

NASA/KSC SOLICITATION NNK13482809R
ATTACHMENT J-A - PROJECT DELIVERABLES

PROJECT DELIVERABLES
(JAN 2013)

Incidental deliverables (manuals, reports, plans, and other written documentation) to be provided under this contract are identified in this Attachment J-A. Nothing contained in this Attachment J-A shall relieve the Contractor from furnishing data called for by, or under the authority of, other provisions of this contract which are not identified and described in this Attachment J-A. The costs for data to be furnished in response to Attachment J-A is included in the firm-fixed price of this contract.

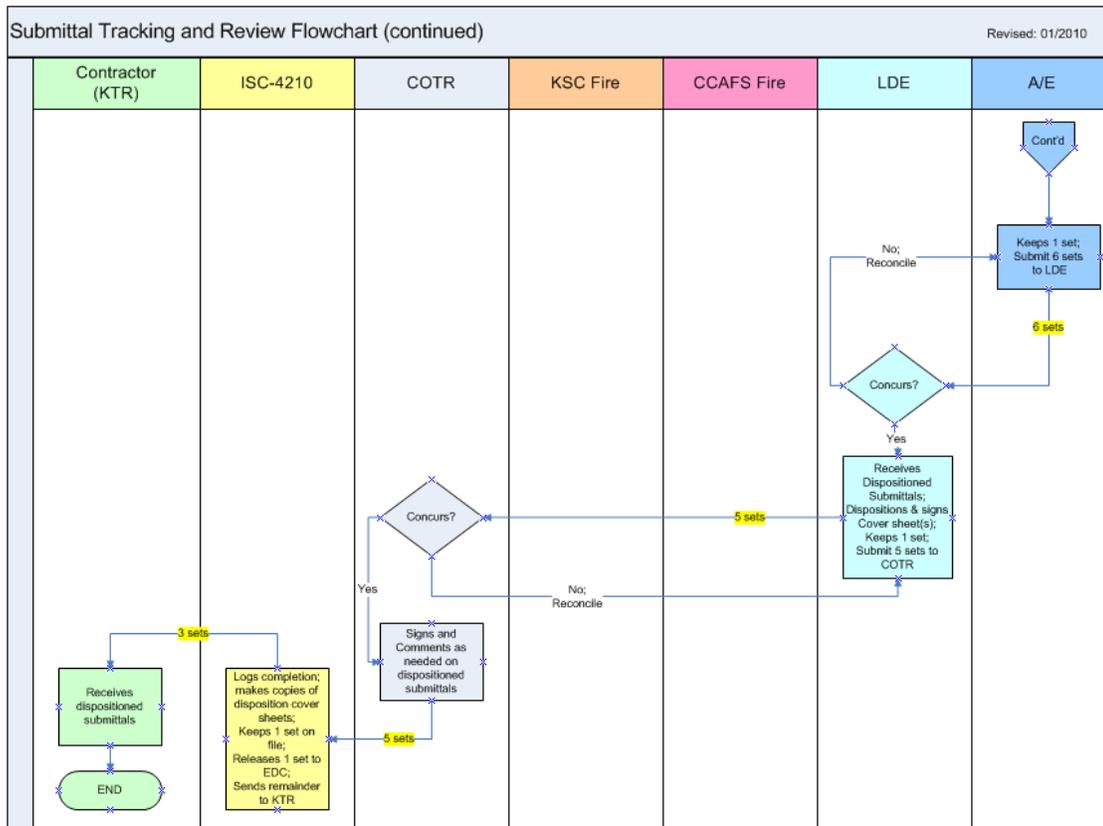
J-A-1 SUBMITTAL SCHEDULES

- (a) At the Pre-work Conference, the Contractor shall provide, for approval by the Contracting Officer, the following schedules of submittals:
 - (1) A schedule of all shop drawings and technical submittals required by the specifications and drawings. The schedule will indicate the specification or drawing reference requiring the submittal; the material, item or process for which the submittal is required; the "SD" number and identifying title of the submittal; the Contractor's anticipated submission date and the approval need date.
 - (2) A separate schedule of all other submittals required under the contract but not listed in the specifications or drawings. The schedule will indicate the contract requirement reference; the type or title of the submittal; the Contractor's anticipated submission date and the approval need date (if approval is required).
- (b) All submittals called for by the contract documents will be listed on one of the above schedules. If a submittal is called for but does not pertain to the contract work, the Contractor will include it in the applicable schedule and annotate it "N/A" with a brief explanation. Approval of the schedules by the Contracting Officer does not relieve the Contractor of supplying submittals required by the contract documents but which have been omitted from the schedules or marked "N/A".
- (c) Copies of both schedules will be re-submitted monthly annotated by the Contractor with actual submission and approval dates. When all items on a schedule have been finally approved, no further re-submittal of the schedule is required.

J-A-2 SHOP DRAWINGS

Pursuant to FAR clause 52.236-21 entitled "Specifications and Drawings for Construction"; the Contractor shall submit Shop Drawings as detailed below. For purposes of this clause, the term "Shop Drawings" shall be construed to include all "Submittal Descriptions" (Type SD-01, SD-02, SD-03, etc., as required by project technical specifications) that are necessary to fully describe contractor supplied materials and installation methods and demonstrate their compliance with the technical and performance requirements of the contract. Submittal

**NASA/KSC SOLICITATION NNK13482809R
ATTACHMENT J-A - PROJECT DELIVERABLES**



(d) Three (3) sets shop drawings will be returned to the Contractor. These sets will be returned to the Contractor within 21 calendar days of the record date with appropriate review and approval notations as described below.

On or before completion date of the contract, the Contractor shall submit to the Contracting Officer two complete sets of shop drawings, which incorporate all comments, annotations, conditions of approval and corrections. Both drawing sets are to be made from the same original

- (e) The shop drawings shall be complete and detailed and shall contain all information required for checking without reference to material contained in other shop drawing transmittals. Partial submittals will not be accepted unless specifically approved by the Contracting Officer. Any partial submittals shall be so indicated and any outstanding submittal required to complete the package shall be identified.
- (f) Shop drawings shall be submitted in a logical sequence that is duly coordinated with long lead-time procurements and with fabrication and construction schedules. Each set of shop drawings shall be accompanied by a completed KSC shop drawing submittal form listing the specification or drawing reference requiring the shop drawing; the material, item or process for which the shop drawing is required and the "SD" number and identifying title of the shop drawing. The Shop Drawing form will be supplied by the Government.

NASA/KSC SOLICITATION NNK13482809R
ATTACHMENT J-A - PROJECT DELIVERABLES

- (g) Shop drawings for certain systems (e.g. fire detection/suppression) must be submitted as soon as 30 days following contractor's Notice to Proceed, and associated as built drawings, software, programs and test procedures must be submitted up to 30 days prior to acceptance testing. See Shop Drawing and submittal references in project technical specifications for affected submittals and their respective deadlines.
- (h) "Drawings" as opposed to "Shop Drawings" shall mean actual drawings, diagrams, layouts and schematics. "Drawings" fall under the more general term "Shop Drawings" which include other required materials.
 - (1) Drawings shall be uniform in size, nominally 24 by 36 inches, with a maximum size of 28 by 40 inches. All drawings shall have dark lines on a white background.
 - (2) Drawings shall be numbered in logical sequence. The Contractor may use his own numbering system. Each drawing shall bear the number of the submittal (e.g. First Submittal, Second Submittal, etc.) in a uniform location adjacent to the title block. The NASA contract number shall appear in the margin, immediately below the title block, for each drawing.
 - (3) A blank space, no smaller than 4 by 5 inches shall be reserved on the right hand half of each sheet for the Government disposition stamp.
- (i) Review and approval notation will be as follows:
 - (1) Shop drawings marked "approved" authorize the Contractor to proceed with work covered by such drawings.
 - (2) Shop drawings marked "approved as noted" authorize the Contractor to proceed with the work covered provided he takes no exception to the corrections. The notes shall be incorporated on the shop drawings prior to submission of the final shop drawings.
 - (3) Shop drawings marked "returned for correction" require the Contractor to make the necessary corrections and revisions on the drawings and re-submit them for approval in the same routine as before, prior to proceedings with any of the work depicted on the drawings.
 - (4) Shop drawings marked "not approved" or "disapproved" indicate noncompliance with the contract requirements and the shop drawings shall be re-submitted with appropriate changes. No item of work requiring a shop drawing shall be accomplished until the drawings are approved or approved as noted.
 - (5) The Contractor shall make any corrections required by the Contracting Officer. If the Contractor considers any correction or notation indicated on the returned shop drawings to constitute a change to the contract drawings or specifications; notice as required under the clause entitled "Changes" shall be given to the Contracting

NASA/KSC SOLICITATION NNK13482809R
ATTACHMENT J-A - PROJECT DELIVERABLES

Officer.

- (6) The Government's engineering review of Contractor's shop drawing submittal(s) is for general conformance with the design concept of the project and the information given in the contract documents. As such, approval of the shop drawings by the Contracting Officer shall not be construed as a complete check, but will indicate only that the general method of construction and detailing is satisfactory. The Contractor is solely responsible for the dimensions and design of adequate connection details; confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating the work with that of other trades and performing the work in a safe and satisfactory manner, and certifying that proposed products meet all technical specifications and all contractual provisions, especially those relating to the 'Buy American Act'. Corrections or comments made as part of the Government review do not relieve the Contractor from compliance with the requirements of the contract documents. Likewise, any approval of a Shop Drawing Submittal containing an unidentified deviation from the technical requirements of the applicable contract drawings, maps and specifications, shall not relieve the contractor from compliance with the technical requirements.
- (j) If changes are necessary to approved shop drawings whether as a result of a contract change or for any other reasons, the Contractor shall make such revisions and resubmit the shop drawings in accordance with the procedures in paragraphs a. through c. above. No item of work requiring a shop drawings change shall be accomplished until the changed shop drawings are approved.
- (k) Progress payments will not be made on materials and equipment that have been delivered to the job site but not approved on shop drawings.

J-A-3 RECORD DRAWINGS

- (a) After completion of all construction and before final payment is made, the Contractor shall submit one complete set of full size blue line contract drawings with fully dimensioned changes shown in red pencil to the Contracting Officer.
- (b) The Contractor shall verify all dimensions and Geographical Information System (GIS) data shown on the contract drawings. Civil discipline systems, such as site dimensions and elevations, underground utilities, manholes, access points, paving, etc. and systems requiring state certifications, such as stormwater systems, shall require verification by a registered land surveyor. As-built dimensions and GIS data shall be at the same level of detail as the contract drawings.
- (c) All dimensional changes shall be reflected as corrected dimensions by striking through the dimension value with a single line and circling this change. A leader shall point from the actual, as-built dimension to the circled change. All utility routing and interface changes

NASA/KSC SOLICITATION NNK13482809R
ATTACHMENT J-A - PROJECT DELIVERABLES

shall be reflected on the drawings to scale and defined with sufficient dimensions to be able to locate. Indicating by reference alone, for example to a change order number, will not be acceptable.

- (d) These record drawings shall be maintained by the Contractor at the work site and shall be updated based on job progress to reflect all changes and deviations and actual routing of all field-routed utilities and services. All lines, letters, and details shall be sharp, clear, and fully legible. All additions to the drawings shall be precisely drawn to scale of the original drawing and their locations shall be dimensioned.
- (e) Final Systems Drawings for Wiring/Devices/Control Systems:
 - (1) Final system drawings for wiring and control systems shall be prepared and submitted as described below, and in accordance with additional requirements as described in technical specifications.
 - (2) Record drawings shall be made available for Government review on a monthly basis at the job site. This monthly review of record drawings will be part of the monthly monetary progress review.
 - (3) Drawings for installation of wiring, devices and/or controls that require field routing must be red-lined, reproduced, verified for accuracy, and submitted for approval per the requirements set forth under the section entitled Shop Drawings herein a minimum of two weeks before requesting a final walkdown of the following systems. These drawings shall be labeled "FINAL SHOP DRAWINGS". In addition to hardcopy reproductions, the final drawings submittals shall include electronic files in Intergraph or Microstation format or in a Computer Aided Design (CAD) format compatible with Intergraph or Microstation.
 - (4) Final Systems Drawings are required for:
 - (i) HVAC
 - (ii) Paging/Area Warning
 - (iii) Premise Wiring
 - (iv) Electrical control schematics and connection diagrams
 - (v) Elevators
 - (vi) Fire detection/suppression systems
 - (vii) Any other system involving wiring and controls, with the exception of facility lighting

NASA/KSC SOLICITATION NNK13482809R
ATTACHMENT J-A - PROJECT DELIVERABLES

(f) Sewer System Certification:

For all work involving sewer system installations or modifications, the Contractor shall provide to the Contracting Officer three (3) sets of drawings in the form of an As-Built Survey signed and sealed by a State of Florida Registered Land Surveyor for the sewer system. The as-built survey shall show all locations and invert elevations of the sewer system to verify that its placement is per contract drawings. The submittal shall be complete and sufficient for the Engineer's of Record certification to the Florida Department of Environmental Protection. The as-built survey level of detail shall be the same as shown in the contract drawings. If significant differences exist between the contract requirements and as-built conditions as evidenced by the survey, the differences shall be corrected and a new as-built survey made and submitted as before. Drawings shall be provided prior to the final inspection.

- (g) Record drawings shall be made available for Government review on a monthly basis at the job site. This monthly review of record drawings will be part of the monthly monetary progress review.

J-A-4 MISCELLANEOUS DOCUMENTATION

- (a) Documentation submitted under this clause shall not be submitted as shop drawings.
- (b) The Contractor shall submit an original and one copy of all correspondence, delivery tickets, soil compaction reports, contractor daily reports, concrete test reports, and welding certifications or other worker qualification certifications, to the Contracting Officer.
- (c) The Contractor shall submit an original and four copies of all other documentation (except shop drawings) pertaining to this contract, including asbestos abatement plans, to the Contracting Officer.
- (d) In the event of a conflict within this contract, the provisions of this requirement shall take precedence over any other contractual requirement pertaining to the number of copies to be submitted except for shop drawings which shall be submitted in accordance with Article J-A-2, Shop Drawings, set forth under this Attachment J-A.

J-A-5 PROGRESS SCHEDULES

Pursuant to FAR 52.236-15, entitled "Schedules for Construction Contracts," the Contractor shall:

- (a) Prepare the Progress Schedule using standard commercially available scheduling software or comparable format such as a bar chart approved by the Contracting Officer.

NASA/KSC SOLICITATION NNK13482809R
ATTACHMENT J-A - PROJECT DELIVERABLES

- (b) Submit the Progress Schedule, for approval by the Contracting Officer, at the Pre-Work Conference in four (4) copies. Include a copy of the electronic file if Progress Schedule is prepared using scheduling software. The approved initial progress schedule will be the baseline schedule for the project.
- (c) Include no less than the following information on the Progress Schedule:
- (1) Major headings for primary project scope broken out in accordance with the Divisions and/or Sections of the project specifications.
 - (2) Line item break-downs under each major heading sufficient to track the progress of the work.
 - (3) A line item showing contract finalization tasks which includes Punch List, Clean-up and Demobilization, and Final Construction Drawings.
 - (4) Appropriate level of detail under each line item or activity (compatible with the schedule of values) sufficient to track the cost and schedule performance, including scheduled vs. actual percentage complete for any given day within the contract performance period. (Progress schedules prepared using scheduling software shall include resource loaded activities [labor, material, and other resources), major deliveries, project milestones, etc.]. Bar Charts shall include, as a minimum, a materials bar and a separate labor bar for each line item.) Each element shall include the estimated cost and percentage weight of total contract cost. The labor element shall also show the number of workers expected to be working on any given date within the Contract Performance Period.
 - (5) For projects involving the installation or modification of Fire Alarm systems, include at a minimum the following line items on the schedule of values:
 - a. Fire Alarm Rough-In Material
 - b. Fire Alarm Rough-In Labor
 - c. Fire Alarm Trim Material
 - d. Fire Alarm Trim Labor
 - e. Fire Alarm Preliminary Testing
 - f. Fire Alarm Final Testing
 - (6) For projects involving the installation or modification of Building Controls (i.e. HVAC, Lighting, etc...) systems, include at a minimum the following line items on the schedule of values:

NASA/KSC SOLICITATION NNK13482809R
ATTACHMENT J-A - PROJECT DELIVERABLES

- a. Controls Rough-In Material
- b. Controls Rough-In Labor
- c. Controls Trim Material
- d. Controls Trim Labor
- e. Controls Testing

(7) Separate line items for Mobilization and Shop Drawing submittal and approval (these items are to show no associated costs).

(8) The progress schedule or bar chart shall indicate the file date and status date (data date).

(d) Update the progress schedule every 30 calendar days throughout the contract performance period. All work that has not been completed in accordance with the previously approved schedule shall be rescheduled to reflect actual or planned progress based on the current status date. Submit four copies (and electronic file as applicable) to the Contracting Officer for approval. Progress schedule updates shall be submitted concurrently with progress payment requests.

J-A-6 SCHEDULING

The Contractor will be required to provide detailed scheduling information regarding planned operations to the Contracting Officer's designated representative for input to the LC39 and Industrial area 72 hour/11-day operations schedule (a total of 14 days). This schedule input must be provided on a daily basis prior to 1:00 P.M. The schedule must show the Contractor's planned operations in detail for the next 3 days in hourly increments and in shift increments for the following 11 days.

All Contractor operations requiring support from KSC, such as outages or fire and safety standby, for hazardous operations, shall be identified.

J-A-7 NFS 1852.223-73 SAFETY AND HEALTH PLAN (NOV 2004) (MODIFIED)

The contractor, upon request by the Contracting Officer, shall submit a detailed site specific safety and occupational health plan in accordance with NPR 8715.3, NASA General Safety Program Requirements, Appendices and KNPR 8715.7 KSC Construction Contractor Safety and Health Practices Procedural Requirements. KSC-UG-2814, KSC Construction Contractor's Safety and Health Practices Users Guide, has a template the contractor should follow when preparing the site specific safety and occupational health plan. **Notice to Proceed with on-site work will be withheld pending approval of the site specific safety and health plan.**

NASA/KSC SOLICITATION NNK13482809R
ATTACHMENT J-A - PROJECT DELIVERABLES

The plan shall include detailed policies, procedures, and techniques that will be used to ensure the safety and occupational health of Contractor employees and to ensure safe working conditions throughout the performance of the contract.

The plan shall address the policies, procedures, and techniques that will be used to ensure the safety and occupational health of the public, astronauts and pilots, the NASA workforce, safety and occupational health of the public, astronauts and pilots, the NASA workforce (including Contractor employees working on NASA contracts) and high-valued equipment and property.

The plan shall take into account all work to be performed on the awarded contract. This plan shall address how the Contractor intends to comply with 29 CFR 1926 Safety and Health Regulations for Construction, applicable sections 29 CFR 1910 Safety and Health Regulations for General Industry, applicable national consensus standards, NASA and KSC Safety and Health Regulations and requirements with regard to all safety and health issues that will be encountered on this project.

The plan shall similarly address subcontractor employee safety and occupational health for those subcontractors who will be performing work under the contract when one or more of the following conditions apply: (Note: Contractors may not delegate overall site safety responsibility or authority for any personnel working under the provisions of this section to any subcontractor).

- (1) The work will be conducted completely or partly on premises owned or controlled by the government.
- (2) The work includes construction, alteration, or repair of facilities in excess of the simplified acquisition threshold.
- (3) The work, regardless of place of performance, involves hazards that could endanger the public, astronauts and pilots, the NASA workforce (including Contractor employees working on NASA contracts), or high value equipment or property, and the hazards are not adequately addressed by Occupational Safety and Health Administration (OSHA) or Department of Transportation (DOT) regulations (if applicable).
- (4) When the assessed risk and consequences of a failure to properly manage and control the hazards warrants use of the clause.

The contractor shall submit a copy of their Log of Occupational Injuries and Illnesses that includes an annual summary of occupational injuries and illnesses (or equivalent) as described in Title 29, Code of Federal Regulations, Subpart 1904.5. If the Contractor is exempt by regulation from maintaining and publishing such logs, equivalent data in contractor's format is acceptable (such as loss runs from insurance carrier) which contains the data required. Data shall be compiled and reported by calendar year and the most recent summary shall be provided at the same time as the site specific safety and health plan.

NASA/KSC SOLICITATION NNK13482809R
ATTACHMENT J-A - PROJECT DELIVERABLES

The contractor shall also submit documentation containing the company's Experience Modification Rate (EMR), Days Away, Restricted or Transferred rate (DART), and Total Case Incident Rate for injury and illnesses (TCIR) for the past 3 years.

This site specific safety and health plan, as approved by the Contracting Officer, will be incorporated into the contract.

(End of clause)

J-A-8 STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

The Contractor shall be responsible for providing a stormwater pollution prevention plan which contains pollution prevention measures, including erosion and sediment controls, in accordance with Federal and State regulations. The SWPPP must be submitted to the Government 14 days prior to any land disturbance. The Contractor shall abide by any and all National Pollutant Discharge Elimination System (NPDES) Construction Stormwater and Environmental Resource Permits obtained for this project.

J-A-9 TOXIC METALS SAFETY AND HEALTH PLAN

The use of paints containing heavy metals and [polychlorinated biphenyls PCB](#) has been commonplace at the Kennedy Space Center. The Contractor shall assume that all existing painted surfaces encountered in the performance of work contain heavy metals and PCB when developing the Toxic Metals Safety and Health Plan and performing work. The Contractor may, at his discretion, test any painted surfaces, in accordance with appropriate regulatory standards, to determine the absence of heavy metals and PCB in the paint.

In addition to and separate from the Safety and Health Plan required under this solicitation/contract, the Contractor shall submit a detailed Toxic Metals Safety and Health Plan. The Toxic Metals Safety and Health Plan shall disclose how the Contractor intends to protect NASA and contractor employees as well as the environment from toxic metals during the ongoing activities of this contract. The contractor shall submit a minimum of five (5) copies of the Toxic Metals Safety and Health Plan for review and approval by the Contracting Officer. The Contracting Officer will forward one copy each to TA-B1 for review.

The Toxic Metals Safety and Health Plan shall provide a description of the Contractor's approach to contain and control dusts, fumes and other airborne or waterborne emissions from the work site for the protection of other personnel at the work location and the environment. This part of the plan shall also discuss monitoring activities during the work in progress to assure the effectiveness of the Contractor's emission control measures.

The Toxic Metals Safety and Health Plan shall also provide written policies, plans, and procedures detailing how the contractor intends to comply with the Occupational Safety and Health Administration (OSHA) Construction Industry Standards (29 CFR 1926) and applicable General Industry Standards (29 CFR 1910). As a minimum, the Toxic Metals Safety and

NASA/KSC SOLICITATION NNK13482809R
ATTACHMENT J-A - PROJECT DELIVERABLES

Health Plan shall address how compliance with the following regulations will be achieved:

19 CFR, Part 1926, Safety and Health Regulations for Construction,
Subpart D, Occupational Safety & Health Environmental Controls

1926.55, Gases, Vapors, Fumes, Mists, and Dusts

1926.59, Hazard Communication

1926.62, Lead

1926.1127, Cadmium, Subpart E, Personal Protective and Life Saving Equipment

1926.103, Respiratory Protection

1926.353, Ventilation and Protection in welding cutting, and heating

1926.154, Welding, cutting, and heating in way of preservative coatings.

KHB 1840.1 (Latest Edition), KSC Industrial Hygiene Handbook, as applicable

KHB 1820.4 (Latest Edition), KSC Respiratory Protection Program, as applicable

The regulations require strict contractor adherence but are not limited to items such as employee training, respiratory protection, protective clothing and equipment, employee medical surveillance, hygiene facilities, warning signs, record keeping, air monitoring, and housekeeping.

J-A-10 LIFTING PLAN AND RIGGING PLAN

A detailed Lifting and Rigging Plan shall be submitted by the Contractor 14 days prior to lifting operations. Lifting operations include work performed within multiple areas to be demolished under this contract that require the use of cranes or lifting equipment to include chokers, slings, and shackles used to move material, personnel, and equipment to/from heights in excess of 25 feet. One lifting and rigging plan may be submitted for multiple lifts using the same equipment by utilizing the most stringent applicable conditions. Four (4) copies of a detailed Lifting and Rigging Plan shall be submitted for approval to the Contracting Office using the attached form. The lifting plan shall address:

1. The specific crane(s) lifting and rigging equipment that will be on site
2. The maximum swing radius to be used and the degrees in relation to the crane, such as 360 degrees over the counterweight, etc.
3. A sketch of where the crane will be located in relation to where the loads will be situated

NASA/KSC SOLICITATION NNK13482809R
ATTACHMENT J-A - PROJECT DELIVERABLES

4. The estimated maximum load weights
5. The type and weight of rigging to be used and how it will be configured
6. A copy of the crane capacity chart to be used
7. A copy of all crane deductions
8. Maximum crane boom to be used
9. Counterweight configurations
10. Certifications of the crane, operator, and rigging
11. Certifications of rigging personnel
12. General narrative description of lift operations, plan of approach, and safety measures to be implemented during the lifting operations

**NASA/KSC SOLICITATION NNK13482809R
ATTACHMENT J-A - PROJECT DELIVERABLES**

Kennedy Space Center Lift Plan for Construction Contractors			
<p>This document is for use by construction contractors performing work for Kennedy Space Center. It is recommended for all lifts and will satisfy the lift planning requirements in accordance with OSHA and NASA regulations and contract requirements. A lift plan is <u>mandatory</u> when: 1) lifting personnel with a crane, 2) the load exceeds 75% of the crane's capacity in a given configuration, 3) the lift requires more than one crane, 4) during demolition when the actual weight or structural integrity of the load are in doubt, 5) when the operation is within a boom length of power lines, 6) when lifting over active work areas, occupied buildings, or public roadways, or 7) lifts of submerged or partially submerged objects. For further assistance, please contact the KSC Institutional Safety Office at 867-SAFE.</p>			
1. Company Name	Name and Signature of Person Preparing this Lift Plan		2. Date
3. Project Name and Job Location			
4. Load Description			
5. Crane Description - Type, Manufacturer, Model # <i>(multiple crane lifts require separate plan for each crane)</i>			
6. Lift Description <i>(attach diagram of lift and load placement)</i>			
LOAD		CRANE (continued)	
7. Load Condition <i>(describe)</i>		27. Radius at Set-down	ft
8. Known Center of Gravity? <i>(Attach diagram)</i>		28. Capacity at minimum boom angle / maximum radius <i>(Attach copy of actual load chart used)</i>	lbs
9. Source of Load Weight <i>(attach a copy of drawings, calculations, bill of lading, etc.)</i>		29. Maximum load on crane for <u>this lift</u> <i>(Gross Load from Block 20)</i>	lbs
10. Load Weight Empty	lbs	30. Percentage of the crane's rated capacity in this configuration	%
11. Weight of Load Contents / Fluids	lbs	JIB/FLY	
12. Weight of Auxillary Block	lbs	31. Erected _____ Stowed _____ Stored _____	
13. Weight of Main Block	lbs	32. If jib / fly is used: Length = _____ Angle = _____	
14. Weight of Lifting Beam <i>(See Block 50)</i>	lbs	33. Rated capacity of jib / fly from chart = _____	
15. Weight of Slings / Shackles / Other Rigging <i>(See Blocks 42 thru 52)</i>	lbs	34. Weight of Jib if installed but not in use	lbs
16. Deduction for Jib / Fly <i>(if applicable)</i> <i>(See Block 34)</i>	lbs	CRANE SETUP/OTHER CONSIDERATIONS	
17. Weight of Hoist Rope <i>(if applicable)</i>	lbs	35. Soil conditions / level / underground hazards / Crane mat required?	
18. Weight of Auxillary Head/Rope <i>(if applicable)</i>	lbs	36. Outriggers <i>(full / partial)</i> / pads / matting / on rubber? <input type="checkbox"/> Yes <input type="checkbox"/> No	
19. Additional Deductions <i>(list if applicable)</i>	lbs	37. Buildings, equipment, or structure to lift / swing over?	
20. Gross Load (Add Block 10 thru 19)	lbs	38. Travel required? <input type="checkbox"/> Yes <input type="checkbox"/> No	
CRANE		39. Working quadrants / swing restrictions?	
21. Boom Configuration		40. High voltage / electrical hazards/other hazards?	
22. Boom Length	ft	41. Other Considerations? <i>(Head room, winds, taglines, traffic, etc.) Add to Block 6</i>	
23. Counterweight	lbs	RIGGING	
24. Boom angle at Pick-up	°	42. Slings <i>(number, size, type)</i>	
25. Radius at Pick-up	ft	43. Slings rated capacity per configuration <i>(See Block 45)</i>	
26. Boom angle at Set-down	°	44. Total Weight of slings	lbs

**NASA/KSC SOLICITATION NNK13482809R
ATTACHMENT J-A - PROJECT DELIVERABLES**

RIGGING (continued)		REQUIRED ATTACHMENTS
45. Hitch (vertical, basket, choker) Sling Configuration Angle _____ deg		53. Load placement diagram showing location of pick & final place points <input type="checkbox"/>
46. Shackles (number, size)		54. Rigging diagram with sling angles, expected loads, & load CG <input type="checkbox"/>
47. Shackles rated capacity		55. Photocopy of actual load charts used to calculate crane capacity <input type="checkbox"/>
48. Total Weight of Shackles _____ lbs		56. Rigging certifications <input type="checkbox"/>
49. Spreader Beam/Other rigging required? (Type, Size, Capacity)		57. Rigging load limit charts (Safe Working Load Limit) <input type="checkbox"/>
50. Weight of Spreader Beam/other rigging _____ lbs		58. Crane certification (Annual/Daily Checklist) <input type="checkbox"/>
51. Connection to Load capacity each (lugs, bollards, pad eyes, none)		59. Operators certification <input type="checkbox"/>
52. Total Weight of all rigging (Add lines 44, 48, 50 and 51) _____ lbs		60. Rigger qualification document(s) <input type="checkbox"/>
		61. Narrative of lift procedures (See item 6) <input type="checkbox"/>
		62. Source of load weight (See Items 8 & 9) <input type="checkbox"/>
		63. Others _____ <input type="checkbox"/>
I certify that all information contained herein has been reviewed for accuracy and correctness.		
Submitting Official Signature _____		Name & Title _____ Date _____
FOR NASA USE ONLY (please initial)		
Institutional Safety:	Accept _____	Accept with Changes: _____ Not Accepted: _____
Lifting Device's Equipment Manager:	Accept _____	Accept with Changes: _____ Not Accepted: _____
Contracting Officer:	Approve: _____	Disapprove: _____
Instructions for Kennedy Space Center Lift Plan for Construction Contractors		
<ol style="list-style-type: none"> 1. Name of contractor performing the lift. Include name of person preparing this lift plan. 2. Date lift plan was prepared. 3. Project name and actual location of lift. 4. Describe the load and any special considerations. 5. Self-explanatory. 6. Brief description of pickup and placement of load. Attach diagrams as necessary. 7. Describe the load and any special considerations (e.g., dry, solid, filled with liquid, empty, stable, unstable, etc.). 8. Is the load's center of gravity known? If so where is it documented? Attach diagram. (On Lift Plan Worksheet) 9. Document the source of load weight (e.g., drawings, calculations, bill of lading, etc.). 10 - 18. Self-explanatory. (On Lift Plan Worksheet) 19. List all additional deductions and weights. 20. Add Block 10 through Block 19. (On Lift Plan Worksheet) 21. Describe boom configuration. Refer to manufacturer's terminology. 22 - 27. Self explanatory. (On Lift Plan Worksheet) 28. Crane's rated capacity at minimum boom angle / maximum radius. Figure worst case between pick and place. 29. Copy Gross Load from Block #20. 30. Block #29 divided by Block #28. 31. Check to indicate jib / fly erected, stowed, or stored off the crane. 32. If the Jib is used, enter the length of the boom in feet and the angle in degrees. (On Lift Plan Worksheet) 33. List the Jib capacity from the Fly from chart. 34. The weight of the jib if it is installed on the boom but is not being used during the lift. (On Lift Plan Worksheet) 35. Describe site, soil, stability conditions and any underground hazards or concerns. 36. Describe outrigger setup and required matting if applicable. (On Lift Plan Worksheet) 37. Describe considerations for buildings, structures, or equipment which will be under the load during the lift. 38. Describe crane travel with load on the hook if required. 39. Describe planned crane working quadrant(s) and any swing restrictions. 40. Describe any electrical hazards or concerns in close proximity to the crane. 41. Describe other considerations of note such as restricted head room, use of taglines, reduced wind limitations, traffic control, etc. 42. Describe slings to be used. 43. In the planned configuration, list the maximum rated capacity the sling can lift in lbs. (On Lift Plan Worksheet) 44. The weight of the sling to be used. 45. The type of hitch to be used and its sling configuration angle (choker, vertical, basket). (On Lift Plan Worksheet) 46. Describe shackles to be used, number and size. 47. The maximum rated capacity each shackle can lift in lbs. 48. The total weight of all shackles used. 49. List Spreader beam / other rigging used. State type, size, and capacity. 50. Self explanatory. 51. Self explanatory. (On Lift Plan Worksheet) 52. The total weight of all rigging that will be used. 53 - 63. Self explanatory. 		

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ATTACHMENT J-A - PROJECT DELIVERABLES**

Lift Planning Worksheet

17. Aux Hoist / Whip Line Not in Use

45. Sling Angle

43. Sling Capacity

49. Rigging Attach Point Capacity

12. Hook / Overhaul Ball Wt.

32. Jib Extension Length

(10,11) Load weight

32. Jib Extension Offset

(8) Load COG

x _____

y _____

z _____

Hoisting Point

Main Boom

Extension

Jib

Aux Boom Head

17. Boom Point Elevation

24. Boom Angle

24. Pick

26. Set

17. Parts of Line

22. Max Boom Length

25. Load Radius at Pickup

13. Load Block Weight

23. Counterweight and Configuration Designation

27. Load Radius at Set

36. Outrigger Position

Full

Mid

Retracted

On Tires

52. Rigging Weight

Refer to operator's manual and all notes and warnings for crane-specific information

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Load Weight Field Verification			
Lift	Equipment Item	Weight	Crane Operator's Verification (Name & Initials)
1			
	Total Weight: Maximum Radius:		
2			
	Total Weight: Maximum Radius:		
3			
	Total Weight: Maximum Radius:		
4			
	Total Weight: Maximum Radius:		
5			
	Total Weight: Maximum Radius:		

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