

| REVISIONS | | | | |
|-----------|-------|---|---------|---------|
| REV | ZONE | DESCRIPTION | DATE | BY/APPD |
| 1 | 4-12C | 1.REV PILOT HOUSE TOP TO AGREE W STRUCTURAL DWGS | 1/15/10 | BJ/KK |
| | VAR | 2.REV CURTAIN PL AND BULKHEADS PER DEV | | |
| | 2-11B | 3.RELOCATE BOW THRUSTER PER DEV | | |
| | VAR | 4.REV LINES PER DEV | | |
| | VAR | 5.REV ENDS OF PASSENGER DECK | | |
| | 14-C | 6.REV AFT STAIRS ON PASSENGER DECK ON INBD PROFILE | | |
| | 3-A | 7.CORRECTED DESCRIPTION OF BEAM | | |
| | VAR | 8.REV STAIRS FROM MN DECK TO PASSENGER DECK DUE TO INSUFFICIENT LANDING AT MID DECK | | |
| 2 | VAR | 1. REV MASTS TO SUIT DEVELOPMENT OF MAST DWGS AND RELOCATE RADAR PER OWNER REQUEST. | 2/26/10 | BJ/KK |
| | 12-B | 2. ADDED BHDS BLW MN DK @ FRS 32, 34 & 40 | 6/29/10 | MB/KK |
| | 11-C | 3. ADDED STAIRWAY ENCLOSURE. | | |
| | 13-C | 4. ADDED STAIRWAY TO DECK HOUSE TOP @ FR 48 | | |
| | 14-C | 5. DELETED STAIRWAY TO PILOTHOUSE DECK @ FR 68. | | |
| | 6-C | 6. ADDED INCLINED LADDERS FROM PASS DK TO PHSE DK. | | |
| | VAR | - REVS 2-6 TO MATCH DWG 101-02 REV 6 | | |

OUTBOARD PROFILE

PRINCIPLE DIMENSIONS

| | | |
|---|------------------------------|----------|
| △ | LENGTH OVERALL | 220'-6" |
| | LENGTH DESIGN LOAD WATERLINE | 208'-0" |
| | BEAM MOLDED | 50'-0" |
| | DEPTH TO MAIN DECK AT SIDE | 12'-6" |
| | DRAFT TO DLWL | 6'-6" |
| | VEHICLE CAPACITY | 50 CARS |
| | PASSENGER CAPACITY | 300 |
| | CREW | 6 |
| | HORSEPOWER | 2100 |
| | SPEED (MAX) | 13 KNOTS |
| | FUEL CAPACITY | 5000 GAL |
| | POTABLE WATER CAPACITY | 5000 GAL |
| | GEAR OIL CAPACITY | 170 GAL |
| | LUBE OIL CAPACITY | 170 GAL |
| | OILY WATER CAPACITY | 170 GAL |
| | DIRTY OIL CAPACITY | 750 GAL |

THIS DRAWING CONTAINS INFORMATION BASED ON EBDG CONTRACT DESIGN DRAWING 07069-001-101-1

ORANGE
Shipbuilding Co., Inc.
A CONRAD INDUSTRIES CO.
710 MARKET STREET-ORANGE, TEXAS 77630
PHONE 409-883-6666 FAX 409-882-0609

GUARINO & COX, LLC
19399 HELENBURG RD, SUITE 203
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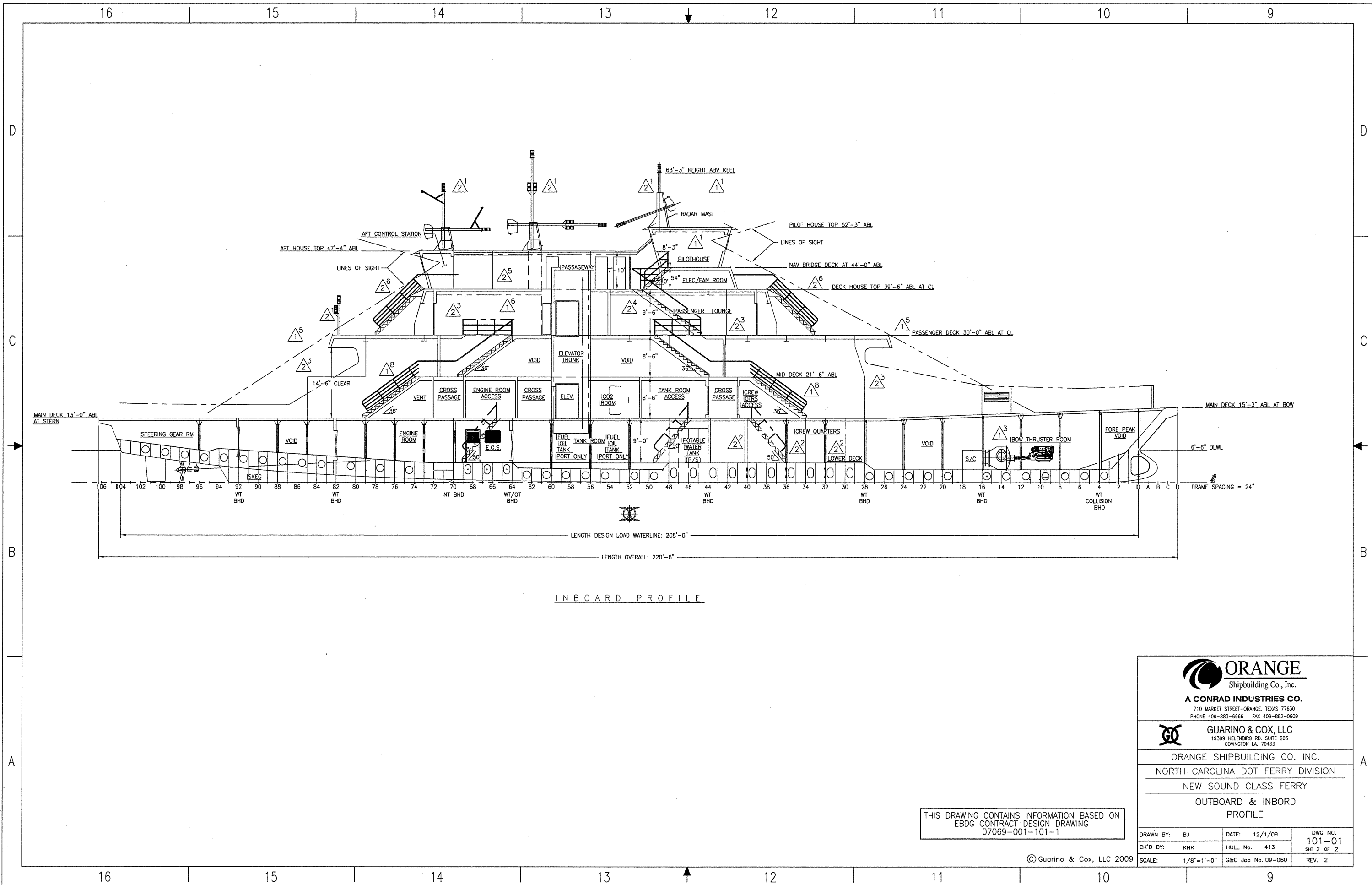
ORANGE SHIPBUILDING CO. INC.

NORTH CAROLINA DOT FERRY DIVISION

NEW SOUND CLASS FERRY

OUTBOARD & INBOARD PROFILE

| | | |
|-------------------|--------------------|----------------|
| DRAWN BY: BJ | DATE: 12/1/09 | DWC NO. 101-01 |
| CK'D BY: KHK | HULL No. 413 | SHT 1 OF 2 |
| SCALE: 1/8"=1'-0" | G&C Job No. 09-060 | REV. 2 |



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 EBDG CONTRACT DESIGN DRAWING
 07069-001-101-1

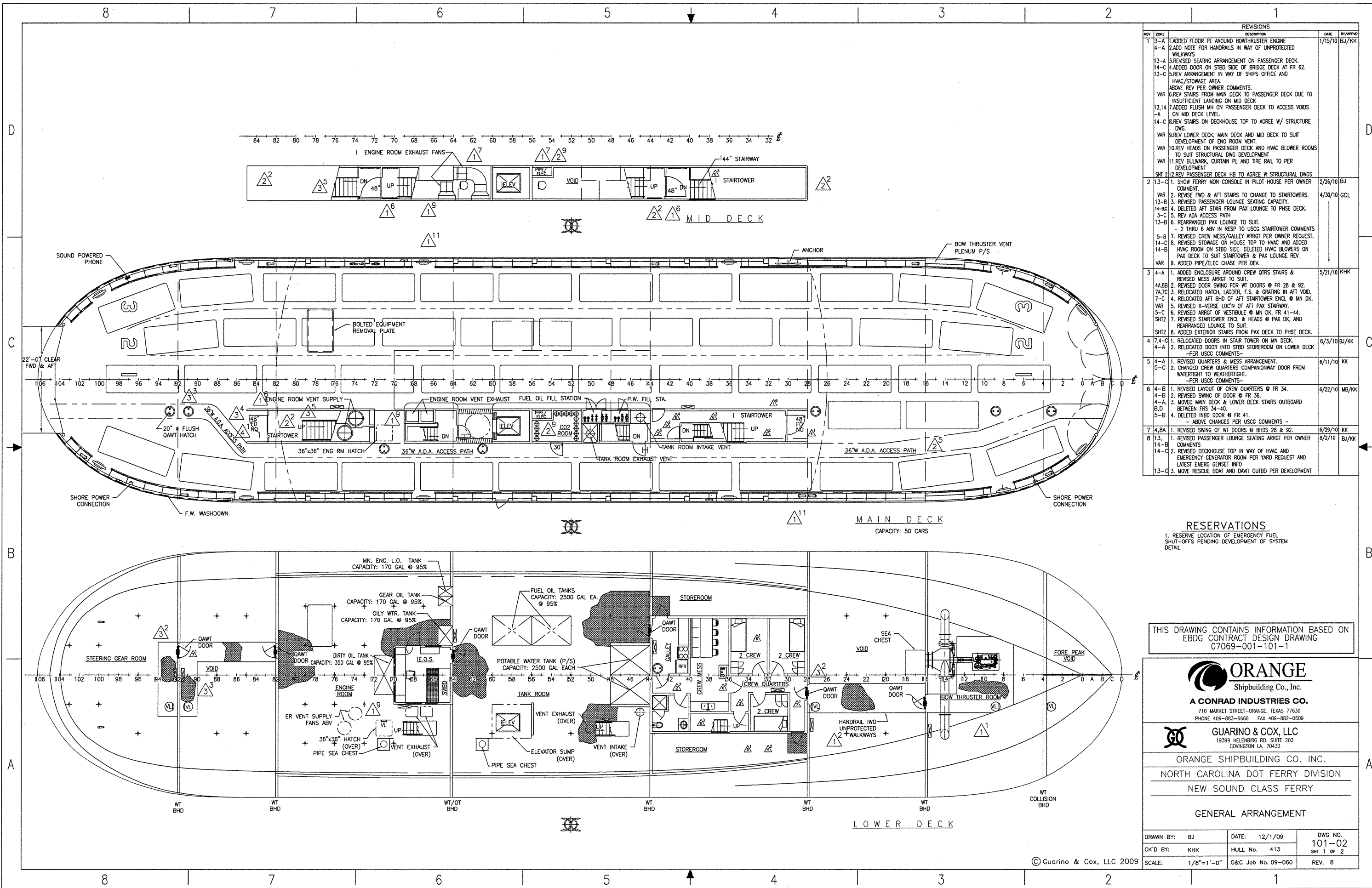
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ORANGE SHIPBUILDING CO. INC.
 NORTH CAROLINA DOT FERRY DIVISION
 NEW SOUND CLASS FERRY
 OUTBOARD & INBORD
 PROFILE

| | | |
|-------------------|--------------------|----------------|
| DRAWN BY: BJ | DATE: 12/1/09 | DWG NO. 101-01 |
| CK'D BY: KHK | HULL No. 413 | SHT 2 OF 2 |
| SCALE: 1/8"=1'-0" | G&C Job No. 09-060 | REV. 2 |

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| REV | ZONE | DESCRIPTION | DATE | BY/APP'D |
|--------|------|---|---------|----------|
| 13-A | | 1. ADDED FLOOR PL AROUND BOW THRUSTER ENGINE ROOM | 1/15/10 | BJ/KK |
| 4-A | | 2. ADD NOTE FOR HANDRAILS IN WAY OF UNPROTECTED WALKWAYS | | |
| 13-A | | 3. REVISED SEATING ARRANGEMENT ON PASSENGER DECK | | |
| 14-C | | 4. ADDED DOOR ON STBD SIDE OF BRIDGE DECK AT FR 62 | | |
| 13-C | | 5. REV ARRANGEMENT IN WAY OF SHIPS OFFICE AND HVAC/STORAGE AREA | | |
| VAR | | 6. REV PER OWNER COMMENTS | | |
| 6 | | 7. REV STAIRS FROM MAIN DECK TO PASSENGER DECK DUE TO INSUFFICIENT LANDING ON MID DECK | | |
| 13,14 | | 7. ADDED FLUSH MH ON PASSENGER DECK TO ACCESS VOIDS ON MID DECK LEVEL | | |
| 14-C | | 8. REV STAIRS ON DECKHOUSE TOP TO AGREE W/ STRUCTURE DWG. | | |
| VAR | | 9. REV LOWER DECK, MAIN DECK AND MID DECK TO SUIT DEVELOPMENT OF ENG ROOM VENT | | |
| VAR | | 10. REV HEADS ON PASSENGER DECK AND HVAC BLOWER ROOMS TO SUIT STRUCTURAL DWG DEVELOPMENT | | |
| VAR | | 11. REV BULKHEAD, CURTAIN PL AND TIRE RAIL TO PER DEVELOPMENT | | |
| SHT 2 | | 12. REV PASSENGER DECK HB TO AGREE W STRUCTURAL DWGS | | |
| 2 | 13-C | 1. SHOW FERRY MON CONSOLE IN PILOT HOUSE PER OWNER COMMENT | 2/26/10 | BJ |
| VAR | | 2. RELOC FWD & AFT STAIRS TO CHANGE TO STARTTOWERS | 4/30/10 | GCL |
| 13-B | | 3. REVISED PASSENGER LOUNGE SEATING CAPACITY | | |
| 14-B,C | | 4. DELETED AFT STAIR FROM PAX LOUNGE TO PHSE DECK | | |
| 3-C | | 5. REV ADA ACCESS PATH | | |
| 13-B | | 6. REARRANGED PAX LOUNGE TO SUIT | | |
| 5-B | | 7. REVISED CREW MESS/GALLEY ARRGT PER OWNER REQUEST | | |
| 14-C | | 8. REVISED STORAGE ON HOUSE TOP TO HVAC AND ADDED HVAC ROOM ON STBD SIDE. DELETED HVAC BLOWERS ON PAX DECK TO SUIT STARTTOWER & PAX LOUNGE REV. | | |
| VAR | | 9. ADDED PIPE/ELEC CHASE PER DEV. | | |
| 3 | 4-A | 1. ADDED ENCLOSURE AROUND CREW QTRS STAIRS & REVISED MESS ARRGT TO SUIT | 5/21/10 | KHK |
| 4A,B | | 2. REVISED DOOR SWING FOR WT DOORS @ FR 28 & 92 | | |
| 7A,7C | | 3. RELOCATED HATCH, LADDER, F.S. & GRATING IN AFT VOID | | |
| 7-C | | 4. RELOCATED AFT BHD OF AFT STARTTOWER ENCL @ MN DK | | |
| VAR | | 5. REVISED X-VERSE LOC'N OF AFT PAX STAIRWAY | | |
| 5-C | | 6. REVISED ARRGT OF VESTIBULE @ MN DK, FR 41-44 | | |
| SHT 2 | | 7. REVISED STARTTOWER ENCL & HEADS @ PAX DK, AND REARRANGED LOUNGE TO SUIT | | |
| SHT 2 | | 8. ADDED EXTERIOR STAIRS FROM PAX DECK TO PHSE DECK | | |
| 4 | 7A-C | 1. RELOCATED DOORS IN STAIR TOWER ON MN DECK | 6/3/10 | BJ/KK |
| 4-A | | 2. RELOCATED DOOR INTO STBD STOREROOM ON LOWER DECK -PER USCC COMMENTS- | | |
| 5 | 4-A | 1. REVISED QUARTERS & MESS ARRANGEMENT | 6/11/10 | KK |
| 5-C | | 2. CHANGED CREW QUARTERS COMPANIONWAY DOOR FROM WATERTIGHT TO WEATHERTIGHT -PER USCC COMMENTS- | | |
| 6 | 4-B | 1. REVISED LAYOUT OF CREW QUARTERS @ FR 34 | 6/22/10 | MB/KK |
| 4-B | | 2. REVISED SWING OF DOOR @ FR 36 | | |
| 4-A | | 3. MOVED MAIN DECK & LOWER DECK STAIRS OUTBOARD BETWEEN FR 34-40 | | |
| 5-B | | 4. DELETED INBD DOOR @ FR 41 - ABOVE CHANGES PER USCC COMMENTS - | | |
| 7 | 4A | 1. REVISED SWING OF WT DOORS @ BHD 28 & 92 | 6/29/10 | KK |
| 8 | 13 | 1. REVISED PASSENGER LOUNGE SEATING ARRGT PER OWNER COMMENTS | 8/2/10 | BJ/KK |
| 14-B | | 2. REVISED DECKHOUSE TOP IN WAY OF HVAC AND EMERGENCY GENERATOR ROOM PER YARD REQUEST AND LATEST EMERG GENSET INFO | | |
| 13-C | | 3. MOVE RESCUE BOAT AND DAWT OUTBD PER DEVELOPMENT | | |

RESERVATIONS

- RESERVE LOCATION OF EMERGENCY FUEL SHUT-OFFS PENDING DEVELOPMENT OF SYSTEM DETAIL

THIS DRAWING CONTAINS INFORMATION BASED ON EBDG CONTRACT DESIGN DRAWING 07069-001-101-1



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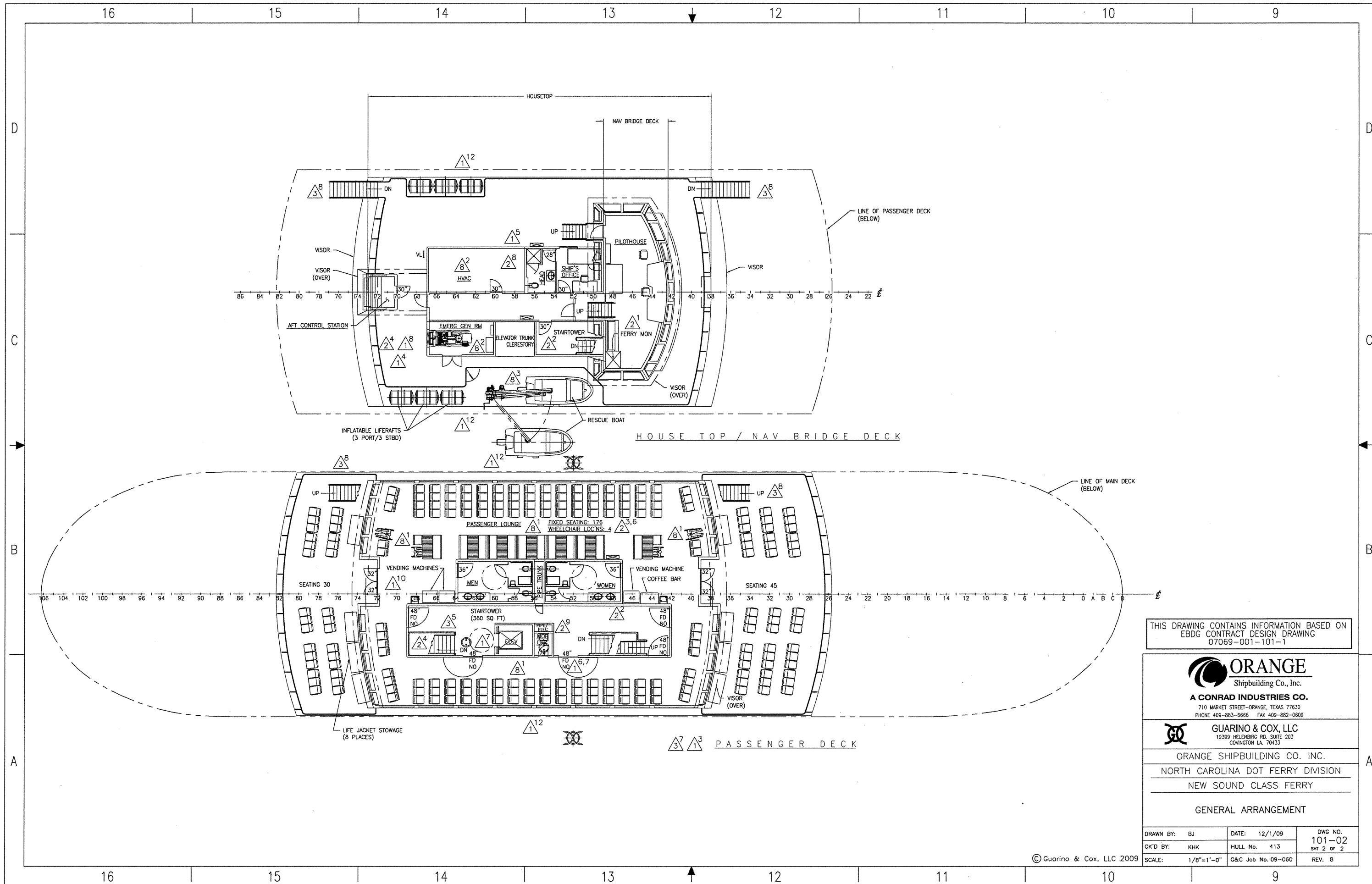


ORANGE SHIPBUILDING CO. INC.
NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY

GENERAL ARRANGEMENT

| | | |
|-------------------|--------------------|----------------|
| DRAWN BY: BJ | DATE: 12/1/09 | DWG NO. 101-02 |
| CK'D BY: KHK | HULL No. 413 | SHT 1 OF 2 |
| SCALE: 1/8"=1'-0" | G&C Job No. 09-060 | REV. 8 |

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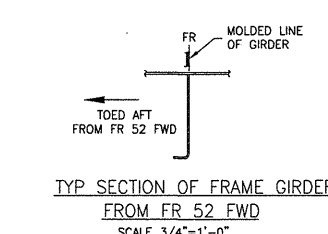
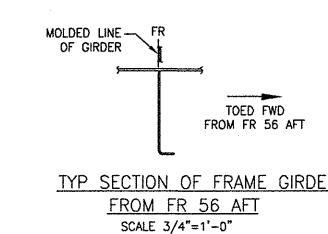
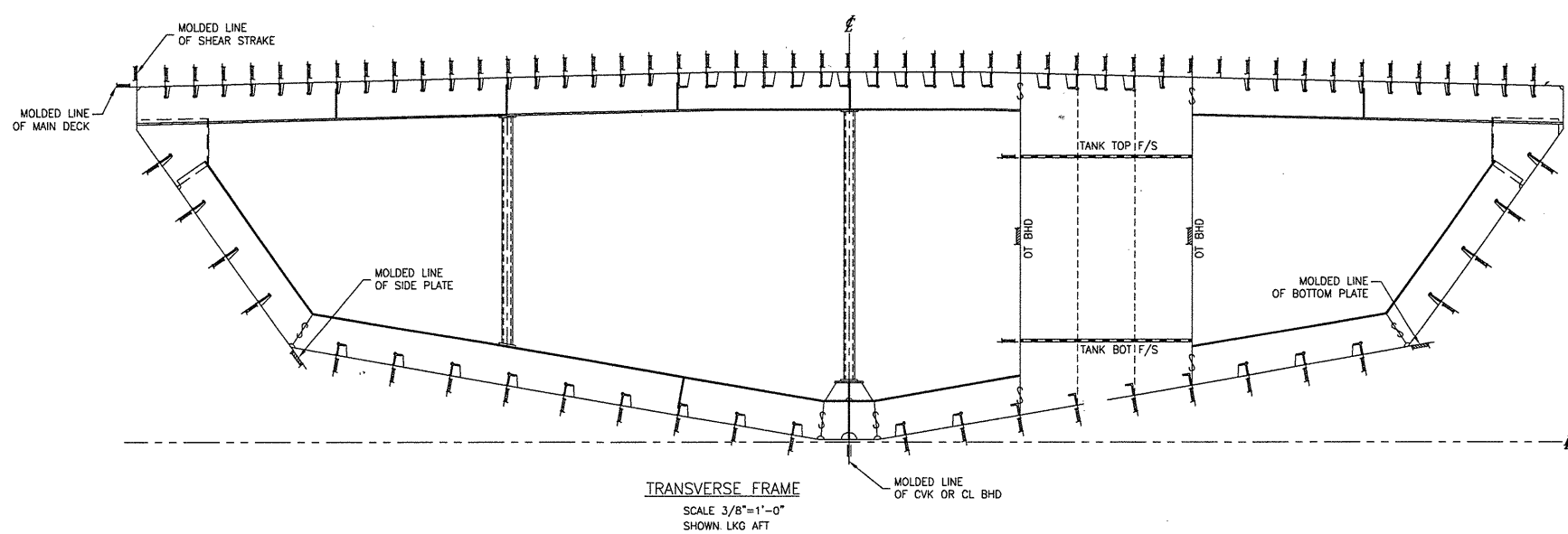
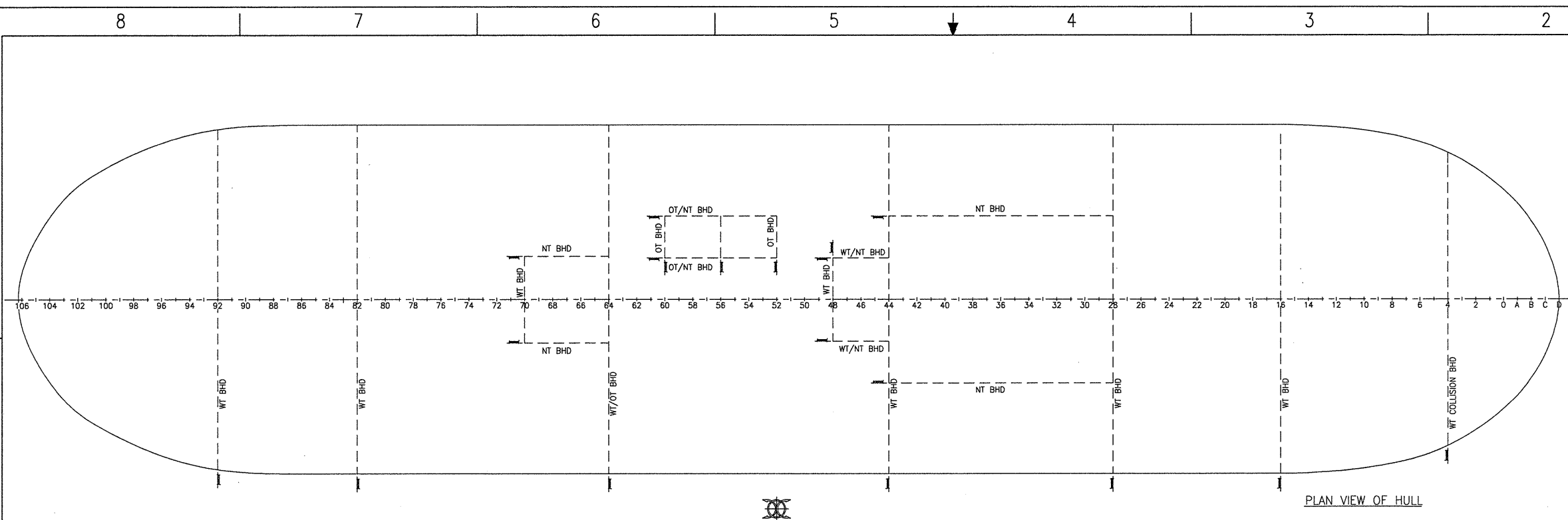
ORANGE SHIPBUILDING CO. INC.
 NORTH CAROLINA DOT FERRY DIVISION
 NEW SOUND CLASS FERRY

GENERAL ARRANGEMENT

| | | |
|-------------------|--------------------|----------------|
| DRAWN BY: BJ | DATE: 12/1/09 | DWG NO. 101-02 |
| CK'D BY: KHK | HULL No. 413 | Sht 2 of 2 |
| SCALE: 1/8"=1'-0" | G&C Job No. 09-060 | REV. 8 |

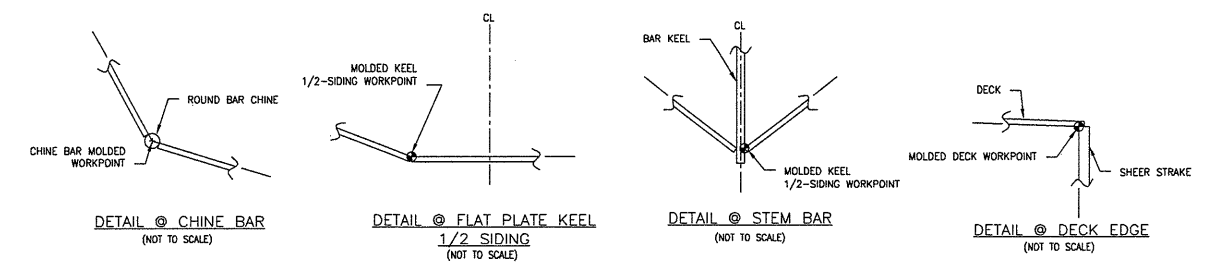
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| REVISIONS | | | | |
|-----------|------|-------------|------|---------|
| REV | ZONE | DESCRIPTION | DATE | BY/APPV |
| | | | | |
| | | | | |



GENERAL NOTE:
1. THIS MOLDED CONVENTION SHALL BE USED THROUGHOUT EXCEPT WHERE NOTED OTHERWISE ON SPECIFIC DETAILS.

MOLDED HULL LINE DEFINITIONS



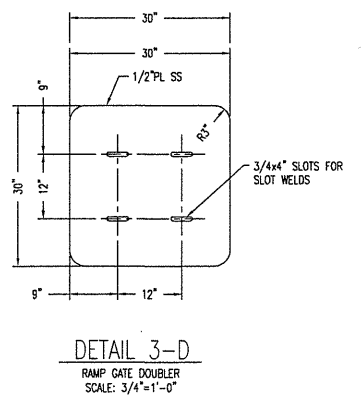
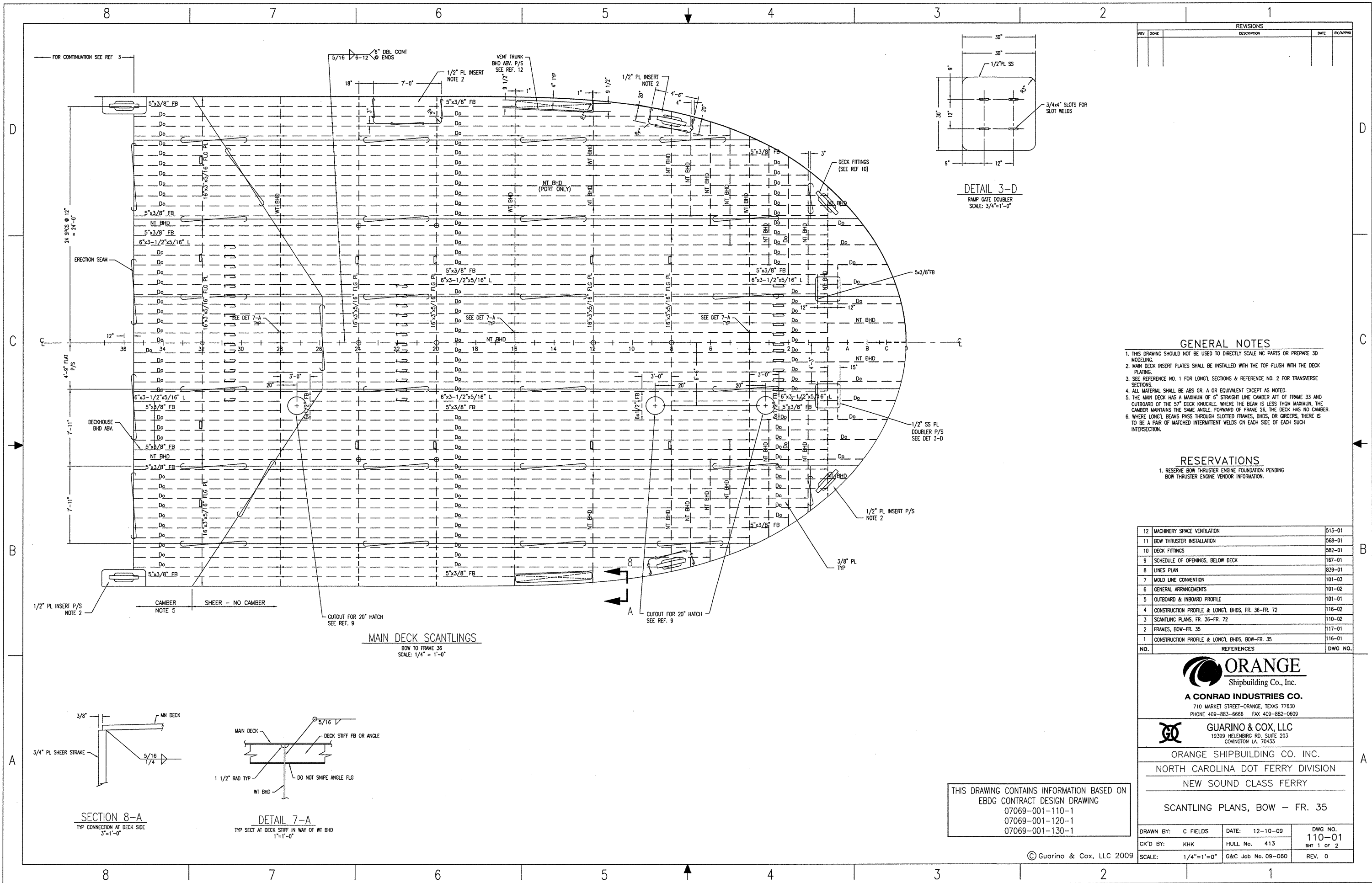
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ORANGE SHIPBUILDING CO. INC.
NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY

MOLD LINE CONVENTION

| | | |
|---------------------|--------------------|----------------|
| DRAWN BY: M.E. HALL | DATE: 11-12-09 | DWG NO. 101-03 |
| CK'D BY: KHK | HULL No. 413 | SHT 1 of 1 |
| SCALE: 1/8"=1'-0" | G&C Job No. 09-060 | REV. 0 |



| REVISIONS | | | | |
|-----------|------|-------------|------|---------|
| REV | ZONE | DESCRIPTION | DATE | BY/APPD |
| | | | | |
| | | | | |

- GENERAL NOTES**
- THIS DRAWING SHOULD NOT BE USED TO DIRECTLY SCALE NC PARTS OR PREPARE 3D MODELING.
 - MAIN DECK INSERT PLATES SHALL BE INSTALLED WITH THE TOP FLUSH WITH THE DECK PLATING.
 - SEE REFERENCE NO. 1 FOR LONG'L SECTIONS & REFERENCE NO. 2 FOR TRANSVERSE SECTIONS.
 - ALL MATERIAL SHALL BE ABS GR. A OR EQUIVALENT EXCEPT AS NOTED.
 - THE MAIN DECK HAS A MAXIMUM OF 6" STRAIGHT LINE CAMBER AFT OF FRAME 33 AND OUTBOARD OF THE 57" DECK KNUCKLE. WHERE THE BEAM IS LESS THAN MAXIMUM, THE CAMBER MAINTAINS THE SAME ANGLE. FORWARD OF FRAME 26, THE DECK HAS NO CAMBER.
 - WHERE LONG'L BEAMS PASS THROUGH SLOTTED FRAMES, BHDs, OR GIRDERS, THERE IS TO BE A PAIR OF MATCHED INTERMITTENT WELDS ON EACH SIDE OF EACH SUCH INTERSECTION.

- RESERVATIONS**
- RESERVE BOW THRUSTER ENGINE FOUNDATION PENDING BOW THRUSTER ENGINE VENDOR INFORMATION.

| NO. | REFERENCES | DWG NO. |
|-----|---|---------|
| 12 | MACHINERY SPACE VENTILATION | 513-01 |
| 11 | BOW THRUSTER INSTALLATION | 568-01 |
| 10 | DECK FITTINGS | 582-01 |
| 9 | SCHEDULE OF OPENINGS, BELOW DECK | 167-01 |
| 8 | LINES PLAN | 839-01 |
| 7 | MOLD LINE CONVENTION | 101-03 |
| 6 | GENERAL ARRANGEMENTS | 101-02 |
| 5 | OUTBOARD & INBOARD PROFILE | 101-01 |
| 4 | CONSTRUCTION PROFILE & LONG'L BHDs, FR. 36-FR. 72 | 116-02 |
| 3 | SCANTLING PLANS, FR. 36-FR. 72 | 110-02 |
| 2 | FRAMES, BOW-FR. 35 | 117-01 |
| 1 | CONSTRUCTION PROFILE & LONG'L BHDs, BOW-FR. 35 | 116-01 |

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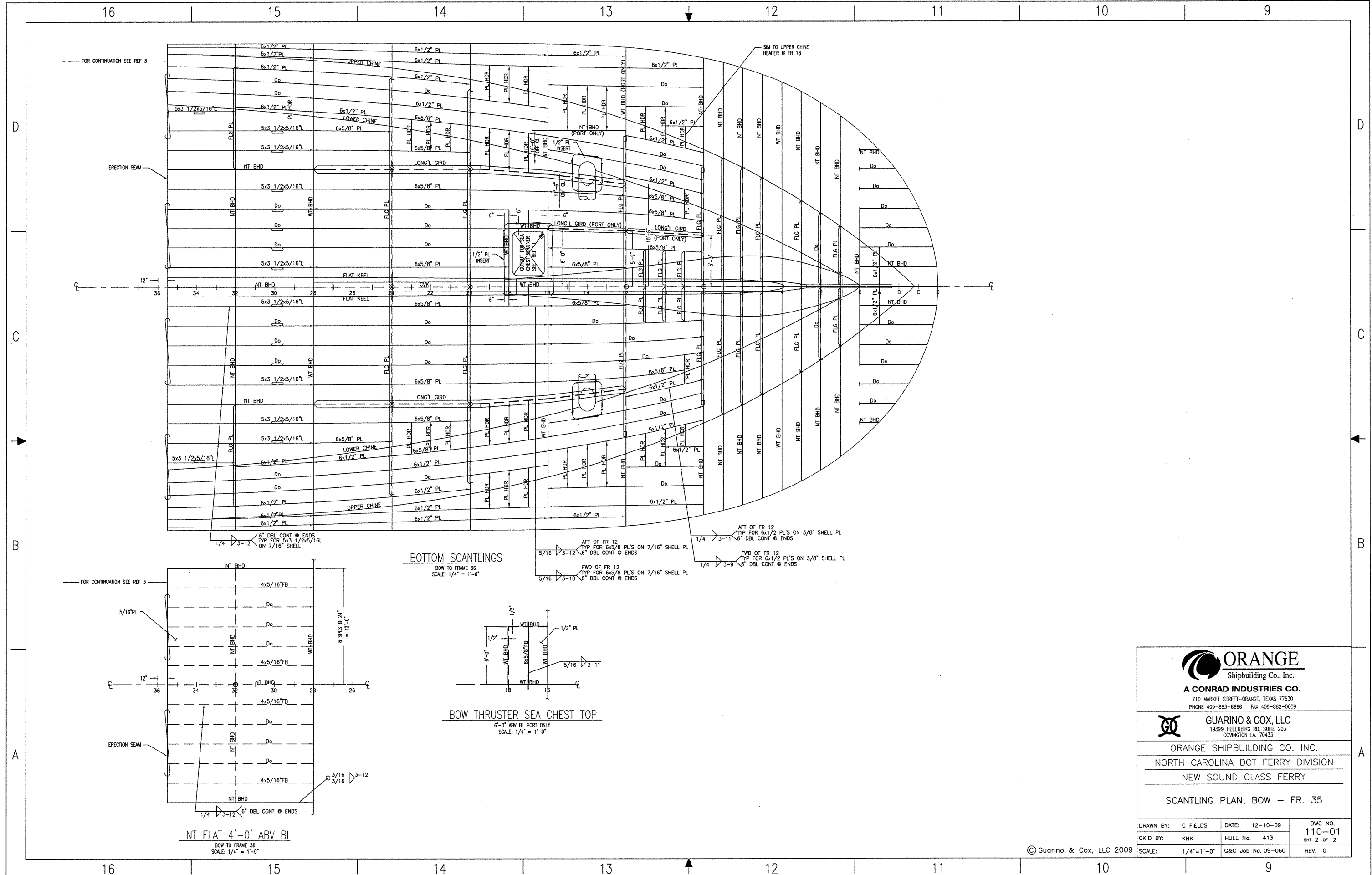
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ORANGE SHIPBUILDING CO. INC.
 NORTH CAROLINA DOT FERRY DIVISION
 NEW SOUND CLASS FERRY

THIS DRAWING CONTAINS INFORMATION BASED ON
 EBDG CONTRACT DESIGN DRAWING
 07069-001-110-1
 07069-001-120-1
 07069-001-130-1

| | | |
|--------------------|--------------------|----------------|
| DRAWN BY: C FIELDS | DATE: 12-10-09 | DWG NO. 110-01 |
| CK'D BY: KHK | HULL No. 413 | SH 1 OF 2 |
| SCALE: 1/4"=1'-0" | G&C Job No. 09-060 | REV. 0 |

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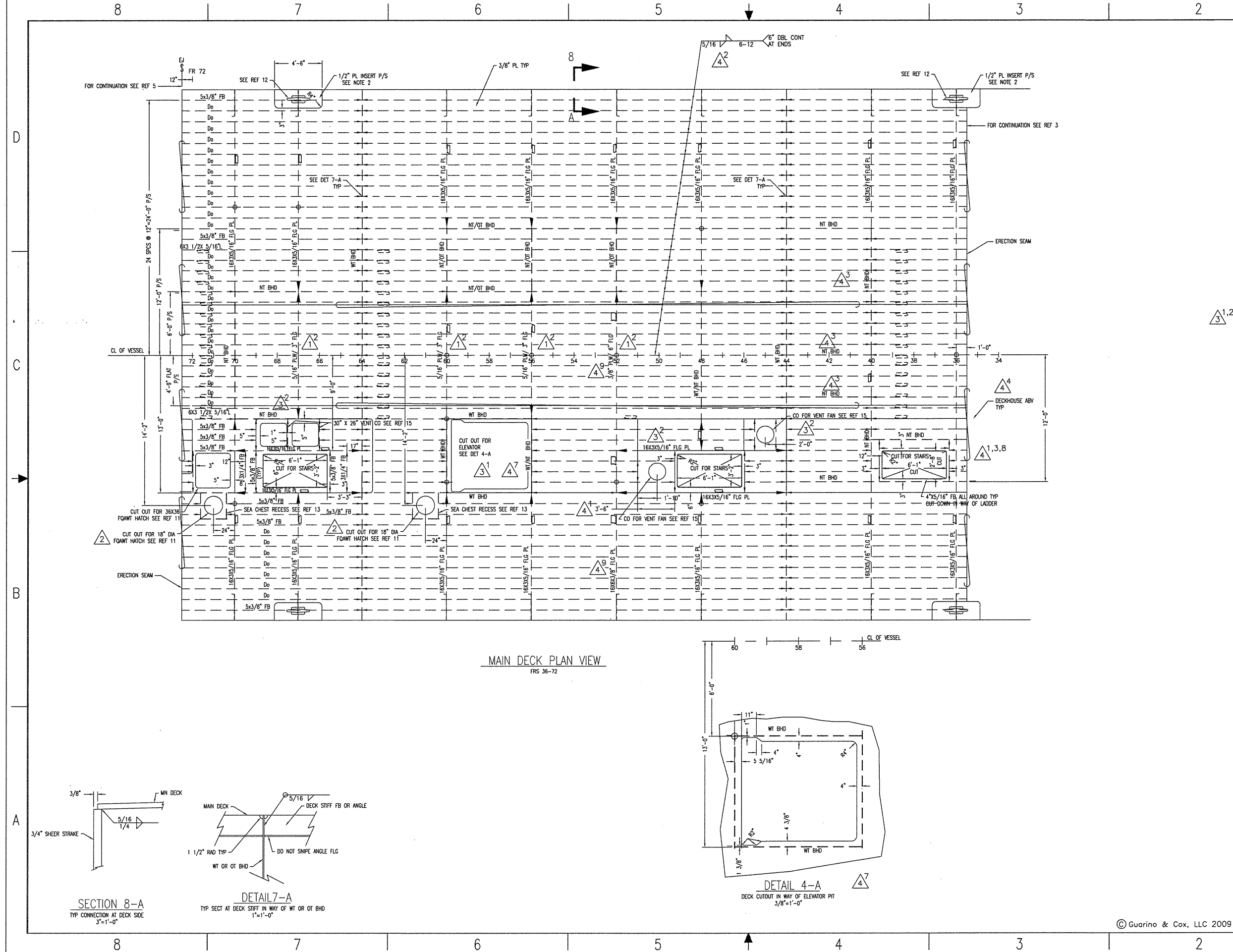
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ORANGE SHIPBUILDING CO. INC.
NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY

SCANTLING PLAN, BOW - FR. 35

| | | |
|--------------------|--------------------|----------------|
| DRAWN BY: C FIELDS | DATE: 12-10-09 | DWG NO. 110-01 |
| CK'D BY: KHK | HULL No. 413 | SHIT 2 OF 2 |
| SCALE: 1/4"=1'-0" | G&C Job No. 09-060 | REV. 0 |

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| REVISIONS | | | | |
|-----------|-------|--|---------|---------|
| REV | ZONE | DESCRIPTION | DATE | BY/APPD |
| 1 | SHT 3 | 1. REV SHAPE OF LONG STIFFS BETWEEN LOWER CHINE AND SHEAR STRAKE KNUCKLE PER DEVELOPMENT | 2/19/10 | BJ/KK |
| 2 | VAR | 2. REV DESCRIPTION OF TRANSVERSE FLG PLS AT CL PER CHANGES ON DWG 117-02 | | |
| 21-B | | 3. REM SNIP FROM FLG OF TRANSVERSE BOTTOM FLG PL AT FR 48 AT 12'-0\"/> | | |
| 16-A | | 4. REV TT AND CWK CAP PL AT FR 70-72 PER DEV OF REF 5&16 | | |
| 16-AB | | 5. REV LONGL GIRDERS FR 60-73 AND REMOVE RESV. ADDED REF 17. PER DEV OF REF 6&16 | | |
| 11-D | | 6. CORRECTED DEPTH OF CHOCK. | | |
| 2 | 6,8-B | REV DECK HATCHES TWO SEACHESTS TO 18\"/> | 3/17/10 | KK |
| 3 | VAR | 1. ADD DIMS FOR ELEVATOR CUT-OUT AND REMOVE RESV #1. | 3/23/10 | KK |
| 5,7-C | | 2. REV DECK CO'S AND ASSOCIATED STRUCTURE TWO VENT FANS, AND REMOVE RESV #3. | | |
| 12-B | | 3. CORRECTED DECK HATCH DIAM IN CREW OTRS. | | |
| 4 | 5-B | 1. ADDED LOCATING DIM FOR STAIR C/O. | 3/29/10 | MB/KK |
| 5-D | | 2. REVISED WELD FROM CHAIN WELD TO STAGGERED WELD | 6/14/10 | MB/KK |
| VARIES | | 3. REVISED LOCATION FOR STAIRWAY OPENING. ADDED NT BHD'S @ FR 40, CL & 4'-0\"/> | | |
| 3-C | | 4. REVISED LAYOUT FOR DECKHOUSE ABV. | | |
| VARIES | | 5. REVISED FLANGE INDICATIONS @ FR 48, 56 & 70. | | |
| VARIES | | 6. ADDED ABV DECK BHD'S @ FR 40, CL, 4'-0\"/> | | |
| 4-A | | 7. REVISED MN DECK CUTOUT IN WAY OF ELEVATOR PIT AND | 7/23/10 | BJ/KK |
| 6-C | | ADDED DET 4-A. PER LATEST VENDOR INFO | | |
| 4-C | | 8. REVISED DECK CUTOUT FOR TWO STAIRS FR 36-40 TO SUIT LATEST ARRANGEMENT. | | |
| 5-B,C | | 9. REV SIZE OF X-VERSE DK FR @ FR 52 STBD. | | |
| 14-C | | 10. REV FRAMING OF ELEVATOR SLUMP BOTTOM PER VENDOR INFO. | | |
| SHT 3 | | 11. REV X-VERSE FRAMES ON BTM SHELL @ FR 48, 56 & 70. | | |
| 16A,B | | 12. REV OUTBOARD ENG GRD @ FR 73 TO MATCH REF 16. | | |

- RESERVATIONS**
- 1. RESERVE ELEVATOR TRUNK PENDING VENDOR INFO.
 - 2. RESERVE ENGINE GIRDERS PENDING FINAL VENDOR INFO. AND DEVELOPMENT OF REF 5&16.
 - 3. RESERVE DECK IN WAY OF VENT FANS PENDING DEVELOPMENT OF REF 15.

- GENERAL NOTES**
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 - MAIN DECK INSERT PLATES SHALL BE INSTALLED WITH THE TOP FLUSH WITH THE DECK PLATING.
 - SEE REFERENCE NO. 1 FOR LONG'L SECTIONS & REFERENCE NO. 2 FOR TRANSVERSE SECTIONS.
 - ALL MATERIAL SHALL BE ABS GRADE-A OR EQUIVALENT EXCEPT AS NOTED.
 - THE MAIN DECK HAS A MAXIMUM OF 6\"/>
 - WHERE LONG'L BEAMS PASS THROUGH SLOTTED FRAMES, BHD'S, OR GIRDERS, THERE IS TO BE A PAIR OF MATCHED INTERMITTENT WELDS ON EACH SIDE OF EACH SUCH INTERSECTION.

| NO. | REFERENCES | DWG NO. |
|-----|--|---------|
| 17 | FRAMES, FR. 72-STERN | 117-03 |
| 16 | MAIN ENGINE FOUNDATIONS | 162-01 |
| 15 | MACHINERY SPACE VENTILATION | 513-01 |
| 14 | ELEVATOR INSTALLATION | 589-01 |
| 13 | SEA CHEST | 163-01 |
| 12 | DECK FITTINGS | 582-01 |
| 11 | SCHEDULE OF OPENINGS, BELOW DECK | 167-01 |
| 10 | LINES PLAN | 838-01 |
| 9 | MOLD LINE CONVENTION | 101-03 |
| 8 | GENERAL ARRANGEMENTS | 101-02 |
| 7 | OUTBOARD & INBOARD PROFILE | 101-01 |
| 6 | CONSTRUCTION PROFILE & LONG'L BHD'S, FR 72-STERN | 116-03 |
| 5 | SCANTLING PLANS, FR 72-STERN | 110-03 |
| 4 | CONSTRUCTION PROFILE & LONG'L BHD'S, BOW-FR. 35 | 116-01 |
| 3 | SCANTLING PLANS, BOW-FR. 35 | 110-01 |
| 2 | FRAMES, FR. 36-72 | 117-02 |
| 1 | CONSTRUCTION PROFILE & LONG'L BHD'S, FR. 36-72 | 116-02 |

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ORANGE SHIPBUILDING CO. INC.
NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY
SCANTLING PLANS
FR 36 - FR 72

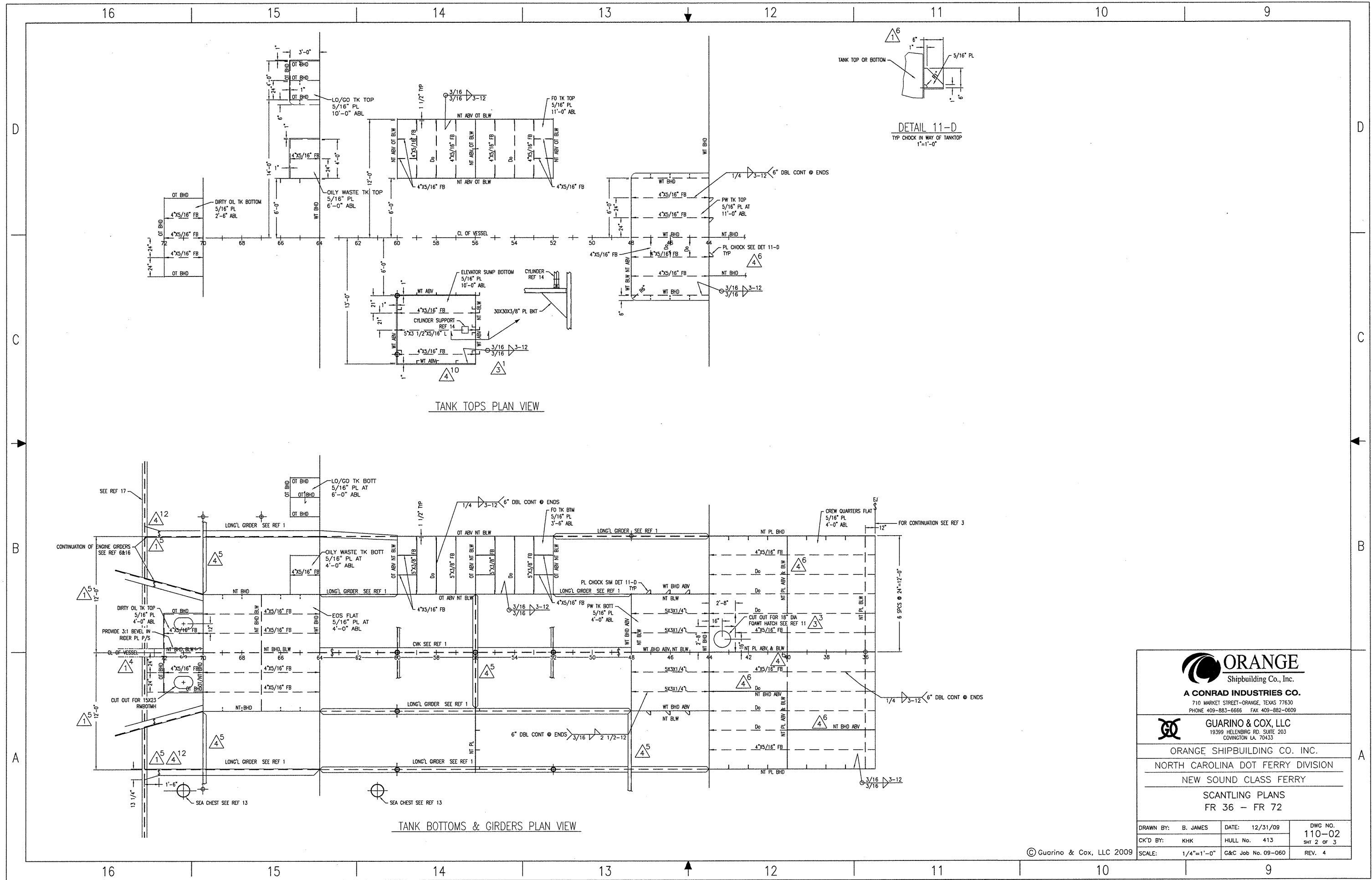
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|--------------------|--------------------|----------------|
| DRAWN BY: B. JAMES | DATE: 12/31/09 | DWG NO. 110-02 |
| CK'D BY: KHK | HULL No. 413 | SHT 1 OF 3 |
| SCALE: 1/4"=1'-0" | G&C Job No. 09-060 | REV. 4 |

SECTION 8-A
TYP CONNECTION AT DECK SIDE
3"=1'-0"

DETAIL 7-A
TYP SECT AT DECK STIFF IN WAY OF WT OR OT BHD
1"=1'-0"

DETAIL 4-A
DECK CUTOUT IN WAY OF ELEVATOR PIT
3/8"=1'-0"

MAIN DECK PLAN VIEW
FRS 36-72



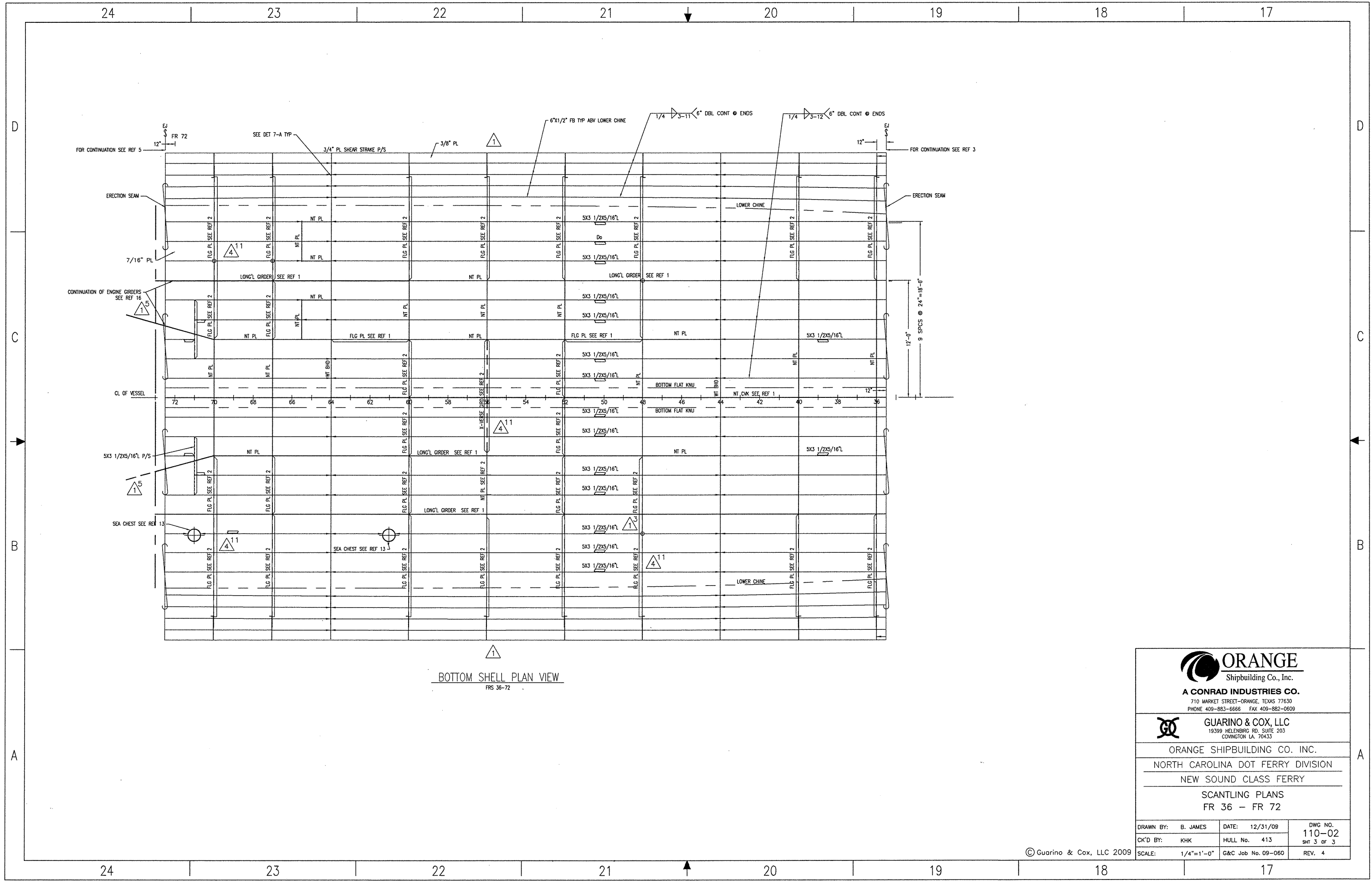
TANK TOPS PLAN VIEW

TANK BOTTOMS & GIRDERS PLAN VIEW



DETAIL 11-D
TYP CHOCK IN WAY OF TANKTOP
1"=1'-0"

| | | |
|---|--|---|
| <p>ORANGE Shipbuilding Co., Inc. A CONRAD INDUSTRIES CO. 710 MARKET STREET-ORANGE, TEXAS 77630 PHONE 409-883-6666 FAX 409-882-0609</p> | | |
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| <p>ORANGE SHIPBUILDING CO. INC. NORTH CAROLINA DOT FERRY DIVISION NEW SOUND CLASS FERRY</p> | | |
| <p>SCANTLING PLANS FR 36 - FR 72</p> | | |
| <p>DRAWN BY: B. JAMES CK'D BY: KHK</p> | <p>DATE: 12/31/09 HULL No. 413</p> | <p>DWG NO. 110-02 Sht 2 of 3 REV. 4</p> |
| <p>SCALE: 1/4"=1'-0" C&C Job No. 09-060</p> | | |

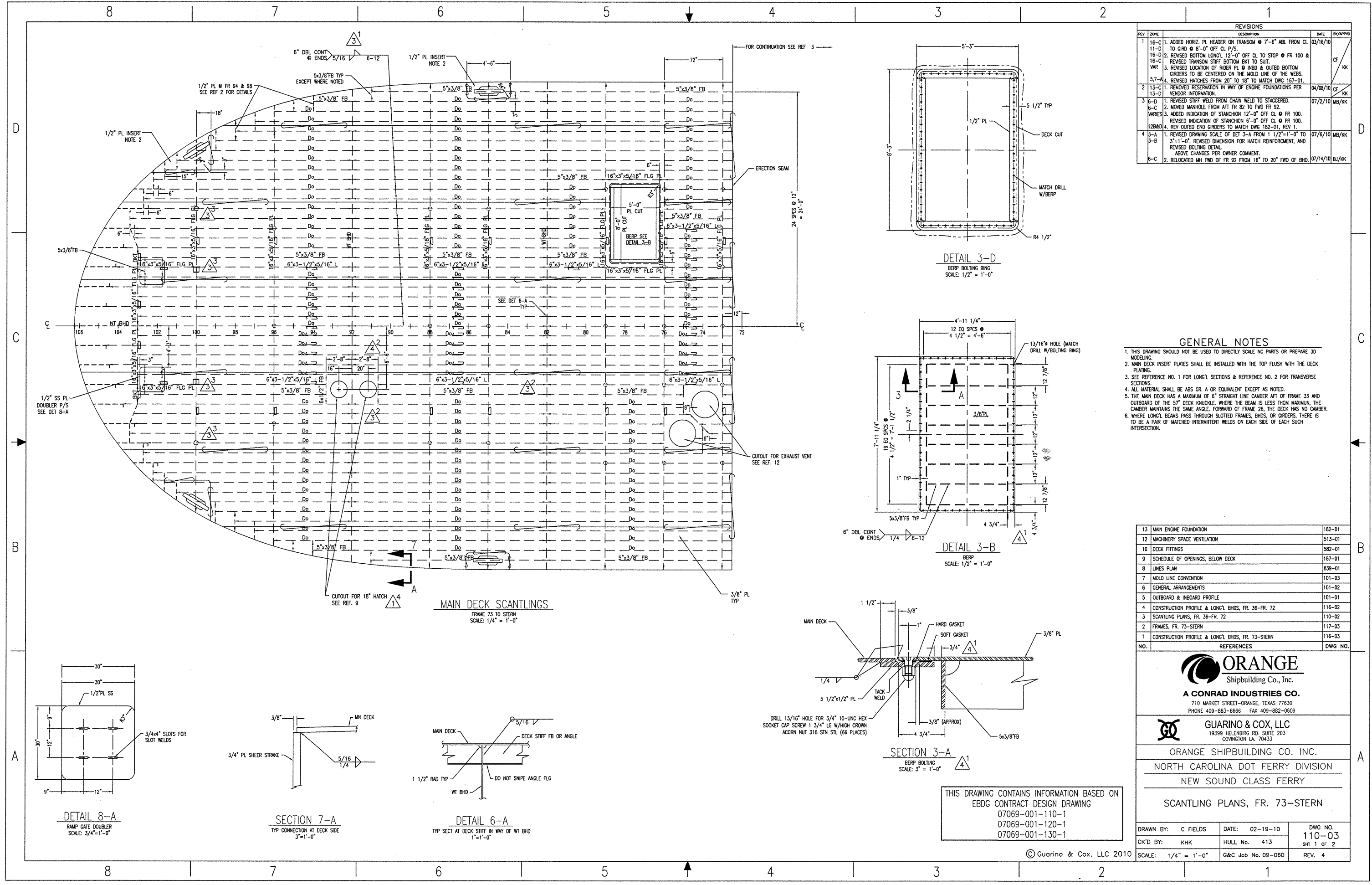
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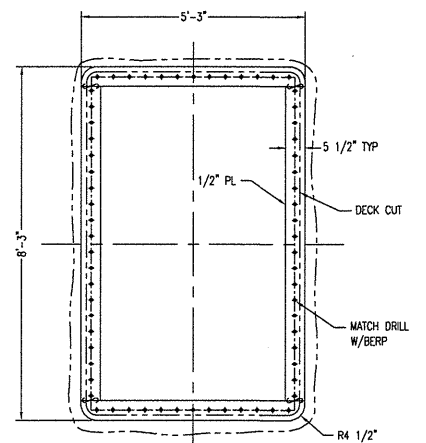

BOTTOM SHELL PLAN VIEW
 FRS 36-72

| | | |
|--|--------------------|-------------------|
|  ORANGE Shipbuilding Co., Inc. A CONRAD INDUSTRIES CO. <small>710 MARKET STREET-ORANGE, TEXAS 77630 PHONE 409-883-6666 FAX 409-882-0609</small> | | |
|  GUARINO & COX, LLC <small>19399 HELENBERG RD., SUITE 203 COVINGTON LA. 70433</small> | | |
| ORANGE SHIPBUILDING CO. INC. NORTH CAROLINA DOT FERRY DIVISION NEW SOUND CLASS FERRY SCANTLING PLANS FR 36 - FR 72 | | |
| DRAWN BY: B. JAMES | DATE: 12/31/09 | DWC NO. 110-02 |
| CK'D BY: KHK | HULL No. 413 | sht 3 of 3 |
| SCALE: 1/4"=1'-0" | G&C Job No. 09-060 | REV. 4 |

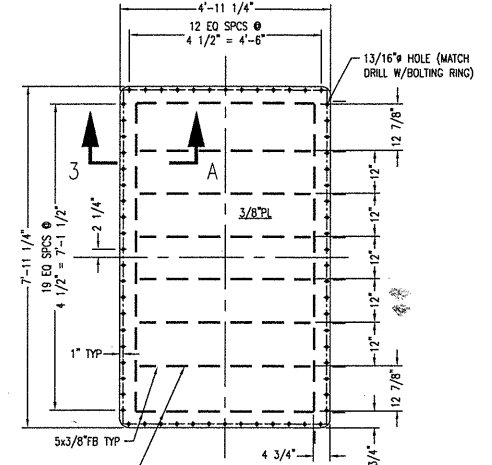
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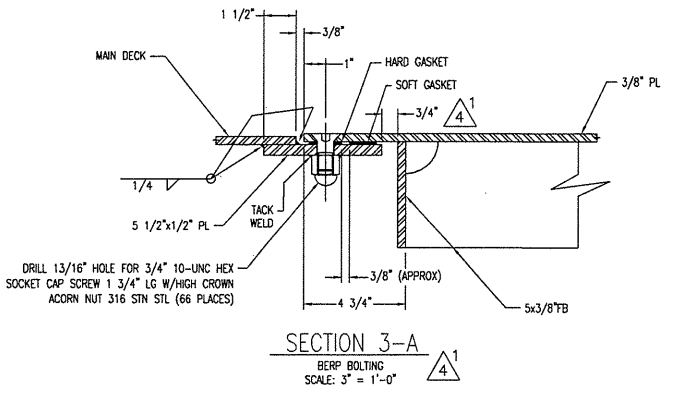
| REV | ZONE | DESCRIPTION | DATE | BY/APPRO |
|-----|------|---|----------|----------|
| 1 | 16-C | 1. ADDED HORIZ. PL HEADER ON TRANSOM @ 7'-6\"/> | | |
| 2 | 13-C | 1. REMOVED RESERVATION IN WAY OF ENGINE FOUNDATIONS PER VENDOR INFORMATION. | 04/08/10 | CF/KK |
| 3 | 6-D | 1. REVISED STIFF WELD FROM CHAIN WELD TO STAGGERED. | 07/2/10 | MB/KK |
| 4 | 3-A | 1. REVISED DRAWING SCALE OF DET 3-A FROM 1/2\"/> | | |



DETAIL 3-D
BERP BOLTING RING
SCALE: 1/2" = 1'-0"



DETAIL 3-B
BERP BOLTING RING
SCALE: 1/2" = 1'-0"



SECTION 3-A
BERP BOLTING
SCALE: 5" = 1'-0"

THIS DRAWING CONTAINS INFORMATION BASED ON EBDG CONTRACT DESIGN DRAWING 07069-001-110-1 07069-001-120-1 07069-001-130-1

GENERAL NOTES

- THIS DRAWING SHOULD NOT BE USED TO DIRECTLY SCALE NC PARTS OR PREPARE 3D MODELING.
- MAIN DECK INSERT PLATES SHALL BE INSTALLED WITH THE TOP FLUSH WITH THE DECK PLATING.
- SEE REFERENCE NO. 1 FOR LONG'L SECTIONS & REFERENCE NO. 2 FOR TRANSVERSE SECTIONS.
- ALL MATERIAL SHALL BE ABS GR. A OR EQUIVALENT EXCEPT AS NOTED.
- THE MAIN DECK HAS A MAXIMUM OF 6" STRAIGHT LINE CAMBER AFT OF FRAME 33 AND OUTBOARD OF THE 57" DECK KNUCKLE. WHERE THE BEAM IS LESS THAN MAXIMUM, THE CAMBER MAINTAINS THE SAME ANGLE FORWARD OF FRAME 28. THE DECK HAS NO CAMBER.
- WHERE LONG'L BEAMS PASS THROUGH SLOTTED FRAMES, BHD'S, OR ORDERS, THERE IS TO BE A PAIR OF MATCHED INTERMITTENT WELDS ON EACH SIDE OF EACH SUCH INTERSECTION.

| NO. | REFERENCES | DWG. NO. |
|-----|--|----------|
| 13 | MAIN ENGINE FOUNDATION | 182-01 |
| 12 | MACHINERY SPACE VENTILATION | 513-01 |
| 10 | DECK FITTINGS | 582-01 |
| 9 | SCHEDULE OF OPENINGS, BELOW DECK | 167-01 |
| 8 | LINES PLAN | 839-01 |
| 7 | MOLD LINE CONVENTION | 101-03 |
| 6 | GENERAL ARRANGEMENTS | 101-02 |
| 5 | OUTBOARD & INBOARD PROFILE | 101-01 |
| 4 | CONSTRUCTION PROFILE & LONG'L BHD'S, FR. 36-FR. 72 | 116-02 |
| 3 | SCANTLING PLANS, FR. 36-FR. 72 | 110-02 |
| 2 | FRAMES, FR. 73-STERN | 117-03 |
| 1 | CONSTRUCTION PROFILE & LONG'L BHD'S, FR. 73-STERN | 116-03 |



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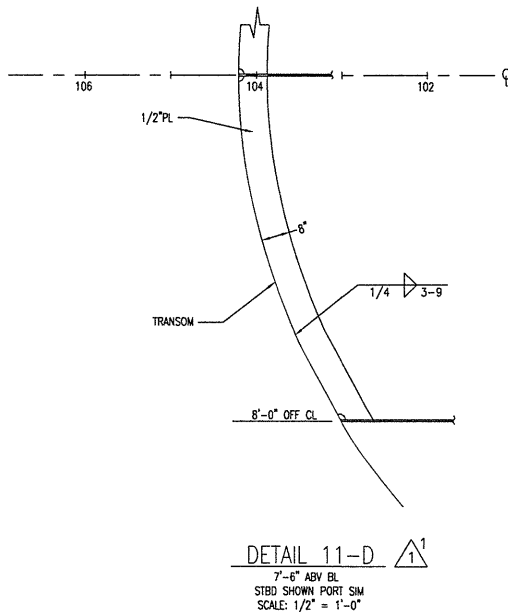
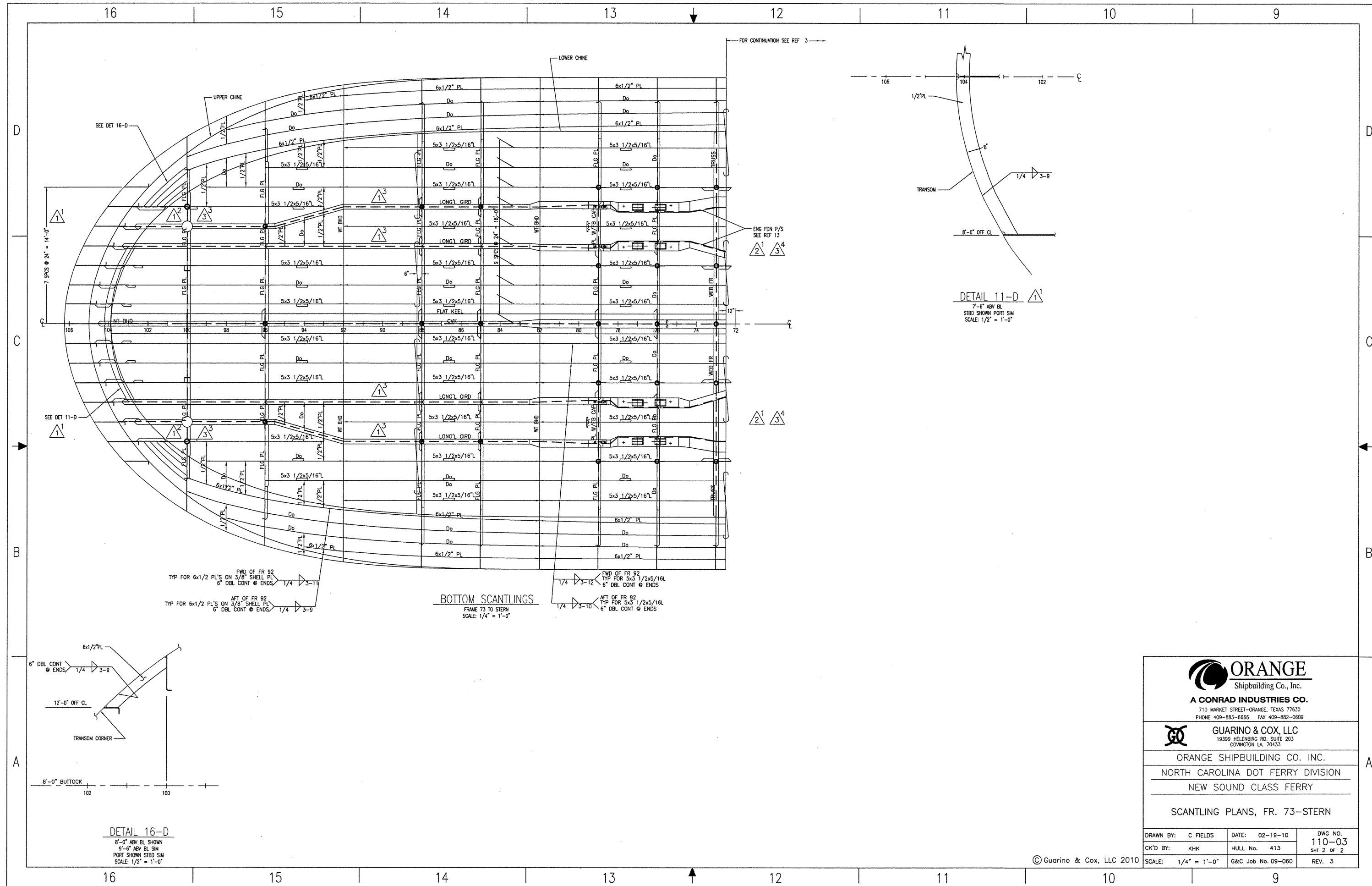


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ORANGE SHIPBUILDING CO. INC.
NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY

SCANTLING PLANS, FR. 73-STERN

| | | |
|---------------------|--------------------|-----------------|
| DRAWN BY: C FIELDS | DATE: 02-19-10 | DWG. NO. 110-03 |
| CK'D BY: KHK | HULL No. 413 | SH 1 OF 2 |
| SCALE: 1/4" = 1'-0" | G&C Job No. 09-060 | REV. 4 |



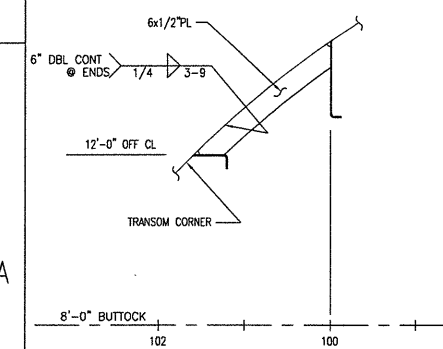
BOTTOM SCANTLINGS
 FRAME 73 TO STERN
 SCALE: 1/4" = 1'-0"

FWD OF FR 92
 TYP FOR 6x1/2" PL'S ON 3/8" SHELL PL
 6" DBL CONT @ ENDS 1/4" 3-11

AFT OF FR 92
 TYP FOR 6x1/2" PL'S ON 3/8" SHELL PL
 6" DBL CONT @ ENDS 1/4" 3-9

FWD OF FR 92
 TYP FOR 5x3 1/2x5/16L
 6" DBL CONT @ ENDS 1/4" 3-12

AFT OF FR 92
 TYP FOR 5x3 1/2x5/16L
 6" DBL CONT @ ENDS 1/4" 3-10

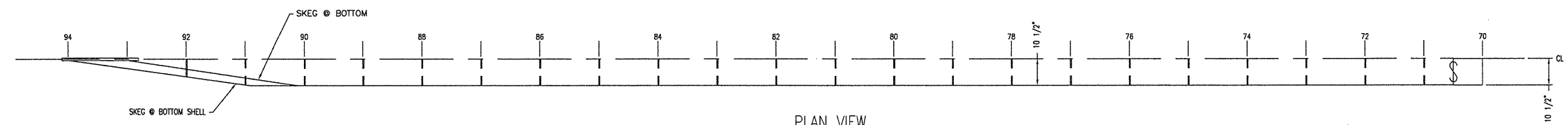


DETAIL 16-D
 8'-0" ABV BL SHOWN
 9'-6" ABV BL SIM
 PORT SHOWN STBD SIM
 SCALE: 1/2" = 1'-0"

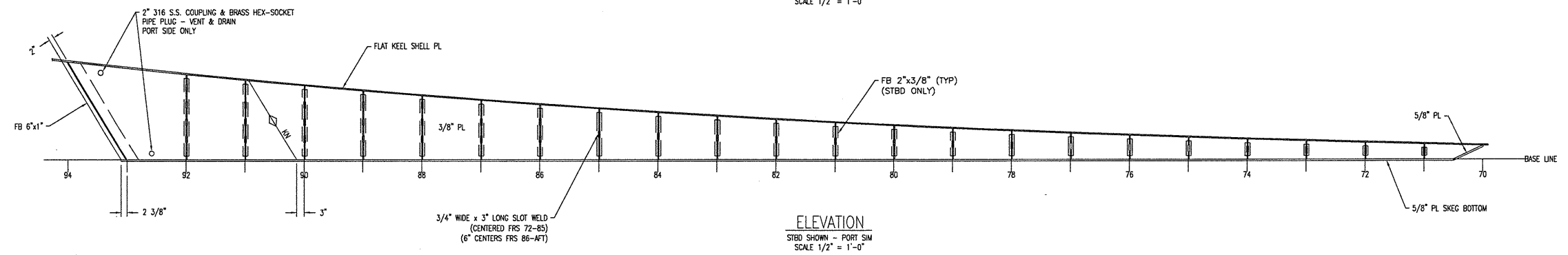
| | | |
|--|--|---|
| ORANGE Shipbuilding Co., Inc. A CONRAD INDUSTRIES CO. 710 MARKET STREET—ORANGE, TEXAS 77630 PHONE 409-883-6666 FAX 409-882-0609 | | |
| GUARINO & COX, LLC 19399 HELENBURG RD. SUITE 203 COWINGTON LA. 70433 | | |
| ORANGE SHIPBUILDING CO. INC. NORTH CAROLINA DOT FERRY DIVISION NEW SOUND CLASS FERRY | | |
| SCANTLING PLANS, FR. 73—STERN | | |
| DRAWN BY: C FIELDS CK'D BY: KHK SCALE: 1/4" = 1'-0" | DATE: 02-19-10 HULL No. 413 G&C Job No. 09-060 | DWG NO. 110-03 SHIT 2 OF 2 REV. 3 |

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| REVISIONS | | | | |
|-----------|------|---------------------------------------|---------|---------|
| REV | ZONE | DESCRIPTION | DATE | BY/APPD |
| 1 | ALL | REVISED SKEG SHAPE PER NCDOT REQUEST. | 2/22/10 | MB/KK |

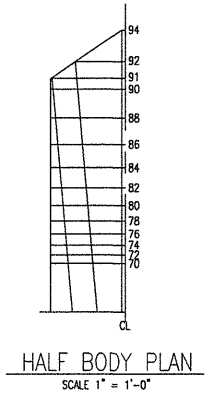
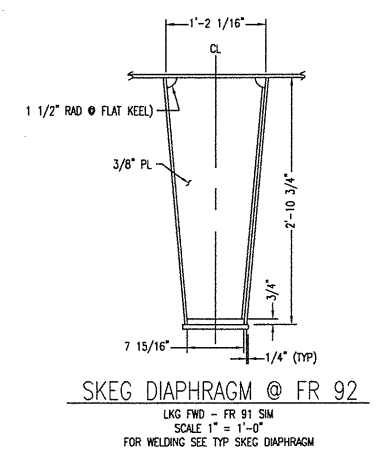
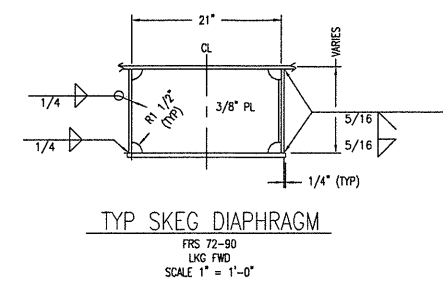


PLAN VIEW
STBD SHOWN - PORT SIM
SCALE 1/2" = 1'-0"



ELEVATION
STBD SHOWN - PORT SIM
SCALE 1/2" = 1'-0"

- GENERAL NOTES**
1. THIS DRAWING SHOULD NOT BE USED TO DIRECTLY SCALE NC PARTS OR PREPARE 3D MODELING.
 2. ALL MATERIAL SHALL BE ABS GR. A OR EQUIVALENT EXCEPT AS NOTED
 3. INSTALL LIQUID RUST INHIBITOR IN SKEG AFTER TESTING AND WELDING IN SKEG AND ADJACENT AREAS HAS BEEN COMPLETED.



| NO. | REFERENCES | DWG NO. |
|-----|-------------------------------|---------|
| 4 | MOLD LINE CONVENTION | 101-03 |
| 3 | LINES PLAN | 839-01 |
| 2 | SCANTLING PLANS, FR 72-STERN | 110-03 |
| 1 | SCANTLING PLANS FR 36 - FR 72 | 110-02 |

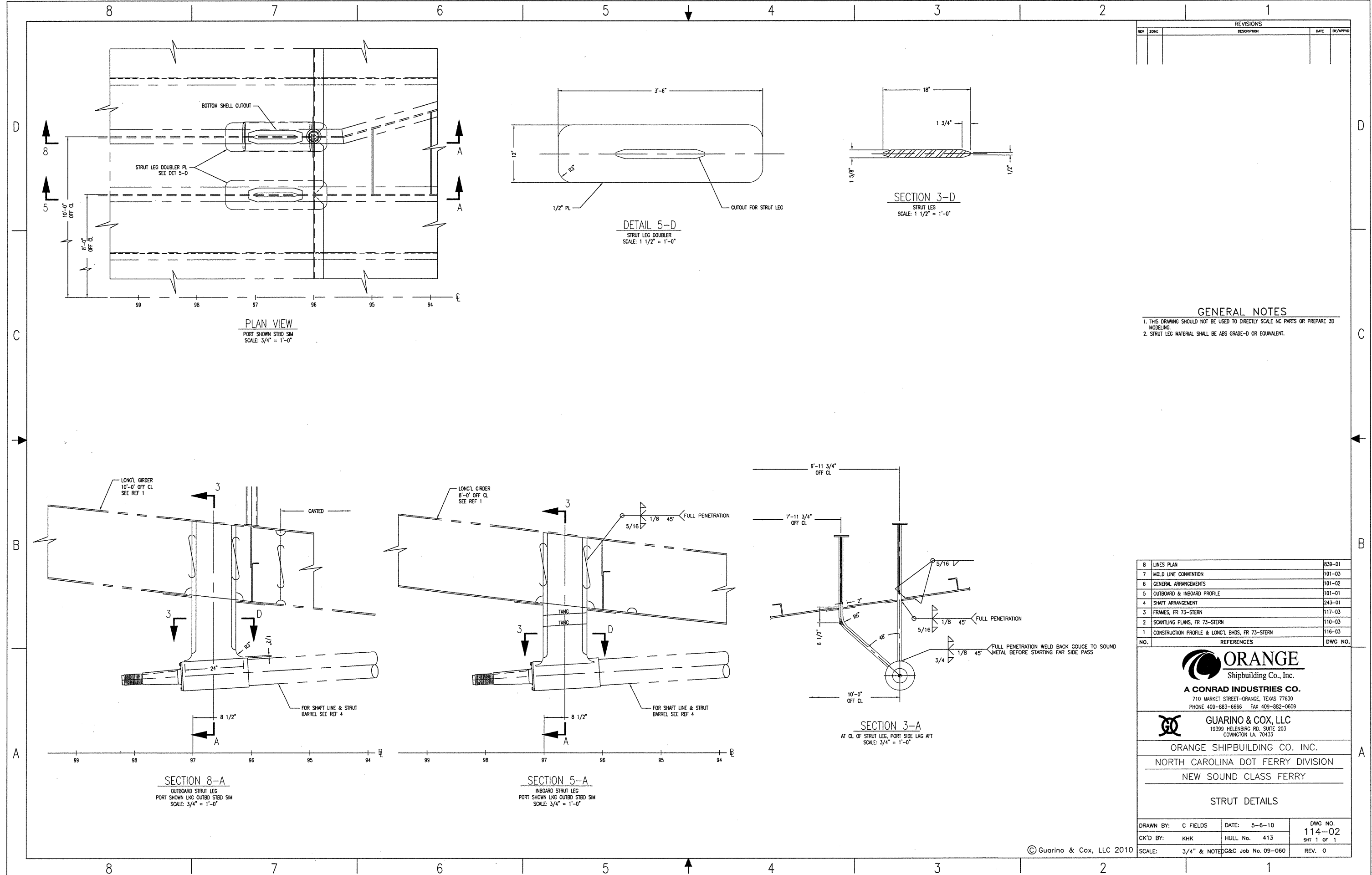
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ORANGE SHIPBUILDING CO. INC.
NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY

SKEG DETAILS

| | | |
|----------------------|--------------------|----------------|
| DRAWN BY: M. BOSARGE | DATE: 2/5/10 | DWG NO. 114-01 |
| CK'D BY: KHK | HULL No. 413 | SHT 1 OF 1 |
| SCALE: 1/2"=1'-0" | G&C Job No. 09-060 | REV. 1 |



| REVISIONS | | | |
|-----------|------|-------------|--------------|
| REV | ZONE | DESCRIPTION | DATE BY/APPD |
| | | | |
| | | | |

GENERAL NOTES

- THIS DRAWING SHOULD NOT BE USED TO DIRECTLY SCALE NC PARTS OR PREPARE 3D MODELING.
- STRUT LEG MATERIAL SHALL BE ABS GRADE-D OR EQUIVALENT.

| NO. | REFERENCES | DWG NO. |
|-----|---|---------|
| 8 | LINES PLAN | 839-01 |
| 7 | MOLD LINE CONVENTION | 101-03 |
| 6 | GENERAL ARRANGEMENTS | 101-02 |
| 5 | OUTBOARD & INBOARD PROFILE | 101-01 |
| 4 | SHAFT ARRANGEMENT | 243-01 |
| 3 | FRAMES, FR 73-STERN | 117-03 |
| 2 | SCANTLING PLANS, FR 73-STERN | 110-03 |
| 1 | CONSTRUCTION PROFILE & LONG'L BHDS, FR 73-STERN | 116-03 |



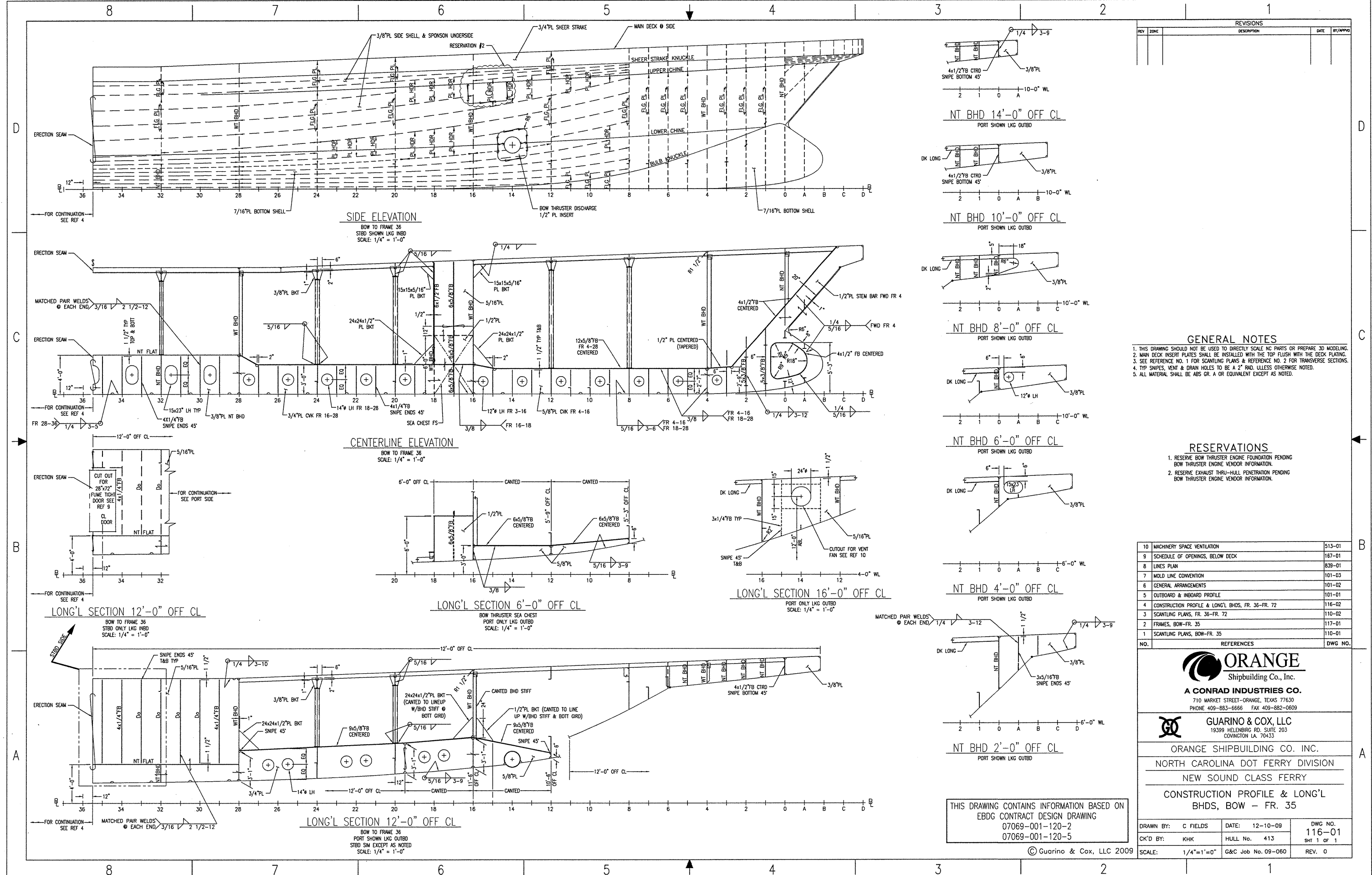
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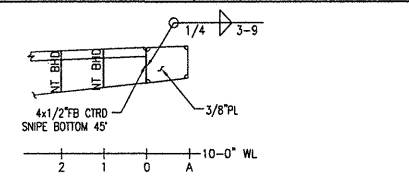
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ORANGE SHIPBUILDING CO. INC.
NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY

STRUT DETAILS

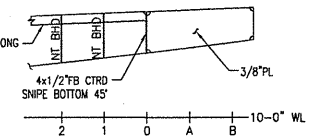
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|---------------------|--------------|----------------|
| DRAWN BY: C FIELDS | DATE: 5-6-10 | DWG NO. 114-02 |
| CK'D BY: KHK | HULL No. 413 | SHT 1 OF 1 |
| SCALE: 3/4" & NOTED | DATE: 5-6-10 | REV. 0 |



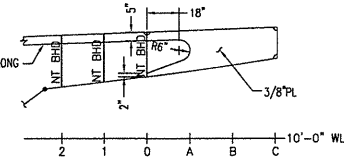
| REVISIONS | | | |
|-----------|------|-------------|------|
| REV | ZONE | DESCRIPTION | DATE |
| | | | |
| | | | |



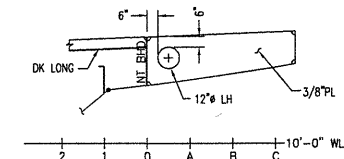
NT BHD 14'-0" OFF CL
PORT SHOWN LKG OUTBD



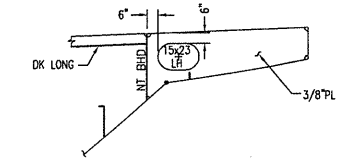
NT BHD 10'-0" OFF CL
PORT SHOWN LKG OUTBD



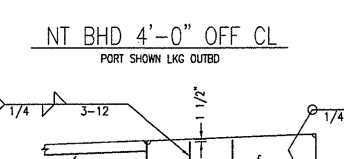
NT BHD 8'-0" OFF CL
PORT SHOWN LKG OUTBD



NT BHD 6'-0" OFF CL
PORT SHOWN LKG OUTBD



NT BHD 4'-0" OFF CL
PORT SHOWN LKG OUTBD



NT BHD 2'-0" OFF CL
PORT SHOWN LKG OUTBD

- GENERAL NOTES**
- THIS DRAWING SHOULD NOT BE USED TO DIRECTLY SCALE NC PARTS OR PREPARE 3D MODELING.
 - MAIN DECK INSERT PLATES SHALL BE INSTALLED WITH THE TOP FLUSH WITH THE DECK PLATING.
 - SEE REFERENCE NO. 1 FOR SCANTLING PLANS & REFERENCE NO. 2 FOR TRANSVERSE SECTIONS.
 - TYP SNIPES, VENT & DRAIN HOLES TO BE A 2" RAD. UNLESS OTHERWISE NOTED.
 - ALL MATERIAL SHALL BE ABS GR. A OR EQUIVALENT EXCEPT AS NOTED.

RESERVATIONS

- RESERVE BOW THRUSTER ENGINE FOUNDATION PENDING BOW THRUSTER ENGINE VENDOR INFORMATION.
- RESERVE EXHAUST THRU-HULL PENETRATION PENDING BOW THRUSTER ENGINE VENDOR INFORMATION.

| NO. | REFERENCES | DWG NO. |
|-----|---|---------|
| 10 | MACHINERY SPACE VENTILATION | 513-01 |
| 9 | SCHEDULE OF OPENINGS, BELOW DECK | 167-01 |
| 8 | LINES PLAN | 839-01 |
| 7 | MOLD LINE CONVENTION | 101-03 |
| 6 | GENERAL ARRANGEMENTS | 101-02 |
| 5 | OUTBOARD & INBOARD PROFILE | 101-01 |
| 4 | CONSTRUCTION PROFILE & LONG'L BHDS, FR. 36-FR. 72 | 116-02 |
| 3 | SCANTLING PLANS, FR. 36-FR. 72 | 110-02 |
| 2 | FRAMES, BOW-FR. 35 | 117-01 |
| 1 | SCANTLING PLANS, BOW-FR. 35 | 110-01 |



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COWINGTON LA. 70433

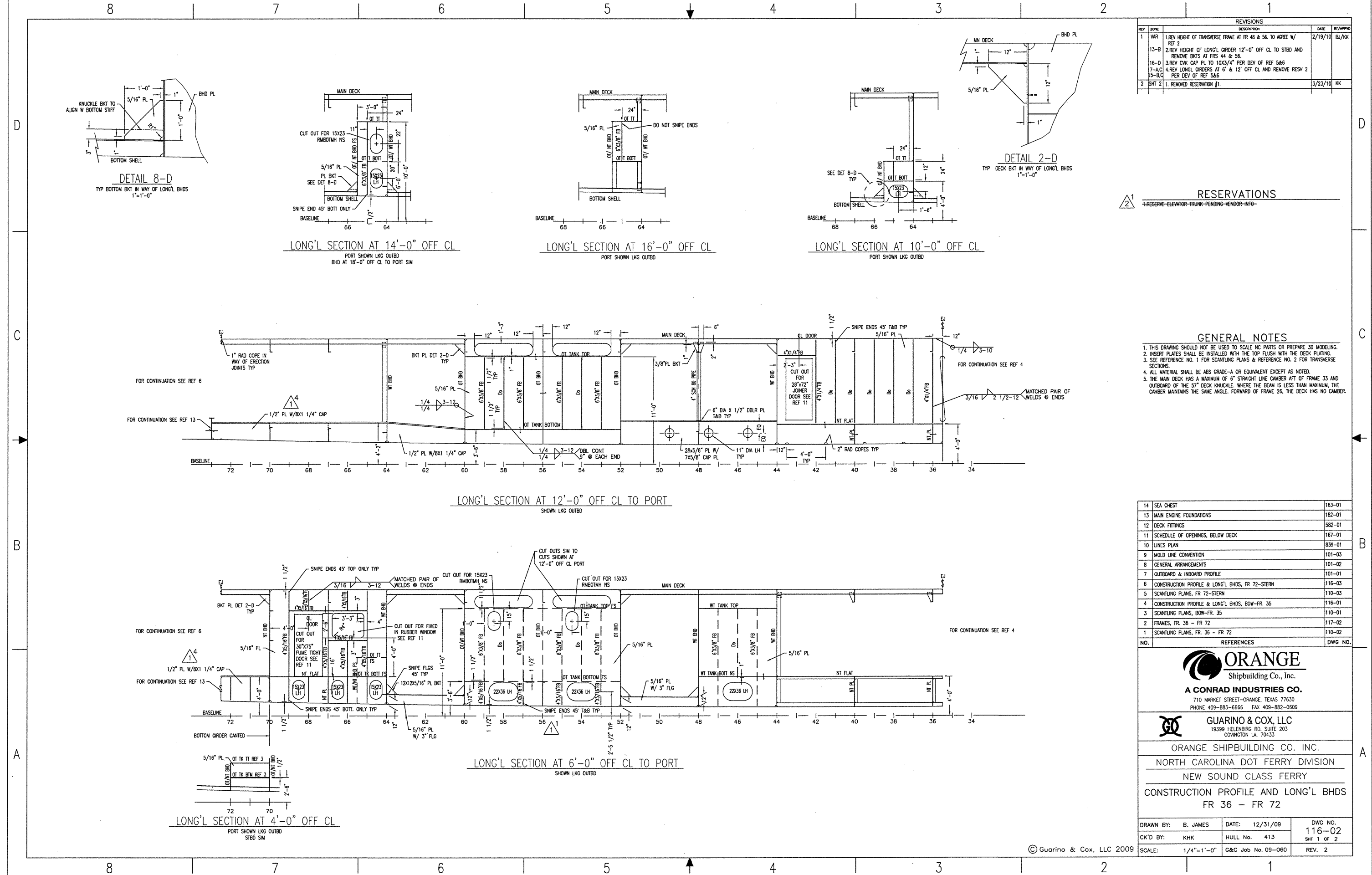
ORANGE SHIPBUILDING CO. INC.
NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY

CONSTRUCTION PROFILE & LONG'L
BHDS, BOW - FR. 35

| | | | | | |
|-----------|------------|-------------|----------|---------|--------|
| DRAWN BY: | C FIELDS | DATE: | 12-10-09 | DWG NO. | 116-01 |
| CK'D BY: | KHK | HULL No. | 413 | SHT | 1 OF 1 |
| SCALE: | 1/4"=1'-0" | G&C Job No. | 09-060 | REV. | 0 |

THIS DRAWING CONTAINS INFORMATION BASED ON
EBDG CONTRACT DESIGN DRAWING
07069-001-120-2
07069-001-120-5

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| REVISIONS | | | |
|-----------|-------|--|---------------|
| REV | ZONE | DESCRIPTION | DATE BY/APPD |
| 1 | VAR | 1. REV HEIGHT OF TRANSVERSE FRAME AT FR 48 & 56 TO AGREE W/ REF 2 | 2/19/10 BJ/KK |
| 13-B | | 2. REV HEIGHT OF LONG'L ORDER 12'-0" OFF CL TO STBD AND REMOVE BKTS AT FR 44 & 56. | |
| 16-D | | 3. REV CWK CAP PL TO 10X3/4" PER DEV OF REF 5&6 | |
| 7-A-C | | 4. REV LONG'L ORDERS AT 6' & 12' OFF CL AND REMOVE RESV 2 PER DEV OF REF 5&6 | |
| 5-B-C | | | |
| 2 | SHT 2 | 1. REMOVED RESERVATION #1. | 3/23/10 KK |

RESERVATIONS
 1. RESERVE ELEVATOR TRUNK PENDING VENDOR INFO

- GENERAL NOTES**
- THIS DRAWING SHOULD NOT BE USED TO SCALE NO PARTS OR PREPARE 3D MODELING.
 - INSERT PLATES SHALL BE INSTALLED WITH THE TOP FLUSH WITH THE DECK PLATING.
 - SEE REFERENCE NO. 1 FOR SCANTLING PLANS & REFERENCE NO. 2 FOR TRANSVERSE SECTIONS.
 - ALL MATERIAL SHALL BE ABS GRADE-A OR EQUIVALENT EXCEPT AS NOTED.
 - THE MAIN DECK HAS A MAXIMUM OF 8" STRAIGHT LINE CAMBER AFT OF FRAME 33 AND OUTBOARD OF THE 57" DECK KNUCKLE WHERE THE BEAM IS LESS THAN MAXIMUM. THE CAMBER MAINTAINS THE SAME ANGLE. FORWARD OF FRAME 26, THE DECK HAS NO CAMBER.

| NO. | REFERENCES | DWG NO. |
|-----|--|---------|
| 14 | SEA CHEST | 163-01 |
| 13 | MAIN ENGINE FOUNDATIONS | 182-01 |
| 12 | DECK FITTINGS | 582-01 |
| 11 | SCHEDULE OF OPENINGS, BELOW DECK | 167-01 |
| 10 | LINES PLAN | 839-01 |
| 9 | MOLD LINE CONVENTION | 101-03 |
| 8 | GENERAL ARRANGEMENTS | 101-02 |
| 7 | OUTBOARD & INBOARD PROFILE | 101-01 |
| 6 | CONSTRUCTION PROFILE & LONG'L BHDS, FR 72-STEM | 116-03 |
| 5 | SCANTLING PLANS, FR 72-STEM | 110-03 |
| 4 | CONSTRUCTION PROFILE & LONG'L BHDS, BOW-FR. 35 | 116-01 |
| 3 | SCANTLING PLANS, BOW-FR. 35 | 110-01 |
| 2 | FRAMES, FR. 36 - FR 72 | 117-02 |
| 1 | SCANTLING PLANS, FR. 36 - FR 72 | 110-02 |

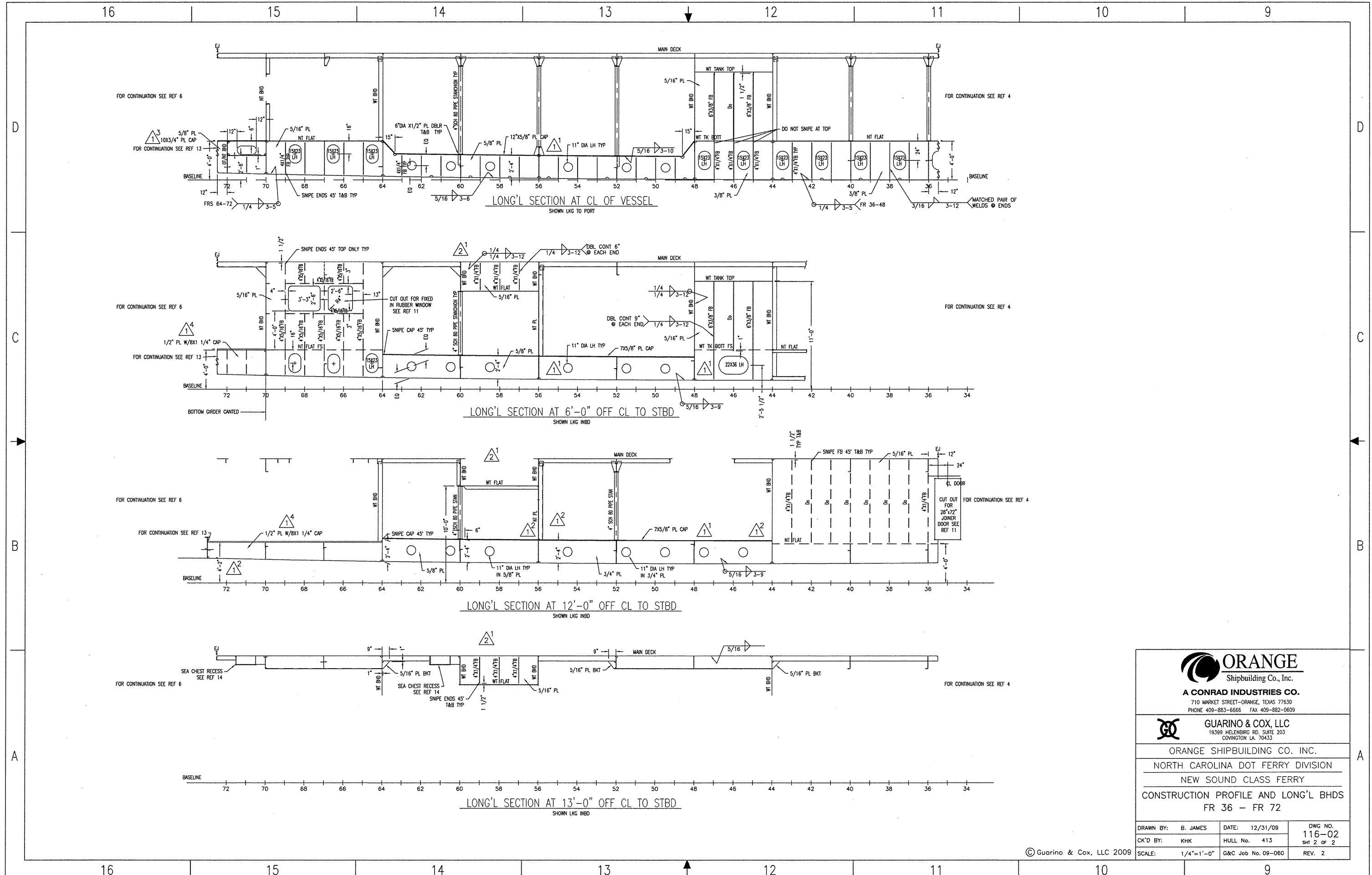
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 COWINGTON LA, 70433

ORANGE SHIPBUILDING CO. INC.
 NORTH CAROLINA DOT FERRY DIVISION
 NEW SOUND CLASS FERRY
 CONSTRUCTION PROFILE AND LONG'L BHDS
 FR 36 - FR 72

| | | |
|--------------------|--------------------|----------------|
| DRAWN BY: B. JAMES | DATE: 12/31/09 | DWG NO. 116-02 |
| CK'D BY: KHK | HULL No. 413 | SHT 1 OF 2 |
| SCALE: 1/4"=1'-0" | G&C Job No. 09-060 | REV. 2 |

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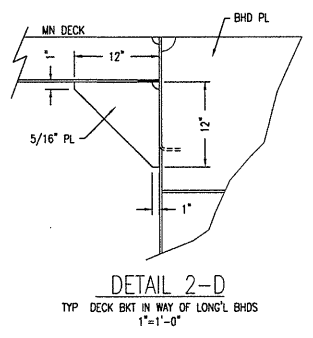
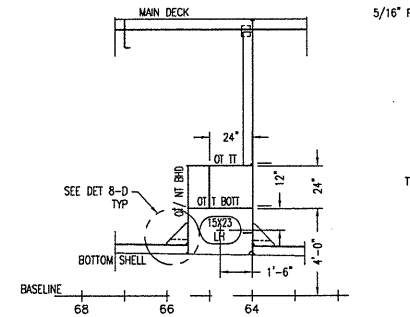
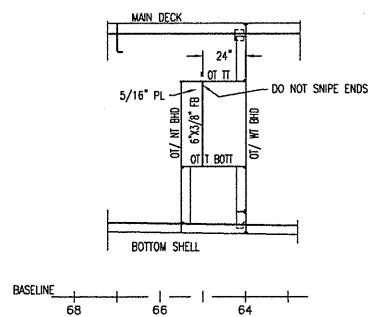
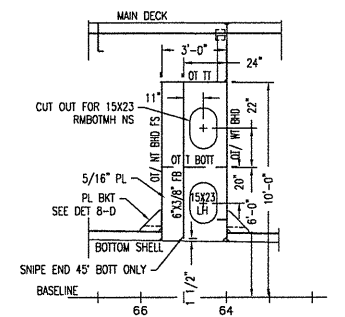
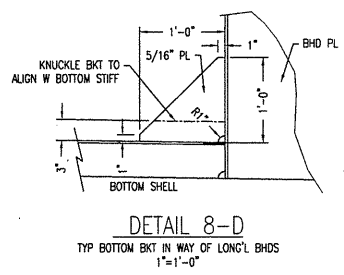
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19399 HELENBURG RD, SUITE 203
COWINGTON LA 70433

ORANGE SHIPBUILDING CO. INC.
NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY
CONSTRUCTION PROFILE AND LONG'L BHDS
FR 36 - FR 72

| | | |
|--------------------|--------------------|----------------|
| DRAWN BY: B. JAMES | DATE: 12/31/09 | DWG NO. 116-02 |
| CK'D BY: KHK | HULL No. 413 | SHT 2 OF 2 |
| SCALE: 1/4"=1'-0" | G&C Job No. 09-060 | REV. 2 |

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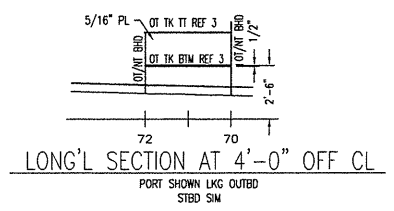
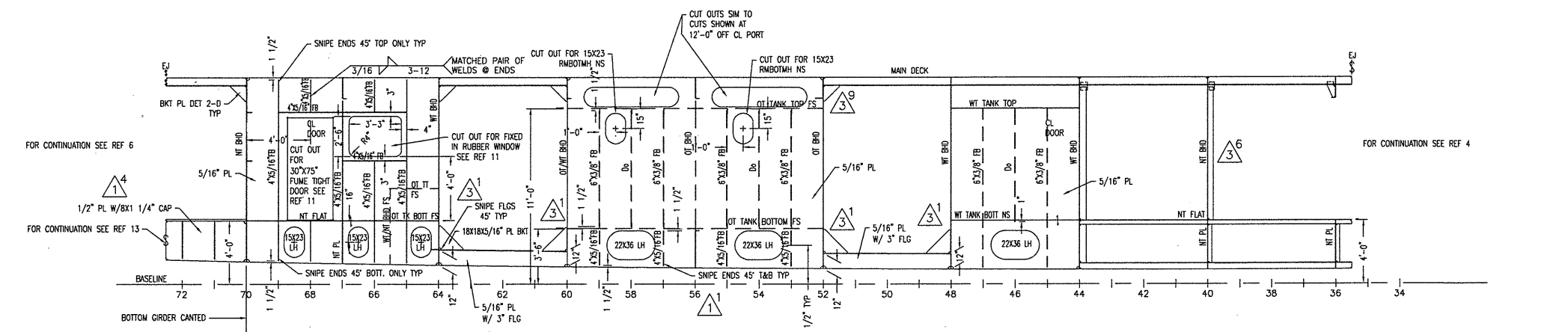
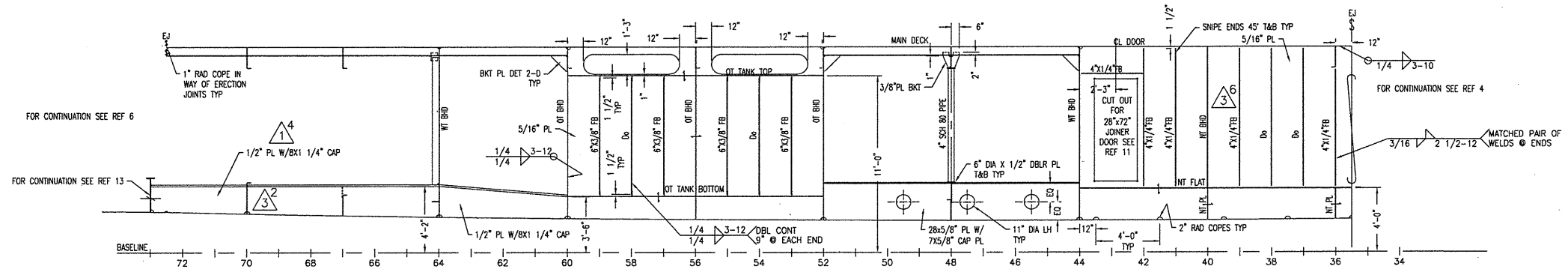
8 7 6 5 4 3 2 1



| REVISIONS | | | |
|-----------|--------|---|---------------|
| REV | ZONE | DESCRIPTION | DATE BY/APPD |
| 1 | VAR | 1. REV HEIGHT OF TRANSVERSE FRAME AT FR 48 & 56. TO AGREE W/ REF 2 | 2/19/10 BU/KK |
| 13-B | | 2. REV HEIGHT OF LONG'L ORDER 12'-0" OFF CL TO STBD AND REMOVE BKTS AT FR 44 & 56 | |
| 16-D | | 3. REV CWK CAP PL TO 10X3/4" PER DEV OF REF 5&6 | |
| 7-A-C | | 4. REV LONG'L ORDERS AT 6' & 12' OFF CL AND REMOVE RESV 2 | |
| 5-B-C | | PER DEV OF REF 5&6 | |
| 2 | SHT 2 | 1. REMOVED RESERVATION #1. | 3/23/10 KK |
| 3 | 5-A | 1. REVISED BKTS @ FR 48, 52, 60 & 64 FROM 12x12 TO 18x18. | 6/14/10 MB/KK |
| | VARIES | 2. REVISED DEPTH OF FR 70 FLG PL (P/S). | |
| 12-B | | 3. REVISED DEPTH OF FR 48 FLG PL (STBD ONLY). | |
| 11-B | | 4. DEL INDICATION OF JOINER DOOR @ FR 35 (STBD) & REV BHD STIFFS | |
| 14-A | | 5. REV STIFF ON BHD AT 13'-0" OFF CL @ FR 57, 58, 59 PER ELEVATOR | 7/23/10 BU/KK |
| VAR | | VENDOR INFO | |
| 10-B | | 6. ADDED INDICATION OF NY BHD @ FR 40. | |
| 12-D | | 7. ADDED SECT @ 8' OFF CL TO STBD. | |
| VAR | | 8. ADDED LONG'L BHD @ FR 40-44 @ CL. | |
| 10-C | | 9. REV DEPTH OF X-VERSE DK FR @ FR 52. | |
| | | 10. ADDED SECT @ 4' OFF CL TO STBD. | |

RESERVATIONS
 1. RESERVE ELEVATOR TRUNK PENDING VENDOR INFO

GENERAL NOTES
 1. THIS DRAWING SHOULD NOT BE USED TO SCALE NC PARTS OR PREPARE 3D MODELING.
 2. INSERT PLATES SHALL BE INSTALLED WITH THE TOP FLUSH WITH THE DECK PLATING.
 3. SEE REFERENCE NO. 1 FOR SCANTLING PLANS & REFERENCE NO. 2 FOR TRANSVERSE SECTIONS.
 4. ALL MATERIAL SHALL BE ABS GRADE-A OR EQUIVALENT EXCEPT AS NOTED.
 5. THE MAIN DECK HAS A MAXIMUM OF 6" STRAIGHT LINE CAMBER AFT OF FRAME 33 AND OUTBOARD OF THE 57" DECK KNUCKLE. WHERE THE BEAM IS LESS THAN MAXIMUM, THE CAMBER MAINTAINS THE SAME ANGLE. FORWARD OF FRAME 26, THE DECK HAS NO CAMBER.



| NO. | REFERENCES | DWG. NO. |
|-----|--|----------|
| 14 | SEA CHEST | 163-01 |
| 13 | MAIN ENGINE FOUNDATIONS | 182-01 |
| 12 | DECK FITTINGS | 582-01 |
| 11 | SCHEDULE OF OPENINGS, BELOW DECK | 167-01 |
| 10 | LINES PLAN | 839-01 |
| 9 | MOLD LINE CONVENTION | 101-03 |
| 8 | GENERAL ARRANGEMENTS | 101-02 |
| 7 | OUTBOARD & INBOARD PROFILE | 101-01 |
| 6 | CONSTRUCTION PROFILE & LONG'L BHDS, FR 72-STEM | 116-03 |
| 5 | SCANTLING PLANS, FR 72-STEM | 110-03 |
| 4 | CONSTRUCTION PROFILE & LONG'L BHDS, BOW-FR. 35 | 116-01 |
| 3 | SCANTLING PLANS, BOW-FR. 35 | 110-01 |
| 2 | FRAMES, FR. 36 - FR 72 | 117-02 |
| 1 | SCANTLING PLANS, FR. 36 - FR 72 | 110-02 |

ORANGE
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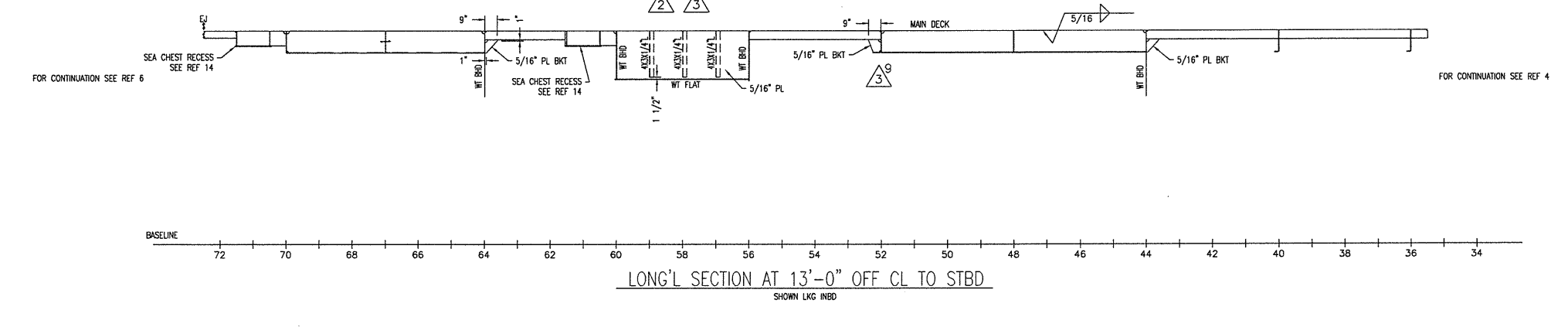
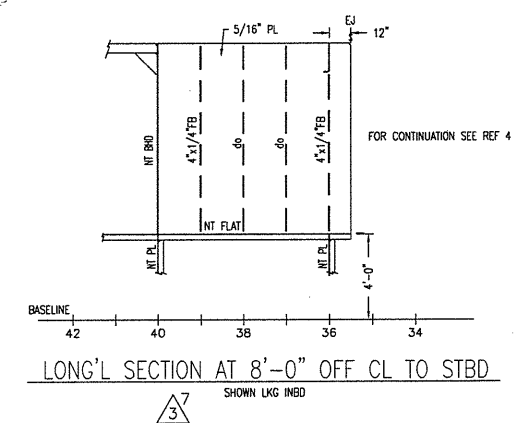
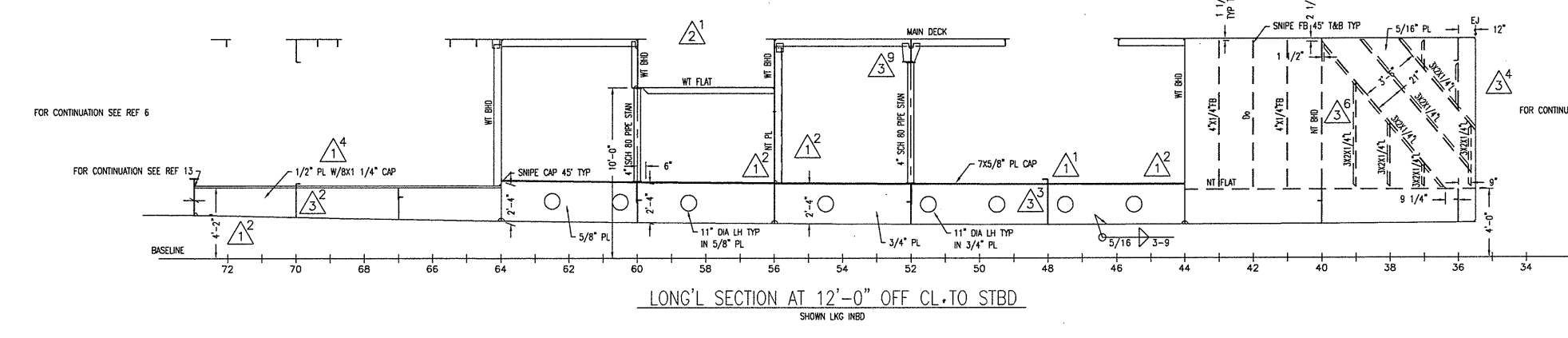
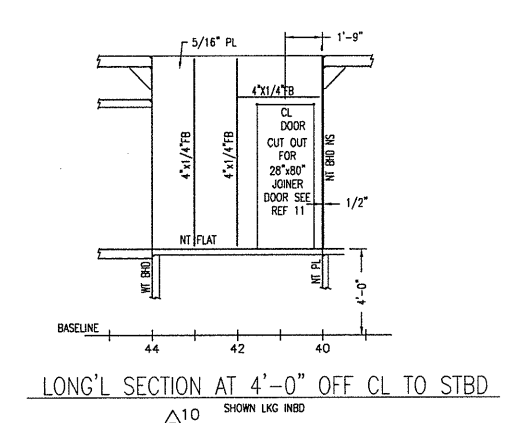
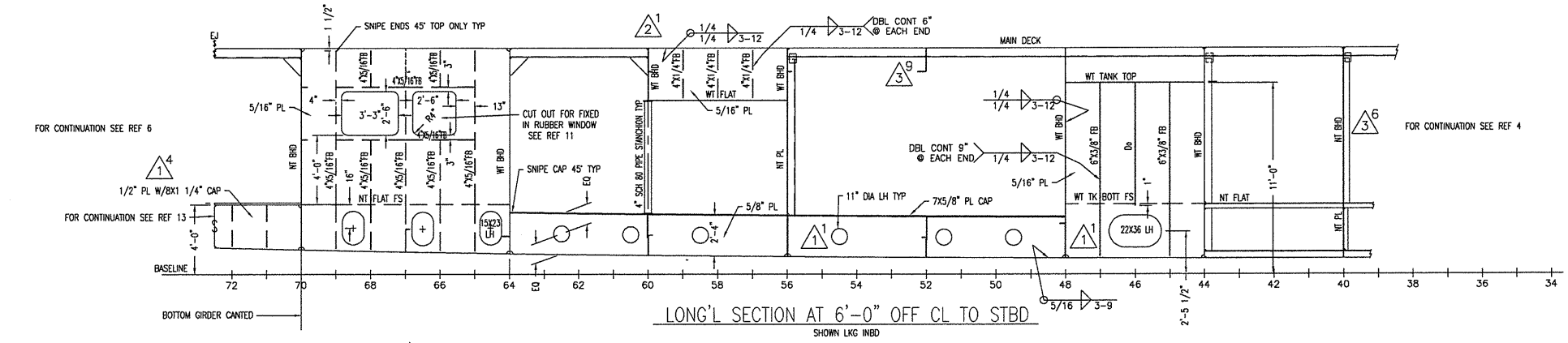
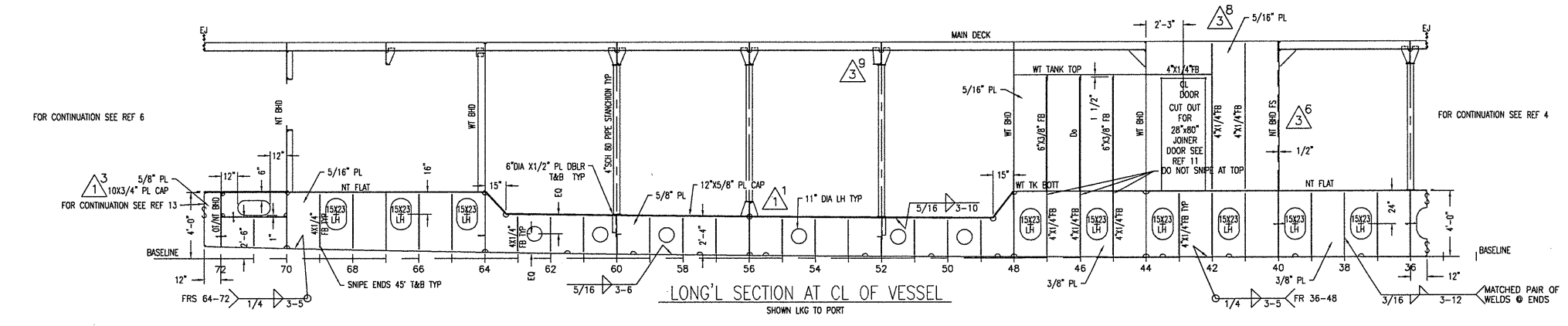
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NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY
CONSTRUCTION PROFILE AND LONG'L BHDS
FR 36 - FR 72

| | | |
|--------------------|--------------------|----------------|
| DRAWN BY: B. JAMES | DATE: 12/31/09 | DWG NO. 116-02 |
| CK'D BY: KHK | HULL No. 413 | SHT 1 OF 2 |
| SCALE: 1/4"=1'-0" | G&C Job No. 09-060 | REV. 3 |

8 7 6 5 4 3 2 1

16 15 14 13 12 11 10 9



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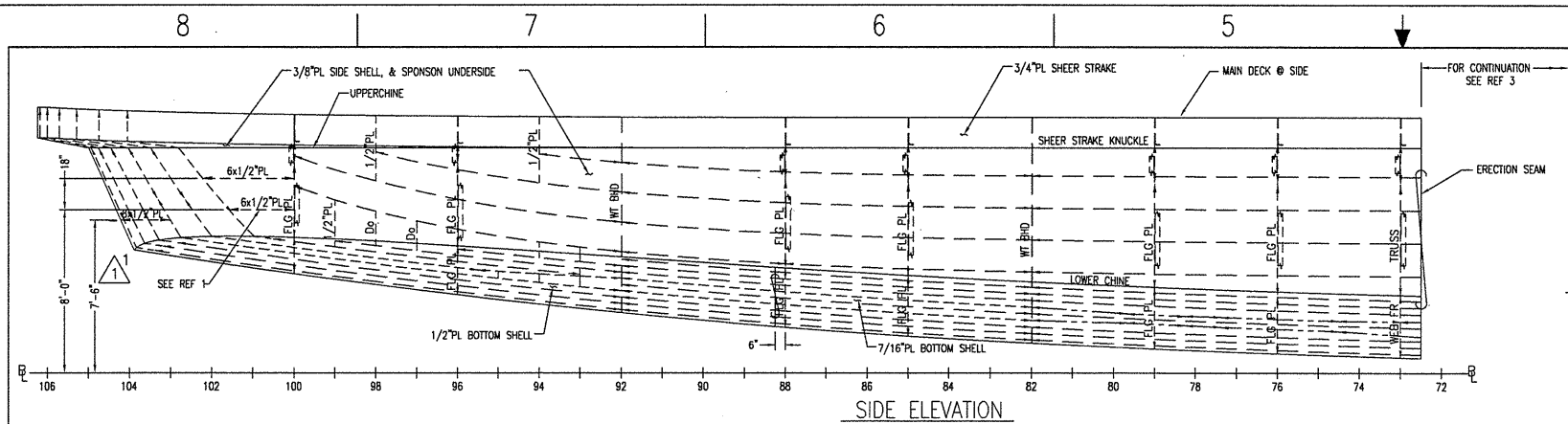
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COWINGTON LA 70433

ORANGE SHIPBUILDING CO. INC.
NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY
CONSTRUCTION PROFILE AND LONG'L BHDS
FR 36 - FR 72

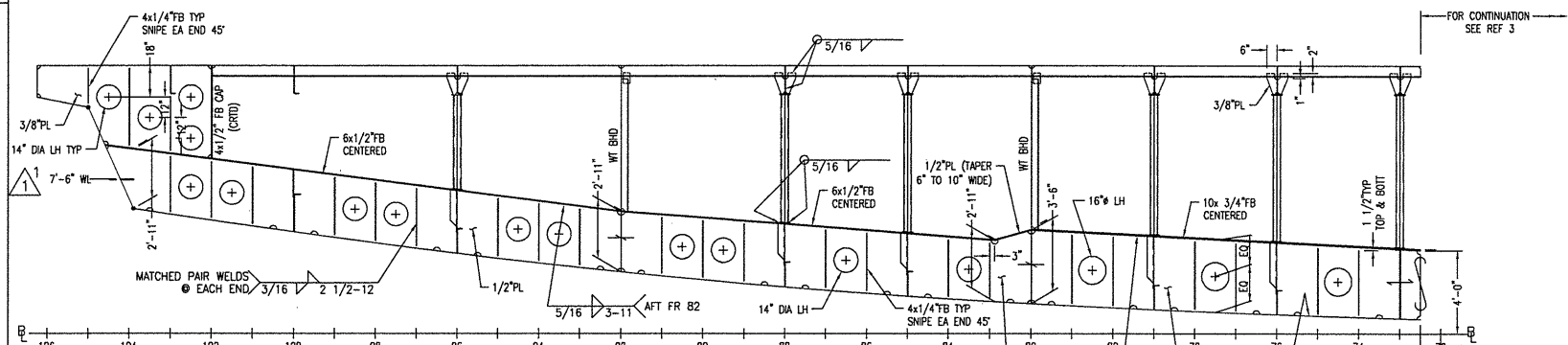
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|--------------------|--------------------|----------------|
| DRAWN BY: B. JAMES | DATE: 12/31/09 | DWG NO. 116-02 |
| CK'D BY: KHK | HULL No. 413 | SHIT 2 OF 2 |
| SCALE: 1/4"=1'-0" | G&C Job No. 09-060 | REV. 3 |

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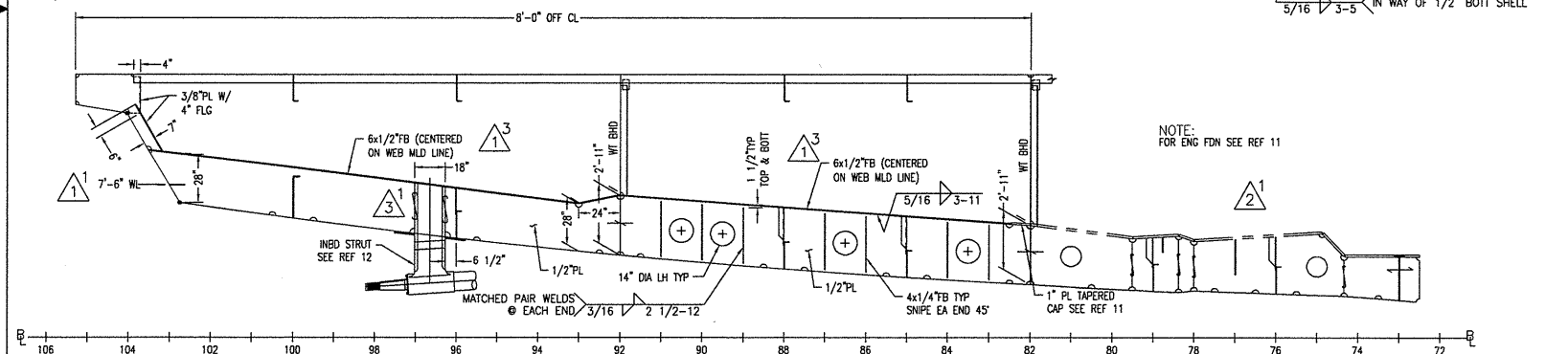
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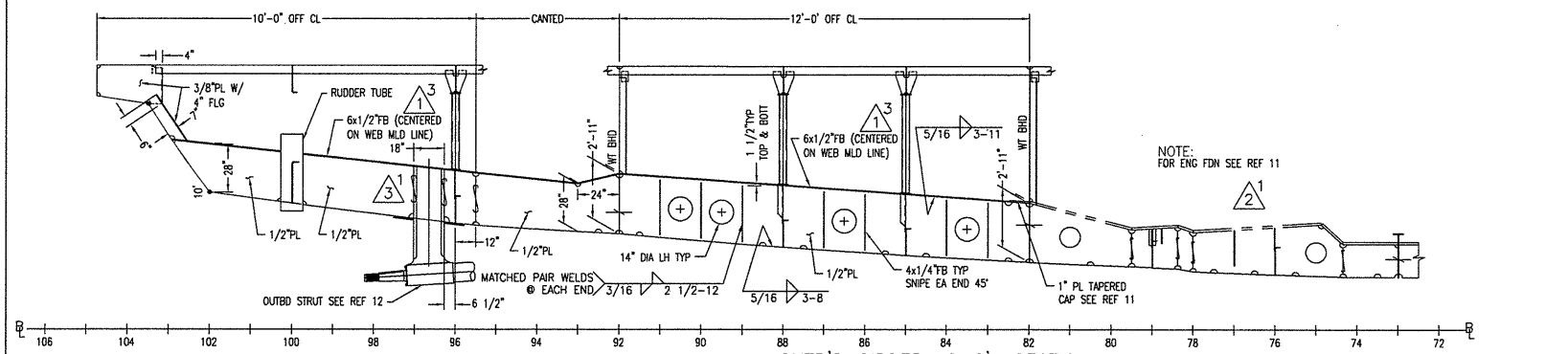
SIDE ELEVATION
FRAME 73 TO STERN
STBD SHOWN LKG INSD
SCALE: 1/4" = 1'-0"



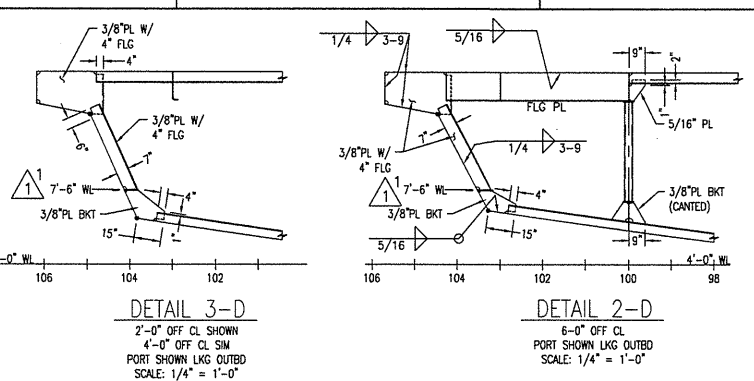
CENTERLINE ELEVATION
FRAME 73 TO STERN
SCALE: 1/4" = 1'-0"



INB'D GIRDER LONG'L SECTION
FRAME 73 TO STERN
SCALE: 1/4" = 1'-0"

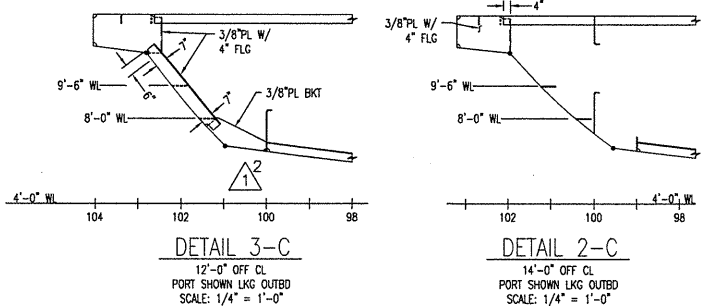


OUTB'D GIRDER LONG'L SECTION
FRAME 73 TO STERN
SCALE: 1/4" = 1'-0"



DETAIL 3-D
2'-0" OFF CL SHOWN
4'-0" OFF CL SW
PORT SHOWN LKG OUTBD
SCALE: 1/4" = 1'-0"

DETAIL 2-D
6'-0" OFF CL
PORT SHOWN LKG OUTBD
SCALE: 1/4" = 1'-0"



DETAIL 3-C
12'-0" OFF CL
PORT SHOWN LKG OUTBD
SCALE: 1/4" = 1'-0"

DETAIL 2-C
14'-0" OFF CL
PORT SHOWN LKG OUTBD
SCALE: 1/4" = 1'-0"

| REVISIONS | | | |
|-----------|------|---|--------------|
| REV | ZONE | DESCRIPTION | DATE BY/APPD |
| 1 | WAR | 1. ADDED HORIZ. PL HEADER ON TRANSOM @ 7'-6" ABL FROM CL TO GRID @ 8'-0" OFF CL P/S. | 03/16/10 |
| 2 | 3-C | 2. REVISED BOTTOM LONG'L @ 12'-0" OFF CL TO END @ FR 100 & REVISED TRANSOM STIFF BOTTOM BKT TO SUIT. | CF/KK |
| 3 | VAR | 3. REVISED LOCATION OF RIDER PL @ INBD & OUTBD BOTTOM GRIDDERS TO BE CENTERED ON THE MOLD LINE OF THE WEBS. | CF/KK |
| 4 | 5-A | 1. REMOVED RESERVATION IN WAY OF ENGINE FOUNDATIONS PER VENDOR INFORMATION. | 04/08/10 |
| 5 | 5-B | 1. REMOVED RESERVATION IN WAY OF ENGINE FOUNDATIONS PER VENDOR INFORMATION. | CF/KK |
| 6 | 7-A | 1. REMOVED RESERVATION IN WAY OF STRUT DETAILS. ADDED INDICATION OF STRUT LEGS. | 7/2/10 |
| 7 | 7-B | | MB/KK |

GENERAL NOTES

- THIS DRAWING SHOULD NOT BE USED TO DIRECTLY SCALE NC PARTS OR PREPARE 3D MODELING.
- MAIN DECK INSERT PLATES SHALL BE INSTALLED WITH THE TOP FLUSH WITH THE DECK PLATING.
- SEE REFERENCE NO. 1 FOR SCANTLING PLANS & REFERENCE NO. 2 FOR TRANSVERSE SECTIONS.
- TYP SNIPES, VENT & DRAIN HOLES TO BE A 2" RAD. UNLESS OTHERWISE NOTED.
- ALL MATERIAL SHALL BE ABS GR. A OR EQUIVALENT EXCEPT AS NOTED.

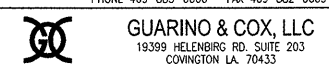
RESERVATIONS:

- 1. RESERVE STRUT DETAILS PENDING FINAL SHAFTLINE DEVELOPMENT.

| NO. | REFERENCES | DWG NO. |
|-----|---|---------|
| 12 | STRUT DETAILS | 114-02 |
| 11 | MAIN ENGINE FOUNDATION | 182-01 |
| 10 | MACHINERY SPACE VENTILATION | 513-01 |
| 9 | SCHEDULE OF OPENINGS, BELOW DECK | 167-01 |
| 8 | LINES PLAN | 839-01 |
| 7 | MOLD LINE CONVENTION | 101-03 |
| 6 | GENERAL ARRANGEMENTS | 101-02 |
| 5 | OUTBOARD & INBOARD PROFILE | 101-01 |
| 4 | CONSTRUCTION PROFILE & LONG'L BHDS, FR. 36-FR. 72 | 116-02 |
| 3 | SCANTLING PLANS, FR. 36-FR. 72 | 110-02 |
| 2 | FRAMES, FR. 73-STERN | 117-03 |
| 1 | SCANTLING PLANS, FR. 73-STERN | 110-03 |



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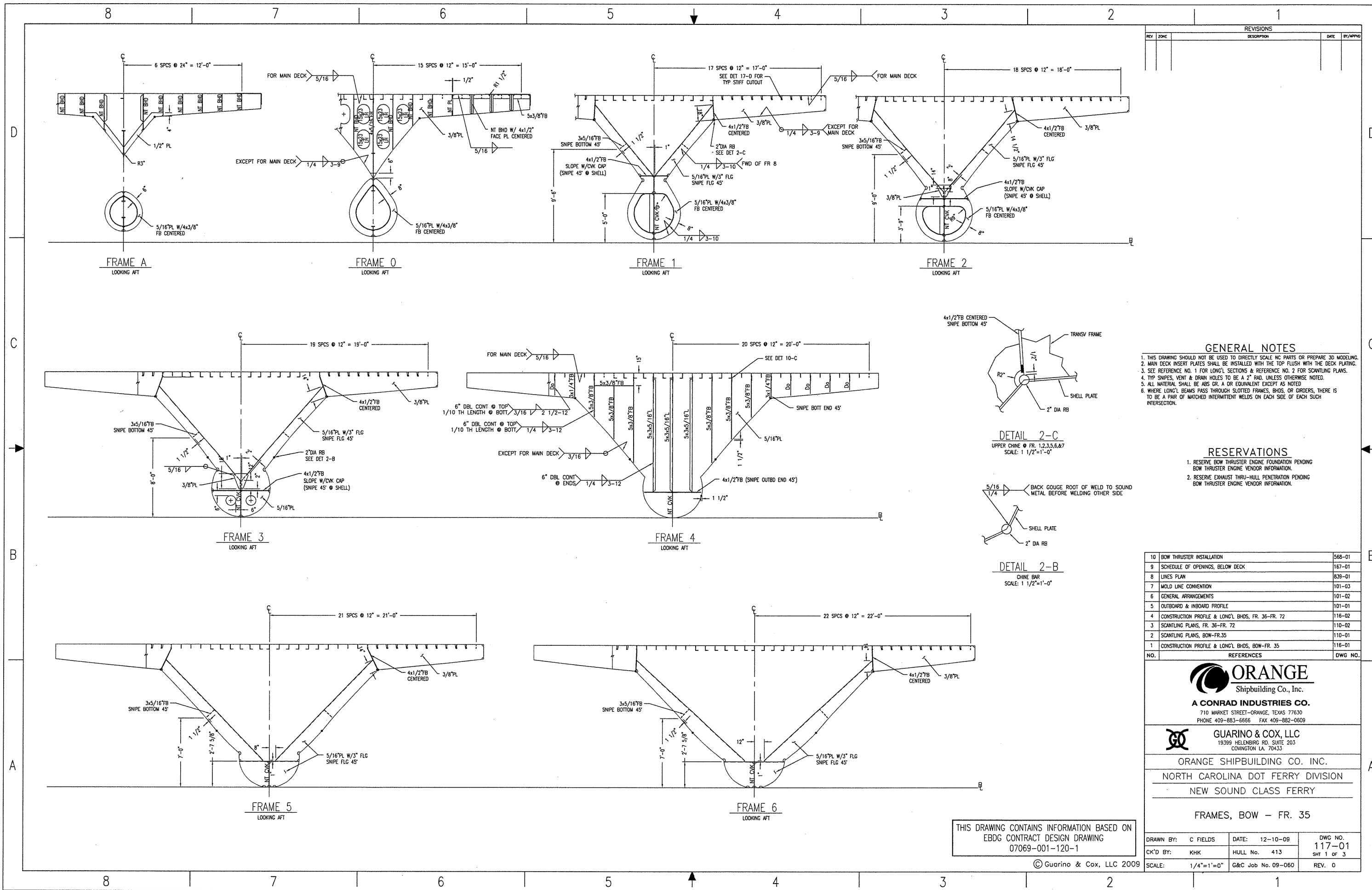
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ORANGE SHIPBUILDING CO. INC.
NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY
CONSTRUCTION PROFILE & LONG'L
BHDS, FR. 73-STERN

THIS DRAWING CONTAINS INFORMATION BASED ON
EBDG CONTRACT DESIGN DRAWING
07069-001-120-2
07069-001-120-5

| | | |
|---------------------|--------------------|----------------|
| DRAWN BY: C FIELDS | DATE: 02-19-10 | DWG NO. 116-03 |
| CK'D BY: KHK | HULL No. 413 | SHT 1 OF 1 |
| SCALE: 1/4" = 1'-0" | G&C Job No. 09-060 | REV. 3 |

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| REVISIONS | | | | |
|-----------|------|-------------|------|---------|
| REV | ZONE | DESCRIPTION | DATE | BY/APPV |
| | | | | |

GENERAL NOTES

1. THIS DRAWING SHOULD NOT BE USED TO DIRECTLY SCALE NC PARTS OR PREPARE 3D MODELING.
2. MAIN DECK INSERT PLATES SHALL BE INSTALLED WITH THE TOP FLUSH WITH THE DECK PLATING.
3. SEE REFERENCE NO. 1 FOR LONG'L SECTIONS & REFERENCE NO. 2 FOR SCANTLING PLATING.
4. TYP. SNIPES, VENT & DRAIN HOLES TO BE A 2" RAD. UNLESS OTHERWISE NOTED.
5. ALL MATERIAL SHALL BE ABS GR. A OR EQUIVALENT EXCEPT AS NOTED.
6. WHERE LONG'L BEAMS PASS THROUGH SLOTTED FRAMES, BHDS, OR GRIDERS, THERE IS TO BE A PAIR OF MATCHED INTERMITTENT WELDS ON EACH SIDE OF EACH SUCH INTERSECTION.

RESERVATIONS

1. RESERVE BOW THRUSTER ENGINE FOUNDATION PENDING BOW THRUSTER ENGINE VENDOR INFORMATION.
2. RESERVE EXHAUST THRU-HULL PENETRATION PENDING BOW THRUSTER ENGINE VENDOR INFORMATION.

| NO. | REFERENCES | DWG NO. |
|-----|---|---------|
| 10 | BOW THRUSTER INSTALLATION | 568-01 |
| 9 | SCHEDULE OF OPENINGS, BELOW DECK | 167-01 |
| 8 | LINES PLAN | 839-01 |
| 7 | MOLD LINE CONVENTION | 101-03 |
| 6 | GENERAL ARRANGEMENTS | 101-02 |
| 5 | OUTBOARD & INBOARD PROFILE | 101-01 |
| 4 | CONSTRUCTION PROFILE & LONG'L BHDS, FR. 36-FR. 72 | 116-02 |
| 3 | SCANTLING PLANS, FR. 36-FR. 72 | 110-02 |
| 2 | SCANTLING PLANS, BOW-FR.35 | 110-01 |
| 1 | CONSTRUCTION PROFILE & LONG'L BHDS, BOW-FR. 35 | 116-01 |

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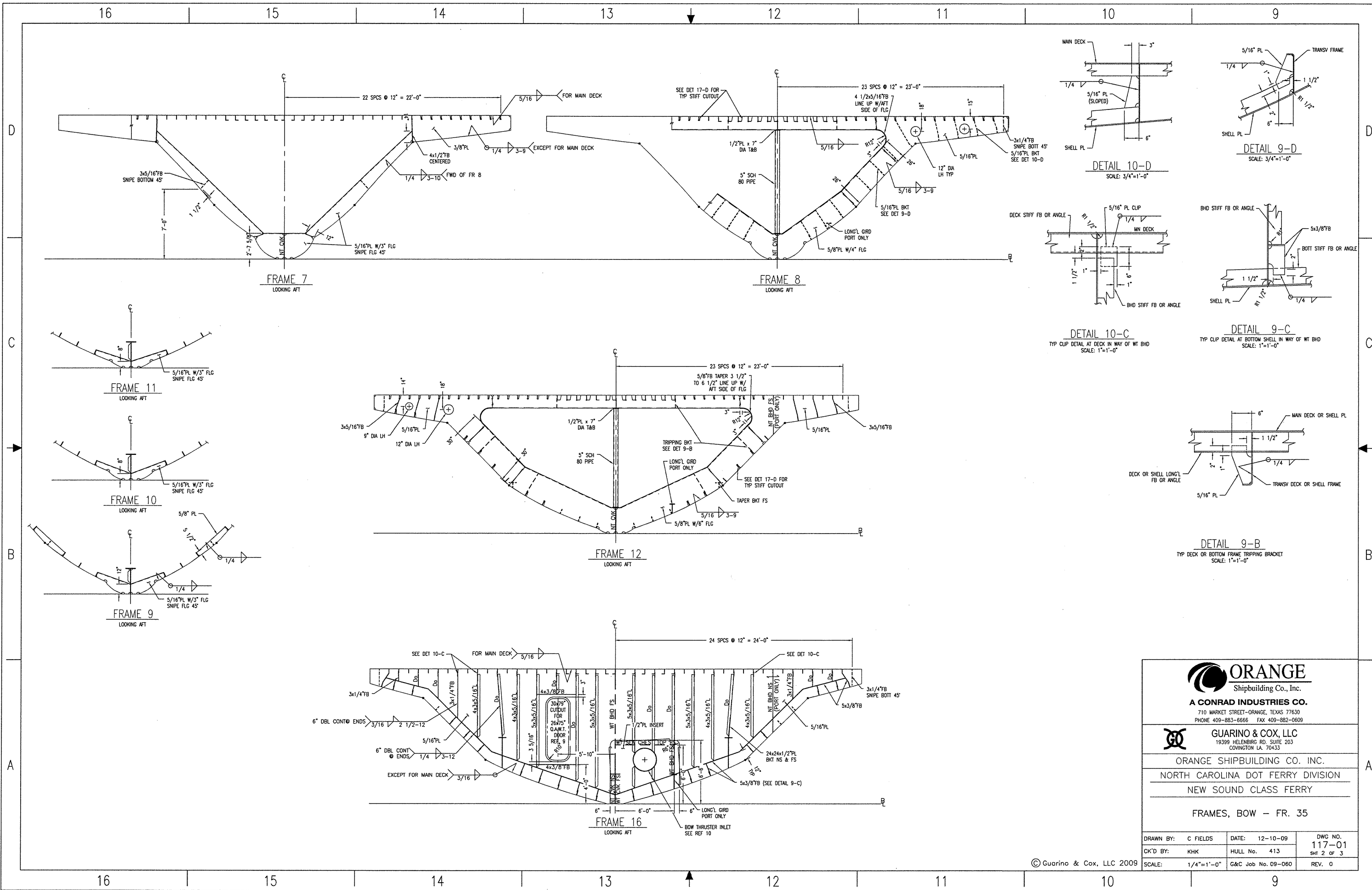
ORANGE SHIPBUILDING CO. INC.
NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY

FRAMES, BOW - FR. 35

THIS DRAWING CONTAINS INFORMATION BASED ON
EBDC CONTRACT DESIGN DRAWING
07069-001-120-1

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| | | |
|--------------------|--------------------|----------------|
| DRAWN BY: C FIELDS | DATE: 12-10-09 | DWG NO. 117-01 |
| CK'D BY: KHK | HULL No. 413 | SHT 1 OF 3 |
| SCALE: 1/4"=1'-0" | G&C Job No. 09-060 | REV. 0 |



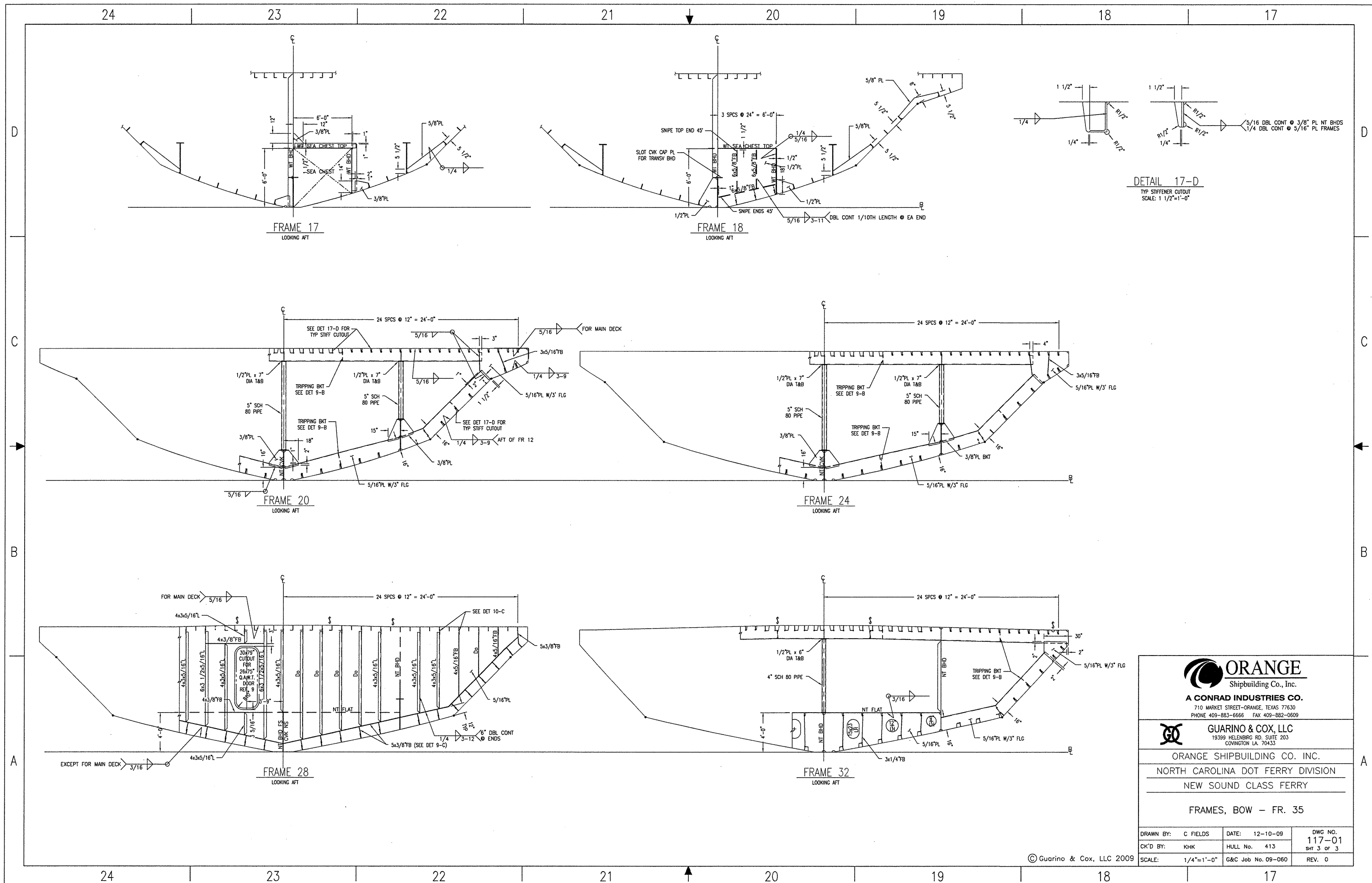
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ORANGE SHIPBUILDING CO. INC.
NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY

FRAMES, BOW - FR. 35

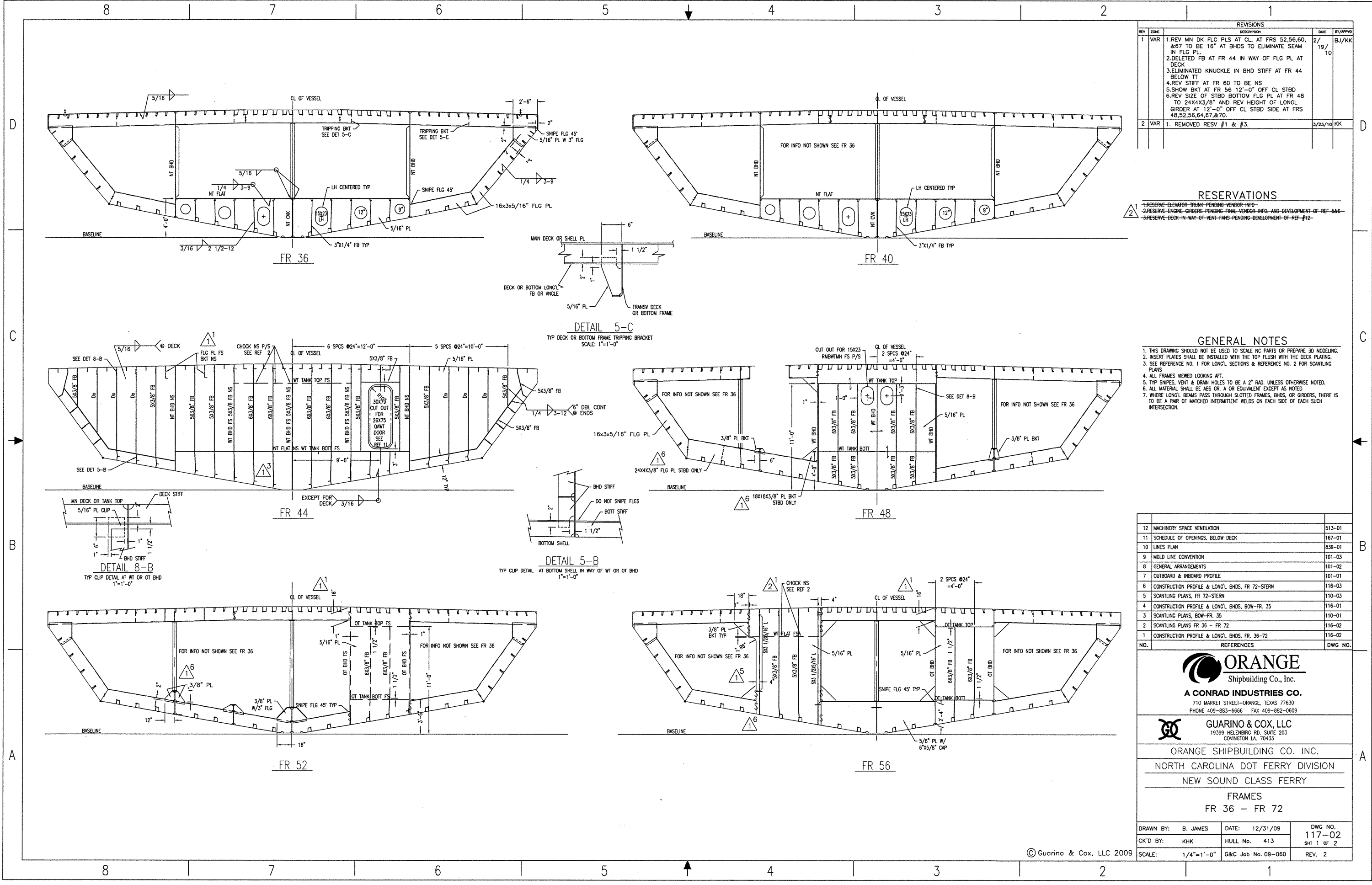
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| DRAWN BY: C FIELDS | DATE: 12-10-09 | DWG NO. 117-01 |
| CK'D BY: KHK | HULL No. 413 | SHT 2 OF 3 |
| SCALE: 1/4"=1'-0" | G&C Job No. 09-060 | REV. 0 |



DETAIL 17-D
TYP STIFFENER CUTOUT
SCALE: 1 1/2"=1'-0"

| | | |
|--|--|--|
|  <p>ORANGE Shipbuilding Co., Inc. A CONRAD INDUSTRIES CO.</p> | | |
| <p>710 MARKET STREET-ORANGE, TEXAS 77630 PHONE 409-883-6666 FAX 409-882-0609</p> | | |
|  <p>GUARINO & COX, LLC 19399 HELENBERG RD. SUITE 203 COWINGTON LA. 70433</p> | | |
| <p>ORANGE SHIPBUILDING CO. INC. NORTH CAROLINA DOT FERRY DIVISION NEW SOUND CLASS FERRY</p> | | |
| <p>FRAMES, BOW - FR. 35</p> | | |
| <p>DRAWN BY: C FIELDS CK'D BY: KHK</p> | <p>DATE: 12-10-09 HULL No. 413</p> | <p>DWG NO. 117-01 Sht. 3 of 3 REV. 0</p> |
| <p>SCALE: 1/4"=1'-0" G&C Job No. 09-060</p> | | |

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| REVISIONS | | | | |
|-----------|------|--|---------|----------|
| REV | ZONE | DESCRIPTION | DATE | BY/APP'D |
| 1 | VAR | 1. REV MN DK FLG PLS AT CL AT FR 52, 56, 60, & 67 TO BE 16" AT BHDS TO ELIMINATE SEAM IN FLG PL. 2. DELETED FB AT FR 44 IN WAY OF FLG PL AT DECK 3. ELIMINATED KNUCKLE IN BHD STIFF AT FR 44 BELOW TT 4. REV STIFF AT FR 60 TO BE NS 5. SHOW BKT AT FR 56 12'-0" OFF CL STBD TO 24X4X3/8" AND REV HEIGHT OF LONG'L GIRDER AT 12'-0" OFF CL STBD SIDE AT FR 48, 52, 56, 64, 67, & 70. | 2/19/10 | BJ/KK |
| 2 | VAR | 1. REMOVED RESV #1 & #3. | 3/23/10 | KK |

- RESERVATIONS**
- 1. RESERVE ELEVATOR TRUNK PENDING VENDOR INFO
 - 2. RESERVE ENGINE GIRDERS PENDING FINAL VENDOR INFO AND DEVELOPMENT OF REF 5&6
 - 3. RESERVE DECK IN WAY OF VENT FANS PENDING DEVELOPMENT OF REF #12

- GENERAL NOTES**
1. THIS DRAWING SHOULD NOT BE USED TO SCALE NC PARTS OR PREPARE 3D MODELING.
 2. INSERT PLATES SHALL BE INSTALLED WITH THE TOP FLUSH WITH THE DECK PLATING.
 3. SEE REFERENCE NO. 1 FOR LONG'L SECTIONS & REFERENCE NO. 2 FOR SCANTLING PLANS
 4. ALL FRAMES VIEWED LOOKING AFT.
 5. TYP SNIPES, VENT & DRAIN HOLES TO BE A 2" RAD. UNLESS OTHERWISE NOTED.
 6. ALL MATERIAL SHALL BE ABS GR. A OR EQUIVALENT EXCEPT AS NOTED
 7. WHERE LONG'L BEAMS PASS THROUGH SLOTTED FRAMES, BHDS, OR GIRDERS, THERE IS TO BE A PAIR OF MATCHED INTERMITTENT WELDS ON EACH SIDE OF EACH SUCH INTERSECTION.

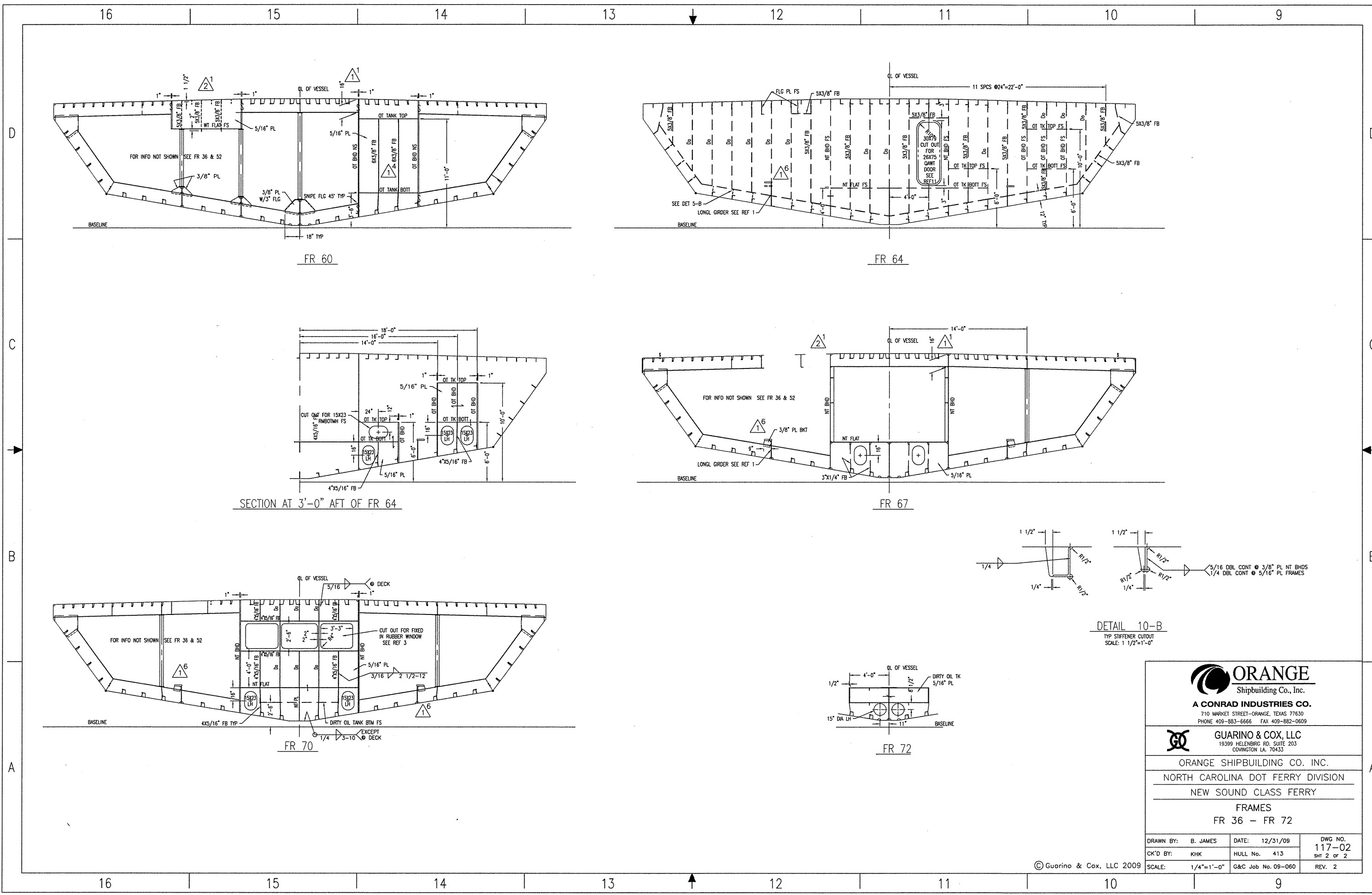
| NO. | REFERENCES | DWG NO. |
|-----|--|---------|
| 12 | MACHINERY SPACE VENTILATION | 513-01 |
| 11 | SCHEDULE OF OPENINGS, BELOW DECK | 167-01 |
| 10 | LINES PLAN | 839-01 |
| 9 | MOLD LINE CONVENTION | 101-03 |
| 8 | GENERAL ARRANGEMENTS | 101-02 |
| 7 | OUTBOARD & INBOARD PROFILE | 101-01 |
| 6 | CONSTRUCTION PROFILE & LONG'L BHDS, FR 72-STEM | 116-03 |
| 5 | SCANTLING PLANS, FR 72-STEM | 110-03 |
| 4 | CONSTRUCTION PROFILE & LONG'L BHDS, BOW-FR. 35 | 116-01 |
| 3 | SCANTLING PLANS, BOW-FR. 35 | 110-01 |
| 2 | SCANTLING PLANS FR 36 - FR 72 | 116-02 |
| 1 | CONSTRUCTION PROFILE & LONG'L BHDS, FR. 36-72 | 116-02 |

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CONVINGTON LA. 70433

ORANGE SHIPBUILDING CO. INC.
NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY
FRAMES
FR 36 - FR 72

| | | | | | |
|-----------|------------|-------------|----------|------------|--------|
| DRAWN BY: | B. JAMES | DATE: | 12/31/09 | DWG NO. | 117-02 |
| CK'D BY: | KHK | HULL No. | 413 | SHT 1 OF 2 | |
| SCALE: | 1/4"=1'-0" | G&C Job No. | 09-060 | REV. | 2 |

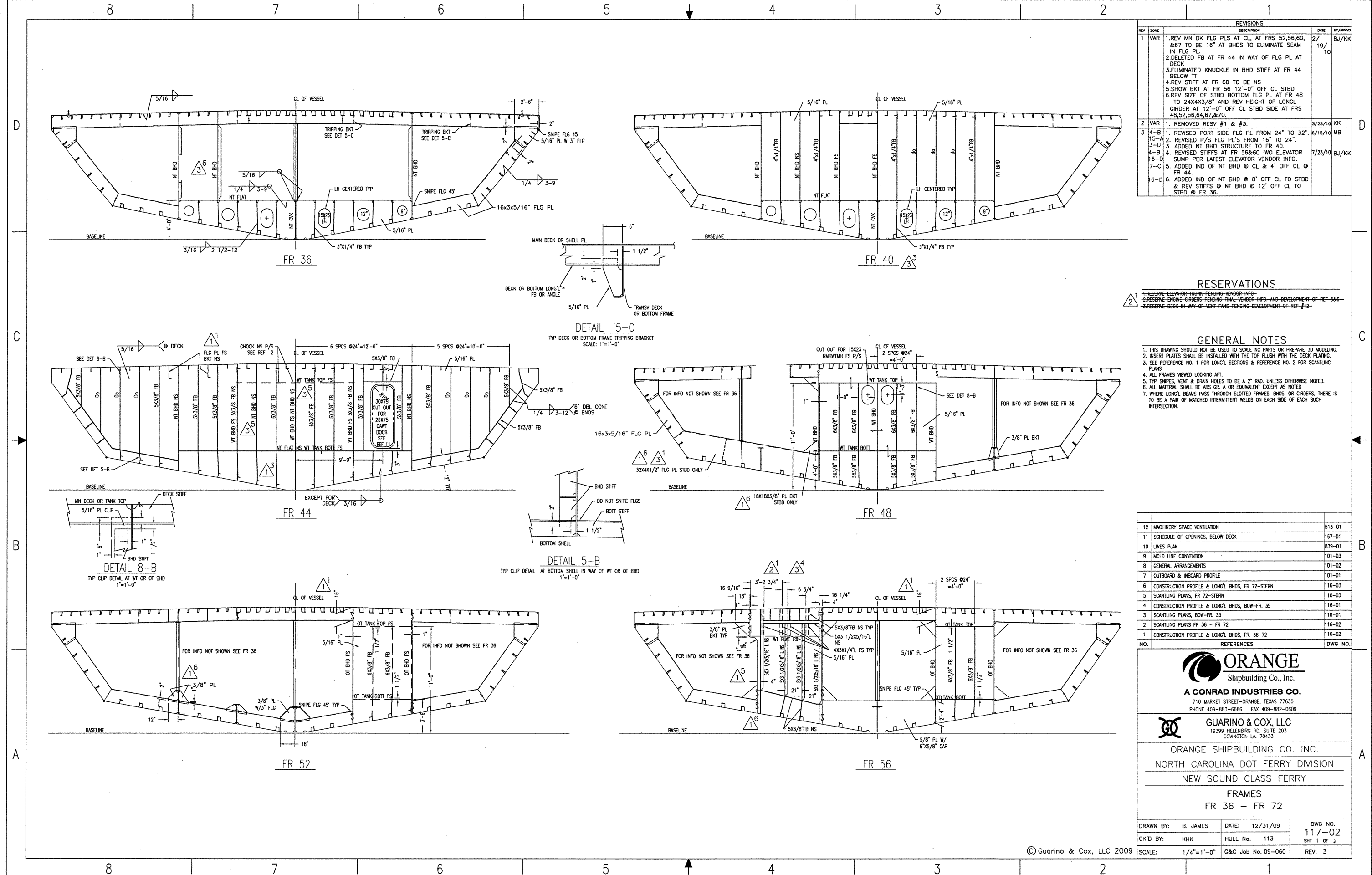


SECTION AT 3'-0" AFT OF FR 64

DETAIL 10-B
TYP SHIFFENER CUTOUT
SCALE: 1 1/2"=1'-0"

| | | |
|---|--|--|
| <p>ORANGE Shipbuilding Co., Inc. A CONRAD INDUSTRIES CO. 710 MARKET STREET-ORANGE, TEXAS 77630 PHONE 409-883-8666 FAX 409-882-0609</p> | | |
| <p>GUARINO & COX, LLC 19399 HELENBURG RD., SUITE 203 COWINGTON LA. 70433</p> | | |
| <p>ORANGE SHIPBUILDING CO. INC. NORTH CAROLINA DOT FERRY DIVISION NEW SOUND CLASS FERRY</p> | | |
| <p>FRAMES FR 36 - FR 72</p> | | |
| <p>DRAWN BY: B. JAMES CK'D BY: KHK</p> | <p>DATE: 12/31/09 HULL No. 413</p> | <p>DWG NO. 117-02 SHT 2 OF 2</p> |
| <p>SCALE: 1/4"=1'-0"</p> | | <p>G&C Job No. 09-060 REV. 2</p> |

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| REVISIONS | | | | |
|-----------|------|---|---------|-----------|
| REV | ZONE | DESCRIPTION | DATE | BY/APPROV |
| 1 | VAR | 1. REV MN DK FLG PLS AT CL, AT FR 52, 56, 60, & 67 TO BE 16" AT BHDS TO ELIMINATE SEAM IN FLG PL. 2. DELETED FB AT FR 44 IN WAY OF FLG PL AT DECK 3. ELIMINATED KNUCKLE IN BHD STIFF AT FR 44 BELOW TT 4. REV STIFF AT FR 60 TO BE NS 5. SHOW BKT AT FR 56 12'-0" OFF CL STBD 6. REV SIZE OF STBD BOTTOM FLG PL AT FR 48 TO 24X43/8" AND REV HEIGHT OF LONGI GIRDER AT 12'-0" OFF CL STBD SIDE AT FR 48, 52, 56, 64, 67, & 70. | 2/19/10 | BJ/KK |
| 2 | VAR | 1. REMOVED REV #1 & #3. | 3/23/10 | KK |
| 3 | 4-B | 1. REVISED PORT SIDE FLG PL FROM 24" TO 32". | 6/15/10 | MB |
| | 15-A | 2. REVISED P/S FLG PLS FROM 16" TO 24". | | |
| | 3-D | 3. ADDED NT BHD STRUCTURE TO FR 40. | | |
| | 4-B | 4. REVISED STIFFS AT FR 56 & 60 I/O ELEVATOR | 7/23/10 | BJ/KK |
| | 16-D | 5. SUMP PER LATEST ELEVATOR VENDOR INFO. | | |
| | 7-C | 6. ADDED IND OF NT BHD @ CL & 4' OFF CL @ FR 44. | | |
| | 16-D | 6. ADDED IND OF NT BHD @ 8' OFF CL TO STBD & REV STIFFS @ NT BHD @ 12' OFF CL TO STBD @ FR 36. | | |

RESERVATIONS

- 1. RESERVE ELEVATOR TRIM-PENDING-VENDOR-INFO-
- 2. RESERVE ENGINE GIRDERS-PENDING-FINAL-VENDOR-INFO.-AND-DEVELOPMENT-OF-REF-546-
- 3. RESERVE DECK-IN-WAY-OF-VENT-FANS-PENDING-DEVELOPMENT-OF-REF-#12-

GENERAL NOTES

1. THIS DRAWING SHOULD NOT BE USED TO SCALE, NO PARTS OR PREPARE 3D MODELING.
2. INSERT PLATES SHALL BE INSTALLED WITH THE TOP FLUSH WITH THE DECK PLATING.
3. SEE REFERENCE NO. 1 FOR LONGI SECTIONS & REFERENCE NO. 2 FOR SCANTLING PLANS.
4. ALL FRAMES VIEWED LOOKING AFT.
5. TYP SNIPES, VENT & DRAIN HOLES TO BE A 2" RAD UNLESS OTHERWISE NOTED.
6. ALL MATERIAL SHALL BE ABS OR A OR EQUIVALENT EXCEPT AS NOTED.
7. WHERE LONGI BEAMS PASS THROUGH SLOTTED FRAMES, BHDS, OR GIRDERS, THERE IS TO BE A PAIR OF MATCHED INTERMITTENT WELDS ON EACH SIDE OF EACH SUCH INTERSECTION.

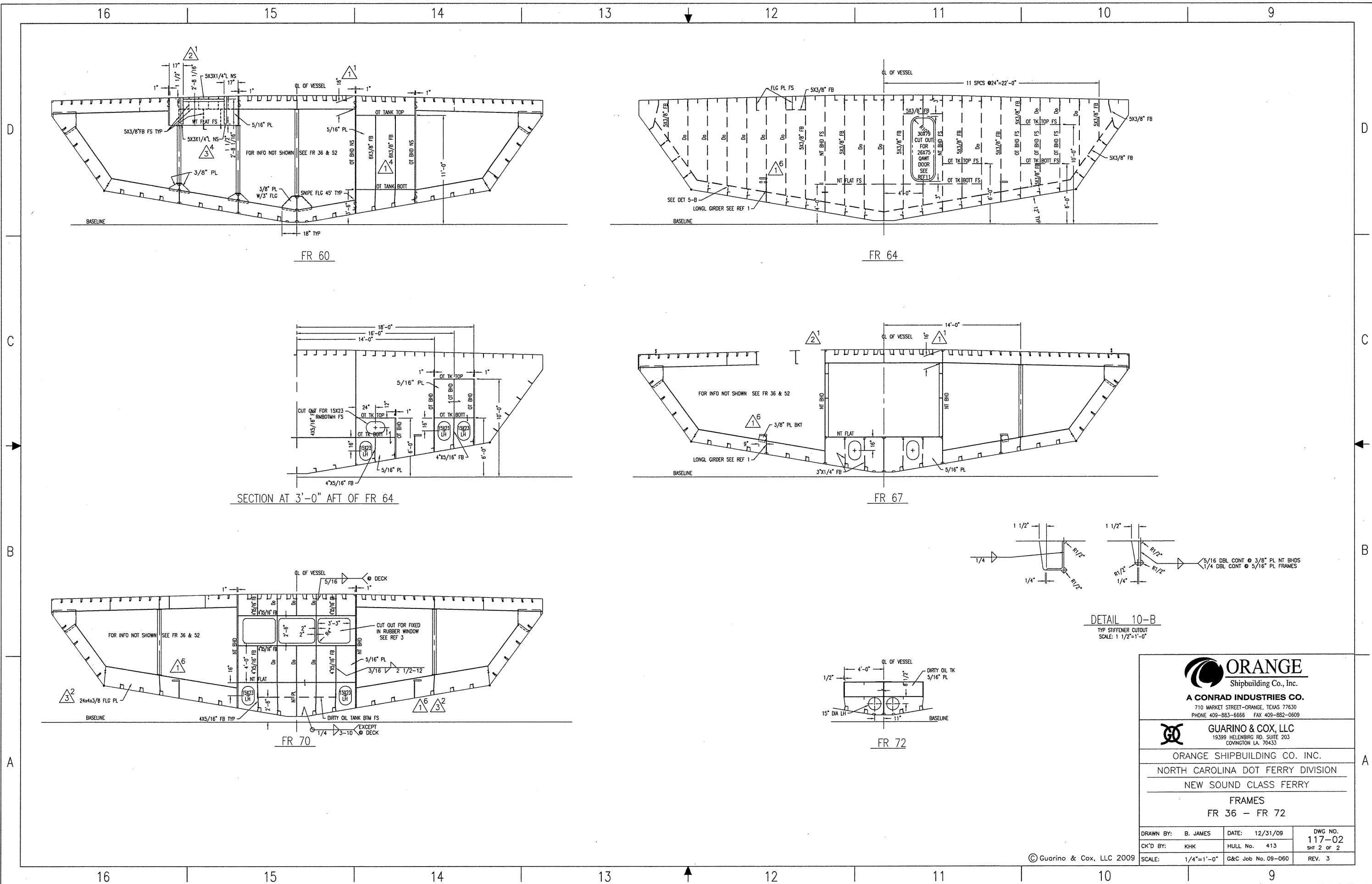
| NO. | REFERENCES | DWG. NO. |
|-----|--|----------|
| 12 | MACHINERY SPACE VENTILATION | 513-01 |
| 11 | SCHEDULE OF OPENINGS, BELOW DECK | 167-01 |
| 10 | LINES PLAN | 839-01 |
| 9 | MOLD LINE CONVENTION | 101-03 |
| 8 | GENERAL ARRANGEMENTS | 101-02 |
| 7 | OUTBOARD & INBOARD PROFILE | 101-01 |
| 6 | CONSTRUCTION PROFILE & LONGI BHDS, FR 72-STERN | 116-03 |
| 5 | SCANTLING PLANS, FR 72-STERN | 110-03 |
| 4 | CONSTRUCTION PROFILE & LONGI BHDS, BOW-FR. 35 | 116-01 |
| 3 | SCANTLING PLANS, BOW-FR. 35 | 110-01 |
| 2 | SCANTLING PLANS FR 36 - FR 72 | 116-02 |
| 1 | CONSTRUCTION PROFILE & LONGI BHDS, FR. 36-72 | 116-02 |

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A CONRAD INDUSTRIES CO.
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PHONE 409-883-6666 FAX 409-882-0609

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19399 HELENBURG RD. SUITE 203
COWINGTON LA. 70433

ORANGE SHIPBUILDING CO. INC.
NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY
FRAMES
FR 36 - FR 72

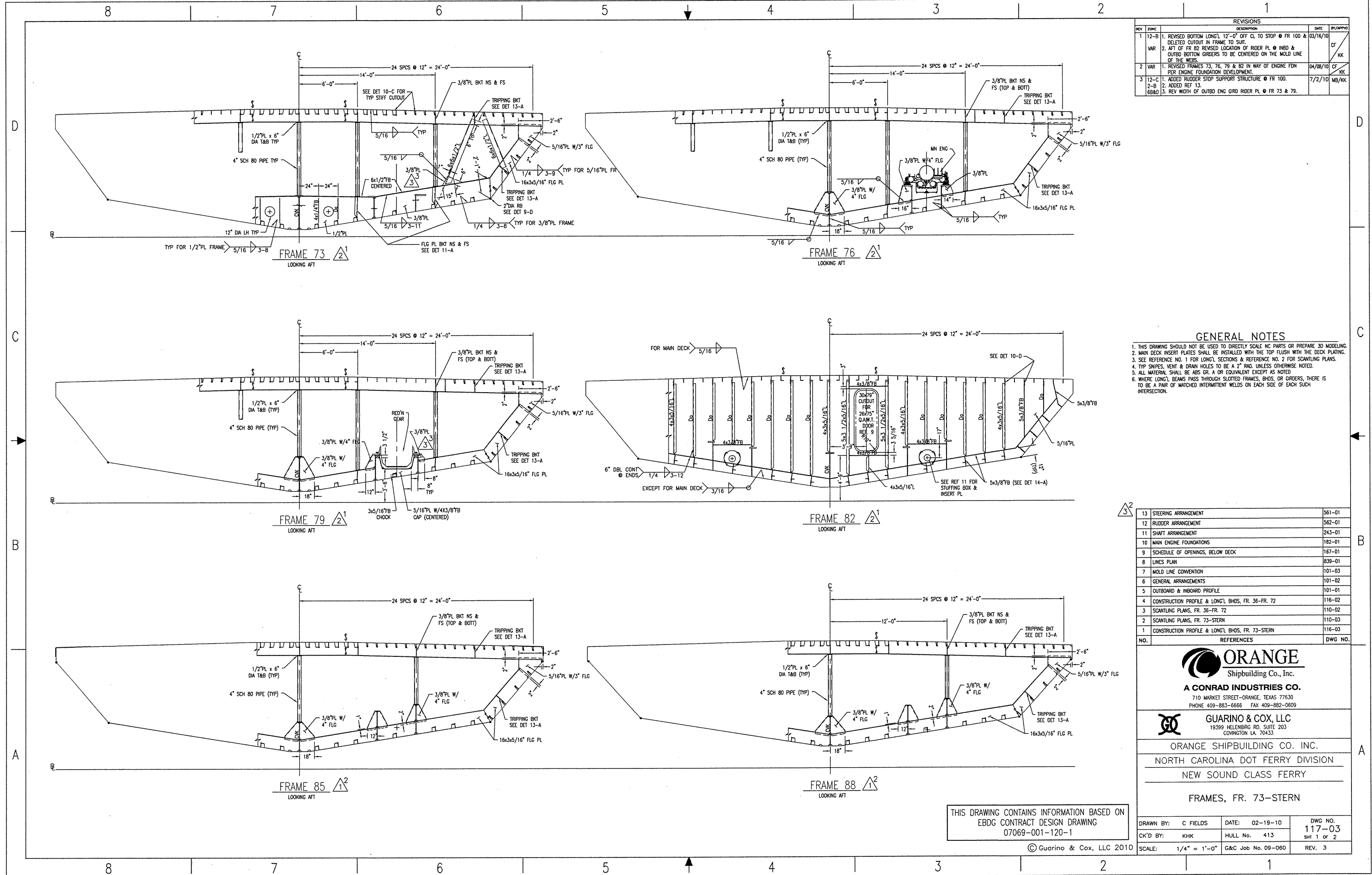
| | | |
|--------------------|--------------------|-----------------|
| DRAWN BY: B. JAMES | DATE: 12/31/09 | DWG. NO. 117-02 |
| CK'D BY: KHK | HULL No. 413 | SHT 1 OF 2 |
| SCALE: 1/4"=1'-0" | G&C Job No. 09-060 | REV. 3 |



SECTION AT 3'-0" AFT OF FR 64

DETAIL 10-B
TYP STIFFENER CUTOUT
SCALE: 1/2"=1'-0"

| | | |
|---|---|---|
| <p>ORANGE Shipbuilding Co., Inc. A CONRAD INDUSTRIES CO. 710 MARKET STREET-ORANGE, TEXAS 77630 PHONE 409-883-8866 FAX 409-882-0609</p> | | |
| <p>GUARINO & COX, LLC 19399 HELENBURG RD, SUITE 203 COWINGTON LA 70433</p> | | |
| <p>ORANGE SHIPBUILDING CO. INC. NORTH CAROLINA DOT FERRY DIVISION NEW SOUND CLASS FERRY</p> | | |
| <p>FRAMES FR 36 - FR 72</p> | | |
| <p>DRAWN BY: B. JAMES CK'D BY: KHK</p> | <p>DATE: 12/31/09 HULL No. 413 G&C Job No. 09-060</p> | <p>DWG NO. 117-02 SHT 2 OF 2 REV. 3</p> |



| REVISIONS | | | | |
|-----------|------|--|----------|---------|
| REV | ZONE | DESCRIPTION | DATE | BY/APPD |
| 1 | 12-B | 1. REVISED BOTTOM LONG'L 12'-0" OFF CL TO STOP @ FR 100 & DELETED CUTOFF IN FRAME TO SUIT. | 03/16/10 | CF |
| | VAR | 2. AFT OF FR 82 REVISED LOCATION OF RIDER PL @ INBD & OUTBD BOTTOM GRIDDERS TO BE CENTERED ON THE MOLD LINE OF THE WEBS. | | KK |
| 2 | VAR | 1. REVISED FRAMES 73, 76, 79 & 82 IN WAY OF ENGINE FDN PER ENGINE FOUNDATION DEVELOPMENT. | 04/08/10 | CF |
| | 12-C | 1. ADDED RUDDER STOP SUPPORT STRUCTURE @ FR 100. | 7/2/10 | MB/KK |
| | 2-B | 2. ADDED REF 13. | | |
| | 6&D | 3. REV WIDTH OF OUTBD ENG GRD RIDER PL @ FR 73 & 79. | | |

GENERAL NOTES

- THIS DRAWING SHOULD NOT BE USED TO DIRECTLY SCALE NC PARTS OR PREPARE 3D MODELING.
- MAIN DECK INSERT PLATES SHALL BE INSTALLED WITH THE TOP FLUSH WITH THE DECK PLATING.
- SEE REFERENCE NO. 1 FOR LONG'L SECTIONS & REFERENCE NO. 2 FOR SCANTLING PLANS.
- TYP SNAPES, VENT & DRAIN HOLES TO BE A 2" RAD. UNLESS OTHERWISE NOTED.
- ALL MATERIAL SHALL BE ABS GR. A OR EQUIVALENT EXCEPT AS NOTED.
- WHERE LONG'L BEAMS PASS THROUGH SLOTTED FRAMES, BHDS, OR GRIDDERS, THERE IS TO BE A PAIR OF MATCHED INTERMITTENT WELDS ON EACH SIDE OF EACH SUCH INTERSECTION.

| NO. | REFERENCES | DWG NO. |
|-----|---|---------|
| 13 | STEERING ARRANGEMENT | 561-01 |
| 12 | RUDDER ARRANGEMENT | 562-01 |
| 11 | SHAFT ARRANGEMENT | 243-01 |
| 10 | MAIN ENGINE FOUNDATIONS | 182-01 |
| 9 | SCHEDULE OF OPENINGS, BELOW DECK | 167-01 |
| 8 | LINES PLAN | 839-01 |
| 7 | MOLD LINE CONVENTION | 101-03 |
| 6 | GENERAL ARRANGEMENTS | 101-02 |
| 5 | OUTBOARD & INBOARD PROFILE | 101-01 |
| 4 | CONSTRUCTION PROFILE & LONG'L BHDS, FR. 36-FR. 72 | 116-02 |
| 3 | SCANTLING PLANS, FR. 36-FR. 72 | 110-02 |
| 2 | SCANTLING PLANS, FR. 73-STERN | 110-03 |
| 1 | CONSTRUCTION PROFILE & LONG'L BHDS, FR. 73-STERN | 116-03 |



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COWINGTON LA 70433

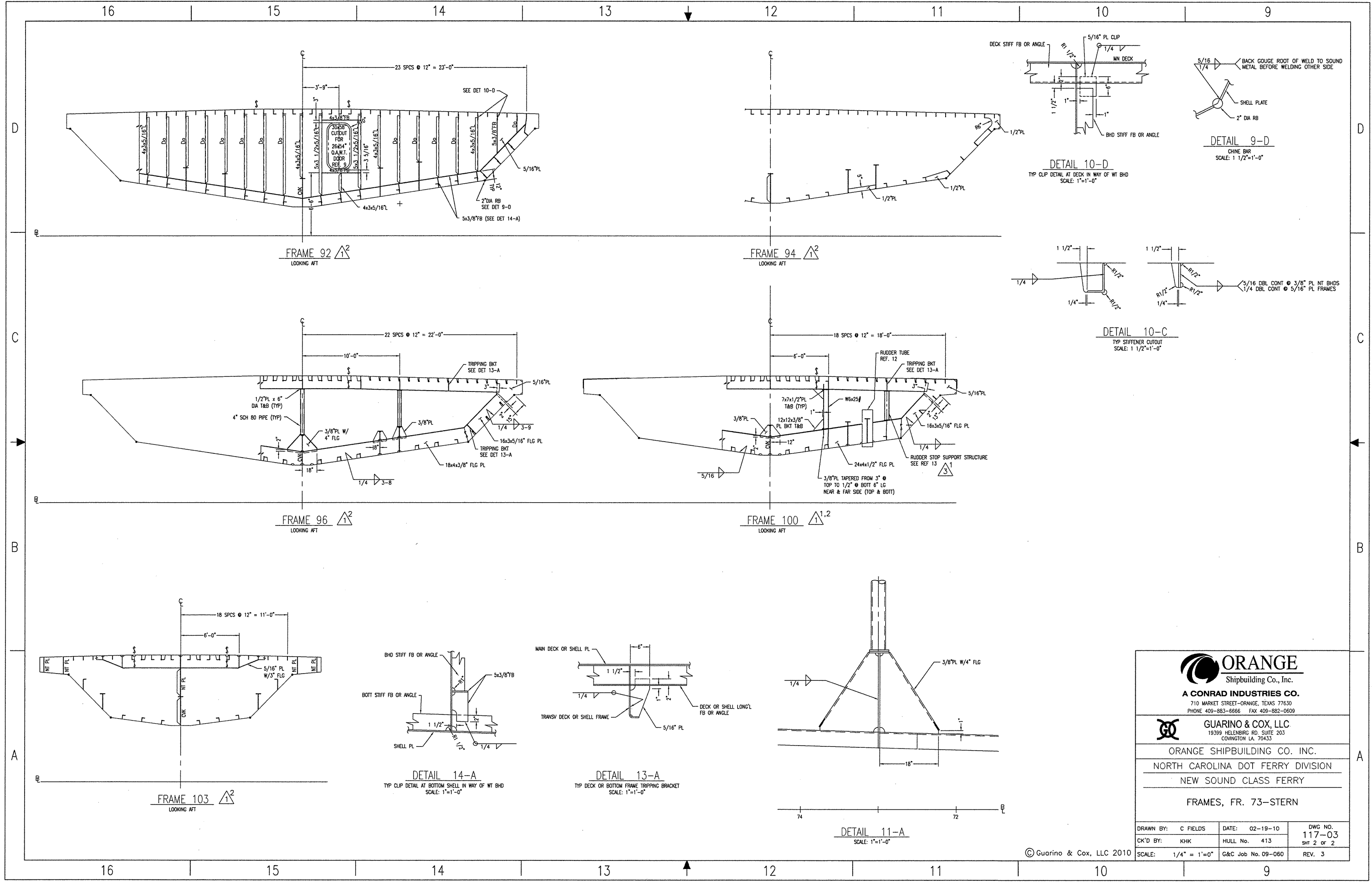
ORANGE SHIPBUILDING CO. INC.
NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY

FRAMES, FR. 73-STERN

THIS DRAWING CONTAINS INFORMATION BASED ON
EBDG CONTRACT DESIGN DRAWING
07069-001-120-1

| | | |
|---------------------|--------------------|----------------|
| DRAWN BY: C FIELDS | DATE: 02-19-10 | DWG NO. 117-03 |
| CK'D BY: KHK | HULL No. 413 | SH 1 OF 2 |
| SCALE: 1/4" = 1'-0" | G&C Job No. 09-060 | REV. 3 |

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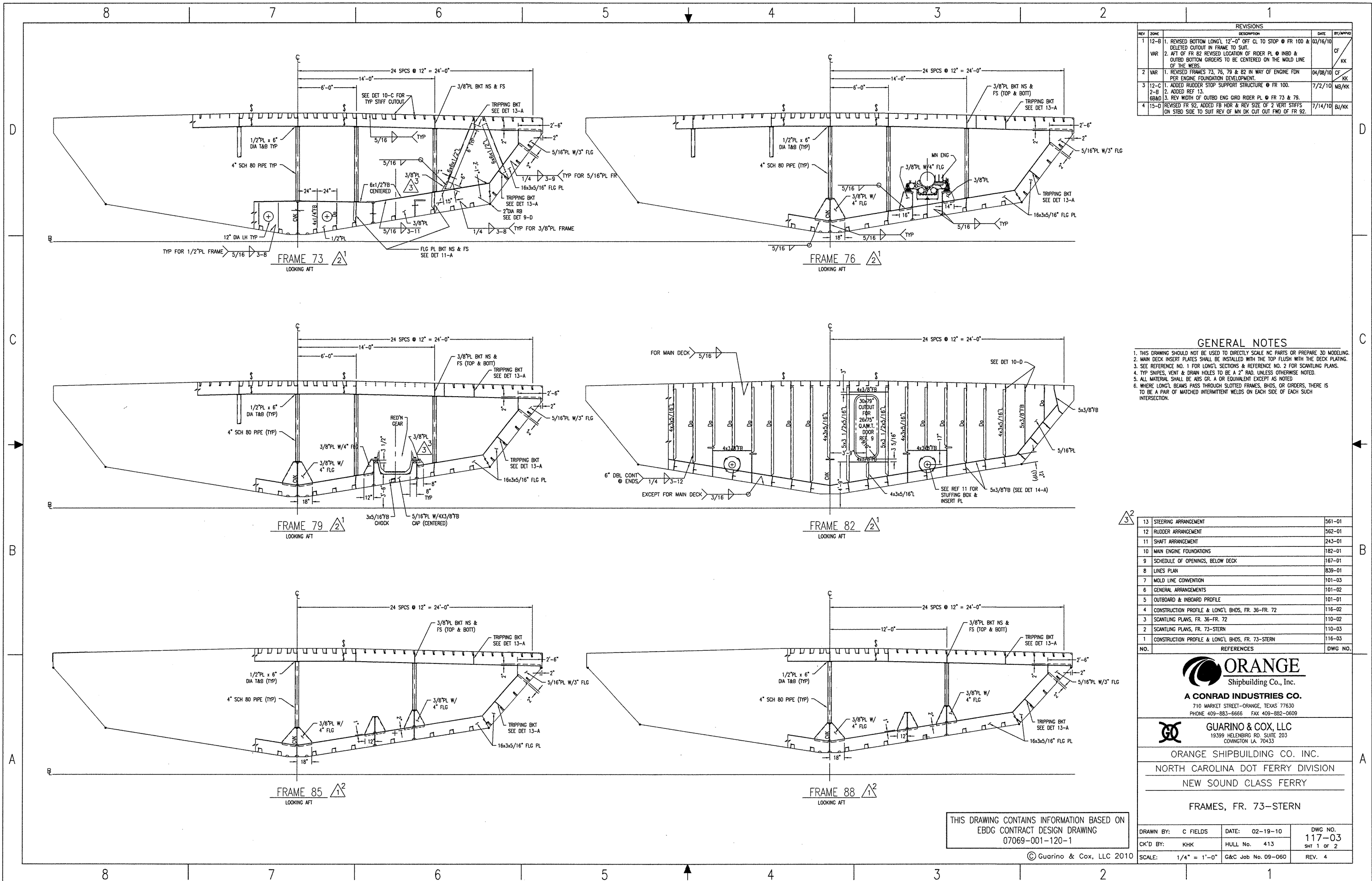
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NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY

FRAMES, FR. 73-STERN

| | | |
|---------------------|--------------------|----------------|
| DRAWN BY: C FIELDS | DATE: 02-19-10 | DWG NO. 117-03 |
| CK'D BY: KHK | HULL No. 413 | SHT 2 OF 2 |
| SCALE: 1/4" = 1'-0" | G&C Job No. 09-060 | REV. 3 |

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| REVISIONS | | | | |
|-----------|------|---|----------|-----------|
| REV | ZONE | DESCRIPTION | DATE | BY/APPROV |
| 1 | 12-B | 1. REVISED BOTTOM LONG'L 12'-0" OFF CL TO STOP @ FR 100 & DELETED CUTOUT IN FRAME TO SUIT. | 03/16/10 | CF/KK |
| VAR | | 2. AFT OF FR 82 REVISED LOCATION OF RIDER PL @ INBD & OUTBD BOTTOM GIRDERS TO BE CENTERED ON THE MOLD LINE OF THE WEBS. | | |
| 2 | VAR | 1. REVISED FRAMES 73, 76, 79 & 82 IN WAY OF ENGINE FDN PER ENGINE FOUNDATION DEVELOPMENT. | 04/08/10 | CF/KK |
| 3 | 12-C | 1. ADDED RUDDER STOP SUPPORT STRUCTURE @ FR 100. | 7/2/10 | MB/KK |
| | 2-D | 2. ADDED REF 13. | | |
| | 6&D | 3. REV WIDTH OF OUTBD ENG GIRD RIDER PL @ FR 73 & 79. | | |
| 4 | 15-D | REVISED FR 92, ADDED FB HDR & REV SIZE OF 2 VERT STIFFS ON STBD SIDE TO SUIT REV OF MN DK CUT OUT FWD OF FR 92. | 7/14/10 | BJ/KK |

GENERAL NOTES

- THIS DRAWING SHOULD NOT BE USED TO DIRECTLY SCALE OR PREPARE 3D MODELING.
- MAIN DECK INSERT PLATES SHALL BE INSTALLED WITH THE TOP FLUSH WITH THE DECK PLATING.
- SEE REFERENCE NO. 1 FOR LONG'L SECTIONS & REFERENCE NO. 2 FOR SCANTLING PLANS.
- TYP SHIPES, VENT & DRAIN HOLES TO BE A 2" RAD. UNLESS OTHERWISE NOTED.
- ALL MATERIAL SHALL BE ABS GR. A OR EQUIVALENT EXCEPT AS NOTED.
- WHERE LONG'L BEAMS PASS THROUGH SLOTTED FRAMES, BHDS, OR GIRDERS, THERE IS TO BE A PAIR OF MATCHED INTERMITTENT WELDS ON EACH SIDE OF EACH SUCH INTERSECTION.

| NO. | REFERENCES | DWG NO. |
|-----|---|---------|
| 13 | STEERING ARRANGEMENT | 561-01 |
| 12 | RUDDER ARRANGEMENT | 562-01 |
| 11 | SHAFT ARRANGEMENT | 243-01 |
| 10 | MAIN ENGINE FOUNDATIONS | 182-01 |
| 9 | SCHEDULE OF OPENINGS, BELOW DECK | 167-01 |
| 8 | LINES PLAN | 839-01 |
| 7 | MOLD LINE CONVENTION | 101-03 |
| 6 | GENERAL ARRANGEMENTS | 101-02 |
| 5 | OUTBOARD & INBOARD PROFILE | 101-01 |
| 4 | CONSTRUCTION PROFILE & LONG'L BHDS, FR. 36-FR. 72 | 116-02 |
| 3 | SCANTLING PLANS, FR. 36-FR. 72 | 110-02 |
| 2 | SCANTLING PLANS, FR. 73-STERN | 110-03 |
| 1 | CONSTRUCTION PROFILE & LONG'L BHDS, FR. 73-STERN | 116-03 |



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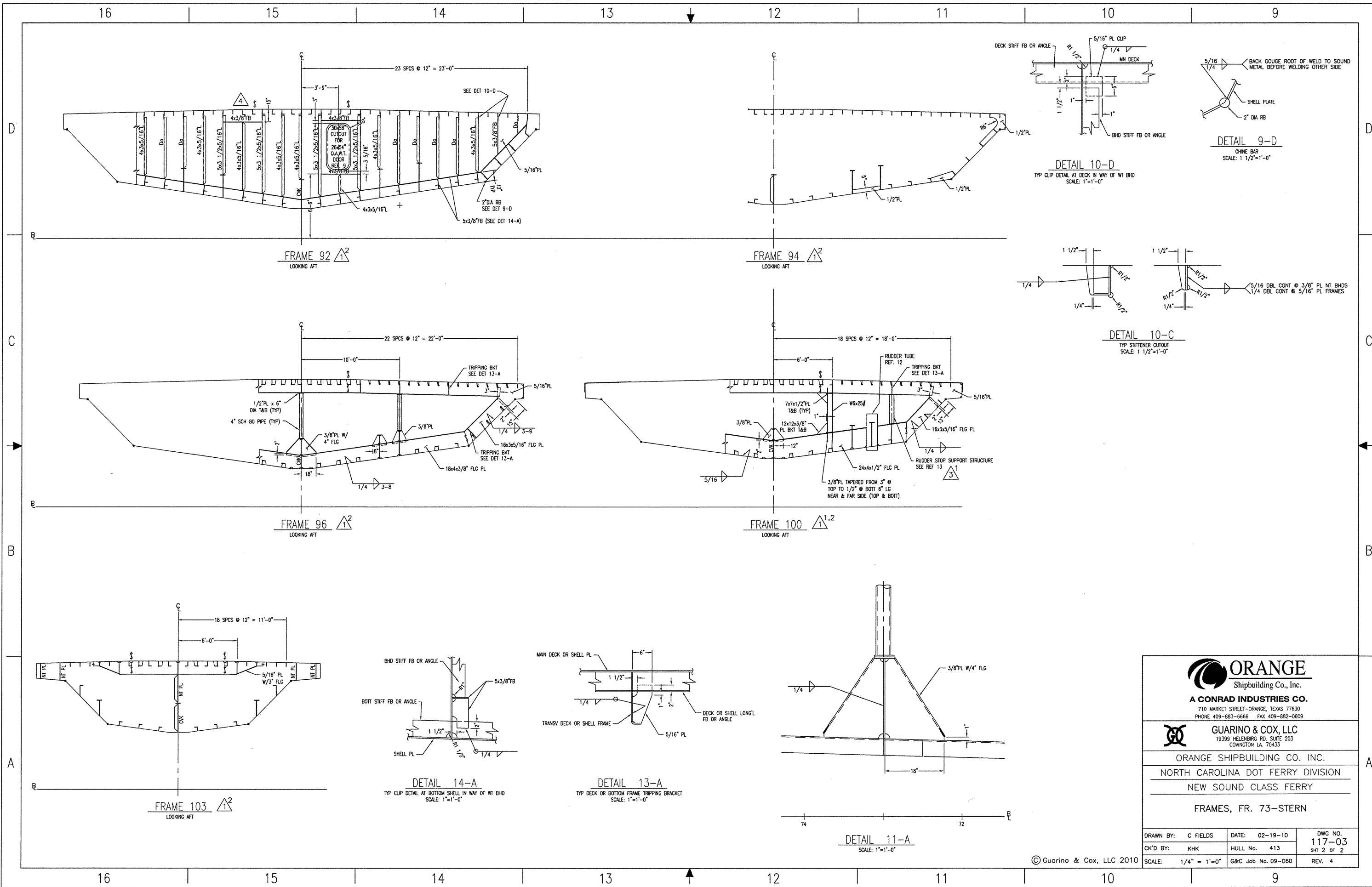
ORANGE SHIPBUILDING CO. INC.
NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY

FRAMES, FR. 73-STERN

THIS DRAWING CONTAINS INFORMATION BASED ON
EBDG CONTRACT DESIGN DRAWING
07069-001-120-1

| | | |
|---------------------|--------------------|----------------|
| DRAWN BY: C FIELDS | DATE: 02-19-10 | DWG NO. 117-03 |
| CHK'D BY: KHK | HULL No. 413 | SHT 1 OF 2 |
| SCALE: 1/4" = 1'-0" | G&C Job No. 09-060 | REV. 4 |

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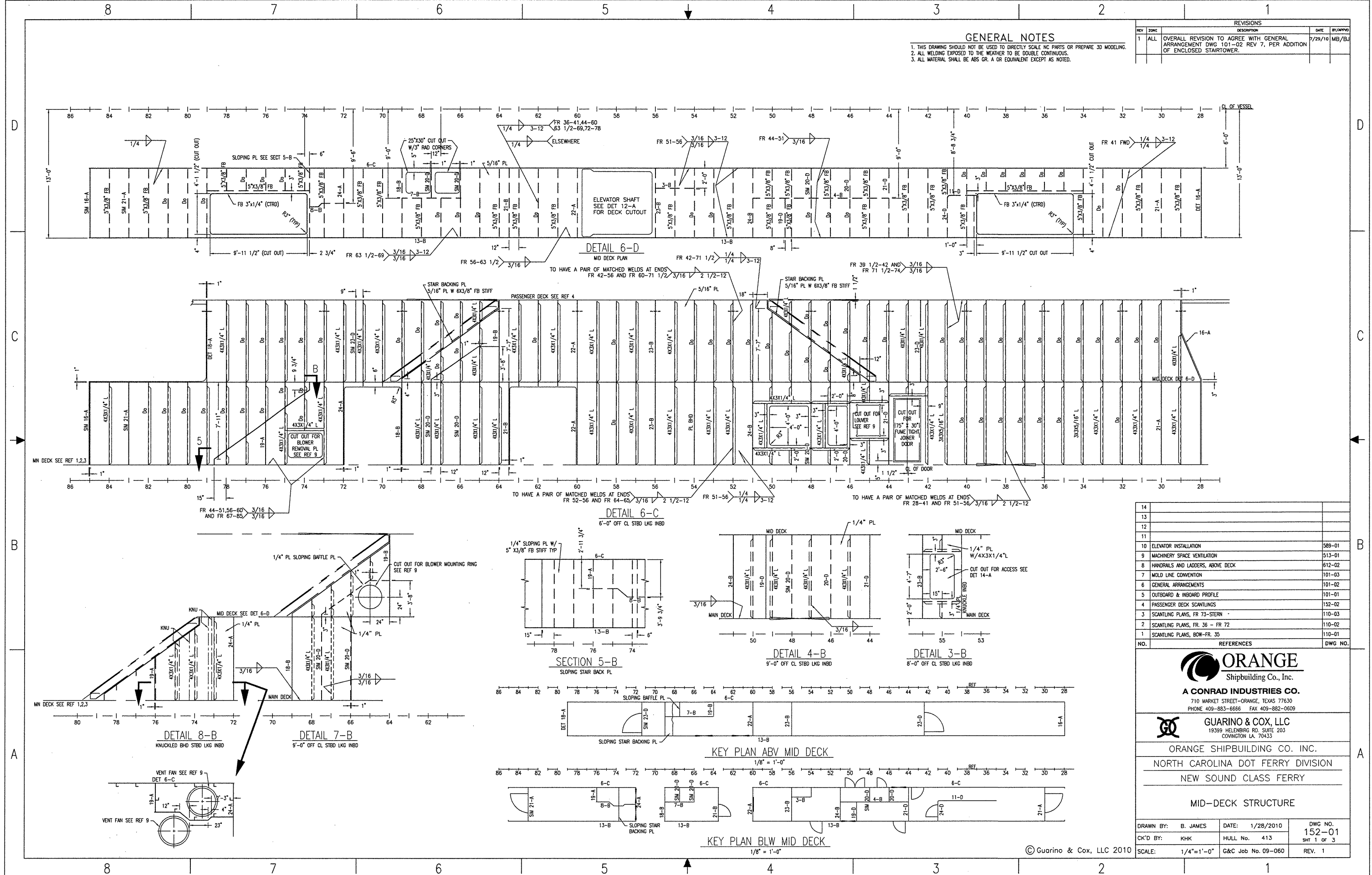
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NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY

FRAMES, FR. 73-STERN

| | | |
|---------------------|--------------------|----------------|
| DRAWN BY: C FIELDS | DATE: 02-19-10 | DWG NO. 117-03 |
| CK'D BY: KHK | HULL No. 413 | SHT 2 OF 2 |
| SCALE: 1/4" = 1'-0" | G&C Job No. 09-060 | REV. 4 |



| NO. | REFERENCES | DWG NO. |
|-----|-----------------------------------|---------|
| 14 | | |
| 13 | | |
| 12 | | |
| 11 | | |
| 10 | ELEVATOR INSTALLATION | 589-01 |
| 9 | MACHINERY SPACE VENTILATION | 513-01 |
| 8 | HANDRAILS AND LADDERS, ABOVE DECK | 612-02 |
| 7 | MOLD LINE CONVENTION | 101-03 |
| 6 | GENERAL ARRANGEMENTS | 101-02 |
| 5 | OUTBOARD & INBOARD PROFILE | 101-01 |
| 4 | PASSENGER DECK SCANTLING | 152-02 |
| 3 | SCANTLING PLANS, FR 73-STERN | 110-03 |
| 2 | SCANTLING PLANS, FR. 36 - FR 72 | 110-02 |
| 1 | SCANTLING PLANS, BOW-FR. 35 | 110-01 |



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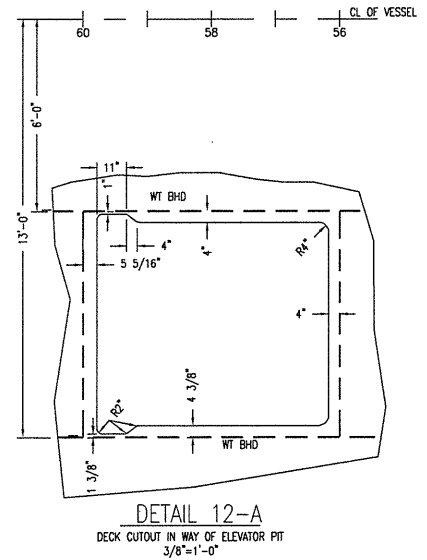
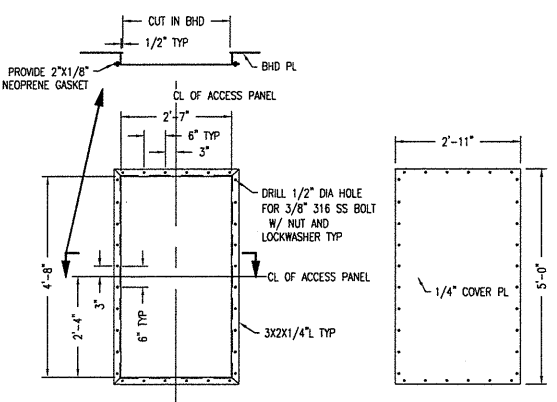
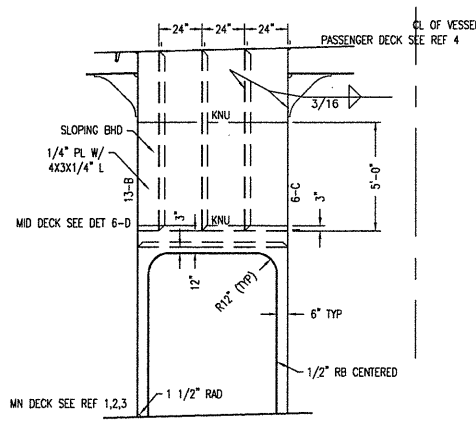
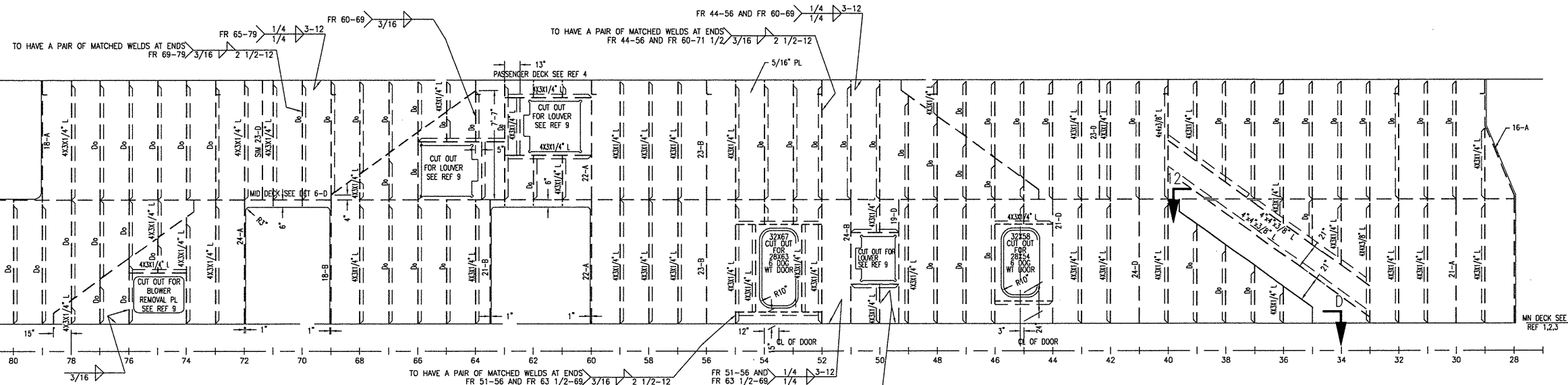
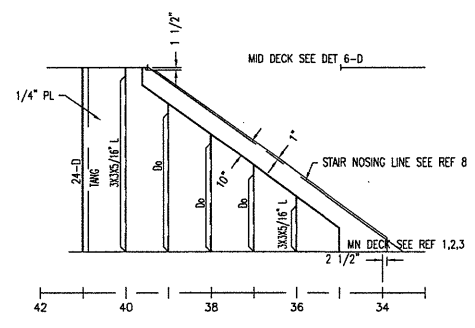
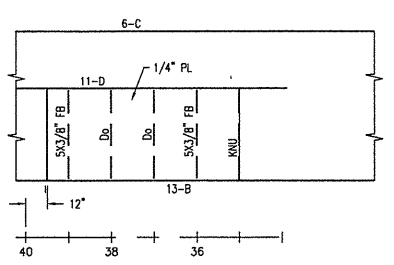
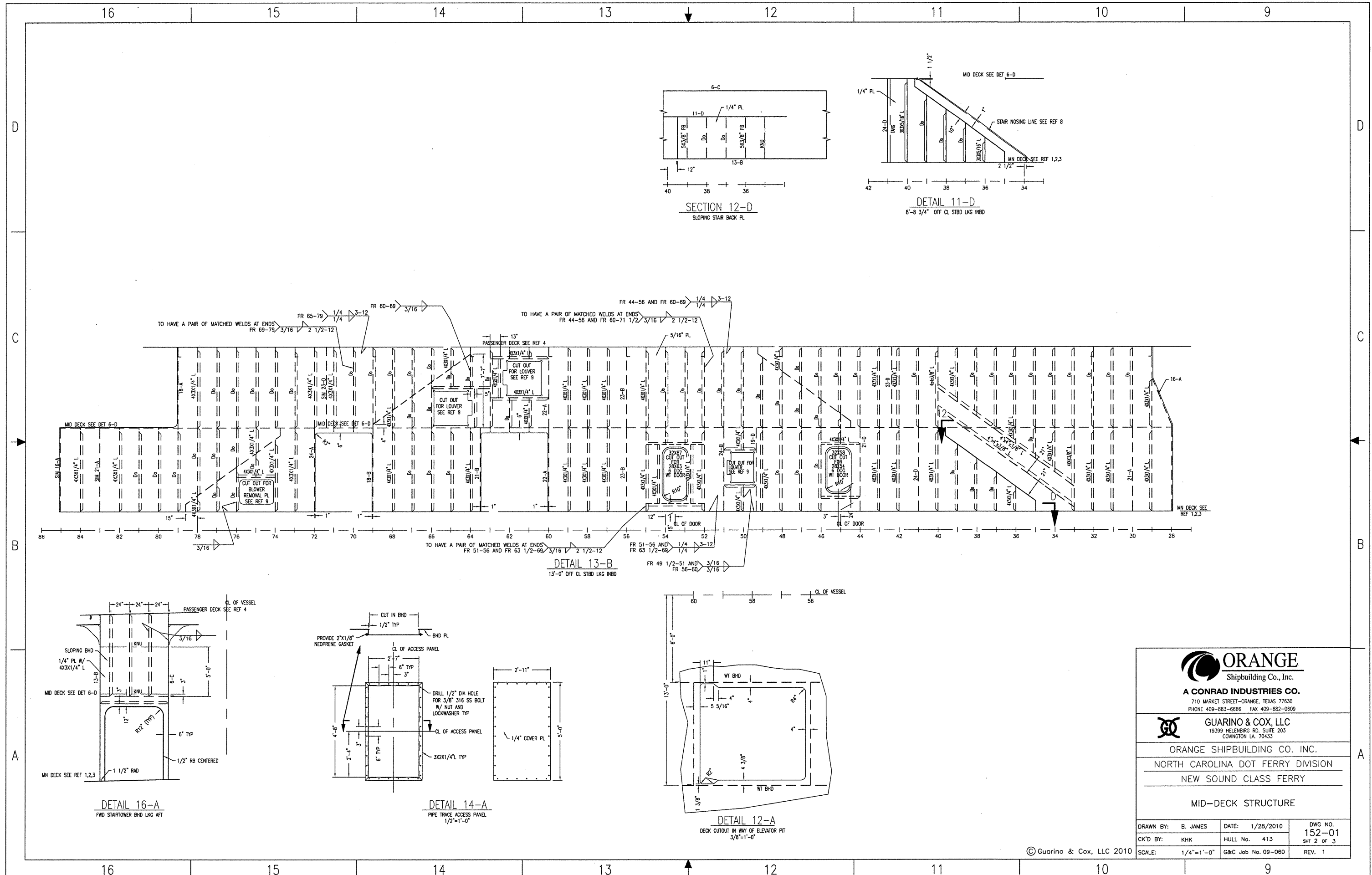
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ORANGE SHIPBUILDING CO. INC.
NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY

MID-DECK STRUCTURE

| | | |
|--------------------|--------------------|----------------|
| DRAWN BY: B. JAMES | DATE: 1/28/2010 | DWG NO. 152-01 |
| CK'D BY: KHK | HULL No. 413 | SHT 1 OF 3 |
| SCALE: 1/4"=1'-0" | G&C Job No. 09-060 | REV. 1 |

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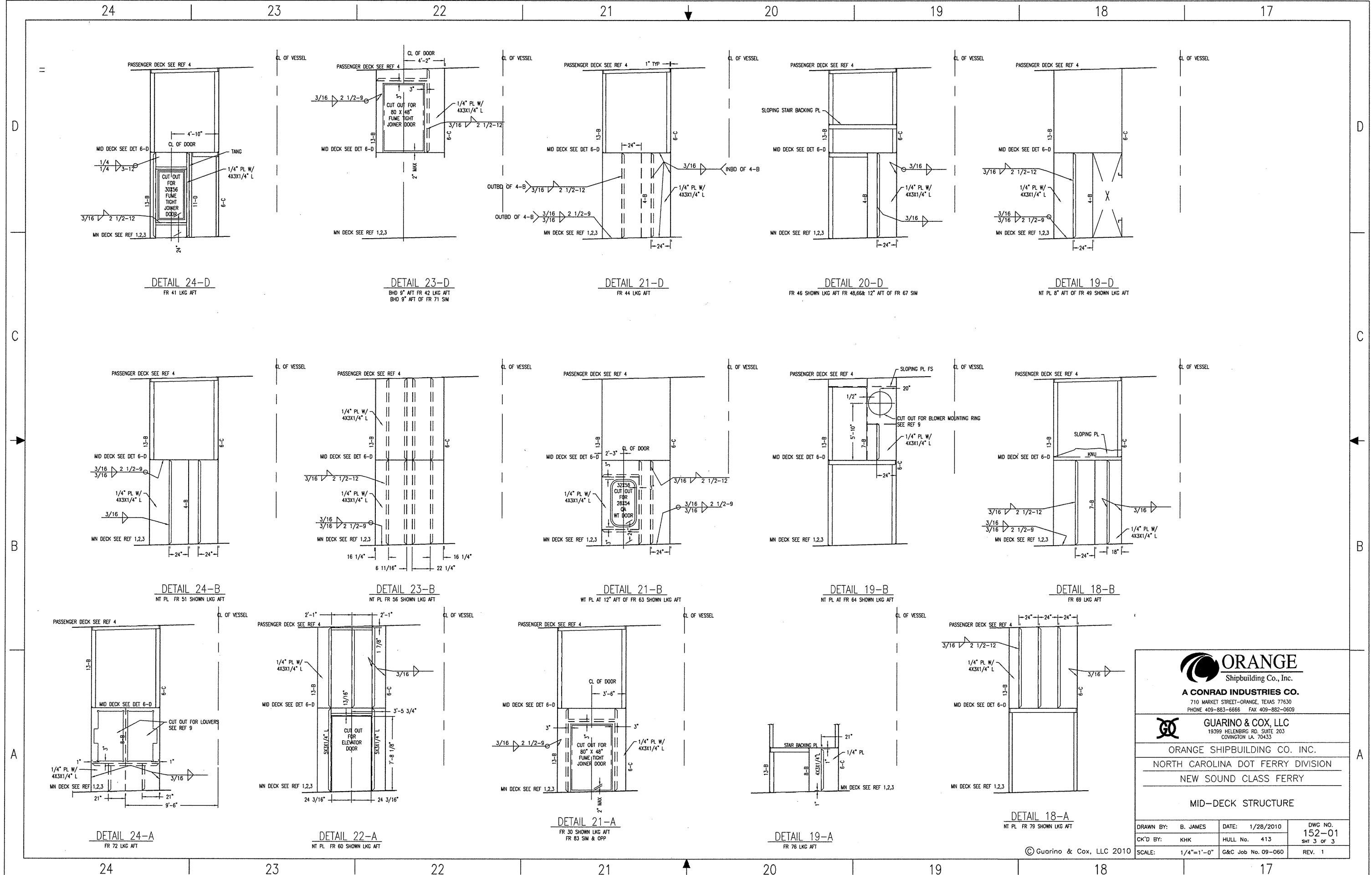
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COWINGTON LA 70433


ORANGE SHIPBUILDING CO. INC.
NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY


MID-DECK STRUCTURE

| | | |
|--------------------|--------------------|----------------|
| DRAWN BY: B. JAMES | DATE: 1/28/2010 | DWG NO. 152-01 |
| CK'D BY: KHK | HULL No. 413 | SHT 2 OF 3 |
| SCALE: 1/4"=1'-0" | G&C Job No. 09-060 | REV. 1 |

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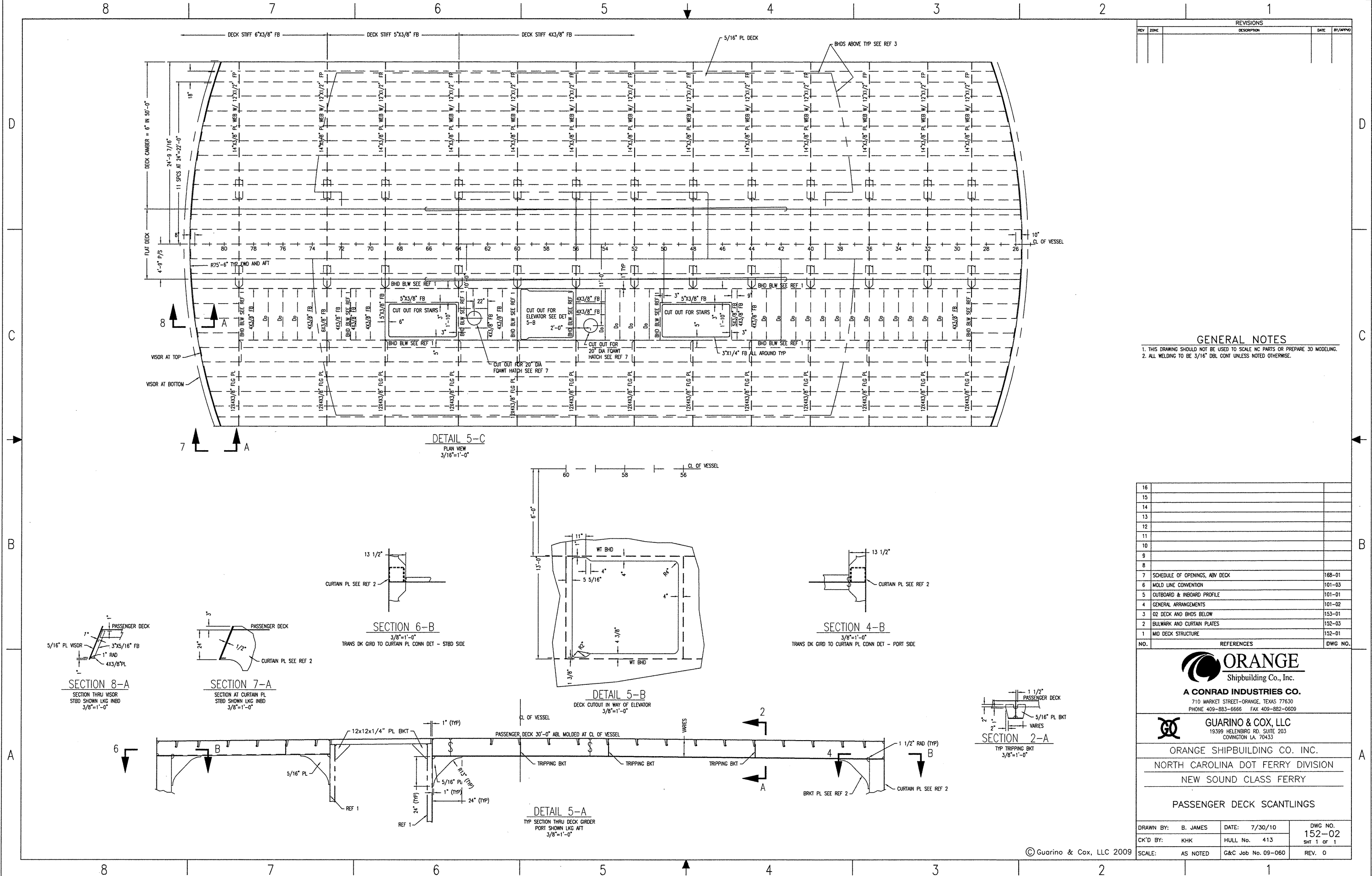

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ORANGE SHIPBUILDING CO. INC.
 NORTH CAROLINA DOT FERRY DIVISION
 NEW SOUND CLASS FERRY
 MID-DECK STRUCTURE

| | | |
|--------------------|--------------------|----------------|
| DRAWN BY: B. JAMES | DATE: 1/28/2010 | DWG NO. 152-01 |
| CK'D BY: KHK | HULL No. 413 | SHT 3 OF 3 |
| SCALE: 1/4"=1'-0" | G&C Job No. 09-060 | REV. 1 |

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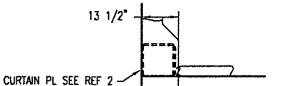


| REVISIONS | | | |
|-----------|------|-------------|------|
| REV | ZONE | DESCRIPTION | DATE |
| | | | |
| | | | |
| | | | |

GENERAL NOTES

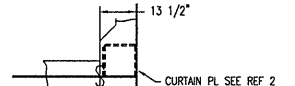
1. THIS DRAWING SHOULD NOT BE USED TO SCALE NC PARTS OR PREPARE 3D MODELING.
2. ALL WELDING TO BE 3/16" DBL CONT UNLESS NOTED OTHERWISE.

DETAIL 5-C
PLAN VIEW
3/8"=1'-0"



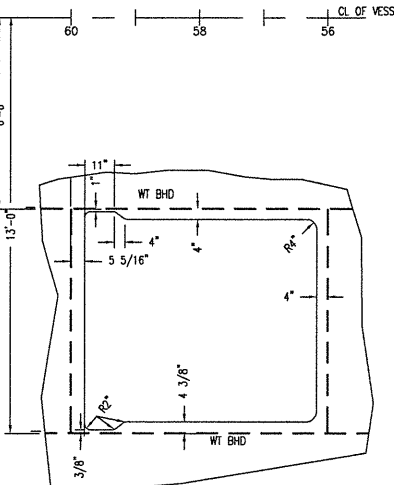
SECTION 6-B
3/8"=1'-0"

TRANS DK GRID TO CURTAIN PL CONN DET - STBD SIDE

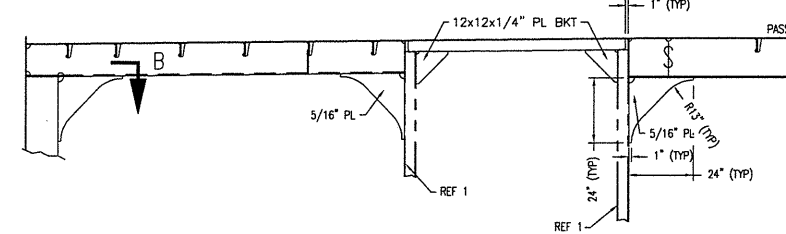


SECTION 4-B
3/8"=1'-0"

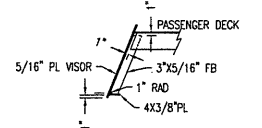
TRANS DK GRID TO CURTAIN PL CONN DET - PORT SIDE



DETAIL 5-B
DECK CUTOUT IN WAY OF ELEVATOR
3/8"=1'-0"

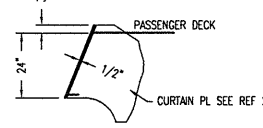


DETAIL 5-A
TYP SECTION THRU DECK ORDER
PORT SHOWN LKG AFT
3/8"=1'-0"



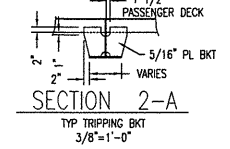
SECTION 8-A

SECTION THRU VISOR
STBD SHOWN LKG INBD
3/8"=1'-0"



SECTION 7-A

SECTION AT CURTAIN PL
STBD SHOWN LKG INBD
3/8"=1'-0"



SECTION 2-A

TYP TRIPPING BKT
3/8"=1'-0"

| NO. | REFERENCES | DWG NO. |
|-----|--------------------------------|---------|
| 16 | | |
| 15 | | |
| 14 | | |
| 13 | | |
| 12 | | |
| 11 | | |
| 10 | | |
| 9 | | |
| 8 | | |
| 7 | SCHEDULE OF OPENINGS, ABV DECK | 168-01 |
| 6 | MOLD LINE CONVENTION | 101-03 |
| 5 | OUTBOARD & INBOARD PROFILE | 101-01 |
| 4 | GENERAL ARRANGEMENTS | 101-02 |
| 3 | O2 DECK AND BHDS BELOW | 153-01 |
| 2 | BULKWARK AND CURTAIN PLATES | 152-03 |
| 1 | MID DECK STRUCTURE | 152-01 |

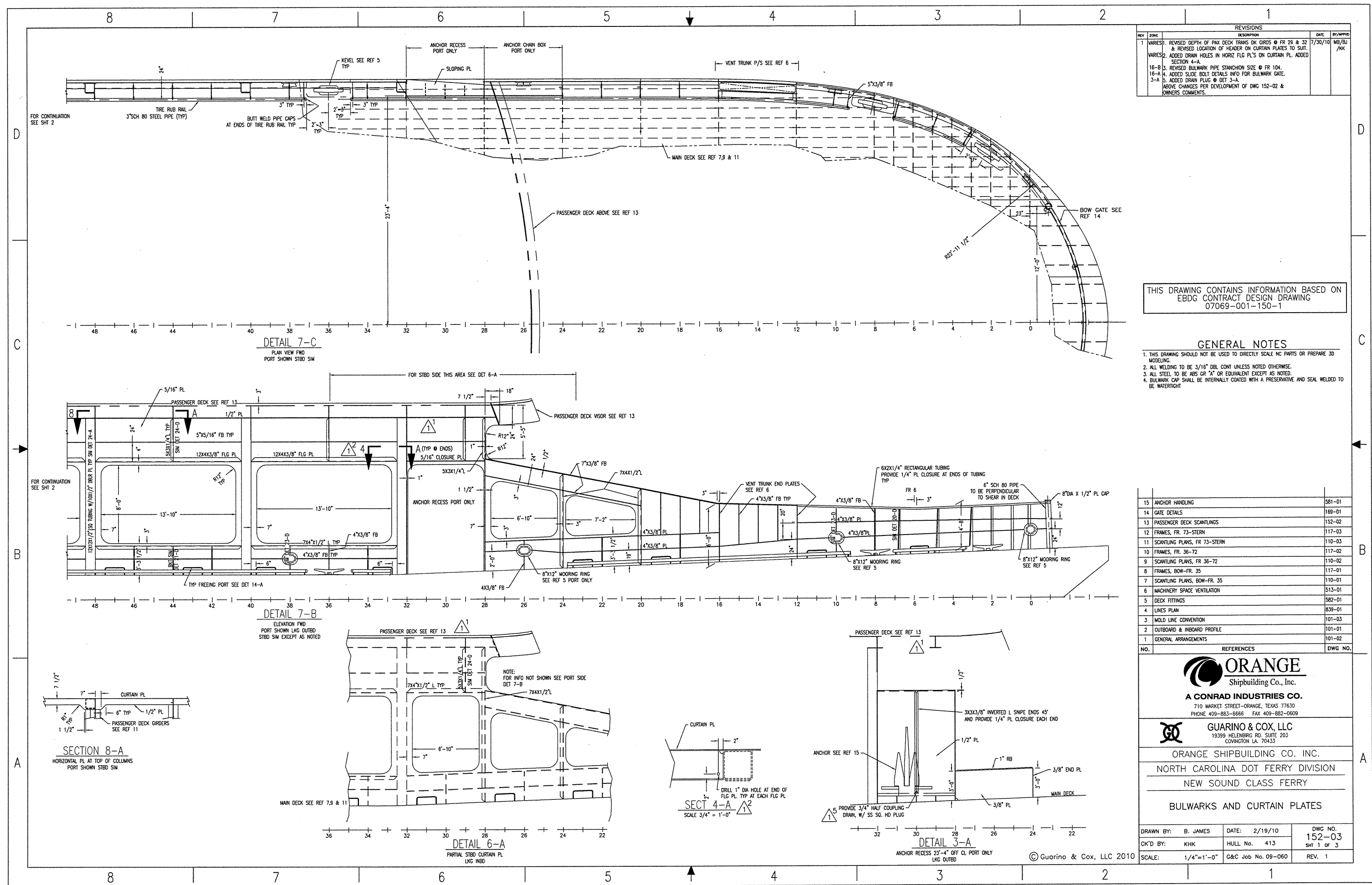
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ORANGE SHIPBUILDING CO. INC.
NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY

PASSENGER DECK SCANTLINGS

| | | |
|--------------------|--------------------|----------------|
| DRAWN BY: B. JAMES | DATE: 7/30/10 | DWG NO. 152-02 |
| CK'D BY: KHK | HULL No. 413 | SHT 1 OF 1 |
| SCALE: AS NOTED | G&C Job No. 09-080 | REV. 0 |



| REVISIONS | | | | |
|--|----------|--|---------|----------|
| REV | ZONE | DESCRIPTION | DATE | BY/APPD |
| 1 | VARIABLE | REVISED DEPTH OF PAX DECK TRANS DK GRDS @ FR 29 & 32 & REVISED LOCATION OF HEADER ON CURTAIN PLATES TO SUIT. | 7/30/10 | MB/BJ/KK |
| 2 | VARIABLE | ADDED DRAIN HOLES IN HORIZ FLG PL'S ON CURTAIN PL. ADDED SECTION 4-A. | | |
| 3 | 16-B | REVISED BULKWARK PIPE STANCHION SIZE @ FR 10A. | | |
| 4 | 16-A | ADDED SLIDE BOLT DETAILS INFO FOR BULKWARK GATE. | | |
| 5 | 3-A | ADDED DRAIN FLUG @ DET 3-A. | | |
| ABOVE CHANGES PER DEVELOPMENT OF DWG 152-02 & OWNERS COMMENTS. | | | | |

THIS DRAWING CONTAINS INFORMATION BASED ON EBDG CONTRACT DESIGN DRAWING 07069-001-150-1

GENERAL NOTES

- THIS DRAWING SHOULD NOT BE USED TO DIRECTLY SCALE NC PARTS OR PREPARE 3D MODELING.
- ALL WELDING TO BE 3/16" DBL CONT UNLESS NOTED OTHERWISE.
- ALL STEEL TO BE A572 OR "A" OR EQUIVALENT EXCEPT AS NOTED.
- BULKWARK CAP SHALL BE INTERNALLY COATED WITH A PRESERVATIVE AND SEAL WELDED TO BE WATERTIGHT.

| NO. | REFERENCES | DWG NO. |
|-----|-----------------------------|---------|
| 15 | ANCHOR HANDLING | 581-01 |
| 14 | GATE DETAILS | 168-01 |
| 13 | PASSENGER DECK SCANTLING | 152-02 |
| 12 | FRAMES, FR. 73-STEM | 117-03 |
| 11 | SCANTLING PLANS, FR 73-STEM | 110-03 |
| 10 | FRAMES, FR. 36-72 | 117-02 |
| 9 | SCANTLING PLANS, FR 36-72 | 110-02 |
| 8 | FRAMES, BOW-FR. 35 | 117-01 |
| 7 | SCANTLING PLANS, BOW-FR. 35 | 110-01 |
| 6 | MACHINERY SPACE VENTILATION | 513-01 |
| 5 | DECK FITTINGS | 582-01 |
| 4 | LINES PLAN | 839-01 |
| 3 | MOLD LINE CONVENTION | 101-03 |
| 2 | OUTBOARD & INBOARD PROFILE | 101-01 |
| 1 | GENERAL ARRANGEMENTS | 101-02 |

DETAIL 7-C
PLAN VIEW FWD
PORT SHOWN STBD SIM

DETAIL 7-B
ELEVATION FWD
PORT SHOWN LKG OUTBD
STBD SIM EXCEPT AS NOTED

SECTION 8-A
HORIZONTAL PL AT TOP OF COLUMNS
PORT SHOWN STBD SIM

DETAIL 6-A
PARTIAL STBD CURTAIN PL
LKG INBD

SECT 4-A
SCALE 3/4" = 1'-0"

DETAIL 3-A
ANCHOR RECESS 23'-4" OFF CL PORT ONLY
LKG OUTBD

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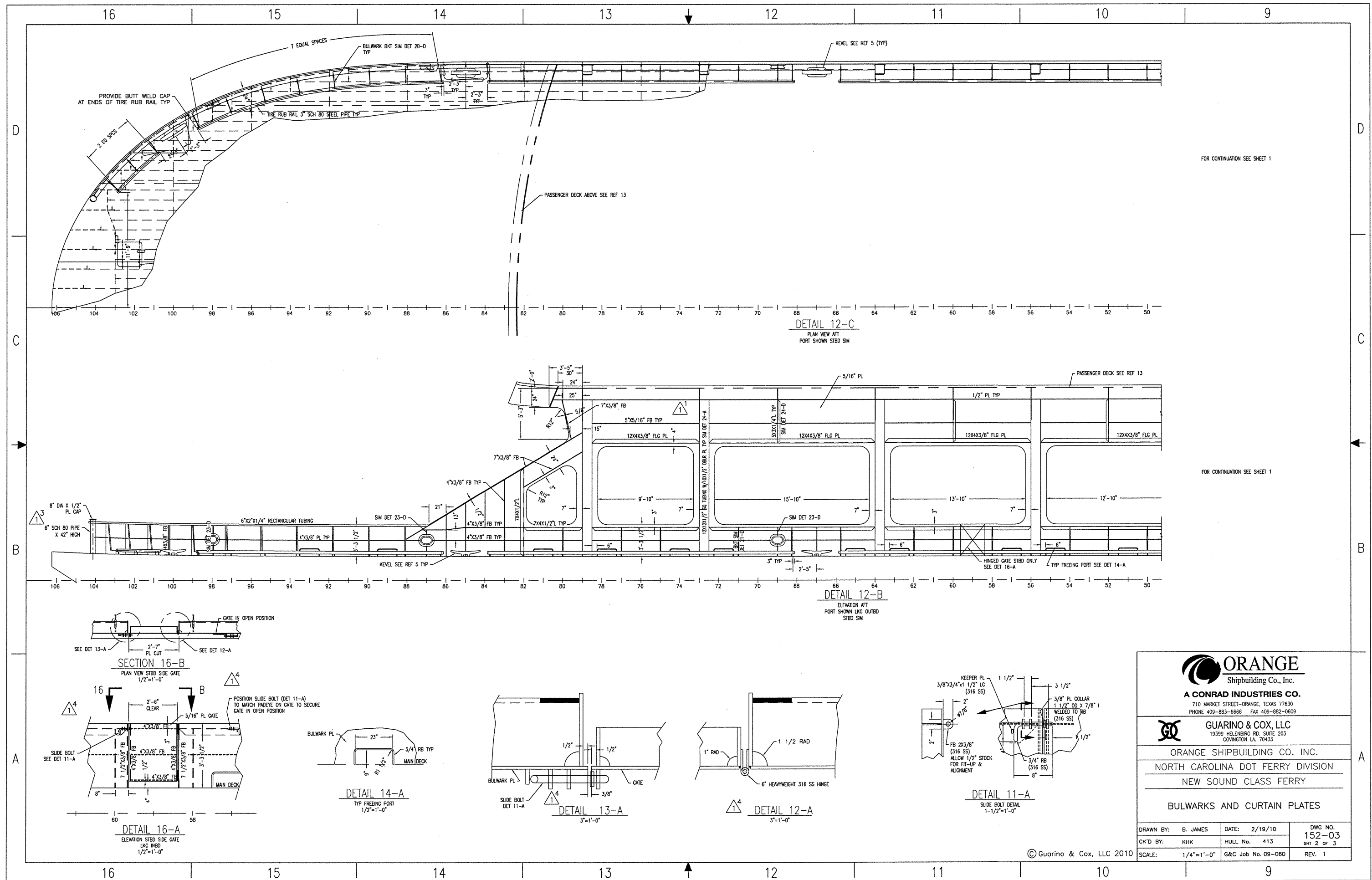
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ORANGE SHIPBUILDING CO. INC.
NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY

BULKWARKS AND CURTAIN PLATES

| | | | | | |
|-----------|------------|-------------|---------|------------|--------|
| DRAWN BY: | B. JAMES | DATE: | 2/19/10 | DWG NO. | 152-03 |
| CK'D BY: | KHK | HULL No. | 413 | SHT 1 OF 3 | |
| SCALE: | 1/4"=1'-0" | G&C Job No. | 09-060 | REV. | 1 |



FOR CONTINUATION SEE SHEET 1

FOR CONTINUATION SEE SHEET 1

ORANGE
Shipbuilding Co., Inc.
A CONRAD INDUSTRIES CO.
710 MARKET STREET-ORANGE, TEXAS 77630
PHONE 409-883-6666 FAX 409-882-0609

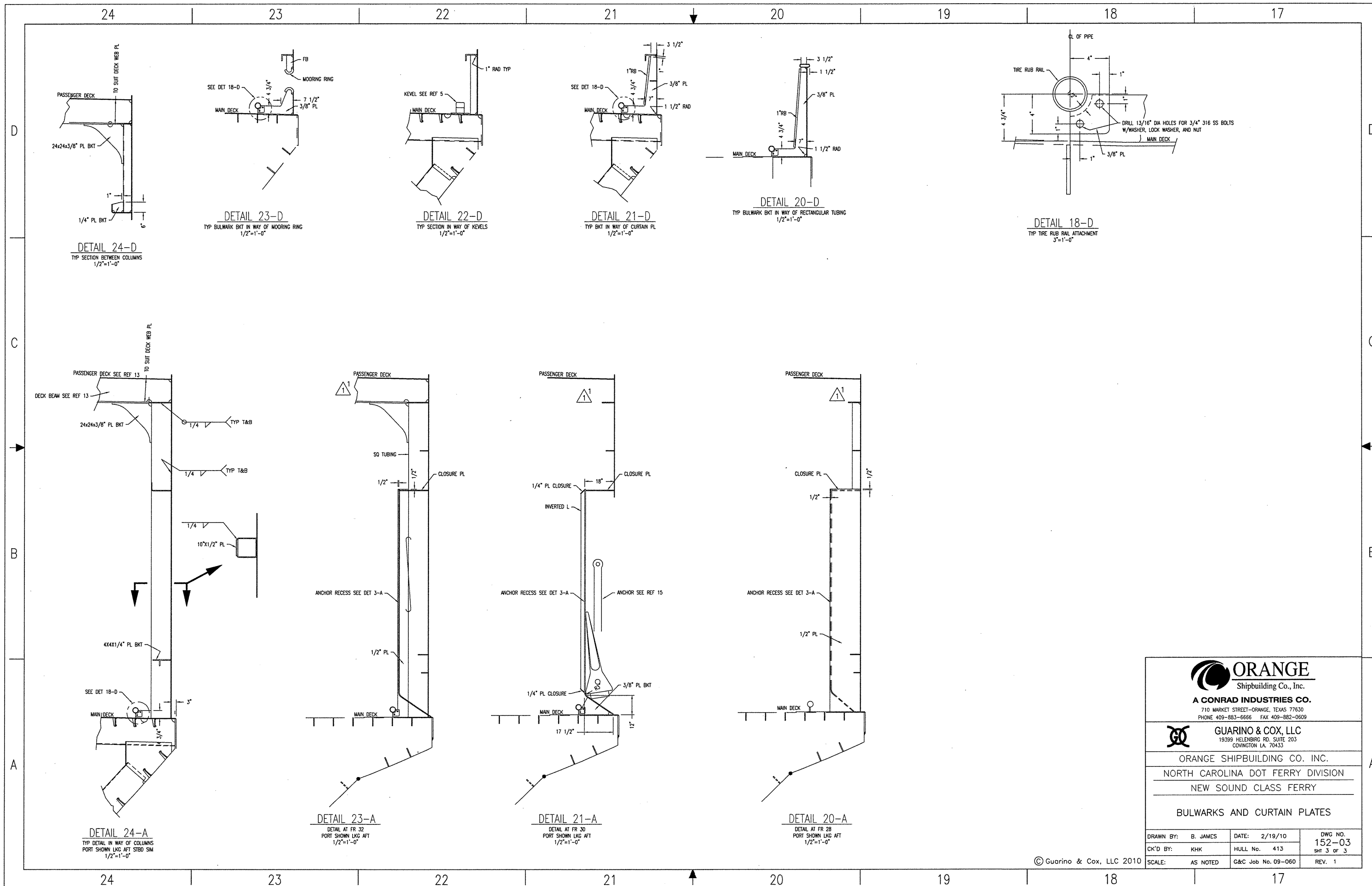
GUARINO & COX, LLC
19399 HELENBERG RD, SUITE 203
COWINGTON LA 70433

ORANGE SHIPBUILDING CO. INC.
NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY

BULWARKS AND CURTAIN PLATES

| | | |
|--------------------|--------------------|----------------|
| DRAWN BY: B. JAMES | DATE: 2/19/10 | DWG NO. 152-03 |
| CK'D BY: KHK | HULL No. 413 | SH 2 OF 3 |
| SCALE: 1/4"=1'-0" | G&C Job No. 09-060 | REV. 1 |

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ORANGE SHIPBUILDING CO. INC.
NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY

BULWARKS AND CURTAIN PLATES

| | | | |
|--------------------|--------------------|----------------|--|
| DRAWN BY: B. JAMES | DATE: 2/19/10 | DWG NO. 152-03 | |
| CK'D BY: KHK | HULL No. 413 | SHT 3 OF 3 | |
| SCALE: AS NOTED | G&C Job No. 09-060 | REV. 1 | |

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LIST OF MATERIALS

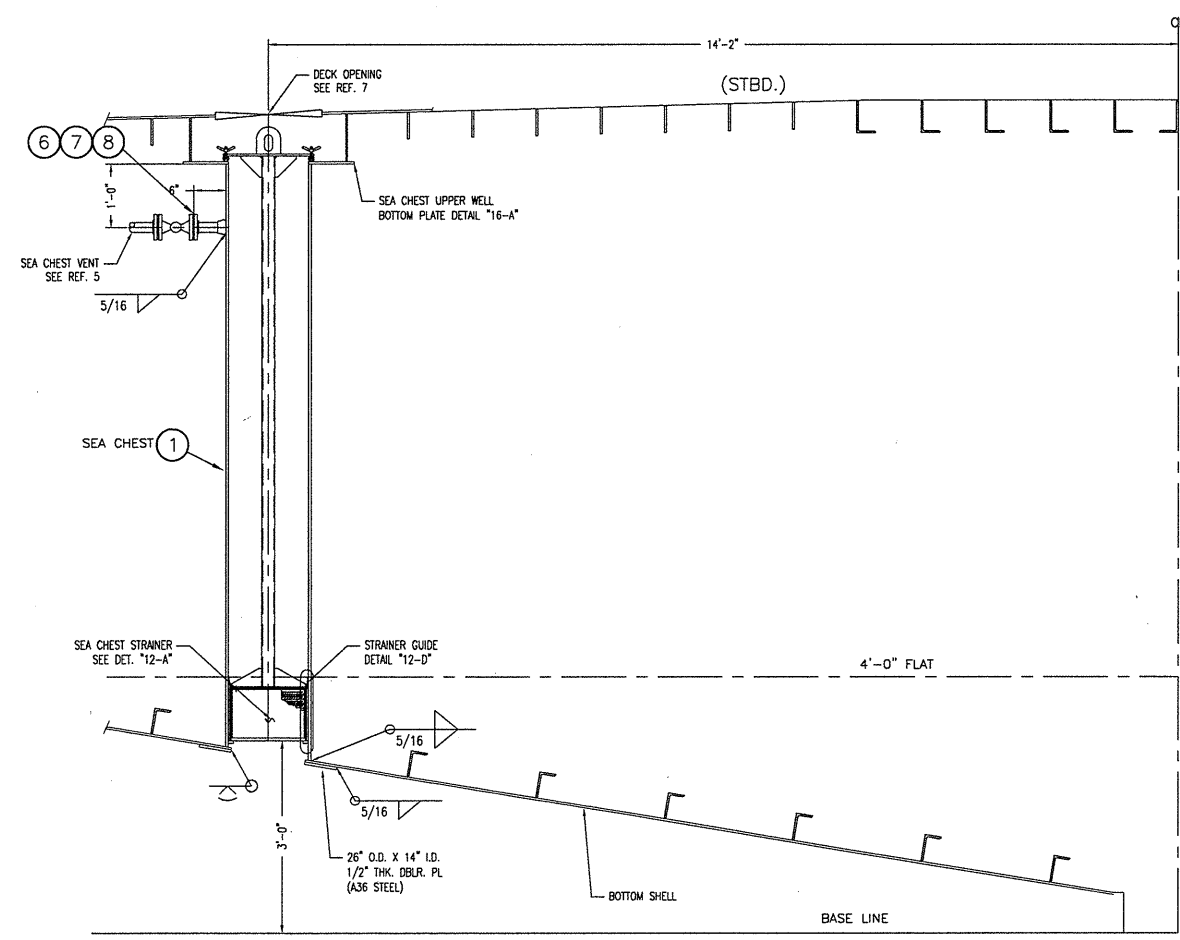
| PIECE No. | QUANTITY | DESCRIPTION | MATERIAL OR MANUFACTURER | SPEC. GRADE OR MODEL | REMARKS |
|-----------|----------|---|--------------------------|----------------------|-------------|
| 1 | 20' | 16" PIPE, SCH 40, SEAMLESS OR ERW 1/2" WALL (TRIM TO FIT) | BLK STL | ASTM A-53 | ANSI B36.10 |
| 2 | 18' | 2" PIPE, SCH 40, SEAMLESS (TRIM TO FIT) | BLK STL | ASTM A-53 | ANSI B36.10 |
| 3 | 6 LN FT | PERFORATED METAL, 11 GA., 1/4" HOLES ON 3/8" CTRS. | 316L SS | ASTM A-480 | |
| 4 | 4 | 3/8" TOGGLE BOLT W/ WING NUT | BRONZE | ASTM F-594 | |
| 5 | 16 | 1/2"-13 UNC 316 S.S. BOLT W/LOCKWASHER | BRONZE | ASTM F-593 | |
| 6 | 2 | 1 1/2" x 16" RUN SOC-O-LET, 3000# | STAINLESS STL 316 | ASTM A-403 | ANSI B36.11 |
| 7 | 1' | 1 1/2" PIPE, SCH 80, SEAMLESS (TRIM TO FIT) | STAINLESS STL 316 | ASTM A-312 | ANSI B36.19 |
| 8 | 2 | 1 1/2" FLANGE, 150#, SLIP-ON, RF | STAINLESS STL | ASTM A-182 | ANSI B16.5 |

REFERENCES

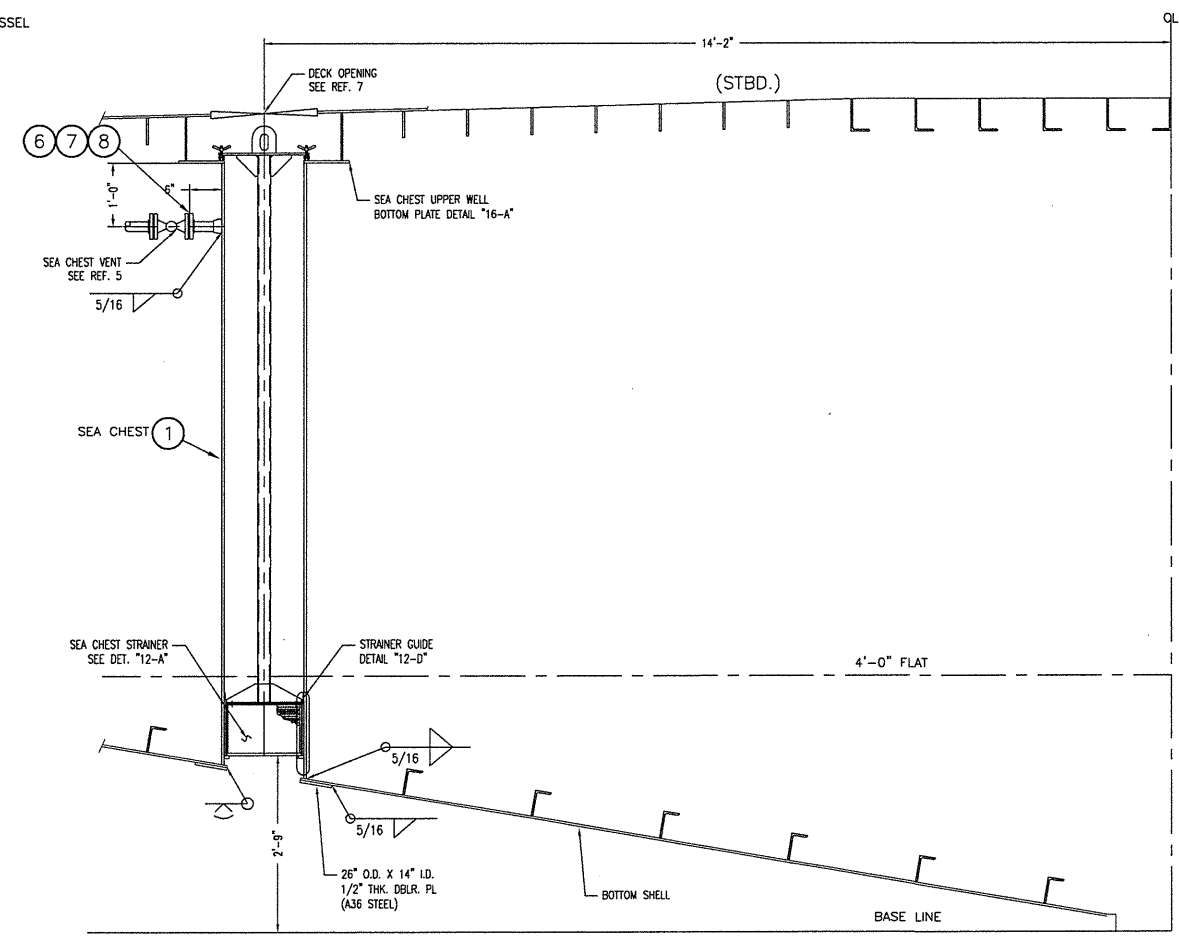
| | | |
|----|--------|---|
| 1. | 101-02 | GENERAL ARRANGEMENTS |
| 2. | 101-01 | OUTBOARD & INBOARD PROFILE |
| 3. | 110-02 | SCANTLING PLANS FR. 36 - FR. 70 |
| 4. | 200-01 | MACHINERY ARRANGEMENT |
| 5. | 506-02 | FILLS, VENTS & SOUNDS ARRANGEMENT & DETAILS |
| 6. | 110-03 | SCANTLING PLANS, FR 71 - STERN |
| 7. | 167-01 | SCHEDULE OF OPENING, BELOW DECK |

REVISIONS

| REV | ZONE | DESCRIPTION | DATE | BY/APPD |
|-----|------|--|---------|---------|
| 1 | 21-A | 1. REVISED FC. NO. 7 ON SEA CHEST VENT TO SCH. 80. | 5/13/10 | JCM/KHK |



SECTION "8-B"
ENGINE ROOM SEA CHEST LOCATION
FR. 71-LOOKING AFT
SCALE: 3/4"=1'-0"



SECTION "3-B"
TANK ROOM SEA CHEST LOCATION
FR. 61-LOOKING AFT
SCALE: 3/4"=1'-0"

GENERAL NOTES

- FOR SEA SUCTION PIPE CONNECTIONS TO SEA CHEST, REFER TO SPECIFIC SYSTEM DRAWINGS.
- ALL STEEL PLATE TO BE A36.



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ORANGE SHIPBUILDING CO. INC.
NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY

SEA CHESTS

| | | |
|--------------------|--------------------|----------------|
| DRAWN BY: J. BEACH | DATE: 12/15/09 | DWG NO. 163-01 |
| CK'D BY: KHK | HULL No. 413 | SHT 1 OF 2 |
| SCALE: 1/2"=1'-0" | G&C Job No. 09-060 | REV. 1 |

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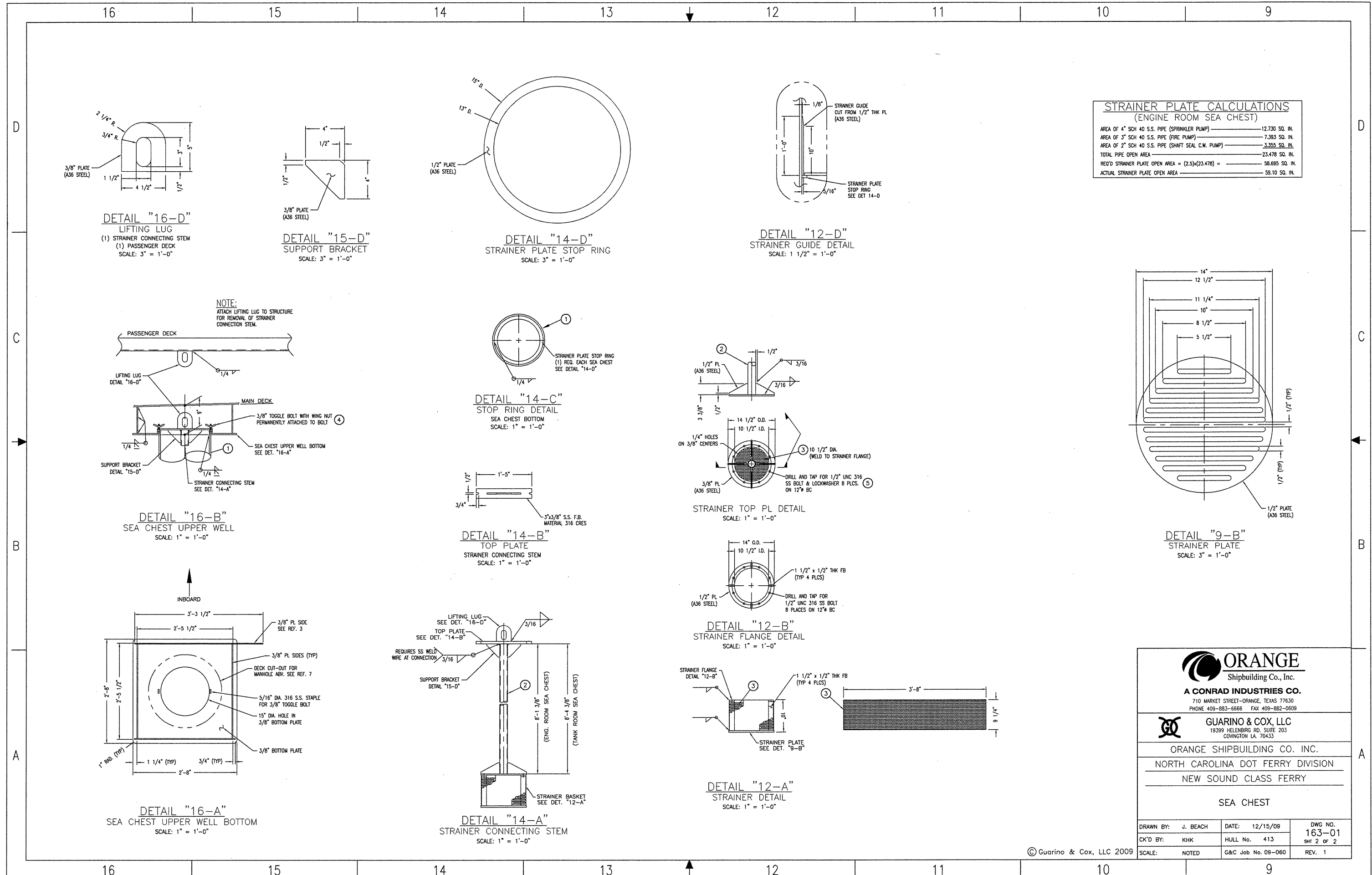
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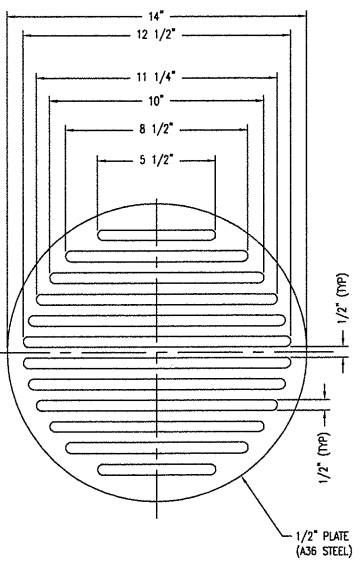
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| STRAINER PLATE CALCULATIONS (ENGINE ROOM SEA CHEST) | |
|--|----------------|
| AREA OF 4" SCH 40 S.S. PIPE (SPRINKLER PUMP) | 12.730 SQ. IN. |
| AREA OF 3" SCH 40 S.S. PIPE (FIRE PUMP) | 7.393 SQ. IN. |
| AREA OF 2" SCH 40 S.S. PIPE (SHAFT SEAL C.W. PUMP) | 3.355 SQ. IN. |
| TOTAL PIPE OPEN AREA | 23.478 SQ. IN. |
| REQ'D STRAINER PLATE OPEN AREA = (2.5)(23.478) = | 58.695 SQ. IN. |
| ACTUAL STRAINER PLATE OPEN AREA | 59.10 SQ. IN. |



DETAIL "9-B"
STRAINER PLATE
SCALE: 3" = 1'-0"

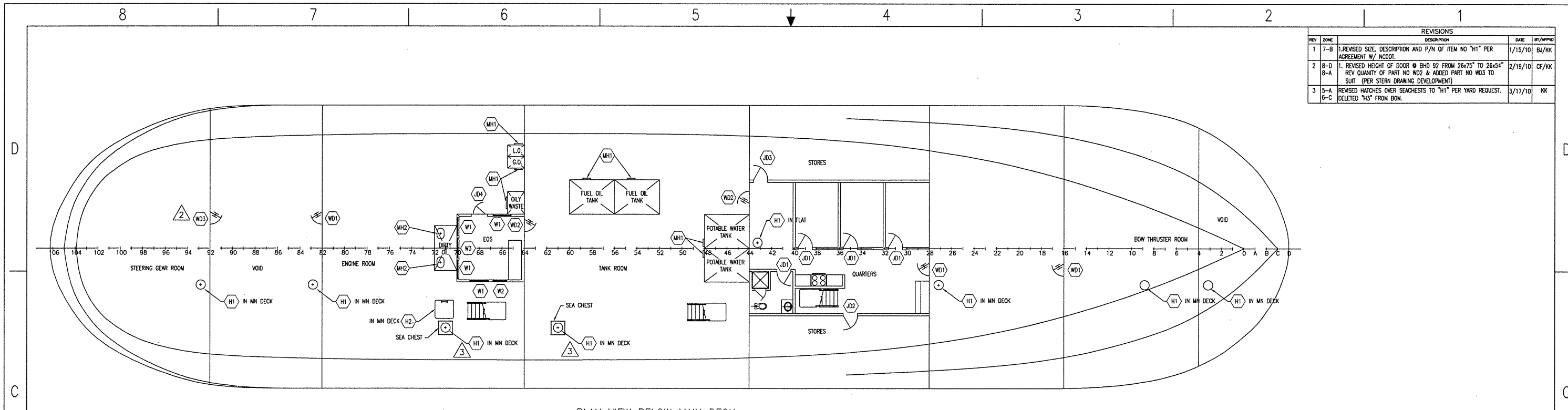
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NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY

SEA CHEST

| | | |
|--------------------|--------------------|----------------|
| DRAWN BY: J. BEACH | DATE: 12/15/09 | DWG NO. 163-01 |
| CK'D BY: KHK | HULL No. 413 | SHIT 2 OF 2 |
| SCALE: NOTED | G&C Job No. 09-060 | REV. 1 |



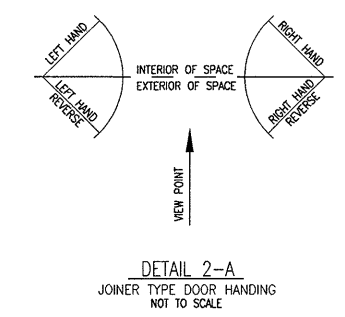
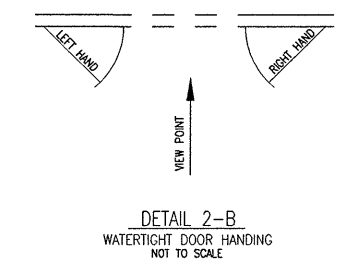
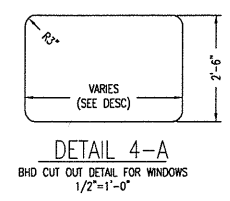
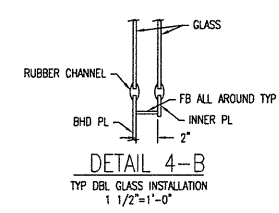
| REVISIONS | | | | |
|-----------|------------|---|---------|----------|
| REV | ZONE | DESCRIPTION | DATE | BY/APP'D |
| 1 | 7-B | 1. REVISED SIZE, DESCRIPTION AND P/N OF ITEM NO "H1" PER AGREEMENT W/ NCCOT. | 1/15/10 | BJ/KK |
| 2 | 8-D 8-A | 1. REVISED HEIGHT OF DOOR @ BHD 92 FROM 26x75" TO 26x54" REV QUANTITY OF PART NO WD2 & ADDED PART NO WD3 TO SUIT (PER STERN DRAWING DEVELOPMENT) | 2/19/10 | CF/KK |
| 3 | 5-A 6-C | REVISED HATCHES OVER SEACHESTS TO "H1" PER YARD REQUEST. DELETED "H3" FROM BOM. | 3/17/10 | KK |

PLAN VIEW BELOW MAIN DECK

GENERAL NOTES:

1. ALL WINDOW GLAZING TO BE TEMPERED MONOLITHIC GLASS
2. DETAILS OF ALL CLOSURES ARE SHOWN ON MANUFACTURER'S DRAWINGS
3. ALL DOORS SHALL MEET THE FIRE BOUNDARY REQUIREMENTS OF THE BULKHEAD IN WHICH THEY ARE MOUNTED.
4. ALL JOINER DOORS ARE TO BE FURNISHED BY THE JOINER SUBCONTRACTOR.
5. ALL CLOSURES ARE TO MEET U.S.C.G. REQUIREMENTS. VENDORS SHALL BE RESPONSIBLE FOR PROVIDING DRAWINGS FOR U.S.C.G. APPROVAL.
6. SEE STRUCTURAL DRAWINGS FOR PLATE CUTS FOR CLOSURES.
7. ALL WATERTIGHT DOORS & HATCHES ARE NORMALLY CLOSED EXCEPT WHEN ACTUALLY USED FOR PASSAGE.
8. HATCHES SHALL BE INSULATED TO THE FIRE RATING OF THE DECK IN WHICH THEY ARE MOUNTED.

| SCHEDULE OF OPENINGS | | | | | | |
|----------------------|-----|-----------------|--------------------|--|---|---|
| NO | QTY | SIZE | MATERIAL | DESCRIPTION | MANUFACTURER | COMMENTS |
| JD1 | 4 | 28"x80" | STEEL | JOINER DOOR, B-0 | | LEFT HAND SWING. |
| JD2 | 1 | 28"x72" | STEEL | JOINER DOOR, A-15 | | RIGHT HAND SWING. |
| JD3 | 1 | 28"x72" | STEEL | JOINER DOOR, A-15 | | LEFT HAND SWING. |
| JD4 | 1 | 30"x80" | STN STL | JOINER DOOR, FUME TIGHT, FLUSH SILL, W/ 18"x30" WINDOW AND ACOUSTIC AND THERMAL INSULATION | | LEFT HAND REVERSE SWING. |
| MH1 | 7 | 15"x23" | STEEL | MANHOLE, RAISED, MULTI-BOLT, S.S. 316 BOLTS | G & S MARINE, INC # 302-5 OR EQ. | |
| MH2 | 2 | 15"x23" | STEEL | MANHOLE, FLUSH, MULTI-BOLT, S.S. 316 BOLTS | G & S MARINE, INC # 300-5 OR EQ. | |
| H1 | 6 | 18" DIA | DUCTILE IRON COVER | HATCH, FLUSH QUICK-ACTING LIFT OFF TYPE W/ SS RING AND SS DOGGING MECHANISM | FREEMAN MARINE 2481-0107 W/ S-K RING OR EQ. | |
| H2 | 1 | 36"x36" | STEEL | HATCH, FLUSH QUICK-ACTING HINGED SPRING BALANCED TYPE, W/ SS RING AND SS DOGGING MECHANISM | CENTEX #219 OR EQUAL | |
| WD1 | 3 | 26"x75" | STEEL | 6 DOG, QUICK-ACTING, WATERTIGHT DOOR | G & S MARINE, INC # 104-5 OR EQ. | LEFT HAND SWING |
| WD2 | 2 | 26"x75" | STEEL | 6 DOG, QUICK-ACTING, WATERTIGHT DOOR | G & S MARINE, INC # 104-5 OR EQ. | RIGHT HAND SWING |
| WD3 | 1 | 26"x54" | STEEL | 6 DOG, QUICK-ACTING, WATERTIGHT DOOR | G & S MARINE, INC # 104-5 OR EQ. | RIGHT HAND SWING |
| W1 | 4 | SEE DESCRIPTION | SEE DESCRIPTION | FIXED IN RUBBER DOUBLE PANE WINDOWS 1/4" SAFETY PLATE GLASS W/ 2" AIR GAP BETWEEN PANES. FOR 30"x39" BHD CUT OUT SEE DET 4-A | | VENDOR TO SUPPLY GLASS AND RUBBER SEE DET 4-B |
| W2 | 1 | SEE DESCRIPTION | SEE DESCRIPTION | FIXED IN RUBBER DOUBLE PANE WINDOWS 1/4" SAFETY PLATE GLASS W/ 2" AIR GAP BETWEEN PANES. FOR 30"x30" BHD CUT OUT SEE DET 4-A | | VENDOR TO SUPPLY GLASS AND RUBBER SEE DET 4-B |
| W3 | 1 | SEE DESCRIPTION | SEE DESCRIPTION | FIXED IN RUBBER DOUBLE PANE WINDOWS 1/4" SAFETY PLATE GLASS W/ 2" AIR GAP BETWEEN PANES. FOR 30"x44" BHD CUT OUT SEE DET 4-A | | VENDOR TO SUPPLY GLASS AND RUBBER SEE DET 4-B |



| NO. | REFERENCES | DWG. NO. |
|-----|--|----------|
| 11 | FRAMES, FR 72-STERN | 117-03 |
| 10 | CONSTRUCTION PROFILE & LONG'L BHD'S, FR 72-STERN | 116-03 |
| 9 | SCANTLING PLANS, FR 72-STERN | 110-03 |
| 8 | FRAMES, FR 36-FR 72 | 117-02 |
| 7 | CONSTRUCTION PROFILE & LONG'L BHD'S, FR 36-FR 72 | 116-02 |
| 6 | SCANTLING PLANS, FR 36-FR 72 | 110-02 |
| 5 | FRAMES, BOW-FR. 35 | 117-01 |
| 4 | CONSTRUCTION PROFILE & LONG'L BHD'S, BOW-FR. 35 | 116-01 |
| 3 | SCANTLING PLANS, BOW-FR. 35 | 110-01 |
| 2 | GENERAL ARRANGEMENTS | 101-02 |
| 1 | OUTBOARD & INBOARD PROFILE | 101-01 |

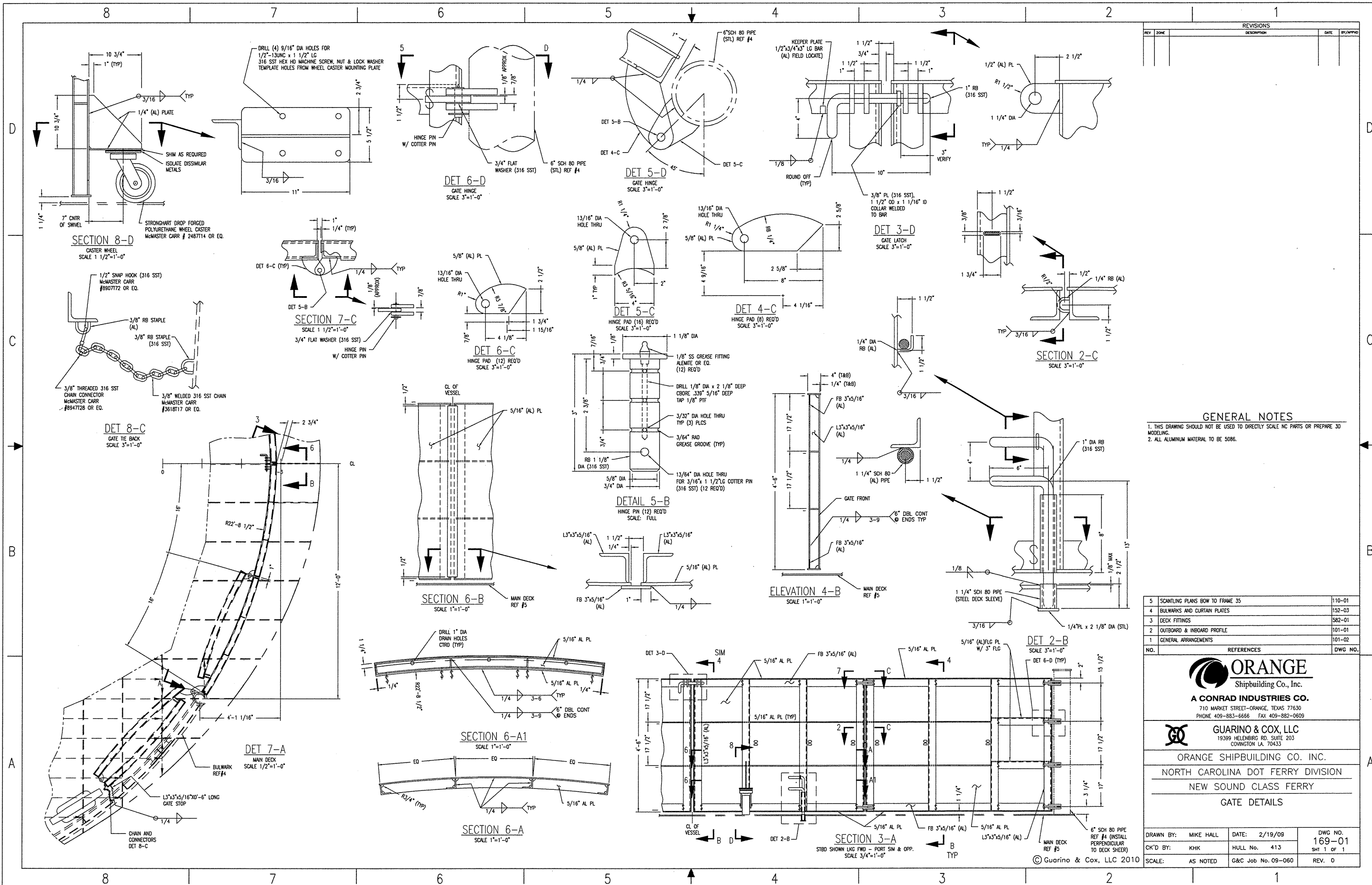
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ORANGE SHIPBUILDING CO. INC.
NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY
SCHEDULE OF OPENINGS
BELOW MAIN DECK

| | | |
|--------------------|--------------------|-----------------|
| DRAWN BY: B. JAMES | DATE: 12/4/09 | DWG. NO. 167-01 |
| CK'D BY: KHK | HULL No. 413 | SHT 1 OF 1 |
| SCALE: 1/8"=1'-0" | G&C Job No. 09-060 | REV. 3 |

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| REVISIONS | | | | |
|-----------|------|-------------|------|----------|
| REV | ZONE | DESCRIPTION | DATE | BY/APPRO |
| | | | | |
| | | | | |

GENERAL NOTES

1. THIS DRAWING SHOULD NOT BE USED TO DIRECTLY SCALE NC PARTS OR PREPARE 3D MODELING.
2. ALL ALUMINUM MATERIAL TO BE 5086.

| NO. | REFERENCES | DWG NO. |
|-----|---------------------------------|---------|
| 5 | SCANTLING PLANS BOW TO FRAME 35 | 110-01 |
| 4 | BULWARKS AND CURTAIN PLATES | 152-03 |
| 3 | DECK FITTINGS | 582-01 |
| 2 | OUTBOARD & INBOARD PROFILE | 101-01 |
| 1 | GENERAL ARRANGEMENTS | 101-02 |



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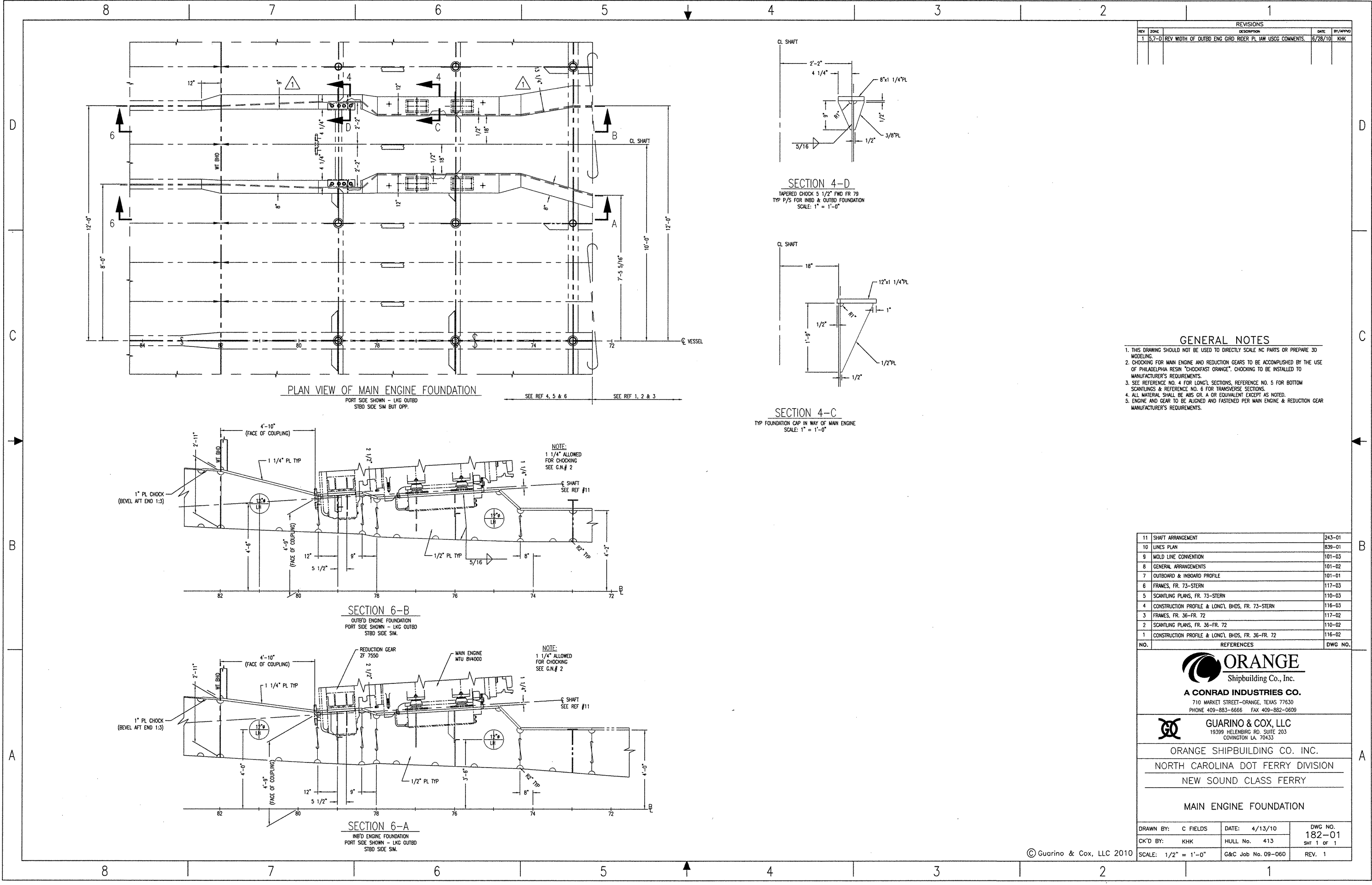


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ORANGE SHIPBUILDING CO. INC.
NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY
GATE DETAILS

| | | |
|---------------------|--------------------|----------------|
| DRAWN BY: MIKE HALL | DATE: 2/19/09 | DWG NO. 169-01 |
| CK'D BY: KHK | HULL No. 413 | SHT 1 OF 1 |
| SCALE: AS NOTED | G&C Job No. 09-060 | REV. 0 |

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| REVISIONS | | | | |
|-----------|-------|---|---------|---------|
| REV | ZONE | DESCRIPTION | DATE | BY/APPD |
| 1 | 5,7-D | REV WIDTH OF OUTBD ENG GRID RIDER PL LAW USCG COMMENTS. | 6/28/10 | KHK |

| NO. | REFERENCES | DWG NO. |
|-----|---|---------|
| 11 | SHAFT ARRANGEMENT | 243-01 |
| 10 | LINES PLAN | 839-01 |
| 9 | MOLD LINE CONVENTION | 101-03 |
| 8 | GENERAL ARRANGEMENTS | 101-02 |
| 7 | OUTBOARD & INBOARD PROFILE | 101-01 |
| 6 | FRAMES, FR. 73-STERN | 117-03 |
| 5 | SCANTLING PLANS, FR. 73-STERN | 110-03 |
| 4 | CONSTRUCTION PROFILE & LONG'L BHDS, FR. 73-STERN | 116-03 |
| 3 | FRAMES, FR. 36-FR. 72 | 117-02 |
| 2 | SCANTLING PLANS, FR. 36-FR. 72 | 110-02 |
| 1 | CONSTRUCTION PROFILE & LONG'L BHDS, FR. 36-FR. 72 | 116-02 |

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ORANGE SHIPBUILDING CO. INC.
 NORTH CAROLINA DOT FERRY DIVISION
 NEW SOUND CLASS FERRY

MAIN ENGINE FOUNDATION

| | | |
|---------------------|--------------------|----------------|
| DRAWN BY: C FIELDS | DATE: 4/13/10 | DWG NO. 182-01 |
| CK'D BY: KHK | HULL No. 413 | SHT 1 OF 1 |
| SCALE: 1/2" = 1'-0" | G&C Job No. 09-060 | REV. 1 |

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LIST OF EQUIPMENT

| PIECE No. | QTY | DESCRIPTION | REMARKS | OWNER FURNISHED |
|-----------|-----|--|--|-----------------|
| 233-1 | 2 | MAIN ENGINE | MTUBV4000, 1180 HP @ 1800 RPM | X |
| 237-1 | 1 | BOW THRUSTER | OMNITHRUSTER MODEL HT600 | X |
| 237-2 | 1 | BOW THRUSTER ENGINE | CAT C18, 553 BHP @ 2100 RPM w/TWIN DISC MG-5114 GEAR 24 VDC ELEC START | X |
| 243-1 | 2 | REDUCTION GEAR | ZF 7600 | X |
| 261-1 | 2 | MAIN ENGINE FUEL FILTER | DUPLEX, RACOR 751000 MAX. | |
| 261-2 | 2 | GENERATOR ENGINE FUEL FILTER | DUPLEX, RACOR 75500 MAX. | |
| 261-3 | 1 | FUEL OIL TRANSFER PUMP FOR EMERGENCY GEN | JOHNSON PUMP TG 2-25/2-32 | |
| 261-4 | 1 | EMERGENCY GENERATOR FUEL STRAINER | - | |
| 264-1 | 1 | LUBE OIL TRANSFER PUMP | - | |
| 264-2 | 1 | GEAR OIL TRANSFER PUMP | - | |
| 264-3 | 1 | DIRTY OIL TRANSFER PUMP | - | |
| 311-1 | 2 | GENERATOR, SHIP'S SERVICE | CAT C9, 215 KW @ 1800 RPM 24 VDC ELEC START | X |
| 312-1 | 1 | GENERATOR, EMERGENCY | CAT C6.6, 138 KW @ 1800 RPM 24 VDC ELEC START (NOT SHOWN ON DWG) | X |
| 313-1 | 2 | BATTERY BANK, 24 VAC | MAIN GENERATOR SETS | |
| 313-2 | 2 | BATTERY BANK, 24 VAC | MAIN ENGINES | |
| 313-3 | 1 | BATTERY BANK, 24 VAC | BOWTHRUSTER ENGINE | |
| 324-1 | 1 | MAIN SWITCHBOARD, 208/120 VAC | INDUSTRIAL POWER SYSTEMS | |
| 514-1 | 2 | COMPRESSOR (AIR CONDITIONER) | - | |
| 514-2 | 1 | REFRIGERATOR, UNDER-COUNTER | - | |
| 521-1 | 2 | FIRE PUMP | GOULDS MOD 3796 2x2x10 | |
| 521-2 | 2 | FIRE PUMP STRAINER | HAYWARD MOD 50 | |
| 522-1 | 1 | SPRINKLER PUMP | TBD | |
| 522-2 | 1 | SPRINKLER PUMP STRAINER | TBD | |
| 528-1 | 1 | MSD | OWENS KLEEN TANK, MODEL OW 1125M TYPE II | |
| 528-2 | 1 | GRAY WATER SUMP PUMP | HYDROMATIC SUBMERSIBLE SEWAGE GRINDER PUMP MOD. HPGR200 | |
| 528-3 | 1 | BLACK WATER SUMP PUMP | HYDROMATIC SUBMERSIBLE SEWAGE GRINDER PUMP MOD. HPGR200 | |
| 528-4 | 1 | GRAY WATER SUMP TANK | 500 GALLON, POLYETHYLENE | |
| 528-5 | 1 | BLACK WATER SUMP TANK | 200 GALLON, POLYETHYLENE | |
| 529-1 | 2 | BILGE PUMP | GOULDS MOD 3796 MTX 3x3x13 OR EQ | |
| 529-2 | 2 | BILGE PUMP STRAINER | SIMPLEX | |
| 529-3 | 1 | OILY WATER SEPARATOR | BOSS 5.5T-107 | |
| 529-4 | 1 | OILY WASTE PUMP | VIKING GG-4195 | |
| 529-5 | 1 | BILGE MANIFOLD | YARD FAB | |
| 533-1 | 2 | POTABLE WATER PUMP | JACUZZI 1RM2 1 1/4" X 1" | |
| 533-2 | 1 | POTABLE WATER PRESSURE TANK | MYER'S MPD86 | |
| 533-3 | 1 | WATER HEATER | RHEEM 82SV30-2 | |
| 533-4 | 1 | WATER HEATER (LOCATED IN HVAC ROOM, NAV DECK) | RHEEM 82SV20-2 (NOT SHOWN ON DWG) | |
| 533-5 | 1 | SANITARY WATER PUMP | JACUZZI 1RM2 1 1/4" X 1" | |
| 533-6 | 1 | SANITARY WATER PRESSURE TANK | MYER'S MPD86 | |
| 551-1 | 2 | AIR COMPRESSOR | QUINCY D325 | |
| 551-2 | 2 | AIR RECEIVER 300 GAL | - | |
| 561-1 | 1 | HYDRAULIC POWER UNIT - (HPU) STEERING SYSTEM | ENGINE MONITOR INC | |
| 585-1 | 1 | ELEVATOR POWER PACK WITH CONTROL CABINET | LIFT EMOTION | |
| 663-1 | 1 | EOS CONSOLE | - | |
| 665-1 | 1 | WORK BENCH | 3 DRAWERS | |
| 665-2 | 1 | FILE CABINET | 4-DRAWER, LEGAL-SIZE | |
| 671-1 | 4 | LOCKER, STORAGE, EXTRA HEAVY DUTY, 12-GA. STL | 24"Dx 36"Wx84" HIGH, W/ADJ SHELVES | |
| 671-2 | 6 | SHELVING UNIT FOR PARTS, STL, EXTRA HEAVY DUTY | 3-TIER, 6-FT LG | |

REFERENCES

| REV | ZONE | DESCRIPTION | DATE | BY/APPRO |
|-----|--------|---|------|----------|
| 1. | 101-02 | GENERAL ARRANGEMENT | | |
| 2. | 101-01 | OUTBOARD & INBOARD PROFILE | | |
| 3. | 110-02 | SCANTLING PLANS, BOW - FR 36 - FR 70 | | |
| 4. | 110-03 | SCANTLING PLANS, BOW - FR 71 - STERN | | |
| 5. | 116-02 | CONSTRUCTION PROFILE & LONG'L. BHDS, FR 36-FR 70 | | |
| 6. | 116-03 | CONSTRUCTION PROFILE & LONG'L. BHDS, FR. 71-STERN | | |
| 7. | 259-01 | EXHAUST SYSTEM SCHEMATIC | | |
| 8. | 521-01 | FIRE MAIN SYSTEM SCHEMATIC | | |
| 9. | 522-02 | SPRINKLER SYSTEM SCHEMATIC | | |
| 10. | 528-01 | OVERBOARD DRAINS & SEWAGE SYSTEM SCHEMATIC | | |
| 11. | 529-01 | BILGE & OILY WATER SYSTEM SCHEMATIC | | |
| 12. | 533-01 | POTABLE WATER SYSTEM SCHEMATIC | | |
| 13. | 551-01 | COMPRESSED AIR SYSTEM SCHEMATIC | | |
| 14. | 259-02 | EXHAUST SYSTEM ARRANGEMENT & DETAILS | | |
| 15. | 163-01 | SEA CHEST | | |
| 16. | 513-01 | MACHINERY SPACE VENTILATION | | |

GENERAL NOTES

- IT IS NOT THE INTENT OF THIS DRAWING TO DETAIL ALL EQUIPMENT, GRATINGS, HANDRAILS, AND LADDERS BUT TO LOCATE THE SIGNIFICANT ITEMS. LESS SIGNIFICANT ITEMS ARE GENERALLY NOT SHOWN. THE LOCATIONS OF THESE ITEMS SHALL BE DETERMINED BY THE CONTRACTOR AND PROPOSED TO THE OWNER FOR APPROVAL PRIOR TO INSTALLATION.
- EQUIPMENT LOCATIONS ARE APPROXIMATE, AND WITH PRIOR APPROVAL BY THE OWNER, THE CONTRACTOR MAY RELOCATE EQUIPMENT TO ALIGN EQUIPMENT FOUNDATIONS WITH PRIMARY STRUCTURAL MEMBERS FOR PROPER SUPPORT.
- EQUIPMENT INSTALLATION SHALL PERMIT FREE PASSAGE ALONG WALKWAYS AND LADDERWAYS, FREE ACCESS TO ALL DOORS, HATCHES, AND MANHOLE OPENINGS, AND SHALL BE FREE OF INTERFERENCES FOR THE DISASSEMBLY OF EQUIPMENT TO PERFORM INSPECTIONS AND REPAIRS.

THIS DRAWING CONTAINS INFORMATION BASED ON
 EBDG CONTRACT DESIGN DRAWING
 07069-001-200-1



GUARINO & COX, LLC
 19399 HELENBURG RD. SUITE 203
 COVINGTON LA 70433

ORANGE SHIPBUILDING CO. INC.
 NORTH CAROLINA DOT FERRY DIVISION
 NEW SOUND CLASS FERRY
 MACHINERY ARRANGEMENT

| | | |
|---------------|--------------------|----------------|
| DRAWN BY: JCM | DATE: 6/23/10 | DWG NO. 200-01 |
| CK'D BY: KHK | HULL No. 413 | SH 1 OF 3 |
| SCALE: NONE | G&C Job No. 09-060 | REV. 0 |

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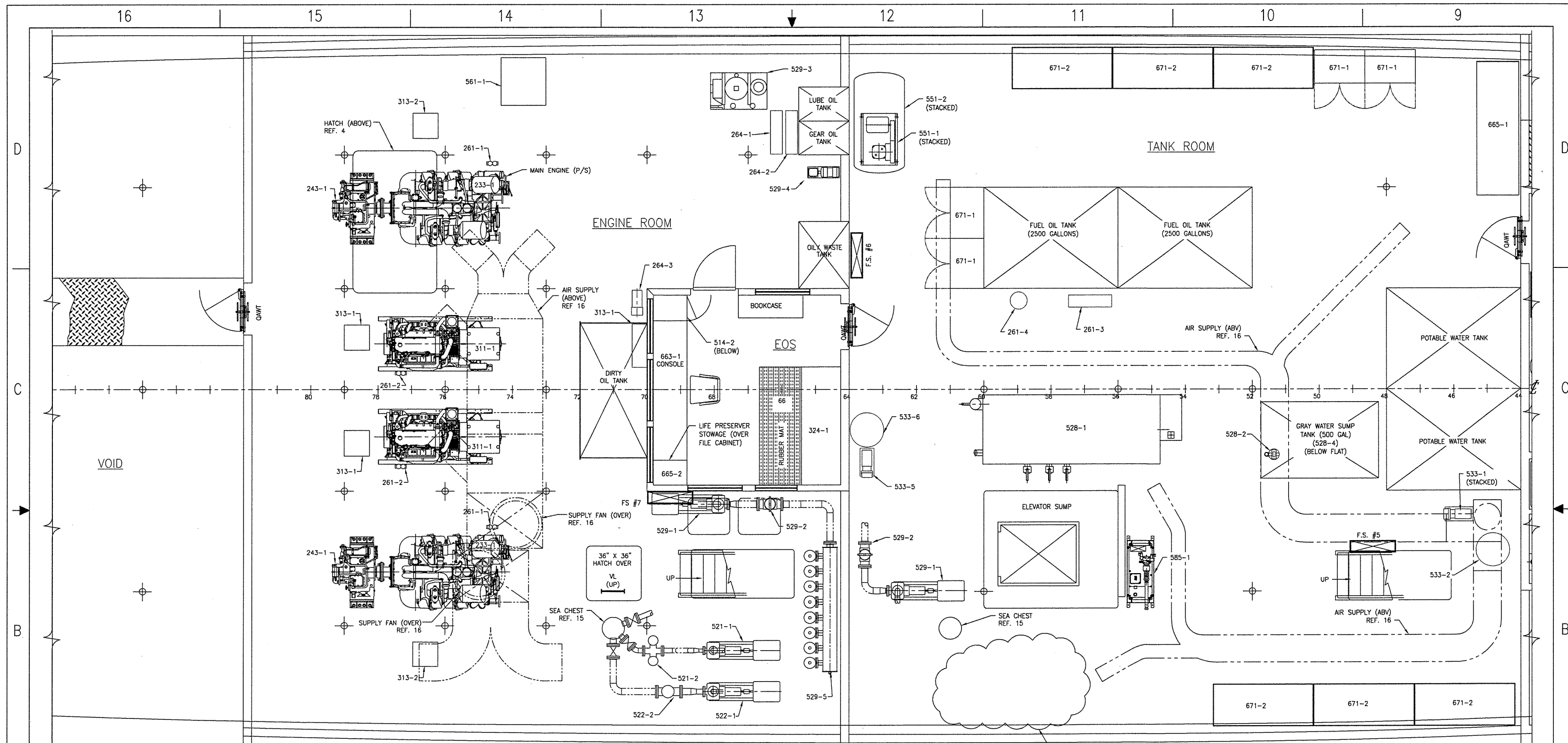
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PLAN "13-B"
TANK & ENGINE ROOM ARRANGEMENT

RESERVED SPACE FOR
HVAC EQUIPMENT
(PENDING VENDOR INFORMATION)



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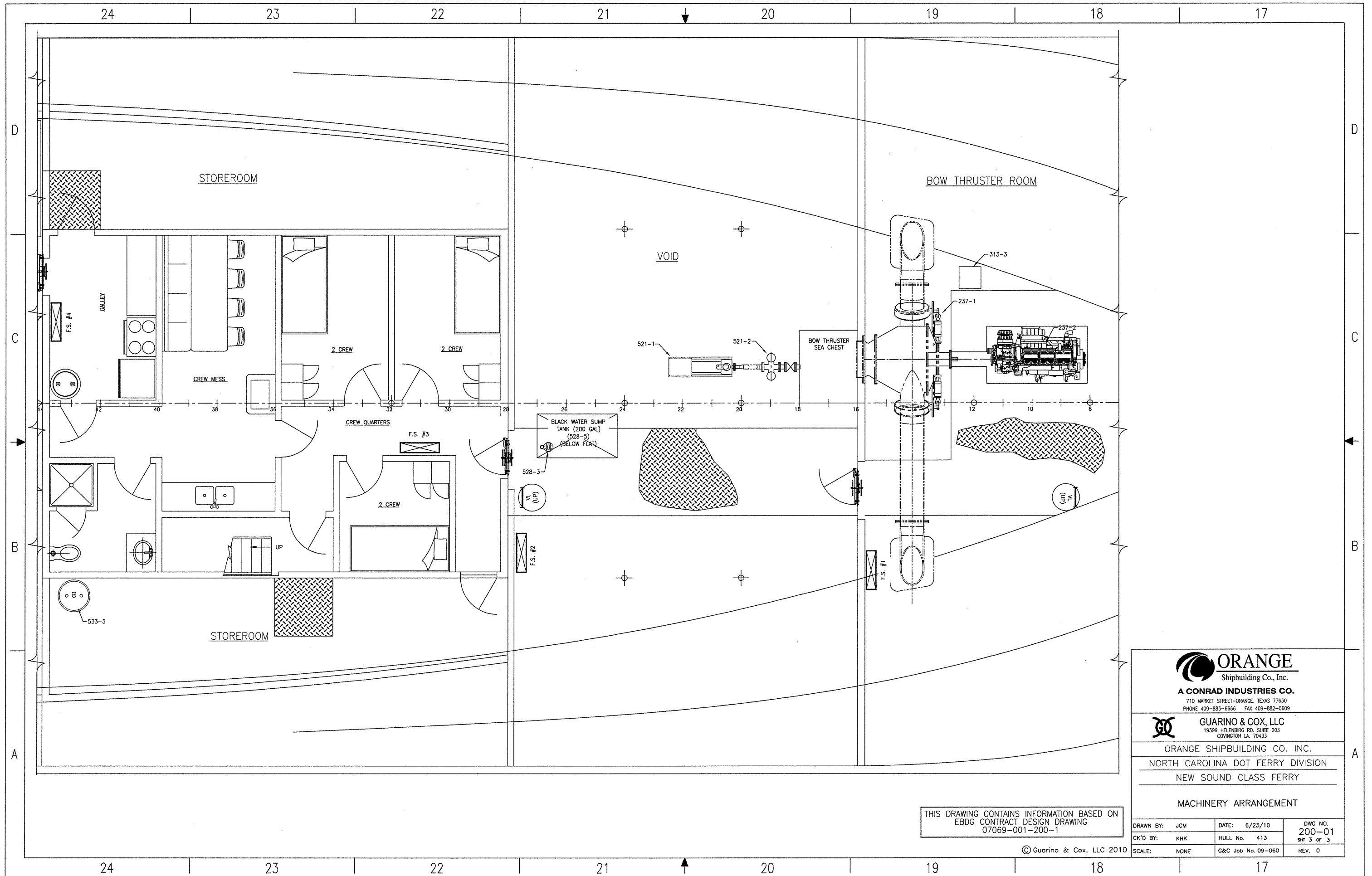
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COWINGTON LA. 70433
ORANGE SHIPBUILDING CO. INC.
NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY

MACHINERY ARRANGEMENT

THIS DRAWING CONTAINS INFORMATION BASED ON
EBDG CONTRACT DESIGN DRAWING
07069-001-200-1

| | | |
|-------------------|--------------------|----------------|
| DRAWN BY: JCM | DATE: 6/23/10 | DWG NO. 200-01 |
| CK'D BY: KHK | HULL No. 413 | SHT 2 OF 3 |
| SCALE: 3/8"=1'-0" | G&C Job No. 09-060 | REV. 0 |

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07069-001-200-1

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ORANGE SHIPBUILDING CO. INC.
NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY

MACHINERY ARRANGEMENT

| | | |
|---------------|--------------------|----------------|
| DRAWN BY: JCM | DATE: 6/23/10 | DWG NO. 200-01 |
| CK'D BY: KHK | HULL No. 413 | SHT 3 OF 3 |
| SCALE: NONE | G&C Job No. 09-060 | REV. 0 |

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BILL OF MATERIAL

| ITEM | QTY | DESCRIPTION | MANUFACTURER | MFR PART No. |
|------|-----|---|--------------|---|
| ① | 2 | ENCLOSURE, NON-METALLIC | STAHLIN | CATALOG # RJW1412FHPL W/BP1412(AL) & ONE (1) 1412DF DEADFRONT PANEL |
| ② | 2 | PANEL, ACCESSORY, 8-CIRCUIT, W/CIRCUIT "ON" INDICATOR LCD'S | NEWMAR | ACCY-IX |
| ③ | 4 | AUTOMATIC POWER SELECTOR, 70 AMP | NEWMAR | APS |
| ④ | 14 | BATTERY, 12 VDC, 8D | ----- | ----- |
| ⑤ | 5 | REMOTE ALARM RELAY, SET @ 21.5V | NEWMAR | DIR |
| ⑥ | 7 | BATTERY CHARGER, 24V, 40A | NEWMAR | PT-24-40 |
| ⑦ | 1 | DC THERMAL CIRCUIT BREAKER, 50 AMP | BLUE SEA | 7230 |
| ⑧ | 1 | BATTERY DISCONNECT SWITCH, SINGLE CIRCUIT, 600A, W/AFD | BLUE SEA | 3001 |
| ⑨ | 1 | PANEL, ACCESSORY, 18-CIRCUIT, W/CIRCUIT "ON" INDICATOR LCD'S, 24VDC | NEWMAR | ES-7, (1) 75A SP MASTER BREAKER, AND BRANCH BREAKERS AS SHOWN ON SHEET 3 |
| ⑩ | 5 | VOLTAGE MONITOR, DC | NEWMAR | DCV |
| ⑪ | 2 | CONVERTER, DC-DC, 6 AMP | NEWMAR | 32-12-6 |

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GENERAL NOTES

- MATERIAL AND WORKMANSHIP SHALL CONFORM TO U.S. COAST GUARD REQUIREMENTS FOR SUBCHAPTER H VESSELS AND AMERICAN BUREAU OF SHIPPING RULES FOR VESSELS UNDER 90 METERS.
- CABLE SIZED IN ACCORDANCE WITH ENGINE MANUFACTURER'S RECOMMENDATIONS, WITH REGARD TO LOCATION OF BATTERY.
- ALL PERMANENTLY INSTALLED ELECTRICAL EQUIPMENT SHALL HAVE ENCLOSURES PROPERLY GROUNDED IN ACCORDANCE WITH SECTION 250-95 OF THE NATIONAL ELECTRICAL CODE.
- ALL ELECTRIC CABLE SHALL BE UNARMORED, "LOW SMOKE" TYPE, AND MEET THE REQUIREMENTS OF THE USCG. ALL CABLE SHALL HAVE A MINIMUM CONDUCTOR TEMPERATURE RATING OF 90 DEGREES C. EXCEPT WHERE NOTED OTHERWISE, THE LETTER DESIGNATES NUMBER OF CONDUCTORS (S=ONE, D=TWO, T=THREE, AND F=FOUR). THE NUMBER DESIGNATES CONDUCTOR AREA IN CIRCULAR MILS (MCM).
- NYLON OR BRASS STUFFING TUBES SHALL BE USED WHEN PENETRATING ELECTRICAL ENCLOSURES OR JUNCTION BOXES. STEEL KICKPIPES WITH BRASS STUFFING TUBES OR MULTI-CABLE TRANSITS SHALL BE USED WHEN PENETRATING WATERTIGHT DECKS AND BULKHEADS. KICKPIPES SHALL EXTEND A MINIMUM OF 9 INCHES ABOVE THE DECK.

| REVISIONS | | | |
|-----------|-------|---|---------------|
| REV | ZONE | DESCRIPTION | DATE BY/APP'D |
| 1 | Z1-C1 | 1. DELETED PANEL PH-2 & MOVED VHF'S TO PH-1 SHT1 | 6/22/10 KHK |
| | | 2. REV QTY'S FOR ITEMS 2 & 7, AND ADDED ITEM 11 TO B.O.M. | |

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|-----|--|---------|
| 2 | ELECTRICAL LOAD ANALYSIS | 300-01 |
| 1 | ELECTRICAL ONE-LINE DIAGRAM, A.C. SYSTEM | 320-01 |
| NO. | REFERENCES | DWG NO. |



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 COWINGTON LA 70433

ORANGE SHIPBUILDING CO. INC.
 NORTH CAROLINA DOT FERRY DIVISION
 NEW SOUND CLASS FERRY
 ELECTRICAL ONE-LINE DIAGRAM
 D.C. SYSTEM

| | | |
|---------------|--------------------|----------------|
| DRAWN BY: KHK | DATE: 6/15/10 | DWG NO. 320-02 |
| CK'D BY: MTR | HULL No. 413 | SHT 1 OF 3 |
| SCALE: NTS | G&C Job No. 09-060 | REV. 1 |

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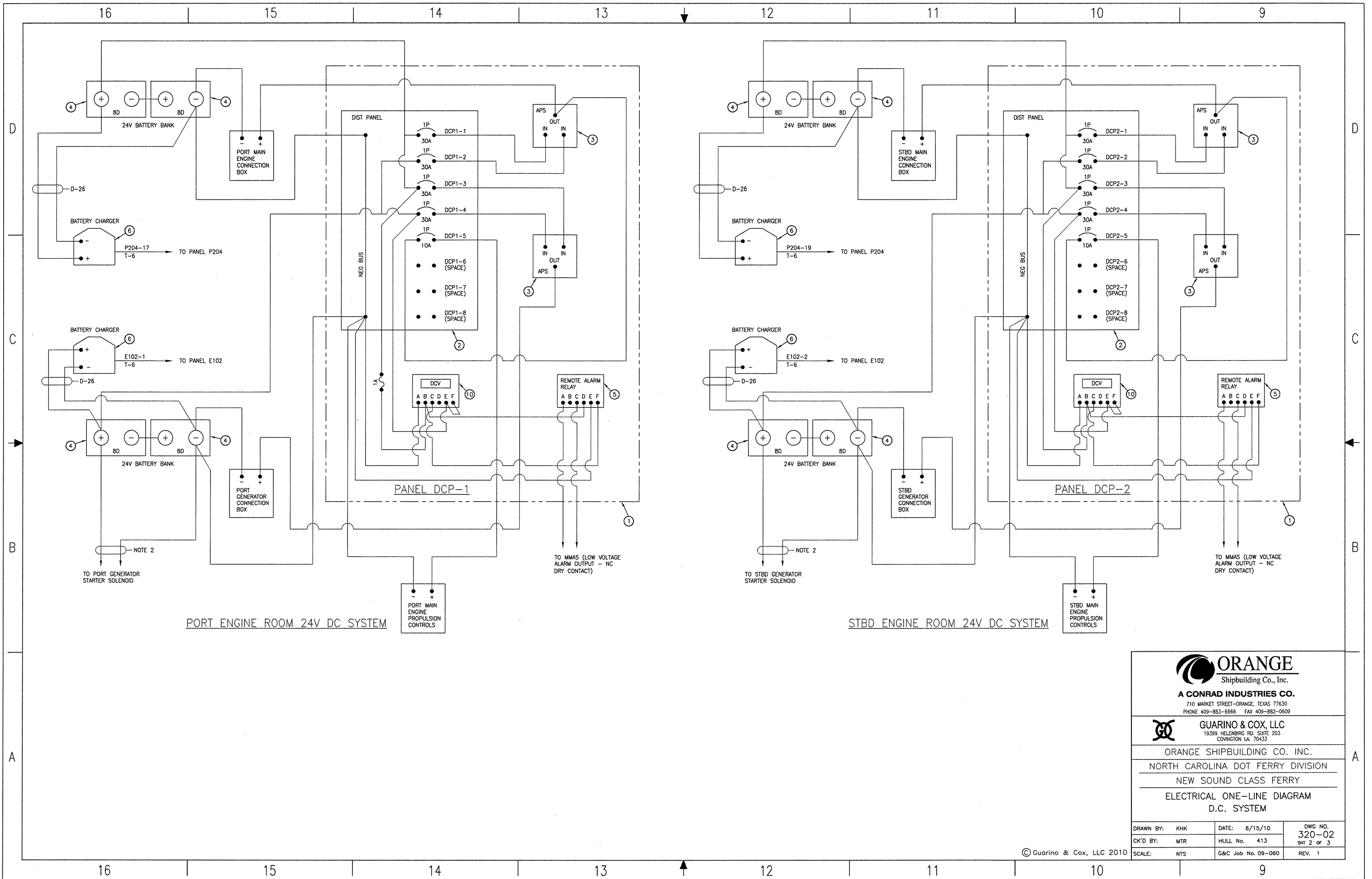
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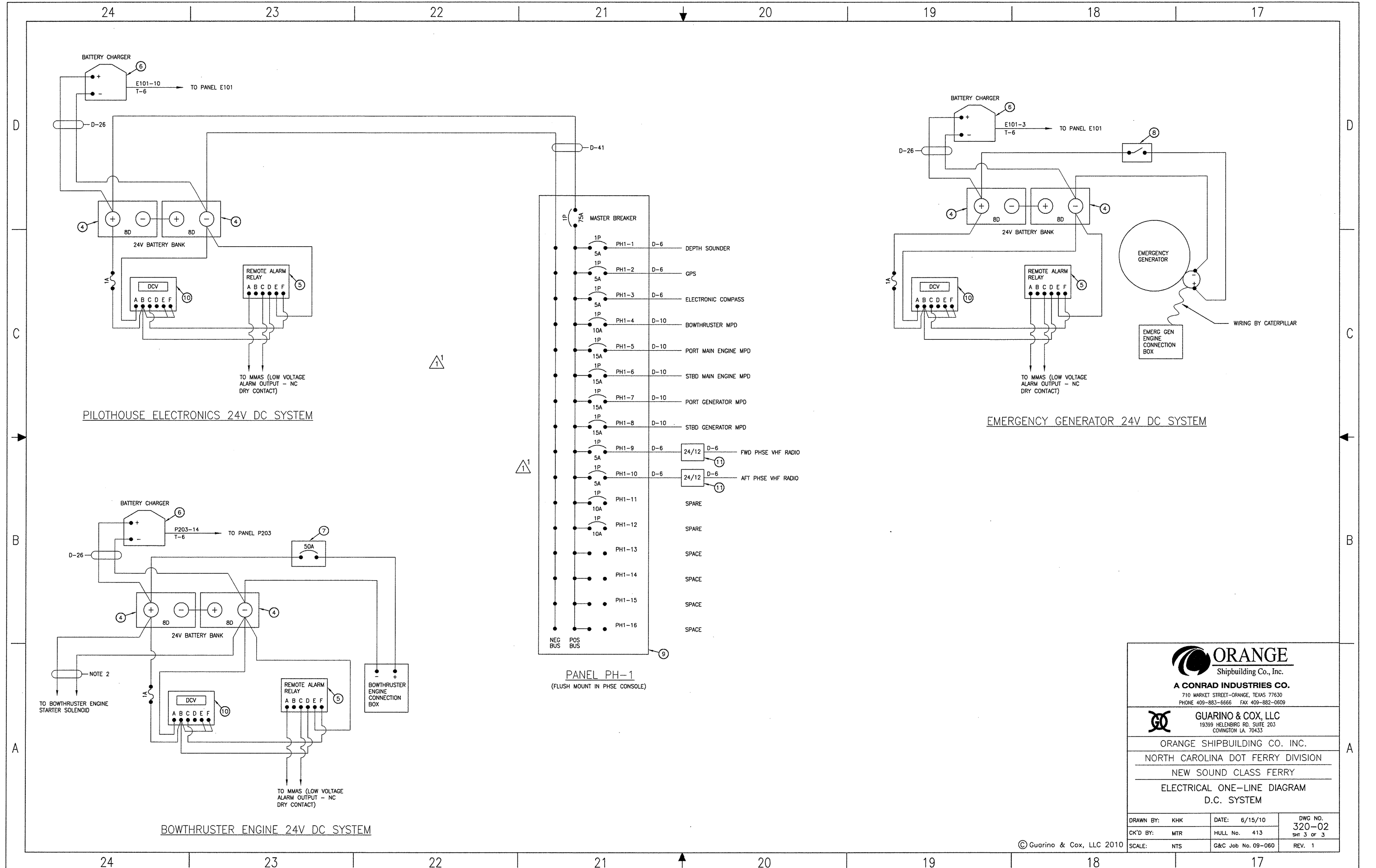
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NEW SOUND CLASS FERRY
ELECTRICAL ONE-LINE DIAGRAM
D.C. SYSTEM

| | | | |
|---------------|--------------------|----------------|--|
| DRAWN BY: KHK | DATE: 6/15/10 | DWG NO. 320-02 | |
| CK'D BY: MTR | HULL No. 413 | SHR 2 OF 3 | |
| SCALE: NTS | G&C Job No. 09-060 | REV. 1 | |

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NEW SOUND CLASS FERRY
ELECTRICAL ONE-LINE DIAGRAM
D.C. SYSTEM

| | | |
|---------------|--------------------|----------------|
| DRAWN BY: KHK | DATE: 6/15/10 | DWG NO. 320-02 |
| CK'D BY: MTR | HULL No. 413 | SHT 3 OF 3 |
| SCALE: NTS | G&C Job No. 09-060 | REV. 1 |

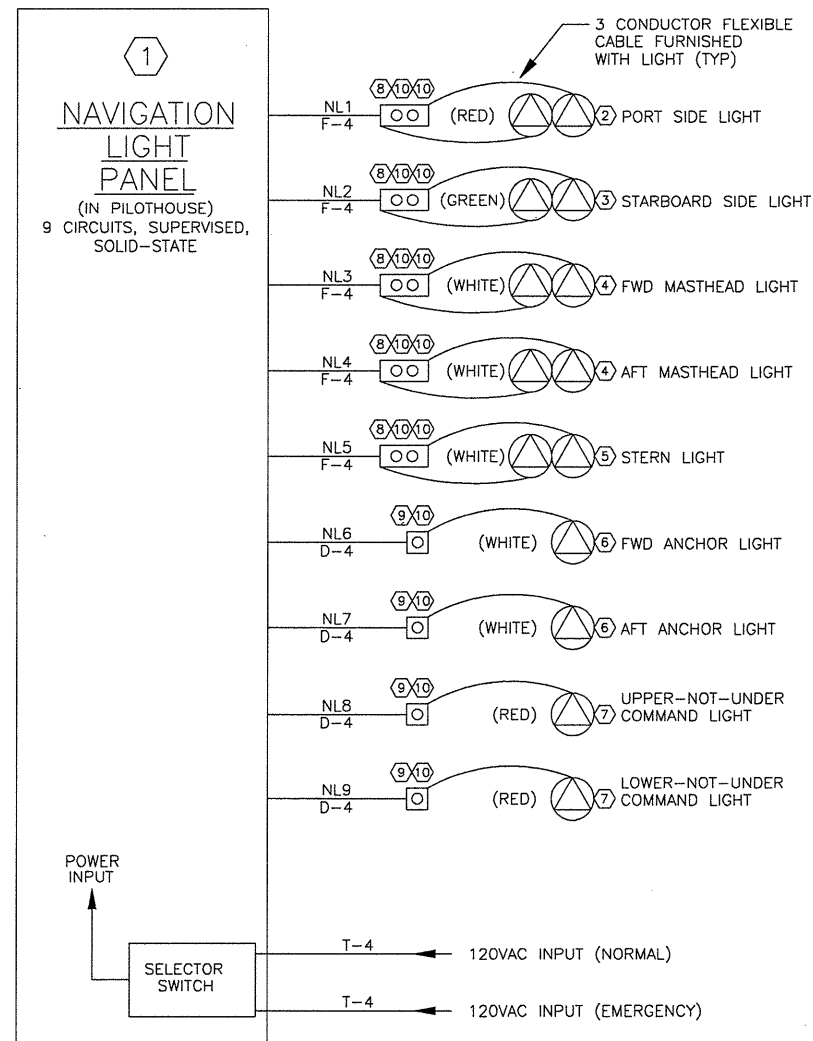
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BILL OF MATERIAL

| ITEM | QTY | DESCRIPTION | MANUFACTURER | MFR PART No. |
|------|-----|---|----------------------------|--------------|
| ① | 1 | NAVIGATION LIGHT PANEL, 9 CIRCUITS, 120 VOLT A.C., SEE DWG. FOR DETAILS | POWER PANELS, INC., OR EQ. | ----- |
| ② | 1 | PORT SIDE LIGHT, DUAL BULB, 120 VOLT A.C. | PERKO | 1164REOPLB |
| ③ | 1 | STARBOARD SIDE LIGHT, DUAL BULB, 120 VOLT A.C. | PERKO | 1164GEOPLB |
| ④ | 2 | MASTHEAD LIGHT, DUAL BULB, 120 VOLTS A.C. | PERKO | 1165EOOPLB |
| ⑤ | 1 | STERN LIGHT, DUAL BULB, 120 VOLT A.C. | PERKO | 1166EOOPLB |
| ⑥ | 2 | ANCHOR LIGHT, SINGLE BULB, 120 VOLT A.C. | PERKO | 1169EOOPLB |
| ⑦ | 2 | NOT-UNDER-COMMAND LIGHT, SINGLE BULB, 120 VOLT A.C. | PERKO | 1170REOPLB |
| ⑧ | 5 | DUPLEX RECEPTACLE, W.T., ROUND PIN TYPE | PAULUHN | 2634B-125 |
| ⑨ | 4 | SINGLE RECEPTACLE, W.T., ROUND PIN TYPE | PAULUHN | 2632B-125 |
| ⑩ | 14 | MATCHING PLUG FOR PIECE NO'S. 8 AND 9 | PAULUHN | 420BP-125 |
| ⑪ | 14 | BULB, 60 WATT, 120 VOLT, USE WITH PIECE NO'S. 2 THRU 7 | PERKO | 342004CLR |

GENERAL NOTES:

- ALL EQUIPMENT AND INSTALLATION SHALL BE IN ACCORDANCE WITH APPLICABLE REQUIREMENTS OF THE U.S.C.G., IEEE STANDARD 45, AND A.B.S.
- CABLE INSTALLATION SHALL BE IN ACCORDANCE WITH SECTION 10 OF IEEE STANDARD 45.
- NAVIGATION LIGHT PANEL SHALL BE SOLID-STATE, 9 CIRCUITS (ALL SUPERVISED) FOR CONTROL OF DUAL BULB AND SINGLE BULB LIGHTS, AND CONSTRUCTED IN ACCORDANCE WITH NOTE 1. PANEL MANUFACTURER SHALL FURNISH DRAWINGS FOR APPROVAL BY REGULATORY BODIES.
- NAVIGATION LIGHT LOCATIONS SHALL COMPLY WITH COMMANDANT INSTRUCTION M16672.2B. SEE DWG NO 422-01
- ALL ELECTRIC CABLE SHALL BE "LOW SMOKE" TYPE AND MEET THE REQUIREMENTS OF THE U.S.C.G. ALL CABLE SHALL BE ALUMINUM ARMORED AND HAVE A MINIMUM CONDUCTOR TEMPERATURE RATING OF 90 DEGREES CENTIGRADE. EXCEPT WHERE NOTED, THE LETTER DESIGNATES NUMBER OF CONDUCTORS (S=ONE, D=TWO, T=THREE, AND F=FOUR). THE NUMBER DESIGNATES CONDUCTOR AREA IN THOUSAND CIRCULAR MILS (MCM).



NAVIGATION LIGHTING SYSTEM WIRING DIAGRAM
SEE NOTES 1, 2, 3, AND 4

| REVISIONS | | | |
|-----------|------|-------------|----------------|
| REV | ZONE | DESCRIPTION | DATE BY/APPROV |
| | | | |
| | | | |

| NO. | REFERENCES | DWG NO. |
|-----|--|---------|
| 4 | | |
| 3 | | |
| 2 | ELECTRICAL ONE-LINE DIAGRAM, AC SYSTEM | 320-01 |
| 1 | NAVIGATION LIGHT ARRANGEMENT | 422-01 |

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ORANGE SHIPBUILDING CO. INC.
NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY

ELECTRICAL MISCELLANEOUS SYSTEMS

| | | |
|----------------------|--------------------|----------------|
| DRAWN BY: M. BOSARGE | DATE: 4/28/10 | DWG NO. 320-03 |
| CK'D BY: KHK | HULL No. 413 | SHT 1 OF 1 |
| SCALE: NONE | G&C Job No. 09-060 | REV. 0 |

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LIST OF MATERIALS

| PIECE No. | QUANTITY | DESCRIPTION | MATERIAL OR MANUFACTURER | SPEC, GRADE OR MODEL | REMARKS |
|-----------|----------|--|-----------------------------------|----------------------|-------------------------|
| 1 | 30 FT | 1 1/2" PIPE, SCH 40, SEAMLESS | STAINLESS STL 316 | ASTM A-312, TYPE 316 | ANSI B36.19 |
| 2 | 200 FT | 1 1/2" PIPE, SCH 40, SEAMLESS | CARB STL | ASTM A-106, GR B | ANSI B36.10 |
| 3 | 40 FT | 2" PIPE, SCH 40, SEAMLESS | STAINLESS STL 316 | ASTM A-312, TYPE 316 | ANSI B36.19 |
| 4 | 140 FT | 2" PIPE, SCH 40, SEAMLESS | CARB STL | ASTM A-106, GR B | ANSI B36.10 |
| 5 | 20 FT | 2" PIPE, SCH 40, SEAMLESS, GALV | CARB STL | ASTM A-106, GR B | ANSI B36.10 |
| 6 | 20 FT | 2 1/2" PIPE, SCH 40, SEAMLESS | STAINLESS STL 316 | ASTM A-312, TYPE 316 | ANSI B36.19 |
| 7 | 80 FT | 2 1/2" PIPE, SCH 40, SEAMLESS | CARB STL | ASTM A-106, GR B | ANSI B36.10 |
| 8 | 20 FT | 2 1/2" PIPE, SCH 40, SEAMLESS, GALV | CARB STL | ASTM A-106, GR B | ANSI B36.10 |
| 9 | 60 FT | 3" PIPE, SCH 40, SEAMLESS | CARB STL | ASTM A-106, GR B | ANSI B36.10 |
| 10 | 20 FT | 3" PIPE, SCH 40, SEAMLESS | STAINLESS STL 316 | ASTM A-312, TYPE 316 | ANSI B36.19 |
| 11 | 100 FT | 4" PIPE, SCH 40, SEAMLESS | CARB STL | ASTM A-106, GR B | ANSI B36.19 |
| 12 | 40 FT | 4" PIPE, SCH 40, SEAMLESS | STAINLESS STL 316 | ASTM A-312, TYPE 316 | ANSI B36.19 |
| 13 | 5 | 2" 90° ELBOW, B-WELD, SCH 40 | STAINLESS STL | ASTM A-403 | ANSI B16.9 |
| 14 | 9 | 2" 90° ELBOW, SOCKET-WELD, 3000 LB | CARB STL | ASTM A-105 | ANSI B16.11 |
| 15 | 4 | 2" 90° ELBOW, SOCKET-WELD, 3000 LB, GALV | CARB STL | ASTM A-105 | ANSI B16.11 |
| 16 | 4 | 2" 180° RETURN, B-WELD, SCH 40 | CARB STL | ASTM A-234 | ANSI B16.9 |
| 17 | 4 | 2 1/2" 90° ELBOW, B-WELD, SCH 40, GALV | CARB STL | ASTM A-234 | ANSI B16.9 |
| 18 | 2 | 1 1/2" 90° ELBOW, B-WELD, SCH 40 | STAINLESS STL | ASTM A-403 | ANSI B16.9 |
| 19 | 4 | 2 1/2" 180° RETURN, B-WELD, SCH 40 | STAINLESS STL | ASTM A-403 | ANSI B16.9 |
| 20 | 3 | 3" 180° RETURN, B-WELD, SCH 40 | STAINLESS STL | ASTM A-403 | ANSI B16.9 |
| 21 | 7 | 3" 90° ELBOW, B-WELD, SCH 40 | CARB STL | ASTM A-234 | ANSI B16.9 |
| 22 | 6 | 1 1/2" 45° ELBOW, SOCKET-WELD, 3000 LB | CARB STL | ASTM A-105 | ANSI B16.11 |
| 23 | 2 | 4" 90° ELBOW, B-WELD, SCH 40 | CARB STL | ASTM A-234 | ANSI B16.9 |
| 24 | 1 | 4" 45° ELBOW, B-WELD, SCH 40 | CARB STL | ASTM A-234 | ANSI B16.9 |
| 25 | 9 | 4" 180° RETURN, B-WELD, SCH 40 | STAINLESS STL | ASTM A-403 | ANSI B16.9 |
| 26 | 2 | 1 1/2"x3/4" TEE, REDUCING, B-WELD, SCH 40 | STAINLESS STL | ASTM A-403 | ANSI B16.9 |
| 27 | 2 | 1 1/2" 90° ELBOW, SOCKET-WELD, 3000 LB | STAINLESS STL | ASTM A-182 | ANSI B16.11 |
| 28 | 4 | 1 1/2" 90° ELBOW, SOCKET-WELD, 3000 LB | CARB STL | ASTM A-105 | ANSI B16.11 |
| 29 | 12 | 1 1/2" FLANGE, 150#, SLIP-ON, RF | STAINLESS STL | ASTM A-182 | ANSI B16.5 |
| 30 | 10 | 2" FLANGE, 150#, SLIP-ON, RF | STAINLESS STL | ASTM A-182 | ANSI B16.5 |
| 31 | 4 | 2 1/2" FLANGE, 150#, SLIP-ON, RF | STAINLESS STL | ASTM A-182 | ANSI B16.5 |
| 32 | 8 | 3/4" FLANGE, 150#, SLIP-ON, RF | CARB STL | ASTM A-105 | ANSI B16.5 |
| 33 | 4 | 3/4" FLANGE, 150#, SLIP-ON RF | STAINLESS STL | ASTM A-182 | ANSI B16.5 |
| 34 | 8 | 4" FLANGE, 150# SLIP-ON, RF | STAINLESS STL 316 | ASTM A-182 | ANSI B16.11 |
| 35 | 2 | 1 1/2" QUICK CLOSING GATE VALVE, 150#, SCR'D., SS TRIM | CARBON STEEL | ASTM A-105 | ANSI B16.34 |
| 36 | 1 | 1" HALF COUPLING, THREADED 3000 LB | STAINLESS STL | ASTM A-403 | ANSI B16.11 |
| 37 | 1 | 1" PIPE PLUG, THR'D. | BRONZE | ASTM B-62 | ANSI B16.15 |
| 38 | 2 | 1 1/2" PIPE PLUG, THR'D. | BRONZE | ASTM B-62 | ANSI B16.15 |
| 39 | 3 | 3" PIPE SLEEVE, DECK/BHD PENETRATION, SCH 40. 3" LG, FOR 2 1/2" PIPE | CARB STL | ASTM A-106, GR B | ANSI B36.10 |
| 40 | 2 | 2" PIPE SLEEVE, DECK/BHD PENETRATION, SCH 40. 3" LG, FOR 1 1/2" PIPE | STAINLESS STL 316 | ASTM A-312, TYPE 316 | ANSI B36.19 |
| 41 | 8 | 2 1/2" PIPE SLEEVE, DECK/BHD PENETRATION, SCH 40. 3" LG FOR 2" PIPE | CARB STL | ASTM A-53 | ANSI B36.10 |
| 42 | 8 | 2 1/2" PIPE SLEEVE, DECK/BHD PENETRATION, SCH 40. 3" LG FOR 2" PIPE | STAINLESS STL | ASTM A-312, TYPE 316 | ANSI B36.19 |
| 43 | 3 | 3 1/2" PIPE SLEEVE, DECK/BHD PENETRATION, SCH 40. 3" LG FOR 3" PIPE | CARB STL | ASTM A-53 | ANSI B36.10 |
| 44 | 1 | 3 1/2" PIPE SLEEVE, DECK/BHD PENETRATION, SCH 40. 3" LG, FOR 3" PIPE | STAINLESS STL | ASTM A-312, TYPE 316 | ANSI B36.19 |
| 45 | 6 | 3" PIPE SLEEVE, DECK/BHD PENETRATION, SCH 40. 3" LG, FOR 2 1/2" PIPE | STAINLESS STL | ASTM A-312, TYPE 316 | ANSI B36.19 |
| 46 | 11 | 5" PIPE SLEEVE, DECK/BHD PENETRATION, SCH 40. 3" LG FOR 4" PIPE | STAINLESS STL | ASTM A-312, TYPE 316 | ANSI B36.19 |
| 47 | 2 | 5" PIPE SLEEVE, DECK/BHD PENETRATION, SCH 40. 3" LG FOR 4" PIPE | CARB STL | ASTM A-106, GR B | ANSI B36.10 |
| 48 | 8 | 4" TANK VENT, W/FULL FLOAT, FLANGED | STAINLESS STL 316 | 1700 SERIES | ROBERT H WAGER CO. |
| 49 | 2 | 2 1/2" TANK VENT, W/INSECT SCREEN, FULL FLOAT, FLANGED | STAINLESS STL 316 | 1700 SERIES | ROBERT H WAGER CO. |
| 50 | 2 | 2 1/2" TANK VENT, W/FLAME SCREEN, THREADED | BRONZE | 1600 SERIES | ROBERT H WAGER CO. |
| 51 | 3 | 2" TANK VENT, W/FLAME SCREEN, THREADED | BRONZE | 1600 SERIES | ROBERT H WAGER CO. |
| 52 | 2 | 1 1/2" CAMLOCK CAP | STAINLESS STL | 316 | - |
| 53 | 5 | 2" CAMLOCK CAP | STAINLESS STL | 316 | - |
| 54 | 2 | 1 1/2" CAMLOCK FTG, M. ADAPTER x FPT | STAINLESS STL | 316 | - |
| 55 | 5 | 2" CAMLOCK FTG, M. ADAPTER x FPT | STAINLESS STL | 316 | - |
| 56 | AS REQD | 2" UNION, 3000 LB, SOCKET-WELD | CARB STL | ASTM A-105 | ANSI B16.11 |
| 57 | AS REQD | 1 1/2" UNION, 3000 LB, SOCKET-WELD | CARB STL | ASTM A-105 | ANSI B16.11 |
| 58 | 2 | 1 1/2" GATE VALVE, 150# FLANGED, RF | STAINLESS STL | ASTM A-182 | ANSI B-16.34 |
| 59 | 5 | 2" GATE VALVE, 150# FLANGED, RF | STAINLESS STL | ASTM A-182 | ANSI B-16.34 |
| 60 | 10 | 2" GASKET, FULL FACE, 1/8" THICK | ARAMID FIBERS W/ A NITRILE BINDER | ASTM F586 | GARLOCK BLUE GUARD 3000 |
| 61 | 8 | 4" GASKET, FULL FACE, 1/8" THICK | ARAMID FIBERS W/ A NITRILE BINDER | ASTM F586 | GARLOCK BLUE GUARD 3000 |
| 62 | 10 | 3/4" GASKET, FULL FACE, 1/8" THICK | ARAMID FIBERS W/ A NITRILE BINDER | ASTM F586 | GARLOCK BLUE GUARD 3000 |
| 63 | 4 | 2 1/2" GASKET, FULL FACE, 1/8" THICK | ARAMID FIBERS W/ A NITRILE BINDER | ASTM F586 | GARLOCK BLUE GUARD 3000 |
| 64 | 12 | 1 1/2" GASKET, FULL FACE, 1/8" THICK | ARAMID FIBERS W/ A NITRILE BINDER | ASTM F586 | GARLOCK BLUE GUARD 3000 |
| 65 | 2 | 1 1/2" 180° RETURN, B-WELD, SCH 40 | STAINLESS STL | ASTM A-403 | ANSI B16.9 |
| 66 | 6 | 2 1/2" 90° ELBOW, B-WELD, SCH 40 | CARB STL | ASTM A-234 | ANSI B16.9 |

CONTINUED ZONE 3-B

REFERENCES

| REV | ZONE | DESCRIPTION | DATE | BY/APP'D |
|-----|--------|--|------|----------|
| 1. | 101-02 | GENERAL ARRANGEMENTS | | |
| 2. | 101-01 | OUTBOARD & INBOARD PROFILE | | |
| 3. | 533-01 | POTABLE WATER SYSTEM SCHEMATIC | | |
| 4. | 200-01 | MACHINERY ARRANGEMENT | | |
| 5. | 261-01 | FUEL OIL SYSTEM SCHEMATIC | | |
| 6. | 506-01 | FILLS, VENTS & SOUNDS SCHEMATIC | | |
| 7. | 264-01 | LUBE OIL & DIRTY OIL SYSTEM SCHEMATIC | | |
| 8. | 529-02 | BILGE & OILY WATER SYSTEM ARRGT. & DETAILS | | |
| 9. | 163-01 | SEA CHEST | | |
| 10. | 528-02 | OVERBOARD DRAINS & SEWAGE SYS ARRGT & DETS | | |
| 11. | 551-02 | COMPRESSED AIR SYSTEM ARRGT. & DETAILS | | |
| 12. | 110-01 | SCANTLING PLANS BOW-FR. 35 | | |
| 13. | 568-01 | BOW THRUSTER INSTALLATION | | |

GENERAL NOTES

- MATERIALS AND WORKMANSHIP SHALL CONFORM TO U.S. COAST GUARD REQUIREMENTS FOR SUBCHAPTER "H" VESSELS AND AMERICAN BUREAU OF SHIPPING RULES FOR VESSELS UNDER 90 METERS.
- HORIZONTAL PIPE RUNS GREATER THAN 3 FT SHALL BE SLOPED TO ALLOW DRAINAGE. LONGITUDINAL RUNS SHALL HAVE A SLOPE OF 1/8 IN FOR EVERY 1 FT. TRANSVERSE PIPE RUNS SHALL HAVE A SLOPE OF 1/4 IN FOR EVERY 1 FT.
- ALL FLANGED CONNECTIONS SHALL BE PROVIDED WITH 316 S.S., GR. 316, ASTM F593 HEX HD. BOLTS, 316 S.S., GR. 316, ASTM F594 NUTS AND 316 S.S. WASHERS.

LIST OF MATERIALS, CONTD FROM ZONE 7-A

| PIECE No. | QUANTITY | DESCRIPTION | MATERIAL OR MANUFACTURER | SPEC, GRADE OR MODEL | REMARKS |
|-----------|----------|--|--------------------------|----------------------|---|
| 67 | 2 | 1 1/2" VALVE, BALL, 150#, FLANGED | STAINLESS STL | ANSI B-16.34 | ANSI B16.10, FULL PORT |
| 68 | 2 | LEVEL INDICATING, 3/4" FLG'D., SIDE x SIDE CONN C TO C= 6'-4" | STAINLESS STL | MOD TYPE BM | GEMS SURESITE MINIATURE SIZE (POT WTR) |
| 69 | 2 | LEVEL INDICATING, 3/4" FLG'D., SIDE x SIDE CONN, C TO C= 3'-5" | STAINLESS STL | MOD TYPE BM | GEMS SURESITE MINIATURE SIZE (L.O./G.O. TK) |
| 70 | 2 | LEVEL INDICATING, 3/4" FLG'D., SIDE x SIDE CONN, C TO C= 6'-10" | STAINLESS STL | MOD TYPE BM | GEMS SURESITE MINIATURE SIZE (F.O. TK) |
| 71 | 8 | 3/4" HALF COUPLING, 3000 LB, S.W. | FORGED STL | ASTM A-105 | ANSI B16.11 |
| 72 | 4 | 3/4" HALF COUPLING, 3000 LB, S.W. | STAINLESS STL | ASTM A-182 | ANSI B16.11 |
| 73 | 4 FT | 3/4" PIPE, SCH 40, SEAMLESS | CARB STL | ASTM A-106, GR B | ANSI B36.10 |
| 74 | 2 FT | 3/4" PIPE, SCH 40, SEAMLESS | STAINLESS STL 316 | ASTM A-312, TYPE 316 | ANSI B36.19 |
| 75 | 6 | 2" PIPE SLEEVE, DECK/BHD PENETRATION, SCH 40. 3" LG, FOR 1 1/2" PIPE | CARB STL | ASTM A-53 | ANSI B36.10 |
| 76 | 1 | LATERAL, 3"x2", SCH 40, BW, GALV | CARBON STEEL | ASTM A-234 | ANSI B36.19 |
| 77 | 5 | 3" 45° ELBOW, B-WELD, SCH 40 | CARB STL | ASTM A-234 | ANSI B16.9 |
| 78 | 1 | 2" 45° ELBOW, SOCKET-WELD, 3000 LB | CARB STL | ASTM A-105 | ANSI B16.11 |
| 79 | 1 | LATERAL, 3", SCH 40, BW, GALV | CARBON STEEL | ASTM A-234 | ANSI B16.9 |

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ORANGE SHIPBUILDING CO. INC. NORTH CAROLINA DOT FERRY DIVISION NEW SOUND CLASS FERRY FILLS, VENTS & SOUNDS ARRANGEMENT & DETAILS

| | | |
|---------------|--------------------|----------------|
| DRAWN BY: JCM | DATE: 4/28/10 | DWG NO. 506-02 |
| CK'D BY: KHK | HULL No. 413 | SHT 1 OF 8 |
| SCALE: NONE | G&C Job No. 09-060 | REV. P |

8

7

6

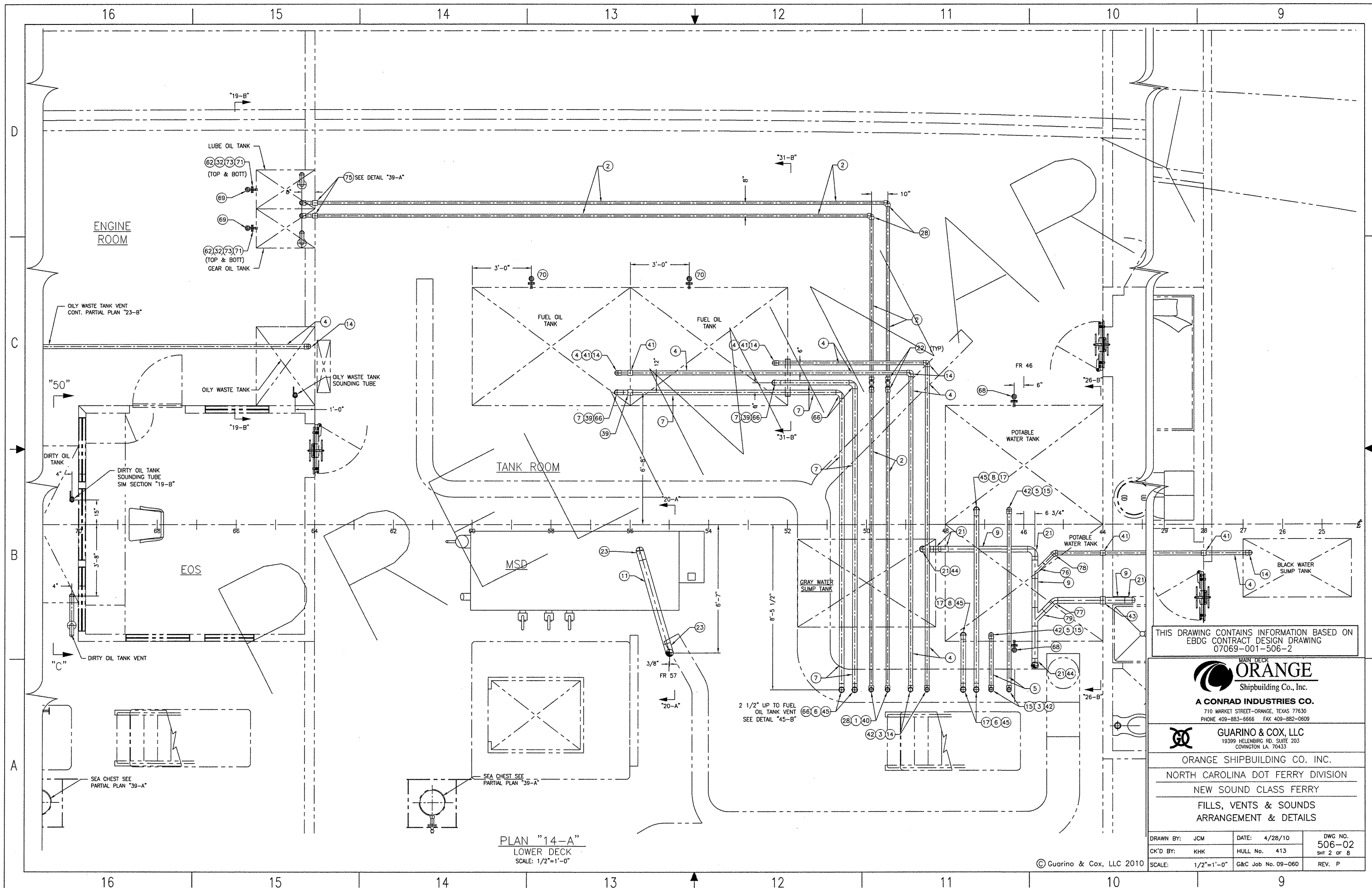
5

4

3

2

1



PLAN "14-A"
LOWER DECK
SCALE: 1/2"=1'-0"

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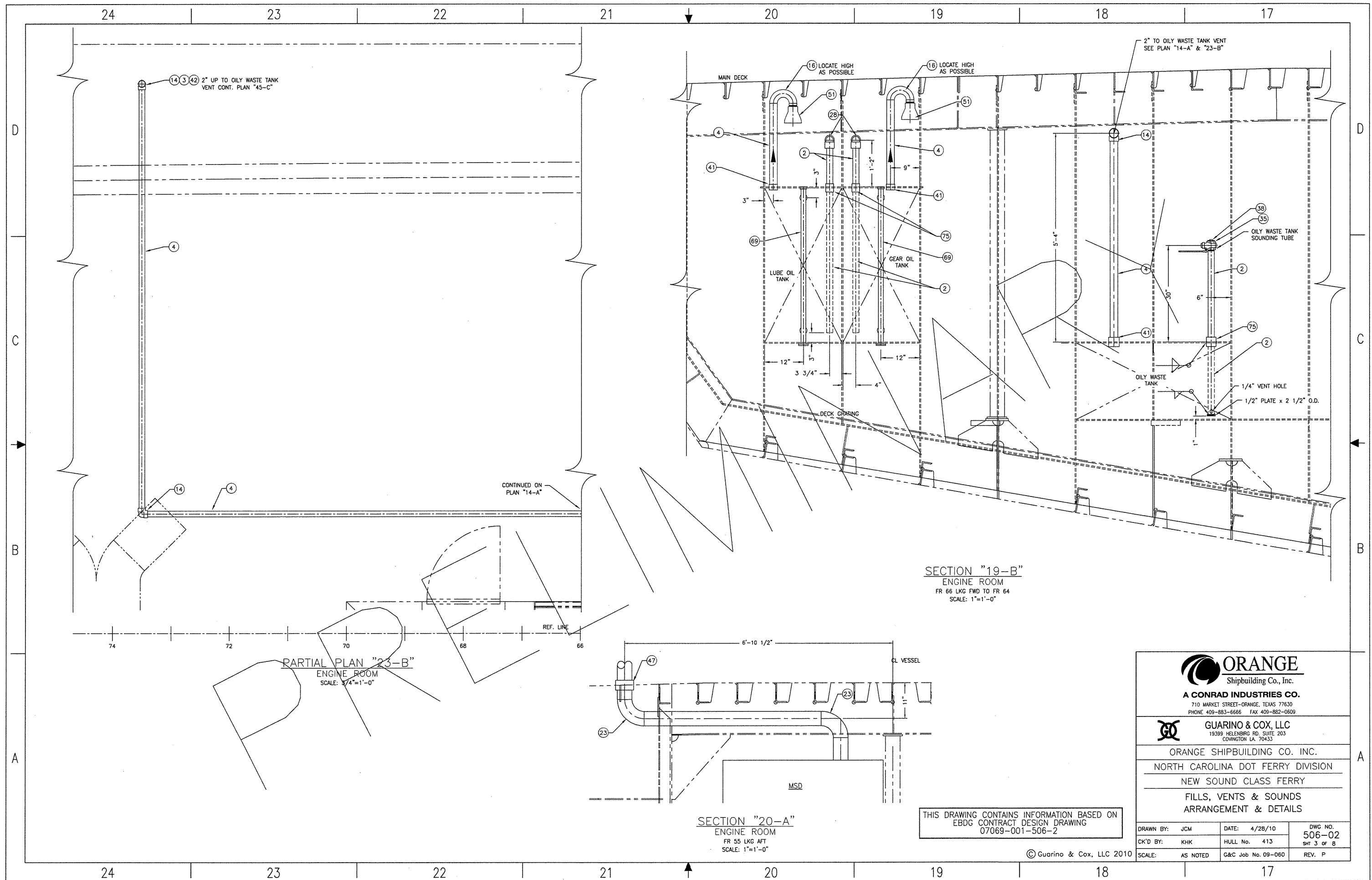
MAIN DECK
ORANGE
Shipbuilding Co., Inc.
A CONRAD INDUSTRIES CO.
710 MARKET STREET-ORANGE, TEXAS 77630
PHONE 409-883-6666 FAX 409-882-0609

GUARINO & COX, LLC
19399 HELENBURG RD. SUITE 203
COVINGTON LA 70433

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NORTH CAROLINA DOT FERRY DIVISION
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| | | |
|-------------------|--------------------|----------------|
| DRAWN BY: JCM | DATE: 4/28/10 | DWG NO. 506-02 |
| CK'D BY: KHK | HULL No. 413 | SHT 2 OF 8 |
| SCALE: 1/2"=1'-0" | G&C Job No. 09-060 | REV. P |

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14 3 42 2" UP TO OILY WASTE TANK VENT CONT. PLAN "45-C"

16 LOCATE HIGH AS POSSIBLE

2" TO OILY WASTE TANK VENT SEE PLAN "14-A" & "23-B"

CONTINUED ON PLAN "14-A"

SECTION "19-B"
ENGINE ROOM
FR 66 LKG FWD TO FR 64
SCALE: 1"=1'-0"

PARTIAL PLAN "23-B"
ENGINE ROOM
SCALE: 3/4"=1'-0"

SECTION "20-A"
ENGINE ROOM
FR 55 LKG AFT
SCALE: 1"=1'-0"

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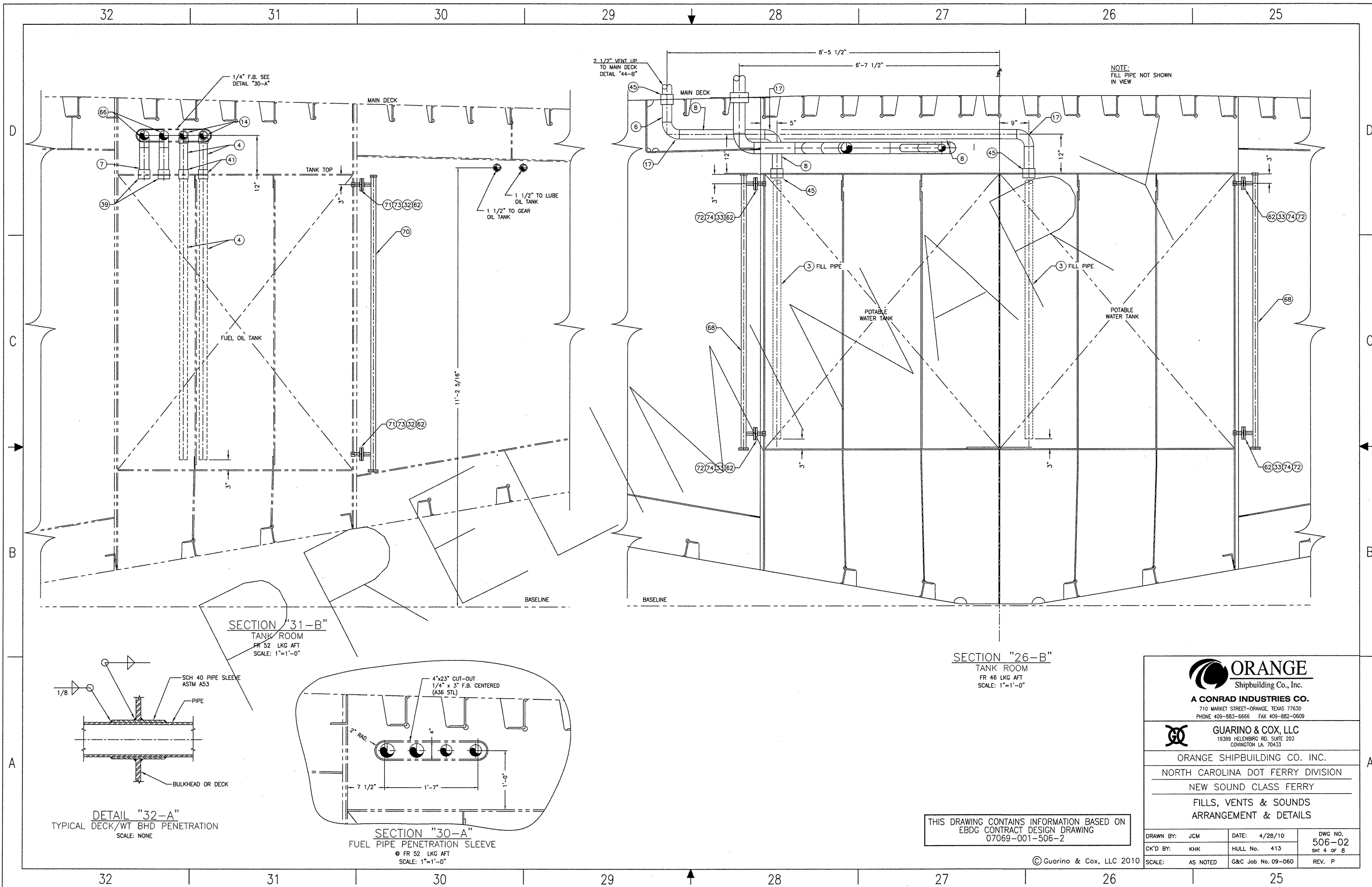


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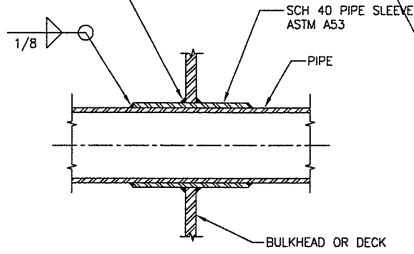
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| | | |
|-----------------|--------------------|----------------|
| DRAWN BY: JCM | DATE: 4/28/10 | DWG NO. 506-02 |
| CK'D BY: KHK | HULL No. 413 | SHT 3 OF 8 |
| SCALE: AS NOTED | G&C Job No. 09-060 | REV. P |

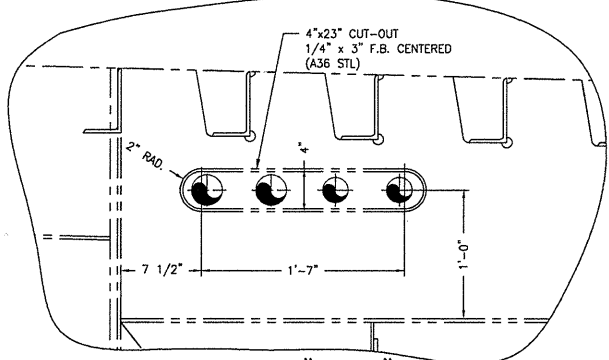


SECTION "31-B"
TANK ROOM
FR 52 LKG AFT
SCALE: 1"=1'-0"

SECTION "26-B"
TANK ROOM
FR 46 LKG AFT
SCALE: 1"=1'-0"



DETAIL "32-A"
TYPICAL DECK/WT BHD PENETRATION
SCALE: NONE



SECTION "30-A"
FUEL PIPE PENETRATION SLEEVE
FR 52 LKG AFT
SCALE: 1"=1'-0"

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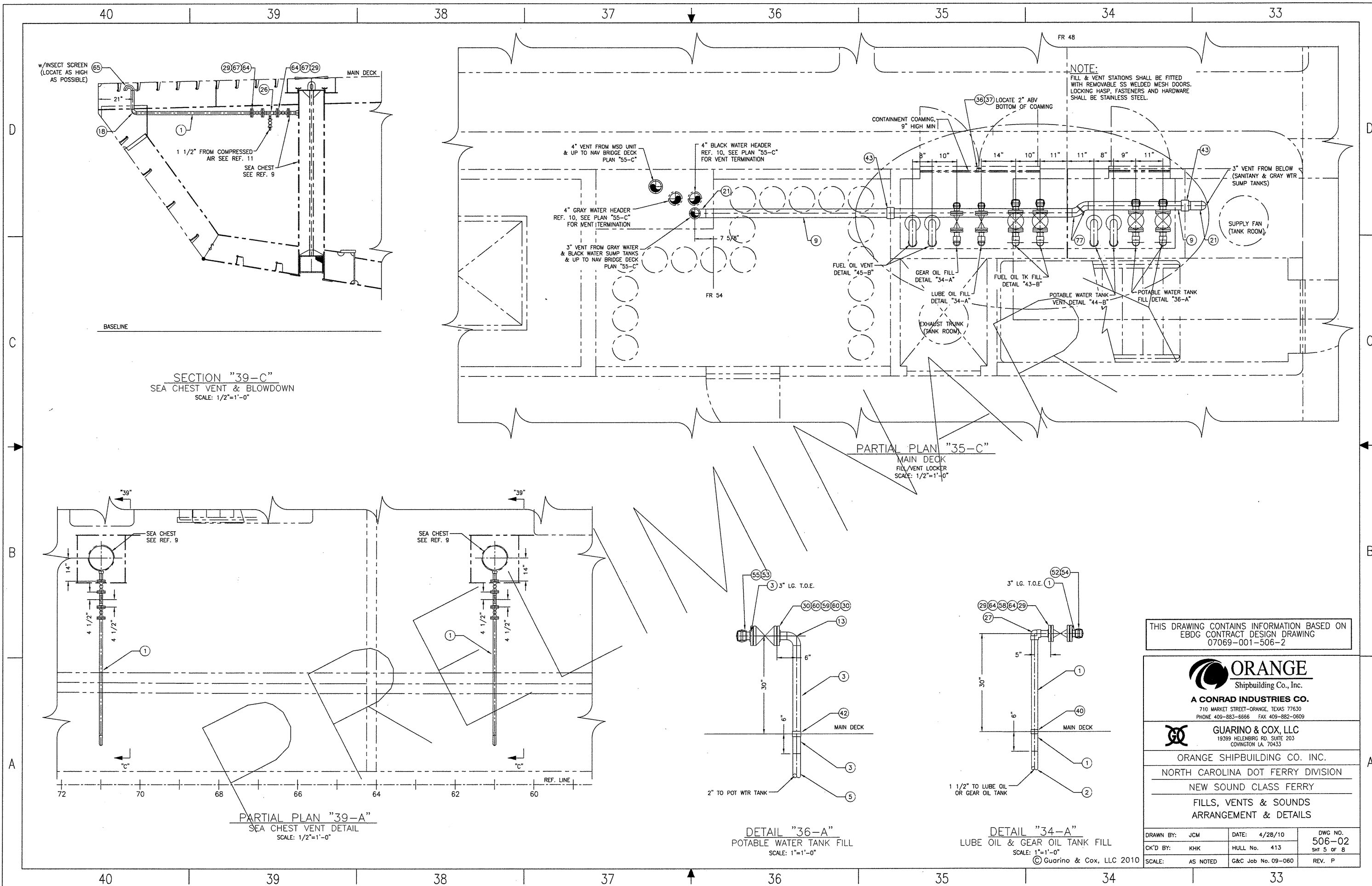
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| DRAWN BY: JCM | DATE: 4/28/10 | DWG NO. 506-02 |
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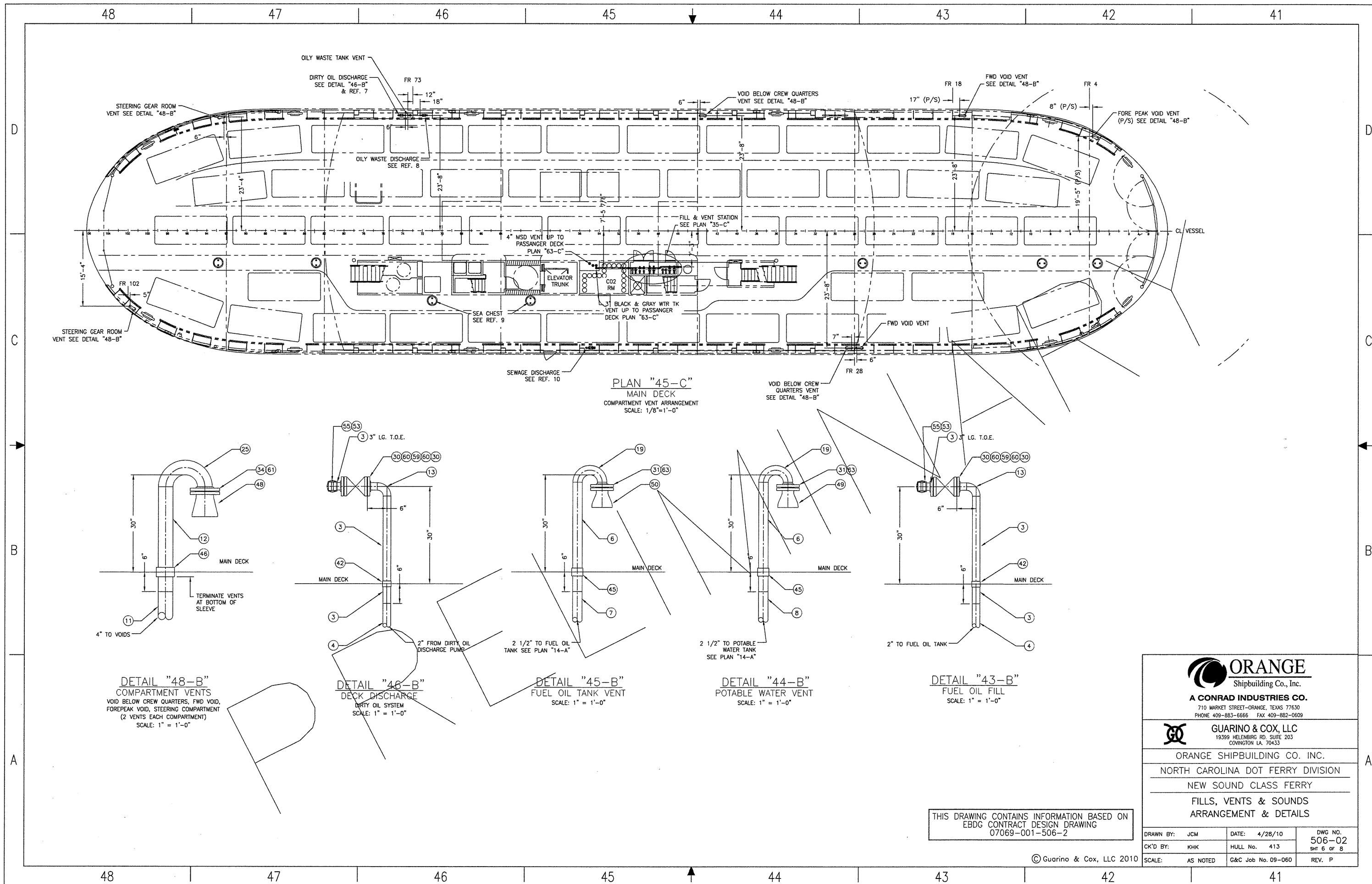


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ARRANGEMENT & DETAILS

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|-----------------|--------------------|----------------|
| DRAWN BY: JCM | DATE: 4/28/10 | DWG NO. 506-02 |
| CK'D BY: KHK | HULL No. 413 | SHT 5 OF 8 |
| SCALE: AS NOTED | G&C Job No. 09-060 | REV. P |

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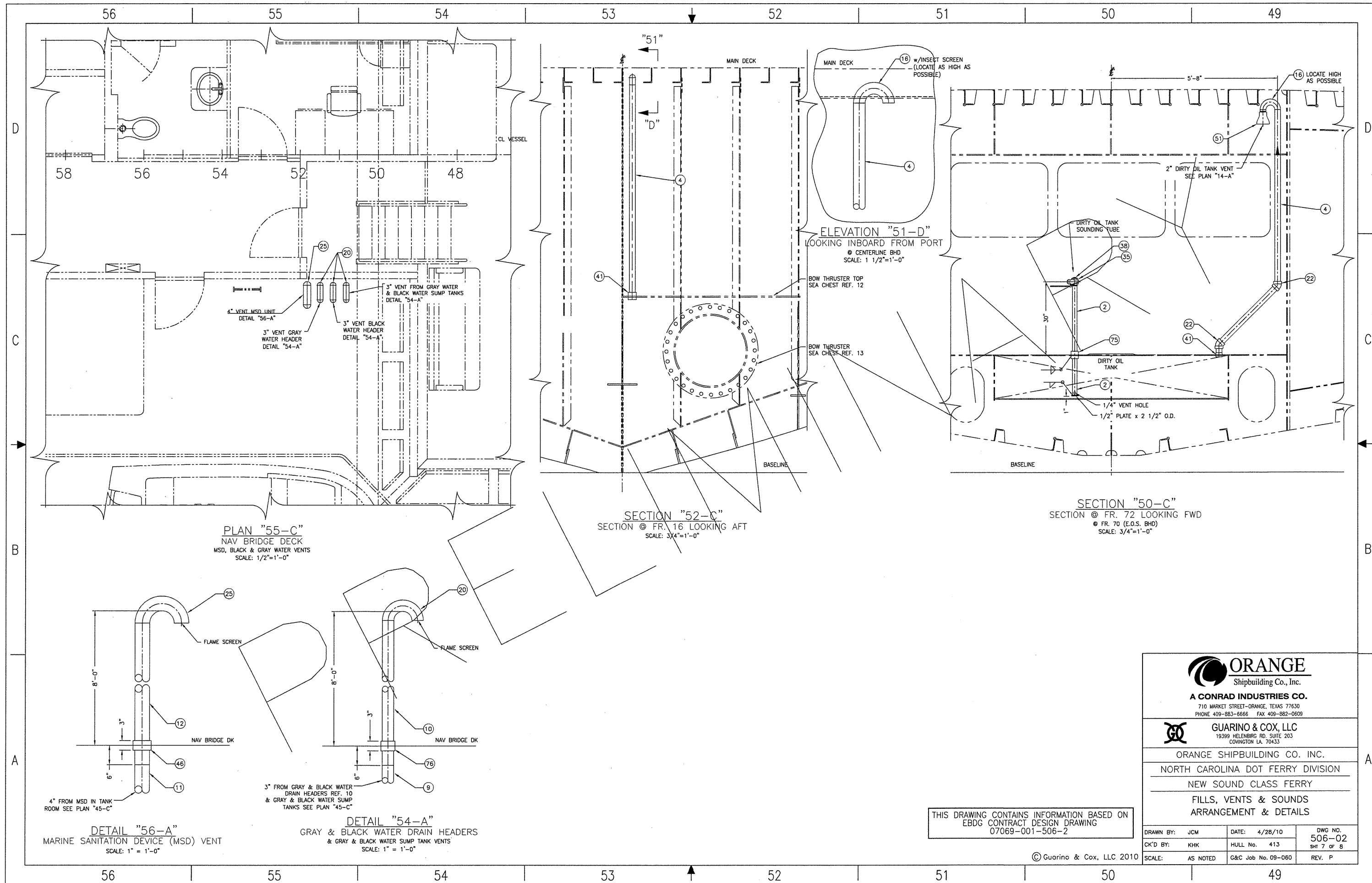
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 710 MARKET STREET-ORANGE, TEXAS 77630
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 NORTH CAROLINA DOT FERRY DIVISION
 NEW SOUND CLASS FERRY

FILLS, VENTS & SOUNDS
 ARRANGEMENT & DETAILS

| | | |
|-----------------|--------------------|----------------|
| DRAWN BY: JCM | DATE: 4/28/10 | DWG NO. 506-02 |
| CK'D BY: KHK | HULL No. 413 | SHT 6 OF 8 |
| SCALE: AS NOTED | G&C Job No. 09-060 | REV. P |



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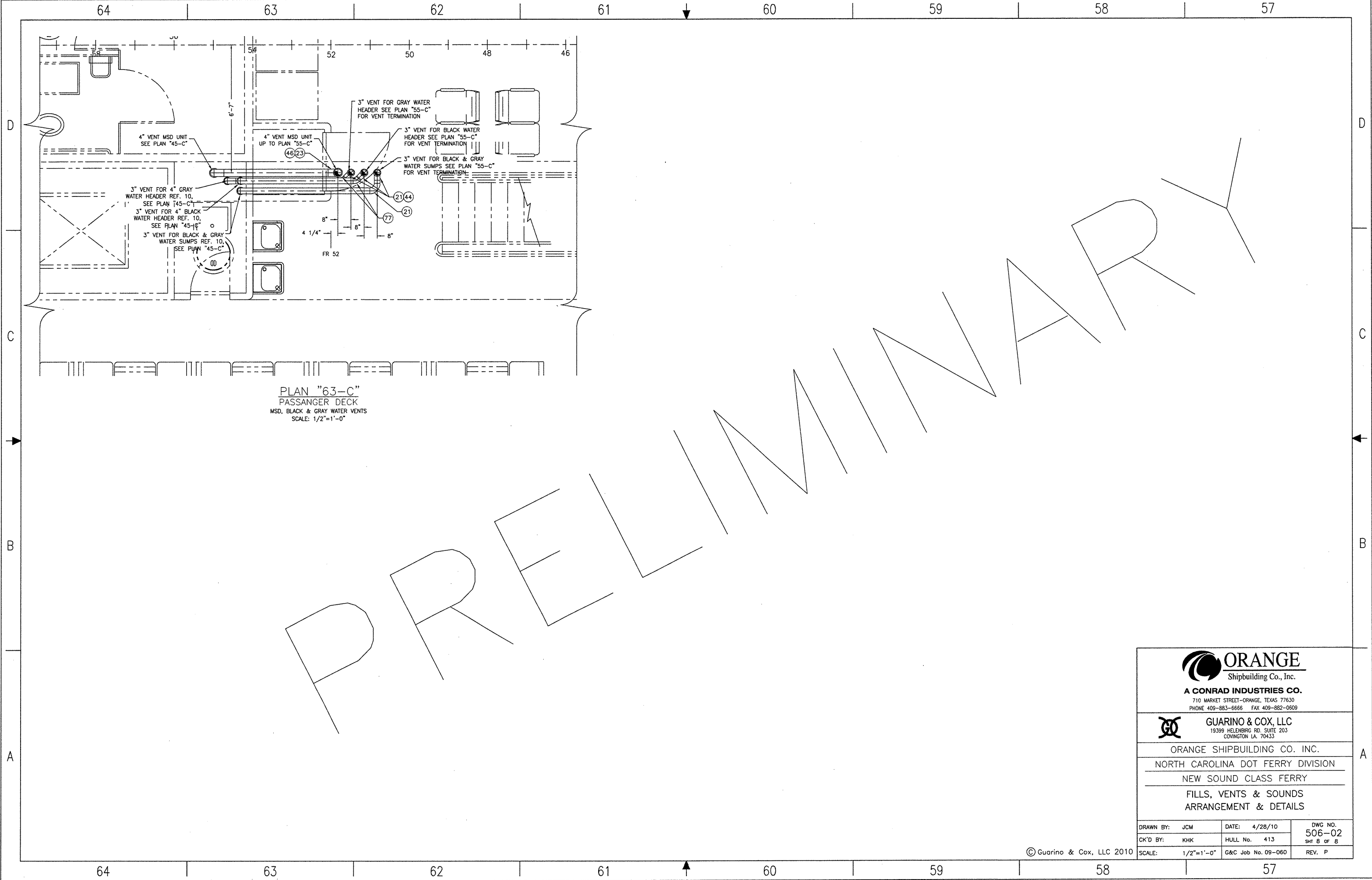
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ARRANGEMENT & DETAILS



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| DRAWN BY: JCM | DATE: 4/28/10 | DWG NO. 506-02 |
| CK'D BY: KHK | HULL No. 413 | SHT 7 OF 8 |
| SCALE: AS NOTED | G&C Job No. 09-060 | REV. P |

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PLAN "63-C"
 PASSANGER DECK
 MSD, BLACK & GRAY WATER VENTS
 SCALE: 1/2"=1'-0"

PRELIMINARY

| | | |
|--|------------|---------------------------------|
|  ORANGE Shipbuilding Co., Inc. A CONRAD INDUSTRIES CO. <small>710 MARKET STREET-ORANGE, TEXAS 77630 PHONE 409-883-6666 FAX 409-882-0609</small> | | |
|  GUARINO & COX, LLC <small>19399 HELENBURG RD, SUITE 203 DOWNTOWN LA. 70433</small> | | |
| ORANGE SHIPBUILDING CO. INC. NORTH CAROLINA DOT FERRY DIVISION NEW SOUND CLASS FERRY FILLS, VENTS & SOUNDS ARRANGEMENT & DETAILS | | |
| DRAWN BY: | JCM | DATE: 4/28/10 |
| CK'D BY: | KHK | HULL No. 413 |
| SCALE: | 1/2"=1'-0" | G&C Job No. 09-060 |
| | | DWG NO. 506-02 SHT 8 OF 8 |
| | | REV. P |

| MATERIAL SCHEDULE | | | | | | | | | |
|---|-----------------------------|--|--|--------------------|--|--|--|---|---------|
| SERVICE | SIZE | PIPE | TAKEDOWN JOINTS | | | FITTINGS | VALVES | | REMARKS |
| | | | MATERIAL | GASKETS | BOLTING | | BODY | TRIM | |
| LUBE OIL, GEAR OIL & FUEL OIL VENTS SOUNDING TUBES & OVERFLOWS NOT LOCATED IN WEATHER | 2 1/2" & ABV | CARBON STEEL SCH 40 ASTM A53 GRADE B SMLS ANSI B36.10 | FLANGED, SLIP-ON CARBON STEEL 150# ASTM A105 ANSI B16.5 | GARLOCK STYLE 3000 | BOLTS: STL, GALV ASTM A307 GRADE B ANSI B16.9 NUTS: GALV ASTM A563 GRADE A ANSI B18.2.2 | CARBON STEEL, BUTT WELD, SCH 40 ASTM A234 ANSI B16.9 | GATE: CARBON STEEL FLANGED, 150# ASTM A105 ANSI B16.5 & B16.34 | STAINLESS STEEL RENEWABLE DISC & SEAT | |
| | 2" & BELOW | | UNION, GROUND JOINT CARB STEEL SOCKET WELD, 3000# ASTM A105 ANSI B16.11 | | | CARB STEEL, SOCKET WELD, 3000# ASTM A105 ANSI B16.11 | | | |
| VENTS SOUNDING TUBES & OVERFLOWS LOCATED IN WEATHER | 2 1/2" & ABV | STAINLESS STEEL SCH 40 ASTM A312 SMLS ANSI B36.19 | FLANGED, SLIP-ON STAINLESS STEEL 150# ASTM A182 ANSI B16.5 | GARLOCK STYLE 3000 | | STAINLESS STEEL, BUTT WELD, SCH 40 ASTM A403 ANSI B16.9 | GATE: RISING STEM, STAINLESS STEEL FLANGED, 150# ASTM A182 ANSI B16.5 & B16.34 | STAINLESS STEEL RENEWABLE DISC & SEAT | |
| | 2" & BELOW | | UNION, GROUND JOINT STAINLESS STEEL SOCKET WELD, 3000# ASTM A403 ANSI B16.11 | | | STAINLESS STEEL, SOCKET WELD, 3000# ASTM A403 ANSI B16.11 | | | |
| POTABLE WATER VENTS SOUNDING TUBES & OVERFLOWS NOT LOCATED IN WEATHER | 2 1/2" & ABV | CARBON STEEL GALV SCH 40 ASTM A53 GRADE B SMLS ANSI B36.10 | FLANGED, SLIP-ON CARBON STEEL 150# GALV. ASTM A105 ANSI B16.5 | GARLOCK STYLE 3000 | | CARBON STEEL, GALV, BUTT WELD, SCH 40 ASTM A234 ANSI B16.9 | GATE: STAINLESS STEEL FLANGED, 150# ASTM A182 ANSI B16.5 & B16.34 | STAINLESS STEEL RENEWABLE DISC & SEAT | |
| | 2" & BELOW | | UNION, GROUND JOINT CARBON STEEL GALV SOCKET WELD, 3000# ASTM A182 ANSI B16.11 | | | CARBON STEEL, GALV, SOCKET WELD, 3000# ASTM A105 ANSI B16.11 | | | |
| SEA CHEST VENTS | 1" & ABV | STAINLESS STEEL SCH 40 ASTM A312 SMLS ANSI B36.19 | FLANGED, SLIP-ON STAINLESS STEEL 150# ASTM A182 ANSI B16.5 | GARLOCK STYLE 3000 | BOLTS: STL, GALV ASTM A307 GRADE B ANSI B16.9 NUTS: GALV ASTM A563 GRADE A ANSI B18.2.2 | STAINLESS STEEL BUTT WELD SCH 40 ASTM A403 ANSI B16.9 | BALL: FULL PORT STAINLESS STEEL FLANGED, 150# ASTM A351 MSS-SP 72 | STAINLESS STEEL RENEWABLE DISC & SEAT | |
| | 3/4" & BELOW | | UNION, GROUND JOINT STAINLESS STEEL SOCKET WELD, 3000# ASTM A182 ANSI B16.11 | | | STAINLESS STEEL SOCKET WELD, 3000# ASTM A403 ANSI B16.11 | BALL: FULL PORT STAINLESS STEEL THREADED ASTM A351 MSS-SP 72 | | |
| GRAY WATER & BLACK WATER VENTS & MSD VENT | ALL INTERIOR 2" & ABOVE | CARBON STEEL SCH 40, GALV ERW ASTM A53 GRADE B | FLANGE STL GALV 150# WELD NECK ASTM A105 ANSI B16.5 | GARLOCK STYLE 3000 | BOLTS: STL, GALV ASTM A307 GRADE B ANSI B16.9 NUTS: GALV ASTM A563 GRADE A ANSI B18.2.2 | CARBON STEEL, GALV 125# SCH 40 ASTM A234 ANSI B16.12 BUTT WELD | CHECK: BRONZE ASTM B61 & B62 FLANGED MSS-SP-80 150# BALL: FULL PORT BRONZE BODY ASTM B61 150# FLANGED MSS-SP-72 | BRONZE DISK AND REGRINDABLE SEAT BRONZE BALL TFE SEAT & SEAL | |
| | ALL INTERIOR 1-1/2" & BELOW | | UNION MAL IRON, GALV 150# ASTM A197 ANSI B16.3 THREADED | | | CHECK: BRONZE ASTM B61 & B62 SOCKET WELD MSS-SP-80 150# BALL: FULL PORT BRONZE BODY ASTM B61 150# SCREWED MSS-SP-72 | | | |
| DIRTY OIL & OILY WASTE VENTS & SOUNDING TUBES NOT LOCATED IN WEATHER | 2 1/2" & ABV | CARBON STEEL SCH 40 ASTM A53 GRADE B SMLS ANSI B36.10 | FLANGED, SLIP-ON CARBON STEEL 150# ASTM A105 ANSI B16.5 | GARLOCK STYLE 3000 | BOLTS: STL, GALV ASTM A307 GRADE B ANSI B16.9 NUTS: GALV ASTM A563 GRADE A ANSI B18.2.2 | CARBON STEEL, BUTT WELD, SCH 40 ASTM A234 ANSI B16.9 | QUICK-CLOSING CARBON STEEL THREADED, 150# ASTM A105 ANSI B16.34 | STAINLESS STEEL | |
| | 2" & BELOW | | UNION, GROUND JOINT CARB STEEL SOCKET WELD, 3000# ASTM A105 ANSI B16.11 | | | CARB STEEL, SOCKET WELD, 3000# ASTM A105 ANSI B16.11 | | | |

| REFERENCES | | |
|------------|--------|--|
| 1. | 101-01 | OUTBOARD & INBOARD PROFILE |
| 2. | 101-02 | GENERAL ARRANGEMENTS |
| 3. | 533-01 | POTABLE WATER SYSTEM SCHEMATIC |
| 4. | 200-01 | MACHINERY ARRANGEMENT |
| 5. | 261-01 | FUEL OIL SYSTEM SCHEMATIC |
| 6. | 506-02 | FILLS, VENTS & SOUNDS ARR'G. & DETAILS |
| 7. | 163-01 | SEA CHESTS |
| 8. | 528-01 | OVERBOARD DRAINS & SEWAGE SYSTEM SCHEMATIC |
| 9. | 551-01 | COMPRESSED AIR SYSTEM SCHEMATIC |
| 10. | 110-01 | SCANTING PLANS BOW-FR. 35 |
| 11. | 568-01 | BOW THRUSTER INSTALLATION |

| REVISIONS | | | |
|-----------|------|---|----------------|
| REV | ZONE | DESCRIPTION | DATE BY/APP'D |
| 1 | 21-A | 1. REMOVED AFT VOID COMPARTMENT VENT FROM DETAIL "21-A". | 5/13/10/CM/KHK |
| 11 | C | 2. DELETED FWD GRAY WATER SUMP TANK & RELOCATED FWD BLACK WATER SUMP TANK TO THE STBD SIDE. | |
| 13 | C | 3. ADDED REF. 8 TO MSD VENT, BLACK & GRAY WATER SUMP VENT CALL-OUTS & ADDED NAV BRIDGE DECK PLAN. | |
| 14 | C | 4. ADDED DETAIL "17-C" FOR BOW THRUSTER SEA CHEST VENT & REF. 10 & 11. | |
| 15 | A | 5. CORRECTED SIZES FOR FUEL OIL TANK FILLS & VENTS AT TANKS. | |
| 17 | C | 6. REVISED THE SIZE OF THE LUBE OIL & GEAR OIL TANK VENTS ON DETAIL "23-C" PER DEVELOPMENT. | |
| 3-D | | | |
| 14-C | | | |
| 23-D | | | |

| PIPING SYMBOLS | |
|----------------|---|
| | PIPE |
| | DIRECTION OF FLOW |
| | PIPE UP |
| | PIPE DOWN |
| | QUICK CLOSING GATE VALVE |
| | DECK OR BHD PENETRATION |
| | GATE VALVE |
| | BALL VALVE - FULL PORT ONLY |
| | SOUNDING TUBE TERMINAL |
| | SIGHT GAUGE, SEE NOTE 5 |
| | CAMLOCK QUICK CONNECT W/DUST CAP SEE NOTE 6 |
| | BALLCHECK VENT W/ SS FLAME SCREEN |
| | BALLCHECK VENT W/ SS INSECT SCREEN |
| | VENT W/ SS FLAME SCREEN |

- ### GENERAL NOTES
- MATERIALS AND WORKMANSHIP SHALL CONFORM TO U.S. COAST GUARD REQUIREMENTS FOR SUBCHAPTER "H" VESSELS AND AMERICAN BUREAU OF SHIPPING RULES FOR VESSELS UNDER 90 METERS.
 - EQUIPMENT LAYOUT WITHIN A GIVEN AREA IS ONLY APPROXIMATE. PROVISION OF EQUIPMENT SHALL BE AS SHOWN ON THIS DRAWING AND AS DESCRIBED BY REF. (4).
 - FOR SOUNDING TUBES, PIPE BENDS WITH A RADIUS OF 10 FT SHALL BE USED IN LIEU OF ELBOWS.
 - SOUNDING TUBES SHALL BE AS VERTICAL AS PRACTICAL AND SHALL TERMINATE AS CLOSE AS POSSIBLE TO THE DEEPEST POINT OF THE TANK OR VOID.
 - THE FUEL OIL, GEAR OIL, LUBE OIL AND POTABLE WATER TANKS SHALL EACH BE FITTED WITH GEMS SURESITE GAUGES INDICATING THE FULL RANGE OF THE TANKS AS FEASIBLE.
 - THE POTABLE WATER, LUBE OIL, GEAR OIL AND FUEL OIL FILLS SHALL EACH BE FITTED WITH STAINLESS STEEL CAMLOCK FITTINGS WITH LOCKABLE DUST CAPS IN THE FOLLOWING SIZES:
2" POTABLE WATER TANKS, 2 PLACES
2" FUEL OIL TANKS, 2 PLACES
1 1/2" L.O. TANK
1 1/2" GEAR OIL TANK
 - FILL PIPING SHALL BE LABELED AND COLOR CODED AS FOLLOWS:
LT BLUE: POTABLE WATER
BLACK: FUEL OIL
YELLOW: LUBE OIL
YELLOW/BLACK: GEAR OIL
 - ALL PIPES, FITTINGS & VALVES EXPOSED TO THE WEATHER SHALL BE STAINLESS STEEL. ALL OTHER PIPES FITTING & VALVES TO BE STEEL.
 - FILL & VENT STATIONS SHALL BE FITTED WITH A REMOVABLE SS WELDED WIRE DOOR WITH LOCKING HASP. FASTENERS AND HARDWARE SHALL BE STAINLESS STEEL.
 - HORIZONTAL PIPE RUNS GREATER THAN 3 FT SHALL BE SLOPED TO ALLOW DRAINAGE. LONGITUDINAL RUNS SHALL HAVE A SLOPE OF 1/8 IN FOR EVERY 1 FT. TRANSVERSE PIPE RUNS SHALL HAVE A SLOPE OF 1/4 IN FOR EVERY 1 FT.
 - SPILL CONTAINMENTS TO BE AT LEAST 1/2 BARREL (21 GALLON) CAPACITY.

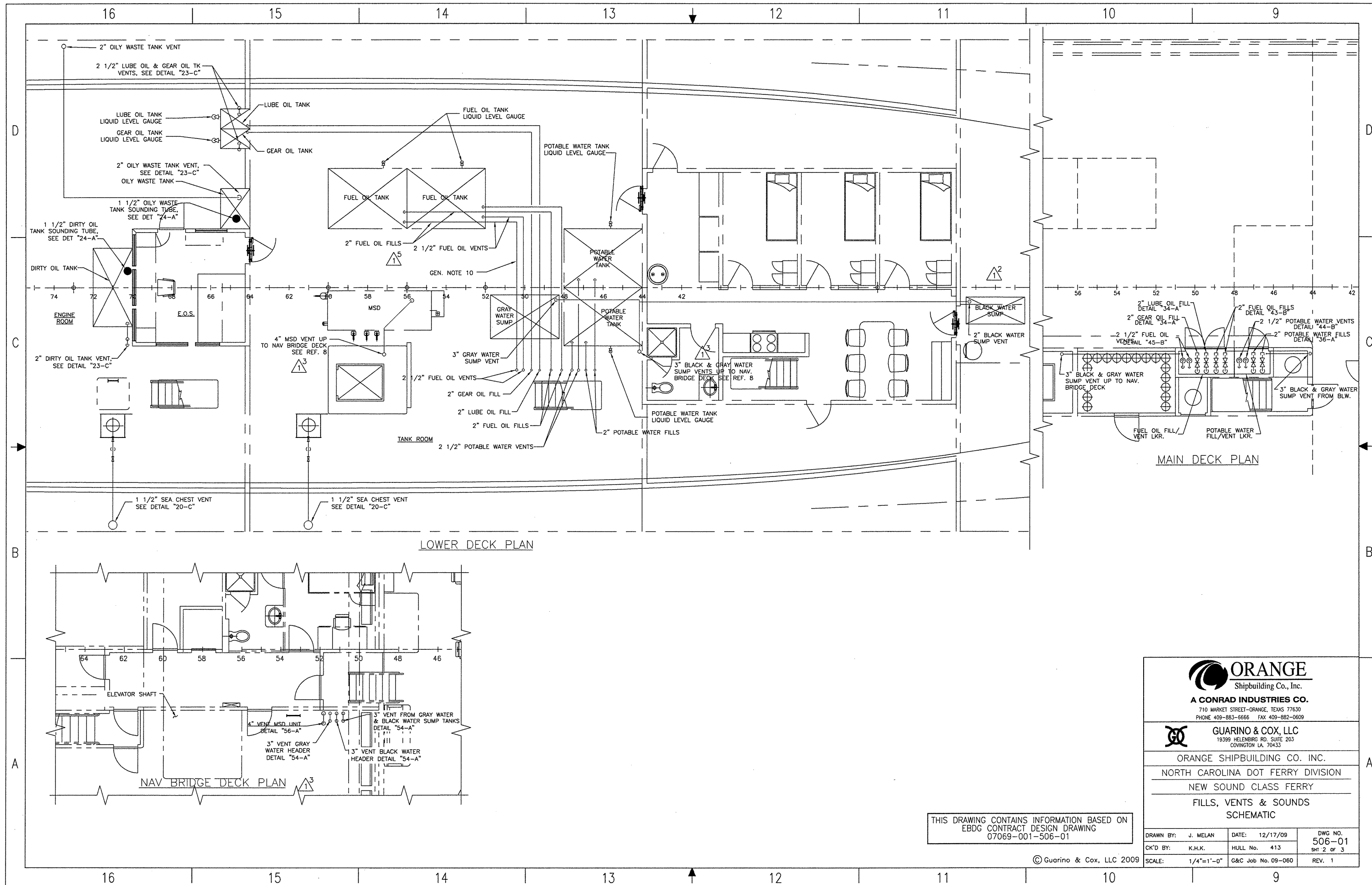
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NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY
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| | | |
|--------------------|--------------------|----------------|
| DRAWN BY: J. MELAN | DATE: 12/17/09 | DWG NO. 506-01 |
| CK'D BY: K.H.K. | HULL No. 413 | SHT 1 OF 3 |
| SCALE: NONE | G&C Job No. 09-060 | REV. 1 |



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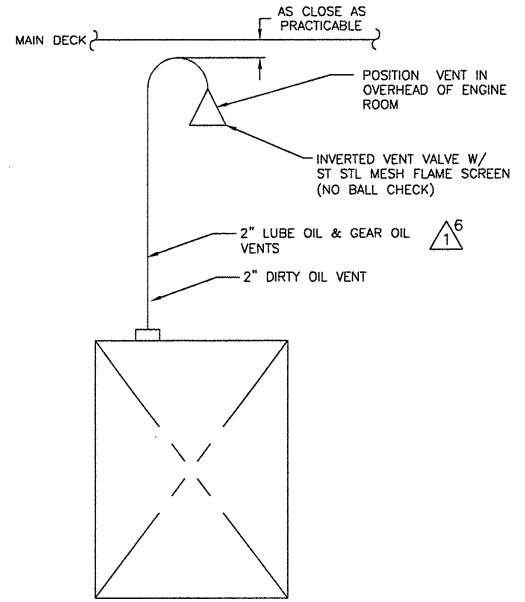
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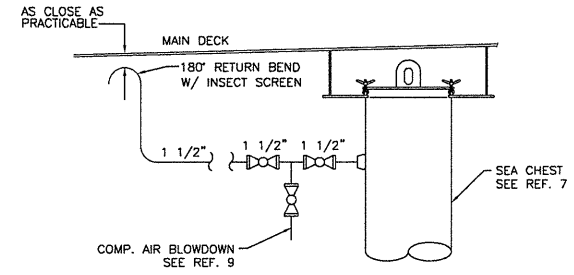
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 FILLS, VENTS & SOUNDS
 SCHEMATIC

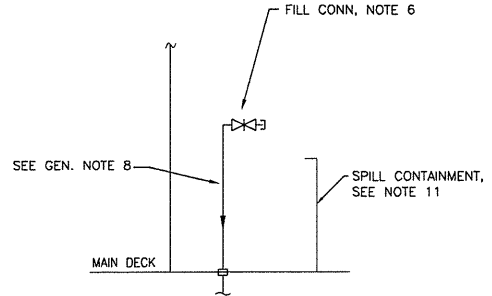
| | | |
|--------------------|--------------------|----------------|
| DRAWN BY: J. MELAN | DATE: 12/17/09 | DWG NO. 506-01 |
| CK'D BY: K.H.K. | HULL No. 413 | SHI 2 OF 3 |
| SCALE: 1/4"=1'-0" | G&C Job No. 09-060 | REV. 1 |



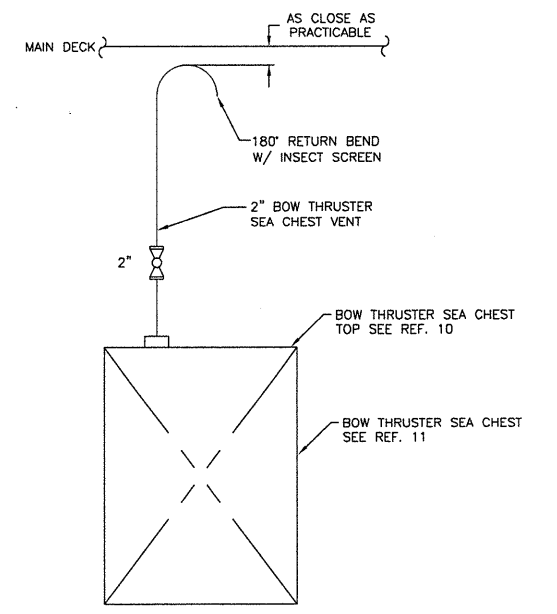
DETAIL "23-C"
LUBE OIL, GEAR OIL & DIRTY OIL TANKS VENT DETAIL



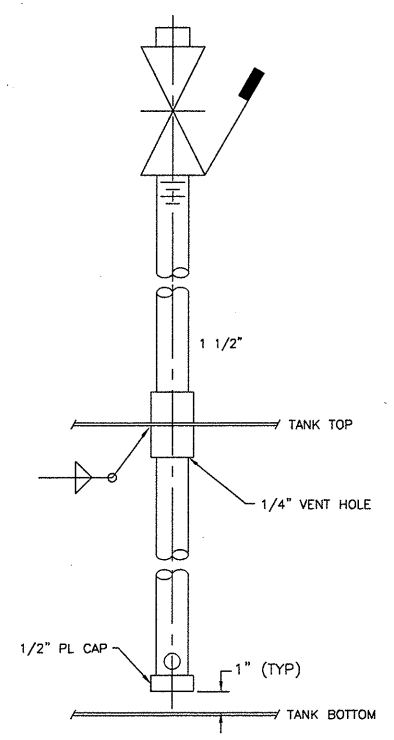
DETAIL "20-C"
SEA CHEST VENT



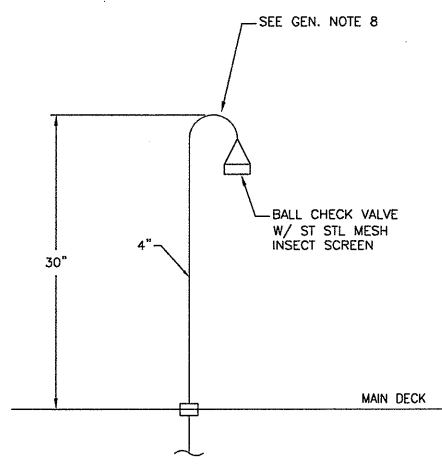
DETAIL "19-C"
GEAR OIL FILL, LUBE OIL FILL & POTABLE WATER TANKS FILL



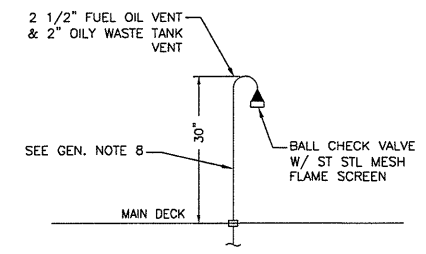
DETAIL "17-C"
BOW THRUSTER SEA CHEST VENT DETAIL



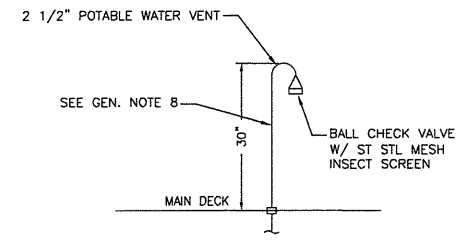
DETAIL "24-A"
OILY WASTE & DIRTY OIL TANK SOUNDING TUBE



DETAIL "21-A"
(COMPARTMENT VENTS)
VOID BELOW CREW QUARTERS,
FWD VOID, FOREPEAK VOID
& STEERING COMPARTMENT
(2 VENTS EACH COMPARTMENT)



DETAIL "19-B"
FUEL OIL TANK VENT
OILY WASTE TANK VENT



DETAIL "19-A"
POTABLE WATER TANK VENT

THIS DRAWING CONTAINS INFORMATION BASED ON
EBDG CONTRACT DESIGN DRAWING
07069-001-506-01

| | | | |
|---|----------|-------------|--|
| <p>ORANGE Shipbuilding Co., Inc. A CONRAD INDUSTRIES CO. 710 MARKET STREET-ORANGE, TEXAS 77630 PHONE 409-883-6666 FAX 409-882-0609</p> | | | |
| <p>GUARINO & COX, LLC 19399 HELENBURG RD, SUITE 203 COWINGTON LA 70433</p> | | | |
| <p>ORANGE SHIPBUILDING CO. INC. NORTH CAROLINA DOT FERRY DIVISION NEW SOUND CLASS FERRY</p> | | | |
| <p>FILLS, VENTS & SOUNDS SCHEMATIC</p> | | | |
| DRAWN BY: | J. MELAN | DATE: | 12/17/09 |
| CK'D BY: | K.H.K. | HULL No. | 413 |
| SCALE: | NONE | G&C Job No. | 09-060 |
| | | | DWG NO. 506-01 Sht 3 of 3 |
| | | | REV. 1 |

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| MATERIAL SCHEDULE | | | | | | | | | |
|-------------------|---------------|--|---|--------------------|--|--|--|--|---------|
| SERVICE | SIZE | PIPE | TAKEDOWN JOINTS | | | FITTINGS | VALVES | | REMARKS |
| | | | MATERIAL | GASKETS | BOLTING | | BODY | TRIM | |
| FIREMAIN | 2 1/2" & OVER | 316 STAINLESS STEEL, SCH 40, ASTM A-312 SMLS | FLANGE, 316 STAINLESS STEEL, SLIP-ON, 150#, ASTM A-182 | GARLOCK STYLE 3000 | BOLTS: 316 STAINLESS STEEL GRADE 316 ASTM F593 | 316 STAINLESS STEEL BUTT WELD, SCH. 40, ASTM A403 | BALL: FLANGED ENDS 150# STAINLESS STEEL, ASTM A351/A744 CF8M | STAINLESS STEEL BALL AND STEM TEFLON SEATS AND SEALS | |
| | 2" & UNDER | | UNION, 316 STAINLESS STEEL SOCKET WELD, GROUND JOINT, 3000#, ASTM A-182 | | NUTS: 316 STAINLESS STEEL GRADE 316 ASTM F594 | 316 STAINLESS STEEL SOCKET WELD, 3000#, ASTM A-182 | GATE: STAINLESS STEEL, THREADED, ASTM A351/A744 CF8M | STEM OR DISK CRES, ASTM A182 | |

| REFERENCES | | |
|------------|--------|--|
| 1. | 101-01 | OUTBOARD AND INBOARD PROFILE |
| 2. | 101-02 | GENERAL ARRANGEMENTS |
| 3. | 200-01 | MACHINERY ARRANGEMENT |
| 4. | 320-01 | ELECTRICAL ONE-LINE DIAGRAM, AC SYSTEM |
| 5. | 521-02 | FIRE MAIN SYSTEM ARRANGEMENT & DETAILS |
| 6. | 522-01 | SPRINKLER SYSTEM SCHEMATIC |
| 7. | 529-01 | BILGE & OILY WATER SYSTEM SCHEMATIC |
| 8. | 163-01 | SEA CHESTS |
| 9. | 110-01 | SCANTLING PLANS, BOW-FR. 35 |

| REVISIONS | | | |
|-----------|------|---|---------------|
| REV | ZONE | DESCRIPTION | DATE BY/APP'D |
| 1 | 3D | 1. REV. FITTINGS CALLOUT IN MATERIAL SCHEDULE & CAPACITY COLUMN. | 5/18/10 JB/KK |
| 2 | 13A | 2. REV. PLANS "13-A" & "13-C" PIPE ROUTING TO AGREE WITH DWG. 521-02. | |
| 3 | 21C | 3. REV. PLANS "21-C" & "22-A" PIPE ROUTING TO AGREE WITH DWG. 521-02. | |

| PUMP LIST | | | | | |
|-----------|------------------------|-------------------------------------|--|-----------------------------|--------------------------------------|
| QTY. | SERVICE | TYPE | MODEL | CAPACITY | DRIVE |
| 2 | FIRE SEE GEN NOTE 6 | SELF-PRIMING HORIZONTAL CENTRIFUGAL | GOULDS 3796 MTX 2x2x10 (IMPELLER TRIMMED TO 8.5" DIA.) | 170 GPM @24.3' TDH (APPROX) | 208 VAC, 3ø 25 HP, 3550 RPM IEEB-841 |

GENERAL NOTES

- MATERIALS AND WORKMANSHIP SHALL CONFORM TO U.S. COAST GUARD REQUIREMENTS FOR SUBCHAPTER "H" VESSELS AND AMERICAN BUREAU OF SHIPPING RULES FOR VESSELS UNDER 90 METERS.
- EQUIPMENT LAYOUT WITHIN A GIVEN AREA IS ONLY APPROXIMATE. PROVISION OF EQUIPMENT SHALL BE AS SHOWN ON THIS DRAWING AND AS DESCRIBED BY REFERENCE 5.
- ALL VALVES LOCATED BELOW THE FLOOR PLATES SHALL BE PROVIDED WITH REACH RODS. ALL VALVES SHALL BE PROVIDED WITH VISUAL CLOSURE STATUS.
- DISCHARGE CHECK VALVES SHALL BE ORIENTED IN THE FORE AND AFT DIRECTION.
- FIRE STATIONS SHALL BE SIZED 1 1/2" AND FITTED WITH ANGLE GLOBE HOSE VALVE, 50 FEET OF 1 1/2" RUBBER-LINED FIRE HOSE, HOSE WRENCH, AND COMBINATION NOZZLE. FIRE HOSE SHALL BE CONNECTED AND STOWED IN APPROVED HOSE RACKS.
- THE FIRE PUMP SHALL BE CAPABLE OF REMOTE STARTING. SEE REFERENCE 4.
- LOW POINTS IN THE FIREMAIN SHALL BE FITTED WITH DRAINS.
- REMOTE PRESSURE DISCHARGE GAUGES FOR THE FIRE PUMP SHALL BE LOCATED IN THE PILOTHOUSE.
- FIRE HOSES, HYDRANTS AND COUPLINGS SHALL ALL BE N.S.T. FIRE HOSE COUPLING THREAD.
- FIRE STATIONS IN AREAS ACCESSIBLE TO PASSENGERS, SHALL BE ENCLOSED IN STAINLESS STEEL CABINETS. ALL OTHER FIRE STATIONS SHALL BE OPEN HOSE RACKS.
- NC DOT TO SUPPLY SUITABLE ADAPTERS FOR FIREMAIN SHORE CONNECTIONS WITH COUPLINGS MATING TO THOSE ON THE SHORE FIRE LINES.

| PIPING SYMBOLS | | | |
|----------------|-------------------------|--|--|
| | DIRECTION OF FLOW | | RELIEF VALVE |
| | REDUCER | | GLOBE ANGLE HOSE VALVE |
| | DECK OR BHD PENETRATION | | CAP |
| | PIPE UP | | DUPLEX STRAINER |
| | PIPE DOWN | | PRESSURE GAUGE, LOCAL READING 0-150 PSI |
| | BALL VALVE | | VACUUM/PRESSURE GAUGE, LOCAL READING 30-0-30 PSI |
| | GATE VALVE | | CENTRIFUGAL PUMP |
| | SWING CHECK VALVE | | FIRE STATION, GEN NOTE 5 |
| | PRESSURE SWITCH | | |

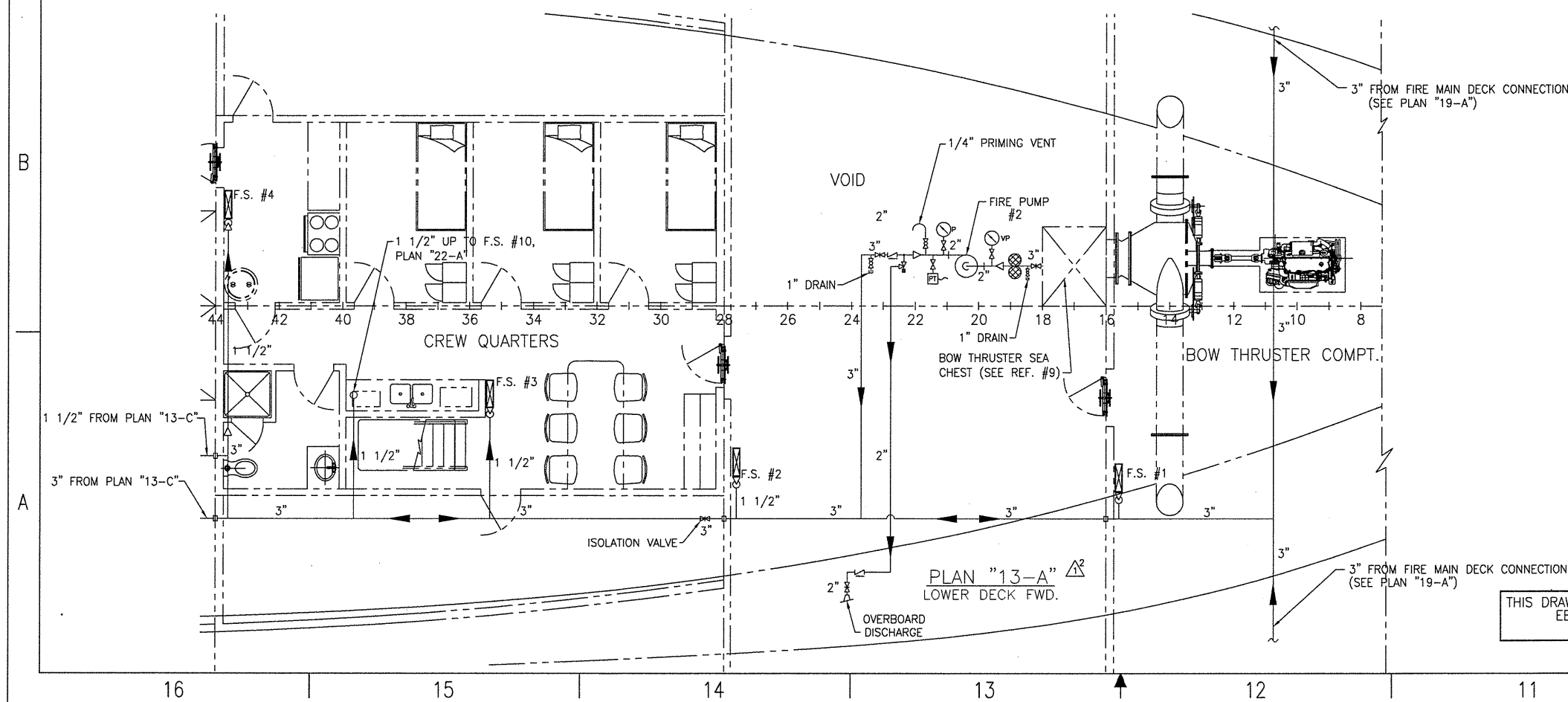
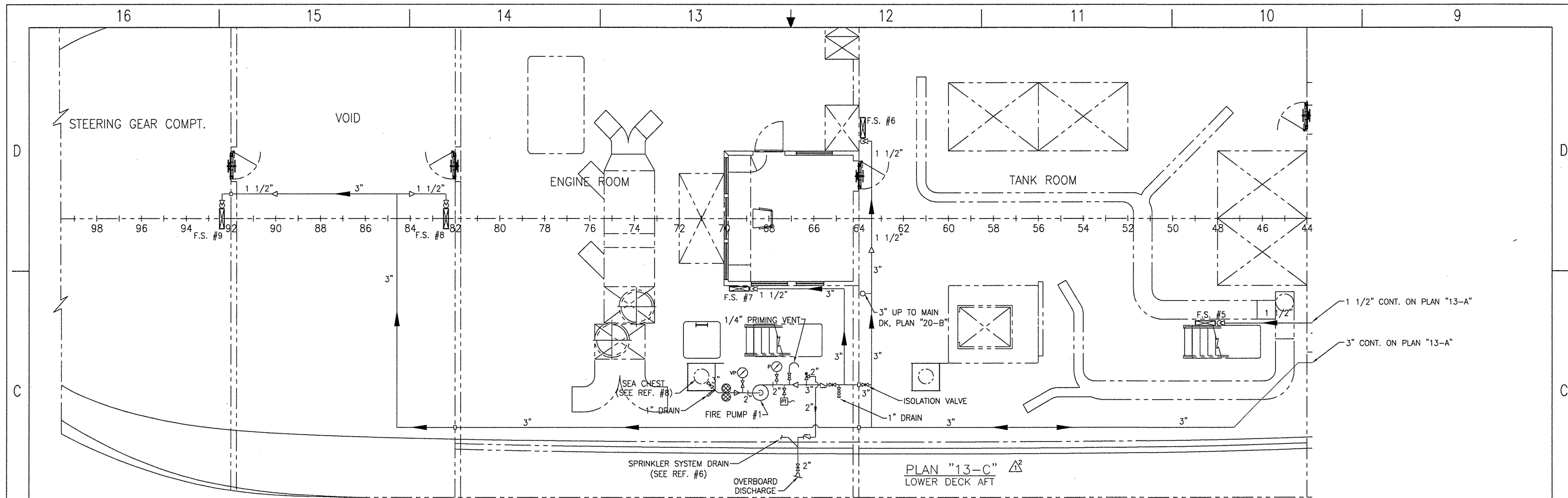
SYSTEM DESIGN CONDITIONS

DESIGN PRESSURE 147 PSIG (MAX)
 TEST PRESSURE 147 PSIG
 TEMPERATURE AMBIENT

THIS DRAWING CONTAINS INFORMATION BASED ON EBDG CONTRACT DESIGN DRAWING 07069-001-521-1

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| | | |
|--|--------------------|----------------|
| ORANGE Shipbuilding Co., Inc. A CONRAD INDUSTRIES CO. 710 MARKET STREET-ORANGE, TEXAS 77630 PHONE 409-883-6666 FAX 409-882-0609 | | |
| GUARINO & COX, LLC 19399 HELENBURG RD, SUITE 203 COWINGTON LA 70433 | | |
| ORANGE SHIPBUILDING CO. INC. NORTH CAROLINA DOT FERRY DIVISION NEW SOUND CLASS FERRY FIRE MAIN SYSTEM SCHEMATIC | | |
| DRAWN BY: J. BEACH | DATE: 1/15/10 | DWG NO. 521-01 |
| CK'D BY: K.H.K. | HULL No. 413 | SHT 1 OF 3 |
| SCALE: NONE | G&C Job No. 09-060 | REV. 1 |



THIS DRAWING CONTAINS INFORMATION BASED ON
EBDG CONTRACT DESIGN DRAWING
07069-001-521-1

ORANGE
Shipbuilding Co., Inc.
A CONRAD INDUSTRIES CO.
710 MARKET STREET-ORANGE, TEXAS 77630
PHONE 409-883-6666 FAX 409-882-0609

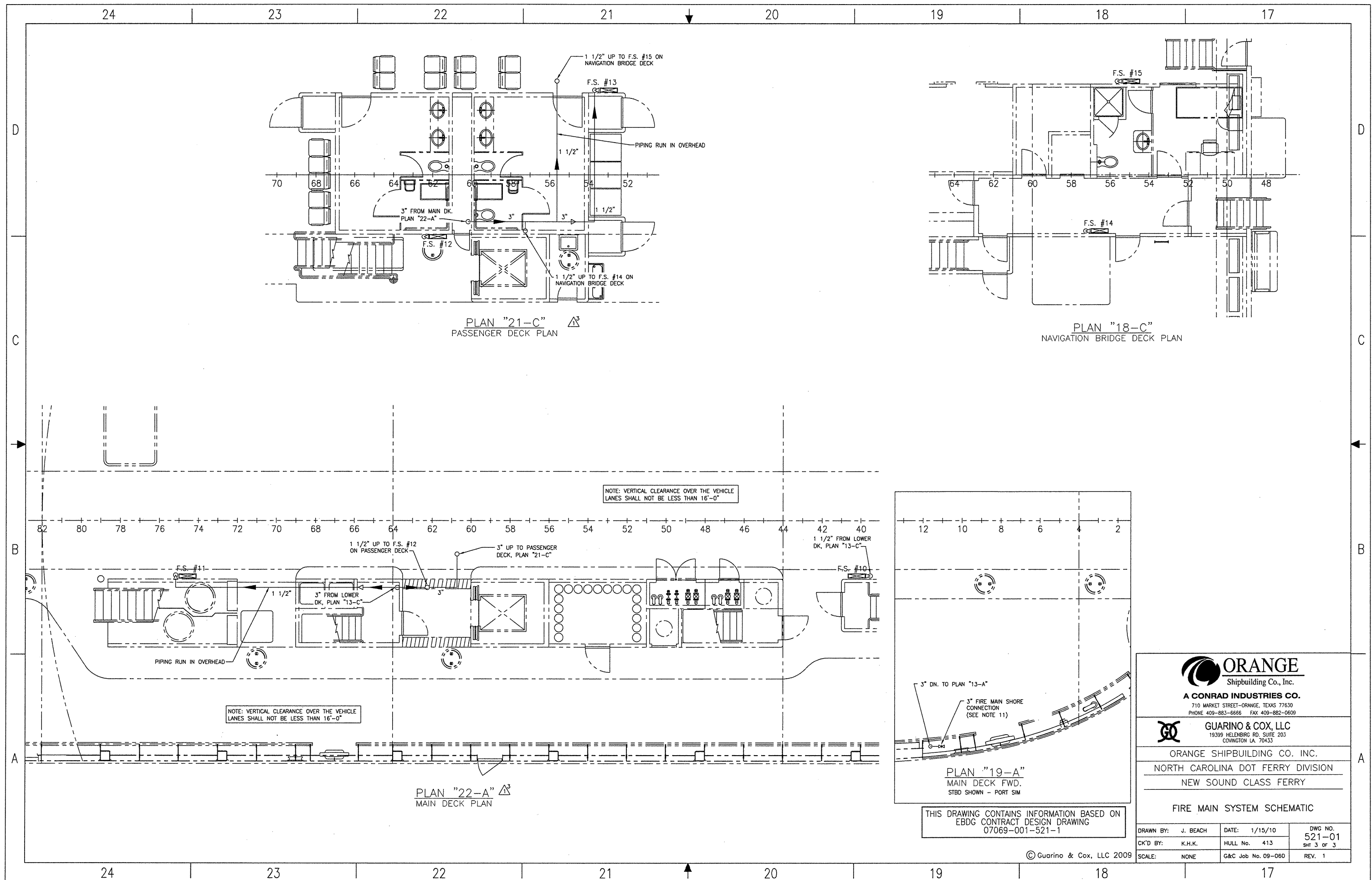
GUARINO & COX, LLC
19399 HELENBERG RD, SUITE 203
COWINGTON LA 70433

ORANGE SHIPBUILDING CO. INC.
NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY

FIRE MAIN SYSTEM SCHEMATIC

| | | |
|--------------------|--------------------|----------------|
| DRAWN BY: J. BEACH | DATE: 1/15/10 | DWG NO. 521-01 |
| CK'D BY: K.H.K. | HULL No. 413 | SHT 2 OF 3 |
| SCALE: NONE | G&C Job No. 09-060 | REV. 1 |

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PLAN "21-C"
PASSENGER DECK PLAN

PLAN "18-C"
NAVIGATION BRIDGE DECK PLAN

PLAN "22-A"
MAIN DECK PLAN

PLAN "19-A"
MAIN DECK FWD.
STBD SHOWN - PORT SIM

NOTE: VERTICAL CLEARANCE OVER THE VEHICLE LANES SHALL NOT BE LESS THAN 16'-0"

NOTE: VERTICAL CLEARANCE OVER THE VEHICLE LANES SHALL NOT BE LESS THAN 16'-0"

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ORANGE
Shipbuilding Co., Inc.
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GUARINO & COX, LLC
19399 HELENBURG RD, SUITE 203
COWINGTON LA 70433

ORANGE SHIPBUILDING CO. INC.
NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY

FIRE MAIN SYSTEM SCHEMATIC

| | | |
|--------------------|--------------------|----------------|
| DRAWN BY: J. BEACH | DATE: 1/15/10 | DWG NO. 521-01 |
| CK'D BY: K.H.K. | HULL No. 413 | SHT 3 OF 3 |
| SCALE: NONE | G&C Job No. 09-060 | REV. 1 |

LIST OF MATERIALS

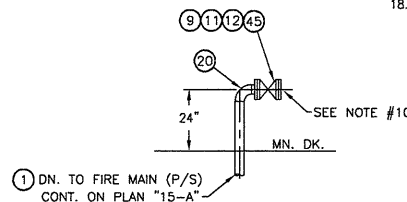
| PIECE No. | QUANTITY | DESCRIPTION | MATERIAL OR MANUFACTURER | SPEC. GRADE OR MODEL | REMARKS |
|-----------|----------|---|-----------------------------------|----------------------|-------------------------------------|
| 1 | 325 FT | 3" PIPE, SCH 40, SEAMLESS | STAINLESS STL 316 | ASTM A312 | ANSI B36.19 |
| 2 | 50 FT | 2" PIPE, SCH 40, SEAMLESS | STAINLESS STL 316 | ASTM A312 | ANSI B36.19 |
| 3 | 100 FT | 1 1/2" PIPE, SCH 40, SEAMLESS | STAINLESS STL 316 | ASTM A312 | ANSI B36.19 |
| 4 | 3 FT | 1" PIPE, SCH 40, SEAMLESS | STAINLESS STL 316 | ASTM A312 | ANSI B36.19 |
| 5 | 6 FT | 1/4" PIPE, SCH 40, SEAMLESS | STAINLESS STL 316 | ASTM A312 | ANSI B36.19 |
| 6 | 1 FT | 2" PIPE, X-STRG., SEAMLESS | CARBON STL | ASTM A53, GR B | ANSI B36.10 |
| 7 | 2 FT | 3/4" PIPE, X-STRG., SEAMLESS | STAINLESS STL 316 | ASTM A312 | ANSI B36.19 |
| 8 | 1 FT | 3" PIPE, X-STRG., SEAMLESS | CARBON STL | ASTM A53, GR B | ANSI B36.10 |
| 9 | 22 | 3" FLANGE, 150#, RF | STAINLESS STL 316 | ASTM A182 | ANSI B16.5 |
| 10 | 12 | 2" FLANGE, 150#, RF | STAINLESS STL 316 | ASTM A182 | ANSI B16.5 |
| 11 | 2 | 3" BLIND FLANGE, 150#, RF | STAINLESS STL 316 | ASTM A182 | ANSI B16.5 |
| 12 | 8 | 3" GATE VALVE, 125# FLANGED, RF | STAINLESS STL | ASTM A351/A744 | ANSI B16.34, CF8M, CRES STEM & DISC |
| 13 | 2 | 3" SWING CHECK VALVE, 150# FLANGED, RF | STAINLESS STL | ASTM A351/A744 | ANSI B16.34, CF8M, CRES DISC |
| 14 | 2 | 2" GATE VALVE, 125# FLANGED, RF | STAINLESS STL | ASTM A351/A744 | ANSI B16.34, CF8M, CRES STEM & DISC |
| 15 | 2 | 2" SWING CHECK VALVE, 150# FLANGED, RF | STAINLESS STL | ASTM A351/A744 | ANSI B16.34, CF8M, CRES DISC |
| 16 | 2 | 2" PRESSURE RELIEF VALVE, 150# THREADED, 147 P.S.I. SET PRESSURE | STAINLESS STL | ASTM A351 | KUNKLE MODEL 171S, CF8M, S.S. TRIM |
| 17 | 5 | 1" BALL VALVE, THREADED, TEFLON SEAT & SEALS | STAINLESS STL | ASTM A351/A744 | FULL PORT, S.S. BALL & STEM |
| 18 | 8 | 1/4" BALL VALVE, THREADED, TEFLON SEAT & SEALS | STAINLESS STL | ASTM A351/A744 | FULL PORT, S.S. BALL & STEM |
| 19 | | | | | |
| 20 | 13 | 3" 90° ELBOW, B.W., SCH 40 | STAINLESS STL | ASTM A403 | ANSI B16.9 |
| 21 | 11 | 3" 45° ELBOW, B.W., SCH 40 | STAINLESS STL | ASTM A403 | ANSI B16.9 |
| 22 | 11 | 2" 90° ELBOW, SOCKET WELD, 3000# | STAINLESS STL | ASTM A182 | ANSI B16.11 |
| 23 | 20 | 1 1/2" 90° ELBOW, SOCKET WELD, 3000# | STAINLESS STL | ASTM A182 | ANSI B16.11 |
| 24 | 1 | 3/4" 90° ELBOW, SOCKET WELD, 3000# | STAINLESS STL | ASTM A182 | ANSI B16.11 |
| 25 | 2 | 1 1/2" 45° ELBOW, SOCKET WELD, 3000# | STAINLESS STL | ASTM A182 | ANSI B16.11 |
| 26 | 11 | 3" TEE B.W. SCH 40 | STAINLESS STL | ASTM A403 | ANSI B16.9 |
| 27 | 1 | 1 1/2" TEE, SOCKET WELD, 3000# | STAINLESS STL | ASTM A182 | ANSI B16.11 |
| 28 | 2 | 1 1/2"x1" REDUCING INSERT, SOCKET WELD, 3000# | STAINLESS STL | ASTM A182 | ANSI B16.11 |
| 29 | 2 | 1 1/2" TEE, SOCKET WELD, 3000# | STAINLESS STL | ASTM A182 | ANSI B16.11 |
| 30 | 6 | REDUCER, CONCENTRIC 3"x2", B.W., SCH 40 | STAINLESS STL | ASTM A403 | ANSI B16.9 |
| 31 | 6 | REDUCER, CONCENTRIC 3"x1 1/2", B.W., SCH 40 | STAINLESS STL | ASTM A403 | ANSI B16.9 |
| 32 | 11 | 3" DECK/BHD PENETRATIONS, 4" PIPE, SCH. 80, SEAMLESS, 3" LONG | CARBON STL | ASTM A106/A53 | SEE DET "11-B" |
| 33 | 12 | 1 1/2" DECK/BHD PENETRATIONS, 2" PIPE, SCH. 40, SEAMLESS, 3" LONG | CARBON STL | ASTM A106/A53 | SEE DET "11-B" |
| 34 | | | | | |
| 35 | | | | | |
| 36 | 2 | 3" DUPLEX BASKET STRAINER, 125# FLANGED | BRONZE | ASTM B62 | HAYWARD MOD 50 W/SSTL BASKET & TRIM |
| 37 | 2 | PRESSURE GAUGE, 1/4" | STAINLESS STL | ASHCROFT DURALIFE | 0-160 PSI |
| 38 | 2 | VACUUM/PRESSURE GAUGE, 1/4" | STAINLESS STL | ASHCROFT DURALIFE | 30/0/30 |
| 39 | 12 | 1 1/2" SOC-O-LET | STAINLESS STL | ASTM A182 | ANSI B16.11 |
| 40 | 4 | 1" SOC-O-LET | STAINLESS STL | ASTM A182 | ANSI B16.11 |
| 41 | 1 | 3/4" SOC-O-LET | STAINLESS STL | ASTM A182 | ANSI B16.11 |
| 42 | 8 | 1/4" SOC-O-LET | STAINLESS STL | ASTM A182 | ANSI B16.11 |
| 43 | 5 | 1" PIPE CAP, 3000#, THREADED | STAINLESS STL | ASTM A182 | ANSI B16.11 |
| 44 | | | | | |
| 45 | 22 | 3" FLG. GASKET, FULL FACE, 1/8" THICK | ARAMID FIBERS W/ A NITRILE BINDER | ASTM F586 | GARLOCK BLUE GUARD 3000 |
| 46 | 12 | 2" FLG. GASKET, FULL FACE, 1/8" THICK | ARAMID FIBERS W/ A NITRILE BINDER | ASTM F586 | GARLOCK BLUE GUARD 3000 |

REFERENCES

| REV | ZONE | DESCRIPTION | DATE | BY/APPRO |
|-----|--------|--|------|----------|
| 1. | 101-01 | OUTBOARD AND INBOARD PROFILE | | |
| 2. | 101-02 | GENERAL ARRANGEMENTS | | |
| 3. | 200-01 | MACHINERY ARRANGEMENT | | |
| 4. | 320-01 | ELECTRICAL ONE-LINE DIAGRAM, AC SYSTEM | | |
| 5. | 521-01 | FIRE MAIN SYSTEM SCHEMATIC | | |
| 6. | 529-01 | BILGE & OILY WATER SYSTEM SCHEMATIC | | |
| 7. | 533-01 | POTABLE WATER SYSTEM SCHEMATIC | | |
| 8. | 522-01 | SPRINKLER SYSTEM SCHEMATIC | | |
| 9. | 522-02 | SPRINKLER SYSTEM ARRANGEMENT & DETAILS | | |
| 10. | 163-01 | SEA CHESTS | | |
| 11. | 568-01 | BOW THRUSTER INSTALLATION | | |

GENERAL NOTES

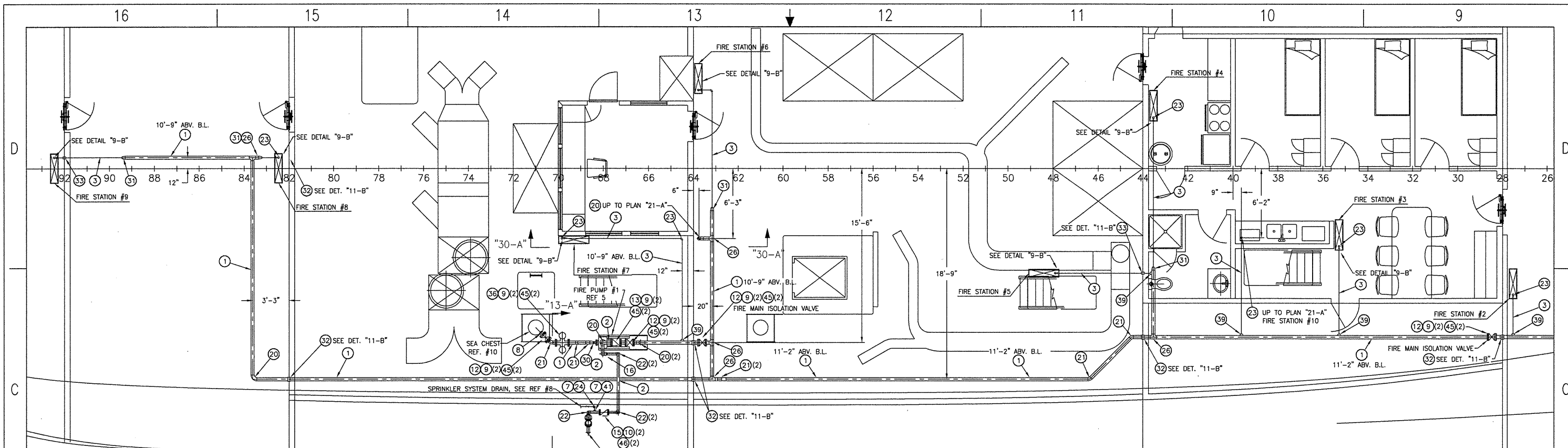
- MATERIALS AND WORKMANSHIP SHALL CONFORM TO U.S. COAST GUARD REQUIREMENTS FOR SUBCHAPTER "H" VESSELS AND AMERICAN BUREAU OF SHIPPING RULES FOR VESSELS UNDER 90 METERS.
- ALL VALVES LOCATED BELOW THE FLOOR PLATES SHALL BE PROVIDED WITH REACH RODS. ALL VALVES SHALL BE PROVIDED WITH VISUAL CLOSURE STATUS.
- DISCHARGE CHECK VALVES SHALL BE ORIENTED IN THE FORE AND AFT DIRECTION.
- FIRE STATIONS SHALL BE SIZED 1 1/2" AND FITTED WITH ANGLE GLOBE HOSE VALVE, 50 FEET OF 1 1/2" RUBBER-LINED FIRE HOSE, HOSE WRENCH, AND COMBINATION NOZZLE. FIRE HOSE SHALL BE CONNECTED AND STOWED IN APPROVED HOSE RACKS.
- THE FIRE PUMP SHALL BE CAPABLE OF REMOTE STARTING. SEE REFERENCE 4.
- LOW POINTS IN THE FIREMAIN SHALL BE FITTED WITH DRAINS.
- REMOTE PRESSURE DISCHARGE GAUGES FOR THE FIRE PUMP SHALL BE LOCATED IN THE PILOTHOUSE.
- FIRE HOSES, HYDRANTS AND COUPLINGS SHALL ALL BE N.S.T. FIRE HOSE COUPLING THREAD.
- FIRE STATIONS IN AREAS ACCESSIBLE TO PASSENGERS, SHALL BE ENCLOSED IN STAINLESS STEEL CABINETS. ALL OTHER FIRE STATIONS SHALL BE OPEN HOSE RACKS.
- NDDOT TO SUPPLY SUITABLE ADAPTERS FOR FIREMAIN SHORE CONNECTIONS WITH COUPLINGS MATING TO THOSE ON THE SHORE FIRE LINES.
- ALL FLANGED CONNECTIONS SHALL BE PROVIDED WITH 316 S.S., GR. 316, ASTM F593 HEX HD. BOLTS, 316 S.S., GR. 316, ASTM F594 NUTS AND 316 S.S. WASHERS.
- PIPING SHALL BE RUN AS DIRECTLY AS POSSIBLE WITH A MINIMUM NUMBER OF BENDS AND FITTINGS. FITTINGS WITH SUFFICIENT JOINTS TO PROVIDE FOR REMOVAL, INSPECTION, SERVICING AND REPLACEMENT OF PIPING, VALVES, FITTINGS AND EQUIPMENT.
- TAKEDOWN JOINTS SHALL BE PROVIDED WHERE NECESSARY FOR REMOVAL & SERVICE OF EQUIPMENT. ADDITIONAL TAKEDOWN JOINTS SHALL BE AVOIDED WHERE PRACTICAL AND SHALL NOT BE LOCATED BEHIND LININGS.
- PIPING PASSING THROUGH WATERTIGHT OR FIRE BOUNDARIES SHALL BE FITTED WITH SLEEVES WELDED TO THE BOUNDARY AND THE PIPE.
- INACCESSIBLE VALVES SHALL BE FITTED WITH REACH RODS OR REMOTE OPERATORS.
- IN ACCOMMODATION SPACES PIPES SHALL BE CONCEALED BEHIND LININGS. ACCESS PANELS SHALL BE PROVIDED FOR VALVES AND OTHER COMPONENTS NEEDING SERVICING.
- UNIONS ARE NOT PERMITTED IN PIPING SYSTEMS BEHIND LININGS, FALSE CEILINGS, OR IN OTHER INACCESSIBLE LOCATIONS.
- ALL PIPING SHALL BE ADEQUATELY SUPPORTED BY HANGERS AND SHALL BE IN ACCORDANCE WITH ASTM F708. HANGERS SHALL BE ATTACHED TO THE PIPE WITH BOLTED CLAMPS AND WELDED TO THE SHIP STRUCTURE. HANGERS SHALL NOT BE ATTACHED BY WELDING DIRECTLY TO THE PIPES.



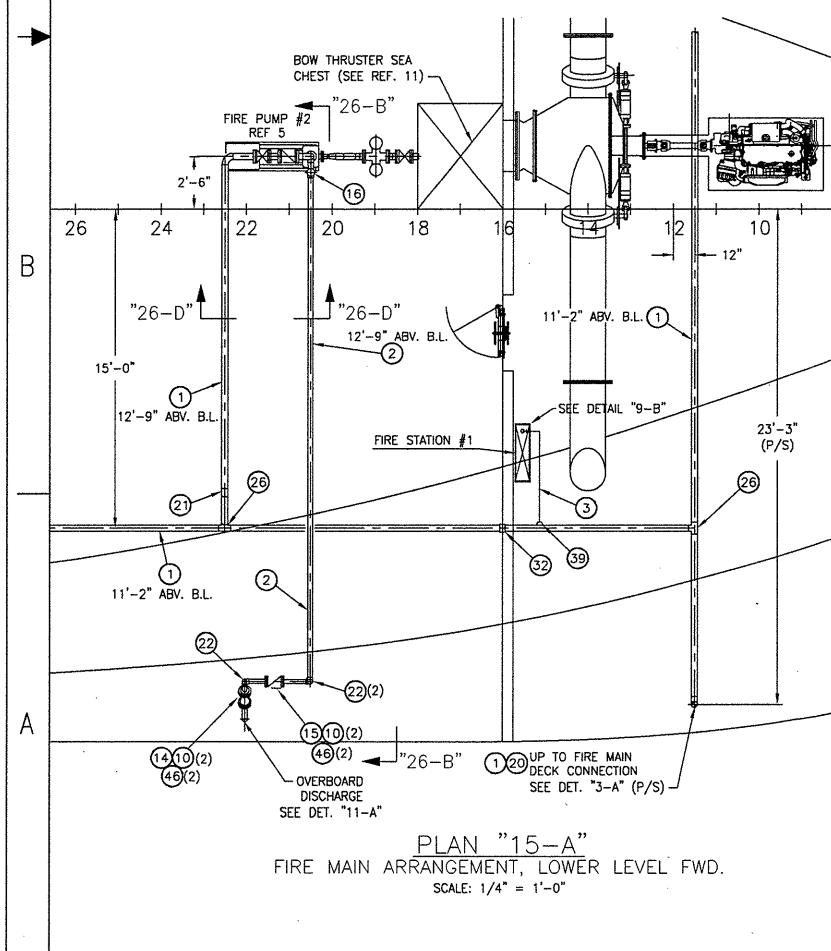
DETAIL "3-A"
FIRE MAIN SHORE CONNECTION (P/S)
SCALE: NONE

THIS DRAWING CONTAINS INFORMATION BASED ON
EBDG CONTRACT DESIGN DRAWING
07069-001-521-2

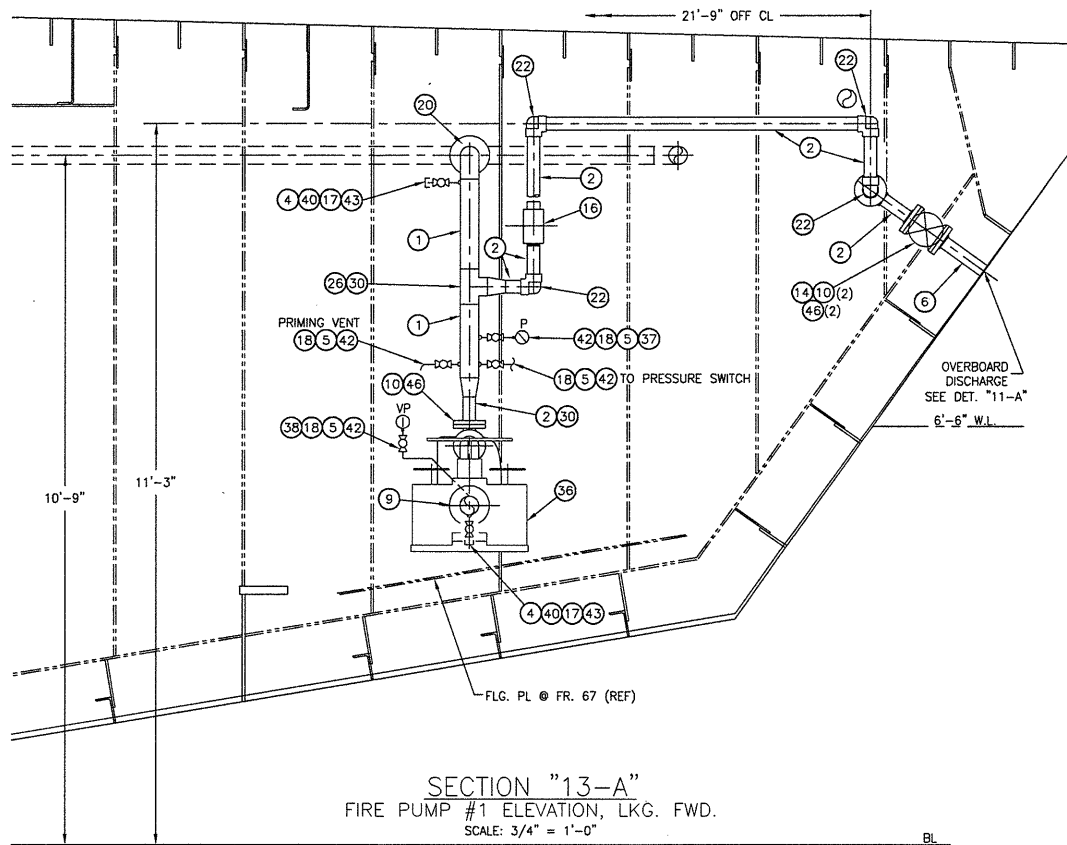
| | | |
|--|--------------------|----------------|
| ORANGE Shipbuilding Co., Inc. A CONRAD INDUSTRIES CO. 710 MARKET STREET-ORANGE, TEXAS 77630 PHONE 409-883-6666 FAX 409-882-0609 | | |
| GUARINO & COX, LLC 19399 HELENBERG RD. SUITE 203 COWINGTON LA. 70433 | | |
| ORANGE SHIPBUILDING CO. INC. NORTH CAROLINA DOT FERRY DIVISION NEW SOUND CLASS FERRY | | |
| FIRE MAIN SYSTEM ARRANGEMENT & DETAILS | | |
| DRAWN BY: J. BEACH | DATE: 5/18/10 | DWG NO. 521-02 |
| CK'D BY: K.H.K. | HULL No. 413 | SHT 1 OF 4 |
| SCALE: NONE | G&C Job No. 09-060 | REV. 0 |



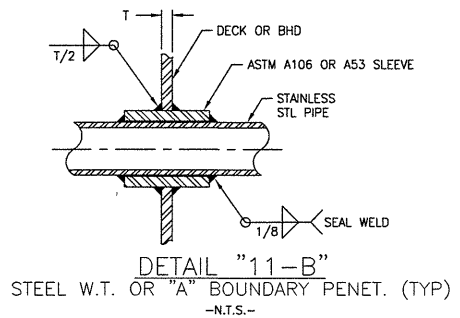
PLAN "12-C"
FIRE MAIN ARRANGEMENT, LOWER LEVEL MIDSHIP & AFT
SCALE: 1/4" = 1'-0"



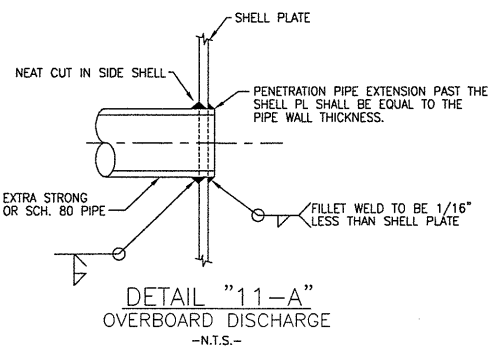
PLAN "15-A"
FIRE MAIN ARRANGEMENT, LOWER LEVEL FWD.
SCALE: 1/4" = 1'-0"



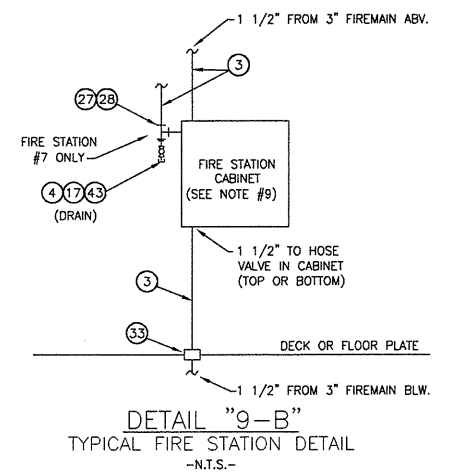
SECTION "13-A"
FIRE PUMP #1 ELEVATION, LKG. FWD.
SCALE: 3/4" = 1'-0"



DETAIL "11-B"
STEEL W.T. OR "A" BOUNDARY PENET. (TYP)
-N.T.S.-



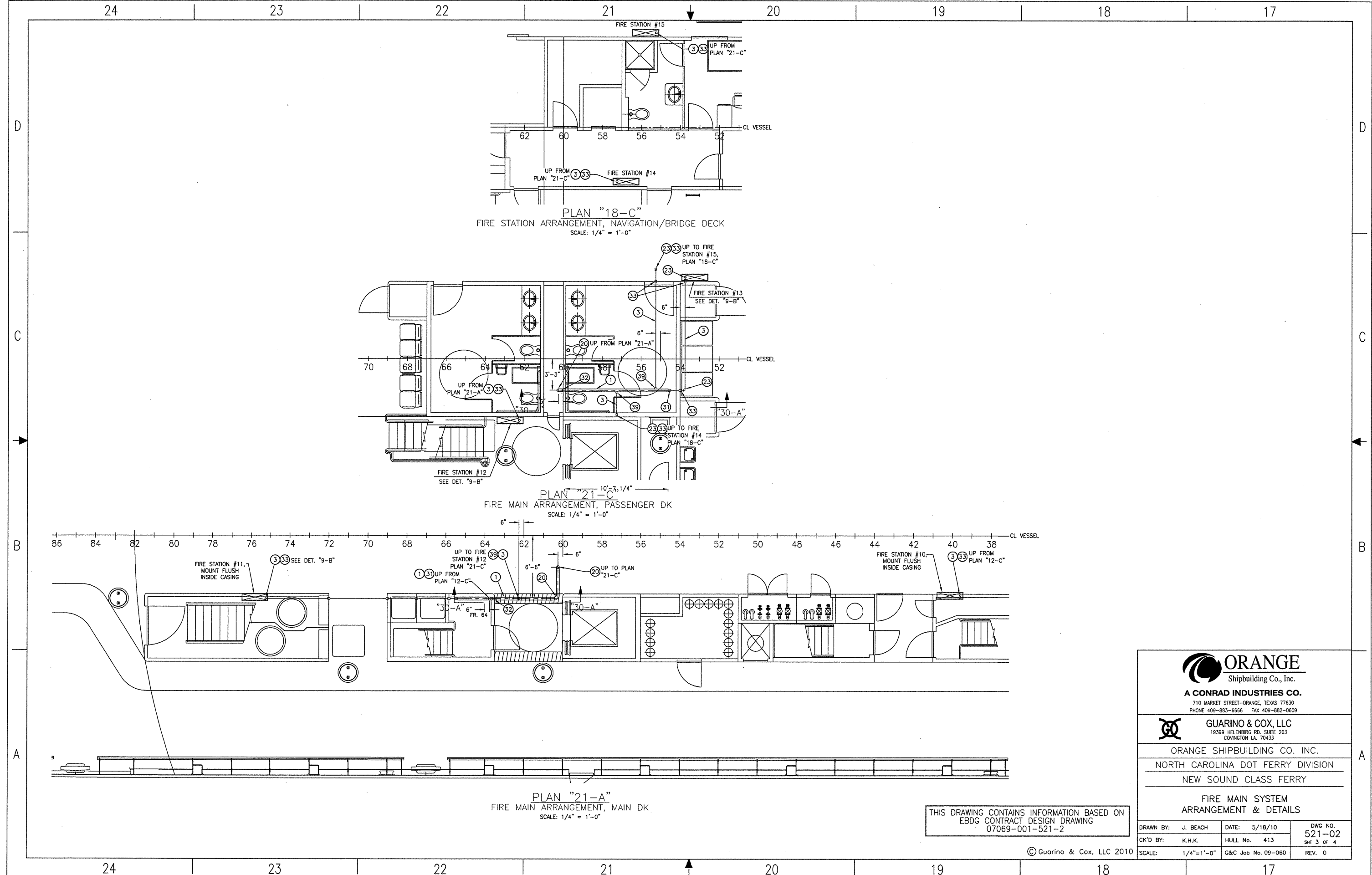
DETAIL "11-A"
OVERBOARD DISCHARGE
-N.T.S.-



DETAIL "9-B"
TYPICAL FIRE STATION DETAIL
-N.T.S.-

THIS DRAWING CONTAINS INFORMATION BASED ON
EBDG CONTRACT DESIGN DRAWING
07069-001-521-2

| | | |
|---|---------------------------------------|---|
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| <p>GUARINO & COX, LLC 19399 HELENBERG RD. SUITE 203 COVINGTON LA. 70433</p> | | |
| <p>ORANGE SHIPBUILDING CO. INC. NORTH CAROLINA DOT FERRY DIVISION NEW SOUND CLASS FERRY</p> | | |
| <p>FIRE MAIN SYSTEM ARRANGEMENT & DETAILS</p> | | |
| <p>DRAWN BY: J. BEACH CK'D BY: K.H.K.</p> | <p>DATE: 5/18/10 HULL No. 413</p> | <p>DWG NO. 521-02 SHT 2 OF 4 REV. 0</p> |
| <p>SCALE: NOTED</p> | <p>G&C Job No. 09-060</p> | <p>© Guarino & Cox, LLC 2010</p> |



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PHONE 409-883-6666 FAX 409-882-0609

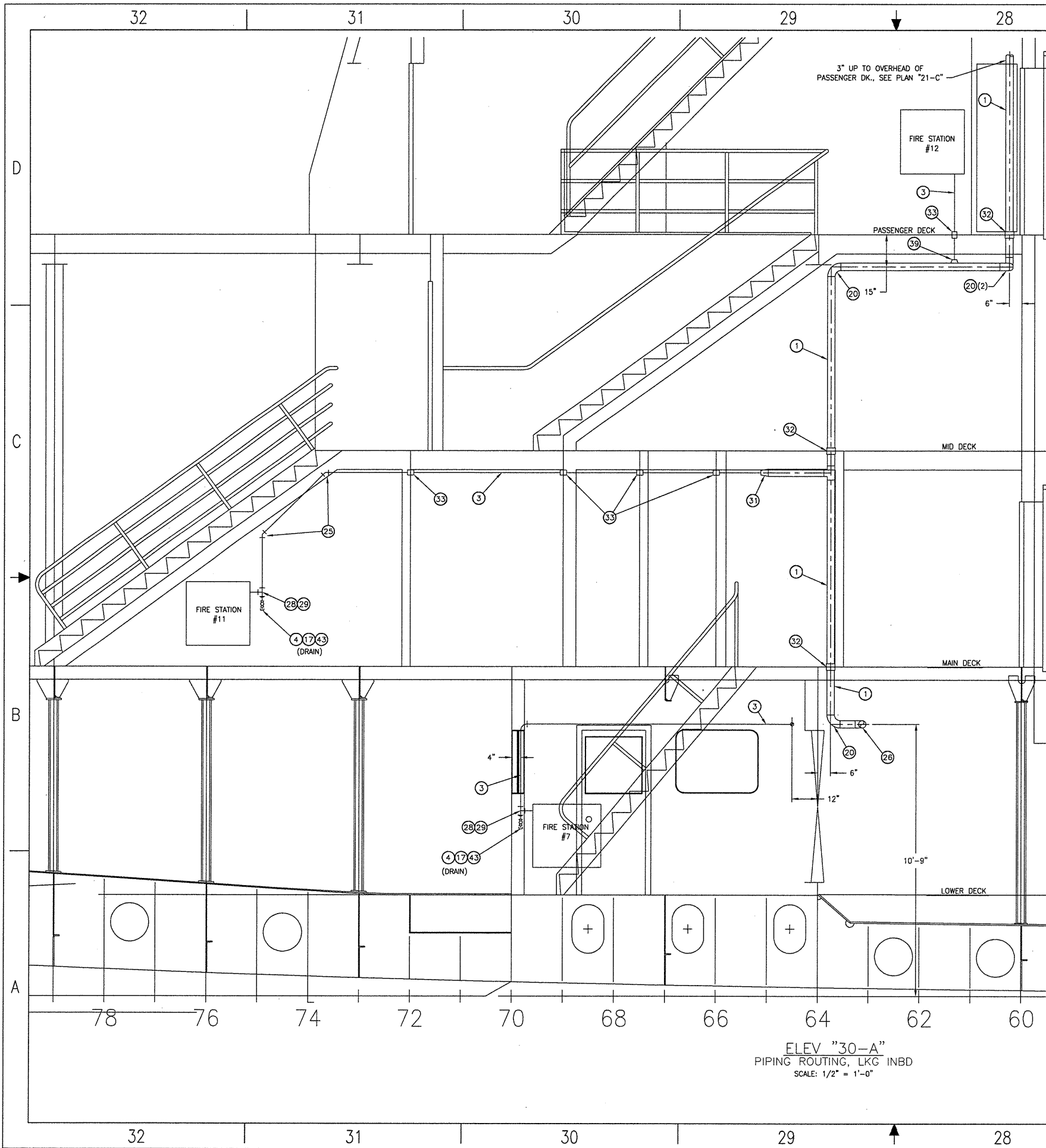
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NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY

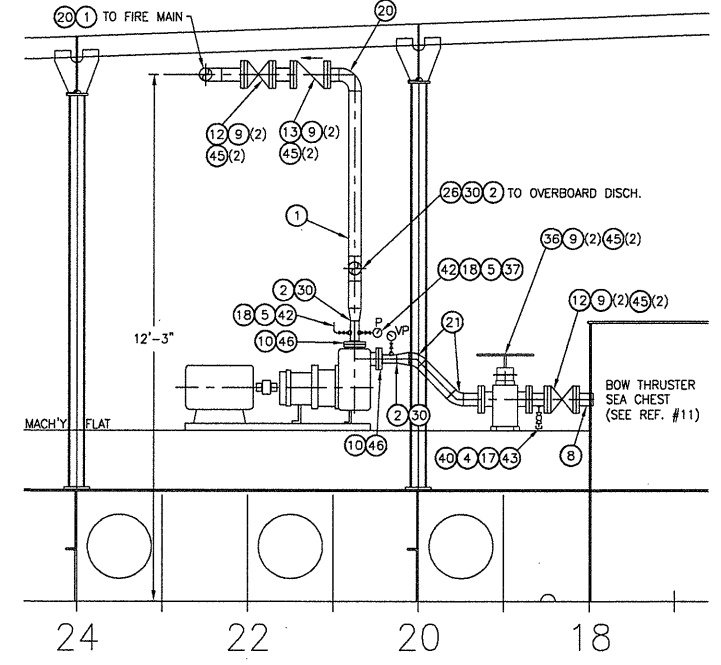
FIRE MAIN SYSTEM
ARRANGEMENT & DETAILS

| | | |
|--------------------|--------------------|----------------|
| DRAWN BY: J. BEACH | DATE: 5/18/10 | DWG NO. 521-02 |
| CK'D BY: K.H.K. | HULL No. 413 | Sht 3 of 4 |
| SCALE: 1/4"=1'-0" | G&C Job No. 09-060 | REV. 0 |

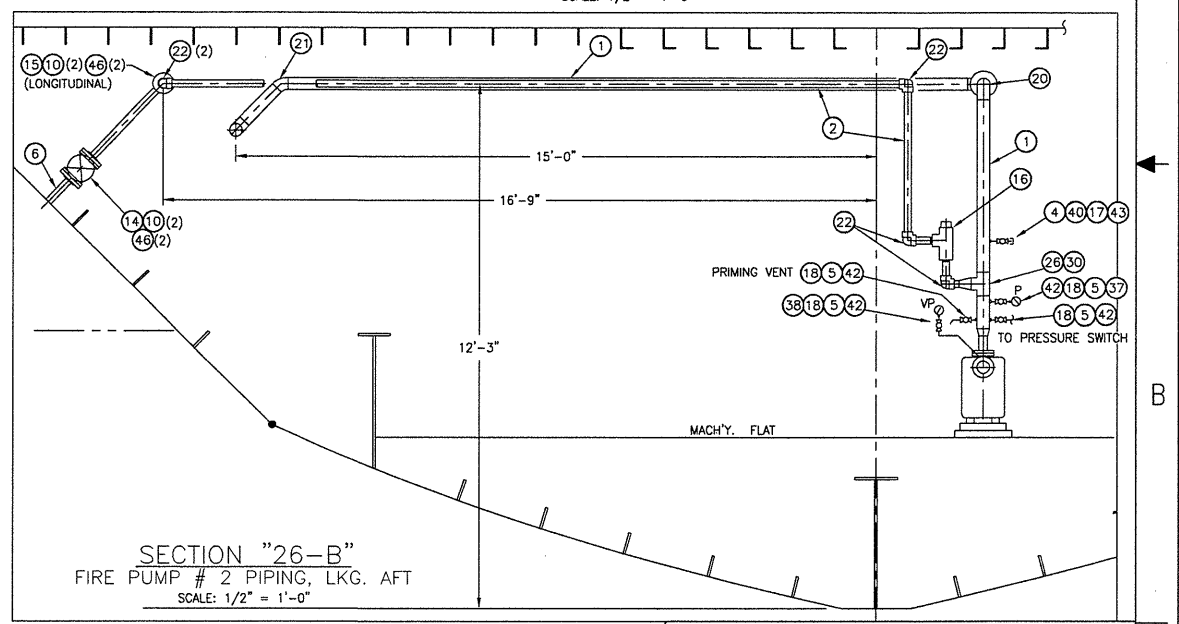
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ELEV "30-A"
PIPING ROUTING, LKG INBD
SCALE: 1/2" = 1'-0"



SECTION "26-D"
FIRE PUMP # 2 PIPING, LKG. TO PORT
SCALE: 1/2" = 1'-0"



SECTION "26-B"
FIRE PUMP # 2 PIPING, LKG. AFT
SCALE: 1/2" = 1'-0"

THIS DRAWING CONTAINS INFORMATION BASED ON
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07069-001-521-2

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NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY

FIRE MAIN SYSTEM
ARRANGEMENT & DETAILS

| | | |
|--------------------|--------------------|----------------|
| DRAWN BY: J. BEACH | DATE: 5/18/10 | DWG NO. 521-02 |
| CK'D BY: K.H.K. | HULL No. 413 | SHT 4 OF 4 |
| SCALE: NOTED | G&C Job No. 09-060 | REV. 0 |

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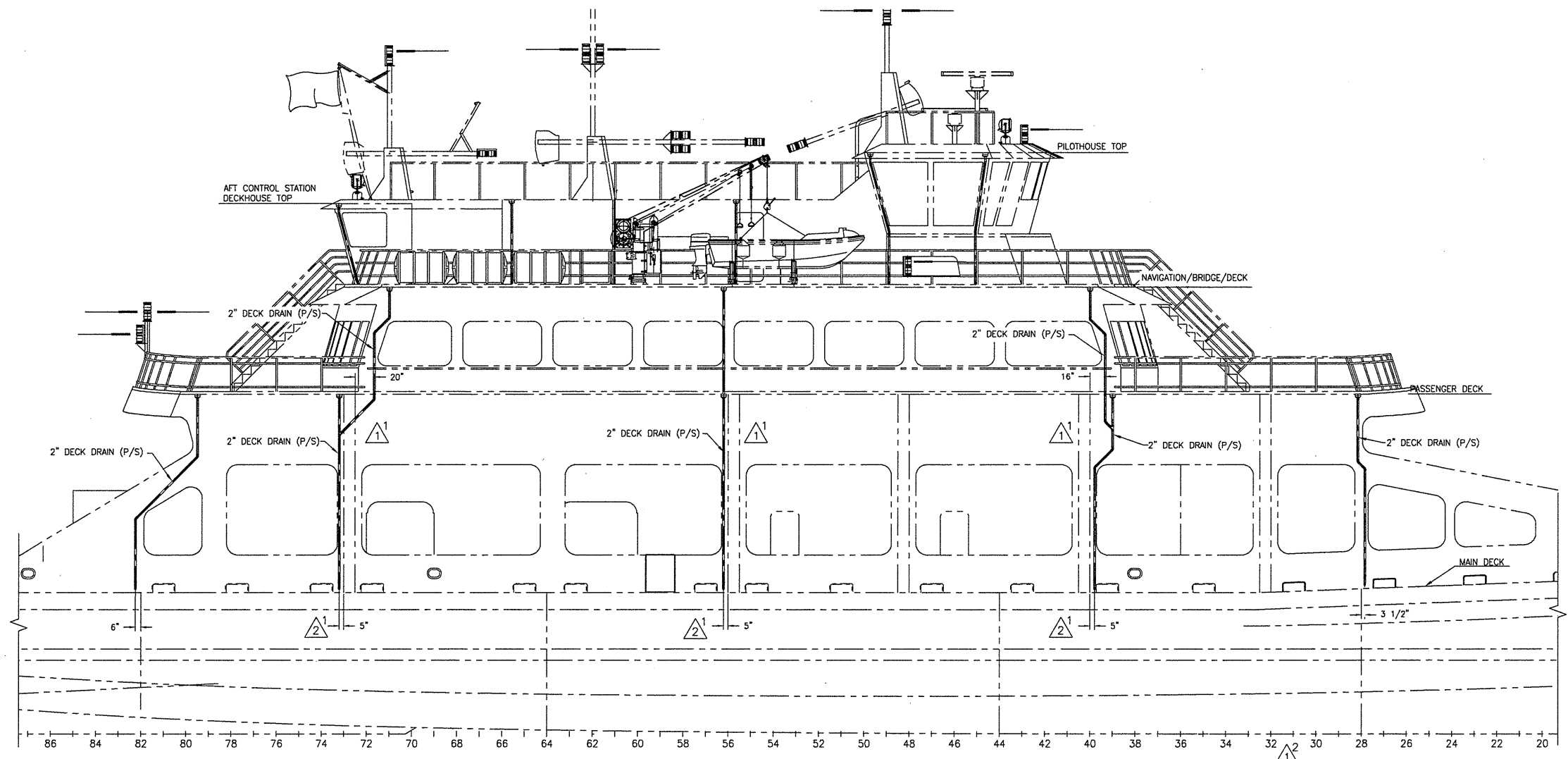
| MATERIAL SCHEDULE | | | | | | |
|----------------------|------|---|-----------------------------------|--|--|----------------|
| SERVICE | SIZE | PIPE | TAKEDOWN JOINTS MATERIAL | FITTINGS | VALVES | |
| | | | | | BODY | TRIM |
| EXTERIOR DECK DRAINS | ALL | BLUCHER-JOSAM SYSTEM 316 STAINLESS STEEL PUSH-FIT, EPDM SEALS, 2" (50 mm) | BLUCHER-JOSAM 316 STAINLESS STEEL | BLUCHER-JOSAM STAINLESS STEEL PUSH-FIT DRAINAGE SYSTEM | STOP CHECK: STAINLESS STEEL THREADED, 150# ASTM A351 CF8M MSS SP-110 | RENEWABLE SEAT |

| SYMBOLS LIST | |
|--------------|----------------------|
| | DECK DRAIN (PLAN) |
| | DECK DRAIN (PROFILE) |
| | SWING CHECK VALVE |

| REFERENCES | | |
|------------|--------|------------------------------|
| 1. | 101-01 | OUTBOARD AND INBOARD PROFILE |
| 2. | 101-02 | GENERAL ARRANGEMENTS |
| 3. | 152-03 | BULWARKS & CURTAIN PLATES |

| REVISIONS | | | | |
|-----------|-------|---|---------|-----------|
| REV | ZONE | DESCRIPTION | DATE | BY/APPD |
| 1. | 4-B | 1. COMBINED NAVIGATION/BRIDGE DECK AND PASSENGER DK. DRAINS AT FR. 39, 56 & 73 PER N.C.D.O.T. COMMENTS OF 2/5/2010. | 3/31/10 | J.B./K.K. |
| 2. | 3-A | 2. ADDED FR NOS TO PROFILE VIEW. | | |
| 3. | 4-B | 1. REV. DIM. FOR DECK DRAINS ON ELEVATION "5-B" TO 5" FROM TUBING TO AGREE WITH PLAN "14-C". | | |
| 4. | 5-B | 2. REVISED PROFILE & DECK PLANS TO AGREE TO LATEST ARRGT. DRAWINGS. | 7/6/10 | J.B./K.K. |
| 5. | 12,13 | 3. ADDED DECK DRAINS IN STAIR TOWERS. | | |
| 6. | 16-A | | | |
| 7. | 19-D | 4. ADDED DETAIL "19-D". | | |

- GENERAL NOTES**
- ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH ABS RULES FOR BUILDING AND CLASSING STEEL VESSELS UNDER 90 METERS IN LENGTH, AND US COAST GUARD REGULATIONS FOR VESSELS INSPECTED UNDER SUBCHAPTER H.
 - 2" NPS SCH 40 316 STAINLESS STEEL PIPE MAY BE USED WHERE BLUCHER-JOSAM SYSTEM CANNOT BE USED. 2" NPS SCH 80 IS TO BE USED ON DRAINS BELOW MAIN DECK THAT PENETRATE THE SIDE SHELL.
 - INSOFAR AS POSSIBLE, DRAIN PIPES SHALL BE INSTALLED INSIDE THE LINE OF THE STRUCTURE SO AS TO MINIMIZE INTERFERENCE WITH JOINER SYSTEM, PASSAGEWAYS, ETC.
 - PIPING SHALL BE RIGIDLY SUPPORTED BY HANGERS APPROPRIATE FOR DRAIN SERVICE, FABRICATED AND INSTALLED IN ACCORDANCE WITH ASTM F708.



ELEVATION "5-B" Δ^2
 OUTBOARD PROFILE
 STARBOARD SIDE SHOWN, PORT OPPOSITE

THIS DRAWING CONTAINS INFORMATION BASED ON
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 07069-001-526-1

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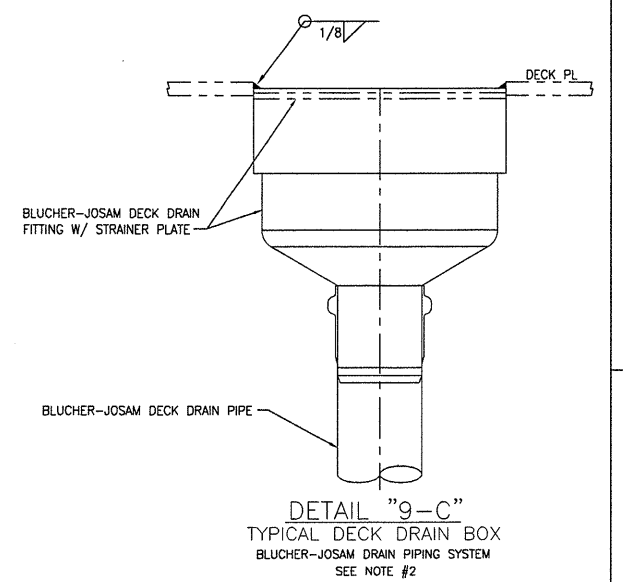
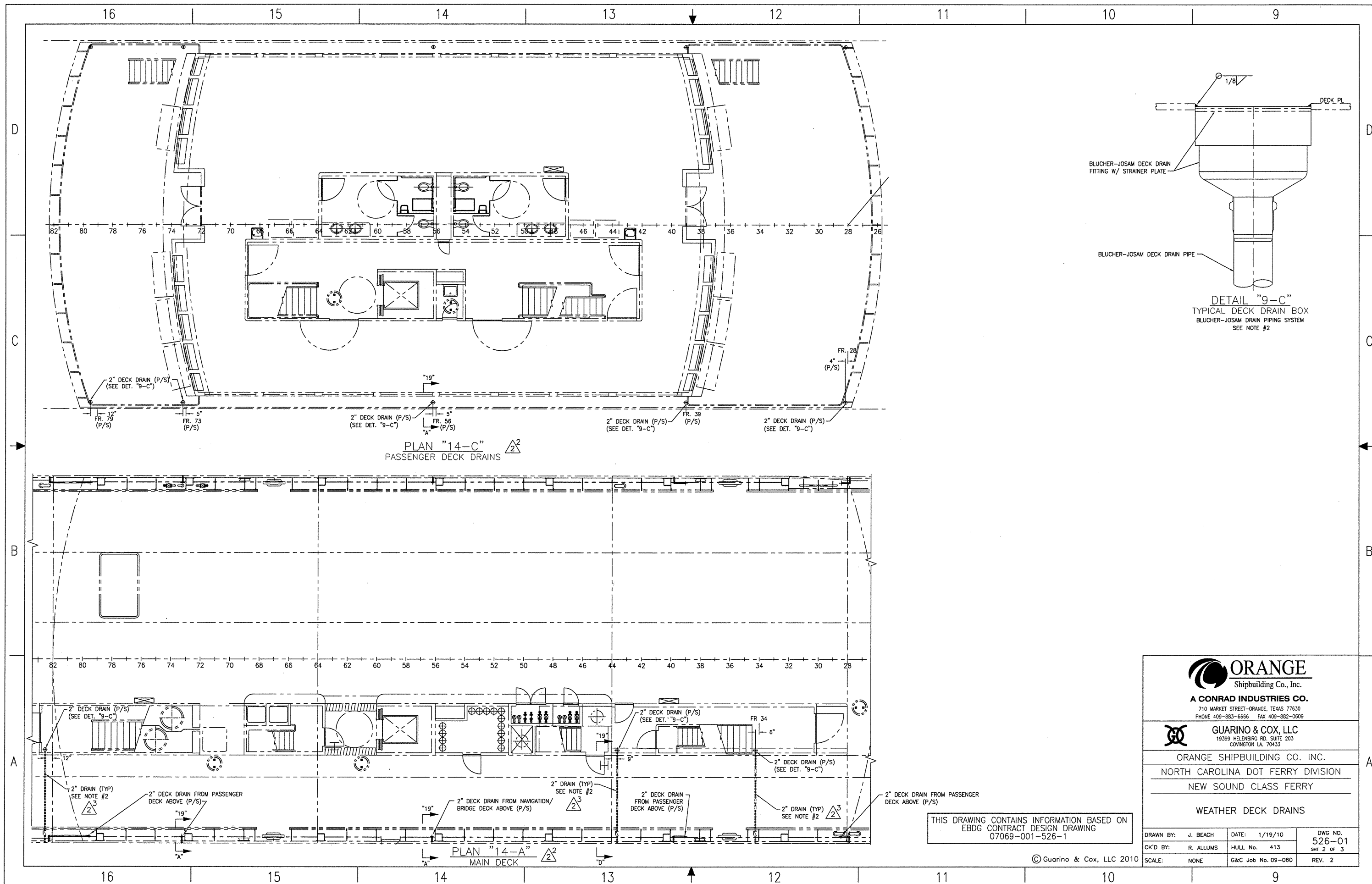
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ORANGE SHIPBUILDING CO. INC.
 NORTH CAROLINA DOT FERRY DIVISION
 NEW SOUND CLASS FERRY

WEATHER DECK DRAINS

| | | |
|--------------------|--------------------|----------------|
| DRAWN BY: J. BEACH | DATE: 1/19/10 | DWG NO. 526-01 |
| CK'D BY: R. ALLUMS | HULL No. 413 | SHT 1 OF 3 |
| SCALE: NONE | G&C Job No. 09-060 | REV. 2 |

8 7 6 5 4 3 2 1



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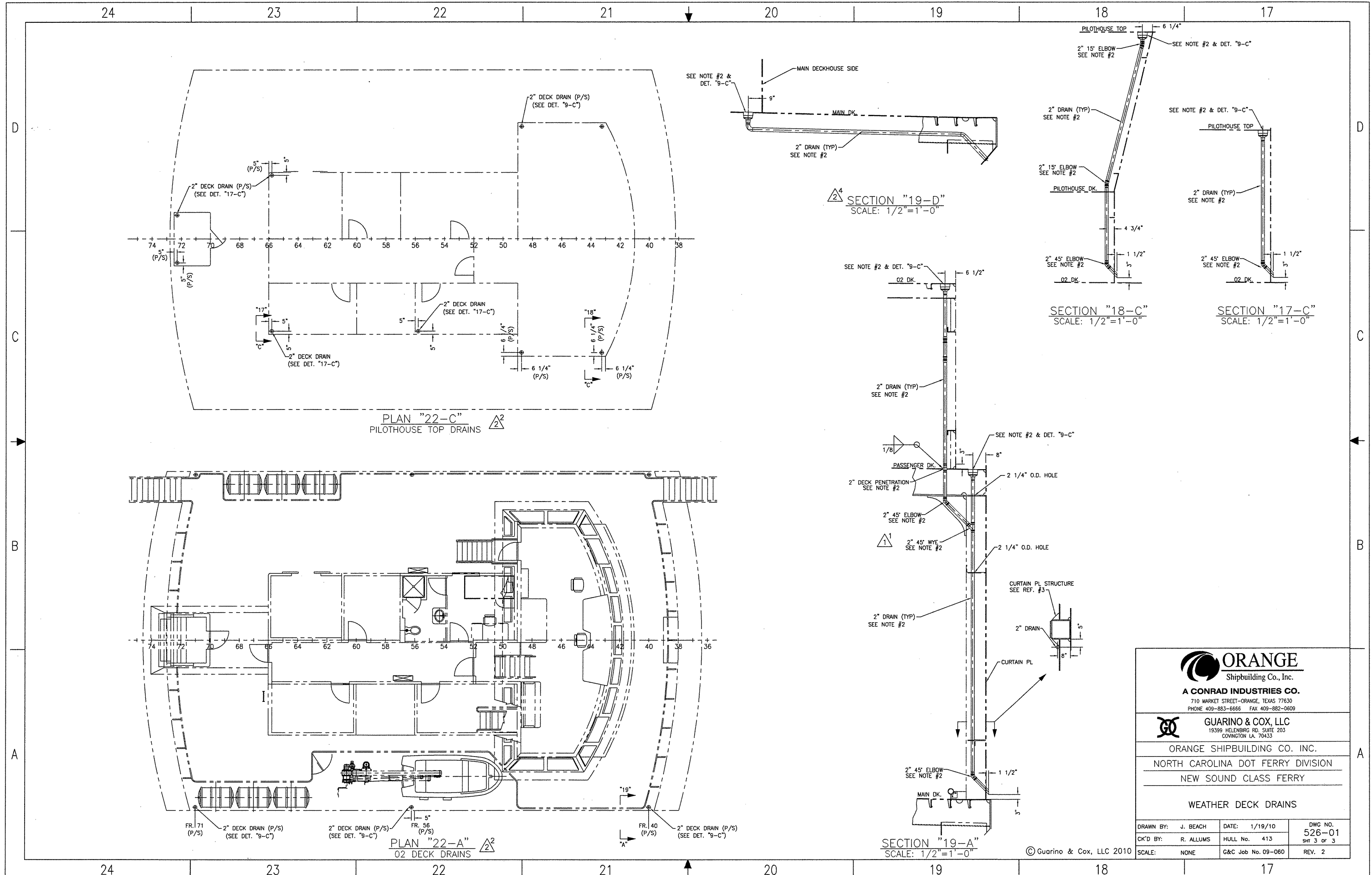
ORANGE SHIPBUILDING CO. INC.
NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY

WEATHER DECK DRAINS

| | | |
|--------------------|--------------------|----------------|
| DRAWN BY: J. BEACH | DATE: 1/19/10 | DWG NO. 526-01 |
| CK'D BY: R. ALLUMS | HULL No. 413 | SHIT 2 OF 3 |
| SCALE: NONE | G&C Job No. 09-060 | REV. 2 |

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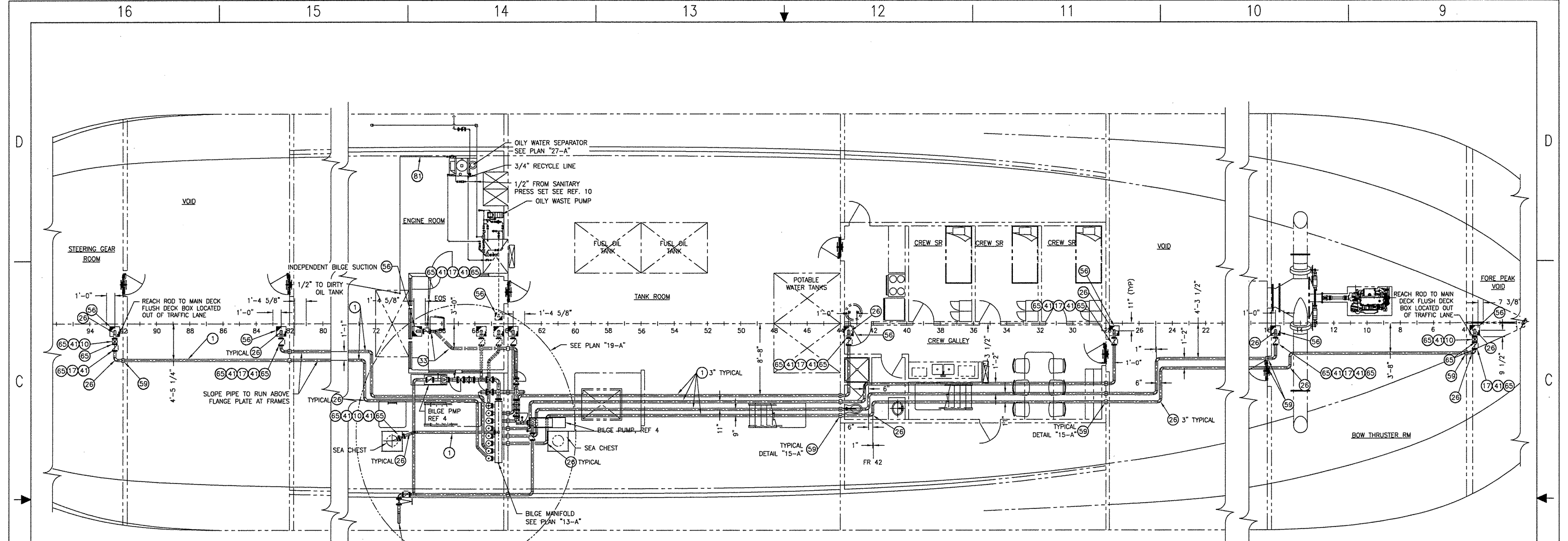
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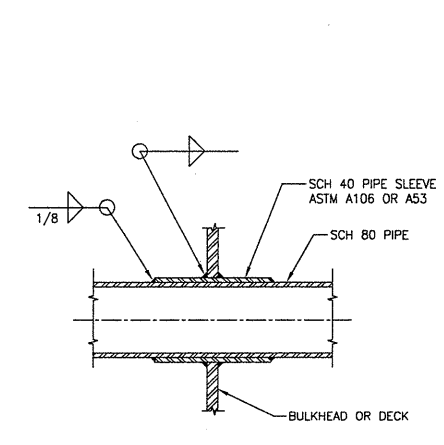
WEATHER DECK DRAINS

| | | |
|--------------------|--------------------|----------------|
| DRAWN BY: J. BEACH | DATE: 1/19/10 | DWC NO. 526-01 |
| CK'D BY: R. ALLUMS | HULL No. 413 | SHT 3 OF 3 |
| SCALE: NONE | G&C Job No. 09-060 | REV. 2 |

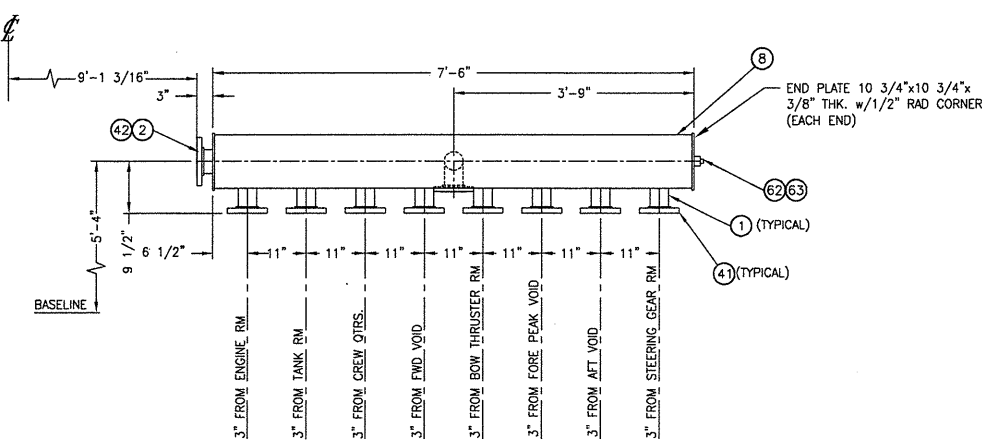
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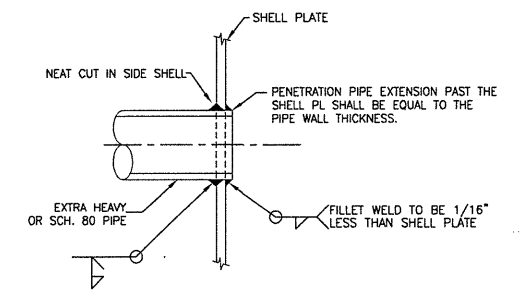
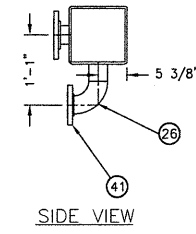
PLAN "13-B"
LOWER DECK
SCALE: 3/16" = 1'-0"



DETAIL "15-A"
TYPICAL DECK/WT BHD PENETRATION
SCALE: NONE



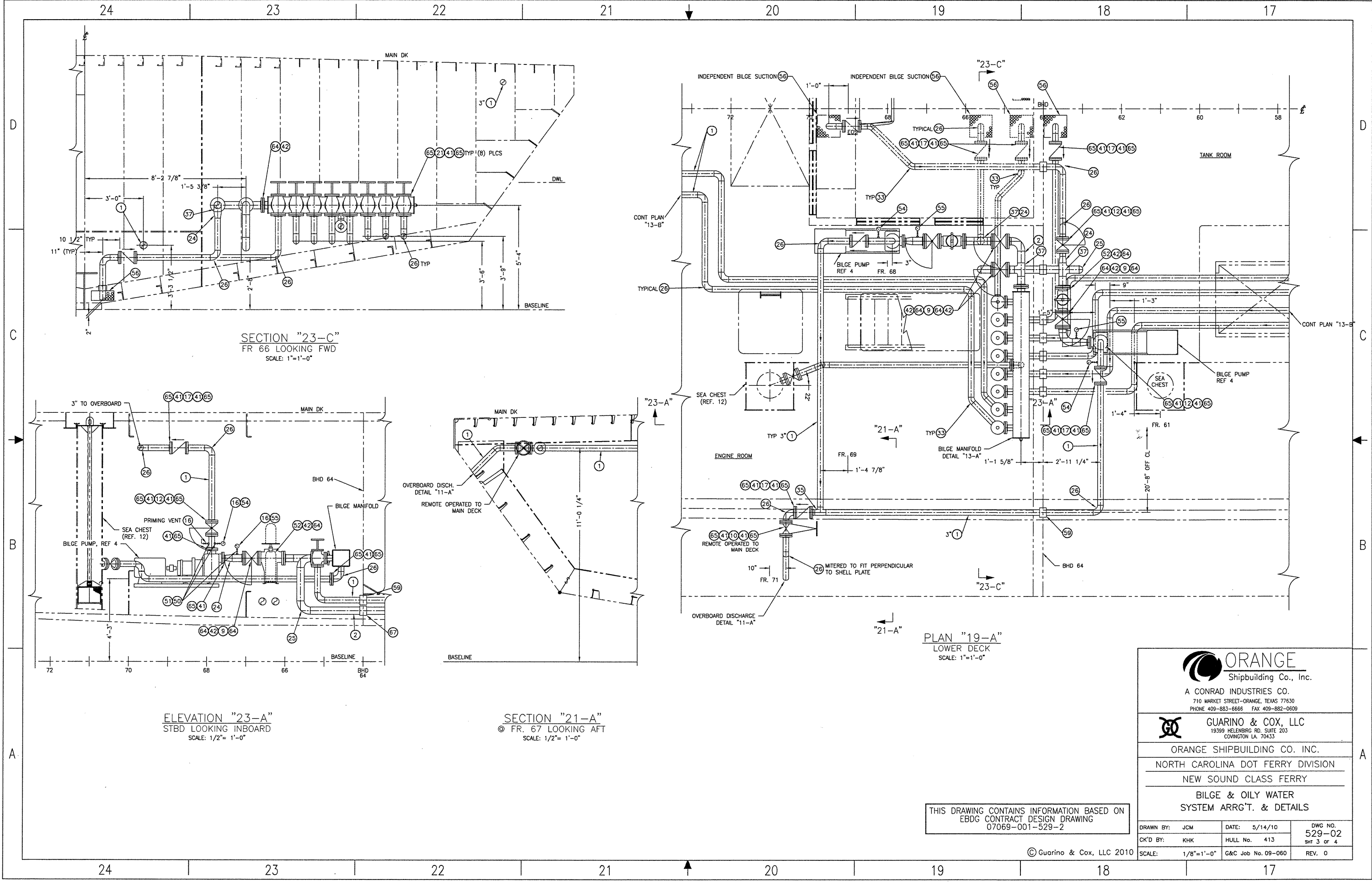
DETAIL "13-A"
BILGE MANIFOLD
SCALE: 3/4" = 1'-0"



DETAIL "11-A"
OVERBOARD DISCHARGE
SCALE: NONE

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07069-001-529-2

| | | |
|--|---------------------------------------|---|
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| <p>GUARINO & COX, LLC 19399 HELENBURG RD, SUITE 203 CONVINGTON LA 70433</p> | | |
| <p>ORANGE SHIPBUILDING CO. INC. NORTH CAROLINA DOT FERRY DIVISION NEW SOUND CLASS FERRY BILGE & OILY WATER SYSTEM ARR'G'T. & DETAILS</p> | | |
| <p>DRAWN BY: JCM CK'D BY: KHK</p> | <p>DATE: 5/14/10 HULL No. 413</p> | <p>DWG NO. 529-02 SHT 2 OF 4 REV. 0</p> |
| <p>SCALE: 3/16"=1'-0" G&C Job No. 09-060</p> | | |



SECTION "23-C"
FR 66 LOOKING FWD
SCALE: 1"=1'-0"

ELEVATION "23-A"
STBD LOOKING INBOARD
SCALE: 1/2"= 1'-0"

SECTION "21-A"
© FR. 67 LOOKING AFT
SCALE: 1/2"= 1'-0"

PLAN "19-A"
LOWER DECK
SCALE: 1"=1'-0"

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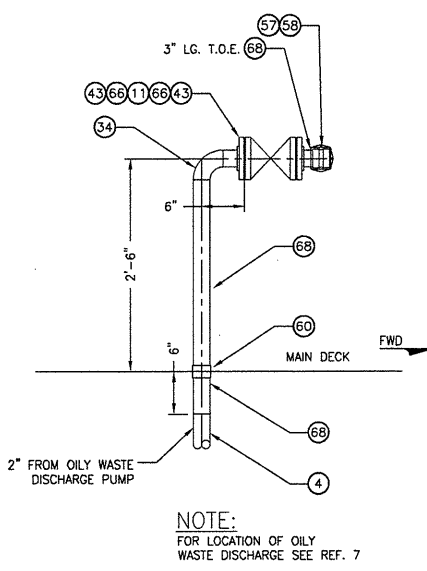
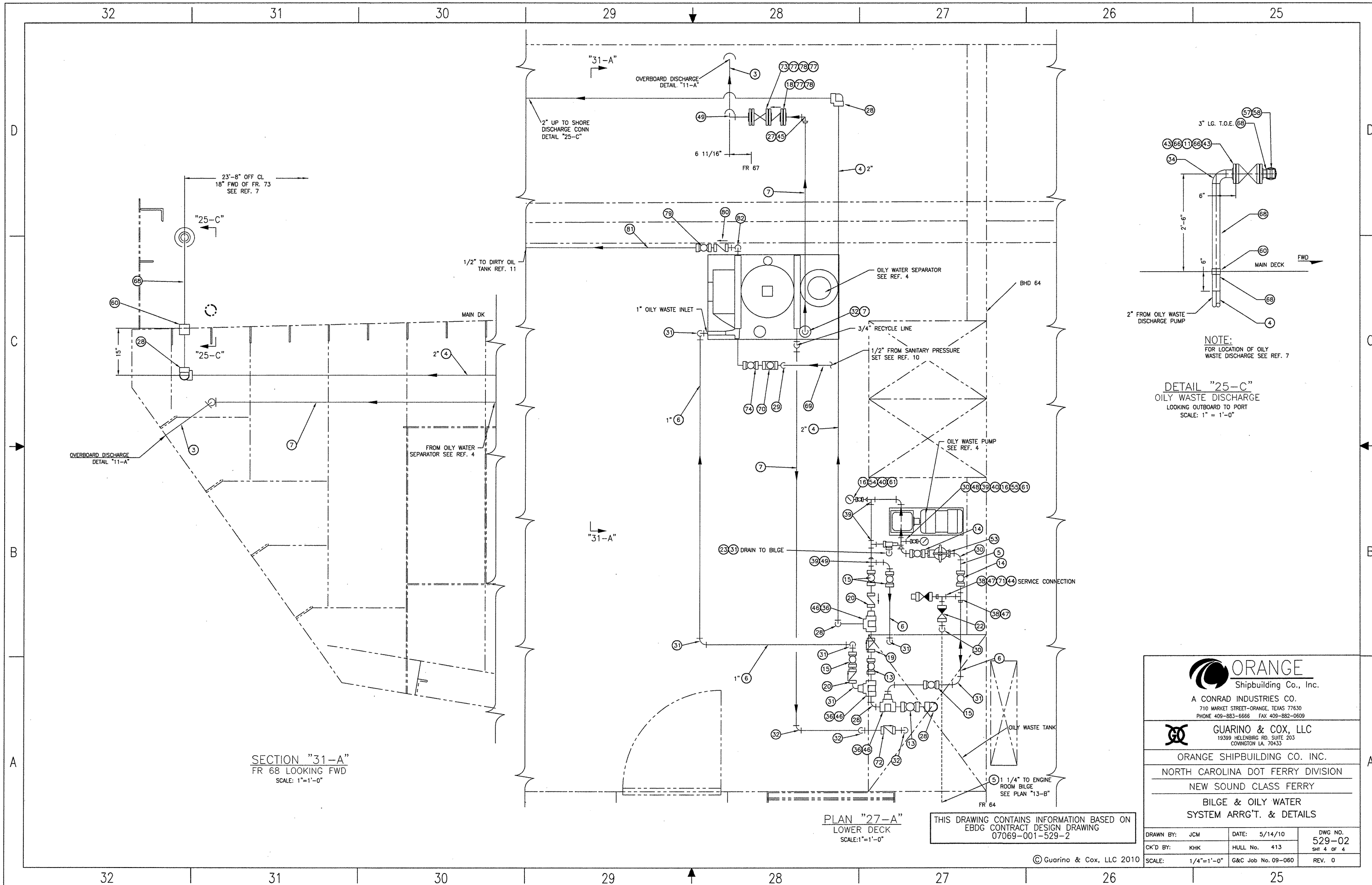


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ORANGE SHIPBUILDING CO. INC.
NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY

BILGE & OILY WATER
SYSTEM ARR'G'T. & DETAILS

| | | |
|-------------------|--------------------|----------------|
| DRAWN BY: JCM | DATE: 5/14/10 | DWG NO. 529-02 |
| CK'D BY: KHK | HULL No. 413 | SHT 3 OF 4 |
| SCALE: 1/8"=1'-0" | G&C Job No. 09-060 | REV. 0 |



NOTE:
FOR LOCATION OF OILY WASTE DISCHARGE SEE REF. 7

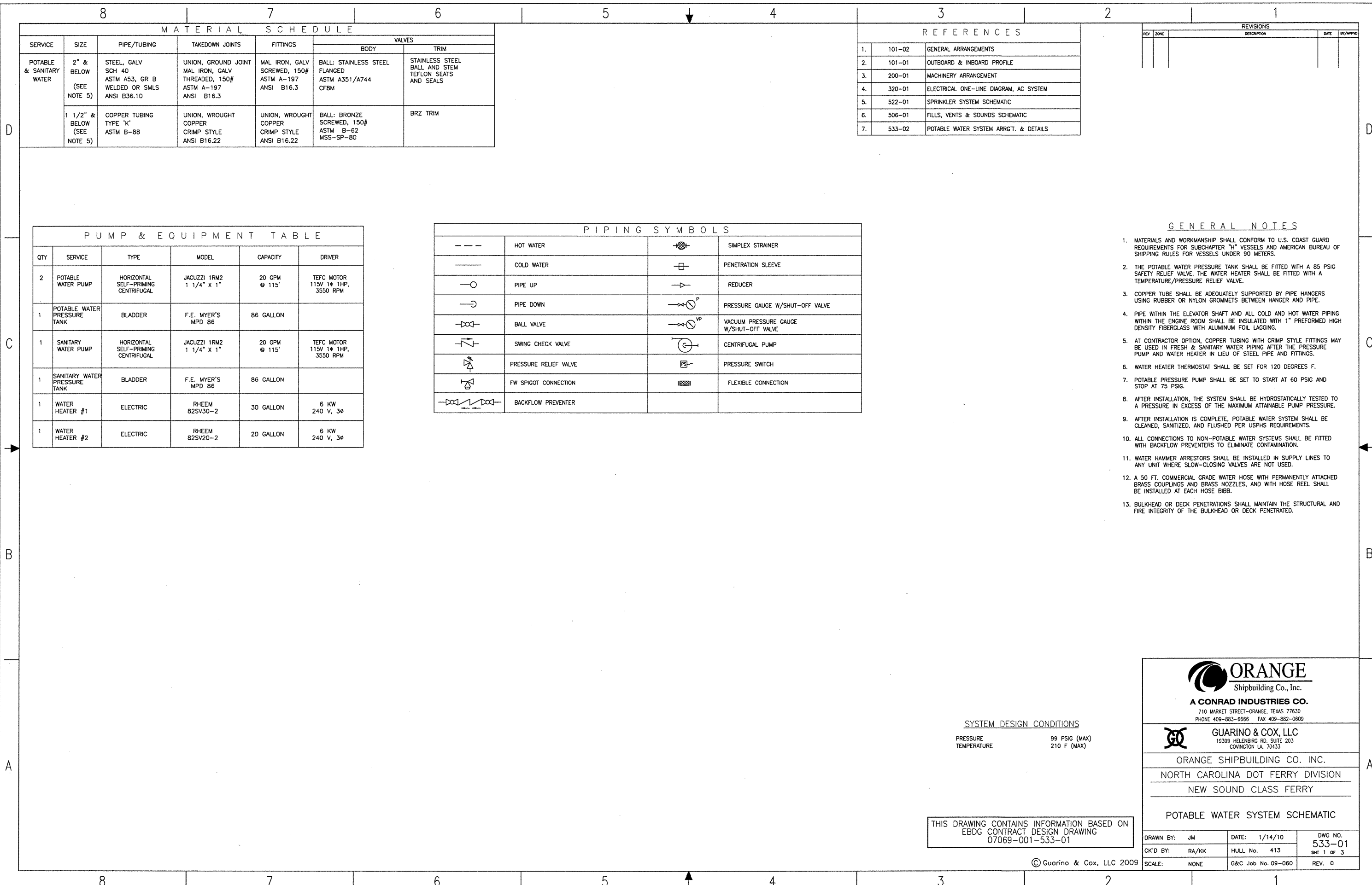
DETAIL "25-C"
OILY WASTE DISCHARGE
LOOKING OUTBOARD TO PORT
SCALE: 1" = 1'-0"

SECTION "31-A"
FR 68 LOOKING FWD
SCALE: 1" = 1'-0"

PLAN "27-A"
LOWER DECK
SCALE: 1" = 1'-0"

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| <p>ORANGE SHIPBUILDING CO. INC. NORTH CAROLINA DOT FERRY DIVISION NEW SOUND CLASS FERRY</p> | |
| <p>BILGE & OILY WATER SYSTEM ARRGT. & DETAILS</p> | |
| <p>DRAWN BY: JCM CK'D BY: KHK SCALE: 1/4" = 1'-0"</p> | <p>DATE: 5/14/10 HULL No. 413 G&C Job No. 09-060</p> |
| <p>DWG NO. 529-02 SHT 4 OF 4 REV. 0</p> | |



MATERIAL SCHEDULE

| SERVICE | SIZE | PIPE/TUBING | TAKEDOWN JOINTS | FITTINGS | VALVES | |
|--------------------------|--------------------------------|---|---|---|--|---|
| | | | | | BODY | TRIM |
| POTABLE & SANITARY WATER | 2" & BELOW (SEE NOTE 5) | STEEL, GALV SCH 40 ASTM A53, GR B WELDED OR SMLS ANSI B36.10 | UNION, GROUND JOINT MAL IRON, GALV THREADED, 150# ASTM A-197 ANSI B16.3 | MAL IRON, GALV SCREWED, 150# ASTM A-197 ANSI B16.3 | BALL: STAINLESS STEEL FLANGED ASTM A351/A744 CF8M | STAINLESS STEEL BALL AND STEM TEFLON SEATS AND SEALS |
| | 1 1/2" & BELOW (SEE NOTE 5) | COPPER TUBING TYPE 'K' ASTM B-88 | UNION, WROUGHT COPPER CRIMP STYLE ANSI B16.22 | UNION, WROUGHT COPPER CRIMP STYLE ANSI B16.22 | BALL: BRONZE SCREWED, 150# ASTM B-62 MSS-SP-80 | BRZ TRIM |

REFERENCES

| | | |
|----|--------|--|
| 1. | 101-02 | GENERAL ARRANGEMENTS |
| 2. | 101-01 | OUTBOARD & INBOARD PROFILE |
| 3. | 200-01 | MACHINERY ARRANGEMENT |
| 4. | 320-01 | ELECTRICAL ONE-LINE DIAGRAM, AC SYSTEM |
| 5. | 522-01 | SPRINKLER SYSTEM SCHEMATIC |
| 6. | 506-01 | FILLS, VENTS & SOUNDS SCHEMATIC |
| 7. | 533-02 | POTABLE WATER SYSTEM ARRGT. & DETAILS |

REVISIONS

| REV | ZONE | DESCRIPTION | DATE | BY/APPD |
|-----|------|-------------|------|---------|
| | | | | |
| | | | | |

PUMP & EQUIPMENT TABLE

| QTY | SERVICE | TYPE | MODEL | CAPACITY | DRIVER |
|-----|------------------------------|-------------------------------------|-----------------------------|------------------|--|
| 2 | POTABLE WATER PUMP | HORIZONTAL SELF-PRIMING CENTRIFUGAL | JACUZZI 1RM2 1 1/4" X 1" | 20 GPM @ 115' | TEFC MOTOR 115V 1ϕ 1HP, 3550 RPM |
| 1 | POTABLE WATER PRESSURE TANK | BLADDER | F.E. MYER'S MPD 86 | 86 GALLON | |
| 1 | SANITARY WATER PUMP | HORIZONTAL SELF-PRIMING CENTRIFUGAL | JACUZZI 1RM2 1 1/4" X 1" | 20 GPM @ 115' | TEFC MOTOR 115V 1ϕ 1HP, 3550 RPM |
| 1 | SANITARY WATER PRESSURE TANK | BLADDER | F.E. MYER'S MPD 86 | 86 GALLON | |
| 1 | WATER HEATER #1 | ELECTRIC | RHEEM 82SV30-2 | 30 GALLON | 6 KW 240 V, 3ϕ |
| 1 | WATER HEATER #2 | ELECTRIC | RHEEM 82SV20-2 | 20 GALLON | 6 KW 240 V, 3ϕ |

PIPING SYMBOLS

| | | | |
|-----|-----------------------|--|--|
| --- | HOT WATER | | SIMPLEX STRAINER |
| --- | COLD WATER | | PENETRATION SLEEVE |
| ○ | PIPE UP | | REDUCER |
| ⤵ | PIPE DOWN | | PRESSURE GAUGE W/SHUT-OFF VALVE |
| | BALL VALVE | | VACUUM PRESSURE GAUGE W/SHUT-OFF VALVE |
| | SWING CHECK VALVE | | CENTRIFUGAL PUMP |
| | PRESSURE RELIEF VALVE | | PRESSURE SWITCH |
| | FW SPIGOT CONNECTION | | FLEXIBLE CONNECTION |
| | BACKFLOW PREVENTER | | |

GENERAL NOTES

- MATERIALS AND WORKMANSHIP SHALL CONFORM TO U.S. COAST GUARD REQUIREMENTS FOR SUBCHAPTER "H" VESSELS AND AMERICAN BUREAU OF SHIPPING RULES FOR VESSELS UNDER 90 METERS.
- THE POTABLE WATER PRESSURE TANK SHALL BE FITTED WITH A 85 PSIG SAFETY RELIEF VALVE. THE WATER HEATER SHALL BE FITTED WITH A TEMPERATURE/PRESSURE RELIEF VALVE.
- COPPER TUBE SHALL BE ADEQUATELY SUPPORTED BY PIPE HANGERS USING RUBBER OR NYLON GROMMETS BETWEEN HANGER AND PIPE.
- PIPE WITHIN THE ELEVATOR SHAFT AND ALL COLD AND HOT WATER PIPING WITHIN THE ENGINE ROOM SHALL BE INSULATED WITH 1" PREFORMED HIGH DENSITY FIBERGLASS WITH ALUMINUM FOIL LAGGING.
- AT CONTRACTOR OPTION, COPPER TUBING WITH CRIMP STYLE FITTINGS MAY BE USED IN FRESH & SANITARY WATER PIPING AFTER THE PRESSURE PUMP AND WATER HEATER IN LIEU OF STEEL PIPE AND FITTINGS.
- WATER HEATER THERMOSTAT SHALL BE SET FOR 120 DEGREES F.
- POTABLE PRESSURE PUMP SHALL BE SET TO START AT 60 PSIG AND STOP AT 75 PSIG.
- AFTER INSTALLATION, THE SYSTEM SHALL BE HYDROSTATICALLY TESTED TO A PRESSURE IN EXCESS OF THE MAXIMUM ATTAINABLE PUMP PRESSURE.
- AFTER INSTALLATION IS COMPLETE, POTABLE WATER SYSTEM SHALL BE CLEANED, SANITIZED, AND FLUSHED PER USPHS REQUIREMENTS.
- ALL CONNECTIONS TO NON-POTABLE WATER SYSTEMS SHALL BE FITTED WITH BACKFLOW PREVENTERS TO ELIMINATE CONTAMINATION.
- WATER HAMMER ARRESTORS SHALL BE INSTALLED IN SUPPLY LINES TO ANY UNIT WHERE SLOW-CLOSING VALVES ARE NOT USED.
- A 50 FT. COMMERCIAL GRADE WATER HOSE WITH PERMANENTLY ATTACHED BRASS COUPLINGS AND BRASS NOZZLES, AND WITH HOSE REEL SHALL BE INSTALLED AT EACH HOSE BIBB.
- BULKHEAD OR DECK PENETRATIONS SHALL MAINTAIN THE STRUCTURAL AND FIRE INTEGRITY OF THE BULKHEAD OR DECK PENETRATED.

SYSTEM DESIGN CONDITIONS

PRESSURE 99 PSIG (MAX)
TEMPERATURE 210 F (MAX)

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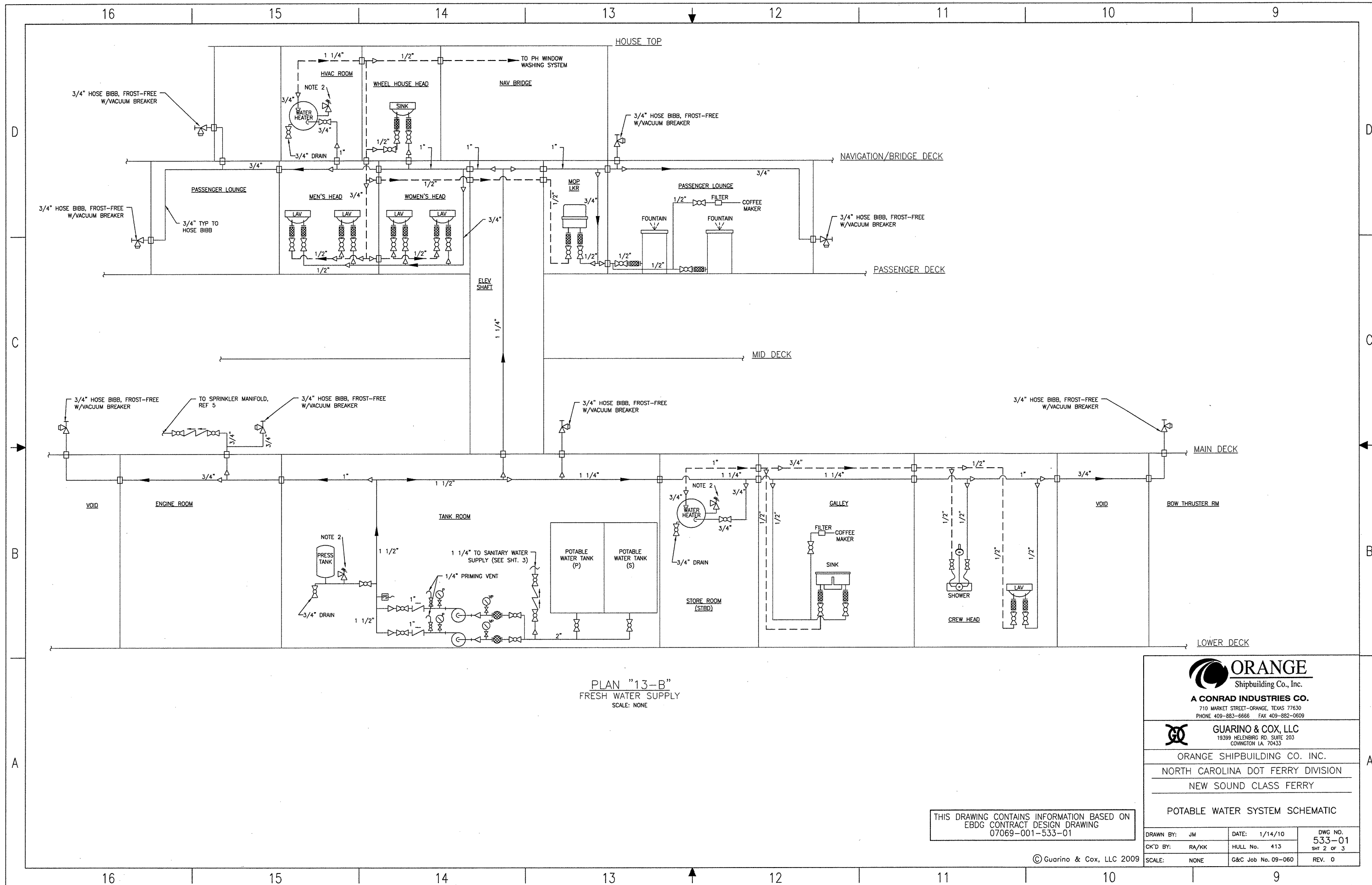


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NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY

POTABLE WATER SYSTEM SCHEMATIC

| | | |
|----------------|--------------------|----------------|
| DRAWN BY: JM | DATE: 1/14/10 | DWG NO. 533-01 |
| CK'D BY: RA/KK | HULL No. 413 | SHt 1 of 3 |
| SCALE: NONE | G&C Job No. 09-060 | REV. 0 |



PLAN "13-B"
FRESH WATER SUPPLY
SCALE: NONE

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07069-001-533-01

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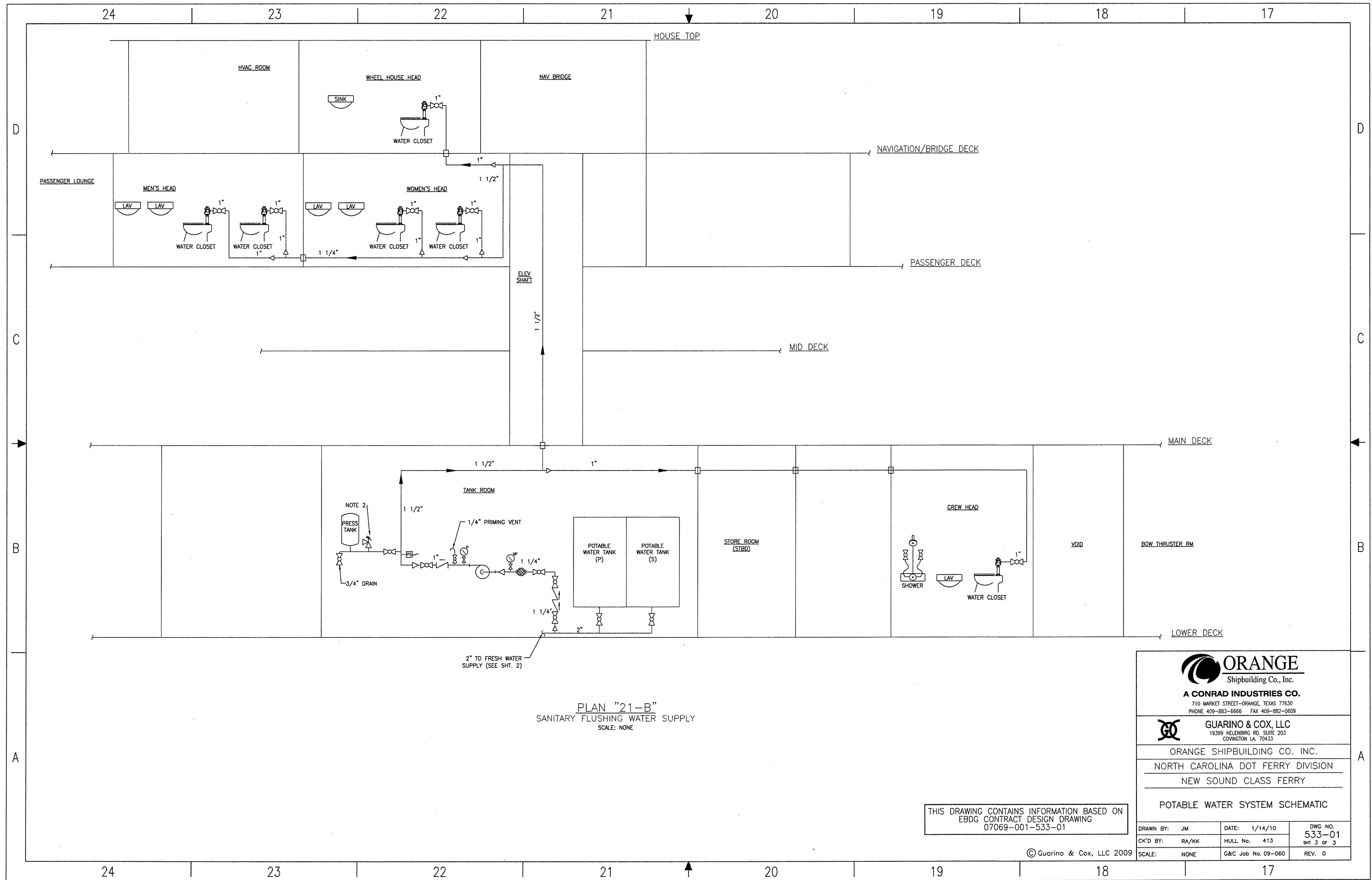
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NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY

POTABLE WATER SYSTEM SCHEMATIC

| | | |
|----------------|--------------------|----------------|
| DRAWN BY: JM | DATE: 1/14/10 | DWG NO. 533-01 |
| CK'D BY: RA/KK | HULL No. 413 | SHR 2 OF 3 |
| SCALE: NONE | G&C Job No. 09-060 | REV. 0 |

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PLAN "21-B"
SANITARY FLUSHING WATER SUPPLY
SCALE: NONE

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EBDG CONTRACT DESIGN DRAWING
07069-001-533-01

ORANGE
Shipbuilding Co., Inc.
A CONRAD INDUSTRIES CO.
710 MARKET STREET-ORANGE, TEXAS 77630
PHONE 409-883-6666 FAX 409-882-0609

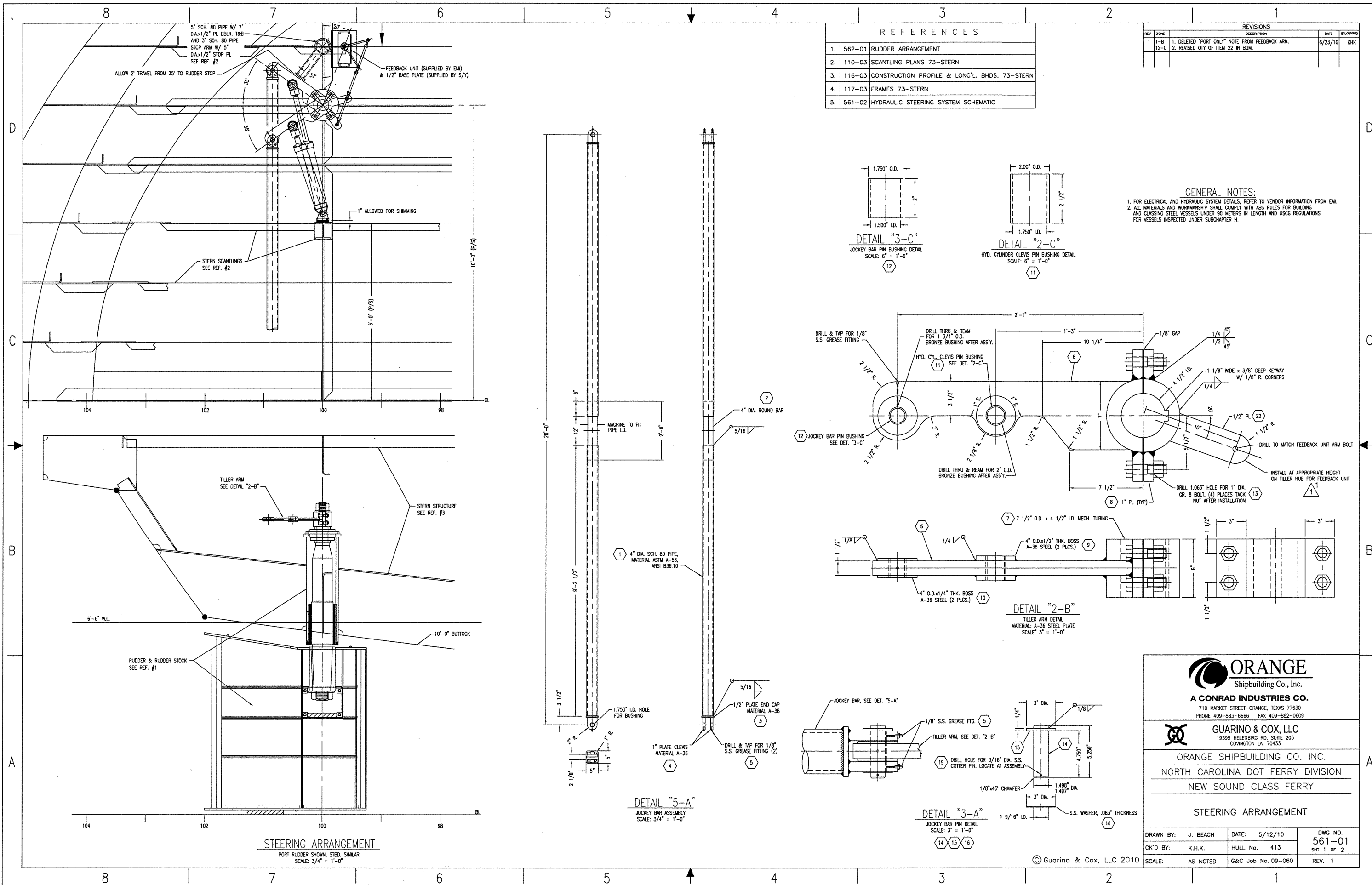
GUARINO & COX, LLC
19399 HELENBURG RD, SUITE 203
COWINGTON LA 70433

ORANGE SHIPBUILDING CO. INC.
NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY

POTABLE WATER SYSTEM SCHEMATIC

| | | |
|----------------|--------------------|----------------|
| DRAWN BY: JM | DATE: 1/14/10 | DWG NO. 533-01 |
| CK'D BY: RA/KK | HULL No. 413 | SHt 3 of 3 |
| SCALE: NONE | G&C Job No. 09-060 | REV. 0 |

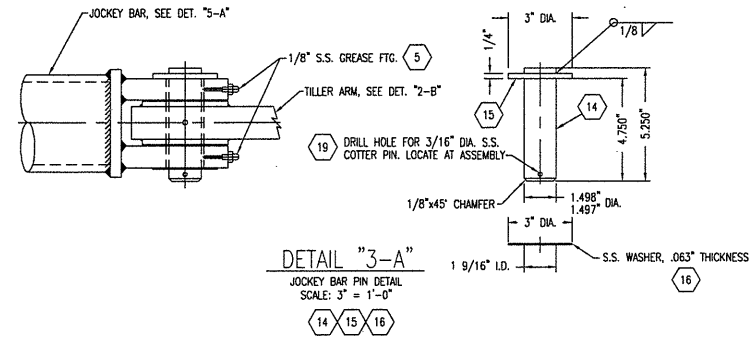
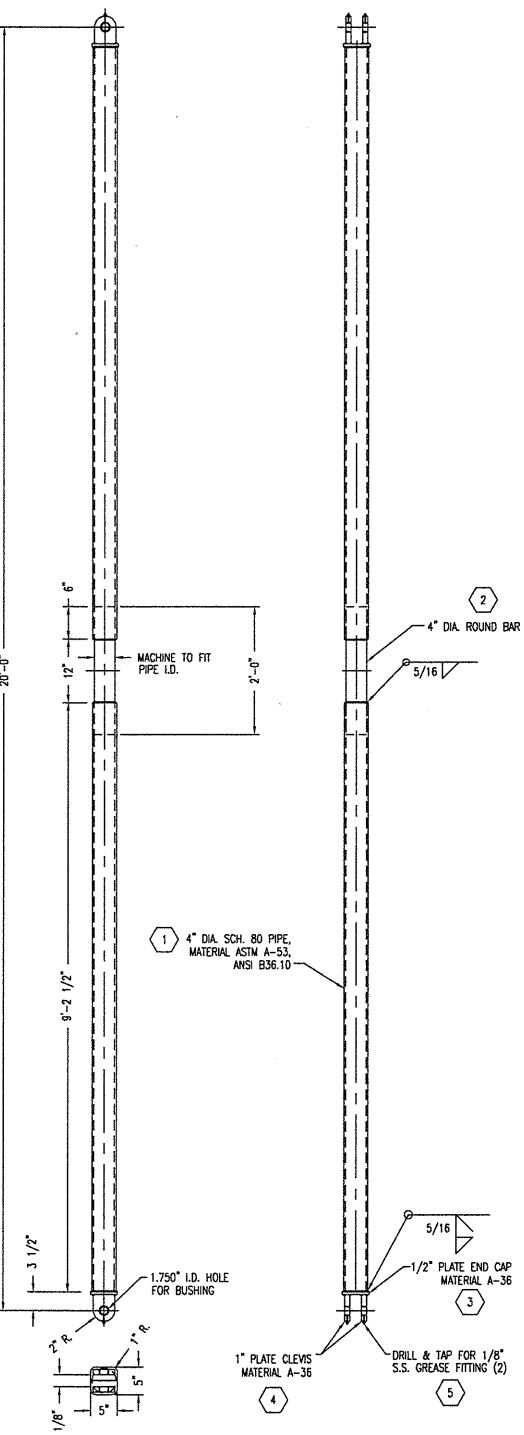
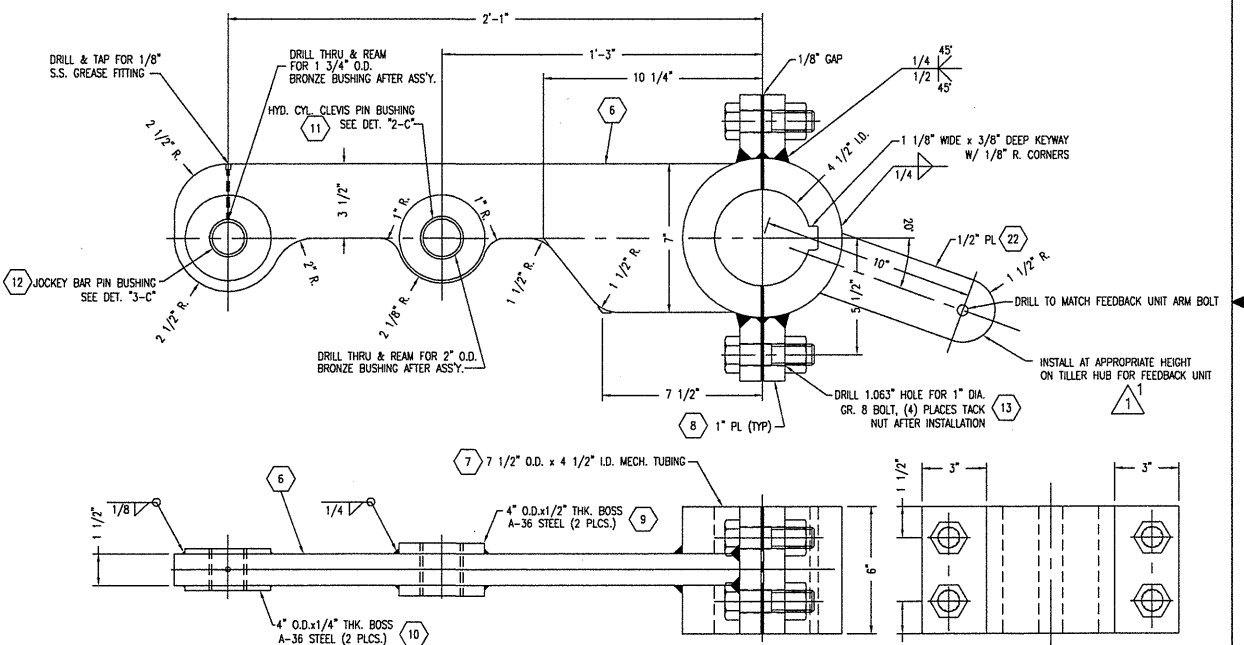
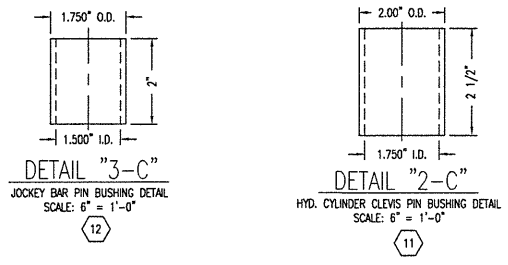
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| REFERENCES | |
|------------|--|
| 1. | 562-01 RUDDER ARRANGEMENT |
| 2. | 110-03 SCANTLING PLANS 73-STERN |
| 3. | 116-03 CONSTRUCTION PROFILE & LONG'L. BHDS. 73-STERN |
| 4. | 117-03 FRAMES 73-STERN |
| 5. | 561-02 HYDRAULIC STEERING SYSTEM SCHEMATIC |

| REVISIONS | | | | |
|-----------|------|--|---------|----------|
| REV. | ZONE | DESCRIPTION | DATE | BY/APP'D |
| 1 | 1-B | 1. DELETED "PORT ONLY" NOTE FROM FEEDBACK ARM. | 5/23/10 | KHK |
| 12-C | | 2. REVISED QTY OF ITEM 22 IN BOM. | | |

GENERAL NOTES:
 1. FOR ELECTRICAL AND HYDRAULIC SYSTEM DETAILS, REFER TO VENDOR INFORMATION FROM EMI.
 2. ALL MATERIALS AND WORKMANSHIP SHALL COMPLY WITH ABS RULES FOR BUILDING AND CLASSING STEEL VESSELS UNDER 90 METERS IN LENGTH AND USCG REGULATIONS FOR VESSELS INSPECTED UNDER SUBCHAPTER H.



STEERING ARRANGEMENT
 PORT RUDDER SHOWN, STBD. SIMILAR
 SCALE: 3/4" = 1'-0"

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 PHONE 409-883-6666 FAX 409-882-0609

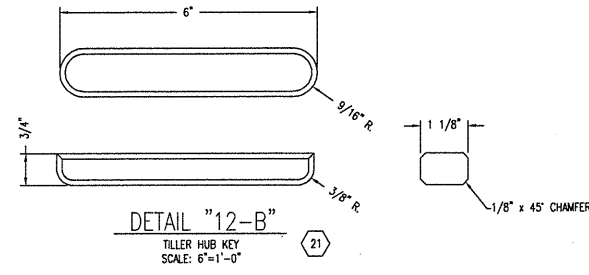
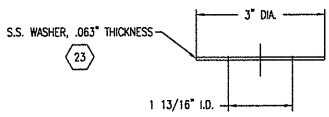
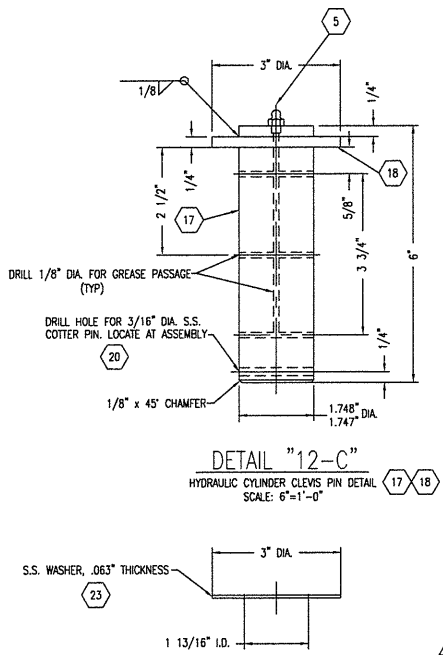
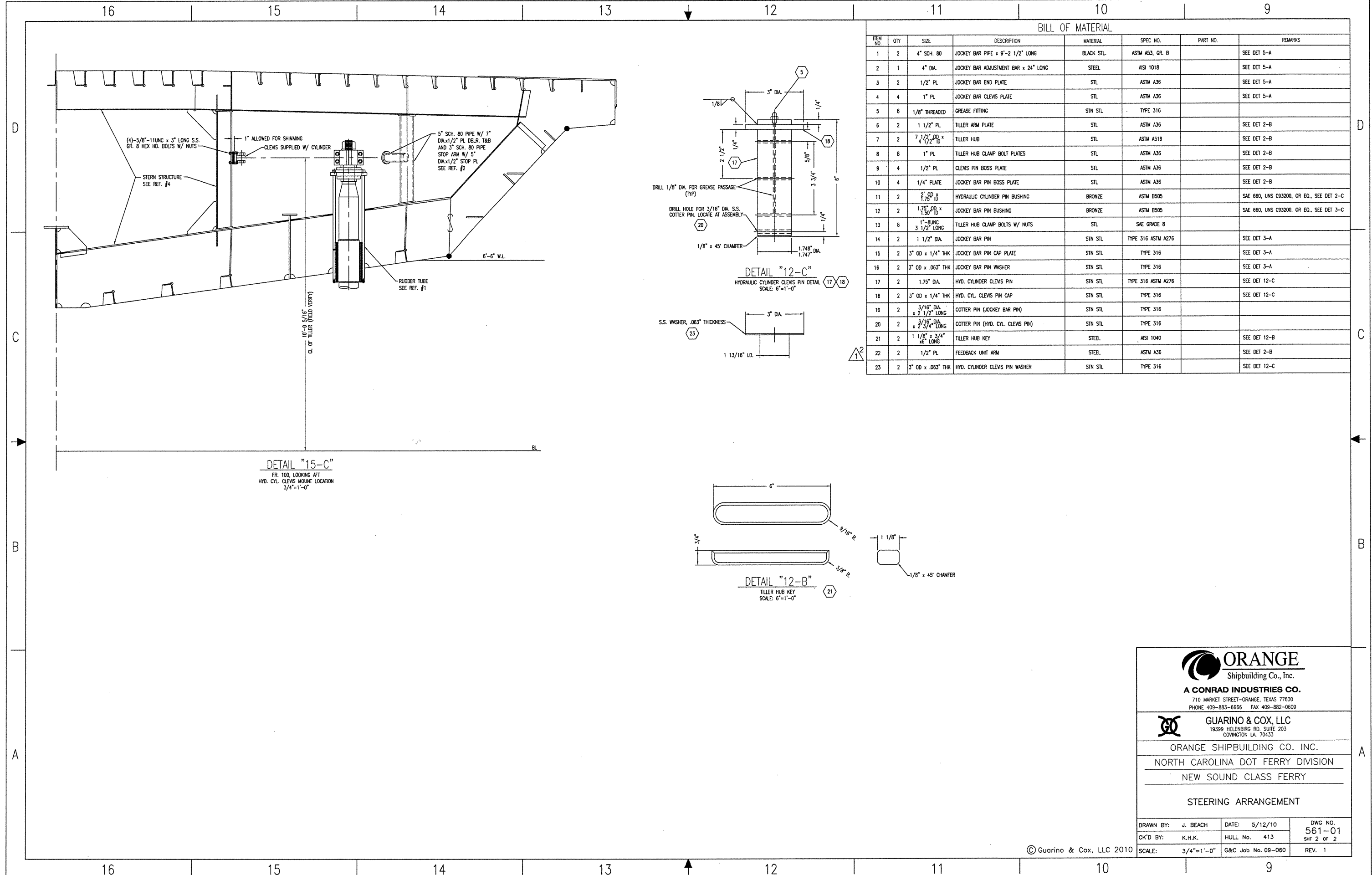
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 19399 HELENBURG RD., SUITE 203
 COWINGTON LA. 70433

ORANGE SHIPBUILDING CO. INC.
 NORTH CAROLINA DOT FERRY DIVISION
 NEW SOUND CLASS FERRY

STEERING ARRANGEMENT

| | | |
|--------------------|--------------------|----------------|
| DRAWN BY: J. BEACH | DATE: 5/12/10 | DWG NO. 561-01 |
| CK'D BY: K.H.K. | HULL No. 413 | SHT 1 OF 2 |
| SCALE: AS NOTED | G&C Job No. 09-060 | REV. 1 |

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DETAIL "15-C"
FR. 100, LOOKING AFT
HYD. CYL. CLEVIS MOUNT LOCATION
3/4"=1'-0"

BILL OF MATERIAL

| ITEM NO. | QTY | SIZE | DESCRIPTION | MATERIAL | SPEC. NO. | PART NO. | REMARKS |
|----------|-----|--------------------------|--------------------------------------|------------|--------------------|----------|--|
| 1 | 2 | 4" SCH. 80 | JOCKEY BAR PIPE x 9'-2 1/2" LONG | BLACK STL. | ASTM A53, GR. B | | SEE DET 5-A |
| 2 | 1 | 4" DIA. | JOCKEY BAR ADJUSTMENT BAR x 24" LONG | STEEL | ASTM 1018 | | SEE DET 5-A |
| 3 | 2 | 1/2" PL. | JOCKEY BAR END PLATE | STL. | ASTM A36 | | SEE DET 5-A |
| 4 | 4 | 1" PL. | JOCKEY BAR CLEVIS PLATE | STL. | ASTM A36 | | SEE DET 5-A |
| 5 | 8 | 1/8" THREADED | GREASE FITTING | STN STL. | TYPE 316 | | |
| 6 | 2 | 1 1/2" PL. | TILLER ARM PLATE | STL. | ASTM A36 | | SEE DET 2-B |
| 7 | 2 | 7/8" OD x 1/2" ID | TILLER HUB | STL. | ASTM A519 | | SEE DET 2-B |
| 8 | 8 | 1" PL. | TILLER HUB CLAMP BOLT PLATES | STL. | ASTM A36 | | SEE DET 2-B |
| 9 | 4 | 1/2" PL. | CLEVIS PIN BOSS PLATE | STL. | ASTM A36 | | SEE DET 2-B |
| 10 | 4 | 1/4" PLATE | JOCKEY BAR PIN BOSS PLATE | STL. | ASTM A36 | | SEE DET 2-B |
| 11 | 2 | 2" OD x 1.75" ID | HYDRAULIC CYLINDER PIN BUSHING | BRONZE | ASTM B505 | | SAE 660, UNS C93200, OR EQ., SEE DET 2-C |
| 12 | 2 | 1.75" OD x 1.50" ID | JOCKEY BAR PIN BUSHING | BRONZE | ASTM B505 | | SAE 660, UNS C93200, OR EQ., SEE DET 3-C |
| 13 | 8 | 1" BUNG x 3 1/2" LONG | TILLER HUB CLAMP BOLTS W/ NUTS | STL. | SAE GRADE 8 | | |
| 14 | 2 | 1 1/2" DIA. | JOCKEY BAR PIN | STN STL. | TYPE 316 ASTM A276 | | SEE DET 3-A |
| 15 | 2 | 3" OD x 1/4" THK | JOCKEY BAR PIN CAP PLATE | STN STL. | TYPE 316 | | SEE DET 3-A |
| 16 | 2 | 3" OD x .063" THK | JOCKEY BAR PIN WASHER | STN STL. | TYPE 316 | | SEE DET 3-A |
| 17 | 2 | 1.75" DIA. | HYD. CYLINDER CLEVIS PIN | STN STL. | TYPE 316 ASTM A276 | | SEE DET 12-C |
| 18 | 2 | 3" OD x 1/4" THK | HYD. CYL. CLEVIS PIN CAP | STN STL. | TYPE 316 | | SEE DET 12-C |
| 19 | 2 | 3/16" DIA. x 2 1/2" LONG | COTTER PIN (JOCKEY BAR PIN) | STN STL. | TYPE 316 | | |
| 20 | 2 | 3/16" DIA. x 2 3/4" LONG | COTTER PIN (HYD. CYL. CLEVIS PIN) | STN STL. | TYPE 316 | | |
| 21 | 2 | 1 1/8" x 3/4" x 6" LONG | TILLER HUB KEY | STEEL | ASTM 1040 | | SEE DET 12-B |
| 22 | 2 | 1/2" PL. | FEEDBACK UNIT ARM | STEEL | ASTM A36 | | SEE DET 2-B |
| 23 | 2 | 3" OD x .063" THK | HYD. CYLINDER CLEVIS PIN WASHER | STN STL. | TYPE 316 | | SEE DET 12-C |

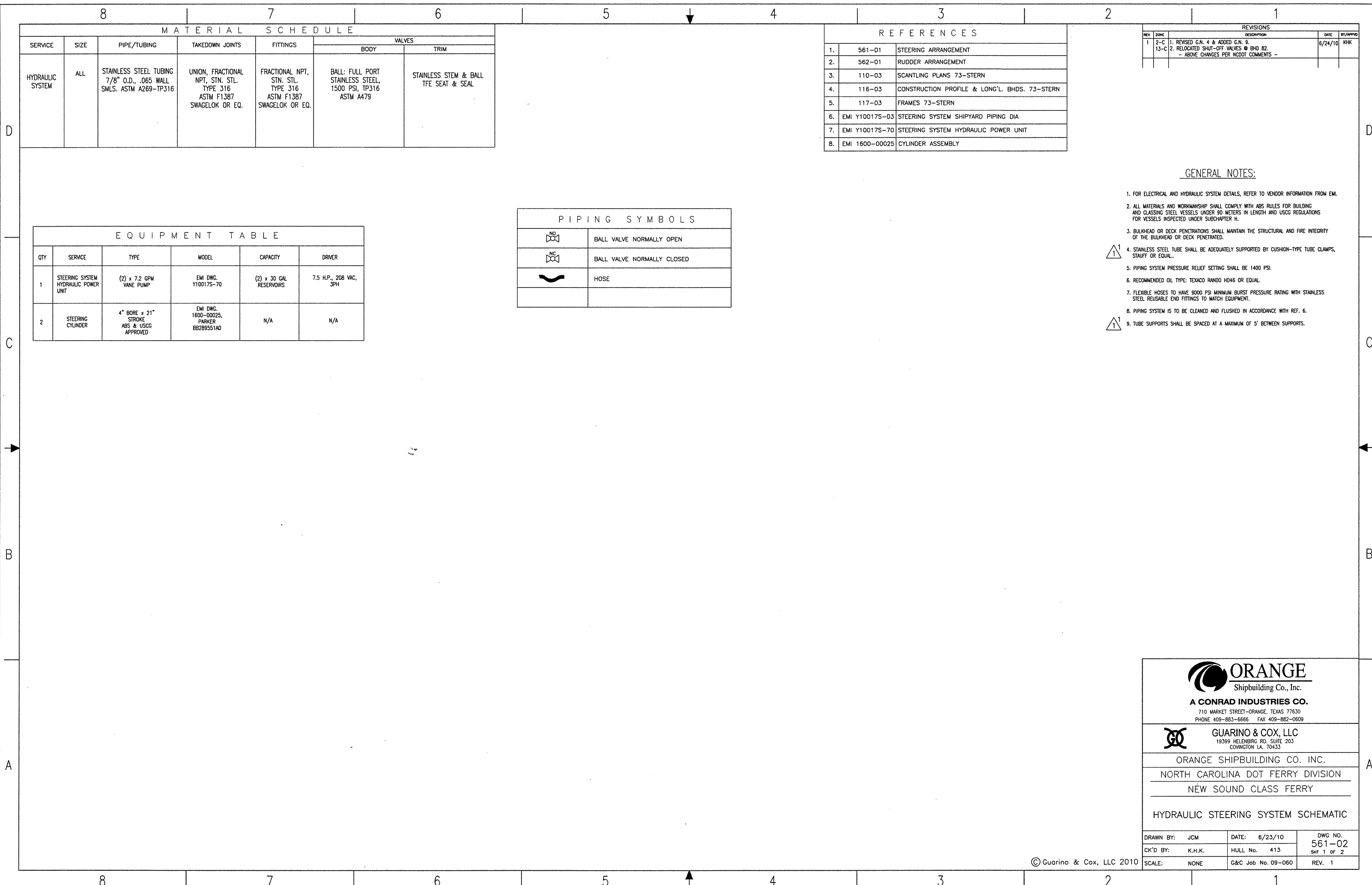
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PHONE 409-883-6666 FAX 409-882-0609

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ORANGE SHIPBUILDING CO. INC.
NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY

STEERING ARRANGEMENT

| | | |
|--------------------|--------------------|----------------|
| DRAWN BY: J. BEACH | DATE: 5/12/10 | DWG NO. 561-01 |
| CK'D BY: K.H.K. | HULL No. 413 | SHIT 2 OF 2 |
| SCALE: 3/4"=1'-0" | G&C Job No. 09-060 | REV. 1 |



MATERIAL SCHEDULE

| SERVICE | SIZE | PIPE/TUBING | TAKEDOWN JOINTS | FITTINGS | VALVES | |
|------------------|------|---|--|---|---|--|
| | | | | | BODY | TRIM |
| HYDRAULIC SYSTEM | ALL | STAINLESS STEEL TUBING 7/8" O.D., .065 WALL SMLS. ASTM A269-TP316 | UNION, FRACTIONAL NPT, STN. STL. TYPE 316 ASTM F1387 SWAGelok OR EQ. | FRACTIONAL NPT, STN. STL. TYPE 316 ASTM F1387 SWAGelok OR EQ. | BALL: FULL PORT STAINLESS STEEL, 1500 PSI, TP316 ASTM A479 | STAINLESS STEM & BALL TFE SEAT & SEAL |

REFERENCES

| | | |
|----|----------------|---|
| 1. | 561-01 | STEERING ARRANGEMENT |
| 2. | 562-01 | RUDDER ARRANGEMENT |
| 3. | 110-03 | SCANTLING PLANS 73-STERN |
| 4. | 116-03 | CONSTRUCTION PROFILE & LONG'L. BHDS. 73-STERN |
| 5. | 117-03 | FRAMES 73-STERN |
| 6. | EMI Y10017S-03 | STEERING SYSTEM SHIPYARD PIPING DIA |
| 7. | EMI Y10017S-70 | STEERING SYSTEM HYDRAULIC POWER UNIT |
| 8. | EMI 1600-00025 | CYLINDER ASSEMBLY |

REVISIONS

| REV | ZONE | DESCRIPTION | DATE | BY/APP'D |
|-----|------|---|---------|----------|
| 1 | 2-C | 1. REVISED G.N. 4 & ADDED G.N. 5. | 6/24/10 | KHK |
| 2 | 13-C | 2. RELOCATED SHUT-OFF VALVES @ BHD B2 - ABOVE CHANGES PER NCDOT COMMENTS - | | |

EQUIPMENT TABLE

| QTY | SERVICE | TYPE | MODEL | CAPACITY | DRIVER |
|-----|--|---|---|----------------------------|---------------------------|
| 1 | STEERING SYSTEM HYDRAULIC POWER UNIT | (2) x 7.2 GPM VANE PUMP | EMI DWG. Y10017S-70 | (2) x 30 GAL RESERVOIRS | 7.5 H.P., 208 VAC, 3PH |
| 2 | STEERING CYLINDER | 4" BORE x 21" STROKE ABS & USCG APPROVED | EMI DWG. 1600-00025, PARKER BB289551A0 | N/A | N/A |

PIPING SYMBOLS

| | |
|--|----------------------------|
| | BALL VALVE NORMALLY OPEN |
| | BALL VALVE NORMALLY CLOSED |
| | HOSE |

GENERAL NOTES:

- FOR ELECTRICAL AND HYDRAULIC SYSTEM DETAILS, REFER TO VENDOR INFORMATION FROM EMI.
- ALL MATERIALS AND WORKMANSHIP SHALL COMPLY WITH ABS RULES FOR BUILDING AND CLASSING STEEL VESSELS UNDER 90 METERS IN LENGTH AND USCG REGULATIONS FOR VESSELS INSPECTED UNDER SUBCHAPTER H.
- BULKHEAD OR DECK PENETRATIONS SHALL MAINTAIN THE STRUCTURAL AND FIRE INTEGRITY OF THE BULKHEAD OR DECK PENETRATED.
- STAINLESS STEEL TUBE SHALL BE ADEQUATELY SUPPORTED BY CUSHION-TYPE TUBE CLAMPS, STAUFF OR EQUAL.
- PIPING SYSTEM PRESSURE RELIEF SETTING SHALL BE 1400 PSI.
- RECOMMENDED OIL TYPE: TEXACO RANDO HD46 OR EQUAL.
- FLEXIBLE HOSES TO HAVE 9000 PSI MINIMUM BURST PRESSURE RATING WITH STAINLESS STEEL REUSABLE END FITTINGS TO MATCH EQUIPMENT.
- PIPING SYSTEM IS TO BE CLEANED AND FLUSHED IN ACCORDANCE WITH REF. 6.
- TUBE SUPPORTS SHALL BE SPACED AT A MAXIMUM OF 5' BETWEEN SUPPORTS.



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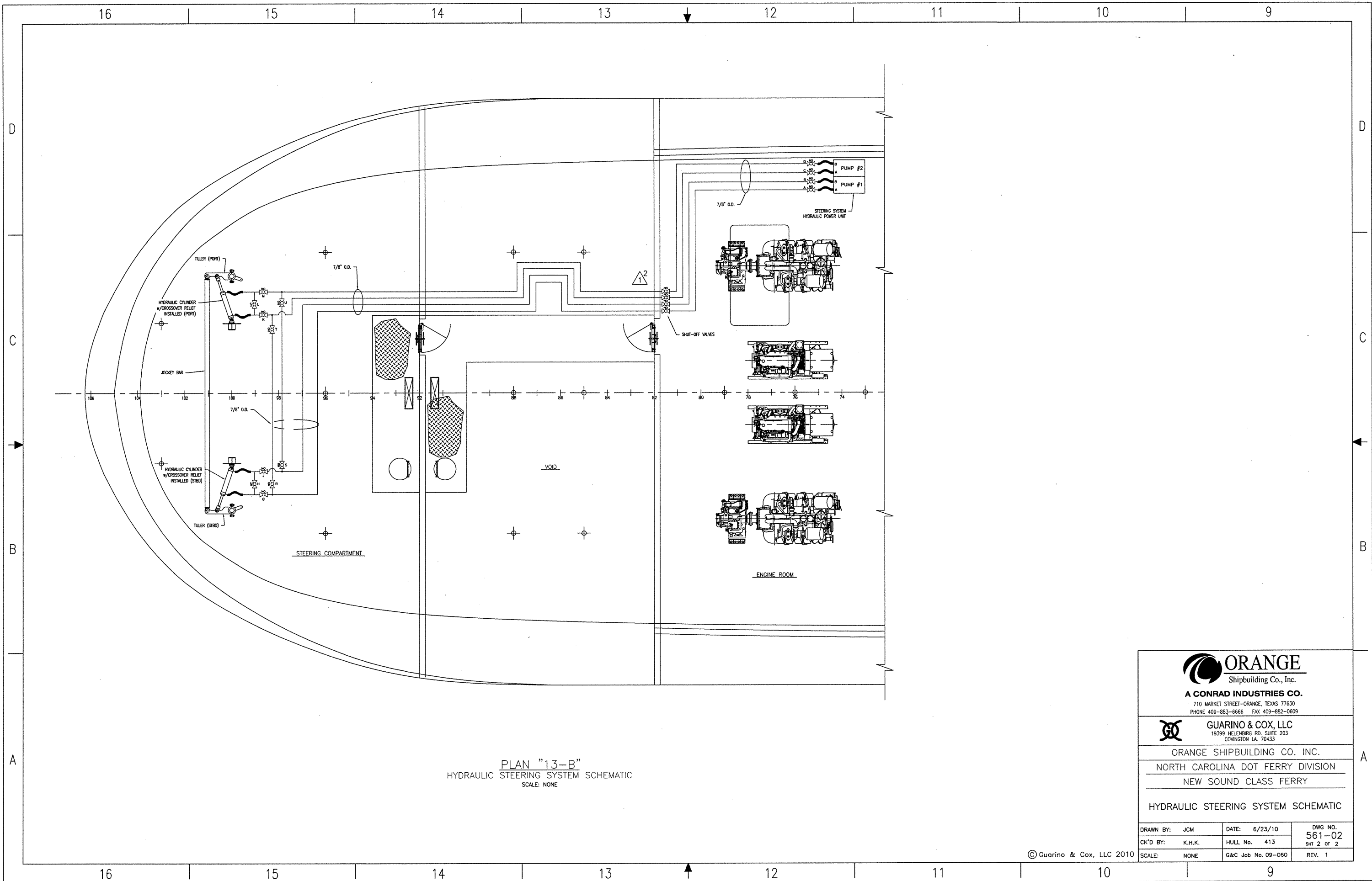


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ORANGE SHIPBUILDING CO. INC.
NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY

HYDRAULIC STEERING SYSTEM SCHEMATIC

| | | |
|-----------------|--------------------|----------------|
| DRAWN BY: JCM | DATE: 6/23/10 | DWG NO. 561-02 |
| CK'D BY: K.H.K. | HULL No. 413 | SH 1 OF 2 |
| SCALE: NONE | G&C Job No. 09-060 | REV. 1 |



PLAN "13-B"
 HYDRAULIC STEERING SYSTEM SCHEMATIC
 SCALE: NONE

ORANGE
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 COVINGTON LA. 70433

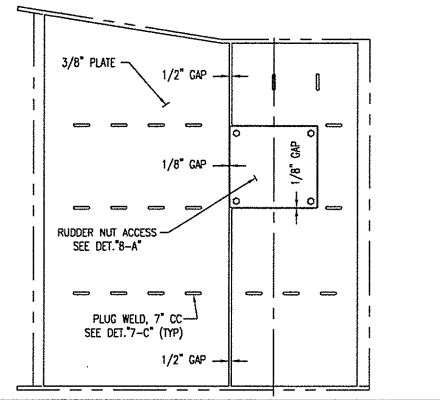
ORANGE SHIPBUILDING CO. INC.
 NORTH CAROLINA DOT FERRY DIVISION
 NEW SOUND CLASS FERRY

HYDRAULIC STEERING SYSTEM SCHEMATIC

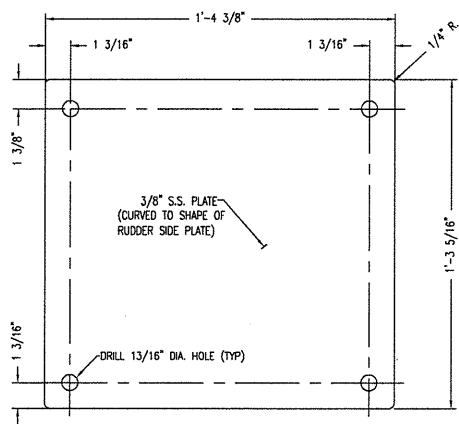
| | | |
|-----------------|--------------------|----------------|
| DRAWN BY: JCM | DATE: 6/23/10 | DWG NO. 561-02 |
| CK'D BY: K.H.K. | HULL No. 413 | SHT 2 OF 2 |
| SCALE: NONE | G&C Job No. 09-060 | REV. 1 |

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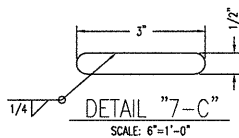
| LIST OF MATERIALS (QTY. FOR 2 RUDDERS) | | | | | |
|--|----------|--|--------------------------|----------------------|--|
| PIECE NO. | QUANTITY | DESCRIPTION | MATERIAL OR MANUFACTURER | SPEC. GRADE OR MODEL | REMARKS |
| 1 | 2 | RUDDER STOCK | STAINLESS STEEL | AQUAMET 22 | 7.25" DIA. X 6'-11 1/4" LONG |
| 2 | 2 | RUDDER TUBE | STEEL | ASTM A-519 | 13" O.D. X 9 1/2" I.D. X 3'-7 3/4" LONG MECHANICAL TUBING |
| 3 | 2 | SHRINK-ON LINER | BRONZE | ASTM B505 | 8" O.D. X 7.224" I.D. X 17" LG., SAE B660, UNS C93200 OR EQ. SEE GENERAL NOTES #2 & 3. |
| 4 | 2 | RUDDER NUT, 5" DIA. X 4 T.P.I. | BRONZE | | PURCHASED ITEM |
| 5 | 2 | RUDDER NUT WASHER | STEEL | ASTM A-36 | 1/2" PL. X 10" O.D. X 5 1/8" I.D. |
| 6 | 2 | RUDDER CARRIER NUT | STEEL | ASTM A-194 | 3" DIA. X 4 T.P.I. |
| 7 | 2 | CARRIER NUT WASHER | STEEL | ASTM A-36 | 6" O.D. X 3 1/4" I.D. X 1/2" THICK |
| 8 | 6 | RUDDER NECK BEARING SET SCREWS, CUP POINT | STAINLESS STEEL | 316 S.S. | 1/2"-13 UNC X 1 1/2" LONG |
| 9 | 1 | RUDDER NECK BEARING, DURAMAX "490", PART NO. 812100203 | HARD RUBBER | - | CODE DX800, CUT IN HALF TO MAKE (2) BEARINGS |
| 10 | 2 | RUDDER NECK BEARING RETAINER PLATE | STAINLESS STEEL | 316 S.S. | 13" O.D. X 8 3/8" I.D. X 1/4" THICK |
| 11 | 16 | RUDDER NECK BEARING RETAINER PLATE BOLTS | STAINLESS STEEL | 316 S.S. | 3/8"-16 UNC X 1" LONG |
| 12 | 2 | CARRIER BEARING SUPPORT PLATE | STEEL | ASTM A-36 | 15" O.D. X 10 5/16" I.D. X 1 1/4" THICK |
| 13 | 2 | RUDDER NUT KEEPER PL. | STAINLESS STEEL | 316 S.S. | 2" WIDE X 3/8" THICK X 7" LONG F.B. |
| 14 | 2 | RUDDER STOCK TAPER HOUSING | STEEL | ASTM A-519 | 10 1/2" O.D. X 5 1/2" I.D. X 1'-6" LONG MECHANICAL TUBING |
| 15 | 2 | FLANGED CARRIER BEARING FOR 4 1/2" DIA. SHAFT | - | - | DOIDGE TYPE "E" FLANGED BEARING, PART #023146 |
| 16 | 12 | CARRIER BEARING BOLTS | STAINLESS STEEL | 316 S.S. | 3/4"-10 UNC X 2" LONG |
| 17 | 6 | 1" PIPE PLUG, SQUARE HEAD | BRONZE | ASTM B505 | - |
| 18 | 6 | 1" HALF COUPLING | STAINLESS STEEL | 316 S.S. | - |
| 19 | 2 | LOWER RUDDER STOCK KEY | STEEL | AISI 1040 | 1 1/2" WIDE X 1 1/8" DEEP X 10" LONG |
| 20 | 4 | ZINC ANODE | ZINC | - | 5 LB. |
| 21 | 8 | RUDDER NUT ACCESS COVER BOLTS & NUTS | STAINLESS STEEL | 316 S.S. | 3/4"-10 UNC X 2" LONG |
| 22 | 2 | RUDDER STOP SPACER | BRONZE | ASTM B505 | 10 1/2" O.D. X 7 9/16" I.D. X 3/4" THICK |
| 23 | 2 | CARRIER BEARING SPACER | STEEL | ASTM A-36 | 5 1/2" O.D. X 4 7/16" I.D. X 1/2" THICK |



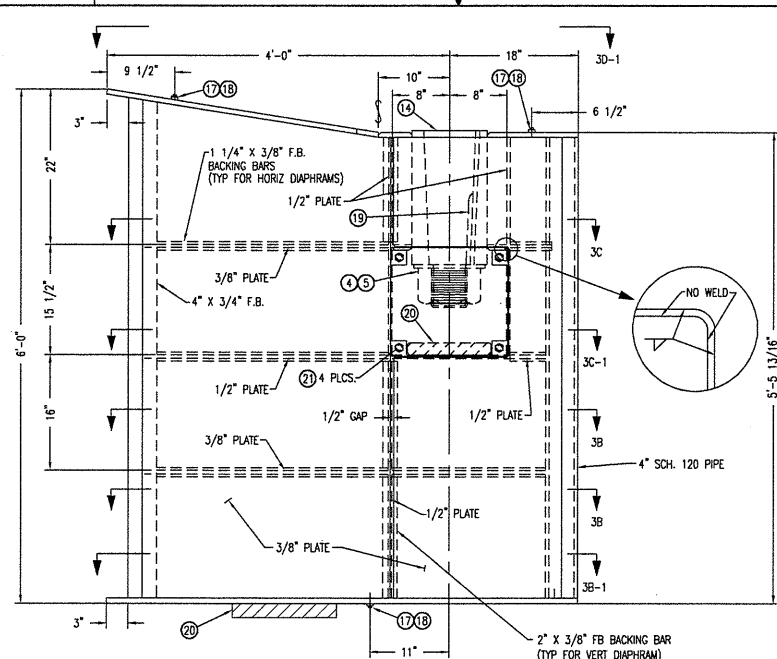
CLOSING PLATE LAYOUT
SCALE: 3/4" = 1'-0"



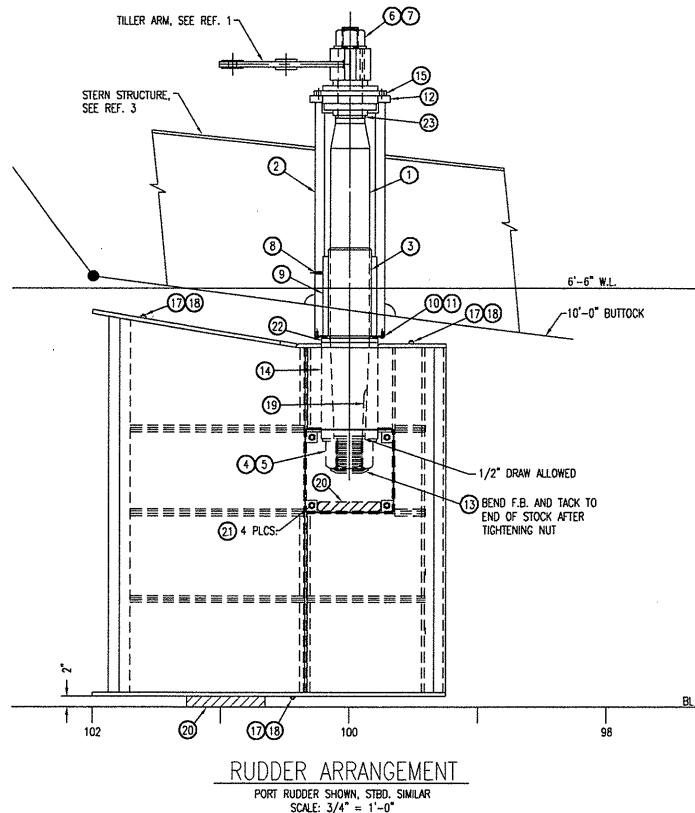
DETAIL "8-A"
RUDDER NUT ACCESS PLATE
SCALE: 3" = 1'-0"



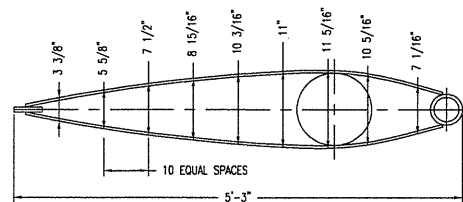
DETAIL "7-C"
SCALE: 6" = 1'-0"



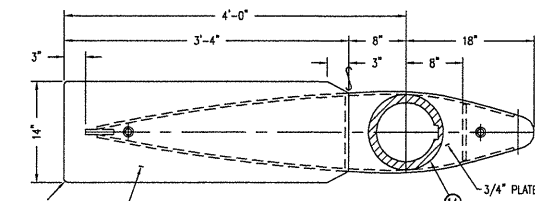
DETAIL "5-D"
RUDDER STRUCTURAL PROFILE
SCALE: 1" = 1'-0"



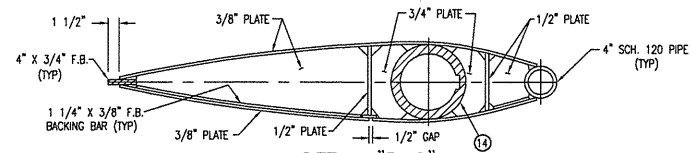
RUDDER ARRANGEMENT
PORT RUDDER SHOWN, STBD. SIMILAR
SCALE: 3/4" = 1'-0"



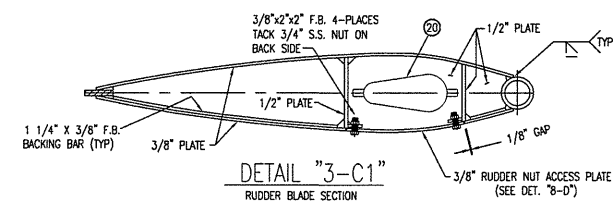
DETAIL "3-D"
RUDDER BLADE LINES PLAN
SCALE: 1" = 1'-0"



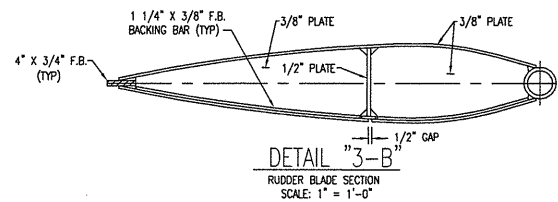
DETAIL "3-D1"
RUDDER BLADE TOP PLATE
SCALE: 1" = 1'-0"



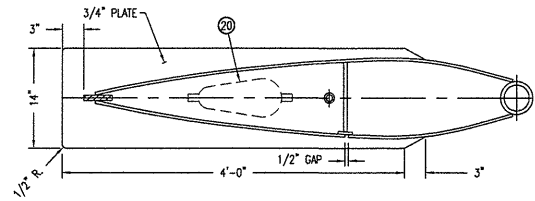
DETAIL "3-C"
RUDDER BLADE SECTION
SCALE: 1" = 1'-0"



DETAIL "3-C1"
RUDDER BLADE SECTION
SCALE: 1" = 1'-0"



DETAIL "3-B"
RUDDER BLADE SECTION
SCALE: 1" = 1'-0"



DETAIL "3-B1"
RUDDER BLADE BOTTOM PLATE
SCALE: 1" = 1'-0"

| REFERENCES | |
|------------|--|
| 1. | 561-01 STEERING ARRANGEMENT |
| 2. | 110-03 SCANTLING PLANS 73-STERN |
| 3. | 116-03 CONSTRUCTION PROFILE & LONG'L. BHDS. 73-STERN |
| 4. | 117-03 FRAMES 73-STERN |
| 5. | 561-02 HYDRAULIC STEERING SYSTEM SCHEMATIC |

| REVISIONS | | | |
|-----------|------|-------------|---------------|
| REV | ZONE | DESCRIPTION | DATE BY/APP'D |
| | | | |

- GENERAL NOTES**
- ALL MATERIALS AND WORKMANSHIP SHALL COMPLY WITH ABS RULES FOR BUILDING AND CLASSING STEEL VESSELS UNDER 80 METERS IN LENGTH AND USCG REGULATIONS FOR VESSELS INSPECTED UNDER SUBCHAPTER H.
 - LINER OUTSIDE DIAMETERS SHALL BE MACHINED AFTER THE LINERS ARE INSTALLED ON THE STOCKS.
 - OUTSIDE DIAMETERS OF STOCKS SHALL BE VERIFIED PRIOR TO MACHINING INSIDE DIAMETERS OF LINERS FOR INTERFERENCE FIT. (CLASS FN 2)
 - THIS DRAWING SHOULD NOT BE USED TO DIRECTLY SCALE NC PARTS OR PREPARE 3D MODELING.
 - RUDDER NECK BEARINGS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
 - RUDDER AND RUDDER STOCK SHALL BE "BLUE FIT" IN ACCORDANCE WITH ABS REQUIREMENTS.

THIS DRAWING CONTAINS INFORMATION BASED ON
EBDG CONTRACT DESIGN DRAWING
07069-001-562-1

ORANGE
Shipbuilding Co., Inc.
A CONRAD INDUSTRIES CO.
710 MARKET STREET-ORANGE, TEXAS 77630
PHONE 409-883-6666 FAX 409-882-0609

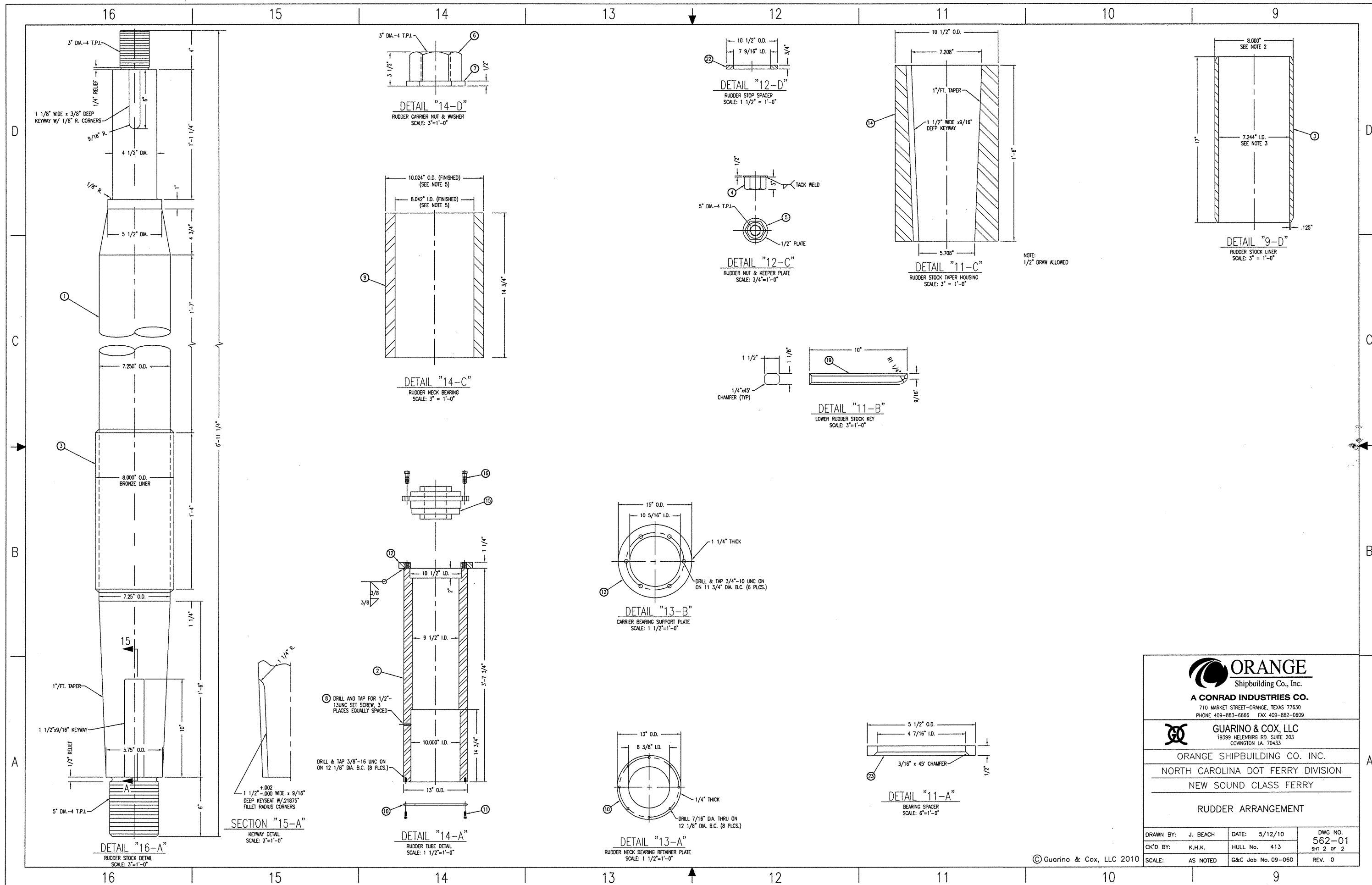
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19399 HELENBURG RD. SUITE 203
COVINGTON LA. 70433

ORANGE SHIPBUILDING CO. INC.
NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY

RUDDER ARRANGEMENT

| | | |
|--------------------|--------------------|----------------|
| DRAWN BY: J. BEACH | DATE: 5/12/10 | DWG NO. 562-01 |
| CK'D BY: K.H.K. | HULL No. 413 | SH 1 OF 2 |
| SCALE: AS NOTED | G&C Job No. 09-060 | REV. 0 |

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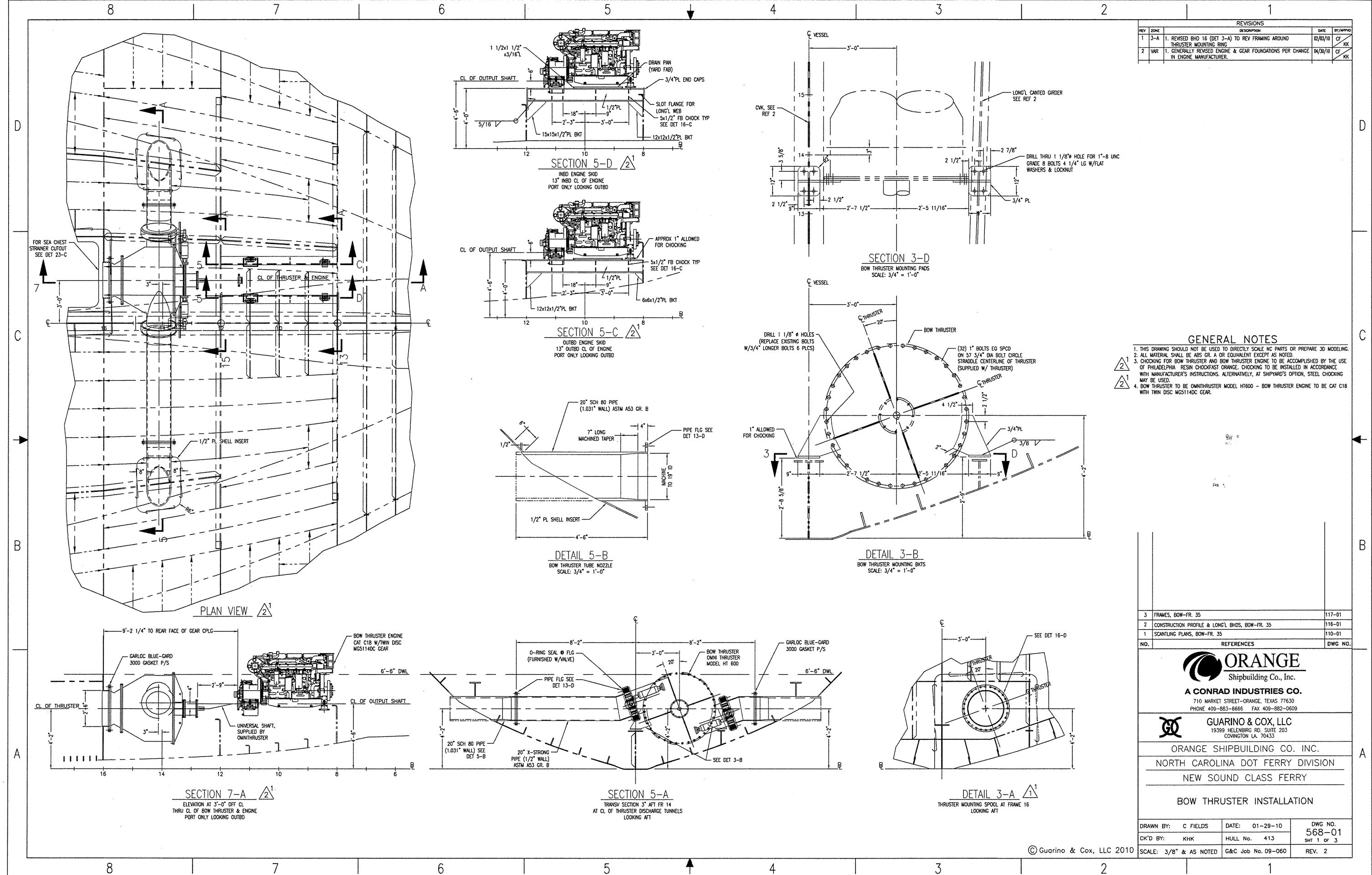
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ORANGE SHIPBUILDING CO. INC.
NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY

RUDDER ARRANGEMENT

| | | | |
|--------------------|--------------------|----------------|--|
| DRAWN BY: J. BEACH | DATE: 5/12/10 | DWG NO. 562-01 | |
| CK'D BY: K.H.K. | HULL No. 413 | SHT 2 OF 2 | |
| SCALE: AS NOTED | G&C Job No. 09-060 | REV. 0 | |

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| REVISIONS | | | | |
|-----------|------|---|----------|----------|
| REV | ZONE | DESCRIPTION | DATE | BY/APP'D |
| 1 | 3-A | 1. REVISED BHD 16 (DET 3-A) TO REV FRAMING AROUND THRUSTER MOUNTING RING | 02/03/10 | CF/KK |
| 2 | VAR | 1. GENERALLY REVISED ENGINE & GEAR FOUNDATIONS PER CHANGE IN ENGINE MANUFACTURER. | 04/30/10 | CF/KK |

- GENERAL NOTES**
- THIS DRAWING SHOULD NOT BE USED TO DIRECTLY SCALE NC PARTS OR PREPARE 3D MODELING.
 - ALL MATERIAL SHALL BE ABS GR. A OR EQUIVALENT EXCEPT AS NOTED.
 - CHECKING FOR BOW THRUSTER AND BOW THRUSTER ENGINE TO BE ACCOMPLISHED BY THE USE OF PHILADELPHIA RESIN CHOCKFAST ORANGE. CHECKING TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. ALTERNATIVELY, AT SHIPYARD'S OPTION, STEEL CHOCKING MAY BE USED.
 - BOW THRUSTER TO BE OMNITHRUSTER MODEL HT600 - BOW THRUSTER ENGINE TO BE CAT C18 WITH TWIN DISC MGS114DC GEAR.

| NO. | REFERENCES | DWG NO. |
|-----|--|---------|
| 3 | FRAMES, BOW-FR. 35 | 117-01 |
| 2 | CONSTRUCTION PROFILE & LONG'L BHDS, BOW-FR. 35 | 116-01 |
| 1 | SCANTLING PLANS, BOW-FR. 35 | 110-01 |

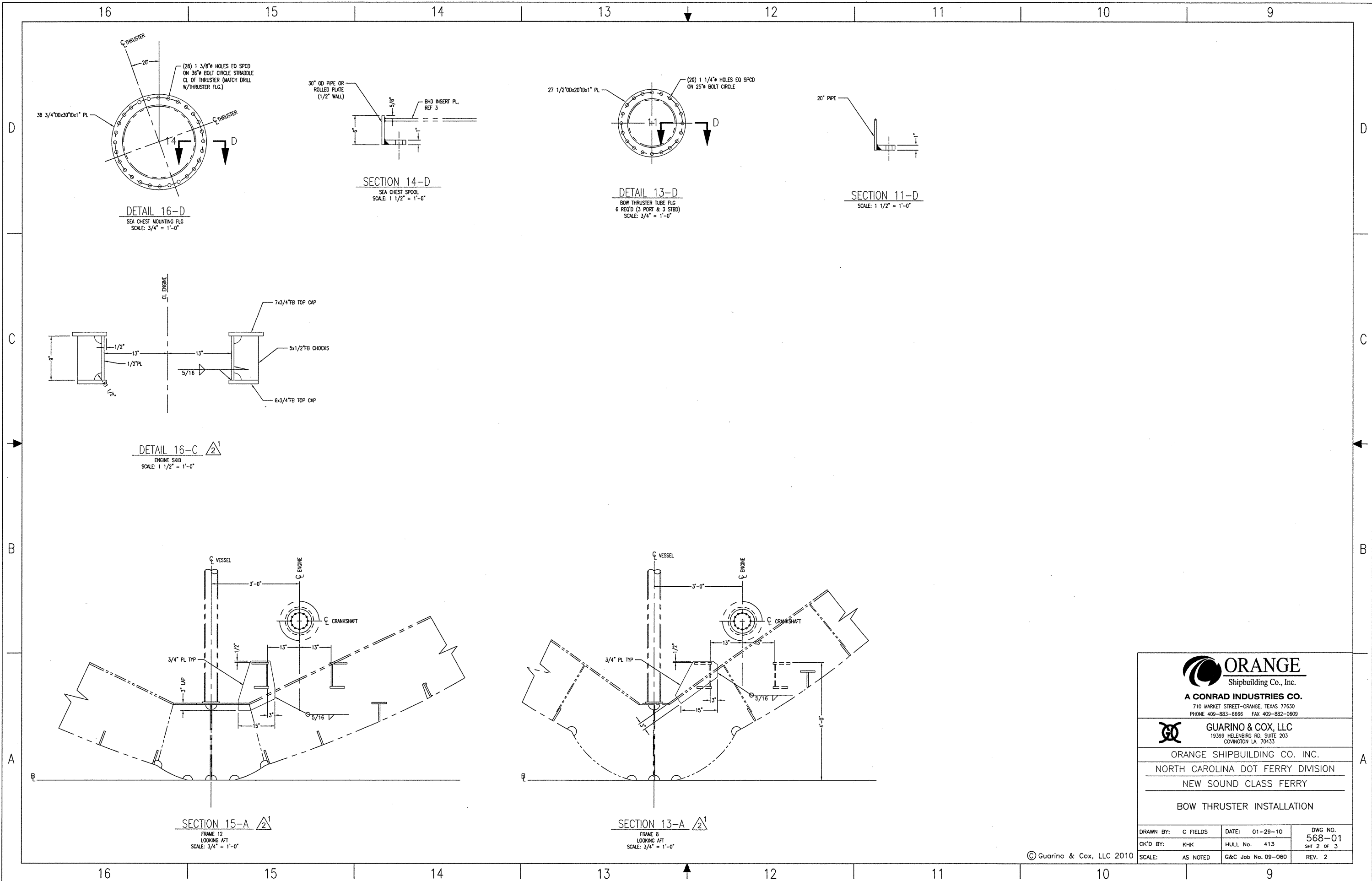
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BOW THRUSTER INSTALLATION

| | | |
|------------------------|--------------------|----------------|
| DRAWN BY: C FIELDS | DATE: 01-29-10 | DWG NO. 568-01 |
| CHK'D BY: KHK | HULL No. 413 | SHT 1 OF 3 |
| SCALE: 3/8" & AS NOTED | G&C Job No. 09-060 | REV. 2 |



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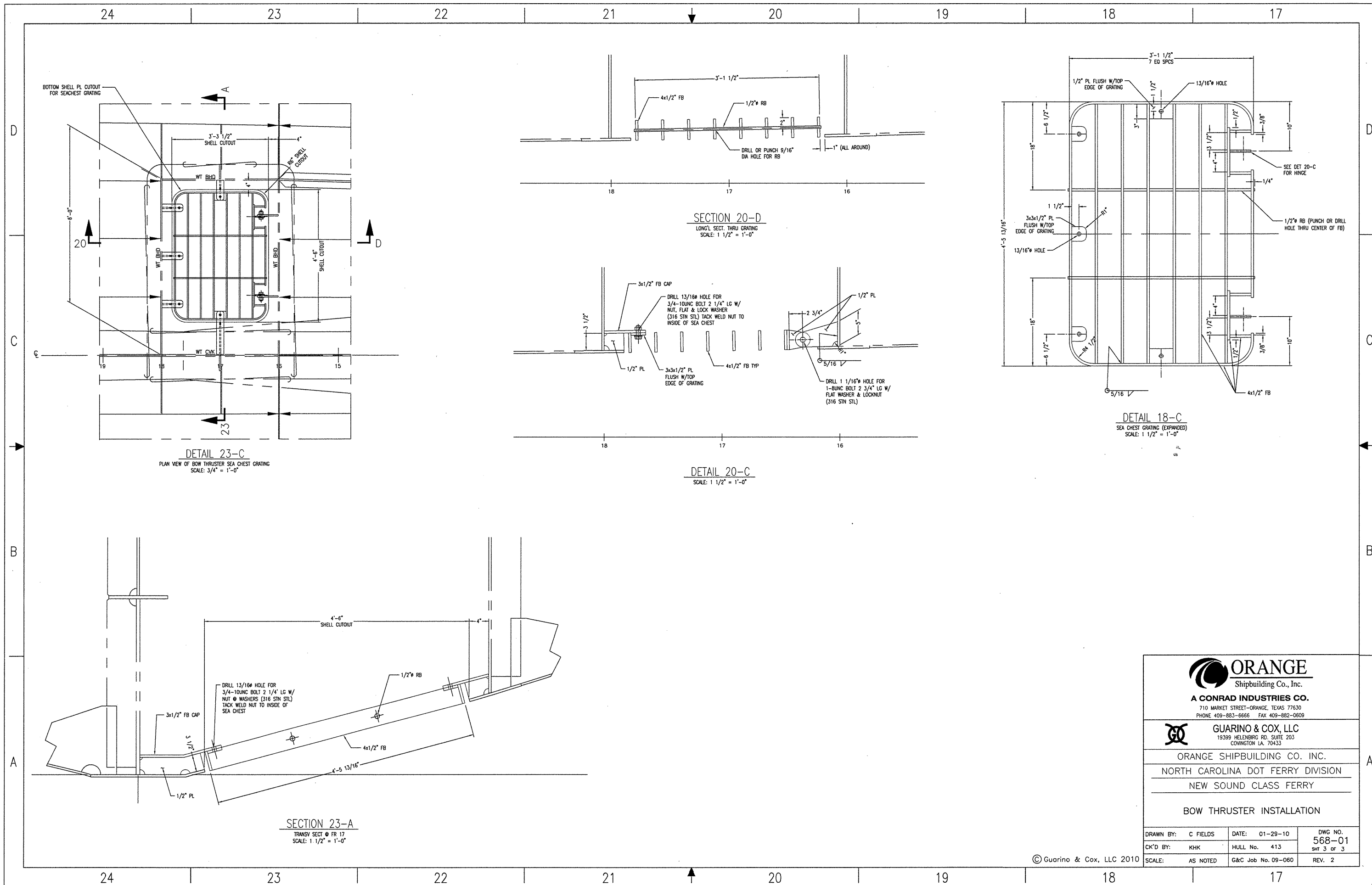
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NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY

BOW THRUSTER INSTALLATION

| | | | | | |
|-----------|----------|-------------|----------|------------|--------|
| DRAWN BY: | C FIELDS | DATE: | 01-29-10 | DWG NO. | 568-01 |
| CK'D BY: | KHK | HULL No. | 413 | SHT 2 OF 3 | |
| SCALE: | AS NOTED | G&C Job No. | 09-060 | REV. | 2 |

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DETAIL 23-C
 PLAN VIEW OF BOW THRUSTER SEA CHEST GRATING
 SCALE: 3/4" = 1'-0"

SECTION 20-D
 LONG'L SECT. THRU GRATING
 SCALE: 1 1/2" = 1'-0"

DETAIL 20-C
 SCALE: 1 1/2" = 1'-0"

SECTION 23-A
 TRANSV SECT @ FR 17
 SCALE: 1 1/2" = 1'-0"

DETAIL 18-C
 SEA CHEST GRATING (EXPANDED)
 SCALE: 1 1/2" = 1'-0"

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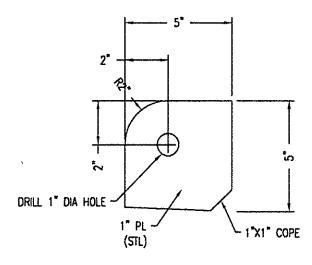
BOW THRUSTER INSTALLATION

| | | | | | |
|-----------|----------|-------------|----------|---------|--------|
| DRAWN BY: | C FIELDS | DATE: | 01-29-10 | DWG NO. | 568-01 |
| CK'D BY: | KHK | HULL No. | 413 | Sht | 3 OF 3 |
| SCALE: | AS NOTED | G&C Job No. | 09-060 | REV. | 2 |

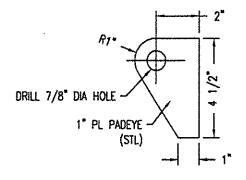
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| PARTS LIST | | | | | | | | | |
|------------|------------|---------|-------------------|-----------------------------------|-------------------|---|--|--|--|
| NO | QTY | SIZE | MATERIAL | DESCRIPTION | MANUFACTURER | COMMENTS | | | |
| 1 | AS REQD | 1/2" | GALV STEEL | 6X19 IWRC WIRE ROPE | CROSBY OR EQUAL | | | | |
| 2 | 2 | 1/2" | GALV STEEL | STANDARD WIRE ROPE THIMBLE | CROSBY OR EQUAL | | | | |
| 3 | 6 | 1/2" | GALV FORGED STEEL | WIRE ROPE CLIPS, MODEL G-450 | CROSBY OR EQUAL | | | | |
| 4 | 2 | 3/4" | GALV FORGED STEEL | BOLT TYPE ANCHOR SHACKLE, G2130 | CROSBY OR EQUAL | | | | |
| 5 | 1 | 1" | GALV STEEL | ROUND PIN CHAIN SHACKLE | CROSBY OR EQUAL | | | | |
| 6 | 1 | 1,000 # | CAST STEEL | DANFORTH TYPE ANCHOR | BALDT OR EQUAL | | | | |
| 7 | 18 FATHOMS | 3/4" | GALV STEEL | PROOF COIL CHAIN | CROSBY OR EQUAL | TO BE SUPPLIED W/ END LINKS AT EACH END | | | |
| 8 | 2 | 5/8" | GALV FORGED STEEL | BOLT TYPE ANCHOR SHACKLE, G2130 | CROSBY OR EQUAL | | | | |
| 9 | 1 | 5/8" | STN STEEL | RELEASE HOOK, MODEL TR7 | SEACATCH OR EQUAL | | | | |
| 10 | 1 | 7/8" | GALV FORGED STEEL | JAW AND JAW TURNBUCKLE 12" TAKEUP | CROSBY OR EQUAL | | | | |

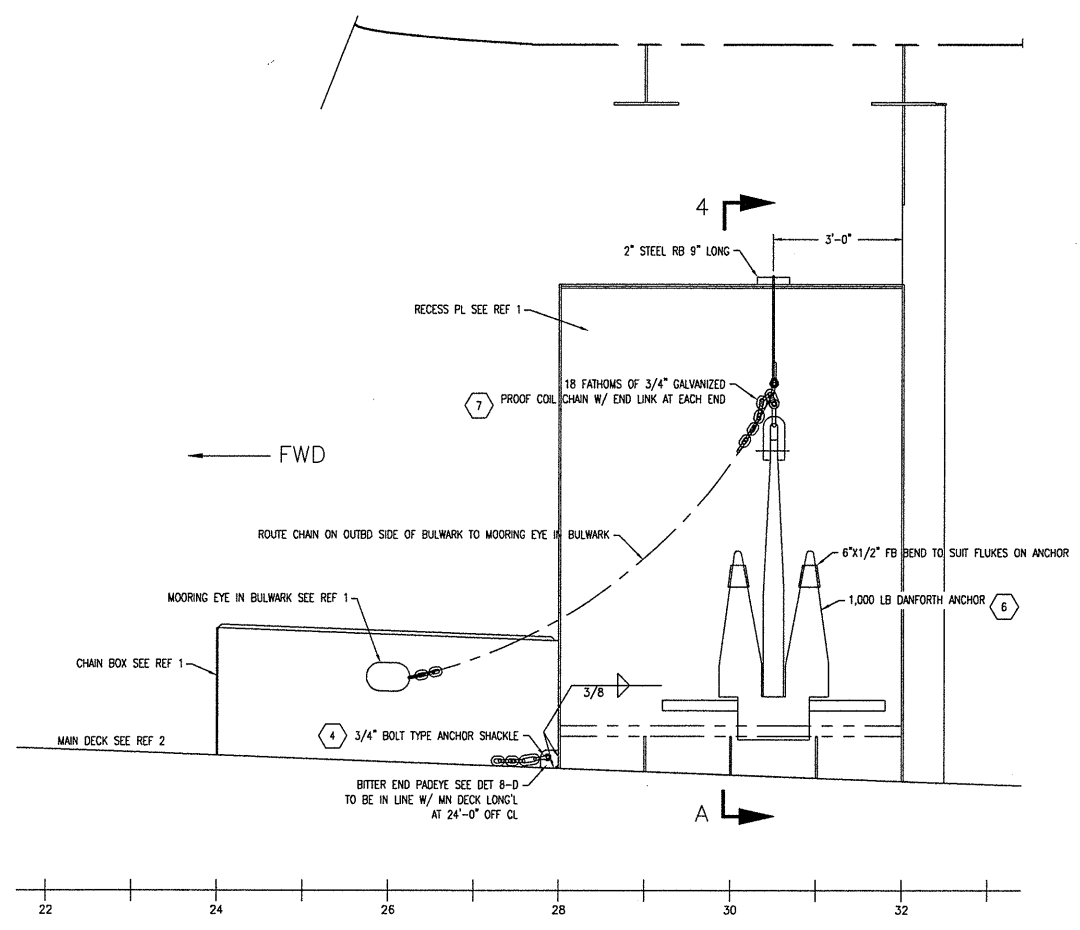
| REVISIONS | | | |
|-----------|------|-------------|--------------|
| REV | ZONE | DESCRIPTION | DATE BY/APPD |
| | | | |



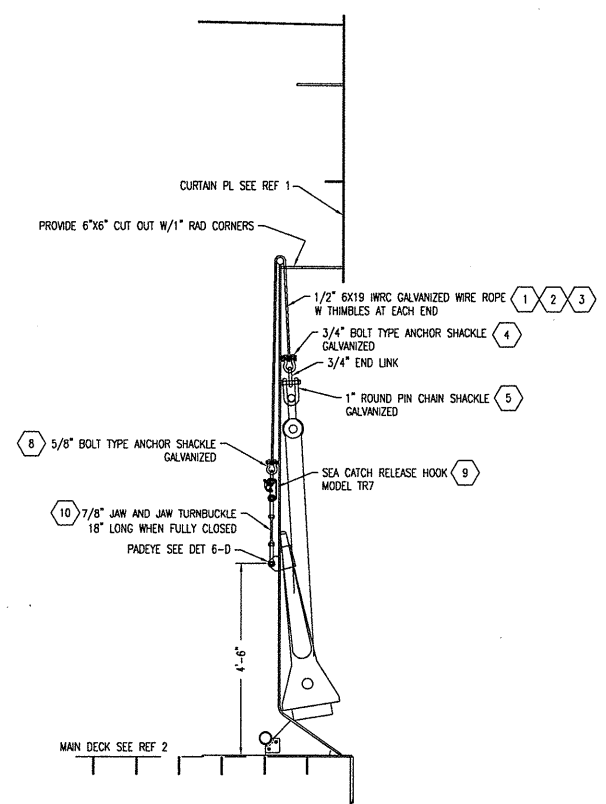
DETAIL 8-D
BITTER END PADEYE
3'-1'-0"



DETAIL 6-D
QUICK RELEASE MOUNTING PADEYE
3'-1'-0"



DETAIL 7-A
ANCHOR SECURING
PORT SIDE ONLY
LKG INBD



SECTION 4-A
SECTION LKG AFT PORT ONLY
1/2'-1'-0"

| NO. | REFERENCES | DWG NO. |
|-----|-----------------------------|---------|
| 2 | SCANTLING PLANS, BOW-FR. 35 | 110-01 |
| 1 | BULWARKS AND CURTAIN PLATES | 152-03 |

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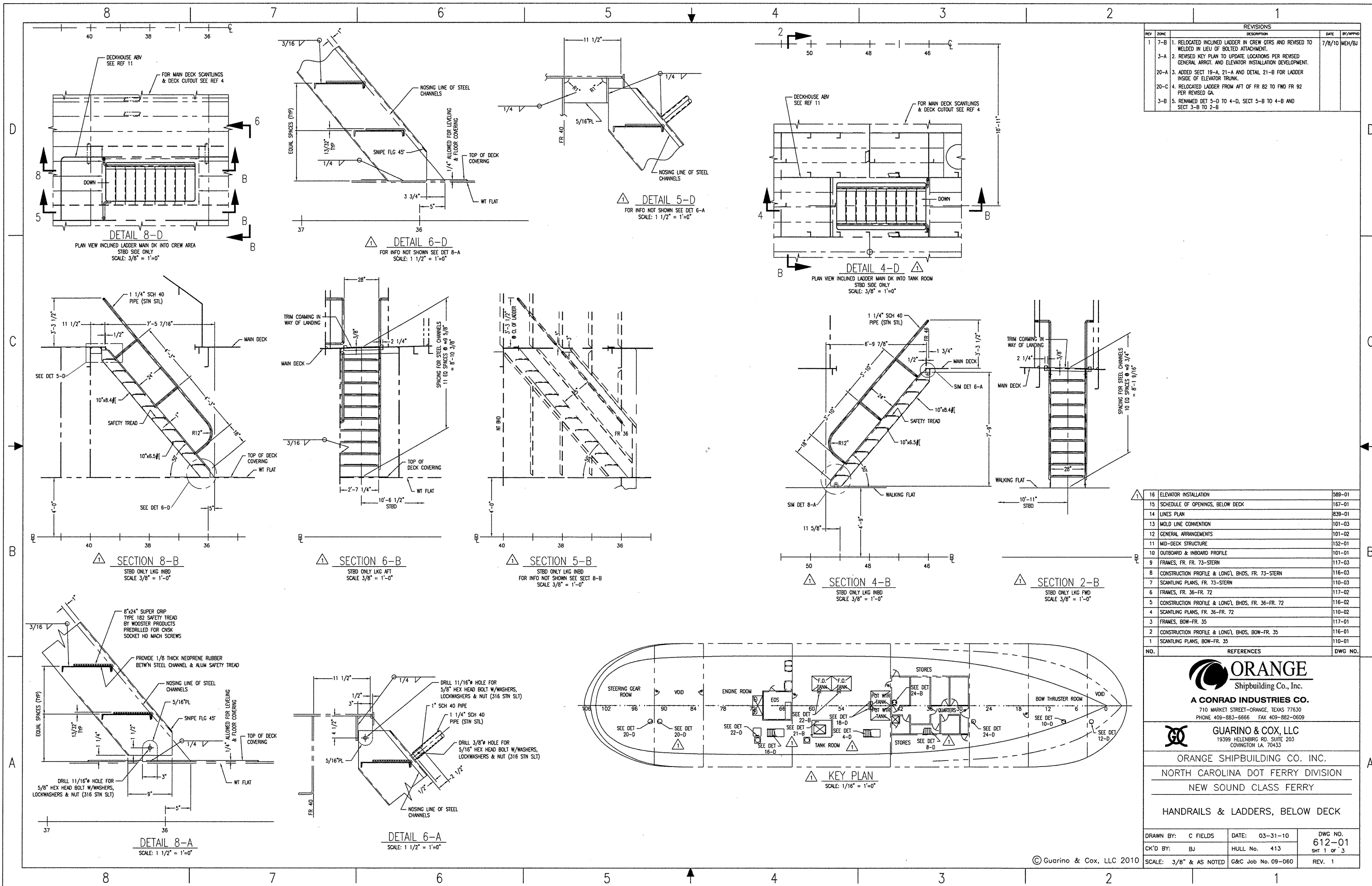
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NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY

ANCHOR HANDLING

| | | |
|------------------------------|--------------------|----------------|
| DRAWN BY: B. JAMES | DATE: 2/19/10 | DWG NO. 581-01 |
| CK'D BY: KHK | HULL No. 413 | SHT 1 OF 1 |
| SCALE: 1/2"=1'-0" & AS NOTED | G&C Job No. 09-060 | REV. 0 |

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| REV | ZONE | DESCRIPTION | DATE | BY/APP'D |
|-----|------|---|--------|----------|
| 1 | 7-B | 1. RELOCATED INCLINED LADDER IN CREW OTRS AND REVISED TO WELDED IN LIEU OF BOLTED ATTACHMENT. | 7/8/10 | MEH/BJ |
| | 3-A | 2. REVISED KEY PLAN TO UPDATE LOCATIONS PER REVISED GENERAL ARRGT. AND ELEVATOR INSTALLATION DEVELOPMENT. | | |
| | 20-A | 3. ADDED SECT 19-A, 21-A AND DETAIL 21-B FOR LADDER INSIDE OF ELEVATOR TRUNK. | | |
| | 20-C | 4. RELOCATED LADDER FROM AFT OF FR 82 TO FWD FR 92 PER REVISED GA. | | |
| | 3-B | 5. RENAMED DET 5-D TO 4-D, SECT 5-B TO 4-B AND SECT 3-B TO 2-B | | |

| NO. | REFERENCES | DWG NO. |
|-----|---|---------|
| 16 | ELEVATOR INSTALLATION | 589-01 |
| 15 | SCHEDULE OF OPENINGS, BELOW DECK | 167-01 |
| 14 | LINES PLAN | 839-01 |
| 13 | MOLD LINE CONVENTION | 101-03 |
| 12 | GENERAL ARRANGEMENTS | 101-02 |
| 11 | MID-DECK STRUCTURE | 152-01 |
| 10 | OUTBOARD & INBOARD PROFILE | 101-01 |
| 9 | FRAMES, FR. FR. 73-STERN | 117-03 |
| 8 | CONSTRUCTION PROFILE & LONG'L BHDS, FR. 73-STERN | 116-03 |
| 7 | SCANTLING PLANS, FR. 73-STERN | 110-03 |
| 6 | FRAMES, FR. 36-FR. 72 | 117-02 |
| 5 | CONSTRUCTION PROFILE & LONG'L BHDS, FR. 36-FR. 72 | 116-02 |
| 4 | SCANTLING PLANS, FR. 36-FR. 72 | 110-02 |
| 3 | FRAMES, BOW-FR. 35 | 117-01 |
| 2 | CONSTRUCTION PROFILE & LONG'L BHDS, BOW-FR. 35 | 116-01 |
| 1 | SCANTLING PLANS, BOW-FR. 35 | 110-01 |

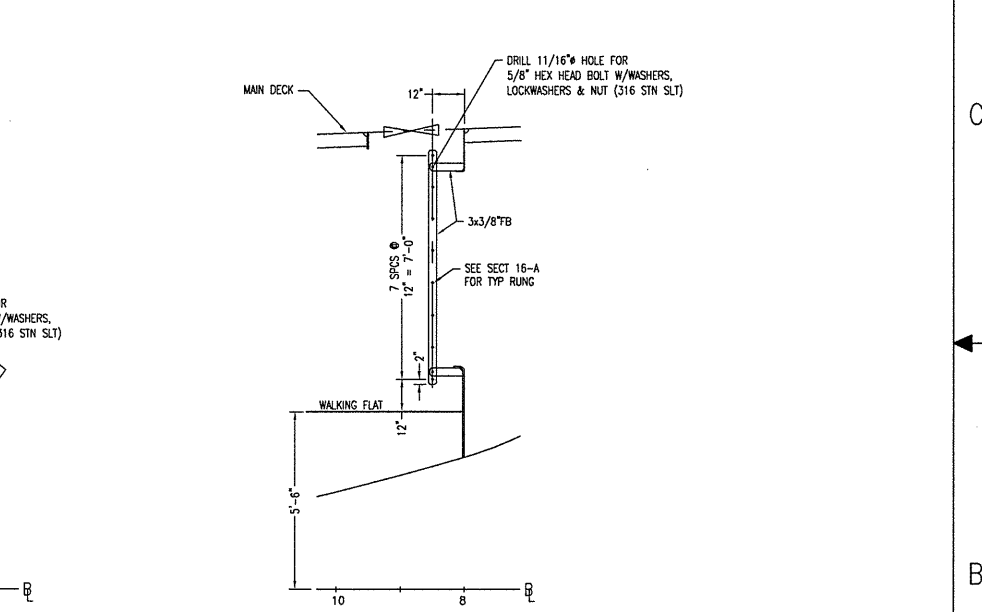
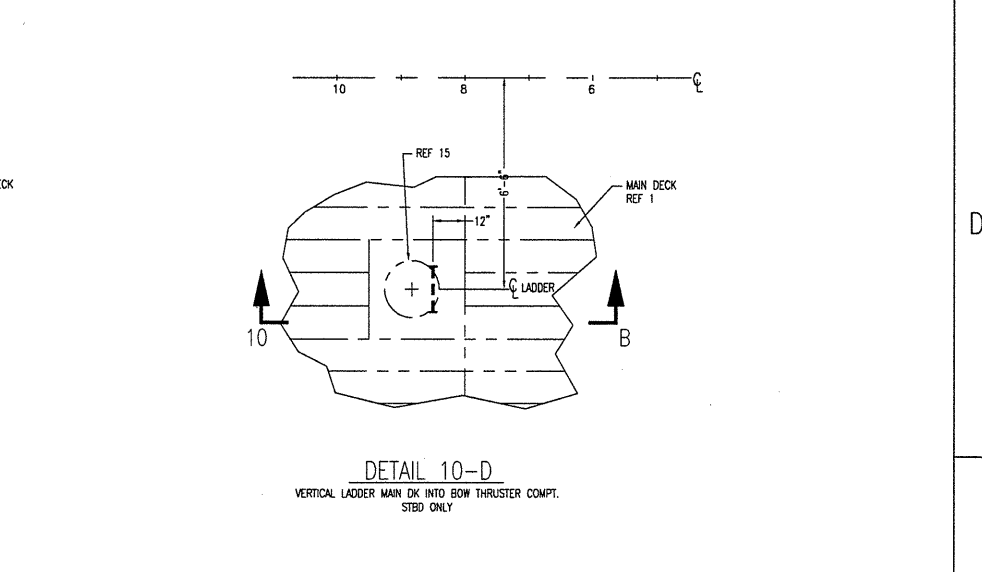
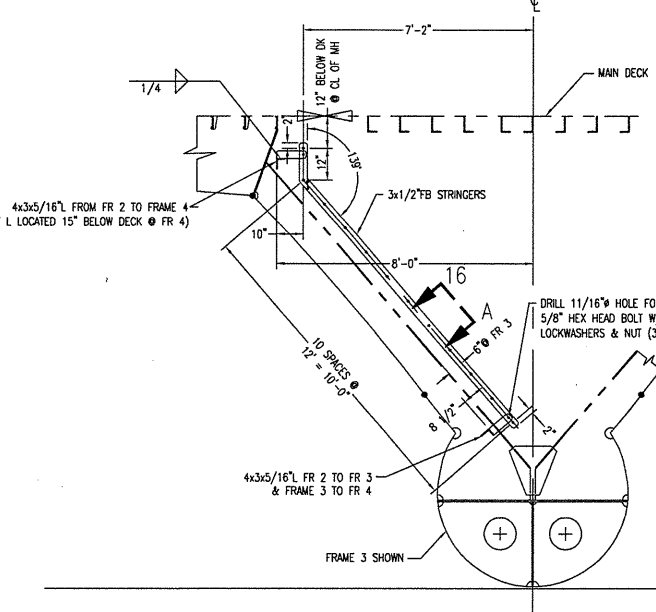
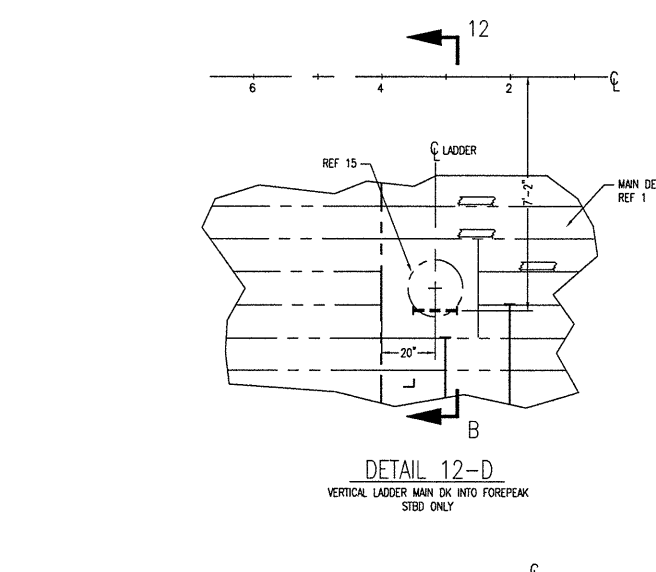
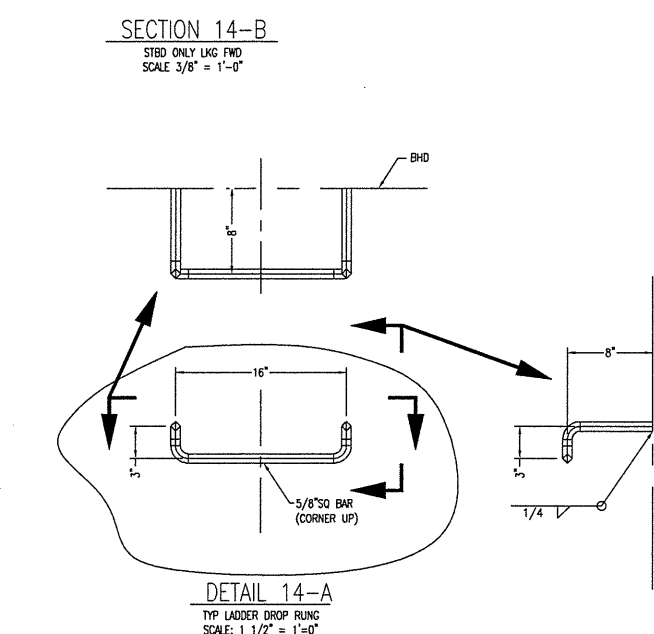
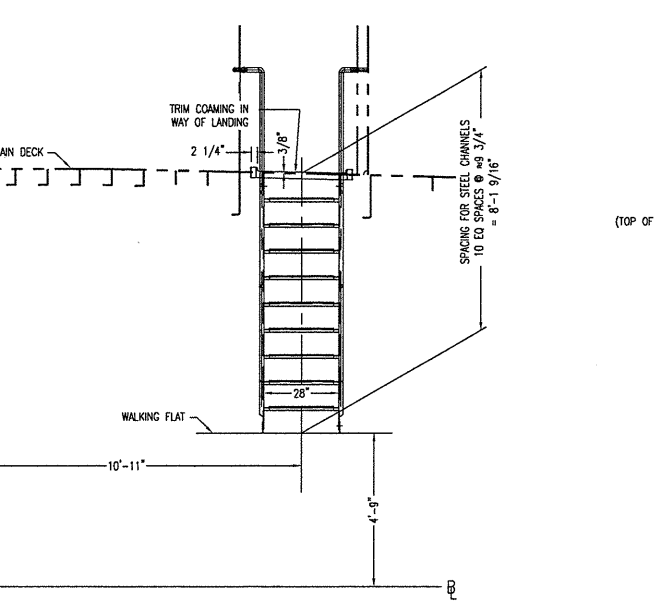
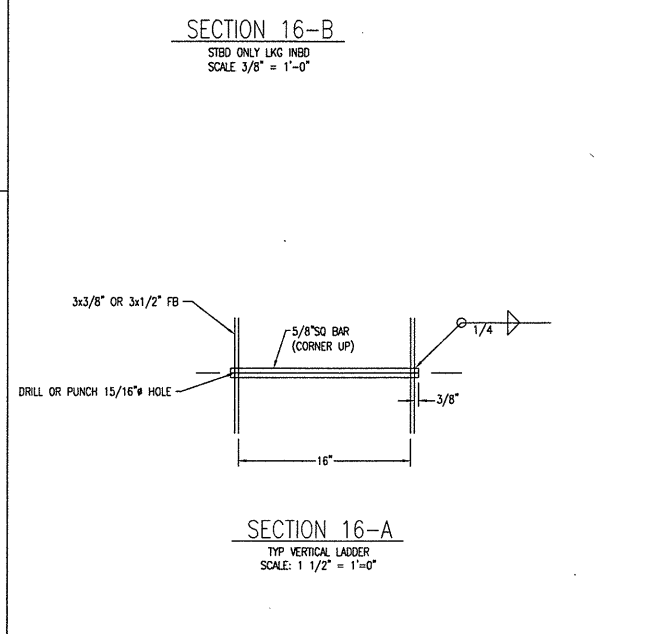
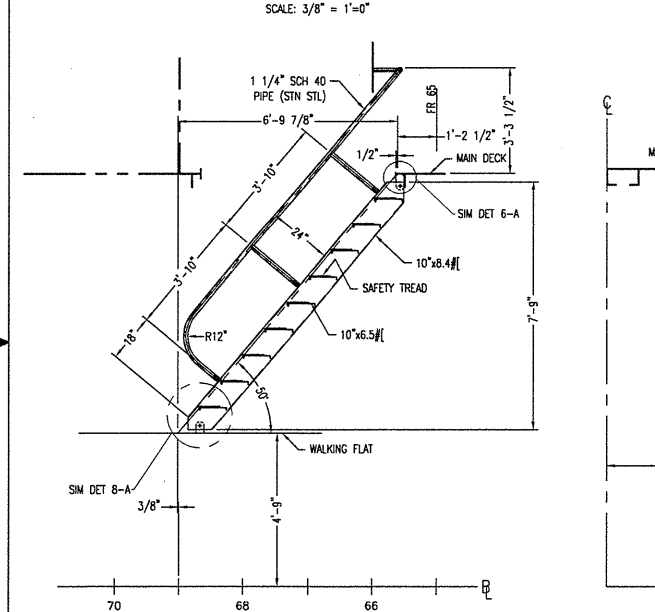
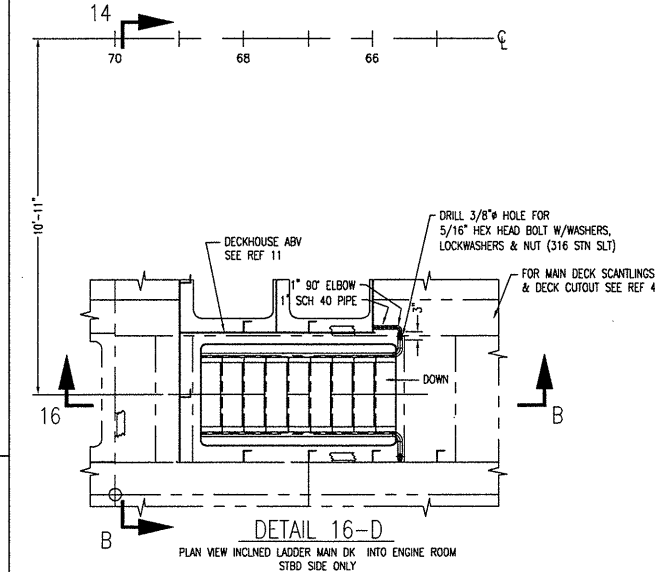
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NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY
HANDRAILS & LADDERS, BELOW DECK

| | | |
|------------------------|--------------------|----------------|
| DRAWN BY: C FIELDS | DATE: 03-31-10 | DWG NO. 612-01 |
| CK'D BY: BJ | HULL No. 413 | SHT 1 OF 3 |
| SCALE: 3/8" & AS NOTED | G&C Job No. 09-060 | REV. 1 |

16 15 14 13 12 11 10 9



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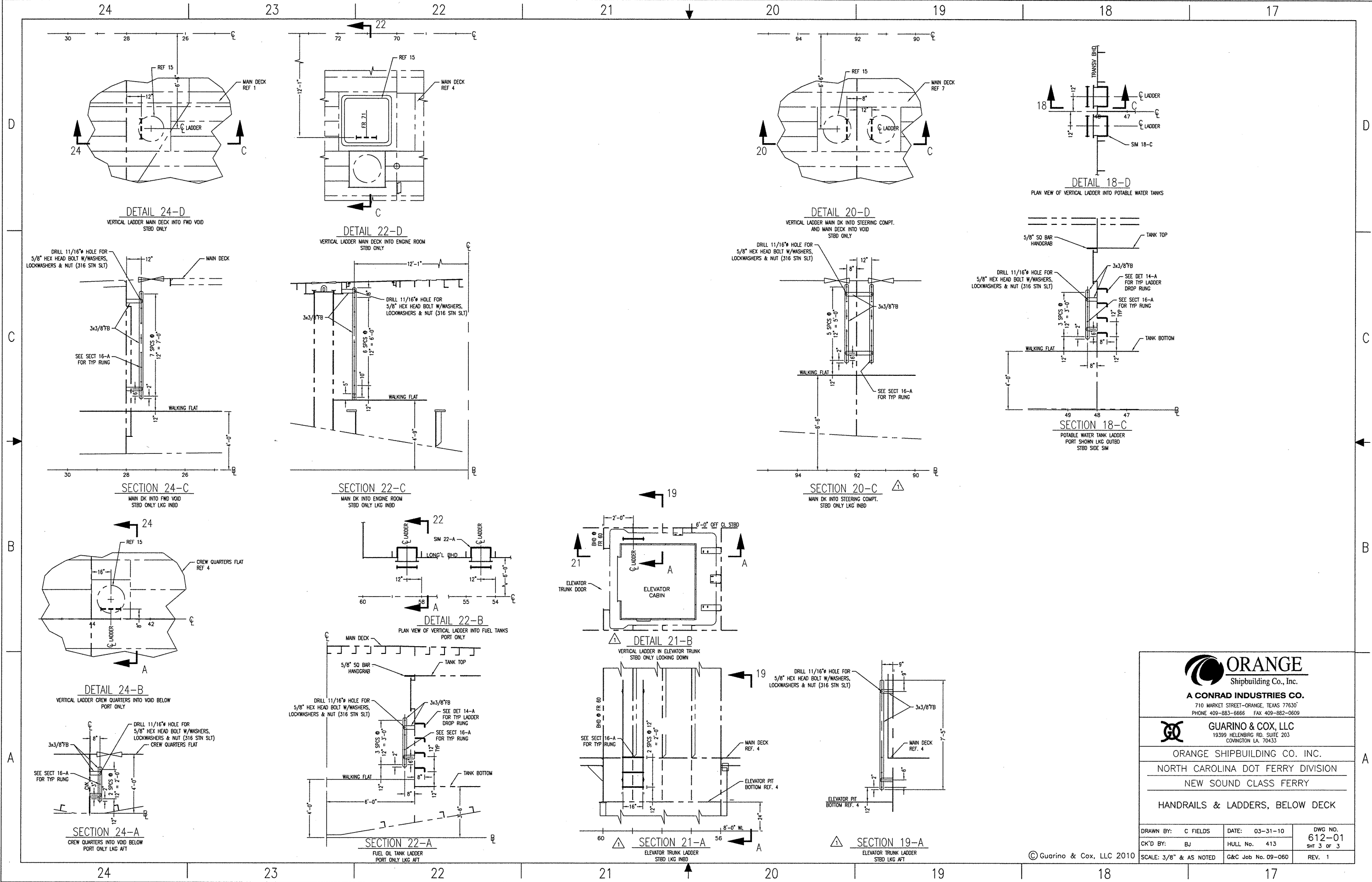
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HANDRAILS & LADDERS, BELOW DECK

| | | |
|------------------------|--------------------|----------------|
| DRAWN BY: C FIELDS | DATE: 03-31-10 | DWG NO. 612-01 |
| CK'D BY: BJ | HULL No. 413 | SHT 2 OF 3 |
| SCALE: 3/8" & AS NOTED | G&C Job No. 09-060 | REV. 1 |

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16 15 14 13 12 11 10 9



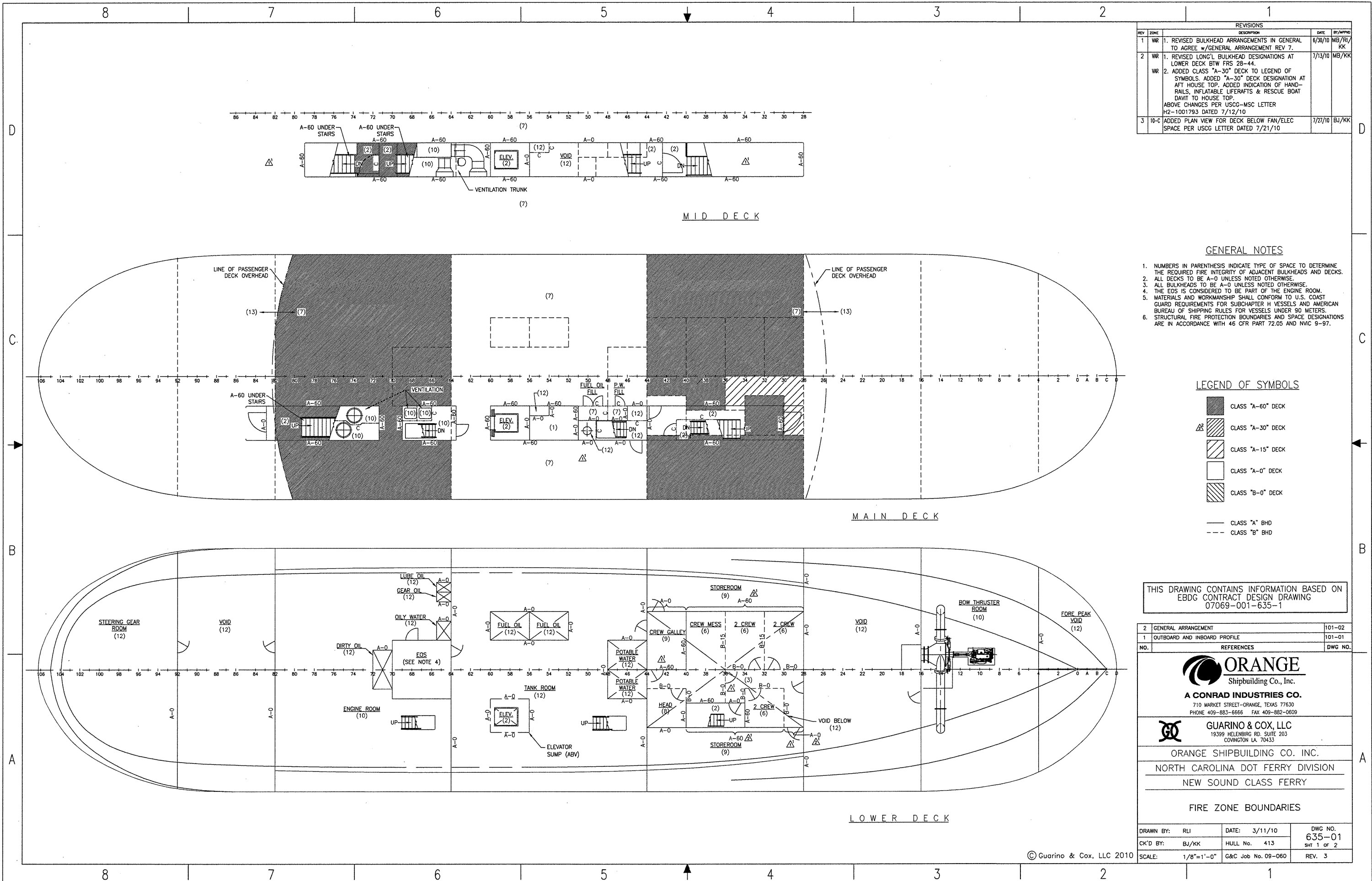
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NEW SOUND CLASS FERRY
HANDRAILS & LADDERS, BELOW DECK

| | | |
|------------------------|--------------------|----------------|
| DRAWN BY: C FIELDS | DATE: 03-31-10 | DWG NO. 612-01 |
| CK'D BY: BJ | HULL No. 413 | SHT 3 OF 3 |
| SCALE: 3/8" & AS NOTED | G&C Job No. 09-060 | REV. 1 |

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| REVISIONS | | | | |
|-----------|------|--|---------|----------|
| REV | ZONE | DESCRIPTION | DATE | BY/APP'D |
| 1 | WR | 1. REVISED BULKHEAD ARRANGEMENTS IN GENERAL TO AGREE w/GENERAL ARRANGEMENTS REV 7. | 6/30/10 | MB/RL/KK |
| 2 | WR | 1. REVISED LONG'L BULKHEAD DESIGNATIONS AT LOWER DECK BTW FR 28-44. 2. ADDED CLASS "A-30" DECK TO LEGEND OF SYMBOLS. ADDED "A-30" DECK DESIGNATION AT AFT HOUSE TOP. ADDED INDICATION OF HAND-RAILS, INFLATABLE LIFERAFTS & RESCUE BOAT DAVIT TO HOUSE TOP. ABOVE CHANGES PER USCG-MSC LETTER H2-1001793 DATED 7/12/10 | 7/13/10 | MB/RL/KK |
| 3 | 10-C | ADDED PLAN VIEW FOR DECK BELOW FAN/ELEC SPACE PER USCG LETTER DATED 7/21/10 | 7/27/10 | BJ/KK |

GENERAL NOTES

- NUMBERS IN PARENTHESIS INDICATE TYPE OF SPACE TO DETERMINE THE REQUIRED FIRE INTEGRITY OF ADJACENT BULKHEADS AND DECKS.
- ALL DECKS TO BE A-0 UNLESS NOTED OTHERWISE.
- ALL BULKHEADS TO BE A-0 UNLESS NOTED OTHERWISE.
- THE EOS IS CONSIDERED TO BE PART OF THE ENGINE ROOM.
- MATERIALS AND WORKMANSHIP SHALL CONFORM TO U.S. COAST GUARD REQUIREMENTS FOR SUBCHAPTER H VESSELS AND AMERICAN BUREAU OF SHIPPING RULES FOR VESSELS UNDER 90 METERS.
- STRUCTURAL FIRE PROTECTION BOUNDARIES AND SPACE DESIGNATIONS ARE IN ACCORDANCE WITH 46 CFR PART 72.05 AND NVIC 9-97.

LEGEND OF SYMBOLS

- CLASS "A-60" DECK
- CLASS "A-30" DECK
- CLASS "A-15" DECK
- CLASS "A-0" DECK
- CLASS "B-0" DECK
- CLASS "A" BHD
- CLASS "B" BHD

THIS DRAWING CONTAINS INFORMATION BASED ON EBDG CONTRACT DESIGN DRAWING 07069-001-635-1

| | | |
|-----|------------------------------|---------|
| 2 | GENERAL ARRANGEMENT | 101-02 |
| 1 | OUTBOARD AND INBOARD PROFILE | 101-01 |
| NO. | REFERENCES | DWG NO. |



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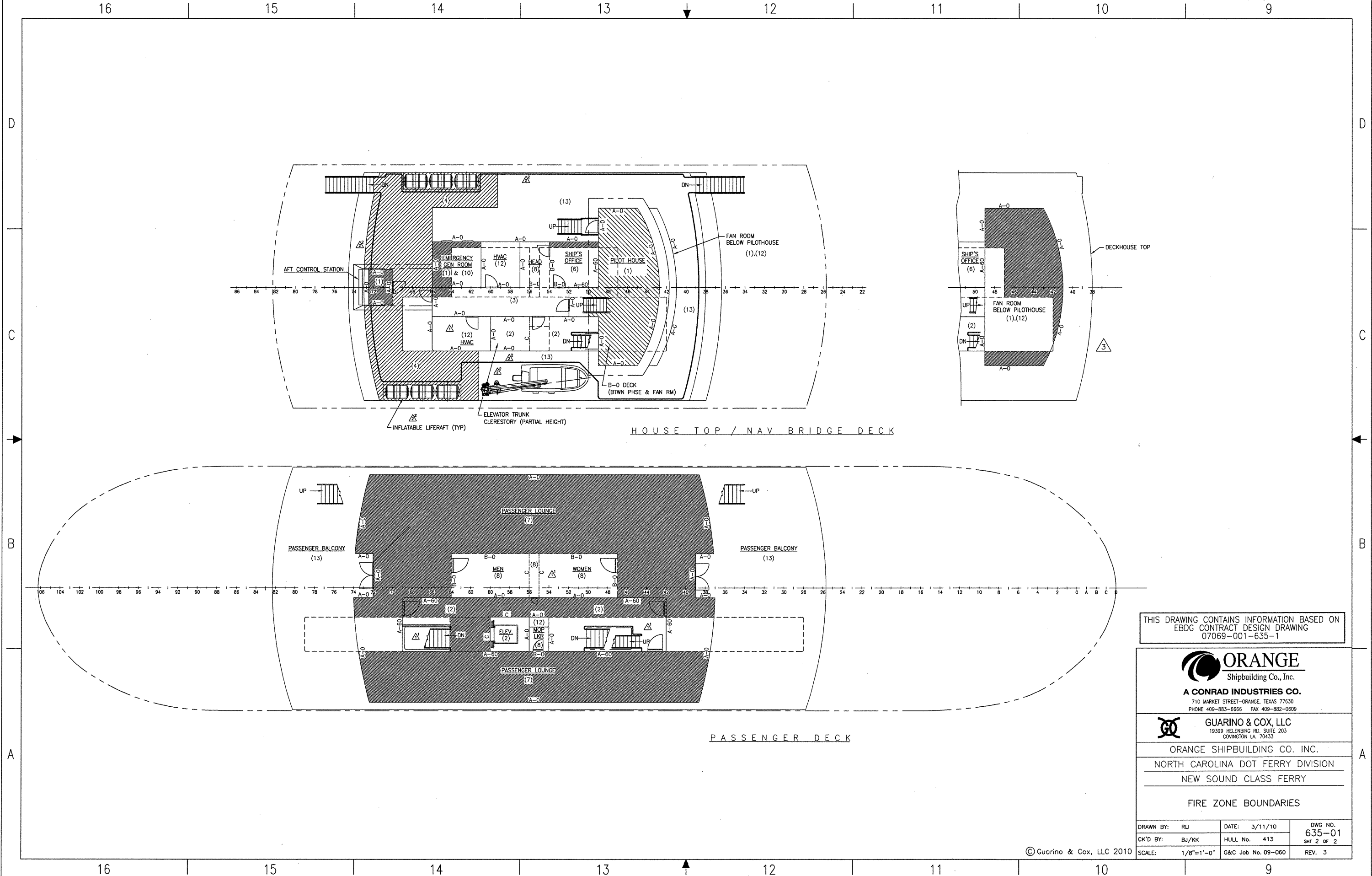
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NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY

FIRE ZONE BOUNDARIES

| | | | | | |
|-----------|------------|-------------|---------|---------|--------|
| DRAWN BY: | RLI | DATE: | 3/11/10 | DWG NO. | 635-01 |
| CK'D BY: | BJ/KK | HULL No. | 413 | SHT | 1 OF 2 |
| SCALE: | 1/8"=1'-0" | G&C Job No. | 09-060 | REV. | 3 |

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THIS DRAWING CONTAINS INFORMATION BASED ON
 EBDG CONTRACT DESIGN DRAWING
 07069-001-635-1

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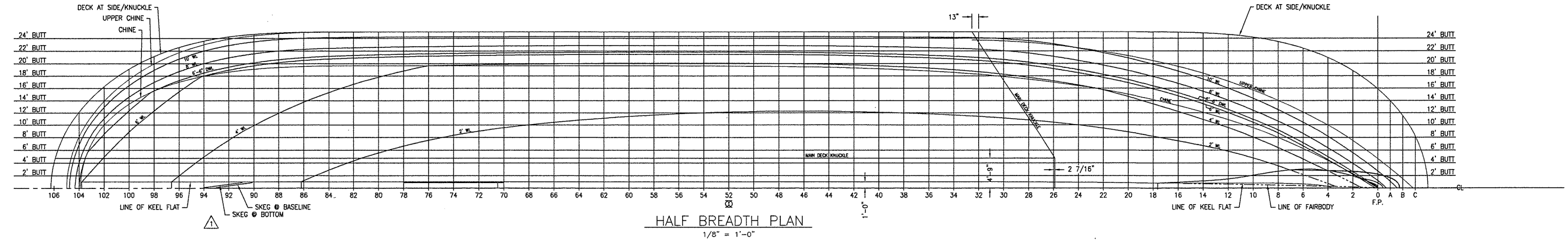
FIRE ZONE BOUNDARIES

| | | |
|-------------------|--------------------|----------------|
| DRAWN BY: RLI | DATE: 3/11/10 | DWG NO. 635-01 |
| CK'D BY: BJ/KK | HULL No. 413 | SHT 2 OF 2 |
| SCALE: 1/8"=1'-0" | G&C Job No. 09-060 | REV. 3 |

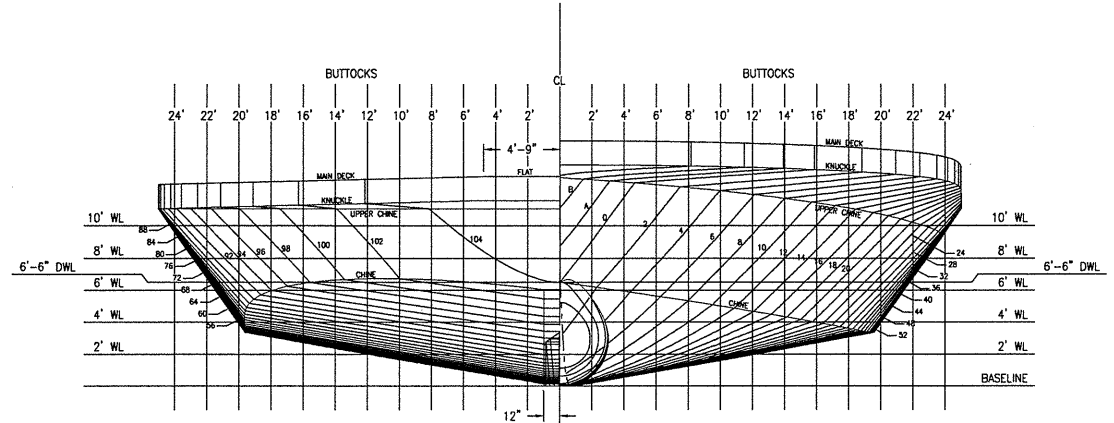
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8 7 6 5 4 3 2 1

| REVISIONS | | | | |
|-----------|------|---|---------|----------|
| REV | ZONE | DESCRIPTION | DATE | BY/APP'D |
| 1 | VAR | REVISED SHAPE OF SKEG PER NCCDOT REQUEST. | 2/24/10 | KHK |



HALF BREADTH PLAN
1/8" = 1'-0"

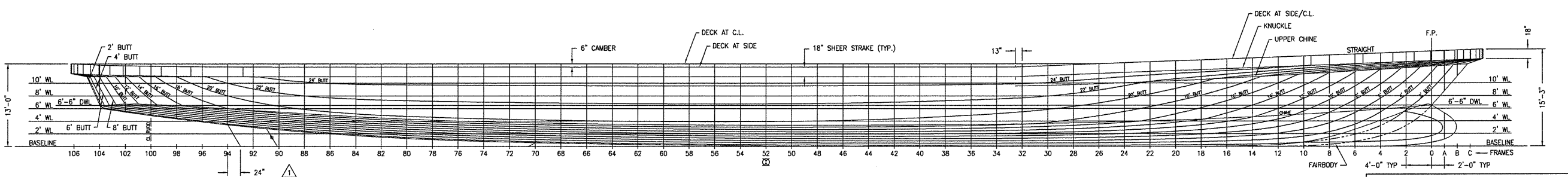


BODY PLAN
3/16" = 1'-0"

PRINCIPAL CHARACTERISTICS

| | |
|-----------------------------|---------|
| LENGTH OVERALL | 220'-6" |
| LENGTH ON DWL (6'-6" WL) | 208'-0" |
| BEAM (MOLDED) | 50'-0" |
| DEPTH (TO MAIN DECK @ SIDE) | 12'-6" |

- GENERAL NOTES**
- ALL DIMENSIONS SHOWN ARE MOLDED.
 - THE MAIN DECK HAS A MAXIMUM OF 6" STRAIGHT LINE CAMBER AFT OF FRAME 33 AND OUTBOARD OF THE 57" DECK KNUCKLE. WHERE THE BEAM IS LESS THAN MAXIMUM, THE CAMBER MAINTAINS THE SAME ANGLE. FORWARD OF FRAME 26, THE DECK HAS NO CAMBER.



PROFILE

THIS DRAWING CONTAINS INFORMATION BASED ON
EBDG CONTRACT DESIGN DRAWING
07069-001-100-1

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NORTH CAROLINA DOT FERRY DIVISION
NEW SOUND CLASS FERRY

LINES PLAN

| | | |
|---------------------|--------------------|----------------|
| DRAWN BY: R. ALLUMS | DATE: 11/10/09 | DWG NO. 839-01 |
| CK'D BY: K. KEIGER | HULL No. 413 | SHT 1 OF 1 |
| SCALE: AS NOTED | G&C Job No. 09-060 | REV. 1 |

8 7 6 5 4 3 2 1

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REVISION HISTORY

| REV | ZONE | DESCRIPTION | DWN | DATE | APVD |
|-----|------|-------------|-----|------|------|
| | | | | | |

GENERAL NOTES

- MATERIALS AND WORKMANSHIP SHALL CONFORM TO U.S. COAST GUARD REQUIREMENTS FOR SUBCHAPTER "H" VESSELS AND AMERICAN BUREAU OF SHIPPING RULES FOR VESSELS UNDER 90 METERS.
- EQUIPMENT LAYOUT WITHIN A GIVEN AREA IS ONLY APPROXIMATE. PROVISION OF EQUIPMENT SHALL BE AS SHOWN ON THIS DRAWING AND AS DESCRIBED IN REFERENCE 1.
- ALL VALVES LOCATED BELOW THE FLOOR PLATES SHALL BE PROVIDED WITH REACH RODS. ALL VALVES SHALL BE PROVIDED WITH VISUAL CLOSURE STATUS.
- EXPANSION TANKS SHALL BE INSTALLED AT LEAST TWO FEET ABOVE THE TOP OF THE HIGH POINT WITHIN A SYSTEM. EACH EXPANSION TANK SHALL BE PROVIDED WITH A LOW LEVEL ALARM @ 50%. CONTRACTOR SHALL VERIFY EXPANSION TANK SIZE.
- PIPING SHALL BE RUN AS DIRECTLY AS PRACTICABLE WITH A MINIMUM NUMBER OF BENDS AND FITTINGS AND WITH SUFFICIENT JOINTS TO PROVIDE FOR REMOVAL, INSPECTION, SERVICING AND REPLACEMENT OF PIPING, VALVES, FITTINGS AND EQUIPMENT.
- PROVIDE GAUGE PIPING ASSEMBLIES AND MATERIALS FOR GAUGES AND INSTRUMENTS CONFIGURED IN ACCORDANCE WITH ASTM F721. TUBING AND FITTINGS ARE TO BE MADE FROM 316 STAINLESS STEEL. TUBING WALL THICKNESS SHALL BE 0.035 INCHES.
- AVOID POCKETS IN THE PIPE LINES AND PROVIDE WITH FITTINGS, VALVES, OR TRAPS TO ENABLE COMPLETE DRAINING OF PIPES WHERE POCKETS DO OCCUR. BOSSES AND VALVES OR SCREWED PLUGS SHALL BE FITTED FOR DRAINING.
- THE PIPING SYSTEM SHALL BE CLEANED, FLUSHED, FILLED AND HYDROSTATICALLY PRESSURE TESTED IN ACCORDANCE WITH USCG AND ABS REQUIREMENTS.
- PIPING SHALL BE ADEQUATELY SUPPORTED BY HANGERS AND SHALL BE IN ACCORDANCE WITH ASTM F708. HANGERS SHALL BE ATTACHED TO THE PIPE WITH BOLTED CLAMPS AND WELDED TO THE BASIC SHIP STRUCTURE. CARE SHALL BE EXERCISED TO PLACE PIPE HANGERS SO THAT STRAIN IS AVOIDED WHERE PIPING IS CONNECTED TO MACHINERY. HANGERS SHALL NOT BE ATTACHED BY WELDING DIRECTLY TO PIPES.
- VENT LINES TO THE EXPANSION TANK SHALL BE INSTALLED AT ALL PIPING SYSTEM HIGH POINTS TO ALLOW COMPLETE AIR REMOVAL.
- PIPE BENDS IN ACCORDANCE WITH 46 CFR 56.80-5 MAY BE SUBSTITUTED FOR ELBOWS WHERE FEASIBLE.
- INSULATE JACKET WATER PIPING AS NEEDED FOR PERSONNEL PROTECTION IN ACCORDANCE WITH ASTM F683 USING REMOVABLE BLANKET TYPE INSULATION.
- ELECTRICALLY ISOLATE KEEL COOLERS FROM HULL AT ALL ATTACHMENT POINTS AND AT EACH NOZZLE.
- FLEXIBLE CONNECTIONS FOR PIPING 2" AND ABOVE SHALL BE GARLOCK "EZ-FLOW" STYLE 206 SPOOL TYPE EXPANSION JOINTS, OR EQUIVALENT, WITH STEEL FLANGE, RETAINING RINGS RATED HEAVYWEIGHT, CHLOROBUTYL CARCASS, AND HYPLOX LINER, NEOPRENE COVER. ASSEMBLIES WITH THE STANDARD FACTORY APPLIED HYPLOX PAINT ON THE EXTERIOR ARE PROHIBITED. FLEXIBLE CONNECTIONS UNDER 2" SHALL BE AERODUQIP 2651, OR EQUIVALENT, WITH REUSABLE APPROVED SAE 37° SWIVEL END FITTINGS. HOSE LENGTH SHALL NOT EXCEED 24".

MATERIAL SCHEDULE

| SERVICE | SIZE | PIPE | TAKEDOWN JOINTS | | | FITTINGS | VALVES | | REMARKS |
|---------------------|----------------|--|---|---------|---------|--|--|--------------------------------|---------|
| | | | MATERIAL | GASKETS | BOLTING | | BODY | TRIM | |
| FRESH WATER COOLING | 2" & ABV | CARBON STEEL SCH 40 ASTM A106 GRADE B SMLS ANSI B36.10 SCH 80 SHALL BE USED AT PENETRATIONS TO KEEL COOLERS | FLANGED, SLIP-ON CARBON STEEL 150# ASTM A105 ANSI B16.5 | | | CARBON STEEL BUTT WELD 150#, SCH 80 ASTM A234 ANSI B16.9 | DUCTILE IRON FLANGED, 125# ASTM A-395 ANSI B16 | BRZ TRIM RENEWABLE DISC & SEAT | |
| | 1 1/2" & BELOW | | UNION, GROUND JOINT MAL IRON SCREWED, 150# ASTM A197 ANSI B16.3 | | | MAL IRON SCREWED, 150# ASTM A197 ANSI B16.3 | BRONZE SCREWED ASTM B62 | | |

PUMP LIST

| QTY. | SERVICE | TYPE | MODEL | CAPACITY | DRIVE |
|------|------------------------------------|--------------------------|--------|----------|--------------------|
| 2 | ME JACKET WATER PUMP | CENTRIFUGAL SELF PRIMING | X X | X X | ENGINE DRIVEN |
| 2 | ME AFTERCOOLING PUMP | CENTRIFUGAL SELF PRIMING | X X | X X | ENGINE DRIVEN |
| 2 | GENERATOR ENGINE JW PUMP | CENTRIFUGAL SELF PRIMING | X X | X X | ENGINE DRIVEN |
| 2 | GENERATOR ENGINE AFTERCOOLING PUMP | CENTRIFUGAL SELF PRIMING | X X | X X | ENGINE DRIVEN |
| 2 | REDUCTION GEAR COOLING PUMP | CENTRIFUGAL | X X | X X | ELECTRIC 120V 1 PH |

PIPING SYMBOLS

| | |
|--|-----------------------------|
| | PIPE |
| | DIRECTION OF FLOW |
| | REDUCER |
| | PIPE UP |
| | PIPE DOWN |
| | CAMLOCK |
| | THERMOMETER IN THERMAL WELL |
| | BALL VALVE |
| | BUTTERFLY VALVE |
| | THERMOSTATIC VALVE |
| | FLEXIBLE CONNECTION |
| | VENT |
| | FILL |
| | LOW LEVEL SWITCH |
| | JACKET WATER PREHEATER |
| | CENTRIFUGAL PUMP |

KEEL COOLER LIST

| QTY. | SERVICE | MODEL | BOX DIM. |
|------|--------------------------------------|-----------------------|----------|
| 4 | MAIN ENGINE KEEL COOLER | FERNSTRUM D24184W-ZE1 | 192x27x6 |
| 2 | REDUCTION GEAR KEEL COOLER | FERNSTRUM CN1099U-ZE1 | 104x12x5 |
| 2 | GENERATOR JW KEEL COOLER | FERNSTRUM BN1293U-ZE1 | 153x13x5 |
| 1 | BOW THRUSTER AFTERCOOLER KEEL COOLER | FERNSTRUM D12105U-ZE1 | 190x27x6 |
| 1 | BOW THRUSTER JW KEEL COOLER | FERNSTRUM D24184U-ZE1 | 113x19x6 |

REFERENCES

- 07069-001-200-1 ENGINE ROOM & TANK ROOM ARRANGEMENT
- 07069-001-832-1 CONTRACT TECHNICAL SPECIFICATIONS



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 Seattle - New Orleans

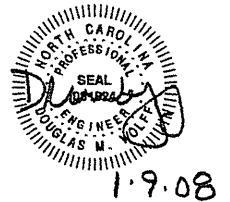
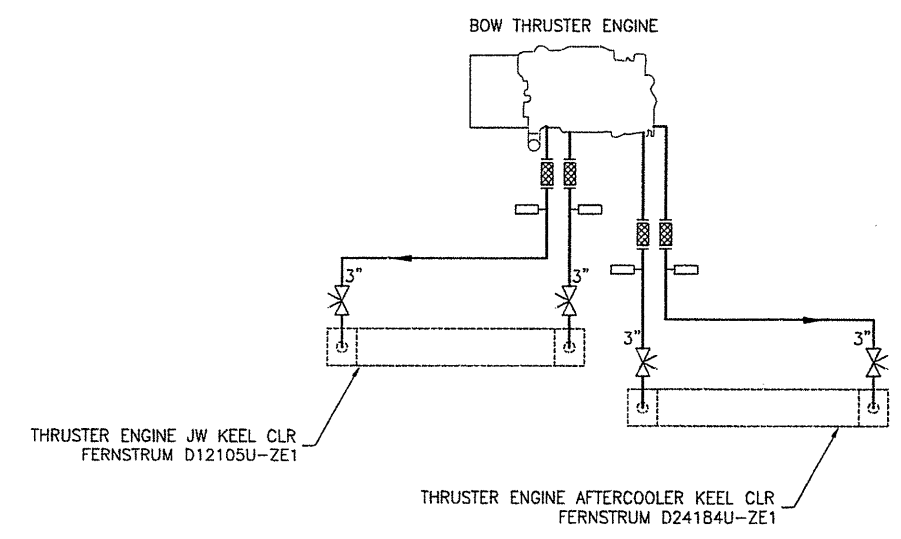
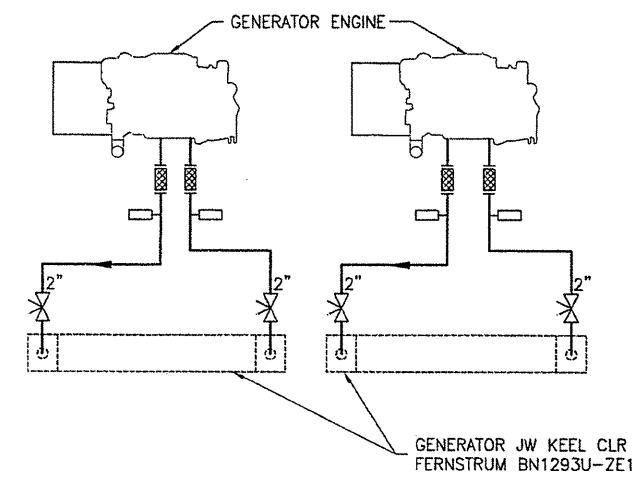
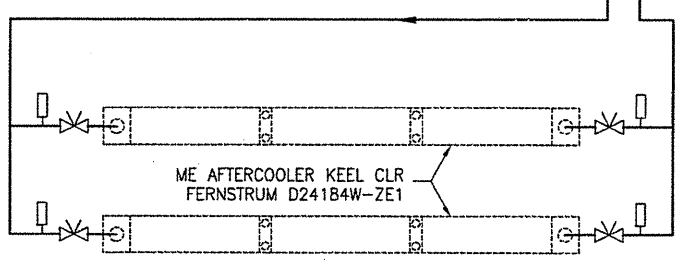
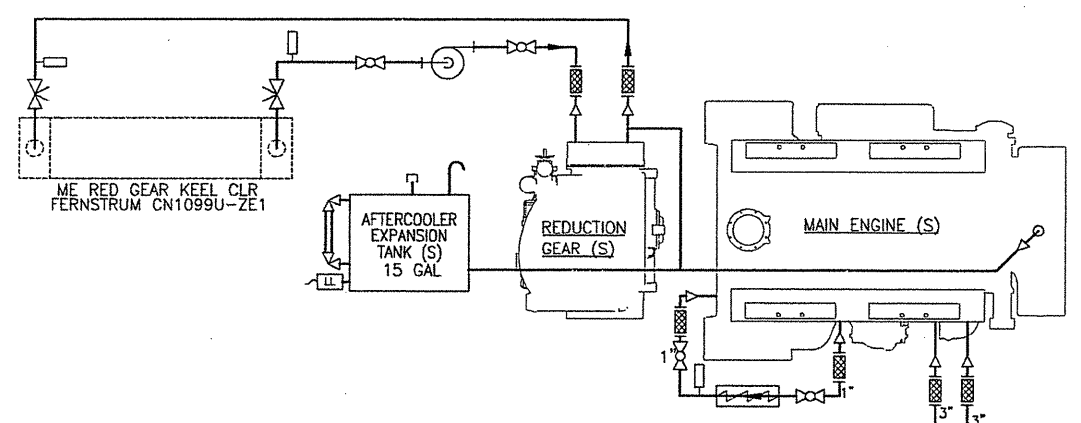
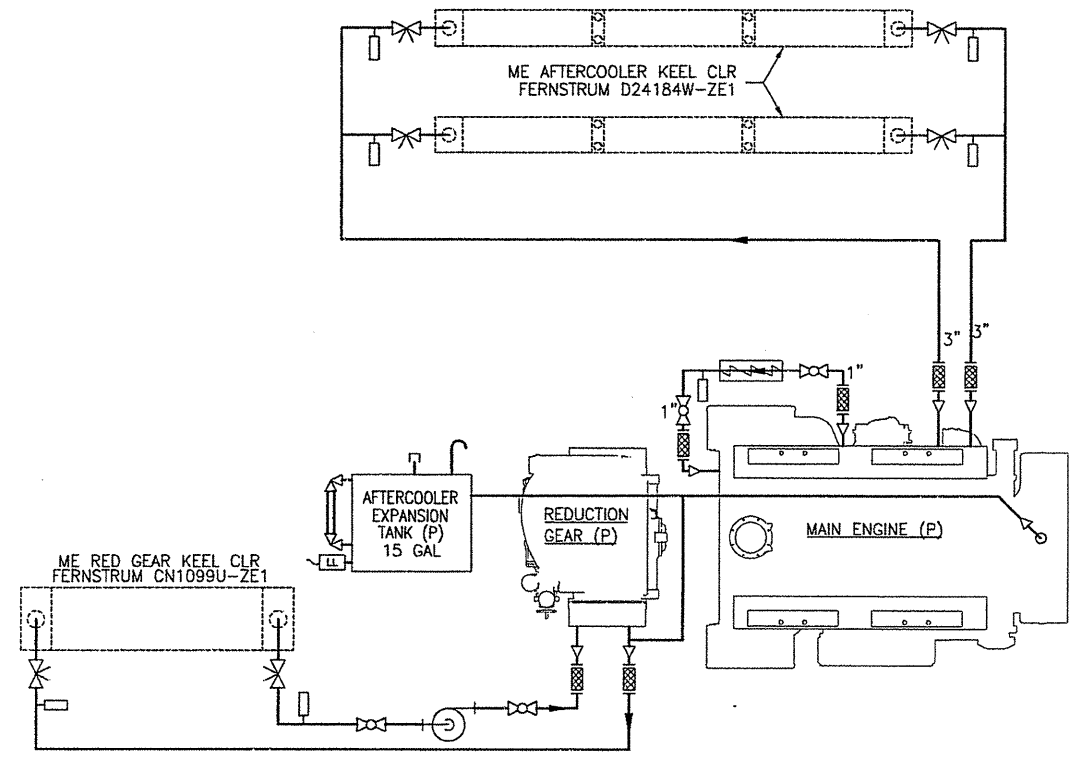
CLIENT: NORTH CAROLINA D.O.T., FERRY DIV
 Raleigh, North Carolina

PROJECT: NEW SOUND CLASS FERRY

ENGINE COOLING PIPING SCHEMATIC

| | | | | |
|-----------|----------------|-------------|----------------------------|---------------|
| DWN: JXB | DATE: 10/19/07 | SIZE: D | DWG NO.: 07069-001-256-1 | REV: - |
| CD: JSB | DATE: 1/9/08 | SCALE: NONE | FILE NAME: 07069-001-2561- | SHEET: 1 OF 2 |
| APVD: DMW | DATE: 1/9/08 | | | |

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1.9.08

| | | | | | |
|-------|------|-----------|-----------------|-------|--------|
| SIZE | D | DWG. NO. | 07069-001-256-1 | REV. | - |
| SCALE | NONE | FILE NAME | 07069-001-2561- | SHEET | 2 OF 2 |

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LIST OF MATERIALS

| PIECE No. | QTY | SYM | DESCRIPTION | MANUFACTURER | MODEL/SPECIFICATION | REMARKS |
|-----------|---------|-----|-------------------------------|--------------|---------------------|---------------------------------------|
| 1 | 119 | ☒ | FLOURESCENT LIGHT, 2x17W T-8 | PAULUHN | FSS 217 | OR EQUAL |
| 2 | 33 | ☒ | FLOURESCENT LIGHT, 3x17W T-8 | PAULUHN | FSS 317 | OR EQUAL, SEE NOTE 4 |
| 3 | 17 | ☒ | GLOBE LIGHT, 32W CF | PAULUHN | F729B7-32YEL | OR EQUAL |
| 4 | 6 | ☒ | FLOODLIGHT, 500W, MEDIUM BEAM | PAULUHN | 749B | OR EQUAL, SEE REF 1 |
| 5 | AS REQD | ☒ | JUNCTION BOX, 4x4 | PAULUHN | 546A | OR EQUAL |
| 6 | AS REQD | ☒ | SWITCH, 20A, SPST | PAULUHN | 2722A | OR EQUAL |
| 7 | 2 | | SWITCH, 20A, DPCO | TBD | | PILOTHOUSE & AFT CONTROL STA LIGHTING |
| 8 | AS REQD | | RELAY, 20A, 120V | TBD | | EMERGENCY LIGHTING RELAY |
| 9 | AS REQD | T-4 | CABLE, 14 AWG, 2-COND | TBD | | SEE NOTE 7 |
| 10 | AS REQD | T-6 | CABLE, 12 AWG, 2-COND | TBD | | SEE NOTE 7 |

REVISION HISTORY

| REV | ZONE | DESCRIPTION | DWN | DATE | APVD |
|-----|------|-------------------|-----|----------|------|
| A | 3-3C | ADDED SEARCHLIGHT | JL | 01/17/08 | DMW |

GENERAL NOTES

- MATERIAL AND WORKMANSHIP SHALL CONFORM TO U.S. COAST GUARD REQUIREMENTS FOR SUBCHAPTER H VESSELS AND AMERICAN BUREAU OF SHIPPING RULES FOR VESSELS UNDER 90 METERS
- MAIN SWITCHBOARD IS 3 PHASE 4 WIRE SYSTEM, 208/120V, 60 Hz, WITH GROUNDED NEUTRAL
- ALL PERMANENTLY INSTALLED ELECTRICAL EQUIPMENT SHALL HAVE METAL ENCLOSURES PROPERLY GROUNDED IN ACCORDANCE WITH SECTION 250-95 OF THE NATIONAL ELECTRICAL CODE
- CENTER LAMP/BALLAST OF 3-LAMP FIXTURES ARE WIRED TO THE EMERGENCY LIGHTING CIRCUIT (SEE DETAIL 1-5A).
- THE PILOTHOUSE AND AFT CONTROL STATION LIGHTING SHALL BE WIRED PER DETAIL 1-3A. ALL CENTER LAMPS SHALL BE RED TINTED OR COVERED WITH A RED TINTED COVER.
- ALL SPACES SHALL HAVE INDIVIDUALLY SWITCHED LIGHTING AT THE ENTRANCE TO THE SPACE. THE OWNER'S REPRESENTATIVE WILL APPROVE LOCATIONS OF ALL SWITCHES AND IDENTIFY THOSE FIXTURES THAT ARE NOT TO BE SWITCHED (FOR SECURITY OR OPERATIONAL CONCERNS).
- ALL CABLE SHALL BE IEEE-45 LOW SMOKE OR MIL-C-24643.

REFERENCES

- 07069-001-832-1 CONTRACT TECHNICAL SPECIFICATIONS
- 07069-001-101-1 PROFILES AND DECK ARRANGEMENTS
- 07069-001-320-1 ELECTRICAL ONE-LINE DIAGRAM

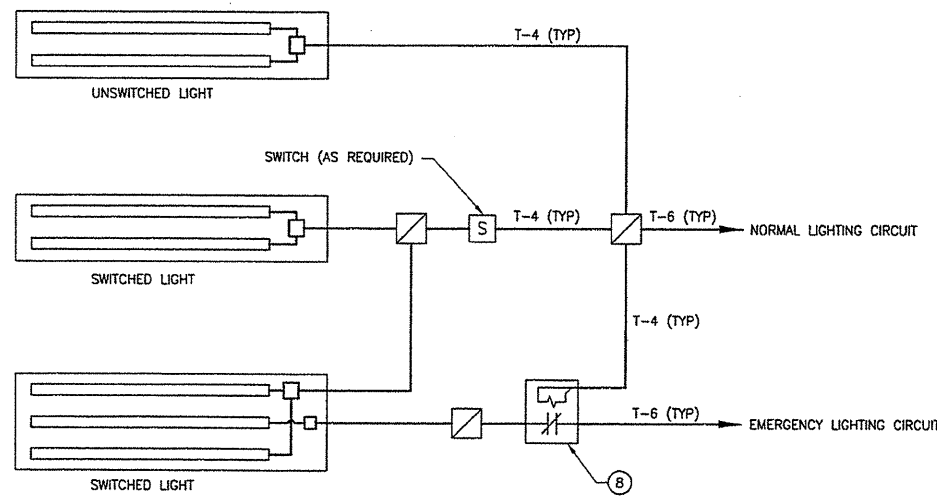
Elliott Bay Design Group
 Seattle • New Orleans

CLIENT: NORTH CAROLINA D.O.T., FERRY DIV
 Raleigh, North Carolina

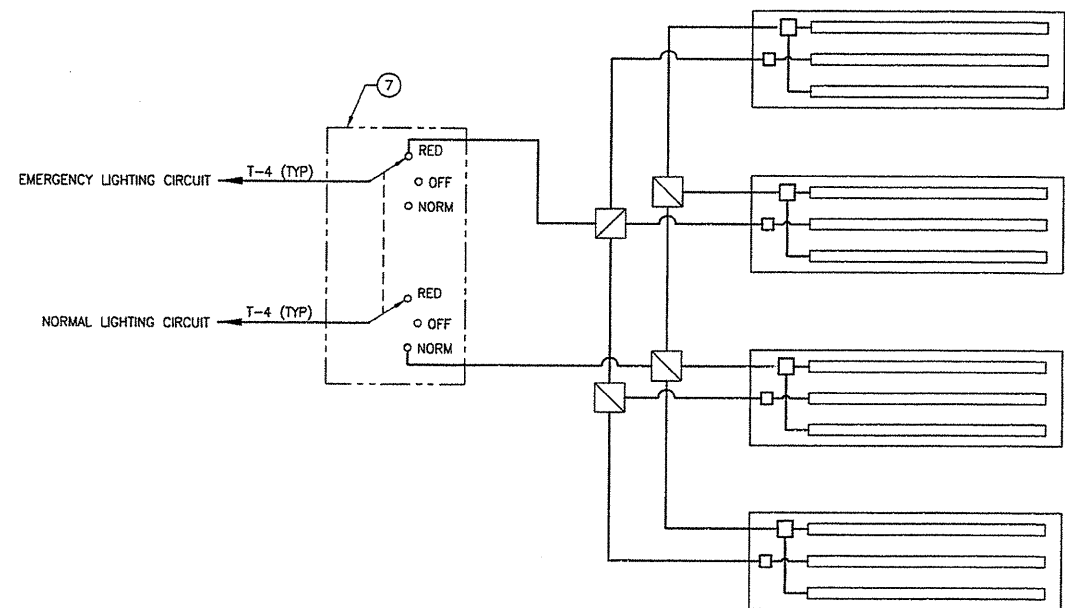
PROJECT: NEW SOUND CLASS FERRY



| | | | | | | | | | |
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| CRD | JEP | DATE | 1/9/08 | SCALE | NONE | FILE NAME | 07069-001-3301-A | SHEET | 1 OF 4 |
| APVD | DMW | DATE | 1/9/08 | | | | | | |



DETAIL 1-5A
 EMERGENCY LIGHTING CONTROL

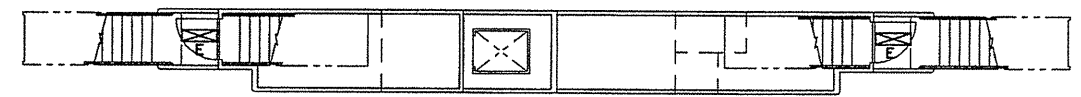


DETAIL 1-3A
 PILOTHOUSE & ACS LIGHTING CONTROL

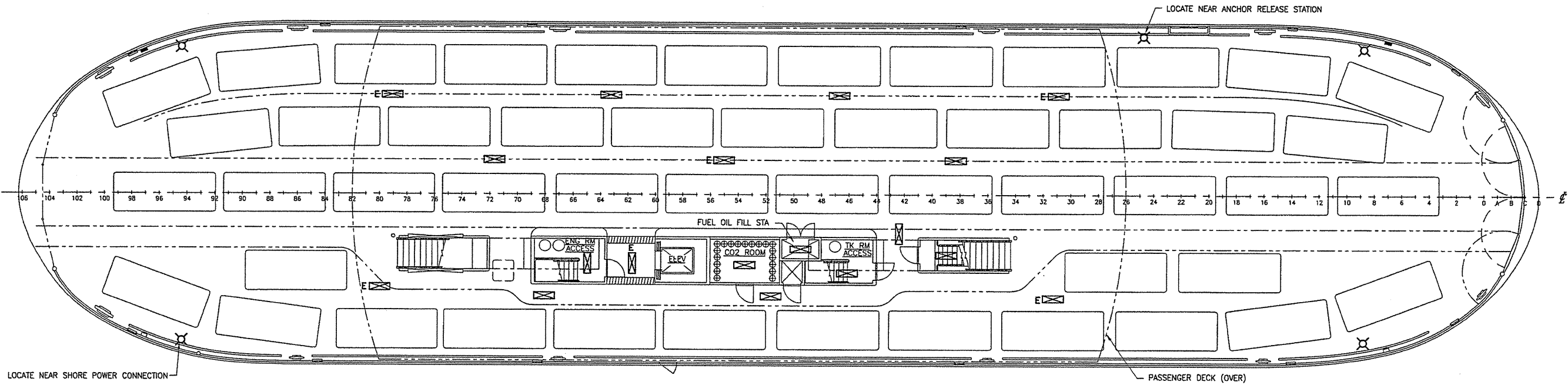
LIGHTING PLAN

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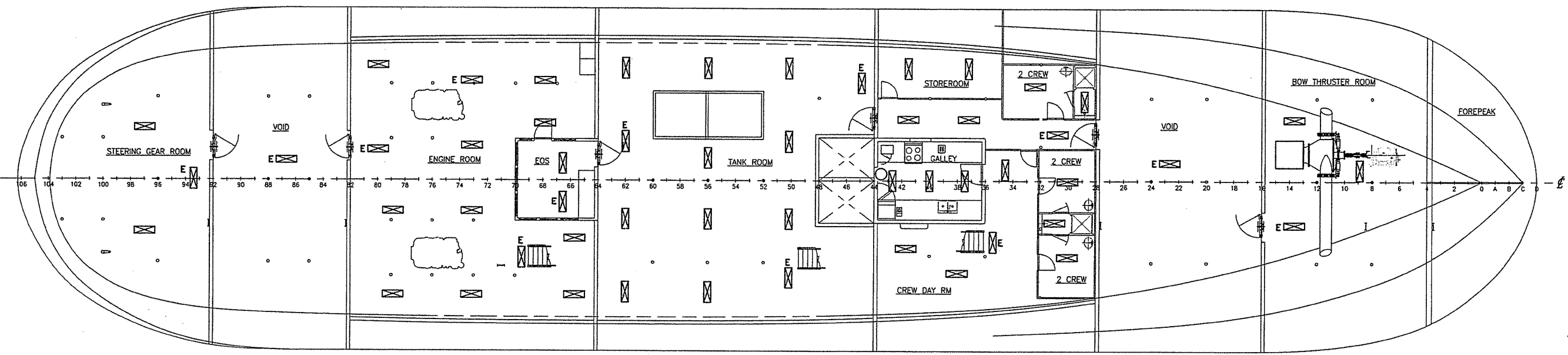
80 78 76 74 72 70 68 66 64 62 60 58 56 54 52 50 48 46 44 42 40 38 36 34 32



PLAN 2-4D
MID DECK



PLAN 2-4C
MAIN DECK

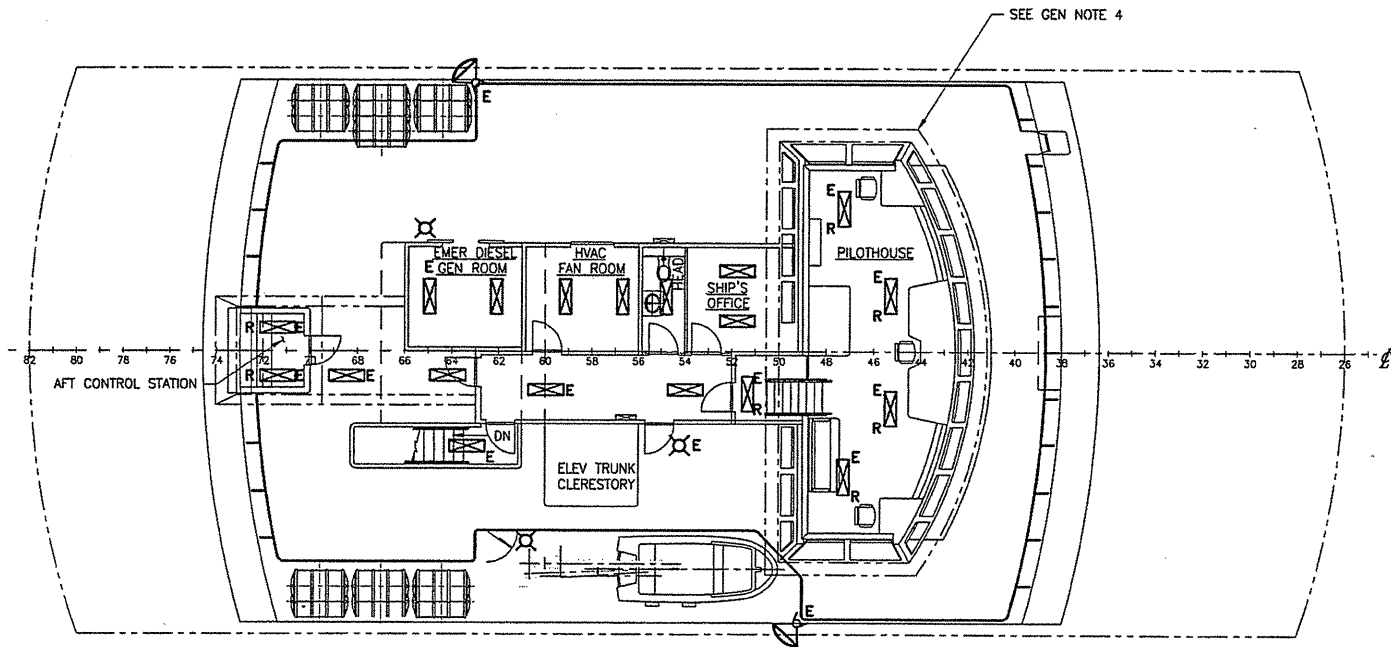


PLAN 2-4A
LOWER DECK

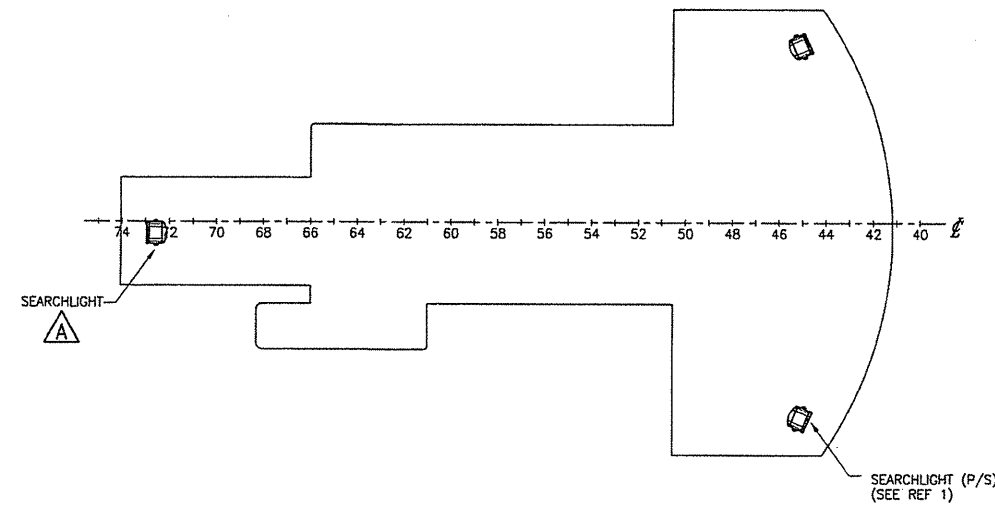


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| SIZE | D | ENG. NO. | 07069-001-330-1 | REV | A |
| SCALE | 1/8" = 1'-0" | FILE NAME | 07069-001-3301-A | SHEET | 2 OF 4 |

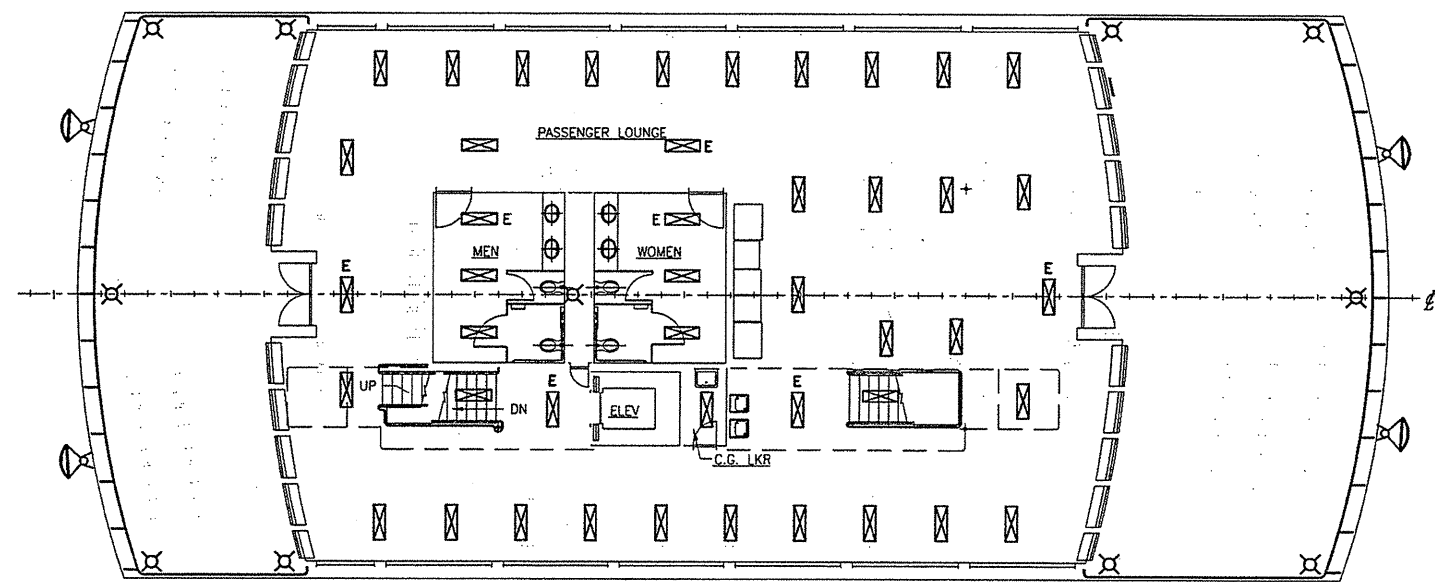
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PLAN 3-4C
 NAVIGATION/BRIDGE DECK



PLAN 3-2C
 HOUSE TOP

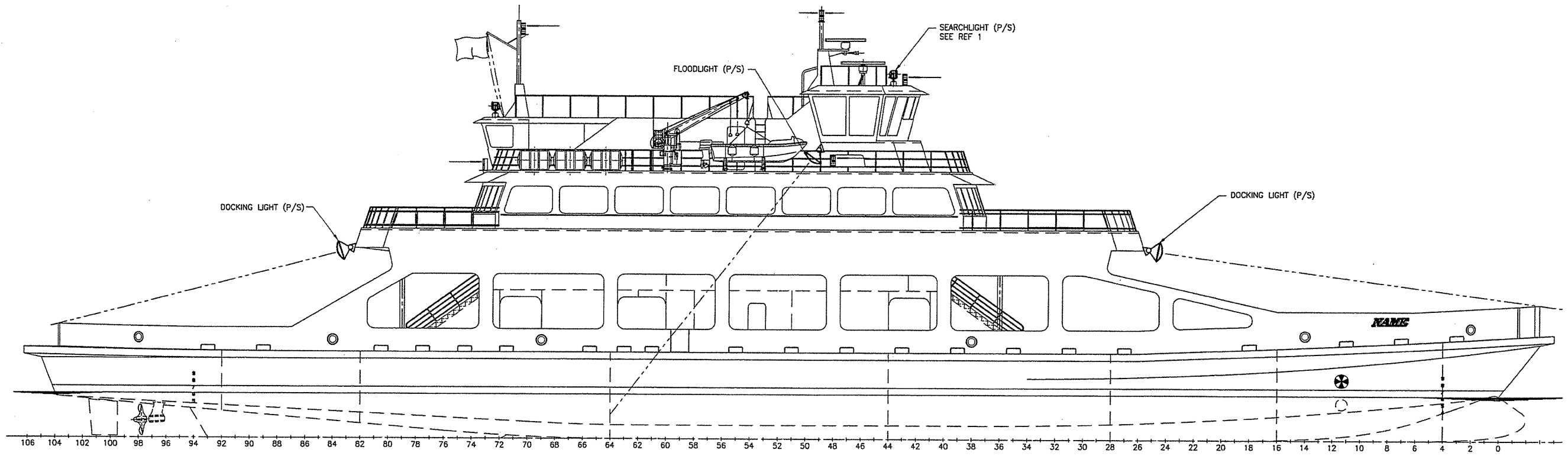


PLAN 3-4A
 PASSENGER DECK



| | | | | | |
|-------|--------------|-----------|------------------|-------|--------|
| SIZE | D | DWG NO. | 07069-001-330-1 | REV | A |
| SCALE | 1/8" = 1'-0" | FILE NAME | 07069-001-3301-A | SHEET | 3 OF 4 |

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ELEVATION 4-3B
 OUTBOARD PROFILE



1.23.08

| | | | | | |
|-------|--------------|-----------|------------------|-------|--------|
| SIZE | D | DWG NO. | 07069-001-330-1 | REV | A |
| SCALE | 1/8" = 1'-0" | FILE NAME | 07069-001-3301-A | SHEET | 4 OF 4 |

SYMBOLS LIST

| | |
|--|--|
| | LIFT CHECK VALVE, COMPRESSOR TYPE |
| | GATE VALVE |
| | BALL VALVE, FULL PORT |
| | GLOBE VALVE |
| | SERVICE CONNECTION |
| | DRAIN VALVE |
| | PRESSURE RELIEF VALVE |
| | SOLENOID VALVE |
| | PRESSURE REDUCING VALVE |
| | AIR REGULATOR W/PRESURE GAUGE |
| | WYE STRAINER |
| | FLEXIBLE HOSE ASSEMBLY |
| | PRESSURE SWITCH |
| | REDUCER |
| | PRESSURE GAUGE W/SHUT-OFF VALVE SEE NOTE 9 |
| | AIR HORN, SEE NOTE 14 |
| | BHD PENETRATION FITTING |
| | AIR FILTER |
| | AIR DRIER |
| | STOP CHECK VALVE |

REVISION HISTORY

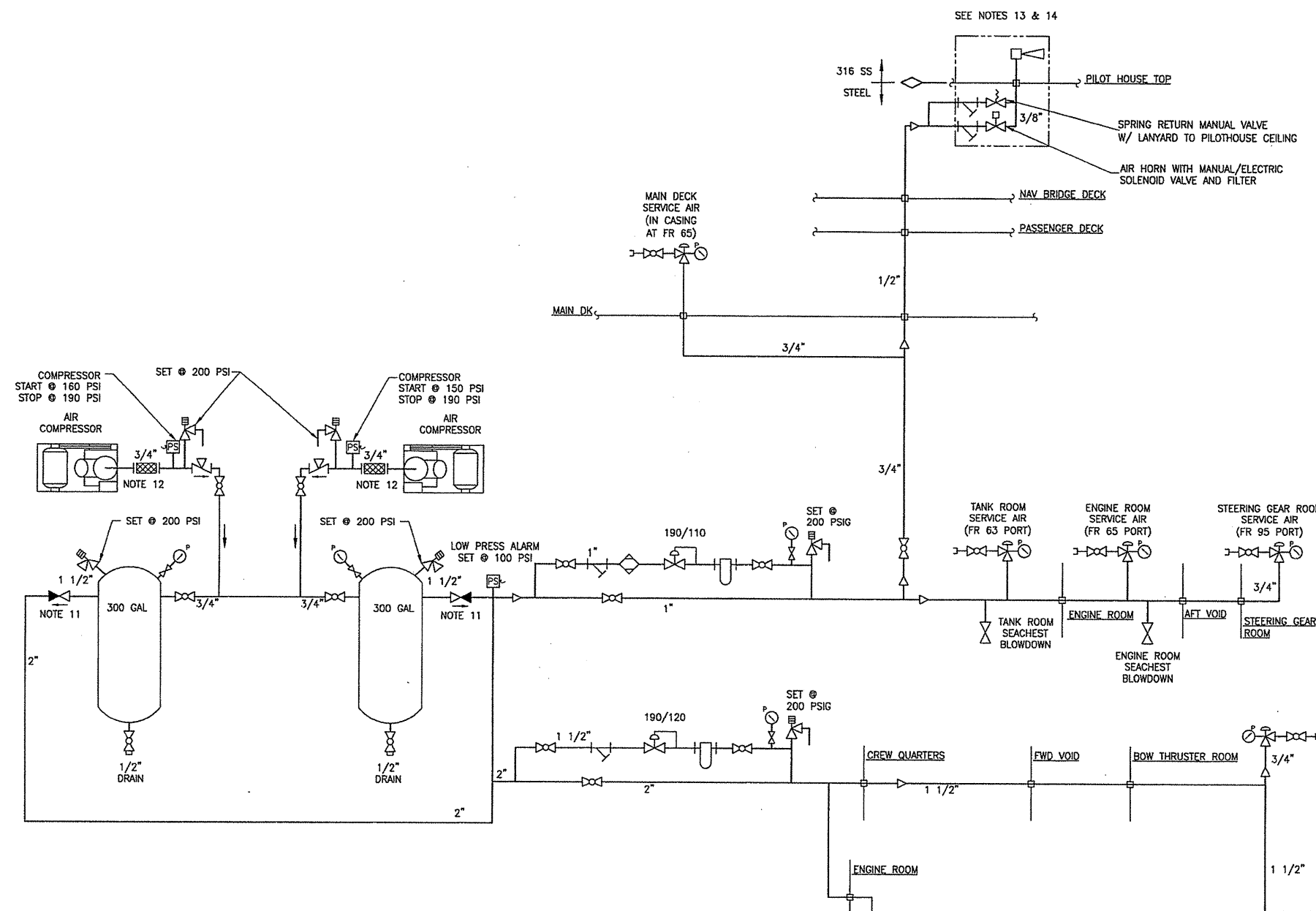
| REV | ZONE | DESCRIPTION | DWN | DATE | APVD |
|-----|------|--|-----|---------|------|
| A | 1-C5 | CHANGED TO LOWER PRESSURE COMP. UPDATED COMPONENTS ACCORDINGLY | JL | 1/22/08 | DMW |

GENERAL NOTES

- MATERIALS AND WORKMANSHIP SHALL CONFORM TO U.S. COAST GUARD REQUIREMENTS FOR SUBCHAPTER "H" VESSELS AND AMERICAN BUREAU OF SHIPPING RULES FOR VESSELS UNDER 90 METERS.
- PIPING SHALL BE RUN AS DIRECTLY AS POSSIBLE WITH A MINIMUM NUMBER OF BENDS AND FITTINGS WITH SUFFICIENT JOINTS TO PROVIDE FOR REMOVAL, INSPECTION, SERVICING AND REPLACEMENT OF PIPING, VALVES, FITTINGS, AND EQUIPMENT.
- TAKEDOWN JOINTS SHALL BE PROVIDED WHERE NECESSARY FOR REMOVAL & SERVICING OF EQUIPMENT. ADDITIONAL TAKEDOWN JOINTS SHALL BE AVOIDED WHERE PRACTICAL.
- WHERE PIPING PENETRATES A WATERTIGHT BULKHEAD, DECK OR TANK TOP, A PENETRATION SLEEVE SHALL BE PROVIDED TO INSURE THE WATER TIGHTNESS OF THE STRUCTURE. IN NO CASE SHALL THE PLATING FORM PART OF A JOINT OR PIPING.
- AVOID POCKETS IN THE PIPE LINES AND PROVIDE WITH FITTINGS AND VALVES TO ENABLE COMPLETE DRAINING AND VENTING OF PIPES AND EQUIPMENT.
- UNIONS ARE NOT PERMITTED IN INACCESSIBLE LOCATIONS
- VALVES UNDER THE ENGINE ROOM FLOOR PLATES OR IN OTHER INACCESSIBLE LOCATIONS SHALL BE FITTED WITH REACH RODS OR REMOTE OPERATORS WHICH SHALL HAVE MEANS TO INDICATE POSITION.
- VALVES, EXCEPT SMALL ONES WHOSE FUNCTIONS ARE OBVIOUS, SHALL BE PROVIDED WITH LABELS.
- PROVIDE GAUGE PIPING ASSEMBLIES AND MATERIALS FOR GAUGES AND INSTRUMENTS CONFIGURED IN ACCORDANCE WITH ASTM F721. TUBING AND FITTINGS ARE TO BE MADE FROM 316 STAINLESS STEEL. TUBING WALL THICKNESS SHALL BE 0.035 INCHES. ROOT VALVES SHALL BE BALL TYPE, GAUGE VALVES SHALL BE NEEDLE TYPE. ROOT VALVES AND GAUGE VALVES SHALL BE MANUFACTURED FROM 316 STAINLESS STEEL.
- THE SUPPLY AND DISCHARGE PIPE CONNECTIONS TO THE AIR RECEIVER SHALL BE LOCATED AS HIGH AS PRACTICAL IN THE RECEIVER. SUPPLY AND DISCHARGE SHALL NOT BE THROUGH A COMMON CONNECTION, AND IN NO EVENT SHALL THE DISCHARGE CONNECTION BE AT THE BOTTOM OF THE RECEIVER.
- GLOBE VALVES SHALL BE INSTALLED WITH PRESSURE UNDER THE DISC.
- PIPE LEADING FROM THE AIR COMPRESSOR SHALL BE ATTACHED TO THE COMPRESSOR WITH A STAINLESS STEEL FLEXIBLE CONNECTION. LOW POINTS SHALL BE FITTED WITH DIRT LEGS AND DRAIN VALVES. STRAINERS SHALL PROTECT REDUCING STATIONS AND OTHER ITEMS OF EQUIPMENT SUPPLIED WITH COMPRESSED AIR.
- AIR HORN TO BE KAHLBERG NUMBER S-2 CV OR EQUIVALENT.
- ALL PIPING EXPOSED TO THE WEATHER SHALL BE CRES GRADE 316.

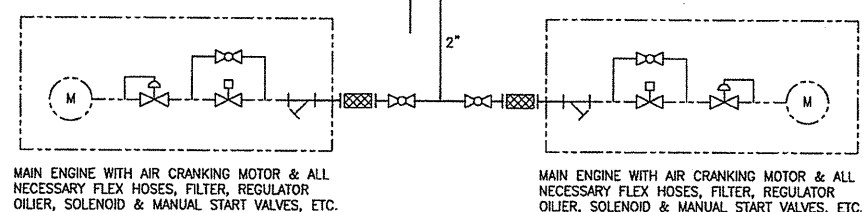
REFERENCES

- 07069-001-832-1 TECHNICAL SPECIFICATIONS
- 07069-001-200-1 ENGINE ROOM & TANK ROOM ARRANGEMENT
- 07069-001-320-1 ELECTRICAL ONE-LINE DIAGRAM



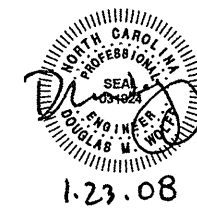
PIPING REQUIREMENTS

| SYSTEM | SIZE | PIPING | TAKEDOWN JOINTS | VALVES | | FITTINGS |
|---------------------------------------|------|---|---|---|--|---|
| | | | | BODY | TRIM | |
| COMPRESSED AIR | ALL | CARBON STL SCH 40 ASTM A53 OR A106 GRADE B SEAMLESS ANSI B36.10 | UNION FORGED STEEL SCREWED OR SOCKET WELD 300# ASTM A105 | BALL: BRONZE SCREWED FULL PORT B105-1 OR EQ. MSS-SP-72 | STAINLESS STEEL BALL AND STEM TEFLON SEATS AND SEALS | FORGED STEEL SCREWED OR SOCKET WELD 300# ASTM A105 |
| COMPRESSED AIR NOT EXPOSED TO WEATHER | 3/8" | | UNION FORGED STEEL SCREWED 300# ASTM A-105 ANSI B16.11 | GLOBE: CARBON STEEL SOCKET WELD ANSI B16.34 ASTM A234 OR A105 | STEM, WEDGE, OR DISK CRES, ASTM A182 | |
| COMPRESSED AIR EXPOSED TO WEATHER | 3/8" | STAINLESS STEEL SCH 40 ASTM A312 TYPE 316 SEAMLESS ANSI B36.19 | UNION STAINLESS STEEL SCREWED TYPE 316 3000# ASTM A-312 ANSI B16.11 | | | STAINLESS STEEL SCREWED TYPE 316 3000# ASTM A-312 ANSI B16.11 |



COMPRESSOR TABLE

| QTY | SERVICE | TYPE | MODEL | CAPACITY | DRIVE |
|-----|------------------------|------------------|-------------------|--------------------|--|
| 2 | SERVICE & STARTING AIR | TWO STAGE PISTON | QUINCY QR-25 D325 | 10.4 CFM @ 175 PSI | 230V/60HZ/3# 3 HP, 1750 RPM TEFC MOTOR |



Elliott Bay Design Group
 Seattle - New Orleans

CLIENT: NORTH CAROLINA D.O.T., FERRY DIV
 Raleigh, North Carolina

PROJECT: NEW SOUND CLASS FERRY

COMPRESSED AIR PIPING SCHEMATIC

| | | | | | |
|----------------|--------------|---------------|-------------|-----------------------------|---------------|
| DATE: 10/30/07 | DATE: 1/9/08 | DATE: 1/10/08 | SCALE: NONE | FILE NAME: 07069-001-5511-A | SHEET: 1 OF 1 |
| DMW | JKE/RPV | DMW | DMW | DMW | DMW |
| CDR | TMH | DMW | DMW | DMW | DMW |
| APVD | DMW | DMW | DMW | DMW | DMW |

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LIST OF MATERIALS

REVISION HISTORY

| PIECE No. | QUANTITY | DESCRIPTION | MATERIAL OR MANUFACTURER | SPEC. GRADE OR MODEL | REMARKS |
|-----------|----------|--|--------------------------|-----------------------|------------------------|
| 1 | 190 LF | PIPE, 1 1/2", SCH 40, SEAMLESS | CARBON STEEL | ASTM A53 OR 106, GR B | ANSI B36.10 |
| 2 | 3 LF | PIPE, 1", SCH 40, SEAMLESS | CARBON STEEL | ASTM A53 OR 106, GR B | ANSI B36.10 |
| 3 | 220 LF | PIPE, 3/4", SCH 40, SEAMLESS | CARBON STEEL | ASTM A53 OR 106, GR B | ANSI B36.10 |
| 4 | 90 LF | PIPE, 1/2", SCH 40, SEAMLESS | CARBON STEEL | ASTM A53 OR 106, GR B | ANSI B36.10 |
| 5 | 3 | PIPE, 3/8", SCH 40, SEAMLESS | CARBON STEEL | ASTM A53 OR 106, GR B | ANSI B36.10 |
| 6 | 1 LF | PIPE, 3/8", SCH 40, SEAMLESS | STAINLESS STEEL | ASTM A312, TY 316 | ANSI 36.19 |
| 7 | | | | | |
| 8 | | | | | |
| 9 | | | | | |
| 10 | 6 | VALVE, BALL, 1 1/2" THD | BRONZE | ASTM B61 OR B62 | ANSI B16.10, FULL PORT |
| 11 | 3 | VALVE, BALL, 1" THD | BRONZE | ASTM B61 OR B62 | ANSI B16.10, FULL PORT |
| 12 | 9 | VALVE, BALL, 3/4" THD | BRONZE | ASTM B61 OR B62 | ANSI B16.10, FULL PORT |
| 13 | 2 | VALVE, BALL, 1/2" THD | BRONZE | ASTM B61 OR B62 | ANSI B16.10, FULL PORT |
| 14 | 1 | VALVE, BALL, 3/8" THD | BRONZE | ASTM B61 OR B62 | ANSI B16.10, FULL PORT |
| 15 | 2 | VALVE, BALL, 1/4" THD | STAINLESS STEEL | ASTM A351 | FULL PORT |
| 16 | 2 | VALVE, STOP CHECK, 1 1/2" THD | BRONZE | ASTM B61 OR B62 | ANSI B1.20.1 |
| 17 | 2 | VALVE, LIFT CHECK, 1/2" THD | BRONZE | ASTM B61 OR B62 | ANSI B1.20.1 |
| 18 | 1 | VALVE, RELIEF, 1 1/2" THD | BRONZE | ASTM B61 OR B62 | ANSI B1.20.1 |
| 19 | 1 | VALVE, RELIEF, 1" THD | BRONZE | ASTM B61 OR B62 | ANSI B1.20.1 |
| 20 | 2 | VALVE, RELIEF, 3/4" THD | BRONZE | ASTM B61 OR B62 | ANSI B1.20.1 |
| 21 | | | | | |
| 22 | | | | | |
| 23 | 10 | ELBOW, 90°, 1 1/2", 3000#, THD | STEEL | ASTM A105 | ANSI B16.11 |
| 24 | 4 | ELBOW, 90°, 1", 3000#, THD | STEEL | ASTM A105 | ANSI B16.11 |
| 25 | 25 | ELBOW, 90°, 3/4", 3000#, THD | STEEL | ASTM A105 | ANSI B16.11 |
| 26 | 16 | ELBOW, 90°, 1/2", 3000#, THD | STEEL | ASTM A105 | ANSI B16.11 |
| 27 | 2 | ELBOW, 90°, 3/8", 3000#, THD | STEEL | ASTM A105 | ANSI B16.11 |
| 28 | 1 | ELBOW, 90°, 3/8", 3000#, THD | STAINLESS STEEL | ASTM A312, TY 316 | ANSI B16.11 |
| 29 | 6 | TEE, 1 1/2", 3000#, THD | STEEL | ASTM A105 | ANSI B16.11 |
| 30 | 2 | TEE, 1", 3000#, THD | STEEL | ASTM A105 | ANSI B16.11 |
| 31 | 5 | TEE, 3/4", 3000#, THD | STEEL | ASTM A105 | ANSI B16.11 |
| 32 | 1 | TEE, 1/2", 3000#, THD | STEEL | ASTM A105 | ANSI B16.11 |
| 33 | 1 | TEE, 3/8", 3000#, THD | STEEL | ASTM A105 | ANSI B16.11 |
| 34 | 7 | UNION, 1 1/2", 3000#, THD | STEEL | ASTM A105 | ANSI B16.11 |
| 35 | 3 | UNION, 1", 3000#, THD | STEEL | ASTM A105 | ANSI B16.11 |
| 36 | 6 | UNION, 3/4", 3000#, THD | STEEL | ASTM A105 | ANSI B16.11 |
| 37 | 1 | UNION, 1/2", 3000#, THD | STEEL | ASTM A105 | ANSI B16.11 |
| 38 | 1 | UNION, 3/8", 3000#, THD | STEEL | ASTM A105 | ANSI B16.11 |
| 39 | 1 | UNION, 3/8", 3000#, THD | STAINLESS STEEL | ASTM A312, TY 316 | ANSI B16.11 |
| 40 | 2 | REDUCER BUSHING, 2"x1 1/2", 3000#, THD | STEEL | ASTM A105 | ANSI B16.11 |
| 41 | 1 | REDUCER BUSHING, 1 1/2"x1", 3000#, THD | STEEL | ASTM A105 | ANSI B16.11 |
| 42 | 1 | REDUCER BUSHING, 1"x3/4", 3000#, THD | STEEL | ASTM A105 | ANSI B16.11 |
| 43 | 1 | REDUCER BUSHING, 3/4"x1/2", 3000#, THD | STEEL | ASTM A105 | ANSI B16.11 |
| 44 | 1 | REDUCER BUSHING, 1/2"x3/8", 3000#, THD | STEEL | ASTM A105 | ANSI B16.11 |
| 45 | 1 | REDUCER BUSHING, 1 1/2"x1/4", 3000#, THD | STEEL | ASTM A105 | ANSI B16.11 |
| 46 | 1 | REDUCER BUSHING, 1"x1/4", 3000#, THD | STEEL | ASTM A105 | ANSI B16.11 |
| 47 | 2 | REDUCER BUSHING, 2"x3/4", 3000#, THD | STEEL | ASTM A105 | ANSI B16.11 |
| 48 | 1 | PIPE SLEEVE, 2", SCH 80, FOR 1 1/2" PIPE | CARBON STEEL | ASTM A53 | DETAIL 3-6D |
| 49 | 8 | PIPE SLEEVE, 1 1/2", MECH TUBE, FOR 3/4" PIPE | CARBON STEEL | ASTM A53 | DETAIL 3-6D |
| 50 | 5 | PIPE SLEEVE, 1", SCH 80, FOR 1/2" PIPE | CARBON STEEL | ASTM A53 | DETAIL 3-6D |
| 51 | 1 | Y-STRAINER, 1 1/2", 3000#, THD | STEEL | ASTM A105 | ANSI B16.11 |
| 52 | 1 | Y-STRAINER, 1", 3000#, THD | STEEL | ASTM A105 | ANSI B16.11 |
| 53 | 1 | PRESSURE REDUCER, 250/150 PSI, 1 1/2", THD | VARIOUS | COML | |
| 54 | 1 | PRESSURE REDUCER, 400/110 PSI, 1", THD | VARIOUS | COML | |
| 55 | 5 | PRESSURE REGULATOR W/GAUGE, 0-125 PSI, 3/4", THD | VARIOUS | COML | |
| 56 | 2 | PRESSURE GAUGE, 0-300 PSI, 1/4" THD BOTT CONN | VARIOUS | COML | |
| 57 | 1 | AIR FILTER, 1 1/2", 40 MICRON, THD | ZINC | COML | |
| 58 | 1 | AIR FILTER, 1", 40 MICRON, THD | ZINC | COML | |
| 59 | 2 | HOSE ASSEMBLY, 1 1/2", W/QUICK-DISCONNECT END CONN | - | COML | NOTE 7 |
| 60 | 5 | HOSE ASSEMBLY, 3/4", W/QUICK-DISCONNECT END CONN | - | COML | NOTE 7 |
| 61 | 2 | HOSE ASSEMBLY, 1/2", W/QUICK-DISCONNECT END CONN | - | COML | NOTE 7 |
| 62 | 2 | AIR RECEIVER, 120 GAL | STEEL | COML | RATED TO 500 PSI |
| 63 | 1 | AIR HORN, W/MANUAL & ELECTRIC SOLENOID VALVE, 3/8" THD | BRASS/BRONZE | KAHLENBERG, S-2CV | |

| REV | ZONE | DESCRIPTION | DWN | DATE | APVD |
|-----|------|-------------|-----|------|------|
| | | | | | |
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| | | | | | |
| | | | | | |

- GENERAL NOTES**
- MATERIALS AND WORKMANSHIP SHALL CONFORM TO U.S. COAST GUARD REQUIREMENTS FOR SUBCHAPTER "H" VESSELS AND AMERICAN BUREAU OF SHIPPING RULES FOR VESSELS UNDER 90 METERS
 - AIR RECEIVER DISCHARGES ARE TO BE PIPED FROM THE UPPER PORTION OF EACH RECEIVER
 - FLEXIBLE CONNECTIONS AT AIR COMPRESSORS SHALL BE WIRE MESH JACKETED STAINLESS STEEL BELLOWS TYPE
 - AIR RECEIVERS SHALL BE 120 GALLON CAPACITY VERTICALLY MOUNTED WITH A MAWP OF 500 PSIG. AIR RECEIVERS SHALL BE USCG APPROVED
 - AIR STARTED ENGINES SHALL BE FITTED WITH REGULATORS, STRAINERS, AND SOLENOID VALVES
 - THIS DRAWING IS DIAGRAMMATIC ONLY AND DOES NOT PORTRAY A DETAILED PIPING SYSTEM ARRANGEMENT. THE CONTRACTOR SHALL DEVELOP A PIPING ARRANGEMENT SUITABLE FOR THE CONTRACTOR'S DETAIL INSTALLATION AND TAKING INTO ACCOUNT ALL NECESSARY SYSTEM INTERFACES
 - FLEXIBLE PIPING CONNECTIONS SHALL NOT BE LONGER THAN 30 INCHES AND SHALL MEET THE REQUIREMENTS OF THE USCG 46 CFR, PART 56, PARAGRAPH 56.60-25
 - PRIOR TO FABRICATION OF MATING PIPE ASSEMBLIES, VERIFY EQUIPMENT CONNECTIONS FOR SIZE, LOCATION AND TYPE IN ACCORDANCE WITH MANUFACTURER CERTIFIED DRAWINGS, OR DIRECTLY FROM THE EQUIPMENT. TEMPLATE BOLTING PATTERNS AND CONNECTIONS AS REQUIRED.
 - PROVIDE TWO UTILITY HOSES, EACH 50 FT LONG, WITH SUITABLE QUICK CONNECT END FITTINGS

- REFERENCES**
- 07069-001-832-1 CONTRACT TECHNICAL SPECIFICATIONS
 - 07069-001-101-1 PROFILES AND DECK ARRANGEMENTS
 - 07069-001-200-1 ENGINE ROOM & TANK ROOM ARRANGEMENT
 - 07069-001-551-1 COMPRESSED AIR PIPING SCHEMATIC
 - 07069-001-320-1 ELECTRICAL ONE-LINE DIAGRAM
 - 07069-001-506-1 FILLS, VENTS & SOUNDS PIPING SCHEMATIC



Elliott Bay Design Group
 Seattle • New Orleans

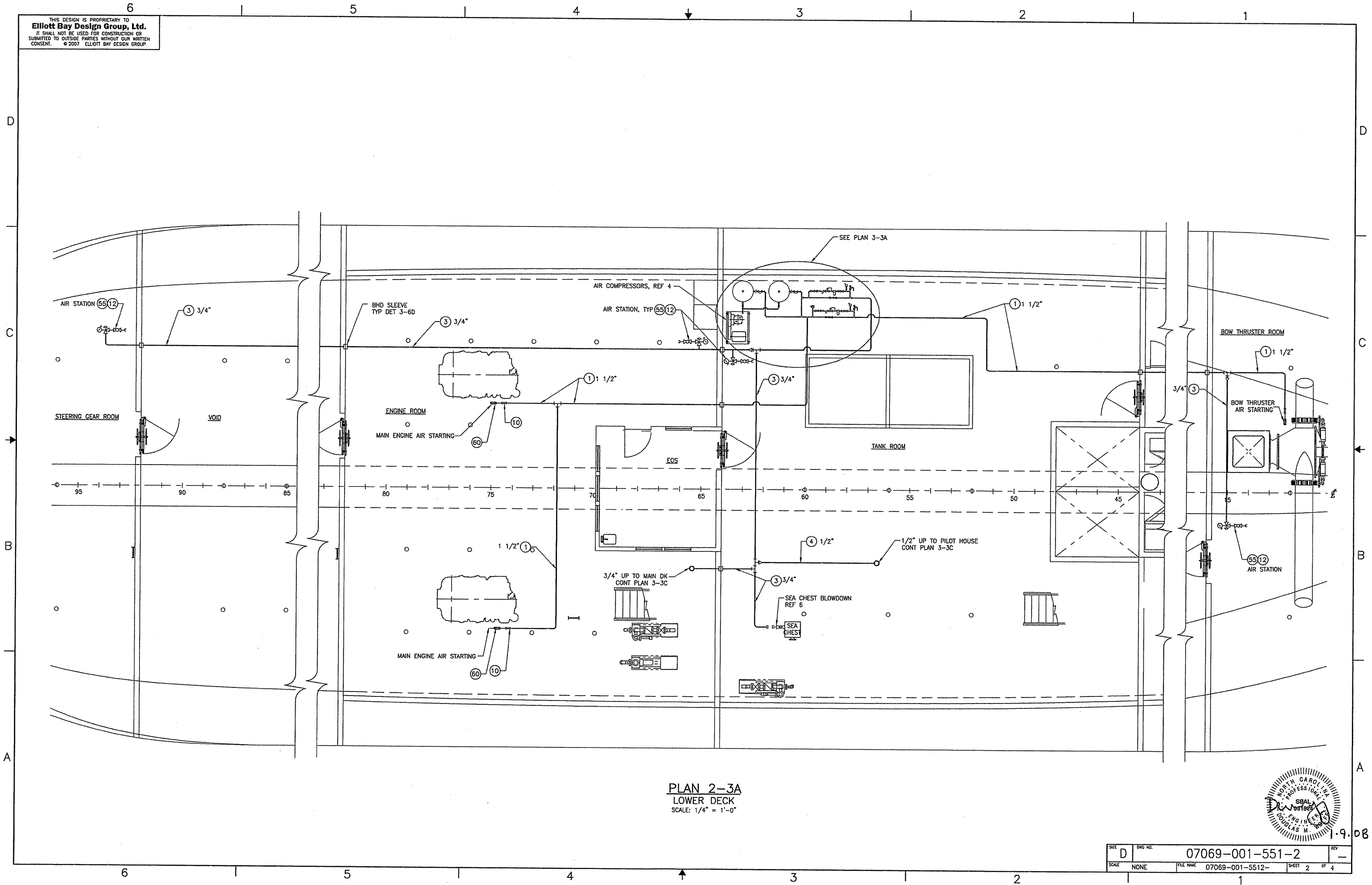
CLIENT: NORTH CAROLINA D.O.T., FERRY DIV
 Raleigh, North Carolina

PROJECT: NEW SOUND CLASS FERRY

COMPRESSED AIR PIPING ARRANGEMENT & DETAILS

| | | | | |
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| END: JSB | DATE: 11/12/07 | SCALE: NONE | FILE NAME: 07069-001-5512- | SHEET 1 OF 4 |
| APVD: DMW | DATE: 1/9/08 | | | |

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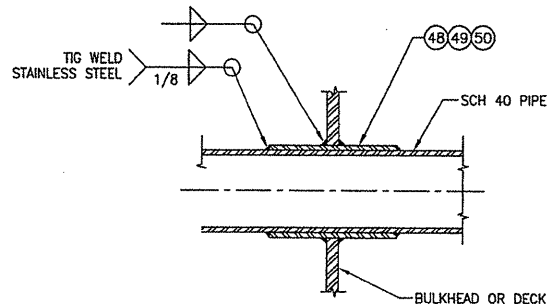


PLAN 2-3A
 LOWER DECK
 SCALE: 1/4" = 1'-0"

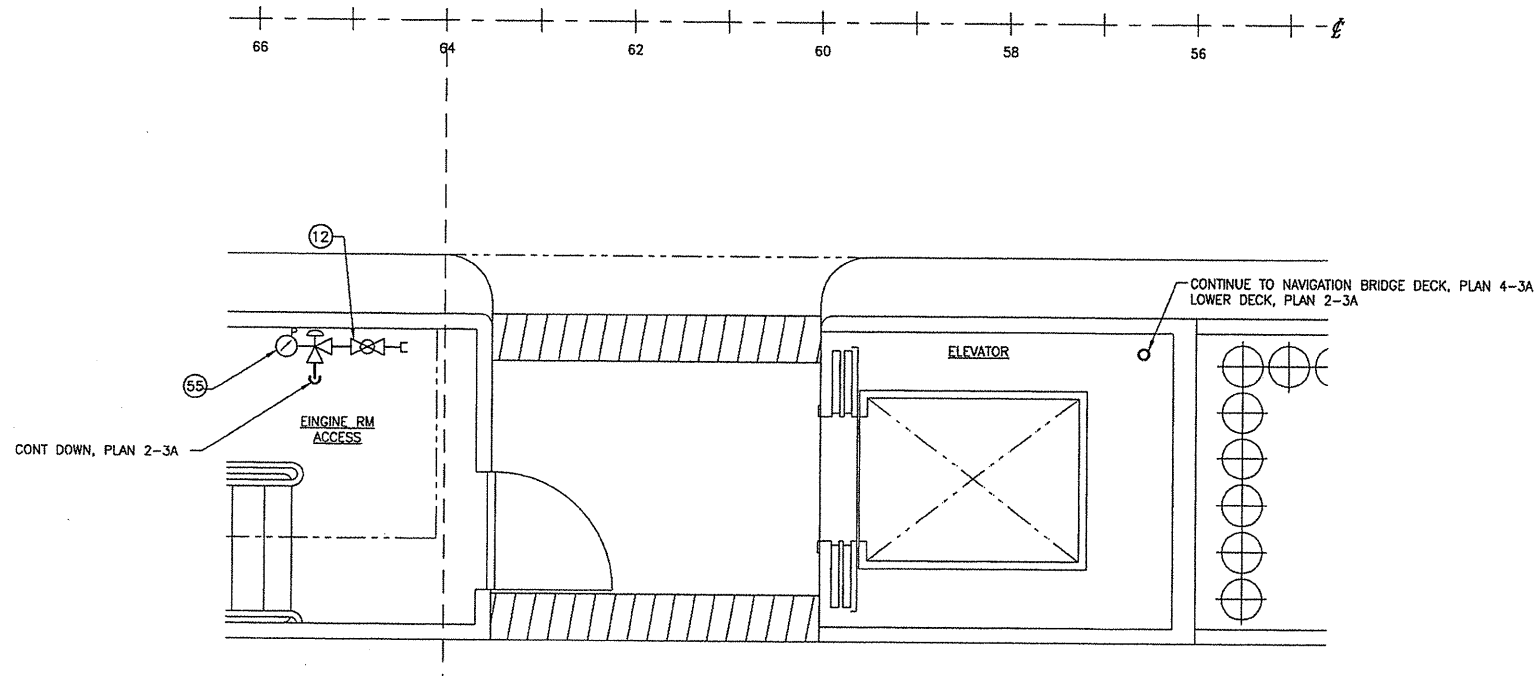


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| SIZE | DWG NO. | REV |
| D | 07069-001-551-2 | - |
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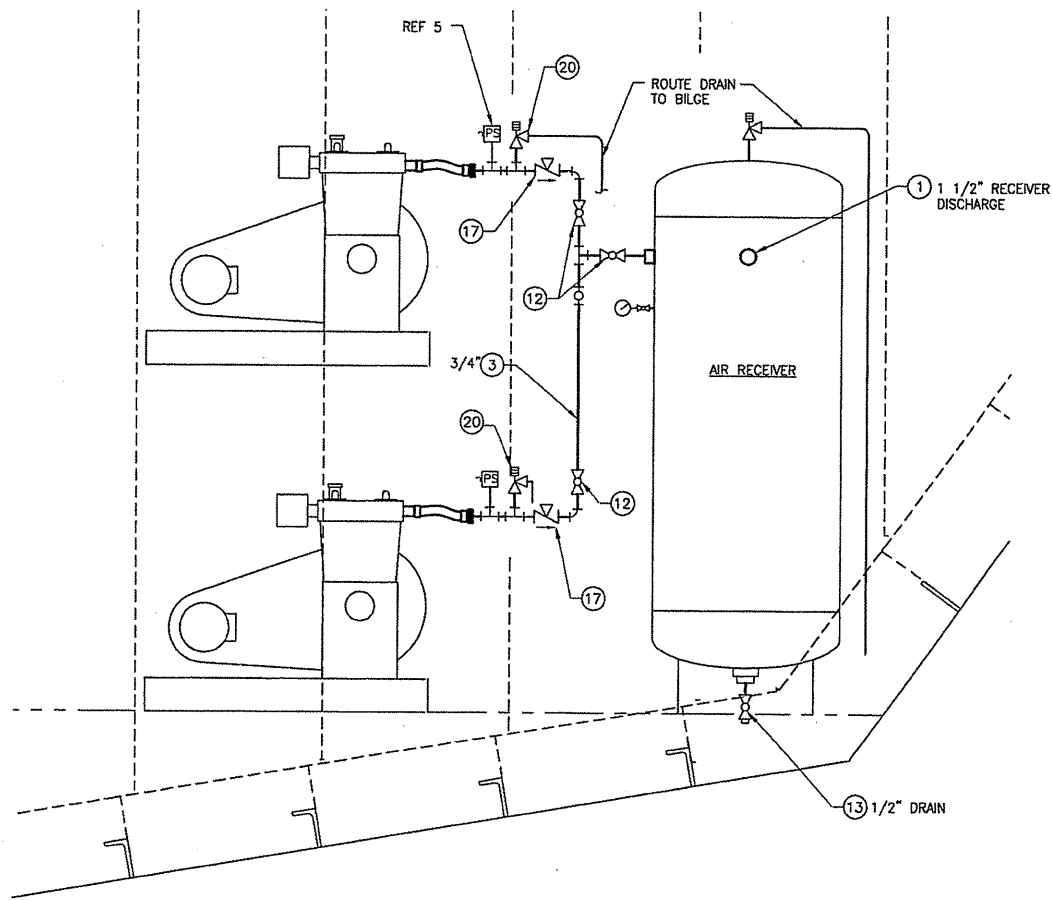
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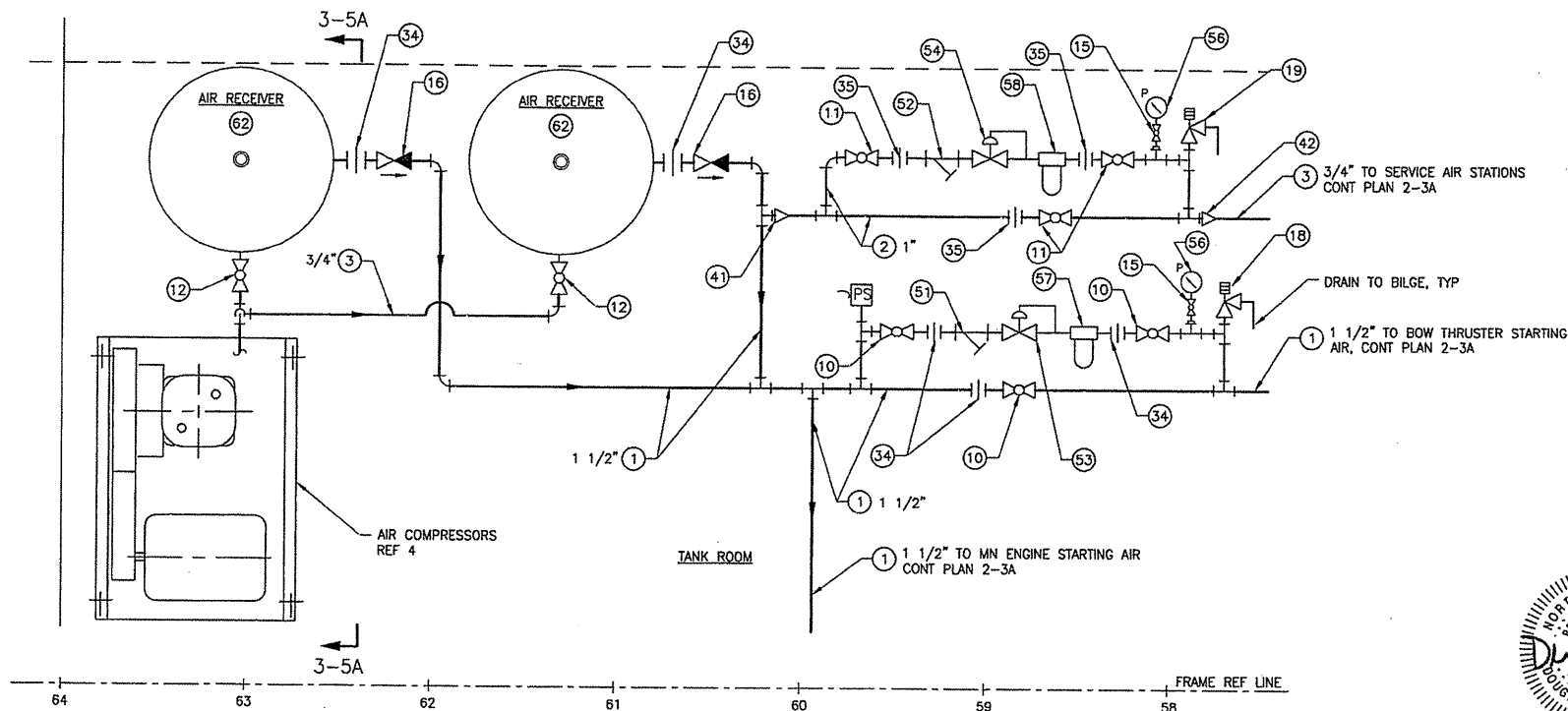
DETAIL 3-6D
 TYP DECK/WT BHD PENETRATION



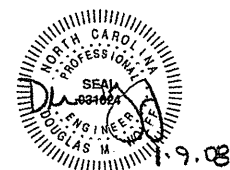
PLAN 3-3C
 MAIN DECK
 SCALE: 1/2" = 1'-0"



SECTION 3-5A
 FR 62 LOOKING AFT
 SCALE: 1" = 1'-0"

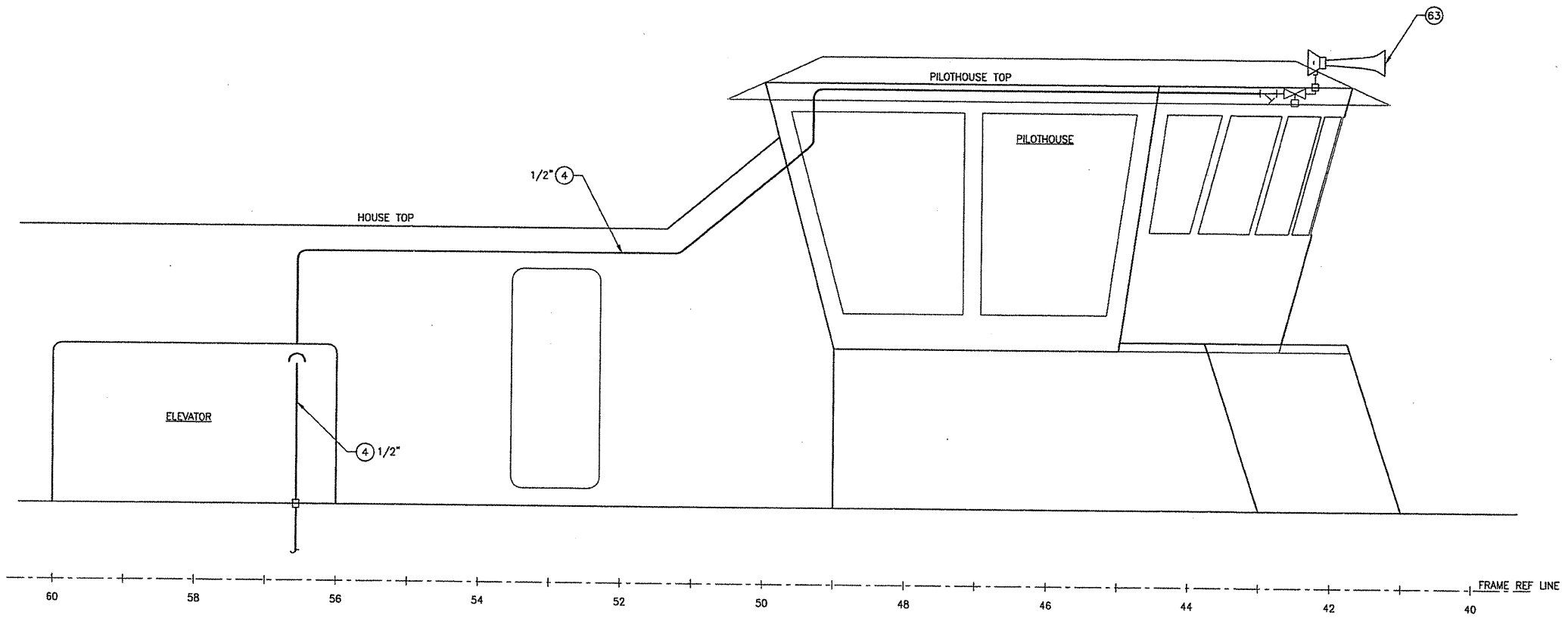


PLAN 3-3A
 LOWER DECK
 SCALE: 1" = 1'-0"

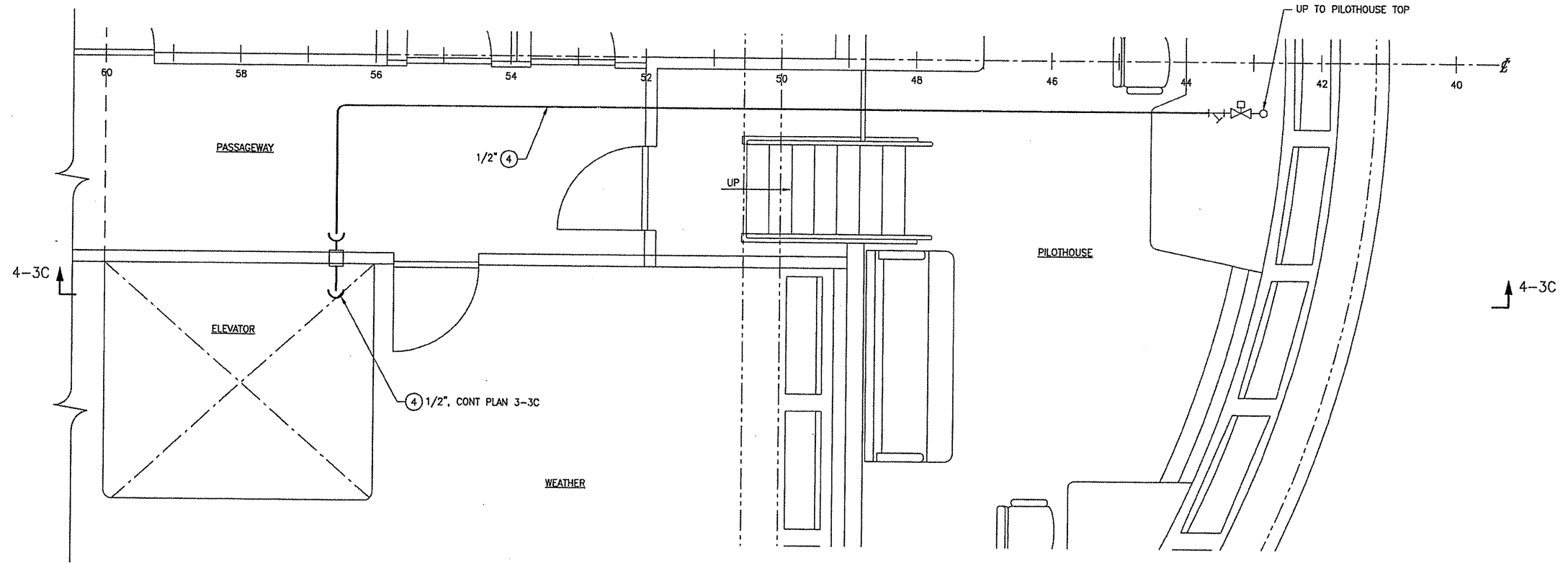


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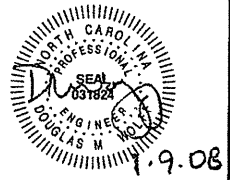
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ELEVATION 4-3C
 STBD LOOKING INBD
 SCALE: 1/2" = 1'-0"



PLAN 4-3A
 NAVIGATION BRIDGE DECK
 SCALE: 1/2" = 1'-0"



| | | | | | |
|-------|----------|-----------|-----------------|-------|--------|
| SIZE | D | DWG NO. | 07069-001-551-2 | REV | - |
| SCALE | AS SHOWN | FILE NAME | 07069-001-5512- | SHEET | 4 OF 4 |

GENERAL NOTES

1 SHIPBOARD CABLING IS TO BE IN ACCORDANCE WITH IEEE 45 "RECOMMENDED PRACTICES FOR ELECTRICAL INSTALLATIONS ON SHIPBOARD".

2 DASHED LINES AND * INDICATE SUPPLIED BY OTHERS.

3 ALL SENSORS ARE NORMALLY CLOSED, AND OPEN FOR ALARM STATE.


| BILL OF MATERIAL | | | | | |
|------------------|-----|-------------------------------------|-----------------|-----------------|---------------|
| ITEM | QTY | DESCRIPTION | EMI P/N | MFR P/N | MFR |
| 1 | 1 | MAIN ALARM PANEL (INCLUDES 10" HMI) | 9999-Y10016M-03 | 9999-Y10016M-03 | EMI |
| 2 | 2 | MAIN ENGINE JUNCTION BOX | 9999-Y10016M-04 | 9999-Y10016M-04 | EMI |
| 3 | 3 | GENERATOR JUNCTION BOX | 9999-Y10016M-05 | 9999-Y10016M-05 | EMI |
| 4 | 1 | 24VDC POWER SUPPLY | 9999-49850 | 9999-49850 | EMI |
| 5 | 2 | 6" HMI W/ 512 MB COMPACT FLASH | 9999-50450 | 9999-50450 | EMI |
| 6 | 3 | SINGLE POINT REMOTE | 9999-48130-2 | 9999-48130-2 | EMI |
| 7 | 2 | SIREN | 9999-46810 | 9999-46810 | EMI |
| 8 | 2 | STROBE, BLUE | 9999-49390-B | 9999-49390-B | EMI |
| 9 | 1 | WATERPROOF SIREN | 9999-43200-2 | 9999-43200-2 | EMI |
| 10 | 1 | AUTOMATIC BUS TRANSFER PANEL | 9999-49490 | 9999-49490 | EMI |
| 11 | 2 | PRESSURE SWITCH, 3-90 PSI | 5510-00116 | E1H-250BR | BARKSDALE |
| 12 | 3 | PRESSURE SWITCH, 3-250 PSI | 5510-00115 | E1H-H90BR | BARKSDALE |
| 13 | 13 | TEMPERATURE SWITCH, ELECTRONIC | 5520-00084 | 5520-00084 | BARKSDALE |
| 14 | 22 | LEVEL SWITCH | 5530-00012 | EL150K1 | MURPHY |
| 15 | 2 | FLOW SWITCH | 5530-00084 | 4971K5 | MCMaster KARR |
| 16 | 9 | BILGE SWITCH | 5530-00001 | LS270 | GEMS |
| 17 | 6 | DOOR SWITCH | 5100-00039 | LSA1A | MICROSWITCH |
| 18 | 6 | DOOR SWITCH ADAPTER | 5100-00048 | LSZ52A | MICROSWITCH |
| 19 | 2 | PROXIMITY PICKUP SYSTEM | 9999-50090-11 | 9999-50090-11 | EMI |
| 20 | 1 | PILOTHOUSE SHAFT TACH PANEL, FWD | 9999-44490-M | 9999-44490-M | EMI |
| 21 | 1 | PILOTHOUSE SHAFT TACH PANEL, AFT | 9999-49760-M | 9999-49760-M | EMI |

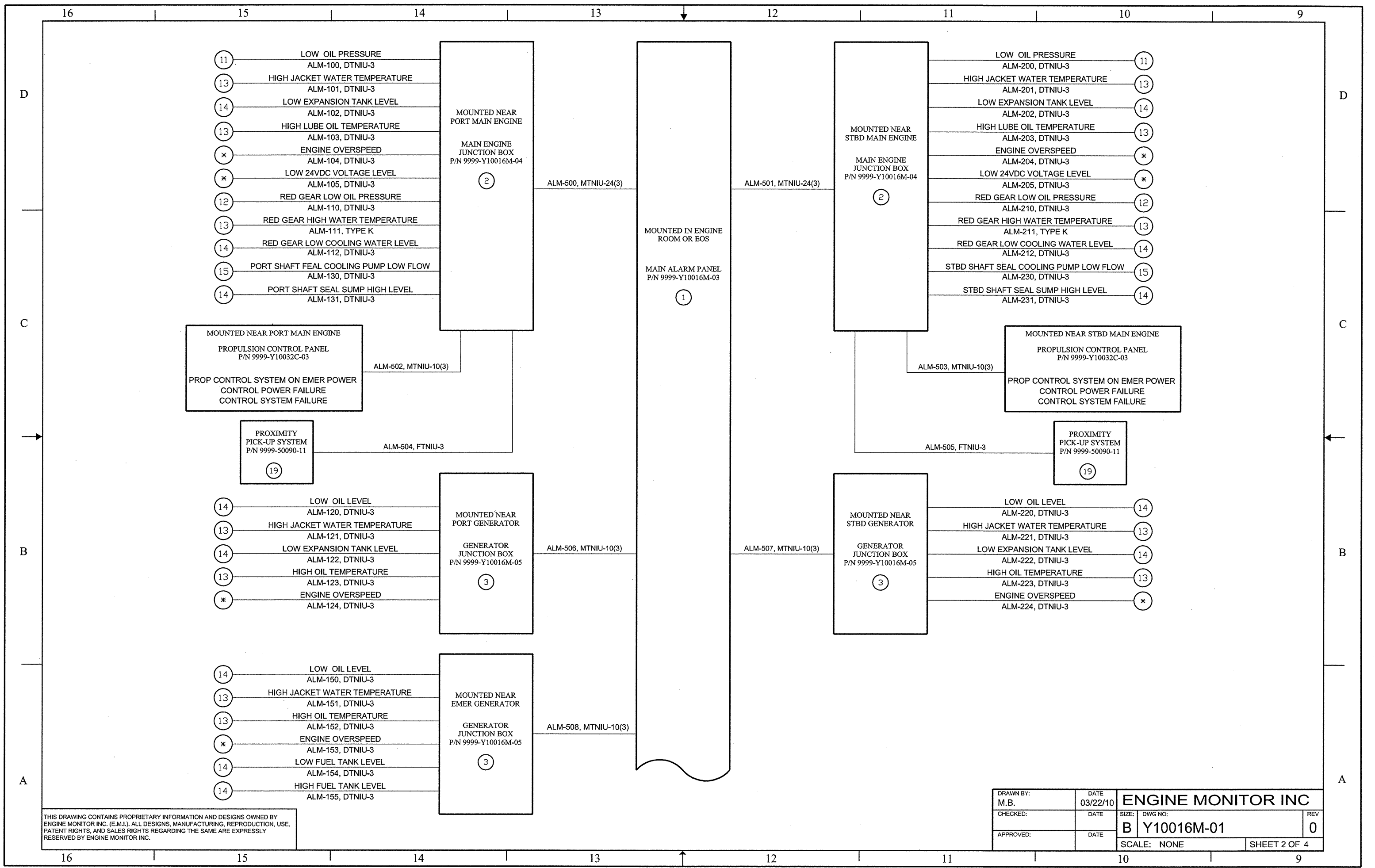
| REVISIONS | | | | | |
|-----------|------|------|-------------|------|----|
| REV | ZONE | ITEM | DESCRIPTION | DATE | BY |
| | | | | | |

| IP ADDRESS | |
|-------------|-------------|
| COMPONENT | ADDRESS |
| EOS PLC | 192.168.1.1 |
| EOS 10" HMI | 192.168.1.2 |
| FWD 6" HMI | 192.168.1.3 |
| AFT 6" HMI | 192.168.1.4 |

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|---------------------------|----|----|----|----|----|----|----|----|----|----|---|---|---|---|---|---|---|---|---|
| 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| SHEET NO. | | | | | | | | | | | | | | | | | | | |
| REVISION STATUS OF SHEETS | | | | | | | | | | | | | | | | | | | |

| | | | |
|--|--------------------------|--|---------------------|
|  <small>www.emi-marine.com 191 WEST JAMES DRIVE ST. ROSE, LA 70087</small> | | ORANGE SHIPBUILDING NORTH CAROLINA DOT M/V SILVERLAKE | |
| DRAWN BY: M.B. DATE: 01/20/10 | QA: DATE: | MACHINERY ALARM SYSTEM SHIPYARD CABLE PULL | |
| CHECKED: DATE: | APPROVED: DATE: | | |
| HULL NUMBER: N/A | QUOTE NUMBER: 10-016M | SIZE: B | DWG NO.: Y10016M-01 |
| JOB NO.: Y10016M | FSCM NO.: 63544 | SCALE: NONE | SHEET 1 OF 4 |
| | | | REV: 0 |



- 11 LOW OIL PRESSURE
ALM-100, DTNIU-3
- 13 HIGH JACKET WATER TEMPERATURE
ALM-101, DTNIU-3
- 14 LOW EXPANSION TANK LEVEL
ALM-102, DTNIU-3
- 13 HIGH LUBE OIL TEMPERATURE
ALM-103, DTNIU-3
- * ENGINE OVERSPEED
ALM-104, DTNIU-3
- * LOW 24VDC VOLTAGE LEVEL
ALM-105, DTNIU-3
- 12 RED GEAR LOW OIL PRESSURE
ALM-110, DTNIU-3
- 13 RED GEAR HIGH WATER TEMPERATURE
ALM-111, TYPE K
- 14 RED GEAR LOW COOLING WATER LEVEL
ALM-112, DTNIU-3
- 15 PORT SHAFT SEAL COOLING PUMP LOW FLOW
ALM-130, DTNIU-3
- 14 PORT SHAFT SEAL SUMP HIGH LEVEL
ALM-131, DTNIU-3

MOUNTED NEAR
PORT MAIN ENGINE

MAIN ENGINE
JUNCTION BOX
P/N 9999-Y10016M-04

2

MOUNTED IN ENGINE
ROOM OR EOS

MAIN ALARM PANEL
P/N 9999-Y10016M-03

1

MOUNTED NEAR
STBD MAIN ENGINE

MAIN ENGINE
JUNCTION BOX
P/N 9999-Y10016M-04

2

- 11 LOW OIL PRESSURE
ALM-200, DTNIU-3
- 13 HIGH JACKET WATER TEMPERATURE
ALM-201, DTNIU-3
- 14 LOW EXPANSION TANK LEVEL
ALM-202, DTNIU-3
- 13 HIGH LUBE OIL TEMPERATURE
ALM-203, DTNIU-3
- * ENGINE OVERSPEED
ALM-204, DTNIU-3
- * LOW 24VDC VOLTAGE LEVEL
ALM-205, DTNIU-3
- 12 RED GEAR LOW OIL PRESSURE
ALM-210, DTNIU-3
- 13 RED GEAR HIGH WATER TEMPERATURE
ALM-211, TYPE K
- 14 RED GEAR LOW COOLING WATER LEVEL
ALM-212, DTNIU-3
- 15 STBD SHAFT SEAL COOLING PUMP LOW FLOW
ALM-230, DTNIU-3
- 14 STBD SHAFT SEAL SUMP HIGH LEVEL
ALM-231, DTNIU-3

MOUNTED NEAR PORT MAIN ENGINE
PROPULSION CONTROL PANEL
P/N 9999-Y10032C-03

PROP CONTROL SYSTEM ON EMER POWER
CONTROL POWER FAILURE
CONTROL SYSTEM FAILURE

MOUNTED NEAR STBD MAIN ENGINE
PROPULSION CONTROL PANEL
P/N 9999-Y10032C-03

PROP CONTROL SYSTEM ON EMER POWER
CONTROL POWER FAILURE
CONTROL SYSTEM FAILURE

PROXIMITY
PICK-UP SYSTEM
P/N 9999-50090-11

19

PROXIMITY
PICK-UP SYSTEM
P/N 9999-50090-11

19

- 14 LOW OIL LEVEL
ALM-120, DTNIU-3
- 13 HIGH JACKET WATER TEMPERATURE
ALM-121, DTNIU-3
- 14 LOW EXPANSION TANK LEVEL
ALM-122, DTNIU-3
- 13 HIGH OIL TEMPERATURE
ALM-123, DTNIU-3
- * ENGINE OVERSPEED
ALM-124, DTNIU-3

MOUNTED NEAR
PORT GENERATOR

GENERATOR
JUNCTION BOX
P/N 9999-Y10016M-05

3

MOUNTED NEAR
STBD GENERATOR

GENERATOR
JUNCTION BOX
P/N 9999-Y10016M-05

3

- 14 LOW OIL LEVEL
ALM-220, DTNIU-3
- 13 HIGH JACKET WATER TEMPERATURE
ALM-221, DTNIU-3
- 14 LOW EXPANSION TANK LEVEL
ALM-222, DTNIU-3
- 13 HIGH OIL TEMPERATURE
ALM-223, DTNIU-3
- * ENGINE OVERSPEED
ALM-224, DTNIU-3

- 14 LOW OIL LEVEL
ALM-150, DTNIU-3
- 13 HIGH JACKET WATER TEMPERATURE
ALM-151, DTNIU-3
- 13 HIGH OIL TEMPERATURE
ALM-152, DTNIU-3
- * ENGINE OVERSPEED
ALM-153, DTNIU-3
- 14 LOW FUEL TANK LEVEL
ALM-154, DTNIU-3
- 14 HIGH FUEL TANK LEVEL
ALM-155, DTNIU-3

MOUNTED NEAR
EMER GENERATOR

GENERATOR
JUNCTION BOX
P/N 9999-Y10016M-05

3

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| CHECKED: | DATE | SIZE: DWG NO: B Y10016M-01 | REV 0 |
| APPROVED: | DATE | SCALE: NONE | SHEET 2 OF 4 |

D

C

B

A

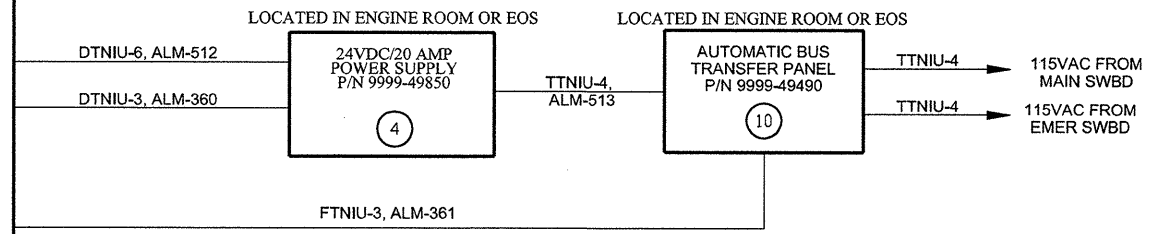
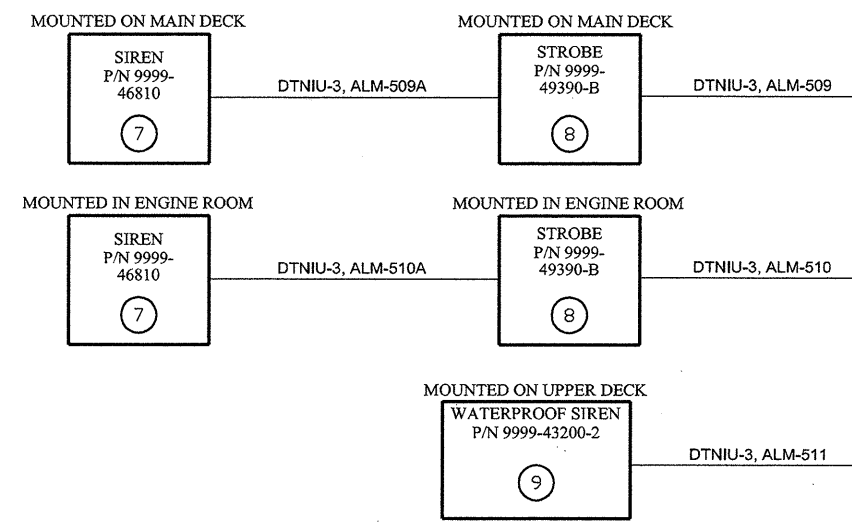
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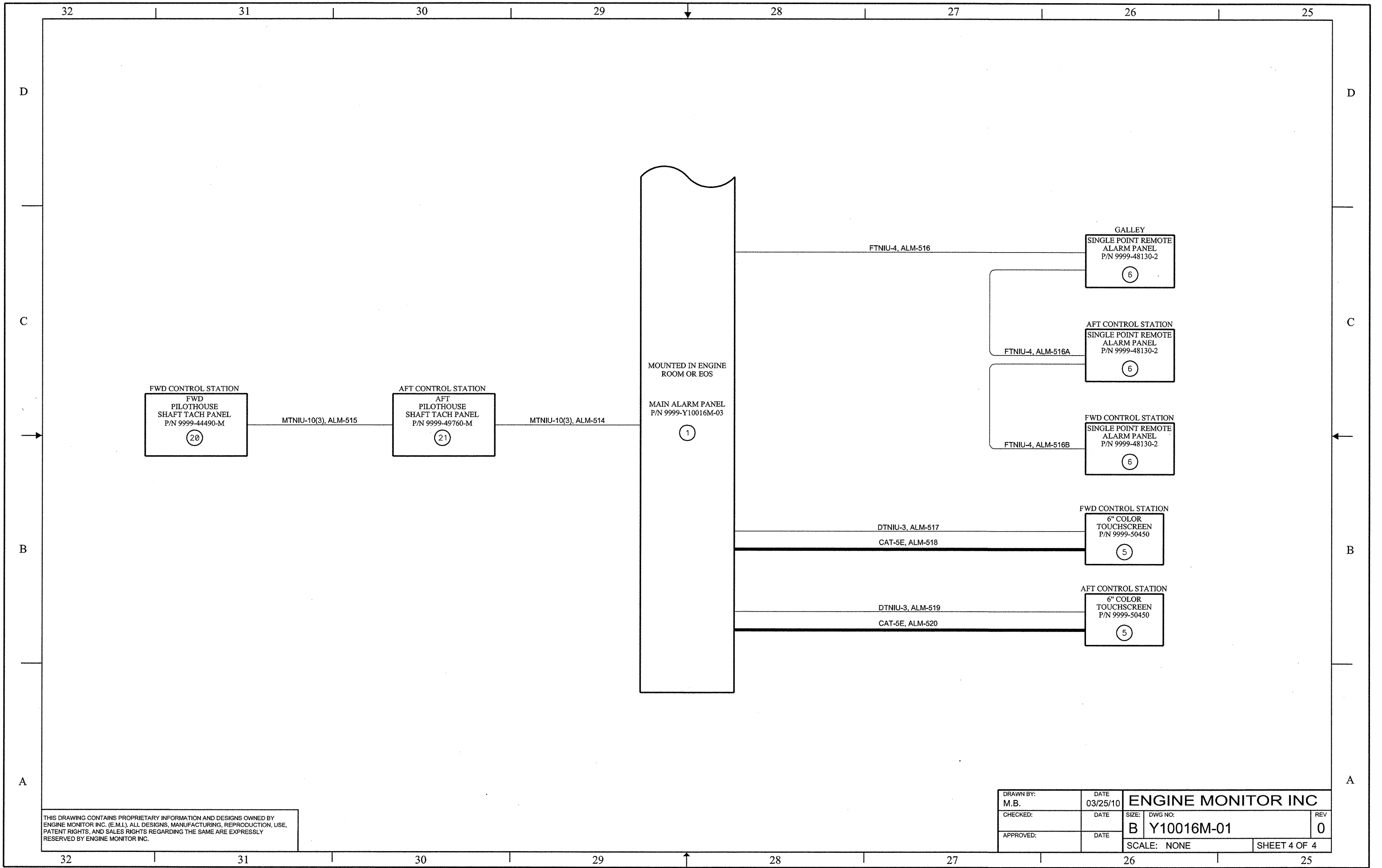
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- | | | |
|--|---|---|
| <ul style="list-style-type: none"> 16 STEERING COMPARTMENT HIGH BILGE ALM-300, DTNIU-3 16 AFT VOID HIGH BILGE ALM-301, DTNIU-3 16 PORT ENGINE ROOM HIGH BILGE ALM-302, DTNIU-3 16 STBD ENGINE ROOM HGH BILGE ALM-303, DTNIU-3 16 TANK ROOM HIGH BILGE ALM-304, DTNIU-3 16 GALLEY HIGH BILGE ALM-305, DTNIU-3 16 FWD VOID HIGH BILGE ALM-306, DTNIU-3 16 BOW THRUSTER HIGH BILGE ALM-307, DTNIU-3 16 FOREPEAK HIGH BILGE ALM-308, DTNIU-3 13 BOW THRUSTER BEARING HIGH TEMP ALM-350, DTNIU-3 * BOW THRUSTER HYDRAULIC UNIT FAILURE ALM-351, DTNIU-3 12 LOW STARTING AIR PRESSURE ALM-352, DTNIU-3 * ELEVATOR POWER FAILURE ALM-353, DTNIU-3 * GRAY WATER DISCHARGE PUMP RUNNING ALM-354, DTNIU-3 * BLACK WATER DISCHARGE PUMP RUNNING ALM-355, DTNIU-3 | <p>MOUNTED IN ENGINE ROOM OR EOS</p> <p>MAIN ALARM PANEL P/N 9999-Y10016M-03</p> <p>1</p> | <ul style="list-style-type: none"> 14 FWD FUEL TANK HIGH LEVEL ALM-320, DTNIU-3 14 FWD FUEL TANK LOW LEVEL ALM-321, DTNIU-3 14 AFT FUEL TANK HIGH LEVEL ALM-322, DTNIU-3 14 AFT FUEL TANK LOW LEVEL ALM-323, DTNIU-3 14 PORT POTABLE WATER LOW TANK LEVEL ALM-324, DTNIU-3 14 STBD POTABLE WATER LOW TANK LEVEL ALM-325, DTNIU-3 14 GRAY WATER TANK HIGH LEVEL ALM-326, DTNIU-3 14 BLACK WATER TANK HIGH LEVEL ALM-327, DTNIU-3 14 MSD HIGH LEVEL ALM-328, DTNIU-3 17 18 STEERING COMPARTMENT W.T. DOOR ALM-340, DTNIU-3 17 18 AFT ENGINE ROOM W.T. DOOR ALM-341, DTNIU-3 17 18 STBD ENGINE ROOM W.T. DOOR ALM-342, DTNIU-3 17 18 FWD TANK ROOM W.T. DOOR ALM-343, DTNIU-3 17 18 FWD CREW QUARTERS W.T. DOOR ALM-344, DTNIU-3 17 18 BT COMP W.T. DOOR ALM-345, DTNIU-3 |
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| CHECKED: | DATE | SIZE: B | DWG NO: Y10016M-01 |
| APPROVED: | DATE | SCALE: NONE | REV: 0 |
| | | SHEET 3 OF 4 | |



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|-------------------|------------------|--------------------------------------|-----------------|
| DRAWN BY: M.B. | DATE 03/25/10 | ENGINE MONITOR INC | |
| CHECKED: | DATE | SIZE: DWG NO: B Y10016M-01 | REV 0 |
| APPROVED: | DATE | SCALE: NONE | SHEET 4 OF 4 |

GENERAL NOTES

1 SHIPBOARD CABLING IS TO BE IN ACCORDANCE WITH IEEE 45 "RECOMMENDED PRACTICES FOR ELECTRICAL INSTALLATIONS ON SHIPBOARD".

2 DASHED LINES INDICATE SUPPLIED BY OTHERS.

3 ALL ETHERNET TERMINATIONS TO BE PERFORMED BY EMI PERSONNEL

| REVISIONS | | | | | |
|-----------|------|------|-------------|------|----|
| REV | ZONE | ITEM | DESCRIPTION | DATE | BY |
| | | | | | |

| COLOR CODE TABLE | | | |
|------------------|------------|------------|------------|
| COND. | BASE COLOR | 1ST TRACER | 2ND TRACER |
| 1 | BLACK | | |
| 2 | WHITE | | |
| 3 | RED | | |
| 4 | GREEN | | |
| 5 | ORANGE | | |
| 6 | BLUE | | |
| 7 | WHITE | BLACK | |
| 8 | RED | BLACK | |
| 9 | GREEN | BLACK | |
| 10 | ORANGE | BLACK | |
| 11 | BLUE | BLACK | |
| 12 | BLACK | WHITE | |
| 13 | RED | WHITE | |
| 14 | GREEN | WHITE | |
| 15 | BLUE | WHITE | |
| 16 | BLACK | RED | |
| 17 | WHITE | RED | |
| 18 | ORANGE | RED | |
| 19 | BLUE | RED | |
| 20 | RED | GREEN | |
| 21 | ORANGE | GREEN | |
| 22 | BLACK | WHITE | RED |
| 23 | WHITE | BLACK | RED |
| 24 | RED | BLACK | WHITE |
| 25 | GREEN | BLACK | WHITE |
| 26 | ORANGE | BLACK | WHITE |
| 27 | BLUE | BLACK | WHITE |
| 28 | BLACK | RED | GREEN |
| 29 | WHITE | RED | GREEN |
| 30 | RED | BLACK | GREEN |
| 31 | GREEN | BLACK | ORANGE |
| 32 | ORANGE | BLACK | GREEN |
| 33 | BLUE | WHITE | ORANGE |
| 34 | BLACK | WHITE | ORANGE |
| 35 | WHITE | RED | ORANGE |
| 36 | ORANGE | WHITE | BLUE |
| 37 | WHITE | RED | BLUE |
| 38 | BROWN | | |
| 39 | BROWN | BLACK | |
| 40 | BROWN | WHITE | |
| 41 | BROWN | RED | |
| 42 | BROWN | GREEN | |
| 43 | BROWN | ORANGE | |
| 44 | BROWN | BLUE | |

| TWISTED PAIR COLOR CODE TABLE | | | | | |
|-------------------------------|------------|-------|--------------------------|------------|------------|
| COND. | BASE COLOR | COND. | BASE COLOR | 1ST TRACER | 2ND TRACER |
| 1 | WHITE | 1A | BLACK | | |
| 2 | WHITE | 2A | WHITE W/BLACK DASH MARKS | | |
| 3 | WHITE | 3A | RED | | |
| 4 | WHITE | 4A | GREEN | | |
| 5 | WHITE | 5A | ORANGE | | |
| 6 | WHITE | 6A | BLUE | | |
| 7 | WHITE | 7A | WHITE | BLACK | |
| 8 | WHITE | 8A | RED | BLACK | |
| 9 | WHITE | 9A | GREEN | BLACK | |
| 10 | WHITE | 10A | ORANGE | BLACK | |
| 11 | WHITE | 11A | BLUE | BLACK | |
| 12 | WHITE | 12A | BLACK | WHITE | |
| 13 | WHITE | 13A | RED | WHITE | |
| 14 | WHITE | 14A | GREEN | WHITE | |
| 15 | WHITE | 15A | BLUE | WHITE | |
| 16 | WHITE | 16A | BLACK | RED | |
| 17 | WHITE | 17A | WHITE | RED | |
| 18 | WHITE | 18A | ORANGE | RED | |
| 19 | WHITE | 19A | BLUE | RED | |
| 20 | WHITE | 20A | RED | GREEN | |
| 21 | WHITE | 21A | ORANGE | GREEN | |
| 22 | WHITE | 22A | BLACK | WHITE | RED |
| 23 | WHITE | 23A | WHITE | BLACK | RED |
| 24 | WHITE | 24A | RED | BLACK | WHITE |
| 25 | WHITE | 25A | GREEN | BLACK | WHITE |
| 26 | WHITE | 26A | ORANGE | BLACK | WHITE |
| 27 | WHITE | 27A | BLUE | BLACK | WHITE |
| 28 | WHITE | 28A | BLACK | RED | GREEN |
| 29 | WHITE | 29A | WHITE | RED | GREEN |
| 30 | WHITE | 30A | RED | BLACK | GREEN |
| 31 | WHITE | 31A | GREEN | BLACK | ORANGE |
| 32 | WHITE | 32A | ORANGE | BLACK | GREEN |

| CAT5e PINOUT (EIA 568A) | | |
|-------------------------|-------------------|--------|
| PIN # | WIRE COLOR LEGEND | SIGNAL |
| 1 | WHITE/GREEN | TX+ |
| 2 | GREEN | TX- |
| 3 | WHITE/ORANGE | RX+ |
| 4 | BLUE | TRD2+ |
| 5 | WHITE/BLUE | TRD2- |
| 6 | ORANGE | RX- |
| 7 | WHITE/BROWN | TRD3+ |
| 8 | BROWN | TRD3- |

| SYMBOL LEGEND | |
|---------------|------------------------------------|
| | NORMALLY CLOSED FLOAT SWITCH |
| | NORMALLY OPEN FLOAT SWITCH |
| | NORMALLY CLOSED TEMPERATURE SWITCH |
| | NORMALLY OPEN TEMPERATURE SWITCH |
| | NORMALLY CLOSED PRESSURE SWITCH |
| | NORMALLY OPEN PRESSURE SWITCH |
| | NORMALLY CLOSED FLOW SWITCH |
| | NORMALLY OPEN FLOW SWITCH |
| | NORMALLY CLOSED CONTACT |
| | NORMALLY OPEN CONTACT |
| | DIFFERENTIAL PRESSURE TRANSDUCER |
| | RESISTANCE TEMPERATURE DETECTOR |

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|---------------------------|----|----|----|----|----|----|----|----|----|----|---|---|---|---|---|---|---|---|---|
| 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| SHEET NO. | | | | | | | | | | | | | | | | | | | |
| REVISION STATUS OF SHEETS | | | | | | | | | | | | | | | | | | | |

| | | | |
|--------------------|-------------------|---|--------------------------|
| | | ORANGE SHIPBUILDING NORTH CAROLINA DOT M/V SILVERLAKE | |
| DRAWN BY: M.B. | DATE: 05/13/10 | MACHINERY ALARM SYSTEM SHIPYARD WIRING DIAGRAM | |
| QA: | DATE: | | |
| CHECKED: | DATE: | | |
| APPROVED: | DATE: | HULL NUMBER: N/A | QUOTE NUMBER: 10-016M |
| JOB NO. Y10016M | | SIZE: B | DWG NO.: Y10016M-02 |
| JOB NO. Y10016M | | SCALE: NONE | SHEET 1 OF 6 |
| REV: 0 | | | |

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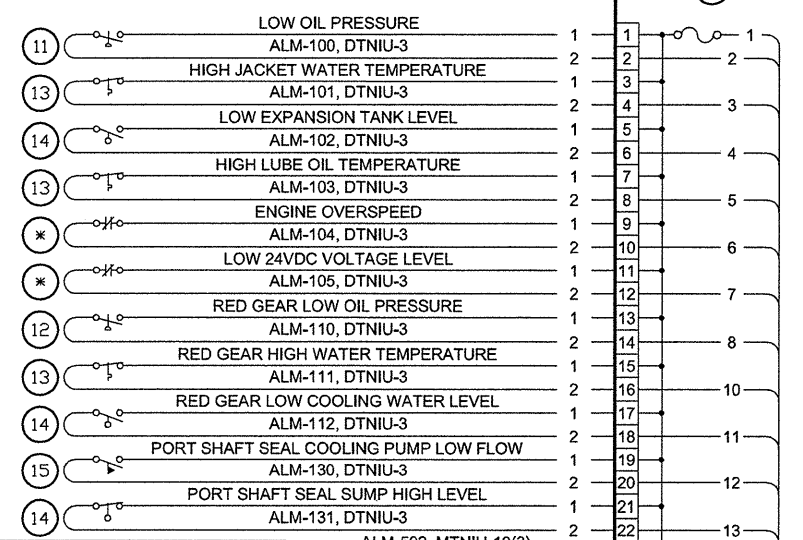
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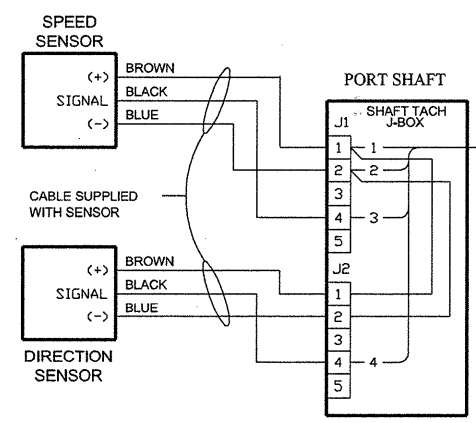
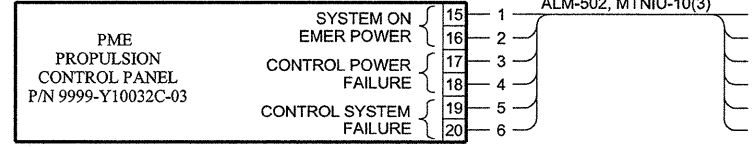
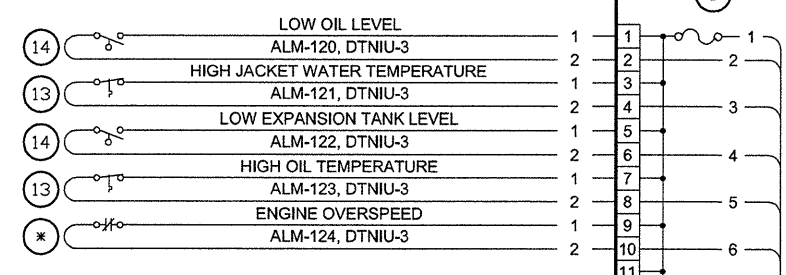
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9999-Y10016M-04
PORT MAIN ENGINE
JUNCTION BOX
②



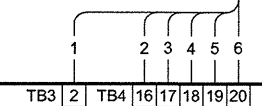
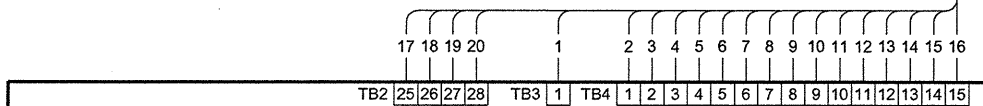
9999-Y10016M-05
PORT GENERATOR
JUNCTION BOX
③



PROXIMITY PICK-UP ASSEMBLY
P/N 9999-50090-11
⑰

ALM-500, MTNIU-24(3)

ALM-506, MTNIU-10(3)



MOUNTED IN ENGINE ROOM
MAIN ALARM PANEL
P/N 9999-Y10016M-03
(PARTIAL)
①

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| APPROVED: | DATE | SCALE: NONE | SHEET 2 OF 6 |

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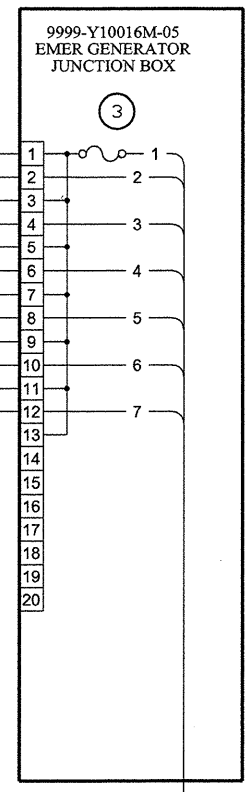
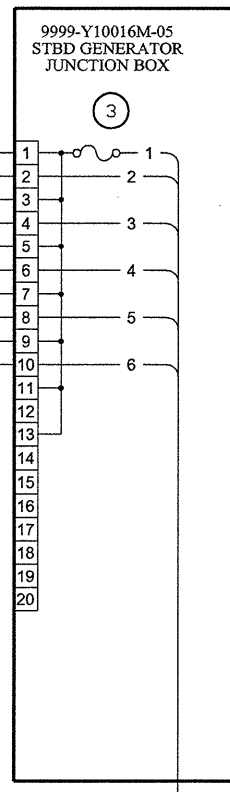
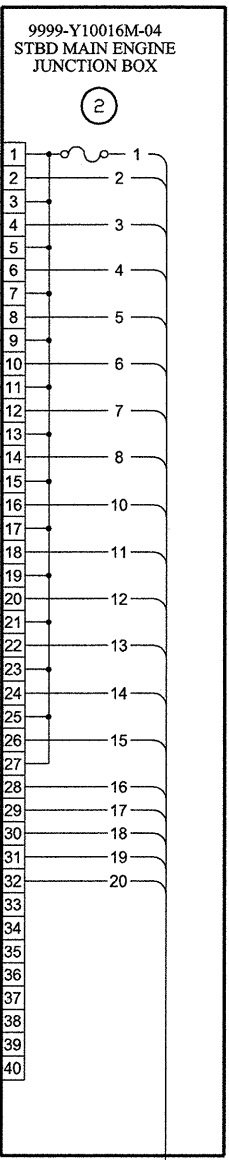
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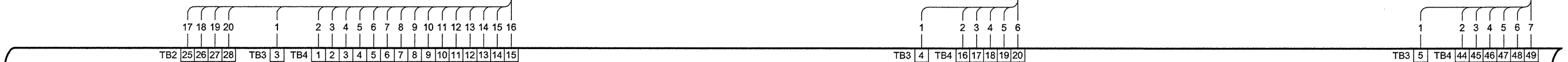
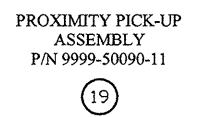
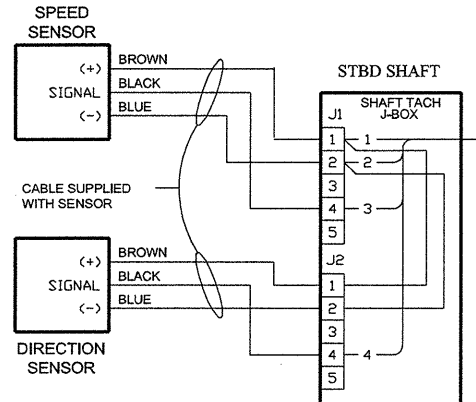
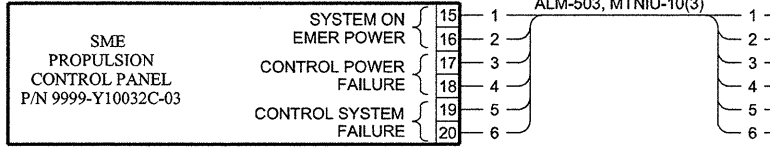
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- 11 LOW OIL PRESSURE ALM-200, DTNIU-3
- 13 HIGH JACKET WATER TEMPERATURE ALM-201, DTNIU-3
- 14 LOW EXPANSION TANK LEVEL ALM-202, DTNIU-3
- 13 HIGH LUBE OIL TEMPERATURE ALM-203, DTNIU-3
- * ENGINE OVERSPEED ALM-204, DTNIU-3
- * LOW 24VDC VOLTAGE LEVEL ALM-205, DTNIU-3
- 12 RED GEAR LOW OIL PRESSURE ALM-210, DTNIU-3
- 13 RED GEAR HIGH WATER TEMPERATURE ALM-211, DTNIU-3
- 14 RED GEAR LOW COOLING WATER LEVEL ALM-212, DTNIU-3
- 15 STBD SHAFT SEAL COOLING PUMP LOW FLOW ALM-230, DTNIU-3
- 14 STBD SHAFT SEAL SUMP HIGH LEVEL ALM-231, DTNIU-3

- 14 LOW OIL LEVEL ALM-220, DTNIU-3
- 13 HIGH JACKET WATER TEMPERATURE ALM-221, DTNIU-3
- 14 LOW EXPANSION TANK LEVEL ALM-222, DTNIU-3
- 13 HIGH OIL TEMPERATURE ALM-223, DTNIU-3
- * ENGINE OVERSPEED ALM-224, DTNIU-3

- 14 LOW OIL LEVEL ALM-150, DTNIU-3
- 13 HIGH JACKET WATER TEMPERATURE ALM-151, DTNIU-3
- 13 HIGH OIL TEMPERATURE ALM-152, DTNIU-3
- * ENGINE OVERSPEED ALM-153, DTNIU-3
- 14 LOW FUEL TANK LEVEL ALM-154, DTNIU-3
- 14 HIGH FUEL TANK LEVEL ALM-155, DTNIU-3



MOUNTED IN ENGINE ROOM
MAIN ALARM PANEL
P/N 9999-Y10016M-03
(PARTIAL)

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| DRAWN BY: M.B. | DATE 05/13/10 | ENGINE MONITOR INC | |
| CHECKED: | DATE | SIZE: DWG NO: B Y10016M-02 | REV 0 |
| APPROVED: | DATE | SCALE: NONE | SHEET 3 OF 6 |

32 31 30 29 28 27 26 25

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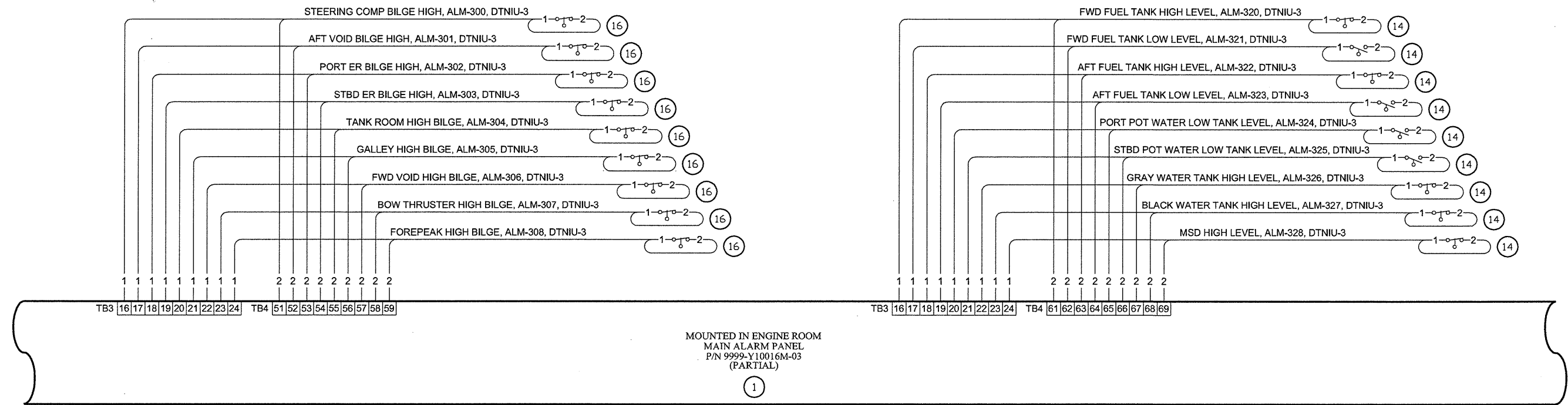
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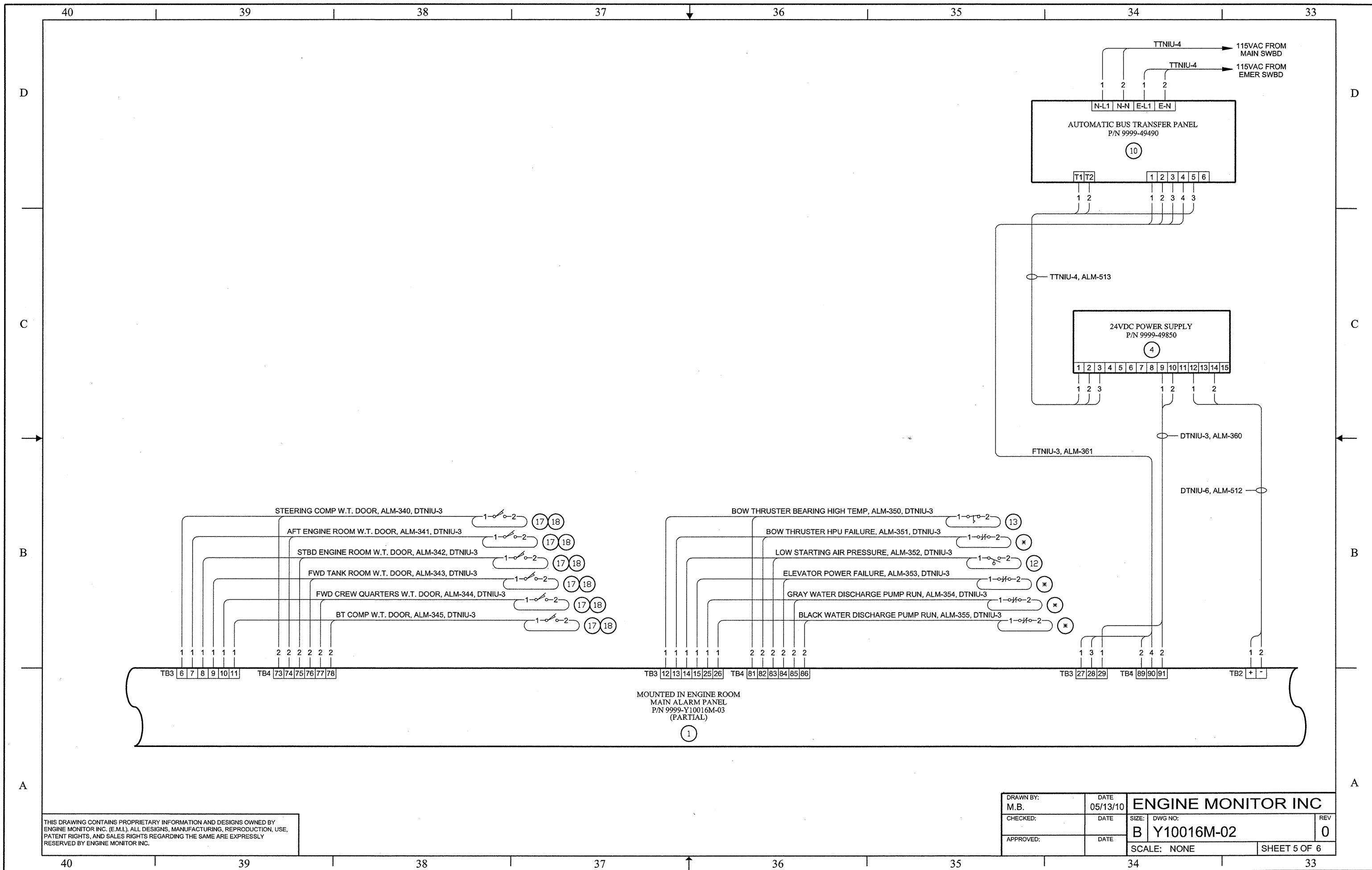
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| | | | SHEET 4 OF 6 |

32 31 30 29 28 27 26 25



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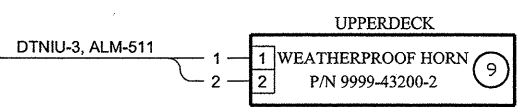
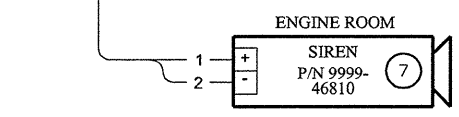
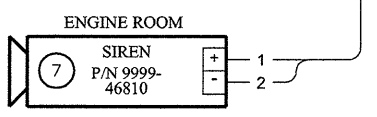
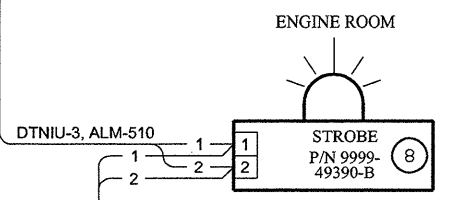
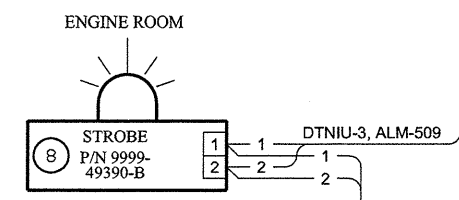
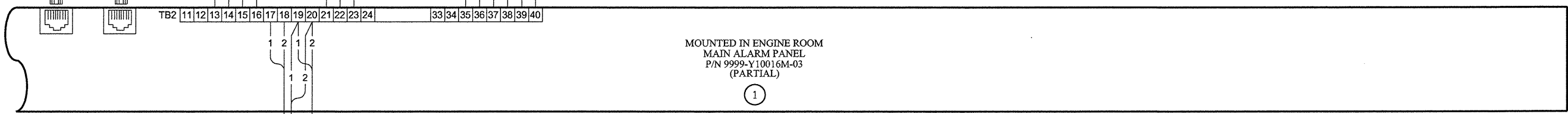
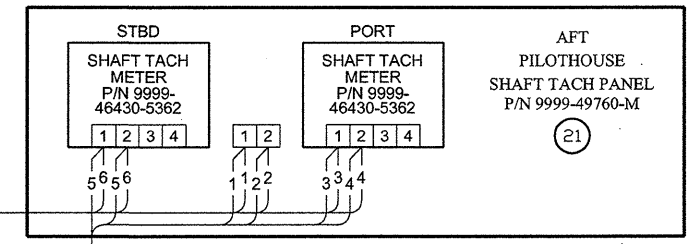
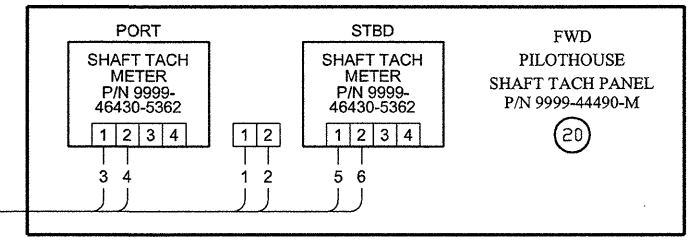
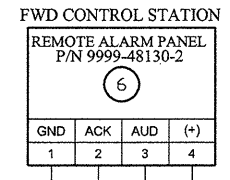
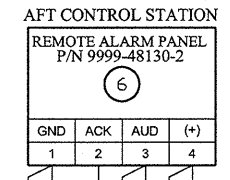
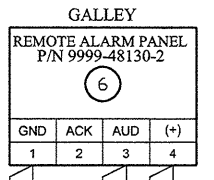
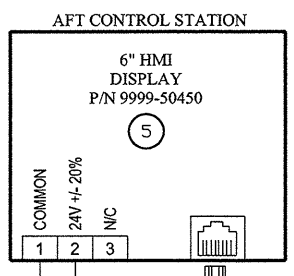
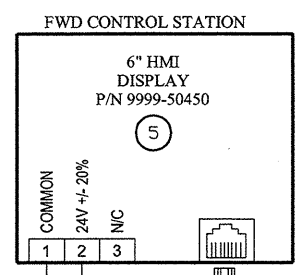
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| DRAWN BY: M.B. | DATE 05/13/10 | ENGINE MONITOR INC | |
| CHECKED: | DATE | SIZE: DWG NO: B Y10016M-02 | REV 0 |
| APPROVED: | DATE | SCALE: NONE | SHEET 5 OF 6 |

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| CHECKED: | DATE | SIZE: B | DWG NO: Y10016M-02 |
| APPROVED: | DATE | SCALE: NONE | REV: 0 |
| | | SHEET 6 OF 6 | |

GENERAL NOTES

1 IP ADDRESSES
ETHERNET CONTROLLER: 192.168.1.1
10" TOUCHSCREEN: 192.168.1.2

2 BOTTOM ROW MARKERS ARE LOCATED IN THE BASE MODULE UNDER THE REMOVABLE CONNECTOR (SEE SHEET 5).


| SOFTWARE USED | | |
|---------------|-------------|------------------|
| ITEM | DESCRIPTION | FILENAME |
| 1 | PLC PROGRAM | Y10016M_03_PLC_0 |
| 2 | HMI PROGRAM | Y10016M_03_HMI_0 |

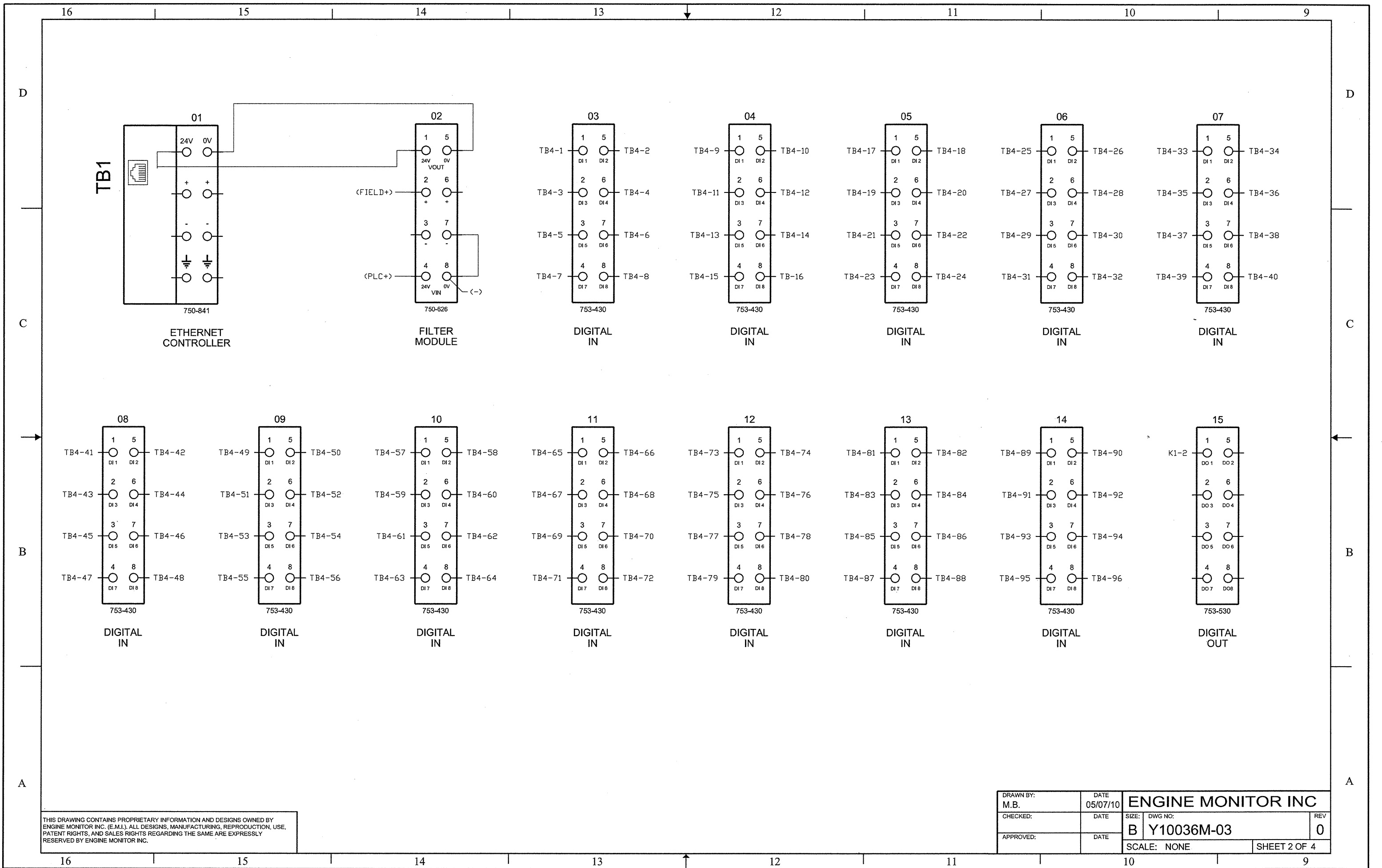
| BILL OF MATERIAL | | | | | |
|------------------|--------|--|--------------|-----------------|----------|
| ITEM | QTY | DESCRIPTION | EMI P/N | MFR P/N | MFR |
| 1 | 1 | ENCLOSURE, 30 X 24 X 8 | 1400-00174 | A302408LP | HOFFMAN |
| 2 | 1 | BACKPLATE | 1400-00174A | A30P24 | HOFFMAN |
| 3 | 1 | INDUSTRIAL ETHERNET SWITCH | 2000-00454 | 105TX | N-TRON |
| 4 | 1 | ETHERNET TCP/IP FIELDBUS PROGRAMMABLE CONTROLLER | 2000-00372 | 750-841 | WAGO |
| 5 | 1 | FILTER MODULE | 2000-00418 | 750-626 | WAGO |
| 6 | 12 | DIGITAL INPUT MODULE, 8 CHANNEL, 24VDC | 2000-00462 | 753-430 | WAGO |
| 7 | 1 | DIGITAL OUTPUT MODULE, 8 CHANNEL, 24VDC | 2000-00463 | 753-530 | WAGO |
| 8 | 1 | END MODULE | 2000-00377 | 750-800 | WAGO |
| 9 | 13 | REMOVABLE MODULE CONNECTOR | 2000-00461 | 753-110 | WAGO |
| 10 | 2 | TERMINAL MARKER, 01-49 | 2100-00746 | 247-523 | WAGO |
| 11 | 1 | 10" TOUCHPANEL | 9999-50440 | 9999-50440 | EMI |
| 12 | 72.00" | DIN-RAIL | 2100-00465 | 0801733 | PHOENIX |
| 13 | 166 | FEEDTHROUGH TERMINAL BLOCK | 2100-00648 | 281-681 | WAGO |
| 14 | 5 | ENDPLATE, TERMINAL | 2100-00698 | 281-324 | WAGO |
| 15 | 3 | TERMINAL MARKER, 1-50 | 2100-00497 | 209-566 | WAGO |
| 16 | 1 | TERMINAL MARKER, 51-100 | 2100-00498 | 209-507 | WAGO |
| 17 | 10 | END STOP | 2100-00576 | 249-117 | WAGO |
| 18 | 6 | TERMINAL POST | 2100-00577 | 249-119 | WAGO |
| 19 | 10 | FUSE HOLDERS W/LED | 4300-00217 | 282-128/281-413 | WAGO |
| 20 | 1 | ENDPLATE, FUSE | 2100-00589 | 282-311 | WAGO |
| 21 | 1 | FUSE MARKER, F1-F10 | 2100-00573 | 209-787 | WAGO |
| 22 | 6 | FUSE, 2 AMP | 4300-00011 | ABC-2 | BUSSMAN |
| 23 | 4 | FUSE, 1 AMP | 4300-00002 | ABC-1 | BUSSMAN |
| 24 | 1 | POWER TERMINAL BLOCK | 2100-00702 | 283-601 | WAGO |
| 25 | 1 | ENDPLATE, POWER TERMINAL | 2100-00703 | 283-316 | WAGO |
| 26 | 1 | TERMINAL MARKER, +/- | 2100-00608 | 793-552 | WAGO |
| 27 | 1 | RELAY, 8 PIN 24VDC | 4500-00002 | 27E122 | P&B |
| 28 | 1 | RELAY SOCKET, 8 PIN | 4500-00161 | 27E891 | TURCK |
| 29 | 1 | DIODE | 4800-00002 | 1N4001 | MOTOROLA |
| 30 | 1 | CIRCUIT BREAKER, 20 AMP | 4300-00239 | S201-C20 | ENTRELEC |
| 31 | 2 | SHAFT TACH PCB, 24VDC INPUT, +/-10V OUTPUT | 9999-48340-4 | 9999-48340-4 | EMI |

| REVISIONS | | | | | |
|-----------|------|------|-------------|------|----|
| REV | ZONE | ITEM | DESCRIPTION | DATE | BY |
| | | | | | |

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|---------------------------|----|----|----|----|----|----|----|----|----|----|---|---|---|---|---|---|---|---|---|
| 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| SHEET NO. | | | | | | | | | | | | | | | | | | | |
| REVISION STATUS OF SHEETS | | | | | | | | | | | | | | | | | | | |

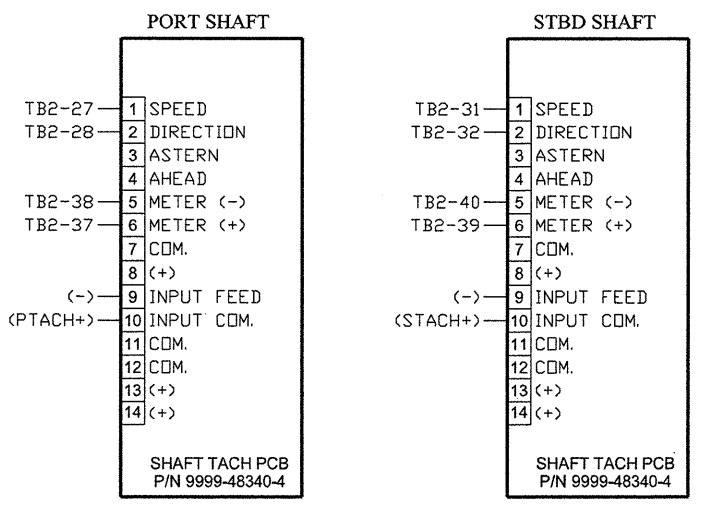
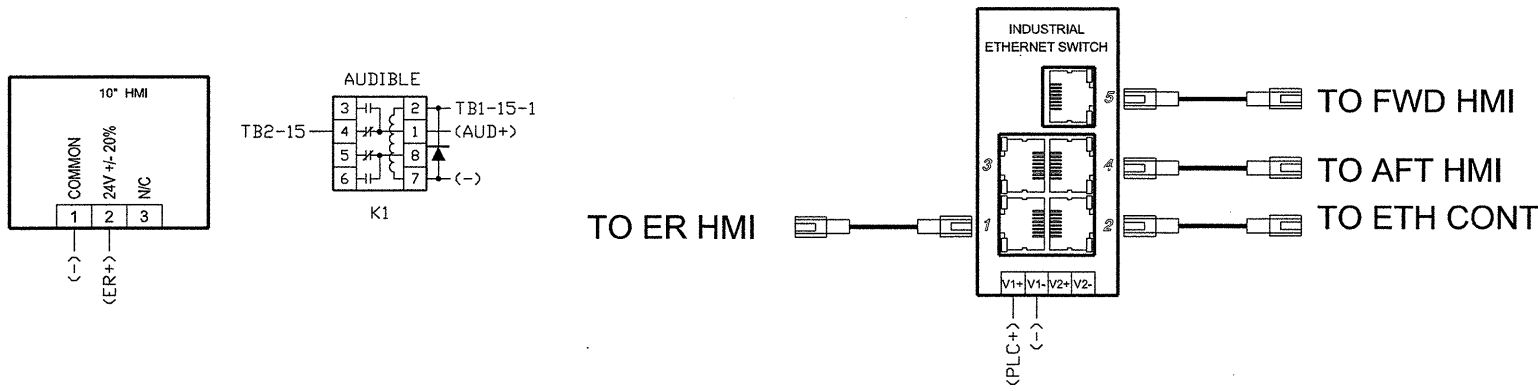
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|---|--|---|--------|
|  www.emi-marine.com 181 WEST JAMES DRIVE ST. ROSE, LA 70087 | | ORANGE SHIPBUILDING NORTH CAROLINA DOT M/V SILVERLAKE | |
| DRAWN BY: M.B. | | DATE: 05/06/10 | |
| QA: | | DATE: | |
| CHECKED: | | DATE: | |
| APPROVED: | | DATE: | |
| HULL NUMBER: N/A | | QUOTE NUMBER: 10-016M | |
| JOB NO. Y10016M | | FSCM NO. 63544 | |
| SIZE: B | | DWG NO: Y10016M-03 | |
| SCALE: NONE | | SHEET 1 OF 4 | |
| REV: 0 | | | REV: 0 |



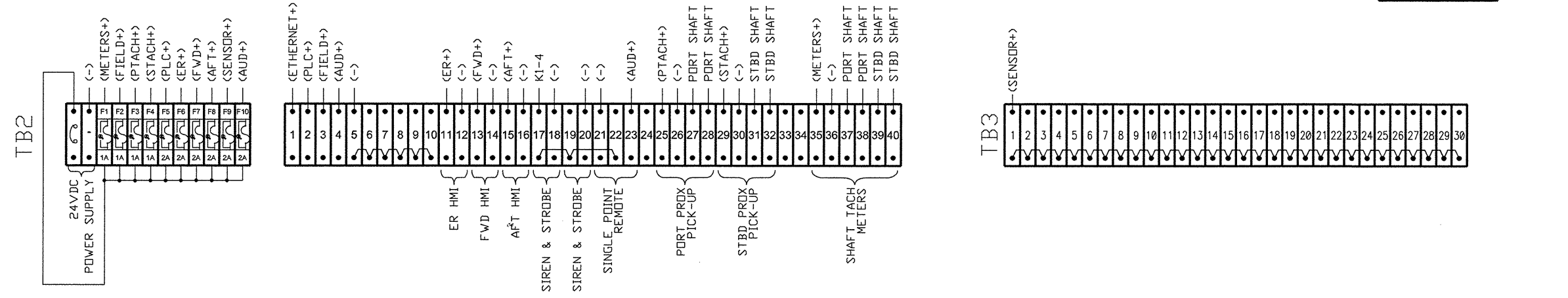
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| | | | |
|-------------------|------------------|---------------------------|-----------------------|
| DRAWN BY: M.B. | DATE 05/07/10 | ENGINE MONITOR INC | |
| CHECKED: | DATE | SIZE: B | DWG NO: Y10036M-03 |
| APPROVED: | DATE | SCALE: NONE | REV 0 |
| | | | SHEET 2 OF 4 |

D



C



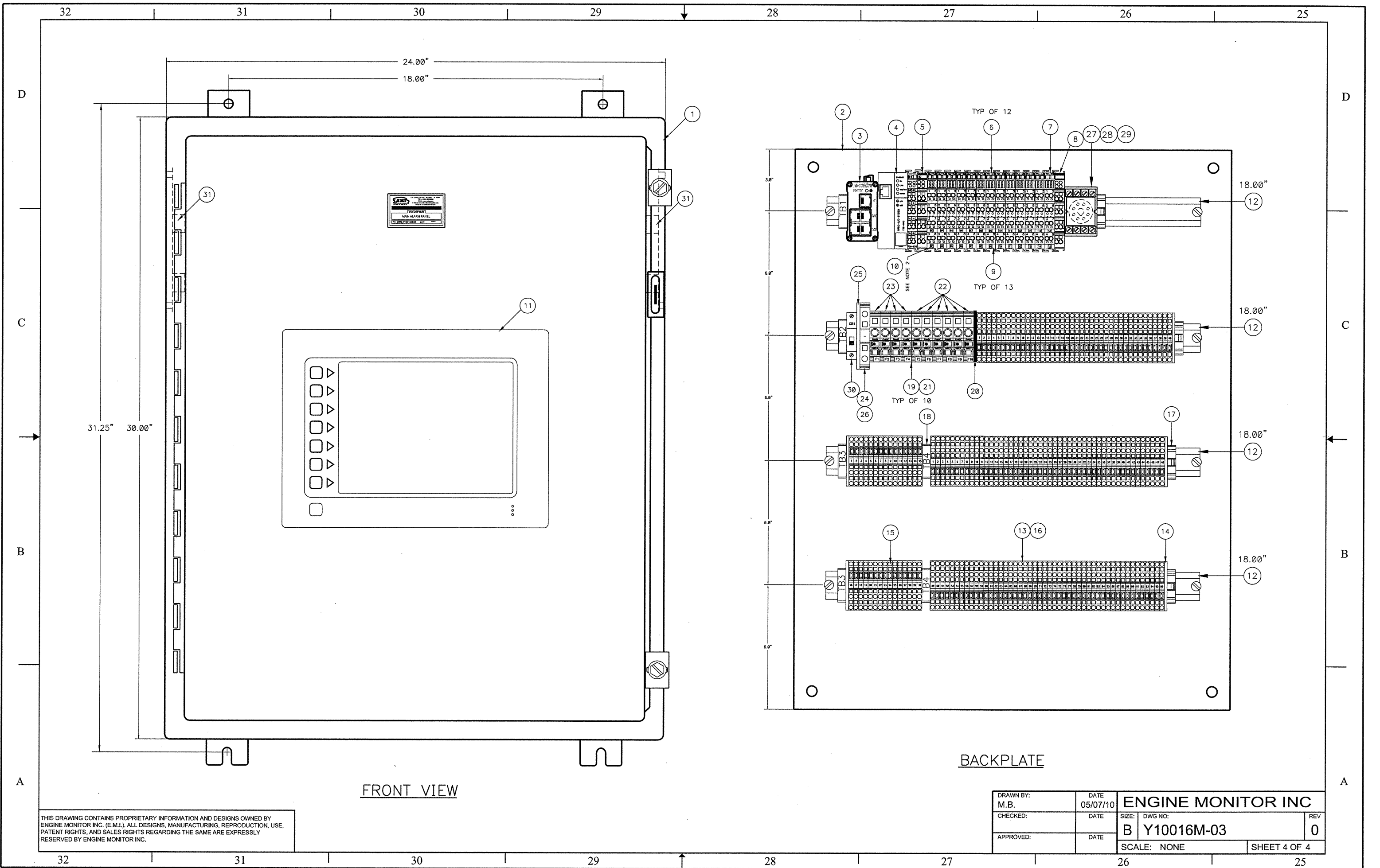
B

| Terminal | Description |
|----------|---------------------------------------|
| TB4-1 | PME LOW OIL PRESS |
| TB4-2 | PME HIGH JACKET WATER TEMP |
| TB4-3 | PME LOW EXP TANK LEVEL |
| TB4-4 | PME HIGH LUBE OIL TEMP |
| TB4-5 | PME ENGINE OVERSPEED |
| TB4-6 | PME LOW 24VDC |
| TB4-7 | PRG LOW OIL PRESS |
| TB4-8 | PRG HIGH WATER TEMP |
| TB4-9 | PRG LOW COOLING WATER LEVEL |
| TB4-10 | PORT SHAFT SEAL COOLING PUMP LOW FLOW |
| TB4-11 | PORT SHAFT SEAL SUMP HIGH LEVEL |
| TB4-12 | PME PROP CONTROL ON EMER 24VDC |
| TB4-13 | PME PROP CONTROL POWER FAILURE |
| TB4-14 | PME PROP CONTROL SYSTEM FAILURE |
| TB4-15 | PORT GEN LOW OIL LEVEL |
| TB4-16 | PORT GEN HIGH JACKET WATER TEMP |
| TB4-17 | PORT GEN LOW EXP TANK LEVEL |
| TB4-18 | PORT GEN HIGH OIL TEMP |
| TB4-19 | PORT GEN ENGINE OVERSPEED |
| TB4-20 | SPARE |
| TB4-21 | SPARE |
| TB4-22 | SPARE |
| TB4-23 | SPARE |
| TB4-24 | SPARE |
| TB4-25 | SME LOW OIL PRESS |
| TB4-26 | SME HIGH JACKET WATER TEMP |
| TB4-27 | SME LOW EXP TANK LEVEL |
| TB4-28 | SME HIGH LUBE OIL TEMP |
| TB4-29 | SME ENGINE OVERSPEED |
| TB4-30 | SME LOW 24VDC |
| TB4-31 | SRG LOW OIL PRESS |
| TB4-32 | SRG HIGH WATER TEMP |
| TB4-33 | SRG LOW COOLING WATER LEVEL |
| TB4-34 | STBD SHAFT SEAL COOLING PUMP LOW FLOW |
| TB4-35 | STBD SHAFT SEAL SUMP HIGH LEVEL |
| TB4-36 | SME PROP CONTROL ON EMER 24VDC |
| TB4-37 | SME PROP CONTROL POWER FAILURE |
| TB4-38 | SME PROP CONTROL SYSTEM FAILURE |
| TB4-39 | STBD GEN LOW OIL LEVEL |
| TB4-40 | STBD GEN HIGH JACKET WATER TEMP |
| TB4-41 | STBD GEN LOW EXP TANK LEVEL |
| TB4-42 | STBD GEN HIGH OIL TEMP |
| TB4-43 | STBD GEN ENGINE OVERSPEED |
| TB4-44 | EMER GEN LOW OIL LEVEL |
| TB4-45 | EMER GEN HIGH JACKET WATER TEMP |
| TB4-46 | EMER GEN HIGH OIL TEMP |
| TB4-47 | EMER GEN ENGINE OVERSPEED |
| TB4-48 | EMER GEN LOW FUEL TANK LEVEL |
| TB4-49 | EMER GEN HIGH FUEL TANK LEVEL |
| TB4-50 | STEERING COMP HIGH BILGE |
| TB4-51 | AFT VOID HIGH BILGE |
| TB4-52 | PORT ER HIGH BILGE |
| TB4-53 | STBD ER HIGH BILGE |
| TB4-54 | TANK ROOM HIGH BILGE |
| TB4-55 | GALLEY HIGH BILGE |
| TB4-56 | FWD VOID HIGH BILGE |
| TB4-57 | BOW THRUSTER HIGH BILGE |
| TB4-58 | FOREPEAK HIGH BILGE |
| TB4-59 | SPARE |
| TB4-60 | FWD FUEL TANK HIGH LEVEL |
| TB4-61 | FWD FUEL TANK LOW LEVEL |
| TB4-62 | AFT FUEL TANK HIGH LEVEL |
| TB4-63 | AFT FUEL TANK LOW LEVEL |
| TB4-64 | PORT POTABLE WATER TANK LEVEL LOW |
| TB4-65 | PORT POTABLE WATER TANK LEVEL HIGH |
| TB4-66 | STBD POTABLE WATER TANK LEVEL LOW |
| TB4-67 | STBD POTABLE WATER TANK LEVEL HIGH |
| TB4-68 | GRAY WATER TANK HIGH LEVEL |
| TB4-69 | BLACK WATER TANK HIGH LEVEL |
| TB4-70 | MSD HIGH LEVEL |
| TB4-71 | SPARE |
| TB4-72 | STEERING COMP WT DOOR |
| TB4-73 | AFT ER WT DOOR |
| TB4-74 | STBD ER WT DOOR |
| TB4-75 | FWD TANK ROOM WT DOOR |
| TB4-76 | FWD CREW QUARTERS WT DOOR |
| TB4-77 | BT COMP WT DOOR |
| TB4-78 | SPARE |
| TB4-79 | SPARE |
| TB4-80 | BOW THR BEARING HIGH TEMP |
| TB4-81 | BOW THR HYD UNIT FAILURE |
| TB4-82 | LOW STARTING AIR PRESS |
| TB4-83 | ELEVATOR POWER FAILURE |
| TB4-84 | GRAY WATER DISCHARGE PUMP RUNNING |
| TB4-85 | BLACK WATER DISCHARGE PUMP RUNNING |
| TB4-86 | SPARE |
| TB4-87 | SPARE |
| TB4-88 | SYSTEM ON NORMAL AC POWER |
| TB4-89 | SYSTEM ON ER AC POWER |
| TB4-90 | SYSTEM ON BATTERY |
| TB4-91 | SPARE |
| TB4-92 | SPARE |
| TB4-93 | SPARE |
| TB4-94 | SPARE |
| TB4-95 | SPARE |
| TB4-96 | SPARE |

A

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| DRAWN BY: M.B. | DATE 05/06/10 | ENGINE MONITOR INC | |
| CHECKED: | DATE | SIZE: B | DWG NO: Y10016M-03 |
| APPROVED: | DATE | SCALE: NONE | REV 0 |
| | | | SHEET 3 OF 4 |



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| CHECKED: | DATE | SIZE: DWG NO: B Y10016M-03 | REV 0 |
| APPROVED: | DATE | SCALE: NONE | SHEET 4 OF 4 |

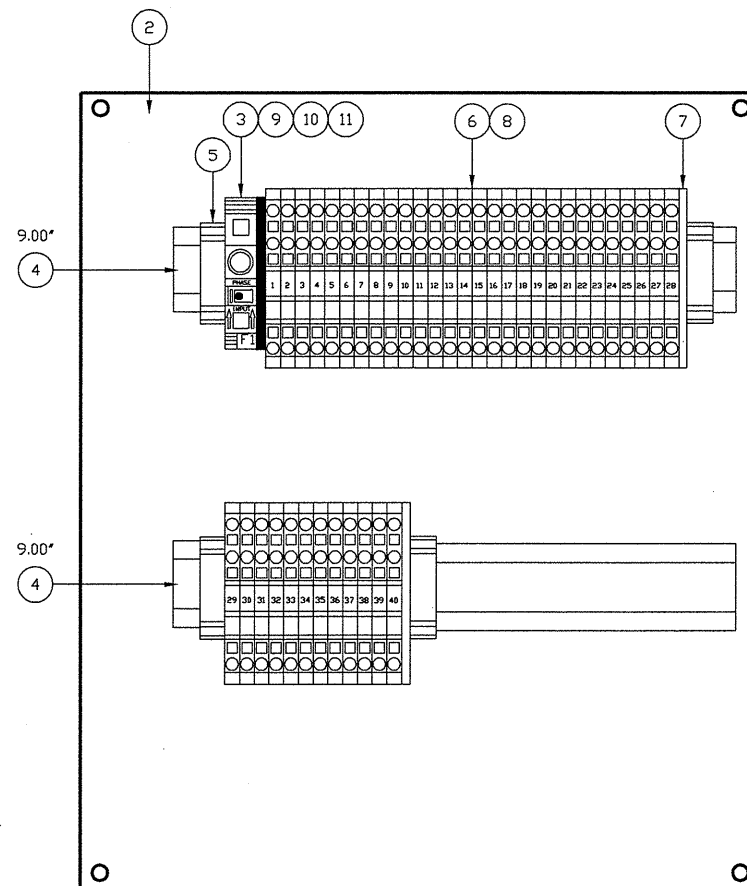
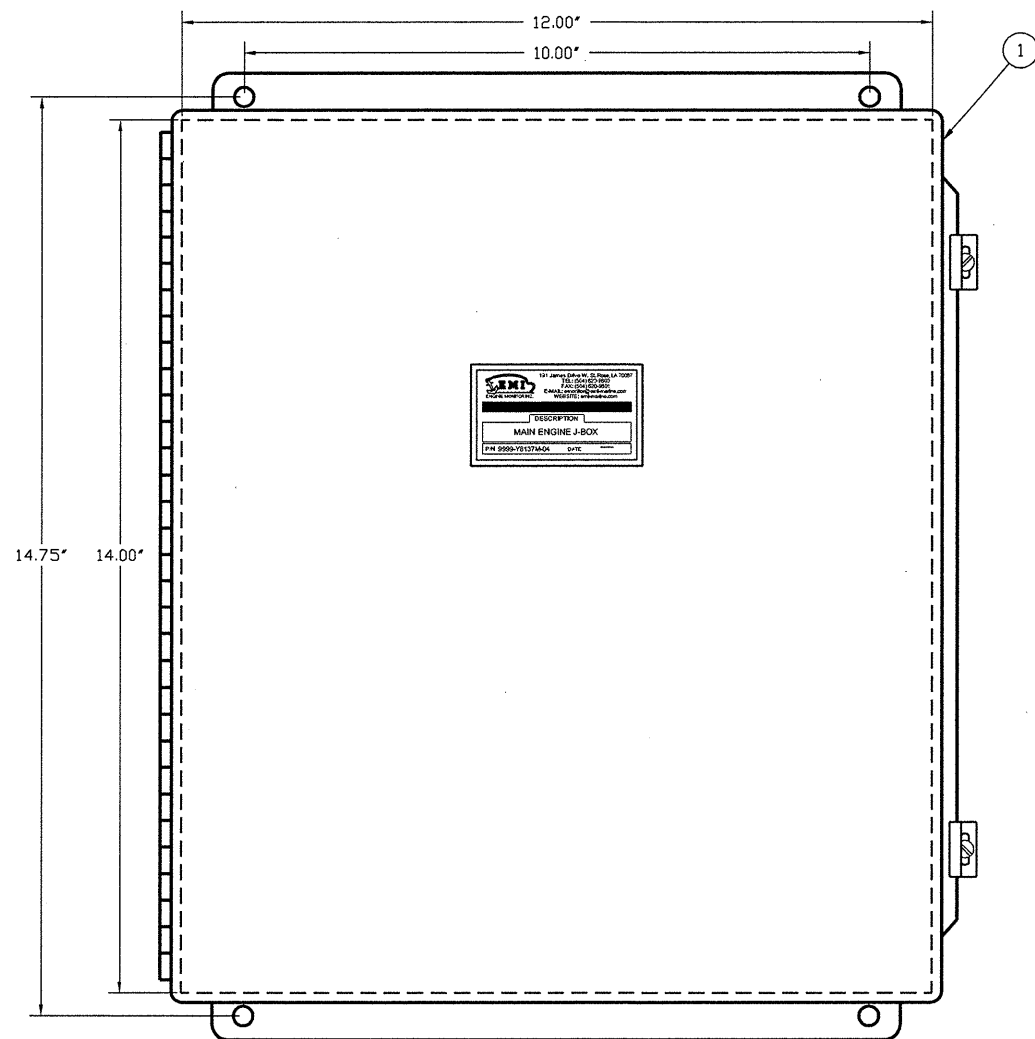
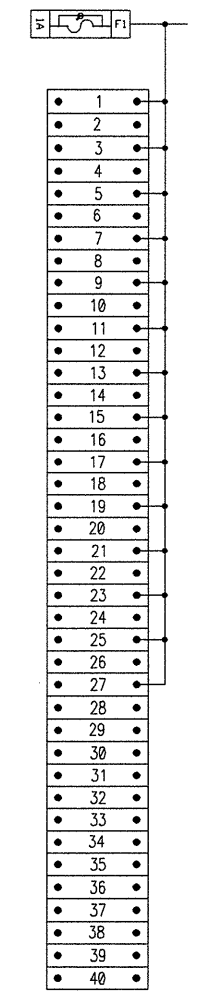
GENERAL NOTES

BILL OF MATERIAL

REVISIONS

| ITEM | QTY | DESCRIPTION | EMI P/N | MFR P/N | MFR |
|------|--------|------------------------------------|-------------|-----------------|---------|
| 1 | 1 | ENCLOSURE, 14" X 12" X 6" | 1400-00007 | A-1412CH | HOFFMAN |
| 2 | 1 | BACKPLATE | 1400-00007A | A-14P12 | HOFFMAN |
| 3 | 1 | FUSE, 1 AMP | 4300-00002 | ABC-1 | BUSSMAN |
| 4 | 18.00" | DIN RAIL | 2100-00465 | 0801733 | PHOENIX |
| 5 | 4 | END STOP | 2100-00576 | 249-117 | WAGO |
| 6 | 40 | FEEDTHROUGH TERMINAL BLOCK, 3 WIRE | 2100-00648 | 281-681 | WAGO |
| 7 | 2 | END PLATE, TERMINAL | 2100-00698 | 281-324 | WAGO |
| 8 | 1 | TERMINAL MARKER, 1-50 | 2100-00497 | 209-566 | WAGO |
| 9 | 1 | FUSE HOLDER WITH LED, DC | 4300-00217 | 282-128/281-413 | WAGO |
| 10 | 1 | END PLATE, FUSE | 2100-00589 | 282-311 | WAGO |
| 11 | 1 | TERMINAL MARKER, F1-F10 | 2100-00768 | 51226694 | WAGO |

| REV | ZONE | ITEM | DESCRIPTION | DATE | BY |
|-----|------|------|-------------|------|----|
| | | | | | |



BACKPLATE

FRONT VIEW

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|---------------------------|----|----|----|----|----|----|----|----|----|----|---|---|---|---|---|---|---|---|---|---|
| 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| SHEET NO. | | | | | | | | | | | | | | | | | | | | |
| REVISION STATUS OF SHEETS | | | | | | | | | | | | | | | | | | | | |

| | | | |
|---------------------|--------------------------|---|-----------------------|
| | | ORANGE SHIPBUILDING NORTH CAROLINA DOT M/V SILVERLAKE | |
| DRAWN BY: M.B. | | DATE: 05/07/10 | |
| QA: | | DATE: | |
| CHECKED: | | DATE: | |
| APPROVED: | | DATE: | |
| HULL NUMBER: N/A | QUOTE NUMBER: 10-016M | SIZE: B | DWG NO: Y10016M-04 |
| JOB NO. Y10016M | FSCM NO. 63544 | SCALE: NONE | REV 0 |
| | | SHEET 1 OF 1 | |

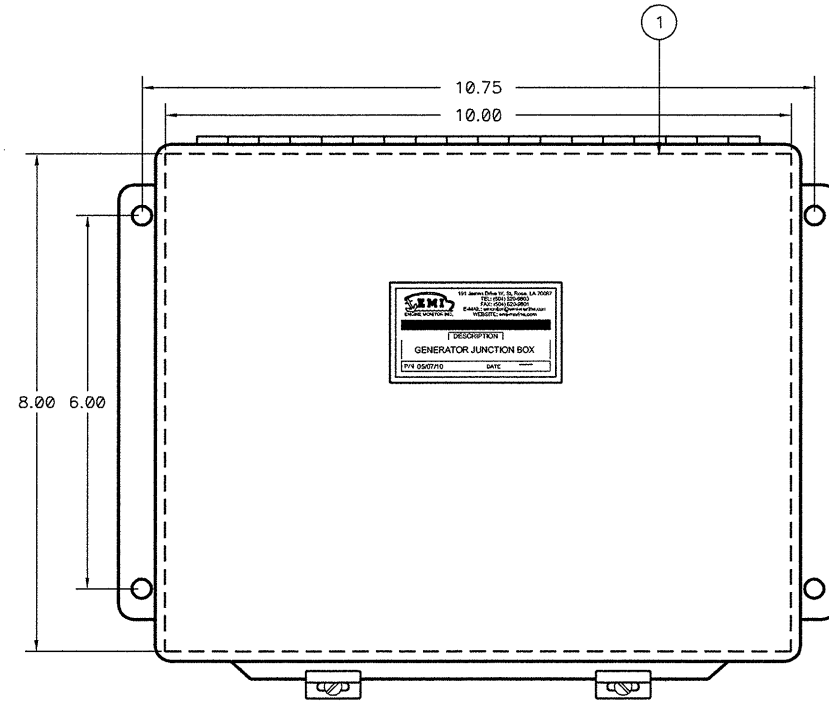
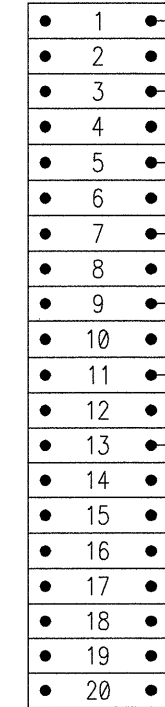
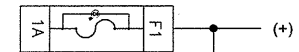
GENERAL NOTES

BILL OF MATERIAL

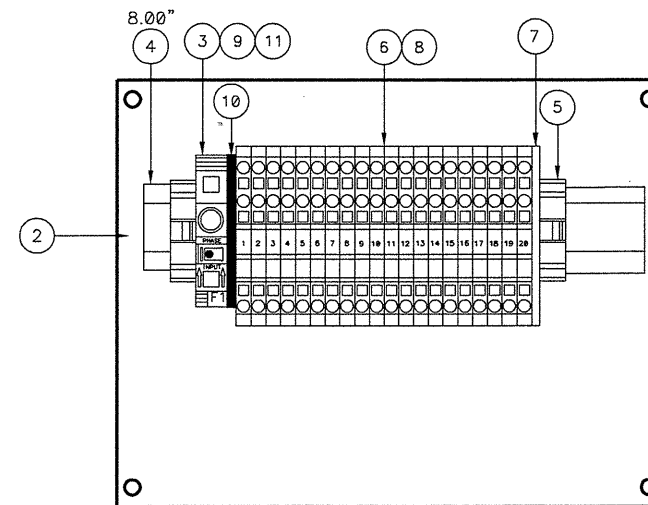
| ITEM | QTY | DESCRIPTION | EMI P/N | MFR P/N | MFR |
|------|-------|------------------------------------|-------------|-----------------|---------|
| 1 | 1 | ENCLOSURE, 10" X 8" X 4" | 1400-00005 | A-1008CH | HOFFMAN |
| 2 | 1 | BACKPLATE | 1400-00005A | A-10P8 | HOFFMAN |
| 3 | 1 | FUSE, 2 AMP | 4300-00002 | ABC-1 | BUSSMAN |
| 4 | 8.00" | DIN RAIL | 2100-00465 | 0801733 | PHOENIX |
| 5 | 2 | END STOP | 2100-00576 | 249-117 | WAGO |
| 6 | 20 | FEEDTHROUGH TERMINAL BLOCK, 3 WIRE | 2100-00648 | 281-681 | WAGO |
| 7 | 1 | END PLATE, TERMINAL | 2100-00698 | 281-324 | WAGO |
| 8 | 1 | TERMINAL MARKER, 1-50 | 2100-00497 | 209-566 | WAGO |
| 9 | 1 | FUSE HOLDER WITH LED, DC | 4300-00217 | 282-128/281-413 | WAGO |
| 10 | 1 | END PLATE, FUSE | 2100-00589 | 282-311 | WAGO |
| 11 | 1 | TERMINAL MARKER, F1-F10 | 2100-00768 | 51226694 | WAGO |

REVISIONS

| REV | ZONE | ITEM | DESCRIPTION | DATE | BY |
|-----|------|------|-------------|------|----|
| | | | | | |




FRONT VIEW



BACKPLATE

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|---------------------------|----|----|----|----|----|----|----|----|----|----|---|---|---|---|---|---|---|---|---|---|
| 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| SHEET NO. | | | | | | | | | | | | | | | | | | | | |
| REVISION STATUS OF SHEETS | | | | | | | | | | | | | | | | | | | | |

| | | | |
|---|-----------------------|---|----------|
|  www.emi-marine.com 191 WEST JAMES DRIVE ST. ROSE, LA 70087 | | ORANGE SHIPBUILDING NORTH CAROLINA DOT M/V SILVERLAKE | |
| DRAWN BY: M.B. | | DATE 05/07/10 | |
| QA: | | DATE | |
| CHECKED: | | DATE | |
| APPROVED: | | DATE | |
| HULL NUMBER: N/A | | QUOTE NUMBER: 10-016M | |
| JOB NO. Y10016M | | FSCM NO. 63544 | |
| SIZE: B | DWG NO: Y10016M-05 | SCALE: NONE | REV 0 |
| SHEET 1 OF 1 | | | |

REVISION HISTORY

| REV | ZONE | DESCRIPTION | DWN | DATE | APVD |
|-----|------|-------------|-----|------|------|
| | | | | | |

SYMBOLS LEGEND

| | | | | | | |
|---|---|------------------------------------|------------------------------------|--|----------------------------------|--|
| FIRE & SAFETY PLAN | PUSH BUTTON/SWITCH FOR GENERAL ALARM | MANUALLY OPERATED CALL POINT | GENERAL ALARM BELL | FIRE STATION (WATER) | BREATHING APPARATUS | LOCKER WITH ADDITIONAL PROTECTIVE CLOTHING |
| TELEPHONE STATION SOUND POWERED | CONTROL STATION | FIRE ALARM CONTROL PANEL | INTERNATIONAL SHORE CONNECTION | SHIP'S BELL | FIRE AXE | LOCKER WITH ADDITIONAL BREATHING APPARATUS |
| EMERGENCY GENERATOR | EMERGENCY SWITCHBOARD | SMOKE DETECTOR | SPACE PROTECTED BY CO2 | SPACE PROTECTED BY SPRINKLER | WATER FOG APPLICATOR | CO2 HORN |
| PORTABLE DRY CHEMICAL FIRE EXTINGUISHER | PORTABLE CO2 FIRE EXTINGUISHER | HEAT DETECTOR | REMOTE FIRE PUMP CONTROLS | FIRE PUMP | FIREMAN WITH FIRE VALVES | CO2 RELEASE STATION |
| A CLASS DIVISION | B CLASS DIVISION | MAIN VERTICAL ZONE | REMOTE FOR FUEL OIL VALVES | RESERVATION 1 | CO2 BATTERY | |
| FIRE DAMPER "A" | CLOSING DEVICE FOR VENT (A) | REMOTE CLOSING DEVICE FOR VENT (A) | FIRE DAMPER - M | REMOTE VENTILATION SHUTOFF - "A" | REMOTE VENTILATION SHUTOFF - "M" | REMOTE VENTILATION SHUTOFF - "M" |
| LIFERAFT | LIFE BUOY | LIFE BUOY WITH LIGHT | LIFE BUOY WITH LINE | LIFE BUOY WITH LIGHT AND SMOKE | STRETCHER | FIRST AID EQUIPMENT |
| RESCUE BOAT | EMBARKATION LADDER | CHILD'S LIFE JACKET | ADULT'S LIFE JACKET | RESERVATION 1 | RESERVATION 1 | MUSTER STATION |
| PARACHUTE FLARES | SURVIVAL CRAFT PYROTECHNIC DISTRESS SIGNALS | LINE THROWING APPLIANCE | SEARCH & RESCUE TRANSPONDER (SART) | EMERGENCY POSITION INDICATING RADIO BEACON | RESERVATION 1 | RESERVATION 1 |

GENERAL NOTES

1. NOTE 1

RESERVATIONS

1. HVAC SYSTEM PENDING DESIGN DEVELOPMENT.

REFERENCES

1. 07069-001-1011-0 PROFILES AND ARRANGEMENTS



Elliott Bay Design Group
 Seattle • New Orleans

CLIENT: NORTH CAROLINA D.O.T., FERRY DIV
 Raleigh, North Carolina

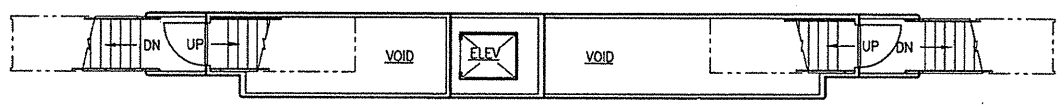
PROJECT: NEW SOUND CLASS FERRY

TITLE: LIFE SAVING EQUIPMENT ARRANGEMENT

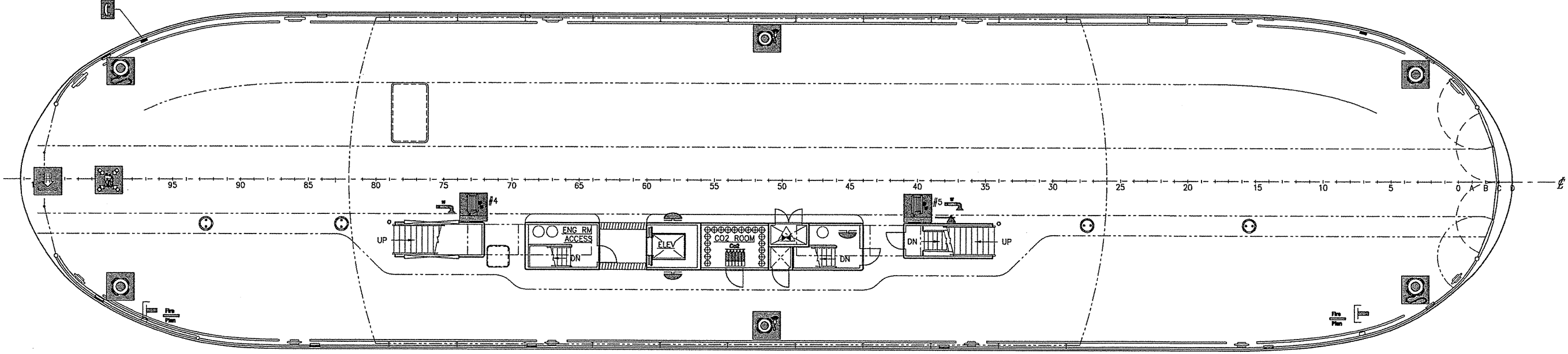
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| APVD: | DATE: | SCALE: AS NOTED | FILE NAME: 07069-003-801.7 | SHEET 1 OF 3 |

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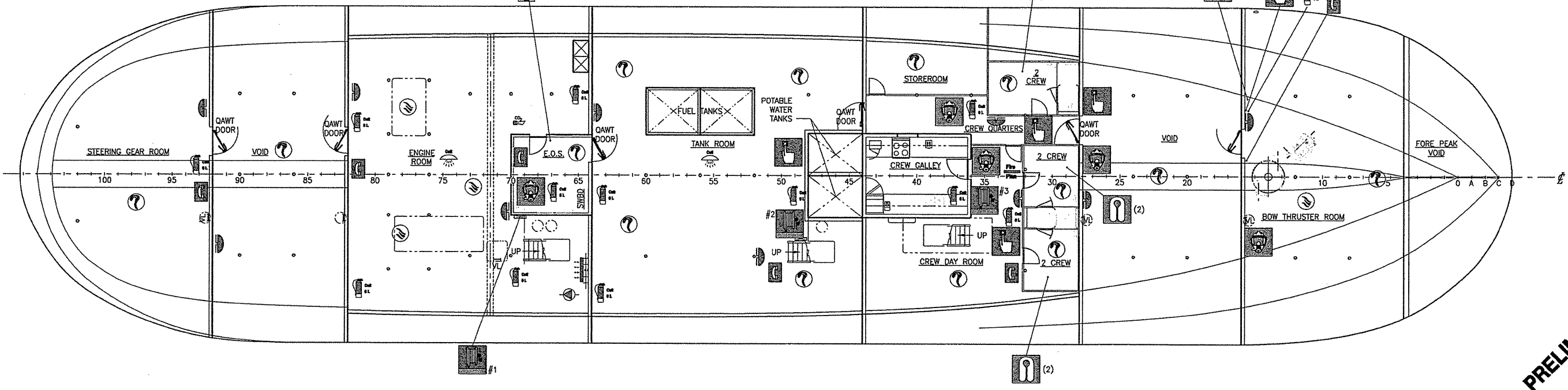
75 70 65 60 55 50 45 40 35



PLAN 2-3D
MID-DECK



PLAN 2-3C
MAIN DECK

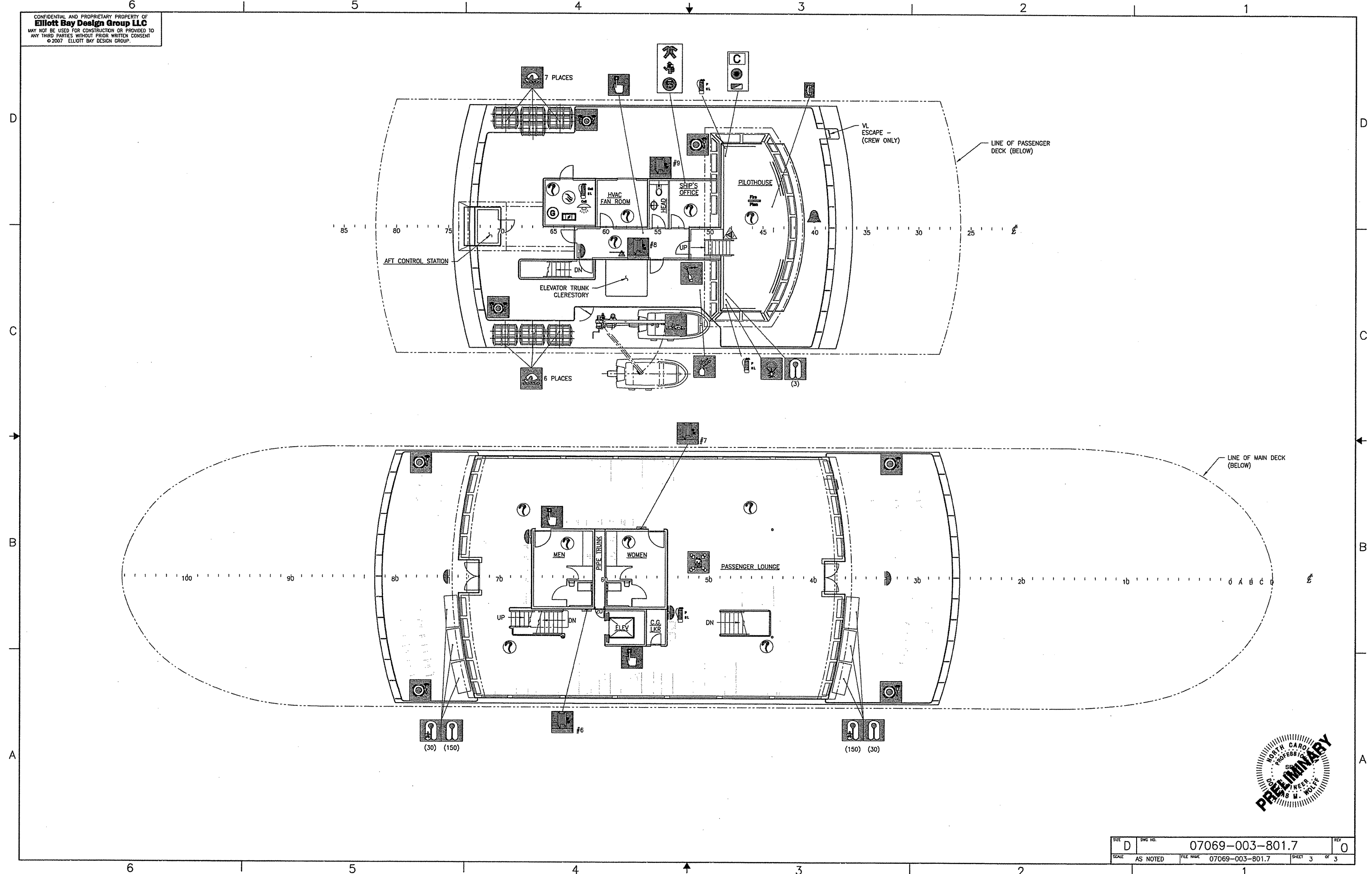


PLAN 2-3A
LOWER DECK

PRELIMINARY

| | | | | | |
|-------|--------------|-----------|-----------------|-------|--------|
| SIZE | D | DWG NO. | 07069-003-801.7 | REV | 0 |
| SCALE | 1/8" = 1'-0" | FILE NAME | 07069-003-801.7 | SHEET | 2 OF 3 |

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| | | | | | |
|-------|----------|-----------|-----------------|-------|--------|
| SIZE | D | DWG NO. | 07069-003-801.7 | REV | 0 |
| SCALE | AS NOTED | FILE NAME | 07069-003-801.7 | SHEET | 3 OF 3 |

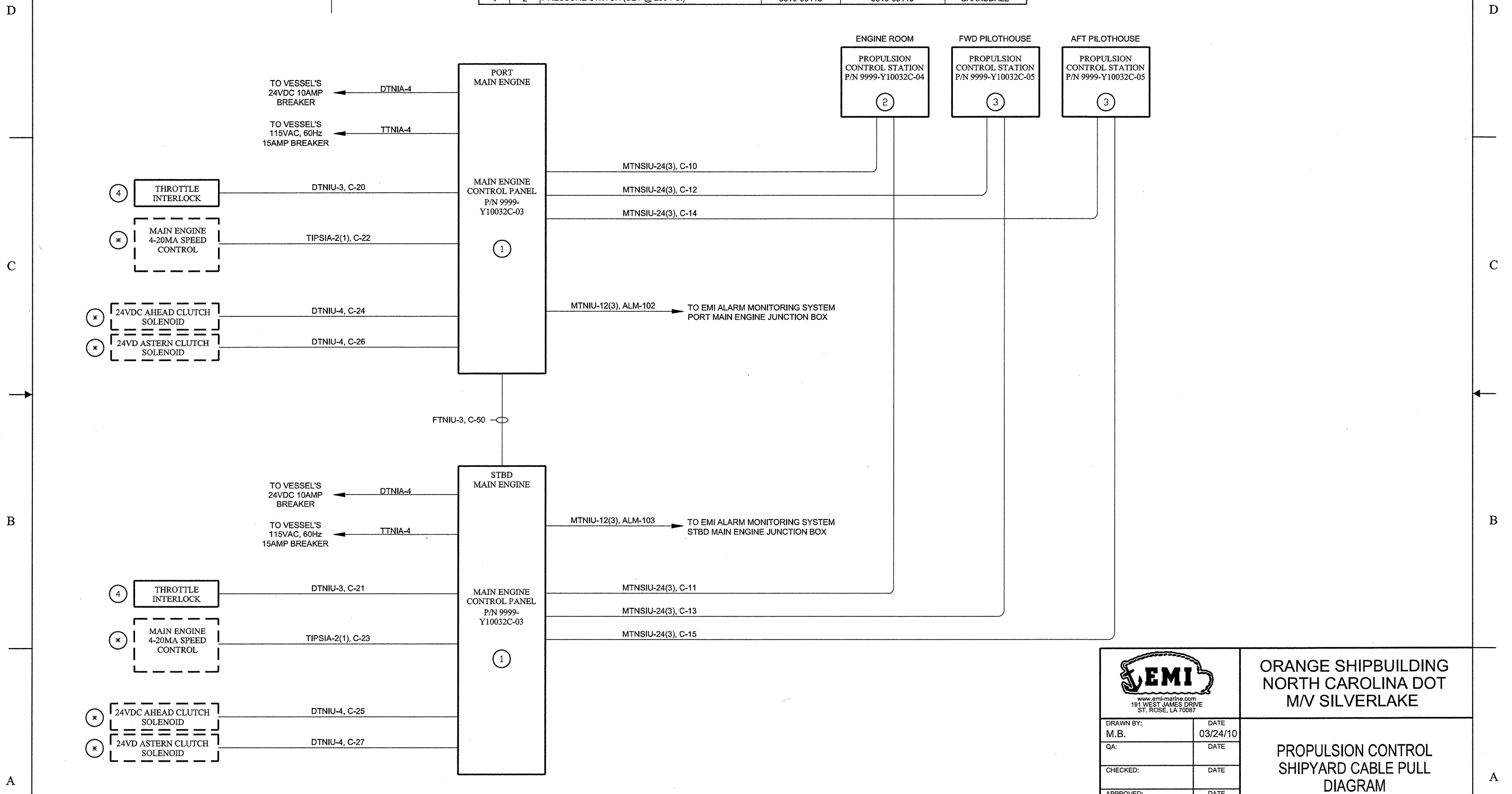
GENERAL NOTES

1 SHIPBOARD CABLING IS TO BE IN ACCORDANCE WITH IEEE 45 "RECOMMENDED PRACTICES FOR ELECTRICAL INSTALLATIONS ON SHIPBOARD".

2 DASHED LINES INDICATE SUPPLIED BY OTHERS.


| BILL OF MATERIAL | | | | | |
|------------------|-----|--|-----------------|-----------------|-----------|
| ITEM | QTY | DESCRIPTION | EMI P/N | MFR P/N | MFR |
| 1 | 2 | PROPULSION CONTROL PANEL | 9999-Y10032C-03 | 9999-Y10032C-03 | EMI |
| 2 | 1 | ENGINE ROOM PROPULSION CONTROL STATION | 9999-Y10032C-04 | 9999-Y10032C-04 | EMI |
| 3 | 2 | PILOTHOUSE PROPULSION CONTROL STATION | 9999-Y10032C-05 | 9999-Y10032C-05 | EMI |
| 4 | 2 | PRESSURE SWITCH (SET @ 200 PSI) | 5510-00115 | 5510-00115 | BARKSDALE |

| REVISIONS | | | | | |
|-----------|------|------|-------------|------|----|
| REV | ZONE | ITEM | DESCRIPTION | DATE | BY |
| | | | | | |



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|---------------------------|----|----|----|----|----|----|----|----|----|----|---|---|---|---|---|---|---|---|---|---|
| 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| SHEET NO. | | | | | | | | | | | | | | | | | | | | |
| REVISION STATUS OF SHEETS | | | | | | | | | | | | | | | | | | | | |

| | | | |
|---|--|--|--------------|
|  <p>www.emi-marine.com 191 WEST JAMES DRIVE ST. ROSE, LA 70087</p> | | <p>ORANGE SHIPBUILDING NORTH CAROLINA DOT M/V SILVERLAKE</p> | |
| <p>DRAWN BY: M.B.</p> | | <p>DATE 03/24/10</p> | |
| <p>QA:</p> | | <p>DATE</p> | |
| <p>CHECKED:</p> | | <p>DATE</p> | |
| <p>APPROVED:</p> | | <p>DATE</p> | |
| <p>HULL NUMBER: 413</p> | | <p>QUOTE NUMBER: 09-215C</p> | |
| <p>JOB NO. Y10032S</p> | | <p>FSCM NO. 63544</p> | |
| <p>SIZE: B</p> | | <p>DWG NO: Y10032C-01</p> | |
| <p>SCALE: NONE</p> | | <p>SHEET 1 OF 1</p> | |
| <p>REV 0</p> | | | <p>REV 0</p> |

GENERAL NOTES
 1 SHIPBOARD CABLING IS TO BE IN ACCORDANCE WITH IEEE 45 "RECOMMENDED PRACTICES FOR ELECTRICAL INSTALLATIONS ON SHIPBOARD".
 2 DASHED LINES INDICATE SUPPLIED BY OTHERS.

| REVISIONS | | | | | |
|-----------|------|------|-------------|------|----|
| REV | ZONE | ITEM | DESCRIPTION | DATE | BY |
| | | | | | |

TWISTED PAIR

| COLOR CODE TABLE | | | | | |
|------------------|------------|-------|--------------------------|------------|------------|
| COND. | BASE COLOR | COND. | BASE COLOR | 1ST TRACER | 2ND TRACER |
| 1 | WHITE | 1A | BLACK | | |
| 2 | WHITE | 2A | WHITE W/BLACK DASH MARKS | | |
| 3 | WHITE | 3A | RED | | |
| 4 | WHITE | 4A | GREEN | | |
| 5 | WHITE | 5A | ORANGE | | |
| 6 | WHITE | 6A | BLUE | | |
| 7 | WHITE | 7A | WHITE | BLACK | |
| 8 | WHITE | 8A | RED | BLACK | |
| 9 | WHITE | 9A | GREEN | BLACK | |
| 10 | WHITE | 10A | ORANGE | BLACK | |
| 11 | WHITE | 11A | BLUE | BLACK | |
| 12 | WHITE | 12A | BLACK | WHITE | |
| 13 | WHITE | 13A | RED | WHITE | |
| 14 | WHITE | 14A | GREEN | WHITE | |
| 15 | WHITE | 15A | BLUE | WHITE | |
| 16 | WHITE | 16A | BLACK | RED | |
| 17 | WHITE | 17A | WHITE | RED | |
| 18 | WHITE | 18A | ORANGE | RED | |
| 19 | WHITE | 19A | BLUE | RED | |
| 20 | WHITE | 20A | RED | GREEN | |
| 21 | WHITE | 21A | ORANGE | GREEN | |
| 22 | WHITE | 22A | BLACK | WHITE | RED |
| 23 | WHITE | 23A | WHITE | BLACK | RED |
| 24 | WHITE | 24A | RED | BLACK | WHITE |
| 25 | WHITE | 25A | GREEN | BLACK | WHITE |
| 26 | WHITE | 26A | ORANGE | BLACK | WHITE |
| 27 | WHITE | 27A | BLUE | BLACK | WHITE |
| 28 | WHITE | 28A | BLACK | RED | GREEN |
| 29 | WHITE | 29A | WHITE | RED | GREEN |
| 30 | WHITE | 30A | RED | BLACK | GREEN |
| 31 | WHITE | 31A | GREEN | BLACK | ORANGE |
| 32 | WHITE | 32A | ORANGE | BLACK | GREEN |

| COLOR CODE TABLE | | | |
|------------------|------------|------------|------------|
| COND. | BASE COLOR | 1ST TRACER | 2ND TRACER |
| 1 | BLACK | | |
| 2 | WHITE | | |
| 3 | RED | | |
| 4 | GREEN | | |
| 5 | ORANGE | | |
| 6 | BLUE | | |
| 7 | WHITE | BLACK | |
| 8 | RED | BLACK | |
| 9 | GREEN | BLACK | |
| 10 | ORANGE | BLACK | |
| 11 | BLUE | BLACK | |
| 12 | BLACK | WHITE | |
| 13 | RED | WHITE | |
| 14 | GREEN | WHITE | |
| 15 | BLUE | WHITE | |
| 16 | BLACK | RED | |
| 17 | WHITE | RED | |
| 18 | ORANGE | RED | |
| 19 | BLUE | RED | |
| 20 | RED | GREEN | |
| 21 | ORANGE | GREEN | |
| 22 | BLACK | WHITE | RED |
| 23 | WHITE | BLACK | RED |
| 24 | RED | BLACK | WHITE |
| 25 | GREEN | BLACK | WHITE |
| 26 | ORANGE | BLACK | WHITE |
| 27 | BLUE | BLACK | WHITE |
| 28 | BLACK | RED | GREEN |
| 29 | WHITE | RED | GREEN |
| 30 | RED | BLACK | GREEN |
| 31 | GREEN | BLACK | ORANGE |
| 32 | ORANGE | BLACK | GREEN |
| 33 | BLUE | WHITE | ORANGE |
| 34 | BLACK | WHITE | ORANGE |
| 35 | WHITE | RED | ORANGE |
| 36 | ORANGE | WHITE | BLUE |
| 37 | WHITE | RED | BLUE |
| 38 | BROWN | | |
| 39 | BROWN | BLACK | |
| 40 | BROWN | WHITE | |
| 41 | BROWN | RED | |
| 42 | BROWN | GREEN | |
| 43 | BROWN | ORANGE | |
| 44 | BROWN | BLUE | |

| SYMBOL LEGEND | |
|---------------|------------------------------------|
| | NORMALLY CLOSED FLOAT SWITCH |
| | NORMALLY OPEN FLOAT SWITCH |
| | NORMALLY CLOSED TEMPERATURE SWITCH |
| | NORMALLY OPEN TEMPERATURE SWITCH |
| | NORMALLY CLOSED PRESSURE SWITCH |
| | NORMALLY OPEN PRESSURE SWITCH |
| | NORMALLY CLOSED FLOW SWITCH |
| | NORMALLY OPEN FLOW SWITCH |
| | NORMALLY CLOSED CONTACT |
| | NORMALLY OPEN CONTACT |
| | DIFFERENTIAL PRESSURE TRANSDUCER |
| | RESISTANCE TEMPERATURE DETECTOR |

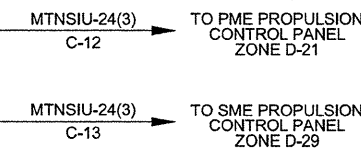
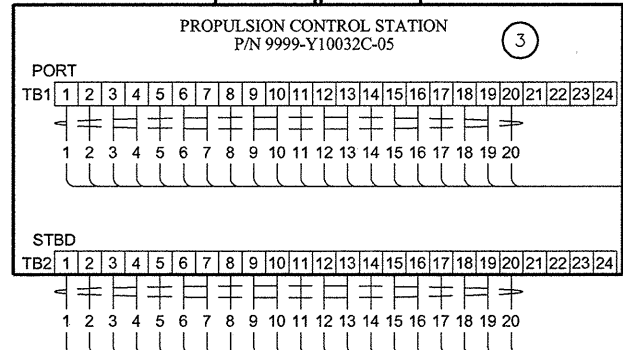
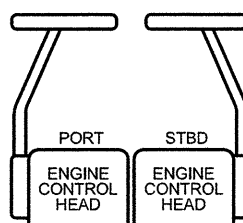
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| | | | | | | | | | | | | | | | | | | | |
|---------------------------|----|----|----|----|----|----|----|----|----|----|---|---|---|---|---|---|---|---|---|
| 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| SHEET NO. | | | | | | | | | | | | | | | | | | | |
| REVISION STATUS OF SHEETS | | | | | | | | | | | | | | | | | | | |

| | | | |
|---|-------------------|--|--|
| <small>www.emi-marine.com 191 WEST JAMES DRIVE ST. ROSE, LA 70087</small> | | ORANGE SHIPBUILDING NORTH CAROLINA DOT M/V SILVERLAKE | |
| DRAWN BY: M.B. | DATE 05/05/10 | PROPULSION CONTROL SYSTEM SHIPYARD WIRING DIAGRAM | |
| QA: | DATE | | |
| CHECKED: | DATE | | |
| APPROVED: | DATE | HULL NUMBER: N/A QUOTE NUMBER: 09-215C SIZE: B DWG NO: Y10032C-02 REV: 0 | |
| JOB NO. Y10032C | FSCM NO. 63544 | SCALE: NONE SHEET 1 OF 4 | |

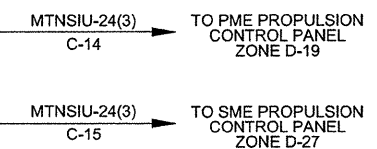
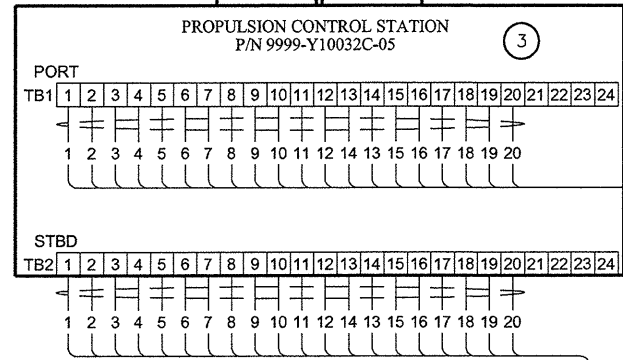
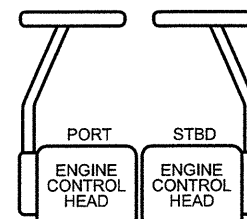
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FWD PILOTHOUSE STATION



D

AFT PILOTHOUSE STATION



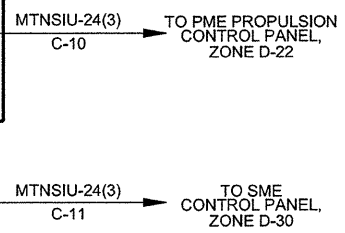
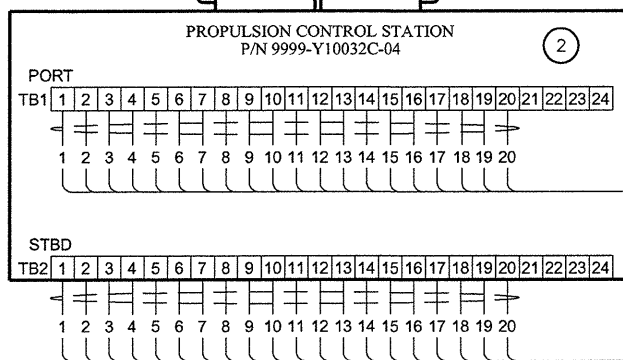
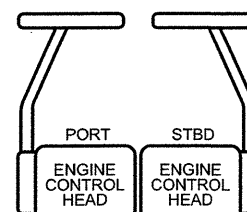
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ENGINE ROOM STATION



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| DRAWN BY: M.B. | DATE 10/10/08 | ENGINE MONITOR INC | |
| CHECKED: | DATE | SIZE: DWG NO: B Y10032C-02 | REV 0 |
| APPROVED: | DATE | SCALE: NONE | SHEET 2 OF 4 |

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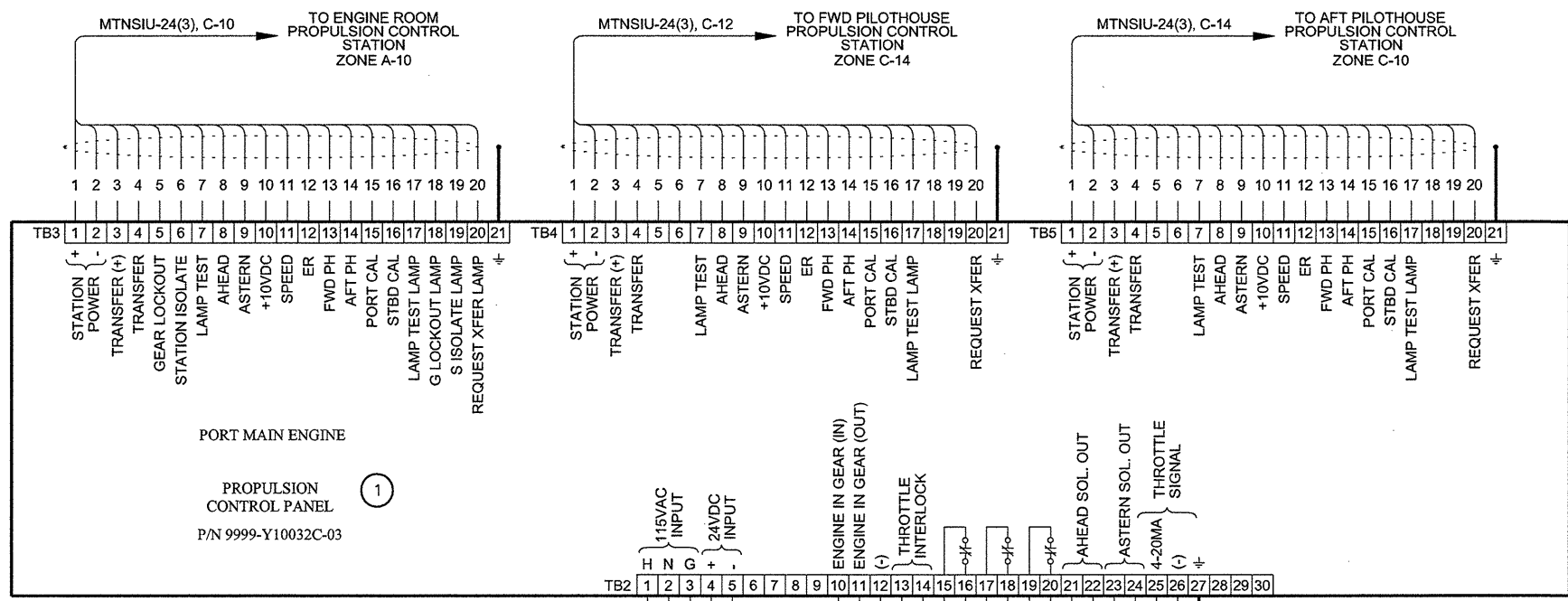
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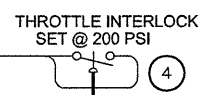
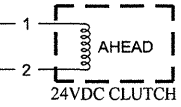
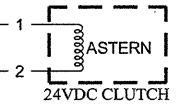
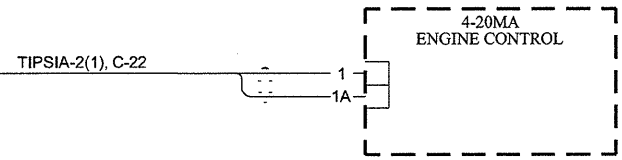
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TO VESSEL'S 115VAC SOURCE (TTNIA-4)

TO VESSEL'S EMER 24VDC SOURCE (DTNIA-4)

TO STBD MAIN ENGINE CONTROL PANEL ZONE C-30 (FTNIU-3, C-50)



(TUBING) TO CLUTCH OIL PRESSURE

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| | | | |
|-------------------|------------------|---------------------------|--------------------|
| DRAWN BY: M.B. | DATE 05/05/10 | ENGINE MONITOR INC | |
| CHECKED: | DATE | SIZE: B | DWG NO: Y10032C-02 |
| APPROVED: | DATE | REV: 0 | SCALE: NONE |
| | | SHEET 3 OF 4 | |

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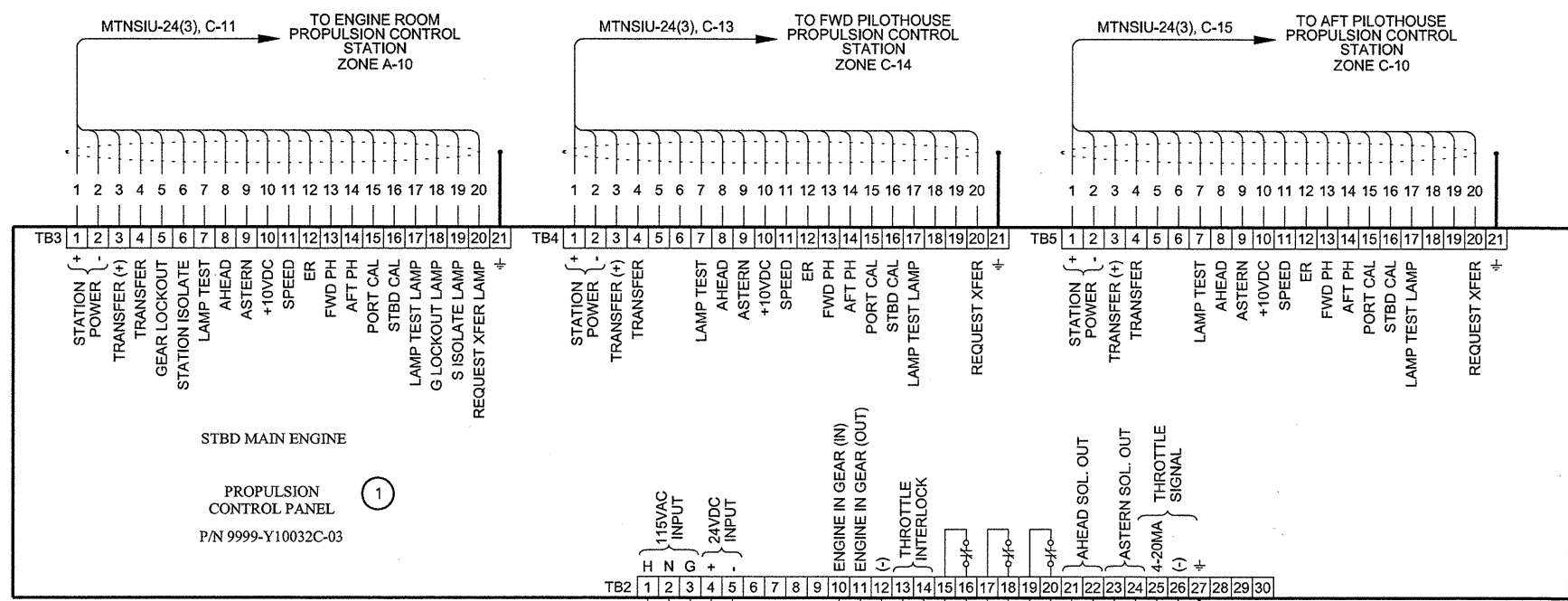
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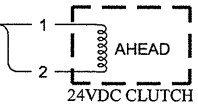
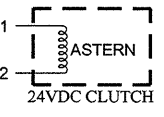
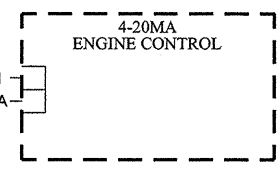
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TO VESSEL'S 115VAC SOURCE (TTNIA-4)

TO VESSEL'S EMER 24VDC SOURCE (DTNIA-4)

TO STBD MAIN ENGINE CONTROL PANEL ZONE C-30 (FTNIU-3, C-50)



(TUBING) TO CLUTCH OIL PRESSURE

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| | | | |
|-------------------|------------------|-------------------------------|--------------|
| DRAWN BY: M.B. | DATE 05/05/10 | ENGINE MONITOR INC | |
| CHECKED: | DATE | SIZE: DWG NO: B Y10032C-02 | REV: 0 |
| APPROVED: | DATE | SCALE: NONE | SHEET 4 OF 4 |

GENERAL NOTES

1 BOTTOM ROW OF MARKERS ARE LOCATED ON BASE MODULE UNDER REMOVABLE CONNECTOR.


2 USE VELCRO TO ATTACH SWITCHING MODULE TO INSIDE OF ENCLOSURE.

| BILL OF MATERIAL | | | | | |
|------------------|--------|-------------------------------------|------------|-----------------|--------------|
| ITEM | QTY | DESCRIPTION | EMI P/N | MFR P/N | MFR |
| 1 | 1 | ENCLOSURE, 24" X 24" X 8" | 1400-00012 | A-242408LP | HOFFMAN |
| 2 | 1 | BACKPLATE | 1400-00078 | A-24P24 | HOFFMAN |
| 3 | 64.00* | DIN RAIL, T35, 7.5MM | 2100-00465 | 0801733 | PHOENIX |
| 4 | 1 | ETHERNET CONTROLLER | 2000-00416 | 750-842 | WAGO |
| 5 | 1 | FILTER MODULE | 2000-00418 | 750-626 | WAGO |
| 6 | 4 | 8-CHANNEL DIGITAL INPUT MODULE | 2000-00462 | 753-430 | WAGO |
| 7 | 5 | 8-CHANNEL DIGITAL OUTPUT MODULE | 2000-00463 | 753-530 | WAGO |
| 8 | 1 | 4-CHAN ANALOG INPUT MODULE, 0-10V | 2000-00457 | 753-459 | WAGO |
| 9 | 1 | 2-CHAN ANALOG OUTPUT MODULE, 4-20MA | 2000-00465 | 753-554 | WAGO |
| 10 | 11 | REMOVABLE MODULE CONNECTOR | 2000-00461 | 753-110 | WAGO |
| 11 | 1 | END MODULE | 2000-00377 | 753-600 | WAGO |
| 12 | 7 | FUSE HOLDER WITH LED | 4300-00217 | 282-128/281-413 | WAGO |
| 13 | 2 | FUSE, 5 AMP, SLO-BLO | 4300-00067 | MDL-5 | BUSSMAN |
| 14 | 2 | FUSE, 5 AMP | 4300-00004 | ABC-5 | BUSSMAN |
| 15 | 3 | FUSE, 1 AMP | 4300-00002 | ABC-1 | BUSSMAN |
| 16 | 1 | END PLATE, FUSE | 2100-00589 | 282-311 | WAGO |
| 17 | 1 | TERMINAL MARKER, F1-F10 | 2100-00573 | 209-787 | WAGO |
| 18 | 105 | FEEDTHROUGH TERMINAL BLOCK, 3 WIRE | 2100-00648 | 281-681 | WAGO |
| 19 | 4 | END PLATE, TERMINAL | 2100-00698 | 281-324 | WAGO |
| 20 | 4 | TERMINAL MARKER, 1-50 | 2100-00497 | 209-566 | WAGO |
| 21 | 1 | CIRCUIT BREAKER, 10 AMP | 4300-00254 | S201-C10 | ENTRELEC |
| 22 | 1 | CIRCUIT BREAKER, 3 AMP | 4300-00253 | S201-C3 | ENTRELEC |
| 23 | - | ----- | ----- | ----- | ----- |
| 24 | - | ----- | ----- | ----- | ----- |
| 25 | - | ----- | ----- | ----- | ----- |
| 26 | 3 | 6 POLE TERMINAL BLOCK | 2100-00588 | 280-619 | WAGO |
| 27 | 1 | SWITCHING MODULE, W/ROCKER SWITCH | 2100-00738 | 286-895 | WAGO |
| 28 | 2 | TERMINAL MARKERS, 01-49 | 2100-00746 | 247-523 | WAGO |
| 29 | 2 | NEGATIVE SWITCHING OPTOCOUPLER | 4500-00183 | 859-720 | WAGO |
| 30 | 1 | TERMINAL MARKER, K1-K10 | 2100-00745 | 248-450 | WAGO |
| 31 | 1 | ENDPLATE, OPTOCOUPLER | 2100-00736 | 859-525 | WAGO |
| 32 | 9 | END STOP | 2100-00576 | 249-117 | WAGO |
| 33 | 5 | TERMINAL POST | 2100-00577 | 249-119 | WAGO |
| 34 | 3 | ZENER DIODE, 10V, 1W | 4800-00040 | 1N4740A | MOTOROLA |
| 35 | 3 | RESISTOR, 620 OHM, 1/2 WATT | 4713-0621 | RL20S621G | DALE |
| 36 | 2 | RELAY, 5 PIN 24VDC | 4500-00112 | RH1B-UDC24V | IDEC |
| 37 | 2 | RELAY SOCKET, 5 PIN | 4500-00111 | SH1B-05 | IDEC |
| 38 | 3 | DIODE | 4800-00002 | 1N4001 | MOTOROLA |
| 39 | 4 | RELAY CLIP | 4500-00150 | SFA202 | IDEC |
| 40 | 1 | RELAY, 24VDC, 14 PIN | 4500-00092 | RH4BUDC24 | IDEC |
| 41 | 1 | RELAY SOCKET, 14 PIN | 4500-00058 | SH4B05 | IDEC |
| 42 | 1 | POWER SUPPLY | 4000-00048 | QS10.241 | PULS |
| 43 | 1 | BRIDGE RECTIFIER | 4800-00035 | MB251 | DIODES, INC. |
| 44 | 2 | BATTERY | 3900-00013 | PS-1212 | POWERSONIC |
| 45 | 1 | BATTERY BRACKET | 1200-49370 | 1200-49370 | EMI |

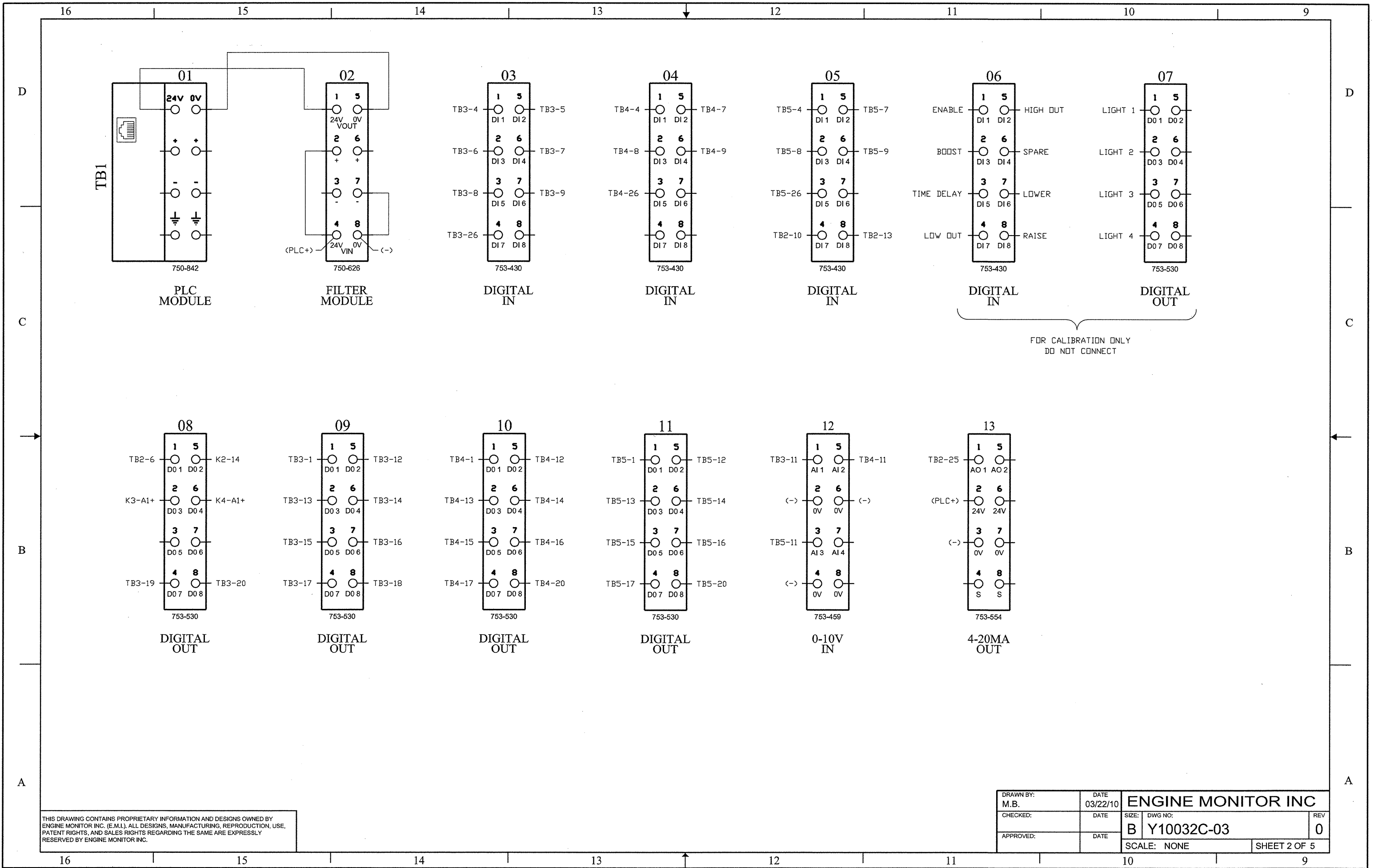
| REVISIONS | | | | | |
|-----------|------|------|-------------|------|----|
| REV | ZONE | ITEM | DESCRIPTION | DATE | BY |
| | | | | | |

| SOFTWARE USED | | |
|---------------|-------------|---------------|
| ITEM | DESCRIPTION | FILENAME |
| 1 | PLC PROGRAM | Y10032C_03PLC |

| | | | | | | | | | | | | | | | | | | | |
|---------------------------|----|----|----|----|----|----|----|----|----|----|---|---|---|---|---|---|---|---|---|
| 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| SHEET NO. | | | | | | | | | | | | | | | | | | | |
| REVISION STATUS OF SHEETS | | | | | | | | | | | | | | | | | | | |

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|--|--------------------------|--|-----------------------|
|  <small>www.emi-marine.com 161 WEST JAMES DRIVE ST. ROSE, LA 70087</small> | | ORANGE SHIPBUILDING NORTH CAROLINA DOT M/V SILVERLAKE | |
| DRAWN BY: M.B. | DATE: 05/05/10 | PROPULSION CONTROL PANEL | |
| QA: | DATE: | | |
| CHECKED: | DATE: | | |
| APPROVED: | DATE: | | |
| HULL NUMBER: N/A | QUOTE NUMBER: 09-215C | SIZE: B | DWG NO: Y10032C-03 |
| JOB NO. N/A | FSCM NO. 63544 | SCALE: NONE | |
| | | SHEET 1 OF 5 | |

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|-------------------|------------------|--------------------|--------------------|
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| CHECKED: | DATE | SIZE: B | DWG NO: Y10032C-03 |
| APPROVED: | DATE | SCALE: NONE | REV: 0 |
| | | SHEET 2 OF 5 | |

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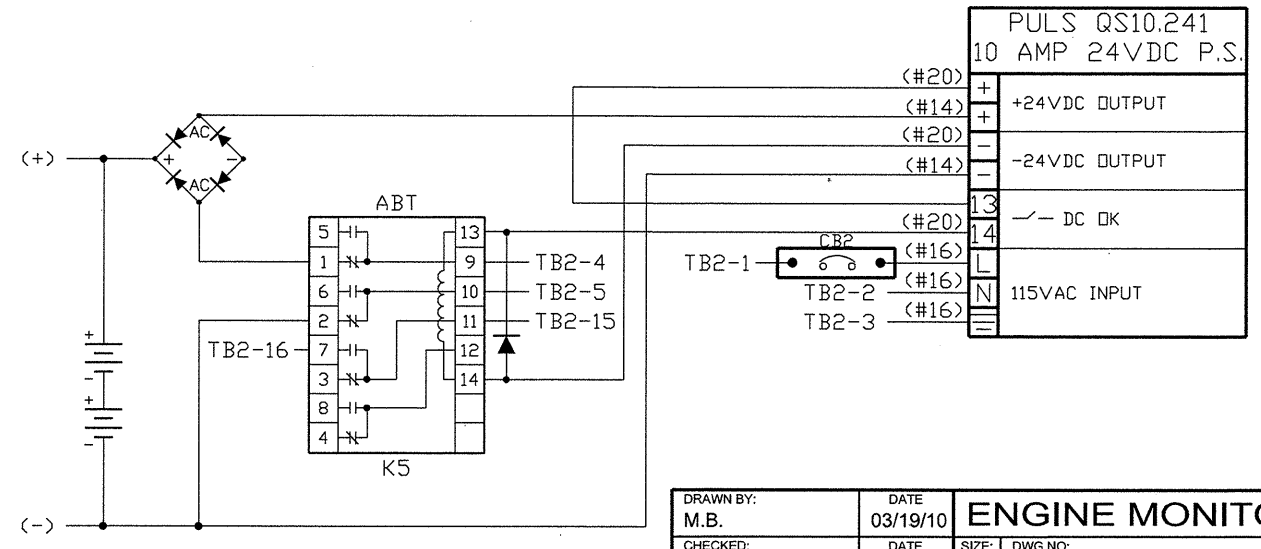
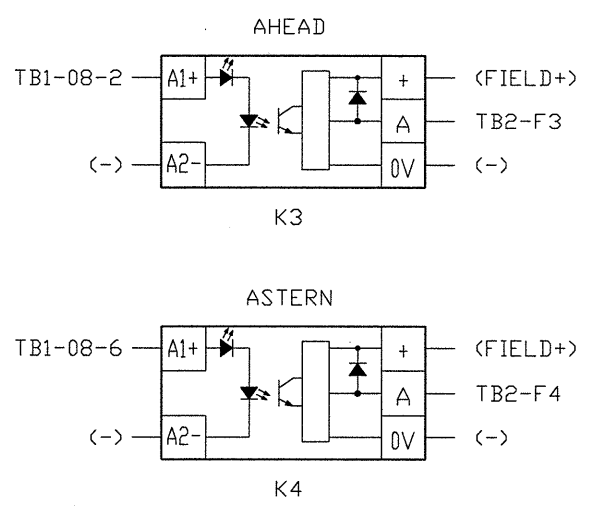
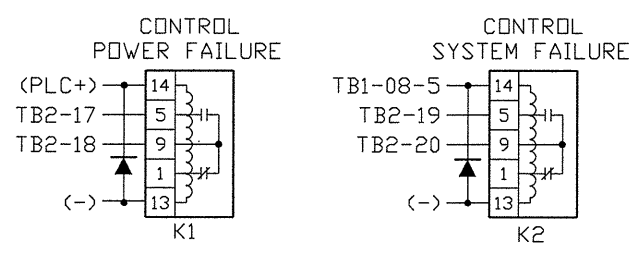
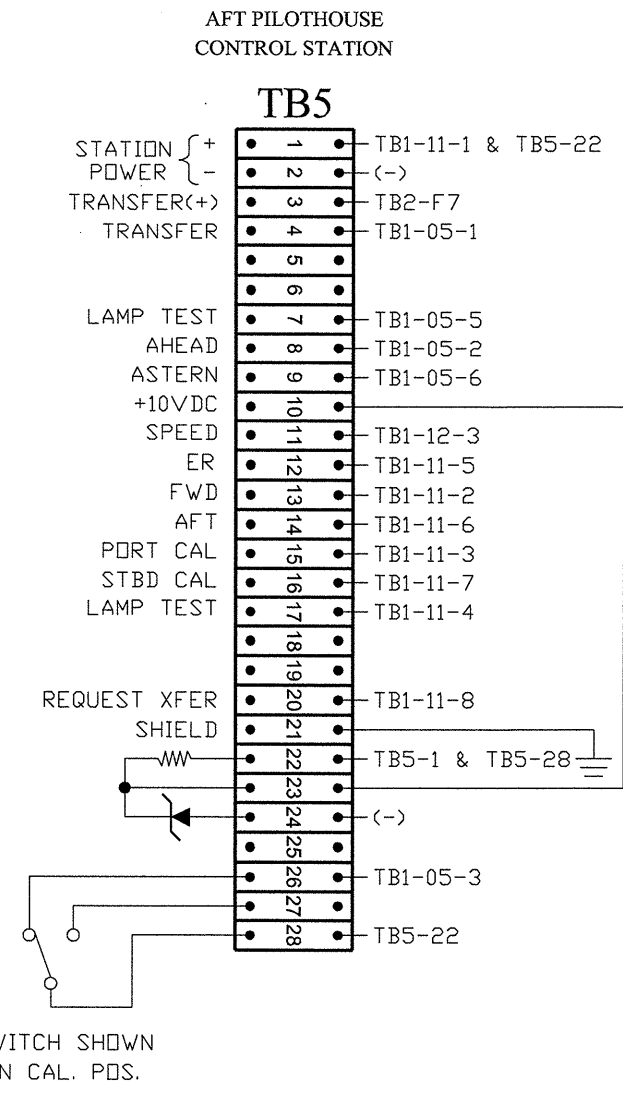
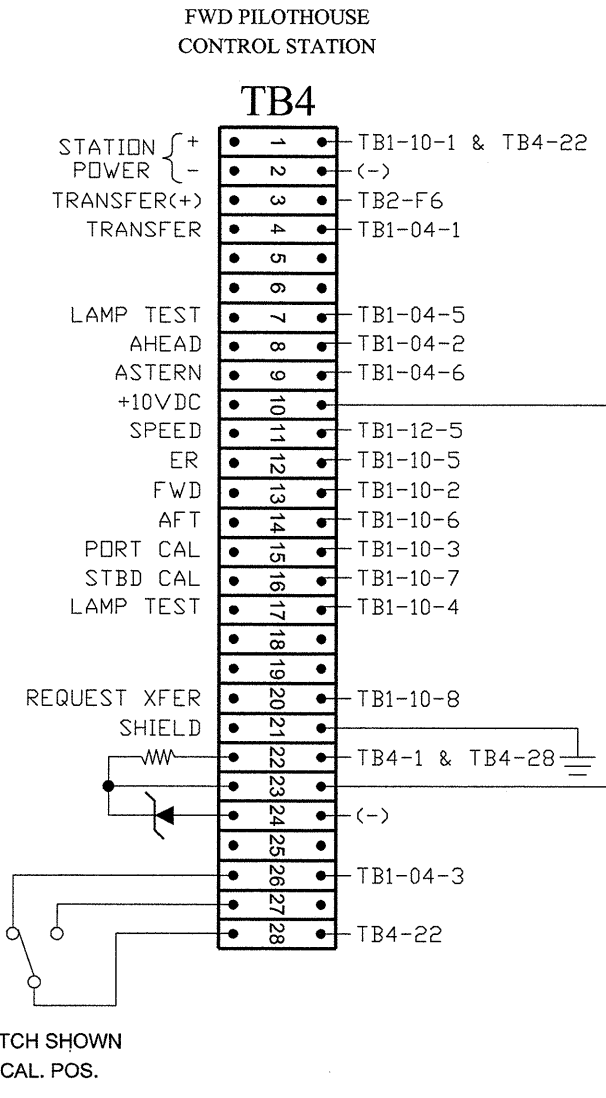
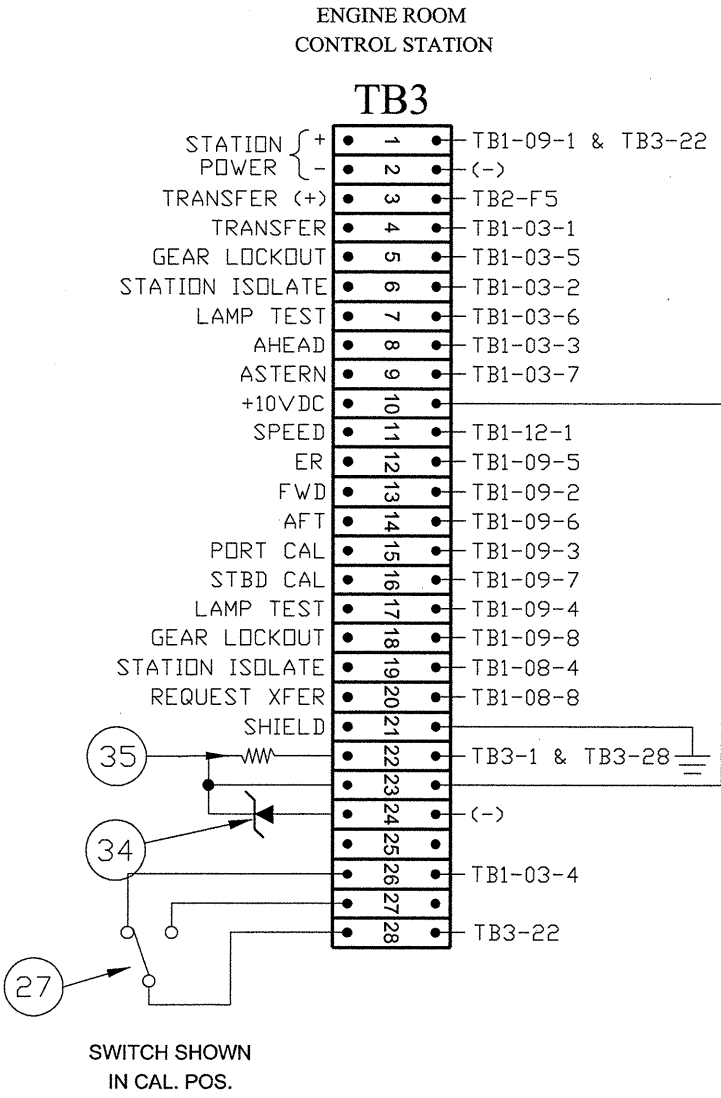
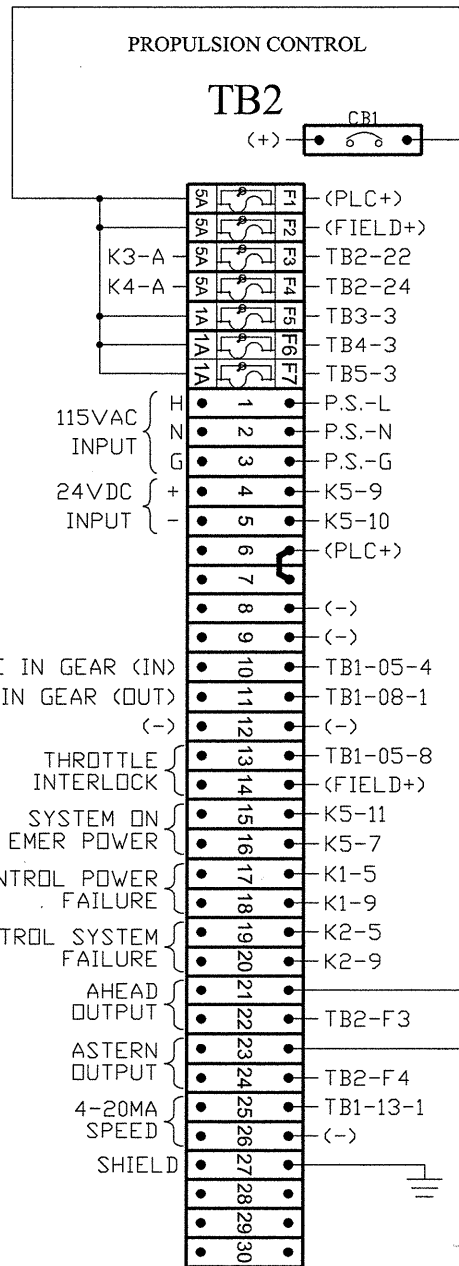
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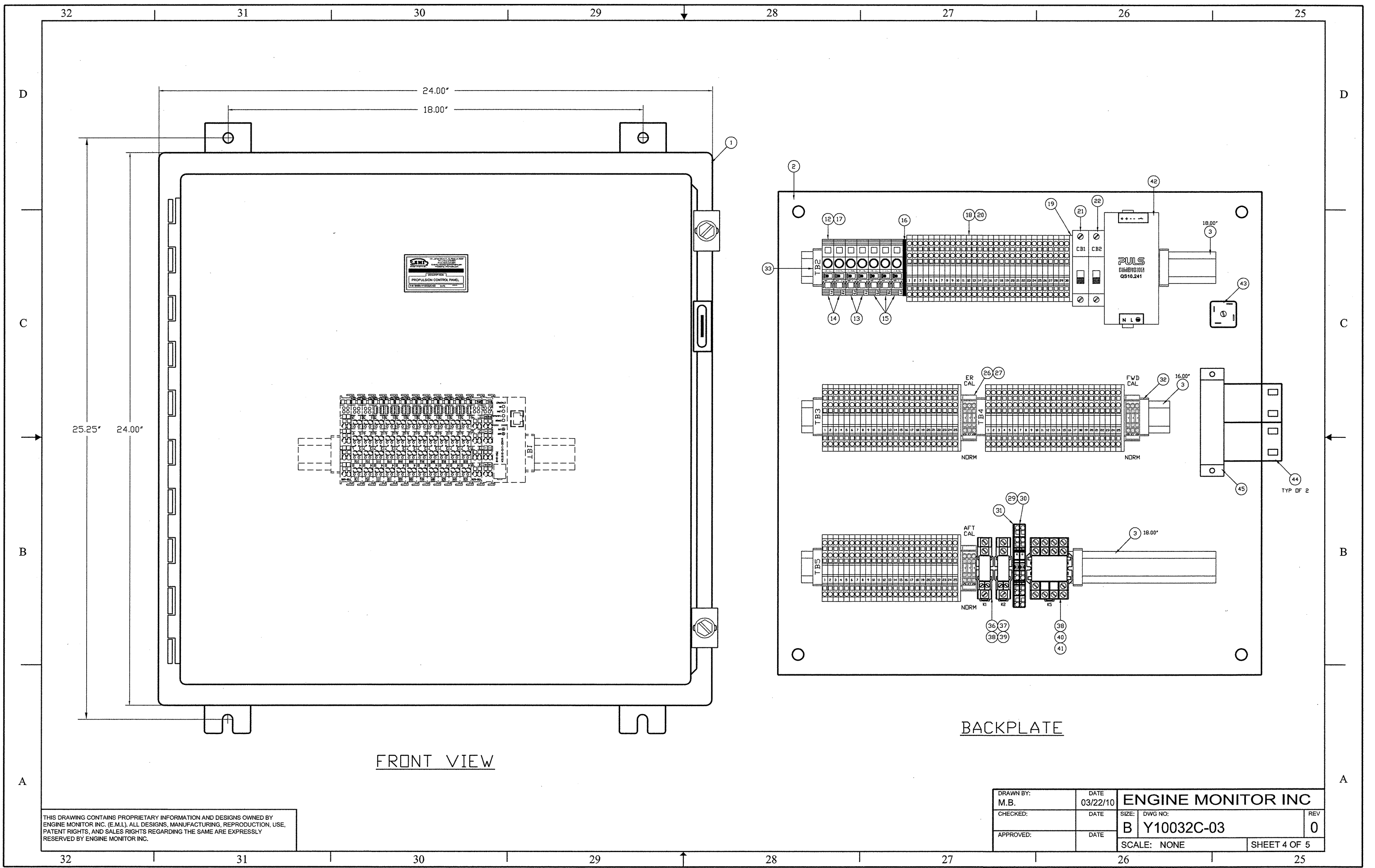
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| CHECKED: | DATE | SIZE: DWG NO: B Y10032C-03 | REV 0 |
| APPROVED: | DATE | SCALE: NONE | SHEET 3 OF 5 |



FRONT VIEW

BACKPLATE

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|-------------------|------------------|---------------------------|--------------|
| DRAWN BY: M.B. | DATE 03/22/10 | ENGINE MONITOR INC | |
| CHECKED: | DATE | SIZE: DWG NO: | REV |
| APPROVED: | DATE | B Y10032C-03 | 0 |
| | | SCALE: NONE | SHEET 4 OF 5 |

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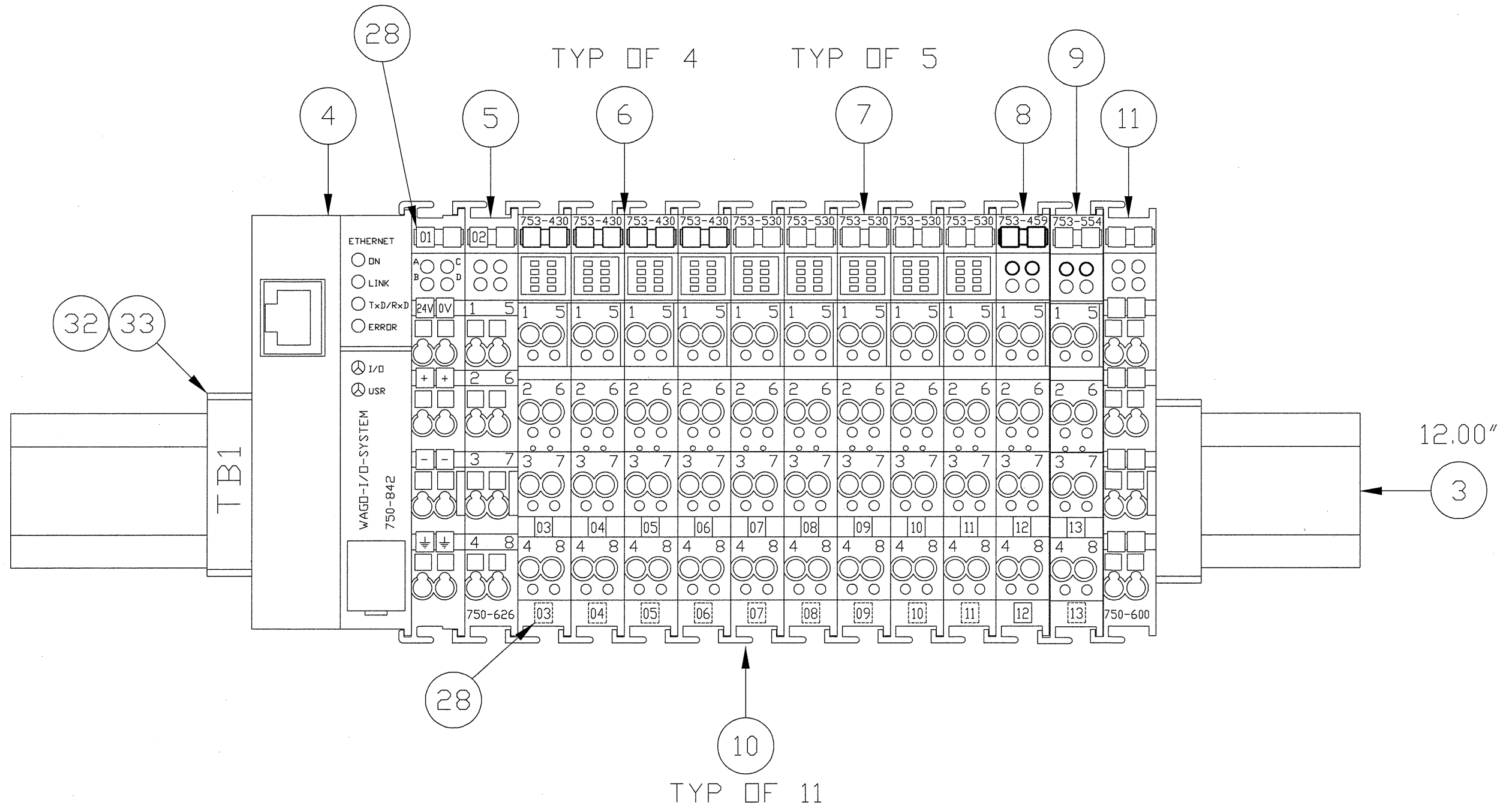
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| | | | |
|-------------------|------------------|--------------------|--------------------|
| DRAWN BY: M.B. | DATE 03/22/10 | ENGINE MONITOR INC | |
| CHECKED: | DATE | SIZE: B | DWG NO: Y10032C-03 |
| APPROVED: | DATE | REV: 0 | SCALE: NONE |
| | | | SHEET 5 OF 5 |

40 39 38 37 36 35 34 33

GENERAL NOTES

1. SUGGESTED CONSOLE CUTOUT: 7.50" X 6.25"

BILL OF MATERIAL

| ITEM | QTY | DESCRIPTION | EMI P/N | MFR P/N | MFR |
|------|------|-----------------------------------|-----------------|-----------------|----------|
| 1 | 1 | MOUNTING PLATE | 1200-Y8183C-04 | 1200-Y8183C-04 | EMI |
| 2 | 1 | BACKPLATE | 1200-Y8183C-04A | 1200-Y8183C-04A | EMI |
| 3 | 2 | THROTTLE HANDLES- STAINLESS STEEL | 2825-01012 | MES1121-10 | MEC |
| 4 | - | | | | |
| 5 | 2 | IPB, MOMENTARY, DUAL N/O | 5100-00358 | 31.421.036 | EAO |
| 6 | 2 | IPB, MAINTAINED, DUAL N/O | 5100-00566 | 31-461.036 | EAO |
| 7 | 5 | INDICATOR | 2450-00013 | 31-040.005 | EAO |
| 8 | 7 | LENS, RED | 2450-00021R | 31-903.2 | EAO |
| 9 | 9 | LAMP, 24V | 2450-00008 | 334 | SYLVANIA |
| 10 | 6.75 | DIN RAIL, T35, 7.5MM | 2100-00465 | 0801733 | PHOENIX |
| 11 | 3 | END STOP | 2100-00576 | 249-117 | WAGO |
| 12 | 2 | TERMINAL POST | 2100-00577 | 249-119 | WAGO |
| 13 | 2 | END PLATE, TERMINAL | 2100-00603 | 870-518 | WAGO |
| 14 | 24 | DOUBLEDECK TERMINAL BLOCK, 4 WIRE | 2100-00604 | 870-501 | WAGO |
| 15 | 2 | TERMINAL MARKER, 1-50 | 2100-00605 | 248-566 | WAGO |
| 16 | 1 | DIODE PCB | 9999-44080 | 9999-44080 | EMI |
| 17 | 2 | LENS, BLUE | 2450-00021B | 31-903.6 | EAO |

REVISIONS

| REV | ZONE | ITEM | DESCRIPTION | DATE | BY |
|-----|------|------|-------------|------|----|
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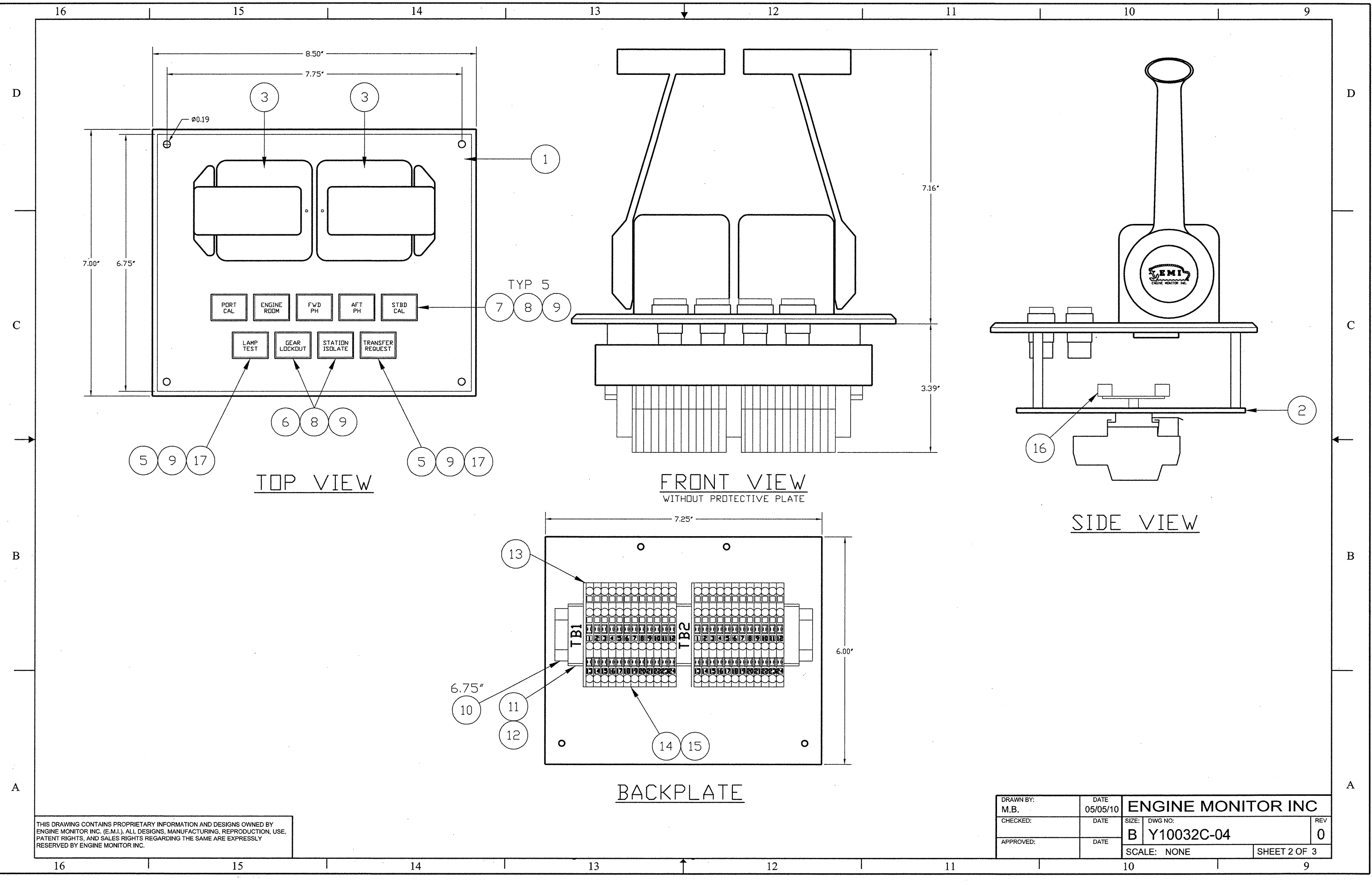
ORANGE SHIPBUILDING
NORTH CAROLINA DOT
M/V SILVERLAKE

| | |
|-------------------|------------------|
| DRAWN BY: M.B. | DATE 05/05/10 |
| QA: | DATE |
| CHECKED: | DATE |
| APPROVED: | DATE |

ENGINE ROOM PROPULSION
CONTROL STATION

| | | | | | | | | | | | | | | | | | | | |
|---------------------------|----|----|----|----|----|----|----|----|----|----|---|---|---|---|---|---|---|---|---|
| 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| SHEET NO. | | | | | | | | | | | | | | | | | | | |
| REVISION STATUS OF SHEETS | | | | | | | | | | | | | | | | | | | |

| | | | | |
|---------------------|--------------------------|-------------|-----------------------|--------------|
| HULL NUMBER: N/A | QUOTE NUMBER: 09-215C | SIZE: B | DWG NO: Y10032C-04 | REV 0 |
| JOB NO. N/A | FSCM NO. 63544 | SCALE: NONE | | SHEET 1 OF 3 |

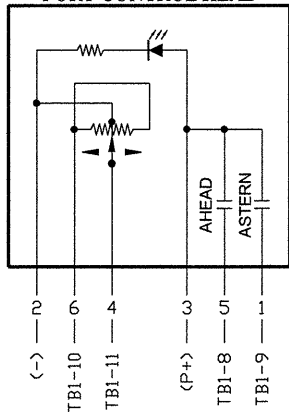


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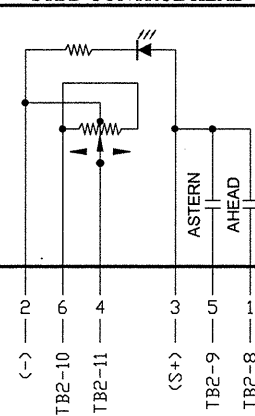
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|-------------------|------------------|--------------------------------------|-----------------|
| DRAWN BY: M.B. | DATE 05/05/10 | ENGINE MONITOR INC | |
| CHECKED: | DATE | SIZE: DWG NO: B Y10032C-04 | REV 0 |
| APPROVED: | DATE | SCALE: NONE | SHEET 2 OF 3 |

D

PORT CONTROL HEAD



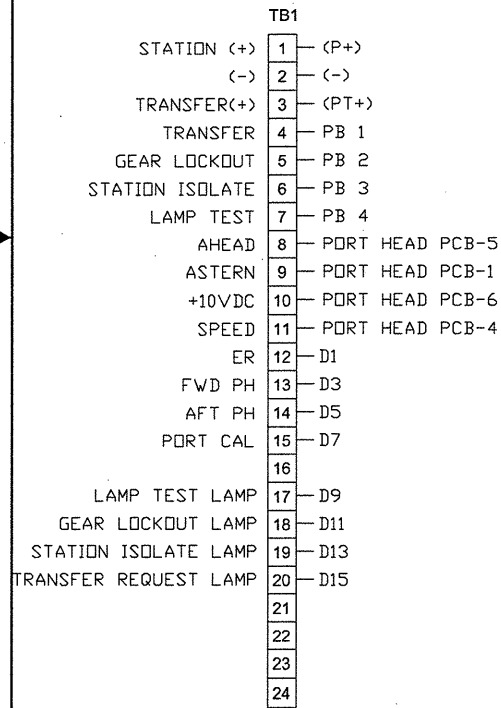
STBD CONTROL HEAD



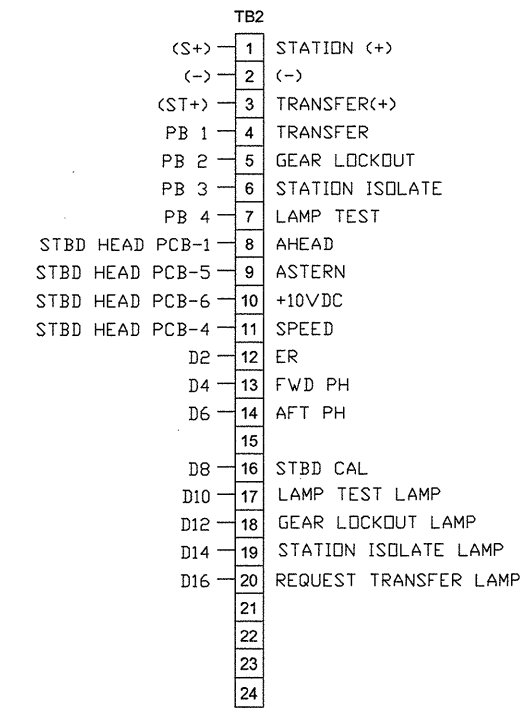
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PORT

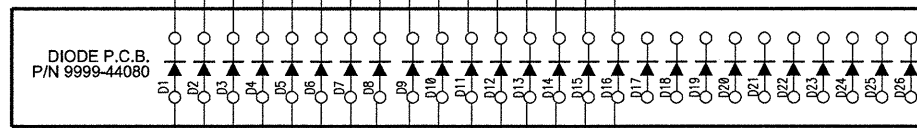
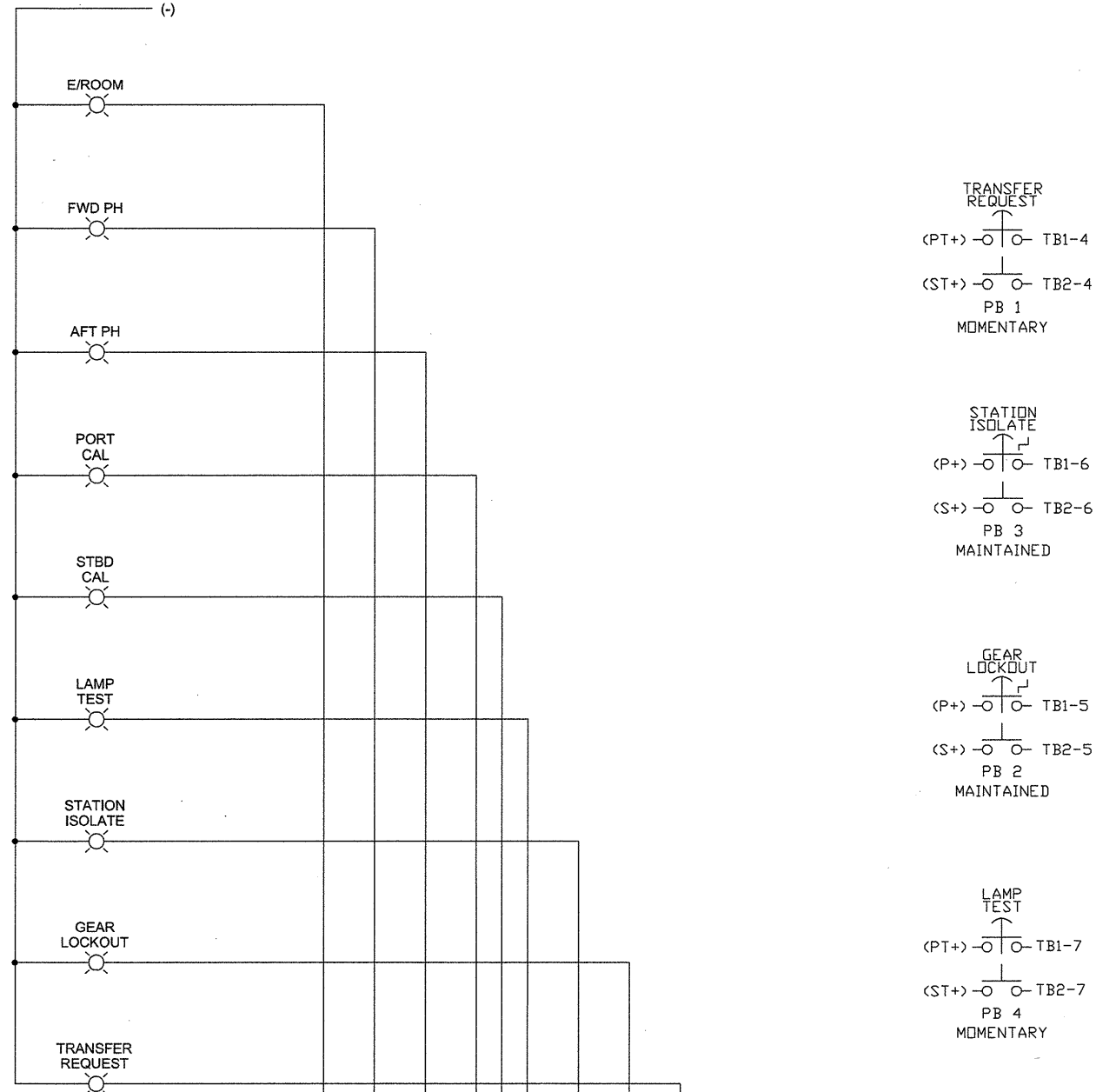


STBD



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| | | | |
|-------------------|------------------|---------------------------|--------------------|
| DRAWN BY: M.B. | DATE 05/05/10 | ENGINE MONITOR INC | |
| CHECKED: | DATE: | SIZE: B | DWG NO: Y10032C-04 |
| APPROVED: | DATE: | SCALE: NONE | REV: 0 |
| | | SHEET 3 OF 3 | |

GENERAL NOTES

1. SUGGESTED CONSOLE CUTOUT: 7.50" X 6.25"

BILL OF MATERIAL

| ITEM | QTY | DESCRIPTION | EMI P/N | MFR P/N | MFR |
|------|------|-----------------------------------|-----------------|-----------------|-----------|
| 1 | 1 | MOUNTING PLATE | 1200-Y8183C-05 | 1200-Y8183C-05 | EMI |
| 2 | 1 | PROTECTIVE PLATE | 1200-Y8183C-04A | 1200-Y8183C-04A | EMI |
| 3 | 2 | THROTTLE HANDLES- STAINLESS STEEL | 2825-01012 | MES1121-10 | MEC |
| 4 | - | | | | |
| 5 | 2 | IPB, MOMENTARY, DUAL N/O | 5100-00358 | 31.421.036 | EAO |
| 6 | 1 | POT, 1K, 1 LAYER | 4750-00053 | 53C3-1K | CLAROSTAT |
| 7 | 5 | INDICATOR | 2450-00013 | 31-040.005 | EAO |
| 8 | 5 | LENS, RED | 2450-00021R | 31-903.2 | EAO |
| 9 | 7 | LAMP, 24V | 2450-00008 | 334 | SYLVANIA |
| 10 | 6.75 | DIN RAIL, T35, 7.5MM | 2100-00465 | 0801733 | PHOENIX |
| 11 | 3 | END STOP | 2100-00576 | 249-117 | WAGO |
| 12 | 2 | TERMINAL POST | 2100-00577 | 249-119 | WAGO |
| 13 | 2 | END PLATE, TERMINAL | 2100-00603 | 870-518 | WAGO |
| 14 | 24 | DOUBLEDECK TERMINAL BLOCK, 4 WIRE | 2100-00604 | 870-501 | WAGO |
| 15 | 2 | TERMINAL MARKER, 1-50 | 2100-00605 | 248-566 | WAGO |
| 16 | 1 | DIODE PCB | 9999-44080 | 9999-44080 | EMI |
| 17 | 1 | KNOB, DIMMER | 2400-00006 | PKES60B 1/4 | AUGAT |
| 18 | 2 | LENS, BLUE | 2450-00021B | 31-903.6 | EAO |

REVISIONS

| REV | ZONE | ITEM | DESCRIPTION | DATE | BY |
|-----|------|------|-------------|------|----|
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ORANGE SHIPBUILDING
NORTH CAROLINA DOT
M/V SILVERLAKE

| | |
|-------------------|------------------|
| DRAWN BY: M.B. | DATE 05/05/10 |
| QA: | DATE |
| CHECKED: | DATE |
| APPROVED: | DATE |

PILOTHOUSE PROPULSION
CONTROL STATION

| | | | | | | | | | | | | | | | | | | | |
|---------------------------|----|----|----|----|----|----|----|----|----|----|---|---|---|---|---|---|---|---|---|
| 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
| SHEET NO. | | | | | | | | | | | | | | | | | | | |
| REVISION STATUS OF SHEETS | | | | | | | | | | | | | | | | | | | |

| | | | | |
|---------------------|--------------------------|-------------|-----------------------|--------------|
| HULL NUMBER: N/A | QUOTE NUMBER: 09-215C | SIZE: B | DWG NO: Y10032C-05 | REV 0 |
| JOB NO. N/A | FSCM NO. 63544 | SCALE: NONE | | SHEET 1 OF 3 |

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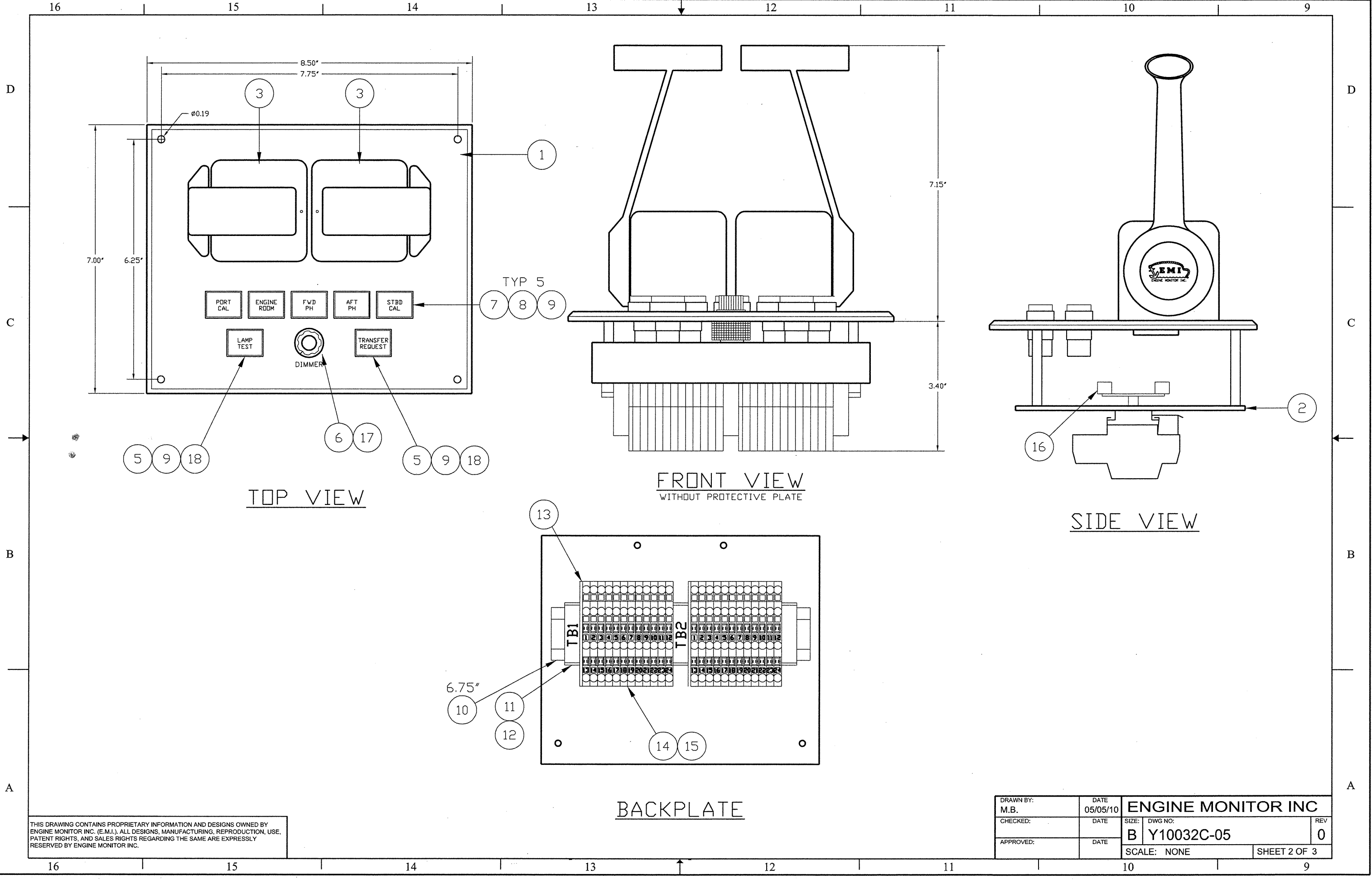
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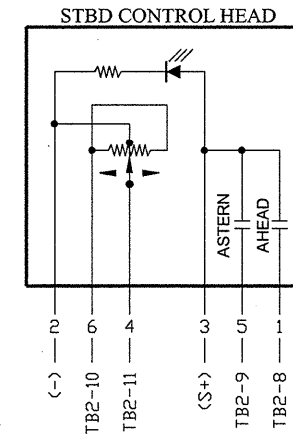
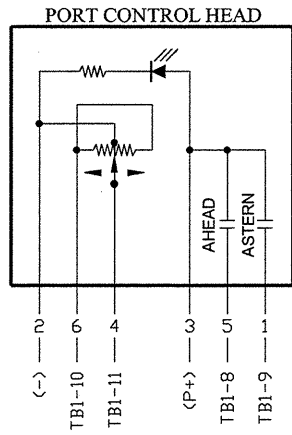
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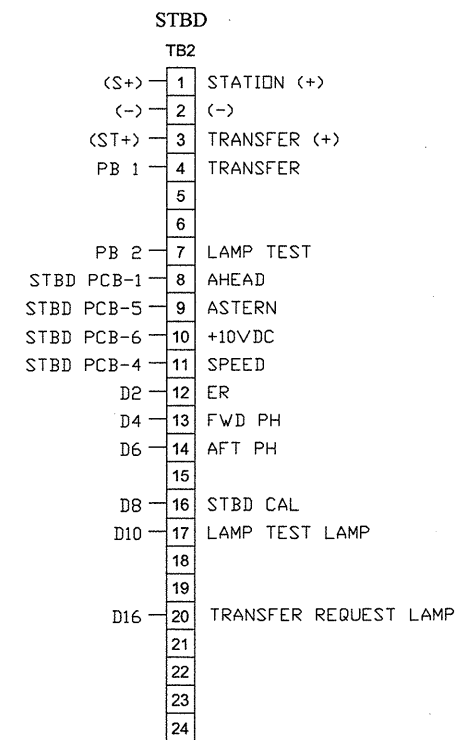
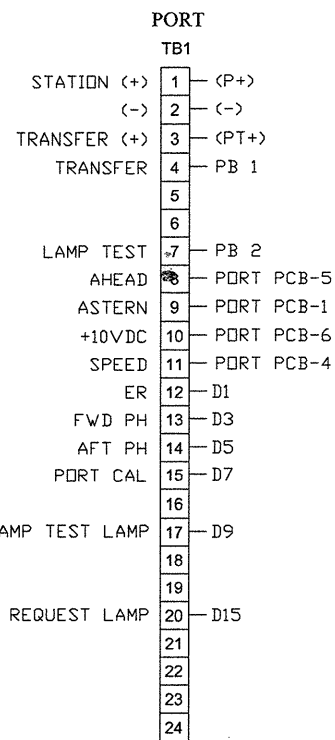
| | | | |
|-------------------|------------------|--------------------|-----------------------|
| DRAWN BY: M.B. | DATE 05/05/10 | ENGINE MONITOR INC | |
| CHECKED: | DATE | SIZE: B | DWG NO: Y10032C-05 |
| APPROVED: | DATE | REV 0 | SHEET 2 OF 3 |
| | | SCALE: NONE | |

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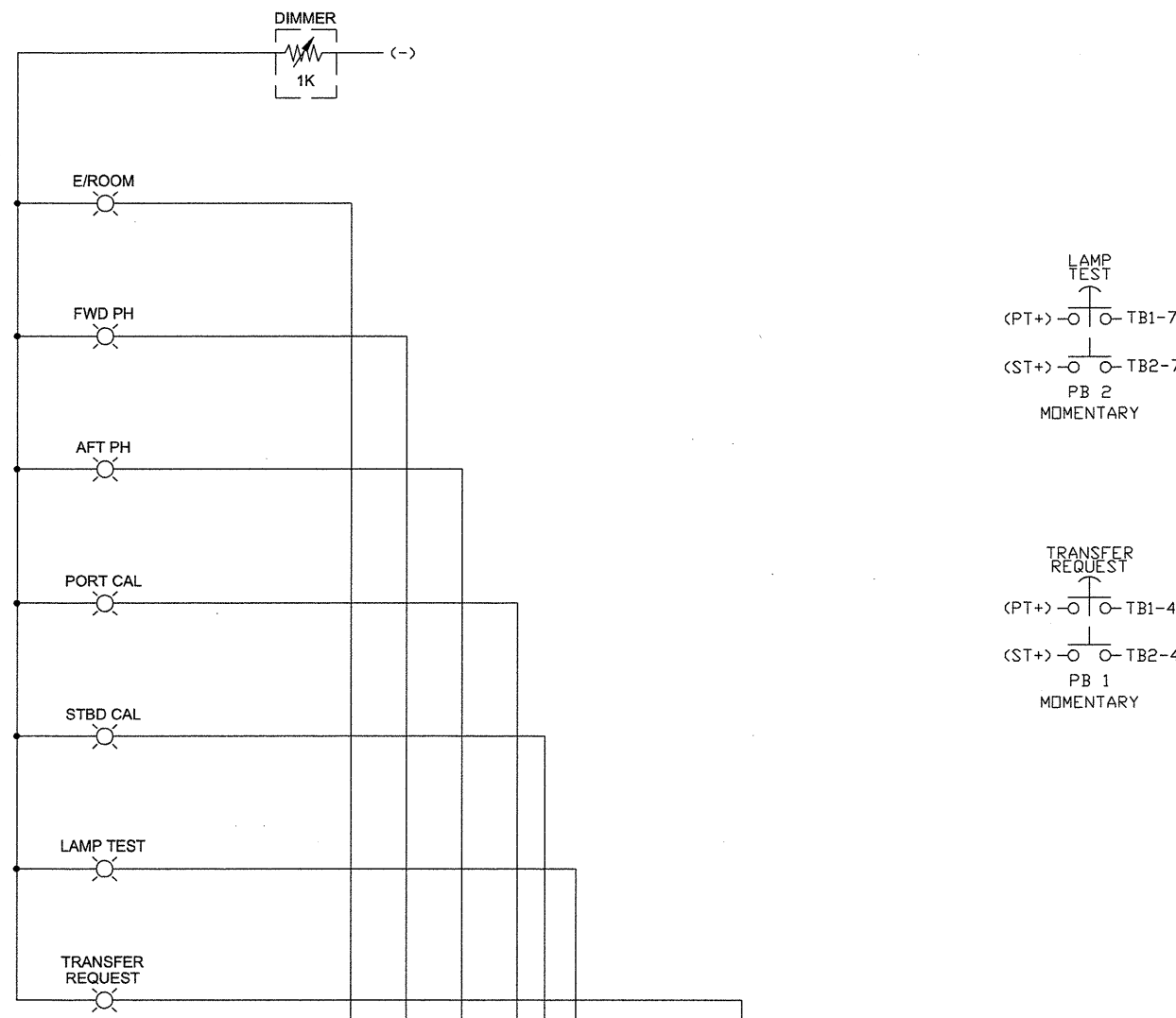
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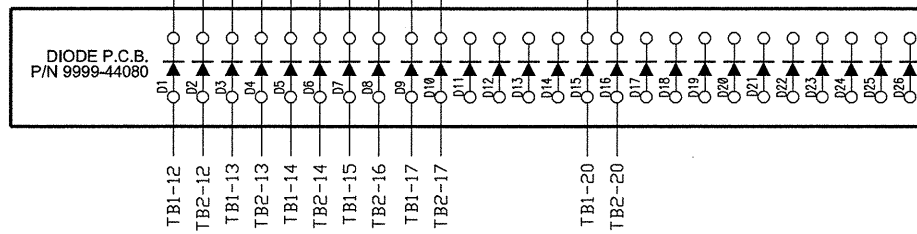


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|-------------------|------------------|--------------------------------------|-----------------|
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| CHECKED: | DATE | SIZE: DWG NO: B Y10032C-05 | REV 0 |
| APPROVED: | DATE | SCALE: NONE | SHEET 3 OF 3 |