



**Washington State
Department of Transportation**

Douglas B. MacDonald
Secretary of Transportation

Washington State Ferries
2901 3rd Avenue, Suite 500
Seattle, WA 98121-3014

206-515-5400
TTY: 1-800-633-6388
www.wsdot.wa.gov/ferries

W. Michael Anderson
Assistant Secretary of Marine Operations
Executive Director

DATE: OCTOBER 16, 2006

TO: INTERESTED PARTIES

RE: NEW 144 – AUTO FERRIES
DESIGN - BUILD CONTRACT NO. 00-6674

ADDENDUM NO. 19

This is to inform you of the following updates and changes to the Request for Proposals (RFP) for the above-referenced project:

RFP VOLUME III, PHASE III CONTRACT PROVISIONS
Part III, Design - Build Contract

RFP VOLUME IV, TECHNICAL SPECIFICATION
Section 1, Training
Section 4, Manholes and Ventilation Closures
Section 50, Training
Section 53, Shafting, Bearings and Propellers
Section 74, TABLE 74-4, "Piping Material Schedule"
Section 95, Wireless Internet Services System
Section 95, FIGURE 95-2
Section 100, Reference to "OUTLINE" Specification
Section 101, Tests and Trials

RFP VOLUME V, PHASE II OWNER-FURNISHED EQUIPMENT
Part 1, Schedule of Owner-Furnished Equipment (OFE)

All other terms and conditions remain unchanged. All qualified proposers will be required to acknowledge receipt of this Addendum on the Bid Form. All Addenda will become a part of the Contract.

Sincerely,

David H. Humphreys
Vessel Project Engineer
Washington State Ferries

Attachment



**ATTACHMENT
TO ADDENDUM NO. 19**

1. Revise RFP Volume III, Part III, Footer, pages 1 through 107, correct "CONTRACT" to "CONTRACT".

2. Revise RFP Volume IV, Section 1, paragraph 1.18, "Training of WSF Personnel", page 17 of 29, line 10, by adding a sentence after "seventy-five (75) WSF Personnel." with the following:

"See the *TRAINING* Subsection in Section 50 of the Technical Specification."

3. Revise RFP Volume IV, Section 4, paragraph 4.7, "Manholes and Ventilation Closures", page 18 of 22, line 4, replace the words "clear opening of 18 inches × 23 inches shall be" with the following:

"clear opening of 18 inches × 24 inches shall be"

4. Revise RFP Volume IV, Section 50, paragraph 50.14, "Training", page 15 of 19, lines 8-9, replace the words "maintenance training for sixteen (16) WSF personnel." with the following:

"maintenance training for twenty (20) WSF Personnel."

5. Revise RFP Volume IV, Section 50, paragraph 50.14, "Training", page 15 of 19, line 9, by adding a sentence after "maintenance training for twenty (20) WSF Personnel." with the following:

"See the *TRAINING* Subsection in Section 1 of the Technical Specification."

6. Revise RFP Volume IV, Section 53, paragraph 53.9, "STERN TUBE OIL SYSTEM", page 4 of 8, lines 25 - 26, replace the words "shall be 316L stainless steel Schedule 120 with" with the following:

"shall be 316L stainless steel, not less than Schedule 80 for pipe sizes $\frac{3}{8}$ inch or smaller, and Schedule 160 for pipe sizes $\frac{1}{2}$ inch and greater with"

NOTE: *Items 7 – 31 below reflect modifications to TABLE 74-4 144 - AUTO FERRY MATERIAL SCHEDULE. WSF has included a "Rev A" version of this MATERIAL SCHEDULE in this attachment which includes these modifications.*

7. Revise RFP Volume IV, Section 74, TABLE 74-4, "Piping Material Schedule", Sprinkler System (Dry – Downstream of Manifold Valves), 2" & above, Takedown Joints, page 22 of 33, replace the words "Flange, socket weld or slip-on 150#" with the following:

✧ "Flange, Socket weld or slip-on 300#"

8. Revise RFP Volume IV, Section 74, TABLE 74-4, "Piping Material Schedule", Sprinkler System (Dry – Downstream of Manifold Valves), 1½" & below, Takedown Joints, page 22 of 33, replace the words "Flange, socket weld or slip-on 150#" with the following:

"Flange, Socket weld or slip-on 300#"

9. Revise RFP Volume IV, Section 74, TABLE 74-4, "Piping Material Schedule", Sprinkler System (Dry – Downstream of Manifold Valves), 1½" & below, Takedown Joints, page 22 of 33, replace the words "Union, 150# socket weld" with the following:

"Union, Socket weld Class 3000"

10. Revise RFP Volume IV, Section 74, TABLE 74-4, "Piping Material Schedule", Sprinkler System (Dry – Downstream of Manifold Valves), 1½" & below, Fittings, page 22 of 33, replace the words "Socket weld 3000#" with the following:

"Socket weld Class 3000"

11. Revise RFP Volume IV, Section 74, TABLE 74-4, "Piping Material Schedule", Sprinkler System (Manifold Valves & Upstream), 1½" & above, Takedown Joints, page 23 of 33, replace the words "Flange, weld neck or slip-on 150#, ANSI B16.5" with the following:

"Flange, weld neck or slip-on 300#, ANSI B16.31"

12. Revise RFP Volume IV, Section 74, TABLE 74-4, "Piping Material Schedule", Firemain, 1½" & above, Takedown Joints, page 23 of 33, replace the words "Flange, weld neck or slip-on 150#, ANSI B16.5" with the following:

"Flange, weld neck or slip-on 300#, ANSI B16.31"

13. Revise RFP Volume IV, Section 74, TABLE 74-4, "Piping Material Schedule", Bilge System , cont'd, 1½" & below, Takedown Joints, page 24 of 33, replace the words "Union, 300# socket weld" with the following:

"Union, Socket weld Class 3000"

14. Revise RFP Volume IV, Section 74, TABLE 74-4, "Piping Material Schedule", Fresh Water Cooling System, 1½" & below, Takedown Joints, page 24 of 33, replace the words "Union, 300# socket weld" with the following:

"Union, Socket weld Class 3000"

15. Revise RFP Volume IV, Section 74, TABLE 74-4, "Piping Material Schedule", Bilge System , cont'd, 1½" & below, Fittings, page 24 of 33, replace the words "Socket weld 3000#" with the following:

"Socket weld Class 3000"

16. Revise RFP Volume IV, Section 74, TABLE 74-4, "Piping Material Schedule", Fuel System, cont'd, 1½" & below, Takedown Joints, page 26 of 33, replace the words "Flange, socket weld or slip-on 150#" with the following:

"Flange, Socket weld or slip-on 300#"

17. Revise RFP Volume IV, Section 74, TABLE 74-4, "Piping Material Schedule", Fuel System, cont'd, 1½" & below, Fittings, page 26 of 33, replace the words "Socket weld 3000#" with the following:

"Socket weld Class 3000"

18. Revise RFP Volume IV, Section 74, TABLE 74-4, "Piping Material Schedule", Lube Oil System, cont'd, 1½" & below, Takedown Joints, page 26 of 33, replace the words "Flange, socket weld or slip-on 150#" with the following:

"Flange, Socket weld or slip-on 300#"
19. Revise RFP Volume IV, Section 74, TABLE 74-4, "Piping Material Schedule", Lube Oil System, cont'd, 1½" & below, Fittings, page 26 of 33, replace the words "Socket weld 3000#" with the following:

"Socket weld Class 3000"
20. Revise RFP Volume IV, Section 74, TABLE 74-4, "Piping Material Schedule", Lube Oil System, (Stern Tube LO), 1½" & below, Fittings, page 27 of 33, replace the words "Socket weld 3000#" with the following:

"Socket weld Class 3000"
21. Revise RFP Volume IV, Section 74, TABLE 74-4, "Piping Material Schedule", Deck Drains, (Weather Deck Drains), Takedown Joints, page 27 of 33, replace the words "Union, 300# socket weld" with the following:

"Union, Socket weld Class 3000"
22. Revise RFP Volume IV, Section 74, TABLE 74-4, "Piping Material Schedule", Deck Drains, (Weather Deck Drains), Fittings, page 27 of 33, replace the words "Socket weld 3000#" with the following:

"Socket weld Class 3000"
23. Revise RFP Volume IV, Section 74, TABLE 74-4, "Piping Material Schedule", Sanitary Drain/Sewage, cont'd, 2" & above, Takedown Joints, page 28 of 33, replace the words "Flange, weld neck or slip-on 150#, ANSI B16.5" with the following:

"Flange, weld neck or slip-on 300#, ANSI B16.31"

24. Revise RFP Volume IV, Section 74, TABLE 74-4, "Piping Material Schedule", Sounding Tubes, Vents, and Overflows, Takedown Joints, page 29 of 33, replace the words "Union, 300# socket weld" with the following:

"Union, Socket weld Class 3000"
25. Revise RFP Volume IV, Section 74, TABLE 74-4, "Piping Material Schedule", Sounding Tubes, Vents, and Overflows, Fittings, page 29 of 33, replace the words "Socket weld 3000#" with the following:

"Socket weld Class 3000"
26. Revise RFP Volume IV, Section 74, TABLE 74-4, "Piping Material Schedule", Compressed Air System (Upstream of Reducing Stations), Fittings, page 29 of 33, replace the words "Socket weld 3000#" with the following:

"Socket weld Class 3000"
27. Revise RFP Volume IV, Section 74, TABLE 74-4, "Piping Material Schedule", Compressed Air System (Downstream of Reducing Stations), Takedown Joints, page 30 of 33, replace the words "Union 300# socket weld" with the following:

"Union, Socket weld Class 3000"
28. Revise RFP Volume IV, Section 74, TABLE 74-4, "Piping Material Schedule", Compressed Air System (Downstream of Reducing Stations), Fittings, page 30 of 33, replace the words "Socket weld 3000#" with the following:

"Socket weld Class 3000"
29. Revise RFP Volume IV, Section 74, TABLE 74-4, "Piping Material Schedule", CO₂ System (Fixed CO₂), Fittings, page 31 of 33, replace the words "Socket weld or screwed 3000#" with the following:

"Socket weld Class 3000 or screwed 3000#"

30. Revise RFP Volume IV, Section 74, TABLE 74-4, "Piping Material Schedule", Hi-Fog[®] System (Fixed Hi-Fog[®]), Takedown Joints, page 32 of 33, replace the words "Flange, socket weld or screwed 150#" with the following:

"Flange, Socket weld or screwed 300#"
31. Revise RFP Volume IV, Section 74, TABLE 74-4, "Piping Material Schedule", Hi-Fog[®] System (Fixed Hi-Fog[®]), Fittings, page 32 of 33, replace the words "Socket weld 3000#" with the following:

"Socket weld Class 3000"
32. Revise RFP Volume IV, Section 95, paragraph 95.8, "Wireless Internet Services System", page 51 of 60, replace the words "via wireless antennas throughout the Passenger areas." on lines 8 - 9 with the following:

"via wireless antennas throughout the Passenger and Vehicle Deck areas."
33. Revise RFP Volume IV, Section 95, Figure 95-2, by replacing the Figure with the attached Figure 95-2 Rev. A.
34. Revise RFP Volume IV, Section 100, paragraph 100.4.4, "Administrative Plans", page 4 of 61, line 21, replace the words "Sections of the Outline Specification" with the following:

Sections of the Technical Specification"
35. Revise RFP Volume IV, Section 100, paragraph 100.4.4.1.3, "Fire Plan", page 7 of 61, line 16, replace the words "Section 1 of the Outline and Shipyard Specifications" with the following:

"Section 1 of the Technical and Shipyard Specifications"
36. Revise RFP Volume IV, Section 100, paragraph 100.8, "Engineering and Working Drawings", page 33 of 61, line 2, replace the words "with the Outline and Shipyard Specifications" with the following:

"with the Technical and Shipyard Specifications"

37. Revise RFP Volume IV, Section 100, paragraph 100.8, “Engineering and Working Drawings”, page 33 of 61, line 10, replace the words “with the Outline and Shipyard Specifications” with the following:
- “with the Technical and Shipyard Specifications”
38. Revise RFP Volume IV, Section 100, paragraph 100.9, “Technical Proposal Deliverable Schedule (TPDS) and Master Drawing Schedule (MDS) and Preparation”, page 35 of 61, line 28, replace the words “e) Outline and Shipyard Specification authority” with the following:
- “e) Technical and Shipyard Specification authority”
39. Revise RFP Volume IV, Section 100, paragraph 100.13, “Noise and Vibration Program Control Plan, and Engineering Analyses”, page 41 of 61, line 21, replace the words “described in the Outline and Shipyard Specifications” with the following:
- “described in the Technical and Shipyard Specifications”
40. Revise RFP Volume IV, Section 100, paragraph 100.13, “Noise and Vibration Program Control Plan, and Engineering Analyses”, page 41 of 61, line 27, replace the words “specified by the Outline and Shipyard Specifications” with the following:
- “specified by the Technical and Shipyard Specifications”
41. Revise RFP Volume IV, Section 100, paragraph 100.14, “Engineering & Working Drawings and Calculation Preparation”, page 42 of 61, line 13, replace the words “requirements of the Outline and Shipyard Specifications” with the following:
- “requirements of the Technical and Shipyard Specifications”
42. Revise RFP Volume IV, Section 100, paragraph 100.14, “Engineering & Working Drawings and Calculation Preparation”, page 42 of 61, line 18, replace the words “requirements of the Outline and Shipyard Specifications” with the following:
- “requirements of the Technical and Shipyard Specifications”

43. Revise RFP Volume IV, Section 100, paragraph 100.14, “Engineering & Working Drawings and Calculation Preparation”, page 42 of 61, line 19, replace the words “modification to the Outline and Shipyard Specifications” with the following:

“modification to the Technical and Shipyard Specifications”
44. Revise RFP Volume IV, Section 100, paragraph 100.14, “Engineering & Working Drawings and Calculation Preparation”, page 43 of 61, line 26, replace the words “of the Outline and Shipyard Specifications” with the following:

“of the Technical and Shipyard Specifications”
45. Revise RFP Volume IV, Section 100, paragraph 100.14, “Engineering & Working Drawings and Calculation Preparation”, page 43 of 61, line 27, replace the words “of the Outline and Shipyard Specifications” with the following:

“of the Technical and Shipyard Specifications”
46. Revise RFP Volume IV, Section 100, paragraph 100.14, “Engineering & Working Drawings and Calculation Preparation”, page 44 of 61, line 10, replace the words “from the Outline and Shipyard Specifications” with the following:

“from the Technical and Shipyard Specifications”
47. Revise RFP Volume IV, Section 100, paragraph 100.14, “Engineering & Working Drawings and Calculation Preparation”, page 44 of 61, line 13, replace the words “from the Outline and Shipyard Specifications” with the following:

“from the Technical and Shipyard Specifications”
48. Revise RFP Volume IV, Section 100, paragraph 100.15, “Review of Drawings and Engineering Calculations”, page 49 of 61, line 13, replace the words “from the Outline and Shipyard Specifications” with the following:

“from the Technical and Shipyard Specifications”

49. Revise RFP Volume IV, Section 100, paragraph 100.15, “Review of Drawings and Engineering Calculations”, page 49 of 61, line 16, replace the words “of the Outline and Shipyard Specifications” with the following:

“with the Technical and Shipyard Specifications”
50. Revise RFP Volume IV, Section 100, paragraph 100.17, “Compartment Close-Out Inspection”, page 50 of 61, line 13, replace the words “of the Outline and Shipyard Specifications” with the following:

“of the Technical and Shipyard Specifications”
51. Revise RFP Volume IV, Section 100, paragraph 100.17, “Compartment Close-Out Inspection”, page 50 of 61, line 19, replace the words “of the Outline and Shipyard Specifications” with the following:

“of the Technical and Shipyard Specifications”
52. Revise RFP Volume IV, Section 100, paragraph 100.17, “Compartment Close-Out Inspection”, page 50 of 61, line 24, replace the words “of the Outline and Shipyard Specifications” with the following:

“of the Technical and Shipyard Specifications”
53. Revise RFP Volume IV, Section 100, paragraph 100.21, “Builder’s Scale Models”, page 55 of 61, line 25, replace the words “of the Outline and Shipyard Specifications” with the following:

“of the Technical and Shipyard Specifications”
54. Revise RFP Volume IV, Section 100, paragraph 100.22, “Stability Assessment Report and Stability Letter”, page 56 of 61, line 3, replace the words “of the Outline and Shipyard Specifications” with the following:

“of the Technical and Shipyard Specifications”

55. Revise RFP Volume IV, Section 100, paragraph 100.23, “Admeasurement Plan”, page 56 of 61, line 23, replace the words “of the Outline and Shipyard Specifications” with the following:
- “of the Technical and Shipyard Specifications”
56. Revise RFP Volume IV, Section 100, paragraph 100.24, “Stability Assessment Report and Stability Letter”, page 56 of 61, line 29, replace the words “of the Outline and Shipyard Specifications” with the following:
- “of the Technical and Shipyard Specifications”
57. Revise RFP Volume IV, Section 100, paragraph 100.25.1, “General”, page 58 of 61, line 2, replace the words “under the Outline and Shipyard Specifications” with the following:
- “under the Technical and Shipyard Specifications”
58. Revise RFP Volume IV, Section 101, paragraph 101.4.3, “Test Procedure Completion”, page 7 of 59, line 13, replace the words “no less than five (5) days” with the following:
- “no more than five (5) days”
59. Revise RFP Volume V, PART 1, Schedule of Owner-Furnished (OFE) Items, MODIFY “OUTLINE SPEC. SECTION” Table headers with the following::
- “TECHNICAL SPEC. SECTION”

60. Revise RFP Volume V, PART 1, SCHEDULE OF OWNER-FURNISHED (OFE) ITEMS. Add additional OFE Items and revise certain Technical Specification Section numbers from that shown below:

95.7.2		Media Adapter	
95.8.1		PABX Central Exchange and Cabinet	
95.8.1.2		Telephones/Communications Devices	
95.9		Electronic Fare System (EFS) / Revenue Collection System (RCS) Kiosk	
99	Vol. II, Pt 1 Exh B	Propulsion Engine Control Console	

Replace above Table text with:

95.7.2		Media Adapter	
95.7, 95.8		<i>Network Switch, 48 Port, RJ45, 3 Expansion Slots</i>	
95.7, 95.8		<i>Coaxial Connectors</i>	
95.7, 95.8		<i>Grounding Blocks (CISCO)</i>	
95.7, 95.8		<i>ST70/MTRJ, Multimode, Purple Patch Cord</i>	
95.7, 95.8		<i>Antenna, Wireless Internet (MORAD)</i>	
95.7, 95.8		<i>VIGILOS Front End Appliance</i>	
95.9.1		PABX Central Exchange and Cabinet	
95.9.1.2		Telephones/Communications Devices	
95.10		Electronic Fare System (EFS) / Revenue Collection System (RCS) Kiosk	
99	Vol. II, Pt 1 Exh B	Propulsion Engine Control Console	

(END)

TABLE 74-4
144-AUTO FERRY PIPING MATERIAL SCHEDULE

Piping System and Design Press. & Temp.	Piping		Takedown Joints	Fittings	Valves		Bolting & Gaskets	Remarks
	Size	Material			Body	Trim		
SPRINKLING SYSTEM (Dry - Downstream of Manifold Valves) 150 psi 100F degrees See NOTE 1	2" & above	Stainless steel seamless or welded, SCH 10S, Type 316L, ASTM A312	Flange, weld neck or slip-on 150#, ANSI B16.5, stainless steel Type 316L, ASTM A182	Buttweld, SCH 10S, ANSI B16.9, stainless steel, Type 316L, ASTM A240	None		Bolts: ANSI B18.2 galvanized steel, ASTM A307, Grade B Nuts: ANSI B18.2 galvanized steel ASTM A563 Grade A Gaskets: Garlock Blue Gard 3300 or equal	
	1 1/2" & below	Stainless steel seamless or welded, SCH 40, Type 316L, ASTM A312	Flange, Socket weld or screwed 3000#, ANSI B16.5, stainless steel, Type 316L, ASTM A182 Union, Socket weld Class 3000, ANSI B16.11 or screwed ANSI B16.18, ANSI B16.3, stainless steel, TY 316L, ASTM 182	Socket weld Class 3000, ANSI B16.11, or screwed, 150# ANSI B16.3 plugs, screwed, 150# bronze, ANSI B16.18, ASTM B584, stainless steel, Type 316, ASTM 182				
SPRINKLING SYSTEM (Manifold Valves & Upstream) 150 psi 100F degrees See NOTE 2	1 1/2" & above	CuNi 90-10 seamless MIL-T-16420 CL. 200 ASTM B466	Flange, weld neck or slip-on, 150# ANSI B16.31, flat face, CuNi 90-10 ASTM B402	Buttweld, CuNi 90-10 BusHIPS 810-1385880 CL. 200	Gate, globe & angle: R.S., O.S. & Y 150# flanged ANSI B16.24, bronze, ASTM B61 Butterfly: 150# wafer type 46CFR 56.20-5 Category A bronze ASTM B61	Monel renewable seat & disk Type 316 stainless steel stem	Bolts: ANSI B18.2 galvanized steel, ASTM A307, Grade B Nuts: ANSI B18.2 galvanized steel ASTM A563 Grade A Gaskets: Garlock Blue Gard 3300 or equal	

TABLE 74-4

144-AUTO FERRY PIPING MATERIAL SCHEDULE

Piping System and Design Press. & Temp.	Piping		Takedown Joints	Fittings	Valves		Bolting & Gaskets	Remarks
	Size	Material			Body	Trim		
FIREMAIN 150 psi 100F degrees See NOTE 2	1 1/2" & above	CuNi 90-10 seamless MIL-T-16420 CL. 200 ASTM B466	Flange, weld neck or slip-on, 150# ANSI B16.31, flat face, CuNi 90-10 ASTM B402	Buttweld, CuNi 90-10 BuSHIPS 810-1385880 CL. 200	Gate, globe & angle: R.S., O.S. & Y 150# flanged ANSI B16.24, bronze, ASTM B61	Monel renewable seat & disk	Bolts: ANSI B18.2 galvanized steel, ASTM A307, Grade B Nuts: ANSI B18.2 galvanized steel ASTM A563 Grade A Gaskets: Garlock Blue Gard 3300 or equal	
BILGE SYSTEM 50 psi 100F degrees	2" & above	Carbon steel welded or seamless, SCH 40, B16.5, steel, galvanized, ASTM A53, Grade B, Type S or E, galvanized	Flange, weld neck or slip-on, 150# ANSI B16.5, steel, galvanized, ASTM A105	Buttweld, SCH 40, ANSI B16.9, steel, galvanized ASTM A234, GR WPB	Gate, globe & angle: R.S., O.S. & Y 150# flanged ANSI B16.24, mild iron, ASTM A197 or A395	Bronze renewable seat & disk	Bolts: ANSI B18.2, galvanized steel, ASTM A307, Grade B Nuts: ANSI B18.2, galvanized steel ASTM A563 Grade A Gaskets: Garlock Blue Gard 3300 or equal	Bilge piping shall be hot-dip galvanized after fabrication.
BILGE SYSTEM, cont'd	1 1/2" & below	Carbon steel welded or seamless, SCH 40, ASTM A53, Grade B, Type S or E, galvanized	Union, Socket weld Class 3000, ground joint ANSI B16.11 or flange, socket weld or slip-on, 150#, ANSI B16.5, steel, ASTM A105 or A181, galvanized	Socket weld Class 3000, ANSI B16.11, steel, galvanized, ASTM A105 or A181	Ball valve, swing-out wafer type, 150#, socket weld ends, ANSI B16.11, steel, galvanized ASTM A216	Stainless steel ball TFE seats & seals		

TABLE 74-4
144-AUTO FERRY PIPING MATERIAL SCHEDULE

Piping System and Design Press. & Temp.	Piping		Takedown Joints	Fittings	Valves		Bolting & Gaskets	Remarks
	Size	Material			Body	Trim		
FRESH WATER COOLING SYSTEM (Machinery Freshwater Cooling) 50-100 psi 150-250F degrees	2" & above	Carbon steel welded or seamless, SCH 40, B16.5, steel, ASTM A53, Grade B, Type S or E	Flange, weld neck or slip-on, 150# ANSI B16.5, steel, ASTM A105	Buttweld, SCH 40, ANSI B16.9, steel, ASTM A234, GR WPB	Gate, globe & angle; R.S., O.S. & Y 150# flanged ANSI B16.5, ball iron, ASTM A197 or A395	Bronze renewable seat & disk	Bolts: ANSI B18.2 galvanized steel, ASTM A307, Grade B Nuts: ANSI B18.2 galvanized steel ASTM A563 Grade A Gaskets: Garlock Blue Gard 3300 or equal	Flexible connections; Authoritative Agency approved
	1 1/2" & below		Union, Socket weld, Class 3000, ANSI B16.11 or flange, socket weld or slip-on, 150# ANSI B16.5, steel, ASTM A105 or A181	Socket weld, Class 3000, ANSI B16.11, steel, ASTM A105 or A181	Ball valve, swing-out wafer type, 150#, socket weld ends, ANSI B16.11, steel, ASTM A216	Stainless steel ball TFE seats & seals		
POTABLE, SANITARY, HOT WATER, HEAT RECOVERY SYSTEMS (Hot and Cold Potable Water, Sanitary Flushing, Hot Water Heating, Main Engine Jacket Water Heat Recovery) 50-100 psi 200-250F degrees	All	Copper, seamless hard drawn, ASTM B88, Type K	Flange, 150#, ANSI B16.24, solder joint, bronze, ASTM B61 Flange silbrazed, 150#, ANSI B16.24, MIL-F-1183, bronze, ASTM, B61	WROT copper, ANSI B16.22, ASTM B75 Cast bronze, ANSI B16.18, ASTM B584	Gate, globe, angle & check, 150# screwed or solder joint (2" & above, 150# flanged, ANSI B16.24), bronze, ASTM B62 or ASTM B584, ball valve swing-out wafer type, 150# solder tube ends, bronze, ASTM B62	Bronze or stainless steel ball TFE seats and seals	Bolts: ANSI B18.2 galvanized steel, ASTM A307, Grade B Nuts: ANSI B18.2 galvanized steel ASTM A563 Grade A Gaskets: Garlock Blue Gard 3300 or equal	Except potable and flushing water fills Flexible connections; Authoritative Agency approved

TABLE 74-4

144-AUTO FERRY PIPING MATERIAL SCHEDULE

Piping System and Design Press. & Temp.	Piping		Takedown Joints	Fittings	Valves		Bolting & Gaskets	Remarks
	Size	Material			Body	Trim		
FILLS (Potable Water Fill, Flushing Water Fill) 150 psi 100F degrees	2" & above	Carbon steel welded or seamless, SCH 40, ASTM A53, Grade B, Type S or E, galvanized	Flange, weld neck or slip-on, 150#, ANSI B16.5, steel, galvanized, ASTM A105	Buttweld SCH 40, ANSI B16.9, steel, galvanized, ASTM A234, Grade WPB	Gate, globe & angle; R.S., O.S. & Y 150# flanged ANSI B16.24, mal. iron, ASTM A197 or A395 Ball valve, 150#, flanged, ANSI B16.5, mal. iron, ASTM A197 or A395	Bronze renewable seat & disk Stainless steel ball TFE seats & seals	Bolts: ANSI B18.2 galvanized steel, ASTM A307, Grade B Nuts: ANSI B18.2 galvanized steel ASTM A563 Grade A Gaskets: Garlock Blue Gard 3300 or equal	Flexible connections: Authoritative Agency approved
FUEL SYSTEM (Fuel Oil Service, Filling & Transfer) 150 psi 100F degrees	2" & above	Carbon steel seamless, SCH 40, ASTM A106, Grade B	Flange, weld neck or slip-on, 150#, ANSI B16.5, steel, ASTM A105	Buttweld SCH 40, ANSI B16.9, steel, ASTM A234, Grade WPB	Gate, globe & angle, R.S., O.S. & Y, 150#, flanged ANSI B16.5, cast steel, ASTM A216, Grade WCB	Stainless steel renewable seat & disk	Bolts: ANSI B18.2 galvanized steel, ASTM A307, Grade B Nuts: ANSI B18.2 galvanized steel ASTM A563 Grade A Gaskets: Garlock Blue Gard 3000 or equal	Flexible connections: Authoritative Agency approved
FUEL SYSTEM, cont'd	1 1/2" & below	Carbon steel seamless, SCH 40, ASTM A106, Grade B	Flange, Socket weld or slip-on, 300#, ANSI B16.5, steel, ASTM A105	Socket weld Class 3000, ANSI B16.11, steel, ASTM A105	Gate, globe & angle R.S., O.S. & Y, 600#, socket weld, steel, ASTM A105 Ball valve, swing-out wafer type, 300# socket weld ends, ANSI B16.11, steel, ASTM A216	Stainless steel renewable seat & disk Stainless steel ball viton seats & seals		

TABLE 74-4

144-AUTO FERRY PIPING MATERIAL SCHEDULE

Piping System and Design Press. & Temp.	Piping		Takedown Joints	Fittings	Valves		Bolting & Gaskets	Remarks
	Size	Material			Body	Trim		
LUBE OIL SYSTEM (Lube Oil Service Filling & Transfer) 150 psi 200F degrees	2" & above	Carbon steel, seamless, SCH 40, ASTM A106, Grade B	Flange, weld neck or slip-on, 150#, ANSI B16.5, steel, ASTM A105	Butt weld SCH 40, ANSI B16.9, steel, ASTM A234, Grade WPB	Gate, globe & angle, R.S., O.S. & Y, 150#, flanged ANSI B16.5, cast steel, ASTM A216, Grade WCB	Stainless steel renewable seat & disk	Bolts: ANSI B18.2 galvanized steel, ASTM A307, Grade B Nuts: ANSI B18.2 galvanized steel ASTM A563 Grade A Gaskets: Garlock Blue Gard 3000 or equal	Flexible connections: Authoritative Agency approved
	1 1/2" & below		Flange; Socket weld or slip-on, 300#, ANSI B16.5, steel, ASTM A105	Socket weld Class 3000, ANSI B16.11, steel, ASTM A105	Gate, globe & angle R.S., O.S. & Y, 600#, socket weld, steel, ASTM A105 Ball valve, swing-out wafer type, 150# socket weld ends, ANSI B16.11, steel, ASTM A216	Stainless steel renewable seat & disk Stainless steel ball Viton seats & seals		
LUBE OIL SYSTEM (Stern Tube LO) 100 psi 100F degrees See NOTE 1	All	Stainless steel, SCH 40, SMLS; SCH 10 Type 316L, ASTM A312; and tubing stainless steel Type 316L, ASTM A269	Flange, 150# R.F., ANSI B16.11, stainless steel, Type 316L, ASTM A182, Weld Neck or Slip-on	Socket Weld Class 3000, ANSI B16.11, stainless steel, Type 316L, ASTM A182	Socket Weld, 600#, ANSI B16.34, stainless steel, Type 316	Stainless steel ball, reinforced TFE seals and seats	Bolts: ANSI B18.2 galvanized steel, ASTM A307, Grade B Nuts: ANSI B18.2 galvanized steel ASTM A563 Grade A Gaskets: Garlock Blue Gard 3000 or equal	

TABLE 74-4

144-AUTO FERRY PIPING MATERIAL SCHEDULE

Piping System and Design Press. & Temp.	Piping		Takedown Joints	Fittings	Valves		Bolting & Gaskets	Remarks
	Size	Material			Body	Trim		
DECKS DRAINS (Weather Deck Drains) 50 psi 100F degrees	2" & above	Carbon steel welded or seamless, SCH 40, ASTM A53, Grade B, Type S or E, galvanized	Flange, weld neck or slip-on, 150#, ANSI B16.5, steel, galvanized, ASTM A105	Buttweld, SCH 80, ANSI-B16.9, steel, galvanized, ASTM A234, GRADE WPB	None		Bolts: ANSI B18.2 galvanized steel, ASTM A307, Grade B Nuts: ANSI B18.2 galvanized steel ASTM A563 Grade A Gaskets: Neoprene cloth inserted	
SANITARY DRAINS/SEWAGE (Sanitary & Interior Deck Drains Sewage Transfer) 150 psi 100F degrees	1 1/2" & below	Carbon steel welded or seamless, SCH 40, ASTM A53, Grade B, Type S or E, galvanized	Union, Socket weld Class 3000 ground joint, ANSI B16.11, steel, galvanized, ASTM A105 or A181	Socket weld, Class 3000, ANSI B16.11, steel, galvanized, ASTM A105 or A181				
	2" & above	CuNi 90-10 seamless MIL-T-16420, CL. 200, ASTM B466	Flange, weld neck or slip-on 300#, ANSI B16.31, flat face CuNi 90-10, ASTM B402 Flange, silbrazed, 150#, ANSI B16.24, MIL-F-1183, bronze, ASTM B61	Buttweld, CuNi 90-10 BuSHIPS 810-1385880, CL. 200 150# SILBRAZE, MIL-F-1183, bronze, ASTM B61	Gate, globe & angle R.S., O.S. & Y, 150#, flanged ANSI B16.24, bronze, ASTM B61 Swing check, 150#, flanged ANSI B16.24, bronze ASTM B61 Ball valve, full port, 150#, flanged, ANSI B16.24, bronze, ASTM B61	Monel renewable seat & disk Monel renewable seat & disk Stainless steel ball & stem, TFE seats & seals	Bolts: ANSI B18.2 galvanized steel, ASTM A307, Grade B Nuts: ANSI B18.2 galvanized steel ASTM A563 Grade A Gaskets: Garlock Blue Gard 3300 or equal	Flexible connections: Authoritative Agency approved

TABLE 74-4

144-AUTO FERRY PIPING MATERIAL SCHEDULE

Piping System and Design Press. & Temp.	Piping		Takedown Joints	Fittings	Valves		Bolting & Gaskets	Remarks
	Size	Material			Body	Trim		
SANITARY DRAINS/SEWAGE, cont'd (Sanitary & Interior Deck Drains Sewage Transfer) 150 psi 100F degrees	1 1/2" & below	CuNi 90-10 seamless MIL-T-16420, CL. 200, ASTM B466	Silbraz union, 200#, MIL-F-1183, bronze, ASTM B61 Flange, silbraz, 150#, ANSI B16.24, MIL-F-1183, bronze, ASTM B61	150# silbraz, MIL-F-1183, bronze, ASTM B61	Gate, globe & angle, 150#, silbraz U.E., MIL-F-1183, bronze ASTM B61 Ball valve, swing-out wafer type, 150# silbraz ends, MIL-F-1183, bronze, ASTM B61	Monel renewable seat & disk Stainless steel ball TFE seats & seals	See above	See above
SOUNDING TUBES, VENTS AND OVERFLOWS 50 psi 100F degrees	2" & above	Carbon steel welded or seamless, SCH 40, ASTM A53, Grade B, Type S or E, galvanized	Flange, weld neck or slip-on, 150#, ANSI B16.5, steel, galvanized, ASTM A105	Buttweld, SCH 40, ANSI-B16.9, steel, galvanized, ASTM A234, Grade WPB	Vent, 150# flg., bronze, ASTM B61 Sounding tube quick acting gate, 150# scrd, bronze, ASTM B61	Stainless steel ball	Bolts: ANSI B18.2 galvanized steel, ASTM A307, Grade B Nuts: ANSI B18.2 galvanized steel ASTM A563 Grade A Gaskets: Garlock Blue Gard 3300 or equal	Except seawater
	1 1/2" & below		Union, Socket weld Class 3000, ground joint ANSI B16.11 or flange, socket weld or slip-on, 150#, ANSI B16.5, steel, galvanized, ASTM A105 or A181	Socket weld, Class 3000 ANSI B16.11, steel galvanized, ASTM A105 or A181				Vents, sounding tubes and overflows for fuel and lube oil systems shall not be galvanized

TABLE 74-4

144-AUTO FERRY PIPING MATERIAL SCHEDULE

Piping System and Design Press. & Temp.	Piping		Takedown Joints	Fittings	Valves		Bolting & Gaskets	Remarks
	Size	Material			Body	Trim		
COMPRESSED AIR SYSTEM (Upstream of Reducing Stations) 250 psi 175F degrees	2" & above	Carbon steel seamless, SCH 40, ASTM A106, Grade B	Flange, weld neck or slip-on, 300#, ANSI B16.5, steel, ASTM A105	Buttweld, SCH 40, ANSI-B16.9, steel, ASTM A234, Grade WPB	Gate, globe & angle R.S., O.S. & Y, swing check 300# flanged, ANSI B16.5, mal. iron, ASTM A197 or A395	Bronze renewable seat & disk	Bolts: ANSI B18.2 galvanized steel, ASTM A307, Grade B Nuts: ANSI B18.2 galvanized steel ASTM A563 Grade A Gaskets: Neoprene cloth inserted	Flexible connections: Authoritative Agency approved
	1 1/2" & below		Flange, weld neck or slip-on, 300#, ANSI B16.5, steel, ASTM A105 or A181	Socket weld, Class 3000 ANSI B16.11, steel, ASTM A105 or A181	Ball valve, swing-out wafer type, 300# socket weld ends, ANSI B16.11, steel, ASTM A216	Stainless steel ball TFE seats & seals		
COMPRESSED AIR SYSTEM, cont'd (Downstream of Reducing Stations) 120 psi 100F degrees	2" & above	Carbon steel seamless, SCH 40, ASTM A106, Grade B	Flange, weld neck or slip-on, 300#, ANSI B16.5, steel, ASTM A105	Buttweld, SCH 40, ANSI-B16.9, steel, ASTM A234, Grade WPB	Gate, globe & angle R.S., O.S. & Y, swing check 150# flanged, ANSI B16.5, mal. iron, ASTM A197 or A395	Bronze renewable seat & disk	Bolts: ANSI B18.2 galvanized steel, ASTM A307, Grade B Nuts: ANSI B18.2 galvanized steel ASTM A563 Grade A Gaskets: Neoprene cloth inserted	Flexible connections: Authoritative Agency approved
	1 1/2" & below		Union, Socket weld Class 3000, ground joint, ANSI B16.11 or flange, weld neck or slip-on, 150#, ANSI B16.5, steel, ASTM A105 or A181	Socket weld, Class 3000 ANSI B16.11, steel, ASTM A105 or A181	Ball valve, swing-out wafer type, 150# socket weld ends, ANSI B16.11, steel, ASTM A216	Stainless steel ball TFE seats & seals Bronze		

TABLE 74-4

144-AUTO FERRY PIPING MATERIAL SCHEDULE

Piping System and Design Press. & Temp.	Piping		Takedown Joints	Fittings	Valves		Bolting & Gaskets	Remarks
	Size	Material			Body	Trim		
SSDG, PROPULSION ENGINE & HOT-WATER OIL-FIRED HEATER SYSTEMS (Diesel Engine Exhaust, Oil-fired Hot Water Heater Uptake) To suit Contractor's Design in. H ₂ O 775F degrees maximum	All	Carbon steel welded or seamless, ASTM A53, Type S, 14" and above, SCH 10, 8" to 14", 0.250" wall 6" and below SCH 40	Flange, slip-on, 125# L.W., ANSI B16.1, steel, ASTM A105	Buttweld ANSI B16.9 steel, ASTM A234, Grade WPB 14" & above, SCH 10 8" to 14", 0.250" wall 6" & below, SCH 40	Gate, globe & angle R.S. O.S. & Y, swing check 125# flanged, ANSI B16.5, ASTM A105	Stainless steel renewable seat & disk	Bolts: ANSI B18.2, ALLOY STEEL, ASTM A193, Grade B7 Nuts: ANSI B18.2, ALLOY STEEL, ASTM A194, Grade 2H Gaskets: Garlock graph-lock laminated 3125 or equal	Category materials are temperature limited. Flexible Connections: Stainless steel bellows type, flanged 125#, ANSI 16.1, EJMA standards.
SSDG, PROPULSION ENGINE SYSTEMS (Diesel Engine Exhaust Boiler Uptake) To suit Contractor's Design in. H ₂ O 1100F degrees maximum	All	CrMo Steel seamless or welded ASTM A335, GR P11 or ASTM A387	Flange, slip-on, 125# L.W., ANSI B16.5, CrMo steel, ASTM A182, GR F11	CrMo steel buttweld ANSI B16.9 14" & above, SCH 10 8" to 14", 0.250" wall 6" & below, SCH 40	Gate, globe & angle R.S. O.S & Y, swing check, 125# flanged, ANSI B16.5, CrMo steel	CrMo steel renewable seat and disk	Bolts: ANSI B18.2 CrMo steel, ASTM A193, Grade B6 Nuts: ANSI B18.2 CrMo steel ASTM A194, GR B4 Gaskets: Garlock	Category materials are temperature limited Flexible Connections: CrMo steel bellows type flanged 125#, ANSI B16.1, EJMA standards
REFRIGERATION SYSTEM 300 psi 250F degrees	All	Copper, seamless hard drawn, ASTM B88, Type K	See remarks	WROT copper, ANSI B16.22, ASTM B75 Cast bronze, ANSI B16.18, ASTM B584	See remarks		See remarks	Refrigerant pressure/temp rating shall be suitable for materials, specialty piping components suitable for refrigeration service shall be provided. Flexible connections: Authoritative Agency approved

TABLE 74-4

144-AUTO FERRY PIPING MATERIAL SCHEDULE

Piping System and Design Press. & Temp.	Piping		Takedown Joints	Fittings	Valves		Bolting & Gaskets	Remarks
	Size	Material			Body	Trim		
CO ₂ SYSTEM (Fixed CO ₂) 1000 psi (600 psi downstream of last stop valve) 100F degrees	2" & above	Carbon steel seamless, SCH 80, ASTM A53, Grade B, Type S or E galvanized	Flange, weld neck or slip-on, 600#, ANSI B16.5, steel, galvanized, ASTM A105 or A181	Buttweld SCH 80, ANSI B16.9, steel, galvanized, ASTM A234, Grade WPB	Furnished by USCG approved CO ₂ system manufacturer	Furnished by USCG approved CO ₂ system manufacturer	Bolts: ANSI B18.2 galvanized steel, ASTM A307, Grade B Nuts: ANSI B18.2 galvanized steel ASTM A563 Grade A Gaskets: Garlock nylon 3500 or equal	300#, ANSI B16.5 flanges are suitable downstream of last stop valve Flexible connections: furnished by USCG approved CO ₂ system manufacturer
	1 1/2" & below			Socket weld Class 3000 or screwed, 3000#, ANSI B16.11, steel, galvanized, ASTM A105 or A181				
Hi-Fog [®] SYSTEM (Fixed Hi-Fog [®]) Freshwater supply from Hi-Fog Tank to Hi-Fog Sprinkler Pump Unit	all	Stainless steel seamless or welded, SCH 40, Type 316L, ASTM A312 to suit USCG approval	Flange, socket weld or screwed 300#, ANSI B16.5, stainless steel, Type 316L, ASTM A182 Union, 150# socket weld, ANSI B16.11 or screwed ANSI B16.3, stainless steel, TY 316L, ASTM 182	Socket weld Class 3000, ANSI B16.11, or screwed, 150# ANSI B16.3 plugs, screwed, 150# bronze, ANSI B16.18, ASTM B584, stainless steel, Type 316, ASTM 182	Socket Weld, 600#, ANSI B16.34, stainless steel, Type 316	Stainless steel ball, reinforced TFE seals and seats	Bolts: ANSI B18.2 galvanized steel, ASTM A307, Grade B Nuts: ANSI B18.2 galvanized steel ASTM A563 Grade A Gaskets: Garlock Blue Gard 3300 or equal	System designed and furnished by a USCG approved Hi-Fog [®] system manufacturer

TABLE 74-4

144-AUTO FERRY PIPING MATERIAL SCHEDULE

Piping System and Design Press. & Temp.	Piping		Takedown Joints	Valves		Bolting & Gaskets	Remarks
	Size	Material		Fittings	Body		
Hi-Fog® SYSTEM (System distribution)	all	Type 316L stainless steel to suit USCG approval	Ferrule type DIN 2353 or SAE 518J flange joints	Per manufacturer	Per manufacturer	Bolts: Per manufacturer Nuts: Per manufacturer Gaskets: GARLOCK Blue-Gard 3300 or equal	System designed and furnished by a USCG approved Hi-Fog® system manufacturer
HYDRAULIC SYSTEM (Not Package Units) 1200 psi 140F degrees	2" through ¾"	Steel, seamless, ASTM A106, Grade B, Type S or E, ANSI B36.10, SCH 80	SAE Flange with O-ring, steel, 2000#	Steel, socket weld, ASTM A105, ANSI B16.11, 3000#	Steel, socket weld, ASTM A105, ANSI B16.11, 2000# See Remarks	Stainless steel ball & stem, Viton seats & seals	Specialty piping components suitable for hydraulic service shall be provided.
See NOTE 1	½" and below	Stainless steel tube, seamless ASTM A269	Swagelok stainless steel Type 316	Swagelok stainless steel, Type 316			

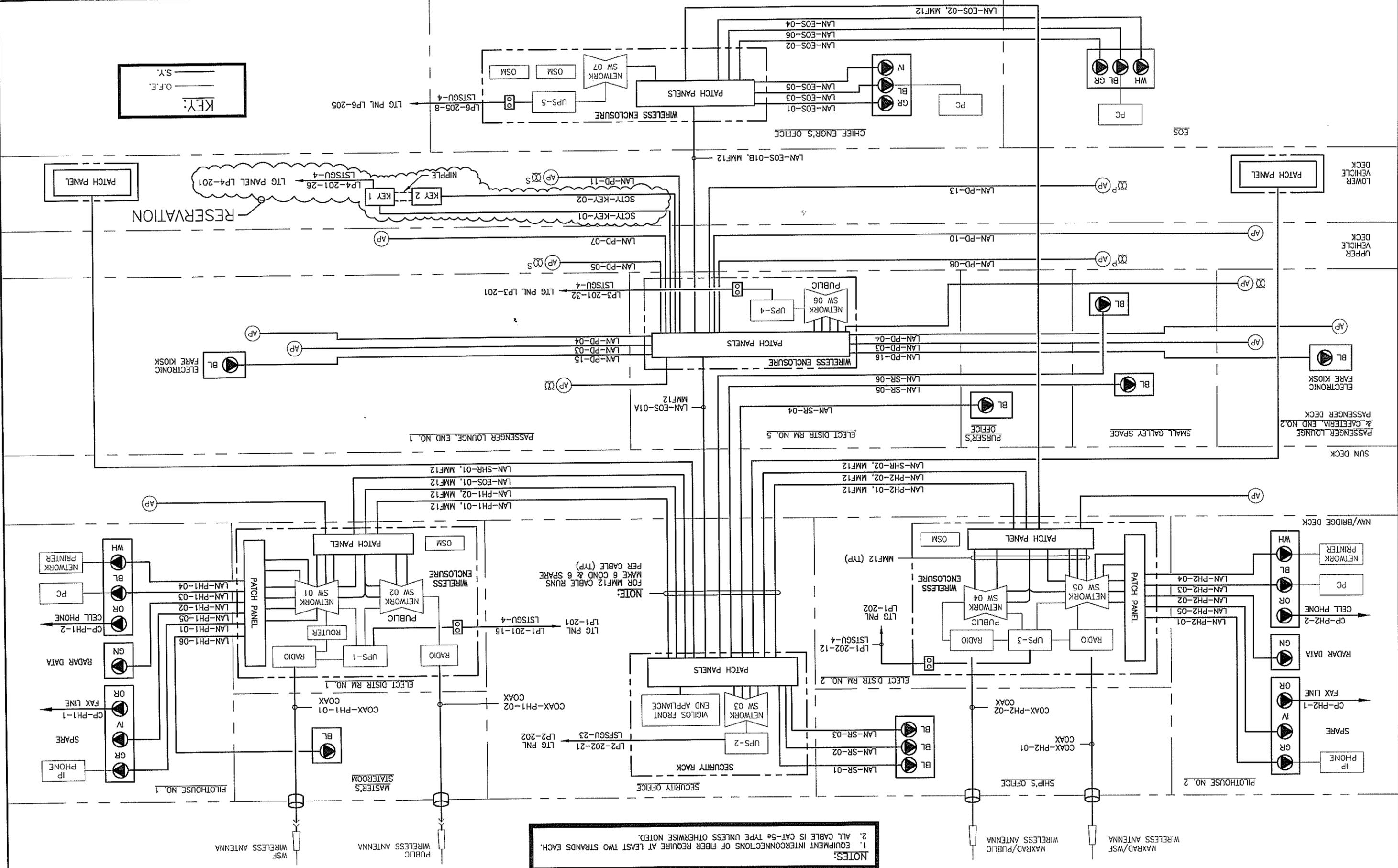
NOTE 1 -- Screwed stainless steel joints shall be coated with MolyKote or similar anti-sieze prior to assembly.

NOTE 2 -- Fire and Sprinkler Pump suction piping and up to the first valve of the discharge piping shall use MATERIAL SCHEDULE Specification for the Firemain.

NOTE 3 -- Water supply piping to pump shall use MATERIAL SCHEDULE Specification for the Potable, Sanitary, Hot Water.

(END OF TABLE)

COMPOSITE ARCHITECTURE



KEY:
 ——— O.F.E.
 ——— S.Y.

NOTES:
 1. EQUIPMENT INTERCONNECTIONS OF FIBER REQUIRE AT LEAST TWO STRANDS EACH.
 2. ALL CABLE IS CAT-5a TYPE UNLESS OTHERWISE NOTED.

RESERVATION

ELECTRONIC FARE KIOSK

PASSENGER LOUNGE, END NO. 1

PASSENGER DECK

SMALL GALLEY SPACE

PURSER'S OFFICE

ELECT DISTR RM NO. 5

PASSENGER LOUNGE & CAFETERIA, END NO. 2

PASSENGER DECK

ELECTRONIC FARE KIOSK

UPPER VEHICLE DECK

LOWER VEHICLE DECK

CHIEF ENGR'S OFFICE

NOTE: COMPANY NAME MUST BE FILLED IN TO CERTIFY ACKNOWLEDGEMENT OF THIS ADDENDUM.

ADDENDUM #: _____

RECEIVED BY: _____ DATE: _____

COMPANY: _____

ALL PROPOSAL HOLDERS PLEASE SIGN AND RETURN THIS PAGE BY RETURN FAX AT 360-705-6810.

NOTE !! SUBCONTRACTORS, MATERIALS SUPPLIERS AND PLANCENTERS NEED NOT ACKNOWLEDGE THIS ADDENDUM.

ALL PRIME CONTRACTORS MUST ACKNOWLEDGE THIS ADDENDUM.

PS&E NUMBER

06E999

NEW 144 – AUTO FERRIES DESIGN - BUILD