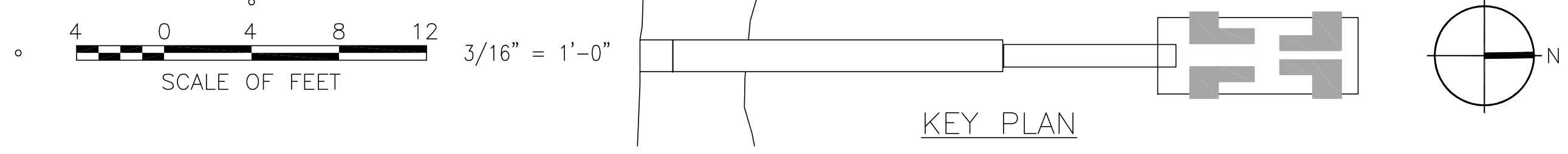


- NOTES:**
- ELEVATIONS REFERENCED TO TOP OF WATER SURFACE.
  - SEE SPECIFICATIONS FOR DESIGN REQUIREMENTS.
  - PROVIDE 120/208VAC, 3 PHASE, 4 WIRE TO EACH HPU.
  - SEE SHT. MR-2 FOR GENERAL VIEW OF LIFT AND INCLINE RAMP.



PRELIMINARY - NOT FOR CONSTRUCTION

NO.	DATE	DESCRIPTION
1	12/11/09	ADDENDUM 3



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 Architects & Planners in association with  
 Moffatt & Nichol, Simpson Gumpertz & Heger Inc.,  
 Engineering Enterprises, Lund Engineering, and  
 Schirmer Engineering Corporation

CONSULTANT  
**Lund Engineering, Inc.**  
 Mechanical Machine Design Engineering  
 1420 Maple Ave. S.W., Ste. 101  
 Renton, WA 98057

DESIGNED BY:  
WGL/CAH

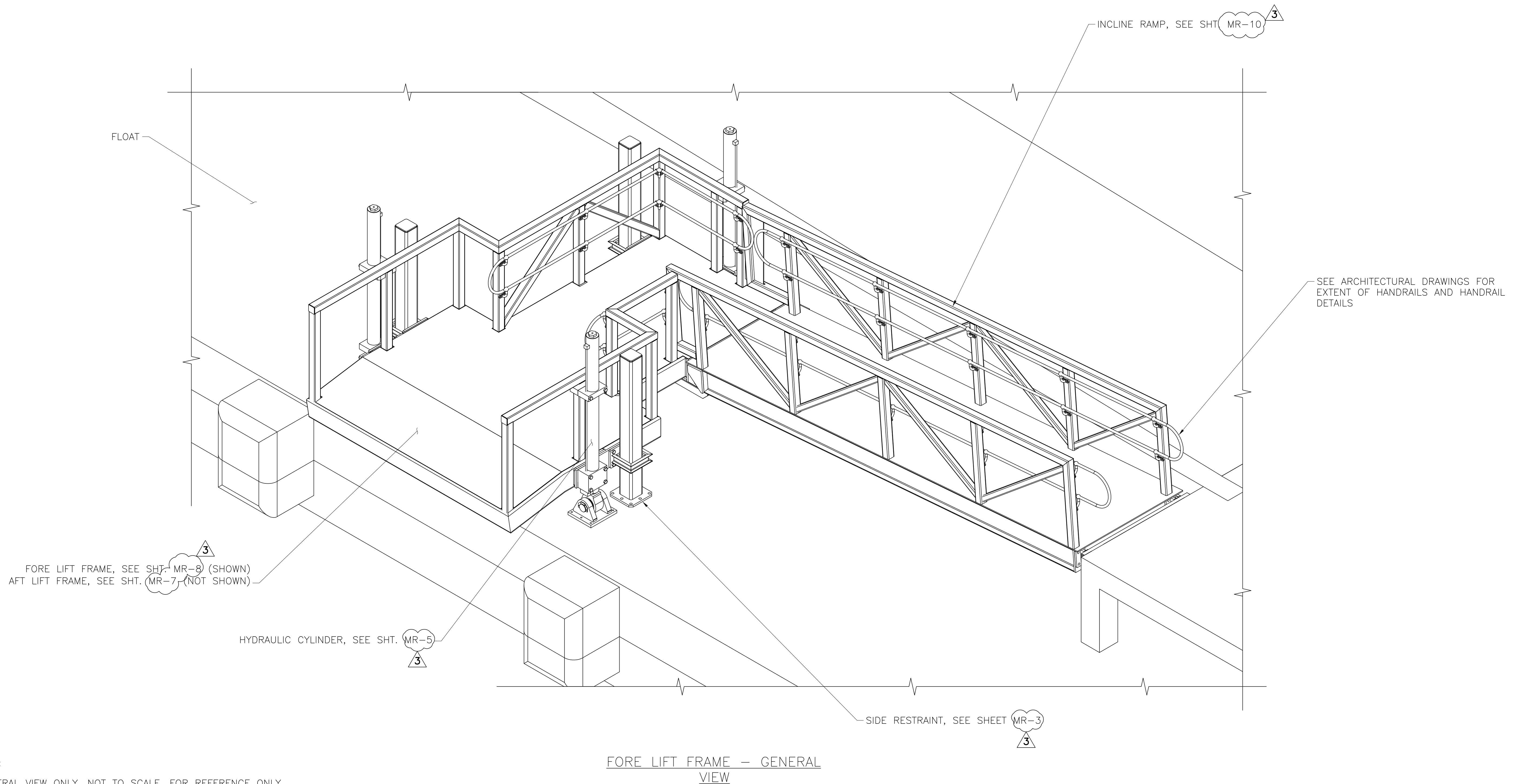
DRAWN BY:  
CAH

CHECKED BY:  
WGL

PROJECT  
**SOUTH SAN FRANCISCO FERRY TERMINAL**

SHEET  
**PASSENGER TRANSFER RAMP  
 AND LIFT GENERAL PLAN**

DATE	11/10/2009
SHEET	79 OF 92
DRAWING NO.	MR-1
JOB NO.	1348



**NOTES:**

1. GENERAL VIEW ONLY. NOT TO SCALE, FOR REFERENCE ONLY.
2. SEE SPECIFICATIONS FOR DESIGN REQUIREMENTS.

PRELIMINARY - NOT FOR CONSTRUCTION

NO.	DATE	DESCRIPTION
1	12/11/09	ADDENDUM 3



**ROMA Design Group**  
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 Schirmer Engineering Corporation

CONSULTANT  
**Lund Engineering, Inc.**  
 Mechanical Machine Design Engineering  
 1420 Maple Ave. S.W., Ste. 101  
 Renton, WA 98057

DESIGNED BY:  
WGL/CAH

DRAWN BY:  
CAH

CHECKED BY:  
WGL

PROJECT  
**SOUTH SAN FRANCISCO FERRY TERMINAL**

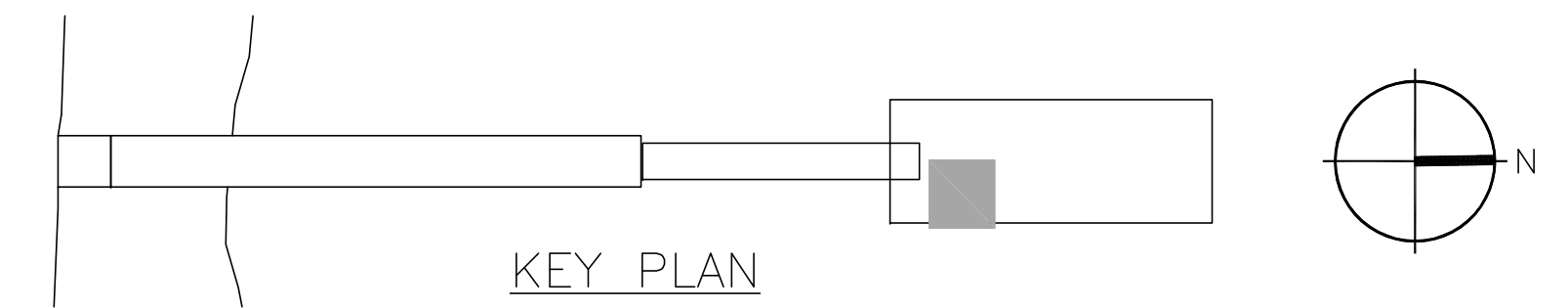
SHEET  
**PASSENGER TRANSFER RAMP  
 AND LIFT GENERAL VIEW**

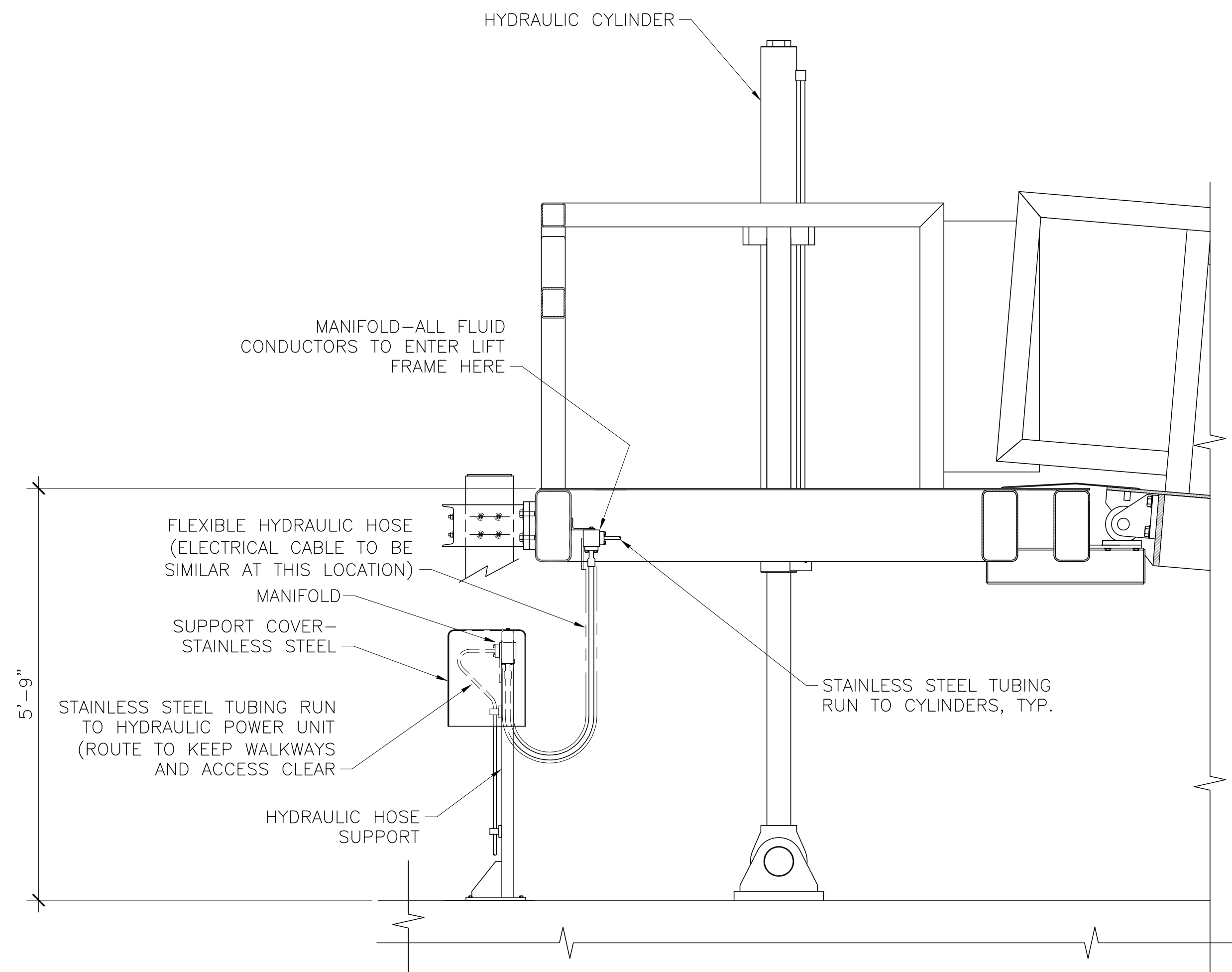
DATE  
**11/10/2009**

SHEET  
**80** OF **92**

DRAWING NO.  
**MR-2**

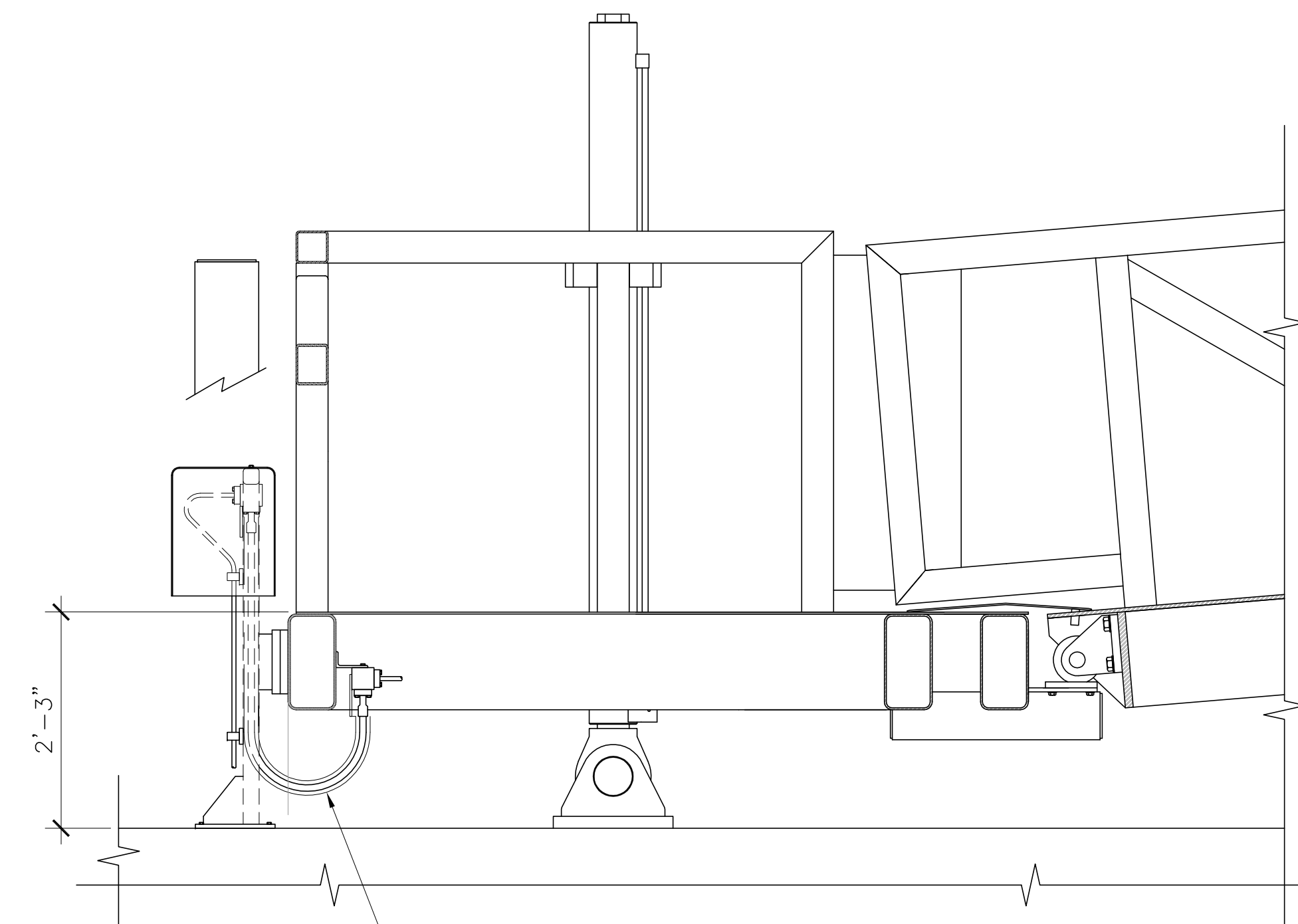
JOB NO.  
**1348**





SECTION  
3 (MR-1) SCALE: 3/4" = 1'-0"

SHOWN IN NOMINAL UP POSITION



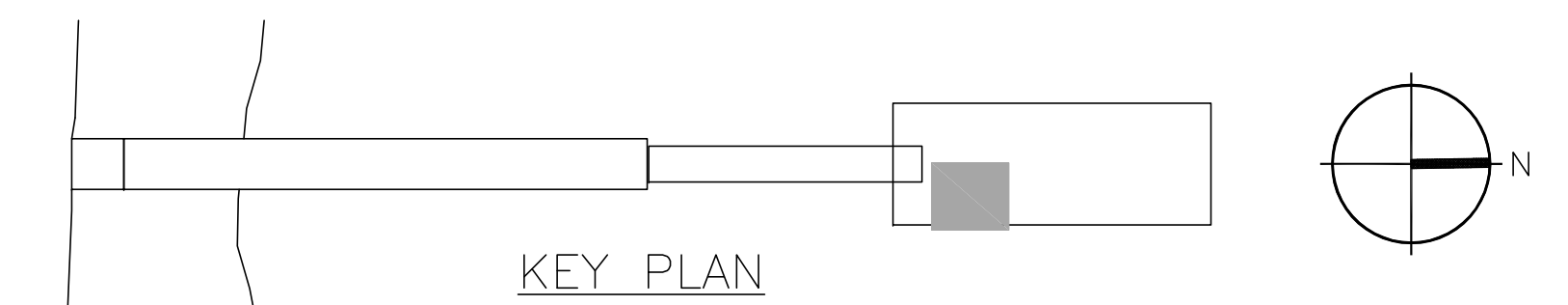
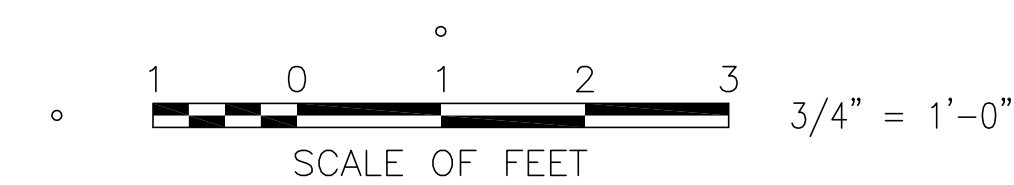
SECTION  
3 (MR-1) SCALE: 3/4" = 1'-0"

SHOWN IN NOMINAL DOWN POSITION

CABLE/HOSE CARRIER, GORETRACK OR SIMILAR, OUTDOOR MARINE RATED MATERIALS, FOLLOW ALL MANUFACTURER DESIGN AND INSTALLATION RECOMMENDATIONS

NOTES:

1. VIEWS DO NOT SHOW ALL DETAILS.
2. FORE EAST LIFT IS DEPICTED. OTHERS ARE SIMILAR



PRELIMINARY - NOT FOR CONSTRUCTION

NO.	DATE	DESCRIPTION
1	12/11/09	ADDENDUM 3



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Renton, WA 98057

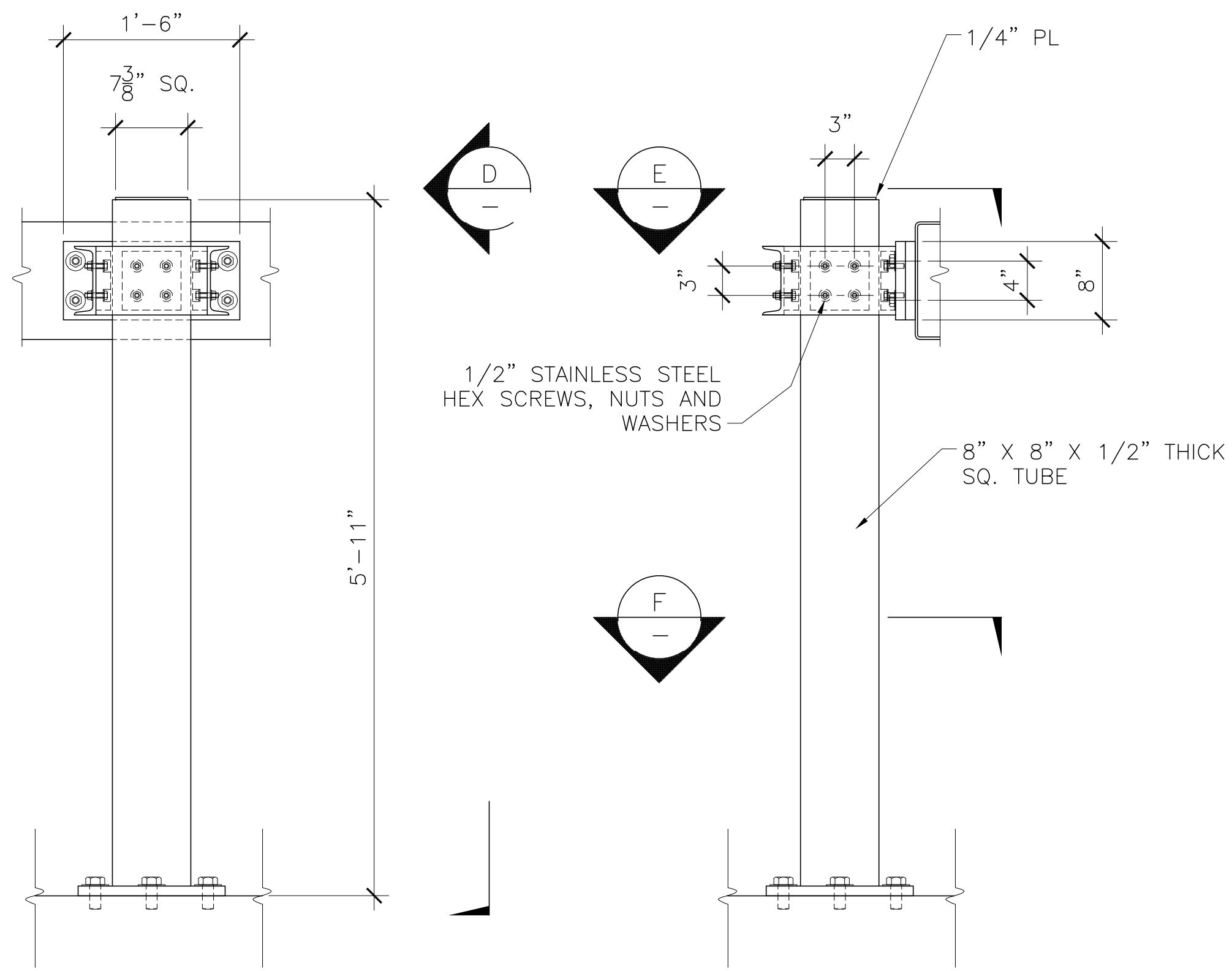
DESIGNED BY:  
WGL/CAH  
DRAWN BY:  
CWQ/CAH  
CHECKED BY:  
WGL

SEAL/SIGNATURE

PROJECT  
**SOUTH SAN FRANCISCO FERRY TERMINAL**

SHEET  
**PASSENGER TRANSFER RAMP  
AND LIFT ELEVATIONS 1**

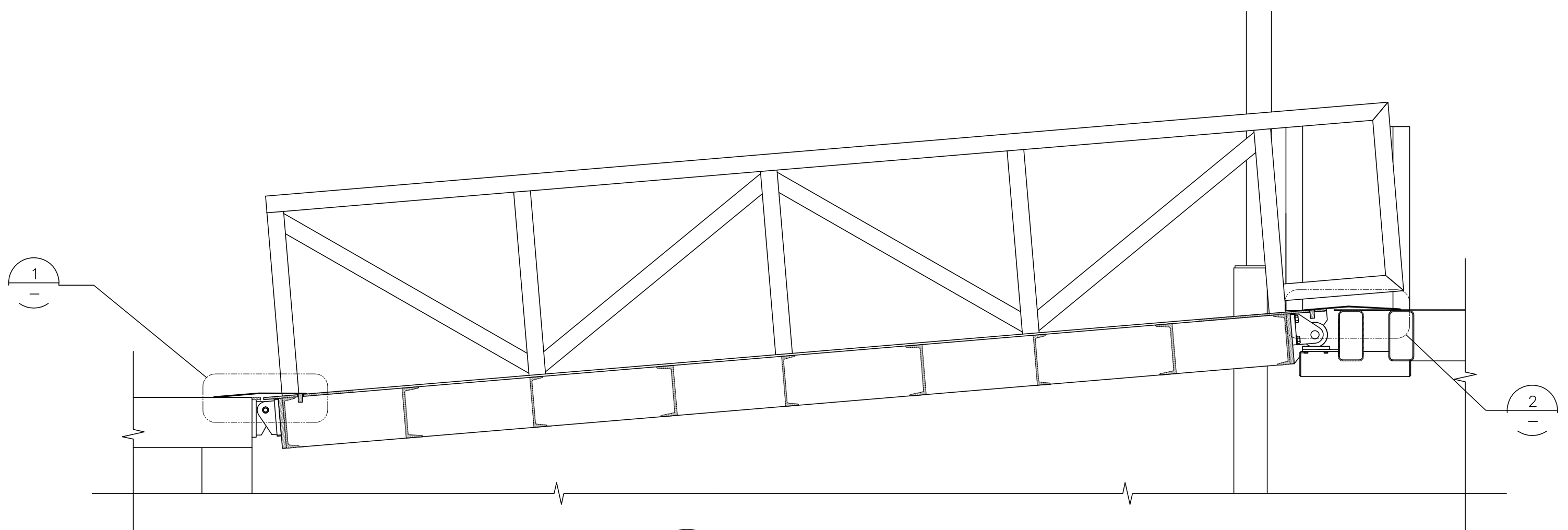
DATE  
**11/10/2009**  
SHEET  
81 OF 92  
DRAWING NO.  
**MR-3**  
JOB NO.  
1348



1/4" PL  
3"  
3"  
4"  
8"  
1/2" STAINLESS STEEL HEX SCREWS, NUTS AND WASHERS  
8" X 8" X 1/2" THICK SQ. TUBE

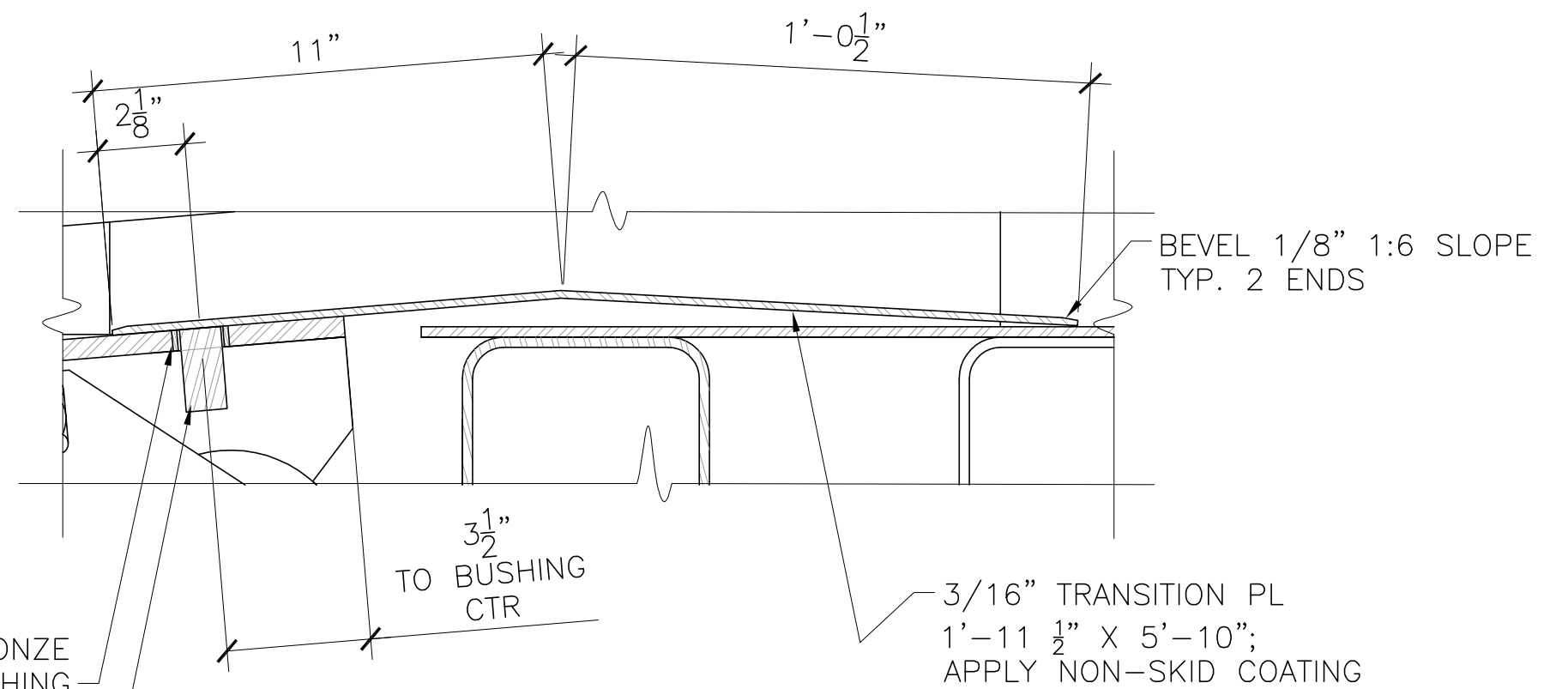
**C SECTION**  
MR-1 SCALE: 1"=1'-0"  
SIDE RESTRAINT

**D SECTION**  
SCALE: 1"=1'-0"

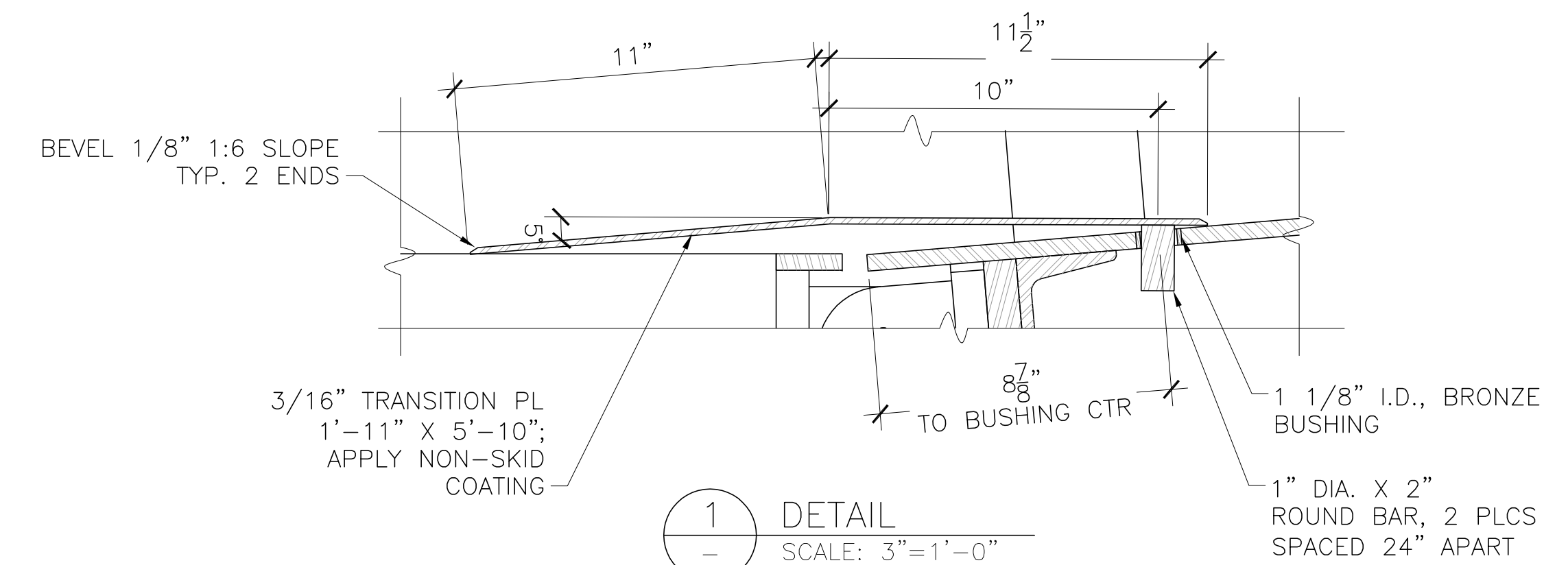


**B SECTION**  
MR-1 SCALE: 1/2"=1'-0"  
3

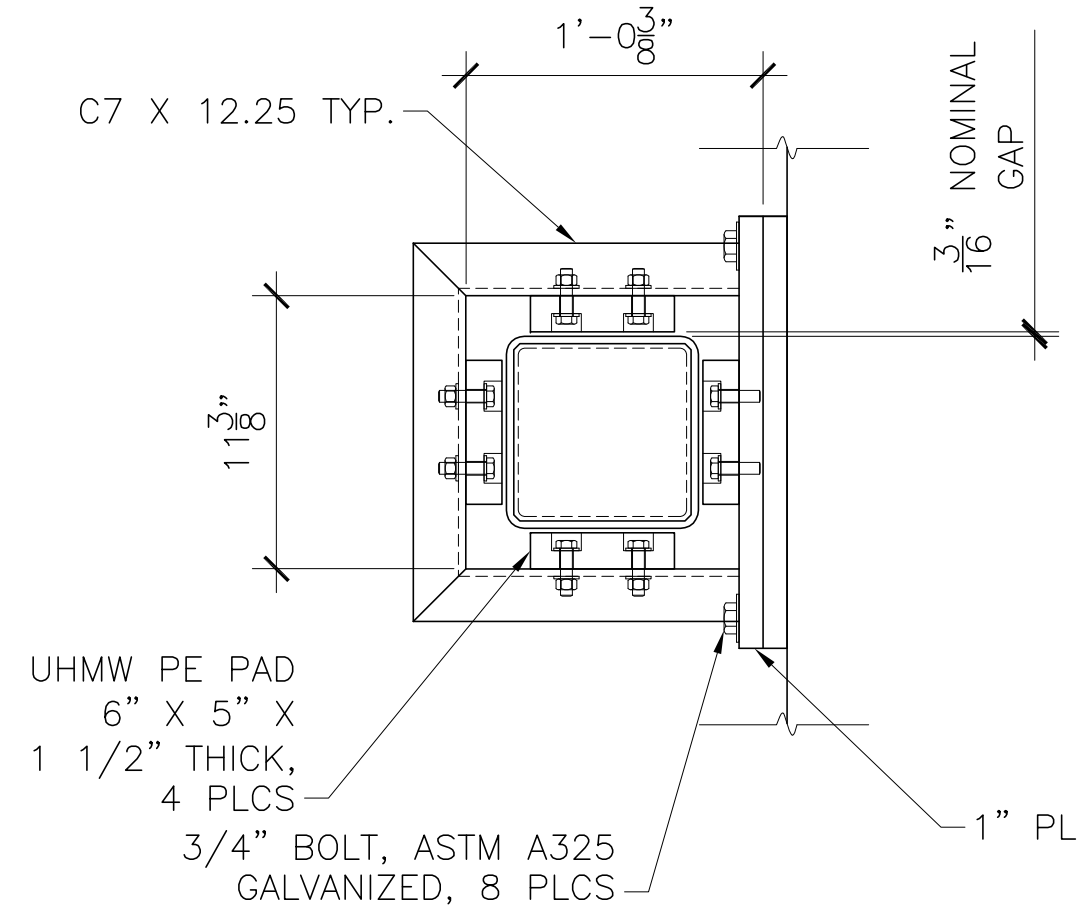
SHOWN IN FULL UP POSITION



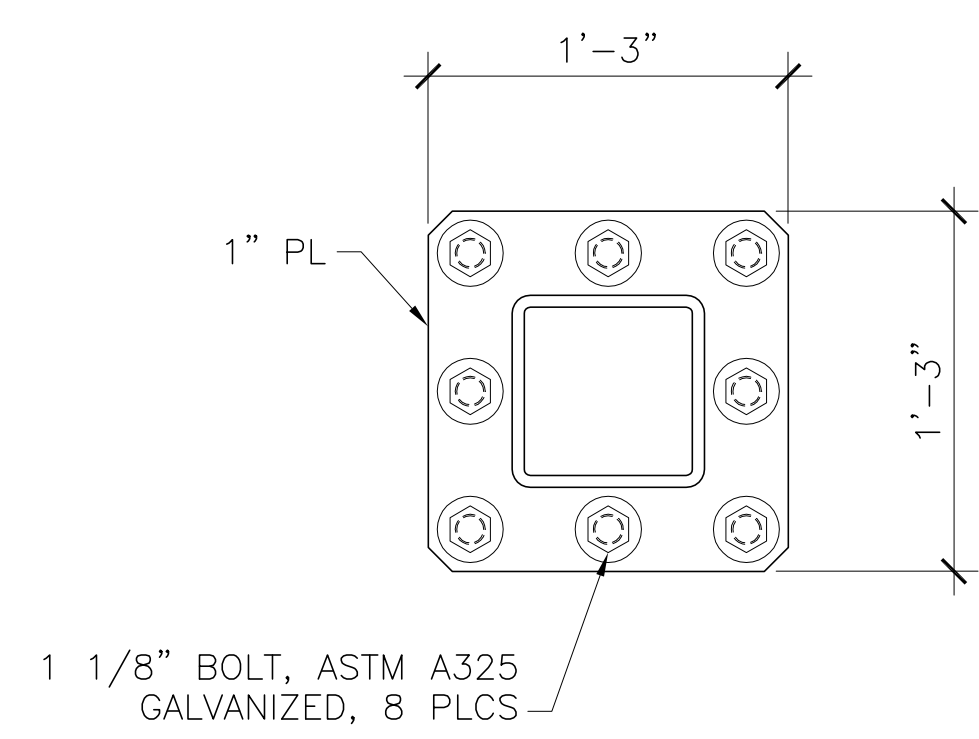
**2 DETAIL**  
SCALE: 3"=1'-0"



**1 DETAIL**  
SCALE: 3"=1'-0"  
AT FIXED RAMP

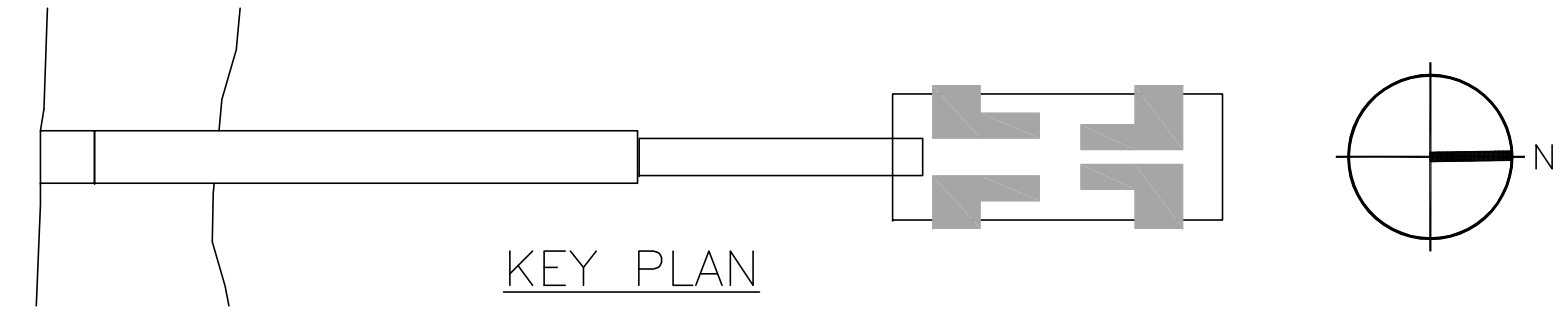


**E VIEW**  
SCALE: 1 1/2"=1'-0"



**F SECTION**  
SCALE: 1 1/2"=1'-0"

- NOTES:**
- VIEWS DO NOT SHOW ALL DETAILS.
  - SEE SHEET MR-1 FOR GENERAL NOTES.



PRELIMINARY - NOT FOR CONSTRUCTION

NO.	DATE	DESCRIPTION
1	12/11/09	ADDENDUM 3



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CONSULTANT  
**Lund Engineering, Inc.**  
Mechanical Machine Design Engineering  
1420 Maple Ave. S.W., Ste. 101  
Renton, WA 98057

DESIGNED BY:  
WGL/CAH  
DRAWN BY:  
CAH  
CHECKED BY:  
WGL

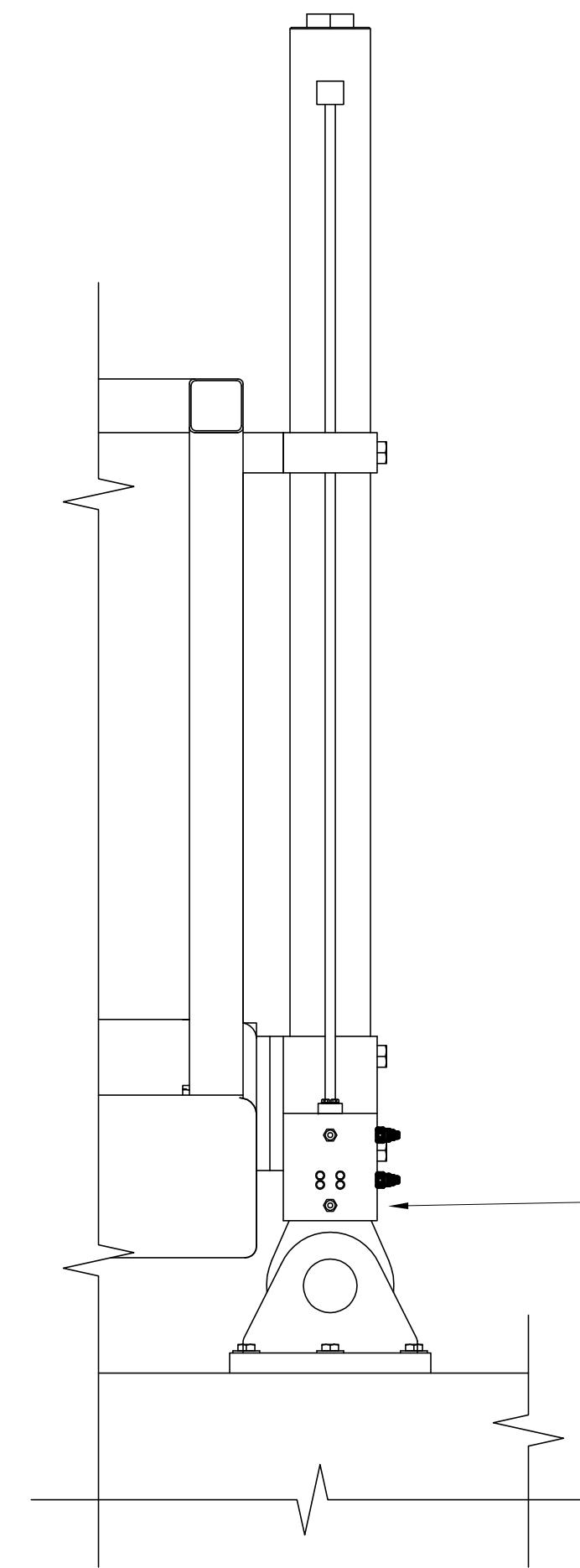
PROJECT  
**SOUTH SAN FRANCISCO FERRY TERMINAL**

SHEET  
**PASSENGER TRANSFER RAMP  
AND LIFT ELEVATIONS 2**

DATE  
**11/10/2009**  
SHEET  
82 OF 92  
DRAWING NO.  
**MR-4**  
JOB NO.  
1348

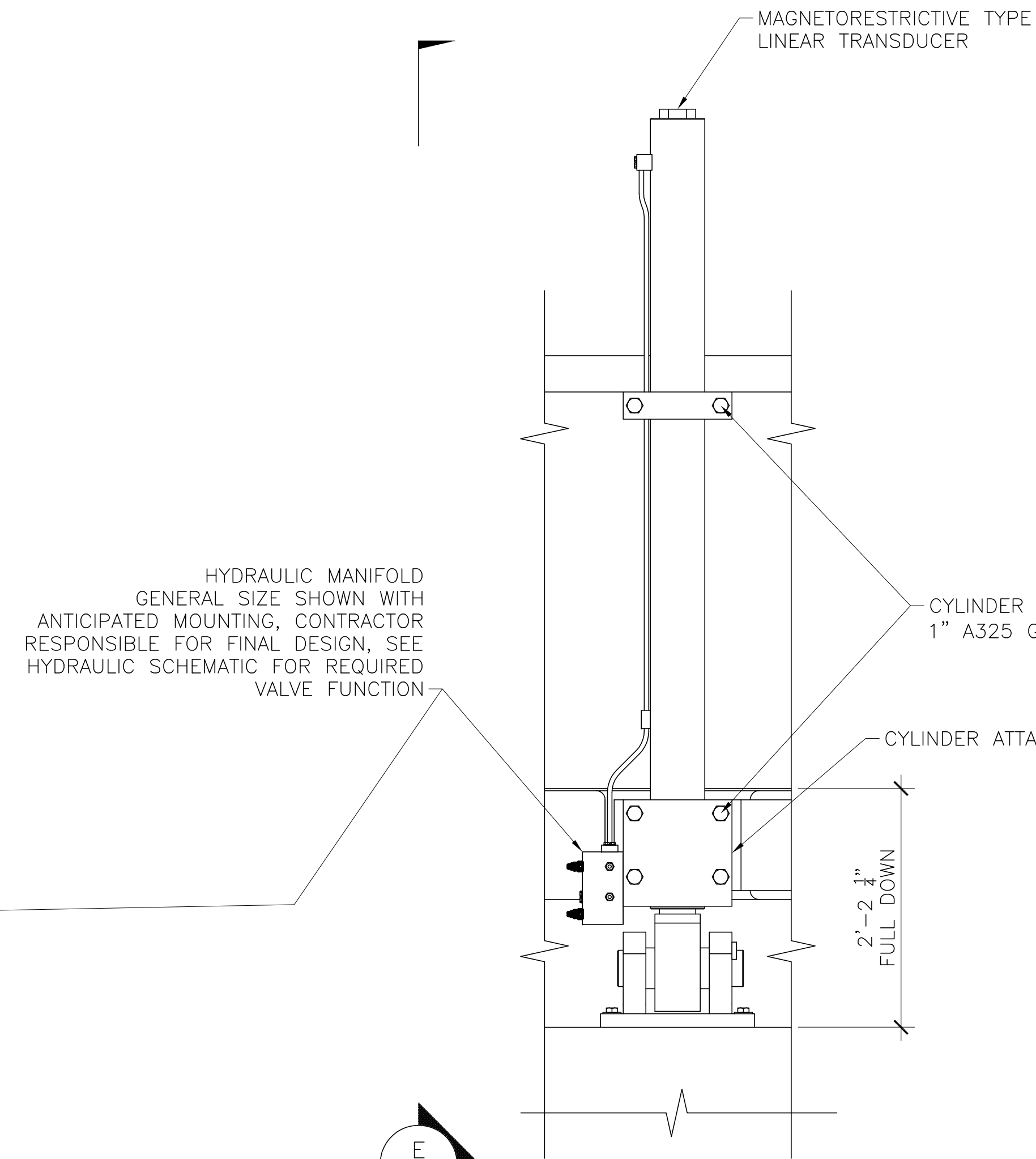
**NOTES:**

1. BORE: 4.75", ROD: 4", STROKE: 43.5".
2. CYLINDER IS TO OPERATE IN A VERTICAL POSITION AS SHOWN.
3. DESIGN PRESSURE: 3000 PSI WORKING, 5000 PSI NON-SHOCK.
4. CYLINDER COMPONENTS AND ATTACHMENTS SHALL BE DESIGNED WITH A MINIMUM SAFETY FACTOR OF 5 BASED UPON THE MATERIAL ULTIMATE STRENGTH. SEE SPECIFICATIONS FOR FURTHER REQUIREMENTS.
5. ROD SHALL BE 304 OR 316 STAINLESS STEEL WITH HARD CHROME PLATING.
6. CYLINDER SHALL OPERATE WITH MEDIUM WEIGHT INDUSTRIAL MINERAL OIL.
7. CYLINDER VALVES AND MANIFOLD ARE TO BE PROVIDED. MANIFOLD TO BE MOUNTED DIRECTLY TO THE CYLINDER BARREL WITH AN SAE FLANGE TYPE FACE SEAL WITH O-RINGS. SEE HYDRAULIC SCHEMATIC FOR FUNCTION OF VALVES.
8. CYLINDER SHALL BE PAINTED WITH A TWO PART EPOXY MARINE GRADE PAINT.
9. CYLINDER SHALL BE PROVIDED WITH AIR BLEED VALVES TO FACILITATE THE REMOVAL OF ENTRAPPED AIR AND PRESSURE MONITORING.
10. CONTRACTOR SHALL DEVELOP AND COORDINATE FITS AND CLEARANCES AS REQUIRED FOR ASSEMBLY, OPERATION AND MAINTENANCE.
11. DRAWING SHOWS GENERAL CYLINDER DESIGN AND LOCATION OF ATTACHMENTS, MANIFOLDS AND FITTINGS. CONTRACTOR IS RESPONSIBLE FOR FINAL CYLINDER DESIGN AND CONSTRUCTION.



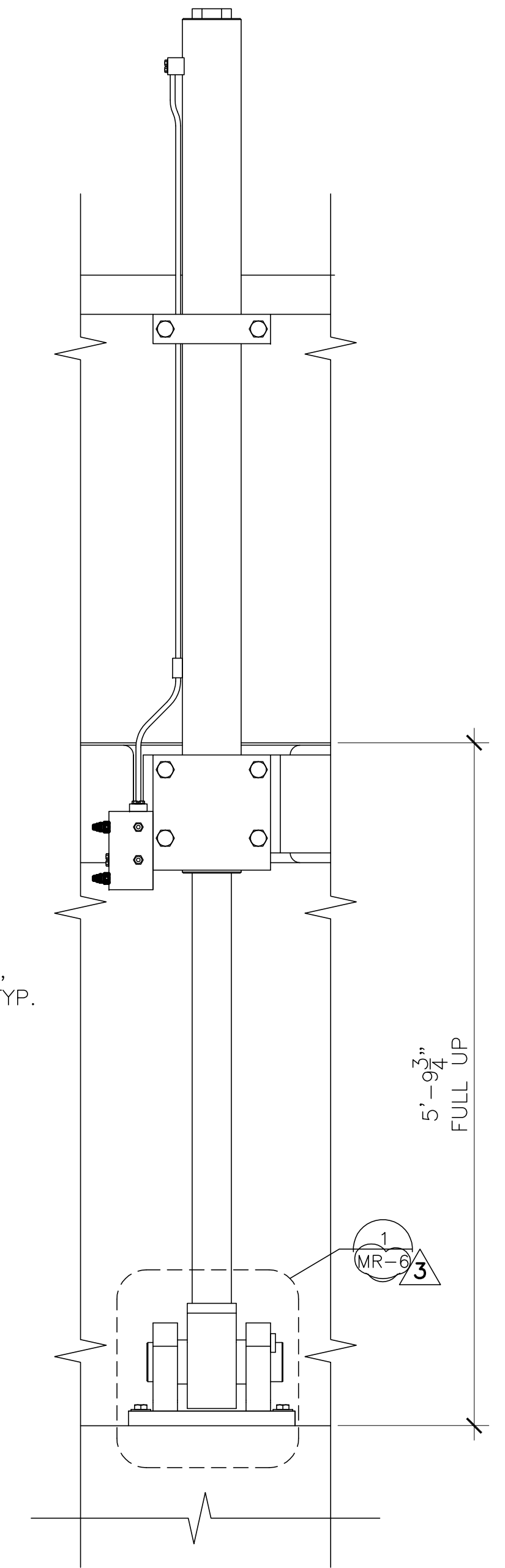
**E** VIEW  
SCALE: 1"=1'-0"

SHOWN IN NOMINAL DOWN POSITION



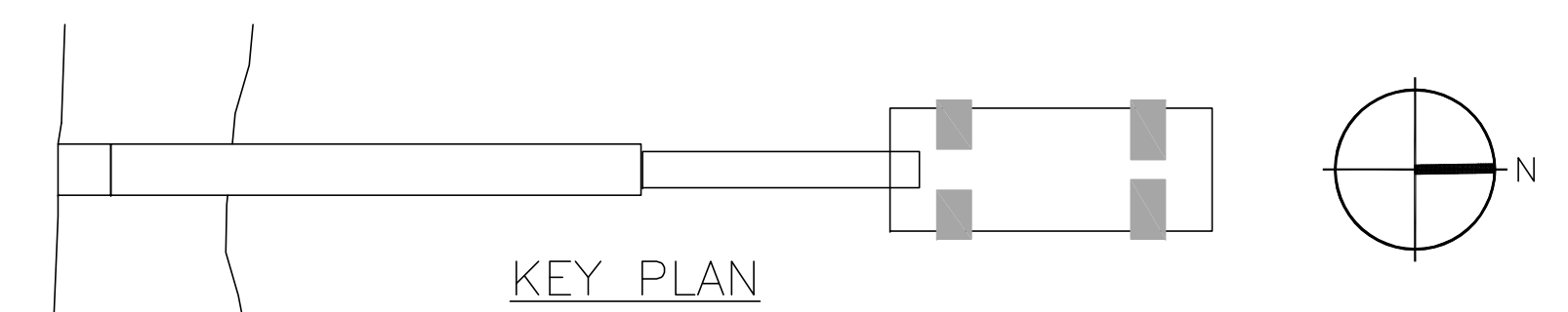
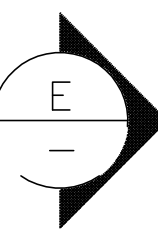
**D** SECTION  
SCALE: 1"=1'-0"

SHOWN IN NOMINAL DOWN POSITION



**D** SECTION  
SCALE: 1"=1'-0"

SHOWN IN NOMINAL UP POSITION



PRELIMINARY - NOT FOR CONSTRUCTION

REVISIONS		
NO.	DATE	DESCRIPTION
1	12/11/09	ADDENDUM 3



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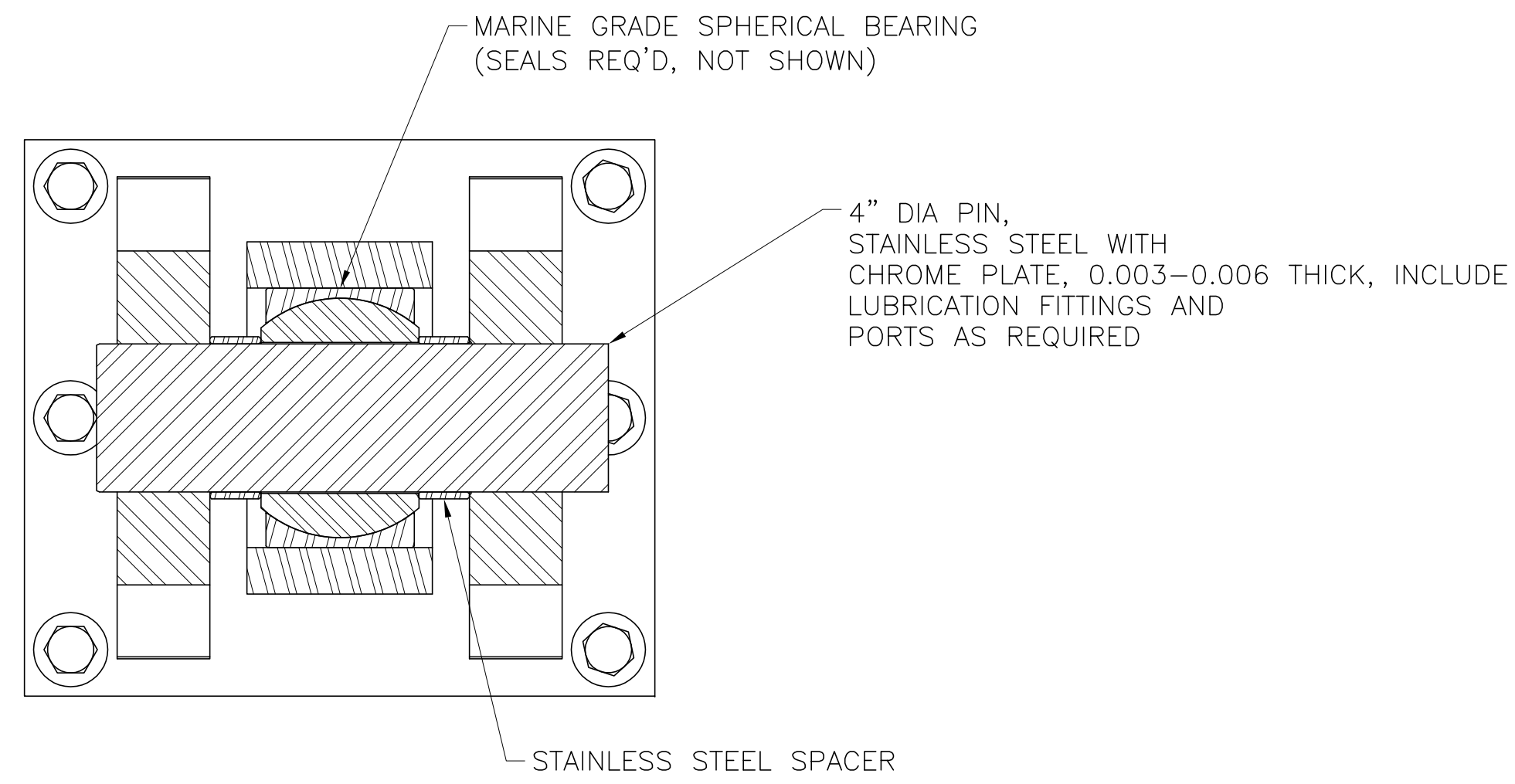
CONSULTANT  
**Lund Engineering, Inc.**  
Mechanical Machine Design Engineering  
1420 Maple Ave. S.W., Ste. 101  
Renton, WA 98057

DESIGNED BY:  
WGL/CAH  
DRAWN BY:  
CWQ/CAH  
CHECKED BY:  
WGL

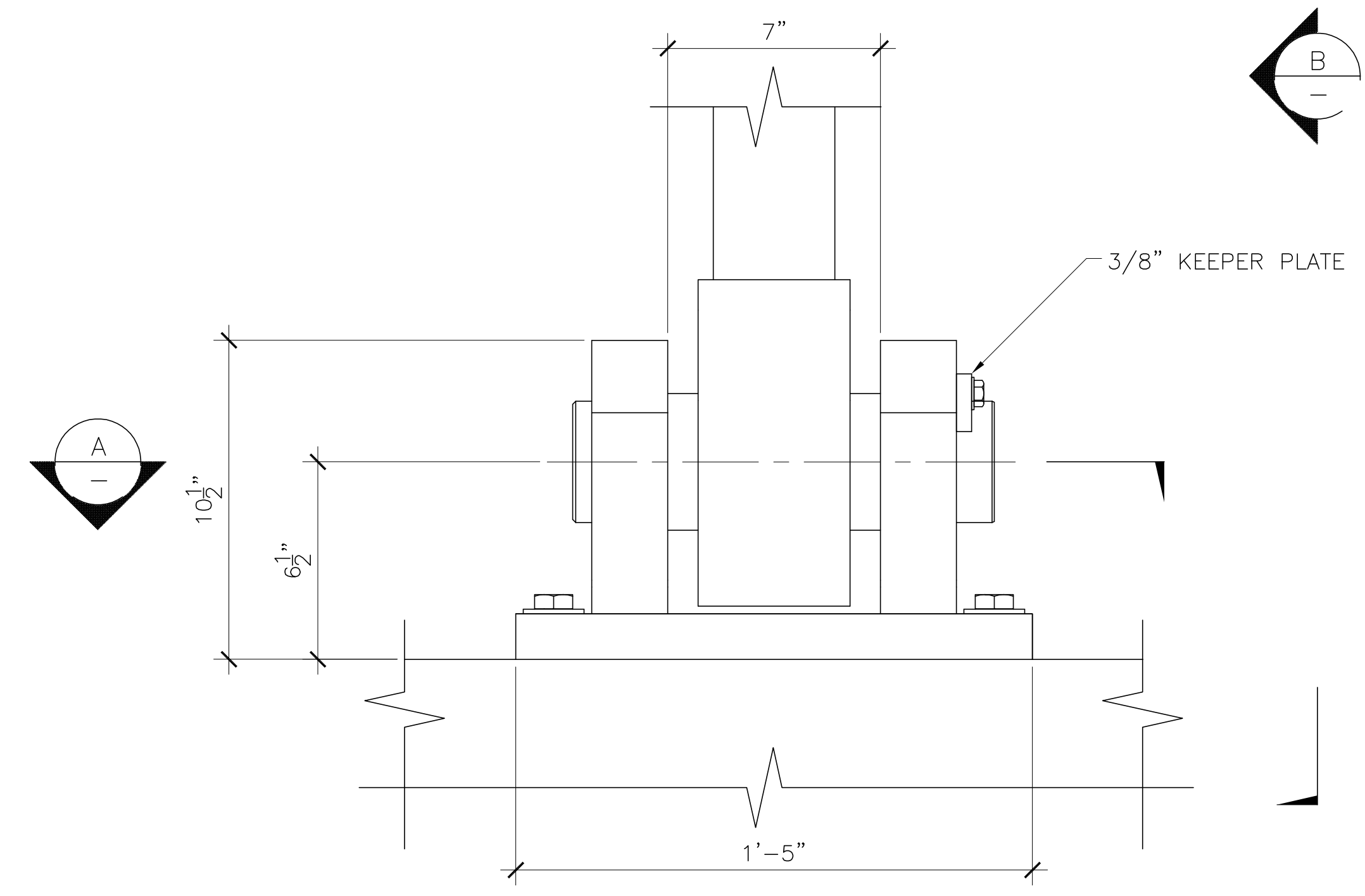
PROJECT  
**SOUTH SAN FRANCISCO FERRY TERMINAL**  
SHEET

**PASSENGER TRANSFER RAMP  
AND LIFT CYLINDER DETAIL**

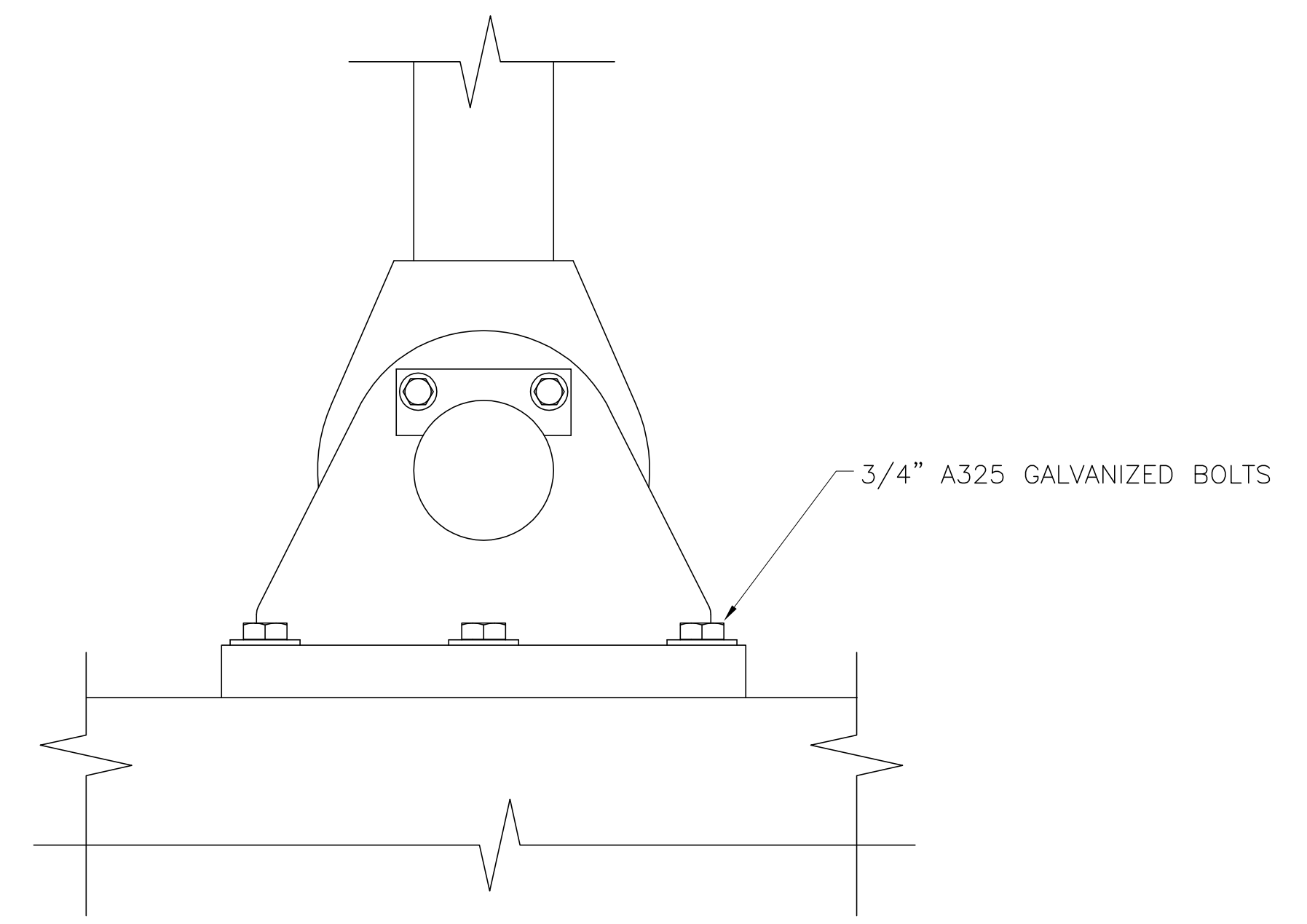
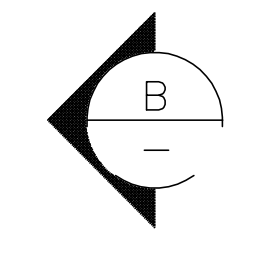
DATE  
**11/10/2009**  
SHEET  
83 OF 92  
DRAWING NO.  
**MR-5**  
JOB NO.  
1348



**A** SECTION  
SCALE: 3"=1'-0"



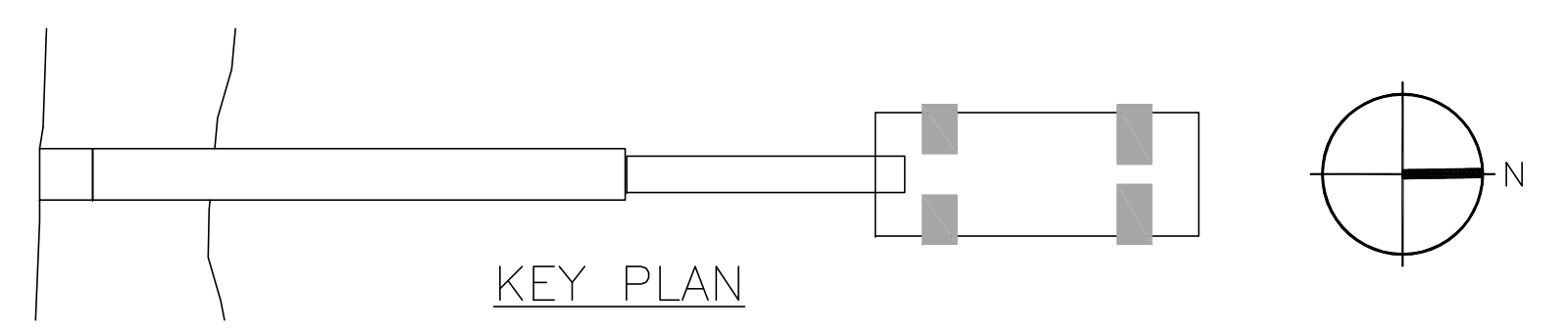
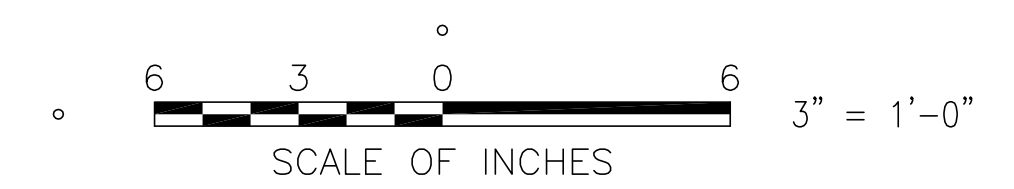
**1** DETAIL  
SCALE: 3"=1'-0"



**B** VIEW  
SCALE: 3"=1'-0"

**NOTES:**

- 1. VIEWS DO NOT SHOW ALL DETAILS.



PRELIMINARY - NOT FOR CONSTRUCTION

NO.	DATE	DESCRIPTION
1	12/11/09	ADDENDUM 3



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**Lund Engineering, Inc.**  
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1420 Maple Ave. S.W., Ste. 101  
Renton, WA 98057

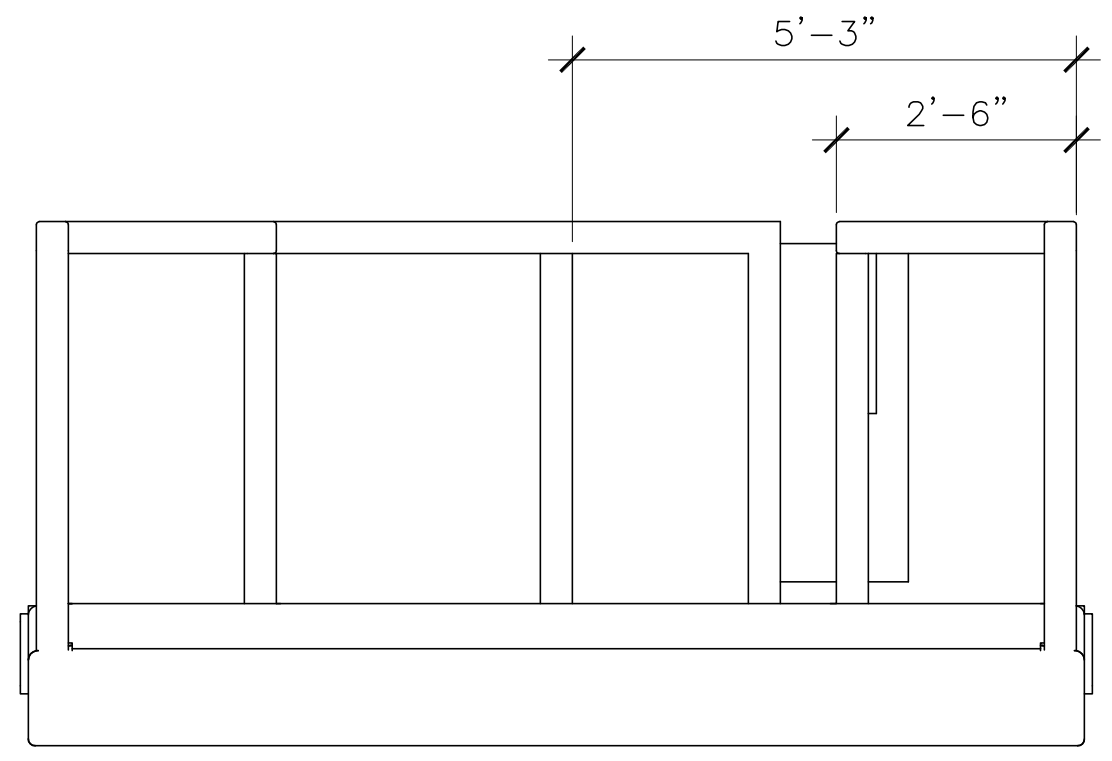
SEAL/SIGNATURE

SEAL/SIGNATURE

DESIGNED BY:  
WGL/CAH  
DRAWN BY:  
CAH  
CHECKED BY:  
WGL

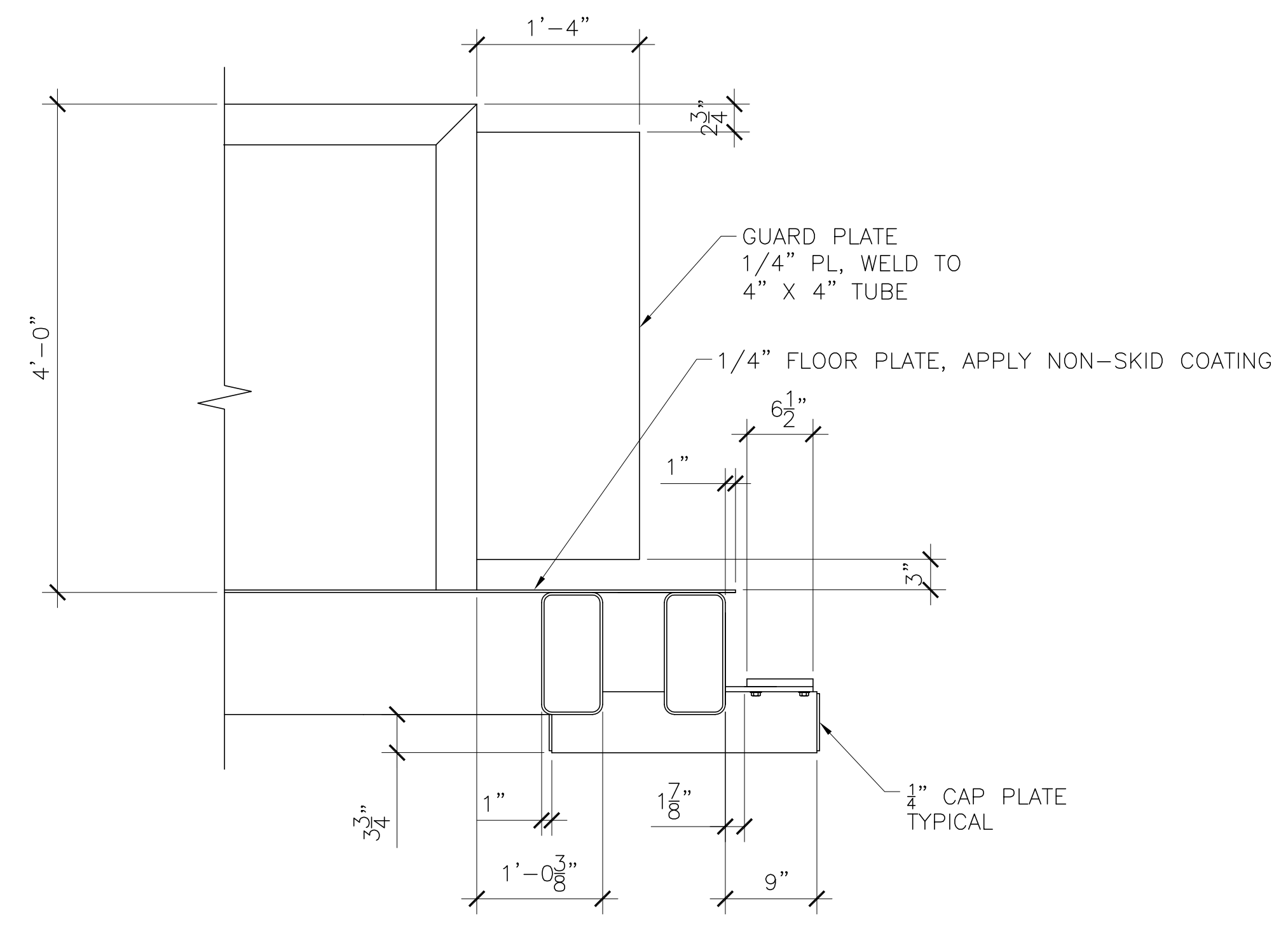
PROJECT  
**SOUTH SAN FRANCISCO FERRY TERMINAL**  
SHEET  
**PASSENGER TRANSFER RAMP  
AND LIFT CYLINDER DETAIL - 2**

DATE  
**11/10/2009**  
SHEET  
84 OF 92  
DRAWING NO.  
**MR-6**  
JOB NO.  
1348



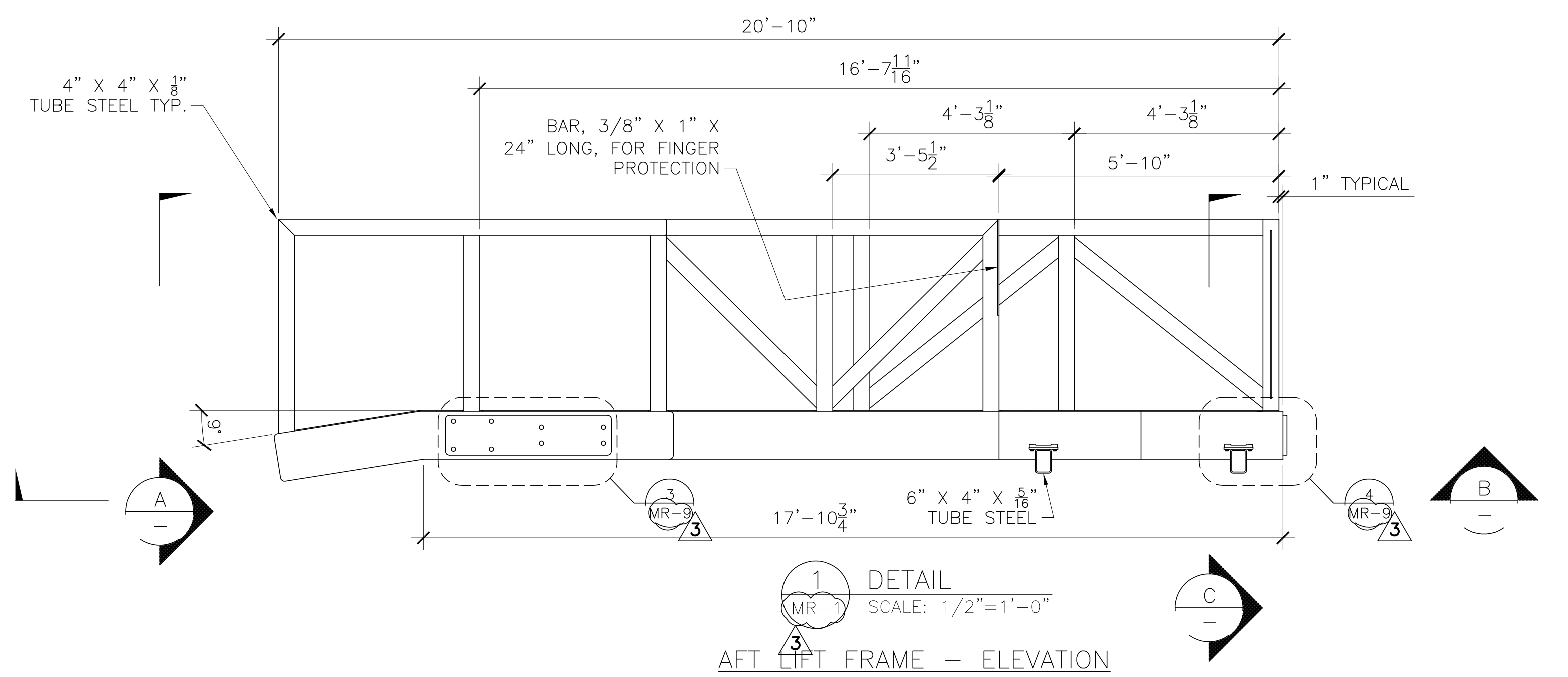
**A** VIEW  
SCALE: 1/2"=1'-0"

**A** VIEW  
MR-8  
SCALE: 1/2"=1'-0"



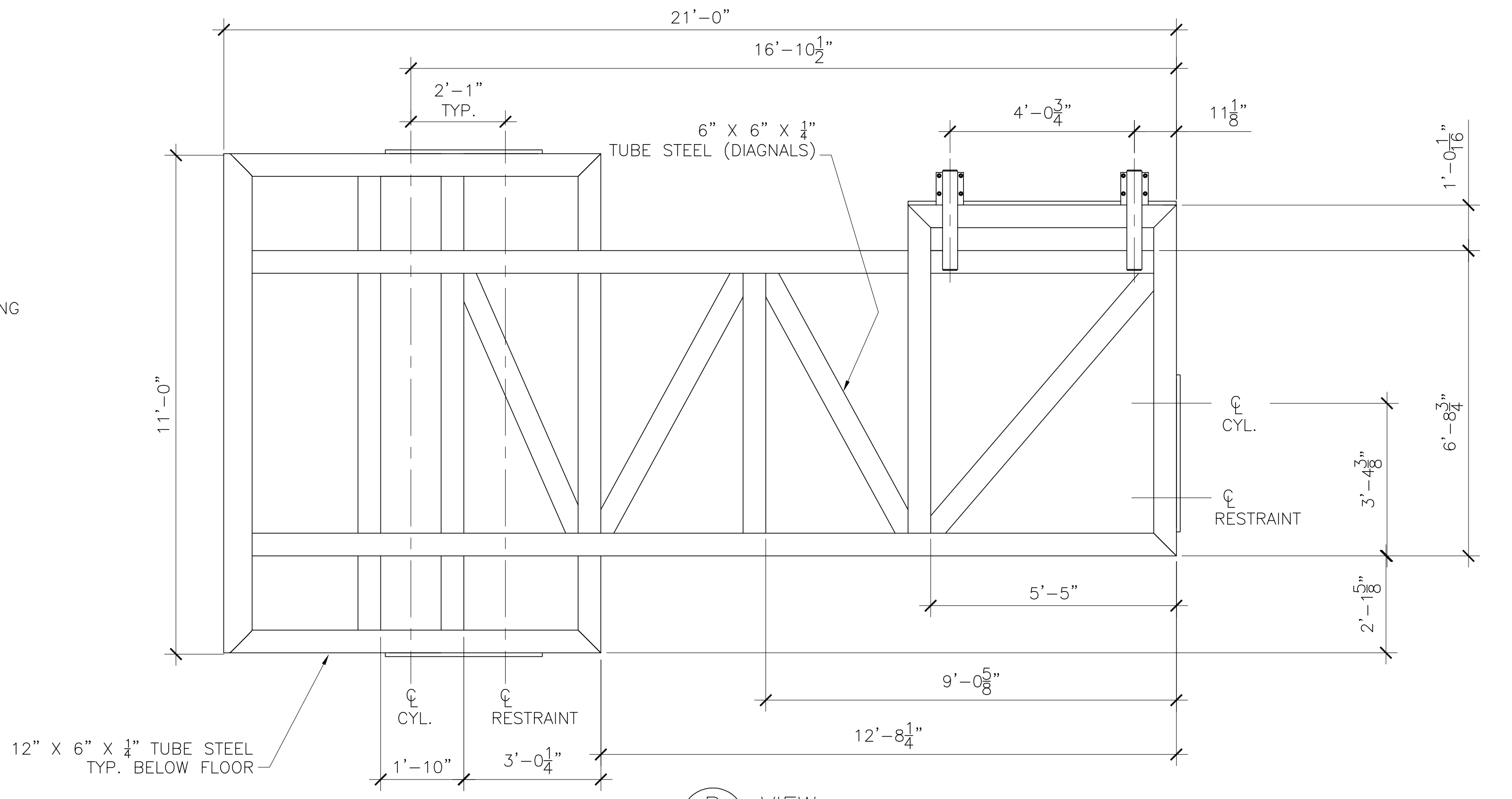
**C** SECTION  
SCALE: 1"=1'-0"

**C** SECTION  
MR-8  
SCALE: 1"=1'-0"



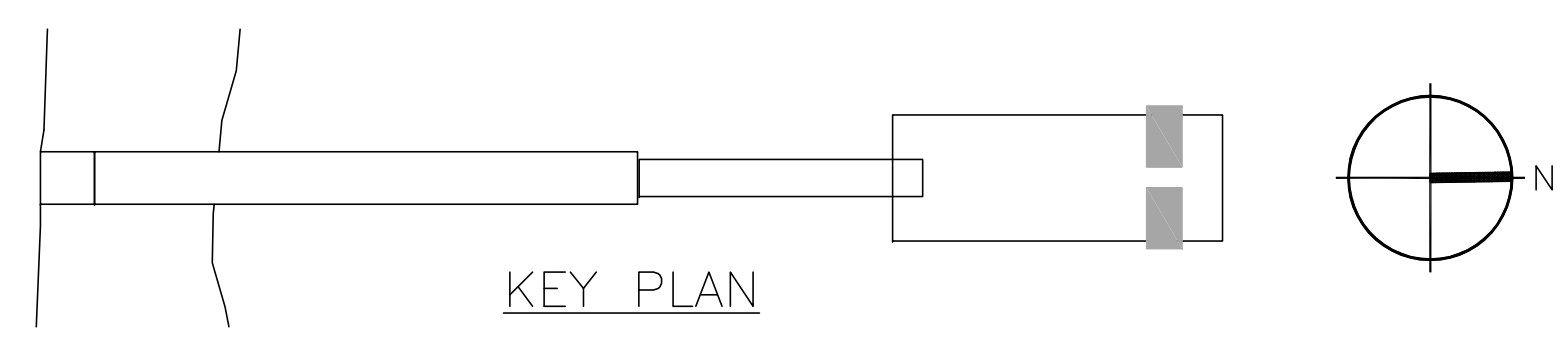
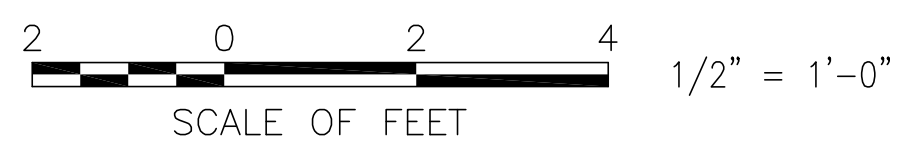
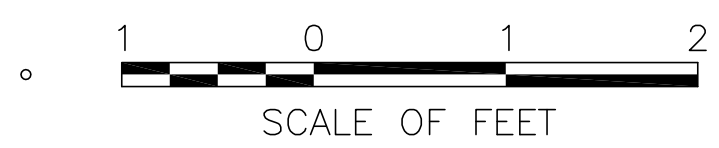
**1** DETAIL  
MR-1  
SCALE: 1/2"=1'-0"

AFT LIFT FRAME - ELEVATION



**B** VIEW  
SCALE: 1/2"=1'-0"

- NOTES:**
- ONE LIFT AS SHOWN, ONE MIRROR IMAGE.
  - HANDRAILS NOT SHOWN. SEE ARCHITECTURAL DRAWINGS.



PRELIMINARY - NOT FOR CONSTRUCTION

NO.	DATE	DESCRIPTION
1	12/11/09	ADDENDUM 3



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Renton, WA 98057

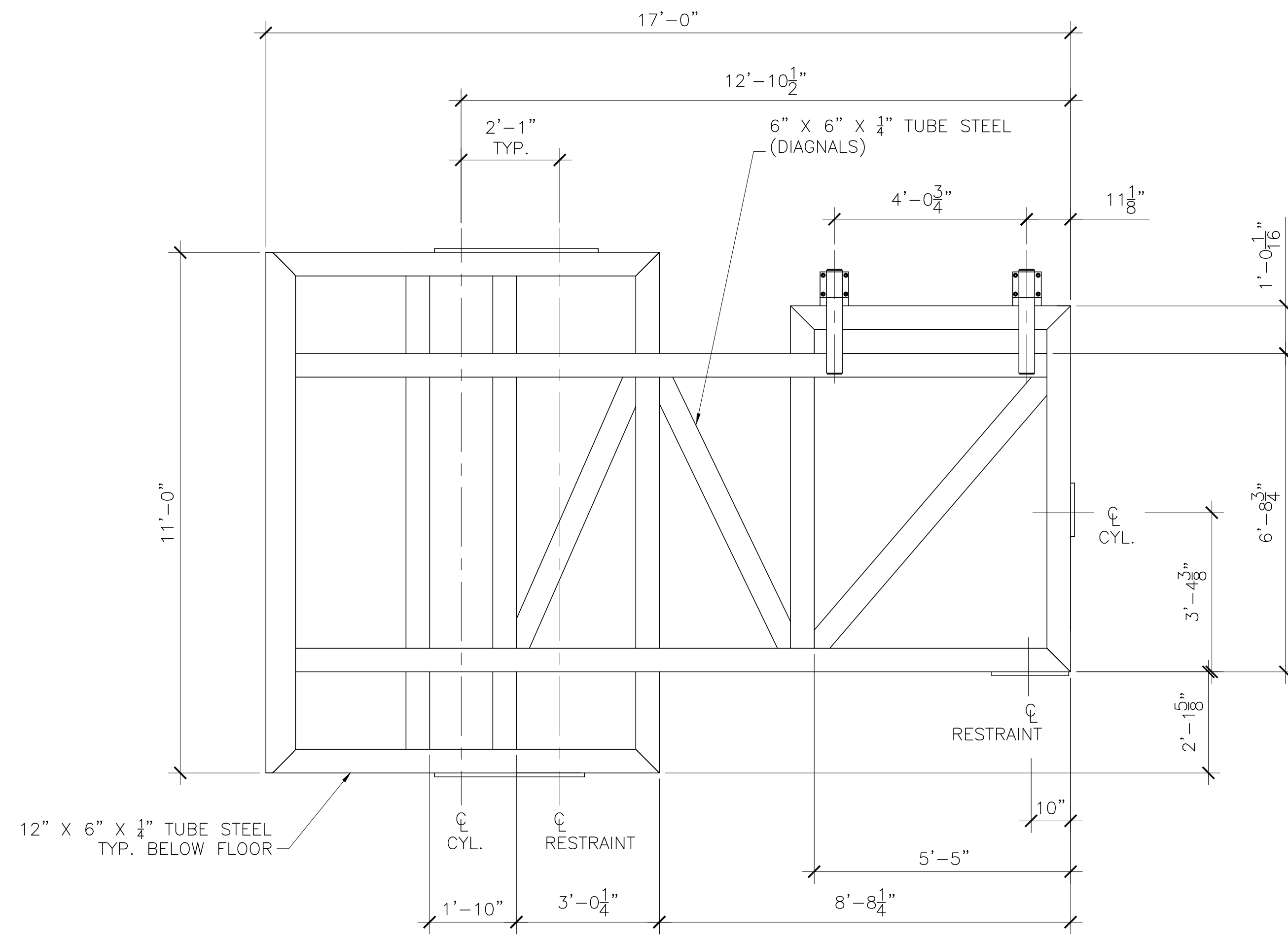
DESIGNED BY:  
WGL/CAH

DRAWN BY:  
CAH

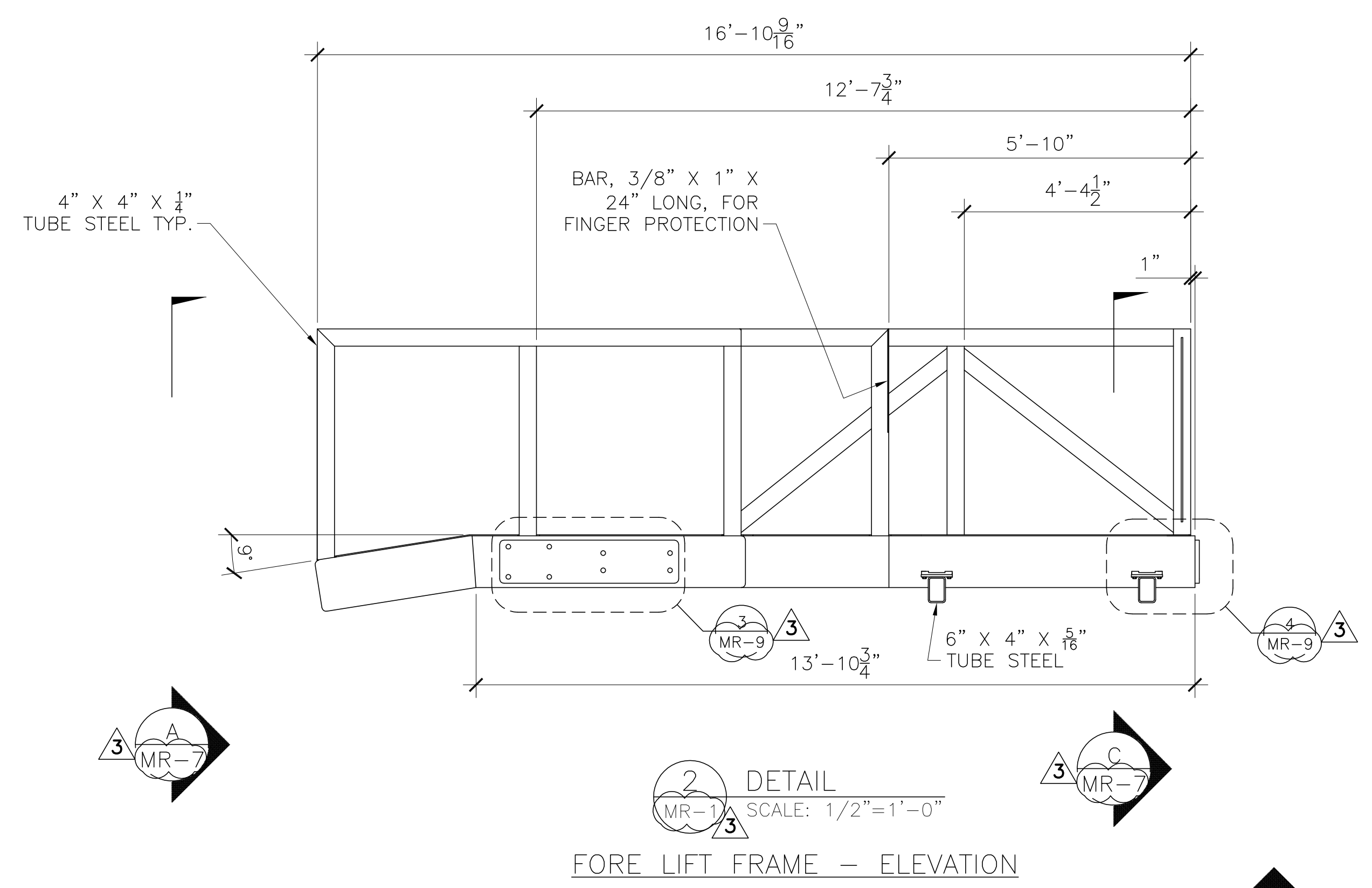
CHECKED BY:  
WGL

PROJECT  
**SOUTH SAN FRANCISCO FERRY TERMINAL**  
SHEET  
**PASSENGER TRANSFER RAMP  
AND LIFT AFT LIFT FRAME**

DATE  
11/10/2009  
SHEET  
85 OF 92  
DRAWING NO.  
MR-7  
JOB NO.  
1348



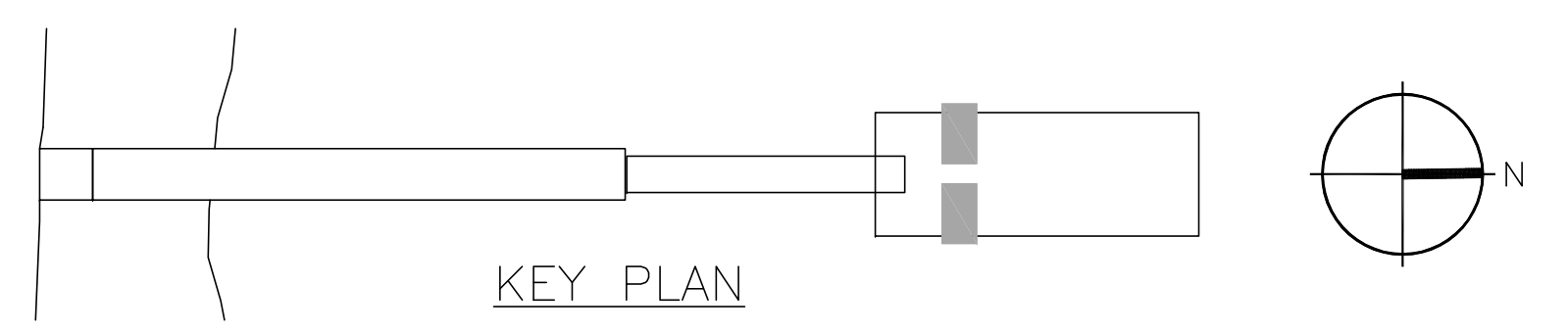
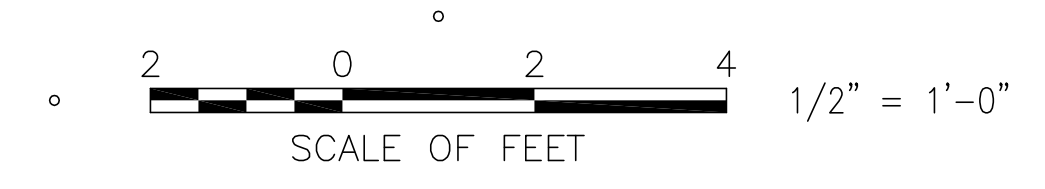
**B** VIEW  
SCALE: 1/2"=1'-0"



**2** DETAIL  
SCALE: 1/2"=1'-0"  
**MR-1** **3**  
FORE LIFT FRAME - ELEVATION

**NOTES:**

- ONE AS SHOWN, ONE MIRROR IMAGE.
- HANDRAILS NOT SHOWN. SEE ARCHITECTURAL DRAWINGS.



PRELIMINARY - NOT FOR CONSTRUCTION

REVISIONS		
NO.	DATE	DESCRIPTION
1	12/11/09	ADDENDUM 3



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**Lund Engineering, Inc.**  
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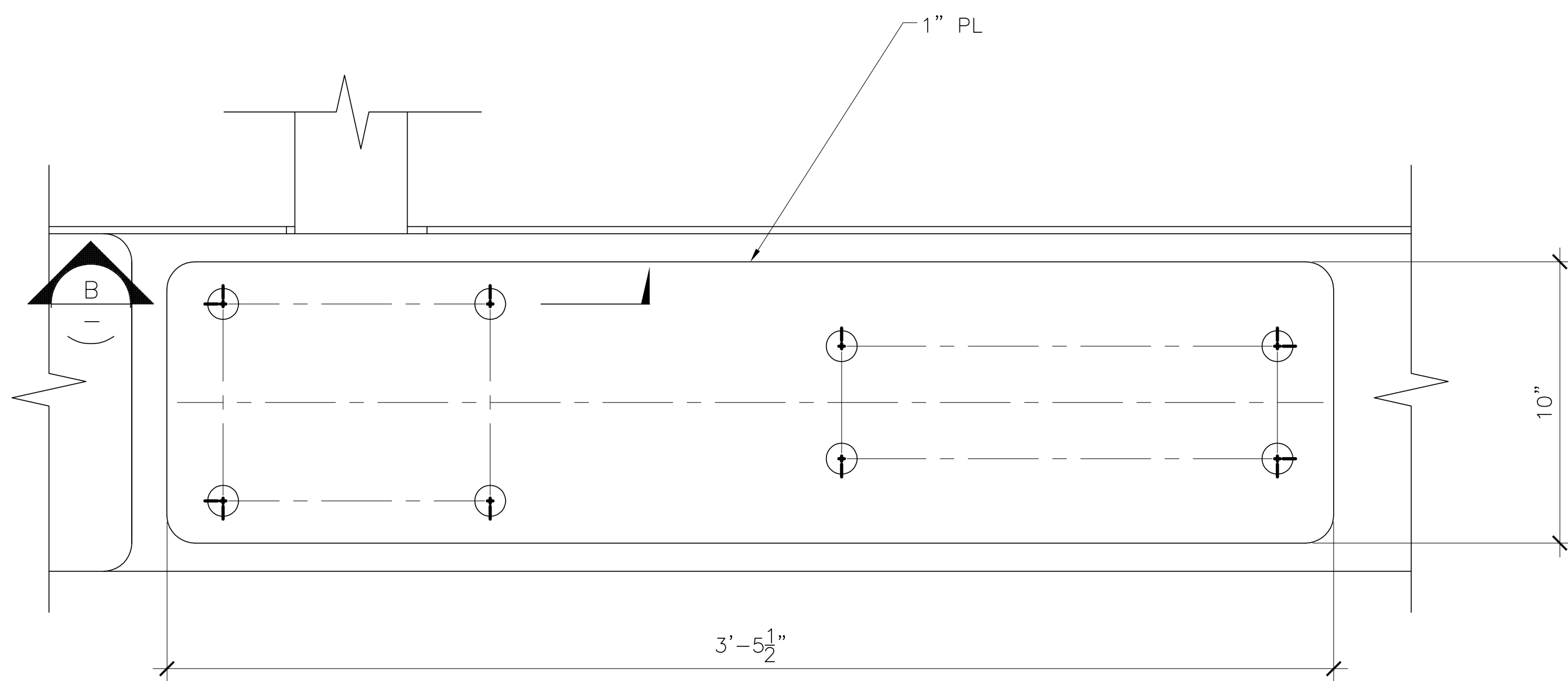
DESIGNED BY:  
WGL/CAH

DRAWN BY:  
CAH

CHECKED BY:  
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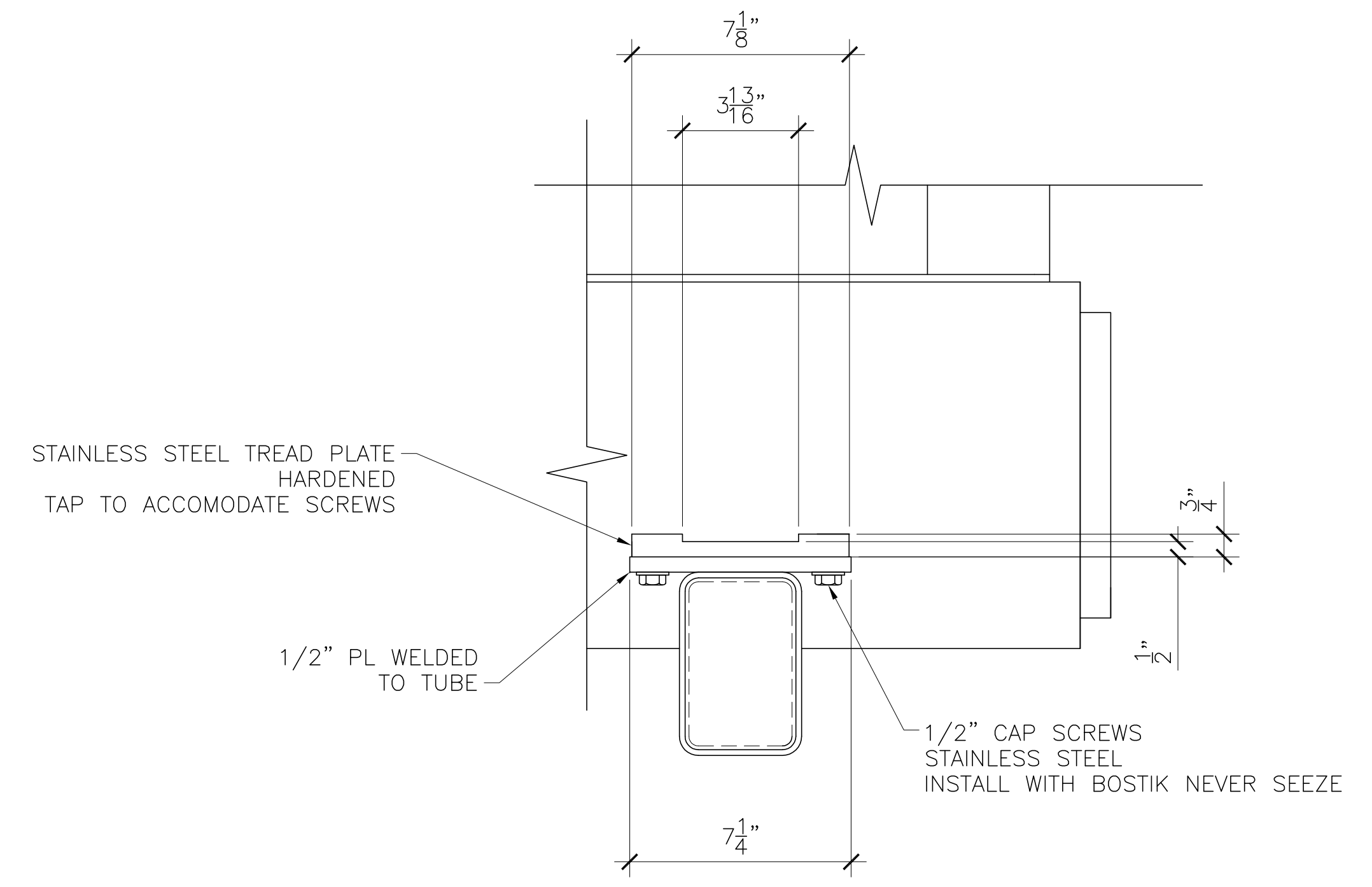
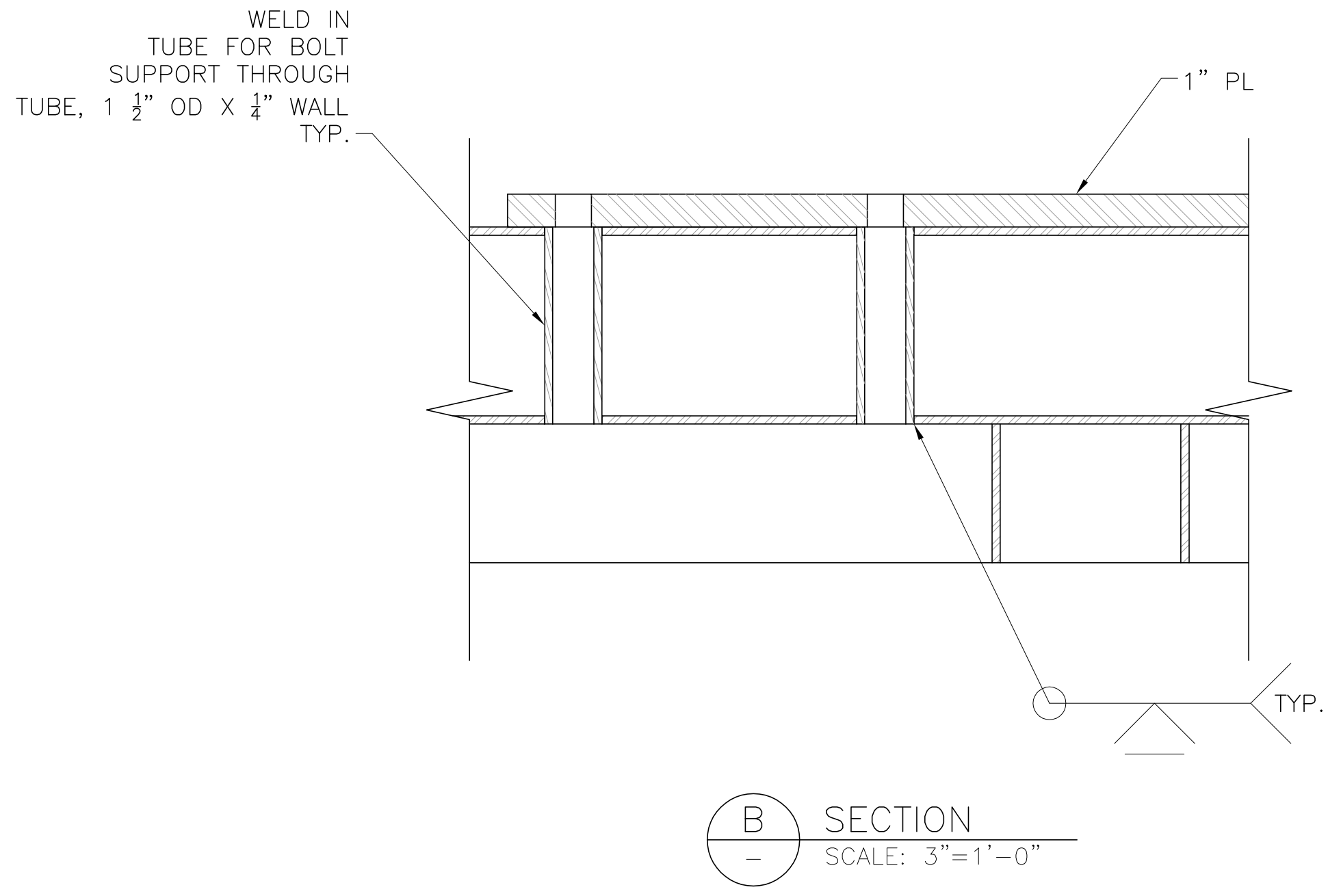
PROJECT  
**SOUTH SAN FRANCISCO FERRY TERMINAL**  
SHEET  
**PASSENGER TRANSFER RAMP  
AND LIFT FORE LIFT FRAME**

DATE  
**11/10/2009**  
SHEET  
**86** OF **92**  
DRAWING NO.  
**MR-8**  
JOB NO.  
**1348**



3 (3) DETAIL  
MR-7 SCALE: 3"=1'-0"

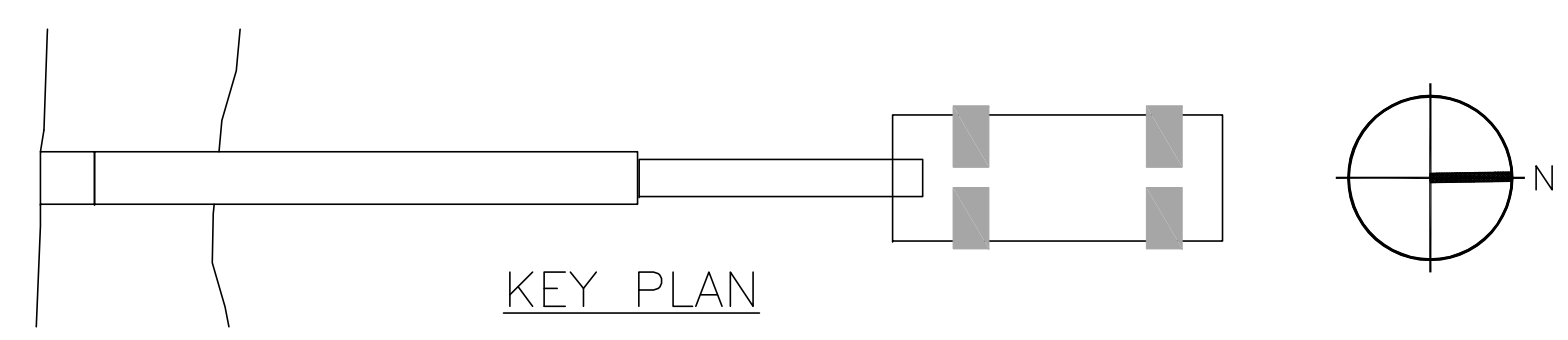
3 (3) DETAIL  
MR-8 SCALE: 3"=1'-0"



3 (4) DETAIL  
MR-7 SCALE: 3"=1'-0"

3 (4) DETAIL  
MR-8 SCALE: 3"=1'-0"

NOTES:  
1. VIEWS DO NOT SHOW ALL DETAILS.



PRELIMINARY - NOT FOR CONSTRUCTION

NO.	DATE	DESCRIPTION
3	12/11/09	ADDENDUM 3



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Schirmer Engineering Corporation

CONSULTANT  
**Lund Engineering, Inc.**  
Mechanical Machine Design Engineering  
1420 Maple Ave. S.W., Ste. 101  
Renton, WA 98057

DESIGNED BY:  
WGL/CAH

DRAWN BY:  
CAH

CHECKED BY:  
WGL

PROJECT  
**SOUTH SAN FRANCISCO FERRY TERMINAL**

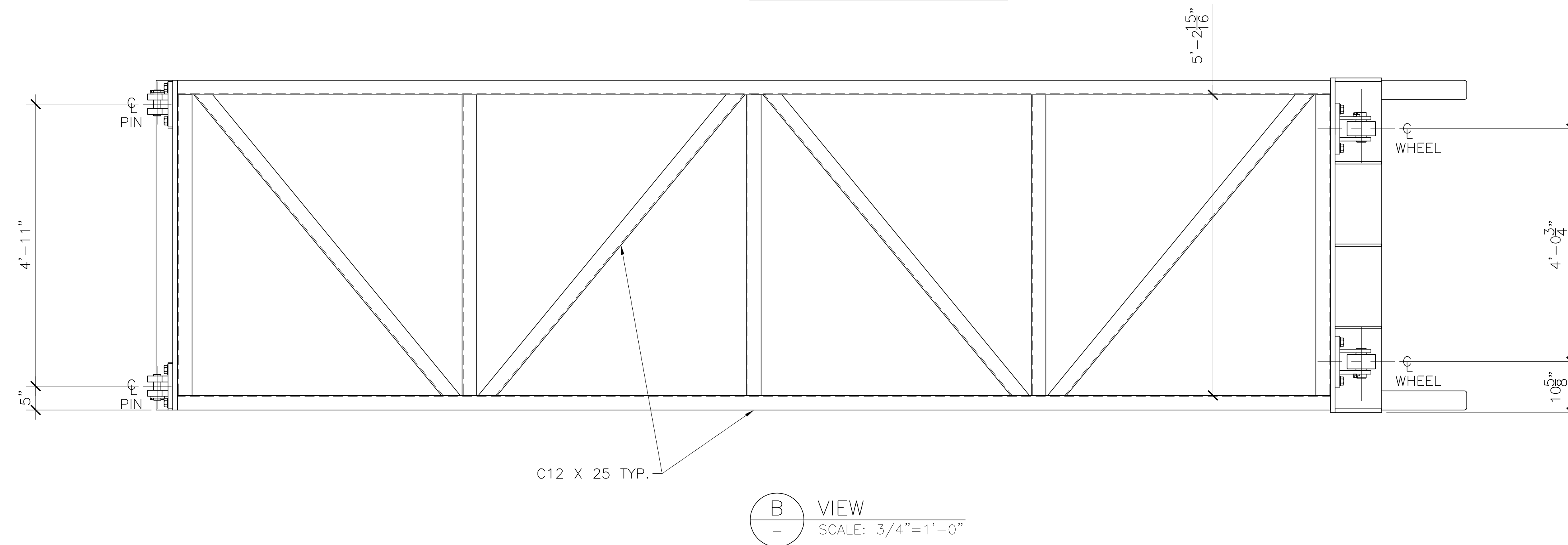
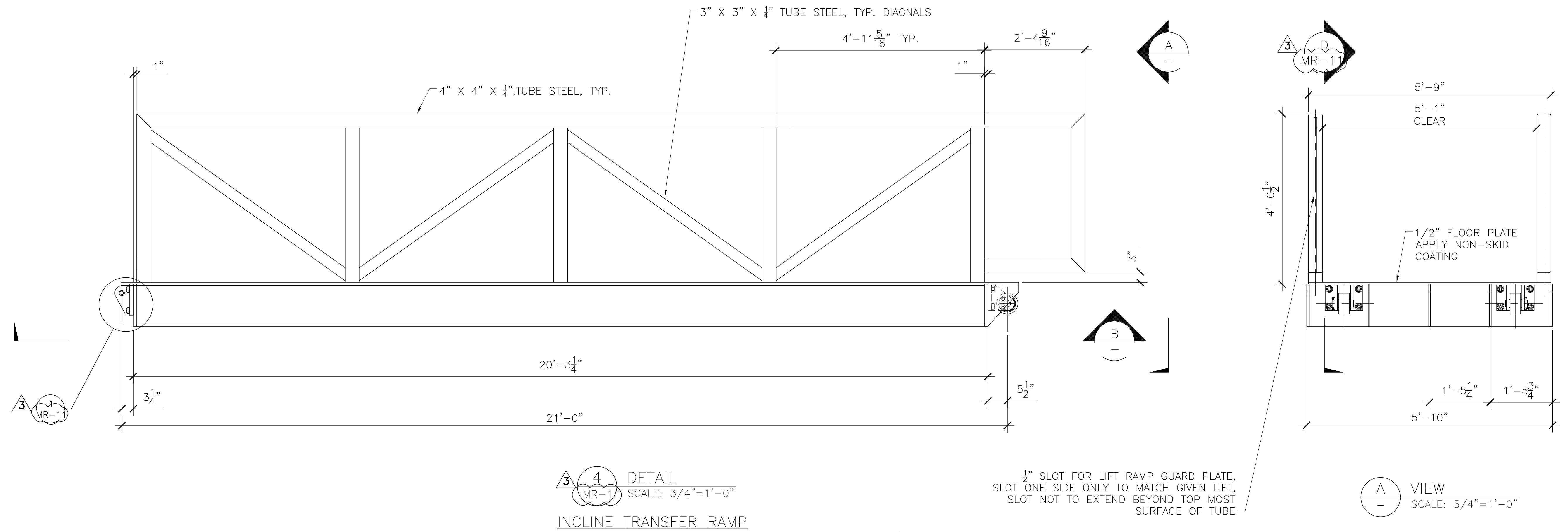
SHEET  
**PASSENGER TRANSFER RAMP  
AND LIFT LIFT FRAME DETAILS**

DATE  
**11/10/2009**

SHEET OF  
**87 92**

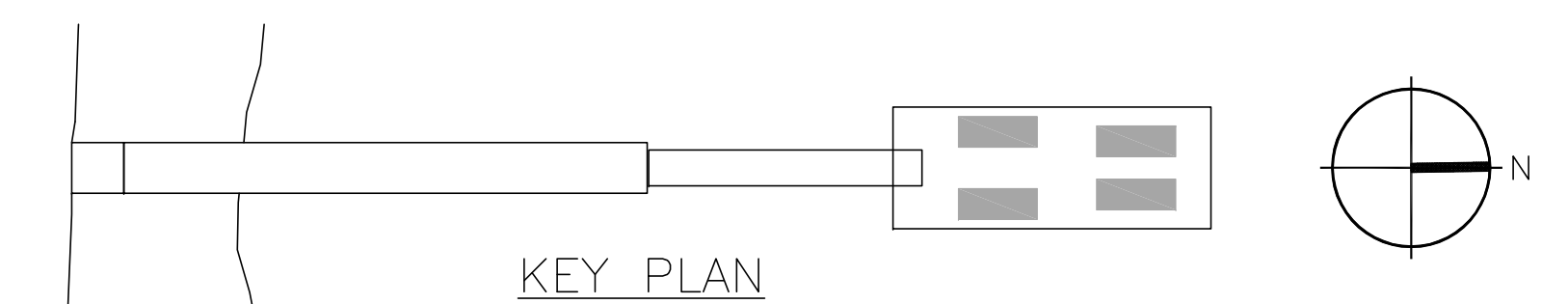
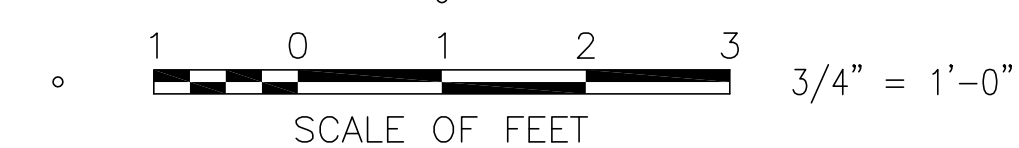
DRAWING NO.  
**MR-9**

JOB NO.  
**1348**



NOTES:

- VIEWS DO NOT SHOW ALL DETAILS.
- HANDRAILS NOT SHOWN. SEE ARCHITECTURAL DRAWINGS.



PRELIMINARY - NOT FOR CONSTRUCTION

NO.	DATE	DESCRIPTION
1	12/11/09	ADDENDUM 3



**ROMA Design Group**  
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CONSULTANT  
**Lund Engineering, Inc.**  
Mechanical Machine Design Engineering  
1420 Maple Ave. S.W., Ste. 101  
Renton, WA 98057

DESIGNED BY:  
WGL/CAH

DRAWN BY:  
CAH

CHECKED BY:  
WGL

PROJECT  
**SOUTH SAN FRANCISCO FERRY TERMINAL**

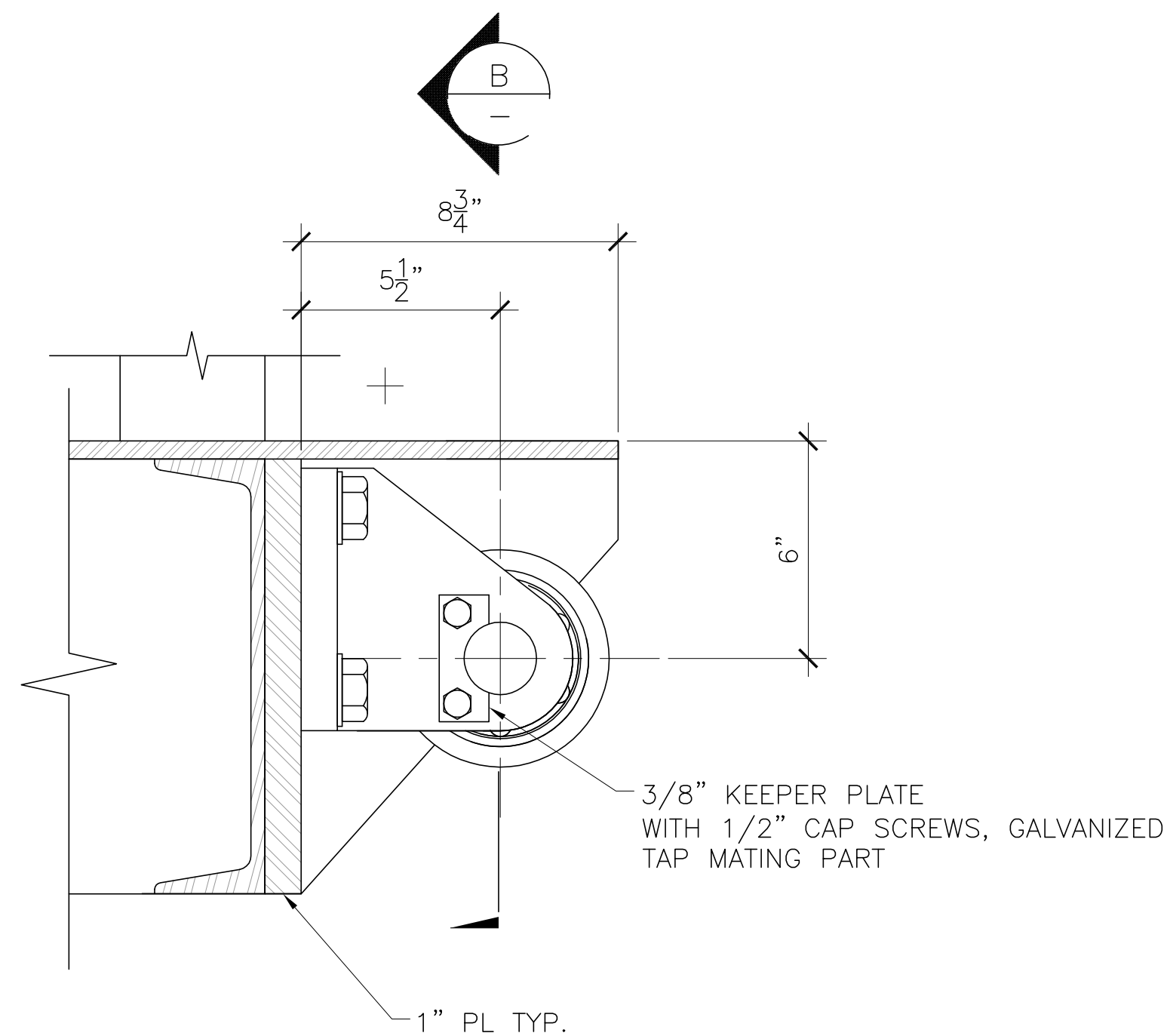
SHEET  
**PASSENGER TRANSFER RAMP  
AND LIFT INCLINE RAMP ASSEMBLY**

DATE  
**11/10/2009**

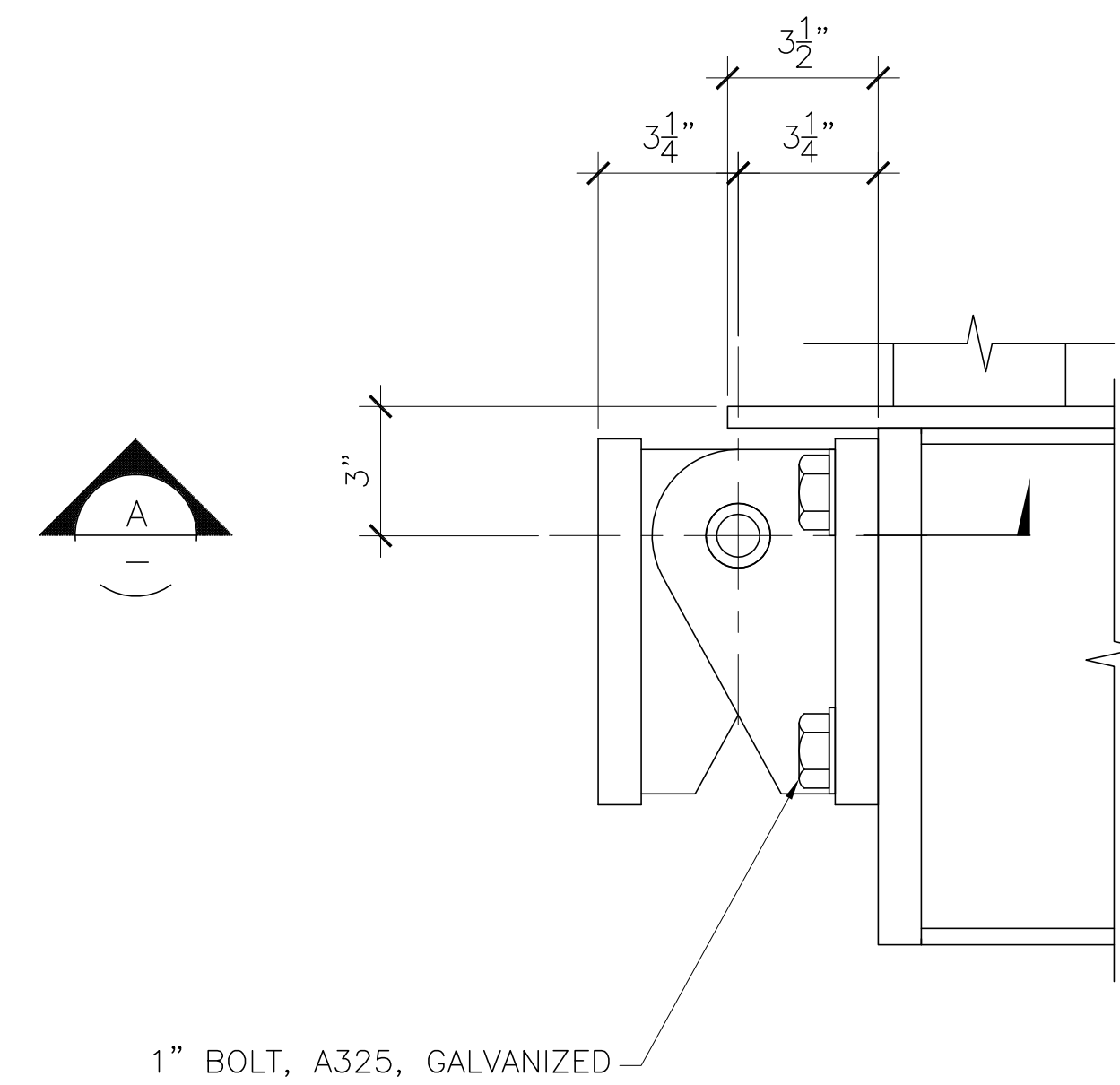
SHEET  
**88** OF **92**

DRAWING NO.  
**MR-10**

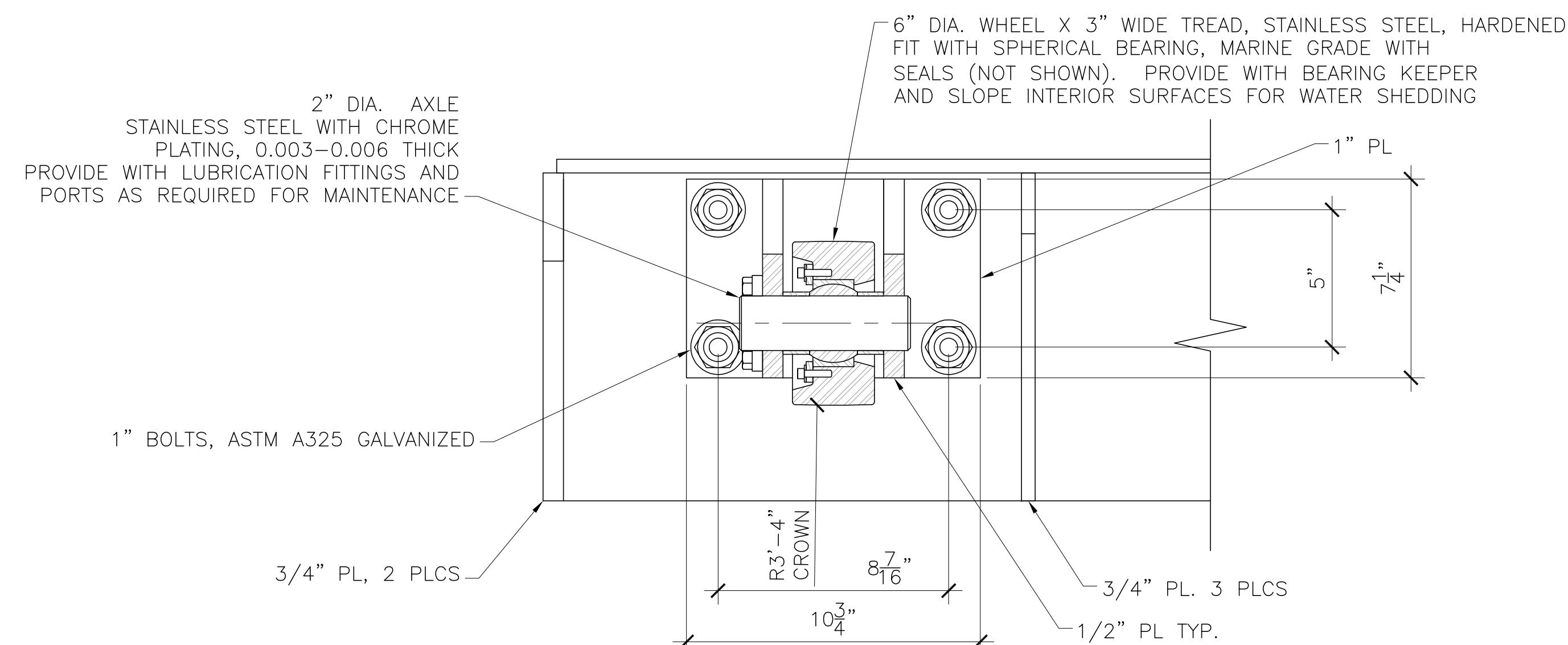
JOB NO.  
**1348**



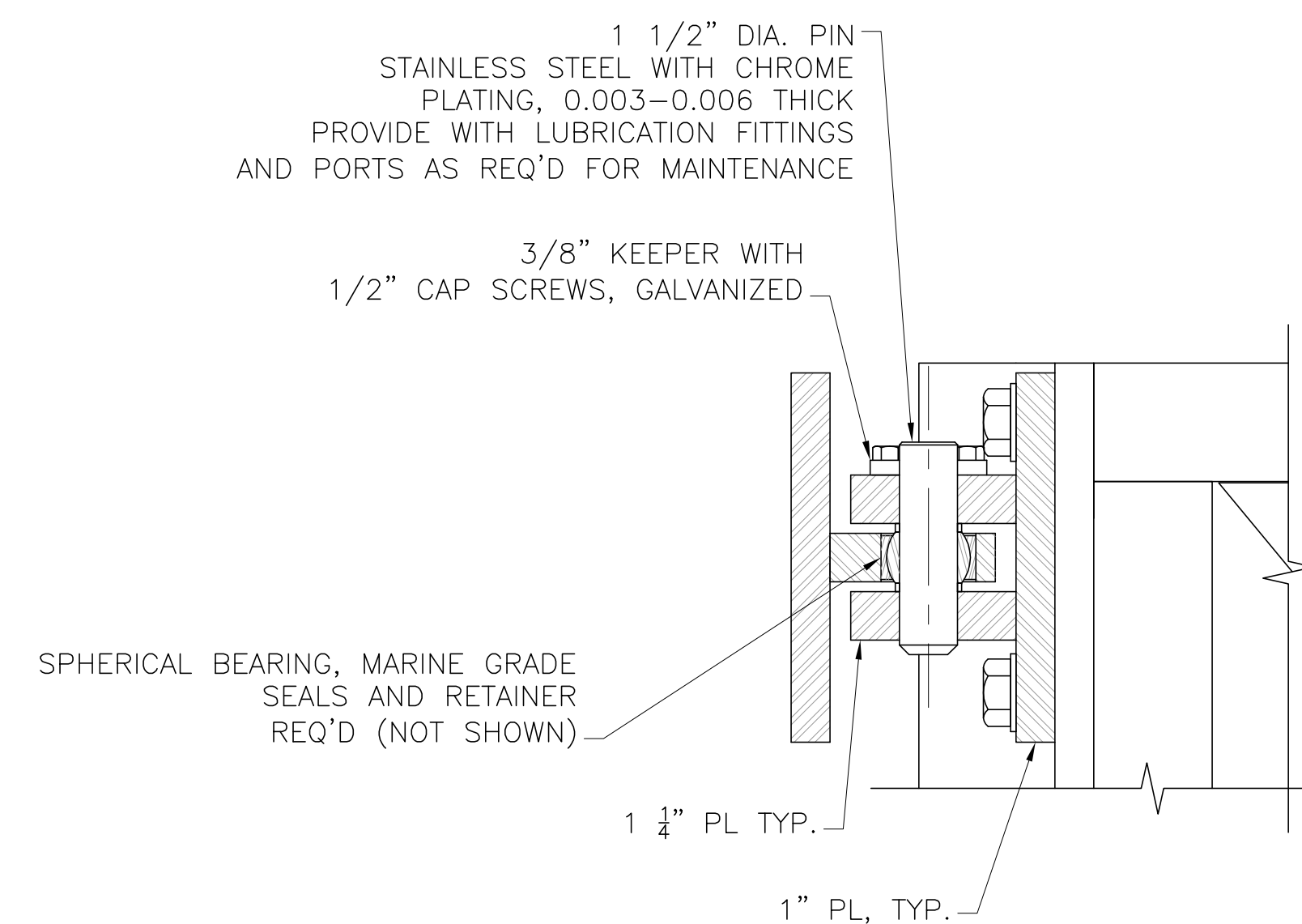
**D** SECTION  
SCALE: 3"=1'-0"



**1** DETAIL  
SCALE: 3"=1'-0"



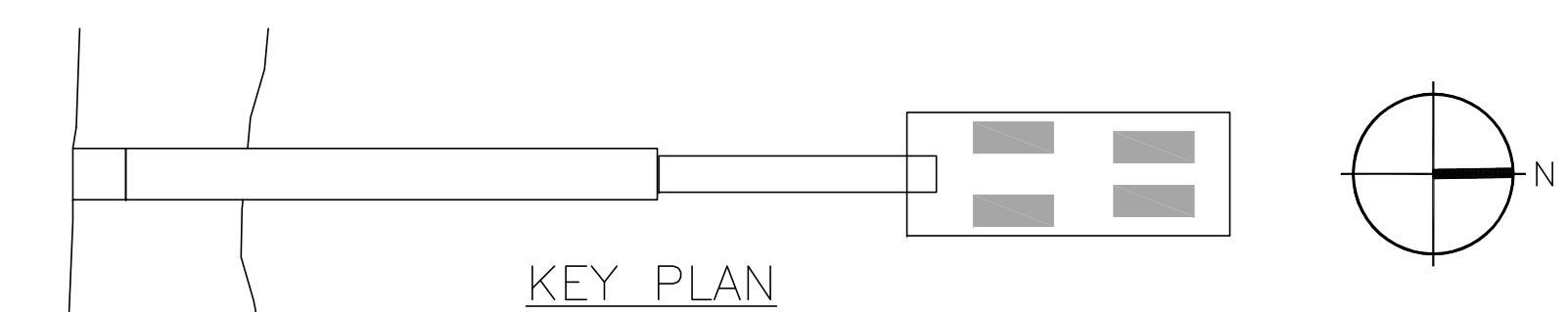
**B** SECTION  
SCALE: 3"=1'-0"



**A** SECTION  
SCALE: 3"=1'-0"

**NOTES:**

- VIEWS DO NOT SHOW ALL DETAILS.
- HANDRAILS NOT SHOWN. SEE ARCHITECTURAL DRAWINGS.
- MODIFICATIONS TO PINS, SHAFTS OR BRACKETS FOR LUBRICATION ARE NOT SHOWN. CONTRACTOR TO PROVIDE SUCH DETAILS AS NECESSARY.



PRELIMINARY - NOT FOR CONSTRUCTION

NO.	DATE	DESCRIPTION
1	12/11/09	ADDENDUM 3



**ROMA Design Group**  
Architects & Planners in association with  
Moffatt & Nichol, Simpson Gumpertz & Heger Inc.,  
Engineering Enterprises, Lund Engineering, and  
Schirmer Engineering Corporation

CONSULTANT  
**Lund Engineering, Inc.**  
Mechanical Machine Design Engineering  
1420 Maple Ave. S.W., Ste. 101  
Renton, WA 98057

DESIGNED BY:  
WGL/CAH

DRAWN BY:  
CAH

CHECKED BY:  
WGL

PROJECT  
**SOUTH SAN FRANCISCO FERRY TERMINAL**

SHEET  
**PASSENGER TRANSFER RAMP AND LIFT INCLINE RAMP DETAILS**

DATE  
**11/10/2009**

SHEET OF  
**89 OF 92**

DRAWING NO.  
**MR-11**

JOB NO.  
**1348**