

DOCUMENT NUMBER 60-90004	REVISION NUMBER C	DOCUMENT TITLE SIEMENS MEDICAL SYSTEMS 48' MRI TRAILER	PAGE 1 of 1
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**Calutech Mobile Solutions, Inc.
3550 179th Street, Unit-C
Hammond, Indiana 46323**



SITE PLANNING GUIDE

***SIEMENS MEDICAL SYSTEMS
1.0T Harmony/1.5T Symphony
MOBILE MRI 48' x 8'-6" TRAILER***

**Document No. 60-90004
Revision C
18 November 2002**

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DOCUMENT NUMBER 60-90004	REVISION NUMBER C	DOCUMENT TITLE SIEMENS MEDICAL SYSTEMS 48' MRI TRAILER	PAGE 2 of 2
------------------------------------	-----------------------------	--	----------------

LIST OF REVISIONS

<u>Revisions</u>	<u>Description</u>	<u>Date</u>
A	Initial Release	03-20-02
B	Revised length of power cord from 35' to 50', added freeze protection note on incoming water line and added Figure 7.	12-25-02
C	Revised Document Format	11-18-02

DOCUMENT NUMBER 60-90004	REVISION NUMBER C	DOCUMENT TITLE SIEMENS MEDICAL SYSTEMS 48' MRI TRAILER	PAGE 3 of 3
------------------------------------	-----------------------------	--	----------------

TABLE OF CONTENTS

<u>Section</u>		<u>Page</u>
1.	Support Pad Requirements	4
2.	Customer Power Requirements	6
3.	Mobile Grounding Requirements	8
4.	Telephone and Data Service Requirements	9
5.	Water Requirements	10
6.	Figure 1 – Russellstoll Service Outlet	11
7.	Figure 2 – Russellstoll Chart	12
8.	Figure 3 – Mobile Grounding Requirements Chart	13
9.	Figure 4 –Turning Requirements	14
10.	Figure 5 – Plan View Trailer and Pad Layout	15
11.	Figure 6 – Curb and Street Side Elevations	16

DOCUMENT NUMBER 60-90004	REVISION NUMBER C	DOCUMENT TITLE SIEMENS MEDICAL SYSTEMS 48' MRI TRAILER	PAGE 4 of 4
------------------------------------	-----------------------------	--	----------------

SECTION I Support Pad Requirements

The following is a list of recommendations and requirements for a concrete support pad. However, due to varying site conditions, the actual pad design should be prepared by an appropriately licensed structural or architectural engineer.

Minimum Support Pad Requirements

A front pad measuring 10'-0" x 4'-0" and a rear pad measuring 10'-0" x 15'-0" located as shown on Figure 5, and Figure 6 will provide the minimum requirements. The heavier hatching represents the minimum support pad.

Recommended Support Pad

A full pad measuring 10'-0" x 41'-6", located as shown on Figure 5 and Figure 6 as all hatching, is the recommended support pad.

Recommended Service Pad

A full pad measuring 21'-0" x 57'-0", located as shown on Figure 5 and Figure 6 is recommended to provide service access.

Support Pad Depth

Recommendations for the width and length of the pad are given above. Based upon the trailer weight and existing site conditions, the depth should be determined by a local contractor. It is recommended that non-ferrous reinforcement materials be used for pad reinforcement.

DOCUMENT NUMBER 60-90004	REVISION NUMBER C	DOCUMENT TITLE SIEMENS MEDICAL SYSTEMS 48' MRI TRAILER	PAGE 5 of 5
------------------------------------	-----------------------------	--	----------------

Support Pad Levelness

The support pad must be level to ensure proper operation of the MRI system. The pad must not exceed .125" deviation in 10'-0". If the minimum support pads are selected, rather than the recommended single pad, they must also meet this specification.

Vehicle Access

A firm, level surface is required around the mobile unit to provide access to the tractor/trailer, aid in-patient handling, servicing the unit and handling of cryogenes.

Steel Reinforced Concrete Pad

Refer to Siemens Site Planning Specialist.

Recommended Attachment to Facility

An inflatable air bag or soft seal is recommended at the point of connection from the unit to the facility. Fixed or solid attachments may hinder image quality. Contact Calutech Mobile Solutions, Inc. or the local Siemens representative prior to construction if the proposed connection varies from the recommended.

DOCUMENT NUMBER 60-90004	REVISION NUMBER C	DOCUMENT TITLE SIEMENS MEDICAL SYSTEMS 48' MRI TRAILER	PAGE 6 of 6
------------------------------------	-----------------------------	--	----------------

SECTION II Customer Power Requirements

Electrical Service

480 Volt A.C., 3 Phase, 112.5 KVA fused at 150 Amps.

Configuration

Three phase wye connection, with neutral and ground

Frequency

- 60Hz \pm 0.5%
- Phase Balance: +2% maximum phase-to-phase line voltage difference lowest phase.
- Maximum voltage variation: \pm 5% from nominal steady state (under the worst case conditions of line voltage)

Connector Type

The unit is supplied with a 50-foot cable and male connector. The connector is Russellstoll 200 Amp plug #DS2504MP.

Customer Facility

The facility must have the matching receptacle as specified in Figure 1 and Figure 2. The receptacle is Russellstoll #DF2504FRAB.

NOTE:

If power is lost to the unit, it is imperative that the generator be started to maintain environmental controls. The system employs a water filled chiller, that if subject to freezing conditions, the system can sustain damage. Diesel fuel levels should also be checked.

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DOCUMENT NUMBER 60-90004	REVISION NUMBER C	DOCUMENT TITLE SIEMENS MEDICAL SYSTEMS 48' MRI TRAILER	PAGE 7 of 7
------------------------------------	-----------------------------	--	----------------

Voltage Surges

Transient voltage variations caused by external loads must not:

- Exceed +5%
- Exceed five cycles duration
- Occur more than ten times an hour

Ground Conductor

An insulated ground conductor sized in accordance with National, State, and local codes shall be installed between the facility vault and the MRI System ground bus location in the power distribution unit.

NOTE:

The standard connector for the unit is Russellstoll #DS2504MP. If an existing site currently implements a different connector or connector configuration, please contact Calutech Mobile Solutions, Inc. to arrange for a compatible power connector before the unit leaves the facility.

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DOCUMENT NUMBER 60-90004	REVISION NUMBER C	DOCUMENT TITLE SIEMENS MEDICAL SYSTEMS 48' MRI TRAILER	PAGE 8 of 8
------------------------------------	-----------------------------	--	----------------

SECTION III Mobile Grounding Requirements

NOTE: For the associated drawing please refer to Figure 3

- All work is to be done in accordance with local and national electrical codes.
- Information shown here is only a recommendation and must be verified local site codes and national site codes.
- Ground wires inside enclosures are to be taped green for the entire visual length for identification.
- If a separately derived secondary system transformer is used, a bonding jumper between the ground conductor (neutral) and the equipment – grounding conductor must be used.

Grounding

The ground for the system shall originate at the system power source (transformer) or first access point of power into the facility, and be continuous to the system power disconnect in the room. This ground can be spliced with “High Compression Fittings” and should be terminated at each distribution panel it passes through. When it is broken for a connection to a panel, it shall be connected into an approved grounding block. This grounding block is then connected to the steel panel. Never use the steel or any other material of the panel as the grounding block. The connection at the power source shall be at the grounding point of the “Neutral – Ground” if a “WYE” transformer is being used, or at the typical grounding points of a separately derived system. In the case of an external facility, it shall be bonded to the facility ground point at the service entrance.

Ground Wire

The ground wire shall be copper wire and the same size as the disconnect feeders. The ground wire impedance from the system disconnect, including the ground rod, shall not have an impedance greater than 2 ohms to earth as measured by one of the applicable techniques described in Section 4 of ANSI/IEEE Standard 142-1982.

Special Grounding Note

The unit must have an earth driven ground rod within five (5) feet of the hospitable power receptacle. A grounding cable of a minimum 4 GA must be connected between the grounding rod and the grounding pin of the hospital power receptacle, and another cable to be kept as short as possible, and must not exceed 8 feet in length. A separate grounding conductor must still be run with the phase conductors to the source of power from the grounding pin of the hospital power receptacle in accordance with NEC. Article 250-23.

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DOCUMENT NUMBER 60-90004	REVISION NUMBER C	DOCUMENT TITLE SIEMENS MEDICAL SYSTEMS 48' MRI TRAILER	PAGE 9 of 9
------------------------------------	-----------------------------	--	----------------

SECTION IV Telephone and Data Service Requirements

Telephone Service

- The unit is supplied with three telephone connections.
- The connector type that is used is a model Hubbell PH-6595 (inlet), supplied by Calutech Mobile Solutions, Inc.
- Two Hubbell PH-6599 50 foot telephone-connecting cables are included with the unit. If a third cable is needed, the customer must purchase it.
- The customer is required to purchase and install three Hubbell phone connectors, model PH-6597 (weatherproof phone outlets) for use at the site.

Data Service

An adapter to connect the medical system is required if a site plans to use existing 10Base2 (coax) Ethernet connections. The adapter will convert between a 10Base2 coaxial connector and a 100BaseT RJ-45 type connector. The mobile unit requires an RJ-45 type connector.

- The unit is supplied with three data line connections.
- The customer is required to purchase the data connection cables. The data connections utilize a 50'-0" UTP CAT 5 cable with an RJ-45 connector.

NOTE:

Telephone and Data Services may vary based on customer requirements. Confirm exact connections on the trailer.

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DOCUMENT NUMBER 60-90004	REVISION NUMBER C	DOCUMENT TITLE SIEMENS MEDICAL SYSTEMS 48' MRI TRAILER	PAGE 10 of 10
------------------------------------	-----------------------------	--	------------------

SECTION V Water Requirements

Humidifier Water Fill

The unit contains a water storage tank for the humidifier. This tank is located in the equipment room and must always contain water to insure the specified humidity level remains constant. There are two options for filling the tank:

- A ¾" I.P.S. female threaded hose connection is located under the equipment room.
- A fill port is located in the humidifier for manual fill capability.

Potable Water Supply Requirements (option)

A cold water supply line is required, with a flow rate of 5 gallons per minute, 45-60 psi and a maximum temperature of 70 degrees Fahrenheit. The unit will be supplied with a ¾" diameter, 20' long hose terminated on the site end with a ¾" I.P.S. female threaded hose connector. The facility is to provide a ¾" male connector to connect to the units 20' long hose. Where applicable, freeze protection of the incoming water line may be required which is the responsibility of the facility.

Waste Water Connections (sink option)

The unit is supplied with a 20' long 1-1/2" diameter drain hose terminated with a 1-1/2" male threaded connector for sanitary wastewater drainage. The facility must provide means of sanitary wastewater drainage from the system that comply with locally applicable codes.

DOCUMENT NUMBER 60-90004	REVISION NUMBER C	DOCUMENT TITLE SIEMENS MEDICAL SYSTEMS 48' MRI TRAILER	PAGE 11 of 11
------------------------------------	-----------------------------	--	------------------

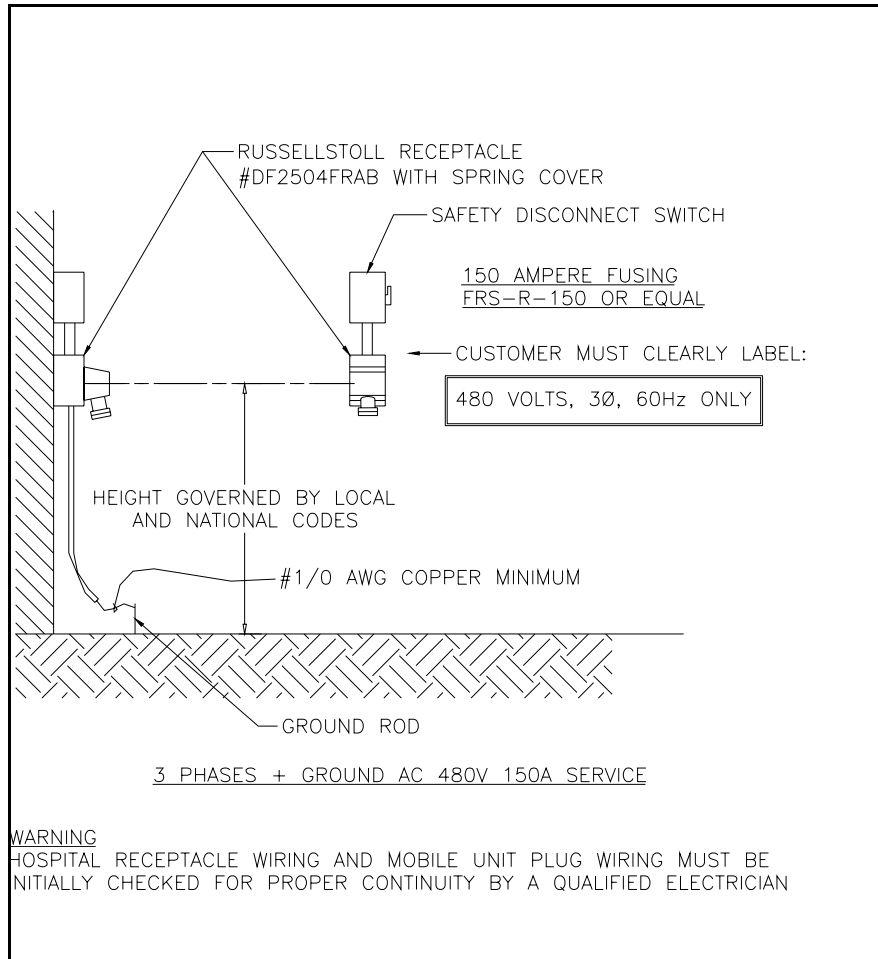


Figure 1: Russellstoll Service Outlet

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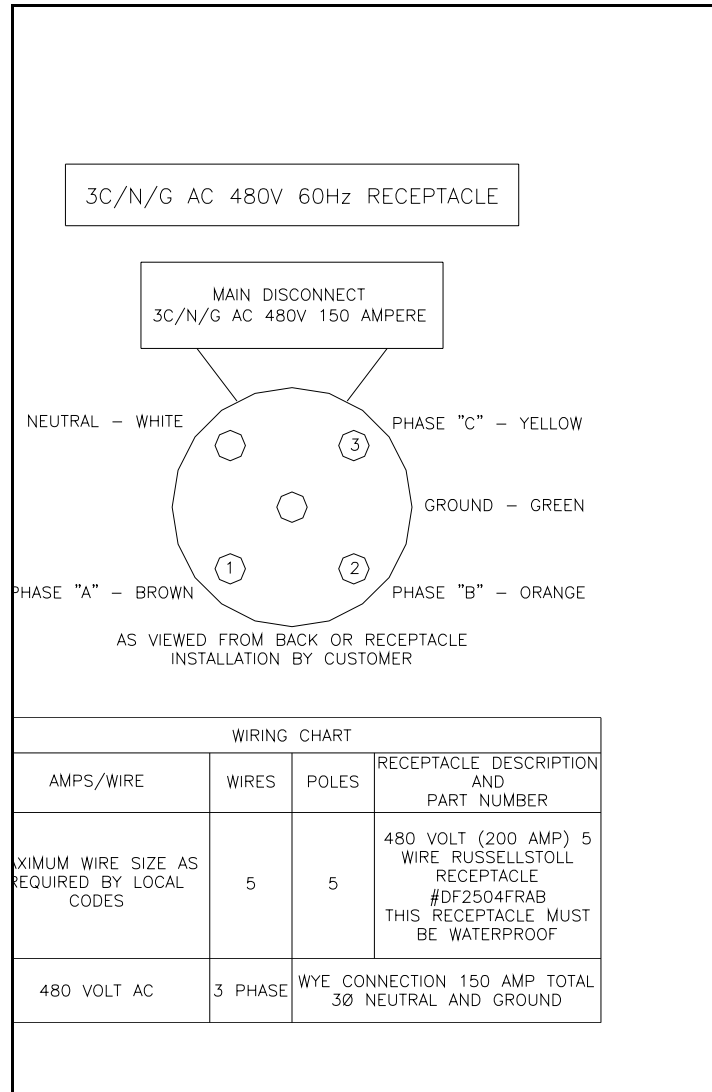


Figure 2: Russellstoll Chart

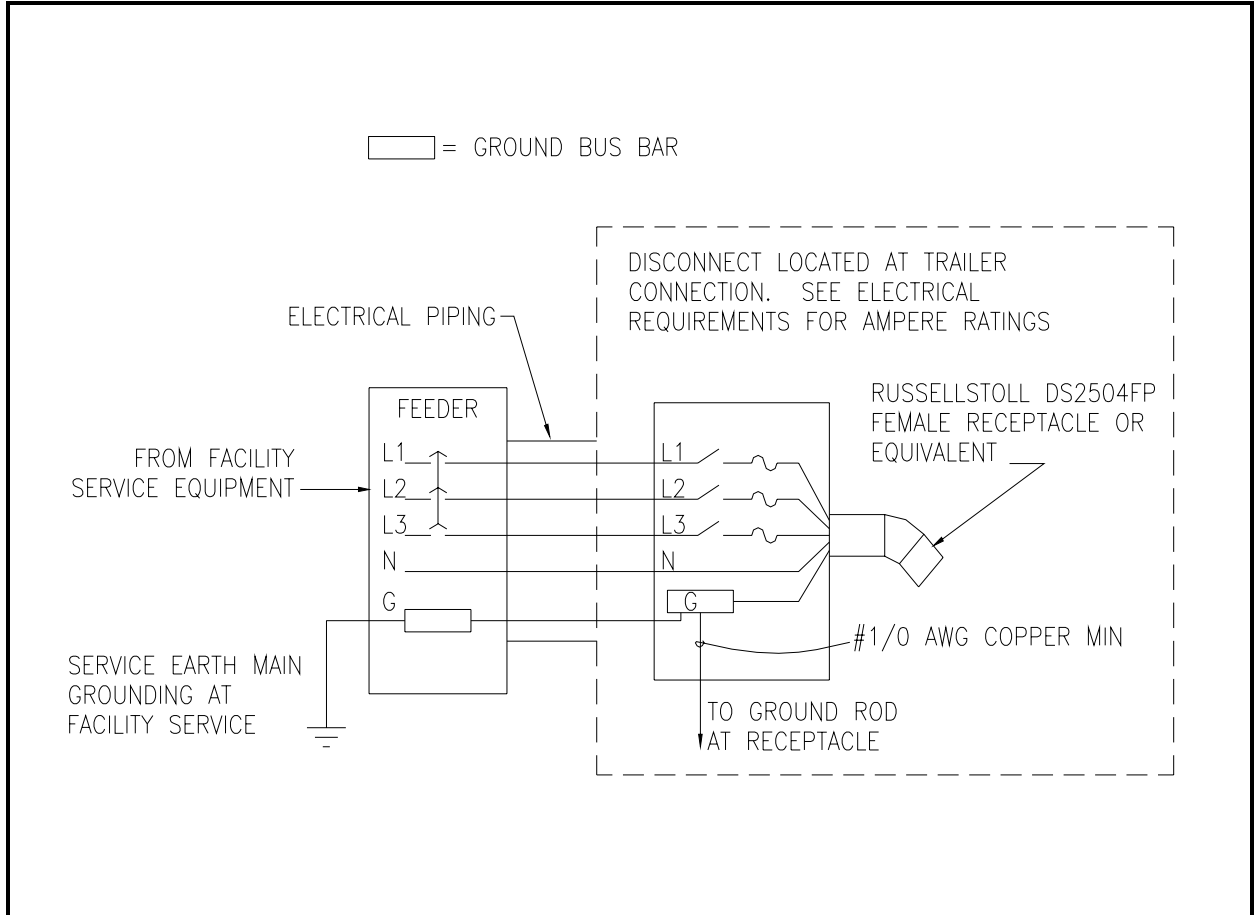


Figure 3: Mobile Grounding Requirements Chart

DOCUMENT NUMBER 60-90004	REVISION NUMBER C	DOCUMENT TITLE SIEMENS MEDICAL SYSTEMS 48' MRI TRAILER	PAGE 14 of 14
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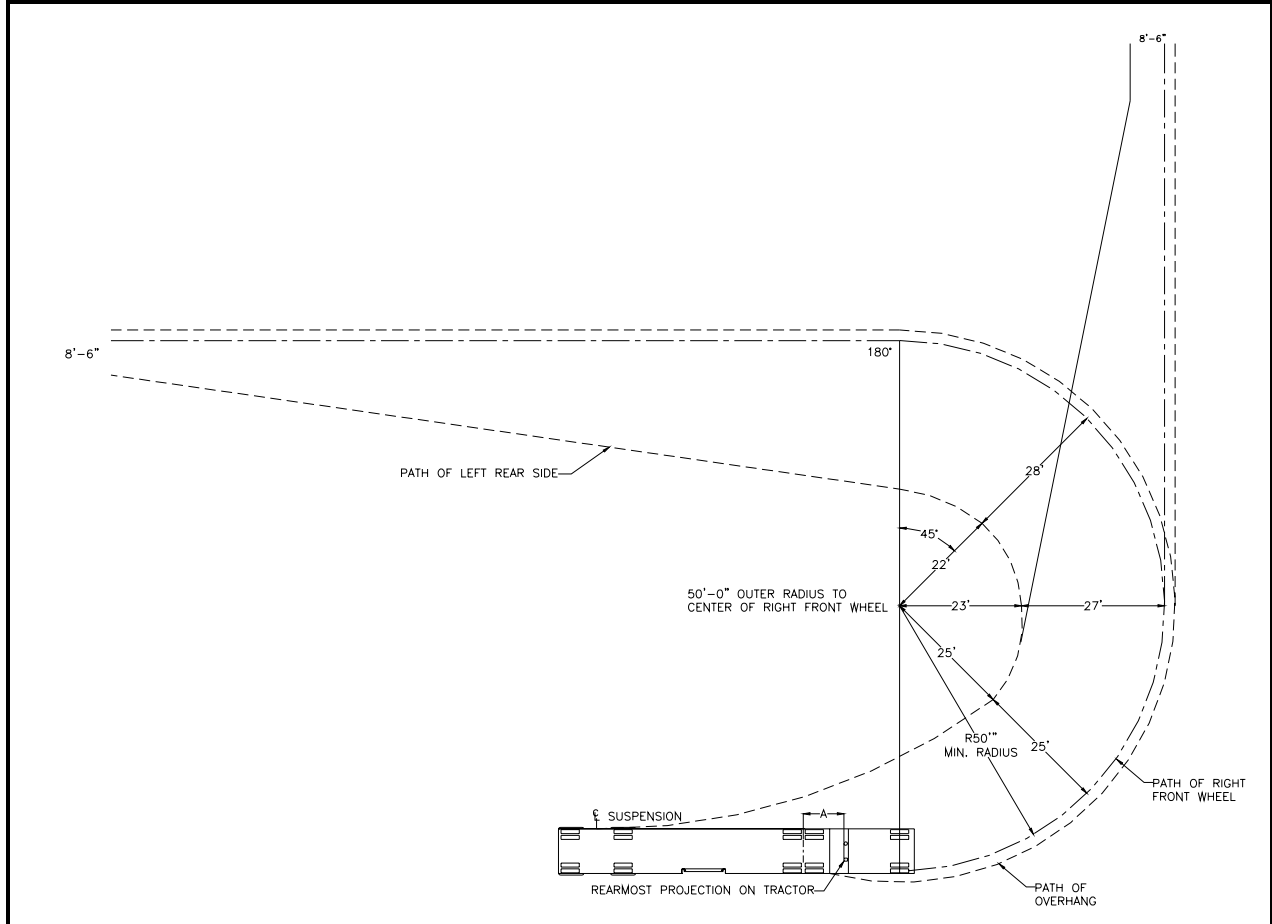


Figure 4: Turning Requirements

NOTE:

A minimum "A" dimension of 92" is required from rearmost projection to centerline of tandem suspension. This provides swing clearance for generator set which is mounted on the front of the trailer. The end user is responsible to ensure the access route is clear of obstructions when the trailer is scheduled to arrive or depart. The 50' minimum outside turning radius shown here has been calculated using an International Harvester tractor Model COF-9670 with a wheelbase of 161". Turning radius will vary with towing tractor. Customer must confirm the turning radius on their tractor and prepare each site with adequate space to accommodate it.

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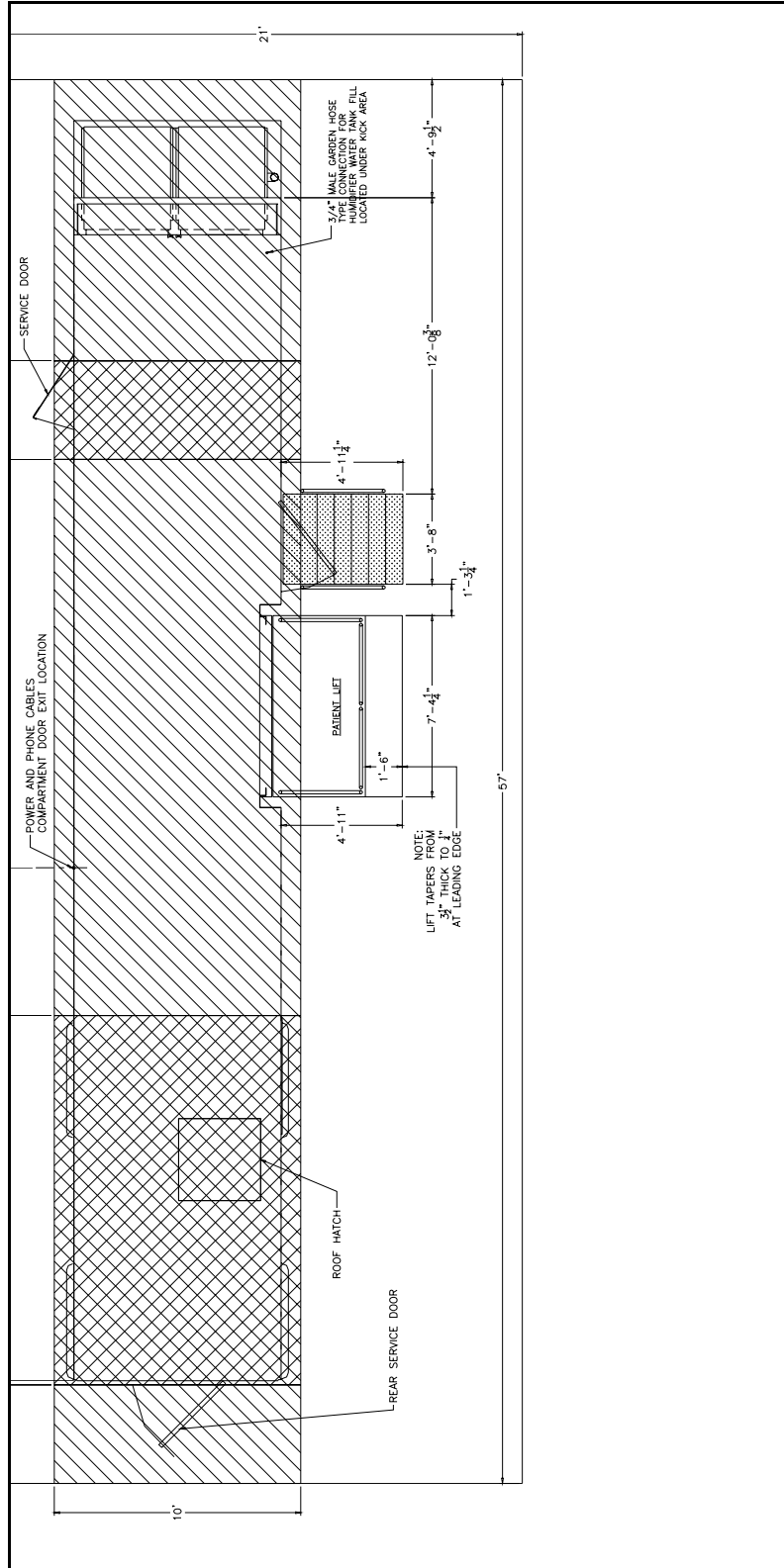


Figure 5: Plan View Trailer and Pad Layout

