task Order-12-002
Added Scope for the Redesign & Reconstruction of
MTA #1 Subway Line Cortlandt Street Station

This Scope of Work details additional work items related with the Redesign and Reconstruction of the Metropolitan Authority (MTA) Cortlandt Street - #1 Line Subway Station.

Task 1: CSS Revision Due to 2010 NYSBC

DDP shall assess and implement impacts from changing the current Cortlandt St. Station from:

a. NFPA 130 (2007) to NFPA 130 (2010)
b. New York State Building Code (2007) to New York State Building Code (2010).

Deliverables:

Provide a report on the impacts and differences between the two codes. Where required update drawings and specifications to reflect NFPA 130 (2010) and New York State Building Code (2010). **Work completed.**

Task 2: Cortlandt St. Station - Post Phase 1 Support Staff

DDP shall provide to support Cortlandt St. Station – Post Phase 1.

Deliverables:

Support staff advanced structural design to confirm with updated requirements. Participate in ongoing coordination meetings and provide material for coordination effort with adjacent stakeholders i.e. SPI, Hub, PAC and Street Program. **Work completed.**

Task 3: Cortlandt St. Station - WP 20 Revisions Due Cortland Street NFPA 130 Revisions

East Bath Tub scope transfer (Hub documents shall incorporate these changes based on coordination with Cortlandt St. design):

a. Delete a total of (2) 168" x 120" smoke dampers as shown on drawings M1206, M0208 and M0305.

b. Deletion of total of (2) 180" x 60" automatic louver spill dampers shown on drawings M1206, M0208 and M0305.
c. Replace (2) 120" x 84" automatic louver dampers (ALD) with (2) 118" x 82" smoke dampers (SMKD) for AHU-1A, 1B as shown on drawings M1104, M0305 and M0509.
d. Replace total of (2) 120" x144" automatic louver dampers (ALD) with a total of (4) 118" x 68" smoke dampers (SMKD) for AHU-2A, 2B as shown on drawings M1104, M0305 and M0509.
e. Replace total of (2) 120" x144" automatic louver dampers (ALD) with a total of (4) 118" x 68" smoke dampers (SMKD) for AHU-4A, 4B as shown on drawings M1104, M0305 and M0509.
f. Replace total of (2) 120" x144" automatic louver dampers (ALD) with a total of (4) 118" x 68" smoke dampers (SMKD) for AHU-5A, 5B as shown on drawings M1104, M0305 and M0509.
g. Revise control dampers sequence of operations in section 15950 paragraph 2.09 and drawings M0601 and M0602 to conform to the above changes.
h. No other trades involved in above mechanical revisions.

West Bath Tub scope transfer (Hub documents shall incorporate these changes based on coordination with Cortlandt St. design):

a. Delete 28" x 18" FSD/AD as shown on M1614 and blank-off ductwork.
b. New ductwork connection with new FSD indicated on Cortland contract documents.
c. Delete electrical fire alarm wiring from HUB FSD and rewiring (By HUB FA) to the new FSD provided under Cortland street project.

Deliverables:

Modify and update drawings as per above scope description. **Work completed.**

Task 4: Cortlandt St. Station - Steel Jackets

DDP shall:

a. Revise WTC Hub documents to delete the installation of steel jackets of certain columns, within the Cortlandt street station North Mezzanine area.
b. Revise Cortlandt St. Station contract documents to include the installation of steel jackets of certain columns originally included in WTC Hub contract documents, within the Cortlandt street station North Mezzanine area.

Deliverables:

Update drawings to reflect needed steel jackets. **Work completed.**

Task 5: Cortlandt St. Station - Removal of Columns

Revise Cortlandt St. contract documents to reflect the removal of columns and caissons supporting temporary station within the Hub area.

Deliverables:

Revise drawings. **Work completed.**

Task 6: Cortlandt St. Station - Egress Analysis at North End of Southbound Platform

This effort is an egress analysis at north end of southbound platform for early opening for full revenue service prior to removal of North Temporary Access.

DDP shall:

a. Perform general code review.
b. Prepare (2) concept schemes:
   - up to grade
   - west into Hub
c. Prepare presentation drawings for discussion.
d. Identify pros and cons for schemes.
e. Attend a maximum of (5) meeting(s) with the PANYNJ and/or NYCT.

Assumptions:

a. This is a review of egress requirements only.
b. This does not include reconfiguration of fare control at north end.
c. This does not include reconfiguration of fare control at south end to relieve passenger flow constraints.

This does not include changes to Cortlandt St. Station contract documents.

Deliverables:

Participate in meetings with PA and MTA. Provide a report on the egress analysis. **Work completed.**

Task 7: Cortlandt St. Station – North Temporary Access West Side Assessment

DDP shall incorporate the existence of the North Temporary Access (NTA) and its supports in the Cortlandt St Station contract such that the station construction would take place around the constraints of the North Temporary Access.

DDP shall perform feasibility assessments for the following items for the west side:

a. Incorporation of NTA structure in relevant sections
b. Development of additional sections showing NTA structure.

c. Modification of framing as required for roof level, platform level and invert level to avoid conflict with existing NTA supports/structure.
d. Development of additional sections and/or details.
e. Development of drawings of plan, elevation and sections defining the limit of demolition of the Greenwich St slurry wall.

Deliverables:

Participate in meetings with PA. Coordinate with HUB and proposed PAC to grade program. Revise drawings to reflect new framing plan. **Work completed.**

Task 8: Cortlandt St. Station - Design Implementation NTA of East Side Expansion

DDP shall incorporate the existence of the North Temporary Access (NTA) and its supports in the Cortlandt St Station contract such that the station construction would take place around the constraints of the North Temporary Access.

The following are the scope of work items for the east side:

a. Incorporate NTA structure in relevant sections.
b. Modify framing as required for platform level to avoid conflict with existing NTA supports/structure as required.
c. Develop additional sections and/or details as necessary.

Deliverables:

Participate in meetings with PA. Coordinate with HUB. Revise drawings to reflect new framing plan. **Work completed.**

Task 9: Cortlandt St. Station - Revisions to H&M Tubes

DDP shall revise Cortlandt St. design documents for the removal of invert beam overhang beyond WP 9X invert slab.

Deliverables:

Participate in meetings with PA. Coordinate with HUB. Revise drawings to reflect new framing plan. **Work completed.**

Task 10: Cortlandt St. Station - Field Survey/Platform Repair

DDP shall perform a field survey to determine existing conditions for the following:

a. northbound and southbound platforms
b. damaged ductbanks within platforms
c. damaged manholes within platforms
d. opening within west sidewall near bent 184
e. bottom corners of bents near locations of horse-head brackets

f. openings in sidewalls at locations of temporary underpinning and temporary lateral bracing

g. restoration of beam/column encasement at locations of temporary lateral bracing

The above conditions will be represented on plan and elevation views in such a manner that the Contractor will be able to quantify the various types of repairs. Repair details will be developed for each condition and reflected in the contract documents.

DDP shall:

a. Develop layout of platforms delineating between existing platform to remain, platforms requiring repair and missing sections of platform requiring reconstruction.

b. Develop design and details for the repair and reconstruction of platforms.

Deliverables:

Provide report detailing existing conditions. **Work completed.**

<u>Task 11: Cortlandt St. Station - 1-Line Box Repair</u>

DDP shall provide design as required for the following:

a. Repair of an opening in the West side of the 1 Line box in the north, at Bent 184, which is approximately 15' x 5' x 18".

b. Repair of the bottom corners of the 1 Line Box between each bent which were demolished during Package 9 steel installation for support of the box. This also applies to areas in the south end.

c. Repair of station side wall knock outs from previously placed and removed transverse girders.

- South End on East Side starts at Bent 71 and ends at Bent 95 and Repair area is approximately 200 Square feet (16 openings in a 1' thick side wall).
- South End on West Side starts at Bent 66 and ends at Bent 95. Repair area is approximately 400 square feet (24 openings in a 1' thick wall)
- North End on East side and West Side Sidewall Repair area totals approximately 500 square feet (Approximately 10 openings total for both sides in a 1' thick wall)

d. Repair/Replacement of the MTA clay ductbank along the east bottom corner of the 1 Line Box in the north, from Bent 166 to Vesey Street Wall.

Deliverables:

Update drawings to reflect the above scope. **Work completed.**

Task 12: Cortlandt St. Station - Revisions Due to PAC Work

DDP shall revise contract drawings to relocate Cortlandt St. Station program space currently situated in the PAC area. This is at the north end of the southbound Platform at El.293 +/-.

a. Relocate Water Meter Room to the North Mezzanine at El. 274 (current Elevator 03 EMR).
b. Relocate SECR to south end of Platform.
c. Relocate EPR to current location for the Public Telephone Room in existing built space.
d. Relocate Public Telephone Room to the south end of Platform.
e. Locate Area of Refuge to the west side at bent 152 of the station box with a stair to grade.
f. Temporarily Locate Intake/Exhaust Shaft in shaft for Elevator 03.

The work noted above involves all disciplines with the exception of Civil. The above listed scope of work is based on the concept sketches which were reviewed with and approved by the PA in a meeting on 05.02.12.

Deliverables:

Attend meeting with PA to present concepts. Update drawings based on PA approvals.
Work completed.

GRAND SUMMARY
PROFESSIONAL SERVICES
TASK ORDER #12-002
Added Scope and Scope Modifications for the Redesign & Reconstruction of MTA #1 Subway Line Cortlandt Street Station

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTALS	
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
TASK 1 - CSS Revision Due to 2010 NYSBC	-	$0	82.7	$16,763	80.0	$12,328	-	$0	-	$0	-	$0	-	$0	162.7	$29,091
Fee (On all Labor, excluding Principals):																$2,909
Labor Subtotal (Incl. Overhead & Fee/Profit):																$32,000
Other Direct Costs:																$0
Total Task 1 :																$32,000
TASK 2 - Cortlandt St. Station - Post Phase 1 Support Staff	-	$0	400.0	$81,118	600.0	$92,461	493.1	$53,693	-	$0	-	$0	-	$0	1,493.1	$227,273
Fee (On all Labor, excluding Principals):																$22,727
Labor Subtotal (Incl. Overhead & Fee/Profit):																$250,000
Other Direct Costs:																$0
Total Task 2:																$250,000
TASK 3 - Cortlandt St. Station - WP 20 Revisions Due Cortland Street NFPA 130 Revisions	-	$0	8.0	$1,622	24.0	$3,698	-	$0	-	$0	29.6	$1,952	-	$0	61.6	$7,273
Fee (On all Labor, excluding Principals):																$727
Labor Subtotal (Incl. Overhead & Fee/Profit):																$8,000
Other Direct Costs:																$0
Total Task 3:																$8,000
TASK 4 - Cortlandt St. Station - Steel Jackets	-	$0	20.0	$4,056	46.7	$7,193	-	$0	-	$0	50.0	$3,297	-	$0	116.7	$14,545
Fee (On all Labor, excluding Principals):																$1,455
Labor Subtotal (Incl. Overhead & Fee/Profit):																$16,000
Other Direct Costs:																$0
Total Task 4:																$16,000

GRAND SUMMARY
PROFESSIONAL SERVICES
TASK ORDER #12-002
Added Scope and Scope Modifications for the Redesign & Reconstruction of MTA #1 Subway Line Cortlandt Street Station

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTALS	
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
TASK 5 - Cortlandt St. Station - Removal of Columns	-	$0	8.0	$1,622	16.0	$2,466	-	$0	-	$0	20.7	$1,367	-	$0	44.7	$5,455
Fee (On all Labor, excluding Principals):																$545
Labor Subtotal (Incl. Overhead & Fee/Profit):																$6,000
Other Direct Costs:																$0
Total Task E:																$6,000
TASK 6 - Cortlandt St. Station - Egress Analysis at North End of Southbound Platform	-	$0	8.0	$1,622	20.0	$3,082	23.6	$2,568	-	$0	-	$0	-	$0	51.6	$7,273
Fee (On all Labor, excluding Principals):																$727
Labor Subtotal (Incl. Overhead & Fee/Profit):																$8,000
Other Direct Costs:																$0
Total Task F:																$8,000
TASK 7 - Cortlandt St. Station - NTA West Side Assessment	-	$0	80.0	$16,224	59.9	$9,231	-	$0	-	$0	-	$0	-	$0	139.9	$25,454
Fee (On all Labor, excluding Principals):																$2,545
Labor Subtotal (Incl. Overhead & Fee/Profit):																$28,000
Other Direct Costs:																$0
Total Task 7:																$28,000
TASK 8 - Cortlandt St. Station - Design Implementation NTA of East Side Expansion	-	$0	11.9	$2,410	16.0	$2,466	20.0	$2,178	-	$0	24.0	$1,582	-	$0	71.9	$8,636
Fee (On all Labor, excluding Principals):																$864
Labor Subtotal (Incl. Overhead & Fee/Profit):																$9,500
Other Direct Costs:																$0
Total Task 8:																$9,500

GRAND SUMMARY
PROFESSIONAL SERVICES
TASK ORDER #12-002
Added Scope and Scope Modifications for the Redesign & Reconstruction of MTA #1 Subway Line Cortlandt Street Station

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTALS	
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
TASK 9 - Cortlandt St. Station - Revisions to H&M Tubes	-	$0	24.0	$4,867	30.0	$4,623	38.9	$4,236	-	$0	40.0	$2,637	-	$0	132.9	$16,364
Fee (On all Labor, excluding Principals):																$1,636
Labor Subtotal (Incl. Overhead & Fee/Profit):																$18,000
Other Direct Costs:																$0
Total Task 9:																$18,000
TASK 10 - Cortlandt St. Station - Field Survey/Platform Repair	-	$0	40.0	$8,112	80.0	$12,328	200.0	$21,779	171.7	$12,776	200.0	$13,186	-	$0	691.7	$68,182
Fee (On all Labor, excluding Principals):																$6,818
Labor Subtotal (Incl. Overhead & Fee/Profit):																$75,000
Other Direct Costs:																$0
Total Task 10:																$75,000
TASK 11 - Cortlandt St. Station - 1-Line Box Repair	-	$0	20.0	$4,056	30.9	$4,760	-	$0	-	$0	80.0	$5,275	-	$0	130.9	$14,091
Fee (On all Labor, excluding Principals):																$1,409
Labor Subtotal (Incl. Overhead & Fee/Profit):																$15,500
Other Direct Costs:																$0
Total Task 11:																$15,500
TASK 12 - Cortlandt St. Station - Revisions Due to PAC Work	-	$0	200.0	$40,559	300.0	$46,231	300.0	$32,669	-	$0	394.3	$25,996	-	$0	1,194.3	$145,454
Fee (On all Labor, excluding Principals):																$14,545
Labor Subtotal (Incl. Overhead & Fee/Profit):																$160,000
Other Direct Costs:																$0
Total Task 12:																$160,000

GRAND SUMMARY
PROFESSIONAL SERVICES
TASK ORDER #12-002
Added Scope and Scope Modifications for the Redesign & Reconstruction of MTA #1 Subway Line Cortlandt Street Station

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTALS	
Average Rate		$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17		
Average Overhead		1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322		
Average Rate with Overhead		$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		
	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
TOTAL PA TO #12-002	-	$0	902.5	$183,032	1,303.5	$200,867	1,075.6	$117,123	171.7	$12,776	836.6	$55,292	-	$0	4,291.9	$569,091

Fee (On all Labor, excluding Principals):	$56,909
Subtotal Labor (Incl. Overhead & Fee/Profit):	$626,000
Subtotal Other Direct Costs :	$0
Grand Total PA TO #12-002	**$626,000**

Notes:

TASK ORDER # 12-002
Added Scope and Scope Modifications for the Redesign & Reconstruction of MTA #1 Subway Line Cortlandt Street Station

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate		$413.36		$86.95		$66.08		$46.69		$31.91		$30.00		$23.17		
Average Overhead		1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322		
Average Rate with Overhead		$413.36		$202.80		$154.10		$108.90		$74.42		$69.97		$54.03		
TASK 1	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
Task 1 - CSS Revision Due to 2010 NYSBC	-	$0	82.7	$16,763	80.0	$12,328	-	$0	-	$0	-	$0	-	$0	162.7	$29,091
															-	$0
Labor & Overhead:	-	$0	82.7	$16,763	80.0	$12,328	-	$0	-	$0	-	$0	-	$0	162.7	$29,091

Fee (On all Labor, excluding Principals):	**$2,909**
Total Labor Cost:	**$32,000**
Other Direct Costs:	**$0**
Grand Total Task 1:	**$32,000**

Task 1
Breakdown by Staff Classification

TASK 1

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	1	x	0.0	x	9	=	0
Arch/Eng A	1	x	9.2	x	9	=	83
Arch/Eng B	1	x	8.9	x	9	=	80
Arch/Eng C	1	x	0.0	x	9	=	0
Arch/Eng D	1	x	0.0	x	9	=	0
CADD	1	x	0.0	x	9	=	0
Technical Assistant	1	x	0.0	x	9	=	0
							163

TASK ORDER # 12-002
Added Scope and Scope Modifications for the Redesign & Reconstruction of MTA #1 Subway Line Cortlandt Street Station

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant			
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$106.90		$74.42		$65.93		$54.03		TOTAL	
TASK 2	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
Task 2 - Cortlandt St. Station - Post Phase 1 Support Staff	-	$0	400.0	$81,118	600.0	$92,461	493.1	$53,693	-	$0		$0	-	$0	1,493.1	$227,273
Labor & Overhead:	-	$0	400.0	$81,118	600.0	$92,461	493.1	$53,693	-	$0	-	$0	-	$0	1,493.1	$227,273

Fee (On all Labor, excluding Principals):	$22,727
Total Labor Cost:	$250,000
Other Direct Costs:	$0
Grand Total Task 2:	$250,000

Task 2
Breakdown by Staff Classification

TASK 2

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	1	x	0.0	x	40	=	0
Arch/Eng A	1	x	10.0	x	40	=	400
Arch/Eng B	1	x	15.0	x	40	=	600
Arch/Eng C	1	x	12.3	x	40	=	493
Arch/Eng D	1	x	0.0	x	40	=	0
CADD	1	x	0.0	x	40	=	0
Technical Assistant	1	x	0.0	x	40	=	0
							1,493

TASK ORDER # 12-002
Added Scope and Scope Modifications for the Redesign & Reconstruction of MTA #1 Subway Line Cortlandt Street Station

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant			
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		TOTAL	
TASK 3	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
Task 3 - Cortlandt St. Station - WP 20 Rev. Due Cortland Street NFPA 130 Revisions	-	$0	8.0	$1,622	24.0	$3,698	-	$0	-	$0	29.6	$1,952	-	$0	61.6	$7,273
Labor & Overhead:	-	$0	8.0	$1,622	24.0	$3,698	-	$0	-	$0	29.6	$1,952	-	$0	61.6	$7,273

Fee (On all Labor, excluding Principals):	$727
Total Labor Cost:	$8,000
Other Direct Costs:	$0
Grand Total Task 3:	$8,000

Task 3
Breakdown by Staff Classification

Task 3

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	1	x	0.0	x	4	=	0
Arch/Eng A	1	x	2.0	x	4	=	8
Arch/Eng B	1	x	6.0	x	4	=	24
Arch/Eng C	1	x	0.0	x	4	=	0
Arch/Eng D	1	x	0.0	x	4	=	0
CADD	1	x	7.4	x	4	=	30
Technical Assistant	1	x	0.0	x	4	=	0
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TASK ORDER # 12-002
Added Scope and Scope Modifications for the Redesign & Reconstruction of MTA #1 Subway Line Cortlandt Street Station

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
TASK 4	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
TASK 4 - Cortlandt St. Station - Steel Jackets	-	$0	20.00	$4,056	46.68	$7,193	-	$0	-	$0	50.0	$3,297	-	$0	116.7	$14,545
Labor & Overhead:	-	$0	20.0	$4,056	46.7	$7,193	-	$0	-	$0	50.0	$3,297	-	$0	116.7	$14,545

Fee (On all Labor, excluding Principals):	$1,455
Total Labor Cost:	$16,000
Other Direct Costs:	$0
Grand Total Task 4:	$16,000

Task 4
Breakdown by Staff Classification

Task 4

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	1	x	0.0	x	14	=	0
Arch/Eng A	1	x	1.4	x	14	=	20
Arch/Eng B	1	x	3.3	x	14	=	47
Arch/Eng C	1	x	0.0	x	14	=	0
Arch/Eng D	1	x	0.0	x	14	=	0
CADD	1	x	3.6	x	14	=	50
Technical Assistant	1	x	0.0	x	14	=	0
							117

TASK ORDER # 12-002
Added Scope and Scope Modifications for the Redesign & Reconstruction of MTA #1 Subway Line Cortlandt Street Station

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
TASK 5	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
TASK 5 - Cortlandt St. Station - Removal of Columns	-	$0	8.0	$1,622	16.0	$2,466	-	$0	-	$0	20.7	$1,367	-	$0	44.7	$5,455
Labor & Overhead:	-	$0	8.0	$1,622	16.0	$2,466	-	$0	-	$0	20.7	$1,367	-	$0	44.7	$5,455

Fee (On all Labor, excluding Principals):	$545
Total Labor Cost:	$6,000
Other Direct Costs:	$0
Grand Total Task 5:	$6,000

Task 5
Breakdown by Staff Classification

Task 5

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	1	x	0.0	x	4	=	0
Arch/Eng A	1	x	2.0	x	4	=	8
Arch/Eng B	1	x	4.0	x	4	=	16
Arch/Eng C	1	x	0.0	x	4	=	0
Arch/Eng D	1	x	0.0	x	4	=	0
CADD	1	x	5.2	x	4	=	21
Technical Assistant	1	x	0.0	x	4	=	0
							45

TASK ORDER # 12-002
Added Scope and Scope Modifications for the Redesign & Reconstruction of MTA #1 Subway Line Cortlandt Street Station

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant			
Average Rate	$413.36		$86.95		$66.08		$46.60		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		TOTAL	
TASK 6	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
TASK 6 - Cortlandt St. Station - Egress Analysis at North End of Southbound Platform	-	$0	8.0	$1,622	20.0	$3,082	23.6	$2,568	-	$0	-	$0	-	$0	51.6	$7,273
Labor & Overhead:	-	$0	8.0	$1,622	20.0	$3,082	23.6	$2,568	-	$0	-	$0	-	$0	51.6	$7,273

Fee (On all Labor, excluding Principals):	$727
Total Labor Cost:	$8,000
Other Direct Costs:	$0
Grand Total Task 6:	$8,000

Task 6
Breakdown by Staff Classification

Task 6

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	1	x	0.0	x	22	=	0
Arch/Eng A	1	x	0.4	x	22	=	8
Arch/Eng B	1	x	0.9	x	22	=	20
Arch/Eng C	1	x	1.1	x	22	=	24
Arch/Eng D	1	x	0.0	x	22	=	0
CADD	1	x	0.0	x	22	=	0
Technical Assistant	1	x	0.0	x	22	=	0
							52

TASK ORDER # 12-002
Added Scope and Scope Modifications for the Redesign & Reconstruction of MTA #1 Subway Line Cortlandt Street Station

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant			
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.51		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		TOTAL	
TASK 7	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
Task 7 - Cortlandt St. Station - NTA West Side Assessment	-	$0	80.0	$16,224	59.9	$9,231	-	$0	-	$0	-	$0	-	$0	139.9	$25,454
Labor & Overhead:	-	$0	80.0	$16,224	59.9	$9,231	-	$0	-	$0	-	$0	-	$0	139.9	$25,454

Fee (On all Labor, excluding Principals):	**$2,545**
Total Labor Cost:	**$28,000**
Other Direct Costs:	
Grand Total Task 7:	**$28,000**

Task 7
Breakdown by Staff Classification

Task 7

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	1	x	0.0	x	6	=	0
Arch/Eng A	1	x	13.3	x	6	=	80
Arch/Eng B	1	x	10.0	x	6	=	60
Arch/Eng C	1	x	0.0	x	6	=	0
Arch/Eng D	1	x	0.0	x	6	=	0
CADD	1	x	0.0	x	6	=	0
Technical Assistant	1	x	0.0	x	6	=	0
							140

TASK ORDER # 12-002
Added Scope and Scope Modifications for the Redesign & Reconstruction of MTA #1 Subway Line Cortlandt Street Station

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant			
Average Rate	$413.36		$66.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		TOTAL	
TASK 8	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
Task 8 - Cortlandt St. Station - Design Implementation NTA of East Side Expansion	-	$0	11.9	$2,410	16.0	$2,466	20.0	$2,178	-	$0	24.0	$1,582	-	$0	71.9	$8,636
Labor & Overhead:	-	$0	11.9	$2,410	16.0	$2,466	20.0	$2,178	-	$0	24.0	$1,582	-	$0	71.9	$8,636

Fee/Profit (On all Labor, excluding Principals):	$864
Total Labor Cost:	$9,500
Other Direct Costs:	
Grand Total Task 8:	$9,500

Task 8
Breakdown by Staff Classification

Task 8

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	1	x	0.0	x	7	=	0
Arch/Eng A	1	x	1.7	x	7	=	12
Arch/Eng B	1	x	2.3	x	7	=	16
Arch/Eng C	1	x	2.9	x	7	=	20
Arch/Eng D	1	x	0.0	x	7	=	0
CADD	1	x	3.4	x	7	=	24
Technical Assistant	1	x	0.0	x	7	=	0
							72

TASK ORDER # 12-002
Added Scope and Scope Modifications for the Redesign & Reconstruction of MTA #1 Subway Line Cortlandt Street Station

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant			
Average Rate		$413.36		$80.95		$66.08		$46.69		$31.91		$28.27		$23.17		
Average Overhead		1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322		
Average Rate with Overhead		$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		TOTAL
TASK 9	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
Task 9 - Cortlandt St. Station - Revisions to H&M Tubes	-	$0	24.0	$4,867	30.0	$4,623	38.0	$4,236	-	$0	40.0	$2,637	-	$0	132.9	$16,364
Labor & Overhead:	-	$0	24.0	$4,867	30.0	$4,623	38.9	$4,236	-	$0	40.0	$2,637	-	$0	132.9	$16,364

Fee (On all Labor, excluding Principals):	**$1,636**
Total Labor Cost:	**$18,000**
Other Direct Costs:	
Grand Total Task 9:	**$18,000**

Task 9
Breakdown by Staff Classification

Task 9

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	1	x	0.0	x	2	=	0
Arch/Eng A	1	x	12.0	x	2	=	24
Arch/Eng B	1	x	15.0	x	2	=	30
Arch/Eng C	1	x	19.5	x	2	=	39
Arch/Eng D	1	x	0.0	x	2	=	0
CADD	1	x	20.0	x	2	=	40
Technical Assistant	1	x	0.0	x	2	=	0
							133

TASK ORDER # 12-002
Added Scope and Scope Modifications for the Redesign & Reconstruction of MTA #1 Subway Line Cortlandt Street Station

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant			
Average Rate		$413.36		$86.85		$56.08		$46.60		$31.91		$28.27		$23.17		
Avorage Overhead		1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322		
Average Rate with Overhead		$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		TOTAL
TASK 10	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
Task 10 - Cortlandt St Station - Field Survey/Platform Repair	-	$0	40.0	$8,112	80.0	$12,328	200.0	$21,779	171.7	$12,776	200.0	$13,186	-	$0	691.7	$68,182
Labor & Overhead:	-	$0	40.0	$8,112	80.0	$12,328	200.0	$21,779	171.7	$12,776	200.0	$13,186	-	$0	691.7	$68,182

Fee (On all Labor, excluding Principals):	**$6,818**
Total Labor Cost:	**$75,000**
Other Direct Costs:	
Grand Total Task 10:	**$75,000**

Task 10
Breakdown by Staff Classification

Task 10

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	12	=	0
Arch/Eng A	1	x	3.3	x	12	=	40
Arch/Eng B	1	x	6.7	x	12	=	80
Arch/Eng C	4	x	4.2	x	12	=	200
Arch/Eng D	4	x	3.6	x	12	=	172
CADD	2	x	8.3	x	12	=	200
Technical Assistant	1	x	0.0	x	12	=	0
							692

TASK ORDER # 12-002
Added Scope and Scope Modifications for the Redesign & Reconstruction of MTA #1 Subway Line Cortlandt Street Station

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate	$413.36		$86.95		$66.06		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
TASK 11	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
Task 11 -Cortlandt St. Station - 1-Line Box Repair	-	$0	20.0	$4,056	30.9	$4,760	-	$0	-	$0	80.0	$5,275	-	$0	130.9	$14,091
Labor & Overhead:	-	$0	20.0	$4,056	30.9	$4,760	-	$0	-	$0	80.0	$5,275	-	$0	130.9	$14,091

Fee (On all Labor, excluding Principals):	$1,409
Total Labor Cost:	$15,500
Other Direct Costs:	
Grand Total Task 11:	$15,500

Task 11
Breakdown by Staff Classification

Task 11

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	1	x	0.0	x	6	=	0
Arch/Eng A	1	x	3.3	x	6	=	20
Arch/Eng B	1	x	5.1	x	6	=	31
Arch/Eng C	1	x	0.0	x	6	=	0
Arch/Eng D	1	x	0.0	x	6	=	0
CADD	1	x	13.3	x	6	=	80
Technical Assistant	1	x	0.0	x	6	=	0
							131

TASK ORDER # 12-002
Added Scope and Scope Modifications for the Redesign & Reconstruction of MTA #1 Subway Line Cortlandt Street Station

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
TASK 12	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
Task 12 - Cortlandt St. Station - Revisions Due to PAC Work	-	$0	200.0	$40,559	300.0	$46,231	300.0	$32,669		$0	394.3	$25,996	-	$0	1,194.3	$145,454
Labor & Overhead:	-	$0	200.0	$40,559	300.0	$46,231	300.0	$32,669	-	$0	394.3	$25,996	-	$0	1,194.3	$145,454

Fee (On all Labor, excluding Principals):	$14,545
Total Labor Cost:	$160,000
Other Direct Costs:	
Grand Total Task 12:	$160,000

Task 12
Breakdown by Staff Classification

Task 12

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	5	=	0
Arch/Eng A	2	x	20.0	x	5	=	200
Arch/Eng B	2	x	30.0	x	5	=	300
Arch/Eng C	2	x	30.0	x	5	=	300
Arch/Eng D	2	x	0.0	x	5	=	0
CADD	3	x	26.3	x	5	=	394
Technical Assistant	2	x	0.0	x	5	=	0
							1,194

WTC CONSTRUCTION DEPARTMENT

WORLD TRADE CENTER TRANSPORTATION HUB

November 26, 2012

Downtown Design Partnership
A Joint Venture of AECOM, Inc. and STV Incorporated
605 Third Avenue
New York, NY 10158

Attention: Ira Allan Levy, PE
President, AECOM, Inc.

SUBJECT: **SUPPLEMENTAL SERVICES TASK ORDER #TO-12-001, HUB DESIGN CHANGES RELATED TO APPROVED STAKE-HOLDER REQUESTS**

Reference 1: Performance of Expert Architectural and Engineering Services for the Permanent World Trade Center PATH Terminal on a Task Order Basis (Contract No. 4600004824, PA Agreement No. 407-03-013 and PO No. 4900000675), as amended – Supplemental Agreement #1

Reference 2: Addendum No. 1, Dated September 28, 2012

Dear Mr. Levy:

The Authority hereby accepts your proposal dated November 16, 2012, which is attached hereto and incorporated into the referenced agreement by reference, for performance of the services in the scope of additional services request, which formed the basis for submission of your proposal.

Total compensation for the performance of the above-mentioned services shall not exceed the amount of **$265,000**. The Consultant shall employ, to every extent possible, the most cost effective methods of performing the Scope of Services as defined in the attached. This includes, but is not limited to, utilizing appropriate staff as needed (i.e. combining management and technical efforts) and tracking hours of technical staff. Accordingly, the Consultant shall inform the Director when the Consultant's expenditures reach 80% of the not-to-exceed total amount noted above. The Consultant shall continue to render the additional services to the point when the Consultant's compensation reaches 100% of such amount, at which time either additional written authorization will be given to continue or the scope of work will be deemed complete. The time for completion for the additional services is sixty (60) business days from the NTP.

The previously authorized total amount for the referenced agreement is increased from $75,364,887 to $75,629,887.

WTC CONSTRUCTION DEPARTMENT

WORLD TRADE CENTER TRANSPORTATION HUB

The above referenced agreement remains in full force and effect and the performance of the requested additional services is subject to the terms and conditions of such referenced agreement.

Upon receipt by the Authority of a copy of this letter executed by a principal of your firm, you are authorized to proceed with performance of the requested additional services.

Any questions relating to the performance of the subject services may be directed to Mr. Keith Frerichs, telephone (212) 435-6451 or Mr. Shawn Lenahan, Senior Program Manager, telephone (212) 435-5655.

Sincerely,

Frank Gallo
Assistant Director
WTC Construction Department

Accepted:
Downtown Design Partnership
A Joint Venture of AECOM, Inc. and STV Incorporated

D. Servedio, Chairman, CEO — Date 11/29/12

I. Levy, President — Date 11/27/12

115 Broadway, 7th Floor
New York, NY 10006

DOWNTOWN
DESIGN PARTNERSHIP

100 Broadway, 3rd Floor • New York, NY 10005
Phone: 917.522.2800 Fax: 212.566.5214 11-19-12 P02:08 RCVD

November 16, 2012

Ref #: DDP-PA-0329-12

Port Authority of New York and New Jersey
115 Broadway – 19th Floor
New York, NY 10006

Attention: **Kathy Murphy**

Subject: **P.A. Agreement No. 407-03-013**
Performance of Expert Professional
Architectural and Engineering Services for the
World Trade Center Transportation Hub

Reference: **Technical and Cost Proposal for Port Authority**
Task Order # 12-001 – Addendum #2
Hub Design Changes Related to Approved Stakeholder Request
Retail Storefront, Retail Radio and Retail Security

Dear Ms. Murphy,

Per your e-mail request dated, November 15, 2012, attached please find Downtown Design Partnership's revised proposal for Port Authority Task Order # 12-001 (Addendum #2) for Hub Design Changes Related to Approved Stakeholder Request Retail Storefront, Retail Radio and Retail Security. The attached supersedes our earlier proposal attached to DDP letter Ref. # DDP-PA-0305-12.

The proposed budget for this task is an allowance. Charges may be incurred up to the proposed budget for this Task Order, as directed by PA.

Please provide a letter authorizing budget for this work.

Should you have any questions regarding the attached, please do not hesitate to call.

Sincerely,

Downtown Design Partnership

Scott R. McIntyre, P.E
Project Director

CC: J. Zafonte, K. Patel, M. Littler, J. Son, File

PERFORMANCE OF EXPERT PROFESSIONAL ARCHITECTURAL AND ENGINEERING SERVICES FOR THE PERMANENT WORLD TRADE CENTER PATH TERMINAL ON A TASK ORDER BASIS

CONTRACT #4600004824
PA AGREEMENT #407-03-013
Supplemental Agreement #1
Purchase Order #4900000675
SCOPE OF WORK DESCRIPTION

Supplemental Services Task Order #TO-12-001 – Addendum #2
Hub Design Changes Related to Approved Stakeholder Requests

The following Scope is to provide additional architectural and engineering services as an additional work item. Unless stated otherwise, all scope of work and associated design costs do not include Stage IV - Services During Construction efforts. The scope of services for this proposal includes the following:

A. IMPLEMENTATION OF REVISIONS TO RETAIL STOREFRONT – NORTH CONCOURSE

Scope of Work

Change the solid wall at the end of the North Concourse at El. 274 to storefront/glazed wall. Attend (maximum of three) meetings to review design with PA Retail.

The proposed budget for this task is an allowance. Charges may be incurred up to the proposed budget for this task, as directed by PA.

Deliverables

1. Develop draft design.
2. Revise construction documents to change the solid wall at the end of the North Concourse at El. 274' to storefront/glazed wall.

B. IMPLEMENTATION OF RETAIL RADIO MODIFICATIONS (T2, T3, AND T4)

Scope of Work

Background: Back-of-house retail program changes caused by implementation of Plan A Prime in Tower 2 and Tower 3 and by the relocation of PDCs to 1 WTC have made the radio design developed under DCC 504 (Expansion of Hub Radio System to Retail Program) obsolete.

1. Review retail backgrounds and incorporate into Hub floor plans (coordinate with WTCR Retail team to attain latest Retail construction documents prior to commencing scope).
2. Revise electrical radio plans, risers, and schedules to accommodate changes to retail program space.

3. Revise Electrical communications plans, risers, schedules, and details to accommodate changes to the radio design. This is required to ensure that common pathways are coordinated.
4. Include Property Manager spaces in below-grade T2.
5. Attend maximum of 3 meetings with WTCR and WTCC.6.
6. Provide support for a page-turn with CM and contractor.
7. Radio coverage analysis to be based on node room locations and as established in the Merchandising Plan by Westfield, LLC, dated 6/19/2012 (see attached).
8. Design scope confirmation of AKF interpretation of EDR, Rev. 3, dated 2/13/2012, is as follows:

   <u>DDP scope to include the following:</u>

   a. DDP will provide the design of the racks, UPS system, radio components, ladder racks and cable trays for the rooms (plus other items shown on the last set of design drawings).
   b. DDP will provide the circuiting from the UPS that is provided to the racks that DDP is providing.
   c. Specifications and cuts of the UPS will be provided by DDP and will include power requirements.
   d. DDP will provide access control requirements for node rooms.

   <u>Retail scope to include the following:</u>

   a. Retail team shall design the room. Walls, doors, lights, switches, etc shall be provided by Retail team for each node room location. Rooms shall enclose the Radio equipment as defined by DDP as well as the FM-200 system as indicated below. HVAC fan coil shall be located outside the room and shall be ducted in and out.
   b. Retail team shall provide new recommended locations for the node rooms to minimize GLA impacts to the retail design. Assumption is DDP shall relocate the equipment as required.
   c. Retail team shall provide HVAC in the form of a two-speed chilled water fan coil unit. Cooling shall be provided under low speed operation under normal conditions. High speed ventilation only shall be provided under a loss of chilled water condition.
   d. Retail team shall provide F-200 Fire Protection for each node room. Intent is to place the FM-200 system within the node room space.
   e. Retail team shall provide Emergency Power for the fan coil units and FM-200 fire protection systems ONLY. At this time Retail can address approximately the following HP requirements per tower location, which should satisfy the Fan Coil requirements for the nodes as Retail understands them for Day 1 scope.

a. T2 = 15 HP

b. T3 = 70 HP

c. T4 = 60 HP

If the HP exceed this limitation in the final design, Retail will need to be provided with additional emergency power from the main generator plant on the site.

f. Retail team shall provide normal power in the form of a single feed to the input of the UPS system (provided by DDP). Assumption is that the UPS system will have an 8 hour battery requirement so emergency power will not be required.

g. Retail team shall provide normal power for the lighting in the room.

h. Retail team shall provide fire alarm devices, as required by, code.

The proposed budget for this task is an allowance. Charges may be incurred up to the proposed budget for this task, as directed by PA.

Deliverables

1. Confirm scope responsibility based on AKF interpretation of EDR, Rev. 3, as noted above.
2. Confirmation that existing node rooms are sufficient based on Merchandising Plan by Westfield, LLC, dated 6/19/2012.
3. Revised Hub floor plans to include electrical and radio plans, risers, and schedules.
4. Revised electrical communications plans, risers, schedules, and details.
5. Inclusion of Property Manager spaces in T2.
6. Attend meetings with WTCR and WTCC to facilitate task completion.
7. Meet with WTCR and WTCC for a page-turn with CM and contractor to explain changes.

C. IMPLEMENTATION OF RETAIL SECURITY MODIFICATIONS (T2, T3 AND T4)

Scope of Work

Background: Back-of-house retail program changes caused by implementation of Plan A Prime in Tower 2 and Tower 3 and by the relocation of PDCs to 1 WTC have made the security design developed under DCC-376 (Expansion of Hub Security Monitoring System to Retail spaces) obsolete.

1. Review retail backgrounds and incorporate into Hub floor plans. For T3 areas, backgrounds from Retail construction documents of ASI 22, dated 5/11/2012 shall be used. For T2, background shall be per pending revised Retail construction documents (ASI TBD).

2. Revise electrical security plans, risers, and schedules to accommodate changes to retail program space.
3. Revise Electrical communications plans, risers, schedules, and details to accommodate changes to the security design. This is required so that the CCTV camera to Ethernet switch ratio is maintained within the limits of the SPC.
4. Include Property Manager spaces in below-grade T2.
5. Attend maximum of 3 meetings with WTCR and WTCC.
6. Provide support for a page-turn with CM and contractor.

The proposed budget for this task is an allowance. Charges may be incurred up to the proposed budget for this task, as directed by PA.

Deliverables

1. Revised Hub floor plans to include electrical and security plans, risers, and schedules.
2. Revised electrical security plans, risers, schedules, and details.
3. Inclusion of Property Manager spaces in T2.
4. Attend up to a maximum of 3 meetings with WTCR and WTCC to facilitate task completion.
5. Attend 1 meeting with WTCR and WTCC for a page-turn with CM and contractor to explain changes.

END SCOPE OF WORK

EXEMPTION (4)

DRAWINGS OF NON-PUBLIC AREAS

GRAND SUMMARY
PROFESSIONAL SERVICES
TASK ORDER #12-001 (ADDENDUM #2)
HUB DESIGN CHANGES RELATED TO APPROVED STAKEHOLDER REQUESTS
RETAIL STOREFRONT, RETAIL RADIO AND RETAIL SECURITY

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTALS	
Average Rate	$413.36		$66.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
1. TASK 1 - RETAIL STOREFRONT	-	$0	65	$13,182	90	$13,869	60	$6,534	-	$0	160	$10,549	-	$0	375	$44,134
Fee (On all Labor, excluding Principals):																$4,413
Labor Subtotal (Incl. Overhead & Fee):																$48,547
Other Direct Costs:																$1,453
Total Task 1 Allowance:																$50,000
2. TASK 2 - RETAIL RADIO	-	$0	243	$49,279	275	$42,378	-	$0	-	$0	315	$20,769	-	$0	833	$112,426
Fee (On all Labor, excluding Principals):																$11,243
Labor Subtotal (Incl. Overhead & Fee):																$123,669
Other Direct Costs:																$1,331
Total Task 2 Allowance:																$125,000
3. TASL 3 - RADIO SECURITY	-	$0	175	$35,489	200	$30,820	-	$0	-	$0	220	$14,505	-	$0	595	$80,815
Fee (On all Labor, excluding Principals):																$8,081
Labor Subtotal (Incl. Overhead & Fee):																$88,896
Other Direct Costs:																$1,104
Total Task 3 Allowance:																$90,000
TOTAL TO#12-001	-	$0	483	$97,950	565	$87,068	60	$6,534	-	$0	695	$45,823	-	$0	1,803	$237,375
Fee (On all Labor, excluding Principals):																$23,737
Subtotal Labor (Incl. Overhead & Fee):																$261,112
Subtotal Other Direct Costs :																$3,888
Grand Total TO#12-001 Allowance:																$265,000

Notes:

1. Proposed budgets above are Allowances.

TO#12-001
TASK 1 - RETAIL STOREFRONT

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
I. TASK 1	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A. RETAIL STOREFRONT	-	$0	65	$13,182	90	$13,869	60	$6,534	-	$0	160	$10,549	-	$0	375	$44,134
															-	$0
Labor & Overhead:	-	$0	65	$13,182	90	$13,869	60	$6,534	-	$0	160	$10,549	-	$0	375	$44,134

Fee (On all Labor, excluding Principals):	**$4,413**
Total Labor Cost:	**$48,547**
Other Direct Costs:	**$1,453**
Grand Total Task 1:	**$50,000**

Task 1
Breakdown by Staff Classification

I. Task 1

A. RETAIL STOREFRONT

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	1	x	0.0	x	13	=	0
Arch/Eng A	1	x	5.0	x	13	=	65
Arch/Eng B	1	x	6.9	x	13	=	90
Arch/Eng C	1	x	4.6	x	13	=	60
Arch/Eng D	1	x	0.0	x	13	=	0
CADD	2	x	6.2	x	13	=	160
Technical Assistant	1	x	0.0	x	13	=	0
							375

TO#12-001
TASK 2 - RETAIL RADIO

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate		$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17		
Average Overhead		1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322		
Average Rate with Overhead		$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		
I. TASK 2	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
RETAIL RADIO	-	$0	243	$49,279	275	$42,378	-	$0		$0	315	$20,769		$0	833	$112,426
Labor & Overhead:	-	$0	243	$49,279	275	$42,378	-	$0	-	$0	315	$20,769	-	$0	833	$112,426

Fee (On all Labor, excluding Principals):	**$11,243**
Total Labor Cost:	**$123,669**
Other Direct Costs:	**$1,331**
Grand Total Task 2:	**$125,000**

Task 2
Breakdown by Staff Classification

I. Task 2

A. RETAIL RADIO

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	1	x	0.0	x	13	=	0
Arch/Eng A	1	x	18.7	x	13	=	243
Arch/Eng B	2	x	10.6	x	13	=	275
Arch/Eng C	1	x	0.0	x	13	=	0
Arch/Eng D	1	x	0.0	x	13	=	0
CADD	2	x	12.1	x	13	=	315
Technical Assistant	1	x	0.0	x	13	=	0
							833

TO#12-001
TASK 3 - RETAIL SECURITY

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant			
Average Rate	$413.36		$86.95		$66.08		$46.89		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		TOTAL	
I. TASK 3	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A. RETAIL SECURITY	-	$0	175	$35,489	200	$30,820	-	$0	-	$0	220	$14,505	-	$0	595	$80,815
Labor & Overhead:	-	$0	175	$35,489	200	$30,820	-	$0	-	$0	220	$14,505	-	$0	595	$80,815

Fee (On all Labor, excluding Principals):	**$8,081**
Total Labor Cost:	**$88,896**
Other Direct Costs:	**$1,104**
Grand Total Task 3:	**$90,000**

Task 3
Breakdown by Staff Classification

I. Task 3

A. RETAIL SECURITY

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x		x	0	=	0
Arch/Eng A	1	x	13.5	x	13	=	175
Arch/Eng B	2	x	7.7	x	13	=	200
Arch/Eng C	1	x	0.0	x	13	=	0
Arch/Eng D	1	x	0.0	x	13	=	0
CADD	2	x	8.5	x	13	=	220
Technical Assistant	1	x	0.0	x	13	=	0
							595

THE PORT AUTHORITY OF NY & NJ

WTC CONSTRUCTION DEPARTMENT

WORLD TRADE CENTER TRANSPORTATION HUB

August 2, 2010

Downtown Design Partnership
A Joint Venture of AECOM, Inc. and STV Inc
605 Third Avenue
New York, NY 10158

Attention: Ira Allan Levy, PE, President, AECOM, Inc

SUBJECT: AMENDMENT LETTER – PROFESSIONAL SERVICES CHANGE ORDER #CO-10-002 – FINAL DESIGN WRAP-UP

REF.: PERFORMANCE OF EXPERT ARCHITECTURAL AND ENGINEERING SERVICES FOR THE PERMANENT WORLD TRADE CENTER PATH TERMINAL ON A TASK ORDER BASIS P.A. Agreement No.407-03-013

Dear Mr. Levy:

The Authority hereby accepts your proposal dated July 22, 2010, which is attached hereto and incorporated into the referenced agreement by reference, for performance of the services in the scope of additional services request, which formed the basis for submission of your proposal. Total compensation for the performance of the abovementioned services shall not exceed the amount of **$6,097,417.**

The Consultant shall employ, to every extent possible, the most cost-effective methods of performing the scope of services noted above. This includes, but is not limited to, utilizing appropriate staff as needed (i.e. combining management and technical efforts).. Accordingly, the Consultant shall inform the Director when the Consultant's expenditures reach 80% of the not-to-exceed amount noted above. The Consultant shall continue to render the additional services to completion after the point when the Consultant's compensation reaches 100% of such amount.

The previously authorized total amount for the referenced agreement is increased from $ 222,791,137 to $228,888,554.

The above referenced agreement remains in full force and effect and the performance of the requested additional services is subject to the terms and conditions of such referenced agreement.

All work authorized under Change Order #CO-10-002 shall be invoiced and paid in accordance with the attached Milestone schedule.

115 Broadway, 7th Floor
New York, NY 10006

THE PORT AUTHORITY OF NY & NJ

WTC CONSTRUCTION DEPARTMENT

WORLD TRADE CENTER TRANSPORTATION HUB

All work authorized under Change Order #CO-10-002 shall be invoiced and paid in accordance with the attached Milestone schedule.

Please return two original signed copies of this letter to the attention of **Richard Perez, Contract Specialist, Procurement Department, 115 Broadway, 19th floor**, New York, N. Y. 10006. Upon receipt by the Authority of a copy of this letter executed by a principal of your firm, you are authorized to proceed with performance of the requested additional services.

If you have any questions relating to the performance of the subject services, please do not hesitate to contact me at 212-435-5655

Sincerely,

Shawn T. Lenahan, A.I.A.
Senior Program Manager
WTC Construction Department

Att.

Accepted:
Firm Name: Downtown Design Partnership

Name, Title PRESIDENT DEPOM USA INC — Date 8/2/10

Name, Title Dominick Servedio, Chairman/CEO, STV Incorporated — Date 8/2/10

CC: K. Chan, F. Gallo, S. Lenahan, M. Pagliettini, R. Perez, N. Ranalli, WTCC Document Control

115 Broadway, 7th Floor
New York, NY 10006

FOR EXPERT PROFESSIONAL ARCHITECTURAL AND ENGINEERING SERVICES FOR THE PERMANENT WORLD TRADE CENTER PATH TERMINAL WITH DOWNTOWN DESIGN PARTNERSHIP (DDP), A JOINT VENTURE OF DMJM+HARRIS, INC. AND STV, INCORPORATED

CHANGE TASK ORDER #CO-10-002
PA AGREEMENT #407-03-013
PURCHASE ORDER #4900000675
SCOPE OF WORK DESCRIPTION

Downtown Design Partnership
Final Design Wrap-Up

The following is a proposal to provide architectural and engineering services. Unless stated otherwise, all scope of work and associated design costs do not include Services During Construction efforts.

SCOPE OF WORK DESCRIPTION

DDP shall provide remaining Final Design services limited to the items below.

TASK 1

An increased level of effort is required to complete the following items:

Final Design Base

Scope of services is as follows:

1. Oculus Redesign
   - Complete above grade Oculus design including implementing PA comments and DDP responses.
   - Revise below grade design to accommodate Oculus Redesign. This is predominantly in the abutment areas.

2. Plumbing/Fire Protection
   - Oculus and North and South Memorial Plaza Drainage

3. HVAC
   - Complete calculations
   - Design completion of Oculus and entrances ventilation and exhaust systems including coordination of diffusers with Architects.
   - Refinement and completion of ventilation and smoke control system controls, including minor specification adjustments.

4. Electrical
   - Oculus skylight power and control installation drawings including motor control schedules, electric room plans, schematic control diagrams, and miscellaneous details.
   - Conduit plan and schedule completion for Oculus exhaust fans.
   - Re-circuiting of emergency lighting for PATH platforms to reduce illumination to code required level.
   - Fire Alarm purge panel points list/schematic arrangement.

- Fire Alarm final back check.

INOC 265 - PA Specialty Support Services – Review of Security Deliverables

PA Specialty Support Services - All scope of work is to be managed by and coordinated through Port Authority. Henry Ayvazyan shall serve as the Port Authority consultant in reviewing DDP security design deliverables.

INOC 178 - Platform Level HVAC, Plumbing, and Fire Protection

Scope of services is as follows:

- Revisions to MEP drawings at platform level.
- Edit Division 16 specifications.
- Revisions to specification for Mist System.
- Coordination and detailing of dampers and refinement of control description.

INOC 299 - PA Specialty - Russell Corrosion

PA Specialty Support Services - All scope of work is to be managed by and coordinated through Port Authority.

PA has requested Russell Corrosion to perform the services as identified on Russell Corrosion proposal dated, July 16, 2007.

See INOC 372 - Lateral Loads - West Side

The DDP PATH Hall design for the west bathtub lateral and thermal loads was predicated on a stand alone analysis, independently resisting the imposed loads within the footprint of the Hub Structure.

Given the interconnected relationship between the PATH Hall and the adjacent structures, a global analysis of the west bathtub, similar to one conducted on the east bathtub is deemed necessary for the completion of the analysis. This global analysis, to be performed by others will include an overall assessment of the lateral and thermal loads acting on the PATH Hall, the Memorial including the Memorial Pavilion, Tower One, the PAC building and the Vehicle Security Center. Given the geometric constraints of the PATH Hall structure (i.e. limited opportunity for shear walls in the east-west direction due to track configuration as well as a "pinch point" created within the structure by the location of the south Memorial Pool), it is anticipated the global analysis may yield a somewhat different distribution of lateral and thermal forces than the stand alone analysis has to date.

Following completion of this global west bathtub analysis, it will be necessary to review and evaluate the "redistribution of lateral and thermal forces and assess their impacts on diaphragm slabs and shear walls to ensure the structural elements are adequately reinforced to resist this "global behavior".

DCC 413 - WP 1i - Fan Plant Equipment Purchase

PA Specialty Support Services - All scope of work is to be managed by and coordinated through Port Authority.

Services for fabrication phase of electrical equipment, control and monitoring systems. PB Americas, Inc. shall provide engineering support during procurement technical support during fabrication, review shop drawings and respond to RFI's. (See PB Americas proposal, dated July 9, 2009.)

DCC 455 - Package 18.b Alternative 78" Sewer Protection Measures

The scope of services is as follows:

Task 1 - PA requested the investigation and implementation of changes to the 78 in. sewer blast design north of the North Projection to potentially reduce construction schedule. DDP shall provide design services for the analysis, design and preparation of contract addendum necessary to implement alternative 78 in. sewer protection measures north of the north projection in Package 18B. Coordinate with NYCDEP and NYCDOT as necessary to communicate revisions and obtain any necessary approvals. Assume a maximum of 4 meetings for this task.

Task 2 - PATH has requested that the slab in this area of the signal room not be replaced. DDP shall provide design services for the analysis, design and preparation of contract addendum necessary to implement an alternative slab construction method over the PATH signal room in the north projection under Package 18B. Coordinate with PATH as necessary. Assume a maximum of 2 meetings for this task.

Task 3 - The pump discharge line was disconnected from the intended storm line on Route 9A during construction activities on the West Haul Road. DDP shall provide design services for the analysis, design and preparation of contract addendum necessary to restore PATH's existing emergency Pump Discharge Line serving Tunnel E. Assume a maximum of 1 meeting for this task.

Deliverables
Signed and sealed drawings, calculation, specifications and cost estimate.

See DCC 497 - PB Review of Hughes' Report on PATH PA-5 Train Heat Release

PA Specialty Support Services - All scope of work is to be managed by and coordinated through Port Authority.

PA EAD requires additional PB Americas effort to complete review of Hughes' Associates' Reports. (See PB Americas proposal, dated April 2, 2009)

See DCC 507 - CFD Modeling of Permanent PATH Station and Related Area

DDP shall perform CFD modeling for final station and related areas geometry, including presentations to PANYNJ of results of CFD modeling and preliminary and final writing.

Deliverables
- Final CFD Report

DCC 467 - North Fan Plant & Relocation of South Fan Plant

The scope of services is as follows:

- Coordinate with VOEC team to provide information for their redesign of VOEC tower.
- Reroute WTC Hub ducts from reconfigured North fan plant to Temporary North Access and develop concept design for permanent configuration coordinated with PAC/Helix.
- Minor revisions/completion of all trades designs for both North and South fan plants.

Deliverables: (Addendum to P20 Signed and Sealed, Revisions to WP9X ALT)

- WP20 and WP9X ALT MEP drawings and specifications.

TASK 2

DCC – TBD – Revised North Liner Wall design

DDP shall include design and coordination of the Greenwich Street liner wall from Vesey Street slurry wall (designed by PA EAD) to approximately panel G9. It is assumed that design loads for the wall will be provided by Cantor Seinuk as part of the West Bathtub lateral load analysis. The scope of services is as follows:

- Coordination and updating the current HUB drawings/design to reflect PA EAD's design of the Vesey Street slurry wall/liner wall.
- Incorporation of the Vesey Street liner wall into the HUB design shall include modification to the north end steel and north end sump room.
- Electrical penetration shall be coordinated along Vesey Street liner wall.

Deliverables:

- It is assumed that lateral loads will be provided by Cantor Seinuk for the Greenwich Street Liner Wall.

DCC – TBD – Oculus Late Comments / Holistic Responses

Response to a resolution of Oculus comments by PA and PB, as received on 9/14/09 and as updated on 9/25/09. (See Attachment – A)

DCC TBD – Section 106 – Out of Sequence

The scope of services is as follows:

- Incorporation of design concepts approved by the Section 106 Consulting Parties.
- Revise structural design based on approved design.
- Revise architectural design based on approved design.
- Prepare final design proposal for PANYNJ sign-off.

Deliverables: (90% and Signed and Sealed)

- Structural design documents, calculations, and specifications.
- Architectural design documents and specifications.

DCC TBD – Comments from EAD/PMOC (As of 11/1/09)

Comments received as a result of other Global Settlement DCCs will be addressed under those DCCs, including those for the Radio expansion into retail space. As has been our process throughout the Global Settlement, the DDP 100% submission releases 90% payment; incorporation of comments into the final product will release the remaining 10% payment. Final Design comments received as of 5/1/10 will also be closed out as part of the Global Settlement.

(See Attachment – B for a list of comments received as of 5/1/10.)

Comments received after 5/1/2010 will be addressed in accordance with the terms and conditions of the original agreement.

DCC TBD – Signage Diagrams

Scope of services is as follows:

- Create a comprehensive set of diagrams showing location of all signage text in Hub pubic space, including retail directories.
- Update diagrams to include coordination with Retail from Retail Graphic Signage effort

Deliverables: (Draft and Final)

- Set of diagram by level showing all signage in Hub public space as well as message and sign type.

DCC TBD – Revised Transit Hall Plaza

Preliminary Engineering:

1. Review of all updates to the DDP base documents that has occurred since August.
2. Continuing PE documents that were suspended in August and sent to the Port Authority in a progress printing on November 12, 2009.
3. Within the PE documents, the following scope of work needs to be started and was not included in the above referenced progress printing:
   - Definition and detailing of all infrastructure on the Plaza surface to connect with all sub-surface elements for utilities such as drainage, water, lighting, electrical, and communication.
   - Finish grade and the resolution of topography and all edge conditions, particularly at the planters, oculus ring/seat, flagpole, and joint with perimeter sidewalk band. This will also include the layout of the pavement pattern, grading & drainage plans and planting selections.
   - Built up elements including planters, steps, and wall and pedestrian lights. This component will require a high level of coordination with the adjoining Tower 3.
   - Complete design of the flexible furnishings: movable seating and planters. Currently at a concept level, there are competing functional requirements that must be balanced including weight restrictions, aesthetic and flexibility goals, and maintenance concerns. Optional planting plans to accommodate seasonal and other requirements must be identified.
4. Coordinate Hub Plaza design with WTC Transportation Hub and receive milestone and final approvals from the Port Authority and City Planning.

Final Design:
Final Design shall include detailing of all elements of the Plaza which is anticipated to result in approximately 38 sheets of signed and sealed documents with specifications.

DCC TBD – Impacts from Lateral Loads Analysis – West Side

The current HUB design is based on a "stand alone" lateral analysis per PA direction and assumes others will not impose additional loads onto the HUB lateral system.

DDP shall implement impacts resulting from WSP Cantor Seinuk's (CS) global analysis of the West Bathtub lateral load analysis. DDP shall evaluate loads imposed on the HUB structure and update current HUB design to reflect CS's final analysis.

DCC TBD – Impacts from Lateral Loads Analysis – Eastside

The DDP PATH Hall design for the east bathtub lateral and thermal loads was predicated on a stand alone analysis, independently resisting the imposed loads within the footprint of the Hub Structure.

Given the interconnected relationship between the PATH Hall and the adjacent structures, a global analysis of the east bathtub has been performed, but may be updated by others. This updated global analysis, to be performed by others will include an overall assessment of the lateral and thermal loads, it is anticipated the global analysis may yield a different distribution of lateral and thermal forces than the stand alone analysis has to date.

Following completion of this global east bathtub analysis, it will be necessary to review and evaluate the "redistribution of lateral and thermal forces and assess their impacts on diaphragm slabs and shear walls to ensure the structural elements are adequately reinforced to resist this "global behavior".

GRAND SUMMARY
PROFESSIONAL SERVICES
CHANGE ORDER #10-002
FINAL DESIGN WRAP-UP

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTALS	
Average Rate		$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17		
Average Overhead		1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322		
Average Rate with Overhead		$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		
	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
TASK 1 - CO#10-002	-	$0	5,849	$1,186,152	6,700	$1,032,485	7,550	$822,163	3,300	$245,579	5,660	$373,177	1,383	$74,752	30,442	$3,734,308
Fee/Profit (On all Labor, excluding Principals):																$0
Labor Subtotal (Incl. Overhead):																$3,734,308
Other Direct Costs:																$0
Total Task 1:																$3,734,308
TASK 2 - CO#10-002	-	$0	2,810	$569,856	4,030	$621,032	4,820	$524,877	2,010	$149,580	3,620	$238,675	819	$44,261	18,109	$2,148,281
Fee/Profit (On all Labor, excluding Principals):																$214,828
Labor Subtotal (Incl. Overhead & Fee/Profit):																$2,363,109
Other Direct Costs:																$0
Total Task 2:																$2,363,109
TOTAL CO #10-002	-	$0	8,659	$1,756,008	10,730	$1,653,518	12,370	$1,347,040	5,310	$395,159	9,280	$611,852	2,203	$119,013	48,552	$5,882,589
Fee/Profit (On all Labor, excluding Principals):																$214,828
Subtotal Labor (Incl. Overhead & Fee/Profit):																$6,097,417
Subtotal Other Direct Costs :																$0
Grand Total CO #10-002 :																$6,097,417

Task 1
Breakdown by Staff Classification
CO#10-002

Task 1- CO#10-002

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	18	=	0
Arch/Eng A	5	x	65.0	x	18	=	5,849
Arch/Eng B	10	x	37.2	x	18	=	6,700
Arch/Eng C	10	x	41.9	x	18	=	7,550
Arch/Eng D	4	x	45.8	x	18	=	3,300
CADD	6	x	52.4	x	18	=	5,660
Technical Assistant	2	x	38.4	x	18	=	1,383
							30,442

CHANGE ORDER # 10-002
FINAL DESIGN WRAP-UP
TASK 2

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
TASK 2 - CO#10-002	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
Change Order #10-002	-	$0	2,810	$569,856	4,030	$621,032	4,820	$524,877	2,010	$149,580	3,620	$238,675	819	$44,261	18,109	$2,148,281
															-	$0
Labor & Overhead:	-	$0	2,810	$569,856	4,030	$621,032	4,820	$524,877	2,010	$149,580	3,620	$238,675	819	$44,261	18,109	$2,148,281

Fee/Profit (On all Labor, excluding Principals):	$214,828
Total Labor Cost:	$2,363,109
Other Direct Costs:	
Grand Total Task 2:	$2,363,109

Task 2 - CO#10-002
Breakdown by Staff Classification

Task 2 - CO#10-002

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	31	=	0
Arch/Eng A	3	x	30.2	x	31	=	2,810
Arch/Eng B	4	x	32.5	x	31	=	4,030
Arch/Eng C	4	x	38.9	x	31	=	4,820
Arch/Eng D	2	x	32.4	x	31	=	2,010
CADD	4	x	29.2	x	31	=	3,620
Technical Assistant	1	x	26.4	x	31	=	819
							18,109

ATTACHMENT - A

WTC Transportation Hub
Review Comments Log

PC 0485	9/14/09	E-mail	20 Oculus	Final Submittal	7/31/09	20 OCU(0486-0555)	70	PA/PB								11/16/2009	Issued DDP responses 10/29/09, 11/5/09 and 11/16/09	CLOSED
PC 0483	9/14/09	E-mail	20 Oculus	Final Submittal	7/31/09	20 OCU(0556-0597)	42	PA								11/16/2009	Issued DDP responses 10/29/09, 11/5/09 and 11/15/09	CLOSED
PC 0485	9/25/09	E-mail	20 Oculus	Final Submittal	7/31/09			PA	Kriegel		PA-architectural updated comments					11/16/2009	Issued DDP responses 10/29/09, 11/5/09 and 11/15/09	CLOSED

NEW COMMENTS DISTRIBUTED
COMMENTS NOT YET RESPONDED
RESPONSES COMPLETED
RESPONSES SUBMITTED TO PA
DO NOT USE

Oculus Comments

Master No	Package No	Submission Stage	Submission Date	Reviewer Name	Reviewer Entity	Discipline	Comment #	Document Reference	Review Comment	Date Received	Response Due From	Response	Response Date	I = Implemented NAR = No Action Req TBD = To be determined	Remarks
20 OCU-0486	Oculus	Final Submittal	7/31/2009		PA/PB	Structural	1	The October 2007 Boundary Layer Wind Loads Study	The October 2007 Boundary Layer Wind Loads Study looked at the wind environment and wind loads on the structure using a 1:200 scale model for 3 configurations e.g. with and without 1.5 mile loop. "The report indicated 50 year design pressures but appeared to be based on testing of a simple scale model (not an aero-elastic model that would properly account for the individual stiffness of the individual elements) and hence it was noted in the report that dynamic effects have "been ignored" (emphasis added). There did not appear to be any study associated with the local wind effects at the plaza level as would be expected. The report stated that due to ice the aerodynamics were not expected to be altered (but as the dynamic effects were ignored the added mass of the ice may be significant). The report cautioned that based on modal frequencies provided by Santiago Calatrava, the occurrence of aerodynamic instabilities could not be discounted and that there is a potential for galloping instability with the tips of the rafters moving laterally and that the response should be explor	9/14/09	Allabbe				
20 OCU-0487	Oculus	Final Submittal	7/31/2009		PA/PB	Structural	2	The June 2008 Boundary Layer Aeroelastic Study	The June 2008 Boundary Layer Aeroelastic Study page vi reported "relatively large amplitude motions" (emphasis added) when observing the response of 1:68 scale model rafters in response to turbulent buffeting loads for winds in excess of 100 mph and concluded "visible motion of the rafters at lower wind speeds can be expected" (emphasis added). This suggests concern with fatigue as well as with ice falling. The report recommended +/- 85 psf design pressures. The report indicated only ten of the rafters were aeroelastically modeled, so the aero-elastic results were limited in scope. And only eight of the rafters were strain gauged and the report did not include the strain gauge results. The effects of the added mass ice on the rafter's response were not considered. The Design Procedure indicated that as allowed by the AISC code 9th edition, the rafters have been designed using the effective width of the members and that, as required by the AISC code, the member stiffness have been reduced. In the case of the rafters, the reduced stiffness may not have been captured in the model, so that the dynamic response obt	9/14/09	Allabbe				
20 OCU-0488	Oculus	Final Submittal	7/31/2009		PA/PB	Structural	3	The January 2009 Boundary Layer Study on Wind-Induced Loads	The January 2009 Boundary Layer Study on Wind-Induced Loads provided loads for a 50 year return period and stated that the loads should be increased 12% for a 100 year return period. A 100 year return period for a significant building that has a 100 year design life may be too short. The report had a number of exclusions and in particular " ... there is no allowance for resonant vibration of the structure (emphasis added) ... " This failure to consider resonant vibration is a particular concern.	9/14/09	Allabbe				
20 OCU-0489	Oculus	Final Submittal	7/31/2009		PA/PB	Structural	4	Boundary Layer Studies	Boundary Layer Studies: In all three studies the configuration of the purlins is not what is detailed on the plans, as all of the models tested had multiple purlins between the rafters whereas the plans indicate only one purlin at the 2/7th point. Thus the results are likely not applicable to the final design and a new model that is representative of the final design should be tested. As this is a particularly critical aspect of the project, the planned program as well as the final results should be independently reviewed by a wind specialist firm who has related experience in large flexible structures and to ensure its independence the firm should be employed by the Port Authority	9/14/09	Allabbe				
20 OCU-0490	Oculus	Final Submittal	7/31/2009		PA/PB	Structural	5	Calculations	Oculus Construction Design Calculations Final Submittal, August 7, 2009, DESIGN CRITERIA. The design life of the structure is missing	9/14/09	Allabbe				
20 OCU-0491	Oculus	Final Submittal	8/7/2009		PA/PB	Structural	6	Calculations	Oculus Construction Design Calculations Final Submittal, August 7, 2009, DESIGN CRITERIA. 5 Live Loads states no live loads have been considered on the Oculus as they would be less than the snow loads. While this may be correct, such a consideration overlooks the potential for a pattern loading that may have unintended consequences, as we found was the case for the collapse of the Kemper Arena. So the analysis for other loads such as wind and ice should included consideration of unsymmetrical pattern loads	9/14/09	Allabbe				

Oculus Comments

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20 OCU-0492	Oculus	Final Submittal	8/7/2009		PA/PB	Structural	7	Calculations	Oculus Construction Design Calculations Final Submittal August 7, 2009 DESIGN CRITERIA 9 Snow Loads indicates a 33 psf snow load is applied to the top of the arch and skylights with 3 psf for drifts. This appears to conflict with the Skylight Design Calculations Page 45/112 that do not appear have considered a snow load. The design calculations also appear to be in conflict with the Specifications, Article 8440 B that indicate that the glazing is to withstand a 30 psf snow load that is to be increased "due to drifting and or sliding snow" per ASCE 7-02. None of this appears to be consistent	9/14/09	Allabba				
20 OCU-0493	Oculus	Final Submittal	8/7/2009		PA/PB	Structural	8	Calculations	Oculus Construction Design Calculations Final Submittal, August 7, 2009, DESIGN CRITERIA 10 Ice Loads indicates that ice loads have been calculated for the rafters and purlins. A review of the calculations appears to confirm that a 1" thickness has been used as recommended by the Boundary Layer report but this needs to be confirmed. (The 1" ice thickness is consistent with TIA 222 Structural Standard for Antenna Supporting Structures and Antennas recommendations for steel antenna towers in NYC, which recommend ¾" ice with a 50 mph design wind.) The ice loads on the rafters is significant and varies from 168.6 pounds per foot at the arch to 47.8 pounds per foot at the top of the rafters (see sheet 29/151 of the Oculus Design calculations). For Axis 14 North Rafter, which is over 200 feet long, this represents over 20 tons of ice on one rafter. There is the danger this weight of ice poses to both the glazing below the arch and to pedestrians in the plaza below. One needs to recognize that the top of the rafters are in some cases 200 feet above the plaza level and that ice falling	9/14/09	Allabba				
20 OCU-0494	Oculus	Final Submittal	8/7/2009		PA/PB	Structural	9	Calculations	Oculus Construction Design Calculations Final Submittal August 7, 2009 DESIGN CRITERIA 13 LOAD COMBINATIONS indicates that the ice and wind load combinations are based on "BLWT recommendations". Where are these recommendations documented?	9/14/09	Allabba				
20 OCU-0495	Oculus	Final Submittal	8/7/2009		PA/PB	Structural	10	Calculations	Oculus Construction Design Calculations, Final Submittal, August 7, 2009 DESIGN PROCEDURE - Web-tapered members the rafters appear to confirm to the General Requirements of Article 1 of AISC Article F and thus the provisions of Article F should have been followed	9/14/09	Allabba				
20 OCU-0496	Oculus	Final Submittal	8/7/2009		PA/PB	Structural	11	Calculations	Oculus Construction Design Calculations Final Submittal August 7, 2009, DESIGN PROCEDURE - 3 14-1-b Allowable Compression Capacity. The design procedure apparently determined the buckling capacity based on a SAP computer analysis. The buckling capacity of columns as reflected in the code is less that the theoretical capacity based on testing of the as fabricated conditions of the column. Testing utilized to develop the code allowable stresses has demonstrated that the buckling capacity is affected by factors such as residual stress and alignment. A theoretical buckling analysis that relies on a computer code will not capture these effects and produce unconservative results. A more appropriate technique may be to determine the effective Lr and then reference the code allowable. For tapered members the allowable compression capacity for a tapered member is specified in Article 3 Allowable Compressive Stress in AISC Appendix F and should be used in the design	9/14/09	Allabba				
20 OCU-0497	Oculus	Final Submittal	8/7/2009		PA/PB	Structural	12	Calculations	Oculus Construction Design Calculations Final Submittal August 7, 2009, DESIGN PROCEDURE - 3 14-1-c Determination of Buckling Capacity. A SAP model was used to determine the buckling capacity of the portal legs. As above the buckling capacity of columns are reflected in the code is calibrated based on the as fabricated conditions of the column, and is affected by factors such as residual stress and alignment. A more appropriate technique may be to determine the effective Lr and then reference the code allowable	9/14/09	Allabba				

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20 OCU-0498	Oculus	Final Submittal	8/7/2009		PA/PB	Structural	13	Calculations	Oculus Construction Design Calculations, Final Submittal, August 7, 2009, DESIGN PROCEDURE – 3 14-1-c Determination of Buckling Capacity, even if one were to use a SAP model to determine buckling capacity, the analytic model indicated on sheet 11/117 appears to assume that the single leg is restrained at its top and bottom, when the only restraint on the bottom is the end of the dog leg that attaches to the plaza structure. The single leg should be evaluated as a beam-column. Further since there are slender elements that comprise the leg, the effective width, and hence capacity of these members varies with the applied load so that a classical buckling analysis, which assumes that the cross section is constant can not be applied to a thin walled section.	9/14/09	Altabba				
20 OCU-0499	Oculus	Final Submittal	8/7/2009		PA/PB	Structural	14	Calculations	Oculus Construction Design Calculations, Final Submittal, August 7, 2009, DESIGN PROCEDURE – 3 14-1-e Allowable Major and Minor Bending Capacity states that "for closed section tubes torsional buckling will not control the design". As explained in the ASIC code, Chapter E, Article E3 "... or built up column with very thin walls, may require consideration of flexural torsional buckling ". Proportions of the rafters can be found on sheets 12/ and 13/151, and indicate that many of the rafter web plates are as thin as ¼" i.e. they are "very thin walls". The possibility of flexural torsional buckling should be evaluated. It is noted that the stiffness provided at the terminus of the rafter at the arch should be part of the evaluation.	9/14/09	Altabba				
20 OCU-0500	Oculus	Final Submittal	8/7/2009		PA/PB	Structural	15	Calculations	Oculus Construction Design Calculations, Final Submittal, August 7, 2009, DESIGN PROCEDURE – 3 14-1-g Combined Action of Axial and Bending Capacity interaction equations do not account for tapered members and unbraced sections as specified in Article 6 Combined Flexure and Axial Force in AISC Appendix F.	9/14/09	Altabba				
20 OCU-0501	Oculus	Final Submittal	8/7/2009		PA/PB	Structural	16	Calculations	Oculus Construction Design Calculations, Final Submittal, August 7, 2009, DESIGN PROCEDURE – 3 14-1-g Combined Action of Axial and Bending Capacity 3 14-2 Steel Design of Abutments Transition Zone and Main Arch per VM stress with S&P Model, indicates that where shell elements are used ASIC 89 "typical frame design" presents a procedure based on checking the Von-Mises stress. But the procedure appears to look at the shell element in isolation and does not consider if the adjacent components have adequate capacity to restrain tension field if yielding occurs, nor does it address the overall reduction in capacity for the entire member if yielding occurs and the load is shed to adjacent elements. Just considering a single element in isolation does not provide a comprehensive evaluation of a member's capacity.	9/14/09	Altabba				
20 OCU-0502	Oculus	Final Submittal	8/7/2009		PA/PB	Structural	17	Calculations	Oculus Construction Design Calculations, Final Submittal, August 7, 2009, DESIGN PROCEDURE – Fatigue. The design procedure does not include any provisions for fatigue. Per AISC members shall be proportioned for fatigue in accordance with Chapter K Article K4 and Appendix K. As an example Detail 3 on Drawing S/5927 at the Rafter / Portal Frame transition has a number of different types of welds and the allowable stress ranges at these welds will depend upon the specifics of the type of weld. From the combined stress (since pages 73 /53/151) the dominant loading is wind and it appears that the fatigue considerations of wind loads have not been considered. A wind specialist should be able to define the number of cycles to be used. (Note: the consultant later responded to a Port Authority comment on the wind fatigue issue for one element, the analysis was not correct as discussed below).	9/14/09	Altabba				
20 OCU-0503	Oculus	Final Submittal	8/7/2009		PA/PB	Structural	18	Calculations	Oculus Construction Design Calculations, Final Submittal, August 7, 2009, Design Loads and Load Combinations assume all loads are uniformly applied, but the environmental loads may not be uniform, for example the snow and ice loads will vary and non uniform loads should be evaluated as required in AISC 89 A 4.1 Dead Load and Live Load. As an example on Sheet 56 / 155 a uniform live load is applied where as a pattern load should also be considered. (It is noted that a pattern load was used for the snow loads.)	9/14/09	Altabba				

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20 OCU-0504	Oculus	Final Submittal	7/31/2009		PA/PB	Structural	19	S5002	Drawing S5002 General Notes 2.5 indicate that the contractor is responsible for the stability of the structure during erection but the notes are not clear as to how the contractor is to fulfill this requirement what criteria is to be applied what wind loads are to be used, if a PE is to prepare the analyses and what submittals are required if any It is suggested that Note 2 5 be revised to refer to the Oculus Erection Notes on CS5500 which provide a discussion on the required analyses during erection (The erection notes still need to address what wind loads are to be used)	9/14/09	Altabba				
20 OCU-0505	Oculus	Final Submittal	7/31/2009		PA/PB	Structural	20	S5002	Drawing S5002 General Notes 3 are not clear as to what tolerances are to be applied to the structural steel other than reference to the City Building Code The note does not agree with the Steel Specifications, page 5120-2 that states the tolerances shall conform to the AISC Code of Standard Practice for Steel Buildings and Bridges But neither reference is appropriate as the members being fabricated are not related to any code and it is recommended that a plan sheet be added to indicate the tolerances to be applied to each member in the shop and as erected These tolerances should be developed in concert with steel erectors Fabricators and the glazing suppliers A similar consideration is suggested for weld inspection	9/14/09	Altabba				
20 OCU-0506	Oculus	Final Submittal	7/31/2009		PA/PB	Structural	21	S5002	Drawing S5002 General Notes 5 14 indicate that the steel is to be erected to the tolerances called for in the AISC Code of Standard Practice for Steel Buildings and Bridges and as specified The Specifications do not appear to include any specific tolerances As the member being fabricated are not related to any code, it is suggested that a plan sheet be added to indicate the tolerances to be applied to the erection tolerances It is anticipated that the tolerances will be particularly critical for those elements to which the glazing and skylight are attached	9/14/09	Altabba				
20 OCU-0507	Oculus	Final Submittal	7/31/2009		PA/PB	Structural	22	S5002	Drawing S5002 General Notes 5 29 discuss additional notes for Steel Plate Girders and appears to be unrelated to this contract	9/14/09	Altabba				
20 OCU-0508	Oculus	Final Submittal	7/31/2009		PA/PB	Structural	23	S5003 and S5004	Drawing S5003/4 Oculus Geometry it is suggested that these sheets include a reference to the Oculus Presets on Drawing CSS522	9/14/09	Altabba				
20 OCU-0509	Oculus	Final Submittal	7/31/2009		PA/PB	Structural	24	S5301	Drawing S5301 – S5358 Oculus Portal Frames Transition it appears that wind blown debris (such as plastic bags and leaves), pigeon droppings pigeon nesting materials rain ice and snow may tend to clog the drains and water will spill down the ends of the Oculus	9/14/09	Altabba				
20 OCU-0510	Oculus	Final Submittal	7/31/2009		PA/PB	Structural	25	S5583	Drawing S5583 – 84 Oculus Purlins Connections North South, as noted in the June 2008 Boundary Layer Aeroelastic Study page v "visible motion of the rafter at linear wind speeds can be expected" creating variable fatigue stress ranges Based on Table A K4 2 the rafters and purlins connections would be a Category E or E detail and potentially have a very low allowable stress range Thus the concern is that based on the anticipated stress range at the purlin / rafter intersection will be prone to fatigue cracking The design has failed to address fatigue	9/14/09	Altabba				
20 OCU-0511	Oculus	Final Submittal	7/31/2009		PA/PB	Structural	26	S5702 and S5703	Drawing S5702 - 3 Oculus West Abutment the plans indicate the use of Whale Brand Tufnol Structural Thermal Insulation of Approved Equal Whale Brand Tufnol is a phenolic resin laminated with paper, cotton or glass. It is not a structural material and is not recognized in AISC 89 The 1989 Specifications prohibit the use of interposed material in high strength bolted connections It is also noted that the AISC Specification for Structural Joints Using ASTM A 325 or A 490 Bolts 2004, has a similar prohibition against interposed material in Section 3 1 Connected Plies	9/14/09	Altabba				
20 OCU-0512	Oculus	Final Submittal	7/31/2009		PA/PB	Structural	27	S5707 and S5765	Drawing S5707 - 5765 West Abutment, Note 2 states "All plates noted as "non-structural" are not necessary to guarantee the stability of the Oculus structure". What is the basis of this statement? There is no discussion in the Design Procedure that considers models with and without "non-structural" plates How does one "guarantee" stability? These same comments apply to the East Abutment	9/14/09	Altabba				

Oculus Comments

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20 OCU-0513	Oculus	Final Submittal	7/31/2009		PA/PB	Structural	28	S5712	Drawing S5712 Oculus West Abutment Sections Section C there is a note pointing to an open space that states "Whale Brand Tufnol Structural Thermal Insulation or Approved Equal" and there is also a material shown in cross hatch that does not have a description. Does the note refer to the cross hatched material? This same cross hatched material appears in other West Abutment sections on other drawings, what is it? Those same comments apply to the East Abutment	9/14/09	Allabba				
20 OCU-0514	Oculus	Final Submittal	7/31/2009		PA/PB	Structural	29	S5902	Drawing S5902 Oculus Portal Frame, Section S/H, the distance between the side plates scales at approximately 10", yet the section requires a welder to reach into this space approximately 2' to make a full penetration weld. Even if this weld can be made how is it to be inspected?	9/14/09	Allabba				
20 OCU-0515	Oculus	Final Submittal	7/31/2009		PA/PB	Structural	30	S5903	Drawing S5903 Oculus Steel Drawings Portal Base Frame Details indicate the 1/1/2" threaded anchor bolt is to be anchored by tapping threads into a 2 ½" thick base plate. Wouldn't this need to be installed inside a duct that is subsequently grouted? Is the anchor bolt to be torqued? Does the 2 ½" length of thread develop the anchor bolt? Similar details are shown on S5878 and S5979	9/14/09	Allabba				
20 OCU-0516	Oculus	Final Submittal	7/31/2009		PA/PB	Structural	31	S5927	Drawing S5927 Oculus Steel Drawings Section S/H indicates a stainless steel plate is to be spliced into the rib. The AISC Manual, page 6-6, provides the coefficients of expansion for various materials. For mild steel the coefficient is 0.00065 / 100 degrees F and for mild steel (18-8) the coefficient is 0.00099 / 100 degree F. Thus the coefficient of expansion of stainless steel is 50% greater than that of mild steel and over a distance of 100 feet the stainless steel will expand 0.40 inches more than the mild steel. Since the portal frame makes use of stainless welded to mild steel similar to a bimetallic strip, this differential expansion (or contraction) due to temperature increases (or decreases) will likely cause strains and displacements that have not been addressed	9/14/09	Allabba				
20 OCU-0517	Oculus	Final Submittal	7/31/2009		PA/PB	Structural	32	S5927	Drawing S5927 Oculus Steel Drawings the specifications Division 11012 Fall Arrest System indicates Fall Arrest and Restraint systems are to be installed on the roofs and other areas as shown on the Conerad Drawings. Where are these systems shown?	9/14/09	Allabba				
20 OCU-0518	Oculus	Final Submittal	7/31/2009		PA/PB	Structural	33	S5942	Drawing S5942 Oculus Rafters Section 5 Zone D how does the welder reached inside the rafter web plates to make the stiffener fillet welds? It appears that these ribs can not be fabricated or inspected as detailed	9/14/09	Allabba				
20 OCU-0519	Oculus	Final Submittal	7/31/2009		PA/PB	Structural	34	S5942	Drawing S5942 Oculus Rafters Section 5 Section 3 1, see comment above re S5583 - 84 Oculus Purlins Connections North South and fatigue resistance of the indicated welds.	9/14/09	Allabba				
20 OCU-0520	Oculus	Final Submittal	7/31/2009		PA/PB	Structural	35	S5942	Drawing S5942 Oculus Rafters Detail 4 Zone C indicates that the ribs are to butt weld splice. Since only one side of the butt weld is ground smooth, this is Category C fatigue weld per AISC 89. See comment above re S5583 - 84 Oculus Purlins Connections North South and fatigue resistance due to wind loads. This comment is typical for all rib splice welds	9/14/09	Allabba				
20 OCU-0521	Oculus	Final Submittal	7/31/2009		PA/PB	Structural	36	S5943	Drawing S5943 Oculus Rafters Section 8 Zone F, how does the welder reached inside the rafter web plates to make the stiffener fillet welds?	9/14/09	Allabba				
20 OCU-0522	Oculus	Final Submittal	7/31/2009		PA/PB	Structural	37	S5951	Drawing S5951 Oculus Rafters Detail Section Plaza Lighting, see comment above re S5583 - 84 Oculus Purlins Connections North South and fatigue resistance of the indicated welds	9/14/09	Allabba				
20 OCU-0523	Oculus	Final Submittal	7/31/2009		PA/PB	Structural	38	S5976	Drawing S5976 Oculus Abutment Details the plans indicate the use of Whale Brand Tufnol Structural Thermal Insulation or Approved Equal. In above comments it was pointed out that this material can not be used in structural connections	9/14/09	Allabba				
20 OCU-0524	Oculus	Final Submittal	7/31/2009		PA/PB	Structural	39	S5976	Drawing S5976 Oculus Abutment Details Detail 12 seems to indicate there are two free standing sections with insulation between the sections. Isn't some connection required between the sections?	9/14/09	Allabba				
20 OCU-0525	Oculus	Final Submittal	7/31/2009		PA/PB	Structural	40	CS5500	Drawing CS5500 Oculus Erection Notes It is recommended that the design code and wind loads to be used by the contractor for both the Oculus and plaza be explicitly stated. These loads could be established by modifying the wind tunnel model. Is a temporary overstress allowed?	9/14/09	Allabba				

Oculus Comments

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20 OCU-0526	Oculus	Final Submittal	7/31/2009		PA/PB	Structural	41	CSS522	Drawing CSS522 Oculus Presets Legend refers to shop setup fabrication. The Structural Steel Specifications page 5120-7, only require one mock up. It is recommended that shop assembly be required for each complete portal frame to confirm conformance to the yet to be specified tolerances. As noted above it is also recommended that the required tolerances be spelled out on the plans (this can be accomplished with a sample diagram) as the normal AISC building tolerances are not relevant	9/14/09	Altabba				
20 OCU-0527	Oculus	Final Submittal	7/31/2009		PA/PB	Architectural	42	A3101	Drawing A3101 Partial Sections Transit Hall it appears that ice can slide down the arch and impact anyone passing through the abutment doors at the plaza level	9/14/09	Lem				
20 OCU-0528	Oculus	Final Submittal	7/31/2009		PA/PB	Architectural	43	A3103	Drawing A3103 Partial Sections Transit Hall it appears that it may be necessary to close the plaza and Fulton Street in the winter if there is a possibility of falling ice	9/14/09	Lem				
20 OCU-0529	Oculus	Final Submittal	7/31/2009		PA/PB	Architectural	44	A8012	Drawing A8012 Exterior Envelope Detail D48 appears to show a non metallic material between the inner and outer portions of the structure. This is not allowed for structural connections	9/14/09	Lem				
20 OCU-0530	Oculus	Final Submittal	7/31/2009		PA/PB	Architectural	45	A8012	Drawing A8012 – 18. Glazing Details, how are these details related to the allowable fabrication tolerances for the structural steel? How are these details related to the anticipated structure movements due to environmental loads? As suggested above, the plans should include the fabrication and erection tolerances. Will it be necessary to field measure the erected structure before developing the shop drawings and fabricating the glazing? Section 08440 Roof Glazing and Cladding Systems appears to have been copied from a specification that was written for normal building project. for example there is reference to members "spanning floor to floor". This Specification needs to be critically reviewed particularly with regard to coordination with the Frame fabrication and erection tolerances.	9/14/09	Lem				
20 OCU-0531	Oculus	Final Submittal	7/31/2009		PA/PB	Architectural	46	A8101	Drawing A8101 Operable Skylight how are these details related to the allowable fabrication tolerances for the structural steel? How are these details related to the anticipated structure movements due to environmental loads? As suggested above the plans should include the fabrication and erection tolerances. It may be necessary to field measure the erected structure before developing the shop drawings and fabricating the skylight? As was stated above Section 08440 Roof Glazing and Cladding Systems needs to be critically reviewed	9/14/09	Lem				
20 OCU-0532	Oculus	Final Submittal	7/31/2009		PA/PB	Architectural	47	A8102	Drawing A8102 Specifications for Mechanical Components, why are both AASHTO and AREMA Movable Bridge Specifications cited when they are similar?	9/14/09	Lem				
20 OCU-0533	Oculus	Final Submittal	7/31/2009		PA/PB	Architectural	48	A8102	Drawing A8102 Specifications for Mechanical Components, Note 4.1 type 316 stainless steel is typically used for the type of service	9/14/09	Lem				
20 OCU-0534	Oculus	Final Submittal	7/31/2009		PA/PB	Architectural	49	A8102	Drawing A8102 Specifications for Mechanical Components, Note 6 Fabrication and Erection tolerances are indicated for the "structural roof components", which are understood to only apply to the Transit Hall operable skylight and not to the overall Oculus structure. These tolerances may be reasonable for the operable skylight itself, but do not appear to be related to any overall fabrication and erection tolerances of the Oculus nor are they related to the in-service movements of the structure. As noted in the Design Calculations Description of the Structure "[T]he roof structure can be considered divided into two parts – north and south separated by the operable skylight", thus the skylight will need to tolerate the almost independent movements of the north and south halves. It seems incongruous that very strict tolerances are being applied to the skylight mechanism when the mechanism is supported on a relatively flexible structure whose movements are likely to exceed those being used to fabricate the skylight. As a minimum as part of the final assembly (see Note 6.1.15), it would	9/14/09	Lem				
20 OCU-0535	Oculus	Final Submittal	7/31/2009		PA/PB	Architectural	50	A8103	Drawing A8103 Independent Modules Distribution, the strokes for the various modules are indicated to the 1/16th of an inch. For example NW #6 stroke is 5' – 10 1/16" and NW # 9 stroke is 5' - 1 11/16". This level of accuracy is inconsistent with the typical applications of the AASHTO or AREMA Movable Bridge Specifications.	9/14/09	Lem				

Oculus Comments

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20 OCU-0536	Oculus	Final Submittal	7/31/2009		PA/PB	Architectural	51	A8113	Drawing A8113 North Module #0 Components: the proposed operating system uses a pair of drive motors and right angle reducers connected through universal joints and shafts to the actuators (there is a drafting error on the plan as the arrow that is supposed to point to the actuator points to the guide roller carriage and rail), which appears to have been derived from a movable bridge operating system. There will be a relatively large amount of backlash in the drive system so it is doubtful if the 1/16" stroke requirement can be met and it is possible that the system will not maintain the desired alignment and tend to skew and possible lock up. This comment applies to all the modules	9/14/09	Lem				
20 OCU-0537	Oculus	Final Submittal	7/31/2009		PA/PB	Architectural	52	A8132	Drawing A8132 Steelwork Geometry the plans appear to indicate the use of an interposed non - structural material in Detail D2 between. This use is not recognized in the AISC Specifications 1989. It also appears that the connection will require a second bolt in the upper half	9/14/09	Lem				
20 OCU-0538	Oculus	Final Submittal	7/31/2009		PA/PB	Architectural	53	A8144	Drawing A8144 Details of Carriage System 1/4 Note 6 indicates a wind load of 42 psf pressure or suction thus the system should be shop tested for air condition of at least a suction of 42 psf plus rain plus maximum anticipated structural frame offset. This is in contrast to the Section 08900 Specialty Glazing and Entrance systems which only require a Water Infiltration test for 10 psf. It is also noted that the same specification's on page 8900-15 require provisions for Structural Movement but these movements are not shown, and on page -16 references "Appendix A "Fabrication and Erection Tolerances- Terminal Hall" dated June 10, 2009. Where is Appendix A?	9/14/09	Lem				
20 OCU-0539	Oculus	Final Submittal	7/31/2009		PA/PB	Architectural	54	A8145	Drawing A8145 Details of Carriage System 2/4 the carriage system appears to have been detailed for a horizontally mounted skylight. But as can be seen in Drawing A8103 Independent Modules Distribution the modules are mounted on a sloping surface. Thus the carriage system will be loaded horizontally. If the skylight modules are to maintain their lateral alignment, then the lateral guides will likely need require rollers similar to those used to support vertical loads, and will need to be adjustable	9/14/09	Lem				
20 OCU-0540	Oculus	Final Submittal	7/31/2009		PA/PB	Architecture	55	A8146	Drawing A8146 Details of Carriage System 3 / 4 indicate that the rollers ride on an upper rail flange but do not indicate the required alignment of this flange and if it needs to be machined. (although the specifications seem to require that they be machined) nor how will the surface be maintained and not rust and become a maintenance issue. It also noted that the rollers require spherical roller bearings which are precise machined elements that gain their expected location are unlikely to remain in service without becoming a maintenance problem	9/14/09	Lem				
20 OCU-0541	Oculus	Final Submittal	7/31/2009		PA/PB	Architectural	56	A8189	Drawing A8189 Glazing Details the Torsion tube Typical Section and calls the use of an interposed non structure material. This use is not recognized in the AISC Specifications 1989	9/14/09	Lem				
20 OCU-0542	Oculus	Final Submittal	7/31/2009		PA/PB	Specifications	57	Section 05120	Structural Steel Specifications page 05120 describe the requirements for fracture critical members. Where are these designated on the plans?	9/14/09	Allabba				
20 OCU-0543	Oculus	Final Submittal	7/31/2009		PA/PB	Structure	58 a	Stress Concentration	DOC August 25 2009 Letter and attached Structural Design Clarification: WTC – PATH Terminal, Terminal Hall Roof – Transition Zone – Rev 01 – August 2009 a) Stress Concentration - It is not permitted by ASD (Allowable Stress Design) to use yield as an allowable stress level as is being advocated in the response. Further such high stress levels would be the source of fatigue cracking as can be seen on page 51 of the response. By reframing the structure to eliminate the reentrant corner, as is normal structural engineering practice the issue can be resolved	9/14/09	Allabba				

Oculus Comments

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20 OCU-0544	Oculus	Final Submittal	7/31/2009		PA/PB	Structural	5B b	Fatigue Analysis	b) Fatigue Analysis – The response mischaracterizes the wind tunnel test reports when it indicates that "(T)he structure does not appear to be susceptible to dynamic wind loading fatigue as the wind tunnel tests revealed no aeroelastic instabilities" The 2009 report contrary to the response's statement indicates that the rafters will have "visible motion" at lower wind speeds i e they will vibrate The 2009 report states "there is no allowance for resonant vibration of the structure" i e the dynamic response has not been considered Also since all three of the tests conducted to date have tested models that are significantly different from the planned structure, their findings cannot be cited as indicative of the structure s behavior	9/14/09	Allabbe				
20 OCU-0545	Oculus	Final Submittal	7/31/2009		PA/PB	Structural	5B b	Fatigue Analysis	The analysis follows a methodology found in AWS D1 1/D1 1M 2008 Structural Welding Code – Steel Article 2 1 Allowable Stress and Stress Range that is to be used to evaluate "the repeated applications and removal of live load" , which is a well defined unique load This approach does not properly address fatigue due to wind cycles As pointed out on page 4 of the 2007 Boundary Layer Tunnel report there is extreme wind turbulence generated by the surrounding buildings and the turbulence means that the wind loads will be highly variable The wind climate and structure s response to the wind, particularly where there is interaction with the wind, as has already been reported in one of the wind tunnel tests, needs to evaluated on a different basis The 2008 report which included an aero-elastic model of only a few of the rafters, found that the rafters can be expected to have visible motions at lower wind speeds Thus the evaluation of wind fatigue needs to be treated as a complex array of variable amplitude cyclic loads Typically this is done by evaluating the cumulative fatigue life of the structure using Miner's Rule and a discussion of this approach can be found in Article 10 8 Variable Amplitude Cyclic Loads, Fracture and Fatigue Control, Applications of Fracture Mechanics, by Barsom and Rolfe Third Edition ASTM MNL41 1999	9/14/09	Allabbe				
20 OCU-0546	Oculus	Final Submittal	7/31/2009		PA/PB	Structural	5B c	Stainless Steel	c) Use of Stainless Steel – It appears from the response that the issue was not understood See comments above regarding S5927.	9/14/09	Allabbe				
20 OCU-0547	Oculus	Final Submittal	7/31/2009		PA/PB	Structural	1 a	Wind Loads Recommendations	a) All wind load analyses should be redone using a full aero elastic model that reflects the stiffness of the entire structure as shown on the final design plans The purlins and skylight out-outs in particular need to be accurately modeled	9/14/09	Allabbe				
20 OCU-0548	Oculus	Final Submittal	7/31/2009		PA/PB	Structural	1 b	Wind Loads Recommendations	b) Dynamic wind analysis for the rafters should be performed at low as well as high wind speeds that include the sea turbulence The possibility of resonant needs to be investigated during construction staging and for the completed structure	9/14/09	Allabbe				
20 OCU-0549	Oculus	Final Submittal	7/31/2009		PA/PB	Structural	1 c	Wind Loads Recommendations	c) Fatigue under dynamically induced wind loads needs to be carefully evaluated	9/14/09	Allabbe				
20 OCU-0550	Oculus	Final Submittal	7/31/2009		PA/PB	Structural	1 d	Wind Loads Recommendations	d) The wind tunnel testing program should be subjected to an independent review by a consultant firm that is highly experience in this type of testing and the consultant firm should be employed by the Port Authority	9/14/09	Allabbe				
20 OCU-0551	Oculus	Final Submittal	7/31/2009		PA/PB	Structural	2 a	Stress Analysis Recommendations	a) Stress concentration relief by reframing the structure to eliminate the skylight reentrant corner should be investigated	9/14/09	Allabbe				
20 OCU-0552	Oculus	Final Submittal	7/31/2009		PA/PB	Structural	2 b	Stress Analysis Recommendations	b) Fatigue prone details such as the purlin connections should be investigated and revised as needed to prevent fatigue damage during the 100 year plus life of the structure	9/14/09	Allabbe				
20 OCU-0553	Oculus	Final Submittal	7/31/2009		PA/PB	Structural	3 a	Design Criteria Recommendations	a) The wind return period of 100 years appears to be too short for a significant structure and the wind design criteria should be revisited	9/14/09	Allabbe				
20 OCU-0554	Oculus	Final Submittal	7/31/2009		PA/PB	Architectural	4 a	Skylights Recommendations	a) The design and specifications should be revisited, with particular concern in regard to long term durability and maintenance	9/14/09	Keyt				

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20 OCU-0555	Oculus	Final Submittal	7/31/2009		PA/PB	Structural	5 a	Constructability	a) The tolerances for the structure fabrication and erection should be specified specifically for this structure and they should be coordinated with the tolerances for the glazing and skylight system	9/14/09	*Attibba				
20 OCU-0556	Oculus	Final Submittal	7/31/2009		PA	Architectural	A1a	A8190 Weatherability	a. Leakage: The entire seal arrangement at the peak is questionable in terms of long-term stability and weatherseal integrity of the butting gaskets as well as operation and weather integrity of their "protected" clip Risk: High	9/14/09	Lem				
20 OCU-0557	Oculus	Final Submittal	7/31/2009		PA	Architectural	A1b	A8190 Weatherability	b. W Gasket: In particular, does the gasket separating modules in the plane of motion work at all? - It will be stretched due to the differential movement between adjacent modules (an allowance of 6" of shear is indicated on the drawing.) Must provide documentation from seal manufacturer. How will this action affect the life expectancy of the gasket material? Risk: High	9/14/09	Lem				
20 OCU-0558	Oculus	Final Submittal	7/31/2009		PA	Architectural	A1c	A8190 Weatherability	c. Condensation: Under the parameter set forth in the specifications there is the potential for the formation of condensation on the interior/underside surface of the glazing. What is "rain" down on persons below? Risk: Medium	9/14/09	Lem				
20 OCU-0559	Oculus	Final Submittal	7/31/2009		PA	Architectural	A1d	A8190 Weatherability	d. Structural Movement: How will expansion/contraction (reference item S3) be accommodated in the ridge gasket and gaskets between adjacent modules as well as vertical glazing? Are the parameters set forth in the Specifications sufficient to guarantee the structural integrity and weatherseal of the envelope construction? Risk: High	9/14/09	Lem				
20 OCU-0560	Oculus	Final Submittal	7/31/2009		PA	Architectural	A2a	A8190 Erectability	a. Measurements: There is a question as to the ability to properly field measure the structural steel due to its potential for movement as a result of changes in temperature as well as movement during the installation (glass loading) process. The extent of these movements is not provided in the documents and it is unclear if the Envelope Contractor can determine same and utilize this information when preparing final fabrication documents. See item S1 Risk: High	9/14/09	Lem				
20 OCU-0561	Oculus	Final Submittal	7/31/2009		PA	Architectural	A2b	A8190 Erectability	b. Tolerances: The current documents call for the Envelope Contractor to field measure the completed structural steel and accommodate same. It is, however, unclear as to the intention in the event that the structural steel is not within the tolerances set forth for same in the Structural Steel Contract. Regardless of cost, there is the potential for delay and disruption Risk: High	9/14/09	Lem				
20 OCU-0562	Oculus	Final Submittal	7/31/2009		PA	Architectural	A3	Overall Cost	A3. OVERALL COST: The DDP has stated that, in their opinion there are only two (2) companies capable of performing the work, Gartner and Seele. They have, however, reluctantly added to the specified producers but expressed reservations as to their ability to perform. The cost associated with a design that could only be produced by a limited number of Contractors can only lend to increase cost beyond value Risk: High	9/14/09	Lem				
20 OCU-0563	Oculus	Final Submittal	7/31/2009		PA	Architectural	A4a	A8410 and A8450 Large Glass Sizes	a. Large Units: The 4' x 26' Tempered Glass IG units as abutments are specified as tempered glass. The specification further requires that all roll distortion run horizontally, but this is not possible with units 26' wide. Ref A8410/50 Risk: High	9/14/09	Lem				
20 OCU-0564	Oculus	Final Submittal	7/31/2009		PA	Architectural	A4b	A8410 and A8450 Large Glass Sizes	b. Large Units: What is the estimated cost of the 4' x 26' Tempered IG units at the abutments Risk: High	9/14/09	Lem				

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20 OCU-0565	Oculus	Final Submittal	7/31/2009		PA	Architectural	A4c	A8410 and A8450 Large Glass Sizes	c. Large Units: You say that two (2) lites of attic stock will be required under the Contract. The question is storage location warrantability, and whether the 4' x 26' Tempered Glass IG units at abutments will survive storage and be available if and when required. As a practical matter if there is breakage and no attic stock available the likely method of replacement will be in segments. An option to work with segmented glass should save both the cost of initial procurement overseas as well as the cost of attic stock and storage Risk: High	9/14/09	Lem				
20 OCU-0566	Oculus	Final Submittal	7/31/2009		PA	Architectural	A5a	A8005 and A8184 Maintenance	a. Irregular Glass Sizes: Confirm lead time for replacement glass. What is the maximum number glass sizes due to slab tolerance issues (measuring each opening)? Ref A8005/A8184 Risk: Medium	9/14/09	Lem				
20 OCU-0567	Oculus	Final Submittal	7/31/2009		PA	Architectural	A5b	A8005 and A8184 Maintenance	b. Snowflake: The snow report only considers determining loads for sliding snow on skylights. There is potential for glass breakage/other damage from sliding/blowing snowflake on the glazed portions, especially from the rafters onto tilted glass. Plaza closures may be required. Please address Risk: High	9/14/09	Lem				
20 OCU-0568	Oculus	Final Submittal	7/31/2009		PA	Architectural	A5c	A8005 and A8184 Maintenance	c. Cycle: The required maintenance cycle is unclear as well as the associated costs of maintenance, replacement, and replacement methodology. There is no access to the skylight other than a portable man-lift which may take hours to set up. This requires an extensive set-up operation to check the simplest thing. Due to the sizes of the hinged access panels it's not clear that they can be opened by a technician in the custom man-lift without the door hitting the basket the technician is standing in Risk: Medium	9/14/09	Lem				
20 OCU-0569	Oculus	Final Submittal	7/31/2009		PA	Architectural	A5d	A8005 and A8184 Maintenance	d. Scaffolding: Will scaffolding be required inside the Oculus to access anything that needs to be replaced? Risk: Low	9/14/09	Lem				
20 OCU-0570	Oculus	Final Submittal	7/31/2009		PA	Architectural	A5e	A8005 and A8184 Maintenance	e. Bird Debris: Bird deterrence details not yet submitted. Debris is a serious concern for the quality of service we expect to provide in the Oculus and for the moveable components of the skylight. Nesting will occur inside the skylight storage area. This nesting will increase the potential for bird droppings at the base of the track support pedestals, for example, and potentially interfere with the smooth operation of the skylight rollers. The inaccessibility of the skylight precludes a convenient visual inspection of the moving parts prior to operation Risk: Medium	9/14/09	Lem				
20 OCU-0571	Oculus	Final Submittal	7/31/2009		PA	Architectural	A5f	A8005 and A8184 Maintenance	f. Exercise: Is there a way to exercise the motors and actuator arms without moving the skylights? If not the entire skylight and associated machinery will not be exercised at all during the snow season. There is no way to observe snow and ice conditions on top of the skylight Risk: Medium	9/14/09	Lem				
20 OCU-0572	Oculus	Final Submittal	7/31/2009		PA	Architectural	A5g	A8005 and A8184 Maintenance	g. Oil Drainage: The skylight storage area should drain into an oil/water separator since grease from the actuator arms could possibly drip into the drainage system Risk: Medium	9/14/09	Lem				
20 OCU-0573	Oculus	Final Submittal	7/31/2009		PA	Architectural	A5h	A8005 and A8184 Maintenance	h. Maintenance Contract: The documents do not presently call for but consideration should be given to requiring the constructing Contractor to provide an optional one for a five (5) year labor and material Maintenance Contract Risk: Medium	9/14/09	Lem				
20 OCU-0574	Oculus	Final Submittal	7/31/2009		PA	Architectural	A5i	A8004, A8016 and others Maintenance	i. Intumescent Coating: May be highly irregular, especially on closure plates. If damaged can it be patched and maintain its rating? Risk: Medium	9/14/09	Lem				
20 OCU-0575	Oculus	Final Submittal	7/31/2009		PA	Architectural	A5j	A8304, A8016 and others Maintenance	j. Dirt: The proposed method of cleaning and maintaining both exterior and interior glass surfaces is unclear. It will be costly to keep the glass free of airborne soil and bird droppings. Buildup is especially likely due to angle/location of large IG units at abutments Risk: Low	9/14/09	Lem				

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20 OCU-0576	Oculus	Final Submittal	7/31/2009		PA	Specifications	A6	Sections 08440 and 08800	A6. SPECIFICATIONS: Contract should not be released until all previous comments by the design team and their consultants are addressed concerning the completeness of the DDP Specification Sections Draft C dated July 31, 2009, Sections 08440 and 08900. These comments should be added to the Final Specifications in order to "reduce" contracting and performance risk Risk: High	9/14/09	Kasakyan				
20 OCU-0577	Oculus	Final Submittal	7/31/2009		PA	Structural	C1	Contracting Strategy	C1. PROCUREMENT APPROACH: Split responsibility between the Contractors performing the envelope enclosure and structural steel, ability of the structural steel contractor to build within the specified tolerances, an associated cost in delay and disruption if the structural steel is out of the tolerances expected by the Envelope Contractor is a concern. The situation is further exacerbated if the Construction Manager rather than the General Contractor approach is used. Under the Construction Manager approach, all costs associated with miscoordination and up at the door of the Owner. Under the General Contractor approach, such costs fall to the General Contractor Risk: High	9/14/09	Alabbas				
20 OCU-0578	Oculus	Final Submittal	7/31/2009		PA	Mechanical	C2	Contracting Strategy	C2. CONTRACT COORDINATION: Will contracting strategy allow single point of responsibility for systems that overlap sub-grade and Oculus? The fit-out of mechanical systems will be under the fit-out STG package. The current Oculus package does not provide the STG package as a reference to the contractor nor does it provide any verbiage requiring coordination of the two packages. This issue has the risk of construction delays as well as cost being incurred by the PA, depending on the contracting technique Risk: High	9/14/09	Brodsky				
20 OCU-0579	Oculus	Final Submittal	7/31/2009		PA	Structure	S1	Tolerances	S1. TOLERANCES: Fabrication and erection tolerances of the structural steel may not correlate with the permissible tolerances of the glazing. This will likely result in added costs related to the glazing installation, and perhaps changes to the glazing details. In addition, depending on the contracting options (GC or CM), this cost may be added risk to the PA rather than the contractor Risk: High	9/14/09	Alabbas				
20 OCU-0580	Oculus	Final Submittal	7/31/2009		PA	Structural	S2	Dissimilar Metals	S2. DISSIMILAR METALS: The use of stainless steel and conventional structural steel will add difficulty to the fabrication, and over time may result in localized stress cracks at the welding interface due to different thermal properties in terms of expansion and contraction Risk: Medium	9/14/09	Alabbas				
20 OCU-0581	Oculus	Final Submittal	7/31/2009		PA	Structural	S3	Movement	S3. MOVEMENT: Movement of the structure, associated with variable temperature on different areas of the structure, could result in difficult operation of the moveable skylight feature and potentially result in glass damage to the stationary glazing. Adjacent ribs are connected at their top by the roof of the skylight storage area. Will these connected ribs act like an arch in the summer months and expand radially? We have not seen this addressed Risk: Medium	9/14/09	Alabbas				
20 OCU-0582	Oculus	Final Submittal	7/31/2009		PA	Structural	S4	Fatigue	S4. FATIGUE: The notch feature at the transition of the wing to the portal leg that accommodates the moveable skylight will result in high stress concentrations and deflection of the structure under normal structural conditions, adding to the the potential of developing fatigue cracking Risk: High	9/14/09	Alabbas				
20 OCU-0583	Oculus	Final Submittal	7/31/2009		PA	Mechanical	M1a	A6250 and others Smoke Purge System	a. Code: As currently designed the Oculus smoke purge system does not comply with the prescriptive requirements of the NYCBC (Section 27.521.15.a). This section requires that the smoke purge system be sized to have a capacity to provide 6 air changes per hour or 1 cfm/sq.ft. whichever is greater. This would required the smoke purge system capacity to be approximately 500kcfm. The current design consists of sixty (60) 5,000 cfm fans, providing approximately 300kcfm, 200kcfm deficient of the code required capacity Risk: High	9/14/09	Brodsky				

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20 OCU-0584	Oculus	Final Submittal	7/31/2009		PA	Mechanical	M1b	A8250 and others Smoke Purge System	b. Code: NYCBC section 27 52 15 b requires that "all malls have a gravity ventilation system equipped with remote manual controls to remove smoke if the mechanical exhaust fails". It is unclear if the operable skylight will serve this function. The Oculus nor the fit-out structures to grade (STG) packages provides any detailed sequence of operation describing the functions of the smoke purge fans nor the operable skylight. Risk: High	9/14/09	Brodsky				
20 OCU-0585	Oculus	Final Submittal	7/31/2009		PA	Mechanical	M1c	A8250 and others Smoke Purge System	c. Code: DDP has proposed to provide a smoke control system to operate during a fire incident based on an engineered solution validated via CFD modeling. The NYCBC does not provide any language indicating this is permissible. Nonetheless it does not relieve the NYCBC prescriptive requirements for smoke purge. Furthermore, the draft Oculus CFD modeling report (dated 6-17-09) prepared by ARUP for DDP clearly states that several CFD modeled scenarios for the proposed smoke control system fail to maintain tenable conditions in the egress path. Risk: High	9/14/09	Brodsky				
20 OCU-0586	Oculus	Final Submittal	7/31/2009		PA	Mechanical	M1d	A8250 and others Smoke Purge System	d. Constructability: Need more detailed mounting details for smoke purge fans. Risk: Medium	9/14/09	Brodsky				
20 OCU-0587	Oculus	Final Submittal	7/31/2009		PA	Mechanical	M2a	A8250 and others Smoke Purge System Maintainability/ Serviceability	a. Maintenance: Routine testing & lubrication of 60 smoke purge fans will be time consuming since the only access is via a man lift. Risk: Medium?	9/14/09	Brodsky				
20 OCU-0588	Oculus	Final Submittal	7/31/2009		PA	Mechanical	M2b	A8250 and others Smoke Purge System Maintainability/ Serviceability	b. Service: It is unclear how one individual in a man lift will be able to remove a fan motor (approx. 80-100 lbs.) from its normally installed position and moved to the demountable hanger which is about 3 feet away from the motor. Risk: Medium	9/14/09	Brodsky				
20 OCU-0589	Oculus	Final Submittal	7/31/2009		PA	Mechanical	M3	A8250 and others Energy Model	M3. ENERGY MODEL: Need finalized energy model and documentation for compliance with WTC/HUB sustainable design guidelines (SDG), based on the latest glass and equipment selections, infiltration from Oculus sliding entry doors and Oculus geometry. Risk: Medium	9/14/09	Brodsky				
20 OCU-0590	Oculus	Final Submittal	7/31/2009		PA	Mechanical	M4	A8250 and others Validation	M4. VALIDATION: No modeling performed to date to validate that a conditioned environment is provided in the occupied space for large volume high ceiling spaces (oculus/mezzanine). Validation of comfort criteria within occupied zone is required by ASHRAE 55-2004 and WTC/HUB SDG (EQ-8). Risk: High	9/14/09	Brodsky				
20 OCU-0591	Oculus	Final Submittal	7/31/2009		PA	Mechanical	M5	A8144, A8150, A8153, A8154 and others Skylight Mechanism	M5. SKYLIGHT MECHANISM: How can we be sure the Carriage, Actuator, Drive and Motor Systems work? Has this been automated similarly in this fashion anywhere else in the world? Risk: High	9/14/09	Keyt				
20 OCU-0592	Oculus	Final Submittal	7/31/2009		PA	Mechanical	M6a	A8144, A8150, A8153, A8154 and others Skylight Mechanism Maintainability/ Serviceability	a. Location: Requires man lift for access. Risk: Low	9/14/09	Keyt				
20 OCU-0593	Oculus	Final Submittal	7/31/2009		PA	Mechanical	M6b	A8144, A8150, A8153, A8154 and others Skylight Mechanism Maintainability/ Serviceability	b. Winter: While the DDP has stated the mechanism will be specified as outdoor rated, there still exists the possibility of freezing/ice/snow buildup during winter conditions that may render it inoperable. Risk: Medium	9/14/09	Keyt				

Oculus Comments

Matrix No	Package No	Submission Stage	Submission Date	Reviewer Name	Reviewer Entity	Discipline	Comment #	Document Reference	Review Comment	Date Received	Response Due From	Response	Response Date	I = Implemented NAR = No Action Req TBD = To be determined	Remarks
20 OCU-0594	Oculus	Final Submittal	7/31/2009		PA	Mechanical	M6c	A8144 A8150, A8153 A8154 and others Skylight Mechanism Maintainability/ Serviceability	c. Drains: What will prevent freezing/clogging of cavity drain? Risk: Medium	9/14/09	Keyt				
20 OCU-0595	Oculus	Final Submittal	7/31/2009		PA	Mechanical	M6d	A8144 A8150, A8153 A8154 and others Skylight Mechanism Maintainability/ Serviceability	d. Testing: Describe routine testing and lubrication of skylight mechanism Risk: Low	9/14/09	Keyt				
20 OCU-0596	Oculus	Final Submittal	7/31/2009		PA	Mechanical	M6e	A8144 A8150, A8153 A8154 and others Skylight Mechanism Maintainability/ Serviceability	e. Racking: Racking of adjacent modules is a concern. How are the actuator arms stopped in case adjacent modules no longer move parallel to each other? Risk: High	9/14/09	Keyt				
20 OCU-0597	Oculus	Final Submittal	7/31/2009		PA	Mechanical	M6f	A8144 A8150, A8153 A8154 and others Skylight Mechanism Maintainability/ Serviceability	f. Commissioning/Acceptance: Are the prototypes/mockups adequate to prove the systems will work over time? Risk: High	9/14/09	Keyt				

ATTACHMENT - B

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Review Comments Log

File No.																		
RC-0397	9/29/08	PA-DDP-1189-08R	20	Revision 1	9/19/08	20SG(6077-6096)	20	PA			PA-Mechanical written comments				Brodsky, Gilboa	12/22/2008		ISSUED
RC-0381	2/4/09	E-mail	20	Add 1 Add 2	11/17/08 12/19/08	20SG(6178-6350)	173	PMOC			PMOC Comments					4/3/2009		ISSUED
RC-0406	4/7/09	E-mail	20			20SG(6561-7004)	444	PB/URS			S&S, Add 2 comments				Schuller, Litber, Koumpan, Gilboa, Hand	4/20/2009	Submitted DRAFT responses to draft comments	ISSUED
RC-0407	4/27/09	E-mail	20	Addendum No 4	4/6/09	20SG(7005-7006)	2	PA			Hydraulic calculation comments				Koumpan	4/30/2009		ISSUED
RC-0409	5/6/09	E-mail	20	Addendum No 3	1/23/09	20SG(7007-7059)	53	PMOC							Maurtiz, Altabba, Hand, Schuller, Gilboa, Koumpan	5/28/2009		ISSUED
RC-0420	5/27/09	E-mail	20 Oculus	90%	4/30/09	20 OCU(0040-0091)	52	PMOC			PA-Arch&Struct comments				Schuller, Lem	8/5/2009		ISSUED
RC-0424	6/2/09	E-mail	20 Oculus	90%	4/30/09	20 OCU(0092-0101)	10	PA	Knegel		Architectural comments				Lem	8/5/2009		ISSUED
RC-0425	6/2/09	E-mail	20 Oculus	90%	4/30/09	20 OCU(0102-0136)	35	PA	Kamocsai		Structural comments				Altabba	8/5/2009		ISSUED
RC-0426	6/5/09	E-mail	20 Oculus	90%	4/30/09	20 OCU(0137-0144)	8	GHSC	G. Smith		Architectural comments				Lem	8/5/2009		ISSUED
RC-0436	6/5/09	E-mail	20.Oculus	90%	4/30/09	20 OCU-0101A	1	PA	Knegel		Updated architectural comments				Lem	8/5/2009		ISSUED
RC-0435	6/24/09	E-mail	Structures to Grade, Fitout and MEP	Addendum No 7	6/12/09	20SG(7135-7182)	48	PA			Arch, Struct, MEP, Geo, Civil comments				Schuller, Litber, Hand, Brodsky, Gilboa, Cregger, Maurtiz, Altabba, Charalambous, Koumpan	7/2/2009	DDP responses issued on 6/30/09 DDP responses revised and issued on 7/2/09	ISSUED
RC-0439	6/24/09	PA-DDP-0668-09R	Structures to Grade, Fitout and MEP	Addendum No 7	6/12/09	20SG(7183-7630)	448	PA			Fire Protection comments					7/27/2009		ISSUED
RC-0440	6/24/09	PA-DDP=0669-09R	Structures to Grade, Fitout and MEP	Addendum No 7	6/12/09	20SG(7183-7630)		PA			Volume 4					7/27/2009		ISSUED
RC-0441	6/24/09	PA-DDP-0670-09R	Structures to Grade, Fitout and MEP	Addendum No 7	6/12/09	20SG(7183-7630)		PA			Volume 5					7/27/2009		ISSUED
RC-0442	6/24/09	PA-DDP-0671-09R	Structures to Grade, Fitout and MEP	Addendum No 7	6/12/09	20SG(7183-7630)		PA			Volume 6					7/27/2009		ISSUED
RC-0443	6/24/09	PA-DDP-0672-09R	Structures to Grade, Fitout and MEP	Addendum No 7	6/12/09	20SG(7183-7630)		PA			Volume 7					7/27/2009		ISSUED
RC-0444	6/24/09	PA-DDP-0674-09R	Structures to Grade, Fitout and MEP	Addendum No 7	6/12/09	20SG(7183-7630)		PA			Volume 8 - No marked-up comments					7/27/2009		ISSUED
RC-0445	6/24/09	PA-DDP-0673-09R	Structures to Grade, Fitout and MEP	Addendum No 7	6/12/09	20SG(7183-7630)		PA			Volume 9					7/27/2009		ISSUED
RC-0446	6/24/09	PA-DDP-0675-09R	Structures to Grade, Fitout and MEP	Addendum No 7	6/12/09	20SG(7183-7630)		PA			Volume 10					7/27/2009		ISSUED
RC-0447	6/24/09	PA-DDP-0676-09R	Structures to Grade, Fitout and MEP	Addendum No 7	6/12/09	20SG(7183-7630)		PA			Volume 11					7/27/2009		ISSUED
RC-0448	6/24/09	PA-DDP-0677-09R	Structures to Grade, Fitout and MEP	Addendum No 7	6/12/09	20SG(7183-7630)		PA			Volume 12					7/27/2009		ISSUED
RC-0449	6/24/09	PA-DDP-0678-09R	Structures to Grade, Fitout and MEP	Addendum No 7	6/12/09	20SG(7183-7630)		PA			Volume 13					7/27/2009		ISSUED
RC-0450	6/24/09	PA-DDP-0679-09R	Structures to Grade, Fitout and MEP	Addendum No 7	6/12/09	20SG(7183-7630)		PA			Volume 14					7/27/2009		ISSUED
RC-0451	6/24/09	PA-DDP-0680-09R	Structures to Grade, Fitout and MEP	Addendum No 7	6/12/09	20SG(7183-7630)		PA			Plumbing comments					7/27/2009		ISSUED
RC-0454	6/29/09	E-mail	20 Oculus	90% Rev 1	6/15/09	20 OCU(0248-0291)	44	GHSC			Spec comments 08900				Kasakyan	8/5/2009		ISSUED
RC-0455	6/29/09	E-mail	20.Oculus	90% Rev 1	6/15/09	20.OCU(0238-0247)	10	GHSC			Drawing comments				Kasakyan	8/5/2009		ISSUED
RC-0456	6/29/09	E-mail	20 Oculus	90% Rev 1	6/15/09	20 OCU(0222-0223)	2	PA	Kamocsai		Updated Structural comments				Altabba	8/5/2009		ISSUED
RC-0457	6/29/09	E-mail	20 Oculus	90% Rev 1	6/15/09	20 OCU(0167-0189)	23	PMOC			Architectural comments				Lem, Koumpan, Altabba, Schuller	8/5/2009		ISSUED

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RC-0457	6/29/09	E-mail	20 Oculus	90% Rev 1	6/15/09	20OCU(0190-0192))	3	PMOC			Electrical comments on 90% rev 1 Oculus and MEP Reference vol				Schuller	8/5/2009		ISSUED
RC-0459	6/30/09	E-mail	20 Oculus	90% Rev 1	6/15/09	20OCU(0193-0215)	23	PMOC	Fassman/Dameron		Architectural and structural comments				Lem, Altabba	8/5/2009		ISSUED
RC-0462	7/2/09	E-mail	Structures to Grade, Fitout and MEP	Addendum 7	4/3/09, 5/31/09, and 6/12/09	20SG(7687-7697)	11	DSP			Plumbing comments on MEP Reference vol for Oculus	Koumpan			Koumpan	7/27/2009		ISSUED
RC-0463	7/8/09	E-mail	20 Oculus	C Draft		20 OCU(0308-0328)	21	PA	Casper		Same comments received on 3/3/08 for spec 08900				Kasakyan	8/5/2009		ISSUED
RC-0464	7/13/09	E-mail	20 Oculus	90% Rev 1	6/15/09	20 OCU(0292-0307)	16	PA	Marino		PA-mechanical comments				Brodsky	8/5/2009		ISSUED
RC-0465	7/15/09	E-mail	Structures to Grade, Fitout and MEP	Addendum 7	6/12/09	20SG(7698-7804)	107	PA			PA-mechanical discrepancies				Brodsky	7/20/2009		ISSUED
RC-0467	7/16/09	E-mail	Structures to Grade, Fitout and MEP	Addendum 7	6/12/09	20SG(7147, 7149, 7152-7156)	7	PA	Levine		PA-Electrical follow-up comments				Littler, Schuller	7/21/2009		ISSUED
RC-0468	7/22/09	E-mail	Structures to Grade, Fitout and MEP	Addendum 7	6/12/09	20SG(6391, 6505, 6522, 6523, 6529 7158, 7163, 7169, 7174)	9	PA	Kamocsai		PA-Structural follow-up comments				Maurrtz, Altabba	7/27/2009		ISSUED
RC-0469	7/27/09	E-mail	20 Oculus	C Draft	7/16/09	20 OCU(0329-0331)	3	PA	Casper		Spec comments 08900				Kasakyan	8/5/2009		ISSUED
RC-0470	7/27/09	E-mail	20 Oculus	C Draft	7/16/09	20 OCU(0332-0338)	7	PA	Casper		Spec comments 08440				Kasakyan	8/5/2009		ISSUED
RC-0471	7/27/09	E-mail	Structures to Grade, Fitout and MEP	C Draft	7/15/09			PA	Levine		Spec comments 14350				Kanyannis/Cossentino	8/25/2009		ISSUED
RC-0471	7/22/09	E-mail	20 Oculus	C Draft	7/16/09	20 OCU(0339-0404)	66	GHSC			Spec comments 08440				Heintges	8/13/2009		ISSUED
RC-0472	8/13/09	E-mail	20 Oculus	C Draft	7/31/09	20.OCU(0405-0426)	22	GHSC			Spec comments 08440				Heintges			OPEN
RC-0472	8/13/09	E-mail	20 Oculus	C Draft	7/31/09	20 OCU(0427-0443)	17	GHSC			Spec comments 08900				Heintges			OPEN
RC-0472	8/13/09	E-mail	20 Oculus	Final	7/31/09	20 OCU(0444-0451)	8	GHSC			Arch Drawing comments				Heintges			OPEN
RC-0472	8/13/09	E-mail	20 Oculus	Final	7/31/09	20 OCU(0140, 0141, 0240, 0241, 0243, 0244, 0246, 0247)	8	GHSC			Follow-up comments				Heintges			OPEN
RC-0472	8/13/09	E-mail	20 Oculus	Final	7/31/09	20 OCU(0452-0461)	10	PA	Kriegel		Arch Drawing comments				Lem			OPEN
RC-0473	8/14/09	E-mail	20 20			20 20-0325	1	PA	Kamocsai		Follow-up comments	Cossentino						OPEN
RC-0474	8/14/09	E-mail	20 Oculus					PA	Kriegel		General comment				Heintges			OPEN
RC-0475	8/19/09	E-mail	20 Oculus	Final	7/31/09		37	PA			Follow-up structural comments	Altabba						OPEN
RC-0475	8/19/09	E-mail	20 Oculus	Final	7/31/09	20 OCU(0462-0482)	21	PA	Kamocsai		Structural comments	Altabba						OPEN
RC-0475	8/20/09	E-mail	20 Oculus	Final	7/31/09		44	PMOC			Follow-up comments							OPEN
RC-0476	8/20/09	E-mail	20 Oculus	Final	7/31/09	20 OCU(0483-0485)	3	PMOC			New comments							OPEN
RC-0476	8/20/09	E-mail	Structures to Grade, Fitout and MEP			20SG-6226	1	PMOC			third set of comments							OPEN
RC-0476	8/20/09	E-mail	Structures to Grade, Fitout and MEP			20SG(7645, 7646, 7652-7677)	28	PMOC			Follow-up comments							OPEN
RC-0477	8/20/09	E-mail	20 Oculus	Final	7/31/09		58	PMOC			Follow-up comments							OPEN
RC-0478	8/21/09	E-mail	9X Alt 1				14	PMOC								9/8/2009		ISSUED
RC-0479	8/25/09	E-mail	Structures to Grade, Fitout and MEP	Addendum 8	7/15/09	20SG(7805-7815)	11	PA	Yakubov		PA geotech comments	Criegger						OPEN
RC-0480	8/26/09	E-mail	PHTH	C Draft	8/24/09			PA	Levine		Spec comments 14350				Kanyannis	10/16/2009		ISSUED
RC-0481	8/31/09	E-mail	PHTH				56	PMOC			Follow-up comments							OPEN
RC-0482	9/2/09	E-mail	PHTH	C Draft				PA			Spec comments 15360				Koumjian	9/23/2009		ISSUED
RC-0484	9/18/09	E-mail	9X Alt 1				18	NYCT CPM			Follow-up comments				Mirzakashani	9/24/2009		ISSUED
RC-0485	9/25/09	E-mail	20 Oculus	Final Submittal	7/31/09	20 OCU(0598-0610)	22	PA	Yadoo/Kamocsai		PA-structural comments	Altabba						OPEN
RC-0485	9/25/09	E-mail	20 Oculus	Final Submittal	7/31/09	20 OCU-0611	1	PA	Marino		PA-mechanical comments on smoke purge concept	Brodsky						OPEN
RC-0486	9/25/09	E-mail	20 Oculus	C Draft		20 OCU(0612-0613)	2	PA			Spec comments 07560				Kasakyan	10/2/2009		ISSUED
RC-0487	9/28/09	E-mail	PHTH	Rev 0	7/20/09	20SG(7816-7821)	6	PMOC			New Mech comments(55,56,66-69)	Gilboa						OPEN
RC-0488	9/30/09	E-mail	20 Oculus	C Draft		20 OCU-0613	1	PA			Spec comment withdrawn 07560							ISSUED

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RC-0489	9/30/09	E-mail	PHTH -	Rev 0	7/20/09	20SG(7656,7659,7664,7670)	4	PMOC			Updated follow-up comments(2,7,14,24)	Schuller						OPEN
RC-0489	9/30/09	E-mail	PHTH	Rev 0	7/20/09	20SG(7822-7839)	18	PMOC			New Elec comments(1,3-6,8-10,12,13,18-23,37,39)	Schuller						OPEN
RC-0490	10/1/09	E-mail	PHTH	Rev 0	7/20/09	20SG(7840-8044)	205	PA			Radio comments	Littler						OPEN
RC-0491	10/2/09	E-mail	PHTH	C Draft				PA			Spec comments 16935				Schuller	11/12/2009		ISSUED
RC-0492	10/9/09	E-mail	WO #2	Signed and Sealed	7/27/09		5	PA QAD			Electrical comments	Kamboj				10/9/2009		ISSUED
RC-0493	10/14/09	E-mail	9X Alt 1	Add 7	7/2/09	9XAlt 1(0432-0450)	19	SPI			Structural comments	Kopkalli				10/16/2009		ISSUED
RC-0494	10/13/09	E-mail	PHTH	Rev 00	10/9/09	20SG(8045-8046)	2	PA			NFPA 130 comments	Brodsky				10/13/2009		ISSUED
RC-0495	10/15/09	E-mail	PHTH	C Draft				PA			Spec comments: 15360				Schuller	11/10/2009		ISSUED
RC-0497	10/15/09	E-mail	PHTH					PA			TBD Comments					10/27/2009		ISSUED
RC-0498	10/19/09	E-mail	PHTH	Rev 0	7/20/09	20SG(8047-8094)	48	PA			Radio comments	Littler						OPEN
RC-0499	10/19/09	E-mail	PHTH	C Draft				PA			Spec comments 16481				Schuller	11/12/2009		ISSUED
RC-0500	10/23/09	E-mail	PHTH			20SG(7375,7376,7450)	3	PA			MEP TBD Comments	Koumjian, Gilboa						OPEN
RC-0501	10/27/09	E-mail	PHTH	Rev 0	7/20/09		18	PB			Structural follow-up comments							OPEN
RC-0502	10/19/09	E-mail	20 20		7/29/09		1	PA QAD			FP comments				Kamboj	10/19/2009		ISSUED
RC-0503	10/19/09	E-mail	PHTH	C Draft		20SG-8095	1	PA			Spec comments: 09310				Kasakyan	10/22/2009		ISSUED
RC-0504	10/29/09	E-mail	20 Oculus	C Draft				PA			Spec comments: 09600				Kasakyan	11/3/2009		ISSUED
RC-0505	10/29/09	E-mail	PHTH			20SG(7145,7146,7148,7150,7151)	5	PA			Electrical TBD comments							OPEN
RC-0506	10/30/09	E-mail	PHTH			20SG-7181	1	PA			Civil TBD Comments							OPEN

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			Package Description			Review Comments						Responses						
File No.	Date Received	Document Control No.	No.	Submission	Date	Master No.	Number of Comments	Entity	Name	Date	Remarks	Due From	Date Distributed	Date Due	Completed by	Submitted to PA	Remarks	Current Status
RC-0507.1	11/3/09	E-mail	PHTH	C Draft	8/29/09	20SG(8096-8142,8144-8160)	64	PA			Spec comments 15950				Gilboa	1/11/2010		CLOSED
RC-0507.2	11/3/09	E-mail	PHTH	C Draft		20SG(8151-8184)	24	PA			Spec comments 16935				Schuller	1/11/2010	Approved by PA (11/25/09)	CLOSED
RC-0508	11/3/09	E-mail	PHTH	C Draft	9/29/09	20SG-8143	1	PA	Levine		Spec comments 15950				Gilboa	1/11/2010		CLOSED
RC-0509.1	11/4/09	E-mail	PHTH			20SG(7015-7017)	3	PMOC			Comments closed out by PMOC					11/4/2009		CLOSED
RC-0509.2	11/4/09	E-mail	PHTH			20SG(7011-7014)	4	PMOC			Repeated comments							DUPLICATE
RC-0509.3	11/4/09	E-mail	PHTH			20SG(6315-6317,6319 6321,6322,6324 ,6333 6334 6338 6339,634 2 6344 6348-6350)	16	PMOC			Comments closed out and updated by PMOC					11/4/2009		CLOSED
RC-0509.4	11/4/09	E-mail	PHTH			20SG(6318 6320,6323 633 5-6337,6340 6341,6343,6345-6347)	13	PMOC			Repeated comments							DUPLICATE
RC-0509.5	11/4/09	E-mail	PHTH					PMOC			Executive Summary							For Record Only
RC-0510	11/4/09	E-mail	PHTH			20SG(7160,7162,7173,717 5 7176,7180)	6	PA			Structural TBD Comments					1/25/2010	Comment resolution as per mtg with PA See RC-0546	CLOSED
RC-0511	11/4/09	E-mail	PHTH			20SG(6391,7175,7176)	3	PA			Structural TBD Comments					1/25/2010	Comment resolution as per mtg with PA See RC-0546	CLOSED
RC-0512	11/10/09	E-mail	PHTH			20SG(7146,7155,7257,737 5,7376)	5	PA	Levine		Close out Electrical TBD comments					11/10/2009		CLOSED
RC-0513.1	11/12/09	E-mail	PHTH					PA	Kwolek		Spec comments 15821				Gilboa	12/18/2009		CLOSED
RC-0513.2	11/12/09	E-mail	PHTH					PA	Kwolek		Spec comments 15833				Gilboa	12/17/2009		CLOSED
RC-0513.3	11/12/09	E-mail	PHTH					PA	Kwolek		Spec comments 15836				Gilboa	12/17/2009		CLOSED
RC-0514	11/13/09	E-mail	PHTH					PA	Levine		Spec comments 16935				Schuller	11/25/2009		CLOSED
RC-0515	11/13/09	E-mail	PHTH	C Draft	11/12/09			PA	Levine		Spec comments 16481				Schuller	11/25/2009		CLOSED
RC-0516	11/13/09	E-mail	PHTH	C Draft	11/10/09			PA	Renaud		Spec comments 15360				Schuller	12/16/2009		CLOSED
RC-0517	11/13/09	E-mail	PHTH	C Draft	11/10/09			PA	Levine		Spec comments 15360				Schuller	12/16/2009		CLOSED
RC-0518	11/16/09	E-mail	Plan B	Progress	10/30/09	B(0001-0020)	21	LSP			VSC comments	Patel						OPEN
RC-0519	11/16/09	E-mail	Plan B	Progress	10/30/09	B(0021-0047)	27	BBB				Patel						OPEN
RC-0520	11/13/09	E-mail	PHTH			20SG(8203-8226)	24	PA	Marino		PA comments on mechanical construction phasing drawings				Brodsky	11/18/2009		CLOSED
RC-0521	11/17/09	E-mail	20 Oculus			20 OCU(0556-0563,0565-0579 0591-0593 0595 0596)	28	GHSC			Follow-up comments on DQP responses				Lem	12/29/2009		CLOSED
RC-0522	11/25/09	E-mail	PHTH	C Draft				PA	Levine		Spec comments 16992				Schuller	12/3/2009		CLOSED
RC-0523.1	11/25/09	E-mail	PHTH	C Draft				PA	Levine		Spec comments 15821				Gilboa	12/3/2009		CLOSED
RC-0523.2	11/25/09	E-mail	PHTH	C Draft				PA	Levine		Spec comments 15836				Gilboa	12/3/2009		CLOSED
RC-0524	11/25/09	E-mail	PHTH	C Draft				PA	Levine		Spec comments 16481				Schuller	12/3/2009		CLOSED
RC-0525	12/3/09	E-mail	PHTH	C Draft				PA	Levine		Spec comments 16927				Schuller	12/8/2009		CLOSED
RC-0526.1	12/7/09	E-mail	Oculus				21	PA/PB			Follow-up comments					12/29/2009		CLOSED
RC-0526.2	12/7/09	E-mail	Oculus			20 OCU(0614-0627)	14	PB			Structural comments on Oculus Fatigue Whitepaper					1/8/2010		CLOSED
RC-0527	12/8/09	E-mail	PHTH	C Draft							Spec comments 16928				Schuller	12/16/2009		CLOSED
RC-0528	12/9/09	E-mail	PHTH	C Draft							Spec comments 16992				Schuller	12/16/2009		CLOSED
RC-0529	12/14/09	E-mail	Oculus								PA's direction on GHSC comments							For Record Only
RC-0530.1	12/14/09	E-mail	PHTH	Add 2	11/16/09	20SG(8185-8200)	16	PA	Kwolek		Mechanical comments				Gilboa Schuller	3/25/2010		CLOSED
RC-0530.2	12/14/09	E-mail	PHTH	Add 2	11/16/09	20SG(8201-8202)	2	PA	Cobourne/Renaud		P/FP comments				Koumyan	3/25/2010		CLOSED
RC-0530.3	12/14/09	E-mail	PHTH	Add 2	11/16/09			PA	Lizzo		Repeated comments See RC-0479							DUPLICATE
RC-0531	12/18/09	E-mail	PHTH	C Draft				PA	Levine		Spec comments 16927					12/18/2009		CLOSED
RC-0532	12/18/09	E-mail	PHTH	C Draft				PA	Levine		Spec comments 16928					12/18/2009		CLOSED
RC-0533	12/18/09	E-mail	PHTH	C Draft				PA	Levine		Spec comments 16927					12/22/2009		CLOSED
RC-0534	12/18/09	E-mail	PHTH	C Draft				PA	Kwolek		Spec comments 16927					12/22/2009		CLOSED
RC-0535	12/18/09	E-mail	PHTH	C Draft				PA	Kwolek		Spec comments 15820				Gilboa	2/18/2010		CLOSED
RC-0536	12/18/09	E-mail	PHTH	C Draft				PA	Kwolek		Spec comments 15821				Gilboa	2/18/2010		CLOSED
RC-0537.1	1/6/10	E-mail	PHTH			20SG(6523,7034,7134,716 0,7162,7173,7175,7176,71 80)	9	PA			Structural TBD Comments					1/25/2010	Comment resolution as per mtg with PA See RC-0546	CLOSED
RC-0537.2	1/6/10	E-mail	PHTH			20SG(7593,7594,7599 761 8)	4	PA			Closed Structural TBD comments					1/6/2010	Comments closed by PA	CLOSED
RC-0537.3	1/6/10	E-mail	PHTH			20SG(7181-7182)	2	PA			Civil TBD Comments					3/19/2010		CLOSED
RC-0537.4	1/6/10	E-mail	PHTH			20SG(7104,7196,7201,720 4 7210)	5	PA			Open Architectural TBD comments							For Record Only

WTC Transportation Hub
Review Comments Log

			Package Description			Review Comments						Responses						
File No.	Date Received	Document Control No.	No.	Submission	Date	Master No.	Number of Comments	Entity	Name	Date	Remarks	Due From	Date Distributed	Date Due	Completed by	Submitted to PA	Remarks	Current Status
RC-0538.1	1/14/10	E-mail	PHTH	Signage Presentation	4/30/08	20SG(8227-8235)	9	PA			Repeated comments Already received on 5/27/08							DUPLICATE
RC-0538.2	1/14/10	E-mail	PHTH	Signage Presentation	12/28/09	20SG(8236-8238)	3	PA			Superseded See RC-0560 1						See RC-0560 1	SUPERSEDED
RC-0538 3	1/14/10	E-mail	PHTH	Signage Presentation	12/28/09	20SG(8239-8241)	3	PA			New Signage comments				Patel	5/5/2010		CLOSED
RC-0539	1/15/10	E-mail	PHTH			20SG-7366		PA			Close out Comms TBD comments					1/15/2010		CLOSED
RC-0540	1/18/10	E-mail	PHTH					Trahman			GT2001 drawing					1/18/2010		For Record Only
RC-0541	1/18/10	E-mail	PHTH	Rev 0	7/20/09			BBB			Marked-up comments on drawings	Litler						OPEN
RC-0542	1/20/10	E-mail	PHTH	C Draft		20SG(8252-8270)	19	PA			Spec comments 15950				Gibea	2/15/2010	Revised spec issued on 4/5/10	CLOSED
RC-0543	1/21/10	E-mail	PHTH			CTST(0001-0056)	56	MTA			Cortlandt St Comments				Medzinski	1/28/2010		CLOSED
RC-0544 1	1/25/10	E-mail	PHTH			20SG(7450 7465,7467,746 8,7473,7474,7482,7483,75 07)	9	PA	Kwolek		Closed Mech TBD comments					1/25/2010	Closed as per PA's e-mail dated 1/25/10	CLOSED
RC-0544 2	1/25/10	E-mail	PHTH			20SG-7470	1	PA	Kwolek		Open Mech TBD Comments				Gibea	3/18/2010		CLOSED
RC-0545 1	1/25/10	E-mail	FHTH			20SG-6743	1	PA	Levine		Open Elec TBD Comments					4/7/2010	Comment withdrawn as per mtg with PA	WITHDRAWN
RC-0545 1A	1/25/10	E-mail	PHTH			20SG(7152,7156,7157,722 3,7224,7248,7284 7316-7319,7323 7331-7336,7338 7339,7352,7644 ,7669)	23	PA	Levine		Elec TBD Comments				Schuller	2/16/2010	See RC-0552 2	CLOSED
RC-0545 2	1/25/10	E-mail	PHTH			20SG(7145 7148,7150,715 1,7244 7245,7293 7366,76 59 7661,7661,7667,7670,7 676 7677)	15	PA	Levine		Closed Elec TBD comments					1/25/2010	Closed as per PA's e-mail dated 1/25/10	CLOSED
RC-0546.1	1/25/10	E-mail	FHTH			20SG(6523 7134 7160-7163 7176 7557)	8	PA	Kamocsai		Structural TBD Comments							OPEN
RC-0546.2	1/25/10	E-mail	PHTH			20SG(6505,7173,7175 718 0 7537 7555)	6	PA	Kamocsai		Closed Structural TBD comments					1/25/2010	Closed as per PA's e-mail dated 1/25/10	CLOSED
RC-0547.1	1/27/10	E-mail	PHTH			20SG(6261,6315 6319 632 1 6322,6334 6342,7644,76 69)	9	PMOC			Open TBD PMOC comments as reflected on 12/17/09-TBD matrix					4/28/2010		CLOSED
RC-0547 2	1/27/10	E-mail	PHTH			20SG(7659,7661,7667 766 9,7670,7676,7677)	7	PMOC			Closed TBD PMOC comments reflected on 12/17/09-TBD matrix					1/27/2010		CLOSED
RC-0548	1/27/10	E-mail	PHTH			20SG(7526,7529,7530 768 9,7690-7693,7696 7697)	10	PA			Plumbing/FP TBD comments							For Record Only
RC-0549	1/15/10	E-mail	PHTH			20SG-7294	1	PA			Electrical TBD comments				Schuller	1/21/2010		CLOSED
RC-0550	1/29/10	E-mail	PHTH	Progress	1/18/10	20SG(8242-8250)	9	DSP			Comments on Bermuda Triangle				Mauritz, Koumyan, Patel	2/23/2010	Draft Responses issued on 2/9/10 Final responses issued on 2/23/10	CLOSED
RC-0551.1	2/5/10	E-mail	PHTH			20SG(7805-7810 7812,7815)	9	PA	Yakubov		Closed comments					2/5/2010		CLOSED
RC-0551 2	2/5/10	E-mail	PHTH			20SG(7811,7813,7814 781 5)	3	PA	Yakubov		Follow-up geotech comments				Cregger	2/11/2010		CLOSED
RC-0551 3	2/5/10	E-mail	PHTH			20SG-8251	1	PA	Yakubov		New geotech comment				Cregger	2/11/2010		CLOSED
RC-0552.1	2/22/10	E-mail	PHTH			20SG(7156,7157,7223 728 4 7316,7317,7318,7319,73 23,7328 7352,7669)	12	PA	Levine		Open TBD Electrical comments					4/28/2010	Some responses issued on 3/19 & 4/11/10	CLOSED
RC-0552.2	2/22/10	E-mail	PHTH			20SG(7224,7248,7331-7336 7338,7339)	10	PA	Levine		Closed TBD Electrical comments					2/22/2010	Closed by PA	CLOSED
RC-0553	3/3/10	E-mail	20 Oculus					PA	Levine		Spec comments 16929					4/5/2010		CLOSED
RC-0554	3/9/10	E-mail	PHTH			20SG(8271-8276)	6	PA QAD	Bhol		Arch, Pblg and FP comments	Patel/Hand			Koumjan			OPEN
RC-0555	3/12/10	E-mail	20 Oculus					PA	Levine		Spec comments 16640					4/5/2010		CLOSED
RC-0556	3/16/10	E-mail	PHTH			20SG(7316-7319,7323 7328 7331-7336 7338 7339)	14	PA	Levine		Closed Elec comments					3/16/2010	Closed as per PA's e-mail dated 3/15/10	CLOSED
RC-0557	3/24/10	E-mail	18B	Addendum 2 Progress		18B(0844-0854)	11	PA			PA Mech comments				Mazumdar, Chong	4/16/2010		CLOSED
RC-0558 1	3/30/10	E-mail	PHTH			20SG(8188 8192-8194 8196-8201)	10	PA	Kwolek		Follow-up comments					4/28/2010		CLOSED
RC-0558.2	3/30/10	E-mail	PHTH	Add 15	3/1/10	20SG(8277)	1	PA	Kwolek		New Mech comment					4/28/2010		CLOSED

WTC Transportation Hub
Review Comments Log

File No.	Date Received	Document Control No.	Package Description No.	Submission	Date	Review Comments Master No.	Number of Comments	Entity	Name	Date	Remarks	Responses Due From	Date Distributed	Date Due	Completed by	Submitted to PA	Remarks	Current Status
RC-0558.3	3/30/10	E-mail	PHTH			20SG(8185-8187,8189-8191,8195,8202)	8	PA	Kwolek		Closed Mach comments					3/30/2010	Closed by PA	CLOSED
RC-0559	4/1/10	E-mail	20 Oculus	30% Progress (100% PE)	3/3/10	20 OCU(0626-0645)	18	PA	Ilonka Kriegel	3/31/10	Landscape comments				Lem	6/16/2010		CLOSED
RC-0560.1	4/1/10	E-mail	PHTH	Signage Presentation		20SG(8236-8238)	3	PA			Updated signage comments				Patel	5/5/2010		CLOSED
RC-0560.2	4/1/10	E-mail	PHTH	Signage Presentation		20SG(8227,8229-8235,8279)	9	PA			Signage follow-up comments				Patel	5/5/2010		CLOSED
RC-0560.3	4/1/10	E-mail	PHTH	Signage Presentation		20SG(8229,8278)	2	PA			Closed comments					4/1/2010	Closed by PA	CLOSED
RC-0561.1	4/9/10	E-mail	PHTH			20SG(7805-7813,7812,7814,7815)	9	PA			Closed comments by PA-Geotech memo dated 2/5/10					2/5/2010		DUPLICATE
RC-0561.2	4/9/10	E-mail	PHTH			20SG(7811,7813,7814)	3	PA			Closed comments by PA-Geotech as per Add 14					4/9/2010	Closed by PA	CLOSED
RC-0562	4/9/10	E-mail	PHTH			20SG-8251	1	PA			PA-Geotech follow-up				Clegger	4/27/2010		CLOSED
RC-0563.1	4/14/10	E-mail	Oculus			20 OCU(0042,0050,0052,0055,0057,0058,0060,0062,0065-0071,0078,0081,0083,0148,0150,0167,0178,0186)	22	PMOC			Follow-up comments							OPEN
RC-0563.2	4/14/10	E-mail	PHTH			20SG-7822	1	PMOC			Follow-up Elec comment					5/17/2010	Closed by PMOC See RC-0579.2	CLOSED
RC-0563.3	4/14/10	E-mail	Oculus			20 OCU(0646-0684)	29	PMOC			New comments							OPEN
RC-0563.4	4/14/10	E-mail	Oculus			20 OCU(0042,0043,0045,0046,0050,0052,0055,0057,0058,0060,0062,0065-0071,0078,0081,0083,0146,0148,0150,0151,0153,0154,0155,0167,0169,0178,0186,0193,0195,0196,0200-0202,0206-0215)	48	PMOC			Follow-up comments							For Record Only
RC-0564	4/14/10	E-mail	PHTH					PMOC			Repeated comments							DUPLICATE
RC-0565	4/15/10	E-mail	Oculus					PA	Levine		Spec comments 16929	McDonald/Keyt			McDonald/Keyt	5/10/2010		CLOSED
RC-0566	4/16/10	E-mail	Oculus					PA	Levine		Spec comments 18640	McDonald/Keyt			McDonald/Keyt	5/10/2010		CLOSED
RC-0567.1	4/26/10	E-mail	PHTH			20SG(8253-8255,8257-8267,8269,8270)	16	PA	Kwolek		Agreed comments by PA-Mechanical						Agreed by PA	CLOSED
RC-0567.2	4/26/10	E-mail	PHTH			20SG(8256,8268)	2	PA	Kwolek		Spec follow-up comments 15950	Gilboa						OPEN
RC-0567.3	4/26/10	E-mail	PHTH	C Draft	4/1/10	20SG(8278-8283)	6	PA	Kwolek		New Spec comments 15950	Gilboa						OPEN
RC-0568	4/28/10	E-mail	20 Oculus	Signed&Sealed	4/1/10		6	PA	Kriegel		Architectural drawing comments	Lem						OPEN
RC-0569	4/28/10	E-mail	20 Oculus	C Draft	2/8/10		9	GHSC	Smith		Spec comments 08900	Kasakiyan/Lem						OPEN
RC-0570	4/28/10	E-mail	20 Oculus	C Draft	2/8/10		13	GHSC	Smith		Spec comments 08440	Kasakiyan/Lem						OPEN

Final Design Wrap Up Analysis (DDP)
DRAFT - (Revised 7/27/10)

DOWNTOWN DESIGN PARTNERSHIP

Group 1 Activity #	WBS Code	INOC # DCC #	Task Description	Payment Budget (As of 10/31/09)	Nov. '09	Dec. '09	Jan. '10	Feb. '10	Mar. '10	Apr. '10	May '10	Jun. '10	Jul. '10	Anticipated Totals	Responsible DDP/PA PMs
					DDP Proposed Payment Schedule										
1000	Varies		Final Design (Labor + ODCs)	$3,072,286	$921,686	$921,686		$921,686	$307,229					$3,072,286	S. M./M. Garz/J. Parne S. L./S. L./T. G../E. D.
					30%	60%		90%	100%						
2000	6127	265	PA Specialty Review of Security Deliverables	$47,953	$14,386	$14,386	$14,386	$4,795						$47,953	
								100%	(Monthly-Interim)						
2010	6053	178	Platform Level HVAC, Plumbing & Fire Protection	$48,310		$43,479	$4,831							$48,310	V. Brodsky E. Dejak
						90%	100%								
2020	6172	299	PA Specialty - Russell Corrosion	$24,886	$11,199	$11,199	$2,489							$24,886	
							100%	(Monthly-Interim)							
2030	6303	372	Lateral Loads - West Side	$152,700					$137,430	$15,270				$152,700	P. Mauritz S. Leone
									90%	100%					
2040	6224	413	WP 1 - Fan Plant Equipment Purchase (PB)	$38,803						$34,923	$3,880			$38,803	
											100%	(Monthly-Interim)			
2050	6292	455	WP 18.B Alternative 78" Sewer Protection Measure	$197,709							$177,938	$19,771		$197,709	Full Payment Budget Authorized
											90%	100%			
2060	6306	497	Add'l PB Review on PATH PA-5 Heat Release	$24,145		$10,865	$10,865	$2,415						$24,145	
								100%	(Monthly-Interim)						
2070	6328	507	CFD Modeling Permanent PATH Station & Related Areas	$49,552		$44,597	$4,955							$49,552	Full Payment Budget Authorized
						90%	100%								
2080	6284	467	N. Fan Plant & Relocation of S. Fan Plant (HUB)	$77,963				$70,167	$7,796					$77,963	R. Lem/V. Brodsky E. Dejak
								90%	100%						
2090	6272	375	Design of the First Responder & O&M Radio System	$105,511						$94,960	$10,551			$105,511	M. Littler D. McShane
										90%	100%				
2100	6227	376	Exp Hub Sec. Monitoring & Access Control /Retail	$7,769		$6,992	$777							$7,769	Full Payment Budget Authorized
						90%	100%								
2110	TBD	387	Hub Impacts due to R/W Cortlandt. Station's SE Entrance	$125,685					$113,117	$12,569				$125,685	R. Lem S. Leone/V. Stellato
									90%	100%					
2120	6075	204	R/W to E Connection and Related Services	$680,674					$340,337		$272,269	$68,067		$680,674	R. Lem S. Leone/V. Stellato
									50%		90%	100%			
2130	ODC's	412	PATH PA-4/PA-5 Car Materials Retesting	$25,964	$23,368	$2,596								$25,964	Full Payment Budget Authorized
					90%	100%									
2140	6266	441	Retail Graphics and Signage East & West Bathtubs	$281,622						$140,811	$112,649	$28,162		$281,622	K. Patel T. Grassi/S. Lenahan
										50%	90%	100%			
2150	6257	453	N/S Concourse Retail Design Change. WP 20 Incorporate	$26,977		$24,279	$2,698							$26,977	Full Payment Budget Authorized
						90%	100%								
2160	6277	470	MTA 1 Line Cortlandt St. Station Prep	$160,568				$144,511	$16,057					$160,568	Full Payment Budget Authorized
								90%	100%						
2170	6239	446	WP 20 - Design SE Corner of W Bathtub (Bermuda)	$526,370			$473,733	$52,637						$526,370	Full Payment Budget Authorized
							90%	100%							
2180	6286	47S	NYCT N. Fan Plant and Relocation. of NYCT S. Fan Plan	$105,399				$94,859	$10,540					$105,399	Full Payment Budget Authorized
								90%	100%						
2190	6313	500	Additional MEP Coordination w/ T2,3 & 4	$198,269	$0	$59,481	$59,481	$79,307						$198,269	
								100%	(Monthly-Interim)						
2200	6310	S01	Redesign of WP 9X Alternate Design	$200,054		$180,049	$20,005							$200,054	Full Payment Budget Authorized
						90%	100%								
			Total Group 1 :	**$6,179,169**	**$970,638**	**$1,319,609**	**$594,220**	**$1,370,377**	**$932,505**	**$298,532**	**$577,288**	**$116,000**	**$0**	**$6,179,169**	

Final Design Wrap Up Analysis (DDP)
DRAFT - (Revised 7/27/10)

DOWNTOWN DESIGN PARTNERSHIP

Group 2 Activity #	WBS Code	INOC # DCC #	Description	Payment Budget (As of 10/30/09)	Nov. '09	Dec. '09	Jan. '10	Feb. '10	Mar. '10	Apr. '10	May '10	Jun. '10	Jul. '10	Anticipated Totals	Responsible PM
2210	6291	491	Memorial Out of Sequence Coordination	$2,380,670	$714,201	$714,201		$714,201	$238,067					$2,380,670	Full Payment Budget Authorized
					30%	60%		90%	100%						
2220	6319	508	Implementation of Retail Escalator	$94,559	$85,103	$9,456								$94,559	Full Payment Budget Authorized
					90%	100%									
2230	6327	TBD	Cont. East Bathtub Coordination/Implementation	$1,330,277				$399,083	$399,083	$354,740	$177,371			$1,330,277	Full Payment Budget Authorized
								30%	60%	90%	100%				
2240	6309	TBD	Impacts Due to Retail Storefront Redesign	$92,208	$82,987	$9,221								$92,208	Full Payment Budget Authorized
					90%	100%									
2250	6324	TBD	Revised North Liner Wall Design	$248,441						$124,220	$99,376	$24,844		$248,441	J. Charalambou S. Leone
										50%	90%	100%			
2260	6325	TBD	Oculus Late Comments/Holistic Responses	$160,727		$144,654	$16,073							$160,727	S. McIntyre T. Grassi/N. Lombardi
						90%	100%								
2270	6326	TBD	Additional Retail Special Events and Related MEP	$357,896					$178,948	$143,158	$35,790			$357,896	V. Brodsky/K. Patel V. Okwuagwu/T. Grassi
									50%	90%	100%				
			Total Group 2 :	**$4,664,777**	**$882,291**	**$877,532**	**$16,073**	**$1,113,284**	**$816,098**	**$622,119**	**$312,537**	**$24,844**	**$0**	**$4,664,777**	

Group 3 Activity #	WBS Code	INOC # DCC #	Description	Payment Budget (As of 10/30/09)	Nov. '09	Dec. '09	Jan. '10	Feb. '10	Mar. '10	Apr. '10	May '10	Jun. '10	Jul. '10	Anticipated Totals	Responsible PM
2280	6334	TBD	Section 106 - Out of Sequence	$100,000		$90,000	$10,000							$100,000	Full Payment Budget Authorized
						90%	100%								
2290	6335	TBD	Comments from EAD/PMOC	$951,034	$285,310	$285,310	$285,310	$95,103						$951,034	S. McIntyre T. Grassi/N. Lombardi
					30%	60%	90%	100%							
2300	6337	TBD	Street Issues Identified in 9/2/09 Matrix	$1,151,034	$345,310	$345,310		$345,310	$115,103					$1,151,034	Full Payment Budget Authorized
					30%	60%		90%	100%						
2310	6332	TBD	Signage Diagrams	$50,000				$45,000	$5,000					$50,000	K. Patel S. Lenahan
								90%	100%						
2320	TBD	TBD	Advertising Infrastructure	$400,000							$200,000	$160,000	$40,000	$400,000	J. Parnes/J. hand S. Lenahan
										50%	90%	100%			
2350	TBD	TBD	Impacts from Lateral Load Analysis - West Side	$100,000						$90,000	$10,000			$100,000	P. Mauritz S. Leone
										90%	100%				
2360	TBD	TBD	WBVA Shear Wall Design/Lat Load Analysis - West	$150,000							$135,000	$15,000		$150,000	J. Charalambou S. Leone
											90%	100%			
2370	TBD	495	MTA - Tower 2 to E Connection	$500,000							$250,000	$200,000	$50,000	$500,000	R. Lem V. Stellato
											50%	90%	100%		
2380	6340	504	Hub Radio Exp. to Retail Back of House & Tenant	$200,000						$180,000	$20,000			$200,000	M. Littler D. McShane/V. Okwuagwu
										90%	100%				
2390	TBD	TBD	Impacts from Lateral Load Analysis - East Side	$467,000						$233,500	$186,800	$46,700		$467,000	B. Altabba V. Stellato
										50%	90%	100%			
2400	6329	TBD	Revised Transit Hall Plaza Scope (EDAW)	$285,908			$142,954	$114,363	$28,591					$285,908	R. Lem/S Haga (EDAW) T. Grassi
							50%	90%	100%						
2410	6338	TBD	Incorporate PAC Drawings	$50,000		$45,000	$5,000							$50,000	Full Payment Budget Authorized
						90%	100%								
			Total Group 3 :	**$4,404,976**	**$630,620**	**$765,620**	**$443,264**	**$599,777**	**$148,694**	**$503,500**	**$801,800**	**$421,700**	**$90,000**	**$4,404,976**	
			Grand Total :	$15,248,921	**$2,483,550**	**$2,962,761**	**$1,053,557**	**$3,083,438**	**$1,897,297**	**$1,424,150**	**$1,691,624**	**$562,544**	$90,000	$15,248,922	

THE PORT AUTHORITY OF NY & NJ

WTC CONSTRUCTION DEPARTMENT

WORLD TRADE CENTER TRANSPORTATION HUB

September 28, 2010

Downtown Design Partnership
A Joint Venture of AECOM, Inc. and STV, Inc.
605 Third Avenue
New York, New York 10158

ATTENTION: Ira Levy, P.E., President, AECOM, Inc.

Subject: PROFESSIONAL SERVICES CHANGE ORDER #CO-09-006(B) – DESIGN CONTRACT CHANGE [DCC] #494 – SERVICES DURING CONSTRUCTION

Reference: (1) Performance of Expert Architectural and Engineering Services for the Permanent World Trade Center PATH Terminal on a Task Order Basis, PA Agreement #407-07-013; as amended
(2) Port Authority of New York & New Jersey (Authority) Request for Proposal, dated June 10, 2009
(3) Downtown Design Partnership (DDP) Proposal, dated July 24, 2009
(4) DDP Revised Proposal, dated November 3, 2009
(5) Authority Change Order Amendment letter dated November 4, 2009

Dear Mr. Levy:

This letter acknowledges that you performed additional expert professional Architectural and Engineering Support Services During Construction (Stage IV) as set forth in Reference (4), DDP revised Proposal, dated November 3, 2009 and as outlined in the attached Scope of Work as directed by the Authority as additional work items under the referenced agreement for the WTC Transportation Hub. This is a partial Notice to Proceed as noted below pending full authorization of the Stage IV Services for the World Trade Center PATH Terminal.

115 Broadway, 7th Floor
New York, NY 10006

Total compensation at this time for the performance of these above mentioned services shall not exceed the amount of **$21,622,975**. This amount represents a percentage of the DDP-proposed amount of $78,142,505 for Stage IV. Therefore, the total authorized amount for Stage IV is as follows:

Amount in DDP Proposal dated August 10, 2010:	$ 78,142,505
CO-09-006(A) authorization:	$ 17,877,025
CO-09-006(B) authorization:	**$ 21,622,975**
DDP Proposal amount less authorized amount:	$ 38,642,505

Therefore, the previously authorized total amount for the referenced Agreement is increased from **$228,888,554 to $250,511,529**.

Authorizations for the remaining balance under the referenced proposal as noted above will be forwarded under a separate Notice to Proceed. The attached Scope of Work shall cover the remaining Stage IV term of January 1, 2010 through December 31, 2014. The quantities shown in the Scope of Work are estimated quantities for the purposes of estimating the Consultant's full compensation for Stage IV services. As discussed and agreed, this change order addresses all anticipated effort required to complete the attached scope of work for Services During Cosntruction within the agreed upon time frame. Compensation shall be based on actual services performed, but shall not exceed the estimated values unless approved by the Authority in writing.

The Downtown Design Partnership Joint Venture multiplier for Stage IV services effective 7/31/2010 is **2.36**.

The Consultant shall employ, to every extent possible, the most cost-effective methods of performing the Scope of Services as defined in the attached. This includes but is not limited to, utilizing appropriate staff as needed (i.e., combining management and technical efforts) and tracking hours of technical staff. Accordingly, the Consultant shall inform the Director when the Consultant's expenditures reach 80% of the not-to exceed total amount noted above. The Consultant shall continue to render the additional services to completion after the point when the Consultant's compensation reaches 100% of such amount for each change order.

The above referenced Agreement remains in full force and effect and the performance of the requested additional services is subject to the terms and conditions of such referenced Agreement.

THE PORT AUTHORITY OF NY & NJ

WTC CONSTRUCTION DEPARTMENT

WORLD TRADE CENTER TRANSPORTATION HUB

Please return two original signed copies of this letter to the attention of Richard Perez, Contract specialist, Procurement Department, 115 Broadway, 19th floor, New York, New York 10006. Upon receipt by the Authority of a copy of this letter executed by a principal of your firm, you are authorized to proceed with performance of the requested additional services.

If you have any questions relating to the performance of the subject services, please do not hesitate to contact me at 212-435-5333.

Sincerely,

Frank Gallo
Program Director
WTC Construction Department

Attachment

Receipt Acknowledged: Downtown Design Partnership

D. Servedio, Chairman, CEO **Date:** 11-10-10

F. Levy, President **Date:** 11-10-10

CC: F. Gallo, T. Grassi, L. Foster, S. Lenahan, M. Pagliettini, R. Perez, N. Ranalli, A. Reiss, S. Plate; WTC Document Control

115 Broadway, 7th Floor
New York, NY 10006

FOR EXPERT PROFESSIONAL ARCHITECTURAL AND ENGINEERING SERVICES FOR THE PERMANENT WORLD TRADE CENTER PATH TERMINAL WITH DOWNTOWN DESIGN PARTNERSHIP (DDP), A JOINT VENTURE OF DMJM+HARRIS, INC. AND STV, INC.

PA AGREEMENT #407-03-013
Purchase Order #4900000675
SCOPE OF WORK DESCRIPTION

Change Order (CO) # 09-006
Design Contract Change (DCC) 494
Services During Construction

I. SCOPE OF WORK DESCRIPTION

The services of the Downtown Design Partnership (DDP) shall consist of performing Construction Support Services (Stage IV) for all remaining work of the World Trade Center (WTC) Hub and Non-Hub segments of the overall P.A. Agreement and related documents listed below:

- Work Package No. 20, PATH Hall and Transit Hall Construction – Contract No. 264
- Work Package No. 20, Greenwich Street Corridor Construction – Contraet No. 224.545
- Work Package No. 20, Oculus Construction, Contract No. 264
- Work Package No. TBD, Cortlandt Street Station, Contract No. TBD
- Work Package Nos. #3E, #5C, #6C, #6C.1, #10.2, and # 10.3. Contract No. 284.548

DDP shall provide Miscellaneous Stage IV Construction Phase Services limited to the seope of work delineated in the following On-going Work Packages:

- #1H
- #2
- #4B and #4C
- #6B
- #6X
- #9
- #12
- #17
- #17A, 18B and 18B.1
- #20 BCD.1

- #20.20

All applicable documents forming the basis of design and DDP designed contract documents for the Work Packages listed above are included by reference herein.

Work also includes Project Management services during Stage IV and associated Other Direct Costs (ODCs) from July 1, 2009 through December 31, 2014.

DDP's services and associated designs shall comply with all Federal, State and Local codes that would apply if the Authority were a private corporation and with all industry standards, including, but not limited to those identified herein.

DDP shall be responsible for staffing of all involved disciplines, which may be assigned to perform Work under this Change Order.

All submittals shall be returned to the Contractor(s) via the Construction Manager (or other party as directed by the WTCC Director or its designee(s)) within 10 working days of receipt. If requested by the WTCC Director or its designee(s), DDP shall expedite, if possible, certain submittals as may be required from time to time to keep pace with the construction activities as determined by the Project Schedule.

DDP shall serve as Engineer of Record as provided hercin.

The DDP's Services During Construction shall include, but not be limited to, the following tasks. In the event that DDP feels that a task is beyond the scope described herein, DDP shall perform, upon authorization by PA, the task within the timeframe needed, and develop the backup as needed in order to justify the additional cost to the contract.

TASK 1: General

Task 1.1 – Submit a Quality Control/Quality Assurance (QA/QC) Program for the professional services to be undertaken in connection with the performance of Post Award Duties specified herein. The QA/QC program shall be submitted within ten (10) days of approval of this work.

Task 1.2 – Maintain clear, dated records of all pertinent documents submitted to DDP, including but not limited to, transmittals, submittals, and associated reviews, Request For Information (RFIs) and responses, Requests for Clarifications (RFCs) and responses, meeting minutes, submittals and their markups, as well as designs, calculations or drawings prepared during the construction phase. These documents shall be made available to the Authority. Upon project completion, or request by the Authority, all these documents shall be listed, filed and submitted to the Authority for their files, electronically per Engineering Department standards, and in hard copy.

Task 1.3 (Allowance) – Coordinate with the WTCC Director or its designee(s)e on a continuous basis to respond to any technical issues that may arise during the bidding phase or construction. At the discretion of the Authority, the DDP and WTCC designee(s) shall co-reside with WTCC person and be capable to review and respond immediately to technical issue that develop.

NOTE: Allowances require prior approval and budget through the DCC process prior to performing any work under this task.

TASK 2: Services During Bidding Phase

Task 2.1 – Attend pre-bid meetings as requested. (Assume 10 meetings are required).

Task 2.2 – Respond to RFCs relating to the bid documents (Assume 1,000 such RFCs are required.)

Task 2.3 – Prepare a "Conformed" set of contract drawings incorporating all Addenda, sketches issued to the contractor as information, etc. that may have been in response to questions specifically raised by Construction Manager and/or Contractor(s). Specific approval from WTCC is required prior to performing any work under this task. Conformed set shall be delivered with 20 business days from such approvals. WTCC Director or its designee(s) may request that DDP shall complete this task earlier than the 20 business days and that more than one "Conformed" set may be required. (Assume 4500 drawings are required).

Task 2.4 – Attend meetings between Contractor(s) and WTCC Director or its designee(s) as requested. Prepare minutes of pre-bid meeting(s) within 3 business days and submit final version within 5 business days of each meeting. (Assume 100 such meetings for this Task).

TASK 3: Services During Construction Phase

Task 3.1 – Attend field meetings as requested by WTCC Director or its designee(s) in coordination with the Resident Engineer. Any response to questions or requests that might arise from such meeting shall be considered part of Task 3.6 below. (Assume 1,352 meetings).

Task 3.2 – Provide full time technical expeditor(s)/field engineer(s) during the construction period to coordinate with the Resident Engineer, and resolve field conflicts in a timely manner and/or expedite responses from the designers to any field questions that may arise. Any response to questions and/or requests that may arise shall be considered as part of Task 3.6 below. The proposed individual shall possess the skills to expedite timely responses in the field and his or her resume shall be submitted for consideration and approval by the WTCC Director or its designee(s) within 5 business days.

Task 3.3 – At the request of the WTCC Director or its designee(s), coordinate with and attend meetings with third parties, other agencies and stakeholders to address any and all conflicting or technical issues that may arise due to discrepancies of the final design documents between the WTCC's HUB Engineer-of-Record drawings produced by DDP and those of the various stakeholders. The WTCC Director or its designee(s) may direct DDP to review third party drawings and specifications as part of this effort. (Assume 250 such meetings are required and shall include preparation time).

Task 3.4 (Allowance) – Perform Engineering Services related to coordination or construction issues that may develop due to third parties, such as MTA, Memorial, Retail, SPI, Vehicular Security Center (VSC), Streets, Chiller Plant, etc. Specific direction from WTCC Director or its designee(s) will be required prior to performing any such service. Such services would include any required drawings, sketches, technical memorandums, calculations, etc to address the issues identified while performing Task 3.3.

NOTE: Allowances require prior approval and budget through the DCC process prior to performing any work under this task.

Task 3.5 (Allowance) – Prepare supplemental documents for Post Award Contract Changes (PACCs) and provide cost estimates associated with the changes. In general, PACCs shall be

initiated by either the WTCC Director or its designee(s) or the Construction Manager to address field conditions or proposed means and methods. All direction to DDP shall be in writing from the WTCC Director or its designee(s).

NOTE: Allowances require prior approval and budget through the DCC process prior to performing any work under this task.

Task 3.6 – Respond to Construction Manager or Contractor-submitted RFIs. Prepare appropriate sketches, drawings, calculations, etc. to help clarify any such contractor's requests. WTCC will categorize RFIs in groupings including: Design Change, Design Error & Omission, Contractor's Request, WTCC Request, or others groups that may be appropriate. (Assume 5,000 RFIs submittals).

Task 3.7 – Review, comment, and sign-off on all Contractor's submittals, including shop drawings, calculations, product data, catalog cuts, temporary structures/MEP systems submittals, Contractors' erection drawings/procedures/manuals, samples, certificates, test reports , etc. for which the Consultant is the Engineer-of-Record. DDP to indicate any corrections or revisions that may be required on the submittals and advise the Director or its designees the reasons for the actions indicated. The number of copies for each working drawing will be determined between DDP and the WTCC Director or its designee(s). (Assume a total of 15,000 individual drawings/calculations and 8,000 catalog cuts).

Task 3.8 – Review and comment on Contractor (s) prepared operational manuals required for operating and servicing installed equipment, systems, and machinery. Specific approval by the WTCC Director or its designee is required prior to performing work under this task. (Assume 25 manuals will require review).

Task 3.9 – Prepare "Record" drawings upon completion of construction "as built" information that is to be incorporated into the "Record" drawings. Marked-up drawings showing actually installed items will be provided by the WTCC Director's Resident Engineer. This will be performed electronically using the conformed set of documents. Specific approval is required prior to performing any work under this task. (Assume 1,500 contract drawings will need to be modified).

Task 3.10 (Allowance) – At the specific written request of the WTCC Director or its designee(s), DDP shall review Construction Manager or Contractor(s)' proposed design changes and comment upon their impacts from technical, schedule and cost perspectives. This shall include evaluating and, if directed by PA, incorporating alternative construction details and materials, as requested by the WTCC Director or its designees. (Assume 75 such proposed design changes).

NOTE: Allowances require prior approval and budget through the DCC process prior to performing any work under this task.

Task 3.11 (Allowance) – At the request of the Director or its designee(s), review Contractor(s)' claims and/or proposed Change Orders, commenting upon their appropriateness based upon DDP's design intent.

NOTE: Allowances require prior approval and budget through the DCC process prior to performing any work under this task.

Task 3.12 – Deleted From Scope.

Task 3.13 – Attend meetings and supply appropriate information to support the Authority's Risk Management Group in their development and ongoing maintenance of a Risk Register.

Task 3.14 (Allowance) – Perform unspecified Engineering Services that may be required to support ongoing construction activities Specific approval from the WTCC Director or its designee(s) is required prior to performing any work under this task.

NOTE: Allowances require prior approval and budget through the DCC process prior to performing any work under this task.

TASK 4: Commissioning Services

Task 4.1 (Allowance) – Assist the WTCC Director or its designee(s) in commissioning, testing, balancing and quality assessment efforts prior to turnover and acceptance of all systems. Specific approval is required prior to performing any work under this task.

NOTE: Allowances require prior approval and budget through the DCC process prior to performing any work under this task.

Task 4.2 (Allowance) – Assist the WTCC Director or its designee in the Sustainable Design Guidelines Commissioning process. Specific approval is required prior to performing any work under this task.

NOTE: Allowances require prior approval and budget through the DCC process prior to performing any work under this task.

TASK 5: Project Management During Stage IV Services

Provide Project Management Services from 7/1/2009 through 12/31/2014. Project Management services are a time phased effort and will cover DDP's Project Management during this period for the construction efforts. Services during this period shall include, but not be limited to the following:

- Project Management
- Project Controls and Reporting
- Design Management During Construction
- Quality Assurance/Quality Control
- Environmental/External Interface

TASK 6: Other Direct Costs During Phase IV Services (Allowance)

Other Direct Costs (ODC) that the Authority will directly reimburse to DDP for the period between 1/1/2010 through 12/31/2014, include but are not limited to the following:

- Office Maintenance
- Build Out Costs

- Office Telephone Service
- Office Equipment Rentals
- Office Supplies
- Computer Equipment
- Computer Software
- Data Storage
- Reproduction costs associated with printing, including but not limited to drawing, calculations, specifications, estimates, contractor submittals, etc. required in the design, project management for the project and by the WTCC Director or its designee for review and distribution.
- Short-term travel costs for visitors to DDP's or Authority's offices. The intent of short-term travel is for reasonable non-occurring travel expenses associated with bringing specialists to the project. Approval by the WTCC Director or its designee(s) shall be obtained prior to incurring such expense and shall be in accordance with the guidelines for travel and lodging expenses previously provided to the DDP.
- Short-term Room and Board for visitors to DDP's or Authority's offices. The intent of short term Room and Board is for reasonable non-reoccurring travel expenses associated with bringing specialists to the project. Approval by the WTCC Director or its designee(s) shall be obtained prior to incurring such expense and shall be in accordance with the guidelines for travel and lodging expense previously provided to the DDP.
- Mailings, Shipping and Delivery Service
- Miscellaneous costs agreed to in writing by the WTCC Director or its designee(s) that does not fall into the above categories.
- Payments to approved DDP Specialty Consultants for their Services within established budgets.

Each item shall be tracked and billed separately and within the limits negotiated for that specific item.

The DDP shall provide all deliverables (Services During Construction) as outlined below:

- Quality Control/Quality Assurance (QA/QC) Program 10 days from NTP.
- Requests for Information/Requests for Clarification (RFIs/RFCs) and responses, meeting minutes, submittals and their markups shall be submitted within 5 working days, if possible, in the timeframe as requested by the WTCC Director or its designee(s) to keep pace with the construction activities

- Conformed set of contract drawings within 20 days from the WTCC Director or its designee(s)' approval. If requested by the WTCC Director or its designee(s), DDP shall, if possible, expedite the Conformed set of contract drawings as may be required to keep pace with the construction activities as determined by the Project Schedule. Prepare Post Award Contract Changes (PACCs) and provide cost estimates no later than 5 working days from notice to prepare such PACC.

- Comment on Contractor's submittals, including shop drawings, calculations, catalog cuts, temporary structures/MEP systems submittals, Contractor's erection drawings/procedures/manuals, samples, certificates, test reports, etc. shall be submitted no later than 10 days from receipt by the WTCC Director or its designee(s). If requested by WTCC Director or its designee(s), DDP shall expedite, if possible, certain submittals as may be required from time to time to keep pace with the construction activities as determined by the Project Schedule.

- Prepare and submit "as built" drawings no later than 120 days upon completion of construction.

- Comments on Contractor(s)' proposed design changes shall be submitted to the PA no later than 5 working days, if possible, as requested by the WTCC Director or its designee(s)

END STAGE IV SCOPE OF WORK

THE PORT AUTHORITY OF NY & NJ

WTC CONSTRUCTION DEPARTMENT

WORLD TRADE CENTER TRANSPORTATION HUB

September 3, 2008

Downtown Design Partnership
A Joint Venture of DMJM+HARRIS, Inc. and STV Incorporated
605 Third Avenue
New York, NY 10158

Attention: Ira Allan Levy, PE
DMJM+HARRIS, Inc. Executive Vice President

SUBJECT: SUPPPLEMENTAL SERVICES TASK ORDER #08-002 - AMENDMENT LETTER

Ref 1.: PERFORMANCE OF EXPERT ARCHITECTURAL AND ENGINEERING SERVICES FOR THE PERMANENT WORLD TRADE CENTER PATH TERMINAL ON A TASK ORDER BASIS P.A. Agreement No.407-03-013; Supplemental Agreement #1

Ref 2: Letter F. Ross Edwards to R. Perez; dated August 4, 2008; Reference: Negotiated Technical and Cost Proposal for Port Authority Supplemental Agreement Task Order #08-002

Dear Mr. Levy:

The Authority hereby accepts your proposal dated August 4, 2008, which is attached hereto and incorporated into the referenced agreement by reference, for performance of the services in the scope of additional services request, which formed the basis for submission of your proposal.

Total compensation for the performance of the abovementioned services shall not exceed the amount of $21,331,433. For each task, you will receive a formal notice to proceed with the separate submission of an executed Design Contract Change (DCC) form. It is understood that no work will commence or charges made until DDP is in receipt of the executed DCC form.

The Consultant shall employ, to every extent possible, the most cost-effective methods of performing the scope of services noted above. This includes, but is not limited to, utilizing appropriate staff as needed (i.e. combining management and technical efforts) and tracking hours of technical staff. Accordingly, the Consultant shall inform the Director when the Consultant's expenditures reach 80% of the not-to-exceed amount noted above. The Consultant shall not

115 Broadway, 7th Floor
New York, NY 10006

continue to render services under this Authorization after the point at which the total amount to be paid to hereunder including reimbursable expenses reaches the not-to-exceed amount unless you are specifically authorized in writing to continue by the Director

The previously authorized total amount for the referenced agreement is increased from $22,463,067.00 to $43,794,500,00.

The above referenced agreement remains in full force and effect and the performance of the requested additional services is subject to the terms and conditions of such referenced agreement.

Please return two original signed copies of this letter to the attention of Richard Perez, Contract Specialist, Procurement Department, 115 Broadway, 19th floor, New York, N. Y. 10006. Upon receipt by the Authority of a copy of this letter executed by a principal of your firm, you are authorized to proceed with performance of the requested additional services.

Please contact me at 212-435-5655 if you have any questions.

Sincerely,

Shawn T. Lenahan
Senior Program Manager
WTC Construction Department

Att.

Accepted: Firm Name: Downtown Design Partnership

Name, Title 9/4/08 Date

Name, Title President Date

Cc: S. Lenahan, N. Lombardi, K. Matthews, M. Pagliettini, R. Perez, N. Ranalli, Document Control

DOWNTOWN
DESIGN PARTNERSHIP

7 Hanover Square, Suite 1800 • New York, NY 10004
Phone: 917-522-2800 • Fax: 212-785-2951

August 4, 2008

Ref #: DDP-PA-1748-08

The Port Authority of New York and New Jersey
115 Broadway, 19th Floor
New York, New York 10006

Attention: **Mr. Richard Perez**

Subject: **P.A. Agreement No. 407-03-013**
Performance of Expert Professional Architectural and Engineering Services for the World Trade Center Transportation Hub

Reference: **Negotiated Technical and Cost Proposal for Port Authority Supplemental Agreement Task Order TO# 08-002**

Dear Mr. Perez,

In response to the Port Authority of New York & New Jersey's request for proposal, dated February 22, 2008, to provide additional architectural and engineering services, attached please find Downtown Design Partnership's negotiated technical and cost proposal for Port Authority TO# 08-002. The total proposed amount for TO#08-002 is $21,331,433.

The attached supersedes DDP's technical and cost proposals for CO-08-002, originally submitted to Port Authority on March 11, 2008, April 17, 2008 and May 30, 2008 (Task 45 – Alternative Analysis for the Merrill Lynch Proposal only).

You are advised that the technical and cost proposal for Retroactive Professional Services Task Order 08-001, last submitted on April 17, 2008, remains unchanged. The total proposed amount for TO-#08-001 remains $11,486,885.

Should you have any questions regarding the attached, please do not hesitate to call.

Sincerely,
Downtown Design Partnership

F. Ross Edwards, P.E.
Project Director

RECEIVED
AUG 06 2008
Control # GA-08-00611
WTC Construction
Records & Information Management

Attachments: (1) Unbound Reproducible Original
Cc:

w/ attachments	S. McIntyre	M. Garz	J. Charalambous	J. Son	File
w/o attachments	D. Servedio	I. Levy	A. Basta	K. Auletta	

FOR EXPERT PROFESSIONAL ARCHITECTURAL AND ENGINEERING SERVICES FOR THE PERMANENT WORLD TRADE CENTER PATH TERMINAL WITH DOWNTOWN DESIGN PARTNERSHIP (DDP), A JOINT VENTURE OF DMJM+HARRIS, INC. AND STV, INC

PA AGREEMENT #407-03-013
Purchase Order #4900000675
Supplemental Agreement #1

SCOPE OF WORK DESCRIPTION

SUPPLEMENTAL AGREEMENT TASK ORDER
(REVISED) Task Order TO# 08-002

The following is a proposal to provide additional architectural and engineering services as an additional work item. The design of their respective facilities by the various WTC Stakeholders will require supplemental services by DDP to determine relative issues, impacts and concerns and provide technical input to allow the Authority to make an informed decision and provide clear direction. Unless stated otherwise, all scope of work and associated design costs do not include Services During Construction efforts. All Work agreed upon by all parties shall be authorized under the referenced Change Order. This proposal includes Project Management, Project Controls and Other Direct Costs (ODC's), from July 1, 2007 through September 30, 2008. The scope of services for Supplemental Task Order No. TO# 08-002 includes the following Tasks:

Task 1. – Coordination Efforts:
Provide technical input and advice at meetings as an agent to the Authority. Meetings shall be attended as directed by the Authority. For purposes of this proposal, thirty five hundred (3,500) person hours were allocated for this effort.

The proposed budget is an allowance. Charges shall be incurred up to the proposed budget for this task, as directed by the PA. Work for this task shall be performed only when and as directed by the PA Project Manager or his designee, in writing.

Deliverable: Meeting minutes

Task 2. – Design of the First Responder and O&M Radio Systems:
Perform the final design, construction documents and technical specifications for the following tasks:

Task A. Master Head End Radio Communication Systems Design – The design shall include primary and backup for mechanical, electrical, plumbing and the necessary ancillary support for the Master Head End radio systems and its occupied spaces. DDP

shall meet and coordinate with NYSTEC to obtain the necessary clarifications on the overall system architecture of the Master Head ends and stakeholders' amplifier rooms.

Deliverable: Documentation package of Master Head End Radio System.

Task B. Port Authority Transport Network (PATnet) Design – This design shall include coordination meetings and system components design as necessary to communicate with WTC stakeholders and first responders/public agencies including all associated fiber optic design optimization and provision of all system details

Deliverable: Documentation package for fiber optical interfacing equipment, which is to be procured by stakeholder.

Task C. Radio System Controls – The design shall propose system control schematics, to be reviewed and approved by all involved parties which supports primary vs. auxiliary/redundant, backup, fail over and recovery, and establishes radio system control consoles for site-wide OCC, WTC Police Command, Police Desk, Hub-OC and stakeholders' SCC.

Deliverable: System Control schematics.

Task D: WTC Stakeholders' Amplifier Rooms – Design Guidelines and Requirements – The design shall provide system performance parameters and criteria by stakeholders, e.g., signal loss, delay and noise requirements; system interfaces and interconnection, as required in the PATnet design; external antenna requirements as well as test and acceptance methodology for exchange of signals at demarcation points.

Deliverable: Design Guidelines and Requirements memorandum

Task E: Expansion of Hub Radio Coverage – To integrate the Master Head End radio systems, this Design may require expansion and modification to the existing WTC Hub radio design. The existing Hub O&M radio design will be modified as required in the referenced Master Manager O&M Radio System by DDP. Required antenna locations will be identified to meet coverage requirements. Radio Head-end design will be modified to accommodate coverage of areas outside of the Hub. Current Hub radio fiber-optic infrastructure will be assessed to determine spare capacity available for use by the Master Head End radio systems.

Deliverable: Design documents of Hub radio modifications.

Task 3. – Expansion of Hub Security Monitoring and Access Control Systems to include Retail space:

Retail has requested that the Hub expand its CCTV and Access Control systems to include all Retail back of house and operation areas (i.e. staff facilities, Operation Control Center, etc). This does not include Retail tenant space. This work involves expanding the

Hub CCTV distribution system and access control systems to Retail areas below grade. Work shall include all cable and conduit designs and may involve expansion of Hub CCTV systems at the head end location.

Deliverable: Design of contract documents to expand the Hub security monitoring and access control.

Task 4. – Expansion of Hub Security Monitoring and Access Control Systems to the Vehicle Security Center (VSC) and Central Chiller and Refrigeration Plant (CCRP):

As the Master Manager is responsible for these spaces, there may be long-term operational benefits to expanding the Hub CCTV and Access Control systems to operate the VSC and CCRP. This work shall involve an expansion of both the primary and secondary CCTV and Access Control system head ends.

Deliverable: Design of contract documents to expand the Hub security monitoring and access control.

Task 5. – RWDI Wind Engineering Services for West Vent Structure, WTC Memorial and Museum:

Perform wind-engineering services for the West Vent Structure, World Trade Center Memorial and Museum. Investigate the potential re-entrainment of exhausts from various sources located on the West Vent Structure into the Emergency Exhaust/Intake for the PATH and to assess the potential for re-entrainment of exhausts from the PATH system into intakes located on the West Vent Structure. Perform the following Tasks:

Task A: Site Visit and Initial Data Collection

1) Compile mechanical design information for the exhausts and intakes for the West Vent Structure and the Port Authority system, including any available design drawings and specifications.
2) Provide initial feedback on any identifiable design issues relating to exhaust re-entrainment to the Port Authority, along with potential solutions.
3) Assess number of exhaust sources appropriate for modeling in consultation with the Port Authority.

Task B: Complete Exhaust Re-Entrainment Study

1) Define Exhausts and Receptors Test Plan

Develop a plan to model a minimum of 4 exhaust sources, 5 wind speeds and 12 wind directions per source. Determine and document the design criteria applicable for the study. The test plan shall be submitted to the Port Authority for concurrence prior to proceeding with the modeling efforts.

2) Complete Wind Tunnel Test

- Prepare a model to simulate the conditions agreed in the Exhaust and Receptor Test Plan developed under Task 2a.
- Perform re-entrainment tests, including any remedial tests for exhausts that were found to produce unacceptable air quality impacts in the initial scenarios.

Deliverables: Submit initial test report documenting the results of the study; submit draft final report documenting the tests undertaken; incorporate comments and submit final Exhaust Re-Entrainment Report.

Task 6. – Revise Sprinkler and Fire Stand Pipe Loops Design to meet NYCBC 2008 Code: Per PA request, removed from this proposal and included in DDP's proposal for Change Order CO# 08-002 – Task 16.

Task 7. – Expansion of the Hub Fire Alarm System to Retail Spaces:
Under the Preliminary Engineering design and as defined in the Basis of Design Report, the Hub Fire Alarm system would provide a Tenant Interface Box (TIB) to collect basic alarms from each Retail Tenant space. This was the planned architecture in the original WTC Towers. The Retail Tenant would be responsible for the design and maintenance of their own Fire alarm system as it would be separate from the Hub system. Under this design, the Hub Fire Command Station would be notified that an alarm has occurred within the Tenant space but have no visibility of end devices within the Retail Tenant space. This approach would also isolate the Tenant fire alarm from the Hub system to lessen the impact of turnover and renovations in terms of Fire Alarm system maintenance.

World Trade Center Redevelopment, in consultation with Retail and the new Retail Master Manager, is requesting the elimination of the TIB and the extension of the Hub Fire Alarm system so that it has visibility of all tenant devices, which will now be considered part of the Hub Fire Alarm System.

This change requires DDP to revise the current design by eliminating all TIBs on drawings, adding data gathering panels (DGP) as required due to the increase in end devices on the Hub system and updating the Fire Alarm specifications to reflect the new architecture.

Deliverable: Design of contract documents for Hub fire alarm system to retail spaces.

Task 8. – Transfer Structure Re-design:
DDP designed a structure (transfer girders) to transfer loads from the column locations at plaza grade as indicated in the 50% design development submission by Snohetta, the Designer of Record for the Museum Pavilion for the National Memorial (NS11MM). The columns are within the footprint of the Museum Pavilion at approximately EL. 313'0". The transfer girders shall align with the Transit Hub columns to the tracks

below. This shall include Snohetta's redesign and reconfiguration of the Museum Pavilion's "core" and spaces from the plaza level up in the Pavilion so that they will be parallel to the Transit Hub structural framing in the north/south direction.

Deliverable: Design of contract documents for transfer structure.

Task 9. – Memorial Retail Restaurant Design Reimbursement:
A policy review memorandum of justification (PRMJ) will authorize the Executive Director, as delegated to the Director of WTC Construction, to enter into an agreement with the National September 11 Memorial and Museum at the World Trade Center (National Memorial) for design services related to the Retail LCC Proposal, which provides space for a restaurant at level 285 above the PATH Mezzanine level. DDP shall review this Proposal for the Authority.

Deliverable: Technical memorandum on proposed review.

Task 10. – West Bathtub PATH Approaches and Tunnel Lighting and Ventilation for the Memorial/Freedom Tower (INOC 319):
Scope of work to include relocation and/or modification of existing drainage systems to accommodate new footings and caissons for overbuild structures. Proposed areas for overbuild structures are between south end of platforms to South Projection, and between north end of platforms to North Projection.

The required work shall include the following:
Design sprinkler, standpipe fire protection, signal, traction power, security, sanitary, water, ventilation, lighting, communication (including radio antenna, FM-200), blue light (including spot lights on turnouts), smoke exhaust ductwork (based on a CFD study), heat tracing systems. Locate emergency exits and lighting, engineers' telephones, switches. Relocation and/or modification of existing fire standpipes, compressed air, plumbing/fire protection equipment and piping. Prepare and provide clearance diagrams identifying "no clearance zones", riser diagrams for waste, water, vent, sprinkler and fire standpipe systems. Update schedule drawings for drains, plumbing fixtures, sprinkler, standpipe systems. Specify/Modify equipment sizes, sequence of operation and control wiring diagrams.

Work to be in conformance with NFPA 130 requirements. Ancillary areas to be separated from trackways with 2 hour rated construction. Wiring to be in conformance with NEC as well as the NFPA 130. Interface with PATH/HOBAN will be addressed and coordinated with Fire Alarm System in the North and South Projection rooms. Existing North and South Approaches will be reviewed for verification of interferences with the PAC shear walls.

Cost estimating and modification of specifications to be included.

Deliverable: Design of contract documents for Memorial/Freedom Tower. Coordination as detailed above.

Task 11. – Re-coordination with Memorial and Memorial Museum WP #5C:
As directed, HUB design team was requested to re-coordinate with Memorial and Memorial Museum on the location and placement of beam pockets and embedded plates, because of the redesign of their designs. Re-coordination shall also require redesign of wall elevations at locations adjacent to Memorial and Memorial Museum spaces.

Deliverable: Design of wall elevation contract documents.

Task 12. –WP #6C.1 and 10.2 Bulletin# 2 – Revision of Package 6C.1 and 10.2 Bulletin #2 (INOC 339):
The evaluation of design became necessary because of the difficulties welding and enforcing the existing columns and beams. Also the option of dropping columns into the substation became available when the HUB's EDS Room was relocated outside the substation. These work packages are completed and will be re-evaluated/redesigned.

Deliverable: Design of WP 6C.1 and 10.2 Bulletin 2

Task 13. – NYCT 1 Line North of the WTC Hub Underpass/ Impacts to the Hub Project due to 1 Cortlandt Station Project (INOC 346):

Per negotiations, cost and scope for Task 13 related to design revisions to Package 9.X have been transferred from CO-08-002 to CO-08-006 – Continued Package 9.X.

Discussions have been on going with the MTA relative to the coordination of the Cortlandt Program (i.e., fan plant) with other stakeholders and MTA's interest in widening its platform and modifying its entrances. DDP prepared design plans for Package 9X with a placeholder allocation of space to be able to address the MTA needs when it was clear what the direction from MTA would be. This impacts stairs, infrastructure, displacement of adjacent systems, and related ancillary design features.

DDP has been requested by the Authority to continue to participate in on going coordination at the project level to address and resolve details. In several cases, there was a need to identify options to address potential impacts if one or more schemes were presented.

Upon resolution of the configuration, DDP is to be directed to complete the design to address structures, architecture, mechanical, electrical, life safety systems and related engineering design efforts to complete the design in this area. This will require updates and revisions to the Package 9X contract documents.

Modifications on the east side of the Hub Project have necessitated redesign of sub grade and above grade components to address updates to the MTA design efforts on the #1 Line, including vertical circulation, programming adjustments, e.g., access/egress paths and a reconfigured platform. Adjustments were required to previously designed areas, e.g. MEP, structural and architectural disciplines. DDP also revised its plan after revisiting criteria for WTC Security.

Deliverable: Design of contract documents for NYCT 1 Line, per MTA direction, as directed by the Port Authority. Incorporate all revisions into Hub contract documents.

Task 14. – Temporary Bracing – Package 4C:
The temporary underpinning pile bracing design assumed top of slab on grade at elevation 242 and top of excavation at elevation 240. Subsequently, top of slab on grade was required to be lowered to accommodate Hub Mechanical Room, utility tunnel from East to West Bathtubs and NYCT fan room. The resultant additional excavation will need to require modification of pile bracing design. Approximately eight (8) drawings for WP 4C will need to be revised and two (2) new drawings shall be added as an addendum.

Deliverable: Design of temporary bracing contract documents.

Task 15. – WTC Memorial Tree Pits:
Additional tree pits for the Memorial design required modifications to several infrastructure elements to be adjusted to accommodate them, including utilities, HVAC, site work and landscaping at street level and below grade infrastructure. This effort does not include the revision of structural elements as required to accommodate these additional tree pits.

Iterations and revisions were required to be reviewed, assessed and incorporated at each phase of delivery by others. This required DDP to prepare an assessment report, revise preliminary contract documents for affected disciplines, and revise final contract documents.

Deliverable: Design of contract documents to accommodate additional tree pits.

Task 16. – Greenwich/Fulton Streets Intersection elevation:
Planning coordination previously performed identified feasible schemes if this intersection at street level was at Elevation 314 or Elevation 316. This impacts the entrances to the facilities and the details of the Tower design. Upon resolution of this issue and provision of street profiles and curb elevation drawings by the Port Authority, the Authority will direct DDP to incorporate revisions and adjust the design and detailing of the Hub structure, architecture, mechanical, electrical and life safety systems to accommodate the final elevation at this intersection.

The proposed budget is an allowance. Charges shall be incurred up to the proposed budget for this task, as directed by the PA. Work for this task shall be performed only when and as directed by the PA Project Manager or his designee, in writing.
Deliverable: Re-design of intersection elevation contract documents

Task 17. – Silverstein Properties Sub-grade Car Parking:
DDP designed this area under the Authority's direction to consider the locations of the columns to support the transportation hub oculus. Stakeholders have subsequently requested an open space area to allow for maximum space availability for car parking. This has been determined to be structurally infeasible. The result is a constraint to the number of available sub grade car parking spaces, as per the agreements made during the planning process. There will be some limited adjustments to the proposed DDP design that will address the coordination and interface of sub grade infrastructure elements in this area. This effort will include the design revisions required and directed by the Authority based on the review and assessment.

Deliverable: Coordination of sub-grade parking contract documents with Package 9X and other Hub work in Package 20.

Task 18. – Tower 3 Bottom of Footing:
This item requires efforts to resolve to finalize the integrated plans. Currently, a Placeholder has been held in the DDP design per Port Authority direction. However, this shall require resolution and finalization to adjust the infrastructure interfaces as well as the architectural, mechanical, electrical and life safety systems at this portion of the site.

This effort shall include the design revisions required and directed by the Port Authority based on the review and assessment.

Deliverable: Design of Tower 3 bottom of footing contract documents to coordinate with Tower 3 bottom of footings..

Task 19. – East Bathtub Sub Drainage Systems:
The current design provides a stand-alone sub-drainage system with no integration of the Tower systems. The stakeholders have proposed a sub-drainage system that integrates with the Hub sub-drainage system. Resolution shall be required to coordinate the interface and then adjust the design elements to complete this sub-element.

Deliverable: Design of contract documents for coordination/interface with East Bathtub sub-drainage system.

Task 20. – WTC Streets:

The streets design is in Stage II - Preliminary Engineering with an expected completion of approximately mid-year 2008. Design coordination is required and has been ongoing with the various stakeholders including DDP. As the progresses, additional coordination must take place. It is expected to have a stage II set of design documents available for stakeholder use.

Deliverable: Design of contract documents coordinated with Stage II-Preliminary Engineering for WTC Street design.

Task 21. – WTC Site Security: (Per PA request, removed from this Task Order)

Task 22. – Impacts to the Hub Project due to 1 Cortlandt Station Project: (Scope and Design Estimate Included in Task #13 of this Task Order)

Task 23. – Impacts to the Hub Project due to R/W Cortlandt Station's Southeast Entrance:
Modifications on the east side of the Hub Project have necessitated redesign of sub-grade and above grade components to address updates to the MTA design efforts on the R/W Line at the southeast entrance, including vertical circulation, programming adjustments, e.g., access/egress paths and a reconfigured platform. Adjustments were required to previously designed areas, e.g., MEP, structural and architectural disciplines. A revisit of criteria for WTC Security resulted in DDP revising its plan.

Deliverable: DDP to incorporate required revisions to the contract documents.

Task 24. – Impacts to the Hub Project due to PAC/Helix Coordination:
PAC/Helix development is still ongoing and the phasing and final design of the PAC/Helix may necessitate future coordination not accommodated to date. This will not include adjustments to the below as well as above grade and will not required DDP to change MEP, structural and architectural designs and contract documents that interface with the Hub.

Deliverable: DDP shall attend coordination meetings through 9/30/08.

Task 25. – Impacts to Hub Project by Memorial/VOEC Design Changes:
Memorial/VOEC revisions have necessitated adjustments to the below as well as above grade substructure at each stage of development, as updated progress plans have been provided for review. This effort has required DDP to revisit MEP, structural and architectural disciplines and assess the interface with the Hub and revise contract documents. Not included in this task are revisions to contract documents that may result from a change in Spatial Program by Memorial/VOEC (Memorial Pavilion).

Deliverable: DDP to incorporate required coordination into the contract documents.

Task 26. – Impacts to Hub Project by SPI Commercial:
SPI has required several specific changes to address Hub design and operational considerations for Towers #2 and #3. DDP assessed each issue, determined its impact, and developed a plan to accommodate each drawing upon approval of the plan. These changes include the following:

- Tower #2 west lobby @ Elevation 295'3"
- Tower #2 east lobby @ Elevation 306'
- Program shifts by SPI
- Tower #3 Fuel Cell Room

Deliverable: DDP to incorporate these changes in the contract documents.

Task 27. – Tower 2 Vertical Circulation Options [VCE] Options:
Based on a commitment made by the Port Authority, a design change is required to incorporate one pair of non-APTA switch escalators, as indicated from the "kit of parts", i.e., a list of possible vertical circulation elements that can be used to achieve the functional requirements of the vertical circulation, in Tower 2. Indicate the required support space around the escalator reconfiguration (e.g., service corridors, etc.) DDP is to conduct a study and present 3 alternative methods to recapture some of the retail space lost by this reconfiguration.

Deliverable: Report on 3 alternative methods to recapture retail space

Task 28. – Fire Alarm Coordination and Integration with Adjacent Stakeholders
Under the current egress plan, various Stakeholders use a shared path of egress to evacuate below grade program space. These paths of egress have been identified and agreed upon as the Hub's responsibility. For this reason all affected stakeholders sharing this path of egress need to be notified of all fire alarms in any other impacted stakeholder space so that the necessary evacuation notification can occur. This shall require revision to the current notification strategy and an enhancement to the information exchanges with the adjacent facilities. This change shall provide proper NYFD response to the effected underground parcel. As such further investigation and design is required to resolve Fire Alarm design in shared corridors and stairwells and how Fire Alarm notification occurs between adjacent stakeholders under specific conditions. The latter requires more detailed information exchange than initially envisioned.

Expanding the current limited alarm interfaces will provide a clearer response plan both internally and for external responses.

Deliverable: Revised notification strategy and revised design to address requirements.

Task 29. – Readjustment to the Master Power Distribution System
As the site stakeholders are completing design, their power requirements are changing by demand (KW) and/or the point of delivery. The relocation of WTC Facility program space with high electrical demand per square-foot to the southwest corner of the west bathtub required an electrical feed from the nearest Spot Network SN-PS. This creates a domino effect of moving loads from Spot Networks SN-PS to SN-PN and SN-PN to SN-NW to equally distribute loads among the spot networks and MV feeders. This shall be further complicated by undefined load requirements from the PA Parking and Bus Parking spaces. Re-circuiting and rerouting of power feeders will be required.

Deliverable: Adjusted design revising HUB's power distribution.

Task 30. – Design of Retail program within NE quadrant of West Bathtub – Performing Arts Center (PAC) Footprint
WTC Redevelopment has requested the Hub to design its program spaces within the Performing Arts Center footprint and along the eastern end of the West Street Concourse, from Elevation Level +266' through to Elevation Level +285'. Specifications shall be similar to immediately adjacent Retail Program within Tower 1 footprint, along western end of East/West Concourse. The design shall include integration of required Retail egress units into Hub Emergency Egress to grade, through the PAC footprint.

Deliverable: Design contract documents.

Task 31. – PATH Emergency Exhaust Vent at Plaza Southeast Grade – Memorial Plaza South East:
The National September 11 Memorial and Museum at the WTC has requested that the PATH emergency exhaust vent at Plaza southeast grade at Elevation Level 312' [approximate] be reconfigured to an 8' x100' opening, without changing the framing plan at Elevation Level 307'. This can be accomplished if the September 11 Memorial and Museum provide a workable design for a corresponding change in free opening in grade level grating. The purpose is to enable dimensions of the Vent grating to work with the width of the Plaza pavement banding and groundcover beds.

Deliverable: Revise design contract documents.

Task 32. – GSA & PA Car Parking Facilities – West Bathtub/Tower 1 Quadrants:
DDP is being requested to provide design services for GSA & PA Car Parking Facilities. They are to preparing Final Design documents for the car parking Facilities and related Infrastructure in the West Bathtub & Tower 1 Quadrants, complying with the

requirements of WTC Site Master Plan, WTC Site Commercial Design Guidelines, and all other applicable codes and standards. The project scope includes the design of an access ramp off the West Bathtub Vehicular Access, connecting the helix to the parking facility. This task reflects advancement of Final Design from the Extended Preliminary Engineering Level completed under separate Task Order.

Deliverable: Design documents for Car Parking Facilities in the West Bathtub & Tower 1 Quadrants.

Task 33. – MEP coordination drawings for Freedom Tower, Silverstein and WTCRD:
MEP installation work scope is being transferred from Hub to Freedom Tower, Silverstein and WTCRD contractors. In support of this, DDP is being requested to provide marked up drawings for transferring Hub installation scope of work to Freedom Tower, Silverstein, or WTCRD contractors.

Deliverable: Marked up drawings for transferring Hub installation scope of work to Freedom Tower, Silverstein, or WTCRD contractors.

Task 34. – Package 5.c Freedom Tower Shear Wall Design (INOC 323):
The Freedom Tower shear wall was originally designed by the Tower 1 team, and was later removed from the Tower 1 documents after its foundation was built. DDP is being requested to add the design of shear wall between Tower 1 grid line H to grid line G up to level 266 to Package 5.c. to their scope.

Deliverable: Design documents for the shear wall.

Task 35. – Revisions to Package 5.c (INOC 340):
DDP is being requested to update the signed and sealed documents for the north/south shear wall (Package 5.c) and issue an addendum to reflect the reframing of Memorial and Memorial Pavilion structures onto the north/south shear wall. DDP shall also complete revisions to PATH Hall mezzanine roof to support reconfigurations of Memorial trees as requested by the Memorial.

Deliverable: Package 5.c Addendum documents

Task 36. – Feasibility Study of NYTP Room Relocation to Incorporate Retail Family Room Level +296' (Tower 2) (INOC 342):
Retail has expressed the desire to provide improved patron amenities through creation of a "Family Room' suite adjacent to the Retail Toilets. DDP was requested to examine the feasibility of relocating the NYTP Room (UT 400) to allow for the creation of this "Family Room' suite adjacent to the retail toilet rooms.

Deliverable: Feasibility Report

Task 37. – Package 1.k Addendum#1 Four Retail Elevator Cabs in Towers 2, 3 and 4 (INOC 350):
DDP is being requested to address the finalization of SPI cab platform sizes, layouts and details which were completed after the Package 1.k Final Submission on 11/02/2007. DDP is to develop an addendum for Package 1.k to incorporate the final design for four Retail Elevators in Tower 2 (ELEV 23), Tower 3 (ELEV 19 and ELEV 20), and Tower 4 (ELEV 22). Addendum is to include specifications.

Deliverable: Package 1.k Addendum contract documents

~~**Task 38. – Study of North Projection Pier (INOC 349):**~~
~~Package 18.b was scheduled to construct a 4x4 Pier prior to T1 construction. Early construction by T1 is in conflict with existing Package 18.b contract plans. There is a need to identify a solution for the construction of the North Projection pier according to a schedule that supports both the T1 Plaza schedule and the HUB Package 18.b Schedules. DDP is to evaluate alternatives and various temporary support systems and construction methods to determine a recommended course of action~~. Per PA request, work removed from this task order.

Deliverables: ~~Schematic sketches, details and comparison matrix as well as DDP recommendation on alternatives.~~

Task 39. – Fire Load Test – PA-4/5 PATH Car (INOC 347):
Using a proposal received from Hughes Associates for the PA-4/5 Modeling and Analysis, DDP will be directed to develop a proposal for the following:

- Determine the minimum amount of flammable liquid required to cause flashover in a PA-4 car;
- Determine the heat release rate history for a PA-4/5 car that reaches flashover; and
- Using the same amount of flammable liquid, determine the heat release rate history (whether or not it reaches flashover) for a PA-5 car.

Deliverable: Technical memorandum of fire load test review.

Task 40. – Stakeholder Coordination in HUB Design
All stakeholders involved in the project site are not at the same stage of development as the Hub project. To facilitate completion of the Hub design DDP has made several assumptions regarding interfaces with stakeholders outside the Hub project in order to

progress the package to signed and sealed documents. Variances in DDPs assumptions vs. final conditions and designs of the other stakeholders, which are not covered elsewhere in this document, will need to be reconciled and incorporated into the Hub final design. DDP is to proceed with necessary revisions upon concurrence with PA Hub Project Management on direction.

The proposed budget is an allowance. Charges shall be incurred up to the proposed budget for this task, as directed by the PA. Work for this task shall be performed only when and as directed by the PA Project Manager or his designee, in writing.

Deliverables: Contract documents and addenda

Task 41. – Project Management (7/1/07 – 5/31/08):
DDP's Final Design proposal, dated May 2, 2005, identified Management Services for Final Design to end on June 30, 2007. Management services are a time-phased effort. Therefore, an extension in Final Design beyond June 30, 2007 requires additional funds to continue to provide Management Services. Continued Management Services from July 1, 2007 through May 31, 2008. Management Services include the following:

- Project Management
- Project Controls
- Design Management
- Quality Assurance/Quality Control
- Environmental/External Interface

Task 42. – Other Direct Costs (ODC's) (7/1/07 – 5/31/08):
DDP's Final Design proposal, dated May 2, 2005, identified Office Costs paid by the Port Authority for Final Design to end on June 30, 2007. An extension in Final Design beyond June 30, 2007 requires additional funds for Office Costs. Office Costs incurred by the DDP, for occupied space from July 1, 2007 through May 31, 2008. These Office Costs include the following:

- rent plus associated utilities
- office maintenance
- build-out costs
- telecom
- telephone equipment
- equipment rental
- office/computer supplies
- computer equipment
- computer software
- data storage

Task 43. – Project Management (6/1/08 – 9/30/08):

DDP's Final Design proposal, dated May 2, 2005, identified Management Services for Final Design to end on June 30, 2007. Management services are a time-phased effort. Therefore, an extension in Final Design beyond June 30, 2007 requires additional funds to continue to provide Management Services. Continued Management Services from June 1, 2008 through September 30, 2008. Management Services include the following:

- Project Management
- Project Controls
- Design Management
- Quality Assurance/Quality Control
- Environmental/External Interface

Task 44. – Other Direct Costs (ODC's) (6/1/08 – 9/30/08):
DDP's Final Design proposal, dated May 2, 2005, identified Office Costs paid by the Port Authority for Final Design to end on June 30, 2007. An extension in Final Design beyond June 30, 2007 requires additional funds for Office Costs. Office Costs incurred by the DDP, for occupied space from June 1, 2008 through September 30, 2008. These Office Costs include the following:

- rent plus associated utilities
- office maintenance
- build-out costs
- telecom
- telephone equipment
- equipment rental
- office/computer supplies
- computer equipment
- computer software
- data storage

Task 45. – Alternative Analysis for the Merrill Lynch Proposal at 175 Greenwich Street (WTC 3):

Background:
Merrill Lynch (ML) established a programmatic need for trading floor type space on each floor, with a planned occupancy that could begin in January 2013. This would allow for 12,000 ML employees to be housed at WTC Tower 3, consolidating their staff at one building location. The intent is to realize efficient floor plans and improved functionality of the building. This shall include the following approximate space:

- 42,538 SF of executive floor space
- 1,282,624 SF of general office floor space
- 293,100 SF of trading floor space
- 49,100 SF of lobby/mezzanine space
- 164,169 SF of podium amenities
- 45,538 SF of conference client center space
- 65,985 SF of below grade space

- 57,562 SF of MEP space

The purpose of this scope of work is to develop an understanding of what can and cannot be accommodated without significant degradation of the Authority sub-grade requirements for the WTC Transportation Hub. DDP shall analyze impacts to:

- MEP shafts
- MEP fan plant(s)
- Spot net work configurations
- Column Layouts
- Hub service space
- Relocation of Hub mechanical space within WTC Tower 3
- Reconfiguration of mechanical louvers at podium level
- Revised egress requirements
- Revised hardening security requirements
- T3 coordination with MTA Capital Construction (MTACC) on Cortlandt 1 Station
- Impacts to public space circulation

DDP shall review the April 15, 2008 proposal and work weekly with Silverstein Properties (SPI) and ML staff to address issues, as well as WTC Retail Team, and others as needed. Impacts shall be posted as drawing overlays on a weekly basis to share information, as the development of the effort is iterative with the SPI/ML team. This effort impacts all disciplines on the Hub Design Team. It is anticipated that DDP shall meet weekly and continue analysis between May 2008 and September 2008.

Deliverable:

1. Meeting minutes
2. Weekly issues/action report (10 copies black/white)
3. Weekly meeting agenda
4. Weekly drawing posting of impacts and proposed resolution of impacts
5. ~~Estimate of 50% drawings posted weekly~~
6. Draft report of impacts to the Hub Packaging (including what needs to be revised,number and type of sheets impacts and timeline proposed, cost to implement changes, relative impacts to construction, and related impacts to construction cost (10 copies)
7. Final Report (20 copies)
8. Draft report - anticipate preparation by August 30, 2008
9. Final Report - anticipate preparation by September 30, 2008

Downtown Design Partnership
WTC Transportation Hub

DOWNTOWN DESIGN PARTNERSHIP

GRAND SUMMARY
PROFESSIONAL SERVICES
SUPPLEMENTAL AGREEMENT
(REVISED) TASK ORDER #08-002

	Principal		Santiago Calatrava		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTALS	
Average Rate		$413.36		$270.00		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17		
Average Overhead		1.0		2.7		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322		
Average Rate with Overhead		$413.36		$724.09		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		
	Hours	$			Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
1. TASK 1 - Coordination Efforts	-	$0	-	$0	1,000	$202,796	1,000	$154,102	1,000	$108,896	500	$37,209	-	$0	-	$0	3,500	$503,003
Fee 10% (On all Labor, excluding Principals):																		$50,300
Labor Subtotal (Incl. Overhead & Fee):																		$553,303
Other Direct Costs:																		$0
Total Task 1:																		$553,303
2. TASK 2 - Design of First Responder and O&M Radio Systems	-	$0	-	$0	88	$17,846	1,766	$272,145	200	$21,779	672	$50,009	660	$43,515	72	$3,890	3,458	$409,184
Fee 10% (On all Labor, excluding Principals):																		$40,918
Labor Subtotal (Incl. Overhead & Fee):																		$450,103
Other Direct Costs:																		$0
Total Task 2:																		$450,103
3. TASK 3 - Expansion of Hub Security Monitoring and Access Control Systems to include Retail Space	-	$0	-	$0	-	$0	730	$112,495	390	$42,469	-	$0	437	$28,812	-	$0	1,557	$183,776
Fee 10% (On all Labor, excluding Principals):																		$18,378
Labor Subtotal (Incl. Overhead & Fee):																		$202,154
Other Direct Costs:																		$0
Total Task 3:																		$202,154
4. TASK 4 - Exp. of Hub Security Monitoring and Access Control Sys. to the Vehicle Security Center (VSC) and Central Chiller and Refrig. Plant (CCRP)	-	$0	-	$0	-	$0	1,600	$246,564	885	$96,373	-	$0	953	$62,834	-	$0	3,438	$405,770
Fee 10% (On all Labor, excluding Principals):																		$40,577
Labor Subtotal (Incl. Overhead & Fee):																		$446,347
Other Direct Costs:																		$0
Total Task 4:																		$446,347

Note: Cost for this task to be treated as an allowance.

Downtown Design Partnership
WTC Transportation Hub

DOWNTOWN DESIGN PARTNERSHIP

GRAND SUMMARY
PROFESSIONAL SERVICES
SUPPLEMENTAL AGREEMENT
(REVISED) TASK ORDER #08-002

	Principal		Santiago Calatrava	Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTALS	
Average Rate		$413.36	$270.00		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17		
Average Overhead		1.0	2.7		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322		
Average Rate with Overhead		$413.36	$724.09		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		
	Hours	$		Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
5. TASK 5 - RWDI Wind Engineering Services for West Vent Structure, WTC Memorial and Museum	-	$0	-	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0
6. TASK 6 - Revise Sprinkler and Fire Stand Pipe Loops Design to meet NYCBC 2008 Code	-	$0	-	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0
7. TASK 7 - Expansion of the Hub Fire Alarm System to Retail Spaces	-	$0	-	-	$0	200	$40,559	190	$29,279	150	$16,334	240	$17,860	200	$13,186	20	$1,081	1,000	$118,300
8. TASK 8 - Transfer Structure Re-design	-	$0	-	-	$0	820	$166,292	840	$129,446	930	$101,273	840	$62,511	860	$56,702	176	$9,510	4,466	$525,734

Note: PA Specialty Subconsultant Services - Design Estimate based on RWDI Proposal ,dated 8/23/07.

Fee 10% (On all Labor, excluding Principals):	$0
Labor Subtotal (Incl. Overhead & Fee):	$0
Other Direct Costs:	$52,500
Total Task 5:	$52,500

Note: Per PA request, Task 6 - Revise Sprinkler and Fire Stand Pipe Loops Design to Meet NYCBC 2008 Code included in CO#08-002 - Task 16.

Fee 10% (On all Labor, excluding Principals):	$0
Labor Subtotal (Incl. Overhead & Fee):	$0
Other Direct Costs:	$0
Total Task 6:	$0

Fee 10% (On all Labor, excluding Principals):	$11,830
Labor Subtotal (Incl. Overhead & Fee):	$130,130
Other Direct Costs:	$0
Total Task 7:	$130,130

Fee 10% (On all Labor, excluding Principals):	$52,573
Labor Subtotal (Incl. Overhead & Fee):	$578,307
Other Direct Costs:	$0
Total Task 8:	$578,307

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GRAND SUMMARY
PROFESSIONAL SERVICES
SUPPLEMENTAL AGREEMENT
(REVISED) TASK ORDER #08-002

	Principal		Santiago Calatrava		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTALS	
Average Rate		$413.36		$270.00		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17		
Average Overhead		1.0		2.7		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322		
Average Rate with Overhead		$413.36		$724.09		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		
	Hours	$			Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
9. TASK 9 - Memorial Retail Restaurant Design Reimbursement	-	$0	-	$0	150	$30,419	100	$15,410	-	$0	-	$0	-	$0	-	$0	250	$45,830
Fee 10% (On all Labor, excluding Principals):																		$4,583
Labor Subtotal (Incl. Overhead & Fee):																		$50,413
Other Direct Costs:																		$0
Total Task 9:																		$50,413
10. TASK 10 - Tunnel Lighting and Ventilation for the Memorial/Freedom Tower	-	$0	-	$0	297	$60,230	245	$37,755	820	$89,294	120	$8,930	1,015	$66,921	70	$3,782	2,567	$266,914
Fee 10% (On all Labor, excluding Principals):																		$26,691
Labor Subtotal (Incl. Overhead & Fee):																		$293,605
Other Direct Costs:																		$0
Total Task 10:																		$293,605
11. TASK 11 - Re-coordination with Memorial and Memorial Museum WP #5C	-	$0	-	$0	144	$29,203	268	$41,299	204	$22,215	96	$7,144	200	$13,186	-	$0	912	$113,047
Fee 10% (On all Labor, excluding Principals):																		$11,305
Labor Subtotal (Incl. Overhead & Fee):																		$124,352
Other Direct Costs:																		$0
Total Task 11:																		$124,352
12. TASK 12 - WP #6C.1 and 10.2 Bulletin# 2 – Revision of Package 6C.1 and 10.2 Bulletin #2	-	$0	-	$0	810	$164,265	900	$138,692	1,140	$124,141	1,530	$113,859	1,530	$100,877	736	$39,769	6,646	$681,602
Fee 10% (On all Labor, excluding Principals):																		$68,160
Labor Subtotal (Incl. Overhead & Fee):																		$749,762
Other Direct Costs:																		$0
Total Task 12:																		$749,762

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	Principal		Santiago Calatrava		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTALS	
Average Rate		$413.36		$270.00		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17		
Average Overhead		1.0		2.7		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322		
Average Rate with Overhead		$413.36		$724.09		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		
	Hours	$			Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
13. TASK 13 - NYCT 1 Line North of the WTC Hub Underpass	-	$0	-	$0	160	$32,447	355	$54,706	330	$35,936	70	$5,209	350	$23,076	86	$4,647	1,351	$156,022

Note: Per negotiations, Grand Total for Task 13 has been revised to include $200,000 transferred to CO-08-006 - Continued Package 9.X.

Fee 10% (On all Labor, excluding Principals):	$15,602
Labor Subtotal (Incl. Overhead & Fee):	$171,624
Other Direct Costs:	$0
(REVISED) Total Task 13:	$171,624

14. TASK 14 - Temporary Bracing – Package 4C	-	$0	-	$0	100	$20,280	220	$33,903	-	$0	220	$16,372	240	$15,824	-	$0	780	$86,378

Fee 10% (On all Labor, excluding Principals):	$8,638
Labor Subtotal (Incl. Overhead & Fee):	$95,016
Other Direct Costs:	$0
Total Task 14:	$95,016

15. TASK 15 - WTC Memorial Tree Pits	-	$0	-	$0	80	$16,224	80	$12,328	90	$9,801	10	$744	160	$10,549	-	$0	420	$49,646

Fee 10% (On all Labor, excluding Principals):	$4,965
Labor Subtotal (Incl. Overhead & Fee):	$54,610
Other Direct Costs:	$20,000
Total Task 15:	$74,610

16. TASK 16 - Greenwich/Fulton Streets Intersection elevation	-	$0	-	$0	1,300	$263,634	2,000	$308,205	1,800	$196,012	2,650	$197,207	1,750	$115,382	500	$27,017	10,000	$1,107,457

Note: Cost for this task to be treated as an allowance.

Fee 10% (On all Labor, excluding Principals):	$110,746
Labor Subtotal (Incl. Overhead & Fee):	$1,218,202
Other Direct Costs:	$0
Total Task 16:	$1,218,202

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	Principal		Santiago Calatrava		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTALS	
Average Rate		$413.36		$270.00		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17		
Average Overhead		1.0		2.7		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322		
Average Rate with Overhead		$413.36		$724.09		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		
	Hours	$			Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
17. TASK 17 - Silverstein Properties Sub-grade Car Parking	-	$0	-	$0	58	$11,762	108	$16,643	168	$18,294	-	$0	120	$7,912	40	$2,161	494	$56,773
Fee 10% (On all Labor, excluding Principals):																		$5,677
Labor Subtotal (Incl. Overhead & Fee):																		$62,450
Other Direct Costs:																		$0
Total Task 17:																		$62,450
18. TASK 18 - Tower 3 Bottom of Footing	-	$0	-	$0	68	$13,790	172	$26,506	84	$9,147	-	$0	216	$14,241	54	$2,918	594	$66,602
Fee 10% (On all Labor, excluding Principals):																		$6,660
Labor Subtotal (Incl. Overhead & Fee):																		$73,262
Other Direct Costs:																		$0
Total Task 18:																		$73,262
19. TASK 19 - East Bathtub Sub Drainage Systems	-	$0	-	$0	48	$9,734	108	$16,643	104	$11,325	20	$1,488	124	$8,176	32	$1,729	436	$49,095
Fee 10% (On all Labor, excluding Principals):																		$4,910
Labor Subtotal (Incl. Overhead & Fee):																		$54,005
Other Direct Costs:																		$0
Total Task 19:																		$54,005
20. TASK 20 - WTC Streets	-	$0	-	$0	118	$23,930	270	$41,608	348	$37,896	80	$5,953	282	$18,593	70	$3,782	1,168	$131,762
Fee 10% (On all Labor, excluding Principals):																		$13,176
Labor Subtotal (Incl. Overhead & Fee):																		$144,938
Other Direct Costs:																		$0
Total Task 20:																		$144,938

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	Principal		Santiago Calatrava		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTALS	
Average Rate	$413.36		$270.00		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.7		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$724.09		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
	Hours	$			Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
21. TASK 21 - WTC Site Security	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0
22. TASK 22 - Impacts to the Hub Project due to 1 Cortlandt Station Project	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0
23. TASK 23 - Impacts to the Hub Project due to R/W Cortlandt Station's Southeast Entrance	-	$0	-	$0	148	$30,014	200	$30,820	260	$28,313	214	$15,925	100	$6,593	48	$2,594	970	$114,259
24. TASK 24 - Impacts to the Hub Project due to PAC/Helix Coordination	-	$0	-	$0	100	$20,280	100	$15,410	290	$31,580	300	$22,325	-	$0	40	$2,161	830	$91,756

Note: Per PA request, TASK 21 - WTC Site Security removed from this proposal.

Fee 10% (On all Labor, excluding Principals):	$0
Labor Subtotal (Incl. Overhead & Fee):	$0
Other Direct Costs:	$0
Total Task 21:	**$0**

Note: Proposed Design Fee for this task is included in Task 13 - NYCT 1 Line North of the WTC Hub Underpass above.

Fee 10% (On all Labor, excluding Principals):	$0
Labor Subtotal (Incl. Overhead & Fee):	$0
Other Direct Costs:	$0
Total Task 22 (included in Task 13):	**$0**

Fee 10% (On all Labor, excluding Principals):	$11,426
Labor Subtotal (Incl. Overhead & Fee):	$125,685
Other Direct Costs:	$0
Total Task 23:	**$125,685**

Note: Cost for this task includes coordination meetings only through 9/30/08. Effort for design changes are not included.

Fee 10% (On all Labor, excluding Principals):	$9,176
Labor Subtotal (Incl. Overhead & Fee):	$100,932
Other Direct Costs:	$0
Total Task 24:	**$100,932**

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PROFESSIONAL SERVICES
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	Principal		Santiago Calatrava		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTALS	
Average Rate	$413.36		$270.00		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.7		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$724.09		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
	Hours	$			Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
25. TASK 25 - Impacts to Hub Project by Memorial/VOEC Design Changes	-	$0	-	$0	720	$146,013	980	$151,020	850	$92,561	540	$40,186	1,120	$73,844	115	$6,214	4,325	$509,838
26. TASK 26 - Impacts to Hub Project by SPI Commercial	-	$0	-	$0	154	$31,231	360	$55,477	180	$19,601	400	$29,767	220	$14,505	65	$3,512	1,379	$154,093
27. TASK 27 - Tower 2 Vertical Circulation Options [VCE Options]	-	$0	-	$0	-	$0	80	$12,328	80	$8,712	-	$0	-	$0	-	$0	160	$21,040
28. TASK 28 - Fire Alarm Coordination and Integration with Adjacent Stakeholders	-	$0	-	$0	100	$20,280	90	$13,869	80	$8,712	110	$8,186	120	$7,912	-	$0	500	$58,958

Note: Cost for this effort does not include design changes to the spatial program.

Task 25	
Fee 10% (On all Labor, excluding Principals):	$50,984
Labor Subtotal (Incl. Overhead & Fee):	$560,822
Other Direct Costs:	$0
Total Task 25:	**$560,822**
Task 26	
Fee 10% (On all Labor, excluding Principals):	$15,409
Labor Subtotal (Incl. Overhead & Fee):	$169,502
Other Direct Costs:	$0
Total Task 26:	**$169,502**
Task 27	
Fee 10% (On all Labor, excluding Principals):	$2,104
Labor Subtotal (Incl. Overhead & Fee):	$23,144
Other Direct Costs:	$0
Total Task 27:	**$23,144**
Task 28	
Fee 10% (On all Labor, excluding Principals):	$5,896
Labor Subtotal (Incl. Overhead & Fee):	$64,854
Other Direct Costs:	$0
Total Task 28:	**$64,854**

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	Principal		Santiago Calatrava	Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTALS	
Average Rate	$413.36		$270.00	$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.7	2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$724.09	$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
	Hours	$		Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
29. TASK 29 - Readjustment to the Master Power Distribution System	-	$0	-	$0	120	$24,335	320	$49,313	-	$0	-	$0	600	$39,559	60	$3,242	1,100	$116,450
30. TASK 30 - Design of Retail program within NE quadrant of West Bathtub – Performing Arts Center (PAC) Footprint	-	$0	-	$0	318	$64,489	288	$44,381	684	$74,485	456	$33,934	684	$45,098	30	$1,621	2,460	$264,008
31. TASK 31 - PATH Emergency Exhaust Vent at Plaza Southeast Grade – Memorial Plaza South East	-	$0	-	$0	80	$16,224	80	$12,328	-	$0	-	$0	200	$13,186	-	$0	360	$41,738
32. TASK 32 - GSA & PA Car Parking Facilities – West Bathtub/Tower 1 Quadrants	-	$0	-	$0	750	$152,097	1,300	$200,333	1,500	$163,344	650	$48,372	1,000	$65,932	300	$16,210	5,500	$646,287

Fee 10% (On all Labor, excluding Principals):	$11,645
Labor Subtotal (Incl. Overhead & Fee):	$128,095
Other Direct Costs:	$0
Total Task 29:	**$128,095**
Fee 10% (On all Labor, excluding Principals):	$26,401
Labor Subtotal (Incl. Overhead & Fee):	$290,409
Other Direct Costs:	$0
Total Task 30:	**$290,409**
Fee 10% (On all Labor, excluding Principals):	$4,174
Labor Subtotal (Incl. Overhead & Fee):	$45,912
Other Direct Costs:	$0
Total Task 31:	**$45,912**
Fee 10% (On all Labor, excluding Principals):	$64,629
Labor Subtotal (Incl. Overhead & Fee):	$710,916
Other Direct Costs:	$0
Total Task32:	**$710,916**

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	Principal		Santiago Calatrava		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTALS	
Average Rate	$413.36		$270.00		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.7		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$724.09		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
	Hours	$			Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
33. TASK 33 - MEP coordination drawings for Freedom Tower, Silverstein and WTCRD	-	$0	-	$0	35	$7,098	240	$36,985	345	$37,569	340	$25,302	295	$19,450	70	$3,782	1,325	$130,186
Fee 10% (On all Labor, excluding Principals):																		$13,019
Labor Subtotal (Incl. Overhead & Fee):																		$143,204
Other Direct Costs:																		$0
Total Task 33:																		$143,204
34. TASK 34 - Package 5.c Freedom Tower Shear Wall Design	-	$0	-	$0	80	$16,224	156	$24,040	150	$16,334	102	$7,591	128	$8,439	-	$0	616	$72,628
Fee 10% (On all Labor, excluding Principals):																		$7,263
Labor Subtotal (Incl. Overhead & Fee):																		$79,891
Other Direct Costs:																		$0
Total Task 34:																		$79,891
35. TASK 35 - Revisions to Package 5.c	-	$0	-	$0	100	$20,280	190	$29,279	200	$21,779	130	$9,674	160	$10,549	-	$0	780	$91,562
Fee 10% (On all Labor, excluding Principals):																		$9,156
Labor Subtotal (Incl. Overhead & Fee):																		$100,718
Other Direct Costs:																		$0
Total Task 35:																		$100,718
36. TASK 36 - Feasibility Study of NYTP Room Relocation to Incorporate Retail Family Room Level +296' (Tower 2)	-	$0	-	$0	74	$15,007	122	$18,800	90	$9,801	40	$2,977	104	$6,857	42	$2,269	472	$55,711
Fee 10% (On all Labor, excluding Principals):																		$5,571
Labor Subtotal (Incl. Overhead & Fee):																		$61,282
Other Direct Costs:																		$0
Total Task 36:																		$61,282

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	Principal		Santiago Calatrava	Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTALS	
Average Rate	$413.36		$270.00	$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.7	2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$724.09	$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
	Hours	$		Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
37. TASK 37 - Package 1.k Addendum#1 Four Retail Elevator Cabs in Towers 2, 3 and 4	-	$0	-	$0	-	$0	60	$9,246	104	$11,325	-	$0	80	$5,275	-	$0	244	$25,846
38. TASK 38 - Study of North Projection Pier	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0
39. TASK 39 - Fire Load Test – PA-4/5 PATH Car	-	$0	-	$0	24	$4,867	-	$0	-	$0	-	$0	-	$0	-	$0	24	$4,867
40. TASK 40 - Stakeholder Coordination in HUB Design	-	$0	-	$0	5,500	$1,115,376	8,200	$1,263,639	8,300	$903,834	7,700	$573,017	9,300	$613,171	1,000	$54,033	40,000	$4,523,070

37. TASK 37 - Package 1.k Addendum#1 Four Retail Elevator Cabs in Towers 2, 3 and 4

Fee 10% (On all Labor, excluding Principals):	$2,585
Labor Subtotal (Incl. Overhead & Fee):	$28,430
Other Direct Costs:	$21,500
Total Task 37:	**$49,930**

38. TASK 38 - Study of North Projection Pier

Note: Per PA request, TASK 38 - WTC Site Security removed from this proposal.

Fee 10% (On all Labor, excluding Principals):	$0
Labor Subtotal (Incl. Overhead & Fee):	$0
Other Direct Costs:	$0
Total Task 38:	**$0**

39. TASK 39 - Fire Load Test – PA-4/5 PATH Car

Notes: Design estimate includes $21,000 for Hughes Associates, Inc. (ODC).

Fee 10% (On all Labor, excluding Principals):	$487
Labor Subtotal (Incl. Overhead & Fee):	$5,354
Other Direct Costs:	$21,000
Total Task 39:	**$26,354**

40. TASK 40 - Stakeholder Coordination in HUB Design

Note: Cost for this task to be treated as an allowance.

Fee 10% (On all Labor, excluding Principals):	$452,307
Labor Subtotal (Incl. Overhead & Fee):	$4,975,377
Other Direct Costs:	$0
Total Task 40:	**$4,975,377**

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	Principal		Santiago Calatrava		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTALS	
Average Rate		$413.36		$270.00		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17		
Average Overhead		1.0		2.7		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322		
Average Rate with Overhead		$413.36		$724.09		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		
	Hours	$			Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
41. TASK 41 - Proj. Management, Proj. Controls, QA/QC (7/1/07 - 5/31/08)	-	$0	780	$564,787	3,000	$608,387	3,000	$462,307	4,600	$500,920	2,700	$200,928	-	$0	10,340	$558,705	24,420	$2,896,034
42. TASK 42 - ODC's (7/1/07 - 5/31/08)	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0
43. TASK 43 - Proj. Management, Proj. Controls, QA/QC (6/1/08 - 9/30/08)	-	$0	270	$195,503	1,100	$223,075	1,200	$184,923	1,920	$209,080	1,820	$135,440	-	$0	3,200	$172,907	9,510	$1,120,928
44. TASK 44 - ODC's (6/1/08 - 9/30/08)	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0

Task 41	
Fee 10% (On all Labor, excluding Principals):	$289,603
Labor Subtotal (Incl. Overhead & Fee):	$3,185,637
Other Direct Costs:	$0
Total Task 41:	**$3,185,637**
Task 42	
Fee 10% (On all Labor, excluding Principals):	$0
Labor Subtotal (Incl. Overhead & Fee):	$0
Other Direct Costs:	$2,500,176
Total Task 42:	**$2,500,176**
Task 43	
Fee 10% (On all Labor, excluding Principals):	$112,093
Labor Subtotal (Incl. Overhead & Fee):	$1,233,021
Other Direct Costs:	$0
Total Task 43:	**$1,233,021**
Task 44	
Fee 10% (On all Labor, excluding Principals):	$0
Labor Subtotal (Incl. Overhead & Fee):	$0
Other Direct Costs:	$979,754
Total Task 44:	**$979,754**

Downtown Design Partnership
WTC Transportation Hub

DOWNTOWN DESIGN PARTNERSHIP

GRAND SUMMARY
PROFESSIONAL SERVICES
SUPPLEMENTAL AGREEMENT
(REVISED) TASK ORDER #08-002

	Principal		Santiago Calatrava		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTALS	
Average Rate		$413.36		$270.00		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17		
Average Overhead		1.0		2.7		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322		
Average Rate with Overhead		$413.36		$724.09		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		
	Hours	$			Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
45. TASK 45 - Alternative Ansisysi for the Merrill Lynch Proposal at 175 Greewich Street (WTC Tower 3)	-	$0	-	$0	200	$40,559	590	$90,920	520	$56,626	300	$22,325	200	$13,186	80	$4,323	1,890	$227,940
TOTAL PA TO #08-002	-	$0	1,050	$760,290	18,044	$3,659,245	28,508	$4,393,148	28,796	$3,135,761	22,850	$1,700,446	23,408	$1,643,345	17,246	$931,869	139,902	$16,124,094

Fee 10% (On all Labor, excluding Principals):	$22,794
Labor Subtotal (Incl. Overhead & Fee):	$250,734
Other Direct Costs:	$0
Total Task 45:	**$250,734**

Fee 10% (On all Labor, excluding Principals):	$1,612,409
Subtotal Labor (Incl. Overhead & Fee):	$17,736,503
Subtotal Other Direct Costs :	$3,594,930
(REVISED) Grand Total PA TO #08-002 :	**$21,331,433**

	Period Covering 7/1/07 to 5/31/08
	Proposal Cost Breakdown
	TO-08-002 Task 42
Reproduction	$461,500
Mailing, Delivery & Phone Calls	$19,500
Per Diem Subconsultants	$487,500
Travel and Lodging	$481,000
Presentation and Graphics	$13,000
Office Costs	$1,037,676
	$2,500,176

	Period Covering 6/1/08 to 9/30/08
	Proposal Cost Breakdown
	TO-08-002 Task 44
Reproduction	$182,000
Mailing, Delivery & Phone Calls	$7,000
Per Diem Subconsultants	$189,000
Travel and Lodging	$168,000
Presentation and Graphics	$7,000
Office Costs	$426,754
	$979,754

Totals ODCs - TO-08-002 :	**$3,479,930**

SUPPLEMENTAL AGREEMENT
TASK ORDER # 08-002
TASK 1 - Coordination Efforts

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
I. TASK 1	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A.	-	$0	1,000	$202,796	1,000	$154,102	1,000	$108,896	500	$37,209	-	$0	-	$0	3,500	$503,003
															-	$0
Labor & Overhead:	-	$0	1,000	$202,796	1,000	$154,102	1,000	$108,896	500	$37,209	-	$0	-	$0	3,500	$503,003

Fee 10% (On all Labor, excluding Principals):	**$50,300**
Total Labor Cost:	**$553,303**
Other Direct Costs:	
Grand Total Task 1:	**$553,303**

Task 1
Breakdown by Staff Classification

I. Task 1

A. Meetings

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	1	x	0.0	x	0	=	0
Arch/Eng A	4	x	10.4	x	24	=	1,000
Arch/Eng B	4	x	10.4	x	24	=	1,000
Arch/Eng C	1	x	41.7	x	24	=	1,000
Arch/Eng D	1	x	20.8	x	24	=	500
CADD	1	x	0.0	x	24	=	0
Technical Assistant	1	x	0.0	x	24	=	0
							3,500

SUPPLEMENTAL AGREEMENT
TASK ORDER # 08-002
TASK 2 - Design of First Responder and O&M Radio Systems

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate		$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17		
Average Overhead		1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322		
Average Rate with Overhead		$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		
I. TASK 2	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A.	-	$0	88	$17,846	1,766	$272,145	200	$21,779	672	$50,009	660	$43,515	72	$3,890	3,458	$409,184
Labor & Overhead:	-	$0	88	$17,846	1,766	$272,145	200	$21,779	672	$50,009	660	$43,515	72	$3,890	3,458	$409,184

Fee 10% (On all Labor, excluding Principals):	**$40,918**
Total Labor Cost:	**$450,103**
Other Direct Costs:	
Grand Total Task 2:	**$450,103**

Task 2
Breakdown by Staff Classification

I. Task 2

A.

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	0	=	0
Arch/Eng A	1	x	3.7	x	24	=	88
Arch/Eng B	3	x	24.5	x	24	=	1,766
Arch/Eng C	1	x	8.3	x	24	=	200
Arch/Eng D	2	x	14.0	x	24	=	672
CADD	2	x	13.8	x	24	=	660
Technical Assistant	1	x	3.0	x	24	=	72
							3,458

SUPPLEMENTAL AGREEMENT
TASK ORDER # 08-002
TASK 3 - Expansion of Hub Security Monitoring and Access Control Systems to include Retail Space

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate		$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17		
Average Overhead		1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322		
Average Rate with Overhead		$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		
I. TASK 3	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A.	-	$0	-	$0	730	$112,495	390	$42,469	-	$0	437	$28,812	-	$0	1,557	$183,776
Labor & Overhead:	-	$0	-	$0	730	$112,495	390	$42,469	-	$0	437	$28,812	-	$0	1,557	$183,776

Fee 10% (On all Labor, excluding Principals):	**$18,378**
Total Labor Cost:	**$202,154**
Other Direct Costs:	
Grand Total Task 3:	**$202,154**

Task 3
Breakdown by Staff Classification

I. Task 3

A.

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	0	=	0
Arch/Eng A	1	x	0.0	x	16	=	0
Arch/Eng B	3	x	15.2	x	16	=	730
Arch/Eng C	1	x	24.4	x	16	=	390
Arch/Eng D	1	x	0.0	x	16	=	0
CADD	2	x	13.7	x	16	=	437
Technical Assistant	1	x	0.0	x	16	=	0
							1,557

SUPPLEMENTAL AGREEMENT
TASK ORDER # 08-002
TASK 4 - Exp. of Hub Security Monitoring and Access Control Sys. to the Vehicle Security Center (VSC) and Central Chiller and Refrig. Plant (CCRP)

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTALS	
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
I. TASK 4	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A.	-	$0	-	$0	1,600	$246,564	885	$96,373	-	$0	953	$62,834	-	$0	3,438	$405,770
Labor & Overhead:	-	$0	-	$0	1,600	$246,564	885	$96,373	-	$0	953	$62,834	-	$0	3,438	$405,770

Fee 10% (On all Labor, excluding Principals):	**$40,577**
Total Labor Cost:	**$446,347**
Other Direct Costs:	
Grand Total Task 4:	**$446,347**

Task 4
Breakdown by Staff Classification

I. Task 4

A.

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	0	=	0
Arch/Eng A	4	x	0.0	x	24	=	0
Arch/Eng B	1	x	66.7	x	24	=	1,600
Arch/Eng C	1	x	36.9	x	24	=	885
Arch/Eng D	1	x	0.0	x	24	=	0
CADD	2	x	19.9	x	24	=	953
Technical Assistant	1	x	0.0	x	24	=	0
							3,438

SUPPLEMENTAL AGREEMENT
TASK ORDER # 08-002
TASK 5 - RWDI Wind Engineering Services for West Vent Structure, WTC Memorial and Museum

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
I. TASK 5	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A.	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0
Labor & Overhead:	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0

Fee 10% (On all Labor, excluding Principals):	$0
Total Labor Cost:	$0
Other Direct Costs:	$52,500
Grand Total Task 5:	$52,500

Note: PA Specialty Subconsultant Services - Design Estimate based on RWDI's Proposal, dated 8/23/07, with an escalation of 5% for 2008.

Task 5
Breakdown by Staff Classification

I. Task 5

A.

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	0	=	0
Arch/Eng A	0	x	0.0	x	0	=	0
Arch/Eng B	0	x	0.0	x	0	=	0
Arch/Eng C	0	x	0.0	x	0	=	0
Arch/Eng D	0	x	0.0	x	0	=	0
CADD	0	x	0.0	x	0	=	0
Technical Assistant	0	x	0.0	x	0	=	0
							0

Note: PA Specialty Subconsultant Services - Design Estimate based on RWDI Proposal ,dated 8/23/07.

SUPPLEMENTAL AGREEMENT
TASK ORDER # 08-002
TASK 6 - Revise Sprinkler and Fire Stand Pipe Loops Design to meet NYCBC 2008 Code

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate		$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17		
Average Overhead		1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322		
Average Rate with Overhead		$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		
I. TASK 6	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A.	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0
Labor & Overhead:	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0

Fee 10% (On all Labor, excluding Principals): $0

Total Labor Cost: $0

Note: Per PA request, Task 6 - Revise Sprinkler and Fire Stand Pipe Loops Design to Meet NYCBC 2008 Code included in CO#08-002.

Other Direct Costs:

Grand Total Task 6: $0

Task 6
Breakdown by Staff Classification

I. Task 6

A.

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	0	=	0
Arch/Eng A	0	x	0.0	x	0	=	0
Arch/Eng B	0	x	0.0	x	0	=	0
Arch/Eng C	0	x	0.0	x	0	=	0
Arch/Eng D	0	x	0.0	x	0	=	0
CADD	0	x	0.0	x	0	=	0
Technical Assistant	0	x	0.0	x	0	=	0
							0

Note: Per PA request, Task 6 - Revise Sprinkler and Fire Stand Pipe Loops Design to Meet NYCBC 2008 Code included in CO#08-002.

SUPPLEMENTAL AGREEMENT
TASK ORDER # 08-002
TASK 7 - Expansion of the Hub Fire Alarm System to Retail Spaces

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate		$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17		
Average Overhead		1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322		
Average Rate with Overhead		$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		
I. TASK 7	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A.	-	$0	200	$40,559	190	$29,279	150	$16,334	240	$17,860	200	$13,186	20	$1,081	1,000	$118,300
Labor & Overhead:	-	$0	200	$40,559	190	$29,279	150	$16,334	240	$17,860	200	$13,186	20	$1,081	1,000	$118,300

Fee 10% (On all Labor, excluding Principals):	**$11,830**
Total Labor Cost:	**$130,130**
Other Direct Costs:	
Grand Total Task 7:	**$130,130**

Task 7
Breakdown by Staff Classification

I. Task 7

A.

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	0	=	0
Arch/Eng A	4	x	2.1	x	24	=	200
Arch/Eng B	1	x	7.9	x	24	=	190
Arch/Eng C	5	x	1.3	x	24	=	150
Arch/Eng D	1	x	10.0	x	24	=	240
CADD	3	x	2.8	x	24	=	200
Technical Assistant	1	x	0.8	x	24	=	20
							1,000

SUPPLEMENTAL AGREEMENT
TASK ORDER # 08-002
TASK 8 - Transfer Structure Re-design

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant			
Average Rate		$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17		
Average Overhead		1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322		
Average Rate with Overhead		$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03	TOTAL	
I. TASK 8	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A.	-	$0	820	$166,292	840	$129,446	930	$101,273	840	$62,511	860	$56,702	176	$9,510	4,466	$525,734
Labor & Overhead:	-	$0	820	$166,292	840	$129,446	930	$101,273	840	$62,511	860	$56,702	176	$9,510	4,466	$525,734

Fee 10% (On all Labor, excluding Principals):	**$52,573**
Total Labor Cost:	**$578,307**
Other Direct Costs:	
Grand Total Task 8:	**$578,307**

Task 8
Breakdown by Staff Classification

I. Task 8

A.

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	0	=	0
Arch/Eng A	3	x	22.8	x	12	=	820
Arch/Eng B	3	x	23.3	x	12	=	840
Arch/Eng C	3	x	25.8	x	12	=	930
Arch/Eng D	3	x	23.3	x	12	=	840
CADD	3	x	23.9	x	12	=	860
Technical Assistant	1	x	14.7	x	12	=	176
							4,466

SUPPLEMENTAL AGREEMENT
TASK ORDER # 08-002
TASK 9 - Memorial Retail Restaurant Design Reimbursement

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate		$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17		
Average Overhead		1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322		
Average Rate with Overhead		$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		
I. TASK 9	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A.	-	$0	150	$30,419	100	$15,410	-	$0	-	$0	-	$0	-	$0	250	$45,830
Labor & Overhead:	-	$0	150	$30,419	100	$15,410	-	$0	-	$0	-	$0	-	$0	250	$45,830

Fee 10% (On all Labor, excluding Principals):	**$4,583**
Total Labor Cost:	**$50,413**
Other Direct Costs:	
Grand Total Task 9:	**$50,413**

Task 9
Breakdown by Staff Classification

I. Task 9

A.

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	0	=	0
Arch/Eng A	2	x	12.5	x	6	=	150
Arch/Eng B	1	x	16.7	x	6	=	100
Arch/Eng C	1	x	0.0	x	6	=	0
Arch/Eng D	1	x	0.0	x	6	=	0
CADD	1	x	0.0	x	6	=	0
Technical Assistant	1	x	0.0	x	6	=	0
							250

SUPPLEMENTAL AGREEMENT
TASK ORDER # 08-002
TASK 10 - Tunnel Lighting and Ventilation for the Memorial/Freedom Tower

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate		$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17		
Average Overhead		1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322		
Average Rate with Overhead		$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		
I. TASK 10	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A.	-	$0	297	$60,230	245	$37,755	820	$89,294	120	$8,930	1,015	$66,921	70	$3,782	2,567	$266,914
Labor & Overhead:	-	$0	297	$60,230	245	$37,755	820	$89,294	120	$8,930	1,015	$66,921	70	$3,782	2,567	$266,914

Fee 10% (On all Labor, excluding Principals):	**$26,691**
Total Labor Cost:	**$293,605**
Other Direct Costs:	
Grand Total Task 10:	**$293,605**

Task 10
Breakdown by Staff Classification

I. Task 10

A.

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	0	=	0
Arch/Eng A	1	x	14.9	x	20	=	297
Arch/Eng B	1	x	12.3	x	20	=	245
Arch/Eng C	2	x	20.5	x	20	=	820
Arch/Eng D	1	x	6.0	x	20	=	120
CADD	2	x	25.4	x	20	=	1,015
Technical Assistant	1	x	3.5	x	20	=	70
							2,567

SUPPLEMENTAL AGREEMENT
TASK ORDER # 08-002
TASK 11 - Re-coordination with Memorial and Memorial Museum WP #5C

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate		$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17		
Average Overhead		1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322		
Average Rate with Overhead		$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		
I. TASK 11	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A.	-	$0	144	$29,203	268	$41,299	204	$22,215	96	$7,144	200	$13,186	-	$0	912	$113,047
Labor & Overhead:	-	$0	144	$29,203	268	$41,299	204	$22,215	96	$7,144	200	$13,186	-	$0	912	$113,047

Fee 10% (On all Labor, excluding Principals):	**$11,305**
Total Labor Cost:	**$124,352**
Other Direct Costs:	
Grand Total Task 11:	**$124,352**

Task 11
Breakdown by Staff Classification

I. Task 11

A.

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	0	=	0
Arch/Eng A	1	x	18.0	x	8	=	144
Arch/Eng B	2	x	16.8	x	8	=	268
Arch/Eng C	2	x	12.8	x	8	=	204
Arch/Eng D	1	x	12.0	x	8	=	96
CADD	2	x	12.5	x	8	=	200
Technical Assistant	1	x	0.0	x	8	=	0
							912

SUPPLEMENTAL AGREEMENT
TASK ORDER # 08-002
TASK 12 - WP #6C.1 and 10.2 Bulletin# 2 – Revision of Package 6C.1 and 10.2 Bulletin #2

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate		$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17		
Average Overhead		1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322		
Average Rate with Overhead		$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		
I. TASK 12	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A.	-	$0	810	$164,265	900	$138,692	1,140	$124,141	1,530	$113,859	1,530	$100,877	736	$39,769	6,646	$681,602
Labor & Overhead:	-	$0	810	$164,265	900	$138,692	1,140	$124,141	1,530	$113,859	1,530	$100,877	736	$39,769	6,646	$681,602

Fee 10% (On all Labor, excluding Principals):	**$68,160**
Total Labor Cost:	**$749,762**
Other Direct Costs:	
Grand Total Task 12:	**$749,762**

Note: Scope and design fee included per PA request.

Task 12
Breakdown by Staff Classification

I. Task 12

A.

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	0	=	0
Arch/Eng A	3	x	13.5	x	20	=	810
Arch/Eng B	3	x	15.0	x	20	=	900
Arch/Eng C	4	x	14.3	x	20	=	1,140
Arch/Eng D	4	x	19.1	x	20	=	1,530
CADD	4	x	19.1	x	20	=	1,530
Technical Assistant	3	x	12.3	x	20	=	736
							6,646

SUPPLEMENTAL AGREEMENT
TASK ORDER # 08-002
(REVISED) TASK 13 - NYCT 1 Line North of the WTC Hub Underpass

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant			
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		TOTAL	
I. TASK 13	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A.	-	$0	160	$32,447	355	$54,706	330	$35,936	70	$5,209	350	$23,076	86	$4,647	1,351	$156,022
Labor & Overhead:	-	$0	160	$32,447	355	$54,706	330	$35,936	70	$5,209	350	$23,076	86	$4,647	1,351	$156,022

Fee 10% (On all Labor, excluding Principals):	**$15,602**
Total Labor Cost:	**$171,624**
Other Direct Costs:	
(REVISED) Grand Total Task 13:	**$171,624**

Note:

Per negotiations, Grand Total for Task 13 has been revised to include $200,000 transferred to CO-08-006 - Continued Package 9.X.

Task 13
Breakdown by Staff Classification

I. Task 13

A.

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	0	=	0
Arch/Eng A	1	x	6.7	x	24	=	160
Arch/Eng B	2	x	7.4	x	24	=	355
Arch/Eng C	2	x	6.9	x	24	=	330
Arch/Eng D	1	x	2.9	x	24	=	70
CADD	2	x	7.3	x	24	=	350
Technical Assistant	1	x	3.6	x	24	=	86
							1,351

SUPPLEMENTAL AGREEMENT
TASK ORDER # 08-002
TASK 14 - Temporary Bracing – Package 4C

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
I. TASK 14	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A.	-	$0	100	$20,280	220	$33,903	-	$0	220	$16,372	240	$15,824	-	$0	780	$86,378
Labor & Overhead:	-	$0	100	$20,280	220	$33,903	-	$0	220	$16,372	240	$15,824	-	$0	780	$86,378

Fee 10% (On all Labor, excluding Principals):	**$8,638**
Total Labor Cost:	**$95,016**
Other Direct Costs:	
Grand Total Task 14:	**$95,016**

Task 14
Breakdown by Staff Classification

I. Task 14

A.

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	0	=	0
Arch/Eng A	1	x	8.3	x	12	=	100
Arch/Eng B	2	x	9.2	x	12	=	220
Arch/Eng C	1	x	0.0	x	12	=	0
Arch/Eng D	2	x	9.2	x	12	=	220
CADD	2	x	10.0	x	12	=	240
Technical Assistant	1	x	0.0	x	12	=	0
							780

SUPPLEMENTAL AGREEMENT
TASK ORDER # 08-002
TASK 15 - WTC Memorial Tree Pits

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant			
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		TOTAL	
I. TASK 15	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A.	-	$0	80	$16,224	80	$12,328	90	$9,801	10	$744	160	$10,549	-	$0	420	$49,646
Labor & Overhead:	-	$0	80	$16,224	80	$12,328	90	$9,801	10	$744	160	$10,549	-	$0	420	$49,646

Fee 10% (On all Labor, excluding Principals):	**$4,965**
Total Labor Cost:	**$54,610**
Other Direct Costs:	**$20,000**
Grand Total Task 15:	**$74,610**

Notes:

Design cost includes $20, 000 for waterproofing subconsultant (per diem).

Task 15
Breakdown by Staff Classification

I. Task 15

A.

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	0	=	0
Arch/Eng A	1	x	10.0	x	8	=	80
Arch/Eng B	2	x	5.0	x	8	=	80
Arch/Eng C	1	x	11.3	x	8	=	90
Arch/Eng D	1	x	1.3	x	8	=	10
CADD	1	x	20.0	x	8	=	160
Technical Assistant	1	x	0.0	x	8	=	0
							420

SUPPLEMENTAL AGREEMENT
TASK ORDER # 08-002
TASK 16 - Greenwich/Fulton Streets Intersection elevation

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant			
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		TOTALS	
I. TASK 16	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A.	-	$0	1,300	$263,634	2,000	$308,205	1,800	$196,012	2,650	$197,207	1,750	$115,382	500	$27,017	10,000	$1,107,457
Labor & Overhead:	-	$0	1,300	$263,634	2,000	$308,205	1,800	$196,012	2,650	$197,207	1,750	$115,382	500	$27,017	10,000	$1,107,457

Fee 10% (On all Labor, excluding Principals):	**$110,746**
Total Labor Cost:	**$1,218,202**
Other Direct Costs:	
Grand Total Task 16:	**$1,218,202**

Note: Cost for this task to be treated as an allowance.

Task 16
Breakdown by Staff Classification

I. Task 16

A.

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	0	=	0
Arch/Eng A	3	x	18.1	x	24	=	1,300
Arch/Eng B	5	x	16.7	x	24	=	2,000
Arch/Eng C	4	x	18.8	x	24	=	1,800
Arch/Eng D	6	x	18.4	x	24	=	2,650
CADD	4	x	18.2	x	24	=	1,750
Technical Assistant	2	x	10.4	x	24	=	500
							10,000

Note: Cost for this task to be treated as an allowance.

SUPPLEMENTAL AGREEMENT
TASK ORDER # 08-002
TASK 17 - Silverstein Properties Sub-grade Car Parking

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate		$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17		
Average Overhead		1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322		
Average Rate with Overhead		$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		
I. TASK 17	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A.	-	$0	58	$11,762	108	$16,643	168	$18,294	-	$0	120	$7,912	40	$2,161	494	$56,773
Labor & Overhead:	-	$0	58	$11,762	108	$16,643	168	$18,294	-	$0	120	$7,912	40	$2,161	494	$56,773

Fee 10% (On all Labor, excluding Principals):	**$5,677**
Total Labor Cost:	**$62,450**
Other Direct Costs:	
Grand Total Task 17:	**$62,450**

Task 17
Breakdown by Staff Classification

I. Task 17

A.

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	0	=	0
Arch/Eng A	1	x	3.6	x	16	=	58
Arch/Eng B	1	x	6.8	x	16	=	108
Arch/Eng C	1	x	10.5	x	16	=	168
Arch/Eng D	1	x	0.0	x	16	=	0
CADD	1	x	7.5	x	16	=	120
Technical Assistant	1	x	2.5	x	16	=	40
							494

SUPPLEMENTAL AGREEMENT
TASK ORDER # 08-002
TASK 18 - Tower 3 Bottom of Footing

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate		$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17		
Average Overhead		1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322		
Average Rate with Overhead		$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		
I. TASK 18	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A.	-	$0	68	$13,790	172	$26,506	84	$9,147	-	$0	216	$14,241	54	$2,918	594	$66,602
Labor & Overhead:	-	$0	68	$13,790	172	$26,506	84	$9,147	-	$0	216	$14,241	54	$2,918	594	$66,602

Fee 10% (On all Labor, excluding Principals):	**$6,660**
Total Labor Cost:	**$73,262**
Other Direct Costs:	
Grand Total Task 18:	**$73,262**

Task 18
Breakdown by Staff Classification

I. Task 18

A.

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	0	=	0
Arch/Eng A	1	x	8.5	x	8	=	68
Arch/Eng B	2	x	10.8	x	8	=	172
Arch/Eng C	1	x	10.5	x	8	=	84
Arch/Eng D	1	x	0.0	x	8	=	0
CADD	2	x	13.5	x	8	=	216
Technical Assistant	1	x	6.8	x	8	=	54
							594

SUPPLEMENTAL AGREEMENT
TASK ORDER # 08-002
TASK 19 - East Bathtub Sub Drainage Systems

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
I. TASK 19	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A.	-	$0	48	$9,734	108	$16,643	104	$11,325	20	$1,488	124	$8,176	32	$1,729	436	$49,095
Labor & Overhead:	-	$0	48	$9,734	108	$16,643	104	$11,325	20	$1,488	124	$8,176	32	$1,729	436	$49,095

Fee 10% (On all Labor, excluding Principals):	$4,910
Total Labor Cost:	$54,005
Other Direct Costs:	
Grand Total Task 19:	$54,005

Task 19
Breakdown by Staff Classification

I. Task 19

A.

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	0	=	0
Arch/Eng A	1	x	4.8	x	10	=	48
Arch/Eng B	1	x	10.8	x	10	=	108
Arch/Eng C	1	x	10.4	x	10	=	104
Arch/Eng D	1	x	2.0	x	10	=	20
CADD	1	x	12.4	x	10	=	124
Technical Assistant	1	x	3.2	x	10	=	32
							436

SUPPLEMENTAL AGREEMENT
TASK ORDER # 08-002
TASK 20 - WTC Streets

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant			
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		TOTAL	
I. TASK 20	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A.	-	$0	118	$23,930	270	$41,608	348	$37,896	80	$5,953	282	$18,593	70	$3,782	1,168	$131,762
Labor & Overhead:	-	$0	118	$23,930	270	$41,608	348	$37,896	80	$5,953	282	$18,593	70	$3,782	1,168	$131,762

Fee 10% (On all Labor, excluding Principals):	**$13,176**
Total Labor Cost:	**$144,938**
Other Direct Costs:	
Grand Total Task 20:	**$144,938**

Task 20
Breakdown by Staff Classification

I. Task 20

A.

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	0	=	0
Arch/Eng A	1	x	11.8	x	10	=	118
Arch/Eng B	2	x	13.5	x	10	=	270
Arch/Eng C	3	x	11.6	x	10	=	348
Arch/Eng D	1	x	8.0	x	10	=	80
CADD	2	x	14.1	x	10	=	282
Technical Assistant	1	x	7.0	x	10	=	70
							1,168

SUPPLEMENTAL AGREEMENT
TASK ORDER # 08-002
TASK 21 - WTC Site Security

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
I. TASK 21	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A.	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0
Labor & Overhead:	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0

Fee 10% (On all Labor, excluding Principals):	$0
Total Labor Cost:	$0
Other Direct Costs:	
Grand Total Task 21:	$0

Note: Per PA request, TASK 21 - WTC Site Security removed from this proposal.

Task 21
Breakdown by Staff Classification
(Per PA Request, Removed from this Proposal)

I. Task 21

A.

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	0	=	0
Arch/Eng A	0	x	0.0	x	0	=	0
Arch/Eng B	0	x	0.0	x	0	=	0
Arch/Eng C	0	x	0.0	x	0	=	0
Arch/Eng D	0	x	0.0	x	0	=	0
CADD	0	x	0.0	x	0	=	0
Technical Assistant	0	x	0.0	x	0	=	0
							0

Note: Per PA request, TASK 21 - WTC Site Security removed from this proposal.

SUPPLEMENTAL AGREEMENT
TASK ORDER # 08-002
TASK 22 - Impacts to the Hub Project due to 1 Cortlandt Station Project

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate		$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17		
Average Overhead		1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322		
Average Rate with Overhead		$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		
I. TASK 22	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A.	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0
Labor & Overhead:	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0

Fee 10% (On all Labor, excluding Principals): $0

Total Labor Cost: $0

Note: Proposed Design Fee for this task is included in Task 13 - NYCT 1 Line North of the WTC Hub Underpass.

Other Direct Costs:

Grand Total Task 22 (Design Cost Included in Task 13 of this Proposal) : $0

Task 22
Breakdown by Staff Classification
(Design Cost Included in Task 13 of this Proposal)

I. Task 15

A.

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	0	=	0
Arch/Eng A	0	x	0	x	0	=	0
Arch/Eng B	0	x	0	x	0	=	0
Arch/Eng C	0	x	0	x	0	=	0
Arch/Eng D	0	x	0	x	0	=	0
CADD	0	x	0	x	0	=	0
Technical Assistant	0	x	0	x	0	=	0
							0

Note: Proposed Design Fee for this task is included in Task 13 - NYCT 1 Line North of the WTC Hub Underpass.

SUPPLEMENTAL AGREEMENT
TASK ORDER # 08-002
TASK 23 - Impacts to the Hub Project due to R/W Cortlandt Station's Southeast Entrance

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate		$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17		
Average Overhead		1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322		
Average Rate with Overhead		$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		
I. TASK 23	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A.	-	$0	148	$30,014	200	$30,820	260	$28,313	214	$15,925	100	$6,593	48	$2,594	970	$114,259
Labor & Overhead:	-	$0	148	$30,014	200	$30,820	260	$28,313	214	$15,925	100	$6,593	48	$2,594	970	$114,259

Fee 10% (On all Labor, excluding Principals):	**$11,426**
Total Labor Cost:	**$125,685**
Other Direct Costs:	
Grand Total Task 23:	**$125,685**

Task 23
Breakdown by Staff Classification

I. Task 23

A.

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	0	=	0
Arch/Eng A	1	x	12.3	x	12	=	148
Arch/Eng B	2	x	8.3	x	12	=	200
Arch/Eng C	2	x	10.8	x	12	=	260
Arch/Eng D	2	x	8.9	x	12	=	214
CADD	1	x	8.3	x	12	=	100
Technical Assistant	1	x	4.0	x	12	=	48
							970

SUPPLEMENTAL AGREEMENT
TASK ORDER # 08-002
TASK 24 - Impacts to the Hub Project due to PAC/Helix Coordination

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate		$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17		
Average Overhead		1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322		
Average Rate with Overhead		$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		
I. TASK 24	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A.	-	$0	100	$20,280	100	$15,410	290	$31,580	300	$22,325	-	$0	40	$2,161	830	$91,756
Labor & Overhead:	-	$0	100	$20,280	100	$15,410	290	$31,580	300	$22,325	-	$0	40	$2,161	830	$91,756

Fee 10% (On all Labor, excluding Principals):	**$9,176**
Total Labor Cost:	**$100,932**
Other Direct Costs:	
Grand Total Task 24:	**$100,932**

Task 24
Breakdown by Staff Classification

I. Task 24

A.

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	0	=	0
Arch/Eng A	2	x	1.9	x	26	=	100
Arch/Eng B	0	x	0.0	x	0	=	100
Arch/Eng C	0	x	0.0	x	0	=	290
Arch/Eng D	0	x	0.0	x	0	=	300
CADD	0	x	0.0	x	0	=	0
Technical Assistant	0	x	0.0	x	0	=	40
							830

SUPPLEMENTAL AGREEMENT
TASK ORDER # 08-002
TASK 25 - Impacts to Hub Project by Memorial/VOEC Design Changes

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
I. TASK 25	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A.	-	$0	720	$146,013	980	$151,020	850	$92,561	540	$40,186	1,120	$73,844	115	$6,214	4,325	$509,838
Labor & Overhead:	-	$0	720	$146,013	980	$151,020	850	$92,561	540	$40,186	1,120	$73,844	115	$6,214	4,325	$509,838

Fee 10% (On all Labor, excluding Principals):	$50,984
Total Labor Cost:	$560,822
Other Direct Costs:	
Grand Total Task 25:	$560,822

Task 25
Breakdown by Staff Classification

I. Task 25

A.

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	0	=	0
Arch/Eng A	2	x	13.8	x	26	=	720
Arch/Eng B	3	x	12.6	x	26	=	980
Arch/Eng C	3	x	10.9	x	26	=	850
Arch/Eng D	1	x	20.8	x	26	=	540
CADD	3	x	14.4	x	26	=	1,120
Technical Assistant	1	x	4.4	x	26	=	115
							4,325

SUPPLEMENTAL AGREEMENT
TASK ORDER # 08-002
TASK 26 - Impacts to Hub Project by SPI Commercial

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate		$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17		
Average Overhead		1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322		
Average Rate with Overhead		$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		
I. TASK 26	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A.	-	$0	154	$31,231	360	$55,477	180	$19,601	400	$29,767	220	$14,505	65	$3,512	1,379	$154,093
Labor & Overhead:	-	$0	154	$31,231	360	$55,477	180	$19,601	400	$29,767	220	$14,505	65	$3,512	1,379	$154,093

Fee 10% (On all Labor, excluding Principals):	**$15,409**
Total Labor Cost:	**$169,502**
Other Direct Costs:	
Grand Total Task 26:	**$169,502**

Task 26
Breakdown by Staff Classification

I. Task 26

A.

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	0	=	0
Arch/Eng A	1	x	12.8	x	12	=	154
Arch/Eng B	2	x	15.0	x	12	=	360
Arch/Eng C	1	x	15.0	x	12	=	180
Arch/Eng D	2	x	16.7	x	12	=	400
CADD	1	x	18.3	x	12	=	220
Technical Assistant	1	x	5.4	x	12	=	65
							1,379

SUPPLEMENTAL AGREEMENT
TASK ORDER # 08-002
TASK 27 - Tower 2 Vertical Circulation Options [VCE Options]

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate		$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17		
Average Overhead		1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322		
Average Rate with Overhead		$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		
I. TASK 27	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A.	-	$0	-	$0	80	$12,328	80	$8,712	-	$0	-	$0	-	$0	160	$21,040
Labor & Overhead:	-	$0	-	$0	80	$12,328	80	$8,712	-	$0	-	$0	-	$0	160	$21,040

Fee 10% (On all Labor, excluding Principals):	**$2,104**
Total Labor Cost:	**$23,144**
Other Direct Costs:	
Grand Total Task 27:	**$23,144**

Task 27
Breakdown by Staff Classification

I. Task 27

A.

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	0	=	0
Arch/Eng A	1	x	0.0	x	6	=	0
Arch/Eng B	1	x	13.3	x	6	=	80
Arch/Eng C	1	x	13.3	x	6	=	80
Arch/Eng D	1	x	0.0	x	6	=	0
CADD	1	x	0.0	x	6	=	0
Technical Assistant	1	x	0.0	x	6	=	0
							160

SUPPLEMENTAL AGREEMENT
TASK ORDER # 08-002
TASK 28 - Fire Alarm Coordination and Integration with Adjacent Stakeholders

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate		$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17		
Average Overhead		1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322		
Average Rate with Overhead		$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		
I. TASK 28	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A.	-	$0	100	$20,280	90	$13,869	80	$8,712	110	$8,186	120	$7,912	-	$0	500	$58,958
Labor & Overhead:	-	$0	100	$20,280	90	$13,869	80	$8,712	110	$8,186	120	$7,912	-	$0	500	$58,958

Fee 10% (On all Labor, excluding Principals):	**$5,896**
Total Labor Cost:	**$64,854**
Other Direct Costs:	
Grand Total Task 28:	**$64,854**

Task 28
Breakdown by Staff Classification

I. Task 28

A.

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	0	=	0
Arch/Eng A	3	x	4.2	x	8	=	100
Arch/Eng B	1	x	11.3	x	8	=	90
Arch/Eng C	1	x	10.0	x	8	=	80
Arch/Eng D	1	x	13.8	x	8	=	110
CADD	1	x	15.0	x	8	=	120
Technical Assistant	1	x	0.0	x	8	=	0
							500

SUPPLEMENTAL AGREEMENT
TASK ORDER # 08-002
TASK 29 - Readjustment to the Master Power Distribution System

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant			
Average Rate		$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17		
Average Overhead		1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322		
Average Rate with Overhead		$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03	TOTAL	
I. TASK 29	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A.	-	$0	120	$24,335	320	$49,313	-	$0	-	$0	600	$39,559	60	$3,242	1,100	$116,450
Labor & Overhead:	-	$0	120	$24,335	320	$49,313	-	$0	-	$0	600	$39,559	60	$3,242	1,100	$116,450

Fee 10% (On all Labor, excluding Principals):	**$11,645**
Total Labor Cost:	**$128,095**
Other Direct Costs:	
Grand Total Task 29:	**$128,095**

Task 29
Breakdown by Staff Classification

I. Task 29

A.

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	0	=	0
Arch/Eng A	1	x	10.0	x	12	=	120
Arch/Eng B	1	x	26.7	x	12	=	320
Arch/Eng C	1	x	0.0	x	12	=	0
Arch/Eng D	1	x	0.0	x	12	=	0
CADD	2	x	25.0	x	12	=	600
Technical Assistant	1	x	5.0	x	12	=	60
							1,100

SUPPLEMENTAL AGREEMENT
TASK ORDER # 08-002
TASK 30 - Design of Retail Program within NE Quadrant of West Bathtub – Performing Arts Center (PAC) Footprint

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate		$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17		
Average Overhead		1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322		
Average Rate with Overhead		$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		
I. TASK 30	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A.	-	$0	318	$64,489	288	$44,381	684	$74,485	456	$33,934	684	$45,098	30	$1,621	2,460	$264,008
Labor & Overhead:	-	$0	318	$64,489	288	$44,381	684	$74,485	456	$33,934	684	$45,098	30	$1,621	2,460	$264,008

Fee 10% (On all Labor, excluding Principals):	**$26,401**
Total Labor Cost:	**$290,409**
Other Direct Costs:	
Grand Total Task 30:	**$290,409**

Task 30
Breakdown by Staff Classification

I. Task 30

A.

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	0	=	0
Arch/Eng A	2	x	13.3	x	12	=	318
Arch/Eng B	3	x	8.0	x	12	=	288
Arch/Eng C	4	x	14.3	x	12	=	684
Arch/Eng D	3	x	12.7	x	12	=	456
CADD	3	x	19.0	x	12	=	684
Technical Assistant	1	x	2.5	x	12	=	30
							2,460

SUPPLEMENTAL AGREEMENT
TASK ORDER # 08-002
TASK 31 - PATH Emergency Exhaust Vent at Plaza Southeast Grade – Memorial Plaza South East

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate		$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17		
Average Overhead		1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322		
Average Rate with Overhead		$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		
I. TASK 31	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A.	-	$0	80	$16,224	80	$12,328	-	$0	-	$0	200	$13,186	-	$0	360	$41,738
Labor & Overhead:	-	$0	80	$16,224	80	$12,328	-	$0	-	$0	200	$13,186	-	$0	360	$41,738

Fee 10% (On all Labor, excluding Principals):	$4,174
Total Labor Cost:	$45,912
Other Direct Costs:	
Grand Total Task 31:	$45,912

Task 31
Breakdown by Staff Classification

I. Task 31

A.

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	0	=	0
Arch/Eng A	1	x	13.3	x	6	=	80
Arch/Eng B	1	x	13.3	x	6	=	80
Arch/Eng C	1	x	0.0	x	6	=	0
Arch/Eng D	1	x	0.0	x	6	=	0
CADD	2	x	16.7	x	6	=	200
Technical Assistant	1	x	0.0	x	6	=	0
							360

SUPPLEMENTAL AGREEMENT
TASK ORDER # 08-002
TASK 32 - GSA & PA Car Parking Facilities – West Bathtub/Tower 1 Quadrants

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
I. TASK 32	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A.	-	$0	750	$152,097	1,300	$200,333	1,500	$163,344	650	$48,372	1,000	$65,932	300	$16,210	5,500	$646,287
Labor & Overhead:	-	$0	750	$152,097	1,300	$200,333	1,500	$163,344	650	$48,372	1,000	$65,932	300	$16,210	5,500	$646,287

Fee 10% (On all Labor, excluding Principals):	**$64,629**
Total Labor Cost:	**$710,916**
Other Direct Costs:	
Grand Total Task 32:	**$710,916**

Task 32
Breakdown by Staff Classification

I. Task 32

A.

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	0	=	0
Arch/Eng A	3	x	8.9	x	28	=	750
Arch/Eng B	10	x	4.6	x	28	=	1,300
Arch/Eng C	4	x	13.4	x	28	=	1,500
Arch/Eng D	1	x	23.2	x	28	=	650
CADD	2	x	17.9	x	28	=	1,000
Technical Assistant	2	x	5.4	x	28	=	300
							5,500

SUPPLEMENTAL AGREEMENT
TASK ORDER # 08-002
TASK 33 - MEP Coordination Drawings for Freedom Tower, Silverstein and WTCRD

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant			
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		TOTALS	
I. TASK 15	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A.	-	$0	35	$7,098	240	$36,985	345	$37,569	340	$25,302	295	$19,450	70	$3,782	1,325	$130,186
Labor & Overhead:	-	$0	35	$7,098	240	$36,985	345	$37,569	340	$25,302	295	$19,450	70	$3,782	1,325	$130,186

Fee 10% (On all Labor, excluding Principals):	**$13,019**
Total Labor Cost:	**$143,204**
Other Direct Costs:	
Grand Total Task 15:	**$143,204**

Task 33
Breakdown by Staff Classification

I. Task 33

A.

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	0	=	0
Arch/Eng A	1	x	4.4	x	8	=	35
Arch/Eng B	2	x	15.0	x	8	=	240
Arch/Eng C	3	x	14.4	x	8	=	345
Arch/Eng D	3	x	14.2	x	8	=	340
CADD	3	x	12.3	x	8	=	295
Technical Assistant	1	x	8.8	x	8	=	70
							1,325

SUPPLEMENTAL AGREEMENT
TASK ORDER # 08-002
TASK 34 - Package 5.c Freedom Tower Shear Wall Design

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate		$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17		
Average Overhead		1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322		
Average Rate with Overhead		$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		
I. TASK 34	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A.	-	$0	80	$16,224	156	$24,040	150	$16,334	102	$7,591	128	$8,439	-	$0	616	$72,628
Labor & Overhead:	-	$0	80	$16,224	156	$24,040	150	$16,334	102	$7,591	128	$8,439	-	$0	616	$72,628

Fee 10% (On all Labor, excluding Principals):	**$7,263**
Total Labor Cost:	**$79,891**
Other Direct Costs:	
Grand Total Task 15:	**$79,891**

Task 34
Breakdown by Staff Classification

I. Task 34

A.

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	0	=	0
Arch/Eng A	1	x	10.0	x	8	=	80
Arch/Eng B	1	x	19.5	x	8	=	156
Arch/Eng C	1	x	18.8	x	8	=	150
Arch/Eng D	1	x	12.8	x	8	=	102
CADD	1	x	16.0	x	8	=	128
Technical Assistant	1	x	0.0	x	8	=	0
							616

SUPPLEMENTAL AGREEMENT
TASK ORDER # 08-002
TASK 35 - Revisions to Package 5.c

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant			
Average Rate		$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17		
Average Overhead		1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322		
Average Rate with Overhead		$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		TOTAL
I. TASK 35	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A.	-	$0	100	$20,280	190	$29,279	200	$21,779	130	$9,674	160	$10,549	-	$0	780	$91,562
Labor & Overhead:	-	$0	100	$20,280	190	$29,279	200	$21,779	130	$9,674	160	$10,549	-	$0	780	$91,562

Fee 10% (On all Labor, excluding Principals):	**$9,156**
Total Labor Cost:	**$100,718**
Other Direct Costs:	
Grand Total Task 35:	**$100,718**

Task 35
Breakdown by Staff Classification

I. Task 35

A.

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	0	=	0
Arch/Eng A	1	x	11.1	x	9	=	100
Arch/Eng B	1	x	21.1	x	9	=	190
Arch/Eng C	1	x	22.2	x	9	=	200
Arch/Eng D	1	x	14.4	x	9	=	130
CADD	1	x	17.8	x	9	=	160
Technical Assistant	0	x	0.0	x	9	=	0
							780

SUPPLEMENTAL AGREEMENT
TASK ORDER # 08-002
TASK 36 - Feasibility Study of NYTP Room Relocation to Incorporate Retail Family Room Level +296' (Tower 2)

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTALS	
Average Rate		$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17		
Average Overhead		1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322		
Average Rate with Overhead		$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		
I. TASK 36	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A.	-	$0	74	$15,007	122	$18,800	90	$9,801	40	$2,977	104	$6,857	42	$2,269	472	$55,711
Labor & Overhead:	-	$0	74	$15,007	122	$18,800	90	$9,801	40	$2,977	104	$6,857	42	$2,269	472	$55,711

Fee 10% (On all Labor, excluding Principals):	**$5,571**
Total Labor Cost:	**$61,282**
Other Direct Costs:	
Grand Total Task 36:	**$61,282**

Task 36
Breakdown by Staff Classification

I. Task 36

A.

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	0	=	0
Arch/Eng A	1	x	9.3	x	8	=	74
Arch/Eng B	2	x	7.6	x	8	=	122
Arch/Eng C	1	x	11.3	x	8	=	90
Arch/Eng D	1	x	5.0	x	8	=	40
CADD	2	x	6.5	x	8	=	104
Technical Assistant	1	x	5.3	x	8	=	42
							472

SUPPLEMENTAL AGREEMENT
TASK ORDER # 08-002
TASK 37 - Package 1.k Addendum#1 Four Retail Elevator Cabs in Towers 2, 3 and 4

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
I. TASK 37	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A.	-	$0	-	$0	60	$9,246	104	$11,325	-	$0	80	$5,275	-	$0	244	$25,846
Labor & Overhead:	-	$0	-	$0	60	$9,246	104	$11,325	-	$0	80	$5,275	-	$0	244	$25,846

Fee 10% (On all Labor, excluding Principals):	**$2,585**
Total Labor Cost:	**$28,430**
Other Direct Costs:	**$21,500**
Grand Total Task 37:	**$49,930**

Task 37
Breakdown by Staff Classification

I. Task 37

A.

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	0	=	0
Arch/Eng A	1	x	0.0	x	8	=	0
Arch/Eng B	1	x	7.5	x	8	=	60
Arch/Eng C	1	x	13.0	x	8	=	104
Arch/Eng D	1	x	0.0	x	8	=	0
CADD	1	x	10.0	x	8	=	80
Technical Assistant	1	x	0.0	x	8	=	0
							244

SUPPLEMENTAL AGREEMENT
TASK ORDER # 08-002
TASK 38 - Study of North Projection Pier

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate		$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17		
Average Overhead		1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322		
Average Rate with Overhead		$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		
I. TASK 38	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A.	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0
Labor & Overhead:	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0

Fee 10% (On all Labor, excluding Principals): $0

Total Labor Cost: $0

Other Direct Costs:

Grand Total Task 38: $0

Note: Additional Work Removed per PA Request.

Task 38
Breakdown by Staff Classification

I. Task 38

A.

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	0	=	0
Arch/Eng A	1	x	0.0	x	8	=	0
Arch/Eng B	1	x	0.0	x	8	=	0
Arch/Eng C	1	x	0.0	x	8	=	0
Arch/Eng D	1	x	0.0	x	8	=	0
CADD	1	x	0.0	x	8	=	0
Technical Assistant	1	x	0.0	x	8	=	0
							0

Note: Additional Work Removed per PA Request.

SUPPLEMENTAL AGREEMENT
TASK ORDER # 08-002
TASK 39 - Fire Load Test – PA-4/5 PATH Car

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
I. TASK 39	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A.	-	$0	24	$4,867	-	$0	-	$0	-	$0	-	$0	-	$0	24	$4,867
Labor & Overhead:	-	$0	24	$4,867	-	$0	-	$0	-	$0	-	$0	-	$0	24	$4,867

Fee 10% (On all Labor, excluding Principals):	**$487**
Total Labor Cost:	**$5,354**
Other Direct Costs:	**$21,000**
Grand Total Task 39:	**$26,354**

Notes: Design estimate includes $21,000 for Hughes Associates, Inc. (ODC).

Task 39
Breakdown by Staff Classification

I. Task 39

A.

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	0	=	0
Arch/Eng A	1	x	6.0	x	4	=	24
Arch/Eng B	0	x	0.0	x	0	=	0
Arch/Eng C	0	x	0.0	x	0	=	0
Arch/Eng D	0	x	0.0	x	0	=	0
CADD	0	x	0.0	x	0	=	0
Technical Assistant	0	x	0.0	x	0	=	0
							24

SUPPLEMENTAL AGREEMENT
TASK ORDER # 08-002
TASK 40 - Stakeholder Coordination in HUB Design

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
I. TASK 40	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A.	-	$0	5,500	$1,115,376	8,200	$1,263,639	8,300	$903,834	7,700	$573,017	9,300	$613,171	1,000	$54,033	40,000	$4,523,070
Labor & Overhead:	-	$0	5,500	$1,115,376	8,200	$1,263,639	8,300	$903,834	7,700	$573,017	9,300	$613,171	1,000	$54,033	40,000	$4,523,070

Fee 10% (On all Labor, excluding Principals):	**$452,307**
Total Labor Cost:	**$4,975,377**
Other Direct Costs:	
Grand Total Task 40:	**$4,975,377**

Note: Cost for this task to be treated as an allowance.

Task 40
Breakdown by Staff Classification

I. Task 40

A.

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	0	=	0
Arch/Eng A	14	x	15.1	x	26	=	5,500
Arch/Eng B	20	x	15.8	x	26	=	8,200
Arch/Eng C	20	x	16.0	x	26	=	8,300
Arch/Eng D	20	x	14.8	x	26	=	7,700
CADD	20	x	17.9	x	26	=	9,300
Technical Assistant	5	x	7.7	x	26	=	1,000
							40,000

Note: Cost for this task to be treated as an allowance.

SUPPLEMENTAL AGREEMENT
TASK ORDER # 08-002
TASK 41 - Project Management, Project Controls, QA/QC (7/1/07 - 5/31/08)

	Santiago Calatrava		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate	$270.00		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	2.6818		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$724.09		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
I. TASK 41	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A.	780	$564,787	3,000	$608,387	3,000	$462,307	4,600	$500,920	2,700	$200,928	-	$0	10,340	$558,705	24,420	$2,896,034
Labor & Overhead:	**780**	**$564,787**	**3,000**	**$608,387**	**3,000**	**$462,307**	**4,600**	**$500,920**	**2,700**	**$200,928**	**-**	**$0**	**10,340**	**$558,705**	**24,420**	**$2,896,034**

Fee 10%:	**$289,603**
Total Labor Cost:	**$3,185,637**
Other Direct Costs:	
Grand Total Task 41:	**$3,185,637**

Task 41
Breakdown by Staff Classification

I. Task 41

A.

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Santiago Calatrava	1	x	16.6	x	47	=	780
Arch/Eng A	4	x	16.0	x	47	=	3,000
Arch/Eng B	3	x	21.3	x	47	=	3,000
Arch/Eng C	7	x	14.0	x	47	=	4,600
Arch/Eng D	3	x	19.1	x	47	=	2,700
CADD	1	x	0.0	x	47	=	0
Technical Assistant	6	x	36.7	x	47	=	10,340
							24,420

SUPPLEMENTAL AGREEMENT
TASK ORDER # 08-002
TASK 42 - ODC's (7/1/07 - 5/31/08)

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant			
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		TOTAL	
I. TASK 42	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A.	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0
Labor & Overhead:	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0

Fee 10% (On all Labor, excluding Principals):	$0
Total Labor Cost:	$0
Other Direct Costs:	$2,500,176
Grand Total Task 42:	$2,500,176

Task 42
Breakdown by Staff Classification

I. Task 42 (No Labor - ODC's)

A.

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	0	=	0
Arch/Eng A	0	x	0.0	x	0	=	0
Arch/Eng B	0	x	0.0	x	0	=	0
Arch/Eng C	0	x	0.0	x	0	=	0
Arch/Eng D	0	x	0.0	x	0	=	0
CADD	0	x	0.0	x	0	=	0
Technical Assistant	0	x	0.0	x	0	=	0
							0

SUPPLEMENTAL AGREEMENT
TASK ORDER # 08-002
TASK 43 - Project Management, Project Controls, QA/QC (6/1/08 - 9/30/08)

	Santiago Calatrava		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate	$270.00		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	2.6818		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$724.09		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
I. TASK 43	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A.	270	$195,505	1,100	$223,075	1,200	$184,923	1,920	$209,080	1,820	$135,440	-	$0	3,200	$172,907	9,510	$1,120,929
Labor & Overhead:	270	$195,505	1,100	$223,075	1,200	$184,923	1,920	$209,080	1,820	$135,440	-	$0	3,200	$172,907	9,510	$1,120,929

Fee 10%:	$112,093
Total Labor Cost:	$1,233,022
Other Direct Costs:	
Grand Total Task 43:	$1,233,022

Task 43
Breakdown by Staff Classification

I. Task 43

A.

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Santiago Calatrava	1	x	15.0	x	18	=	270
Arch/Eng A	4	x	15.3	x	18	=	1,100
Arch/Eng B	3	x	22.2	x	18	=	1,200
Arch/Eng C	7	x	15.2	x	18	=	1,920
Arch/Eng D	3	x	33.7	x	18	=	1,820
CADD	1	x	0.0	x	18	=	0
Technical Assistant	6	x	29.6	x	18	=	3,200
							9,510

SUPPLEMENTAL AGREEMENT
TASK ORDER # 08-002
TASK 44 - ODC's (6/1/08 - 9/30/08)

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant			
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		TOTAL	
I. TASK 44	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A.	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0
Labor & Overhead:	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0	-	$0

Fee 10% (On all Labor, excluding Principals):	$0
Total Labor Cost:	$0
Other Direct Costs:	$979,754
Grand Total Task 44:	$979,754

Task 44
Breakdown by Staff Classification

I. Task 44 (No Labor - ODC's)

A.

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	0	=	0
Arch/Eng A	0	x	0.0	x	0	=	0
Arch/Eng B	0	x	0.0	x	0	=	0
Arch/Eng C	0	x	0.0	x	0	=	0
Arch/Eng D	0	x	0.0	x	0	=	0
CADD	0	x	0.0	x	0	=	0
Technical Assistant	0	x	0.0	x	0	=	0
							0

SUPPLEMENTAL AGREEMENT
TASK ORDER # 08-002
TASK 45 - Alternative Analysis for the Merrill Lynch Proposal at 175 Greewich Street (WTC Tower 3)

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant			
Average Rate		$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17		
Average Overhead		1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322		
Average Rate with Overhead		$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		TOTAL
I. TASK 45	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A.	-	$0	200	$40,559	590	$90,920	520	$56,626	300	$22,325	200	$13,186	80	$4,323	1,890	$227,940
Labor & Overhead:	-	$0	200	$40,559	590	$90,920	520	$56,626	300	$22,325	200	$13,186	80	$4,323	1,890	$227,940

Fee 10% (On all Labor, excluding Principals):	**$22,794**
Total Labor Cost:	**$250,734**
Other Direct Costs:	
Grand Total Task 45:	**$250,734**

Task 45
Breakdown by Staff Classification

I. Task 45

A.

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	0	=	0
Arch/Eng A	3	x	3.7	x	18	=	200
Arch/Eng B	3	x	10.9	x	18	=	590
Arch/Eng C	4	x	7.2	x	18	=	520
Arch/Eng D	2	x	8.3	x	18	=	300
CADD	2	x	5.6	x	18	=	200
Technical Assistant	1	x	4.4	x	18	=	80
							1,890

THE PORT AUTHORITY OF NY & NJ

WTC CONSTRUCTION DEPARTMENT

WORLD TRADE CENTER TRANSPORTATION HUB

November 4, 2009

Downtown Design Partnership
A Joint Venture of AECOM, Inc. and STV Inc
605 Third Avenue
New York, NY 10158

Attention: Ira Allan Levy, PE, President, AECOM, Inc.

SUBJECT:

PROFESSIONAL SERVICES CHANGE ORDER #CO-09-006 (A) – DESIGN CONTRACT CHANGE [DCC] #494 - SERVICES DURING CONSTRUCTION

Ref.: (1) PERFORMANCE OF EXPERT ARCHITECTURAL AND ENGINEERING SERVICES FOR THE PERMANENT WORLD TRADE CENTER PATH TERMINAL ON A TASK ORDER BASIS P.A. Agreement No.407-03-013; as amended
(2) Port Authority of NY & NJ Request for Proposal letter dated 6/10/09
(3) DDP Proposal letter dated 7/24/09
(4) DDP Revised Proposal letter dated 11/3/09

Dear Mr. Levy:

This letter acknowledges that you performed additional expert professional architectural and engineering services as set forth in the referenced DDP Proposal dated 11/3/09, the attached Scope of Work and as directed by The Port Authority of NY & NJ (Authority) as additional work items under the referenced Agreement, for the WTC Transportation Hub.

Total compensation for the performance of the abovementioned services during the period of July 1, 2008 – December 31, 2009 shall not exceed the amount of **$17,877,025.00.** The upcoming Stage IV Services for the period of January 1, 2010 – December 31, 2014 will be authorized at a later date.

Therefore, the previously authorized total amount for the referenced agreement is increased from $198,414,112 to $216,291,137.00

115 Broadway, 7th Floor
New York, NY 10006

THE PORT AUTHORITY OF NY & NJ

WTC CONSTRUCTION DEPARTMENT

WORLD TRADE CENTER TRANSPORTATION HUB

The Consultant shall employ, to every extent possible, the most cost-effective methods of performing the scope of services noted above. This includes, but is not limited to, utilizing appropriate staff as needed (i.e. combining management and technical efforts) and tracking hours of technical staff. Accordingly, the Consultant shall inform the Director when the Consultant's expenditures reach 80% of the not-to-exceed total amount noted above. The Consultant shall continue to render the additional services to completion after the point when the Consultant's compensation reaches 100% of such amount for each change order.

The above referenced agreement remains in full force and effect and the performance of the requested additional services is subject to the terms and conditions of such referenced agreement.

Please return two original signed copies of this letter to the attention of **Richard Perez, Contract Specialist, Procurement Department, 115 Broadway, 19th floor**, New York, NY 10006. Upon receipt by the Authority of a copy of this letter executed by a principal of your firm, you are authorized to proceed with performance of the requested additional services.

If you have any questions relating to the performance of the subject services, please do not hesitate to contact me at 212-435-5565.

Sincerely,

Shawn T. Lenahan, A.I.A.
Senior Program Manager
WTC Construction Department

Attachment.

Receipt acknowledged: Firm Name: Downtown Design Partnership

Name, Title — Nov. 5, 2009 Date

Dominick M. Servedio, Chairman, CEO

Name, Title — NE Region Executive — Date

115 Broadway, 7th Floor
New York, NY 10006

THE PORT AUTHORITY OF NY & NJ

WTC CONSTRUCTION DEPARTMENT

WORLD TRADE CENTER TRANSPORTATION HUB

CC: C. DeGraffe, E. Dejak, F. Gallo, T. Grassi, J. Hickey, S. Lenahan, S. Leone, N. Lombardi, K. Matthews, M. Pagliettini, R. Petrides, R. Perez, N. Ranalli, C. Russell, M. Socrates, WTCC Document Control

115 Broadway, 7th Floor
New York, NY 10006

DOWNTOWN
DESIGN PARTNERSHIP

100 Broadway, 3rd Floor • New York, NY 10005
Phone: 917-522-2800

November 3, 2009

Ref #: DDP-PA-2221-09

The Port Authority of New York and New Jersey
115 Broadway, 19th Floor
New York, New York 10006

Attention: **Mr. Richard Perez**

Subject: **P.A. Agreement No. 407-03-013**
Performance of Expert Professional
Architectural and Engineering Services for the
World Trade Center Transportation Hub

Reference: **Revised - Technical and Cost Proposal for Port Authority**
Professional Services Change Order # 09-006-A
DCC 494 – Services During Construction
July 2008 – December 2009

Dear Mr. Perez,

In response to the Port Authority of New York & New Jersey's request for proposal, dated June 10, 2009, and subsequent meeting with PA, attached please find Downtown Design Partnership's revised technical and cost proposal for Port Authority Change Order No. CO#09-006-A for DCC Nos. 494 – Services During Construction for services from July 2008 through December 2009 only.

Please be advised that costs related to escalation are not included in the attached proposal.

Should you have any questions regarding the attached, please do not hesitate to call.

Sincerely,
Downtown Design Partnership

F. Ross Edwards, P.E. FVR
Project Director

Cc:
w/ attachments D. Servedio, J. Son, I. Levy, File S. McIntyre, M. Garz, A. Basta,

FOR EXPERT PROFESSIONAL ARCHITECTURAL AND ENGINEERING SERVICES FOR THE PERMANENT WORLD TRADE CENTER PATH TERMINAL WITH DOWNTOWN DESIGN PARTNERSHIP (DDP), A JOINT VENTURE OF DMJM+HARRIS, INC. AND STV, INC.

PA AGREEMENT #407-03-013
Purchase Order #4900000675
SCOPE OF WORK DESCRIPTION

Revised – Change Order (CO) # 09-006-A
Design Contract Change (DCC) 494
Services During Construction

The following is a proposal to provide additional architectural and engineering services as an additional work item. Unless stated otherwise, all scope of work and associated design costs are related to Services During Construction efforts. All Work agreed upon by all parties shall be authorized under the referenced DCC. The scope of services for this proposal includes the following:

Scope

The attached cost proposal for CO#09-006-A is for services from 7/1/08 through 12/31/09. All work shall be performed in accordance with the Scope of Services outlined in the referenced Agreement and as detailed below.

I. SCOPE OF WORK DESCRIPTION

The services of the Downtown Design Partnership (DDP) shall consist of performing Construction Support Services (**Stage IV**) for all remaining work of the World Trade Center (WTC) Hub and Non-Hub segments of the overall P.A. Agreement and related documents listed below:

- Work Package No. 20, Station Construction and Transit Hall, Structures to Grade, Fit-Out, and MEP - Contract No. 214.546
- Work Package No.20, Greenwich Street Corridor Construction - Contract 224.545
- Work Package No. 20, Transit Hall Above Grade, Contract No. TBD
- Work Package No. TBD, Cortlandt Street Station, Contract No. TBD
- Work Package Nos. #3E, #5C, #6C, #6C.1, #10.2 and #10.3 - Contract 284.548

DDP shall provide Miscellaneous Stage IV Construction Phase Services Limited to the scope of work delineated in following Ongoing Work Packages:

- #lH
- #2
- #4B and #4C

- #6B
- #6X
- #8
- #9
- #12
- #17
- #17A, 18B and 18B.1
- #20 BCD.1
- #20.20

All applicable documents forming the basis of design and DDP designed contract documents for the Work Packages listed above are included by reference herein.

Work also includes Project Management services during Stage IV and associated Other Direct Costs (ODC's) from July 1, 2009 through December 31, 2013.

DDP's services and associated designs shall comply with all Federal, State and Local codes that would apply if the Authority were a private corporation and with all industry standards including, but not limited to those identified herein.

DDP shall be responsible for staffing of all involved disciplines, which may be assigned to perform Work under this Change Order.

All submittals shall be returned to the contractor within 10 working days of receipt.

DDP shall serve as Engineer of Record as provided herein. See attached Schedule E for assumptions.

The DDP's Services During Construction shall include, but not be limited to, the following tasks:

TASK 1: General

Task 1.1 Submit a Quality Control/Quality Assurance (QA/QC) Program for the professional services to be undertaken in connection with the performance of Post Award Duties specified herein. The QA/QC program shall be submitted within 10 days of approval of this work.

Task 1.2 Maintain clear, dated records of all documents submitted to DDP, including but not limited to, transmittals, submittals and associated reviews, Requests for Information/Requests for Clarification (RFIs/RFCs) and responses, meeting minutes, submittals and their markups, as well as designs, calculations or drawings prepared during the construction phase. These documents shall be made available to WTCC per the deliverable section below and/or upon request. Upon project completion, or request by WTCC, all these documents shall be listed, filed and submitted to WTCC.

Task 1.3 Coordinate with the designated WTCC individual(s) on a continuous basis to respond to any technical issues that may arise during the bidding phase or construction. The DDP and WTCC designee(s) shall co-reside with WTCC person and be capable to review and respond immediately to technical issues that develop (Note this service overlaps with other services and as listed in Tasks 2 and 3 and accordingly should only be considered at 50% of a Full Time Employee and only during the first 2 years of construction).

TASK 2: Service During Bidding Phase

Task 2.1 Attend pre-bid meetings (Assume 10 meetings are required).

Task 2.2 Respond to RFCs relating to the bid documents (Assume 500 such RFCs are required).

Task 2.3 Prepare a "Conformed" set of contract drawings incorporating all Addenda, sketches issued to the contractor as information, etc. that may have been in response to questions specifically raised by Contractor. Specific approval and budget from WTCC is required prior to performing any work under this task. Conformed set shall be delivered within 20 business days from such approvals.

Task 2.4 Attend meetings between Contractor and WTCC as requested. Prepare minutes of pre-bid meeting within 5 business days and submit final version within 8 business days of each meeting (Assume 100 such meetings for this Task).

TASK 3: Service During Construction Phase

Task 3.1 Attend field meetings as requested by WTCC in coordination with the Resident Engineer (Assume 4 meeting a week on average for 54 months). Any response to questions or requests that might arise from such meeting shall be considered part of Task 3.6 below. Attendance to these meeting shall be limited.

Task 3.2 Provide a full time technical expeditor/field engineer during the 54-month construct period to coordinate with the Resident Engineer, and expedite responses from the designers to any field questions that may arise. Any response to questions and/or requests that might arise shall be considered as part of Task 3.6 below. The proposed individual shall be identified and his or her resume shall be submitted for consideration and approval by the PA within 5 business days.

Task 3.3 At the request of WTCC, coordinate with and attend meetings with third parties, other agencies and stakeholders to coordinate technical issues that may arise (Assume 250 such meetings are required and shall include preparation time).

Task 3.4 Perform Engineering Services related to issues between that develop due to third parties, such as MTA, Memorial, Retail, SPI, etc. Specific direction from WTCC will be required prior to performing any such service.

NOTE: An allowance will be negotiated for this task to prepare drawings, sketches or technical memorandums. Specific approval and budget through the DCC process is required prior to performing any work under this task

Task 3.5 Prepare supplemental documents for Post Award Contract Changes (PACCs) and provide cost estimates associated with the changes. In general, PACCs shall be initiated by either WTCC or the contractor to address field conditions or proposed means and methods. All direction to the DDP shall be from WTCC.

NOTE: An allowance will be negotiated for this task. Specific approval and budget through the Design Contract Change (DCC) process is required prior to performing any work under this task.

Task 3.6 Respond to Contractor- submitted RFIs. Prepare appropriate sketches, drawings, etc., to help clarify any such contractor's requests (Assume 5000 RFIs submittals.) WTCC will categorize RFIs in groupings including: Design Change, Design Error & Omission, Contractor's Request, WTCC Request, or others groups that may be appropriate.

Task 3.7 Review and comment on Contractor's submittals, including shop drawings, calculations, catalog cuts, temporary structures/MEP systems submittals, Contractor's erection drawings/procedures/manuals, samples, certificates, test reports, etc. A submittal shall be considered as an individual shop drawing, catalog cut or set of calculations (Assume a total of 15,000 individual drawings/calculations and 8,000 catalog cuts).

Task 3.8 Review and comment on Contractor prepared operational manuals required for operating and servicing installed equipment, systems and machinery. Assume 25 manuals will require review. Specific approval and budget from WTCC is required prior to performing any work under this task.

Task 3.9 Prepare "Record" drawings upon completion of construction. WTCC to furnish "as built" information that is to be incorporated. Assume 1,500 contract drawings will need to be modified. Marked-up drawings showing actually installed items will be provided by WTCC's Resident Engineer. This will be performed electronically using the conformed set of documents. Specific approval and budget through the DCC process is required prior to performing any work under this task.

Task 3.10 At the specific written request of WTCC, review contractor's proposed design changes and comment upon their impacts from technical, schedule and cost perspectives. This shall include evaluating alternative construction details and materials, as requested by WTCC (Assume 75 such proposed design changes).

Task 3.11 Review Contractor's claims and/or proposed Change Orders, commenting upon their appropriateness based upon DDP's design intent.

NOTE: An allowance of will be negotiated for this task. Specific approval and budget through the DCC process is required prior to performing any work under this task.

Task 3.12 Prepare and submit at the first pre-construction meeting an outline listing of required contractor's submittals.

Task 3.13 Attend meetings and supply appropriate information to support WTCC's Risk Management Group in their development and ongoing maintenance of a Risk Register.

Task 3.14 Perform presently unspecified Engineering Services that may be required to support ongoing construction.

NOTE: An allowance will be negotiated for this Task. Specific approval and budget through the DCC process is required prior to performing any work under this task.

TASK 4: Commissioning Services

Task 4.1 Assist WTCC in commissioning, testing, balancing and quality assessment efforts prior to turnover and acceptance of all systems of Package 20.

NOTE: An allowance of will be negotiated for this Task. Specific approval and budget through the DCC process is required prior to performing any work under this task.

Task 4.2 Assist WTCC in the Sustainable Design Guidelines Commissioning process.

NOTE: An allowance will be negotiated for this Task. Specific approval and budget through the DCC process is required prior to performing any work under this task.

TASK 5: Project Management During Phase IV Services

Provide Project Management Services from 7/1/2009 through 12/31/2009. Project Management services are a time phased effort and will cover DDP's Project Management during this period for both design and construction efforts. Services during this period shall include, but not be limited to the following:

- Project Management
- Project Controls and Reporting
- Design Management During Construction
- Quality Assurance/Quality Control
- Environmental/External Interface

TASK 6: Other Direct Costs During Phase IV Services

Other Direct Costs (ODC) that WTCC will directly reimburse to DDP for the period between 7/1/2009 through 12/31/2009, include but are not limited to the following:

- Office Maintenance
- Build Out Costs
- Office Telephone Service
- Office Telephone Equipment
- Office Equipment Rentals
- Office Supplies
- Computer Equipment
- Computer Software
- Data Storage
- Reproduction costs associated with printing, including but not limited to drawing, calculations, specifications, estimates, contractor submittals, etc. required in the design1 project management of the project and by WTCC for review or distribution.
- Short-term travel costs for visitors to DDP's or WTCC's offices. The intent of short-term travel is for reasonable non-reoccurring travel expenses associated with bringing specialists to the project. Approval by the PA shall be obtained prior to incurring such expense and shall be in accordance with the guidelines for travel and lodging expenses previously provided to the DDP.
- Short-term Room and Board for visitors to DDP's or WTCC's offices. The intent of short term Room and Board is for reasonable non-reoccurring travel expenses associated with bringing specialists to the project. Approval by the PA shall be obtained prior to incurring such expense and shall be in accordance with the guidelines for travel and lodging expenses previously provided to the DDP.
- Mailings, Shipping and Delivery Services
- Miscellaneous costs agreed to by the WTCC that does not fall into the above categories.
- Payments to approved Specialty DDPs for their Services within established budgets.

Each item shall be tracked and billed separately and within the limits negotiated for that specific item. The negotiated amount shall not be considered as a lump sum.

Deliverables:

The DDP shall provide all deliverables in accordance with Section F (Services During the Construction) as outlined below.

- Quality Control/Quality Assurance (QA/QC) Program 20 days from NTP.

- Requests for Information/ Requests for Clarification (RFIsl RFCs) and responses, meeting minutes, submittals and their markups shall be submitted within 5 working days.
- Conformed" set of contract drawings within 20.days from PA approval. Prepare Post Award Contract Changes (PACCs) and provide cost estimates no later than 5 working days from notice to prepare such PACC.
- Comment on Contractor's submittals, including shop drawings, calculations, catalog cuts, temporary structures/MEP systems submittals, Contractor's erection drawings/procedures/manuals, samples, certificates, test reports, etc. shall be submitted no later than I0 days from receipt by the Authority.
- Prepare and submit "as built" drawings no later than 120 day upon completion of construction.
- Comments on contractor's proposed design changes shall be submitted to the PA no later than 5 working days.

Contract No. 407-03-013
Change Order (CO) #09-006-A
Design Contract Change (DCC) 494

Professional Services Change Order
Revised - Cost Proposal

Schedule A

Stage VI - Services During Construction (July 2008 - December 31, 2009)			
1	JV Direct Labor (Hourly Rates x Hours)	$3,910,813.74	
2	JV Fee/Profit	$871,044.88	
3	JV Total Labor (Direct Labor x Negotiated Multiplier)		$9,581,493.67
4	Sum of Subconsultants Total Labor		$6,864,077.14
5	Other Direct Costs (Out-of-Pcoket Expenses - Task 6)		$1,431,454.00
	Total Change Order Price (Items 3 + 4 + 5)		$17,877,024.82

Notes:
JV Negotiated Billing Multiplier = 2.45

Contract No. 407-03-013
Change Order (CO) #09-006-A
Design Contract Change (DCC) 494
(July 2008 - December 31, 2009)

Professional Services Change Order
Cost Proposal

Revised - Schedule B - Subconsultant Pricing

Stage VI - Services During Construction (July 2008 - December 31, 2009)						
Subconsultant	Total Hours	Direct Labor ($) (Hourly Rates x Hours)	Negotiated Multiplier	Fee/ Profit	Other Direct Cost (ODC's) Included in Task 6	Total Change Order Price
Parsons	13,073	$732,372.16	2.450	$163,119.25	$0.00	$1,794,311.79
PTG TBD	8,447	$458,763.60	2.450	$102,179.17	$0.00	$1,123,970.82
SCSA	3,092	$354,282.16	2.950	$111,972.16	$0.00	$1,045,073.38
SCSA TBD	5,536	$428,095.13	2.950	$135,308.64	$0.00	$1,262,880.63
WNBA	3,702	$151,653.22	2.760	$38,051.17	$0.00	$418,562.88
Stellar	1,040	$47,496.80	2.450	$10,578.83	$0.00	$116,367.16
PMA	1,248	$47,528.00	2.500	$10,801.82	$0.00	$118,820.00
PACO	2,912	$80,837.12	2.620	$19,253.93	$0.00	$211,793.25
ISR	3,120	$92,944.80	2.332	$19,704.30	$0.00	$216,747.27
Hirani	1,166	$57,003.65	2.540	$13,162.86	$0.00	$144,789.27
YAS	998	$68,892.80	2.510	$15,263.72	$0.00	$167,900.93
RCC	874	$44,632.22	2.917	$11,835.85	$0.00	$130,192.20
Weidlinger	1,186	$43,333.68	2.600	$10,242.51	$0.00	$112,667.57
Russell	0	$0.00	2.680	$0.00	$0.00	$0.00
DVS	0	$0.00	2.310	$0.00	$0.00	$0.00
				$661,473.80	Sum of Subconsultants (Labor Only):	$6,864,077.14

Revised Change Order# 09-006-A

Design Contract Change 494 - Services During Construction

Revised Summary - Cost Estimate Analysis (7/1/08 - 12/31/09)

Task 1: General	**Hours**	**$**
Task 1.1 - Submit QC/QA Program	100	$17,205
Task 1.2 - Maintain Records	10,920	$893,346
Task 1.3 - Coordinate with WTC Staff (Procurement Support)	7,280	$1,269,304
Total - Task 1 :	**18,300**	**$2,179,855**

Task 2: Services During Bidding Phase		
Task 2.1 - Pre-Bid Meetings	62	$14,888
Task 2.2 - Respond to RFCs	3,255	$611,427
Task 2.3 - *Prepare Conformed Set*	0	$0
Task 2.4 - Meetings with Contractor and WTCC	501	$98,172
Total - Task 2 :	**3,819**	**$724,487**

Task 3: Services During Construction Phase		
Task 3.1 - Field Meetings	2,496	$487,303
Task 3.2 - Technical Expeditor/Field Engineer	1,040	$168,372
Task 3.3 - Third Party Meetings	270	$53,216
Task 3.4 - Engineering Services Related to 3rd Party (MTA, Retail, SPI, etc.) - ALLOWANCE	0	$0
Task 3.5 - Post Award Contract Changes - ALLOWANCE	0	$0
Task 3.6 - Respond to RFI, Prepare Sketches	16,608	$2,594,160
Task 3.7 - Review and Comment on Shop Drawings, Calculations, Catalog Cut, etc.	41,434	$6,738,529
Task 3.8 - Review and Comment on Operational Manual	0	$0
Task 3.9 - Prepare Record Drawings	0	$0
Task 3.10 - Review Contractor's Prop. Design Changes/Comment (PA Direction - ALLOWANCE)	672	$112,014
Task 3.11 - Review Contractor's Claim - ALLOWANCE	0	$0
~~Task 3.12 - Outline Listing of Required Contractor's Submittal (Per PA Deleted)~~	0	$0
Task 3.13 - Risk Management Group Meetings	47	$9,172
Task 3.14 - Unspecified Engineering Services - ALLOWANCE	16,588	$2,195,839
Total - Task 3 :	**79,155**	**$12,358,605**

Task 4: Commisioning Services		
Task 4.1 - Assist WTCC in Commisioning - ALLOWANCE	0	$0
Task 4.2 - Assist WTCC in Sustainable Design Guidelines - ALLOWANCE	0	$0
Total - Task 4 :	**0**	**$0**

Task 5: Project Management (7/1/2009 - 12/31/2009)		
Task 5 - Project Management (7/1/09 - 12/31/2009)	7,280	$1,182,624
Total - Task 5 :	**7,280**	**$1,182,624**

TOTAL LABOR (DCC 494 Services During Construction) :	108,554	$16,445,571

Task 6: Other Direct Costs (7/1/2009 - 12/31/2009)		
Task 6 - ODCs (7/1/09 - 12/31/2009)		$1,431,454
Total - Task 6 :		**$1,431,454**

GRAND TOTAL CO#09-006 (DCC 494 Services During Construction) :	$17,877,025

Contract No. 407-03-013
Change Order (CO) #09-006-A
Revised - Design Contract Change (DCC) 494

Professional Services Change Order
Revised - Cost Proposal

Revised - Schedule C
Task 1.1 - QC/QA Program

Staffing Name	Company	Multiplier (OH+Fee)	Eng/Arch Category	7/1/08 - 6/31/09				7/1/09 - 12/31/09				Total FTE	Total Hours	Total Labor ($)
				Hourly Rate	FTE	Hours (Hrs)	Total Labor ($)	Hourly Rate	FTE	Hours (Hrs)	Total Labor ($)			
Edwards, R	AECOM	2.45	A	[illegible]			[illegible]	$108.53		0.0	$0.00	0.0	0.0	$0.00
McIntyre, S	STV	2.45	A	[illegible]			[illegible]	$102.97		0.0	$0.00	0.0	0.0	$0.00
Garz, M	STV	2.45	A	[illegible]			[illegible]	$116.88		0.0	$0.00	0.0	0.0	$0.00
Caletrava, S	SCSA	2.95	A	[illegible]			[illegible]	$270.00		0.0	$0.00	0.0	0.0	$0.00
Son, J	STV	2.45	B	[illegible]			[illegible]	$61.07		0.0	$0.00	0.0	0.0	$0.00
Harris, K	AECOM	2.45	C	[illegible]			[illegible]	$44.96		0.0	$0.00	0.0	0.0	$0.00
Felice, D	PMA	2.5	TA	[illegible]			[illegible]	$35.00		0.0	$0.00	0.0	0.0	$0.00
Quinones, P	STV	2.45	C	[illegible]			[illegible]	$45.36		0.0	$0.00	0.0	0.0	$0.00
Basta, A	STV	2.45	A	[illegible]			[illegible]	$88.33		0.0	$0.00	0.0	0.0	$0.00
Jang, H	AECOM	2.45	TA	[illegible]			[illegible]	$20.40		0.0	$0.00	0.0	0.0	$0.00
McDermott, C	AECOM	2.45	A	[illegible]			[illegible]	$81.04		0.0	$0.00	0.0	0.0	$0.00
Rosciglione, A	AECOM	2.45	C	[illegible]			[illegible]	$52.31		0.0	$0.00	0.0	0.0	$0.00
Powell, D	ISR	2.332	TA	[illegible]			[illegible]	$29.79		0.0	$0.00	0.0	0.0	$0.00
Tong, E	Stellar	2.45	C	[illegible]			[illegible]	$45.67		0.0	$0.00	0.0	0.0	$0.00
Abbate, D	STV	2.45	D	[illegible]			[illegible]	$27.88		0.0	$0.00	0.0	0.0	$0.00
Dennis, Y	STV	2.45	TA	[illegible]			[illegible]	$31.16		0.0	$0.00	0.0	0.0	$0.00
Kamboj, M	AECOM	2.45	B	[illegible]			[illegible]	$69.56		0.0	$0.00	0.0	0.0	$0.00
Gallagher, T	Parsons	2.45	C	[illegible]			[illegible]	$43.27		0.0	$0.00	0.0	0.0	$0.00
Pagani, S	PMA	2.5	C	[illegible]			[illegible]	$53.50		0.0	$0.00	0.0	0.0	$0.00
Finkelstein, M	STV	2.45	C	[illegible]			[illegible]	$53.00		0.0	$0.00	0.0	0.0	$0.00
Nervina, G	STV	2.45	C	[illegible]			[illegible]	$48.99		0.0	$0.00	0.0	0.0	$0.00
Solano, J	STV	2.45	C	[illegible]			[illegible]	$53.00		0.0	$0.00	0.0	0.0	$0.00
Zellner, P	STV	2.45	B	[illegible]			[illegible]	$70.19	0.10	100.0	$17,204.80	0.0	100.0	$17,204.80
Hand, J	AECOM	2.45	B	[illegible]			[illegible]	$70.61		0.0	$0.00	0.0	0.0	$0.00
Chong, S	AECOM	2.45	C	[illegible]			[illegible]	$40.89		0.0	$0.00	0.0	0.0	$0.00
Patel, K	AECOM	2.45	D	[illegible]			[illegible]	$38.75		0.0	$0.00	0.0	0.0	$0.00
Schiff, M	AECOM	2.45	C	[illegible]			[illegible]	$52.15		0.0	$0.00	0.0	0.0	$0.00
Woo, T	AECOM	2.45	B	[illegible]			[illegible]	$70.13		0.0	$0.00	0.0	0.0	$0.00
Diamond, R	SCSA	2.95	A	[illegible]			[illegible]	$116.32		0.0	$0.00	0.0	0.0	$0.00
SCSA Eng/Arch B	SCSA TBD	2.95	B	[illegible]			[illegible]	$66.08		0.0	$0.00	0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A	[illegible]			[illegible]	$86.95		0.0	$0.00	0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A	[illegible]			[illegible]	$86.95		0.0	$0.00	0.0	0.0	$0.00
Bracco, S	STV	2.45	C	[illegible]			[illegible]	$48.08		0.0	$0.00	0.0	0.0	$0.00
PTG Eng/Arch C	PTG TBD	2.45	C	[illegible]			[illegible]	$46.69		0.0	$0.00	0.0	0.0	$0.00
Lem, R	STV	2.45	B	[illegible]			[illegible]	$61.36		0.0	$0.00	0.0	0.0	$0.00
London, L	STV	2.45	D	[illegible]			[illegible]	$31.27		0.0	$0.00	0.0	0.0	$0.00
PTG Eng/Arch D	PTG TBD	2.45	D	[illegible]			[illegible]	$31.91		0.0	$0.00	0.0	0.0	$0.00
Avellan, J	WNBA	2.76	B	[illegible]			[illegible]	$52.16		0.0	$0.00	0.0	0.0	$0.00
Govekar, S	WNBA	2.76	Cad	[illegible]			[illegible]	$24.76		0.0	$0.00	0.0	0.0	$0.00
Kasekyan, A	WNBA	2.76	C	[illegible]			[illegible]	$45.19		0.0	$0.00	0.0	0.0	$0.00
Brodsky, V	STV	2.45	A	[illegible]			[illegible]	$100.72		0.0	$0.00	0.0	0.0	$0.00
Ghaly, N	Parsons	2.45	B	[illegible]			[illegible]	$72.73		0.0	$0.00	0.0	0.0	$0.00
Littler, M	Parsons	2.45	C	[illegible]			[illegible]	$54.56		0.0	$0.00	0.0	0.0	$0.00
Clarson, M	RCC	2.917	C	[illegible]			[illegible]	$51.09		0.0	$0.00	0.0	0.0	$0.00
Abdullah, M	STV	2.45	B	[illegible]			[illegible]	$68.30		0.0	$0.00	0.0	0.0	$0.00
Cobuzzi, A	STV	2.45	B	[illegible]			[illegible]	$56.49		0.0	$0.00	0.0	0.0	$0.00
Gilboa, J	STV	2.45	A	[illegible]			[illegible]	$73.81		0.0	$0.00	0.0	0.0	$0.00
Koumjian, G	STV	2.45	A	[illegible]			[illegible]	$85.58		0.0	$0.00	0.0	0.0	$0.00
Schuller, P	STV	2.45	A	[illegible]			[illegible]	$90.24		0.0	$0.00	0.0	0.0	$0.00
Zheng, H	STV	2.45	B	[illegible]			[illegible]	$63.07		0.0	$0.00	0.0	0.0	$0.00
Charalambous, J	Parsons	2.45	A	[illegible]			[illegible]	$93.27		0.0	$0.00	0.0	0.0	$0.00
Parnes, J	AECOM	2.45	A	[illegible]			[illegible]	$78.44		0.0	$0.00	0.0	0.0	$0.00
Altabba, B	Parsons	2.45	A	[illegible]			[illegible]	$73.69		0.0	$0.00	0.0	0.0	$0.00
Mauritz, P	AECOM	2.45	A	[illegible]			[illegible]	$73.58		0.0	$0.00	0.0	0.0	$0.00
Baxter, D	AECOM	2.45	C	[illegible]			[illegible]	$42.32		0.0	$0.00	0.0	0.0	$0.00
Jimenez, D	AECOM	2.45	C	[illegible]			[illegible]	$44.29		0.0	$0.00	0.0	0.0	$0.00
Levintov, B	AECOM	2.45	B	[illegible]			[illegible]	$66.02		0.0	$0.00	0.0	0.0	$0.00
Mazumdar, A	AECOM	2.45	B	[illegible]			[illegible]	$61.22		0.0	$0.00	0.0	0.0	$0.00
Sherzer, M	AECOM	2.45	C	[illegible]			[illegible]	$44.97		0.0	$0.00	0.0	0.0	$0.00
Teodor, L	AECOM	2.45	B	[illegible]			[illegible]	$57.57		0.0	$0.00	0.0	0.0	$0.00
Kourkoumelis, V	Hirani	2.54	C	[illegible]			[illegible]	$48.08		0.0	$0.00	0.0	0.0	$0.00
Ingram, G	Parsons	2.45	Cad	[illegible]			[illegible]	$25.44		0.0	$0.00	0.0	0.0	$0.00
Khalil, M	Parsons	2.45	B	[illegible]			[illegible]	$64.33		0.0	$0.00	0.0	0.0	$0.00
Patel, A	Parsons	2.45	C	[illegible]			[illegible]	$53.74		0.0	$0.00	0.0	0.0	$0.00
Sousa, M	Parsons	2.45	Cad	[illegible]			[illegible]	$34.07		0.0	$0.00	0.0	0.0	$0.00
Wisniewski, B	Parsons	2.45	C	[illegible]			[illegible]	$45.65		0.0	$0.00	0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A	[illegible]			[illegible]	$86.95		0.0	$0.00	0.0	0.0	$0.00
Lomax, S	SCSA	2.95	A	[illegible]			[illegible]	$79.71		0.0	$0.00	0.0	0.0	$0.00
Rando, M	SCSA	2.95	A	[illegible]			[illegible]	$125.06		0.0	$0.00	0.0	0.0	$0.00
Doshi, K	STV	2.45	A	[illegible]			[illegible]	$98.72		0.0	$0.00	0.0	0.0	$0.00
Cregger, D	AECOM	2.45	B	[illegible]			[illegible]	$58.47		0.0	$0.00	0.0	0.0	$0.00
Baker, U	Weidlinger	2.6	D	[illegible]			[illegible]	$38.55		0.0	$0.00	0.0	0.0	$0.00
Mirzakashani, M	AECOM	2.45	A	[illegible]			[illegible]	$90.87		0.0	$0.00	0.0	0.0	$0.00
Wang, H	AECOM	2.45	B	[illegible]			[illegible]	$65.00		0.0	$0.00	0.0	0.0	$0.00
Kopkalli, H	YAS	2.51	B	[illegible]			[illegible]	$67.00		0.0	$0.00	0.0	0.0	$0.00
Fearon, D	PACO	2.62	TA	[illegible]			[illegible]	$27.76		0.0	$0.00	0.0	0.0	$0.00
Nikolakakos, S	Russell	2.66	P	[illegible]			[illegible]	$144.00		0.0	$0.00	0.0	0.0	$0.00
			Totals:		0.00	0.0	$0.00		0.1	100.0	$17,204.80	0.0	100.0	$17,204.80

Contract No. 407-03-013
Change Order (CO) #09-006-A
Revised - Design Contract Change (DCC) 494

Professional Services Change Order
Revised - Cost Proposal

Revised - Schedule C
Task 1.2 - Maintain Records

Staffing Name	Company	Multiplier (OH+Fee)	Eng/Arch Category	7/1/08 - 6/31/09				7/1/09 - 12/31/09				Total FTE	Total Hours	Total Labor ($)
				Hourly Rate	FTE	Hours (Hrs)	Total Labor ($)	Hourly Rate	FTE	Hours (Hrs)	Total Labor ($)			
Edwards, R	AECOM	2.45	A	$108.53		0.0	$0.00	$108.53		0.0	$0.00	0.0	0.0	$0.00
McIntyre, S	STV	2.45	A	$102.97		0.0	$0.00	$102.97		0.0	$0.00	0.0	0.0	$0.00
Garz, M	STV	2.45	A	$118.88		0.0	$0.00	$118.88		0.0	$0.00	0.0	0.0	$0.00
Calatrava, S	SCSA	2.95	A	$270.00		0.0	$0.00	$270.00		0.0	$0.00	0.0	0.0	$0.00
Son, J	STV	2.45	B	$61.07		0.0	$0.00	$61.07		0.0	$0.00	0.0	0.0	$0.00
Harris, K	AECOM	2.45	C	$44.98		0.0	$0.00	$44.98		0.0	$0.00	0.0	0.0	$0.00
Felice, D	PMA	2.5	TA	$35.00		0.0	$0.00	$35.00		0.0	$0.00	0.0	0.0	$0.00
Quinones, P	STV	2.45	C	$45.36		0.0	$0.00	$45.36		0.0	$0.00	0.0	0.0	$0.00
Basta, A	STV	2.45	A	$88.33	0.10	208.0	$45,012.97	$88.33	0.10	104.0	$22,506.48	0.2	312.0	$67,519.45
Jang, H	AECOM	2.45	TA	$20.40		0.0	$0.00	$20.40	1.00	1,040.0	$51,979.20	0.5	1,040.0	$51,979.20
McDermott, C	AECOM	2.45	A	$81.04		0.0	$0.00	$81.04		0.0	$0.00	0.0	0.0	$0.00
Rosciglione, A	AECOM	2.45	C	$52.31	0.10	208.0	$26,657.18	$52.31		0.0	$0.00	0.1	208.0	$26,657.18
Powell, D	ISR	2.332	TA	$29.79	1.00	2,080.0	$144,498.18	$29.79	1.00	1,040.0	$72,249.09	1.5	3,120.0	$216,747.27
Tong, E	Stellar	2.45	C	$45.67		0.0	$0.00	$45.67		0.0	$0.00	0.0	0.0	$0.00
Abbate, D	STV	2.45	D	$27.88	1.00	2,080.0	$142,076.48	$27.88	1.00	1,040.0	$71,038.24	1.5	3,120.0	$213,114.72
Dennis, Y	STV	2.45	TA	$31.16		0.0	$0.00	$31.16	1.00	1,040.0	$79,395.68	0.5	1,040.0	$79,395.68
PTG Eng/Arch C	PTG TBD	2.45	C	$46.69	1.00	2,080.0	$237,932.24	$46.69		0.0	$0.00	1.0	2,080.0	$237,932.24
PTG Eng/Arch D	PTG TBD	2.45	D	$31.91		0.0	$0.00	$31.91		0.0	$0.00	0.0	0.0	$0.00
JV Eng/Arch D	JV TBD	2.45	D	$31.91		0.0	$0.00	$31.91		0.0	$0.00	0.0	0.0	$0.00
Finkelstein, M	STV	2.45	C	$53.00		0.0	$0.00	$53.00		0.0	$0.00	0.0	0.0	$0.00
Nervina, G	STV	2.45	C	$48.99		0.0	$0.00	$48.99		0.0	$0.00	0.0	0.0	$0.00
Solano, J	STV	2.45	C	$53.00		0.0	$0.00	$53.00		0.0	$0.00	0.0	0.0	$0.00
Zettner, P	STV	2.45	B	$70.19		0.0	$0.00	$70.19		0.0	$0.00	0.0	0.0	$0.00
Hand, J	AECOM	2.45	B	$70.61		0.0	$0.00	$70.61		0.0	$0.00	0.0	0.0	$0.00
Chong, S	AECOM	2.45	C	$40.89		0.0	$0.00	$40.89		0.0	$0.00	0.0	0.0	$0.00
Patel, K	AECOM	2.45	D	$38.75		0.0	$0.00	$38.75		0.0	$0.00	0.0	0.0	$0.00
Schiff, M	AECOM	2.45	C	$52.15		0.0	$0.00	$52.15		0.0	$0.00	0.0	0.0	$0.00
Woo, T	AECOM	2.45	B	$70.13		0.0	$0.00	$70.13		0.0	$0.00	0.0	0.0	$0.00
Diamond, R	SCSA	2.95	A	$118.32		0.0	$0.00	$118.32		0.0	$0.00	0.0	0.0	$0.00
SCSA Eng/Arch B	SCSA TBD	2.95	B	$66.08		0.0	$0.00	$66.08		0.0	$0.00	0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A	$86.95		0.0	$0.00	$86.95		0.0	$0.00	0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A	$86.95		0.0	$0.00	$86.95		0.0	$0.00	0.0	0.0	$0.00
Bracco, S	STV	2.45	C	$48.08		0.0	$0.00	$48.08		0.0	$0.00	0.0	0.0	$0.00
PTG Eng/Arch C	PTG TBD	2.45	C	$46.69		0.0	$0.00	$46.69		0.0	$0.00	0.0	0.0	$0.00
Lem, R	STV	2.45	B	$61.36		0.0	$0.00	$61.36		0.0	$0.00	0.0	0.0	$0.00
London, L	STV	2.45	D	$31.27		0.0	$0.00	$31.27		0.0	$0.00	0.0	0.0	$0.00
PTG Eng/Arch D	PTG TBD	2.45	D	$31.91		0.0	$0.00	$31.91		0.0	$0.00	0.0	0.0	$0.00
Avellan, J	WNBA	2.76	B	$52.16		0.0	$0.00	$52.16		0.0	$0.00	0.0	0.0	$0.00
Govekar, S	WNBA	2.76	Cad	$24.76		0.0	$0.00	$24.76		0.0	$0.00	0.0	0.0	$0.00
Kasakyan, A	WNBA	2.76	C	$45.19		0.0	$0.00	$45.19		0.0	$0.00	0.0	0.0	$0.00
Brodsky, V	STV	2.45	A	$100.72		0.0	$0.00	$100.72		0.0	$0.00	0.0	0.0	$0.00
Ghaly, N	Parsons	2.45	B	$72.73		0.0	$0.00	$72.73		0.0	$0.00	0.0	0.0	$0.00
Littler, M	Parsons	2.45	C	$54.56		0.0	$0.00	$54.56		0.0	$0.00	0.0	0.0	$0.00
Clarson, M	RCC	2.917	C	$51.09		0.0	$0.00	$51.09		0.0	$0.00	0.0	0.0	$0.00
Abdullah, M	STV	2.45	B	$68.30		0.0	$0.00	$68.30		0.0	$0.00	0.0	0.0	$0.00
Cobuzzi, A	STV	2.45	B	$56.49		0.0	$0.00	$56.49		0.0	$0.00	0.0	0.0	$0.00
Gilboa, J	STV	2.45	A	$73.81		0.0	$0.00	$73.81		0.0	$0.00	0.0	0.0	$0.00
Koumjian, G	STV	2.45	A	$85.58		0.0	$0.00	$85.58		0.0	$0.00	0.0	0.0	$0.00
Schuller, P	STV	2.45	A	$90.24		0.0	$0.00	$90.24		0.0	$0.00	0.0	0.0	$0.00
Zheng, H	STV	2.45	B	$63.07		0.0	$0.00	$63.07		0.0	$0.00	0.0	0.0	$0.00
Charalambous, J	Parsons	2.45	A	$93.27		0.0	$0.00	$93.27		0.0	$0.00	0.0	0.0	$0.00
Parnes, J	AECOM	2.45	A	$78.44		0.0	$0.00	$78.44		0.0	$0.00	0.0	0.0	$0.00
Altabba, B	Parsons	2.45	A	$73.69		0.0	$0.00	$73.69		0.0	$0.00	0.0	0.0	$0.00
Mauritz, P	AECOM	2.45	A	$73.58		0.0	$0.00	$73.58		0.0	$0.00	0.0	0.0	$0.00
Baxter, D	AECOM	2.45	C	$42.32		0.0	$0.00	$42.32		0.0	$0.00	0.0	0.0	$0.00
Jimenez, D	AECOM	2.45	C	$44.29		0.0	$0.00	$44.29		0.0	$0.00	0.0	0.0	$0.00
Levintov, B	AECOM	2.45	B	$66.02		0.0	$0.00	$66.02		0.0	$0.00	0.0	0.0	$0.00
Mazumdar, A	AECOM	2.45	B	$61.22		0.0	$0.00	$61.22		0.0	$0.00	0.0	0.0	$0.00
Sherzer, M	AECOM	2.45	C	$44.97		0.0	$0.00	$44.97		0.0	$0.00	0.0	0.0	$0.00
Teodor, L	AECOM	2.45	B	$57.57		0.0	$0.00	$57.57		0.0	$0.00	0.0	0.0	$0.00
Kourkoumelis, V	Hirani	2.54	C	$48.08		0.0	$0.00	$48.08		0.0	$0.00	0.0	0.0	$0.00
Ingram, G	Parsons	2.45	Cad	$25.44		0.0	$0.00	$25.44		0.0	$0.00	0.0	0.0	$0.00
Khalil, M	Parsons	2.45	B	$64.33		0.0	$0.00	$64.33		0.0	$0.00	0.0	0.0	$0.00
Patel, A	Parsons	2.45	C	$53.74		0.0	$0.00	$53.74		0.0	$0.00	0.0	0.0	$0.00
Sousa, M	Parsons	2.45	Cad	$34.07		0.0	$0.00	$34.07		0.0	$0.00	0.0	0.0	$0.00
Wisniewski, B	Parsons	2.45	C	$45.65		0.0	$0.00	$45.65		0.0	$0.00	0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A	$86.95		0.0	$0.00	$86.95		0.0	$0.00	0.0	0.0	$0.00
Lomax, S	SCSA	2.95	A	$79.71		0.0	$0.00	$79.71		0.0	$0.00	0.0	0.0	$0.00
Rando, M	SCSA	2.95	A	$125.08		0.0	$0.00	$125.08		0.0	$0.00	0.0	0.0	$0.00
Doshi, K	STV	2.45	A	$98.72		0.0	$0.00	$98.72		0.0	$0.00	0.0	0.0	$0.00
Cregger, D	AECOM	2.45	B	$58.47		0.0	$0.00	$58.47		0.0	$0.00	0.0	0.0	$0.00
Baker, U	Weidlinger	2.6	D	$36.55		0.0	$0.00	$36.55		0.0	$0.00	0.0	0.0	$0.00
Mirzakashani, M	AECOM	2.45	A	$90.87		0.0	$0.00	$90.87		0.0	$0.00	0.0	0.0	$0.00
Wang, H	AECOM	2.45	B	$65.00		0.0	$0.00	$65.00		0.0	$0.00	0.0	0.0	$0.00
Kopkalli, H	YAS	2.51	B	$67.00		0.0	$0.00	$67.00		0.0	$0.00	0.0	0.0	$0.00
Fearon, D	PACO	2.62	TA	$27.76		0.0	$0.00	$27.76		0.0	$0.00	0.0	0.0	$0.00
Nikolakakos, S	Russell	2.66	P	$144.00		0.0	$0.00	$144.00		0.0	$0.00	0.0	0.0	$0.00
			Totals:		3.20	6,656.0	$596,177.05		4.10	4,264.0	$297,168.70	5.3	10,920.0	$893,345.74

Contract No. 407-03-013
Change Order (CO) #09-006-A
Revised - Design Contract Change (DCC) 494

Professional Services Change Order
Revised - Cost Proposal

Revised - Schedule C
Task 1.3 - Coordinate with WTC Staff (Procurement Support)

Staffing Name	Company	Multiplier (OH+Fee)	Eng/Arch Category	7/1/08 - 6/31/09				7/1/09 - 12/31/09				Total FTE	Total Hours	Total Labor ($)
				Hourly Rate	FTE	Hours (Hrs)	Total Labor ($)	Hourly Rate	FTE	Hours (Hrs)	Total Labor ($)			
Edwards, R	AECOM	2.45	A	$108.53		0.0	$0.00	$108.53		0.0	$0.00	0.0	0.0	$0.00
McIntyre, S	STV	2.45	A	$102.97		0.0	$0.00	$102.97		0.0	$0.00	0.0	0.0	$0.00
Garz, M	STV	2.45	A	$116.88		0.0	$0.00	$116.88		0.0	$0.00	0.0	0.0	$0.00
Calatrava, S	SCSA	2.95	A	$270.00		0.0	$0.00	$270.00		0.0	$0.00	0.0	0.0	$0.00
Son, J	STV	2.45	B	$81.07		0.0	$0.00	$81.07		0.0	$0.00	0.0	0.0	$0.00
Harris, K	AECOM	2.45	C	$44.96		0.0	$0.00	$44.96		0.0	$0.00	0.0	0.0	$0.00
Felice, D	PMA	2.5	TA	$35.00		0.0	$0.00	$35.00		0.0	$0.00	0.0	0.0	$0.00
Quinones, P	STV	2.45	C	$45.36		0.0	$0.00	$45.36		0.0	$0.00	0.0	0.0	$0.00
JV Eng/Arch A	JV TBD	2.45	A	$86.95		0.0	$0.00	$86.95	0.40	416.0	$88,619.44	0.2	416.0	$88,619.44
JV Eng/Arch B	JV TBD	2.45	B	$66.08		0.0	$0.00	$66.08	0.50	520.0	$84,185.92	0.3	520.0	$84,185.92
JV Eng/Arch B	JV TBD	2.45	B	$66.08	0.15	312.0	$50,511.55	$66.08	0.50	520.0	$84,185.92	0.4	832.0	$134,697.47
PTG Eng/Arch B	PTG TBD	2.45	B	$66.08		0.0	$0.00	$66.08	0.50	520.0	$84,185.92	0.3	520.0	$84,185.92
PTG Eng/Arch B	PTG TBD	2.45	B	$66.08		0.0	$0.00	$66.08	0.50	520.0	$84,185.92	0.3	520.0	$84,185.92
Tong, E	Stellar	2.45	C	$45.67		0.0	$0.00	$45.67		0.0	$0.00	0.0	0.0	$0.00
Abbate, D	STV	2.45	D	$27.88		0.0	$0.00	$27.88		0.0	$0.00	0.0	0.0	$0.00
Dennis, Y	STV	2.45	TA	$31.16		0.0	$0.00	$31.16		0.0	$0.00	0.0	0.0	$0.00
Kamboj, M	AECOM	2.45	B	$69.56	0.15	312.0	$53,171.66	$69.56	0.30	312.0	$53,171.66	0.3	624.0	$106,343.33
Gallagher, T	Parsons	2.45	C	$43.27		0.0	$0.00	$43.27	0.30	312.0	$33,075.59	0.2	312.0	$33,075.59
Pagani, S	PMA	2.5	C	$53.50		0.0	$0.00	$53.50	0.20	208.0	$27,820.00	0.1	208.0	$27,820.00
Finkelstein, M	STV	2.45	C	$53.00		0.0	$0.00	$53.00	0.20	208.0	$27,008.80	0.1	208.0	$27,008.80
Nervina, G	STV	2.45	C	$48.99		0.0	$0.00	$48.99	0.10	104.0	$12,482.65	0.1	104.0	$12,482.65
Solano, J	STV	2.45	C	$53.00		0.0	$0.00	$53.00	0.10	104.0	$13,504.40	0.1	104.0	$13,504.40
Zellner, P	STV	2.45	B	$70.19		0.0	$0.00	$70.19		0.0	$0.00	0.0	0.0	$0.00
Hand, J	AECOM	2.45	B	$70.61		0.0	$0.00	$70.61		0.0	$0.00	0.0	0.0	$0.00
Chong, S	AECOM	2.45	C	$40.89		0.0	$0.00	$40.89		0.0	$0.00	0.0	0.0	$0.00
Patel, K	AECOM	2.45	D	$38.75		0.0	$0.00	$38.75		0.0	$0.00	0.0	0.0	$0.00
Schiff, M	AECOM	2.45	C	$52.15	0.15	312.0	$39,863.46	$52.15		0.0	$0.00	0.2	312.0	$39,863.46
Woo, T	AECOM	2.45	B	$70.13		0.0	$0.00	$70.13		0.0	$0.00	0.0	0.0	$0.00
Diamond, R	SCSA	2.95	A	$116.32		0.0	$0.00	$116.32		0.0	$0.00	0.0	0.0	$0.00
SCSA Eng/Arch B	SCSA TBD	2.95	B	$66.08		0.0	$0.00	$66.08		0.0	$0.00	0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A	$86.95		0.0	$0.00	$86.95		0.0	$0.00	0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A	$86.95		0.0	$0.00	$86.95		0.0	$0.00	0.0	0.0	$0.00
Bracco, S	STV	2.45	C	$48.08		0.0	$0.00	$48.08		0.0	$0.00	0.0	0.0	$0.00
PTG Eng/Arch C	PTG TBD	2.45	C	$46.69		0.0	$0.00	$46.69		0.0	$0.00	0.0	0.0	$0.00
Lem, R	STV	2.45	B	$61.38	0.15	312.0	$46,903.58	$61.38		0.0	$0.00	0.2	312.0	$46,903.58
London, L	STV	2.45	D	$31.27		0.0	$0.00	$31.27		0.0	$0.00	0.0	0.0	$0.00
PTG Eng/Arch D	PTG TBD	2.45	D	$31.91		0.0	$0.00	$31.91		0.0	$0.00	0.0	0.0	$0.00
Avellan, J	WNBA	2.76	B	$52.16		0.0	$0.00	$52.16		0.0	$0.00	0.0	0.0	$0.00
Govekar, S	WNBA	2.76	Cad	$24.76		0.0	$0.00	$24.76		0.0	$0.00	0.0	0.0	$0.00
Kasakyan, A	WNBA	2.76	C	$45.19		0.0	$0.00	$45.19		0.0	$0.00	0.0	0.0	$0.00
Brodsky, V	STV	2.45	A	$100.72		0.0	$0.00	$100.72		0.0	$0.00	0.0	0.0	$0.00
Ghaly, N	Parsons	2.45	B	$72.73		0.0	$0.00	$72.73		0.0	$0.00	0.0	0.0	$0.00
Letier, M	Parsons	2.45	C	$54.56		0.0	$0.00	$54.56		0.0	$0.00	0.0	0.0	$0.00
Clarson, M	RCC	2.917	C	$51.09		0.0	$0.00	$51.09		0.0	$0.00	0.0	0.0	$0.00
Abdullah, M	STV	2.45	B	$68.30		0.0	$0.00	$68.30		0.0	$0.00	0.0	0.0	$0.00
Cobuzzi, A	STV	2.45	B	$56.49		0.0	$0.00	$56.49		0.0	$0.00	0.0	0.0	$0.00
Gliboa, J	STV	2.45	A	$73.81	0.15	312.0	$56,420.36	$73.81		0.0	$0.00	0.2	312.0	$56,420.36
Koumjian, G	STV	2.45	A	$85.58		0.0	$0.00	$85.58		0.0	$0.00	0.0	0.0	$0.00
Schuller, P	STV	2.45	A	$90.24	0.15	312.0	$68,979.46	$90.24		0.0	$0.00	0.2	312.0	$68,979.46
Zheng, H	STV	2.45	B	$63.07		0.0	$0.00	$63.07		0.0	$0.00	0.0	0.0	$0.00
Charalambous, J	Parsons	2.45	A	$93.27	0.15	312.0	$71,295.59	$93.27	0.10	104.0	$23,765.20	0.2	416.0	$95,060.78
Parnes, J	AECOM	2.45	A	$78.44		0.0	$0.00	$78.44		0.0	$0.00	0.0	0.0	$0.00
Altabba, B	Parsons	2.45	A	$73.69	0.15	312.0	$56,328.64	$73.69		0.0	$0.00	0.2	312.0	$56,328.64
Mauritz, P	AECOM	2.45	A	$73.58	0.15	312.0	$56,244.55	$73.58		0.0	$0.00	0.2	312.0	$56,244.55
Baxter, D	AECOM	2.45	C	$42.32		0.0	$0.00	$42.32		0.0	$0.00	0.0	0.0	$0.00
Jimenez, D	AECOM	2.45	C	$44.29		0.0	$0.00	$44.29		0.0	$0.00	0.0	0.0	$0.00
Levintov, B	AECOM	2.45	B	$66.02		0.0	$0.00	$66.02		0.0	$0.00	0.0	0.0	$0.00
Mazumdar, A	AECOM	2.45	B	$61.22		0.0	$0.00	$61.22		0.0	$0.00	0.0	0.0	$0.00
Sherzer, M	AECOM	2.45	C	$44.97		0.0	$0.00	$44.97		0.0	$0.00	0.0	0.0	$0.00
Teodor, L	AECOM	2.45	B	$57.57		0.0	$0.00	$57.57		0.0	$0.00	0.0	0.0	$0.00
Kourkoumelis, V	Hirani	2.54	C	$48.08		0.0	$0.00	$48.08		0.0	$0.00	0.0	0.0	$0.00
Ingram, G	Parsons	2.45	Cad	$25.44		0.0	$0.00	$25.44		0.0	$0.00	0.0	0.0	$0.00
Khalil, M	Parsons	2.45	B	$64.33		0.0	$0.00	$64.33		0.0	$0.00	0.0	0.0	$0.00
Patel, A	Parsons	2.45	C	$53.74		0.0	$0.00	$53.74		0.0	$0.00	0.0	0.0	$0.00
Sousa, M	Parsons	2.45	Cad	$34.07		0.0	$0.00	$34.07		0.0	$0.00	0.0	0.0	$0.00
Wisniewski, B	Parsons	2.45	C	$45.65		0.0	$0.00	$45.65		0.0	$0.00	0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A	$86.95		0.0	$0.00	$86.95	0.30	312.0	$80,028.78	0.2	312.0	$80,028.78
Lomax, S	SCSA	2.95	A	$79.71	0.15	312.0	$73,365.08	$79.71		0.0	$0.00	0.2	312.0	$73,365.08
Rando, M	SCSA	2.95	A	$125.06		0.0	$0.00	$125.06		0.0	$0.00	0.0	0.0	$0.00
Doshi, K	STV	2.45	A	$98.72		0.0	$0.00	$98.72		0.0	$0.00	0.0	0.0	$0.00
Cregger, D	AECOM	2.45	B	$58.47		0.0	$0.00	$58.47		0.0	$0.00	0.0	0.0	$0.00
Baker, U	Weidlinger	2.6	D	$36.55		0.0	$0.00	$36.55		0.0	$0.00	0.0	0.0	$0.00
Mirzakashani, M	AECOM	2.45	A	$90.87		0.0	$0.00	$90.87		0.0	$0.00	0.0	0.0	$0.00
Wang, H	AECOM	2.45	B	$65.00		0.0	$0.00	$65.00		0.0	$0.00	0.0	0.0	$0.00
Kopkalli, H	YAS	2.51	B	$67.00		0.0	$0.00	$67.00		0.0	$0.00	0.0	0.0	$0.00
Fearon, D	PACO	2.62	TA	$27.76		0.0	$0.00	$27.76		0.0	$0.00	0.0	0.0	$0.00
Nikolakakos, S	Russell	2.66	P	$144.00		0.0	$0.00	$144.00		0.0	$0.00	0.0	0.0	$0.00
			Totals Task 1.3:		*1.50*	*3,120.0*	*$573,083.94*	*5,107.9*	*4.00*	*4,160.0*	*$696,220.20*	*3.5*	*7,280.0*	*$1,269,304.14*

Contract No. 407-03-013
Change Order (CO) #09-006-A
Revised - Design Contract Change (DCC) 494

Professional Services Change Order
Revised - Cost Proposal

Revised - Schedule C
Task 2.1 - Pre-Bid Meetings

Staffing Name	Company	Multiplier (OH+Fee)	Eng/Arch Category	7/1/08 - 6/31/09				7/1/09 - 12/31/09				Total FTE	Total Hours	Total Labor ($)
				Hourly Rate	FTE	Hours (Hrs)	Total Labor ($)	Hourly Rate	FTE	Hours (Hrs)	Total Labor ($)			
Edwards, R	AECOM	2.45	A					$108.53		0.0	$0.00	0.0	0.0	$0.00
McIntyre, S	STV	2.45	A					$102.97		0.0	$0.00	0.0	0.0	$0.00
Garz, M	STV	2.45	A					$116.88	0.02	20.8	$5,956.20	0.0	20.8	$5,956.20
Calatrava, S	SCSA	2.95	A					$270.00		0.0	$0.00	0.0	0.0	$0.00
Son, J	STV	2.45	B					$61.07		0.0	$0.00	0.0	0.0	$0.00
Harris, K	AECOM	2.45	C					$44.96		0.0	$0.00	0.0	0.0	$0.00
Felice, D	PMA	2.5	TA					$35.00		0.0	$0.00	0.0	0.0	$0.00
JV TA	JV TBD	2.45	TA					$23.17		0.0	$0.00	0.0	0.0	$0.00
Basta, A	STV	2.45	A					$88.33	0.02	20.8	$4,501.30	0.0	20.8	$4,501.30
PTG Eng/Arch A	PTG TBD	2.45	A					$86.95	0.02	20.8	$4,430.97	0.0	20.8	$4,430.97
PTG Eng/Arch A	PTG TBD	2.45	A					$86.95		0.0	$0.00	0.0	0.0	$0.00
Rosciglione, A	AECOM	2.45	C					$52.31		0.0	$0.00	0.0	0.0	$0.00
Powell, D	ISR	2.332	TA					$29.79		0.0	$0.00	0.0	0.0	$0.00
Tong, E	Stellar	2.45	C					$45.87		0.0	$0.00	0.0	0.0	$0.00
Abbate, D	STV	2.45	D					$27.88		0.0	$0.00	0.0	0.0	$0.00
Dennis, Y	STV	2.45	TA					$31.16		0.0	$0.00	0.0	0.0	$0.00
Kamboj, M	AECOM	2.45	B					$89.56		0.0	$0.00	0.0	0.0	$0.00
Gallagher, T	Parsons	2.45	C					$43.27		0.0	$0.00	0.0	0.0	$0.00
Pagani, S	PMA	2.5	C					$53.50		0.0	$0.00	0.0	0.0	$0.00
Finkelstein, M	STV	2.45	C					$53.00		0.0	$0.00	0.0	0.0	$0.00
Nervina, G	STV	2.45	C					$46.99		0.0	$0.00	0.0	0.0	$0.00
Solano, J	STV	2.45	C					$53.00		0.0	$0.00	0.0	0.0	$0.00
Zellner, P	STV	2.45	B					$70.19		0.0	$0.00	0.0	0.0	$0.00
Hand, J	AECOM	2.45	B					$70.61		0.0	$0.00	0.0	0.0	$0.00
Chong, S	AECOM	2.45	C					$40.89		0.0	$0.00	0.0	0.0	$0.00
Patel, K	AECOM	2.45	D					$38.75		0.0	$0.00	0.0	0.0	$0.00
Schiff, M	AECOM	2.45	C					$52.15		0.0	$0.00	0.0	0.0	$0.00
Woo, T	AECOM	2.45	B					$70.13		0.0	$0.00	0.0	0.0	$0.00
Diamond, R	SCSA	2.95	A					$118.32		0.0	$0.00	0.0	0.0	$0.00
SCSA Eng/Arch B	SCSA TBD	2.95	B					$66.06		0.0	$0.00	0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A					$86.95		0.0	$0.00	0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A					$86.95		0.0	$0.00	0.0	0.0	$0.00
Bracco, S	STV	2.45	C					$48.08		0.0	$0.00	0.0	0.0	$0.00
PTG Eng/Arch C	PTG TBD	2.45	C					$46.69		0.0	$0.00	0.0	0.0	$0.00
Lem, R	STV	2.45	B					$61.36		0.0	$0.00	0.0	0.0	$0.00
London, L	STV	2.45	D					$31.27		0.0	$0.00	0.0	0.0	$0.00
PTG Eng/Arch D	PTG TBD	2.45	D					$31.91		0.0	$0.00	0.0	0.0	$0.00
Avellan, J	WNBA	2.76	B					$52.16		0.0	$0.00	0.0	0.0	$0.00
Govekar, S	WNBA	2.76	Cad					$24.76		0.0	$0.00	0.0	0.0	$0.00
Kasakyan, A	WNBA	2.76	C					$45.19		0.0	$0.00	0.0	0.0	$0.00
Brodsky, V	STV	2.45	A					$100.72		0.0	$0.00	0.0	0.0	$0.00
Ghaly, N	Parsons	2.45	B					$72.73		0.0	$0.00	0.0	0.0	$0.00
Littler, M	Parsons	2.45	C					$54.56		0.0	$0.00	0.0	0.0	$0.00
Clarson, M	RCC	2.917	C					$51.09		0.0	$0.00	0.0	0.0	$0.00
Abdullah, M	STV	2.45	B					$88.30		0.0	$0.00	0.0	0.0	$0.00
Cobuzzi, A	STV	2.45	B					$56.49		0.0	$0.00	0.0	0.0	$0.00
Gilboa, J	STV	2.45	A					$73.81		0.0	$0.00	0.0	0.0	$0.00
Koumjian, G	STV	2.45	A					$85.58		0.0	$0.00	0.0	0.0	$0.00
Schuller, P	STV	2.45	A					$90.24		0.0	$0.00	0.0	0.0	$0.00
Zheng, H	STV	2.45	B					$63.07		0.0	$0.00	0.0	0.0	$0.00
PTG Eng/Arch A	PTG TBD	2.45	A					$86.95		0.0	$0.00	0.0	0.0	$0.00
Parnes, J	AECOM	2.45	A					$78.44		0.0	$0.00	0.0	0.0	$0.00
Allabbe, B	Parsons	2.45	A					$73.69		0.0	$0.00	0.0	0.0	$0.00
Mauritz, P	AECOM	2.45	A					$73.58		0.0	$0.00	0.0	0.0	$0.00
Baxter, D	AECOM	2.45	C					$42.32		0.0	$0.00	0.0	0.0	$0.00
Jimenez, D	AECOM	2.45	C					$44.29		0.0	$0.00	0.0	0.0	$0.00
Levintov, B	AECOM	2.45	B					$66.02		0.0	$0.00	0.0	0.0	$0.00
Mazumdar, A	AECOM	2.45	B					$61.22		0.0	$0.00	0.0	0.0	$0.00
Sherzer, M	AECOM	2.45	C					$44.97		0.0	$0.00	0.0	0.0	$0.00
Teodor, L	AECOM	2.45	B					$57.57		0.0	$0.00	0.0	0.0	$0.00
Kourkoumelis, V	Hirani	2.54	C					$48.08		0.0	$0.00	0.0	0.0	$0.00
Ingram, G	Parsons	2.45	Cad					$25.44		0.0	$0.00	0.0	0.0	$0.00
Khalil, M	Parsons	2.45	B					$64.33		0.0	$0.00	0.0	0.0	$0.00
Patel, A	Parsons	2.45	C					$53.74		0.0	$0.00	0.0	0.0	$0.00
Sousa, M	Parsons	2.45	Cad					$34.07		0.0	$0.00	0.0	0.0	$0.00
Wisniewski, B	Parsons	2.45	C					$45.65		0.0	$0.00	0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A					$86.95		0.0	$0.00	0.0	0.0	$0.00
Lomax, S	SCSA	2.95	A					$79.71		0.0	$0.00	0.0	0.0	$0.00
Rando, M	SCSA	2.95	A					$125.06		0.0	$0.00	0.0	0.0	$0.00
Doshi, K	STV	2.45	A					$98.72		0.0	$0.00	0.0	0.0	$0.00
Cragger, D	AECOM	2.45	B					$58.47		0.0	$0.00	0.0	0.0	$0.00
Baker, U	Weidlinger	2.6	D					$36.55		0.0	$0.00	0.0	0.0	$0.00
Mirzakashani, M	AECOM	2.45	A					$90.87		0.0	$0.00	0.0	0.0	$0.00
Wang, H	AECOM	2.45	B					$65.00		0.0	$0.00	0.0	0.0	$0.00
Kopkalli, H	YAS	2.51	B					$67.00		0.0	$0.00	0.0	0.0	$0.00
Fearon, D	PACO	2.62	TA					$27.76		0.0	$0.00	0.0	0.0	$0.00
Nikolakakos, S	Russell	2.66	P					$144.00		0.0	$0.00	0.0	0.0	$0.00
			Totals:						0.06	62.4	$14,888.47	0.0	62.4	$14,888.47

Contract No. 407-03-013
Change Order (CO) #09-006-A
Revised - Design Contract Change (DCC) 494

Professional Services Change Order
Revised - Cost Proposal

Revised - Schedule C
Task 2.2 - Respond to RFC's

Staffing Name	Company	Multiplier (OH+Fee)	Eng/Arch Category	7/1/08 - 6/31/09				7/1/09 - 12/31/09				Total FTE	Total Hours	Total Labor ($)
				Hourly Rate	FTE	Hours (Hrs)	Total Labor ($)	Hourly Rate	FTE	Hours (Hrs)	Total Labor ($)			
Edwards, R	AECOM	2.45	A	$108.53		0.0	$0.00	$108.53		0.0	$0.00	0.0	0.0	$0.00
McIntyre, S	STV	2.45	A	$102.97		0.0	$0.00	$102.97		0.0	$0.00	0.0	0.0	$0.00
Garz, M	STV	2.45	A	$118.88		0.0	$0.00	$118.88	0.15	156.0	$44,671.54	0.1	156.0	$44,671.54
Calatrava, S	SCSA	2.95	A	$270.00		0.0	$0.00	$270.00		0.0	$0.00	0.0	0.0	$0.00
Son, J	STV	2.45	B	$61.07		0.0	$0.00	$61.07		0.0	$0.00	0.0	0.0	$0.00
Harris, K	AECOM	2.45	C	$44.96		0.0	$0.00	$44.96		0.0	$0.00	0.0	0.0	$0.00
Felice, D	PMA	2.5	TA	$35.00		0.0	$0.00	$35.00		0.0	$0.00	0.0	0.0	$0.00
Quinones, P	STV	2.45	C	$45.36		0.0	$0.00	$45.36		0.0	$0.00	0.0	0.0	$0.00
Basta, A	STV	2.45	A	$88.33		0.0	$0.00	$88.33		0.0	$0.00	0.0	0.0	$0.00
Jang, H	AECOM	2.45	TA	$20.40		0.0	$0.00	$20.40		0.0	$0.00	0.0	0.0	$0.00
PTG Eng/Arch B	PTG TBD	2.45	B	$66.08	0.10	208.0	$33,674.37	$66.08		0.0	$0.00	0.1	208.0	$33,674.37
Rosciglione, A	AECOM	2.45	C	$52.31		0.0	$0.00	$52.31		0.0	$0.00	0.0	0.0	$0.00
Powell, D	ISR	2.332	TA	$29.79		0.0	$0.00	$29.79		0.0	$0.00	0.0	0.0	$0.00
Tong, E	Stellar	2.45	C	$45.67		0.0	$0.00	$45.67		0.0	$0.00	0.0	0.0	$0.00
Abbate, D	STV	2.45	D	$27.88		0.0	$0.00	$27.88		0.0	$0.00	0.0	0.0	$0.00
Dennis, Y	STV	2.45	TA	$31.16		0.0	$0.00	$31.16		0.0	$0.00	0.0	0.0	$0.00
Kamboj, M	AECOM	2.45	B	$69.56	0.10	208.0	$35,447.78	$69.56		0.0	$0.00	0.1	208.0	$35,447.78
Gallagher, T	Parsons	2.45	C	$43.27		0.0	$0.00	$43.27		0.0	$0.00	0.0	0.0	$0.00
Pagani, S	PMA	2.5	C	$53.50		0.0	$0.00	$53.50		0.0	$0.00	0.0	0.0	$0.00
Finkelstein, M	STV	2.45	C	$53.00		0.0	$0.00	$53.00		0.0	$0.00	0.0	0.0	$0.00
Nervina, G	STV	2.45	C	$48.99		0.0	$0.00	$48.99		0.0	$0.00	0.0	0.0	$0.00
Solano, J	STV	2.45	C	$53.00		0.0	$0.00	$53.00		0.0	$0.00	0.0	0.0	$0.00
Zellner, P	STV	2.45	B	$70.19		0.0	$0.00	$70.19		0.0	$0.00	0.0	0.0	$0.00
Hand, J	AECOM	2.45	B	$70.61		0.0	$0.00	$70.61	0.15	156.0	$26,987.14	0.1	156.0	$26,987.14
Chong, S	AECOM	2.45	C	$40.89		0.0	$0.00	$40.89		0.0	$0.00	0.0	0.0	$0.00
Patel, K	AECOM	2.45	D	$38.75		0.0	$0.00	$38.75		0.0	$0.00	0.0	0.0	$0.00
Schiff, M	AECOM	2.45	C	$52.15	0.10	208.0	$26,575.84	$52.15		0.0	$0.00	0.1	208.0	$26,575.84
Woo, T	AECOM	2.45	B	$70.13		0.0	$0.00	$70.13		0.0	$0.00	0.0	0.0	$0.00
Diamond, R	SCSA	2.95	A	$116.32		0.0	$0.00	$116.32		0.0	$0.00	0.0	0.0	$0.00
PTG Eng/Arch B	PTG TBD	2.45	B	$66.08		0.0	$0.00	$66.08	0.11	114.4	$18,520.90	0.1	114.4	$18,520.90
PTG Eng/Arch B	PTG TBD	2.45	B	$66.08		0.0	$0.00	$66.08	0.11	114.4	$18,520.90	0.1	114.4	$18,520.90
PTG Eng/Arch B	PTG TBD	2.45	B	$66.08		0.0	$0.00	$66.08	0.11	114.4	$18,520.90	0.1	114.4	$18,520.90
PTG Eng/Arch B	PTG TBD	2.45	B	$66.08		0.0	$0.00	$66.08	0.10	104.0	$16,837.18	0.1	104.0	$16,837.18
PTG Eng/Arch B	PTG TBD	2.45	B	$66.08		0.0	$0.00	$66.08	0.10	104.0	$16,837.18	0.1	104.0	$16,837.18
Lem, R	STV	2.45	B	$61.36	0.10	208.0	$31,269.06	$61.36		0.0	$0.00	0.1	208.0	$31,269.06
London, L	STV	2.45	D	$31.27		0.0	$0.00	$31.27		0.0	$0.00	0.0	0.0	$0.00
PTG Eng/Arch D	PTG TBD	2.45	D	$31.91		0.0	$0.00	$31.91		0.0	$0.00	0.0	0.0	$0.00
Avellan, J	WNBA	2.76	B	$52.16		0.0	$0.00	$52.16		0.0	$0.00	0.0	0.0	$0.00
Govekar, S	WNBA	2.76	Cad	$24.76		0.0	$0.00	$24.76		0.0	$0.00	0.0	0.0	$0.00
Kasakyan, A	WNBA	2.76	C	$45.19		0.0	$0.00	$45.19		0.0	$0.00	0.0	0.0	$0.00
Brodsky, V	STV	2.45	A	$100.72		0.0	$0.00	$100.72	0.15	156.0	$38,495.18	0.1	156.0	$38,495.18
Ghaly, N	Parsons	2.45	B	$72.73		0.0	$0.00	$72.73		0.0	$0.00	0.0	0.0	$0.00
Littler, M	Parsons	2.45	C	$54.56		0.0	$0.00	$54.56		0.0	$0.00	0.0	0.0	$0.00
Clarson, M	RCC	2.917	C	$51.09		0.0	$0.00	$51.09		0.0	$0.00	0.0	0.0	$0.00
Abdullah, M	STV	2.45	B	$68.30		0.0	$0.00	$68.30		0.0	$0.00	0.0	0.0	$0.00
Cobuzzi, A	STV	2.45	B	$56.49		0.0	$0.00	$56.49		0.0	$0.00	0.0	0.0	$0.00
Gilboa, J	STV	2.45	A	$73.81	0.10	208.0	$37,613.58	$73.81		0.0	$0.00	0.1	208.0	$37,613.58
Koumjian, G	STV	2.45	A	$85.58		0.0	$0.00	$85.58		0.0	$0.00	0.0	0.0	$0.00
Schuller, P	STV	2.45	A	$90.24	0.10	208.0	$45,986.30	$90.24		0.0	$0.00	0.1	208.0	$45,986.30
PTG Eng/Arch C	PTG TBD	2.45	C	$46.69		0.0	$0.00	$46.69		0.0	$0.00	0.0	0.0	$0.00
Charalambous, J	Parsons	2.45	A	$93.27	0.10	208.0	$47,530.39	$93.27		0.0	$0.00	0.1	208.0	$47,530.39
Parnes, J	AECOM	2.45	A	$78.44		0.0	$0.00	$78.44	0.15	156.0	$29,979.77	0.1	156.0	$29,979.77
Altebba, B	Parsons	2.45	A	$73.69	0.10	208.0	$37,552.42	$73.69		0.0	$0.00	0.1	208.0	$37,552.42
Mauritz, P	AECOM	2.45	A	$73.58	0.10	208.0	$37,496.37	$73.58		0.0	$0.00	0.1	208.0	$37,496.37
Baxter, D	AECOM	2.45	C	$42.32		0.0	$0.00	$42.32		0.0	$0.00	0.0	0.0	$0.00
Jimenez, D	AECOM	2.45	C	$44.29		0.0	$0.00	$44.29		0.0	$0.00	0.0	0.0	$0.00
Levintov, B	AECOM	2.45	B	$66.02		0.0	$0.00	$66.02		0.0	$0.00	0.0	0.0	$0.00
Mazumdar, A	AECOM	2.45	B	$61.22		0.0	$0.00	$61.22		0.0	$0.00	0.0	0.0	$0.00
Sherzer, M	AECOM	2.45	C	$44.97		0.0	$0.00	$44.97		0.0	$0.00	0.0	0.0	$0.00
Teodor, L	AECOM	2.45	B	$57.57		0.0	$0.00	$57.57		0.0	$0.00	0.0	0.0	$0.00
Kourkoumelis, V	Hirani	2.54	C	$48.08		0.0	$0.00	$48.08		0.0	$0.00	0.0	0.0	$0.00
Ingram, G	Parsons	2.45	Cad	$25.44		0.0	$0.00	$25.44		0.0	$0.00	0.0	0.0	$0.00
Khalil, M	Parsons	2.45	B	$64.33		0.0	$0.00	$64.33		0.0	$0.00	0.0	0.0	$0.00
Patel, A	Parsons	2.45	C	$53.74		0.0	$0.00	$53.74		0.0	$0.00	0.0	0.0	$0.00
Sousa, M	Parsons	2.45	Cad	$34.07		0.0	$0.00	$34.07		0.0	$0.00	0.0	0.0	$0.00
Wisniewski, B	Parsons	2.45	C	$45.65		0.0	$0.00	$45.65		0.0	$0.00	0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A	$86.95		0.0	$0.00	$86.95		0.0	$0.00	0.0	0.0	$0.00
Lomax, S	SCSA	2.95	A	$79.71	0.10	208.0	$48,910.06	$79.71		0.0	$0.00	0.1	208.0	$48,910.06
Rando, M	SCSA	2.95	A	$125.06		0.0	$0.00	$125.06		0.0	$0.00	0.0	0.0	$0.00
Doshi, K	STV	2.45	A	$98.72		0.0	$0.00	$98.72		0.0	$0.00	0.0	0.0	$0.00
Cregger, D	AECOM	2.45	B	$58.47		0.0	$0.00	$58.47		0.0	$0.00	0.0	0.0	$0.00
Baker, U	Weidlinger	2.6	D	$36.55		0.0	$0.00	$36.55		0.0	$0.00	0.0	0.0	$0.00
Mirzakashani, M	AECOM	2.45	A	$90.87		0.0	$0.00	$90.87		0.0	$0.00	0.0	0.0	$0.00
Wang, H	AECOM	2.45	B	$85.00		0.0	$0.00	$85.00		0.0	$0.00	0.0	0.0	$0.00
Kopkalli, H	YAS	2.51	B	$67.00		0.0	$0.00	$67.00		0.0	$0.00	0.0	0.0	$0.00
Fearon, D	PACO	2.62	TA	$27.76		0.0	$0.00	$27.76		0.0	$0.00	0.0	0.0	$0.00
Nikolakakos, S	Russell	2.66	P	$144.00		0.0	$0.00	$144.00		0.0	$0.00	0.0	0.0	$0.00
			Totals:		*1.00*	*2,080.0*	*$382,055.96*		*1.13*	*1,175.2*	*$229,370.71*	*1.8*	*3,255.2*	*$611,426.67*

Contract No. 407-03-013
Change Order (CO) #09-006-A
Revised - Design Contract Change (DCC) 494

Professional Services Change Order
Revised - Cost Proposal

Revised - Schedule C
Task 2.3 - Prepare Conformed Set

Staffing Name	Company	Multiplier (OH+Fee)	Eng/Arch Category	7/1/08 - 6/31/09				7/1/09 - 12/31/09				Total FTE	Total Hours	Total Labor ($)
				Hourly Rate	FTE	Hours (Hrs)	Total Labor ($)	Hourly Rate	FTE	Hours (Hrs)	Total Labor ($)			
Edwards, R	AECOM	2.45	A									0.0	0.0	$0.00
McIntyre, S	STV	2.45	A									0.0	0.0	$0.00
Garz, M	STV	2.45	A									0.0	0.0	$0.00
Calatrava, S	SCSA	2.95	A									0.0	0.0	$0.00
Son, J	STV	2.45	B									0.0	0.0	$0.00
Harris, K	AECOM	2.45	C									0.0	0.0	$0.00
Felice, D	PMA	2.5	TA									0.0	0.0	$0.00
Quinones, P	STV	2.45	C									0.0	0.0	$0.00
Basta, A	STV	2.45	A									0.0	0.0	$0.00
PTG Eng/Arch C	PTG TBD	2.45	C									0.0	0.0	$0.00
PTG Eng/Arch B	PTG TBD	2.45	B									0.0	0.0	$0.00
Rosciglione, A	AECOM	2.45	C									0.0	0.0	$0.00
Powell, D	ISR	2.332	TA									0.0	0.0	$0.00
Tong, E	Stellar	2.45	C									0.0	0.0	$0.00
Abbate, D	STV	2.45	D									0.0	0.0	$0.00
Dennis, Y	STV	2.45	TA									0.0	0.0	$0.00
JV Eng/Arch A	JV TBD	2.45	A									0.0	0.0	$0.00
Gallagher, T	Parsons	2.45	C									0.0	0.0	$0.00
Pagani, S	PMA	2.5	C									0.0	0.0	$0.00
Finkelstein, M	STV	2.45	C									0.0	0.0	$0.00
Nervina, G	STV	2.45	C									0.0	0.0	$0.00
Solano, J	STV	2.45	C									0.0	0.0	$0.00
Zellner, P	STV	2.45	B									0.0	0.0	$0.00
Hand, J	AECOM	2.45	B									0.0	0.0	$0.00
Chong, S	AECOM	2.45	C									0.0	0.0	$0.00
Patel, K	AECOM	2.45	D									0.0	0.0	$0.00
Schiff, M	AECOM	2.45	C									0.0	0.0	$0.00
Woo, T	AECOM	2.45	B									0.0	0.0	$0.00
Diamond, R	SCSA	2.95	A									0.0	0.0	$0.00
SCSA Eng/Arch B	SCSA TBD	2.95	B									0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A									0.0	0.0	$0.00
Bracco, S	STV	2.45	C									0.0	0.0	$0.00
PTG Eng/Arch C	PTG TBD	2.45	C									0.0	0.0	$0.00
Lem, R	STV	2.45	B									0.0	0.0	$0.00
JV Eng/Arch D	JV TBD	2.45	D									0.0	0.0	$0.00
PTG Eng/Arch D	PTG TBD	2.45	D									0.0	0.0	$0.00
Avellan, J	WNBA	2.76	B									0.0	0.0	$0.00
Govekar, S	WNBA	2.76	Cad									0.0	0.0	$0.00
Kasakyan, A	WNBA	2.76	C									0.0	0.0	$0.00
Brodsky, V	STV	2.45	A									0.0	0.0	$0.00
Ghaly, N	Parsons	2.45	B									0.0	0.0	$0.00
Littler, M	Parsons	2.45	C									0.0	0.0	$0.00
Clarson, M	RCC	2.917	C									0.0	0.0	$0.00
Abdullah, M	STV	2.45	B									0.0	0.0	$0.00
Cobuzzi, A	STV	2.45	B									0.0	0.0	$0.00
Gilboa, J	STV	2.45	A									0.0	0.0	$0.00
Koumjian, G	STV	2.45	A									0.0	0.0	$0.00
Schuller, P	STV	2.45	A									0.0	0.0	$0.00
Zheng, H	STV	2.45	B									0.0	0.0	$0.00
PTG Eng/Arch A	PTG TBD	2.45	A									0.0	0.0	$0.00
Parnes, J	AECOM	2.45	A									0.0	0.0	$0.00
Altabba, B	Parsons	2.45	A									0.0	0.0	$0.00
Mauritz, P	AECOM	2.45	A									0.0	0.0	$0.00
Baxter, D	AECOM	2.45	C									0.0	0.0	$0.00
Jimenez, D	AECOM	2.45	C									0.0	0.0	$0.00
Levintov, B	AECOM	2.45	B									0.0	0.0	$0.00
Mazumdar, A	AECOM	2.45	B									0.0	0.0	$0.00
Sherzer, M	AECOM	2.45	C									0.0	0.0	$0.00
Teodor, L	AECOM	2.45	B									0.0	0.0	$0.00
Kourkoumelis, V	Hirani	2.54	C									0.0	0.0	$0.00
Ingram, G	Parsons	2.45	Cad									0.0	0.0	$0.00
Khalil, M	Parsons	2.45	B									0.0	0.0	$0.00
Patel, A	Parsons	2.45	C									0.0	0.0	$0.00
Sousa, M	Parsons	2.45	Cad									0.0	0.0	$0.00
Wisniewski, B	Parsons	2.45	C									0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A									0.0	0.0	$0.00
Lomax, S	SCSA	2.95	A									0.0	0.0	$0.00
Rando, M	SCSA	2.95	A									0.0	0.0	$0.00
Doshi, K	STV	2.45	A									0.0	0.0	$0.00
Cregger, D	AECOM	2.45	B									0.0	0.0	$0.00
Baker, U	Weidlinger	2.6	D									0.0	0.0	$0.00
Mirzakashani, M	AECOM	2.45	A									0.0	0.0	$0.00
Wang, H	AECOM	2.45	B									0.0	0.0	$0.00
JV Eng/Arch B	JV TBD	2.45	B									0.0	0.0	$0.00
Fearon, D	PACO	2.62	TA									0.0	0.0	$0.00
PTG Cadd Op	PTG TBD	2.45	Cad									0.0	0.0	$0.00
			Totals:		0.00	0.0	$0.00		0.00	0.0	$0.00	0.0	0.0	$0.00

Contract No. 407-03-013
Change Order (CO) #09-006-A
Revised - Design Contract Change (DCC) 494

Professional Services Change Order
Revised - Cost Proposal

Revised - Schedule C
Task 2.4 - Meetings with Contrsctor and WTCC

Staffing Name	Company	Multiplier (OH+Fee)	Eng/Arch Category	7/1/08 - 6/31/09				7/1/09 - 12/31/09				Total FTE	Total Hours	Total Labor ($)
				Hourly Rate	FTE	Hours (Hrs)	Total Labor ($)	Hourly Rate	FTE	Hours (Hrs)	Total Labor ($)			
Edwards, R	AECOM	2.45	A					$108.53		0.0	$0.00	0.0	0.0	$0.00
McIntyre, S	STV	2.45	A					$102.97		0.0	$0.00	0.0	0.0	$0.00
Garz, M	STV	2.45	A					$118.88		0.0	$0.00	0.0	0.0	$0.00
Calatrava, S	SCSA	2.95	A					$270.00		0.0	$0.00	0.0	0.0	$0.00
Son, J	STV	2.45	B					$61.07		0.0	$0.00	0.0	0.0	$0.00
Harris, K	AECOM	2.45	C					$44.96		0.0	$0.00	0.0	0.0	$0.00
Felice, D	PMA	2.5	TA					$35.00		0.0	$0.00	0.0	0.0	$0.00
JV TA	JV TBD	2.45	TA					$23.17		0.0	$0.00	0.0	0.0	$0.00
Basta, A	STV	2.45	A					$88.33		0.0	$0.00	0.0	0.0	$0.00
Jang, H	AECOM	2.45	TA					$20.40		0.0	$0.00	0.0	0.0	$0.00
McDermott, C	AECOM	2.45	A					$81.04		0.0	$0.00	0.0	0.0	$0.00
Rosciglione, A	AECOM	2.45	C					$52.31		0.0	$0.00	0.0	0.0	$0.00
Powell, D	ISR	2.332	TA					$29.79		0.0	$0.00	0.0	0.0	$0.00
Tong, E	Stellar	2.45	C					$45.67		0.0	$0.00	0.0	0.0	$0.00
Abbate, D	STV	2.45	D					$27.88		0.0	$0.00	0.0	0.0	$0.00
Dennis, Y	STV	2.45	TA					$31.16		0.0	$0.00	0.0	0.0	$0.00
JV Eng/Arch A	JV TBD	2.45	A					$86.95	0.16	166.4	$35,447.78	0.1	166.4	$35,447.78
PTG Eng/Arch A	PTG TBD	2.45	A					$86.95	0.16	166.4	$35,447.78	0.1	166.4	$35,447.78
JV Eng/Arch B	JV TBD	2.45	B					$66.08	0.16	168.5	$27,276.24	0.1	168.5	$27,276.24
Finkelstein, M	STV	2.45	C					$53.00		0.0	$0.00	0.0	0.0	$0.00
Nervina, G	STV	2.45	C					$48.99		0.0	$0.00	0.0	0.0	$0.00
Solano, J	STV	2.45	C					$53.00		0.0	$0.00	0.0	0.0	$0.00
Zellner, P	STV	2.45	B					$70.19		0.0	$0.00	0.0	0.0	$0.00
Hand, J	AECOM	2.45	B					$70.81		0.0	$0.00	0.0	0.0	$0.00
Chong, S	AECOM	2.45	C					$40.89		0.0	$0.00	0.0	0.0	$0.00
Patel, K	AECOM	2.45	D					$38.75		0.0	$0.00	0.0	0.0	$0.00
PTG Eng/Arch B	PTG TBD	2.45	B					$66.08		0.0	$0.00	0.0	0.0	$0.00
Woo, T	AECOM	2.45	B					$70.13		0.0	$0.00	0.0	0.0	$0.00
Diamond, R	SCSA	2.95	A					$118.32		0.0	$0.00	0.0	0.0	$0.00
SCSA Eng/Arch B	SCSA TBD	2.95	B					$66.08		0.0	$0.00	0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A					$86.95		0.0	$0.00	0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A					$86.95		0.0	$0.00	0.0	0.0	$0.00
Bracco, S	STV	2.45	C					$48.08		0.0	$0.00	0.0	0.0	$0.00
PTG Eng/Arch C	PTG TBD	2.45	C					$46.69		0.0	$0.00	0.0	0.0	$0.00
Lem, R	STV	2.45	B					$61.38		0.0	$0.00	0.0	0.0	$0.00
London, L	STV	2.45	D					$31.27		0.0	$0.00	0.0	0.0	$0.00
PTG Eng/Arch D	PTG TBD	2.45	D					$31.91		0.0	$0.00	0.0	0.0	$0.00
Avellan, J	WNBA	2.76	B					$52.16		0.0	$0.00	0.0	0.0	$0.00
Govekar, S	WNBA	2.76	Cad					$24.76		0.0	$0.00	0.0	0.0	$0.00
Kasakyan, A	WNBA	2.76	C					$45.19		0.0	$0.00	0.0	0.0	$0.00
Brodsky, V	STV	2.45	A					$100.72		0.0	$0.00	0.0	0.0	$0.00
Ghaly, N	Parsons	2.45	B					$72.73		0.0	$0.00	0.0	0.0	$0.00
Littler, M	Parsons	2.45	C					$54.56		0.0	$0.00	0.0	0.0	$0.00
Clarson, M	RCC	2.917	C					$51.09		0.0	$0.00	0.0	0.0	$0.00
Abdullah, M	STV	2.45	B					$68.30		0.0	$0.00	0.0	0.0	$0.00
Cobuzzi, A	STV	2.45	B					$56.49		0.0	$0.00	0.0	0.0	$0.00
Gilboa, J	STV	2.45	A					$73.81		0.0	$0.00	0.0	0.0	$0.00
Koumjian, G	STV	2.45	A					$85.58		0.0	$0.00	0.0	0.0	$0.00
Schuller, P	STV	2.45	A					$90.24		0.0	$0.00	0.0	0.0	$0.00
Zheng, H	STV	2.45	B					$63.07		0.0	$0.00	0.0	0.0	$0.00
PTG Eng/Arch A	PTG TBD	2.45	A					$86.95		0.0	$0.00	0.0	0.0	$0.00
Parnes, J	AECOM	2.45	A					$78.44		0.0	$0.00	0.0	0.0	$0.00
Altabba, B	Parsons	2.45	A					$73.89		0.0	$0.00	0.0	0.0	$0.00
JV Eng/Arch A	JV TBD	2.45	A					$86.95		0.0	$0.00	0.0	0.0	$0.00
Baxter, D	AECOM	2.45	C					$42.32		0.0	$0.00	0.0	0.0	$0.00
Jimenez, D	AECOM	2.45	C					$44.29		0.0	$0.00	0.0	0.0	$0.00
Levintov, B	AECOM	2.45	B					$66.02		0.0	$0.00	0.0	0.0	$0.00
Mazumdar, A	AECOM	2.45	B					$61.22		0.0	$0.00	0.0	0.0	$0.00
Sherzer, M	AECOM	2.45	C					$44.97		0.0	$0.00	0.0	0.0	$0.00
Teodor, L	AECOM	2.45	B					$57.57		0.0	$0.00	0.0	0.0	$0.00
Kourkoumelis, V	Hirani	2.54	C					$48.08		0.0	$0.00	0.0	0.0	$0.00
Ingram, G	Parsons	2.45	Cad					$25.44		0.0	$0.00	0.0	0.0	$0.00
Khalil, M	Parsons	2.45	B					$84.33		0.0	$0.00	0.0	0.0	$0.00
Patel, A	Parsons	2.45	C					$53.74		0.0	$0.00	0.0	0.0	$0.00
Sousa, M	Parsons	2.45	Cad					$34.07		0.0	$0.00	0.0	0.0	$0.00
Wisniewski, B	Parsons	2.45	C					$45.65		0.0	$0.00	0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A					$86.95		0.0	$0.00	0.0	0.0	$0.00
Lomax, S	SCSA	2.95	A					$79.71		0.0	$0.00	0.0	0.0	$0.00
Rando, M	SCSA	2.95	A					$125.06		0.0	$0.00	0.0	0.0	$0.00
Doshi, K	STV	2.45	A					$98.72		0.0	$0.00	0.0	0.0	$0.00
Cregger, D	AECOM	2.45	B					$58.47		0.0	$0.00	0.0	0.0	$0.00
Baker, U	Weidlinger	2.6	D					$36.55		0.0	$0.00	0.0	0.0	$0.00
Mirzakashani, M	AECOM	2.45	A					$90.67		0.0	$0.00	0.0	0.0	$0.00
Wang, H	AECOM	2.45	B					$65.00		0.0	$0.00	0.0	0.0	$0.00
Kopkalli, H	YAS	2.51	B					$67.00		0.0	$0.00	0.0	0.0	$0.00
Fearon, D	PACO	2.62	TA					$27.76		0.0	$0.00	0.0	0.0	$0.00
Nikolakakos, S	Russell	2.66	P					$144.00		0.0	$0.00	0.0	0.0	$0.00
			Totals:		0.00	0.0	$0.00	5,100.9	0.48	501.3	$98,171.79	0.2	501.3	$98,171.79

Contract No. 407-03-013
Change Order (CO) #09-006-A
Revised - Design Contract Change (DCC) 494

Professional Services Change Order
Revised - Cost Proposal

Revised - Schedule C
Task 3.1 - Field Meetings

Staffing Name	Company	Multiplier (OH+Fee)	Eng/Arch Category	7/1/08 - 6/31/09				7/1/09 - 12/31/09				Total FTE	Total Hours	Total Labor ($)
				Hourly Rate	FTE	Hours (Hrs)	Total Labor ($)	Hourly Rate	FTE	Hours (Hrs)	Total Labor ($)			
Edwards, R	AECOM	2.45	A	$108.53		0.0	$0.00	$108.53		0.0	$0.00	0.0	0.0	$0.00
McIntyre, S	STV	2.45	A	$102.97		0.0	$0.00	$102.97		0.0	$0.00	0.0	0.0	$0.00
Garz, M	STV	2.45	A	$116.88		0.0	$0.00	$116.88		0.0	$0.00	0.0	0.0	$0.00
Calatrava, S	SCSA	2.95	A	$270.00		0.0	$0.00	$270.00		0.0	$0.00	0.0	0.0	$0.00
Son, J	STV	2.45	B	$61.07		0.0	$0.00	$61.07		0.0	$0.00	0.0	0.0	$0.00
Harris, K	AECOM	2.45	C	$44.96		0.0	$0.00	$44.96		0.0	$0.00	0.0	0.0	$0.00
Felice, D	PMA	2.5	TA	$35.00		0.0	$0.00	$35.00		0.0	$0.00	0.0	0.0	$0.00
Quinones, P	STV	2.45	C	$45.36		0.0	$0.00	$45.36		0.0	$0.00	0.0	0.0	$0.00
Basta, A	STV	2.45	A	$88.33	0.20	416.0	$90,025.94	$88.33	0.20	208.0	$45,012.97	0.3	624.0	$135,038.90
Jang, H	AECOM	2.45	TA	$20.40		0.0	$0.00	$20.40		0.0	$0.00	0.0	0.0	$0.00
JV Eng/Arch A	JV TBD	2.45	A	$86.95		0.0	$0.00	$86.95	0.24	249.6	$53,171.66	0.1	249.6	$53,171.66
PTG Eng/Arch B	PTG TBD	2.45	B	$66.08	0.20	416.0	$67,348.74	$66.08	0.20	208.0	$33,674.37	0.3	624.0	$101,023.10
SCSA Eng/Arch A	SCSA TBD	2.95	A	$86.95		0.0	$0.00	$86.95	0.16	166.4	$42,682.02	0.1	166.4	$42,682.02
Tong, E	Stellar	2.45	C	$45.67		0.0	$0.00	$45.67		0.0	$0.00	0.0	0.0	$0.00
Abbate, D	STV	2.45	D	$27.88		0.0	$0.00	$27.88		0.0	$0.00	0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A	$86.95		0.0	$0.00	$86.95		0.0	$0.00	0.0	0.0	$0.00
Kamboj, M	AECOM	2.45	B	$69.56		0.0	$0.00	$69.56		0.0	$0.00	0.0	0.0	$0.00
Gallagher, T	Parsons	2.45	C	$43.27		0.0	$0.00	$43.27		0.0	$0.00	0.0	0.0	$0.00
Pagani, S	PMA	2.5	C	$53.50		0.0	$0.00	$53.50		0.0	$0.00	0.0	0.0	$0.00
Finkelstein, M	STV	2.45	C	$53.00		0.0	$0.00	$53.00		0.0	$0.00	0.0	0.0	$0.00
Nervina, G	STV	2.45	C	$48.99		0.0	$0.00	$48.99		0.0	$0.00	0.0	0.0	$0.00
Solano, J	STV	2.45	C	$53.00		0.0	$0.00	$53.00		0.0	$0.00	0.0	0.0	$0.00
Zellner, P	STV	2.45	B	$70.19		0.0	$0.00	$70.19		0.0	$0.00	0.0	0.0	$0.00
Hand, J	AECOM	2.45	B	$70.61		0.0	$0.00	$70.61		0.0	$0.00	0.0	0.0	$0.00
Chong, S	AECOM	2.45	C	$40.89		0.0	$0.00	$40.89		0.0	$0.00	0.0	0.0	$0.00
Patel, K	AECOM	2.45	D	$38.75		0.0	$0.00	$38.75		0.0	$0.00	0.0	0.0	$0.00
Schiff, M	AECOM	2.45	C	$52.15		0.0	$0.00	$52.15		0.0	$0.00	0.0	0.0	$0.00
Woo, T	AECOM	2.45	B	$70.13		0.0	$0.00	$70.13		0.0	$0.00	0.0	0.0	$0.00
Diamond, R	SCSA	2.95	A	$118.32		0.0	$0.00	$118.32		0.0	$0.00	0.0	0.0	$0.00
SCSA Eng/Arch B	SCSA TBD	2.95	B	$66.08		0.0	$0.00	$66.08		0.0	$0.00	0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A	$86.95		0.0	$0.00	$86.95		0.0	$0.00	0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A	$86.95		0.0	$0.00	$86.95		0.0	$0.00	0.0	0.0	$0.00
Bracco, S	STV	2.45	C	$48.08		0.0	$0.00	$48.08		0.0	$0.00	0.0	0.0	$0.00
PTG Eng/Arch C	PTG TBD	2.45	C	$46.69		0.0	$0.00	$46.69		0.0	$0.00	0.0	0.0	$0.00
Lem, R	STV	2.45	B	$61.36		0.0	$0.00	$61.36		0.0	$0.00	0.0	0.0	$0.00
London, L	STV	2.45	D	$31.27		0.0	$0.00	$31.27		0.0	$0.00	0.0	0.0	$0.00
PTG Eng/Arch D	PTG TBD	2.45	D	$31.91		0.0	$0.00	$31.91		0.0	$0.00	0.0	0.0	$0.00
Avellan, J	WNBA	2.76	B	$52.16		0.0	$0.00	$52.16		0.0	$0.00	0.0	0.0	$0.00
Govekar, S	WNBA	2.76	Cad	$24.76		0.0	$0.00	$24.76		0.0	$0.00	0.0	0.0	$0.00
Kasakyan, A	WNBA	2.76	C	$45.19		0.0	$0.00	$45.19		0.0	$0.00	0.0	0.0	$0.00
JV Eng/Arch A	JV TBD	2.45	A	$86.95		0.0	$0.00	$86.95		0.0	$0.00	0.0	0.0	$0.00
Ghaly, N	Parsons	2.45	B	$72.73		0.0	$0.00	$72.73		0.0	$0.00	0.0	0.0	$0.00
Littler, M	Parsons	2.45	C	$54.56		0.0	$0.00	$54.56		0.0	$0.00	0.0	0.0	$0.00
Clarson, M	RCC	2.917	C	$51.09		0.0	$0.00	$51.09		0.0	$0.00	0.0	0.0	$0.00
Abdullah, M	STV	2.45	B	$68.30		0.0	$0.00	$68.30		0.0	$0.00	0.0	0.0	$0.00
Cobuzzi, A	STV	2.45	B	$56.49		0.0	$0.00	$56.49		0.0	$0.00	0.0	0.0	$0.00
Gilbos, J	STV	2.45	A	$73.81		0.0	$0.00	$73.81		0.0	$0.00	0.0	0.0	$0.00
Koumjian, G	STV	2.45	A	$85.58		0.0	$0.00	$85.58		0.0	$0.00	0.0	0.0	$0.00
Schuler, P	STV	2.45	A	$90.24		0.0	$0.00	$90.24		0.0	$0.00	0.0	0.0	$0.00
Zheng, H	STV	2.45	B	$63.07		0.0	$0.00	$63.07		0.0	$0.00	0.0	0.0	$0.00
Charalambous, J	Parsons	2.45	A	$93.27		0.0	$0.00	$93.27		0.0	$0.00	0.0	0.0	$0.00
Parnes, J	AECOM	2.45	A	$78.44		0.0	$0.00	$78.44		0.0	$0.00	0.0	0.0	$0.00
Altabba, B	Parsons	2.45	A	$73.69		0.0	$0.00	$73.69		0.0	$0.00	0.0	0.0	$0.00
Mauritz, P	AECOM	2.45	A	$73.58		0.0	$0.00	$73.58		0.0	$0.00	0.0	0.0	$0.00
Baxter, O	AECOM	2.45	C	$42.32		0.0	$0.00	$42.32		0.0	$0.00	0.0	0.0	$0.00
Jimenez, D	AECOM	2.45	C	$44.29		0.0	$0.00	$44.29		0.0	$0.00	0.0	0.0	$0.00
Levintov, B	AECOM	2.45	B	$66.02		0.0	$0.00	$66.02		0.0	$0.00	0.0	0.0	$0.00
Mazumdar, A	AECOM	2.45	B	$61.22		0.0	$0.00	$61.22		0.0	$0.00	0.0	0.0	$0.00
Sherzer, M	AECOM	2.45	C	$44.97		0.0	$0.00	$44.97		0.0	$0.00	0.0	0.0	$0.00
Teodor, L	AECOM	2.45	B	$57.57		0.0	$0.00	$57.57		0.0	$0.00	0.0	0.0	$0.00
Kourkoumelis, V	Hirani	2.54	C	$48.08		0.0	$0.00	$48.08		0.0	$0.00	0.0	0.0	$0.00
Ingram, G	Parsons	2.45	Cad	$25.44		0.0	$0.00	$25.44		0.0	$0.00	0.0	0.0	$0.00
Khalil, M	Parsons	2.45	B	$64.33		0.0	$0.00	$64.33		0.0	$0.00	0.0	0.0	$0.00
Patel, A	Parsons	2.45	C	$53.74	0.20	416.0	$54,771.81	$53.74		0.0	$0.00	0.2	416.0	$54,771.81
Sousa, M	Parsons	2.45	Cad	$34.07		0.0	$0.00	$34.07		0.0	$0.00	0.0	0.0	$0.00
Wisniewski, B	Parsons	2.45	C	$45.65		0.0	$0.00	$45.65		0.0	$0.00	0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A	$86.95		0.0	$0.00	$86.95		0.0	$0.00	0.0	0.0	$0.00
Lomax, S	SCSA	2.95	A	$79.71		0.0	$0.00	$79.71		0.0	$0.00	0.0	0.0	$0.00
Rando, M	SCSA	2.95	A	$125.06		0.0	$0.00	$125.06		0.0	$0.00	0.0	0.0	$0.00
Doshi, K	STV	2.45	A	$98.72	0.20	416.0	$100,615.42	$98.72		0.0	$0.00	0.2	416.0	$100,615.42
Cregger, D	AECOM	2.45	B	$58.47		0.0	$0.00	$58.47		0.0	$0.00	0.0	0.0	$0.00
Baker, U	Weidlinger	2.6	D	$36.55		0.0	$0.00	$36.55		0.0	$0.00	0.0	0.0	$0.00
Mirzakashani, M	AECOM	2.45	A	$90.87		0.0	$0.00	$90.87		0.0	$0.00	0.0	0.0	$0.00
Wang, H	AECOM	2.45	B	$65.00		0.0	$0.00	$65.00		0.0	$0.00	0.0	0.0	$0.00
Kopkaff, H	YAS	2.51	B	$67.00		0.0	$0.00	$67.00		0.0	$0.00	0.0	0.0	$0.00
Fearon, D	PACO	2.62	TA	$27.76		0.0	$0.00	$27.76		0.0	$0.00	0.0	0.0	$0.00
Nikolakakos, S	Russell	2.66	P	$144.00		0.0	$0.00	$144.00		0.0	$0.00	0.0	0.0	$0.00
			Totals:		0.80	1,664.0	$312,761.90		0.80	832.0	$174,541.02	1.2	2,496.0	$487,302.92

Contract No. 407-03-013
Change Order (CO) #09-006-A
Revised - Design Contract Change (DCC) 494

Professional Services Change Order
Revised - Cost Proposal

Revised - Schedule C
Task 3.2 - Technical Expeditor/Field Engineer

Staffing Name	Company	Multiplier (OH+Fee)	Eng/Arch Category	7/1/08 - 6/31/09				7/1/09 - 12/31/09				Total FTE	Total Hours	Total Labor ($)
				Hourly Rate	FTE	Hours (Hrs)	Total Labor ($)	Hourly Rate	FTE	Hours (Hrs)	Total Labor ($)			
Edwards, R	AECOM	2.45	A					$108.53		0.0	$0.00	0.0	0.0	$0.00
McIntyre, S	STV	2.45	A					$102.97		0.0	$0.00	0.0	0.0	$0.00
Garz, M	STV	2.45	A					$116.88		0.0	$0.00	0.0	0.0	$0.00
Calatrava, S	SCSA	2.95	A					$270.00		0.0	$0.00	0.0	0.0	$0.00
Son, J	STV	2.45	B					$61.07		0.0	$0.00	0.0	0.0	$0.00
Harris, K	AECOM	2.45	C					$44.96		0.0	$0.00	0.0	0.0	$0.00
Felice, D	PMA	2.5	TA					$35.00		0.0	$0.00	0.0	0.0	$0.00
PTG Eng/Arch B	PTG TBD	2.45	B					$66.08	1.00	1,040.0	$168,371.84	0.5	1,040.0	$168,371.84
Basta, A	STV	2.45	A					$88.33		0.0	$0.00	0.0	0.0	$0.00
Jang, H	AECOM	2.45	TA					$20.40		0.0	$0.00	0.0	0.0	$0.00
McDermott, C	AECOM	2.45	A					$61.04		0.0	$0.00	0.0	0.0	$0.00
Rosciglione, A	AECOM	2.45	C					$52.31		0.0	$0.00	0.0	0.0	$0.00
Powell, D	ISR	2.332	TA					$29.79		0.0	$0.00	0.0	0.0	$0.00
Tong, E	Stellar	2.45	C					$45.67		0.0	$0.00	0.0	0.0	$0.00
Abbate, D	STV	2.45	D					$27.88		0.0	$0.00	0.0	0.0	$0.00
Dennis, Y	STV	2.45	TA					$31.16		0.0	$0.00	0.0	0.0	$0.00
Kamboj, M	AECOM	2.45	B					$69.56		0.0	$0.00	0.0	0.0	$0.00
Gallagher, T	Parsons	2.45	C					$43.27		0.0	$0.00	0.0	0.0	$0.00
Pagani, S	PMA	2.5	C					$53.50		0.0	$0.00	0.0	0.0	$0.00
Finkelstein, M	STV	2.45	C					$53.00		0.0	$0.00	0.0	0.0	$0.00
Nervina, G	STV	2.45	C					$48.99		0.0	$0.00	0.0	0.0	$0.00
Solano, J	STV	2.45	C					$53.00		0.0	$0.00	0.0	0.0	$0.00
Zeltner, P	STV	2.45	B					$70.19		0.0	$0.00	0.0	0.0	$0.00
Hand, J	AECOM	2.45	B					$70.81		0.0	$0.00	0.0	0.0	$0.00
Chong, S	AECOM	2.45	C					$40.69		0.0	$0.00	0.0	0.0	$0.00
Patel, K	AECOM	2.45	D					$38.75		0.0	$0.00	0.0	0.0	$0.00
Schiff, M	AECOM	2.45	C					$52.15		0.0	$0.00	0.0	0.0	$0.00
Woo, T	AECOM	2.45	B					$70.13		0.0	$0.00	0.0	0.0	$0.00
Diamond, R	SCSA	2.95	A					$118.32		0.0	$0.00	0.0	0.0	$0.00
SCSA Eng/Arch B	SCSA TBD	2.95	B					$86.08		0.0	$0.00	0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A					$86.95		0.0	$0.00	0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A					$86.95		0.0	$0.00	0.0	0.0	$0.00
Bracco, S	STV	2.45	C					$48.08		0.0	$0.00	0.0	0.0	$0.00
PTG Eng/Arch C	PTG TBD	2.45	C					$46.69		0.0	$0.00	0.0	0.0	$0.00
Lem, R	STV	2.45	B					$61.36		0.0	$0.00	0.0	0.0	$0.00
London, L	STV	2.45	D					$31.27		0.0	$0.00	0.0	0.0	$0.00
PTG Eng/Arch D	PTG TBD	2.45	D					$31.91		0.0	$0.00	0.0	0.0	$0.00
Avellan, J	WNBA	2.78	B					$52.16		0.0	$0.00	0.0	0.0	$0.00
Govekar, S	WNBA	2.78	Cad					$24.76		0.0	$0.00	0.0	0.0	$0.00
Kasakyan, A	WNBA	2.78	C					$45.19		0.0	$0.00	0.0	0.0	$0.00
Brodsky, V	STV	2.45	A					$100.72		0.0	$0.00	0.0	0.0	$0.00
Ghaly, N	Parsons	2.45	B					$72.73		0.0	$0.00	0.0	0.0	$0.00
Littler, M	Parsons	2.45	C					$54.56		0.0	$0.00	0.0	0.0	$0.00
Clarson, M	RCC	2.917	C					$51.09		0.0	$0.00	0.0	0.0	$0.00
Abdullah, M	STV	2.45	B					$68.30		0.0	$0.00	0.0	0.0	$0.00
Cobuzzi, A	STV	2.45	B					$56.49		0.0	$0.00	0.0	0.0	$0.00
Gilboa, J	STV	2.45	A					$73.81		0.0	$0.00	0.0	0.0	$0.00
Koumjian, G	STV	2.45	A					$85.58		0.0	$0.00	0.0	0.0	$0.00
Schutter, P	STV	2.45	A					$90.24		0.0	$0.00	0.0	0.0	$0.00
Zheng, H	STV	2.45	B					$63.07		0.0	$0.00	0.0	0.0	$0.00
Charalambous, J	Parsons	2.45	A					$93.27		0.0	$0.00	0.0	0.0	$0.00
Parnes, J	AECOM	2.45	A					$78.44		0.0	$0.00	0.0	0.0	$0.00
Altabba, B	Parsons	2.45	A					$73.69		0.0	$0.00	0.0	0.0	$0.00
Mauritz, P	AECOM	2.45	A					$73.58		0.0	$0.00	0.0	0.0	$0.00
Baxter, D	AECOM	2.45	C					$42.32		0.0	$0.00	0.0	0.0	$0.00
Jimenez, D	AECOM	2.45	C					$44.29		0.0	$0.00	0.0	0.0	$0.00
Levintov, B	AECOM	2.45	B					$66.02		0.0	$0.00	0.0	0.0	$0.00
Mazumdar, A	AECOM	2.45	B					$61.22		0.0	$0.00	0.0	0.0	$0.00
Sherzer, M	AECOM	2.45	C					$44.97		0.0	$0.00	0.0	0.0	$0.00
Teodor, L	AECOM	2.45	B					$57.57		0.0	$0.00	0.0	0.0	$0.00
Kourkoumelis, V	Hirani	2.54	C					$48.08		0.0	$0.00	0.0	0.0	$0.00
Ingram, G	Parsons	2.45	Cad					$25.44		0.0	$0.00	0.0	0.0	$0.00
Khalil, M	Parsons	2.45	B					$64.33		0.0	$0.00	0.0	0.0	$0.00
Patel, A	Parsons	2.45	C					$53.74		0.0	$0.00	0.0	0.0	$0.00
Sousa, M	Parsons	2.45	Cad					$34.07		0.0	$0.00	0.0	0.0	$0.00
Wisniewski, B	Parsons	2.45	C					$45.65		0.0	$0.00	0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A					$86.95		0.0	$0.00	0.0	0.0	$0.00
Lomax, S	SCSA	2.95	A					$79.71		0.0	$0.00	0.0	0.0	$0.00
Rando, M	SCSA	2.95	A					$125.06		0.0	$0.00	0.0	0.0	$0.00
Doshi, K	STV	2.45	A					$98.72		0.0	$0.00	0.0	0.0	$0.00
Cregger, D	AECOM	2.45	B					$58.47		0.0	$0.00	0.0	0.0	$0.00
Baker, U	Weidlinger	2.6	D					$36.55		0.0	$0.00	0.0	0.0	$0.00
Mirzakashani, M	AECOM	2.45	A					$90.87		0.0	$0.00	0.0	0.0	$0.00
Wang, H	AECOM	2.45	B					$65.00		0.0	$0.00	0.0	0.0	$0.00
Kopkalli, H	YAS	2.51	B					$67.00		0.0	$0.00	0.0	0.0	$0.00
Fearon, D	PACO	2.62	TA					$27.76		0.0	$0.00	0.0	0.0	$0.00
Nikolakakos, S	Russell	2.68	P					$144.00		0.0	$0.00	0.0	0.0	$0.00
			Totals:		0.00	0.0	$0.00		1.00	1,040.0	$168,371.84	0.5	1,040.0	$168,371.84

Contract No. 407-03-013
Change Order (CO) #09-006-A
Revised - Design Contract Change (DCC) 494

Professional Services Change Order
Revised - Cost Proposal

Revised - Schedule C
Task 3.3 - Third Party Meetings

Staffing Name	Company	Multiplier (OH+Fee)	Eng/Arch Category	7/1/08 - 6/31/09				7/1/09 - 12/31/09				Total FTE	Total Hours	Total Labor ($)
				Hourly Rate	FTE	Hours (Hrs)	Total Labor ($)	Hourly Rate	FTE	Hours (Hrs)	Total Labor ($)			
Edwards, R	AECOM	2.45	A					$108.53		0.0	$0.00	0.0	0.0	$0.00
McIntyre, S	STV	2.45	A					$102.97		0.0	$0.00	0.0	0.0	$0.00
JV Eng/Arch A	JV TBD	2.45	A					$86.95		0.0	$0.00	0.0	0.0	$0.00
Calatrava, S	SCSA	2.95	A					$270.00		0.0	$0.00	0.0	0.0	$0.00
Son, J	STV	2.45	B					$61.07		0.0	$0.00	0.0	0.0	$0.00
Harris, K	AECOM	2.45	C					$44.96		0.0	$0.00	0.0	0.0	$0.00
Felice, D	PMA	2.5	TA					$35.00		0.0	$0.00	0.0	0.0	$0.00
PTG Eng/Arch B	PTG TBD	2.45	B					$66.08		0.0	$0.00	0.0	0.0	$0.00
JV Eng/Arch A	JV TBD	2.45	A					$86.95	0.09	88.4	$18,831.63	0.0	88.4	$18,831.63
JV Eng/Arch B	JV TBD	2.45	B					$66.08	0.13	130.0	$21,046.48	0.1	130.0	$21,046.48
SCSA Eng/Arch A	SCSA TBD	2.95	A					$86.95	0.05	52.0	$13,338.13	0.0	52.0	$13,338.13
Rosciglione, A	AECOM	2.45	C					$52.31		0.0	$0.00	0.0	0.0	$0.00
Powell, D	ISR	2.332	TA					$29.79		0.0	$0.00	0.0	0.0	$0.00
Tong, E	Stellar	2.45	C					$45.67		0.0	$0.00	0.0	0.0	$0.00
Abbate, D	STV	2.45	D					$27.88		0.0	$0.00	0.0	0.0	$0.00
PTG Eng/Arch A	PTG TBD	2.45	A					$86.95		0.0	$0.00	0.0	0.0	$0.00
Kamboj, M	AECOM	2.45	B					$69.56		0.0	$0.00	0.0	0.0	$0.00
Gallagher, T	Parsons	2.45	C					$43.27		0.0	$0.00	0.0	0.0	$0.00
Pagani, S	PMA	2.5	C					$53.50		0.0	$0.00	0.0	0.0	$0.00
Finkelstein, M	STV	2.45	C					$53.00		0.0	$0.00	0.0	0.0	$0.00
Nervina, G	STV	2.45	C					$48.99		0.0	$0.00	0.0	0.0	$0.00
Solano, J	STV	2.45	C					$53.00		0.0	$0.00	0.0	0.0	$0.00
Zellner, P	STV	2.45	B					$70.19		0.0	$0.00	0.0	0.0	$0.00
Hand, J	AECOM	2.45	B					$70.61		0.0	$0.00	0.0	0.0	$0.00
Chong, S	AECOM	2.45	C					$40.89		0.0	$0.00	0.0	0.0	$0.00
Patel, K	AECOM	2.45	D					$38.75		0.0	$0.00	0.0	0.0	$0.00
Schiff, M	AECOM	2.45	C					$52.15		0.0	$0.00	0.0	0.0	$0.00
Woo, T	AECOM	2.45	B					$70.13		0.0	$0.00	0.0	0.0	$0.00
Diamond, R	SCSA	2.95	A					$118.32		0.0	$0.00	0.0	0.0	$0.00
SCSA Eng/Arch B	SCSA TBD	2.95	B					$66.08		0.0	$0.00	0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A					$86.95		0.0	$0.00	0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A					$86.95		0.0	$0.00	0.0	0.0	$0.00
Bracco, S	STV	2.45	C					$48.08		0.0	$0.00	0.0	0.0	$0.00
PTG Eng/Arch C	PTG TBD	2.45	C					$46.69		0.0	$0.00	0.0	0.0	$0.00
Lem, R	STV	2.45	B					$61.36		0.0	$0.00	0.0	0.0	$0.00
London, L	STV	2.45	D					$31.27		0.0	$0.00	0.0	0.0	$0.00
PTG Eng/Arch D	PTG TBD	2.45	D					$31.91		0.0	$0.00	0.0	0.0	$0.00
Avetian, J	WNBA	2.76	B					$52.16		0.0	$0.00	0.0	0.0	$0.00
Govekar, S	WNBA	2.76	Cad					$24.76		0.0	$0.00	0.0	0.0	$0.00
Kasakyan, A	WNBA	2.76	C					$45.19		0.0	$0.00	0.0	0.0	$0.00
Brodsky, V	STV	2.45	A					$100.72		0.0	$0.00	0.0	0.0	$0.00
Ghaly, N	Parsons	2.45	B					$72.73		0.0	$0.00	0.0	0.0	$0.00
Littler, M	Parsons	2.45	C					$54.56		0.0	$0.00	0.0	0.0	$0.00
Clarson, M	RCC	2.917	C					$51.09		0.0	$0.00	0.0	0.0	$0.00
Abdullah, M	STV	2.45	B					$68.30		0.0	$0.00	0.0	0.0	$0.00
Cobuzzi, A	STV	2.45	B					$56.49		0.0	$0.00	0.0	0.0	$0.00
Gilboa, J	STV	2.45	A					$73.61		0.0	$0.00	0.0	0.0	$0.00
Koumjian, G	STV	2.45	A					$85.58		0.0	$0.00	0.0	0.0	$0.00
Schuller, P	STV	2.45	A					$90.24		0.0	$0.00	0.0	0.0	$0.00
Zheng, H	STV	2.45	B					$63.07		0.0	$0.00	0.0	0.0	$0.00
Charalambous, J	Parsons	2.45	A					$93.27		0.0	$0.00	0.0	0.0	$0.00
Parnes, J	AECOM	2.45	A					$78.44		0.0	$0.00	0.0	0.0	$0.00
Altabba, B	Parsons	2.45	A					$73.69		0.0	$0.00	0.0	0.0	$0.00
Mauritz, P	AECOM	2.45	A					$73.58		0.0	$0.00	0.0	0.0	$0.00
Baxter, D	AECOM	2.45	C					$42.32		0.0	$0.00	0.0	0.0	$0.00
Jimenez, D	AECOM	2.45	C					$44.29		0.0	$0.00	0.0	0.0	$0.00
Levintov, B	AECOM	2.45	B					$66.02		0.0	$0.00	0.0	0.0	$0.00
Mazumdar, A	AECOM	2.45	B					$61.22		0.0	$0.00	0.0	0.0	$0.00
Sherzer, M	AECOM	2.45	C					$44.97		0.0	$0.00	0.0	0.0	$0.00
Teodor, L	AECOM	2.45	B					$57.57		0.0	$0.00	0.0	0.0	$0.00
Kourkoumelis, V	Hirani	2.54	C					$48.08		0.0	$0.00	0.0	0.0	$0.00
Ingram, G	Parsons	2.45	Cad					$25.44		0.0	$0.00	0.0	0.0	$0.00
Khalil, M	Parsons	2.45	B					$64.33		0.0	$0.00	0.0	0.0	$0.00
Patel, A	Parsons	2.45	C					$53.74		0.0	$0.00	0.0	0.0	$0.00
Sousa, M	Parsons	2.45	Cad					$34.07		0.0	$0.00	0.0	0.0	$0.00
Wisniewski, B	Parsons	2.45	C					$45.65		0.0	$0.00	0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A					$86.95		0.0	$0.00	0.0	0.0	$0.00
Lomax, S	SCSA	2.95	A					$79.71		0.0	$0.00	0.0	0.0	$0.00
Rando, M	SCSA	2.95	A					$125.08		0.0	$0.00	0.0	0.0	$0.00
Doshi, K	STV	2.45	A					$98.72		0.0	$0.00	0.0	0.0	$0.00
Cregger, D	AECOM	2.45	B					$58.47		0.0	$0.00	0.0	0.0	$0.00
Baker, U	Weidlinger	2.6	D					$38.55		0.0	$0.00	0.0	0.0	$0.00
Mirzakashani, M	AECOM	2.45	A					$90.87		0.0	$0.00	0.0	0.0	$0.00
Wang, H	AECOM	2.45	B					$65.00		0.0	$0.00	0.0	0.0	$0.00
Kopkalli, H	YAS	2.51	B					$67.00		0.0	$0.00	0.0	0.0	$0.00
Pearon, D	PACO	2.62	TA					$27.78		0.0	$0.00	0.0	0.0	$0.00
Nikolakakos, S	Russell	2.66	P					$144.00		0.0	$0.00	0.0	0.0	$0.00
			Totals:		0.00	0.0	$0.00		0.26	270.4	$53,216.24	0.1	270.4	$53,216.24

Contract No. 407-03-013
Change Order (CO) #09-006-A
Revised - Design Contract Change (DCC) 494

Professional Services Change Order
Revised - Cost Proposal

Revised - Schedule C
Task 3.4 - Engineering Services Related to 3rd Party (Allowance)

Staffing Name	Company	Multiplier (OH+Fee)	Eng/Arch Category	7/1/08 - 6/31/09				7/1/09 - 12/31/09				Total FTE	Total Hours	Total Labor ($)
				Hourly Rate	FTE	Hours (Hrs)	Total Labor ($)	Hourly Rate	FTE	Hours (Hrs)	Total Labor ($)			
Edwards, R	AECOM	2.45	A									0.0	0.0	$0.00
McIntyre, S	STV	2.45	A									0.0	0.0	$0.00
Garz, M	STV	2.45	A									0.0	0.0	$0.00
Calatrava, S	SCSA	2.95	A									0.0	0.0	$0.00
Son, J	STV	2.45	B									0.0	0.0	$0.00
Harris, K	AECOM	2.45	C									0.0	0.0	$0.00
Felice, D	PMA	2.5	TA									0.0	0.0	$0.00
Quinones, P	STV	2.45	C									0.0	0.0	$0.00
Basta, A	STV	2.45	A									0.0	0.0	$0.00
Jang, H	AECOM	2.45	TA									0.0	0.0	$0.00
McDermott, C	AECOM	2.45	A									0.0	0.0	$0.00
Rosciglione, A	AECOM	2.45	C									0.0	0.0	$0.00
Powell, D	ISR	2.332	TA									0.0	0.0	$0.00
Tong, E	Stellar	2.45	C									0.0	0.0	$0.00
Abbate, D	STV	2.45	D									0.0	0.0	$0.00
JV TA	JV TBD	2.45	TA									0.0	0.0	$0.00
Kamboj, M	AECOM	2.45	B									0.0	0.0	$0.00
Gallagher, T	Parsons	2.45	C									0.0	0.0	$0.00
Pagani, S	PMA	2.5	C									0.0	0.0	$0.00
Finkelstein, M	STV	2.45	C									0.0	0.0	$0.00
Nervina, G	STV	2.45	C									0.0	0.0	$0.00
Solano, J	STV	2.45	C									0.0	0.0	$0.00
Zellner, P	STV	2.45	B									0.0	0.0	$0.00
Hand, J	AECOM	2.45	B									0.0	0.0	$0.00
Chong, S	AECOM	2.45	C									0.0	0.0	$0.00
Patel, K	AECOM	2.45	D									0.0	0.0	$0.00
Schiff, M	AECOM	2.45	C									0.0	0.0	$0.00
Woo, T	AECOM	2.45	B									0.0	0.0	$0.00
Diamond, R	SCSA	2.95	A									0.0	0.0	$0.00
SCSA Eng/Arch B	SCSA TBD	2.95	B									0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A									0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A									0.0	0.0	$0.00
Bracco, S	STV	2.45	C									0.0	0.0	$0.00
PTG Eng/Arch C	PTG TBD	2.45	C									0.0	0.0	$0.00
Lem, R	STV	2.45	B									0.0	0.0	$0.00
London, L	STV	2.45	D									0.0	0.0	$0.00
PTG Eng/Arch D	PTG TBD	2.45	D									0.0	0.0	$0.00
Avellan, J	WNBA	2.76	B									0.0	0.0	$0.00
Govekar, S	WNBA	2.76	Cad									0.0	0.0	$0.00
Kasakyan, A	WNBA	2.76	C									0.0	0.0	$0.00
Brodsky, V	STV	2.45	A									0.0	0.0	$0.00
Ghaly, N	Parsons	2.45	B									0.0	0.0	$0.00
Littler, M	Parsons	2.45	C									0.0	0.0	$0.00
Clarson, M	RCC	2.917	C									0.0	0.0	$0.00
Abdullah, M	STV	2.45	B									0.0	0.0	$0.00
Cobuzzi, A	STV	2.45	B									0.0	0.0	$0.00
Gilboa, J	STV	2.45	A									0.0	0.0	$0.00
Koumjian, G	STV	2.45	A									0.0	0.0	$0.00
Schuller, P	STV	2.45	A									0.0	0.0	$0.00
Zheng, H	STV	2.45	B									0.0	0.0	$0.00
Charalambous, J	Parsons	2.45	A									0.0	0.0	$0.00
Parnes, J	AECOM	2.45	A									0.0	0.0	$0.00
Altabba, B	Parsons	2.45	A									0.0	0.0	$0.00
Mauntz, P	AECOM	2.45	A									0.0	0.0	$0.00
Baxter, D	AECOM	2.45	C									0.0	0.0	$0.00
Jimenez, D	AECOM	2.45	C									0.0	0.0	$0.00
Levintov, B	AECOM	2.45	B									0.0	0.0	$0.00
Mazumdar, A	AECOM	2.45	B									0.0	0.0	$0.00
Sherzer, M	AECOM	2.45	C									0.0	0.0	$0.00
Teodor, L	AECOM	2.45	B									0.0	0.0	$0.00
Kourkoumelis, V	Hirani	2.54	C									0.0	0.0	$0.00
Ingram, G	Parsons	2.45	Cad									0.0	0.0	$0.00
Khalil, M	Parsons	2.45	B									0.0	0.0	$0.00
Patel, A	Parsons	2.45	C									0.0	0.0	$0.00
Sousa, M	Parsons	2.45	Cad									0.0	0.0	$0.00
Wisniewski, B	Parsons	2.45	C									0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A									0.0	0.0	$0.00
Lomax, S	SCSA	2.95	A									0.0	0.0	$0.00
Rando, M	SCSA	2.95	A									0.0	0.0	$0.00
Doshi, K	STV	2.45	A									0.0	0.0	$0.00
Cregger, D	AECOM	2.45	B									0.0	0.0	$0.00
Baker, U	Weidlinger	2.6	D									0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A									0.0	0.0	$0.00
Wang, H	AECOM	2.45	B									0.0	0.0	$0.00
Kopkalli, H	YAS	2.51	B									0.0	0.0	$0.00
Fearon, D	PACO	2.62	TA									0.0	0.0	$0.00
Nikolakakos, S	Russell	2.66	P									0.0	0.0	$0.00
			Totals:		0.00	0.0	$0.00		0.00	0.0	$0.00	0.0	0.0	$0.00

Contract No. 407-03-013
Change Order (CO) #09-006-A
Revised - Design Contract Change (DCC) 494

Professional Services Change Order
Revised - Cost Proposal

Revised - Schedule C
Task 3.5 - Post Award Contract Changes (Allowance)

Staffing Name	Company	Multiplier (OH+Fee)	Eng/Arch Category	7/1/08 - 6/31/09				7/1/09 - 12/31/09				Total FTE	Total Hours	Total Labor ($)
				Hourly Rate	FTE	Hours (Hrs)	Total Labor ($)	Hourly Rate	FTE	Hours (Hrs)	Total Labor ($)			
Edwards, R	AECOM	2.45	A									0.0	0.0	$0.00
McIntyre, S	STV	2.45	A									0.0	0.0	$0.00
Garz, M	STV	2.45	A									0.0	0.0	$0.00
Calatrava, S	SCSA	2.95	A									0.0	0.0	$0.00
Son, J	STV	2.45	B									0.0	0.0	$0.00
Harris, K	AECOM	2.45	C									0.0	0.0	$0.00
Felice, D	PMA	2.5	TA									0.0	0.0	$0.00
Quinones, P	STV	2.45	C									0.0	0.0	$0.00
Basta, A	STV	2.45	A									0.0	0.0	$0.00
Jang, H	AECOM	2.45	TA									0.0	0.0	$0.00
McDermott, C	AECOM	2.45	A									0.0	0.0	$0.00
Rosciglione, A	AECOM	2.45	C									0.0	0.0	$0.00
Powell, D	*ISR*	*2.332*	*TA*									0.0	0.0	$0.00
Tong, E	Stellar	2.45	C									0.0	0.0	$0.00
Abbate, D	STV	2.45	D									0.0	0.0	$0.00
Dennis, Y	STV	2.45	TA									0.0	0.0	$0.00
Kamboj, M	AECOM	2.45	B									0.0	0.0	$0.00
PTG Eng/Arch C	PTG TBD	2.45	C									0.0	0.0	$0.00
Gallagher, T	Parsons	2.45	C									0.0	0.0	$0.00
Finkelstein, M	STV	2.45	C									0.0	0.0	$0.00
Nervina, G	STV	2.45	C									0.0	0.0	$0.00
Solano, J	STV	2.45	C									0.0	0.0	$0.00
Zettner, P	STV	2.45	B									0.0	0.0	$0.00
Hand, J	AECOM	2.45	B									0.0	0.0	$0.00
Chong, S	AECOM	2.45	C									0.0	0.0	$0.00
Patel, K	AECOM	2.45	D									0.0	0.0	$0.00
Schiff, M	AECOM	2.45	C									0.0	0.0	$0.00
Woo, T	AECOM	2.45	B									0.0	0.0	$0.00
Diamond, R	SCSA	2.95	A									0.0	0.0	$0.00
SCSA Eng/Arch B	SCSA TBD	2.95	B									0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A									0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A									0.0	0.0	$0.00
Bracco, S	STV	2.45	C									0.0	0.0	$0.00
PTG Eng/Arch C	*PTG TBD*	*2.45*	*C*									0.0	0.0	$0.00
Lem, R	STV	2.45	B									0.0	0.0	$0.00
London, L	STV	2.45	D									0.0	0.0	$0.00
PTG Eng/Arch D	PTG TBD	2.45	D									0.0	0.0	$0.00
Avellan, J	WNBA	2.76	B									0.0	0.0	$0.00
Govekar, S	WNBA	2.76	Cad									0.0	0.0	$0.00
Kasakyan, A	WNBA	2.76	C									0.0	0.0	$0.00
Brodsky, V	STV	2.45	A									0.0	0.0	$0.00
Ghaly, N	Parsons	2.45	B									0.0	0.0	$0.00
Littler, M	Parsons	2.45	C									0.0	0.0	$0.00
Clarson, M	RCC	2.917	C									0.0	0.0	$0.00
Abdullah, M	STV	2.45	B									0.0	0.0	$0.00
Cobuzzi, A	STV	2.45	B									0.0	0.0	$0.00
Gliboa, J	STV	2.45	A									0.0	0.0	$0.00
Koumjian, G	STV	2.45	A									0.0	0.0	$0.00
Schulter, P	STV	2.45	A									0.0	0.0	$0.00
Zheng, H	STV	2.45	B									0.0	0.0	$0.00
Charalambous, J	Parsons	2.45	A									0.0	0.0	$0.00
Parnes, J	AECOM	2.45	A									0.0	0.0	$0.00
Altabba, B	Parsons	2.45	A									0.0	0.0	$0.00
Mauritz, P	AECOM	2.45	A									0.0	0.0	$0.00
Baxter, D	AECOM	2.45	C									0.0	0.0	$0.00
Jimenez, D	AECOM	2.45	C									0.0	0.0	$0.00
Levintov, B	AECOM	2.45	B									0.0	0.0	$0.00
Mazumdar, A	AECOM	2.45	B									0.0	0.0	$0.00
Sherzer, M	AECOM	2.45	C									0.0	0.0	$0.00
Teodor, L	AECOM	2.45	B									0.0	0.0	$0.00
Kourkoumelis, V	*Hirani*	*2.54*	*C*									0.0	0.0	$0.00
Ingram, G	Parsons	2.45	Cad									0.0	0.0	$0.00
Khalil, M	Parsons	2.45	B									0.0	0.0	$0.00
Patel, A	Parsons	2.45	C									0.0	0.0	$0.00
Sousa, M	Parsons	2.45	Cad									0.0	0.0	$0.00
Wisniewski, B	Parsons	2.45	C									0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A									0.0	0.0	$0.00
Lomax, S	SCSA	2.95	A									0.0	0.0	$0.00
Rando, M	SCSA	2.95	A									0.0	0.0	$0.00
Doshi, K	STV	2.45	A									0.0	0.0	$0.00
Cregger, O	AECOM	2.45	B									0.0	0.0	$0.00
Baker, U	Weidlinger	2.8	D									0.0	0.0	$0.00
Mirzakashani, M	AECOM	2.45	A									0.0	0.0	$0.00
Wang, H	AECOM	2.45	B									0.0	0.0	$0.00
Kopkalli, H	YAS	2.51	B									0.0	0.0	$0.00
Fearon, D	PACO	2.62	TA									0.0	0.0	$0.00
Nikolakakos, S	Russell	2.66	P									0.0	0.0	$0.00
			Totals:		0.00	0.0	$0.00		0.00	0.0	$0.00	0.0	0.0	$0.00

Contract No. 407-03-013
Change Order (CO) #09-006-A
Revised - Design Contract Change (DCC) 494

Professional Services Change Order
Revised - Cost Proposal

Revised - Schedule C
Task 3.6 - Respond to RFI, Prepare Sketches

Staffing Name	Company	Multiplier (OH+Fee)	Eng/Arch Category	7/1/08 - 6/31/09				7/1/09 - 12/31/09				Total FTE	Total Hours	Total Labor ($)
				Hourly Rate	FTE	Hours (Hrs)	Total Labor ($)	Hourly Rate	FTE	Hours (Hrs)	Total Labor ($)			
Edwards, R	AECOM	2.45	A	$106.53		0.0	$0.00	$106.53		0.0	$0.00	0.0	0.0	$0.00
McIntyre, S	STV	2.45	A	$102.97		0.0	$0.00	$102.97		0.0	$0.00	0.0	0.0	$0.00
Garz, M	STV	2.45	A	$116.88		0.0	$0.00	$116.88	0.07	72.0	$20,608.47	0.0	72.0	$20,608.47
Catatrava, S	SCSA	2.95	A	$270.00		0.0	$0.00	$270.00	0.08	83.2	$66,268.80	0.0	83.2	$66,268.80
Son, J	STV	2.45	B	$61.07		0.0	$0.00	$61.07		0.0	$0.00	0.0	0.0	$0.00
Harris, K	AECOM	2.45	C	$44.96		0.0	$0.00	$44.96		0.0	$0.00	0.0	0.0	$0.00
Felice, D	PMA	2.5	TA	$35.00		0.0	$0.00	$35.00		0.0	$0.00	0.0	0.0	$0.00
Quinones, P	STV	2.45	C	$45.36		0.0	$0.00	$45.36	0.10	104.0	$11,557.73	0.1	104.0	$11,557.73
Basta, A	STV	2.45	A	$88.33	0.25	520.0	$112,532.42	$88.33	0.20	208.0	$45,012.97	0.4	728.0	$157,545.39
Jang, H	AECOM	2.45	TA	$20.40		0.0	$0.00	$20.40		0.0	$0.00	0.0	0.0	$0.00
McDermott, C	AECOM	2.45	A	$81.04	0.45	936.0	$185,840.93	$81.04	0.50	520.0	$103,244.96	0.7	1,456.0	$289,085.89
Rosciglione, A	AECOM	2.45	C	$52.31	0.50	1,040.0	$133,285.88	$52.31	0.50	520.0	$66,642.94	0.8	1,560.0	$199,928.82
Powell, D	ISR	2.332	TA	$29.79		0.0	$0.00	$29.79		0.0	$0.00	0.0	0.0	$0.00
Tong, E	Stellar	2.45	C	$45.67		0.0	$0.00	$45.67		0.0	$0.00	0.0	0.0	$0.00
Abbate, D	STV	2.45	D	$27.88		0.0	$0.00	$27.88		0.0	$0.00	0.0	0.0	$0.00
Dennis, Y	STV	2.45	TA	$31.16		0.0	$0.00	$31.16		0.0	$0.00	0.0	0.0	$0.00
Kamboj, M	AECOM	2.45	B	$69.56		0.0	$0.00	$69.56	0.10	104.0	$17,723.89	0.1	104.0	$17,723.89
Gallagher, T	Parsons	2.45	C	$43.27		0.0	$0.00	$43.27	0.50	520.0	$55,125.98	0.3	520.0	$55,125.98
Pagani, S	PMA	2.5	C	$53.50		0.0	$0.00	$53.50		0.0	$0.00	0.0	0.0	$0.00
Finkelstein, M	STV	2.45	C	$53.00		0.0	$0.00	$53.00		0.0	$0.00	0.0	0.0	$0.00
Nervina, G	STV	2.45	C	$48.99		0.0	$0.00	$48.99		0.0	$0.00	0.0	0.0	$0.00
Solano, J	STV	2.45	C	$53.00		0.0	$0.00	$53.00		0.0	$0.00	0.0	0.0	$0.00
Zellner, P	STV	2.45	B	$70.19		0.0	$0.00	$70.19		0.0	$0.00	0.0	0.0	$0.00
Hand, J	AECOM	2.45	B	$70.61	0.05	104.0	$17,991.43	$70.61	0.08	83.2	$14,393.14	0.1	187.2	$32,384.57
Chong, S	AECOM	2.45	C	$40.69	0.05	104.0	$10,416.77	$40.69	0.08	83.2	$8,335.02	0.1	187.2	$18,753.79
Patel, K	AECOM	2.45	D	$38.75	0.05	104.0	$9,873.50	$38.75	0.08	83.2	$7,898.80	0.1	187.2	$17,772.30
Schiff, M	AECOM	2.45	C	$52.15	0.05	104.0	$13,287.82	$52.15	0.08	83.2	$10,630.26	0.1	187.2	$23,918.08
Woo, T	AECOM	2.45	B	$70.13	0.05	104.0	$17,869.12	$70.13	0.08	83.2	$14,295.30	0.1	187.2	$32,164.42
Diamond, R	SCSA	2.95	A	$118.32	0.05	104.0	$36,300.58	$118.32	0.08	83.2	$29,040.46	0.1	187.2	$65,341.04
SCSA Eng/Arch B	SCSA TBD	2.95	B	$66.08	0.05	104.0	$20,273.34	$66.08	0.08	83.2	$16,218.68	0.1	187.2	$36,492.02
SCSA Eng/Arch A	SCSA TBD	2.95	A	$86.95	0.05	104.0	$26,676.26	$86.95	0.08	83.2	$21,341.01	0.1	187.2	$48,017.27
SCSA Eng/Arch A	SCSA TBD	2.95	A	$86.95	0.05	104.0	$26,676.26	$86.95	0.08	83.2	$21,341.01	0.1	187.2	$48,017.27
Bracco, S	STV	2.45	C	$48.08	0.50	1,040.0	$122,507.84	$48.08	0.50	520.0	$61,253.92	0.8	1,560.0	$183,761.76
PTG Eng/Arch C	PTG TBD	2.45	C	$46.69	0.05	104.0	$11,896.61	$46.69		0.0	$0.00	0.1	104.0	$11,896.61
Lem, R	STV	2.45	B	$61.36	0.05	104.0	$15,634.53	$61.36	0.08	83.2	$12,507.62	0.1	187.2	$28,142.15
London, L	STV	2.45	D	$31.27	0.05	104.0	$7,967.60	$31.27		0.0	$0.00	0.1	104.0	$7,967.60
PTG Eng/Arch D	PTG TBD	2.45	D	$31.91	0.05	104.0	$8,130.67	$31.91	0.08	83.2	$6,504.53	0.1	187.2	$14,635.20
Avellan, J	WNBA	2.76	B	$52.16	0.05	104.0	$14,972.01	$52.16	0.08	83.2	$11,977.61	0.1	187.2	$26,949.61
Govekar, S	WNBA	2.76	Cad	$24.76	0.05	104.0	$7,107.11	$24.76		0.0	$0.00	0.1	104.0	$7,107.11
Kasakyan, A	WNBA	2.76	C	$45.19	0.05	104.0	$12,971.34	$45.19		0.0	$0.00	0.1	104.0	$12,971.34
Brodsky, V	STV	2.45	A	$100.72	0.05	104.0	$25,663.46	$100.72		0.0	$0.00	0.1	104.0	$25,663.46
Ghaly, N	Parsons	2.45	B	$72.73	0.05	104.0	$18,531.60	$72.73	0.08	83.2	$14,825.28	0.1	187.2	$33,356.89
Littler, M	Parsons	2.45	C	$54.56	0.05	104.0	$13,901.89	$54.56	0.08	83.2	$11,121.51	0.1	187.2	$25,023.40
Clarson, M	RCC	2.917	C	$51.09	0.05	104.0	$15,499.07	$51.09	0.08	83.2	$12,399.26	0.1	187.2	$27,898.33
Abdullah, M	STV	2.45	B	$68.30	0.05	104.0	$17,402.84	$68.30	0.08	83.2	$13,922.27	0.1	187.2	$31,325.11
Cobuzzi, A	STV	2.45	B	$56.49	0.05	104.0	$14,393.65	$56.49	0.08	83.2	$11,514.92	0.1	187.2	$25,908.57
Gilboa, J	STV	2.45	A	$73.81	0.05	104.0	$18,806.79	$73.81	0.08	83.2	$15,045.43	0.1	187.2	$33,852.22
Koumjian, G	STV	2.45	A	$85.58	0.05	104.0	$21,805.78	$85.58	0.08	83.2	$17,444.63	0.1	187.2	$39,250.41
Schuller, P	STV	2.45	A	$90.24	0.05	104.0	$22,993.15	$90.24	0.08	83.2	$18,394.52	0.1	187.2	$41,387.67
Zheng, H	STV	2.45	B	$63.07		0.0	$0.00	$63.07		0.0	$0.00	0.0	0.0	$0.00
Charalambous, J	Parsons	2.45	A	$93.27	0.05	104.0	$23,765.20	$93.27	0.08	83.2	$19,012.16	0.1	187.2	$42,777.35
Parnes, J	AECOM	2.45	A	$78.44	0.05	104.0	$19,986.51	$78.44	0.08	83.2	$15,989.21	0.1	187.2	$35,975.72
Allabba, B	Parsons	2.45	A	$73.69	0.05	104.0	$18,776.21	$73.69	0.08	83.2	$15,020.97	0.1	187.2	$33,797.18
Mauritz, P	AECOM	2.45	A	$73.58	0.05	104.0	$18,748.18	$73.58	0.08	83.2	$14,998.55	0.1	187.2	$33,746.73
Baxter, D	AECOM	2.45	C	$42.32	0.05	104.0	$10,783.14	$42.32		0.0	$0.00	0.1	104.0	$10,783.14
Jimenez, D	AECOM	2.45	C	$44.29	0.05	104.0	$11,285.09	$44.29		0.0	$0.00	0.1	104.0	$11,285.09
Levintov, B	AECOM	2.45	B	$66.02	0.05	104.0	$16,821.90	$66.02		0.0	$0.00	0.1	104.0	$16,821.90
Mazumdar, A	AECOM	2.45	B	$61.22	0.05	104.0	$15,598.66	$61.22	0.08	83.2	$12,479.08	0.1	187.2	$28,077.94
Sherzer, M	AECOM	2.45	C	$44.97	0.50	1,040.0	$114,583.56	$44.97		0.0	$0.00	0.5	1,040.0	$114,583.56
Teodor, L	AECOM	2.45	B	$57.57		0.0	$0.00	$57.57		0.0	$0.00	0.0	0.0	$0.00
Kourkoumelis, V	Hirani	2.54	C	$48.08	0.05	104.0	$12,700.81	$48.08	0.08	83.2	$10,160.65	0.1	187.2	$22,861.46
Ingram, G	Parsons	2.45	Cad	$25.44		0.0	$0.00	$25.44	0.08	83.2	$5,185.69	0.0	83.2	$5,185.69
Khalil, M	Parsons	2.45	B	$64.33	0.50	1,040.0	$163,912.64	$64.33	0.08	83.2	$13,113.03	0.5	1,123.2	$177,025.67
Patel, A	Parsons	2.45	C	$53.74		0.0	$0.00	$53.74		0.0	$0.00	0.0	0.0	$0.00
Sousa, M	Parsons	2.45	Cad	$34.07		0.0	$0.00	$34.07		0.0	$0.00	0.0	0.0	$0.00
Wisniewski, B	Parsons	2.45	C	$45.65	0.05	104.0	$11,631.62	$45.65	0.08	83.2	$9,305.30	0.1	187.2	$20,936.92
SCSA Eng/Arch A	SCSA TBD	2.95	A	$86.95	0.05	104.0	$26,676.26	$86.95	0.08	83.2	$21,341.01	0.1	187.2	$48,017.27
Lomax, S	SCSA	2.95	A	$79.71	0.05	104.0	$24,455.03	$79.71	0.08	83.2	$19,564.02	0.1	187.2	$44,019.05
Rando, M	SCSA	2.95	A	$125.06	0.05	104.0	$38,368.41	$125.06	0.08	83.2	$30,694.73	0.1	187.2	$69,063.13
Doshi, K	STV	2.45	A	$98.72	0.05	104.0	$25,153.86	$98.72	0.08	83.2	$20,123.08	0.1	187.2	$45,276.94
Cregger, D	AECOM	2.45	B	$58.47		0.0	$0.00	$58.47		0.0	$0.00	0.0	0.0	$0.00
Baker, U	Weidlinger	2.6	D	$36.55	0.05	104.0	$9,883.12	$36.55	0.08	83.2	$7,906.50	0.1	187.2	$17,789.62
Mirzakashani, M	AECOM	2.45	A	$90.87		0.0	$0.00	$90.87		0.0	$0.00	0.0	0.0	$0.00
Wang, H	AECOM	2.45	B	$65.00		0.0	$0.00	$65.00		0.0	$0.00	0.0	0.0	$0.00
Kopkalli, H	YAS	2.51	B	$67.00		0.0	$0.00	$67.00		0.0	$0.00	0.0	0.0	$0.00
Fearon, D	PACO	2.82	TA	$27.76	0.40	832.0	$60,512.38	$27.76	0.50	520.0	$37,820.22	0.7	1,352.0	$98,332.58
Nikolakakos, S	Russell	2.66	P	$144.00		0.0	$0.00	$144.00		0.0	$0.00	0.0	0.0	$0.00
			Totals:		5.10	10,608.0	$1,604,855.19		5.77	6,000.0	$989,305.10	8.0	16,608.0	$2,594,160.29

Contract No. 407-03-013
Change Order (CO) #09-006-A
Revised - Design Contract Change (DCC) 494

Professional Services Change Order
Revised - Cost Proposal

Revised - Schedule C
Task 3.7 - Review and Comment on Shop Drawings, Calculations, Catalog Cuts

Staffing Name	Company	Multiplier (OH+Fee)	Eng/Arch Category	7/1/08 - 6/31/09				7/1/09 - 12/31/09				Total FTE	Total Hours	Total Labor ($)
				Hourly Rate	FTE	Hours (Hrs)	Total Labor ($)	Hourly Rate	FTE	Hours (Hrs)	Total Labor ($)			
Edwards, R	AECOM	2.45	A	$108.53		0.0	$0.00	$108.53		0.0	$0.00	0.0	0.0	$0.00
McIntyre, S	STV	2.45	A	$102.97		0.0	$0.00	$102.97		0.0	$0.00	0.0	0.0	$0.00
Garz, M	STV	2.45	A	$116.88		0.0	$0.00	$116.88	0.15	156.0	$44,671.54	0.1	156.0	$44,671.54
Calatrava, S	SCSA	2.95	A	$270.00		0.0	$0.00	$270.00	0.15	156.0	$124,254.00	0.1	156.0	$124,254.00
Son, J	STV	2.45	B	$61.07		0.0	$0.00	$61.07		0.0	$0.00	0.0	0.0	$0.00
Harris, K	AECOM	2.45	C	$44.96		0.0	$0.00	$44.96		0.0	$0.00	0.0	0.0	$0.00
Felice, D	PMA	2.5	TA	$35.00		0.0	$0.00	$35.00		0.0	$0.00	0.0	0.0	$0.00
Quinones, P	STV	2.45	C	$45.36		0.0	$0.00	$45.36	0.50	520.0	$57,788.64	0.3	520.0	$57,788.64
Basta, A	STV	2.45	A	$88.33	0.50	1,040.0	$225,064.84	$88.33	0.50	520.0	$112,532.42	0.8	1,560.0	$337,597.26
Jang, H	AECOM	2.45	TA	$20.40		0.0	$0.00	$20.40		0.0	$0.00	0.0	0.0	$0.00
McDermott, C	AECOM	2.45	A	$81.04	0.50	1,040.0	$206,489.92	$81.04	0.50	520.0	$103,244.96	0.8	1,560.0	$309,734.88
Rosciglione, A	AECOM	2.45	C	$52.31	0.50	1,040.0	$133,265.88	$52.31	0.50	520.0	$66,642.94	0.8	1,560.0	$199,928.82
Powell, D	ISR	2.332	TA	$29.79		0.0	$0.00	$29.79		0.0	$0.00	0.0	0.0	$0.00
Tong, E	Stellar	2.45	C	$45.67		0.0	$0.00	$45.67		0.0	$0.00	0.0	0.0	$0.00
Abbate, D	STV	2.45	D	$27.88		0.0	$0.00	$27.88		0.0	$0.00	0.0	0.0	$0.00
Dennis, Y	STV	2.45	TA	$31.16		0.0	$0.00	$31.16		0.0	$0.00	0.0	0.0	$0.00
Kamboj, M	AECOM	2.45	B	$69.56		0.0	$0.00	$69.56	0.40	416.0	$70,895.55	0.2	416.0	$70,895.55
Gallagher, T	Parsons	2.45	C	$43.27		0.0	$0.00	$43.27	0.50	520.0	$55,125.98	0.3	520.0	$55,125.98
Pagani, S	PMA	2.5	C	$53.50		0.0	$0.00	$53.50		0.0	$0.00	0.0	0.0	$0.00
Finkelstein, M	STV	2.45	C	$53.00		0.0	$0.00	$53.00		0.0	$0.00	0.0	0.0	$0.00
Narvina, G	STV	2.45	C	$48.99		0.0	$0.00	$48.99		0.0	$0.00	0.0	0.0	$0.00
Solano, J	STV	2.45	C	$53.00		0.0	$0.00	$53.00		0.0	$0.00	0.0	0.0	$0.00
Zellner, P	STV	2.45	B	$70.19		0.0	$0.00	$70.19		0.0	$0.00	0.0	0.0	$0.00
Hand, J	AECOM	2.45	B	$70.61	0.08	166.4	$28,786.28	$70.61	0.25	260.0	$44,978.57	0.2	426.4	$73,764.85
Chong, S	AECOM	2.45	C	$40.89	0.08	166.4	$16,670.04	$40.89	0.50	520.0	$52,093.86	0.3	686.4	$68,763.90
Patel, K	AECOM	2.45	D	$38.75		0.0	$0.00	$38.75	0.50	520.0	$49,387.50	0.3	520.0	$49,387.50
JV Eng/Arch C	JV TBD	2.45	C	$46.69	0.08	166.4	$19,034.58	$46.69	0.15	156.0	$17,844.92	0.2	322.4	$36,879.50
Woo, T	AECOM	2.45	B	$70.13	0.08	166.4	$28,590.60	$70.13	0.50	520.0	$89,345.62	0.3	686.4	$117,936.22
Diamond, R	SCSA	2.95	A	$118.32	0.08	166.4	$58,080.92	$118.32	0.20	208.0	$72,601.15	0.2	374.4	$130,682.07
SCSA Eng/Arch B	SCSA TBD	2.95	B	$66.08	0.08	166.4	$32,437.35	$66.08	0.50	520.0	$101,366.72	0.3	686.4	$133,804.07
SCSA Eng/Arch A	SCSA TBD	2.95	A	$86.95	0.08	166.4	$42,682.02	$86.95	0.50	520.0	$133,381.30	0.3	686.4	$176,063.32
SCSA Eng/Arch B	SCSA TBD	2.95	B	$66.08	0.08	166.4	$32,437.35	$66.08	0.50	520.0	$101,366.72	0.3	686.4	$133,804.07
Bracco, S	STV	2.45	C	$48.08	0.50	1,040.0	$122,507.84	$48.08	0.50	520.0	$61,253.92	0.8	1,560.0	$183,761.76
PTG Eng/Arch C	PTG TBD	2.45	C	$46.69	0.08	166.4	$19,034.58	$46.69	0.50	520.0	$59,483.06	0.3	686.4	$78,517.64
Lem, R	STV	2.45	B	$61.36		0.0	$0.00	$61.36	0.50	520.0	$78,172.64	0.3	520.0	$78,172.64
London, L	STV	2.45	D	$31.27		0.0	$0.00	$31.27	0.50	520.0	$39,837.98	0.3	520.0	$39,837.98
PTG Eng/Arch C	PTG TBD	2.45	C	$46.69	0.08	166.4	$19,034.58	$46.69	0.50	520.0	$59,483.06	0.3	686.4	$78,517.64
Avellan, J	WNBA	2.76	B	$52.16	0.08	166.4	$23,955.21	$52.16	0.50	520.0	$74,860.03	0.3	686.4	$98,815.24
Govekar, S	WNBA	2.76	Cad	$24.76	0.08	166.4	$11,371.38	$24.76	0.50	520.0	$35,535.55	0.3	686.4	$46,906.93
Kasakyan, A	WNBA	2.76	C	$45.19	0.08	166.4	$20,754.14	$45.19	0.50	520.0	$64,856.69	0.3	686.4	$85,610.83
Brodsky, V	STV	2.45	A	$100.72	0.08	166.4	$41,061.53	$100.72	0.20	208.0	$51,326.91	0.2	374.4	$92,388.44
Ghaly, N	Parsons	2.45	B	$72.73	0.08	166.4	$29,650.57	$72.73	0.30	312.0	$55,594.81	0.2	478.4	$85,245.38
Latler, M	Parsons	2.45	C	$54.56	0.08	166.4	$22,243.02	$54.56	0.30	312.0	$41,705.66	0.2	478.4	$63,948.68
Clarson, M	RCC	2.917	C	$51.09	0.08	166.4	$24,798.51	$51.09	0.50	520.0	$77,495.38	0.3	686.4	$102,293.87
Abdullah, M	STV	2.45	B	$68.30	0.08	166.4	$27,844.54	$68.30	0.50	520.0	$87,014.20	0.3	686.4	$114,858.74
Cobuzzi, A	STV	2.45	B	$56.49	0.08	166.4	$23,029.84	$56.49	0.50	520.0	$71,968.26	0.3	686.4	$94,998.10
Gilboa, J	STV	2.45	A	$73.81	0.08	166.4	$30,090.86	$73.81	0.50	520.0	$94,033.94	0.3	686.4	$124,124.80
Koumjian, G	STV	2.45	A	$85.58	0.08	166.4	$34,889.25	$85.58	0.50	520.0	$109,028.92	0.3	686.4	$143,918.17
Schuller, P	STV	2.45	A	$90.24	0.08	166.4	$36,789.04	$90.24	0.50	520.0	$114,965.76	0.3	686.4	$151,754.80
Zheng, H	STV	2.45	B	$63.07	0.08	166.4	$25,712.36	$63.07	0.50	520.0	$80,351.18	0.3	686.4	$106,063.58
Charalambous, J	Parsons	2.45	A	$93.27	0.08	166.4	$38,024.31	$93.27	0.20	208.0	$47,530.39	0.2	374.4	$85,554.71
Parnes, J	AECOM	2.45	A	$78.44	0.08	166.4	$31,978.42	$78.44	0.50	520.0	$99,932.56	0.3	686.4	$131,910.98
Altabba, B	Parsons	2.45	A	$73.69	0.08	166.4	$30,041.94	$73.69	0.50	520.0	$93,881.06	0.3	686.4	$123,923.00
Mauritz, P	AECOM	2.45	A	$73.58	0.08	166.4	$29,997.09	$73.58	0.50	520.0	$93,740.92	0.3	686.4	$123,738.01
Baxter, D	AECOM	2.45	C	$42.32	0.08	166.4	$17,253.02	$42.32	0.50	520.0	$53,915.68	0.3	686.4	$71,168.70
Jimenez, D	AECOM	2.45	C	$44.29	0.08	166.4	$18,058.15	$44.29	0.50	520.0	$56,425.46	0.3	686.4	$74,481.61
Levintov, B	AECOM	2.45	B	$68.02	0.08	166.4	$26,915.03	$68.02	0.50	520.0	$84,109.48	0.3	686.4	$111,024.51
Mazumdar, A	AECOM	2.45	B	$61.22	0.08	166.4	$24,958.17	$61.22	0.50	520.0	$77,994.28	0.3	686.4	$102,952.45
Sherzer, M	AECOM	2.45	C	$44.97	0.08	166.4	$18,333.37	$44.97	0.50	520.0	$57,291.78	0.3	686.4	$75,625.15
Teodor, L	AECOM	2.45	B	$57.57	0.08	166.4	$23,470.14	$57.57	0.50	520.0	$73,344.18	0.3	686.4	$96,814.32
Kourkoumelis, V	Hirani	2.54	C	$48.08	0.08	166.4	$20,321.30	$48.08	0.50	520.0	$63,504.06	0.3	686.4	$83,825.36
Ingram, G	Parsons	2.45	Cad	$25.44		0.0	$0.00	$25.44	0.00	0.0	$0.00	0.0	0.0	$0.00
Khalil, M	Parsons	2.45	B	$64.33	0.50	1,040.0	$163,912.84	$64.33	0.50	520.0	$81,956.42	0.8	1,560.0	$245,869.26
Patel, A	Parsons	2.45	C	$53.74	0.08	166.4	$21,908.72	$53.74	0.50	520.0	$68,484.76	0.3	686.4	$90,373.48
Sousa, M	Parsons	2.45	Cad	$34.07		0.0	$0.00	$34.07	0.50	520.0	$43,405.18	0.3	520.0	$43,405.18
Wisniewski, B	Parsons	2.45	C	$45.65	0.08	166.4	$18,610.59	$45.65	0.50	520.0	$58,158.10	0.3	686.4	$76,768.69
SCSA Eng/Arch A	SCSA TBD	2.95	A	$86.95	0.08	166.4	$42,682.02	$86.95	0.50	520.0	$133,381.30	0.3	686.4	$176,063.32
Lomax, S	SCSA	2.95	A	$79.71	0.08	166.4	$39,128.04	$79.71	0.50	520.0	$122,275.14	0.3	686.4	$161,403.18
Rando, M	SCSA	2.95	A	$125.06	0.08	166.4	$61,389.45	$125.06	0.50	520.0	$191,842.04	0.3	686.4	$253,231.49
Doshi, K	STV	2.45	A	$98.72	0.08	166.4	$40,246.17	$98.72	0.50	520.0	$125,769.28	0.3	686.4	$166,015.45
Cregger, D	AECOM	2.45	B	$58.47	0.08	166.4	$23,837.05	$58.47		0.0	$0.00	0.1	166.4	$23,837.05
Baker, U	Weidlinger	2.8	D	$36.55	0.08	166.4	$15,812.99	$36.55	0.50	520.0	$49,415.60	0.3	686.4	$65,228.59
Mirzakashani, M	AECOM	2.45	A	$90.87	0.08	166.4	$37,045.88	$90.87	0.50	520.0	$115,768.38	0.3	686.4	$152,814.26
Wang, H	AECOM	2.45	B	$65.00		0.0	$0.00	$65.00	0.50	520.0	$82,810.00	0.3	520.0	$82,810.00
Kopkalli, H	YAS	2.51	B	$67.00	0.08	166.4	$27,983.49	$67.00	0.50	520.0	$87,448.40	0.3	686.4	$115,431.89
Fearon, D	PACO	2.62	TA	$27.76	0.50	1,040.0	$75,640.45	$27.76	0.50	520.0	$37,820.22	0.8	1,560.0	$113,460.67
Nikolakakos, S	Russell	2.86	P	$144.00		0.0	$0.00	$144.00		0.0	$0.00	0.0	0.0	$0.00
			Totals:		6.52	13,561.6	$2,183,873.69		26.80	27,872.0	$4,554,655.00	19.9	41,433.6	$6,738,528.70

Contract No. 407-03-013
Change Order (CO) #09-006-A
Revised - Design Contract Change (DCC) 494

Professional Services Change Order
Revised - Cost Proposal

Revised - Schedule C
Task 3.8 - Review and Comment on Operational Manual

Staffing Name	Company	Multiplier (OH+Fee)	Eng/Arch Category	7/1/08 - 6/31/09				7/1/09 - 12/31/09				Total FTE	Total Hours	Total Labor ($)
				Hourly Rate	FTE	Hours (Hrs)	Total Labor ($)	Hourly Rate	FTE	Hours (Hrs)	Total Labor ($)			
Edwards, R	AECOM	2.45	A									0.0	0.0	$0.00
Mcintyre, S	STV	2.45	A									0.0	0.0	$0.00
Garz, M	STV	2.45	A									0.0	0.0	$0.00
Calatrava, S	SCSA	2.95	A									0.0	0.0	$0.00
Son, J	STV	2.45	B									0.0	0.0	$0.00
Harris, K	AECOM	2.45	C									0.0	0.0	$0.00
Felice, D	PMA	2.5	TA									0.0	0.0	$0.00
Quinones, P	STV	2.45	C									0.0	0.0	$0.00
Basta, A	STV	2.45	A									0.0	0.0	$0.00
Jang, H	AECOM	2.45	TA									0.0	0.0	$0.00
McDermott, C	AECOM	2.45	A									0.0	0.0	$0.00
Rosciglione, A	AECOM	2.45	C									0.0	0.0	$0.00
Powell, D	ISR	2.332	TA									0.0	0.0	$0.00
Tong, E	Stellar	2.45	C									0.0	0.0	$0.00
Abbate, D	STV	2.45	D									0.0	0.0	$0.00
Dennis, Y	STV	2.45	TA									0.0	0.0	$0.00
Kamboj, M	AECOM	2.45	B									0.0	0.0	$0.00
Gallagher, T	Parsons	2.45	C									0.0	0.0	$0.00
Pagani, S	PMA	2.5	C									0.0	0.0	$0.00
Finkelstein, M	STV	2.45	C									0.0	0.0	$0.00
Nervina, G	STV	2.45	C									0.0	0.0	$0.00
Solano, J	STV	2.45	C									0.0	0.0	$0.00
Zellner, P	STV	2.45	B									0.0	0.0	$0.00
Hand, J	AECOM	2.45	B									0.0	0.0	$0.00
Chong, S	AECOM	2.45	C									0.0	0.0	$0.00
Patel, K	AECOM	2.45	D									0.0	0.0	$0.00
Schiff, M	AECOM	2.45	C									0.0	0.0	$0.00
Woo, T	AECOM	2.45	B									0.0	0.0	$0.00
Diamond, R	SCSA	2.95	A									0.0	0.0	$0.00
SCSA Eng/Arch B	SCSA TBD	2.95	B									0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A									0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A									0.0	0.0	$0.00
Bracco, S	STV	2.45	C									0.0	0.0	$0.00
PTG Eng/Arch C	PTG TBD	2.45	C									0.0	0.0	$0.00
Lem, R	STV	2.45	B									0.0	0.0	$0.00
London, L	STV	2.45	D									0.0	0.0	$0.00
PTG Eng/Arch D	PTG TBD	2.45	D									0.0	0.0	$0.00
Avellan, J	WNBA	2.78	B									0.0	0.0	$0.00
Govekar, S	WNBA	2.78	Cad									0.0	0.0	$0.00
Kasakyan, A	WNBA	2.78	C									0.0	0.0	$0.00
JV Eng/Arch A	JV TBD	2.45	A									0.0	0.0	$0.00
JV Eng/Arch B	JV TBD	2.45	B									0.0	0.0	$0.00
JV Eng/Arch B	JV TBD	2.45	B									0.0	0.0	$0.00
PTG Eng/Arch A	PTG TBD	2.45	A									0.0	0.0	$0.00
PTG Eng/Arch B	PTG TBD	2.45	B									0.0	0.0	$0.00
PTG Eng/Arch B	PTG TBD	2.45	B									0.0	0.0	$0.00
JV Eng/Arch B	JV TBD	2.45	B									0.0	0.0	$0.00
JV Eng/Arch B	JV TBD	2.45	B									0.0	0.0	$0.00
JV Eng/Arch C	JV TBD	2.45	C									0.0	0.0	$0.00
JV Eng/Arch C	JV TBD	2.45	C									0.0	0.0	$0.00
Charalambous, J	Parsons	2.45	A									0.0	0.0	$0.00
Parnes, J	AECOM	2.45	A									0.0	0.0	$0.00
Altabba, B	Parsons	2.45	A									0.0	0.0	$0.00
Mauritz, P	AECOM	2.45	A									0.0	0.0	$0.00
Baxter, D	AECOM	2.45	C									0.0	0.0	$0.00
Jimenez, D	AECOM	2.45	C									0.0	0.0	$0.00
Levintov, B	AECOM	2.45	B									0.0	0.0	$0.00
Mazumdar, A	AECOM	2.45	B									0.0	0.0	$0.00
Sherzer, M	AECOM	2.45	C									0.0	0.0	$0.00
Teodor, L	AECOM	2.45	B									0.0	0.0	$0.00
Kourkoumelis, V	Hirani	2.54	C									0.0	0.0	$0.00
Ingram, G	Parsons	2.45	Cad									0.0	0.0	$0.00
Khalil, M	Parsons	2.45	B									0.0	0.0	$0.00
Patel, A	Parsons	2.45	C									0.0	0.0	$0.00
Sousa, M	Parsons	2.45	Cad									0.0	0.0	$0.00
Wisniewski, B	Parsons	2.45	C									0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A									0.0	0.0	$0.00
Lomax, S	SCSA	2.95	A									0.0	0.0	$0.00
Rando, M	SCSA	2.95	A									0.0	0.0	$0.00
Doshi, K	STV	2.45	A									0.0	0.0	$0.00
Cregger, D	AECOM	2.45	B									0.0	0.0	$0.00
Baker, U	Weidlinger	2.6	D									0.0	0.0	$0.00
Mirzakashani, M	AECOM	2.45	A									0.0	0.0	$0.00
Wang, H	AECOM	2.45	B									0.0	0.0	$0.00
Kopkalli, H	YAS	2.51	B									0.0	0.0	$0.00
Fearon, D	PACO	2.82	TA									0.0	0.0	$0.00
Nikolakakos, S	Russell	2.66	P									0.0	0.0	$0.00
			Totals:		0.00	0.0	$0.00		0.00	0.0	$0.00	0.0	0.0	$0.00

Contract No. 407-03-013
Change Order (CO) #09-006-A
Revised - Design Contract Change (DCC) 494

Professional Services Change Order
Revised - Cost Proposal

Revised - Schedule C
Task 3.9 - Prepare Record Drawings

Staffing Name	Company	Multiplier (OH+Fee)	Eng/Arch Category	7/1/08 - 6/31/09				7/1/09 - 12/31/09				Total FTE	Total Hours	Total Labor ($)
				Hourly Rate	FTE	Hours (Hrs)	Total Labor ($)	Hourly Rate	FTE	Hours (Hrs)	Total Labor ($)			
Edwards, R	AECOM	2.45	A									0.0	0.0	$0.00
McIntyre, S	STV	2.45	A									0.0	0.0	$0.00
Garz, M	STV	2.45	A									0.0	0.0	$0.00
Calatrava, S	SCSA	2.95	A									0.0	0.0	$0.00
Son, J	STV	2.45	B									0.0	0.0	$0.00
Harris, K	AECOM	2.45	C									0.0	0.0	$0.00
Felice, D	PMA	2.5	TA									0.0	0.0	$0.00
Quinones, P	STV	2.45	C									0.0	0.0	$0.00
Basta, A	STV	2.45	A									0.0	0.0	$0.00
Jang, H	AECOM	2.45	TA									0.0	0.0	$0.00
McDermott, C	AECOM	2.45	A									0.0	0.0	$0.00
Rosciglione, A	AECOM	2.45	C									0.0	0.0	$0.00
Powell, D	ISR	2.332	TA									0.0	0.0	$0.00
Tong, E	Stellar	2.45	C									0.0	0.0	$0.00
Abbate, D	STV	2.45	D									0.0	0.0	$0.00
Dennis, Y	STV	2.45	TA									0.0	0.0	$0.00
Kamboj, M	AECOM	2.45	B									0.0	0.0	$0.00
Gallagher, T	Parsons	2.45	C									0.0	0.0	$0.00
Pagani, S	PMA	2.5	C									0.0	0.0	$0.00
Finkelstein, M	STV	2.45	C									0.0	0.0	$0.00
Nervina, G	STV	2.45	C									0.0	0.0	$0.00
Solano, J	STV	2.45	C									0.0	0.0	$0.00
Zeltner, P	STV	2.45	B									0.0	0.0	$0.00
Hand, J	AECOM	2.45	B									0.0	0.0	$0.00
Chong, S	AECOM	2.45	C									0.0	0.0	$0.00
Patel, K	AECOM	2.45	D									0.0	0.0	$0.00
JV Eng/Arch D	JV TBD	2.45	D									0.0	0.0	$0.00
JV Eng/Arch D	JV TBD	2.45	D									0.0	0.0	$0.00
Diamond, R	SCSA	2.95	A									0.0	0.0	$0.00
SCSA Eng/Arch B	SCSA TBD	2.95	B									0.0	0.0	$0.00
SCSA Eng/Arch B	SCSA TBD	2.95	B									0.0	0.0	$0.00
SCSA Eng/Arch B	SCSA TBD	2.95	B									0.0	0.0	$0.00
Bracco, S	STV	2.45	C									0.0	0.0	$0.00
PTG Eng/Arch C	PTG TBD	2.45	C									0.0	0.0	$0.00
PTG Eng/Arch D	PTG TBD	2.45	D									0.0	0.0	$0.00
PTG Eng/Arch D	PTG TBD	2.45	D									0.0	0.0	$0.00
PTG Eng/Arch D	PTG TBD	2.45	D									0.0	0.0	$0.00
PTG Eng/Arch D	PTG TBD	2.45	D									0.0	0.0	$0.00
Govekar, S	WNBA	2.76	Cad									0.0	0.0	$0.00
PTG Cadd Op	PTG TBD	2.45	Cad									0.0	0.0	$0.00
Brodsky, V	STV	2.45	A									0.0	0.0	$0.00
JV Eng/Arch D	JV TBD	2.45	D									0.0	0.0	$0.00
JV Eng/Arch D	JV TBD	2.45	D									0.0	0.0	$0.00
JV Eng/Arch D	JV TBD	2.45	D									0.0	0.0	$0.00
JV Eng/Arch D	JV TBD	2.45	D									0.0	0.0	$0.00
JV Eng/Arch D	JV TBD	2.45	D									0.0	0.0	$0.00
JV Eng/Arch D	JV TBD	2.45	D									0.0	0.0	$0.00
PTG Eng/Arch D	PTG TBD	2.45	D									0.0	0.0	$0.00
PTG Eng/Arch D	PTG TBD	2.45	D									0.0	0.0	$0.00
Zheng, H	STV	2.45	B									0.0	0.0	$0.00
Charalambous, J	Parsons	2.45	A									0.0	0.0	$0.00
Parnes, J	AECOM	2.45	A									0.0	0.0	$0.00
Altabba, B	Parsons	2.45	A									0.0	0.0	$0.00
JV Eng/Arch D	JV TBD	2.45	D									0.0	0.0	$0.00
JV Eng/Arch D	JV TBD	2.45	D									0.0	0.0	$0.00
JV Eng/Arch D	JV TBD	2.45	D									0.0	0.0	$0.00
JV Eng/Arch D	JV TBD	2.45	D									0.0	0.0	$0.00
JV Eng/Arch D	JV TBD	2.45	D									0.0	0.0	$0.00
Sherzer, M	AECOM	2.45	C									0.0	0.0	$0.00
JV Eng/Arch D	JV TBD	2.45	D									0.0	0.0	$0.00
Kourkoumelis, V	Hirani	2.54	C									0.0	0.0	$0.00
Ingram, G	Parsons	2.45	Cad									0.0	0.0	$0.00
Khalil, M	Parsons	2.45	B									0.0	0.0	$0.00
Patel, A	Parsons	2.45	C									0.0	0.0	$0.00
Sousa, M	Parsons	2.45	Cad									0.0	0.0	$0.00
Wisniewski, B	Parsons	2.45	C									0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A									0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A									0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A									0.0	0.0	$0.00
Doshi, K	STV	2.45	A									0.0	0.0	$0.00
Cregger, D	AECOM	2.45	B									0.0	0.0	$0.00
Baker, U	Weidlinger	2.6	D									0.0	0.0	$0.00
JV Eng/Arch D	JV TBD	2.45	D									0.0	0.0	$0.00
JV Eng/Arch D	JV TBD	2.45	D									0.0	0.0	$0.00
JV Eng/Arch D	JV TBD	2.45	D									0.0	0.0	$0.00
Fearon, D	PACO	2.62	TA									0.0	0.0	$0.00
Nikolakakos, S	Russell	2.66	P									0.0	0.0	$0.00
			Totals:		0.00	0.0	$0.00		0.00	0.0	$0.00	0.0	0.0	$0.00

Contract No. 407-03-013
Change Order (CO) #09-006-A
Revised - Design Contract Change (DCC) 494

Professional Services Change Order
Revised - Cost Proposal

Revised - Schedule C
Task 3.10 - Review Contractor's Proposed Design Changes and Comment (Allowance)

Staffing Name	Company	Multiplier (OH+Fee)	Eng/Arch Category	7/1/08 - 6/31/09				7/1/09 - 12/31/09				Total FTE	Total Hours	Total Labor ($)
				Hourly Rate	FTE	Hours (Hrs)	Total Labor ($)	Hourly Rate	FTE	Hours (Hrs)	Total Labor ($)			
Edwards, R	AECOM	2.45	A					$108.53		0.0	$0.00	0.0	0.0	$0.00
McIntyre, S	STV	2.45	A					$102.97		0.0	$0.00	0.0	0.0	$0.00
JV Eng/Arch A	JV TBD	2.45	A					$86.95	0.07	73.4	$15,628.02	0.0	73.4	$15,628.02
JV Eng/Arch B	JV TBD	2.45	B					$66.08	0.02	24.5	$3,958.98	0.0	24.5	$3,958.98
Son, J	STV	2.45	B					$61.07		0.0	$0.00	0.0	0.0	$0.00
Harris, K	AECOM	2.45	C					$44.96		0.0	$0.00	0.0	0.0	$0.00
Felice, D	PMA	2.5	TA					$35.00		0.0	$0.00	0.0	0.0	$0.00
Quinones, P	STV	2.45	C					$45.36		0.0	$0.00	0.0	0.0	$0.00
Basta, A	STV	2.45	A					$88.33		0.0	$0.00	0.0	0.0	$0.00
Jang, H	AECOM	2.45	TA					$20.40		0.0	$0.00	0.0	0.0	$0.00
McDermott, C	AECOM	2.45	A					$81.04		0.0	$0.00	0.0	0.0	$0.00
Rosciglione, A	AECOM	2.45	C					$52.31		0.0	$0.00	0.0	0.0	$0.00
Powell, D	ISR	2.332	TA					$29.79		0.0	$0.00	0.0	0.0	$0.00
Tong, E	Stellar	2.45	C					$45.67		0.0	$0.00	0.0	0.0	$0.00
Abbate, D	STV	2.45	D					$27.68		0.0	$0.00	0.0	0.0	$0.00
Dennis, Y	STV	2.45	TA					$31.18		0.0	$0.00	0.0	0.0	$0.00
Kamboj, M	AECOM	2.45	B					$69.58		0.0	$0.00	0.0	0.0	$0.00
Gallagher, T	Parsons	2.45	C					$43.27		0.0	$0.00	0.0	0.0	$0.00
Pagani, S	PMA	2.5	C					$53.50		0.0	$0.00	0.0	0.0	$0.00
Finkelstein, M	STV	2.45	C					$53.00		0.0	$0.00	0.0	0.0	$0.00
Nervina, G	STV	2.45	C					$46.99		0.0	$0.00	0.0	0.0	$0.00
Solano, J	STV	2.45	C					$53.00		0.0	$0.00	0.0	0.0	$0.00
Zellner, P	STV	2.45	B					$70.19		0.0	$0.00	0.0	0.0	$0.00
JV Eng/Arch B	JV TBD	2.45	B					$66.08	0.05	48.9	$7,917.96	0.0	48.9	$7,917.96
Chong, S	AECOM	2.45	C					$40.89	0.02	24.5	$2,449.80	0.0	24.5	$2,449.80
Patel, K	AECOM	2.45	D					$38.75	0.02	24.5	$2,321.59	0.0	24.5	$2,321.59
Schiff, M	AECOM	2.45	C					$52.15	0.02	24.5	$3,124.40	0.0	24.5	$3,124.40
JV Eng/Arch B	JV TBD	2.45	B					$66.08	0.02	24.5	$3,958.98	0.0	24.5	$3,958.98
Diamond, R	SCSA	2.95	A					$118.32	0.02	24.5	$8,535.46	0.0	24.5	$8,535.46
SCSA Eng/Arch B	SCSA TBD	2.95	B					$66.08	0.02	24.5	$4,766.93	0.0	24.5	$4,766.93
SCSA Eng/Arch B	SCSA TBD	2.95	B					$66.08	0.02	24.5	$4,766.93	0.0	24.5	$4,766.93
SCSA Eng/Arch B	SCSA TBD	2.95	B					$66.08	0.02	24.5	$4,766.93	0.0	24.5	$4,766.93
Ducibella, R	DVS	2.31	P					$235.00		0.0	$0.00	0.0	0.0	$0.00
PTG Eng/Arch C	*PTG TBD*	*2.45*	*C*					*$46.69*	*0.02*	*24.5*	*$2,797.29*	*0.0*	*24.5*	*$2,797.29*
JV Eng/Arch C	JV TBD	2.45	C					$46.69	0.02	24.5	$2,797.29	0.0	24.5	$2,797.29
London, L	STV	2.45	D					$31.27	0.02	24.5	$1,873.44	0.0	24.5	$1,873.44
PTG Eng/Arch D	PTG TBD	2.45	D					$31.91	0.02	24.5	$1,911.79	0.0	24.5	$1,911.79
Avellan, J	WNBA	2.76	B					$52.16		0.0	$0.00	0.0	0.0	$0.00
Govekar, S	WNBA	2.76	Cad					$24.76		0.0	$0.00	0.0	0.0	$0.00
Kasakyan, A	WNBA	2.76	C					$45.19		0.0	$0.00	0.0	0.0	$0.00
Ghaly, N	Parsons	2.45	B					$72.73		0.0	$0.00	0.0	0.0	$0.00
Littler, M	Parsons	2.45	C					$54.56		0.0	$0.00	0.0	0.0	$0.00
Clarson, M	RCC	2.917	C					$51.09		0.0	$0.00	0.0	0.0	$0.00
Abdullah, M	STV	2.45	B					$68.30		0.0	$0.00	0.0	0.0	$0.00
Cobuzzi, A	STV	2.45	B					$56.49		0.0	$0.00	0.0	0.0	$0.00
JV Eng/Arch B	JV TBD	2.45	B					$66.08	0.05	48.9	$7,917.96	0.0	48.9	$7,917.96
JV Eng/Arch B	JV TBD	2.45	B					$66.08	0.05	48.9	$7,917.96	0.0	48.9	$7,917.96
PTG Eng/Arch B	PTG TBD	2.45	B					$66.08		0.0	$0.00	0.0	0.0	$0.00
Zheng, H	STV	2.45	B					$63.07		0.0	$0.00	0.0	0.0	$0.00
PTG Eng/Arch B	PTG TBD	2.45	B					$66.08		0.0	$0.00	0.0	0.0	$0.00
JV Eng/Arch B	JV TBD	2.45	B					$66.08	0.02	24.5	$3,958.98	0.0	24.5	$3,958.98
SCSA Eng/Arch B	SCSA TBD	2.95	B					$66.08	0.05	48.9	$9,533.86	0.0	48.9	$9,533.86
												0.0	0.0	$0.00
Baxter, D	AECOM	2.45	C					$42.32		0.0	$0.00	0.0	0.0	$0.00
Jimenez, D	AECOM	2.45	C					$44.29		0.0	$0.00	0.0	0.0	$0.00
Levintov, B	AECOM	2.45	B					$66.02		0.0	$0.00	0.0	0.0	$0.00
Mazumdar, A	AECOM	2.45	B					$61.22		0.0	$0.00	0.0	0.0	$0.00
Sherzer, M	AECOM	2.45	C					$44.97		0.0	$0.00	0.0	0.0	$0.00
Teodor, L	AECOM	2.45	B					$57.57		0.0	$0.00	0.0	0.0	$0.00
Kourkoumelis, V	Hirani	2.54	C					$48.08		0.0	$0.00	0.0	0.0	$0.00
Ingram, G	Parsons	2.45	Cad					$25.44		0.0	$0.00	0.0	0.0	$0.00
PTG Eng/Arch A	PTG TBD	2.45	A					$86.95		0.0	$0.00	0.0	0.0	$0.00
Patel, A	Parsons	2.45	C					$53.74		0.0	$0.00	0.0	0.0	$0.00
Sousa, M	Parsons	2.45	Cad					$34.07		0.0	$0.00	0.0	0.0	$0.00
Wisniewski, B	Parsons	2.45	C					$45.65		0.0	$0.00	0.0	0.0	$0.00
												0.0	0.0	$0.00
SCSA Eng/Arch B	SCSA TBD	2.95	B					$66.08	0.01	12.2	$2,383.47	0.0	12.2	$2,383.47
SCSA Eng/Arch B	SCSA TBD	2.95	B					$66.08	0.02	24.5	$4,766.93	0.0	24.5	$4,766.93
JV Eng/Arch B	JV TBD	2.45	B					$66.08	0.02	24.5	$3,958.98	0.0	24.5	$3,958.98
Cregger, D	AECOM	2.45	B					$58.47		0.0	$0.00	0.0	0.0	$0.00
Baker, U	Weidlinger	2.6	D					$36.55		0.0	$0.00	0.0	0.0	$0.00
JV Eng/Arch B	JV TBD	2.45	B					$66.08		0.0	$0.00	0.0	0.0	$0.00
Wang, H	AECOM	2.45	B					$65.00		0.0	$0.00	0.0	0.0	$0.00
Kopkalli, H	YAS	2.51	B					$67.00		0.0	$0.00	0.0	0.0	$0.00
Fearon, D	PACO	2.62	TA					$27.76		0.0	$0.00	0.0	0.0	$0.00
Nikolakakos, S	Russell	2.66	P					$144.00		0.0	$0.00	0.0	0.0	$0.00
			Totals:		0.00	0.0	$0.00		0.65	672.5	$112,013.91	0.3	672.5	$112,013.91

Contract No. 407-03-013
Change Order (CO) #09-006-A
Revised - Design Contract Change (DCC) 494

Professional Services Change Order
Revised - Cost Proposal

Revised - Schedule C
Task 3.11 - Review Contractor's Claim (Allowance)

Staffing Name	Company	Multiplier (OH+Fee)	Eng/Arch Category	7/1/08 - 6/31/09				7/1/09 - 12/31/09				Total FTE	Total Hours	Total Labor ($)
				Hourly Rate	FTE	Hours (Hrs)	Total Labor ($)	Hourly Rate	FTE	Hours (Hrs)	Total Labor ($)			
Edwards, R	AECOM	2.45	A									0.0	0.0	$0.00
McIntyre, S	STV	2.45	A									0.0	0.0	$0.00
JV Eng/Arch B	JV TBD	2.45	B									0.0	0.0	$0.00
SCSA Eng/Arch B	SCSA TBD	2.95	B									0.0	0.0	$0.00
Son, J	STV	2.45	B									0.0	0.0	$0.00
Harris, K	AECOM	2.45	C									0.0	0.0	$0.00
Felice, D	PMA	2.5	TA									0.0	0.0	$0.00
Quinones, P	STV	2.45	C									0.0	0.0	$0.00
Basta, A	STV	2.45	A									0.0	0.0	$0.00
Jang, H	AECOM	2.45	TA									0.0	0.0	$0.00
McDermott, C	AECOM	2.45	A									0.0	0.0	$0.00
Rosciglione, A	AECOM	2.45	C									0.0	0.0	$0.00
Powell, D	ISR	2.332	TA									0.0	0.0	$0.00
Tong, E	Stellar	2.45	C									0.0	0.0	$0.00
Abbate, D	STV	2.45	D									0.0	0.0	$0.00
Dennis, Y	STV	2.45	TA									0.0	0.0	$0.00
Kamboj, M	AECOM	2.45	B									0.0	0.0	$0.00
Gallagher, T	Parsons	2.45	C									0.0	0.0	$0.00
Pagani, S	PMA	2.5	C									0.0	0.0	$0.00
Finkelstein, M	STV	2.45	C									0.0	0.0	$0.00
Nervina, G	STV	2.45	C									0.0	0.0	$0.00
Solano, J	STV	2.45	C									0.0	0.0	$0.00
Zellner, P	STV	2.45	B									0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A									0.0	0.0	$0.00
Chong, S	AECOM	2.45	C									0.0	0.0	$0.00
Patel, K	AECOM	2.45	D									0.0	0.0	$0.00
Schiff, M	AECOM	2.45	C									0.0	0.0	$0.00
Woo, T	AECOM	2.45	B									0.0	0.0	$0.00
Diamond, R	SCSA	2.95	A									0.0	0.0	$0.00
												0.0	0.0	$0.00
												0.0	0.0	$0.00
												0.0	0.0	$0.00
Bracco, S	STV	2.45	C									0.0	0.0	$0.00
PTG Eng/Arch C	PTG TBD	2.45	C									0.0	0.0	$0.00
Lem, R	STV	2.45	B									0.0	0.0	$0.00
London, L	STV	2.45	D									0.0	0.0	$0.00
PTG Eng/Arch D	PTG TBD	2.45	D									0.0	0.0	$0.00
Avetian, J	WNBA	2.76	B									0.0	0.0	$0.00
Govekar, S	WNBA	2.76	Cad									0.0	0.0	$0.00
Kasakyan, A	WNBA	2.76	C									0.0	0.0	$0.00
Brodsky, V	STV	2.45	A									0.0	0.0	$0.00
Ghaly, N	Parsons	2.45	B									0.0	0.0	$0.00
Littler, M	Parsons	2.45	C									0.0	0.0	$0.00
Clarson, M	RCC	2.917	C									0.0	0.0	$0.00
Abdullah, M	STV	2.45	B									0.0	0.0	$0.00
Cobuzzi, A	STV	2.45	B									0.0	0.0	$0.00
Gliboa, J	STV	2.45	A									0.0	0.0	$0.00
Koumjian, G	STV	2.45	A									0.0	0.0	$0.00
Schuller, P	STV	2.45	A									0.0	0.0	$0.00
Zheng, H	STV	2.45	B									0.0	0.0	$0.00
Charalambous, J	Parsons	2.45	A									0.0	0.0	$0.00
Parnes, J	AECOM	2.45	A									0.0	0.0	$0.00
Altabba, B	Parsons	2.45	A									0.0	0.0	$0.00
Mauritz, P	AECOM	2.45	A									0.0	0.0	$0.00
Baxter, D	AECOM	2.45	C									0.0	0.0	$0.00
Jimenez, D	AECOM	2.45	C									0.0	0.0	$0.00
Levintov, B	AECOM	2.45	B									0.0	0.0	$0.00
Mazumdar, A	AECOM	2.45	B									0.0	0.0	$0.00
Sherzer, M	AECOM	2.45	C									0.0	0.0	$0.00
Teodor, L	AECOM	2.45	B									0.0	0.0	$0.00
Kourkoumelis, V	Hirani	2.54	C									0.0	0.0	$0.00
Ingram, G	Parsons	2.45	Cad									0.0	0.0	$0.00
Khalil, M	Parsons	2.45	B									0.0	0.0	$0.00
Patel, A	Parsons	2.45	C									0.0	0.0	$0.00
Sousa, M	Parsons	2.45	Cad									0.0	0.0	$0.00
Wisniewski, B	Parsons	2.45	C									0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A									0.0	0.0	$0.00
Lomax, S	SCSA	2.95	A									0.0	0.0	$0.00
Rando, M	SCSA	2.95	A									0.0	0.0	$0.00
Doshi, K	STV	2.45	A									0.0	0.0	$0.00
Cregger, D	AECOM	2.45	B									0.0	0.0	$0.00
Baker, U	Weidlinger	2.8	D									0.0	0.0	$0.00
Mirzakashani, M	AECOM	2.45	A									0.0	0.0	$0.00
Wang, H	AECOM	2.45	B									0.0	0.0	$0.00
Kopkalli, H	YAS	2.51	B									0.0	0.0	$0.00
Fearon, D	PACO	2.62	TA									0.0	0.0	$0.00
Nikolakakos, S	Russell	2.86	P									0.0	0.0	$0.00
			Totals:		0.00	0.0	$0.00		0.00	0.0	$0.00	0.0	0.0	$0.00

Contract No. 407-03-013
Change Order (CO) #09-006-A
Revised - Design Contract Change (DCC) 494

Professional Services Change Order
Revised - Cost Proposal

Revised - Schedule C
Task 3.12 - Outline Listing of Required Contractor's Submittal

Staffing Name	Company	Multiplier (OH+Fee)	Eng/Arch Category	7/1/08 - 6/31/09				7/1/09 - 12/31/09				Total FTE	Total Hours	Total Labor ($)
				Hourly Rate	FTE	Hours (Hrs)	Total Labor ($)	Hourly Rate	FTE	Hours (Hrs)	Total Labor ($)			
Edwards, R	AECOM	2.45	A									0.0	0.0	$0.00
McIntyre, S	STV	2.45	A									0.0	0.0	$0.00
Garz, M	STV	2.45	A									0.0	0.0	$0.00
Calatrava, S	SCSA	2.95	A									0.0	0.0	$0.00
Son, J	STV	2.45	B									0.0	0.0	$0.00
Harris, K	AECOM	2.45	C									0.0	0.0	$0.00
Felice, D	PMA	2.5	TA									0.0	0.0	$0.00
Quinones, P	STV	2.45	C									0.0	0.0	$0.00
Basta, A	STV	2.45	A									0.0	0.0	$0.00
Jang, H	AECOM	2.45	TA									0.0	0.0	$0.00
McDermott, C	AECOM	2.45	A									0.0	0.0	$0.00
PTG Eng/Arch B	PTG TBD	2.45	B									0.0	0.0	$0.00
Powell, D	ISR	2.332	TA									0.0	0.0	$0.00
Tong, E	Stellar	2.45	C									0.0	0.0	$0.00
Abbate, D	STV	2.45	D									0.0	0.0	$0.00
Dennis, Y	STV	2.45	TA									0.0	0.0	$0.00
Kamboj, M	AECOM	2.45	B									0.0	0.0	$0.00
Gallagher, T	Parsons	2.45	C									0.0	0.0	$0.00
Pagani, S	PMA	2.5	C									0.0	0.0	$0.00
Finkelstein, M	STV	2.45	C									0.0	0.0	$0.00
Nervina, G	STV	2.45	C									0.0	0.0	$0.00
Solano, J	STV	2.45	C									0.0	0.0	$0.00
Zellner, P	STV	2.45	B									0.0	0.0	$0.00
Hand, J	AECOM	2.45	B									0.0	0.0	$0.00
Chong, S	AECOM	2.45	C									0.0	0.0	$0.00
Patel, K	AECOM	2.45	D									0.0	0.0	$0.00
Schiff, M	AECOM	2.45	C									0.0	0.0	$0.00
Woo, T	AECOM	2.45	B									0.0	0.0	$0.00
Diamond, R	SCSA	2.95	A									0.0	0.0	$0.00
SCSA Eng/Arch B	SCSA TBD	2.95	B									0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A									0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A									0.0	0.0	$0.00
Bracco, S	STV	2.45	C									0.0	0.0	$0.00
PTG Eng/Arch C	PTG TBD	2.45	C									0.0	0.0	$0.00
Lem, R	STV	2.45	B									0.0	0.0	$0.00
London, L	STV	2.45	D									0.0	0.0	$0.00
PTG Eng/Arch D	PTG TBD	2.45	D									0.0	0.0	$0.00
Avellan, J	WNBA	2.76	B									0.0	0.0	$0.00
Govekar, S	WNBA	2.76	Cad									0.0	0.0	$0.00
Kasakyan, A	WNBA	2.76	C									0.0	0.0	$0.00
Brodsky, V	STV	2.45	A									0.0	0.0	$0.00
Ghaly, N	Parsons	2.45	B									0.0	0.0	$0.00
Littler, M	Parsons	2.45	C									0.0	0.0	$0.00
Clarson, M	RCC	2.917	C									0.0	0.0	$0.00
Abdullah, M	STV	2.45	B									0.0	0.0	$0.00
Cobuzzi, A	STV	2.45	B									0.0	0.0	$0.00
Gilboa, J	STV	2.45	A									0.0	0.0	$0.00
Koumjian, G	STV	2.45	A									0.0	0.0	$0.00
Schuller, P	STV	2.45	A									0.0	0.0	$0.00
Zheng, H	STV	2.45	B									0.0	0.0	$0.00
Charalambous, J	Parsons	2.45	A									0.0	0.0	$0.00
Parnes, J	AECOM	2.45	A									0.0	0.0	$0.00
Altabba, B	Parsons	2.45	A									0.0	0.0	$0.00
Mauritz, P	AECOM	2.45	A									0.0	0.0	$0.00
Baxter, D	AECOM	2.45	C									0.0	0.0	$0.00
Jimenez, D	AECOM	2.45	C									0.0	0.0	$0.00
Levintov, B	AECOM	2.45	B									0.0	0.0	$0.00
Mazumdar, A	AECOM	2.45	B									0.0	0.0	$0.00
Sherzer, M	AECOM	2.45	C									0.0	0.0	$0.00
Teodor, L	AECOM	2.45	B									0.0	0.0	$0.00
Kourkoumelis, V	Hirani	2.54	C									0.0	0.0	$0.00
Ingram, G	Parsons	2.45	Cad									0.0	0.0	$0.00
Khalil, M	Parsons	2.45	B									0.0	0.0	$0.00
Patel, A	Parsons	2.45	C									0.0	0.0	$0.00
Sousa, M	Parsons	2.45	Cad									0.0	0.0	$0.00
Wisniewski, B	Parsons	2.45	C									0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A									0.0	0.0	$0.00
Lomax, S	SCSA	2.95	A									0.0	0.0	$0.00
Rando, M	SCSA	2.95	A									0.0	0.0	$0.00
Doshi, K	STV	2.45	A									0.0	0.0	$0.00
Cregger, D	AECOM	2.45	B									0.0	0.0	$0.00
Baker, U	Weidlinger	2.6	D									0.0	0.0	$0.00
Mirzakashani, M	AECOM	2.45	A									0.0	0.0	$0.00
Wang, H	AECOM	2.45	B									0.0	0.0	$0.00
Kopkalli, H	YASI	2.51	B									0.0	0.0	$0.00
JV Eng/Arch D	JV TBD	2.45	D									0.0	0.0	$0.00
Nikolakakos, S	Russell	2.66	P									0.0	0.0	$0.00
			Totals:		0.00	0.0	$0.00		0.00	0.0	$0.00	0.0	0.0	$0.00

Contract No. 407-03-013
Change Order (CO) #09-006-A
Revised - Design Contract Change (DCC) 494

Professional Services Change Order
Revised - Cost Proposal

Revised - Schedule C
Task 3.13 - Risk Management Group Meetings

Staffing Name	Company	Multiplier (OH+Fee)	Eng/Arch Category	7/1/08 - 6/31/09				7/1/09 - 12/31/09				Total FTE	Total Hours	Total Labor ($)
				Hourly Rate	FTE	Hours (Hrs)	Total Labor ($)	Hourly Rate	FTE	Hours (Hrs)	Total Labor ($)			
Edwards, R	AECOM	2.45	A					$108.53		0.0	$0.00	0.0	0.0	$0.00
McIntyre, S	STV	2.45	A					$102.97		0.0	$0.00	0.0	0.0	$0.00
Garz, M	STV	2.45	A					$118.88		0.0	$0.00	0.0	0.0	$0.00
Calatrava, S	SCSA	2.95	A					$270.00		0.0	$0.00	0.0	0.0	$0.00
Son, J	STV	2.45	B					$61.07		0.0	$0.00	0.0	0.0	$0.00
Harris, K	AECOM	2.45	C					$44.96		0.0	$0.00	0.0	0.0	$0.00
Felice, D	PMA	2.5	TA					$35.00		0.0	$0.00	0.0	0.0	$0.00
Quinones, P	STV	2.45	C					$45.36		0.0	$0.00	0.0	0.0	$0.00
Basta, A	STV	2.45	A					$88.33		0.0	$0.00	0.0	0.0	$0.00
Jang, H	AECOM	2.45	TA					$20.40		0.0	$0.00	0.0	0.0	$0.00
McDermott, C	AECOM	2.45	A					$81.04		0.0	$0.00	0.0	0.0	$0.00
Rosciglione, A	AECOM	2.45	C					$52.31		0.0	$0.00	0.0	0.0	$0.00
Powell, D	ISR	2.332	TA					$29.79		0.0	$0.00	0.0	0.0	$0.00
Tong, E	Stellar	2.45	C					$45.67		0.0	$0.00	0.0	0.0	$0.00
Abbate, D	STV	2.45	D					$27.88		0.0	$0.00	0.0	0.0	$0.00
Dennis, Y	STV	2.45	TA					$31.16		0.0	$0.00	0.0	0.0	$0.00
JV Eng/Arch A	JV TBD	2.45	A					$86.95	0.02	15.6	$3,323.23	0.0	15.6	$3,323.23
JV Eng/Arch A	JV TBD	2.45	A					$86.95	0.02	15.6	$3,323.23	0.0	15.6	$3,323.23
JV Eng/Arch B	JV TBD	2.45	B					$66.08		0.0	$0.00	0.0	0.0	$0.00
PTG Eng/Arch B	PTG TBD	2.45	B					$66.08	0.02	15.6	$2,525.58	0.0	15.6	$2,525.58
Nervina, G	STV	2.45	C					$48.99		0.0	$0.00	0.0	0.0	$0.00
Solano, J	STV	2.45	C					$53.00		0.0	$0.00	0.0	0.0	$0.00
Zellner, P	STV	2.45	B					$70.19		0.0	$0.00	0.0	0.0	$0.00
Hand, J	AECOM	2.45	B					$70.61		0.0	$0.00	0.0	0.0	$0.00
Chong, S	AECOM	2.45	C					$40.89		0.0	$0.00	0.0	0.0	$0.00
Patel, K	AECOM	2.45	D					$38.75		0.0	$0.00	0.0	0.0	$0.00
Schiff, M	AECOM	2.45	C					$52.15		0.0	$0.00	0.0	0.0	$0.00
Woo, T	AECOM	2.45	B					$70.13		0.0	$0.00	0.0	0.0	$0.00
Diamond, R	SCSA	2.95	A					$118.32		0.0	$0.00	0.0	0.0	$0.00
SCSA Eng/Arch B	SCSA TBD	2.95	B					$86.08		0.0	$0.00	0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A					$86.95		0.0	$0.00	0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A					$86.95		0.0	$0.00	0.0	0.0	$0.00
Bracco, S	STV	2.45	C					$48.08		0.0	$0.00	0.0	0.0	$0.00
PTG Eng/Arch C	PTG TBD	2.45	C					$46.69		0.0	$0.00	0.0	0.0	$0.00
Lem, R	STV	2.45	B					$61.36		0.0	$0.00	0.0	0.0	$0.00
London, L	STV	2.45	D					$31.27		0.0	$0.00	0.0	0.0	$0.00
PTG Eng/Arch D	PTG TBD	2.45	D					$31.91		0.0	$0.00	0.0	0.0	$0.00
Avellan, J	WNBA	2.76	B					$52.16		0.0	$0.00	0.0	0.0	$0.00
Govekar, S	WNBA	2.76	Cad					$24.76		0.0	$0.00	0.0	0.0	$0.00
Kasakyan, A	WNBA	2.76	C					$45.19		0.0	$0.00	0.0	0.0	$0.00
Brodsky, V	STV	2.45	A					$100.72		0.0	$0.00	0.0	0.0	$0.00
Ghaly, N	Parsons	2.45	B					$72.73		0.0	$0.00	0.0	0.0	$0.00
Littler, M	Parsons	2.45	C					$54.56		0.0	$0.00	0.0	0.0	$0.00
Clarson, M	RCC	2.917	C					$51.09		0.0	$0.00	0.0	0.0	$0.00
Abdullah, M	STV	2.45	B					$68.30		0.0	$0.00	0.0	0.0	$0.00
Cobuzzi, A	STV	2.45	B					$56.49		0.0	$0.00	0.0	0.0	$0.00
Gilboa, J	STV	2.45	A					$73.81		0.0	$0.00	0.0	0.0	$0.00
Kourmjian, G	STV	2.45	A					$85.58		0.0	$0.00	0.0	0.0	$0.00
Schuller, P	STV	2.45	A					$90.24		0.0	$0.00	0.0	0.0	$0.00
Zheng, H	STV	2.45	B					$63.07		0.0	$0.00	0.0	0.0	$0.00
Charalambous, J	Parsons	2.45	A					$93.27		0.0	$0.00	0.0	0.0	$0.00
Parnes, J	AECOM	2.45	A					$78.44		0.0	$0.00	0.0	0.0	$0.00
Altabba, B	Parsons	2.45	A					$73.69		0.0	$0.00	0.0	0.0	$0.00
Mauritz, P	AECOM	2.45	A					$73.58		0.0	$0.00	0.0	0.0	$0.00
Baxter, D	AECOM	2.45	C					$42.32		0.0	$0.00	0.0	0.0	$0.00
Jimenez, D	AECOM	2.45	C					$44.29		0.0	$0.00	0.0	0.0	$0.00
Levintov, B	AECOM	2.45	B					$66.02		0.0	$0.00	0.0	0.0	$0.00
Mazumdar, A	AECOM	2.45	B					$61.22		0.0	$0.00	0.0	0.0	$0.00
Sherzer, M	AECOM	2.45	C					$44.97		0.0	$0.00	0.0	0.0	$0.00
Teodor, L	AECOM	2.45	B					$57.57		0.0	$0.00	0.0	0.0	$0.00
Kourkoumelis, V	Hirani	2.54	C					$48.08		0.0	$0.00	0.0	0.0	$0.00
Ingram, G	Parsons	2.45	Cad					$25.44		0.0	$0.00	0.0	0.0	$0.00
Khalil, M	Parsons	2.45	B					$64.33		0.0	$0.00	0.0	0.0	$0.00
Patel, A	Parsons	2.45	C					$53.74		0.0	$0.00	0.0	0.0	$0.00
Sousa, M	Parsons	2.45	Cad					$34.07		0.0	$0.00	0.0	0.0	$0.00
Wisniewski, B	Parsons	2.45	C					$45.85		0.0	$0.00	0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A					$86.95		0.0	$0.00	0.0	0.0	$0.00
Lomax, S	SCSA	2.95	A					$79.71		0.0	$0.00	0.0	0.0	$0.00
Rando, M	SCSA	2.95	A					$125.08		0.0	$0.00	0.0	0.0	$0.00
Doshi, K	STV	2.45	A					$98.72		0.0	$0.00	0.0	0.0	$0.00
Cregger, D	AECOM	2.45	B					$58.47		0.0	$0.00	0.0	0.0	$0.00
Baker, U	Weidlinger	2.6	D					$36.55		0.0	$0.00	0.0	0.0	$0.00
Mirzakashani, M	AECOM	2.45	A					$90.87		0.0	$0.00	0.0	0.0	$0.00
Wang, H	AECOM	2.45	B					$65.00		0.0	$0.00	0.0	0.0	$0.00
Kopkalli, H	YAS	2.51	B					$67.00		0.0	$0.00	0.0	0.0	$0.00
Fearon, D	PACO	2.62	TA					$27.76		0.0	$0.00	0.0	0.0	$0.00
Nikolakakos, S	Russell	2.86	P					$144.00		0.0	$0.00	0.0	0.0	$0.00
			Totals:		0.00	0.0	$0.00		0.05	46.8	$9,172.04	0.0	46.8	$9,172.04

Contract No. 407-03-013
Change Order (CO) #09-006-A
Revised - Design Contract Change (DCC) 494

Professional Services Change Order
Revised - Cost Proposal

Revised - Schedule C
Task 3.14 - Unspecified Engineering Services (Allowance)

Staffing Name	Company	Multiplier (OH+Fee)	Eng/Arch Category	7/1/08 - 6/31/09				7/1/09 - 12/31/09				Total FTE	Total Hours	Total Labor ($)
				Hourly Rate	FTE	Hours (Hrs)	Total Labor ($)	Hourly Rate	FTE	Hours (Hrs)	Total Labor ($)			
Edwards, R	AECOM	2.45	A					$108.53		0.0	$0.00	0.0	0.0	$0.00
McIntyre, S	STV	2.45	A					$102.97		0.0	$0.00	0.0	0.0	$0.00
JV Eng/Arch A	JV TBD	2.45	A					$86.95	0.40	416.0	$88,619.44	0.2	416.0	$88,619.44
Calatrava, S	SCSA	2.95	A					$270.00		0.0	$0.00	0.0	0.0	$0.00
Son, J	STV	2.45	B					$61.07		0.0	$0.00	0.0	0.0	$0.00
Harris, K	AECOM	2.45	C					$44.96		0.0	$0.00	0.0	0.0	$0.00
Felice, D	PMA	2.5	TA					$35.00		0.0	$0.00	0.0	0.0	$0.00
JV Eng/Arch C	JV TBD	2.45	C					$46.69	0.45	468.0	$53,534.75	0.2	468.0	$53,534.75
Basta, A	STV	2.45	A					$88.33		0.0	$0.00	0.0	0.0	$0.00
Jang, H	AECOM	2.45	TA					$20.40		0.0	$0.00	0.0	0.0	$0.00
McDermott, C	AECOM	2.45	A					$81.04		0.0	$0.00	0.0	0.0	$0.00
Rosciglione, A	AECOM	2.45	C					$52.31		0.0	$0.00	0.0	0.0	$0.00
Powell, D	ISR	2.332	TA					$29.79		0.0	$0.00	0.0	0.0	$0.00
Tong, E	Stellar	2.45	C					$45.67		0.0	$0.00	0.0	0.0	$0.00
Abbate, D	STV	2.45	D					$27.88		0.0	$0.00	0.0	0.0	$0.00
Dennis, Y	STV	2.45	TA					$31.16		0.0	$0.00	0.0	0.0	$0.00
Kamboj, M	AECOM	2.45	B					$69.56		0.0	$0.00	0.0	0.0	$0.00
PTG Eng/Arch C	PTG TBD	2.45	C					$46.69	0.40	416.0	$47,586.45	0.2	416.0	$47,586.45
JV Eng/Arch C	JV TBD	2.45	C					$46.69	0.25	260.0	$29,741.53	0.1	260.0	$29,741.53
JV Eng/Arch C	JV TBD	2.45	C					$46.69	0.25	260.0	$29,741.53	0.1	260.0	$29,741.53
JV Eng/Arch C	JV TBD	2.45	C					$46.69	0.25	260.0	$29,741.53	0.1	260.0	$29,741.53
JV Eng/Arch C	JV TBD	2.45	C					$46.69	0.25	260.0	$29,741.53	0.1	260.0	$29,741.53
Zellner, P	STV	2.45	B					$70.19	0.00	0.0	$0.00	0.0	0.0	$0.00
JV Eng/Arch B	JV TBD	2.45	B					$66.08	0.25	260.0	$42,092.96	0.1	260.0	$42,092.96
Chong, S	AECOM	2.45	C					$40.89	0.25	260.0	$26,046.93	0.1	260.0	$26,046.93
Patel, K	AECOM	2.45	D					$38.75	0.35	364.0	$34,557.25	0.2	364.0	$34,557.25
Schiff, M	AECOM	2.45	C					$52.15	0.15	156.0	$19,931.73	0.1	156.0	$19,931.73
Woo, T	AECOM	2.45	B					$70.13	0.50	520.0	$89,345.62	0.3	520.0	$89,345.62
SCSA Eng/Arch A	SCSA TBD	2.95	A					$86.95	0.50	520.0	$133,381.30	0.3	520.0	$133,381.30
SCSA Eng/Arch B	SCSA TBD	2.95	B					$66.08	0.40	416.0	$81,093.38	0.2	416.0	$81,093.38
SCSA Eng/Arch B	SCSA TBD	2.95	B					$66.08	0.40	416.0	$81,093.38	0.2	416.0	$81,093.38
Bracco, S	STV	2.45	C					$48.08		0.0	$0.00	0.0	0.0	$0.00
PTG Eng/Arch C	PTG TBD	2.45	C					$46.69		0.0	$0.00	0.0	0.0	$0.00
Lem, R	STV	2.45	B					$61.36		0.0	$0.00	0.0	0.0	$0.00
London, L	STV	2.45	D					$31.27	0.50	520.0	$39,837.98	0.3	520.0	$39,837.98
Avellan, J	WNBA	2.76	B					$52.16	0.40	416.0	$59,888.03	0.2	416.0	$59,888.03
Govekar, S	WNBA	2.76	Cad					$24.76	0.40	416.0	$28,428.44	0.2	416.0	$28,428.44
Kasakyan, A	WNBA	2.76	C					$45.19	0.40	416.0	$51,885.35	0.2	416.0	$51,885.35
JV Eng/Arch A	JV TBD	2.45	A					$86.95	0.20	208.0	$44,309.72	0.1	208.0	$44,309.72
Ghaly, N	Parsons	2.45	B					$72.73		0.0	$0.00	0.0	0.0	$0.00
Littler, M	Parsons	2.45	C					$54.56		0.0	$0.00	0.0	0.0	$0.00
Clarson, M	RCC	2.917	C					$51.09		0.0	$0.00	0.0	0.0	$0.00
Abdullah, M	STV	2.45	B					$66.30	0.50	520.0	$87,014.20	0.3	520.0	$87,014.20
Cobuzzi, A	STV	2.45	B					$56.49	0.50	520.0	$71,968.28	0.3	520.0	$71,968.28
Gilboa, J	STV	2.45	A					$73.81		0.0	$0.00	0.0	0.0	$0.00
Koumjian, G	STV	2.45	A					$85.58	0.35	364.0	$76,320.24	0.2	364.0	$76,320.24
Schuller, P	STV	2.45	A					$90.24	0.35	364.0	$80,476.03	0.2	364.0	$80,476.03
Zheng, H	STV	2.45	B					$63.07	0.40	416.0	$64,280.94	0.2	416.0	$64,280.94
PTG Eng/Arch A	PTG TBD	2.45	A					$86.95	0.05	52.0	$11,077.43	0.0	52.0	$11,077.43
JV Eng/Arch B	JV TBD	2.45	B					$66.08	0.50	520.0	$84,185.92	0.3	520.0	$84,185.92
JV Eng/Arch B	JV TBD	2.45	B					$66.08	0.05	52.0	$8,418.59	0.0	52.0	$8,418.59
JV Eng/Arch B	JV TBD	2.45	B					$66.08	0.05	52.0	$8,418.59	0.0	52.0	$8,418.59
JV Eng/Arch C	JV TBD	2.45	C					$46.69	0.50	520.0	$59,483.06	0.3	520.0	$59,483.06
Jimenez, D	AECOM	2.45	C					$44.29		0.0	$0.00	0.0	0.0	$0.00
Levintov, B	AECOM	2.45	B					$66.02	0.30	312.0	$50,465.69	0.2	312.0	$50,465.69
Mazumdar, A	AECOM	2.45	B					$61.22		0.0	$0.00	0.0	0.0	$0.00
Sherzer, M	AECOM	2.45	C					$44.97		0.0	$0.00	0.0	0.0	$0.00
JV Eng/Arch C	JV TBD	2.45	C					$46.69	0.30	312.0	$35,689.84	0.2	312.0	$35,689.84
Kourkoumelis, V	Hirani	2.54	C					$48.08	0.30	312.0	$38,102.44	0.2	312.0	$38,102.44
Ingram, G	Parsons	2.45	Cad					$25.44	0.95	988.0	$61,580.06	0.5	988.0	$61,580.06
Khalil, M	Parsons	2.45	B					$64.33		0.0	$0.00	0.0	0.0	$0.00
Sousa, M	Parsons	2.45	Cad					$34.07	1.00	1,040.0	$86,810.36	0.5	1,040.0	$86,810.36
PTG Cadd Op	PTG TBD	2.45	Cad					$28.27	0.50	520.0	$36,015.98	0.3	520.0	$36,015.98
Wisniewski, B	Parsons	2.45	C					$45.65	0.50	520.0	$58,158.10	0.3	520.0	$58,158.10
JV Eng/Arch C	JV TBD	2.45	C					$46.69	0.50	520.0	$59,483.06	0.3	520.0	$59,483.06
JV Eng/Arch C	JV TBD	2.45	C					$46.69	0.50	520.0	$59,483.06	0.3	520.0	$59,483.06
Baker, U	Weidlinger	2.6	D					$36.55	0.30	312.0	$29,649.36	0.2	312.0	$29,649.36
JV Eng/Arch C	JV TBD	2.45	C					$46.69	0.30	312.0	$35,689.84	0.2	312.0	$35,689.84
Wang, H	AECOM	2.45	B					$65.00		0.0	$0.00	0.0	0.0	$0.00
Kopkalli, H	YAS	2.51	B					$67.00	0.30	312.0	$52,469.04	0.2	312.0	$52,469.04
JV Eng/Arch D	JV TBD	2.45	D					$31.91		0.0	$0.00	0.0	0.0	$0.00
Nikolakakos, S	Russell	2.66	P					$144.00		0.0	$0.00	0.0	0.0	$0.00
			Totals:		0.00	0.0	$0.00		15.95	16,588.0	$2,195,838.92	8.0	16,588.0	$2,195,838.92

Contract No. 407-03-013
Change Order (CO) #09-006-A
Revised - Design Contract Change (DCC) 494

Professional Services Change Order
Revised - Cost Proposal

Revised - Schedule C
Task 4.1 - Assist WTCC in Commisioning - Allowance

Staffing Name	Company	Multiplier (OH+Fee)	Eng/Arch Category	7/1/08 - 6/31/09				7/1/09 - 12/31/09				Total FTE	Total Hours	Total Labor ($)
				Hourly Rate	FTE	Hours (Hrs)	Total Labor ($)	Hourly Rate	FTE	Hours (Hrs)	Total Labor ($)			
Edwards, R	AECOM	2.45	A									0.0	0.0	$0.00
McIntyre, S	STV	2.45	A									0.0	0.0	$0.00
Garz, M	STV	2.45	A									0.0	0.0	$0.00
Calatrava, S	SCSA	2.95	A									0.0	0.0	$0.00
Son, J	STV	2.45	B									0.0	0.0	$0.00
Harris, K	AECOM	2.45	C									0.0	0.0	$0.00
Felice, D	PMA	2.5	TA									0.0	0.0	$0.00
Quinones, P	STV	2.45	C									0.0	0.0	$0.00
Basta, A	STV	2.45	A									0.0	0.0	$0.00
Jang, H	AECOM	2.45	TA									0.0	0.0	$0.00
McDermott, C	AECOM	2.45	A									0.0	0.0	$0.00
Rosciglione, A	AECOM	2.45	C									0.0	0.0	$0.00
Powell, D	ISR	2.332	TA									0.0	0.0	$0.00
Tong, E	Stellar	2.45	C									0.0	0.0	$0.00
Abbate, D	STV	2.45	D									0.0	0.0	$0.00
Dennis, Y	STV	2.45	TA									0.0	0.0	$0.00
Kamboj, M	AECOM	2.45	B									0.0	0.0	$0.00
Gallagher, T	Parsons	2.45	C									0.0	0.0	$0.00
Pagani, S	PMA	2.5	C									0.0	0.0	$0.00
Finkelstein, M	STV	2.45	C									0.0	0.0	$0.00
Nervina, G	STV	2.45	C									0.0	0.0	$0.00
Solano, J	STV	2.45	C									0.0	0.0	$0.00
Zellner, P	STV	2.45	B									0.0	0.0	$0.00
JV Eng/Arch A	JV TBD	2.45	A									0.0	0.0	$0.00
JV Eng/Arch B	JV TBD	2.45	B									0.0	0.0	$0.00
JV Eng/Arch B	JV TBD	2.45	B									0.0	0.0	$0.00
Schiff, M	AECOM	2.45	C									0.0	0.0	$0.00
Woo, T	AECOM	2.45	B									0.0	0.0	$0.00
Diamond, R	SCSA	2.95	A									0.0	0.0	$0.00
Bracco, S	STV	2.45	C									0.0	0.0	$0.00
Lem, R	STV	2.45	B									0.0	0.0	$0.00
London, L	STV	2.45	D									0.0	0.0	$0.00
Avellan, J	WNBA	2.76	B									0.0	0.0	$0.00
Govekar, S	WNBA	2.76	Cad									0.0	0.0	$0.00
Kasakyan, A	WNBA	2.76	C									0.0	0.0	$0.00
JV Eng/Arch A	JV TBD	2.45	A									0.0	0.0	$0.00
Ghaly, N	Parsons	2.45	B									0.0	0.0	$0.00
Littler, M	Parsons	2.45	C									0.0	0.0	$0.00
Clarson, M	RCC	2.917	C									0.0	0.0	$0.00
Abdullah, M	STV	2.45	B									0.0	0.0	$0.00
Cobuzzi, A	STV	2.45	B									0.0	0.0	$0.00
Gliboa, J	STV	2.45	A									0.0	0.0	$0.00
Koumjian, G	STV	2.45	A									0.0	0.0	$0.00
Schuller, P	STV	2.45	A									0.0	0.0	$0.00
Zheng, H	STV	2.45	B									0.0	0.0	$0.00
Charalambous, J	Parsons	2.45	A	$93.27		0.0	$0.00	$93.27		0.0	$0.00	0.0	0.0	$0.00
Parnes, J	AECOM	2.45	A									0.0	0.0	$0.00
Altabbe, B	Parsons	2.45	A									0.0	0.0	$0.00
Mauritz, P	AECOM	2.45	A									0.0	0.0	$0.00
Baxter, D	AECOM	2.45	C									0.0	0.0	$0.00
Jimenez, D	AECOM	2.45	C									0.0	0.0	$0.00
Levintov, B	AECOM	2.45	B									0.0	0.0	$0.00
Mazumdar, A	AECOM	2.45	B									0.0	0.0	$0.00
Sherzer, M	AECOM	2.45	C									0.0	0.0	$0.00
Teodor, L	AECOM	2.45	B									0.0	0.0	$0.00
Kourkoumelis, V	Hirani	2.54	C									0.0	0.0	$0.00
Ingram, G	Parsons	2.45	Cad									0.0	0.0	$0.00
Khalil, M	Parsons	2.45	B									0.0	0.0	$0.00
Patel, A	Parsons	2.45	C									0.0	0.0	$0.00
Sousa, M	Parsons	2.45	Cad									0.0	0.0	$0.00
Wisniewski, B	Parsons	2.45	C									0.0	0.0	$0.00
SCSA Eng/Arch A	SCSA TBD	2.95	A									0.0	0.0	$0.00
Lomax, S	SCSA	2.95	A									0.0	0.0	$0.00
Rando, M	SCSA	2.95	A									0.0	0.0	$0.00
Doshi, K	STV	2.45	A									0.0	0.0	$0.00
Cregger, D	AECOM	2.45	B									0.0	0.0	$0.00
Baker, U	Weidlinger	2.6	D									0.0	0.0	$0.00
Mirzakashani, M	AECOM	2.45	A									0.0	0.0	$0.00
Wang, H	AECOM	2.45	B									0.0	0.0	$0.00
Kopkalli, H	YAS	2.51	B									0.0	0.0	$0.00
Fearon, D	PACO	2.62	TA									0.0	0.0	$0.00
Nikolakakos, S	Russell	2.66	P									0.0	0.0	$0.00
			Totals:		0.00	0.0	$0.00		0.00	0.0	$0.00	0.0	0.0	$0.00

Contract No. 407-03-013
Change Order (CO) #09-006-A
Revised - Design Contract Change (DCC) 494

Professional Services Change Order
Revised - Cost Proposal

Revised - Schedule C
Task 4.2 - Assist WTCC in Sustainable Guidlines (Allowance)

Staffing Name	Company	Multiplier (OH+Fee)	Eng/Arch Category	7/1/08 - 6/31/09				7/1/09 - 12/31/09				Total FTE	Total Hours	Total Labor ($)
				Hourly Rate	FTE	Hours (Hrs)	Total Labor ($)	Hourly Rate	FTE	Hours (Hrs)	Total Labor ($)			
Edwards, R	AECOM	2.45	A									0.0	0.0	$0.00
McIntyre, S	STV	2.45	A									0.0	0.0	$0.00
Garz, M	STV	2.45	A									0.0	0.0	$0.00
Calatrava, S	SCSA	2.95	A									0.0	0.0	$0.00
Son, J	STV	2.45	B									0.0	0.0	$0.00
Harris, K	AECOM	2.45	C									0.0	0.0	$0.00
Felice, D	PMA	2.5	TA									0.0	0.0	$0.00
Quinones, P	STV	2.45	C									0.0	0.0	$0.00
JV Eng/Arch A	JV TBD	2.45	A									0.0	0.0	$0.00
JV Eng/Arch B	JV TBD	2.45	B									0.0	0.0	$0.00
McDermott, C	AECOM	2.45	A									0.0	0.0	$0.00
Rosciglione, A	AECOM	2.45	C									0.0	0.0	$0.00
Powell, D	ISR	2.332	TA									0.0	0.0	$0.00
Tong, E	Stellar	2.45	C									0.0	0.0	$0.00
Abbate, D	STV	2.45	D									0.0	0.0	$0.00
Dennis, Y	STV	2.45	TA									0.0	0.0	$0.00
Kamboj, M	AECOM	2.45	B									0.0	0.0	$0.00
Gallagher, T	Parsons	2.45	C									0.0	0.0	$0.00
Pagani, S	PMA	2.5	C									0.0	0.0	$0.00
Finkelstein, M	STV	2.45	C									0.0	0.0	$0.00
Nervina, G	STV	2.45	C									0.0	0.0	$0.00
JV TA	JV TBD	2.45	TA									0.0	0.0	$0.00
Zellner, P	STV	2.45	B									0.0	0.0	$0.00
JV Eng/Arch A	JV TBD	2.45	A									0.0	0.0	$0.00
Chong, S	AECOM	2.45	C									0.0	0.0	$0.00
Patel, K	AECOM	2.45	D									0.0	0.0	$0.00
Schiff, M	AECOM	2.45	C									0.0	0.0	$0.00
Woo, T	AECOM	2.45	B									0.0	0.0	$0.00
Diamond, R	SCSA	2.95	A									0.0	0.0	$0.00
Bracco, S	STV	2.45	C									0.0	0.0	$0.00
JV Eng/Arch B	JV TBD	2.45	B									0.0	0.0	$0.00
London, L	STV	2.45	D									0.0	0.0	$0.00
Avellan, J	WNBA	2.76	B									0.0	0.0	$0.00
Govekar, S	WNBA	2.76	Cad									0.0	0.0	$0.00
Kasakyan, A	WNBA	2.76	C									0.0	0.0	$0.00
Brodsky, V	STV	2.45	A									0.0	0.0	$0.00
Ghaly, N	Parsons	2.45	B									0.0	0.0	$0.00
Littler, M	Parsons	2.45	C									0.0	0.0	$0.00
Clarson, M	RCC	2.917	C									0.0	0.0	$0.00
Abdullah, M	STV	2.45	B									0.0	0.0	$0.00
Cobuzzi, A	STV	2.45	B									0.0	0.0	$0.00
Gilboa, J	STV	2.45	A									0.0	0.0	$0.00
Koumjian, G	STV	2.45	A									0.0	0.0	$0.00
Schuller, P	STV	2.45	A									0.0	0.0	$0.00
Zheng, H	STV	2.45	B									0.0	0.0	$0.00
Charalambous, J	Parsons	2.45	A									0.0	0.0	$0.00
Pames, J	AECOM	2.45	A									0.0	0.0	$0.00
Allabba, B	Parsons	2.45	A									0.0	0.0	$0.00
Mauritz, P	AECOM	2.45	A									0.0	0.0	$0.00
Baxter, D	AECOM	2.45	C									0.0	0.0	$0.00
Jimenez, D	AECOM	2.45	C									0.0	0.0	$0.00
Levintov, B	AECOM	2.45	B									0.0	0.0	$0.00
Mazumdar, A	AECOM	2.45	B									0.0	0.0	$0.00
Sherzer, M	AECOM	2.45	C									0.0	0.0	$0.00
Teodor, L	AECOM	2.45	B									0.0	0.0	$0.00
Kourkoumelis, V	Hirani	2.54	C									0.0	0.0	$0.00
Ingram, G	Parsons	2.45	Cad									0.0	0.0	$0.00
Khalil, M	Parsons	2.45	B									0.0	0.0	$0.00
Patel, A	Parsons	2.45	C									0.0	0.0	$0.00
Sousa, M	Parsons	2.45	Cad									0.0	0.0	$0.00
Wisniewski, B	Parsons	2.45	C									0.0	0.0	$0.00
Lomax, S	SCSA	2.95	A									0.0	0.0	$0.00
Rando, M	SCSA	2.95	A									0.0	0.0	$0.00
Doshi, K	STV	2.45	A									0.0	0.0	$0.00
Gregger, D	AECOM	2.45	B									0.0	0.0	$0.00
Baker, U	Weidlinger	2.6	D									0.0	0.0	$0.00
Mirzakashani, M	AECOM	2.45	A									0.0	0.0	$0.00
Wang, H	AECOM	2.45	B									0.0	0.0	$0.00
Kopkalli, H	YAS	2.51	B									0.0	0.0	$0.00
Fearon, D	PACO	2.62	TA									0.0	0.0	$0.00
Nikolakakos, S	Russell	2.68	P									0.0	0.0	$0.00
			Totals:		0.00	0.0	$0.00		0.00	0.0	$0.00	0.0	0.0	$0.00

Contract No. 407-03-013
Change Order (CO) #09-006-A
Revised - Design Contract Change (DCC) 494

Professional Services Change Order
Revised - Cost Proposal

Revised - Schedule C
Task 5 - Project Management

Staffing Name	Company	Multiplier (OH+Fee)	Eng/Arch Category	7/1/08 - 6/31/09				7/1/09 - 12/31/09				Total FTE	Total Hours	Total Labor ($)
				Hourly Rate	FTE	Hours (Hrs)	Total Labor ($)	Hourly Rate	FTE	Hours (Hrs)	Total Labor ($)			
Edwards, R	AECOM	2.45	A					$108.53	1.00	1,040.0	$276,534.44	0.5	1,040.0	$276,534.44
McIntyre, S	STV	2.45	A					$102.97	1.00	1,040.0	$262,367.56	0.5	1,040.0	$262,367.56
Garz, M	STV	2.45	A					$116.88		0.0	$0.00	0.0	0.0	$0.00
Calatrava, S	SCSA	2.95	A					$270.00		0.0	$0.00	0.0	0.0	$0.00
Son, J	STV	2.45	B					$61.07	1.00	1,040.0	$155,606.36	0.5	1,040.0	$155,606.36
Harris, K	AECOM	2.45	C					$44.96	1.00	1,040.0	$114,558.08	0.5	1,040.0	$114,558.08
Felice, D	PMA	2.5	TA					$35.00	1.00	1,040.0	$91,000.00	0.5	1,040.0	$91,000.00
Quinones, P	STV	2.45	C					$45.36	0.20	208.0	$23,115.46	0.1	208.0	$23,115.46
Basta, A	STV	2.45	A					$88.33		0.0	$0.00	0.0	0.0	$0.00
Jang, H	AECOM	2.45	TA					$20.40		0.0	$0.00	0.0	0.0	$0.00
McDermott, C	AECOM	2.45	A					$81.04		0.0	$0.00	0.0	0.0	$0.00
Rosciglione, A	AECOM	2.45	C					$52.31		0.0	$0.00	0.0	0.0	$0.00
Powell, D	ISR	2.332	TA					$29.79		0.0	$0.00	0.0	0.0	$0.00
Tong, E	Stellar	2.45	C					$45.67	1.00	1,040.0	$116,367.16	0.5	1,040.0	$116,367.16
Abbate, D	STV	2.45	D					$27.88		0.0	$0.00	0.0	0.0	$0.00
Dennis, Y	STV	2.45	TA					$31.16		0.0	$0.00	0.0	0.0	$0.00
Kamboj, M	AECOM	2.45	B					$69.56		0.0	$0.00	0.0	0.0	$0.00
Gallagher, T	Parsons	2.45	C					$43.27		0.0	$0.00	0.0	0.0	$0.00
Pagani, S	PMA	2.5	C					$53.50		0.0	$0.00	0.0	0.0	$0.00
Finkelstein, M	STV	2.45	C					$53.00		0.0	$0.00	0.0	0.0	$0.00
Nervina, G	STV	2.45	C					$48.99		0.0	$0.00	0.0	0.0	$0.00
Solano, J	STV	2.45	C					$53.00		0.0	$0.00	0.0	0.0	$0.00
Zellner, P	STV	2.45	B					$70.19	0.80	832.0	$143,075.30	0.4	832.0	$143,075.30
Hand, J	AECOM	2.45	B					$70.61		0.0	$0.00	0.0	0.0	$0.00
Chong, S	AECOM	2.45	C					$40.89		0.0	$0.00	0.0	0.0	$0.00
Patel, K	AECOM	2.45	D					$38.75		0.0	$0.00	0.0	0.0	$0.00
Schiff, M	AECOM	2.45	C					$52.15		0.0	$0.00	0.0	0.0	$0.00
Woo, T	AECOM	2.45	B					$70.13		0.0	$0.00	0.0	0.0	$0.00
Diamond, R	SCSA	2.95	A					$118.32		0.0	$0.00	0.0	0.0	$0.00
Bracco, S	STV	2.45	C					$48.08		0.0	$0.00	0.0	0.0	$0.00
Lem, R	STV	2.45	B					$61.36		0.0	$0.00	0.0	0.0	$0.00
London, L	STV	2.45	D					$31.27		0.0	$0.00	0.0	0.0	$0.00
Avellan, J	WNBA	2.76	B					$52.16		0.0	$0.00	0.0	0.0	$0.00
Govekar, S	WNBA	2.76	Cad					$24.76		0.0	$0.00	0.0	0.0	$0.00
Kasakyan, A	WNBA	2.76	C					$45.19		0.0	$0.00	0.0	0.0	$0.00
Brodsky, V	STV	2.45	A					$100.72		0.0	$0.00	0.0	0.0	$0.00
Ghaly, N	Parsons	2.45	B					$72.73		0.0	$0.00	0.0	0.0	$0.00
Littler, M	Parsons	2.45	C					$54.56		0.0	$0.00	0.0	0.0	$0.00
Clarson, M	RCC	2.917	C					$51.09		0.0	$0.00	0.0	0.0	$0.00
Abdullah, M	STV	2.45	B					$68.30		0.0	$0.00	0.0	0.0	$0.00
Cobuzzi, A	STV	2.45	B					$56.49		0.0	$0.00	0.0	0.0	$0.00
Gilboa, J	STV	2.45	A					$73.81		0.0	$0.00	0.0	0.0	$0.00
Koumjian, G	STV	2.45	A					$85.58		0.0	$0.00	0.0	0.0	$0.00
Schuller, P	STV	2.45	A					$90.24		0.0	$0.00	0.0	0.0	$0.00
Zheng, H	STV	2.45	B					$63.07		0.0	$0.00	0.0	0.0	$0.00
Charalambous, J	Parsons	2.45	A					$93.27		0.0	$0.00	0.0	0.0	$0.00
Parnes, J	AECOM	2.45	A					$78.44		0.0	$0.00	0.0	0.0	$0.00
Attabba, B	Parsons	2.45	A					$73.69		0.0	$0.00	0.0	0.0	$0.00
Mauritz, P	AECOM	2.45	A					$73.58		0.0	$0.00	0.0	0.0	$0.00
Baxter, D	AECOM	2.45	C					$42.32		0.0	$0.00	0.0	0.0	$0.00
Jimenez, D	AECOM	2.45	C					$44.29		0.0	$0.00	0.0	0.0	$0.00
Levintov, B	AECOM	2.45	B					$66.02		0.0	$0.00	0.0	0.0	$0.00
Mazumdar, A	AECOM	2.45	B					$61.22		0.0	$0.00	0.0	0.0	$0.00
Sherzer, M	AECOM	2.45	C					$44.97		0.0	$0.00	0.0	0.0	$0.00
Teodor, L	AECOM	2.45	B					$57.57		0.0	$0.00	0.0	0.0	$0.00
Kourkoumelis, V	Hirani	2.54	C					$48.08		0.0	$0.00	0.0	0.0	$0.00
Ingram, G	Parsons	2.45	Cad					$25.44		0.0	$0.00	0.0	0.0	$0.00
Khalil, M	Parsons	2.45	B					$64.33		0.0	$0.00	0.0	0.0	$0.00
Patel, A	Parsons	2.45	C					$53.74		0.0	$0.00	0.0	0.0	$0.00
Sousa, M	Parsons	2.45	Cad					$34.07		0.0	$0.00	0.0	0.0	$0.00
Wisniewski, B	Parsons	2.45	C					$45.65		0.0	$0.00	0.0	0.0	$0.00
Lomax, S	SCSA	2.95	A					$79.71		0.0	$0.00	0.0	0.0	$0.00
Rando, M	SCSA	2.95	A					$125.06		0.0	$0.00	0.0	0.0	$0.00
Doshi, K	STV	2.45	A					$98.72		0.0	$0.00	0.0	0.0	$0.00
Cregger, D	AECOM	2.45	B					$58.47		0.0	$0.00	0.0	0.0	$0.00
Baker, U	Weidlinger	2.6	D					$38.55		0.0	$0.00	0.0	0.0	$0.00
Mirzakashani, M	AECOM	2.45	A					$90.87		0.0	$0.00	0.0	0.0	$0.00
Wang, H	AECOM	2.45	B					$65.00		0.0	$0.00	0.0	0.0	$0.00
Kopkalli, H	YAS	2.51	B					$67.00		0.0	$0.00	0.0	0.0	$0.00
Fearon, D	PACO	2.62	TA					$27.76		0.0	$0.00	0.0	0.0	$0.00
Nikolakakos, S	Russell	2.66	P					$144.00		0.0	$0.00	0.0	0.0	$0.00
			Totals:		0.00	0.0	$0.00		7.00	7,280.0	$1,182,624.35	3.5	7,280.0	$1,182,624.35

Contract No. 407-03-013
Change Order (CO) #09-006-A
Design Contract Change (DCC) 494
(Period Covering 7/1/09 - 12/31/2009)

Professional Services Change Order
Revised - Cost Proposal

Schedule D
Task 6 - Other Direct Costs/Out of Pocket Expenses Worksheet

Item	Months	$/Month	Total Cost
• Office Rent plus associated Office Utilities (See note1.)	-	-	-
~~• Office Maintenance (See note 2.)~~	-	-	-
• Build Out Costs	-	-	$100,000
• Office Telephone Service	6	$4,000	$24,000
• Office Telephone Equipment	6	$1,000	$6,000
• Office Equipment Rentals	6	$1,000	$6,000
• Office Supplies	6	$1,000	$6,000
• Computer Equipment	6	$10,000	$60,000
• Computer Software	-	-	$45,454
• Data Storage	6	$2,000	$12,000
• Reproduction costs	6	$90,000	$540,000
• Short-term travel costs	6	$10,000	$60,000
• Short-term Room and Board	6	$10,000	$60,000
• Mailings, Shipping and Delivery Services	6	$2,000	$12,000
~~• Misc. Costs that does not fall into the above categories. (See Note 2.)~~	-	-	-
• Specialty DDPs for their Services	-	-	$500,000
Total Other Direct Costs/Out of Pocket Expenses:			**$1,431,454**

Notes:

1. Per PA letter for CO#09-006 Addendum #1, dated June 18, 2009, allowable direct expenses related to office rent and associated costs are to be excluded from this proposal.

2. Per PA direction, this item was removed.

THE PORT AUTHORITY OF NY & NJ

WTC CONSTRUCTION DEPARTMENT

WORLD TRADE CENTER TRANSPORTATION HUB

August 24, 2009

Downtown Design Partnership
A Joint Venture of AECOM, Inc. and STV Inc
605 Third Avenue
New York, NY 10158

Attention: Ira Allan Levy, PE, President, AECOM, Inc.

SUBJECT: AMENDMENT LETTER – SUPPLEMENTAL SERVICES TASK ORDER #TO-09-005 – Various DCC Nos. 485, 486, 489, 499

Ref.: PERFORMANCE OF EXPERT ARCHITECTURAL AND ENGINEERING SERVICES FOR THE PERMANENT WORLD TRADE CENTER PATH TERMINAL ON A TASK ORDER BASIS P.A. Agreement No.407-03-013; Supplemental Agreement #1, as amended

Dear Mr. Levy:

This letter acknowledges that you performed and completed additional expert professional architectural and engineering services as set forth in the attached Scope of Work and as directed by The Port Authority of NY & NJ (Authority) as additional work items under the referenced Agreement, for the WTC Transportation Hub.

Total compensation for the performance of the abovementioned services shall not exceed the amount of **$1,935,998**

The Consultant shall employ, to every extent possible, the most cost-effective methods of performing the scope of services noted above. This includes, but is not limited to, utilizing appropriate staff as needed (i.e. combining management and technical efforts) and tracking hours of technical staff. Accordingly, the Consultant shall inform the Director when the Consultant's expenditures reach 80% of the not-to-exceed amount noted above. The Consultant shall continue to render the additional services to completion after the point when the Consultant's compensation reaches 100% of such amount.

The previously authorized total amount for the referenced agreement is increased from $55,203,538 to $57,139,536.

115 Broadway, 7th Floor
New York, NY 10006

THE PORT AUTHORITY OF NY & NJ

WTC CONSTRUCTION DEPARTMENT

WORLD TRADE CENTER TRANSPORTATION HUB

The above referenced agreement remains in full force and effect and the performance of the requested additional services is subject to the terms and conditions of such referenced agreement.

Please return two original signed copies of this letter to the attention of **Richard Perez, Contract Specialist, Procurement Department, 115 Broadway, 19th floor**, New York, N. Y. 10006. Upon receipt by the Authority of a copy of this letter executed by a principal of your firm, you are authorized to proceed with performance of the requested additional services.

If you have any questions relating to the performance of the subject services, please do not hesitate to contact Vivian Okwuagwu at 212-435-5147.

Sincerely,

Shawn T. Lenahan, A.I.A.
Senior Program Manager
WTC Construction Department

Att.

Accepted:
Firm Name: Downtown Design Partnership
a JV of AECOM and STU Inc

Ira Levy, 6/26/09
Name, Title NE Region Executive Date

8/31/09
Name, Title Mahen Lobib EVP/COO Date

Cc: F. Gallo, S. Lenahan, N. Lombardi, K. Matthews, V. Okwuagwu, M. Pagliettini, R. Perez, N. Ranalli, C. Russell, M. Socrates, WTCC Document Control

115 Broadway, 7th Floor
New York, NY 10006

DOWNTOWN
DESIGN PARTNERSHIP

7 Hanover Square, Suite 1800 • New York, NY 10004
Phone: 917-522-2800 • Fax: 212-785-2951

August 21, 2009

Ref #: DDP-PA-1643-09

The Port Authority of New York and New Jersey
115 Broadway, 19th Floor
New York, New York 10006

Attention: **Mr. Richard Perez**

Subject: **P.A. Agreement No. 407-03-013**
Performance of Expert Professional
Architectural and Engineering Services for the
World Trade Center Transportation Hub

Reference: **Revision 2 - Technical and Cost Proposal for Port Authority**
Professional Services Task Order # 09-005
Various DCC Nos. 485, 486, 489 and 499

Dear Mr. Perez,

In response to the Port Authority of New York & New Jersey's request for proposal, dated June 16, 2009, to provide additional architectural and engineering services, attached please find Downtown Design Partnership's technical and cost proposal (Rev. 2) for Port Authority Task Order No. TO#09-005 for DCC Nos. 485, 486, 489 and 499.

The attached supersedes DDP's earlier proposals attached to DDP-PA-1308-09, dated July 14, 2009 and DDP-PA-1538-09, dated July 30, 2009.

Should you have any questions regarding the attached, please do not hesitate to call.

Sincerely,
Downtown Design Partnership

F. Ross Edwards, P.E. FOR
Project Director

Cc:
w/ attachments J. Son, File

w/o attachments D. Servedio, I. Levy, S. McIntyre, M. Garz,

FOR EXPERT PROFESSIONAL ARCHITECTURAL AND ENGINEERING SERVICES FOR THE PERMANENT WORLD TRADE CENTER PATH TERMINAL WITH DOWNTOWN DESIGN PARTNERSHIP (DDP), A JOINT VENTURE OF DMJM+HARRIS, INC. AND STV, INC.

PA AGREEMENT #407-03-013
Purchase Order #4900000675
SCOPE OF WORK DESCRIPTION

Supplemental Agreement - Task Order 09-005
Various DCC Nos. 485, 486, 489 and 499

The following is a proposal to provide additional architectural and engineering services as an additional work item. Unless stated otherwise, all scope of work and associated design costs do not include Services During Construction efforts. All Work agreed upon by all parties shall be authorized under the referenced DCC's. The scope of services for this proposal includes the following:

The Scope of Work under this change order is inclusive of the following DCC's: 485, 486, 489 and 499. All work shall be performed in accordance the Scope of Services outlined in the referenced Agreement and as detailed below.

SCOPE OF WORK DESCRIPTIONS

A. DCC No. 485 - East Bathtub and Related WP 20 Coordination

In anticipation of Final Design completion, various design coordination issues remain unresolved among the Hub, SPI, the VSC and the Retail programs. Accordingly, as the engineer of record, DDP is required to address outstanding coordination issues with SPI, the VSC and Retail programs in order to allow the Hub team to address all existing coordination issues and make any necessary changes to drawings only once.

Therefore, the Consultant shall perform the following design services. Each of the following tasks must be tracked and invoiced separately.

TASK 1 - SPI –COORDINATION

Architecture & Structure

1. Structural interface of Hub Parcel with T2 & T3 - Design loads provided by DDP
2. Structural interface of 9X with T2, T3 & T4 - B4, B3 & B2 slabs
3. Fit-out Scope between projects
    a. Shared corridors/hallways fit-out between stakeholders

b. Shared mechanical spaces within T2, 3 and 4

c. BOH security / FA vestibule fit-out scope between stakeholders

d. Partitions ownership and demarcation

4. (a) Waterproofing systems and topping slabs at and above grade

   (b) Waterproofing systems and topping slabs below grade

5. Vertical transportation elements within Towers 2 & 3

6. Consistency of Transportation signs at Tower entries

7. Grades at T3 entrance and T4 entrance

8. Retail egress paths

9. Per PA, item removed.

10. Tower 2

    a. 1 -line reconfiguration of MTA, per assessment - Openings at T2 shear wall

    b. Fulton St-Wedge of Light entrance

    c. T2 Access stairs and Hub BOH space conflict at 295 Lobby

    d. T2 loading dock dispute between PNSPI

    e. T2/B 1 - office lobby entrance

    f. Visibility of T2 Hub/Retail Vesey ST Entrance

11. Tower 3

    a. T 3 North side and Hub Plaza, including demarcation of scope between projects, documentation of slab edges and finishes

    b. 1 -line reconfiguration of MTA per assessment

    c. Shape of column at B 1 Hub escalator lobby

    d. T3 RIW exit corridor/Parking Elevator Slab

    e. B1 Retail toilet rooms

12. Modifications to Cortlandt Way to accommodate storefronts and corridor head-height requirements in the Basis of Design Report (BDR)

Mechanical/Electrical/Plumbing

1. General re-coordination of MEP distribution systems with base building and other stakeholder systems within T2 & T3 project limits

    a. Below grade stair pressurization systems with base building structure and architecture

    b. At grade stair shaft exhaust systems for below grade stairs

    c. Hub siamese' connections at Tower locations

d. Size and location of Hub duct shafts within Retail spaces

e. Resolution of all POE's at T2 & T3

f. Accommodation of VSC systems

2. General re-coordination of MEP distribution systems with base building and other stakeholder systems within Hub project limits

   a. T3 & T4 primary power distribution systems

   b. Hub ductwork in commercial parking program area

   c. Size and location of Hub duct shafts within Retail spaces

   d. Accommodation of VSC systems

3. Fire Alarm Coordination

   a. FA systems integration and auto activation

   b. FA scope swap based on the 4/10/2008 agreed upon Fire Alarm documents

4. Hub wireless/first responder system scope and coverage with Towers 2, 3 & 4

5. Tower 2

   a. Hub Power Distribution Center (PDC) duct shaft and plenum routing

   b. Hub shaft for venting of elevator 25, serving transportation entrance and Retail

6.Tower 3

   a. Hub fuel oil fill stations at HubIT3

   b. HUB generator exhausts

   c. SPI shaft serving T3 lobbies through Hub generator/mechanical space at 386/404

   d. Hub access from secure zone in lobby to electrical shaft north wall

   e. Hub Fire Command station at T3 North wall

7. Hub

   a. SPI parking elevator lobby coordination

   b. GSA parking and bus parking exit at T3

TASK 2 - VSC COORDINATION

1. Coordination of VSC Communications Conduits

    a. Review proposed routing for VSC communications conduits. If upon review, portions of proposed routing are not feasible, coordinate with VSC design team to develop alternate routing.

    b. Provide a route for 2-4" conduits from East POE room to VSC Telecom Room 110.

    c. Attend up to 4 meetings to coordinate the above, and prepare sketches as required in support of these meetings.

    d. Provide structural openings sleeves, and embeds as needed to accommodate VSC scope.

    e. Revise HUB design documents as required to reflect coordinated conduit route and agreed upon construction scope.

2. Coordination of VSC Electrical Requirements

    a. Review proposed routing of VSC electrical conduits and connections to HUB spot networks.

    b. Attend up to two meetings to coordinate and confirm conduit routing and connections within HUB spot network rooms.

    c. Provide structural openings sleeves, and embeds as needed to accommodate VSC scope.

    d. Revise HUB design documents as required to reflect coordinated conduit route and agreed upon construction scope.

3. Coordination of VSC drain lines and Topping Slab

    a. Review and confirm VSC topping slab design.

    b. Provide coordination for routing of bus parking drains currently shown on HUB documents. Drain locations/routings need to be updated to reflect current VSC design.

    c. Provide coordination for routing of VSC drains installed in SPI structural parcels to HUB sump pits.

    d. Attend up to two meetings to coordinate the above.

    e. Provide structural openings sleeves, and embeds as needed to accommodate VSC scope.

    f. Revise HUB design documents as required to reflect coordinated routing and agreed upon construction scope.

4. Coordination of all HUB utilities within the roadway and bus parking areas

    a. Provide coordination for resolving conflicts between HUB and VSC

utilities within the roadway and bus parking areas.

b. Attend up to four meetings to coordinate the above. Prepare sketches and sections as required in support of the coordination and to confirm clearances at the roadway.

c. Revise HUB design documents as required to reflect coordinated and agreed upon construction scope.

5. South Egress Stair

Installation of Stair and Fit Out for egress stair in Package 9x area, serving Bus and Car parking programs. (Note: design of structure, installation of concrete stair enclosure and QAD review are covered in DCC 501 Task 2: line item 1).

6. Cost Estimates

Prepare cost estimates for all VSC elements within package 20, such as embedded conduits, piping, sleeves and structural openings to be shown on revised HUB documents.

TASK 3 - RETAIL COORDINATION

Architectural

1. NYTP/Family Room scope swap (dead end corridor resolution)
2. Stair BX rotation impacts
3. Retail Pump room program coordination (B3-T3)
4. Vestibule leading to Retail freight elevators (B3-T3)
5. Background coordination southeast area of Tower 3 (B 1 & B2 Toilet Rm area)
6. Spot Network program coordination (T4-B3)
7. Ownership of un-programmed Hub space (T4-B3)
8. Conflicts in area of Refuge corridor (T2-B2 Toilet area Vestibule Partitions)
9. Partition coordination and ownership delineation
10. Background coordination at Northwest corner of Oculus
11. Loss of GLA at southwest comer of Oculus
12. Door swing location coordination (SW comer of Oculus, B2)
13. Egress corridor coordination (T3-B2, wall alignment, toilet area layout)
14. Dual EMR proposal by Retail (T3-B2)
15. Retail Steam Meter Room coordination (T2-B 1)
16. Retail toilet rooms (T2-B 1)
17. Hub programs taking back Retail GLA space (NW comer of Oculus, B1)

18. MTA program at subway platform end location taking up Retail GLA space (T3 -B 1)
19. T2/B 1 - office lobby entrance (NW corner of Oculus, B 1)
20. Size and location of Hub duct shafts within retail spaces (movement away from Storefront)
21. Wall location at base of Hub escalator (T4)
22. Scenic elevator enclosure coordination (T4-B1)
23. Delineation of Stakeholder finishes below grade (T2-B 1 M)
24. Access hatch to service T3 scenic elevators (T3-LA)
25. Room configuration at southeast corner of T3 (T3-L4)
26. Coordination of additional equipment pad scope
27. Verification of ceiling heights for MEP coordination
28. Coordination of all 2-hour rated soffits
29. Hub/SPI Telephone Room Exchange
30. Detail of partition at shared corridors and slab elevation changes
31. Oculus Stone finish detailing at Hub/Retail Storefront interface

Mechanical/Electrical/Plumbing - Tower 1

1a. Coordination of Hub Smoke Exhaust ductwork and Fan running into Retail piping, kitchen exhaust equipment and condensate pump in Retail Mechanical Room

1b. Coordination of Hub Supply duct running into Retail Smoke Exhaust and Supply Air ducts in shared Hub/Retail shaft west of Hub column D65

Mechanical Tower 2

2. Documentation of Hub/Retail Tower 2 & 3 Smoke Purge solution
3. Retail HVAC Piping serving T3 & T4 by Retail Pump Room-B3003 runs in same location as Hub risers
4. Retail HVAC Piping serving T3 & T4 by column 30413A runs in same location as Hub risers
5. Retail HVAC Piping serving T3 & T4 by column 30413A runs in heavily congested hallway with Hub ductwork
6. Retail ductwork serving T2 MER and Telecom room by column 21312C runs in heavily congested hallway with Hub ductwork
7. Coordination of Hub ductwork serving PATH MER; runs through Retail Plant B200 1 between columns 2 1 3/2C-2F

8. Hub ductwork crosses over Retail B2004lJC and B2005Ramily Room, conflicts with Retail ductwork

9. Coordination of Retail/Hub ductwork running in same corridor along column line 2GP between 2 12-2 1 4

10. Coordination of Retail ductwork floor penetration and duct routing located within hallway between 201 -20412B

11. Coordination of Retail/Hub ductwork running in same corridor west of Women's Restroom B2003

12. Retail ductwork crosses extensive Hub ductwork run within corridor along column line 2G between 203-206

13. Retail ductwork crosses extensive Hub ductwork within corridor along column line 203P between 2F-2G

14. Hub ductwork crosses over Retail storage, electrical and telecom rooms along column line 26 between 209-2 12

15. Coordination of Hub/Retail smoke control ductwork at top of staircase southwest of column 213-2H (see #2, Documentation of Hub/Retail Tower 2 & 3 Smoke Purge solution)

16. Retail ductwork crosses extensive Hub ductwork within corridor along column line 26 between 204-206

17. Conflict between Hub exhaust ducts crossing Retail duct risers within 2GPl2 1 4

18. Conflict between Hub exhaust ducts crossing Retail duct risers in hallway by column 2Hl2 15

19. El. +386' coordinate Hub stair pressurization fan ductwork over Retail shaft No. 4 risers (2 SWTH, 1 NE Fan)

20. El. +404' coordination of Hub ductwork to exhaust plenums on south wall between 2 15-2 16

21. El. +404' Hub exhaust plenums and Retail ductwork by column 261204 reduces headroom to 6'4" within corridor

22. El. +404' conflict between Hub/Retail ductwork by column 2Bl208

23. El. +404' coordination of SF-IOISF-5 fan by column 261208 with Retail elevator smoke purge ductwork. Coordinate 2 Hub staircase pressurization ductwork routes from Hub SF-6 and SF-9 in Retail MER between 2 14-21 6 on North and South walls Mechanical Tower 3

24. Coordination of the Hub supply/return/exhaust ducts along column line 3C, conflict with Retail Electrical/Telecom room

25. Conflicts along column line 4PJl4P7, Hub main supply/return air ductwork location impacts headroom

26. Coordination of Hub main supply/return air ductwork along column line 4PJ/4P5

27. El. +386' coordination of partition wall along column line 365/309.7; Impacts Retail Transit Hall Return Air system

28. El. +386' Retail Atrium exhaust ductwork floor penetrations, duct transitions to 4M, and plenum within Hub generator room to be coordinated

29. El. +404' Retail Atrium exhaust plenum and duct routes between 309-312 within Hub generator room to be coordinated

30. El. +404' Retail Atrium exhaust plenum and louver square footage near col. 312/3G.8 within Hub generator room to be coordinated

31. El. +404' Hub fans and ductwork SF-15 and SF-16 to be coordinated with Retail fans and ductwork RF/SX3-I A, 1B and base building equipment in SW MER corner

Electrical

32. Coordinate routing of Hub conduits within Retail and shared corridors

33. Coordinate conduits around main riser shafts on north side of T3 core

34. T2/el. +250' coordinate riser conduits in south side of T2 core

35. T4/el. +250' and +274' coordinate routing of Hub risers around column 4P2

36. T3/el.+296'coordinate routing of Hub conduits within Retail space specifically the Special Events Control Room

37. Re-coordination of all Retail Normal Electrical Feeders based on updated Allocations

38. Re-coordination of all Retail Emergency Electrical Feeders based on Updated Allocations

39. T3/el. +274' coordinate routing of Hub conduits within Retail spaces

40. T4/el. +296' coordinate routing of Hub conduits within Retail spaces, specifically the Special Events area

41. T4/el. +386' coordinate routing of Hub conduits within Retail spaces

Plumbing

42. Coordination of Hub piping through T3-B3 corridor PL-135

43. Coordination of Hub piping through T2-B2 corridor in northwest comer

44. Coordination of storm inverts with RPC heights

45. Conflicts with 8" Cold Water Site Loop through Retail command Center; critical systems area may require alternate Hub routing

46. T4/el. +274' conflict between Hub 3" SAN and Retail Spot Network.

47. Coordination between Hub piping running around T2-B1 core and Retail

plumbing piping for gas, cold water & sanitary through same route

48. T2/el. +306' coordinate 8" CW routed to stair shaft PU-OBF with Retail service pipes in shaft

Fire Protection

49. T2/el. +296' Coordination of sprinkler scope between Hub/Retail in Public Vestibule UT-071 & Rm UT-078
50. Coordination of 4" FCO dedicated to Retail
51. T3/el. +250' coordination required to avoid Hub piping crossing with Retail sanitary lines in Roadway area
52. T3/el. +250' coordination required for 2 14" Hub storm pipes to avoid Retail Scenic elevator and service piping
53. T2/el. +250' provide 4" sanitary P.O. for future Retail sanitary connection
54. T4/el. +296' review 6" EJD runs in Retail Tele Rm. 10" Hub house trap shown in Retail Electrical Rm. Relocate 10" tap south to avoid electrical closet

The proposed budget for this DCC is an allowance. Charges shall be incurred up to the proposed budget for this DCC. Work for this DCC shall be performed only when and as directed by the PA Project Manager or his designee, in writing.

DELIVERABLES

DDP shall provide ongoing coordination, review of drawings with SPI and other relevant stakeholder projects, in accordance with the established budget. - See DCC 499

B. DCC No. 486 - Coordination and Implementation of WBVA/PAC Early Action Foundations

TASK 1 – COORDINATION

The West Bathtub Vehicular Access (WBVA) and Performing Arts Center (PAC), which affect the final design of Work Package 20, are at various stages of design development. Accordingly, DDP shall perform coordination with West Bathtub Vehicular Access and Performing Arts Center design teams through the completion of Early Action Foundation Structures in the North Platform area. The Scope of Work under this DCC includes implementation of design changes in Hub Package 20 contract documents.

North Platform structure under review includes, but is not limited to, WVBA/PAC columns C1 to C8 and shear walls SW-1 to SW-9 identified within LSP scope.

a. DDP to identify areas for acceptable WBVA/PAC structure footprint, and re-program

b. Hub/PATH rooms where necessary and assist in identifying utilities, and work through staging/constructability issues.

c. Hub columns C9 to C21 south of the Header Duct are not to be relocated -. Hub column C21 and potential C22 to support corner of Fulton Street

d. DDP to provide assistance in alignment of PAC/Retail columns above +266'

e. For baseline see attached sketch S100 and Load Matrix. For current LSP drawing, see FO100.00.

The proposed budget for this DCC is an allowance. Charges shall be incurred up to the proposed budget for this DCC. Work for this DCC shall be performed only when and as directed by the PA Project Manager or his designee, in writing.

DELIVERABLES
Implementation of design resulting from coordination of WBVA/PAC Early Action Foundations shall be included in DCC 486. At the discretion of the Authority, the total duration for this effort is 4 months from Notice to Proceed.

C. DCC No. 499 - Implementation of Coordination on East Bathtub, and Related WP 20 Items

DDP shall perform the following implementation activities.

Task 1

- Implementation of tasks arising from DCC 485 Task 1, SPI Coordination
- Implementation of all design coordination elements from DCC 485 (Tasks 1) into Hub Package 20 Contract Documents

Task 2

- Implementation of tasks arising from DCC 485 Task 2, VSC Coordination
- Implementation of all design coordination elements from DCC 485 (Tasks 2) into
- Hub Package 20 Contract Documents

Task 3

- Implementation of tasks arising from DCC 485 Task 3, Retail Coordination

The proposed budget for this DCC is an allowance. Charges shall be incurred up to the proposed budget for this DCC. Work for this DCC shall be performed only when and as directed by the PA Project Manager or his designee, in writing.

DELIVERABLES

Signed and sealed Package 20 drawings. The total duration for this effort shall be 4 months from Notice to Proceed, in accordance with the established budget.

D. DCC No. 489 - Evaluate Retail CCTV Cameras

During the development of the Retail CCTV design, DVS (Ducibella, Venter & Santore) proposed 148 locations for CCTV Cameras. As part of a subsequent effort the retail manager (Westfield) and their security consultant, Case Global, identified 164 locations for CCTV cameras along with a request to access video images from an additional 45 cameras belonging to the WTC Hub. However, of the 148 locations proposed by DVS, WestfieldICase Global showed 60 duplicate locations. Accordingly, the locations identified by DVS need to be deleted and the remaining 88 locations proposed by DVS are not required by the Retail manager to support their operational needs. DDP is shall evaluate the retail CCTV cameras to determine if some of these proposed locations may be required to meet the Retail Security Performance Criteria developed by PANYNJ. If so, the camera will need to be added to the design in order to satisfy all Retail Security Performance Criteria requirements as follows:

Task 1

- Delete 60 out of 148 CCTV camera locations proposed by DVS that duplicate locations shown by Westfield/Case Global. For estimating purposes assume one meeting with PANYNJ/Retail to verify cameras to be deleted.
- Review 88 out of 148 CCTV camera locations proposed by DVS to determine if these are required to meet the Retail Security Performance Criteria (SPC) requirements.

Task 2

- Delete any of the 88 CCTV cameras that are not required to meet the SPC requirements, and include any of the 88 that are required to meet SPC requirements in the final design documents. For estimating purposes assume two meetings with PANYNJ/Retail to finalize camera locations to be deleted/included.

DELIVERABLES

All deliverables shall be part of work package 20, which includes signed and sealed drawings.

DOWNTOWN DESIGN PARTNERSHIP

GRAND SUMMARY
PROFESSIONAL SERVICES
REVISED - TASK ORDER #09-005

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTALS	
Average Rate		$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17		
Average Overhead		1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322		
Average Rate with Overhead		$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		
	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A. TASK A - DCC 485	-	$0	1,407	$285,334	2,013	$310,208	688	$74,920	494	$36,762	294	$19,384	12	$665	4,908	$727,273
Fee/Profit (On all Labor, excluding Principals):																$72,727
Labor Subtotal (Incl. Overhead & Fee/Profit):																$800,000
Other Direct Costs:																$0
Total Task A:																$800,000
B. TASK B - DCC 486	-	$0	871	$176,635	1,039	$160,112	464	$50,528	219	$16,297	498	$32,702	2	$89	3,091	$436,364
Fee/Profit (On all Labor, excluding Principals):																$43,636
Labor Subtotal (Incl. Overhead & Fee/Profit):																$480,000
Other Direct Costs:																$0
Total Task B:																$480,000
C. TASK C - DCC 499	29	$11,987	667	$135,265	1,001	$154,256	530	$57,715	335	$24,930	1,141	$75,229	32	$1,707	3,735	$461,090
Fee/Profit (On all Labor, excluding Principals):																$44,910
Labor Subtotal (Incl. Overhead & Fee/Profit):																$506,000
Other Direct Costs:																$0
Total Task C:																$506,000
D. TASK D - DCC 489	-	$0	110	$22,308	493	$75,972	185	$20,148	-	$0	272	$17,936	-	$0	1,060	$136,363
Fee/Profit (On all Labor, excluding Principals):																$13,636
Labor Subtotal (Incl. Overhead & Fee/Profit):																$150,000
Other Direct Costs:																$0
Total Task D:																$150,000

DOWNTOWN DESIGN PARTNERSHIP

GRAND SUMMARY
PROFESSIONAL SERVICES
REVISED - TASK ORDER #09-005

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTALS	
Average Rate		$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17		
Average Overhead		1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322		
Average Rate with Overhead		*$413.36*		*$202.80*		*$154.10*		*$108.90*		*$74.42*		*$65.93*		*$54.03*		
	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
TOTAL PA TO #09-005	29	$11,987	3,055	$619,541	4,546	$700,549	1,867	$203,308	1,046	$77,890	2,203	$145,253	46	$2,461	12,794	$1,761,090

Fee/Profit (On all Labor, excluding Principals):	$174,910
Subtotal Labor (Incl. Overhead & Fee/Profit):	$1,936,000
Subtotal Other Direct Costs :	$0
Grand Total PA TO #09-005 :	$1,935,998

TASK ORDER # 09-005
DCC #485 - East Bathtub and Related WP20 Coordination

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
I. TASK A	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
A. DCC 485 East Bathtub and Related WP20 Coordination	-	$0	1,407	$285,334	2,013	$310,208	688	$74,920	494	$36,762	294	$19,384	12	$665	4,908	$727,273
															-	$0
Labor & Overhead:	-	$0	1,407	$285,334	2,013	$310,208	688	$74,920	494	$36,762	294	$19,384	12	$665	4,908	$727,273

Fee/Profit (On all Labor, excluding Principals):	$72,727
Total Labor Cost:	$800,000
Other Direct Costs:	
Grand Total Task A:	$800,000

Task A
Breakdown by Staff Classification

I. Task 1

A.

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	0	=	0
Arch/Eng A	4	x	35.2	x	10	=	1,407
Arch/Eng B	6	x	33.6	x	10	=	2,013
Arch/Eng C	2	x	34.4	x	10	=	688
Arch/Eng D	2	x	24.7	x	10	=	494
CADD	2	x	14.7	x	10	=	294
Technical Assistant	1	x	1.2	x	10	=	12
							4,908

TASK ORDER # 09-005
DCC #486 Coordination of WBVA/PAC Early Action Foundation

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant		TOTAL	
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03			
I. TASK B	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
B. DCC 486 Coordination of WBVA/PAC Early Action Foundation	-	$0	871	$176,635	1,039	$160,112	464	$50,528	219	$16,297	496	$32,702	2	$89	3,091	$436,364
Labor & Overhead:	-	$0	871	$176,635	1,039	$160,112	464	$50,528	219	$16,297	496	$32,702	2	$89	3,091	$436,364

Fee/Profit (On all Labor, excluding Principals):	**$43,636**
Total Labor Cost:	**$480,000**
Other Direct Costs:	
Grand Total Task B:	**$480,000**

Task B
Breakdown by Staff Classification

I. Task 2

B.

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	0	=	0
Arch/Eng A	3	x	29.0	x	10	=	871
Arch/Eng B	3	x	34.6	x	10	=	1,039
Arch/Eng C	2	x	23.2	x	10	=	464
Arch/Eng D	1	x	21.9	x	10	=	219
CADD	2	x	24.8	x	10	=	496
Technical Assistant	1	x	0.2	x	10	=	2
							3,091

TASK ORDER # 09-005
DCC #499 Implementation of East Bathtub and Related WP20 Coordination

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant			
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		TOTAL	
I. TASK C	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
C. DCC 499	29	$11,987	667	$135,265	1,001	$154,256	530	$57,715	335	$24,930	1,141	$75,229	32	$1,707	3,735	$461,090
Labor & Overhead:	29	$11,987	667	$135,265	1,001	$154,256	530	$57,715	335	$24,930	1,141	$75,229	32	$1,707	3,735	$461,090

Fee/Profit (On all Labor, excluding Principals):	**$44,910**
Total Labor Cost:	**$506,000**
Other Direct Costs:	
Grand Total Task C:	**$506,000**

Task C
Breakdown by Staff Classification

I. Task 3

c.

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	0	=	29
Arch/Eng A	3	x	13.9	x	16	=	667
Arch/Eng B	3	x	20.9	x	16	=	1,001
Arch/Eng C	2	x	16.6	x	16	=	530
Arch/Eng D	1	x	20.9	x	16	=	335
CADD	4	x	17.8	x	16	=	1,141
Technical Assistant	1	x	2.0	x	16	=	32
							3,735

TASK ORDER # 09-005
DCC #489 Evaluate and Implement Retail CCTV Cameras

	Principal		Eng/Arch A		Eng/Arch B		Eng/Arch C		Eng/Arch D		CADD		Technical Assistant			
Average Rate	$413.36		$86.95		$66.08		$46.69		$31.91		$28.27		$23.17			
Average Overhead	1.0		2.3322		2.3322		2.3322		2.3322		2.3322		2.3322			
Average Rate with Overhead	$413.36		$202.80		$154.10		$108.90		$74.42		$65.93		$54.03		TOTAL	
I. TASK D	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$	Hours	$
D. DCC 489 Evaluate Retail CCTV cameras	-	$0	110	$22,308	493	$75,972	185	$20,146	-	$0	272	$17,938	-	$0	1,060	$136,363
Labor & Overhead:	-	$0	110	$22,308	493	$75,972	185	$20,146	-	$0	272	$17,938	-	$0	1,060	$136,363

Fee/Profit (On all Labor, excluding Principals):	**$13,636**
Total Labor Cost:	**$150,000**
Other Direct Costs:	
Grand Total Task D:	**$150,000**

Task D
Breakdown by Staff Classification

I. Task D

D.

	No. of Staff		Hours / Week		No. of Weeks		Staff Hours
Principal	0	x	0.0	x	0	=	0
Arch/Eng A	1	x	11.0	x	10	=	110
Arch/Eng B	2	x	24.7	x	10	=	493
Arch/Eng C	1	x	18.5	x	10	=	185
Arch/Eng D	1	x	0.0	x	10	=	0
CADD	1	x	27.2	x	10	=	272
Technical Assistant	1	x	0.0	x	10	=	0
							1,060

DOWNTOWN DESIGN PARTNERSHIP	World Transportation Hub	DCC Number 485
Title:	East Bathtub and Related WP 20 Coordination	

I. DDP Cost Proposal Breakdown:

A. Labor Cost	Hours	Average Hourly Rate	Direct Cost
Management			
Principals		$ 413.36	$0
Arch/Eng Grade VIII-VII		$ 86.95	$0
Arch/Eng Grade VI-V		$ 66.08	$0
Arch/Eng Grade IV-III		$ 46.69	$0
Arch/Eng Grade II-I		$ 31.91	$0
Op. Cadd		$ 28.27	$0
Technical Assistant		$ 23.17	$0
Subtotal Hours	0		$0
Architectural			
Principals		$ 413.36	$0
Arch/Eng Grade VIII-VII	700	$ 86.95	$60,865
Arch/Eng Grade VI-V	700	$ 66.08	$46,256
Arch/Eng Grade IV-III	180	$ 46.69	$8,404
Arch/Eng Grade II-I	0	$ 31.91	$0
Op. Cadd	180	$ 28.27	$5,089
Technical Assistant	0	$ 23.17	$0
Subtotal Hours	1,760		$120,614
Structural			
Principals		$ 413.36	$0
Arch/Eng Grade VIII-VII	350	$ 86.95	$30,433
Arch/Eng Grade VI-V	240	$ 66.08	$15,859
Arch/Eng Grade IV-III	120	$ 46.69	$5,603
Arch/Eng Grade II-I	0	$ 31.91	$0
Op. Cadd	0	$ 28.27	$0
Technical Assistant	0	$ 23.17	$0
Subtotal Hours	710		$51,895
Mechanical (HVAC)			
Principals		$ 413.36	$0
Arch/Eng Grade VIII-VII	70	$ 86.95	$6,087
Arch/Eng Grade VI-V	290	$ 66.08	$19,163
Arch/Eng Grade IV-III	290	$ 46.69	$13,540
Arch/Eng Grade II-I	205	$ 31.91	$6,542
Op. Cadd	0	$ 28.27	$0
Technical Assistant	0	$ 23.17	$0
Subtotal Hours	855		$45,331
Electrical			
Principals		$ 413.36	$0
Arch/Eng Grade VIII-VII	70	$ 86.95	$6,087
Arch/Eng Grade VI-V	406	$ 66.08	$26,828
Arch/Eng Grade IV-III	58	$ 46.69	$2,708
Arch/Eng Grade II-I	186	$ 31.91	$5,935
Op. Cadd	0	$ 28.27	$0
Technical Assistant	0	$ 23.17	$0
Subtotal Hours	720		$41,558

DOWNTOWN DESIGN PARTNERSHIP	World Transportation Hub	DCC Number 485
Title:	East Bathtub and Related WP 20 Coordination	

I. DDP Cost Proposal Breakdown:

A. Labor Cost	Hours	Average Hourly Rate	Direct Cost
Plumbing / Fire Protection			
Principals		$ 413.36	$0
Arch/Eng Grade VIII-VII	35	$ 86.95	$3,043
Arch/Eng Grade VI-V	0	$ 66.08	$0
Arch/Eng Grade IV-III	35	$ 46.69	$1,634
Arch/Eng Grade II-I	0	$ 31.91	$0
Op. Cadd	24	$ 28.27	$678
Technical Assistant	0	$ 23.17	$0
Subtotal Hours	94		$5,356
Communications			
Principals		$ 413.36	$0
Arch/Eng Grade VIII-VII	181	$ 86.95	$15,738
Arch/Eng Grade VI-V	360	$ 66.08	$23,789
Arch/Eng Grade IV-III	0	$ 46.69	$0
Arch/Eng Grade II-I	103	$ 31.91	$3,287
Op. Cadd	90	$ 28.27	$2,544
Technical Assistant	13	$ 23.17	$312
Subtotal Hours	747		$45,670
Others (Cost Estimating/Scheduling)			
Principals		$ 413.36	$0
Arch/Eng Grade VIII-VII	1	$ 86.95	$101
Arch/Eng Grade VI-V	17	$ 66.08	$1,150
Arch/Eng Grade IV-III	5	$ 46.69	$217
Arch/Eng Grade II-I	0	$ 31.91	$0
Op. Cadd	0	$ 28.27	$0
Technical Assistant	0	$ 23.17	$0
Subtotal Hours	23		$1,467
Total Hours	4,910		

Subtotal Direct Labor	$ 311,890.84
Overhead and Fee = 156.5%	$ 488,109.16
Subtotal Technical Fee	$ 800,000.00
B. Other Direct Costs / Expenses (Reproduction, Postage, etc.)	
Total Fee & Expenses	$ 800,000.00

II. Subconsultants (List each Subconsultant and their Proposal Amount):

A.	
B.	
C.	$ -
D.	$ -
Total Subconsultants	$ -
Grand Total	$ 800,000

DOWNTOWN DESIGN PARTNERSHIP	World Transportation Hub	DCC Number 486
Title:	Coordination/Implementation of WBVA/PAC Early Action Foundations	

I. DDP Cost Proposal Breakdown:

A. Labor Cost	Hours	Average Hourly Rate	Direct Cost
Management			
Principals		$ 413.36	$0
Arch/Eng Grade VIII-VII		$ 86.95	$0
Arch/Eng Grade VI-V		$ 66.08	$0
Arch/Eng Grade IV-III		$ 46.69	$0
Arch/Eng Grade II-I		$ 31.91	$0
Op. Cadd		$ 28.27	$0
Technical Assistant		$ 23.17	$0
Subtotal Hours	0		$0
Architectural			
Principals		$ 413.36	$0
Arch/Eng Grade VIII-VII	414	$ 86.95	$35,956
Arch/Eng Grade VI-V	354	$ 66.08	$23,422
Arch/Eng Grade IV-III	118	$ 46.69	$5,516
Arch/Eng Grade II-I	0	$ 31.91	$0
Op. Cadd	177	$ 28.27	$5,010
Technical Assistant	0	$ 23.17	$0
Subtotal Hours	1,063		$69,906
Structural			
Principals		$ 413.36	$0
Arch/Eng Grade VIII-VII	236	$ 86.95	$20,547
Arch/Eng Grade VI-V	118	$ 66.08	$7,807
Arch/Eng Grade IV-III	118	$ 46.69	$5,516
Arch/Eng Grade II-I	0	$ 31.91	$0
Op. Cadd	177	$ 28.27	$5,010
Technical Assistant	0	$ 23.17	$0
Subtotal Hours	650		$38,881
Mechanical (HVAC)			
Principals		$ 413.36	$0
Arch/Eng Grade VIII-VII	47	$ 86.95	$4,109
Arch/Eng Grade VI-V	83	$ 66.08	$5,465
Arch/Eng Grade IV-III	118	$ 46.69	$5,516
Arch/Eng Grade II-I	59	$ 31.91	$1,885
Op. Cadd	0	$ 28.27	$0
Technical Assistant	0	$ 23.17	$0
Subtotal Hours	307		$16,976
Electrical			
Principals		$ 413.36	$0
Arch/Eng Grade VIII-VII	30	$ 86.95	$2,568
Arch/Eng Grade VI-V	201	$ 66.08	$13,273
Arch/Eng Grade IV-III	35	$ 46.69	$1,655
Arch/Eng Grade II-I	65	$ 31.91	$2,074
Op. Cadd	0	$ 28.27	$0
Technical Assistant	0	$ 23.17	$0
Subtotal Hours	331		$19,570

DOWNTOWN DESIGN PARTNERSHIP	World Transportation Hub	DCC Number 486
Title:	Coordination/Implementation of WBVA/PAC Early Action Foundations	

I. DDP Cost Proposal Breakdown:

A. Labor Cost	Hours	Average Hourly Rate	Direct Cost
Mechanical (Plumbing / Fire Protection)			
Principals		$ 413.36	$0
Arch/Eng Grade VIII-VII	35	$ 86.95	$3,082
Arch/Eng Grade VI-V	0	$ 66.08	$0
Arch/Eng Grade IV-III	47	$ 46.69	$2,207
Arch/Eng Grade II-I	0	$ 31.91	$0
Op. Cadd	71	$ 28.27	$2,004
Technical Assistant	0	$ 23.17	$0
Subtotal Hours	154		$7,293
Communications			
Principals		$ 413.36	$0
Arch/Eng Grade VIII-VII	106	$ 86.95	$9,246
Arch/Eng Grade VI-V	241	$ 66.08	$15,927
Arch/Eng Grade IV-III	0	$ 46.69	$0
Arch/Eng Grade II-I	95	$ 31.91	$3,016
Op. Cadd	71	$ 28.27	$2,004
Technical Assistant	5	$ 23.17	$110
Subtotal Hours	518		$30,303
Others (Cost Estimating/Scheduling)			
Principals		$ 413.36	$0
Arch/Eng Grade VIII-VII	2	$ 86.95	$205
Arch/Eng Grade VI-V	41	$ 66.08	$2,733
Arch/Eng Grade IV-III	27	$ 46.69	$1,269
Arch/Eng Grade II-I	0	$ 31.91	$0
Op. Cadd	0	$ 28.27	$0
Technical Assistant	0	$ 23.17	$0
Subtotal Hours	71		$4,207
Total Hours	3,093		

Subtotal Direct Labor	$ 187,134.50
Overhead and Fee = 156.5%	$ 292,865.50
Subtotal Technical Fee	$ 480,000.00
B. Other Direct Costs / Expenses (Reproduction, Postage, etc.)	
Total Fee & Expenses	$ 480,000.00

II. Subconsultants (List each Subconsultant and their Proposal Amount):

A.	
B.	
C.	$ -
D.	$ -
Total Subconsultants	$ -
Grand Total	$ 480,000.00

DOWNTOWN DESIGN PARTNERSHIP	World Transportation Hub	DCC Number 499
Title:	Implementation of Coordination on East Bathtub and Related WP 20	

I. DDP Cost Proposal Breakdown:

A. Labor Cost	Hours	Average Hourly Rate	Direct Cost
Management			
Principals		$ 413.36	$0
Arch/Eng Grade VIII-VII		$ 86.95	$0
Arch/Eng Grade VI-V		$ 66.08	$0
Arch/Eng Grade IV-III		$ 46.69	$0
Arch/Eng Grade II-I		$ 31.91	$0
Op. Cadd		$ 28.27	$0
Technical Assistant		$ 23.17	$0
Subtotal Hours	0		$0
Architectural			
Principals		$ 413.36	$0
Arch/Eng Grade VIII-VII	100	$ 86.95	$8,679
Arch/Eng Grade VI-V	143	$ 66.08	$9,423
Arch/Eng Grade IV-III	143	$ 46.69	$6,658
Arch/Eng Grade II-I	71	$ 31.91	$2,275
Op. Cadd	143	$ 28.27	$4,031
Technical Assistant	0	$ 23.17	$0
Subtotal Hours	599		$31,066
Structural			
Principals		$ 413.36	$0
Arch/Eng Grade VIII-VII	143	$ 86.95	$12,399
Arch/Eng Grade VI-V	271	$ 66.08	$17,903
Arch/Eng Grade IV-III	143	$ 46.69	$6,658
Arch/Eng Grade II-I	0	$ 31.91	$0
Op. Cadd	285	$ 28.27	$8,062
Technical Assistant	0	$ 23.17	$0
Subtotal Hours	841		$45,022
Mechanical (HVAC)			
Principals		$ 413.36	$0
Arch/Eng Grade VIII-VII	36	$ 86.95	$3,100
Arch/Eng Grade VI-V	111	$ 66.08	$7,350
Arch/Eng Grade IV-III	114	$ 46.69	$5,326
Arch/Eng Grade II-I	0	$ 31.91	$0
Op. Cadd	228	$ 28.27	$6,450
Technical Assistant	0	$ 23.17	$0
Subtotal Hours	489		$22,225
Electrical			
Principals		$ 413.36	$0
Arch/Eng Grade VIII-VII	36	$ 86.95	$3,100
Arch/Eng Grade VI-V	157	$ 66.08	$10,365
Arch/Eng Grade IV-III	37	$ 46.69	$1,731
Arch/Eng Grade II-I	0	$ 31.91	$0
Op. Cadd	145	$ 28.27	$4,112
Technical Assistant	0	$ 23.17	$0
Subtotal Hours	375		$19,307

DOWNTOWN DESIGN PARTNERSHIP	World Transportation Hub	DCC Number 499
Title:	Implementation of Coordination on East Bathtub and Related WP 20	

I. DDP Cost Proposal Breakdown:

A. Labor Cost	Hours	Average Hourly Rate	Direct Cost
Plumbing / Fire Protection			
Principals		$ 413.36	$0
Arch/Eng Grade VIII-VII	11	$ 86.95	$992
Arch/Eng Grade VI-V	0	$ 66.08	$0
Arch/Eng Grade IV-III	31	$ 46.69	$1,465
Arch/Eng Grade II-I	0	$ 31.91	$0
Op. Cadd	43	$ 28.27	$1,209
Technical Assistant	0	$ 23.17	$0
Subtotal Hours	86		$3,666
Communications			
Principals		$ 413.36	$0
Arch/Eng Grade VIII-VII	297	$ 86.95	$25,789
Arch/Eng Grade VI-V	264	$ 66.08	$17,432
Arch/Eng Grade IV-III	0	$ 46.69	$0
Arch/Eng Grade II-I	264	$ 31.91	$8,418
Op. Cadd	297	$ 28.27	$8,385
Technical Assistant	34	$ 23.17	$793
Subtotal Hours	1,155		$60,817
Blast Analysis			
Principals	29	$ 413.36	$11,789
Arch/Eng Grade VIII-VII	43	$ 86.95	$3,720
Arch/Eng Grade VI-V	0	$ 66.08	$0
Arch/Eng Grade IV-III	0	$ 46.69	$0
Arch/Eng Grade II-I	0	$ 31.91	$0
Op. Cadd	0	$ 28.27	$0
Technical Assistant		$ 23.17	$0
Subtotal Hours	71		$15,508
Others (Cost Estimating/Scheduling)			
Principals		$ 413.36	$0
Arch/Eng Grade VIII-VII	3	$ 86.95	$248
Arch/Eng Grade VI-V	56	$ 66.08	$3,675
Arch/Eng Grade IV-III	63	$ 46.69	$2,929
Arch/Eng Grade II-I	0	$ 31.91	$0
Op. Cadd	0	$ 28.27	$0
Technical Assistant	0	$ 23.17	$0
Subtotal Hours	121		$6,852

DOWNTOWN DESIGN PARTNERSHIP	World Transportation Hub	DCC Number 499
Title:	Implementation of Coordination on East Bathtub and Related WP 20	

I. DDP Cost Proposal Breakdown:

A. Labor Cost	Hours	Average Hourly Rate	Direct Cost
Total Hours	3,737		
Subtotal Direct Labor			$ 204,463.62
Overhead and Fee = 156.5%			$ 301,536.38
Subtotal Technical Fee			$ 506,000.00
B. Other Direct Costs / Expenses (Reproduction, Postage, etc.)			
Total Fee & Expenses			$ 506,000.00

II. Subconsultants (List each Subconsultant and their Proposal Amount):

A.		
B.		
C.		$ -
D.		$ -
	Total Subconsultants	$ -
	Grand Total	$ 506,000.00

DOWNTOWN DESIGN PARTNERSHIP	World Transportation Hub	DCC Number 489
Title:	Evaluate/Implement Retail CCTV Cameras	

I. DDP Cost Proposal Breakdown:

A. Labor Cost	Hours	Average Hourly Rate	Direct Cost
Management			
Principals		$ 413.36	$0
Arch/Eng Grade VIII-VII		$ 86.95	$0
Arch/Eng Grade VI-V		$ 66.08	$0
Arch/Eng Grade IV-III		$ 46.69	$0
Arch/Eng Grade II-I		$ 31.91	$0
Op. Cadd		$ 28.27	$0
Technical Assistant		$ 23.17	$0
Subtotal Hours	0		$0
Architectural			
Principals		$ 413.36	$0
Arch/Eng Grade VIII-VII	41	$ 86.95	$3,572
Arch/Eng Grade VI-V	68	$ 66.08	$4,525
Arch/Eng Grade IV-III	137	$ 46.69	$6,394
Arch/Eng Grade II-I	0	$ 31.91	$0
Op. Cadd	82	$ 28.27	$2,323
Technical Assistant		$ 23.17	$0
Subtotal Hours	329		$16,814
Structural			
Principals		$ 413.36	$0
Arch/Eng Grade VIII-VII		$ 86.95	$0
Arch/Eng Grade VI-V		$ 66.08	$0
Arch/Eng Grade IV-III		$ 46.69	$0
Arch/Eng Grade II-I		$ 31.91	$0
Op. Cadd		$ 28.27	$0
Technical Assistant		$ 23.17	$0
Subtotal Hours	0		$0
Mechanical (HVAC)			
Principals		$ 413.36	$0
Arch/Eng Grade VIII-VII	0	$ 86.95	$0
Arch/Eng Grade VI-V	68	$ 66.08	$4,525
Arch/Eng Grade IV-III	0	$ 46.69	$0
Arch/Eng Grade II-I	0	$ 31.91	$0
Op. Cadd	0	$ 28.27	$0
Technical Assistant	0	$ 23.17	$0
Subtotal Hours	68		$4,525
Communications			
Principals		$ 413.36	$0
Arch/Eng Grade VIII-VII	41	$ 86.95	$3,572
Arch/Eng Grade VI-V	219	$ 66.08	$14,479
Arch/Eng Grade IV-III	0	$ 46.69	$0
Arch/Eng Grade II-I	0	$ 31.91	$0
Op. Cadd	82	$ 28.27	$2,323
Technical Assistant	0	$ 23.17	$0
Subtotal Hours	342		$20,374

DOWNTOWN DESIGN PARTNERSHIP	World Transportation Hub	DCC Number 489
Title:	Evaluate/Implement Retail CCTV Cameras	

I. DDP Cost Proposal Breakdown:

A. Labor Cost	Hours	Average Hourly Rate	Direct Cost
Electrical			
Principals		$ 413.36	$0
Arch/Eng Grade VIII-VII	21	$ 86.95	$1,786
Arch/Eng Grade VI-V	110	$ 66.08	$7,240
Arch/Eng Grade IV-III	0	$ 46.69	$0
Arch/Eng Grade II-I	0	$ 31.91	$0
Op. Cadd	110	$ 28.27	$3,097
Technical Assistant	0	$ 23.17	$0
Subtotal Hours	240		$12,123
Civil			
Principals		$ 413.36	$0
Arch/Eng Grade VIII-VII		$ 86.95	$0
Arch/Eng Grade VI-V		$ 66.08	$0
Arch/Eng Grade IV-III		$ 46.69	$0
Arch/Eng Grade II-I		$ 31.91	$0
Op. Cadd		$ 28.27	$0
Technical Assistant		$ 23.17	$0
Subtotal Hours	0		$0
Others (Cost Estimating/Scheduling)			
Principals		$ 413.36	$0
Arch/Eng Grade VIII-VII	7	$ 86.95	$595
Arch/Eng Grade VI-V	27	$ 66.08	$1,810
Arch/Eng Grade IV-III	48	$ 46.69	$2,238
Arch/Eng Grade II-I	0	$ 31.91	$0
Op. Cadd	0	$ 28.27	$0
Technical Assistant	0	$ 23.17	$0
Subtotal Hours	82		$4,643
Total Hours	1,061		

Subtotal Direct Labor	$ 58,479.53
Overhead and Fee = 156.5%	$ 91,520.47
Subtotal Technical Fee	$ 150,000.00
B. Other Direct Costs / Expenses (Reproduction, Postage, etc.)	
Total Fee & Expenses	$ 150,000.00

II. Subconsultants (List each Subconsultant and their Proposal Amount):

A.	
B.	
C.	$ -
D.	$ -
Total Subconsultants	$ -
Grand Total	$ 150,000.00

Furthermore, under §3.d of the Master Agreement, the Contractor must refrain from using Federal assistance funds to support lobbying, and comply and assure compliance by each third party contractor at any tier and each subrecipient at any tier, with applicable requirements of U.S. DOT regulations, "New Restrictions on Lobbying," 49 CFR Part 20 modified as necessary by 31 U.S.C. §1352. See also §6 of the "Port Authority of New York and New Jersey, Federal Transit Administration Requirements for Professional Services Attachment" entitled "Certification – Lobbying Restrictions – Contracts Exceeding $100,000" whereby each person who requests or receives from the Authority a contract with Federal assistance shall file with the Authority a certification entitled "Certification Regarding Lobbying Pursuant to 31 U.S.C. 1352", attached hereto, and a disclosure form entitled "Disclosure of Lobbying activities pursuant to U.S.C. 1352, also attached hereto. This requirement also applies to any subcontracts awarded in excess of the threshold amount.

Similarly, for contracts to exceeding $25,000, the Contractor must comply with 49 CFR 29, Subpart C and must include the requirement to comply with 49 CRF 29, Subpart C in any lower tier covered transaction it enters into.

Please complete the certification entitled "Certification regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – Lower Tiered Covered Transactions" and the "Certification Regarding Lobbying Pursuant to 31 U.S.C. 1352" attached hereto and return executed originals of these Certifications. These documents are also appended to the "Port Authority of New York and New Jersey - Federal Transit Administration Requirements for Professional Services Attachment" and can be copied and retained for use by subcontractors for contracts in excess of the threshold amounts.

The Port Authority of New York & New Jersey also hereby offers to amend the subject agreement as follows:

On page 7, paragraph 9., second paragraph replace "...period of one year after....", with "...period of four (4) years after...".

The subject agreement shall remain in full force and effect, except as amended above. If you are in agreement with the foregoing changes, please indicate your acceptance by signing both original copies of this letter and returning one original to Patricia Cose, Procurement Manager, WTC Site Projects.

THE PORT AUTHORITY OF NY & NJ

Sincerely,

Patricia Cose

Patricia Cose
Procurement Manager, WTC Site Projects

ACCEPTED:

Downtown Design Partnership
A Joint Venture of DMJM+HARRIS, Inc. & STV Inc.

By: _____

Title: EXECUTIVE VP
DMJM - HARRIS, INC

Date: 5/15/06

_____

STV Incorporated
Chairman and CEO

May 17, 2006

THE PORT AUTHORITY OF NEW YORK AND NEW JERSEY - FEDERAL TRANSIT ADMINISTRATION REQUIREMENTS FOR PROFESSIONAL SERVICES ATTACHMENT

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1. ORGANIZATIONAL CONFLICT OF INTEREST

A. This Contract may give rise to a potential for an organizational conflict of interest. An organizational conflict of interest exists when the nature of the work to be performed under the contract may, without some form of restriction on future activities; result in an unfair competitive advantage to the Contractor.

i. The Contractor shall have access to confidential and/or sensitive Authority information in the course of contract performance. Additionally, the Contractor may be provided access to proprietary information obtained from other contracted entities during contract performance. The Contractor agrees to protect all such information from disclosure unless so authorized, in writing, by the Authority and to refrain from using such information for any purpose other than that for which it was furnished.

ii. To the extent that the Contractor either (a) uses confidential and/or sensitive Authority information or proprietary information obtained from other Authority contractors to develop any form of document, report, or plan that is determined by the Authority to be the basis, in whole or in part, of any subsequent solicitation issued by the Authority or (b) develops written specifications that are used in any subsequent solicitation issued by the Authority, the Contractor agrees that it shall not be eligible to compete for such subsequent solicitation(s) as a prime or principal contractor or as part of any teaming arrangement unless the Authority provides, in writing, a specific waiver of this restriction. The duration of any restriction imposed under this subparagraph shall not exceed the length of the initial performance period of any subsequently awarded contract for which the Contractor was ineligible to compete.

B. The Contractor, by submitting its bid or proposal, agrees to the above stated conditions and terms and further agrees to perform all duties under the contract and, in doing so, not to enter into contractual agreements with Authority prime contractors and first-tier subcontractors in such a way as to create an organizational conflict of interest.

C. If the Authority determines that the Contractor has violated any term of this numbered clause, the Authority may take any appropriate action available under the law or regulations to obtain redress to include, but not be limited to, requiring the Contractor to terminate any affiliation or contractual arrangement with an Authority prime contractor or first-tier subcontractor at no cost to the Authority; determining the Contractor ineligible to compete for or be awarded any subsequent or "follow-on" contracts that may be based upon the Contractor's actions under this Contract or violations of this numbered clause, or terminating this Contract, in whole or in part.

2. INCORPORATION OF FEDERAL TRANSIT ADMINISTRATION TERMS

This Agreement is anticipated to be partially funded by the Federal Transit Administration, pursuant to the Agreement entitled, "United States of America Department of Transportation Federal Transit Administration – Master

Agreement for 'Lower Manhattan Recovery Grants", dated May 16, 2003, ("Master Agreement") which is attached hereto and incorporated herein by reference.

All contractual provisions required by DOT, as set forth in FTA Circular 4220.1E as modified by LMRO Third Party Contracting Requirements, dated August 21, 2003, are attached hereto and incorporated herein by reference. Anything to the contrary herein notwithstanding, all FTA-mandated terms shall be deemed to control in the event of a conflict with other provisions contained in this Contract. The Contractor shall not perform any act, fail to perform any act, or refuse to comply with any Authority requests which would cause the Authority to be in violation of the FTA terms and conditions.

Each and every provision required by the FTA to be inserted in this Contract shall be deemed to be inserted herein and the Contract shall be read and enforced as though it were included herein. If any provision of this Contract shall be such as to effect non-compliance with any FTA requirement, such provision shall not be deemed to form part hereof, but the balance of this Contract shall remain in full force and effect.

3. **FEDERAL CHANGES**

The Contractor shall at all times comply with all applicable FTA regulations, policies, procedures and directives, including without limitation those listed directly or by reference in the Master Agreement, as they may be amended or promulgated from time to time during the term of this Contract. Contractor's failure to so comply shall constitute a material breach of this Contract. The most recent Federal laws, regulations, policies, and administrative practices apply to this Contract at any particular time, unless FTA issues a written determination otherwise. All standards or limits within the Master Agreement are minimum requirements, unless modified by the FTA.

4. **NO FEDERAL GOVERNMENT OBLIGATIONS TO THIRD PARTIES**

The Authority and the Contractor acknowledge and agree that, notwithstanding any concurrence by the Federal Government in or approval of the solicitation or award of the underlying contract, absent the express written consent by the Federal Government, the Federal Government is not a party to this Contract and shall not be subject to any obligations or liabilities to the Authority, Contractor, or any other party (whether or not a party to that contract) pertaining to any matter resulting from the underlying contract.

The Contractor agrees to include the above clause in each subcontract financed in whole or in part with Federal Assistance provided by the FTA. It is further agreed that the clause shall not be modified, except to identify the subcontractor who will be subject to its provisions.

5. **CERTIFICATION - DEBARMENT AND SUSPENSION**

This Contract is a covered transaction for purposes of 49 CFR Part 29. As such, the Contractor is required to verify that none of the Contractor, its principals, as defined at 49 CRF 29.995, or affiliates, as defined at 49 CFR 29.905, are excluded or disqualified as defined at 49 CFR 29.940 and 29.945.

The Contractor is required to comply with 49 CFR 29, Subpart C and must include the requirement to comply with 49 CRF 29, Subpart C in any lower tier covered transaction it enters into.

By signing and submitting its bid or proposal, the proposer certifies as follows: The certification in this clause is a material representation of fact relied upon by the Port Authority of New York and New Jersey. If it is later determined that the proposer knowingly rendered an erroneous certification, in addition to remedies available to the Port Authority of New York and New Jersey, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment. The proposer agrees to comply with the requirements of 49 CFR 29, Subpart C while this offer is valid and throughout the period of any contract that may arise from this offer. The proposer further agrees to include a provision requiring such compliance in its lower tier covered transactions.

A. FTA requires that each potential Contractor, for major third party contracts, complete a certification entitled "Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion" for itself and its principals and requires each Subcontractor or Supplier [for Subcontracts and Supplier agreements expected to equal or exceed the Federal procurement small purchase threshold fixed at 10 U.S.C. 253(g) (currently $25,000)] to complete a certification entitled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – Lower Tiered Covered Transactions" for itself and its principals. Copies of the required Certification forms and accompanying instructions are set forth in the Appendix to this Attachment.

B. In the event that the Contractor has certified prior to award that it is not proposed for debarment, debarred, suspended, or voluntarily excluded from covered transactions by any Federal Department or agency and such certification is found to be false, this Contract may be canceled, terminated or suspended by the Authority and the Contractor will be liable for any and all damages incurred by the Authority because of such cancellation, termination or suspension because of such false certification.

C. The Contractor shall obtain certifications from all known potential Subcontractors and Suppliers [for which payments are expected to equal or exceed the Federal procurement small purchase threshold fixed at 10 U.S.C. 253(g).(currently $25,000)] and submit such certifications to the address set forth in E below.

D. Prior to the award of any Subcontracts or Supplier agreements expected to equal or exceed the Federal procurement small purchase threshold fixed at 10 U.S.C. 253(g) (currently $25,000), regardless of tier, any prospective Subcontractor or Supplier who has not previously submitted a certification for this Contract must execute and submit to the Contractor a certification in the form annexed in the Appendix to this Attachment which will be deemed a part of the resulting Subcontract and Supplier agreement.

E. The originals of any Certifications or correspondence relating hereto shall be sent by the Contractor to the Director of Procurement, One Madison Avenue, 7th Floor, New York, NY 10010.

F. The Contractor shall not knowingly enter into any Subcontracts or Supplier agreements with a person that is proposed for debarment, debarred, suspended, declared ineligible or voluntarily excluded from covered transactions.

G. As required by FTA, the Contractor and its Subcontractors or Suppliers required to file the certification have a continuing duty to disclose, and shall provide immediate written notice to the Authority if, at any time, it learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

6. CERTIFICATION - LOBBYING RESTRICTIONS –CONTRACTS EXCEEDING $100,000

A. Definitions. As used in this Clause:
"Agency," as defined in 5 U.S.C. 552(f), includes Federal executive departments and agencies as well as independent regulatory commissions and Government corporations, as defined in 31 U.S.C. 9101(1). As used in the Certification set forth in the Appendix to this Attachment, it also includes any other public agency.
"Covered Federal action" means any of the following Federal actions:

1. The awarding of any Federal contract;
2. The making of any Federal grant;
3. The making of any Federal loan;
4. The entering into of any cooperative agreement; and
5. The extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement. As

used in the above referenced Certification, it includes the award of the contract with which it is associated.

"Indian tribe" and "tribal organization" have the meaning provided in Section 4 of the Indian Self Determination and Education Assistance Act (25 U.S.C. 450B). Alaskan natives are included under the definitions of Indian tribes in that Act.

"Influencing or attempting to influence" means making, with the intent to influence, any communication to or appearance before an officer or employees of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with any covered Federal action.

"Local government" means a unit of government in a State and, if chartered, established, or otherwise recognized by a State for the performance of a governmental duty, including a local public authority, a special district, an intrastate district, a council of governments, a sponsor group representative organization, and any other instrumentality of a local government. It also includes a bi-state agency.

"Officer or employee of an agency" includes the following individuals who are employed by an agency:

a. An individual who is appointed to a position in the Government under title 5, United States Code, including a position under a temporary appointment;

b. A member of the uniformed services as defined in section 101(3), title 37, United States Code;

c. A special government employee as defined in Section 202, title 18, United States Code; and

d. An individual who is a member of a Federal advisory committee, as defined by the Federal Advisory Committee Act, Title 5, United States Code Appendix 2.

e. An employee of a bi-state agency.

"Person" means an individual, corporation, company, association, authority, firm, partnership, society, State, and local government, regardless of whether such entity is operated for profit or not for profit. This term excludes an Indian tribe, tribal organization, or any other Indian Organization with respect to expenditures specifically permitted by other Federal law.

"Reasonable Compensation" means, with respect to a regularly employed officer or employee of any person, compensation that is consistent with the normal compensation for such officer or employee for work that is not furnished to, not funded by, or not furnished in cooperation with the Federal Government.

"Reasonable Payment" means, with respect to professional and other technical services, a payment in an amount that is consistent with the amount normally paid for such services in the private sector.

"Recipient" includes all contractors and subcontractors at any tier in connection with a Federal Contract. The term excludes an Indian Tribe, tribal organization,

or any other Indian organization with respect to expenditures specifically permitted by other Federal law.

"Regularly Employed" means, with respect to an officer or employee of a person requesting or receiving a Federal Contract, an officer or employee who is employed by such person for at least one hundred and thirty (130) working days within one (1) year immediately preceding the date of the submission that initiates agency consideration of such person for receipt of such contract. An officer or employee who is employed by such person for less than one hundred and thirty (130) working days within one (1) year immediately preceding the date of the submission that initiates agency consideration of such person shall be considered to be regularly employed as soon as he or she is employed by such person for one hundred and thirty (130) working days.
"State" means a State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, a territory or possession of the United States, an agency or instrumentality of a State, and a multi-state, regional, or interstate entity having governmental duties and powers.

B. Prohibition.

1. Section 1352 of title 31, United States Code provides in part that no appropriated funds may be expended by the recipient of a Federal contract, grant, loan, or cooperative agreement to pay any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with any of the following covered Federal actions: the awarding of any Federal contract; the making of any Federal grant; the making of any Federal loan; the entering into of any cooperative agreement; and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement. For the purposes of the Certification included in the Appendix to this Attchment, it includes the award of the associated contract.

2. The prohibition does not apply as follows:

a. Agency and legislative liaison by own employees.

(i) The prohibition on the use of appropriated funds, in subparagraph B.1.) of this Section, does not apply in the case of a payment of reasonable compensation made to an officer or employee of a person requesting or receiving a Federal contract or the contract associated with the certification if the payment is for agency and legislative liaison activities not directly related to a covered Federal Action.

(ii) For purposes of subparagraph B. 2.) a.(i) of this Section, providing any information specifically requested by an agency or Congress is allowable at any time.

(iii) For purposes of subparagraph B. 2.) a.(i) of this Section, the following agency and legislative liaison activities are allowable at any time only where they are not related to specific solicitation for any covered Federal action.

(a) Discussing with an agency (including individual demonstrations) the qualities and characteristics of the person's products or services, conditions or terms of sales and service capabilities; and,

(b) Technical discussions and other activities regarding the application or adaptation of the person's products or services for an agency's use.

(iv) For purposes of paragraph B. 2)a.(i) of this Section, the following agency and legislative liaison activities are allowable only where they are prior to formal solicitation of any covered Federal action:

(a) Providing any information not specifically requested but necessary for an agency to make an informed decision about initiation of a covered Federal action;

(b) Technical discussions regarding the preparation of an unsolicited proposal prior to its official submission; and

(c) Capability presentations by persons seeking awards from an agency pursuant to the provisions of the Small Business Act, as amended by Public Law 95-507 and other subsequent amendments.

(iv) Only those activities expressly authorized by subparagraph B. 2)a. of this Section are allowable under subparagraph B. 2)a.

b. Professional and technical services by Own Employees.

(i) The prohibition on the use of appropriated funds, in subparagraph B. of this Section, does not apply in the case of a payment of reasonable compensation made to an officer or employee of a person requesting or receiving a Federal contract or an extension, continuation, renewal, amendment, or modification of a Federal contract or the contract associated with the certification if payment is for professional or technical services rendered directly in the preparation, submission, or negotiation of any bid, proposal, or application for that contract or for meeting requirements imposed by or pursuant to law as a condition for receiving that contract.

(ii) For purposes of subparagraph B. 2.) b. (i) of this Section, "professional and technical services" shall be limited to advice and analysis

directly applying any professional or technical discipline. For example, drafting of a legal document accompanying a bid or proposal by a lawyer is allowable. Similarly, technical advice provided by an engineer on the performance or operational capability of a piece of equipment rendered directly in the negotiation of a contract is allowable. However, communications with the intent to influence made by a professional (such as a licensed lawyer) or a technical person (such as a licensed accountant) are not allowable under this Section unless they provided advice and analysis directly applying their professional or technical expertise and unless the advice or analysis is rendered directly and solely in the preparation, submission or negotiation of a covered Federal action. Thus, for example, communications with the intent to influence made by a lawyer that do not provide legal advice or analysis directly and solely related to the legal aspects of his or her client's proposal, but generally advocate one proposal over another are not allowable under this Section because the lawyer is not providing professional legal services. Similarly, communications with the intent to influence made by an engineer providing an engineering analysis prior to the preparation or submission of a bid or proposal are not allowable under this Section since the engineer is providing technical services but not directly in the preparation, submission or negotiation of a covered Federal action.

(iii) Requirements imposed by or pursuant to law as a condition for receiving a covered Federal award include those required by law or regulation, or reasonably expected to be required by law or regulation, and any other requirements in the actual award documents.

(iv) Only those services expressly authorized by subparagraph B. 2.) b. this Section are allowable under subparagraph B. 2.) b.

c. Reporting for Own Employees.

No reporting is required with respect to payments of reasonable compensation made to regularly employed officers or employees of a person.

d. Professional and technical services by Other than Own Employees.

(i) The prohibition on the use of appropriated funds, in subparagraph B. 1.) of this Section, does not apply in the case of any reasonable payment to a person, other than an officer or employee of a person requesting or receiving a covered Federal action, if the payment is for professional or technical services rendered directly in the preparation, submission, or negotiation of any bid, proposal, or application for that Federal contract or for meeting requirements imposed by or pursuant to law as a condition for receiving that Federal contract.

(ii) For purposes of subparagraph B. 2.) d. (i) of this Section, "professional and technical services" shall be limited to advice and analysis directly applying any professional or technical discipline. For example, drafting of

a legal document accompanying a bid or proposal by a lawyer is allowable. Similarly, technical advice provided by an engineer on the performance or operational capability of a piece of equipment rendered directly in the negotiation of a contract is allowable. However, communications with the intent to influence made by a professional
(such as a licensed lawyer) or a technical person (such as a licensed accountant) are not allowable under this Section unless they provided advice and analysis directly applying their professional or technical expertise and unless the advice or analysis is rendered directly and solely in the preparation, submission or negotiation of a covered Federal action. Thus, for example, communications with the intent to influence made by a lawyer that do not provide legal advice or analysis directly and solely related to the legal aspects of his or her client's proposal, but generally advocate one proposal over another are not allowable under this Section because the lawyer is not providing professional legal services. Similarly, communications with the intent to influence made by an engineer providing an engineering analysis prior to the preparation or submission of a bid or proposal are not allowable under this Section since the engineer is providing technical services but not directly in the preparation, submission or negotiation of a covered Federal action.

(iii) Requirements imposed by or pursuant to law as a condition for receiving a covered Federal award include those required by law or regulation, or reasonably expected to be required by law or regulation, and any other requirements in the actual award documents.

(iv) Persons other than officers or employees of a person requesting or receiving a covered Federal action include consultants and trade associations.

(v) Only those services expressly authorized by subparagraph B. 2.) d. of this Section are allowable under subparagraph B. 2.) d.

C. Disclosure.

1. Each person who requests or receives from the Authority a Contract with Federal assistance shall file with the Authority a certification entitled "Certification Regarding Lobbying Pursuant to 31 U.S.C. 1352," as set forth in the Appendix to this Attachment that the person has not made, and will not make, any payment prohibited by subparagraph B. of this Clause.

2. Each person who requests or receives from the Authority a Contract with Federal assistance shall file with the Authority a disclosure form entitled "Disclosure of Lobbying Activities Pursuant to 31 U.S.C. 1352" (Standard Form-LLL), as set forth in the Appendix to this Attachment, if such person has made or has agreed to make any payment using non-appropriated funds (to include profits from any covered Federal action), which would be prohibited under subparagraph B. of this Clause if paid for with appropriated funds.

3. Each person shall file a disclosure form at the end of each calendar quarter in which there occurs any event that requires disclosure or that materially affects the accuracy of the information contained in any disclosure form previously filed by such person under subparagraph C.2) of this Section. An event that materially affects the accuracy of the information reported includes:

a. A cumulative increase of $25,000 or more in the amount paid or expected to be paid for influencing or attempting to influence a covered Federal action; or

b. A change in the person(s) or individual(s) influencing or attempting to influence a covered Federal action; or

c. A change in the officer(s), employee(s), or Member(s) contacted to influence or attempt to influence a covered Federal action.

4. Any person who requests or receives from a person referred to in subparagraph C.1) of this Section a subcontract exceeding $100,000 at any tier under a Federal contract shall file a certification, and a disclosure form, if required, to the next tier above.

5. All disclosure forms, but not certifications, shall be forwarded from tier to tier until received by the person referred to in subparagraph C.1) of this Section. That person shall forward all disclosure forms to the Authority.

D. Agreement.
In accepting any contract resulting from this solicitation, the person submitting the offer agrees not to make any payment prohibited by this Clause.

E. Penalties.
1. Any person who makes an expenditure prohibited under subparagraph A of this Clause shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such expenditure.

2. Any person who fails to file or amend the disclosure form to be filed or amended if required by the Clause, shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

3. Contractors may rely without liability on the representations made by their Subcontractors in the certification and disclosure form.

F. Cost Allowability.
Nothing in this Clause is to be interpreted to make allowable or reasonable any costs which would be unallowable or unreasonable in accordance with Part 31 of the Federal Acquisition Regulation. Conversely, costs made specifically unallowable by the requirements in this Clause will not be made allowable under any of the provisions of Part 31 of the Federal Acquisition Regulation.

7. **ACCESS TO RECORDS AND REPORTS**

The Contractor agrees to provide the Authority, the FTA Administrator, the Comptroller General of the United States or any of their authorized representatives access to any books, documents, papers and records of the Contractor which are directly pertinent to this Contract for the purposes of making audits, examinations, excerpts and transcriptions. The Contractor also agrees, pursuant to 49 CFR 633.15 to provide the FTA Administrator or his authorized representatives including any PMO Contractor access to the Contractor's records and construction sites pertaining to the project.

The Contractor agrees to provide the Authority, FTA Administrator, the Comptroller General of the United States or any of their duly authorized representatives with access to any books, documents, papers and record of the Contractor which are directly pertinent to this Contract for the purposes of making audits, examinations, excerpts and transcriptions.

The Contractor shall make available records related to the contract to the Authority, the Secretary of Transportation and the Comptroller General or any authorized officer or employee of any of them for the purposes of conducting an audit and inspection.

The Contractor agrees to permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.

The Contractor agrees to maintain all books, records, accounts and reports required under this Contract for a period of not less than three (3) years after final payment is made by the Authority and all other pending matters are closed, except in the event of litigation or settlement of claims arising from the performance of this Contract, in which case the Contractor agrees to maintain same until the Authority, the FTA Administrator, the Comptroller General, or any of their duly authorized representatives, have disposed of all such litigation, appeals, claims or exceptions related thereto.

This requirement is independent of the Authority's requirements for record retention contained elsewhere in the contract documents.

8. CIVIL RIGHTS

A. Nondiscrimination - In accordance with Title VI of the Civil Rights Act, as amended, 42 U.S.C. § 2000d, section 303 of the Age Discrimination Act of 1975, as amended, 42 U.S.C. § 6102, and section 202 of the Americans with Disabilities Act of 1990, 42 U.S.C. § 12132, the Contractor agrees that it will not discriminate against any employee or applicant for employment because of race, color, creed, national origin, sex, age, or disability. In addition, the Contractor agrees to comply with applicable Federal implementing regulations and other implementing requirements FTA may issue.

B. Equal Employment Opportunity - The following equal employment opportunity requirements apply to the underlying contract:

i. Race, Color, Creed, National Origin, Sex - In accordance with Title VII of the Civil Rights Act, as amended, 42 U.S.C. § 2000e, and Federal transit laws at 49 U.S.C. § 5332, the Contractor agrees to comply with all applicable equal employment opportunity requirements of U.S. Department of Labor (U.S. DOL) regulations, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor," 41 C.F.R. Parts 60 *et seq.*, (which implement Executive Order No. 11246, "Equal Employment Opportunity," as amended by Executive Order No. 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," 42 U.S.C. § 2000e note), and with any applicable Federal statutes, executive orders, regulations, and Federal policies that may in the future affect construction activities undertaken in the course of the Project. The Contractor agrees to take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, creed, national origin, sex, or age. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.

ii. Age - In accordance with section 4 of the Age Discrimination in Employment Act of 1967, as amended, 29 U.S.C. § 623, the Contractor agrees to refrain from discrimination against present and prospective employees for reason of age. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.

iii. Disabilities - In accordance with section 102 of the Americans with Disabilities Act, as amended, 42 U.S.C. § 12112, the Contractor agrees that it will comply with the requirements of U.S. Equal Employment

Opportunity Commission, "Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act," 29 C.F.R. Part 1630, pertaining to employment of persons with disabilities. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.

C. The Contractor also agrees to include these requirements in each subcontract related to this project, modified only if necessary to identify the affected parties.

9. **SEISMIC SAFETY**

If this is a contract for the construction of new buildings or additions to existing buildings, the Contractor agrees that any new building or addition to an existing building will be constructed in accordance with standards for Seismic Safety required in Department of Transportation Seismic Safety Regulations 49 CFR Part 41 and will certify compliance to the extent required by the regulation. The Contractor also agrees to ensure that all work performed under this Contract including work performed by a subcontractor is in compliance with the standards required by the Seismic Safety Regulations and the certification of compliance. The completed certification of compliance is to be submitted to the Engineer. The seismic safety standards applicable to this Contract are contained in Section 2312 ICBO Uniform Building Code (UBC), as modified by the Appendix to Title 27, Chapter 1 (Volume 7), of the Administrative Code and Charter of the City of New York at RS 9-6 Earthquake Loads.

10. **ENERGY CONSERVATION**

The Contractor agrees to comply with the mandatory energy efficiency standards and policies within the applicable State energy conservation plans issued in compliance with the Energy Policy and Conservation Act, 42 U.S.C. §6321 et seq. The Contractor also agrees to ensure that all work performed under this Contract including work performed by a Subcontractor is in compliance with the requirements of this Section.

11. **CLEAN WATER REQUIREMENTS – CONTRACTS EXCEEDING $100,000**

A. The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 USC §1251 et seq.

B. The Contractor agrees to report each violation to the Authority and understands and agrees that the Authority will, in turn, report each violation as required to assure notification to FTA and the appropriate EPA Regional Office.

C. The Contractor also agrees to include the requirements of this Article in all subcontracts exceeding $100,000 issued pursuant to this Contract.

12. CLEAN AIR REQUIREMENTS – CONTRACTS EXCEEDING $100,000

A. The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 USC §7401 et seq. The Contractor agrees to report each violation to the Authority and understands and agrees that the Authority will, in turn, report each violation as required to assure notification to FTA and the appropriate EPA Regional Office.

B. The Contractor also agrees to include the requirements of this Clause in all subcontracts exceeding $100,000 issued pursuant to this Contract.

13. FLY AMERICA

The Federal Government will not participate in the costs of international air transportation of any persons involved in or property acquired for the Project unless that air transportation is provided by U.S.-flag air carriers to the extent service by U.S.-flag air carriers is available, in accordance with the International Air Transportation Fair Competitive Practices Act of 1974, as amended, 49 U.S.C. § 40118, and with U.S. GSA regulations, "Use of United States Flag Air Carriers," 41 C.F.R. §§ 301-10.131 through 301-10.143.

14. CONTRACTS INVOLVING FEDERAL PRIVACY ACT REQUIREMENTS

The following requirements apply to the Contractor and its employees that administer any system of records on behalf of the Federal Government under any contract:

A. The Contractor agrees to comply with, and assures the compliance of its employees with, the information restrictions and other applicable requirements of the Privacy Act of 1974, 5 U.S.C. § 552a. Among other things, the Contractor agrees to obtain the express consent of the Federal Government before the Contractor or its employees operate a system of records on behalf of the Federal Government. The Contractor understands that the requirements of the Privacy Act, including the civil and criminal penalties for violation of that Act, apply to those individuals involved, and that failure to comply with the terms of the Privacy Act may result in termination of the underlying contract.

B. The Contractor also agrees to include these requirements in each subcontract to administer any system of records on behalf of the Federal Government financed in whole or in part with Federal assistance provided by FTA.

15. PREFERENCE FOR RECYCLED PRODUCTS

The Contractor agrees to comply with all the requirements of Section 6002 of the Resource Conservation and Recover Act (RCRA), as amended (42.U.S.C. 6962), including but not limited to the regulatory provisions of 40 CFR Part 247, and Executive Order 12873, as they apply to the procurement of the items designated in Subpart B of 40 CFR Part 247.

16. PROGRAM FRAUD AND FALSE OR FRAUDULENT STATEMENTS OR RELATED ACTS.

A. The Contractor acknowledges that the provisions of the Program Fraud Civil Remedies Act of 1986, as amended, 31 U.S.C. § 3801 *et seq.* and U.S. DOT regulations, "Program Fraud Civil Remedies," 49 CFR Part 31, apply to its actions pertaining to this Project. The Contractor certifies or affirms the truthfulness and accuracy of any statement it has made, it makes, it may make, or causes to be made, pertaining to the contract or project. In addition to other penalties that may be applicable, the Contractor further acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification, the Federal Government reserves the right to impose the penalties of the Program Fraud Civil Remedies Act of 1986 on the Contractor to the extent the Federal Government deems appropriate.

B. The Contractor also acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification to the Federal Government under this Contract, financed in whole or in part with Federal assistance, the Federal Government reserves the right to impose the penalties of 18 U.S.C. § 1001 and 49 U.S.C. § 5307(n)(1) on the Contractor, to the extent the Federal Government deems appropriate.

C. The Contractor agrees to include the above two clauses in each subcontract related to this Contract. It is further agreed that the clauses shall not be modified, except to identify the subcontractor who will be subject to the provisions.

17. TRANSIT EMPLOYEE PROTECTIVE REQUIREMENTS

To the extent that FTA determines that transit operations are involved, the Contractor agrees to carry out the transit operations work on the underlying contract in compliance with terms and conditions determined by the U.S. Secretary of Labor to be fair and equitable to protect the interests of employees employed under this Contract and to meet the employee protective requirements of 49 U.S.C. A 5333(b), and U.S. DOL guidelines at 29 C.F.R. Part 215, and any amendments thereto. These terms and conditions are identified in the letter of certification from the U.S. DOL to FTA applicable to the FTA Recipient's project from which Federal assistance is provided to support work on the underlying contract. The Contractor agrees to carry out that work in compliance with the

conditions stated in that U.S. DOL letter. The requirements of this subsection (1), however, do not apply to any contract financed with Federal assistance provided by FTA either for projects for elderly individuals and individuals with disabilities authorized by 49 U.S.C. § 5310(a)(2), or for projects for nonurbanized areas authorized by 49 U.S.C. § 5311. Alternate provisions for those projects are set forth in subsections (b) and (c) of this clause.

CERTIFICATION REGARDING LOBBYING PURSUANT TO 31 U.S.C. 1352

The undersigned IRA ALLAN LEVY

(name of authorized officer)

certifies, to the best of my knowledge and belief, that:

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any public agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement or the award of the contract associated with this Certification.

2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any public agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, or the contract associated with this Certification, the undersigned shall complete and submit Standard Form LLL, "Disclosure of Lobbying, Activities" in accordance with its instructions.

3. The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by, 31, U.S. C. § 1352 (as amended by the Lobbying Disclosure Act of 1995). Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

Note: Pursuant to 31 U.S.C § 1352(c)(I)-(2)(A), any person who makes a prohibited expenditure or fails to file or amend a required certification or disclosure form shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such expenditure or failure.

The Contractor, certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. § 3801, et seq., apply to this certification and disclosure, if any.

Executed this day NINETEENTH of MAY, 2006.

By: Ira Allan Levy Signature of Authorized Official

EXECUTIVE VICE PRESIDENT Official Name and Title of Authorized Official

DMJM - HARRIS, INC

CERTIFICATION REGARDING LOBBYING PURSUANT TO 31 U.S.C. 1352

The undersigned

Dominick M. Servedio

(name of authorized officer)

certifies, to the best of my knowledge and belief, that:

1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any public agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement or the award of the contract associated with this Certification.

2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any public agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, or the contract associated with this Certification, the undersigned shall complete and submit Standard Form LLL, "Disclosure of Lobbying, Activities" in accordance with its instructions.

3. The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by, 31, U.S. C. § 1352 (as amended by the Lobbying Disclosure Act of 1995). Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

Note: Pursuant to 31 U.S.C § 1352(c)(I)-(2)(A), any person who makes a prohibited expenditure or fails to file or amend a required certification or disclosure form shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such expenditure or failure.

The Contractor, certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. § 3801, et seq., apply to this certification and disclosure, if any.

Executed this day 22nd of May, 2006.

By: _____ Signature of Authorized Official

Chairman, CEO, STV Official Name and Title of Authorized Official

STANDARD FORM LLL - DISCLOSURE OF LOBBYING ACTIVITIES PURSUANT TO 31 U.S.C. 1352

1. Type of Federal Action:
[ ] a. contract
b. grant
c. cooperative agreement
d. loan
e. loan guarantee
f. loan insurance

2. Status of Federal Action:
[ ] a. bid//offer/application
b. Initial award
c. post-award

3. Report Type:
[ ] a. initial filing
b. material change
For Material Change Only:
year quarter
date of last report

4. Name and Address of Reporting Entity:
Prime Subawardee
Tier___, *if known:*
Congressional District, *if known:*

5. If Reporting Entity in No.4 is a Subawardee, Enter Name and Address of Prime:
Congressional District, *if known:*

6. Federal Department/Agency:

7. Federal Program Name/Description:
CFDA Number, *if applicable:*

8. Federal Action Number, *if known:*

9. Award Amount, *if known:*
$

10. a. Name and Address of Lobbying Registrant *(if individual, last name, first name, MI):*

b. Individuals Performing Services *(including address if different from No.10a) (last name, first name, MI):*

11. Information requested through this form is authorized by Title 31 U.S.C. Section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when this transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to the Congress semi-annually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than $10,000 and not more that $100,000 for such failure.

Signature_____

Print Name

Title

Telephone No. Date:

INSTRUCTIONS FOR COMPLETION OF DISCLOSURE OF LOBBYING ACTIVITIES

This disclosure form shall be completed by the reporting entity, whether subawardee or prime Federal recipient, at the initiation or receipt of a covered Federal action, or a material change to a previous filing, pursuant to title 31 U.S.C. section 1352. The filing of a form is required for each payment or agreement to make payment to any lobbying entity for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with a covered Federal action. Complete all items that apply for both the initial filing and material change report. Refer to the implementing guidance published by the Office of Management and Budget for additional information.

1. Identify the type of covered Federal action for which lobbying activity is and/or has been secured to influence the outcome of a covered Federal action.

2. Identify the status of the covered Federal action.

3. Identify the appropriate classification of this report. If this is a follow-up report caused by a material change to the information previously reported, enter the year and quarter in which the change occurred. Enter the date of the last previously submitted report by this reporting entity for this covered Federal action.

4. Enter the full name, address, city, State and zip code of the reporting entity. Include Congressional District, if known. Check the appropriate classification of the reporting entity that designates if it is, or expects to be, a prime or subaward recipient. Identify the tier of the subawardee, e.g., the first subawardee of the prime is the 1st tier. Subawards include but are not limited to subcontracts, subgrants and contract awards under grants.

5. If the organization filing the report in item 4 checks "Subawardee," then enter the full name, address, city, State and zip code of the prime Federal recipient. Include Congressional District, if known.

6. Enter the name of the Federal agency making the award or loan commitment. Include at least one organizational level below agency name, if known. For example, Department of Transportation, United States Coast Guard.

7. Enter the Federal program name or description for the covered Federal action (item 1). If known, enter the full Catalog of Federal Domestic Assistance (CFDA) number for grants, cooperative agreements, loans, and loan commitments.

8. Enter the most appropriate Federal identifying number available for the Federal action identified in item 1 (e.g., Request for Proposal (RFP) number; Invitation for Bid (IFB) number; grant announcement number; the contract, grant, or loan award number; the application/proposal control number assigned by the Federal agency). Include prefixes, e.g., "RFP-DE-90-001."

9. For a covered Federal action where there has been an award or loan commitment by the Federal agency, enter the Federal amount of the award/loan commitment for the prime entity identified in item 4 or 5.

10. (a) Enter the full name, address, city, State and zip code of the lobbying registrant under the Lobbying Disclosure Act of 1995 engaged by the reporting entity identified in item 4 to influence the covered Federal action.

(b) Enter the full names of the individual(s} performing services, and include full address if different from 10 (a). Enter Last Name, First Name, and Middle Initial (MI).

11. The certifying official shall sign and date the form, print his/her name, title, and telephone number. According to the Paperwork Reduction Act, as amended no persons are required to respond to a collection of information unless it displays a valid OMB Control Number. The valid OMB control number for this information collection is OMB No. 0348-0046. Public reporting burden for this collection of information is estimated to average 10 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0046), Washington, DC 20503.

CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION - LOWER TIER COVERED TRANSACTIONS

1. The lower tier participant,

STV Incorporated, certifies, that as of October 6, 2003, the date of award of P.A. Agreement 407-03-013 that neither it nor its principals were debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency and that as of the date of execution of this Certification, that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency..

2. Where the prospective lower tier participant is unable to certify to any of the statements in this Certification, such prospective participant shall attach an explanation to this Certification.

3. The prospective lower tier participant shall provide immediate written notice to the Authority (and the Contractor, if applicable) if at any time the prospective lower tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

Executed this day 22nd of May, 2006.

By Signature of Authorized Official

Name and Title of Authorized Official Dominick M. Servedio
Chairman, CEO
STV

CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION - LOWER TIER COVERED TRANSACTIONS

1. The lower tier participant,

DMJM - HARRIS, INC., certifies, that as of October 6, 2003, the date of award of P.A. Agreement 407-03-013 that neither it nor its principals were debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency and that as of the date of execution of this Certification, that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency..

2. Where the prospective lower tier participant is unable to certify to any of the statements in this Certification, such prospective participant shall attach an explanation to this Certification.

3. The prospective lower tier participant shall provide immediate written notice to the Authority (and the Contractor, if applicable) if at any time the prospective lower tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

Executed this day NINETEENTH of MAY, 2006.

By Signature of Authorized Official

Name and Title of Authorized Official EXECUTIVE VICE PRESIDENT DMJM - HARRIS, INC.

INSTRUCTIONS FOR COMPLETION OF CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION - LOWER TIER COVERED TRANSACTIONS

1. The signed certification is a material representation of fact. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the Authority may pursue available remedies, including suspension and/or debarment.

2. The prospective lower tier participant shall provide immediate written notice to the Authority if at any time the prospective lower tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

3. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "persons," "lower tier covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549 [49 CFR Part 29]. The Proposer may contact the Procurement Representative for assistance in obtaining a copy of those regulations.

4. The prospective lower tier participant agrees that it has not, since entering into the Contract, and shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized in writing by the Authority.

5. The prospective lower tier participant further agrees that it will include the "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

6. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List issued by U.S. General Service Administration.

7. Nothing contained in the foregoing shall be construed to require establishment of system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

8. Except for transactions authorized under sub-paragraph 4 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to all remedies available to the Federal Government, the Authority may pursue available remedies including suspension and/or debarment.

ATTACHMENT

UNITED STATES OF AMERICA
DEPARTMENT OF TRANSPORTATION
FEDERAL TRANSIT ADMINISTRATION

MASTER AGREEMENT
FOR "LOWER MANHATTAN RECOVERY GRANTS"

For Federal Transit Administration Agreements authorized by the 2001 Emergency Supplemental Appropriations Act for Recovery from and Response to Terrorist Attacks on the United States, Public Law 107-38; the National Defense Authorization Act for Fiscal Year 2002, Public Law 107-107; the Fiscal Year 2002 Department of Defense Appropriations Act, Public Law 107-117; the Fiscal Year 2002 Department of Transportation and Related Agencies Appropriations Act, Public Law 107-206; the Consolidated Appropriations Resolution, 2003, Public Law 208-7; the Robert T. Stafford Disaster Relief and Emergency Assistance Act, Public Law 93-288, 42 U.S.C. § 5121-5206; and/or other Federal enabling legislation

N.B. *This Agreement is based on the standard FTA Master Agreement which is incorporated by reference in all FTA* grants and cooperative agreements. Inapplicable provisions of that agreement are marked "Not Applicable" in this Agreement and left in place for the benefit of Recipients who also receive funds authorized under the Federal Transit Laws who are familiar with the section numbers.

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UNITED STATES DEPARTMENT OF TRANSPORTATION
FEDERAL TRANSIT ADMINISTRATION

LOWER MANHATTAN RECOVERY MASTER AGREEMENT

The following terms and conditions apply to the Federal assistance authorized by the 2001 Emergency Supplemental Appropriations Act for Recovery from and Response to Terrorist Attacks on the United States, Public Law 107-38; the National Defense Authorization Act for Fiscal Year 2002, Public Law 107-107; the Fiscal Year 2002 Department of Defense Appropriations Act, Public Law 107-117; the Fiscal Year 2002 Department of Transportation and Related Agencies Appropriations Act, Public Law 107-206; the Consolidated Appropriations Resolution, 2003, Public Law 208-7; the Consolidated Appropriations Resolution, 2003, Public Law 208-7; the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), Public Law 93-288; and/or other Federal enabling legislation administered by FTA.

This Agreement includes a comprehensive listing of requirements applicable to the various Projects that will be funded under the authorities listed above. Not every provision of this Agreement will apply to every Project for which FTA provides Federal financial assistance through a Grant Agreement. The type of Project, the federal statute authorizing financial assistance for the Project, and the legal status of the Recipient as a "State" or "local government" will determine which requirements apply. Requirements that do not apply will not be enforced. The provisions of this Agreement will continue to apply to the Project unless or until modified or superseded by subsequent Federal requirements or Agreements.

Thus, in consideration of the mutual covenants, promises, and representations herein, FTA and the Recipient agree as follows:

Section 1. Definitions.

a. Application means the electronically signed and dated request for Federal financial assistance, including any amendment thereto, with all explanatory, supporting, and supplementary documents filed with and accepted or approved by the FTA by or on behalf of the Recipient.

b. Approval, Authorization, Concurrence, Waiver means a written statement (transmitted electronically or in hard copy) by a Federal Government official authorized to permit the Recipient to perform or omit an action required by this Grant Agreement, which action may not be performed or omitted without such permission. Unless stated otherwise, an approval, authorization, concurrence, or waiver permitting the performance or omission of a specific action does not constitute permission to perform or omit other similar actions. **Oral permissions or interpretations have no legal force or effect.**

c. Approved Project Budget means the most recent statement, approved by the FTA, of the costs of the Project, the maximum amount of Federal assistance for which the Recipient is currently eligible, the specific tasks (including specified contingencies) covered, and the estimated cost of each task. As used in the "Approved Project Budget," the term "Scopes" means categories and the term "Scope Level Codes" means category codes. Although "Scopes" and "Scope Level Codes" generally indicate the type of activities encompassed by the Project, the data listed under "Scopes" and "Scope Level Codes" (for example), do not necessarily reflect, and are not intended to be treated as, prima facie evidence of the precise limits or boundaries of a Project, unless stated otherwise. Consequently, the data listed under "Scopes" and "Scope Level Codes" will not always constitute the precise parameters of the scope of the Project. FTA reserves the right to consider other information in determining the "Scope of the Project" when that term is used for legal purposes.

d. Environmental Protection Agency (EPA) is the Federal agency with primary authority to promulgate and enforce legislation to protect the environment.

e. Federal Government means the United States of America, including any executive department or agency thereof.

f. Federal Transit Administration (FTA) is the Federal agency designated to award funds and oversee implementation of the project. Any reference to the Urban Mass Transportation Administration is deemed a reference to the Federal Transit Administration.

g. Federal Transit Administrator also designates the former Urban Mass Transportation Administrator. Any reference in law, map, regulation, document, paper, or other record of the United States to the Urban Mass Transportation Administrator is deemed a reference to the Federal Transit Administrator.

h. "FEMA" is the Federal entity with primary authority to provide federal assistance following a Presidentially-declared major disaster or emergency. It is part of the Emergency Preparedness and Response Directorate of the Department of Homeland Security.

i. FHWA is the acronym for the Federal Highway Administration, an operating administration of the U.S. Department of Transportation (U.S.DOT).

j. FTA is the acronym for the Federal Transit Administration, an operating administration of the U.S. Department of Transportation (U.S. DOT).

k. Grant Agreement means the instrument by which FTA awards Federal assistance to a specific Recipient to support a particular Project in which FTA does not take an active role or retain substantial control, in accordance with the requirements of 31 U.S.C. § 6304. The Grant Agreement consists of the FTA Award establishing the specific parameters of the Project, an Execution statement signed by the Recipient, and may include other Special Conditions or Requirements. This Master Agreement is incorporated by reference and made part of the Grant Agreement.

l. Local Government includes a public transit authority, as well as a county, municipality, city, town, township, special district, council of governments (whether or not incorporated as a private nonprofit organization under State law), regional or interstate government entity, or any agency or instrumentality thereof. For purposes of the New York Recovery funding program, the Port Authority of New York and New Jersey, the New York Mass Transit Administration, and the City of New York are considered local governments.

m. Lower Manhattan Recovery Office (LMRO) is an FTA office with responsibility for carrying out the Lower Manhattan Recovery projects.

n. Project means the activity or activities (task or tasks) listed in Project Description, the Approved Project Budget, and any modifications stated in the Conditions to the Grant Agreement applicable to the Project

o. Recipient means the entity that receives Federal assistance directly from FTA to support the Project. The term "Recipient" includes each FTA "Grantee." Except as FTA permits otherwise, the Recipient is the entire legal entity even if only a single organization within that entity is designated as the Recipient in the Grant Agreement. Unless expressly stated otherwise, in the case of a Recipient that is a consortium, partnership, or similar multi-party entity, each participant in, member of, or party to that consortium, partnership, or multi-party entity is treated as a "Recipient" for purposes of compliance with applicable requirements of this Grant Agreement.

p. Secretary means the U.S. DOT Secretary, including his or her duly authorized designee.

q. Subagreement means an agreement through which a Recipient awards financial assistance derived from FTA to the subrecipient as defined below. The term "subagreement" also includes the term "subgrant," but does not include the term "third party subcontract."

r. Subrecipient means any entity that receives Federal assistance awarded by a FTA Recipient, rather than FTA directly. The term "subrecipient" also includes the term "subgrantee," but does not include "third party contractor" or "third party subcontractor."

s. Third Party Contract means a contract or purchase order awarded by the Recipient or subrecipient to a vendor or contractor, financed in whole or in part with Federal assistance awarded by FTA.

t. Third Party Subcontract means a subcontract at any tier entered into by the third party contractor or third party subcontractor, financed in whole or in part with Federal assistance originally derived from FTA.

u. Transit means transportation by a conveyance, either publicly or privately owned, that provides regular and continuing general or special public transportation to the public, but does not include school bus, charter, or sightseeing transportation. The term "transit" also includes "mass transportation" and "public transportation."

Section 2. Project Implementation.

a. General Requirements.

(1) Project Description. The Recipient shall perform the work described in its Application which is incorporated by reference in the approved Grant.

(2) Effective Date. The effective date of this Agreement is the date on which the FTA Authorized Official signs it.

(3) Recipient's Capacity. The Recipient will maintain or acquire sufficient legal, financial, technical, and managerial capacity to plan, manage, and complete the Project, and provide for the use of Project facilities and equipment, to comply with the terms of the Grant Agreement, the Approved Project Budget, the Project schedules, the Recipient's annual certifications and assurances to FTA, and all applicable Federal laws, executive orders, regulations, directives, and published policies governing this Project.

(4) Completion Dates. The Recipient agrees to complete the Project in a timely manner. Milestone dates and other Project completion dates for the Project are to be treated as good faith estimates rather than precise obligations, except where otherwise provided.

b. U.S. DOT Administrative Requirements. The Recipient acknowledges that Federal administrative requirements differ based on the type of entity receiving Federal assistance: A Recipient that is a State or a local government will comply with U.S. DOT regulations, "Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments," 49 C.F.R. Part 18.

c. Application of Federal, State, and Local Laws and Regulations.

(1) Federal Laws and Regulations. Federal law or specific laws authorizing Project approval control Project implementation. Implementing regulations, policies, and related administrative practices applicable on the effective date of this Grant may be modified after the

date when the Recipient executes the Grant Agreement, and might apply to this project. New Federal laws, regulations, policies, and administrative practices may be promulgated after the date when the Recipient executes the Grant Agreement, and might apply to this project. The most recent of such Federal requirements will govern the administration of the Project at any particular time, unless FTA issues a written determination otherwise. All standards or limits within this Lower Manhattan Recovery Master Agreement are minimum requirements, unless modified by FTA.

(2) State, Territorial, and Local Law. In instances when a Federal statute or regulation pre-empts State, local, or territorial law, the Recipient must abide by the Federal statute or regulation. Otherwise, no provision of this Agreement shall require the Recipient to observe or enforce compliance with any provision, perform any other act, or do any other thing in contravention of State, territorial, or local law. If any provision herein would require the Recipient to violate State, territorial, or local law, the Recipient will notify FTA immediately in writing in order that appropriate action may be taken

d. Recipient's Primary Responsibility to Comply with Federal Requirements. Irrespective of participation by other parties in the Project, and unless notified otherwise in writing by the FTA, the Recipient is ultimately responsible for compliance with all Federal requirements applicable to this Project.

e. Recipient's Responsibility to Extend Federal Requirements to Other Entities. The Recipient is responsible for extending all applicable Federal requirements to all parties participating in the implementation of the Project.

f. No Federal Government Obligations to Third Parties. Absent the Federal Government's express written consent, the Federal Government shall not be subject to any obligations or liabilities to any subrecipient, any third party contractor, or any other person not a party to the Grant Agreement in connection with the performance of the Project. Notwithstanding that the Federal Government may have concurred in or approved any solicitation, subagreement, or third party contract, the Federal Government has no obligations or liabilities to any party, including any subrecipient or any third party contractor.

g. Changes in Project Performance (*i.e.*, Disputes, Breaches, Defaults or Litigation). The Recipient will notify FTA immediately of any change in local law, conditions (such as its legal, financial, or technical capacity), or any other event that may significantly affect the Recipient's ability to perform the Project in accordance with the terms of the Grant Agreement. In addition, the Recipient will notify FTA immediately of any current or prospective major dispute, breach, default, or litigation that may affect the Federal Government's interests in the Project or the Federal Government's administration or enforcement of Federal laws or regulations. The Recipient will inform FTA before naming the Federal Government as a party to litigation for any reason, in any forum.

Section 3. Ethics.

a. Code of Ethics. The Recipient will maintain a written code or standards of conduct that shall govern the performance of its officers, employees, board members, or agents engaged in the award or administration of third party contracts or subagreements supported by Federal assistance. This code or standards of conduct shall provide that the Recipient's officers, employees, board members, or agents may neither solicit nor accept gratuities, favors, or anything of monetary value from any present or potential contractor or subrecipient. The Recipient may set *de minimis* rules where the financial interest is not substantial, or the gift is an unsolicited item of nominal intrinsic value. This code or standards shall also prohibit the Recipient's officers, employees, board members, or agents from using their respective positions for a purpose that constitutes or presents a real or apparent personal or organizational conflict of interest or personal gain. As permitted by State or local law or regulations, the code or standards shall include penalties, sanctions, or other disciplinary actions for violations by the Recipient's officers, employees, board members, or their agents, or by contractors or subrecipients or their agents.

(1) Personal Conflicts of Interest. The Recipient's code or standards of conduct will prohibit the Recipient's employees, officers, board members, or agents from participating in the selection, award, or administration of a third party contract or subagreement supported by Federal funds if a real or apparent conflict of interest would be involved. Such a conflict would arise when any of the following parties has a financial or other interest in the entity selected for award: (a) an employee, officer, board member, or agent; (b) any member of his or her immediate family; (c) his or her partner; or (d) an organization that employs, or intends to employ, any of the above.

(2) Organizational Conflicts of Interest. The Recipient's code or standards of conduct will include procedures for identifying and preventing real and apparent organizational conflicts of interest. An organizational conflict of interest exists when the nature of the work to be performed under a proposed third party contract or subagreement may, without some restrictions on future activities, result in an unfair competitive advantage to the third party contractor or subrecipient or impair its objectivity in performing the contract work.

b. Debarment and Suspension. The Recipient will itself comply, and assure the compliance of each third party contractor and subrecipient at any tier, with Executive Orders Nos. 12549 and 12689, "Debarment and Suspension," 31 U.S.C. § 6101 note, and U.S. DOT regulations, "Governmentwide Debarment and Suspension (Nonprocurement)," within 49 C.F.R. Part 29. Recipients, third party contractors and subrecipients will review the Excluded Parties Listing System at http://epls.arnet.gov before entering into any contracts.

c. Bonus or Commission. The Recipient affirms that it has not paid, and agrees not to pay, any bonus or commission to obtain approval of its Federal assistance application for the Project.

d. Lobbying Restrictions. The Recipient will itself comply and assures the compliance of each third party contractor at any tier and each subrecipient at any tier, with U.S. DOT regulations, "New Restrictions on Lobbying," 49 C.F.R. Part 20, modified as necessary by 31 U.S.C. § 1352.

e. Employee Political Activity. The Recipient will comply with the provisions of the Hatch Act, 5 U.S.C. §§ 1501 - 1508, 7324 - 7326, and U.S. Office of Personnel Management regulations, "Political Activity of State or Local Officers or Employees," 5 C.F.R. Part 151. Note that, in accordance with 23 U.S.C. § 142(g), the Hatch Act does not apply to a nonsupervisory employee of a transit system or of any other agency or entity performing related functions receiving FTA assistance to whom the Hatch Act would otherwise apply.

f. False or Fraudulent Statements or Claims. The Recipient certifies or affirms the truthfulness and accuracy of each statement it has made, it makes, or it may make in connection with the Project covered by the Grant Agreement pursuant to the Program Fraud Civil Remedies Act of 1986, as amended, 31 U.S.C. §§ 3801 *et seq.* and U.S. DOT regulations, "Program Fraud Civil Remedies," 49 C.F.R. Part 31 and 18 U.S.C. § 1001.

Section 4. Federal Financial Assistance.

FTA will provide Federal financial assistance for the Project in an amount up to one hundred percent (100%) of the eligible project costs consistent with the approved Project scope and budget.

Section 5. Local Share.

If the Recipient provides a local share for the Project, the Recipient agrees as follows:

a. Restrictions on the Source of the Local Share. Except as permitted otherwise by Federal law, the Recipient agrees to provide sufficient funds that, together with the Federal financial assistance awarded, will ensure payment of the actual cost of each Project activity covered by the Grant Agreement. The Recipient agrees that no local share funds provided will be derived from receipts from the use of Project facilities or equipment, revenues of the transit system in which such facilities or equipment are used, or other Federal funds, except as permitted by law.

b. Duty to Obtain the Local Share. Unless FTA otherwise approves, the Recipient agrees to complete all proceedings necessary to provide the local share of the Project costs at or before the time those funds are needed to meet Project expenses.

c. Calculation of the Local Share. Unless FTA expressly approves otherwise in writing, the Recipient agrees that the local share will apply to each Project activity in the Grant Agreement.

d. Completion of Project with Local Funds. If the Project expenses exceed the approved Project budget, additional funds to complete the Project must be made available from non-federal sources.

Section 6. Approved Project Budget.

The Recipient will prepare a Project budget which, upon approval by FTA, is designated the

"Approved Project Budget." The Recipient will incur obligations and make disbursements of Project funds only as authorized in the latest Approved Project Budget. The latest Approved Project Budget is incorporated herein by reference and made part the Grant Agreement for the Project.

An amendment to the Approved Project Budget requires the issuance of a formal amendment to the Grant Agreement, except that re-allocation of funds among budget items or fiscal years that does not increase the total amount of the Federal financial assistance awarded may be made in accordance with applicable Federal regulations and directives. Prior FTA approval is required when funds are to be transferred from non-construction to construction categories or vice versa or when, in non-construction grants, cumulative transfers of funds between total direct cost categories exceed ten percent of the total budget.

The Recipient shall obtain prior written approval for any budget revision that would result in the need for additional funds. Award of additional Federal financial assistance requires a new Approved Project Budget.

If a Recipient estimates that it will have unobligated funds remaining after the end of the performance period, the recipient should report this to FTA at the earliest possible time and ask for disposition instructions.

Section 7. Accounting Records.

a. Project Accounts. The Recipient will establish and maintain for the Project either a separate set of accounts, or separate accounts within the framework of an established accounting system, that can be identified with the Project, in accordance with applicable Federal regulations and other requirements that FTA may impose. The Recipient agrees that all checks, payrolls, invoices, contracts, vouchers, orders, or other accounting documents related in whole or in part to the Project shall be clearly identified, readily accessible and available to FTA upon its request, and, to the extent feasible, kept separate from documents not related to the Project.

b. Funds Received or Made Available for the Project. The Recipient will deposit, in a financial institution, all advance Project payments it receives from the Federal Government and record in the Project Account all amounts provided by the Federal Government in support of the Project and all other funds provided for, accruing to, or otherwise received on account of the Project (Project funds) in accordance with applicable Federal regulations and other requirements FTA may impose.

c. Documentation of Project Costs and Program Income. The Recipient will support all costs charged to the Project, including any approved services contributed by the Recipient or others, with properly executed payrolls, time records, invoices, contracts, or vouchers describing in detail the nature and propriety of the charges. The Recipient also will maintain accurate records of all program income derived from implementing the Project, except certain income determined by FTA to be exempt from the general Federal program income requirements.

d. Checks, Orders, and Vouchers. The Recipient will refrain from drawing checks, drafts, or orders for goods or services to be charged against the Project Account until it has received and filed a properly signed voucher describing in proper detail the purpose for the expenditure.

Section 8. Reporting, Record Retention, and Access.

a. Types of Reports. The Recipient will submit to FTA the reports specified in this Agreement, the Lower Manhattan Recovery Program Guidance and any other reports the Federal Government may require.

b. Format Requirements for Reports. All reports and other documents or information intended for public availability developed in the course of the Project and required to be submitted to FTA must be prepared and submitted in electronic and or hard copy formats as FTA may require. Electronic submissions must comply with the electronic accessibility requirements of Subsection 12.g, and Section 15.s of this Lower Manhattan Recovery Master Agreement. FTA may require records to be submitted in other formats.

c. Timing of Filing Reports. The Grantee shall electronically submit financial reports (Financial Status Report) and milestone reports to FTA within thirty (30) calendar days after the end of each quarter of the performance period (normally the Federal fiscal quarter). Reports are due by January 31, April 30, July 31, and December 31, unless notified otherwise in writing by FTA.

d. Record Retention. The Recipient will maintain intact and readily accessible data, documents, reports, records, contracts, and supporting materials relating to the Project as the Federal Government may require during the course of the Project and for three years thereafter from the date of transmission of the final expenditure report.

e. Access to Records of Recipients and Subrecipients. Upon request, the Recipient will permit, and require its Subrecipients to permit, the U.S. Secretary of Transportation, the Comptroller General of the United States, and, to the extent appropriate, the State, or their authorized representatives, to inspect all Project work, materials, payrolls, and other data, and to audit the books, records, and accounts of the Recipient and its Subrecipients pertaining to the Project.

f. Project Closeout. Project closeout does not alter the reporting and record retention requirements of this Section 8 of this Lower Manhattan Recovery Master Agreement.

Section 9. Payments.

a. Recipient's Request for Payment. To obtain a Federal assistance payment for the Project from FTA, the Recipient will:

(1) Submit to FTA all financial and progress reports required to date by this Agreement, and

(2) Identify the source(s) of financial assistance provided for the Project from which the payment is to be derived.

b. Payment by FTA. FTA will make all payments through the Automated Clearing House (ACH) method of payment, regardless of the amount involved but not before execution of this Agreement.

(1) Electronic Clearing House Operation Payments. If payment is made through the FTA Electronic Clearinghouse Operation (ECHO) using an ECHO Control Number, the Recipient will comply with: FTA's ECHO requirements that implement U.S. Department of Treasury Circular 1075, Part 205, "Withdrawal of Cash from the Treasury for Advances Under Federal Grants and Other Programs;" Treasury Financial Manual, Vol. 1, Part 6, Chapter 2000; the ECHO System Operations Manual, "Guidelines for Disbursements" used for FTA Projects; and the requirements of this Subsection 9.b(1). If the Recipient fails to comply with the following requirements of this Subsection 9.b (1), the Federal Government may revoke the unexpended portion of Federal assistance awarded for the Project.

(a) The Recipient may draw down cash only when an expense is incurred and cash is needed for immediate disbursement required for Project purposes. Unless provided otherwise by Federal law or regulation, the Recipient will expend all Federal funds obtained under the Project for Project purposes no later than three (3) working days after receiving those funds. If the Recipient fails to expend those Federal assistance funds within three (3) working days of their receipt or fails to return those funds to FTA within a reasonable period, or fails to establish procedures to minimize the time elapsing between cash advances and the disbursement, the Federal Government may revoke or temporarily suspend the Recipient's ECHO Control Number and the Recipient's access to the ECHO System. In addition, a Recipient's failure to adhere to these requirements may result in other remedies or penalties authorized by Federal law or regulation.

(b) The Recipient will report its cash disbursements and balances promptly in compliance with Federal requirements.

(c) The Recipient will provide for control and accountability for all Project funds consistent with Federal requirements and procedures for use of the ECHO system.

(d) The Recipient will not draw down funds for a Project in an amount exceeding the sum obligated by the Federal Government or the current available balance for that Project.

(e) The Recipient will draw down funds only for allowable and eligible Project costs.

(f) The Recipient will refrain from drawing down Federal assistance until needed for disbursement.

(g) The Recipient will notify the LMRO when a single draw down will exceed $50 million three days before the drawdown is anticipated.

(h) The Recipient will remit interest to the Federal Government on any Federal assistance prematurely drawn down, irrespective of whether that Federal assistance has been deposited in an interest-bearing account. A debt for any premature draw down of Federal assistance funds does not qualify as a "claim" covered by the Debt Collection Act of 1982, as amended, 31 U.S.C. §§ 3701 through 3720. Thus, the interest provisions of this Subsection 9.b (1)(h) of this Lower Manhattan Recovery Master Agreement, rather than the interest provisions of the Debt Collection Act of 1982, as amended, will determine amount of interest due on any debt for Federal assistance prematurely drawn down. A Recipient that is a State or State instrumentality will remit interest to the Federal Government calculated as provided by U.S. Department of Treasury regulations, "Rules and Procedures for Funds Transfers," 31 C.F.R. Part 205 that implement section 5(b) of the Cash Management Improvement Act of 1990, as amended, 31 U.S.C. § 6503(b). Interest on any debt that a State or state instrumentality may incur for Federal assistance prematurely drawn down does not qualify for the interest exemption of the Debt Collection Act of 1982, as amended, 31 U.S.C. §§ 3701 and 3717.

(2) Requisition. If the requisition method of payment is used, the Recipient will:

(a) Complete and submit the "Payment Information Form - ECHO-ACH Payment System," Revised 10/92, to FTA's Accounting Division, and

(b) Complete and submit Standard Form 270, "Request for Advance or Reimbursement," to the FTA LMRO.

Upon receiving a request for payment and adequate supporting information, FTA will approve payment by direct deposit, provided that the Recipient is in compliance with the requirements of the Grant Agreement, has satisfied FTA that the Federal funds requested are needed in that requisition period, and is making adequate progress toward Project completion. After these requirements have been fulfilled, the Federal Government may reimburse the apparent allowable costs incurred (or to be incurred in the requisition period), not to exceed the maximum amount of Federal funds payable through the Federal fiscal year of that requisition, as set forth in the Approved Project Budget for the Project.

c. Costs Reimbursed. Project costs, to be eligible for Federal participation, must:

(1) Conform to the Project Description, the Approved Project Budget, and all other terms of the Grant Agreement,

(2) Be necessary in order to accomplish the Project,

(3) Be reasonable for the goods or services purchased,

(4) Be actual net costs to the Recipient (*i.e.*, the price paid minus any refunds, rebates, or other items of value received by the Recipient that have the effect of reducing the cost actually incurred, excluding program income),

(5) Be incurred for work performed after the Effective Date of the Grant Agreement, unless

the Federal Government has provided otherwise in writing,

(6) Be satisfactorily documented,

(7) Be treated consistently in accordance with accounting principles and procedures approved by the Federal Government for the Recipient, and with accounting principles and procedures approved by the Recipient for its contractors,

(8) Be eligible under Federal law, regulation, or guidelines for Federal participation,

(9) Comply with the provisions of OMB Circular A-87, Revised, "Cost Principles for State and Local Governments," and

(10) Comply with 44 CFR Subchapter D, Subparts G, H and I and implementing policies and administrative guidance if funding for the Project is authorized by the Stafford Act.

d. Bond Interest and Other Financing Costs. To the extent permitted in writing by FTA, bond interest and other similar financing costs are allowable. FTA's participation in Project interest costs will be limited to an amount that does not exceed the most favorable financing terms reasonably available for the Project at the time of borrowing. For projects funded with FEMA funds, financing costs are not an allowable cost.

e. Excluded Costs:

(1) In determining the amount of Federal assistance FTA will provide, FTA will exclude the following:

(a) Any Project cost incurred by the Recipient before the Effective Date of the Grant Agreement or Amendment thereto, unless otherwise permitted by Federal law or regulation, or unless an authorized FTA official states in writing to the contrary;

(b) Any cost that is not included in the latest Approved Project Budget;

(c) Any cost for goods or services received in connection with a third party contract or other arrangement required to be, but has not been, concurred in or approved in writing by the Federal Government;

(d) Any ordinary governmental or nonproject operating cost;

(e) Any cost ineligible for FTA participation as required by Federal law, regulation, or guidelines for Federal participation.

(2) The Federal Government will not make a final determination about the eligibility of any cost until an audit of the Project has been completed.

f. Federal Claims, Excess Payments, Disallowed Costs, including Interest.

(1) Recipient's Obligation to Pay. Upon notification to the Recipient that specific amounts are owed to the Federal Government, whether for Federal claims for funds recovered from third parties or elsewhere, for excess payments, or for disallowed costs, the Recipient will remit to the Federal Government promptly the amounts owed, including any interest due.

(2) Amount of Interest Due. The Recipient agrees that the amount of interest due depends on whether the Federal Government treats the principal portion of the debt as a Federal claim or as a debt owed to the Federal Government. Thus, Recipient will pay interest calculated as follows:

(a) Federal Claims against the Recipient. The Debt Collection Act of 1982, as amended, 31 U.S.C. §§ 3701 through 3720, exempts State governments and units of general local government from the obligation to pay interest on claims pursued by the Federal Government under that Act, 31 U.S.C. §§ 3701 and 3717. Interest on claims against other parties will be calculated in accordance with the interest provisions of U.S. Treasury/U.S. DOJ regulations, "Standards for the Administrative Collection of Claims," at 31 C.F.R. § 901.9(i).

(b) Excess Payments. A debt for any excess payment does not qualify as a "claim" for purposes of the Debt Collection Act of 1982, as amended, 31 U.S.C. §§ 3701 through 3720; Accordingly, interest on any debt for excess payments does not qualify for the interest exemption for State and local governments at 31 U.S.C. §§ 3701 and 3717. Thus, the Recipient will pay common law prejudgment interest and related charges for excess payments made by the Federal Government, as permitted by U.S. Treasury/U.S. DOJ regulations, "Standards for the Administrative Collection of Claims," at 31 C.F.R. § 901.9(i).

(c) Disallowed Costs. A debt for any disallowed cost does not qualify as a "claim" for purposes of the Debt Collection Act of 1982, as amended, 31 U.S.C. §§ 3701 through 3720; thus the interest exemption for State governments and units of general local government provided by that Act will not apply to interest on the debt for the disallowed cost. Accordingly, a Recipient that is a State government or a unit of general local government agrees that interest on any debt for a disallowed cost does not qualify for the interest exemption for State and local governments at 31 U.S.C. §§ 3701 and 3717. Thus, the Recipient will pay common law prejudgment interest and related charges for excess payments made by the Federal Government, as permitted by 31 C.F.R. § 901(i).

g. De-obligation of Funds. The Recipient agrees that the Federal Government may de-obligate unexpended Federal funds before Project closeout.

h. Duplication of Benefits. Pursuant to Section 312 of the Stafford Act, 42 U.S.C. § 5155, the Recipient is liable to the United States for the receipt of any financial assistance for the Project to the extent such assistance duplicates benefits available to the Recipient from another source, including insurance.

Section 10. Project Completion, Audit, Settlement, and Closeout.

a. Project Completion. Within ninety (90) calendar days following Project completion or termination by the Federal Government, the Recipient will submit a final Financial Status Report (either electronically or on Standard Form 269A), a certification of Project expenses, and third party audit reports, as applicable.

b. Audit Requirements.

(1) Audit of Recipients. The Recipient will have the financial and compliance audits required by the Single Audit Act Amendments of 1996, 31 U.S.C. §§ 7501 *et seq.*, performed in accordance with OMB Circular A-133, "Audits of States, Local Governments, and Non-Profit Organizations," and the OMB A-133 Compliance Supplement provisions for the Department of Transportation, March, 2002, and any further revision or supplement thereto. Project closeout will not alter the Recipient's audit responsibilities. Audits will be conducted in accordance with U.S. General Accounting Office, "Government Auditing Standards."

(2) Audit Costs. Audit costs for Project administration and management are allowable to the extent authorized by OMB Circular A-87, Revised, OMB Circular A-21, Revised, OMB Circular A-122, Revised, or 48 C.F.R. Chapter I, Subpart 31.2, whichever is applicable.

c. Funds Due the Federal Government. The Recipient will remit to the Federal Government any excess payments made to the Recipient, any costs disallowed by the Federal Government, and any amounts recovered by the Recipient from third parties or from other sources, as well as any interest required by Subsection 9.f (2)(b) of this Agreement.

d Project Closeout. Project closeout occurs when FTA notifies the Recipient that FTA has closed out the Project, and then either forwards the final Federal assistance payment or acknowledges that the Recipient has remitted the proper refund. Project closeout by FTA does not invalidate any continuing obligations imposed on the Recipient by the Grant Agreement or by the Federal Government's final notification or acknowledgment.

Section 11. Right of the Federal Government to Terminate.

Upon written notice, the Federal Government may suspend or terminate all or part of the Federal financial assistance provided herein if the Recipient has violated the terms of the Grant Agreement, or if the Federal Government determines that the purposes of the statute authorizing the Project would not be adequately served by the continuation of Federal financial assistance for the Project. Any failure to make reasonable progress on the Project or other violation of the Grant Agreement that endangers substantial performance of the Project shall provide sufficient grounds for the Federal Government to terminate the Grant Agreement. Termination of any Federal financial assistance for the Project will not invalidate obligations properly incurred by the Recipient before the termination date, to the extent those obligations cannot be canceled. If, however, the Federal Government determines that the Recipient has willfully misused Federal assistance funds by failing to make adequate progress, failing to make reasonable and

appropriate use of the Project real property, facilities, or equipment, or has failed to comply with the terms of the Grant Agreement, the Federal Government reserves the right to require the Recipient to refund the entire amount of Federal funds provided for the Project or any lesser amount as the Federal Government may determine. Expiration of any Project time period established for the Project does not, by itself, constitute an expiration or termination of the Grant Agreement.

Section 12. Civil Rights.

The Recipient will comply with all applicable civil rights statutes and implementing regulations including, but not limited to, the following:

a. Nondiscrimination in General. The Recipient will comply, and assures the compliance of each third party contractor at any tier and each subrecipient at any tier under the Project with 42 U.S.C. §5151, which requires the distribution of supplies, the processing of applications, and other relief and assistance activities in an equitable and impartial manner, without discrimination on the grounds of race, color, religion, nationality, sex, age, or economic status, and with 49 U.S.C. §5332, which prohibits discrimination on the basis of race, color, creed, national origin, sex, or age, and prohibits discrimination in employment or business opportunity.

b. Nondiscrimination -- Title VI of the Civil Rights Act. The Recipient will comply, and assures the compliance of each third party contractor and each subrecipient at any tier under the Project, with all requirements prohibiting discrimination on the basis of race, color, or national origin of Title VI of the Civil Rights Act of 1964, as amended, 42 U.S.C. § 2000d *et seq.*, and U.S. DOT regulations, "Nondiscrimination in Federally-Assisted Programs of the Department of Transportation--Effectuation of Title VI of the Civil Rights Act," 49 C.F.R. Part 21.

c. Equal Employment Opportunity. (1) The Recipient will comply, and assures the compliance of each third party contractor at any tier and each subrecipient at any tier, with all requirements of Title VII of the Civil Rights Act of 1964, as amended, 42 U.S.C. § 2000e. Accordingly, the Recipient agrees that it will not discriminate against any employee or applicant for employment because of race, color, creed, sex, disability, age, or national origin. The Recipient will take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their race, color, creed, sex, disability, age, or national origin. Such action shall include, but not be limited to, employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.

(2) Equal Employment Opportunity Requirements for Construction Activities. With respect to activities deemed by the U.S. Department of Labor (U.S. DOL) to qualify as "construction," the Recipient will comply, and assures the compliance of each third party contractor at any tier and each subrecipient at any tier, with all applicable EEO requirements of U.S. DOL regulations, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor," 41 C.F.R. Parts 60 *et seq.*, (which implement Executive Order No. 11246, "Equal Employment Opportunity," as amended by Executive Order No. 11375, "Amending Executive

Order 11246 Relating to Equal Employment Opportunity," 42 U.S.C. § 2000(e) note,) and any Federal statutes, executive orders, regulations, and Federal policies affecting construction undertaken as part of the Project.

d. Contracting with Small and Minority Firms, Women's Business Enterprise and Labor Surplus Area Firms. Pursuant to Executive Order 12432 as implemented by 49 CFR § 18.36(e), Recipient and its subrecipients will take all necessary affirmative steps to assure that minority firms, women's business enterprises, and labor surplus area firms are used when possible.

e. Nondiscrimination on the Basis of Sex. The Recipient will comply with all applicable requirements of Title IX of the Education Amendments of 1972, as amended, 20 U.S.C. §§ 1681 *et seq.*, with U.S. DOT regulations, "Nondiscrimination on the Basis of Sex in Education Programs or Activities Receiving Federal Financial Assistance," 49 C.F.R. Part 25, and with any implementing directives that U.S. DOT or FTA may promulgate, which prohibit discrimination on the basis of sex.

f. Nondiscrimination on the Basis of Age. The Recipient will comply with all applicable requirements of the Age Discrimination Act of 1975, as amended, 42 U.S.C. §§ 6101 *et seq.*, and implementing regulations, which prohibit employment and other discrimination against individuals on the basis of age.

g. Access Requirements for Persons with Disabilities. The Recipient will comply with all applicable requirements of section 504 of the Rehabilitation Act of 1973, as amended, 29 U.S.C. § 794, which prohibits discrimination on the basis of handicaps, with the Americans with Disabilities Act of 1990 (ADA), as amended, 42 U.S.C. §§ 12101 *et seq.*, which requires that accessible facilities and services be made available to persons with disabilities, including any subsequent amendments to that Act, and with the Architectural Barriers Act of 1968, as amended, 42 U.S.C. §§ 4151 *et seq.*, which requires that buildings and public accommodations be accessible to persons with disabilities, including any subsequent amendments to that Act. In addition, the Recipient will comply with all applicable requirements of the following regulations and any subsequent amendments thereto:

(1) U.S. DOT regulations, "Transportation Services for Individuals with Disabilities (ADA)," 49 C.F.R. Part 37;

(2) U.S. DOT regulations, "Nondiscrimination on the Basis of Handicap in Programs and Activities Receiving or Benefiting from Federal Financial Assistance," 49 C.F.R. Part 27;

h. Drug or Alcohol Abuse - Confidentiality and Other Civil Rights Protections. The Recipient will comply with confidentiality and other civil rights protections of the Drug Abuse Office and Treatment Act of 1972, as amended, 21 U.S.C. §§ 1174 *et seq.*, with the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970, as amended, 42 U.S.C. §§ 4581 *et seq.*, and with the Public Health Service Act of 1912, as amended, 42 U.S.C. §§ 290dd-3 and 290ee-3, and any subsequent amendments to these acts.

i. Access to Services for Persons with Limited English Proficiency. The Recipient will comply

with guidance set forth in Executive Order No. 13166,"Improving Access to Services for Persons with Limited English Proficiency," August 11, 2000, 42 U.S.C. § 2000d-1 note, and with the requirements and provisions of U.S. DOT Notice, "DOT Guidance to Recipients on Special Language Services to Limited English Proficient (LEP) Beneficiaries," 66 Fed. Reg. 6733 *et seq.*, January 22, 2001.

j. Environmental Justice. The Recipient will comply with the policies of Executive Order No. 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," 42 U.S.C. § 4321 note.

k. Other Nondiscrimination Statutes. The Recipient will comply with applicable requirements of other nondiscrimination statute(s) that may apply to the Project.

Section 13. Planning and Private Enterprise.

a. Not Applicable.
b. Not Applicable.
c. Infrastructure Investment. During the implementation of the Project, the Recipient will take into consideration the recommendations of Executive Order No. 12803, "Infrastructure Privatization," 31 U.S.C. § 501 note, and Executive Order No. 12893, "Principles for Federal Infrastructure Investments," 31 U.S.C. § 501 note.

Section 14. Preference for United States Products and Services.

a. Not Applicable.
b. Not Applicable.
c. Fly America. The Federal Government will not participate in the costs of international air transportation of any persons involved in or property acquired for the Project unless that air transportation is provided by U.S.-flag air carriers to the extent service by U.S.-flag air carriers is available, in accordance with the International Air Transportation Fair Competitive Practices Act of 1974, as amended, 49 U.S.C. § 40118, and with U.S. GSA regulations, "Use of United States Flag Air Carriers," 41 C.F.R. §§ 301-10.131 through 301-10.143.

Section 15. Procurement.

a. Federal Standards. The Recipient will comply with 49 CFR § 18.36.

b. Not Applicable.
c. FTA Technical Review. The Recipient will permit FTA to review and approve the Recipient's technical specifications and requirements, to the extent FTA believes necessary to ensure proper Project administration.

d. Exclusionary or Discriminatory Specifications. The Recipient will refrain from using any

Federal assistance awarded by FTA to support procurements using exclusionary or discriminatory specifications. 49 CFR §18.36(c).

e. Not Applicable.

f. Clean Air and Clean Water. The Recipient will include in third party contracts and subgrants exceeding $100,000 adequate provisions to ensure that Project participants report the use of facilities placed or likely to be placed on U.S. EPA's "List of Violating Facilities," refrain from using violating facilities, report violations to FTA and the Regional EPA Office, and comply with the inspection and other applicable requirements of:

(1) Section 306 of the Clean Air Act, as amended, 42 U.S.C. § 7414, and other applicable provisions of the Clean Air Act, as amended, 42 U.S.C. §§ 7401 *et seq.*; and

(2) Section 508 of the Federal Water Pollution Control Act, as amended, 33 U.S.C. § 1368, and other provisions of the Federal Water Pollution Control Act, as amended, 33 U.S.C. §§ 1251 *et seq.*

g. Preference for Recycled Products. To the extent applicable, the Recipient will comply with U.S. EPA's "Comprehensive Procurement Guidelines for Products Containing Recovered Materials," 40 C.F.R. Part 247, implementing section 6002 of the Resource Conservation and Recovery Act, as amended, 42 U.S.C. § 6962, and otherwise provide a competitive preference for products and services that conserve natural resources and protect the environment and are energy efficient.

h. Geographic Restrictions. The Recipient will refrain from using any State or local geographic preference, except those expressly mandated or encouraged by Federal statute such as in 42 U.S.C. § 5150, 44 CFR § 206.10, which allows preference to local firms "to the extent feasible and practicable."

i. Architectural, Engineering, Design, or Related Services. Recipients may use competitive proposal procedures for qualifications-based procurement of architectural/engineering (A/E) professional services consistent with 49 CFR §18.36(d)(3)(v).

j. Force Account. Where the total amount of force account work to be performed under the grant is greater than $10,000,000, FTA prior review of the Recipient's force account plan and justification is required. The Recipient is directed to the section of Force Account in the LMRO Program Guidance for further guidance.

k. Award to Other than the Lowest Bidder. A Recipient may award a third party contract to a party other than the lowest bidder, when such an award furthers objectives consistent with the purposes of 49 CFR §18.36 and any implementing directives, circulars, manuals, or other guidance FTA may issue. (See 49 CFR §18.36(b)(8) and §18.36(d)(2)(E).)

l. Not Applicable.

m. Bonding. The Recipient will comply with the requirements in 49 CFR §18.36(h) as may be modified by LMRO Program Guidance issued by FTA.

n. Not Applicable.
o. Access to Third Party Contract Records. The Recipient will require its third party contractors and third party subcontractors to provide access by the FTA, FEMA and the Comptroller General of the United States, or their duly authorized representatives, any books, documents, papers, and records of the contractor which are directly pertinent to that specific contact for the purpose of making audit, examination, excerpts, and transactions, as per 49 CFR 18.36§(i)(10).

p. National Intelligent Transportation Systems Architecture and Standards. The Recipient will use its best efforts to ensure that any Intelligent Transportation System solutions used in its Project do not preclude interface with other Intelligent Transportation Systems in the Region. (See FTA Notice, "FTA National ITS Architecture Policy on Transit Projects" 66 Fed. Reg. 1455 *et seq.*, January 8, 2001 and other FTA Program Guidance that may be issued.)

q. Not Applicable.
r. Neutrality in Labor Relations. To the extent permitted by law, the Recipient will comply with Executive Order No. 13202, "Preservation of Open Competition and Government Neutrality Towards Government Contractors' Labor Relations on Federal and Federally Funded Construction Projects," Executive Order No. 13202, February 17, 2001, as amended by Executive Order No. 13208, April 6, 2001, 41 U.S.C. § 251 note, which among other things, prohibits including requirements for affiliation with a labor organization as a condition for award of any contract or subcontract for construction or construction management services.

s. Electronic and Information Technology. Electronic and information technology procured under this Project will meet the applicable accessibility standards of section 508 of the Rehabilitation Act of 1973, as amended, 29 U.S.C. § 794d, and Architectural and Transportation Barriers Compliance Board regulations, "Electronic and Information Technology Accessibility Standards," 36 C.F.R. Part 1194.

t. Use of Local Firms and Individuals. Pursuant to 42 U.S.C. § 5150 and any implementing regulation, in the expenditure of FEMA funds for debris clearance, distribution of supplies, reconstruction, and other major disaster or emergency assistance activities which may be carried out by contract or agreement with private organizations, firms, or individuals, the Recipient will give preference, to the extent feasible and practicable, to those organizations, firms and individuals residing or doing business primarily in the area affected by a major disaster or emergency.

Section 16. Not Applicable.
Section 17. Patent Rights.

a. General. If any invention, improvement, or discovery of the Recipient or any of its third party contractors is conceived or first actually reduced to practice in the course of or under the Project, and that invention, improvement, or discovery is patentable under the laws of the United States of America or any foreign country, the Recipient will notify FTA immediately and

provide a detailed report.

b. Federal Rights. The rights and responsibilities of the Recipient, and those of each third party contractor at any tier and each subrecipient at any tier, pertaining to that invention, improvement, or discovery will be determined in accordance with applicable Federal laws, regulations, including any waiver thereof.

Section 18. Rights in Data and Copyrights.

a. Definition. The term "subject data" used in this section means recorded information, whether or not copyrighted, that is delivered or specified to be delivered under the Project. Examples include, but are not limited to: computer software, standards, specifications, engineering drawings and associated lists, process sheets, manuals, technical reports, catalog item identifications, and related information. "Subject data" does not include financial reports, cost analyses, or similar information used for Project administration.

b. General Requirement. Except for its own internal use, the Recipient may not publish or reproduce "subject data" whether in whole or in part, in any manner or form, nor may the Recipient authorize others to do so, without the prior written consent of the Federal Government, unless the Federal Government has previously released or approved the release of such data to the public.
c. – h. Requirements condensed into a. & b. above.

Section 19. Use of Real Property, Equipment, and Supplies.

a. Use of Project Property. The Recipient will use Project real property, equipment, and supplies for appropriate Project purposes (which may include joint development purposes that generate program income, both during and after the award period used to support transit activities) for the duration of the useful life of that property, as required by FTA. Should the Recipient unreasonably delay or fail to use Project property during the useful life of that property, the Recipient may be required to return the entire amount of the Federal assistance expended on that property. The Recipient further will notify FTA immediately when any Project property is withdrawn from Project use or when Project property is used in a manner substantially different from the representations the Recipient has made in its Application or the Project Description for the Grant Agreement for the Project.

b. General Federal Requirements. A Recipient that is a State or a local government will comply with property management standards of 49 C.F.R. §§ 18.31 through 18.34, including any amendments thereto, and other applicable guidelines or regulations the Federal Government may issue. In addition, the Recipient will comply with FTA's established reimbursement requirements for premature dispositions of certain Project equipment (*i.e.*, when Project equipment is withdrawn from appropriate use before the expiration of the equipment's useful life established by FTA), as explained in Subsection 19.g of this Lower Manhattan Recovery Master Agreement.

c. Maintenance. The Recipient will maintain Project real property and keep equipment in good operating order, in compliance with any guidelines, directives, or regulations FTA may issue.

d. Records. The Recipient will keep satisfactory records regarding the use of Project real property, equipment, and supplies, and submit to the FTA upon request such information as may be required to assure compliance with Section 19 of this Agreement.

e. Encumbrance of Project Property. The Recipient will maintain satisfactory continuing control of Project real property or equipment. Thus, absent written authorization by FTA permitting otherwise:

(1) Written Transactions. The Recipient will refrain from executing any transfer of title, lease, lien, pledge, mortgage, encumbrance, third party contract, grant anticipation note, alienation, or any other obligation that in any way would affect the Federal interest in any Project real property or equipment.

(2) Oral Transactions. The Recipient will refrain from obligating itself in any manner to any third party with respect to Project real property or equipment.

(3) Other Actions. The Recipient will refrain from taking any action that would either adversely affect the Federal interest or impair the Recipient's continuing control of the use of Project real property or equipment.

f. Transfer of Project Property.

(1) Federal Government Direction. The Federal Government may direct the disposition of, and even require the Recipient to transfer title to, any real property, equipment, or supplies financed with Federal assistance made available for the Grant Agreement.

(2) Leasing Project Property to Another Party. If the Recipient leases any Project asset to another party, the Recipient will retain ownership of the leased asset, and assure that the lessee will use the Project asset appropriately, either through a "Lease and Supervisory Agreement" between the Recipient and lessee, or another similar document. Upon request by FTA, the Recipient will provide a copy of any relevant documents.

g. Disposition of Project Property. With prior FTA approval, the Recipient may sell, transfer, or lease Project property and use the proceeds to reduce the gross project cost of other eligible capital transit projects. FTA may establish the useful life for Project property: The Recipient will use Project property continuously and appropriately throughout that useful life.

(1) Project Property Whose Useful Life Has Expired. When the useful life of Project Property has expired, the Recipient will comply with FTA's disposition requirements.

(2) Project Property Prematurely Withdrawn from Use. For property withdrawn from appropriate use before its useful life has expired, the Recipient agrees as follows:

(a) Notification Requirement. The Recipient will notify FTA immediately when any Project real property, equipment, or supplies are prematurely withdrawn from appropriate use, whether by planned withdrawal, misuse, or casualty loss.

(b) Calculating the Fair Market Value of Prematurely Withdrawn Project Property. The Federal Government retains a Federal interest in the fair market value of Project property prematurely withdrawn from mass transportation use. The amount of the Federal interest in the property shall be determined on the basis of the ratio of the Federal assistance awarded by the Federal Government for the property to the actual cost of the Property. The fair market value of property prematurely withdrawn from use will be calculated as follows:

1. Equipment and Supplies. Unless otherwise determined in writing by FTA, fair market value shall be calculated by straight-line depreciation of the equipment or supplies, based on the useful life of the equipment or supplies established or approved by FTA. In addition, the fair market value of equipment and supplies shall be the value immediately before the occurrence prompting the withdrawal of that property from use. In the case of equipment or supplies lost or damaged by fire, casualty, or natural disaster, the fair market value shall be calculated on the basis of the condition of that property immediately before the fire, casualty, or natural disaster, irrespective of the extent of insurance coverage. As authorized by 49 C.F.R. § 18.32(b), a State may use its own disposition procedures, provided that those procedures comply with the State's laws.

2. Real Property. The fair market value of real property shall be determined either by competent appraisal based on an appropriate date approved by the Federal Government, as provided by 49 C.F.R. Part 24, or by straight line depreciation, whichever is greater.

3. Exceptional Circumstances. The Federal Government may require the use of another method of determining the fair market value of property. In unusual circumstances, the Recipient may request that another reasonable valuation method be used including, but not limited to, accelerated depreciation, comparable sales, or established market values. In determining whether to approve such a request, the Federal Government may consider any action taken, omission made, or unfortunate occurrence suffered by the Recipient with respect to the preservation or conservation of Project property withdrawn from appropriate use.

(c) Obligations to the Federal Government. Unless otherwise approved in writing by the Federal Government, the Recipient will remit to the Federal Government the Federal interest in the fair market value of Project real property, equipment, or supplies prematurely withdrawn from appropriate use. In the case of fire, casualty, or natural disaster, the Recipient may fulfill its responsibilities with respect to the Federal interest remaining in the damaged equipment or supplies by either:

1. Investing an amount equal to the remaining Federal interest in like-kind equipment or supplies that are eligible for assistance within the scope of the Project that provided financial assistance for the damaged equipment or supplies; or

2. Returning to the Federal Government an amount equal to the remaining Federal interest in the damaged property.

h. Insurance Proceeds. If the Recipient receives insurance proceeds as a result of damage or destruction to the Project property, the Recipient will:

(1) Apply those insurance proceeds to the cost of replacing the damaged or destroyed Project property taken out of service, or

(2) Return to the Federal Government an amount equal to the remaining Federal interest in the damaged or destroyed property.

i. Transportation - Hazardous Materials. The requirements of Research and Special Programs Administration, "Shippers - General Requirements for Shipments and Packagings," 49 C.F.R. Part 173, apply to the transportation of hazardous materials.

j. Misused or Damaged Project Property. If any damage to Project real property, equipment, or supplies results from abuse or misuse of that property occurring with the Recipient's knowledge and consent, the Recipient will restore that real property or equipment to its original condition or refund the value of the Federal interest in the damaged property, as the Federal Government may require.

k. Obligations After Project Closeout Project closeout will not alter the Recipient's property management obligations of Section 19 of this Agreement and applicable Federal regulations and other FTA requirements or directives.

Section 20. Insurance.

a. Minimum Requirements. At a minimum, the Recipient will comply with the insurance requirements normally imposed by the laws, regulations, and ordinances imposed by its State and local governments. This includes, but is not limited to, the Recipient's obtaining all necessary environmental liability insurance.

b. Flood Hazards. To the extent applicable, the Recipient will comply with the flood insurance purchase requirements of section 102(a) of the Flood Disaster Protection Act of 1973, 42 U.S.C. § 4012a(a), with respect to any Project activity involving construction or acquisition having an insurable cost of $10,000 or more.

c. FEMA Requirements. For assistance received pursuant to the Stafford Act, including Section 406, 42 U.S.C. § 5172, the Recipient agrees to comply with 42 U.S.C. § 5154 and 44 CFR Part 206, Subpart I, to obtain and maintain insurance reasonable and necessary to protect against future loss from the type of hazard that caused the major disaster.

Section 21. Relocation.

When relocation of individuals or businesses is required, the Recipient will comply with the following requirements:

a. Relocation Protections. The Recipient will comply with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, 42 U.S.C. §§ 4601 *et seq.*; and U.S. DOT regulations, "Uniform Relocation and Real Property Acquisition for Federal and Federally Assisted Programs," 49 C.F.R. Part 24, which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal and federally assisted programs. These requirements apply to all interests in real property acquired for Project purposes regardless of Federal participation in purchases.

b. Nondiscrimination in Housing. The Recipient will comply with Title VIII of the Civil Rights Act of 1968, as amended, 42 U.S.C. §§ 3601 *et.seq.* and Executive Order No. 12892, "Leadership and Coordination of Fair Housing in Federal Programs: Affirmatively Furthering Fair Housing," 42 U.S.C. § 3608 note, when carrying out its responsibilities to provide housing used to meet Federal relocation requirements.

c. Prohibition Against Use of Lead-Based Paint. In undertaking construction or rehabilitation of residence structures on behalf of individuals affected by land acquisition in connection with the Project, the Recipient will refrain from using lead-based paint in accordance with Section 401(b) of the Lead-Based Paint Poisoning Prevention Act, 42 U.S.C. § 4831(b).

Section 22. Real Property.

a. Land Acquisition. The Recipient will comply with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, 42 U.S.C. §§ 4601 *et seq.*; and U.S. DOT regulations, "Uniform Relocation and Real Property Acquisition for Federal and Federally Assisted Programs," 49 C.F.R. Part 24. These requirements apply to all interests in real property acquired for Project purposes regardless of Federal participation in purchases.

b. Covenant Assuring Nondiscrimination. The Recipient will include a covenant in the title of the real property acquired for the Project to assure nondiscrimination during the useful life of the Project.

c. Recording Title to Real Property. To the extent required by FTA, the Recipient will record the Federal interest in the title of real property.

d. FTA Approval of Changes in Real Property Ownership. The Recipient will not dispose of, modify the use of, or change the terms of the real property title, or other interest in the site and facilities without permission and instructions from FTA.

Section 23. Construction.

a. Drafting, Review, and Approval of Construction Plans and Specifications. The Recipient will comply with FTA requests pertaining to the drafting, review, and approval of construction plans and specifications.

b. Supervision of Construction. The Recipient will provide and maintain competent and adequate engineering supervision at the construction site to ensure that the complete work conforms to the approved plans and specifications.

c. Construction Reports. The Recipient will provide progress reports and such other information as may be required by FTA or the State.

d. Project Management. The FTA will manage the Project consistent with the FTA Project Management and Oversight Regulation applicable to major capital investments. (See 49 CFR Part 633.)

e. Seismic Safety. The Recipient will comply with the Earthquake Hazards Reduction Act of 1977, as amended, 42 U.S. C. §§ 7701 *et seq.*, Executive Order No. 12699, "Seismic Safety of Federal and Federally-Assisted or Regulated New Building Construction," 42 U.S.C. § 7704 note, and implementing U.S. DOT regulations, "Seismic Safety,"49 C.F.R. Part 41, (specifically, 49 C.F.R. § 41.117).

f. Minimum Standards for Public and Private Structures. Pursuant to the Stafford Act at 42 U.S.C. § 5176, and any implementing regulation, the Recipient will ensure that any repair or construction to be financed pursuant to this agreement will be in accordance with applicable standards of safety, decency, and sanitation and in conformity with applicable codes, specifications, and standards.

Section 24. Employee Protections.

a. Construction Activities. The Recipient will comply, and assures the compliance of each third party contractor at any tier and each subrecipient at any tier, with the following employee protection requirements for construction employees:

(1) Davis-Bacon Act, as amended, 40 U.S.C. §§ 276a - 276a(7), requiring compliance with the Davis-Bacon Act, and U.S. DOL regulations, "Labor Standards Provisions Applicable to Contracts Governing Federally Financed and Assisted Construction (also Labor Standards Provisions Applicable to Nonconstruction Contracts Subject to the Contract Work Hours and Safety Standards Act)," 29 C.F.R. Part 5.

(2) Contract Work Hours and Safety Standards Act, as amended, particularly with the requirements of section 102 of the Act, 40 U.S.C. §§ 327 - 332; and U.S. DOL regulations, "Labor Standards Provisions Applicable to Contracts Governing Federally Financed and Assisted Construction (also Labor Standards Provisions Applicable to Nonconstruction Contracts

Subject to the Contract Work Hours and Safety Standards Act)," 29 C.F.R. Part 5; and with section 107 of the Act, 40 U.S.C. § 333, and U.S. DOL regulations, "Safety and Health Regulations for Construction," 29 C.F.R. Part 1926; and

(3) Copeland "Anti-Kickback" Act, as amended, 18 U.S.C. § 874 and 40 U.S.C. § 276c, and U.S. DOL regulations, "Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in part by Loans or Grants from the United States," 29 C.F.R. Part 3.

b. Activities Not Involving Construction. The Recipient will comply, and assure the compliance of each third party contractor and each subrecipient at any tier, with any applicable employee protection requirements for nonconstruction employees of section 102 of the Contract Work Hours and Safety Standards Act, as amended, 40 U.S.C. §§ 327 - 332, and U.S. DOL regulations, "Labor Standards Provisions Applicable to Contracts Governing Federally Financed and Assisted Construction (also Labor Standards Provisions Applicable to Nonconstruction Contracts Subject to the Contract Work Hours and Safety Standards Act)," 29 C.F.R. Part 5.

c. Activities Involving Commerce. The Recipient will comply with the provisions of the Fair Labor Standards Act, 29 U.S.C. §§ 201 *et seq.*, applies to employees performing Project work involving commerce.
d. Not Applicable.

Section 25. Environmental Requirements.

The Recipient recognizes that many Federal and State laws imposing environmental and resource conservation requirements may apply to the Project. The Recipient also recognizes that U.S. EPA, FHWA and other Federal agencies have issued, and in the future are expected to issue, regulations, guidelines, standards, orders, directives, or other requirements that may affect the Project. Thus, the Recipient will comply, and assures the compliance of each subrecipient and each third party contractor, with any such Federal requirements as the Federal Government may now or in the future promulgate. Listed below are requirements of particular concern to FTA and the Recipient.

a. Environmental Protection. Federal assistance is contingent upon the Recipient's facilitating FTA's compliance with all applicable requirements and implementing regulations of the National Environmental Policy Act of 1969, as amended, (NEPA) 42 U.S.C. §§ 4321 *et seq.* (as interpreted by 42 U.S.C. 5159); Executive Order No. 11514, as amended, "Protection and Enhancement of Environmental Quality," 42 U.S.C. § 4321 note; and Council on Environmental Quality regulations pertaining to compliance with the National Environmental Policy Act of 1969, as amended, 40 C.F.R. Part 1500 *et seq.* For purposes of NEPA, FTA is designated as Lead Agency.

b. Air Quality. The Recipient will comply with all applicable regulations, standards, or orders implementing the Clean Air Act, as amended, 42 U.S.C. §§ 7401 *et seq.* In addition:

(1) The Recipient will comply with the applicable requirements of the U.S. EPA

regulations, "Conformity to State or Federal Implementation Plans of Transportation Plans, Programs, and Projects Developed, Funded or Approved Under Title 23 U.S.C. or the Federal Transit Act," 40 C.F.R. Part 51, Subpart T; and "Determining Conformity of Federal Actions to State or Federal Implementation Plans," 40 C.F.R. Part 93. To support the requisite air quality conformity finding for the Project, the Recipient will implement each air quality mitigation or control measure incorporated in the Project. The Recipient further agrees that any Project identified in an applicable State Implementation Plan (SIP) as a Transportation Control Measure will be wholly consistent with the design concept and scope of the Project described in the SIP.

(2) U.S. EPA also imposes requirements implementing the Clean Air Act, as amended, that may apply to transit operators, particularly operators of large transit bus fleets. Accordingly, the Recipient will comply with the following U.S. EPA regulations to the extent they are applicable to the Project: "Control of Air Pollution from Motor Vehicles and Motor Vehicle Engines," 40 C.F.R. Part 85; "Control of Air Pollution from New and In-Use Motor Vehicles and New and In-Use Motor Vehicle Engines: Certification and Test Procedures," 40 C.F.R. Part 86; and "Fuel Economy of Motor Vehicles," 40 C.F.R. Part 600.

(3) The Recipient will comply with the notification of violating facilities requirements of Executive Order No. 11738, "Administration of the Clean Air Act and the Federal Water Pollution Control Act with Respect to Federal Contracts, Grants, or Loans," 42 U.S.C. § 7606 note.

c. Clean Water. The Recipient will comply with all applicable standards, orders, or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. §§ 1251 *et seq.* In addition:

(1) The Recipient will protect underground sources of drinking water consistent with the provisions of the Safe Drinking Water Act of 1974, as amended, 42 U.S.C. §§ 300f *et seq.*

(2) The Recipient will comply with the notification of violating facilities requirements of Executive Order No. 11738, "Administration of the Clean Air Act and the Federal Water Pollution Control Act with Respect to Federal Contracts, Grants, or Loans," 42 U.S.C. § 7606 note.

d. Use of Public Lands. The Recipient will refrain from using publicly owned land from a park, recreation area, or wildlife or waterfowl refuge of national, State, or local significance as determined by the Federal, State, or local officials having jurisdiction thereof, or any land from a historic site of national, State, or local significance for the Project unless FTA makes the specific findings required by 49 U.S.C. § 303.

e. Wild and Scenic Rivers. The Recipient will comply with the Wild and Scenic Rivers Act of 1968, as amended, 16 U.S.C. §§ 1271 *et seq.* relating to protecting components of the national wild and scenic rivers system.

f. Coastal Zone Management. The Recipient will assure Project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972, as

amended, 16 U.S.C. §§ 1451 *et seq.*

g. Wetlands. The Recipient will facilitate compliance with the protections for wetlands in accordance with Executive Order No. 11990, as amended, "Protection of Wetlands," 42 U.S.C. § 4321 note.

h. Floodplains. The Recipient will facilitate compliance with the flood hazards protections in floodplains in accordance with Executive Order No. 11988, as amended, "Floodplain Management" 42 U.S.C. § 4321 note.

i. Endangered Species. The Recipient will comply with protections for endangered species of the Endangered Species Act of 1973, as amended, 16 U.S.C. §§ 1531 *et seq.*

j. Historic Preservation. The Recipient will facilitate compliance with the Federal historic and archaeological preservation requirements of section 106 of the National Historic Preservation Act, as amended, 16 U.S.C. § 470f; of Executive Order No. 11593, "Protection and Enhancement of the Cultural Environment," 16 U.S.C. § 470 note; and of the Archaeological and Historic Preservation Act of 1974, as amended, 16 U.S.C. §§ 469a *et seq.* as follows:

(1) In accordance with U. S. Advisory Council on Historic Preservation regulations, "Protection of Historic and Cultural Properties," 36 C.F.R. Part 800, the Recipient will consult with the State Historic Preservation Officer concerning investigations to identify properties and resources included in or eligible for inclusion in the National Register of Historic Places that may be affected by the Project, and will notify FTA of any affected properties.

(2) The Recipient will comply with all Federal requirements to avoid or mitigate adverse effects on those historic properties.

l. Mitigation of Adverse Environmental Effects. Should the Proposed project cause or result in adverse environmental effects, the Recipient agrees to take all reasonable measures to minimize those adverse effects, as required by 23 C.F.R. Part 771 and 49 C.F.R. Part 622. The Recipient will comply with all environmental mitigation measures that may be identified as commitments in applicable environmental documents (*i.e.*, environmental assessments, environmental impact statements, memoranda of agreement, and documents required by 49 U.S.C. § 303) and will comply with any conditions the Federal Government might impose in a finding of no significant impact or a record of decision. Those mitigation measures are incorporated by reference and made part of this Grant Agreement. Deferred mitigation measures will be incorporated by reference and made part of the Grant Agreement as soon as agreement with the Federal Government is reached. Those mitigation measures agreed upon may not be modified or withdrawn without the express written approval of the Federal Government.

Section 26. Energy Conservation.

The Recipient will comply with the mandatory energy efficiency standards and policies within the applicable State energy conservation plans issued in compliance with the Energy Policy and

Conservation Act, 42 U.S.C. §§ 6321 *et seq.*

Sections 27. - 29 Not Applicable.

Section 30. Metric System.

The Recipient will use the metric system of measurement in its Project activities, pursuant to the Metric Conversion Act, as amended by the Omnibus Trade and Competitiveness Act, 15 U.S.C. §§ 205a *et seq.*; Executive Order No. 12770, "Metric Usage in Federal Government Programs," 15 U.S.C. § 205a note; and other U.S. DOT or FTA regulations, guidelines, and policies. To the extent practicable and feasible, the Recipient will accept products and services with dimensions expressed in the metric system of measurement.

Section 31. Substance Abuse.

a. Drug-Free Workplace. The Recipient will comply with U.S. DOT regulations, "Drug-Free Workplace Requirements (Grants)," 49 C.F.R. Part 29, Subpart F, as modified by 41 U.S.C. §§ 702 *et seq.*
b. Not Applicable.

Section 32. Not Applicable.

Section 33. Seat Belt Use.

Pursuant to Executive Order No. 13043, "Increasing Seat Belt Use in the United States," April 16, 1997, 23 U. S. C. § 402 note, the Recipient is encouraged to adopt on-the-job seat belt use policies and programs for its employees when operating company-owned, rented, or personally-operated vehicles and include this provision in third party contracts, third party subcontracts, and subagreements entered into under this Project.

Section 34. Protection of Sensitive Security Information.

To the extent applicable, the Recipient will comply with section 101(e) of the Aviation and Transportation Security Act, 49 U.S.C. § 40119(b), and U.S. Transportation Security Administration regulations, "Protection of Sensitive Security Information," 49 C.F.R. Part 1520, and any implementing regulations, requirements or guidelines, that the Federal Government may issue.

Sections 35. 43 Not Applicable.

Section 44. Disputes, Breaches, Defaults, or Other Litigation.

FTA has a vested interest in the settlement of any dispute, breach, default, or litigation involving the Project. Accordingly:

a. Notification to FTA. The Recipient will notify FTA of any current or prospective major dispute, breach, default, or litigation that may affect the Federal Government's interests in the Project or the Federal Government's administration or enforcement of Federal laws or regulations. If the Recipient seeks to name the Federal Government as a party to litigation for any reason, in any forum, the Recipient will inform FTA before doing so.

b. Federal Interest in Recovery. The Federal Government retains the right to a proportionate share, based on the percentage of the Federal share awarded for the Project, of proceeds derived from any third party recovery, except that the Recipient may return any liquidated damages recovered to its Project Account in lieu of returning the Federal share to the Federal Government.

c. Enforcement. The Recipient will pursue all legal rights provided within any third party contract.

d. FTA Concurrence. FTA reserves the right to concur in any compromise or settlement of any claim involving the Project and the Recipient.

e. Alternative Dispute Resolution. FTA encourages the Recipient to use alternative dispute resolution procedures, as may be appropriate.

f. Indemnification. Pursuant to 42 U.S.C. § 5173, the Recipient will, in the case of debris or wreckage removal from private property, indemnify the Federal Government against any claim arising from such removal.

Section 45. Amendments to the Project.

A change in Project conditions causing an inconsistency with the terms of the Grant Agreement will require an amendment to the Grant Agreement signed by the original signatories. A change in the fundamental information submitted in its Application will also require an Amendment to its Application or the Grant Agreement.

Section 46. FTA's Electronic Award and Management System.

Except as otherwise permitted by FTA, the Recipient will use FTA's electronic award and management system to submit information and reports to FTA. FTA, however, reserves the right to determine the extent to which the Recipient may use FTA's electronic award and management system to execute legal documents pertaining to FTA Projects.

Section 47. Information Obtained Through Internet Links.

This Agreement may include electronic links to Federal statutes, regulations, directives, guidance, and other documents. FTA does not guarantee the accuracy of information accessed through such links. Accordingly, information obtained through any electronic link within this Master Agreement does not represent an official version of a Federal statute, regulation, requirement, guidance, or document, and might be inaccurate. Thus, information obtained through such links is neither incorporated by reference nor made part of this Agreement. The Federal Register and the Code of Federal Regulations are the official sources for regulatory information pertaining to the Federal Government.

Section 48. Severability.

If any provision of this Agreement is held invalid, the remainder of the Agreement shall not be affected, if that remainder would continue to conform to the requirements of applicable law.

U.S. Department of Transportation
Federal Transit Administration

ATTACHMENT

GUIDANCE

August 21, 2003

Subject: LMRO THIRD PARTY CONTRACTING REQUIREMENTS

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1. **PURPOSE.** This document sets forth the requirements a grantee must adhere to in the solicitation, award and administration of its third party contracts funded by the FTA/FEMA grants for the Lower Manhattan Recovery projects. These requirements are based on the common grant rules, Federal statutes, Executive Orders and their implementing regulations, and FTA policy. This document is based on FTA Circular 4220.1E. Inapplicable provisions of that circular are marked "Not Applicable" in this document and are left in place for the benefit of grantees who also receive funds authorized under the Federal Transit Laws who are familiar with the section numbers.

2. **NOT APPLICABLE**

3. **REFERENCES.**

   a. Federal Transit Laws, 49 U.S.C. Chapter 53 – definitions only.

   b. 2001 Emergency Supplemental Appropriations Act for Recovery from and Response to Terrorist Attacks on the United States, Public Law 107-38;the National Defense Authorization Act for Fiscal Year 2002, Public Law 107-107; the Fiscal Year 2002 Department of Defense Appropriations Act, Public Law 107-117; the Fiscal Year 2002 Department of Transportation and Related Agencies Appropriations Act, Public Law 107-206; the Consolidated Appropriations Resolution, 2003, Public Law 208-7; the Robert T. Stafford Disaster Relief and Emergency Assistance Act, Public Law 93-288, 42 U.S.C. § 5121-5206.

   c. Sections 4001 and 1555 of the Federal Acquisition Streamlining Act of 1994, 41 U.S.C. § 403(11) and 40 U.S.C. § 481(b), respectively,

   d. 49 C.F.R. part 18, Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments.

   e. 49 C.F.R. part 19, Uniform Administrative Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals, and Other Non-Profit Organizations.

   f. Executive Order 12612, "Federalism," dated 10-26-87.

   g. Not Applicable.

   h. LMRO Master Agreement.

   i. Appendix D, Best Practices Procurement Manual.

4. **APPLICABILITY.** This guidance applies to all FTA grantees and subgrantees that contract with outside sources under the joint FTA/FEMA assistance programs for the Lower Manhattan Recovery projects. These requirements do not apply to procurements undertaken in support of capital projects completely accomplished without FTA or FEMA funds.

5. **POLICY.** FTA's role in grantee procurements is reflective of Executive Order 12612, Federalism which directs Federal agencies to refrain from substituting their judgment for that of their recipients unless the matter is primarily a Federal concern and to defer, to the maximum extent feasible, to the States to establish standards rather than setting national standards.

   a. Grantee Self-Certification. Since most FTA grantees have experience with the third party contracting requirements of the "common grant rules" (49 C.F.R. parts 18 and 19), the LMRO will rely primarily on grantees' "self-certifications" that their procurement system meets FTA/FEMA requirements to support the required finding that a grantee has the technical capacity to comply with Federal procurement requirements. All grantees must "self certify" as part of the Annual Certification/Assurance Process.

      The LMRO will monitor compliance with this guidance as part of its routine oversight responsibilities and if it becomes aware of circumstances that might invalidate a grantee's self-certification, the LMRO will investigate and recommend appropriate measures to correct whatever deficiency may exist.

   b. Review of Third Party Contracts. The LMRO relies on the validity of each grantee's self-certification and on periodic, post-grant reviews rather than on a pre-award review of third party contracts to ensure that grantees comply with Federal requirements and standards. Grantees are still free to request FTA's pre-award review of their procurements as part of the LMRO's technical assistance program. Conversely, if the LMRO requests to review the record of a particular procurement, grantees must make their procurement documents available for the LMRO's pre-award (or post-award) review.

   c. Procurement System Reviews. The LMRO will fully review and evaluate the performance of grantees in carrying out grant programs with specific reference to their compliance with statutory and administrative requirements. Accordingly, the LMRO will perform a baseline procurement system review as part of its on-going oversight responsibility and may recommend "best practices" in order to assist the grantee in improving its procurement practices. In such cases, the LMRO will identify such recommendations as "advisory."

   d. Procurement Technical Assistance. The LMRO will provide procurement training and technical assistance as requested to enable the grantees to better understand and meet LMRO requirements.

   e. Contract Clauses and Provisions. The LMRO Master Agreement, issued annually and incorporated into each grant, lists many but not all the FTA/FEMA and other

crosscutting Federal requirements applicable to LMRO grantees. Many of these requirements are related to grantee procurements. Further explanations and interpretations of this guidance is can be found in the footnotes of FTA Circular 4220.1E. Suggested wording for contract clauses and provisions are available in FTA's "Best Practices Procurement Manual" available on the FTA website at fta.dot.gov.

f. Not Applicable.

6. **DEFINITIONS.** All definitions in 49 U.S.C. §5302 are applicable to this guidance. The following additional definitions are provided:

a. "Best Value" is a selection process in which proposals contain both price and qualitative components, and award is based upon a combination of price and qualitative considerations. Qualitative considerations may include technical design, technical approach, quality of proposed personnel, and/or management plan. The award selection is based upon consideration of a combination of technical and price factors to determine {or derive} the offer deemed most advantageous and of the greatest value to the procuring agency.

b. "Design-Bid-Build" refers to the project delivery approach where the grantee commissions an architect or engineer to prepare drawings and specifications under a design services contract, and separately contracts for at-risk construction, by engaging the services of a contractor through sealed bidding or competitive negotiations.

c. "Design-Build" refers to a system of contracting under which one entity performs both architectural/engineering and construction under one contract.

d. "FEMA" is the Federal entity with primary authority to provide federal assistance following a Presidentially-declared major disaster or emergency. It is part of the Emergency Preparedness and Response Directorate of the Department of Homeland Security.

e. "FTA" refers to the Federal Transit Administration

f. "Grantee" means the public or private entity to which a grant or cooperative agreement is awarded by the joint FTA/FEMA effort. The grantee is the entire legal entity even if only a particular component of the entity is designated in the assistance award document.

For the purposes of this circular, "grantee" also includes any subgrantee of the grantee. Furthermore, a grantee is responsible for assuring that its subgrantees comply with the requirements and standards of this guidance, and that subgrantees are aware of requirements imposed upon them by Federal statutes and regulations.

g. Lower Manhattan Recovery Office (LMRO) refers to the FTA office with responsibility for carrying out the Lower Manhattan Recovery projects.

h. "Piggybacking" is an assignment of existing contract rights to purchase supplies, equipment, or services.

i. "State" means any of the several states of the United States, the District of Columbia, the Commonwealth of Puerto Rico, any territory or possession of the United States, or any agency or instrumentality of a State exclusive of local governments. "State" does not include any public and Indian housing agency under the United States Housing Act of 1937.

j. "Tag-on" is defined as the addition of work (supplies, equipment or services) that is beyond the scope of the original contract that amounts to a cardinal change as generally interpreted in Federal practice by the various Boards of Contract Appeals. "In scope" changes are not tag-ons.

k. "Third party contract" refers to any purchase order or contract awarded by a grantee to a vendor or contractor using Federal financial assistance awarded by FTA.

7. GENERAL PROCUREMENT STANDARDS APPLICABLE TO THIRD-PARTY PROCUREMENTS.

a. Conformance with State and Local Law. Grantees and subgrantees shall use their own procurement procedures that reflect applicable State and local laws and regulations, provided that the procurements conform to applicable Federal law, including the requirements and standards identified in this circular. If there is no State law on a particular aspect of procurement, then Federal contract law principles will apply.

b. Contract Administration System. Grantees shall maintain a contract administration system that ensures that contractors perform in accordance with the terms, conditions, and specifications of their contracts or purchase orders.

c. Written Standards of Conduct. Grantees shall maintain a written code of standards of conduct governing the performance of their employees engaged in the award and administration of contracts. No employee, officer, agent, immediate family member, or Board member of the grantee shall participate in the selection, award, or administration of a contract supported by FTA/FEMA funds if a conflict of interest, real or apparent, would be involved.

Such a conflict would arise when any of the following has a financial or other interest in the firm selected for award:

(1) The employee, officer, agent, or Board member,

(2) Any member of his/her immediate family;

(3) His or her partner, or

(4) An organization that employs, or is about to employ, any of the above.

The grantee's officers, employees, agents, or Board members will neither solicit nor accept gifts, gratuities, favors, or anything of monetary value from contractors, potential contractors, or parties to subagreements. Grantees may set minimum rules when the financial interest is not substantial or the gift is an unsolicited item of nominal intrinsic value. To the extent permitted by state or local law or regulations, such standards of conduct will provide for penalties, sanctions, or other disciplinary action for violation of such standards by the grantee's officers, employees, or agents, or by contractors or their agents.

d. Ensuring Most Efficient and Economic Purchase. Grantee procedures shall provide for a review of proposed procurements to avoid purchase of unnecessary or duplicative items. Consideration should be given to consolidating or breaking out procurements to obtain a more economical purchase.

Where appropriate, an analysis will be made of lease versus purchase alternatives and any other appropriate analysis to determine the most economical approach.

e. Intergovernmental Procurement Agreements.

(1) Grantees are encouraged to utilize available state and local intergovernmental agreements for procurement or use of common goods and services. When obtaining goods or services in this manner, grantees must ensure all federal requirements, required clauses, and certifications are properly followed and included, whether in the master intergovernmental contract or in the grantee's purchase document.

(2) Grantees are also encouraged to jointly procure goods and services with other grantees. When obtaining goods or services in this manner, grantees must ensure all federal requirements, required clauses, and certifications are properly followed and included in the resulting joint solicitation and contract documents.

(3) Grantees may assign contractual rights to purchase goods and services to other grantees if the original contract contains appropriate assignability provisions. Grantees who obtain these contractual rights (commonly known as 'piggybacking') may exercise them after first determining the contract price remains fair and reasonable.

f. Use of Excess Or Surplus Federal Property. Grantees are encouraged to use Federal excess and surplus property in lieu of purchasing new equipment and property, whenever such use is feasible and reduces project costs.

g. Use of Value Engineering in Construction Contracts. Grantees are encouraged to use value engineering clauses in contracts for construction projects.

h. Awards to Responsible Contractors. Grantees shall make awards only to responsible contractors possessing the ability to perform successfully under the terms and conditions of a proposed procurement. Consideration shall be given to such matters as contractor integrity, compliance with public policy, record of past performance, and financial and technical resources.

i. Written Record of Procurement History. Grantees shall maintain records detailing the history of each procurement. At a minimum, these records shall include:

(1) the rationale for the method of procurement,

(2) selection of contract type,

(3) reasons for contractor selection or rejection, and

(4) the basis for the contract price.

j. Use of Time and Materials Type Contracts. Grantees will use time and material type contracts only:

(1) After a determination that no other type of contract is suitable; and

(2) If the contract specifies a ceiling price that the contractor shall not exceed except at its own risk.

k. Responsibility for Settlement of Contract Issues/Disputes. Grantees alone will be responsible in accordance with good administrative practice and sound business judgment for the settlement of all contractual and administrative issues arising out of procurements. These issues include, but are not limited to, source evaluation, protests, disputes, and claims. These standards do not relieve the grantee of any contractual responsibility under its contracts.

The LMRO will not substitute its judgment for that of the grantee or subgrantee, unless the matter is primarily a Federal concern. Violations of the law will be referred to the local, State, or Federal authority having proper jurisdiction.

l. Written Protest Procedures. Grantees shall have written protest procedures to handle and resolve disputes relating to their procurements and shall in all instances disclose information regarding protests to the LMRO. All protest decisions must be in writing. A protester must exhaust all administrative remedies with the grantee before pursuing a protest with the FTA.

Reviews of protests by FTA will be limited to:

(1) a grantee's failure to have or follow its protest procedures, or its failure to review a complaint or protest; or

(2) violations of Federal law or regulation.

An appeal to FTA must be received by the LMRO within five (5) working days of the date the protester learned or should have learned of an adverse decision by the grantee or other basis of appeal to the LMRO.

m. Contract Term Limitation. Grantees are expected to be judicious in establishing and extending contract terms no longer than minimally necessary to accomplish the purpose of the contract. Additional factors to be considered include competition, pricing, fairness and public perception. Once a contract has been awarded, an

extension of the contract term length that amounts to an out of scope change will require a sole source justification

n. Revenue Contracts. Revenue contracts are those third party contracts whose primary purpose is to either generate revenues in connection with a transit related activity, or to create business opportunities utilizing an FTA-funded asset. FTA requires these contracts to be awarded utilizing competitive selection procedures and principles. The extent of and type of competition required is within the discretionary judgment of the grantee.

o. Tag-ons. The use of tag-ons is prohibited and applies to the original buyer as well as to others as defined in paragraph 6f.

p. Piggybacking. Piggybacking is permissible when the solicitation document and resultant contract contain an assignability clause that provides for the assignment of all or a portion of the specified deliverables as originally advertised, competed, evaluated, and awarded. If the supplies were solicited, competed and awarded through the use of an indefinite-delivery-indefinite-quantity (IDIQ) contract, then both the solicitation and contract award must contain both a minimum and maximum quantity that represent the reasonably foreseeable needs of the party(s) to the solicitation and contract. If two or more parties jointly solicit and award an IDIQ contract, then there must be a total minimum and maximum.

q. E-Commerce. E-Commerce is an allowable means to conduct procurements. If a grantee chooses to utilize E-Commerce, written procedures need to be developed and in place prior to solicitation and all requirements for full and open competition must be met in accordance with this circular.

8. COMPETITION.

a. Full and Open Competition. All procurement transactions will be conducted in a manner providing full and open competition. Some situations considered to be restrictive of competition include, but are not limited to:

(1) Unreasonable requirements placed on firms in order for them to qualify to do business;

(2) Unnecessary experience and excessive bonding requirements;

(3) Noncompetitive pricing practices between firms or between affiliated companies;

(4) Noncompetitive awards to any person or firm on retainer contracts;

(5) Organizational conflicts of interest. An organizational conflict of interest means that because of other activities, relationships, or contracts, a contractor is unable, or potentially unable, to render impartial assistance or advice to the grantee; a contractor's objectivity in performing the contract work is or might be otherwise impaired; or a contractor has an unfair competitive advantage;

(6) Specifying only a "brand name" product instead of allowing "an equal" product to be offered without listing its' salient characteristics.

Grantees may define the salient characteristics in language similar to the following:

(a) 'Original Equipment Manufacturer (OEM) part #123 or approved equal that complies with the original equipment manufacturer's requirements or specifications and will not compromise any OEM warranties'; or

(b) 'Original Equipment Manufacturer part #123 or approved equal that is appropriate for use with and fits properly in [describe the bus, engine, or other component the part must be compatible with] and will not compromise any OEM warranties'; and

(7) Any arbitrary action in the procurement process.

b. Prohibition Against Geographic Preferences. Grantees shall conduct procurements in a manner that prohibits the use of statutorily or administratively imposed in-State or local geographical preferences in the evaluation of bids or proposals, except in those cases where applicable Federal statutes expressly mandate or encourage geographic preference. This does not preempt State licensing laws. However, geographic location may be a selection criterion in procurements for architectural and engineering (A&E) services provided its application leaves an appropriate number of qualified firms, given the nature and size of the project, to compete for the contract.

c. Written Procurement Selection Procedures. Grantees shall have written selection procedures for procurement transactions. All solicitations shall:

(1) Incorporate a clear and accurate description of the technical requirements for the material, product, or service to be procured. Such description shall not, in competitive procurements, contain features that unduly restrict competition. The description may include a statement of the qualitative nature of the material, product, or service to be procured and when necessary, shall set forth those minimum essential characteristics and standards to which it must conform if it is to satisfy its intended use. Detailed product specifications should be avoided if at all possible. When it is impractical or uneconomical to make a clear and accurate description of the technical requirements, a "brand name or equal" description may be used as a means to define the performance or other salient characteristics of a procurement. The specific features of the named brand which must be met by offerors shall be clearly stated.

(2) Identify all requirements that offerors must fulfill and all other factors to be used in evaluating bids or proposals.

d. Prequalification Criteria. Grantees shall ensure that all lists of prequalified persons, firms, or products that are used in acquiring goods and services are current and include enough qualified sources to ensure maximum full and open competition.

Also, grantees shall not preclude potential bidders from qualifying during the solicitation period, which is from the issuance of the solicitation to its closing date.

9. **METHODS OF PROCUREMENT**. The following methods of procurement may be used as appropriate:

a. Procurement by Micro-Purchases. Micro-purchases are those purchases under $2,500. Purchases below that threshold may be made without obtaining competitive quotations. There should be equitable distribution among qualified suppliers and no splitting of procurements to avoid competition. (The Davis-Bacon Act applies to construction contracts above $2,000.) Minimum documentation is required: A determination that the price is fair and reasonable and how this determination was derived. The other requirements of paragraph 7(i) do not apply to micro-purchases.

b. Procurement by Small Purchase Procedures. Small purchase procedures are those relatively simple and informal procurement methods for securing services, supplies, or other property that cost more than $2,500 but do not cost more than the simplified acquisition threshold fixed at 41 U.S.C. § 403(11) (currently set at $100,000). If small purchase procedures are used, price or rate quotations shall be obtained from an adequate number of qualified sources.

c. Procurement By Sealed Bids/Invitation For Bid (IFB). Bids are publicly solicited and a firm-fixed-price contract (lump sum or unit price) is awarded to the responsible bidder whose bid, conforming to all the material terms and conditions of the invitation for bids, is the lowest in price.

(1) In order for sealed bidding to be feasible, the following conditions should be present:

(a) A complete, adequate, and realistic specification or purchase description is available;

(b) Two or more responsible bidders are willing and able to compete effectively for the business;

(c) The procurement lends itself to a firm fixed price contract and the selection of the successful bidder can be made principally on the basis of price; and

(d) No discussion with bidders is needed.

(2) If this procurement method is used, the following requirements apply:

(a) The invitation for bids will be publicly advertised and bids shall be solicited from an adequate number of known suppliers, providing them sufficient time to prepare bids prior to the date set for opening the bids;

(b) The invitation for bids, which will include any specifications and pertinent attachments, shall define the items or services sought in order for the bidder to properly respond;

(c) All bids will be publicly opened at the time and place prescribed in the invitation for bids;

(d) A firm fixed-price contract award will be made in writing to the lowest responsive and responsible bidder. When specified in bidding documents, factors such as discounts, transportation costs, and life cycle costs shall be considered in determining which bid is lowest;

Payment discounts will only be used to determine the low bid when prior experience indicates that such discounts are usually taken advantage of; and

(e) Any or all bids may be rejected if there is a sound documented business reason.

(3) The sealed bid method is the preferred method for procuring construction if the conditions in paragraph 9c(1) above apply.

d. Procurement by Competitive Proposal/Request for Proposals (RFP). The competitive proposal method of procurement is normally conducted with more than one source submitting an offer, i.e., proposal. Either a fixed price or cost reimbursement type contract is awarded. This method of procurement is generally used when conditions are not appropriate for the use of sealed bids. If this procurement method is used the following requirements apply:

(1) Requests for proposals will be publicized. All evaluation factors will be identified along with their relative importance;

(2) Proposals will be solicited from an adequate number of qualified sources;

(3) Grantees will have a method in place for conducting technical evaluations of the proposals received and for selecting awardees;

(4) Awards will be made to the responsible firm whose proposal is most advantageous to the grantee's program with price and other factors considered; and

(5) In determining which proposal is most advantageous, grantees may award (if consistent with State law) to the proposer whose proposal offers the greatest business value to the Agency based upon an analysis of a tradeoff of qualitative technical factors and price/cost to derive which proposal represents the "best value" to the Procuring Agency as defined in Section 6, Definitions. If the grantee elects to use the best value selection method as the basis for award, the solicitation must contain language which establishes that an award will be made on a "best value" basis.

e. Procurement of Architectural and Engineering Services (A&E). Grantees may use qualifications-based competitive proposal procedures (i.e., Brooks Act procedures) when contracting for A&E services as defined in 40 U.S.C. §541 and 49 U.S.C. §5325(d). Services subject to this method of procurement are program management, construction management, feasibility studies, preliminary engineering, design, architectural, engineering, surveying, mapping, and related services.

Qualifications-based competitive proposal procedures require that:

(1) An offeror's qualifications be evaluated;

(2) Price be excluded as an evaluation factor;

(3) Negotiations be conducted with only the most qualified offeror; and

(4) Failing agreement on price, negotiations with the next most qualified offeror be conducted until a contract award can be made to the most qualified offeror whose price is fair and reasonable to the grantee.

These qualifications-based competitive proposal procedures should only be used for the procurement of the services listed above. This method of procurement should not be used to obtain other types of services even though a firm that provides A&E services is also a potential source to perform other types of services.

These requirements apply except to the extent the grantee's State adopts or has adopted by statute a formal procedure for the procurement of these services.

f. Procurement of Design-Bid-Build. Grantees may procure design-bid-build services through means of sealed bidding or competitive negotiations. These services must be procured in a manner that conforms to applicable state and local law, the requirements of this guidance relative to the method of procurement used and all other applicable federal requirements.

g. Procurement of Design-Build. Grantees may procure design-build services through means of qualifications-based competitive proposal procedures based on the Brooks Act as set forth in Section 9e when the preponderance of the work to be performed is considered to be for architectural and engineering (A&E) services as defined in Section 9e, Qualifications-based competitive proposal procedures should not be used to procure design-build services when the preponderance of the work to be performed is not of an A&E nature as defined in Section 9e, unless required by State law.

h. Procurement By Noncompetitive Proposals (Sole Source). Sole Source procurements are accomplished through solicitation of a proposal from only one source, or after solicitation of a number of sources, competition is determined inadequate. A contract change that is not within the scope of the original contract is considered a sole source procurement that must comply with this subparagraph.

(1) Procurement by noncompetitive proposals may be used only when the award of a contract is infeasible under small purchase procedures, sealed bids, or competitive proposals and at least one of the following circumstances applies:

(a) The item is available only from a single source;

(b) The public exigency or emergency for the requirement will not permit a delay resulting from competitive solicitation;

(c) The LMRO authorizes noncompetitive negotiations—e.g., if FTA provides a joint procurement grant or a research project grant with a particular firm or combination of firms, the grant agreement is the sole source approval;

(d) After solicitation of a number of sources, competition is determined inadequate; or

(e) **NOT APPLICABLE**.

(2) A cost analysis, i.e., verifying the proposed cost data, the projections of the data, and the evaluation of the specific elements of costs and profit, is required.

i. Options. Grantees may include options in contracts. An option is a unilateral right in a contract by which, for a specified time, a grantee may elect to purchase additional equipment, supplies, or services called for by the contract, or may elect to extend the term of the contract. If a grantee chooses to use options, the requirements below apply:

(1) Evaluation of Options. The option quantities or periods contained in the contractor's bid or offer must be evaluated in order to determine contract award. When options have not been evaluated as part of the award, the exercise of such options will be considered a sole source procurement.

(2) Exercise of Options.

(a) A grantee must ensure that the exercise of an option is in accordance with the terms and conditions of the option stated in the initial contract awarded.

(b) An option may not be exercised unless the grantee has determined that the option price is better than prices available in the market or that the option is the more advantageous offer at the time the option is exercised.

10. CONTRACT COST AND PRICE ANALYSIS FOR EVERY PROCUREMENT ACTION. Grantees must perform a cost or price analysis in connection with every procurement action, including contract modifications. The method and degree of analysis is dependent on the facts surrounding the particular procurement situation, but as a starting point, grantees must make independent estimates before receiving bids or proposals.

a. Cost Analysis. A cost analysis must be performed when the offeror is required to submit the elements (i.e., labor hours, overhead, materials, etc.) of the estimated cost, (e.g., under professional consulting and architectural and engineering services contracts, etc.).

A cost analysis will be necessary when adequate price competition is lacking and for sole source procurements, including contract modifications or change orders, unless price reasonableness can be established on the basis of a catalog or market price of a commercial product sold in substantial quantities to the general public or on the basis of prices set by law or regulation.

b. Price Analysis. A price analysis may be used in all other instances to determine the reasonableness of the proposed contract price.

c. Profit. Grantees will negotiate profit as a separate element of the price for each contract in which there is no price competition and in all cases where cost analysis is performed. To establish a fair and reasonable profit, consideration will be given to the complexity of the work to be performed, the risk borne by the contractor, the contractor's investment, the amount of subcontracting, the quality of its record of past performance, and industry profit rates in the surrounding geographical area for similar work.

d. Federal Cost Principles. Costs or prices based on estimated costs for contracts under grants will be allowable only to the extent that costs incurred or cost estimates included in negotiated prices are consistent with Federal cost principles. Grantees may reference their own cost principles that comply with applicable Federal cost principles.

e. Cost Plus Percentage of Cost Prohibited. The cost plus a percentage of cost and percentage of construction cost methods of contracting shall not be used.

11. **BONDING REQUIREMENTS.** For those construction or facility improvement contracts or subcontracts exceeding $100,000, the LMRO may accept the bonding policy and requirements of the grantee, provided the LMRO determined that the policy and requirements adequately protect the Federal interest. The LMRO has determined that grantee policies and requirements that meet the following minimum criteria adequately protect the Federal interest:

a. A bid guarantee from each bidder equivalent to five (5) percent of the bid price. The "bid guarantee" shall consist of a firm commitment such as a bid bond, certified check, or other negotiable instrument accompanying a bid as assurance that the bidder will, upon acceptance of his bid, execute such contractual documents as may be required within the time specified;

b. A performance bond on the part of the contractor for 100 percent of the contract price. A "performance bond" is one executed in connection with a contract to secure fulfillment of all the contractor's obligations under such contract; and

c. A payment bond on the part of the contractor. A payment bond is one executed in connection with a contract to assure payment, as required by law, of all persons supplying labor and material in the execution of the work provided for in the contract. Payment bond amounts determined to adequately protect the federal interest are as follows:

(1) Fifty percent of the contract price if the contract price is not more than $1 million;

(2) Forty percent of the contract price if the contract price is more than $1 million but not more than $5 million; or

(3) Two and a half million dollars if the contract price is more than $5 million.

d. A Grantee may seek LMRO approval of its bonding policy and requirements if they do not comply with these criteria.

12. PAYMENT PROVISIONS IN THIRD PARTY CONTRACTS.

a. Advance Payments. FTA does not authorize and will not participate in funding payments to a contractor prior to the incurrence of costs by the contractor unless prior written concurrence is obtained from FTA.

b. Progress Payments. Grantees may use progress payments provided the following requirements are followed:

(1) Progress payments are only made to the contractor for costs incurred in the performance of the contract.

(2) The grantee must obtain adequate security for progress payments. Adequate security may include taking title, letter of credit or equivalent means to protect the grantee's interest in the progress payment.

13. LIQUIDATED DAMAGES PROVISIONS. A grantee may use liquidated damages if it may reasonably expect to suffer damages and the extent or amount of such damages would be difficult or impossible to determine.

The assessment for damages shall be at a specific rate per day for each day of overrun in contract time; and the rate must be specified in the third party contract. Any liquidated damages recovered shall be credited to the project account involved unless the LMRO permits otherwise.

14. NOT APPLICABLE.

15. CONTRACT PROVISIONS. All contracts shall include provisions to define a sound and complete agreement. In addition, contracts and subcontracts shall contain contractual provisions or conditions that allow for:

a. Administrative, contractual, or legal remedies in instances where contractors violate or breach contract terms, including sanctions and penalties as may be appropriate. (All contracts in excess of the small purchase threshold.)

b. Termination for cause and for convenience by the grantee or subgrantee including the manner by which it will be effected and the basis for settlement. (All contracts in excess of $10,000.)

16. STATUTORY AND REGULATORY REQUIREMENTS. A current but not all inclusive and comprehensive list of statutory and regulatory requirements applicable to

grantee procurements (such as Davis-Bacon Act, Clean Air, etc.) is contained in the LMRO Master Agreement. Grantees are responsible for evaluating these requirements for relevance and applicability to each procurement. Further guidance concerning these requirements and suggested wording for contract clauses may be found in FTA's Best Practices Procurement Manual.

For specific guidance concerning the crosscutting requirements of other Federal agencies, grantees are advised to contact those agencies.