INSTALLATION INSTRUCTIONS

WARNING: The surfacing under and around playground equipment is one of the most important factors in reducing the likelihood of life-threatening head injuries. A fall onto a shock absorbing surface is less likely to cause a serious head injury than a fall onto a hard surface. However, some injuries from falls, including broken limbs, may occur no matter what playground surfacing is used. Safety surfacing per ASTM Standards is not included with the purchase of NatureROCKS Playground Boulders and is the responsiblity of the owner/operator.

It is the sole responsibility of the owner/operator to determine the appropriate installation type.

NOTICE: Labels are enclosed to be applied to the placard on each NatureROCKS Playground Boulder by the installer or the owner/operator. Their purpose is to identify the manufacturer, age range of participants and to warn of the consequences of a fall from the equipment to a hard surface below. Install the labels per the enclosed instructions.

SCHEDULE A

1.) Select Boulder Type (Small, Medium or Large)
2.) Determine Seismic Design Category from Local Building Codes or Local Building Official
3.) Determine Wind Exposure and Wind Speed from Local Building Codes or Local Building Official
4.) From schedule, select Installation Type 1, 2, 3 or 4
5.) Any conditions which exceed the published installation types require engineering calculations to be performed for that installation.

Small NatureROCKS™ Boulders

Seismic Design Category/Acceleration (up to) 1.4**

Wind Exposure***	Wind Speed** (mph)	Installation Type*
B	125 or less	1
C	100 or less	1
D	94 or less	1

* See attached Installation Drawings for details of installation types.
** Per ASCE Standard 7-05 or per Local Codes
*** See below

Medium NatureROCKS™ Boulders

Seismic Design Category/Acceleration (up to) 0.7**

Wind Exposure**	Wind Speed** (mph)	Installation Type*
B	110 or less	1
C	90 or less	1
B	155 or less	2
C	148 or less	2
D	134 or less	2

Seismic Design Category/Acceleration between 0.7 and 1.4**

Wind Exposure**	Wind Speed** (mph)	Installation Type*
B	155 or less	3
C	148 or less	3
B	134 or less	3

Large NatureROCKS™ Boulders

Seismic Design Category/Acceleration (up to) 0.7**

Wind Exposure**	Wind Speed** (mph)	Installation Type*
B	110 or less	1
C	90 or less	1
B	140 or less	3
C	115 or less	3
D	100 or less	3

Seismic Design Category/Acceleration between 0.7 and 1.4**

Wind Exposure**	Wind Speed** (mph)	Installation Type*
B	140 or less	4
C	115 or less	4
B	100 or less	4

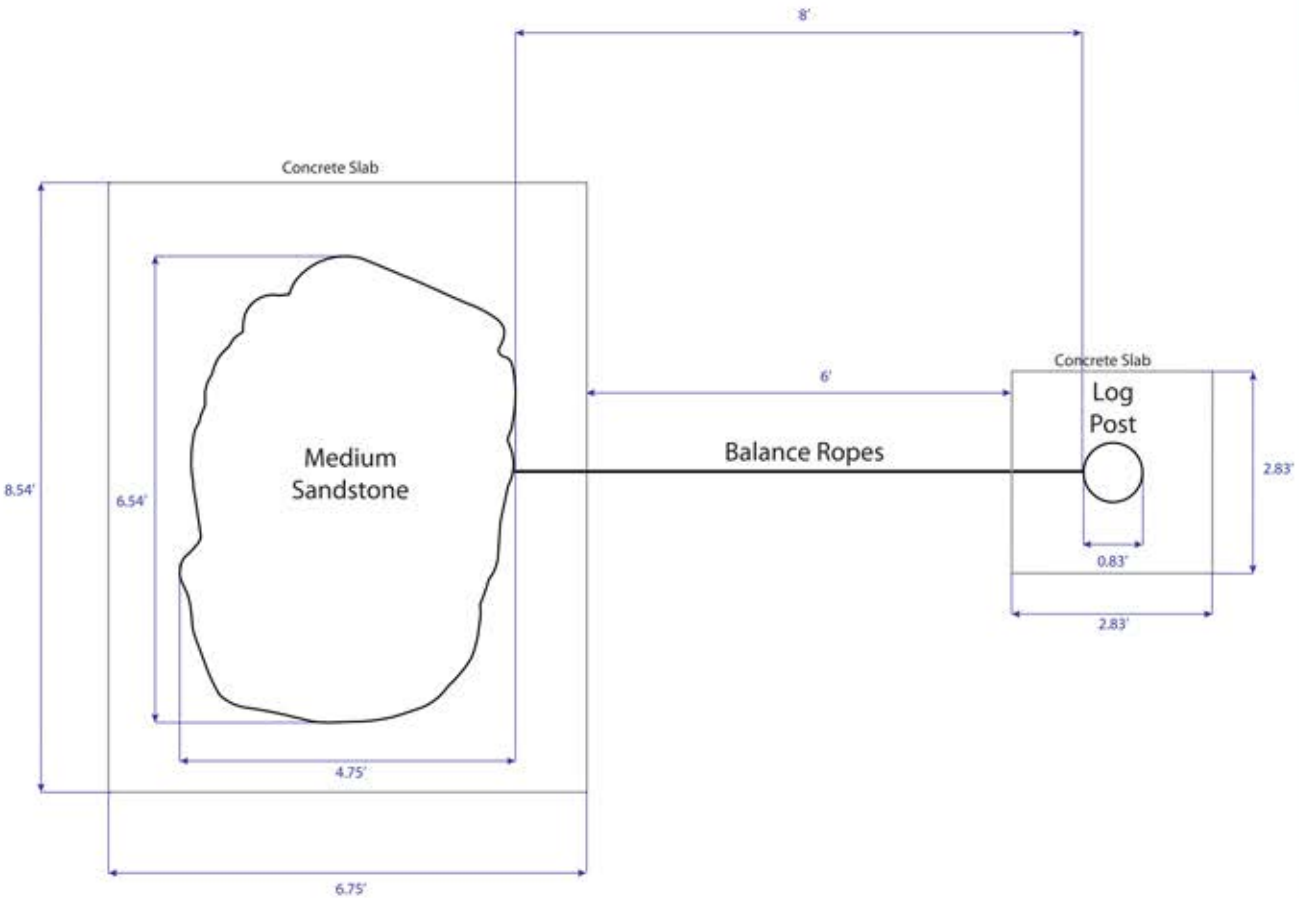
Wind Exposure B: Urban and suburban areas, wooded areas or other terrain with numerous closely spaced obstructions having the size of single-family dwellings or larger. Exposure B-type terrain shall be assumed unless the site meets the definition of another type of exposure.

Wind Exposure C: Open terrain with scattered obstructions, including surface undulations or other irregularities, having heights generally less than 30 feet extending more than 1,500 feet from the building in any quadrant. This exposure shall also apply to any building located within Exposure B-type terrain where the building is directly adjacent to open areas of Exposure C-type terrain in any quadrant for a distance of more than 600 feet. This category includes flat open country, grasslands and shorelines in hurricane-prone regions.

Wind Exposure D: Flat, unobstructed areas exposed to wind flowing over open water (excluding shorelines in hurricane-prone regions) for a distance of at least 1 mile. Shorelines in Exposure D-type terrain include inland waterways, the Great Lakes and coastal areas of California, Oregon, Washington and Alaska. This exposure shall apply only to those buildings and other structures exposed to the wind coming from over the water. Exposure D-type terrain extends inland from the shoreline a distance of 1,500 feet.

Installation Instructions: NatureROCKS™ boulders must be installed over a properly prepared foundation as determined by installation types listed above and attached drawings. Using an extended reach forklift rated at 8,000 lbs., slide the forks through the fork lift pockets provided and lift the boulder off of the truck. It is important to extend the forks a minimum of 12 inches beyond the other side of the boulder. This may require the use of fork extensions. Use special care when handling the boulders. Carry boulders level and low to the ground. Do not allow forks to come in contact with finished boulder surface, as this may cause damage. Do not set the boulder on an edge. Place the boulder in the center of the prepared foundation. For boulders requiring concrete slabs, see Detail A for attachment specifications. When Large and Medium NatureROCKS™ boulders are being placed together to form an arch, a gap of 1.5" - 2.5" is required. See Installation Types 5 and 6. After setting the boulder, be sure to cover the fork lift pockets with the provided fork lift pocket covers. Place required safety surfacing (not included).

PLAN



Mount Hayden
UP504

FOOTING, GROUND ATTACHMENT & NET CONNECTION DETAILS

Fig. 1

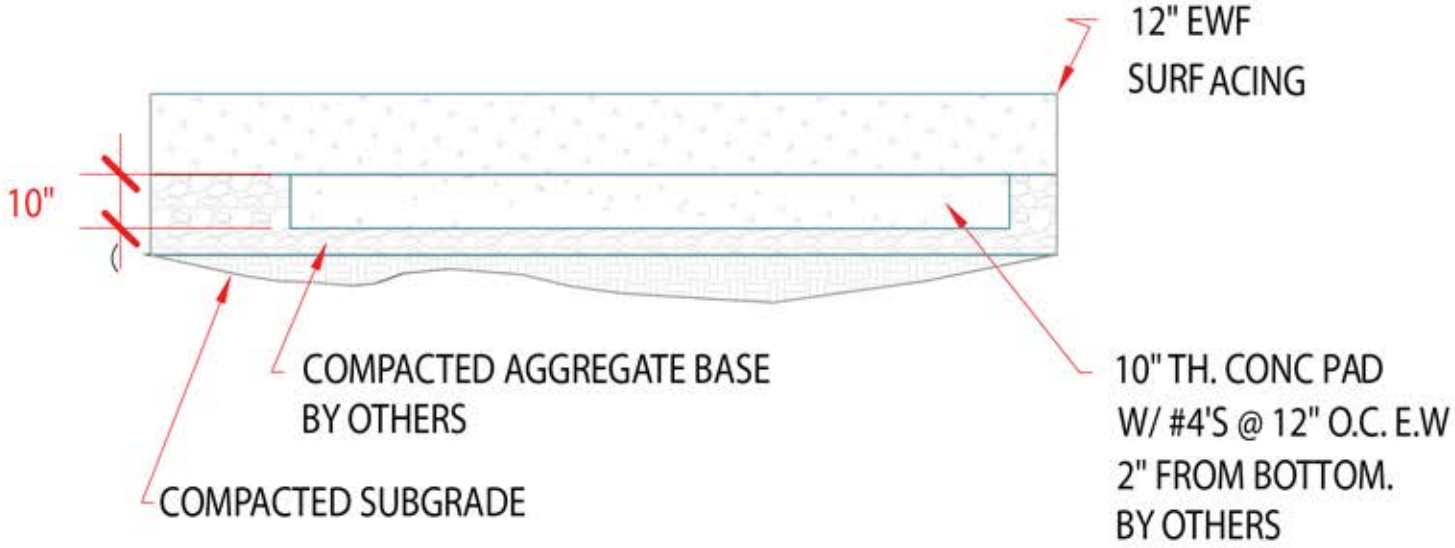
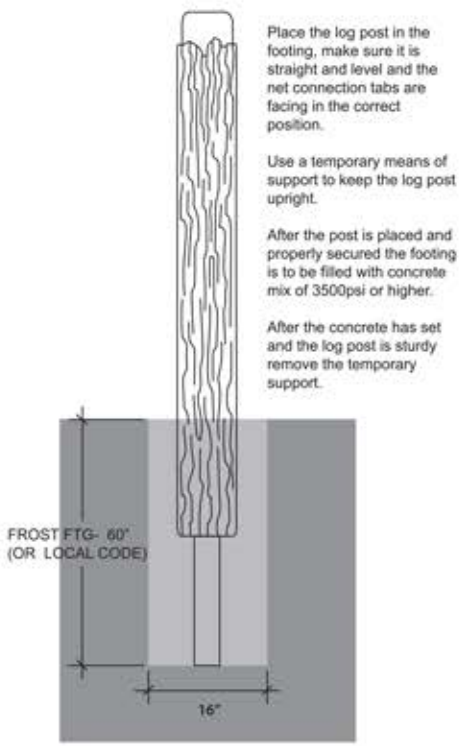


Fig. 2



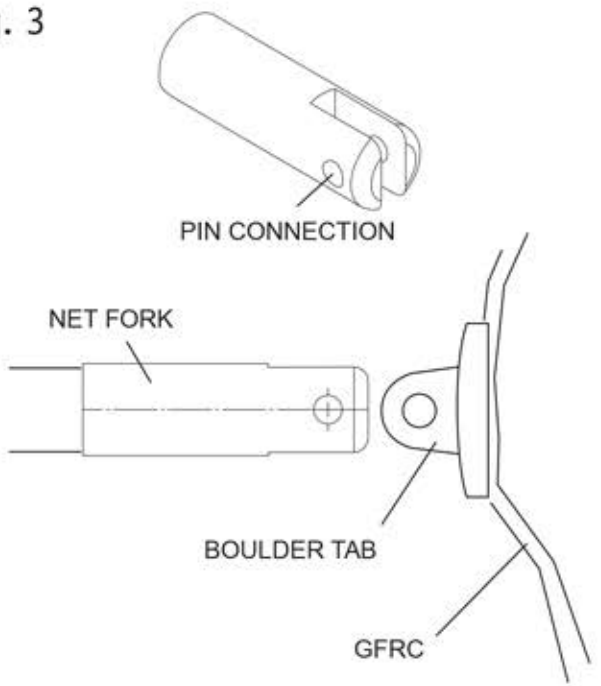
Place the log post in the footing, make sure it is straight and level and the net connection tabs are facing in the correct position.

Use a temporary means of support to keep the log post upright.

After the post is placed and properly secured the footing is to be filled with concrete mix of 3500psi or higher.

After the concrete has set and the log post is sturdy remove the temporary support.

Fig. 3



INSTALLATION INSTRUCTIONS

Tools Required:

- Skidster or Fork Lift Truck with capacity of 8,000 lbs
- Shovel/Auger
- Nylon lifting strap, minimum 20' length
  Note: Rated for 10,000 lbs. minimum
- Hammer drill wtih 1/2"-6" drill bit
- Concrete
  Note: Rated for 2,500 psi minimum

Weight:

2500 lbs. per Medium Sandstone Boulder

200 lbs. per Balance Ropes

200 lbs. per Log Post

Step 1: Carefully place Medium Sandstone Boulder and Log Post on their corresponding footings at the appropriate distance apart (see plan), making sure the netting connections are on the correct sides.

Note: Do not bolt down immediately.
Mock up all nets and verify boulders are placed in locations that give desired tension on rope climbers.

Step 2: Attach Balance Ropes to boulder and log. Test pull ropes to desired tension and move boulder or post as needed to get desired tension on ropes.

Step 3: Once the boulder and post are placed in their final positions, bolt down using Wedge Anchors.

Step 4: Attach loose ends of Balance Ropes to the post and boulder.

Step 5: Make sure all hardware is properly tightened. Place required safety surfacing around all pieces, extending out 6' from all boulders, posts and Balance Ropes.

Step 6: Inspect all pieces. Use included touch-up kit as needed.

GENERAL NOTES

- Due to variables in local soil conditions, footing sizes may vary to meet local codes.
- Actual on-site conditions may vary and may require modifications to installation method.
- Use care and caution while handling pieces. Make sure all points of contact are protected from lifting straps or other machinery that may damage the piece.
- Bracing materials may be required during installation.