

TG10.4 – Electrical, Communications, Security and Integrated Networks

Questions are numbered in the order received. Numbers missing in the sequence either have been answered in a previous response set or will be answered in a future set.

Question No.	Submission Date	Drawing No.	Document/ Spec. No.	Question	Response
TG10.4-147	6/25/2014	TE1-2102		Door B2280A is missing an IP door controller outlet for the door's access control device as shown on SE1-2202. Is an IP door controller outlet needed if so please provide direction?	An IP controller outlet for door B2280A on drawing TE1-2102 at GL B.2 will be added.
TG10.4-154	6/25/2014	TE1-2202		Camera Type 5 at Grid Lines C and 5 as shown on SE1-2202 is missing a telecom outlet. Is a telecom outlet required? If so please provide direction.	SE1 series are correct and complete. A telecommunication outlet is required and can be found on TE1-4202.
TG10.4-155	6/25/2014	TE1-2202		Camera Type 5 at Grid Lines C.3 and 5.5 as shown on SE1-2202 is missing a telecom outlet. Is a telecom outlet required? If so please provide direction.	SE1 series are correct and complete. A telecommunication outlet is required and can be found on drawing TE1-4202.
TG10.4-161	6/26/2014	TE1-2202		Three (3) Camera Type 5s in Corridor B1226 are missing a telecom outlet. Is a telecom outlet required? If so please provide direction.	SE1 series are correct and complete. A telecommunication outlet is required and can be found on drawing TE1-4202.
TG10.4-168	6/27/2014	C1-2001		Sheet C1-2001 dated 3/31/2014 shows what appears to be a Telecom vault on the north side of Minna St. but it is not shown on 'A1' or 'TE1' drawings. If it is a Telecom vault and/or its part of the work, provide direction.	The telecom vault on sheet C1-2001 is an existing telecom vault, but it is not part of the scope of work of this contract. The telecommunication provider has not been determined at this time; therefore, any telecommunication work outside the building is not included in the scope of work.
TG10.4-169	6/27/2014	TE1-2402		Camera Type 5 at Grid Lines C and 2.4 as shown on SE1-2402 is missing a telecom outlet. Is a telecom outlet required? If so please provide direction.	SE1 series are correct and complete. A Telecom outlet is required and can be found on drawing TE1-4402.
TG10.4-170	6/27/2014	TE1-2402		Two (2) of Camera Type 5 at Grid Lines C and 5 as shown on SE1-2402 are missing telecom outlets. Are telecom outlets required? If so please provide direction.	SE1 series are correct and complete. A telecommunication outlet is required and can be found on drawing TE1-4402.
TG10.4-176	6/27/2014		Addendum # 4 dated 6/20/14 paragraph 2.7 28 16 00	Specification 28 16 00 Paragraph 2.7 requires a Knox Box Tamper Switch. 1.) Provide locations and/or elevations of all Knox Box(s); and, 2.) Provide Specification or relevant data as to type of required Knox Box(s).	<ol style="list-style-type: none"> 1. Knox Boxes are located on Custom Pylons defined by Specification Section 28 16 44, Perimeter Security Systems, and indicated on sheets A1-2302 and A1-2303. 2. The Knox Box specification is included in Specification Section 28 16 44 as issued in ASI-O 121/Addendum 5.

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TG10.4-177	6/27/2014		Addendum # 4 dated 6/20/14 paragraph 1.5 & 1.6 25 05 00	Specification Section 25 05 00 Paragraphs 1.5 & 1.6 were revised in Addendum # 4 but only the Title of these sections were revised. The 'Alternate Price' as noted within the title was deleted but the body of the spec section still requires alternate pricing. Please clarify how pricing is to be defined – are they to be included within the base bid price, as an alternate price, or are pricing requirements to be deleted in their entirety?	Separate pricing for the listed items is to be provided. References to "Alternate Price" have been removed from the title and body of Specification Section 25 05 00 paragraphs 1.5 and 1.6, and language has been revised to clarify pricing, as issued in ASI-0121/Addendum 5.
TG10.4-180	6/27/2014	E1-2402, E1-3401	1 on pg E1-3401	The West Generator Room 02281 pull box dimensions are missing. Please advise.	Per Specification Section 26 05 35(3)(3), the TG10.4 Trade Subcontractor is to size pull boxes as required for conduit entrance and configuration.
TG10.4-183	7/11/2014		Section 2.13 E & D 28 13 00	Spec 28 13 00, 2.13 E calls for 1000 access cards to be provided by the contractor. Section 2.13 D requires cards to have optional multi-technology formats such as proximity with, magnetic strip, smart chips, and/or bar code. Please confirm if every optional multi-technology format is to be incorporated in all 1000 access cards delivered.	The specifications are correct and accurate. All optional technologies listed are to be incorporated on all 1,000 cards delivered.
TG10.4-189	7/14/2014		Section 2.6, D 28 13 00	Card compatibility Section 2.6 D lists out the requirements for card readers to be compatible with three formats. PIV_II is mentioned, PIV has become an outdated lingo in the industry and not necessarily synonymous with either FIPS 201-1 or FIPS 201-2(Federal Information Processing Standards) . Please confirm which of the two standards are required for the cards and readers, FIPS 201-1 or FIPS 201-2?	FIPS 201-2 is the current and correct standard to employ.
TG10.4-191	7/14/2014		Section 2.6, D 28 13 00	The three access control card credentials specified meet homeland security criteria. Are the access control associated hardware components, panels and software then required to meet homeland security specifications as well?	Yes, access control associated hardware components, panels and software are required to meet Homeland Security criteria.
TG10.4-192	7/14/2014	SE1-6002, Detail-1	28 13 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>

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TG10.4-199	7/14/2014	M1-6710,M1-7001	Termination Schedules	System Emergency Shut Down Switches indicated on Termination Schedules for AHU (M1-6710) and Miscellaneous(M1-7001). Please confirm these (5) Shut-Down Switches are the same.	Confirmed, these five shutdown switches are the same.
TG10.4-201	7/15/2014	M1-7001	Detail-2	Detail-2 on M1-7001 indicates control and monitoring of "Snorkel Dampers" and to see Mechanical Drawings for quantities and locations. Mechanical Drawings do not use the term "Snorkel" in any description. Please clarify location and quantities of "Snorkel Dampers".	<p>"Snorkel dampers" will be changed to read "Outside Air Dampers." The following outside air dampers shall be included:</p> <ol style="list-style-type: none"> 1. 42x20 duct serving SF-B2-A-1 (Level B2, gridline 2/F) 2. 14x12 duct serving SF-B1-A-4 (Level B1, gridline 1.4/H) 3. 20x14 duct serving SF-B1-A-3 (Level B1, gridline 5/F) 4. 50x32 duct (Level B1, gridline 14/G) 5. 50x32 duct (Level B1, gridline 14/C) 6. 38x38 duct (Level B1, gridline 22/G) 7. 38x38 duct (Level B1, gridline 22/C) 8. 28x28 duct (Level B1, gridline 30.5/D.8) 9. 40x28 duct (Level B1, gridline 30.5/D.8) 10. 12" dia. duct (Level 2, gridline 4/F.7) 11. 36x18 duct (Level 2, gridline 4/F.7)
TG10.4-210	7/16/2014		Page-4 , 1.7 N 28 30 02	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-211	7/16/2014		Page-2, 1.1 28 30 02	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>

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				<i>the TJPA's secure website and opening the relevant folder.</i>	
TG10.4-212	7/16/2014	A1-3100(ASI # 118) & SKA 3584(ASI # 119)		Regarding the bollard control connection between the HPU and the Dock Master Offices, 1.) Shall the conduit run overhead and exposed, embedded within the deck, or is it a means & methods issue?; 2.) Where does conduit land in the office or is it too a means & methods issue? 3.) What size conduit is required to HPU connection? 4.) Is the connection only to be low voltage?	<ol style="list-style-type: none"> 1. Conduit shall be embedded wherever possible. Achieving embedment is a means & method issue. 2. This is a means & method issue but provide enough flexibility to provide a data port anywhere along the interior of the office as coordinated with the Architect. Assume data port height as variable but under a maximum of 42". 3. Assume a maximum of 1-1/4" conduit. 4. Yes, the connection is to be low voltage only.
TG10.4-213	7/16/2014		Page-8,1.11 F.3 28 30 02	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-216	7/16/2014		2.5H 28 30 02	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-217	7/16/2014		Section 2.6 28 30 02	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-220	7/16/2014		Page 20, 2.2 28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>

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TG10.4-221	7/16/2014		Page 20, 2.2 28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-223	7/16/2014		Page 20, 2.2 28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-226	7/16/2014		28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-227	7/16/2014	SE1 / SE1-6400 thu 6410	Page 5-2.1.A.2.a Resolution Target (Pixels / sf) 28 23 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-228	7/16/2014	SE1 / SE1-6400 thu 6410	Page 5-2.1.A.2.b Resolution Target (Pixels / sf) 28 23 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>

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TG10.4-229	7/16/2014	SE1 / SE1-6400 thu 6410	Resolution Target (Pixels / sf) & Page5- 2.1.A.2 28 23 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-230	7/16/2014	SE1-2102 - Device # C-TP-003 Note#3)	Exhibit A - A1 Bid Form	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-231	7/17/2014		2.1.F-Video Storage Component 28 23 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-232	7/17/2014	SE1 - Security Drawings		<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-233	7/17/2014		2.1.D.2.O - Integral Video Analytics 28 23 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>

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TG10.4-235	7/17/2014	SE1 / SE1-6400 thru 6410	2.2 VAS 28 23 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-237	7/17/2014		2.1.D.2.o - Integral Video Analytics / 2.2 - VAS 28 23 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-239	7/17/2014	SE1 / SE1-6400 thru 6410	2.1.D.8 Redundant Archiver 28 23 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-240	7/17/2014		28 23 00 - 31 - 2.1.F.6.b. / 6.c / 6.e 28 23 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-241	7/17/2014		28 23 00 - 31 - 2.1.F.6.b. / 6.c / 6.e 28 23 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>

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TG10.4-242	7/17/2014	SE1-6410 / SE1-2607	28 23 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-244	7/17/2014	SE1-6408 / SE1-2502	28 23 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-245	7/17/2014		2.1.D.7 28 23 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-246	7/17/2014		2.1.D.5 - Global Server 28 23 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-247	7/17/2014		2.1.E.5.b.11 28 23 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>

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TG10.4-248	7/17/2014		2.1.E.5.b.18-20 28 23 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-249	7/17/2014		2.1.E.1.h 28 23 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-250	7/17/2014		2.1.E.3.b.26 28 23 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-252	7/17/2014		Pg 20 - 2.2 28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-253	7/17/2014		28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>

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TG10.4-254	7/17/2014		28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-255	7/17/2014		Pg 19 - 2.1.D.1.b.(3,4, 5 & 8) 28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-256	7/17/2014		Pg 19 - 2.1.D.1.b.(1) 28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-257	7/17/2014		Pg 19 - 2.1.D.1.b.(2) 28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-258	7/17/2014		Pg 19 - 2.1.D.1.b.13, Pg 9 - 2.1.A.4.a.12.b, Pg 7 - 2.1.A.2.k 28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>

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TG10.4-259	7/17/2014		Pg 19 - 2.1.D.1.b.12, Pg 9 - 2.1.A.4.a.12.c, Pg 7 - 2.1.A.2.k 28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-260	7/17/2014		Pg 19 - 2.1.D.1.b.13, Pg 5 - 2.1.A.1.f, Pg 9 - 2.1.A.4.a.12.a 28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-261	7/17/2014		Pg 19 - 2.1.D.1.b.13, Pg 5 - 2.1.A.1.f, Pg 9 - 2.1.A.4.a.12.a 28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-262	7/18/2014		Pg 19 - 2.1.D.1.b.12, Pg 7 - 2.1.A.2.k, Pg 8 - 2.1.A.4.a.11.b 28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-263	7/18/2014		Pg 19 - 2.1.D.1.b.12, Pg 8 - 2.1.A.4.a.11.c, Pg 17 - 2.1.A.14.e 28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>

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TG10.4-264	7/18/2014		Pg 19 - 2.1.D.1.b.12, Pg 8 - 2.1.A.4.a.11.d, Pg 17 - 2.1.A.14.e 28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-265	7/18/2014		Pg 19 - 2.1.D.1.b.12, Pg 8 - 2.1.A.4.a.11.g, 28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-266	7/18/2014		Pg 19 - 2.1.D.1.b.12, Pg 8 - 2.1.A.4.a.11.f, 28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-267	7/18/2014		Pg 19 - 2.1.D.1.b.12, Pg 8 - 2.1.A.4.a.11.i, 28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-268	7/18/2014		Pg 19 - 2.1.D.1.b.12, Pg 6 - 2.1.A.1.n 28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>

Question No.	Submission Date	Drawing No.	Document/ Spec. No.	Question	Response
TG10.4-269	7/18/2014		Pg 5 - 2.1.A.1.h 28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-270	7/18/2014		Pg 7 - 2.1.A.2.k, Pg 8 - 2.1.A.4.a.11.a 28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-271	7/18/2014		Pg 7 - 2.1.A.2.k, Pg 8 - 2.1.A.4.a.11.a 28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-272	7/18/2014		Pg 5 - 2.1.A.1.a, Pg 7 - 2.1.A.2.k, Pg 8 - 2.1.A.4.a.11.a 28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-273	7/18/2014		Pg 8 - 2.1.A.4.a.11.e 28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>

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TG10.4-274	7/18/2014		Pg 8 - 2.1.A.4.a.11.h 28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-275	7/18/2014		Pg 8 - 2.1.A.4.a.11.k 28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-276	7/18/2014		Pg 8 - 2.1.A.4.a.10 28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-277	7/18/2014		Pg 8 - 2.1.B.2.a.5 28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-278	7/18/2014		Pg 19 - 2.1.D.1.b.12, Pg 7 - 2.1.A.2.k, Pg 8 - 2.1.A.4.a.5 28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-279	7/18/2014		28 40 00	<i>Is there a specific PSIM Specification/Matrix that needs to be filled or responded to as part of the RFP response?</i>	<i>Per Addendum #5, Specification Section 28 40 00 is now provided for reference only and is not to be bid at this time.</i>

Question No.	Submission Date	Drawing No.	Document/ Spec. No.	Question	Response
TG10.4-280	7/18/2014		28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-281	7/18/2014		28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-282	7/18/2014		28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-283	7/18/2014		28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	The response to this question is available only to bidders who have been granted access to the TJPA's secure website.
TG10.4-284	7/18/2014		28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	The response to this question is available only to bidders who have been granted access to the TJPA's secure website.

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TG10.4-285	7/18/2014		28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-286	7/18/2014		28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-287	7/18/2014		28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-288	7/18/2014		28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-289	7/18/2014		28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>

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TG10.4-290	7/18/2014		28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-291	7/18/2014		28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-292	7/18/2014		Pg 8 - 2.1.A.4.a.11.j 28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-293	7/18/2014		Project Bidding Manual - Deleted "G" - BIM	<i>With item "G" Building information Modeling being deleted from the Bid Manual that provides the requirements of what the trade packages responsibilities are: mean that BIM coordination and Exhibit F is not applicable. Please confirm? If not, please explain.</i>	BIM coordination is still required as noted in Exhibits A and F. The project bidding manual was revised to eliminate duplicative language.
TG10.4-297	7/18/2014		Exhibit F - Change Management	<i>At what point are the changes to be incorporated with the 4 and 5D process? Who determines time being added to a schedule and extended project costs? If TG10.4 is lead for BIM how are they to incorporate the 4 & 5D process? How are they to be reimbursed?</i>	The 4 and 5D requirements were removed in Exhibit F Rev. 2. See pages 3 and 4 of Exhibit F, Rev. 2 (attached).
TG10.4-298	7/18/2014		Exhibit F - BIM Coordination	For the MEP and FLS BIM coordination, how are different Trade Package's programs and versions to be handles throughout the project? Will a standard program and version be established?	See Exhibit F for software versions. Federated model will be coordinated with Autodesk BIM 360 Glue.

Question No.	Submission Date	Drawing No.	Document/ Spec. No.	Question	Response
TG10.4-301	7/18/2014		Exhibit F - BIM Coordination	Who is leading the overall BIM coordination for the various trade packages released, past, present, and future? Will Webcor/Obayashi provide a combined set of working drawings reflecting project information outside of this trade package?	Webcor/Obayashi Joint Venture is leading the overall, projectwide BIM modeling coordination effort. Webcor/Obayashi Joint Venture will provide electronic files of working documents as they become available.
TG10.4-304	7/18/2014		Exhibit F - BIM Coordination	Documents state the BIM details are to be level DOD 2; is this the equivalent of the BIM coordination LOD 350/400?	Yes, DOD 2 and LOD 350/400 have the same definition of Model detail.
TG10.4-305	7/18/2014		TG10.2, 10.3, & 10.5; Exhibit A & F	Exhibit A for these Trade Packages have no reference to Exhibit F for BIM requirements; are these Trade Packages excluded from following the Exhibit F requirements?	All Contract Documents are listed in Exhibit A. See Section VII. Contract Document List.
TG10.4-306	7/18/2014		TG10.4 Exhibit A - Interior & Lighting	Please update this section of Exhibit A to reflect the revised scope of work impacted by the QDB responses.	Exhibit A Scopes of Work will not reflect all QBD responses. It is the bidders' responsibility to read, understand, and incorporate QBD responses into their Bids. If prior QBD responses are not clear or do not fully address items of concern, submit another clarifying QBD prior to the QBD due date.
TG10.4-308	7/18/2014		ES-2110 & E1-3211	The profile view for the three conduit entering the south electric room is not shown on drawing ES-2110. The B profile view shows 4-6" and 4-2" conduit. Per the electrical plan drawing E1-3211 detail 2 and 5, it shows a set of 2-6" and 2-2" conduit for each of the three runs. Please advise on the number of conduit required for each run.	A total of 6-2" conduits and 6-6" conduits are required.
TG10.4-311	7/21/2014		Section 1.1E 28 31 76	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-313	7/21/2014		Section 2.1.D.1 28 31 76	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>

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TG10.4-316	7/21/2014		28 30 02	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-319	7/21/2014	M1-6704, Detail: Heat Pump	25BMCS 25 00 00	Who provides the shutoff valve? Notes from M1-6704 are not clear on that subject.	The shutoff valve comes with the unit. An interlock is required to open and close this valve. This requirement is clearly noted on the drawings.
TG10.4-325	7/21/2014		25 BMCS 25 01 00	Can we put panel 1-A-01 in IDF room 01362 instead of 01261? This would put it physically a lot closer to the I/O it has to pick up.	The location shall remain as shown in the bidding documents. An alternate location can be proposed as a value engineering item.
TG10.4-326	7/21/2014	M1-2403, M1-0052	Detail: Automated Draft Curtains. 25BMCS 25 01 00	Is there any BMS scope for ADC 2-A-1A/1B/2A/2B?	There are no controls requirements for these units.
TG10.4-327	7/21/2014	M1-0051	Detail Supply Fans. 25BMCS 25 00 00	There are 23 supply fans, 8 of which have VFD's. No control diagram or SOO. Please provide points list and SOO for these fans and advise if the VFD's need a software interface.	There are no controls requirements for these VFDs or software interface requirements. These VFDs are provided for soft start purposes.
TG10.4-328	7/21/2014	M1-0051, M1-6709	Detail Exhaust Fans. 25BMCS 25 00 00	The fan schedule on M1-0051 indicates that 7 exhaust fans have VFS's. The points list and control diagram on M1-6709 for "general exhaust" do not mention a VFS. Are the only hardwired points required for these 7 fans still just start/stop (DO) and status (DI)? Is a software interface required for the VFD's?	Start/stop and status are the only control requirements for these fans.

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TG10.4-331	7/22/2014		1.1.A.4 issued 3/31/14 05 50 00	Specification 05 50 00 1.1.A.4 indicates that electrical continuity and grounding for metal fabrications is included in 05 50 00, but give no further information on what is required. Please confirm no grounding of metal fabrications is required, or provide grounding requirements.	<p>Grounding of metal fabrications is required for systems as follows:</p> <ol style="list-style-type: none"> 1) System includes internal elements that require bonding (such as the dispenser bollards). Refer to product installation requirements. 2) System includes equipment that is called out to be bonded on the drawings (i.e., metal in the utility vaults). Refer to notes on the drawings. 3) Bonding is required by code to a specific application/use. Bond in accordance with applicable codes. <p>Specification Section 05 50 00 paragraph 1.1.A.4 shall be revised to state: "Provide bonding where required by the specific equipment installation requirements or as required by other requirements of the project contract documents."</p> <p>Please note, the revision to Specification Section 05 50 00 paragraph 1.1.A.4 will not be issued prior to bidding.</p>
TG10.4-332	7/22/2014	1/A1-7575, 7/A1-7579 & S1-5000		Details 1/A1-7575 & 7/A1-7579 dated 03/31/14 show a C-Channel for MEP unistrut support, furthermore detail 1/A1-7575 specifically identifies the C-Channel as support for MEP framing. 1/A1-7575 and 7/A1-7579 are not structural slab openings and therefore S1-5000 which marks out slab edge support requirements at openings in structural slabs does not apply to them. In addition, the C-channel shown spans further than allowed by typical structural details (12/S1-5003 allows a max. 8'x6' opening, and to "see plans for larger openings"). Please confirm is it the intent for MEP TG10 packages to install these C-Channels and is it required at each floor line ? If so, please provide the size and method of attachment for the C-channel as steel of this size is not typically designed by or installed by MEP trade.	It is the intent that MEP TG10 series packages are to install these C-channels. The size of and method of attachment for C-channels to the structural framing is to be designed by the engineer hired by the MEP trade subcontractors.

Question No.	Submission Date	Drawing No.	Document/ Spec. No.	Question	Response
TG10.4-333	7/22/2014		1.6.B Issued 3/21/14 26 50 01	Specification 26 50 01 Paragraph 1.6.B requires unit and alternate pricing per Specification Section 26 50 02 but the reference specification does not address unit or alternate pricing requirements. Provide direction as to required unit and alternate pricing and the method to provide said pricing.	Since unit or alternate pricing has not been requested in Specification Section 26 50 02, unit or alternate pricing is not required.
TG10.4-334	7/22/2014		1.8.E Issued 3.21.14 26 50 01	Specification 26 50 01 Paragraph 1.8.E requires two weeks for submittals upon receipt of order. Due to project size and fixture quantities would four 4 weeks be acceptable for submittals.	Strike the current text for Specification Section 26 50 01 paragraph 1.8.E and replace it with "All submittals under paragraphs A through C above, manufacturer shall provide submittals per Specification Section 01 13 00, Submittals."
TG10.4-335	7/23/2014		Section 2.1 25 35 23	Specification indicates BMCS contractor to provide all non Fire Dampers. Mechanical drawings do not indicate which dampers are to be provided. Please clarify location and sizes of dampers to be provided.	The TG10.4 package only includes the controls portion for dampers. The physical dampers themselves, whether actuated, automatic or manual, are provided by the TG10.3 Trade Subcontractor as coordinated with the TG10.4 Trade Subcontractor.
TG10.4-343	7/25/2014		ASI 117, 118, 119	Considering the release of these ASI packages on 7-15 and the drawings contained within that note Addendum 3, and that the original Addendum 3 indicated that no drawings were reissued, we request a three week extension of the bid closing to 9/11 to ensure that these changes are included in the TG10.4 bid.	See Addendum #5 Exhibit A - Bid date was extended to September 18, 2014.
TG10.4-344	7/25/2014		ES Series	The Electrical Supply drawings issued in Addendum 4 by the SFPUC show the electrical supply duct bank running on top of the current CDSM shoring wall. The duct bank sits at an average depth of 4' below grade while the existing CDSM wall runs at an average of 1' to 2' above grade. Who is responsible for this demo scope of work to remove the CDSM wall to allow for install of the electrical supply duct bank?	The TG10.4 Trade Subcontractor is responsible to expose, demolish and dispose of the shoring wall as necessary for SFPUC duct bank installation. See Exhibit A page 23 for confirmation.
TG10.4-360	7/28/2014		Page 11 28 13 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>

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TG10.4-361	7/28/2014		Page 11 28 13 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-363	7/28/2014	Drawing SE1-3001		<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-364	7/28/2014		Page 5 28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-365	7/28/2014		Page 5 28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-366	7/28/2014		Page 7 28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>

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TG10.4-367	7/28/2014		Page 7 28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-369	7/28/2014		Page 9 28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-370	7/28/2014		Page 14 28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-372	7/29/2014		Page 18, 2.1 B. 1. B 28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>
TG10.4-373	7/29/2014		Page 7 28 40 00	<i>This question contains Sensitive Security Information and is available only to bidders who have been granted access to the document that is the basis for the question. Authorized bidders may access such questions and their responses by logging into the TJPA's secure website and opening the relevant folder.</i>	<i>The response to this question is available only to bidders who have been granted access to the TJPA's secure website.</i>

Exhibit F – BIM Requirements for Subcontractors

Transbay Transit Center



Webcor/Obayashi Joint Venture

I. Introduction

Webcor/Obayashi Joint Venture is implementing a virtual building process for this project. This process will include building a digital, three-dimensional Building Information Model (BIM) linked to a project cost and labor productivity database, which will provide a platform for collaboration throughout the project's construction. In implementing this virtual building process as further outlined below, the Subcontractors will have the ability to analyze different construction sequences and methods for construction. In turn, the Subcontractor's provision of accurate virtual building data facilitates analysis and mitigation of potential costs and scheduling impacts.

The participants will adhere to the following guidelines in connection with this virtual building process. The costs of all management, administration, software, modeling, drafting, transmission, submittal, meetings, etc. for this process shall be the responsibility of the subcontractor and are included in this Subcontract.

II. 3D Modeling Requirements

Subcontractors will be a part of a team that will meet at least bi-weekly, but not more than twice weekly, for coordination meetings to model the building and its systems, coordinate the work, and build the project virtually. The objectives of these meetings include the elimination of as many conflicts and clashes as possible and the development of reliable schedules that allow for efficient workflow and effective production control. The coordination meetings will occur in multiple phases and as described for Target Schedule Development (TSD) in Subsection IV, Item a, below, but shall precede the TSD at each listed phase.

Webcor/Obayashi Joint Venture will manage and lead the coordination process and assist the subcontractors in bringing the individual models together, running clash detection reports, and generally coordinating the process. The individual participants will be partners in this process, model their work, coordinate this with other trades and building components, obtain submittal approvals from the architect and engineers of record, and relocate/modify their systems as necessary when conflicts arise.

The 3D model consists of geometry control models generated and provided by Webcor/Obayashi Joint Venture and/or the Owner's design team from the 3D Database and system models generated and provided by the Subcontractors for their respective scopes of work. The system models, when integrated with the geometry control models, are referred to as the "Federated Model."

The Subcontractor's system models are the Subcontractor's sole responsibility. Prior to commencing any modeling, the Subcontractor must coordinate the initial model orientation with Webcor/Obayashi Joint Venture. All information in the system models shall be consistent with and based on the Contract Documents. The system model shall be maintained throughout the duration of the Project and updated to reflect as-built

Exhibit F – BIM Requirements for Subcontractors

Transbay Transit Center



Webcor/Obayashi Joint Venture

conditions. The degree of detail and accuracy of the Subcontractor's system models shall be sufficient to enable accurate and complete clash detection as well as shop drawing extraction. Subcontractors will be required to print their shop drawings directly from the Federated Model, including dimensions, elevations and location of specific trade elements, based off of the building grid and/or coordinates. The printed material shall comply with the submittal requirements noted elsewhere in the contract documents. Lastly, to allow for model quantity extraction for cost and schedule information, the Subcontractor shall coordinate breakdown and classification of systems in the systems model with Webcor/Obayashi Joint Venture.

The Subcontractor's system models shall be fully compatible with Autodesk Revit, Tekla, or Graphisoft ArchiCAD in the version contemporaneously current with Subcontractor's initial submission of its system model, or the version immediately preceding the contemporaneously current version. It shall be the responsibility of the Subcontractor to maintain this compatibility at its own expense. If more trade specific software is required for a particular system model, Subcontractor must obtain Webcor/Obayashi Joint Venture's prior consent to utilize such software.

The Subcontractor shall transmit its system model to Webcor/Obayashi Joint Venture's BIM Coordinator who will manage the coordination process. The Subcontractor shall be required to perform clash detections and identify conflicts which shall be communicated to the Project team in a discrepancy report. Subcontractor shall review the identified conflicts as set forth in the discrepancy report and jointly develop conflict solutions and modify their system models accordingly. Trade coordination and model modification shall at all times remain a responsibility of each Subcontractor.

a. Modeling Schedule

Webcor/Obayashi Joint Venture will develop a Modeling Schedule showing modeling and coordination efforts required by all subcontractors in order to meet the construction and installation performance shown in the Exhibit I Project construction schedule. Subcontractor will be required to maintain its performance to meet the dates shown in the Modeling Schedule. Subcontractor shall ensure that it provides adequate modeling and coordination manpower to maintain the modeling/coordination schedule.

b. Modeling Coordination Meetings

Subcontractor shall participate in BIM coordination and review meetings with Webcor/Obayashi Joint Venture. Subcontractors can expect these meetings to occur at least weekly or biweekly depending on the projects schedule needs. As a result of the information exchanged at such meetings, both the system model and the Work depicted in the Subcontractor's system model may be required to be changed by the Subcontractor to achieve coordination with other elements of the Project being provided by others. In accordance with General Conditions subsection 1.03.G, Subcontractor will be compensated for the associated BIM coordination efforts under the provisions for

Exhibit F – BIM Requirements for Subcontractors

Transbay Transit Center



Webcor/Obayashi Joint Venture

Change Orders of Article 6. Subcontractor acknowledges that BIM coordination and review meetings will require attendance of personnel that are familiar with both the data entry aspects of the BIM as well as an understanding of the Work to be performed and its relation to other elements of the Project, and the Subcontractor therefore agrees that personnel conversant in both shall attend all such meetings.

III. Cost and Productivity Data

In addition to the 3-D modeling requirements set forth above, all Subcontractors shall provide accurate cost and productivity information to be imported into a project data base in order to facilitate 4-D (time dimension) and 5-D (cost dimension) modeling. This information shall be broken down such that line items describe work activities for each building system included in Subcontractor's scope of work.

- a. Scheduling Information. Subcontractor shall provide detailed scheduling information including, but not limited to, the following:
 - i. Provide a list of tasks which identify continuous activities that can be performed with other trades.
 - ii. Provide a list of predecessor tasks for each above-defined task that needs to be complete before Subcontractor can start the subject task.
 - iii. Provide a list of preferred minimum work areas breakdown. This breakdown shall be based on the minimum work areas that will be necessary for the Subcontractor to work efficiently.
 - iv. Provide task and specific location-based activity assignments for each item in Subcontractor Submittal Register when submitted in accordance with Exhibit F, Item III.A.12.
 - v. All information noted within this Item 'a.' shall be provided within 15 days of Subcontract award.

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- ~~b. **DELETED** Cost Information. Subcontractor shall provide detailed cost estimating information including, but not limited to, the following:~~
 - ~~i. Provide a cost plan broken down into separate line items for each scheduled task defined as continuous Trade Subcontractor activity without interference from other trades and no less than one task per crew in each work area identified in the Project Schedule and coordinated with Subcontractor's task list per 4-D (time dimension) above.~~
 - ~~ii. Each estimate line items shall provide labor, material and equipment pricing.~~
 - ~~iii. Labor components shall include applicable hourly rate(s) and productivity in units per man-hour as well as crew composition.~~
 - ~~iv. Material component shall be of sufficient degree of detail to provide unit pricing per estimate/schedule line item.~~

Exhibit F – BIM Requirements for Subcontractors

Transbay Transit Center



Webcor/Obayashi Joint Venture

- ~~v. Equipment component shall include equipment type productivity in unit per machine hour as well as equipment unit cost.~~
- ~~vi. General conditions costs shall be listed as a separate line item.~~
- ~~vii. This information shall be provided within 15 days of Subcontract award.~~
- ~~e. Production Control Requirements.~~
 - ~~i. Subcontractor shall participate in Production Control Phase Planning sessions as described at Item IV of this exhibit, below, and commit to certain performance based on production rates. By accepting the provisions of this section, Subcontractor expressly agrees to work collaboratively with other subcontractors to promote a high level of productivity and agrees to timely perform its Work so as not to cause delay or disruption of other subcontractors work.~~
 - ~~ii. Subcontractor shall provide a written report on task progress for each task and at each location on a daily basis and as described in Exhibit F, Item III.B.10. The written report shall include the following Production Control related information for each task, and at each location:~~
 - ~~i. Actual man hours worked~~
 - ~~ii. Actual crew size and composition for each task, at each location.~~
 - ~~iii. Each week, Subcontractor shall submit a marked-up schedule indicating the actual start and actual finish dates, as applicable, for each task, at each location.~~
 - ~~iv. If a subcontractor fails to meet its required production rate, the Project Team will evaluate the need for additional resources.~~
 - ~~v. Subcontractors will be required to commit to actions to restore required production rates (Control Actions) if the production rate is too low due to reasons within its own influence.~~

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IV. Project Scheduling and Production Control Phase Planning

Project Schedule, is a critical path method (CPM) schedule that shows the initial plan to construct the project. This schedule sets forth certain dates for performance and a general sequence of construction that is subject to change based on project requirements and as set forth in Section G of the Instructions to Bidders.

Because the BIM requirements contained in this exhibit provide an opportunity to develop a schedule that is optimized for subcontractor performance efficiencies, it is the intent of the Project Team to employ production control techniques to manage the day-to-day construction of the Project. This process will proceed generally in the following manner and is affirmatively acknowledged by Subcontractor as follows:

- a. Subcontractor agrees to participate in phased Target Schedule Development (TSD) at completion of each of the following stages of Consolidated Model Development:
 - i. TSD#1 – Foundation & Substructure
 - ii. TSD#2 – Superstructure & Exterior Envelope

Exhibit F – BIM Requirements for Subcontractors

Transbay Transit Center



Webcor/Obayashi Joint Venture

- iii. TSD#3 – Mechanical, Electrical, Plumbing, Sprinkler (Fire) [MEPS]
 - iv. TSD#4 – Interior Finishes
 - v. TSD#5 – Commissioning
- b. Phased Target Schedule Development (TSD) requirements:
 - i. Subcontractor agrees that durations for Subcontractor's tasks at each location will be calculated based on quantities at each location divided by the Subcontractor's crew production rate
 - ii. Subcontractor agrees to assist with optimization of the overall performance schedule for all trades, working from visualization(s) of labor flow using a Flowline chart (a modified Line of Balance schedule), to:
 - i. Balance the number of crews to improve flow
 - ii. Remove labor or material spikes to increase manageability and reduce site conflicts
 - iii. Use risk analysis to determine buffer placement points and durations required to minimize risk
- c. Subcontractor agrees to participate in Mid-Phase Re-optimization Development at least one (1) additional time following each of the TSD for phases of Consolidated Model Development described in Item A, above:
 - i. Mid-Phase Re-optimization Development (MRD) requirements:
 - i. Subcontractor agrees that durations for Subcontractor's tasks at each location will be calculated based on quantities at each location divided by the Subcontractor's crew production rate.
 - ii. Subcontractor agrees to assist with optimization of the overall performance schedule for all trades, working from visualization(s) of labor flow using a Flowline chart (a modified Line of Balance schedule), to enable the following:
 - i. Balance the number of crews to improve flow
 - ii. Remove labor or material spikes to increase manageability and reduce site conflicts
 - iii. Use risk analysis to determine buffer placement points and durations required to minimize risk

V. *Miscellaneous Provisions*

- a. Model Ownership: In accordance with Article 2, subsection 2.07A, BIM files, and other computer files created for the Project shall be made and remain the property of the TJPA, including all intellectual property rights to all documents or materials.
- b. Protection of Intellectual Property or Proprietary Information: Subcontractors who provide intellectual property and/or proprietary information which is incorporated into their models shall provide notification of the confidentiality of the information.

Exhibit F – BIM Requirements for Subcontractors

Transbay Transit Center



Webcor/Obayashi Joint Venture

- c. Other Subcontract Requirements: Subcontractor agrees that neither the BIM nor the use of the BIM is in lieu of nor intended to relieve the Subcontractor of its responsibilities under the Subcontract, including, without limitation, to (i) coordinate its Work with the work of others involved in the Project and (ii) strictly comply with the other requirements of the Subcontract Agreement and the Contract Documents. It is expressly understood and agreed that, notwithstanding the requirement for submittals in connection with the BIM, other submissions shall be required of Subcontractor as required by the Contract Documents.
- d. BIM Liability: Subcontractor acknowledges and agrees that the TJPA and Webcor/Obayashi Joint Venture shall incur no responsibility or liability with respect to the BIM or the use thereof, including that resulting from errors, omissions or deficiencies in the BIM. In the event that Subcontractor provides deficient information or data that does not represent the Work it will ultimately be providing, or that is corrupted in that the information transmitted contains a virus, and/or that otherwise damages the BIM, Subcontractor shall bear all costs associated with reconstructing the BIM and to otherwise remediate such deficiencies and their effects. In the event Subcontractor discovers an apparent error, inconsistency or omission in its information or submissions it shall notify Webcor/Obayashi Joint Venture within 72 hours and via written correspondence. In the event Subcontractor discovers an apparent error, inconsistency or omission in the information or submissions provided by others Subcontractor shall promptly request clarification of the same from Webcor/Obayashi Joint Venture, with a written Request for Information per General Conditions Article 6.03.

VI. *Modeling Specification*

- a. The goal, through 3D coordination, is to create fully coordinated shop drawings derived from using the Models produced and coordinated by each discipline. These models would then be used for scheduling (4D) and cost management (5D) purposes. This section describes the **Degree of Detail (DOD)** to which each system will be modeled and whether the system should fall under the standard or high level category.
 - i. **DOD 1 indicates** standard degree of detail where elements match the approximate space and shape the element occupies or the space required to access equipment for maintenance. Accurate geometry of components with rectangular cross sectional geometry. Components of complex cross sectional geometry are approximated with simplified cross sections and modeled with accurate enveloping geometry. Composite structures are modeled with solids. Symbolic representation of fixtures, equipment, furniture and like.

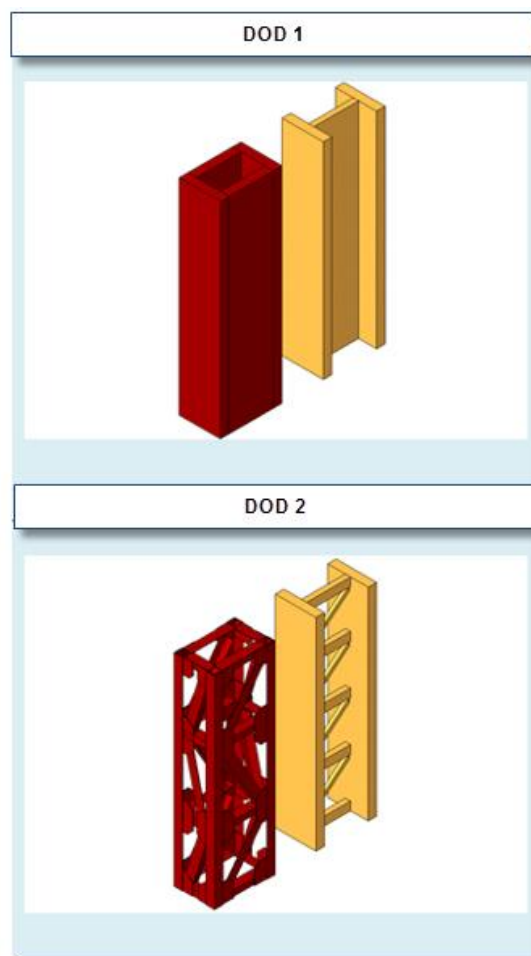
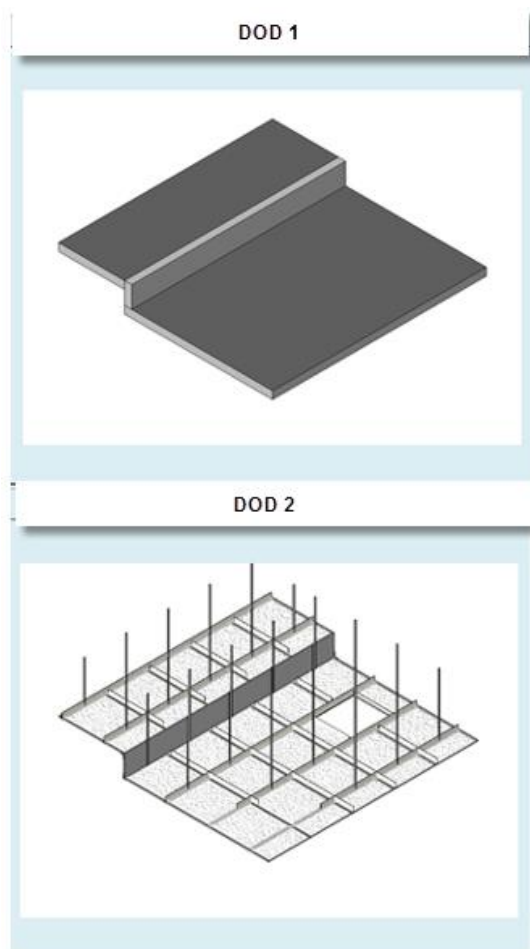
Exhibit F – BIM Requirements for Subcontractors

Transbay Transit Center



Webcor/Obayashi Joint Venture

- ii. DOD 2 indicates a high degree of detail dimensionally accurate, and where applicable, manufacturer specific element (does not require manufacturing/fabrication detail – exterior envelope is required) Accurate geometry of components with rectangular and complex cross sectional geometry. The individual layers of composites are broken down to smaller components and built up piece by piece. Exact representation of fixtures, equipment, furniture and like. The model will include secondary components that may influence coordination, such as gusset plates, secondary steel members, hangers, braces etc.



Please refer to the Trade Specific BIM Requirements below for the list of systems that are required to be modeled.

Exhibit F – BIM Requirements for Subcontractors

Transbay Transit Center



Webcor/Obayashi Joint Venture

VII. Change Management

Subcontractor will maintain its system model throughout the project duration, incorporating all changes that impact its Work. Subcontractor will update its Work as required through participation in the 3D coordination process outlined above. Subcontract may be required to re-extract shop drawings and prepare updated submittals to incorporate changes to its Work.

After each model update for a change package (e.g. ASI), Subcontractor shall archive a copy of its model before incorporation of further changes. Using versions of its system model, Subcontractor shall publish quantity deltas per system between models. Subcontractor will apply it's bought out unit rate for a particular changed system to the quantity delta to calculate the value of the change per the original contract. This value will serve as a baseline to enable change orders negotiations.