### 3.0 – ALIGNMENT & SCAFFOLDING SYSTEMS

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3.1 – WALL BRACING & ALIGNMENT SYSTEMS

A bracing system provides support for the wall and acts as an alignment system to keep the walls straight and plumb during concrete placement. Typically, the wall alignment system is installed on the inner side of the LOGIX wall.

There are a number of proprietary systems available. However, each bracing unit typically consists of a vertical upright steel channel with slots for attaching screws to the LOGIX webs, a turnbuckle arm, and a scaffold bracket.

Normally, wall bracing systems are installed after placing 2 to 4 courses of LOGIX forms (depending on wind and other conditions). Attach the bracing system to the webs using #10 screws with a hex head. Screws should be snug, but not tight.

Place bracing units no more than 2ft (0.610m) from each corner or wall end, and every 7ft (2.134m) or less thereafter in accordance with OSHA/OHSA requirements. In addition, every door and window opening should be flanked on either side by bracing units, typically installed on the inner side of the LOGIX wall.

STEP 1: Attach the upright steel channel to the LOGIX webs with a #10 screw in each course. The screws should be snug but not tight. Always place screws near the top of the slots to accommodate settling at the interlock during concrete placement.
STEP 2: Attach a turnbuckle arm to the upright with a bolt and then secure to the floor or ground. In light or sandy soils, additional care must be taken to secure diagonal turnbuckle. Ensure wall is close to plumb and threads on the turnbuckle is secured.

STEP 3: The scaffold bracket is then inserted behind the top of the turnbuckle and secured at the bottom with an additional bolt.

STEP 4: Place the appropriate scaffolding planks and rails according to safety regulations. For requirements on toeboard and handrail configuration, consult OSHA/OHSA.

STEP 5: Prior to concrete placement, make certain walls are leaning slightly inward. The wall must not lean out at all.

STEP 6: A stringline must be used to achieve straight walls.

STEP 7: Before, during and after concrete placement, the diagonal turnbuckle arm is used to adjust wall straightness to stringline.
Tall walls are constructed in much the same way as concrete pours using traditional formwork. In general, the LOGIX blocks are stacked and braced, normally 10 to 12 feet high. The concrete is then placed. After the concrete sets the LOGIX blocks are then stacked another 10 to 12 feet, and bracing is raised or extended higher to support the wall, as well as keeping the wall plumb. This process is continued until the specified wall height is reached.

In higher wind areas taller walls may require guy wires for additional support.

LOGIX can be built to any height using either proprietary bracing systems or traditional scaffolding.

There are a number of proprietary tall wall bracing and alignment systems available. Many of the systems are designed to accommodate walls heights from 30 to 50 feet. For a list of some of these systems see Section 2.23, Supporting Products.

NOTE: When using wall bracing systems always follow the manufacturers recommended installation and instructions, including all required federal and local safety guidelines. Users of LOGIX and bracing systems should always follow OSHA/OSHA guidelines.

With minor modifications traditional scaffold (masonry scaffold) systems can also be used as the bracing and alignment system for tall walls (see Section 3.2). In addition, more experienced builders may have their own custom bracing systems designed to meet their preferred method of construction.
3.3 – TALL WALL BRACING SYSTEMS USING SCAFFOLDING

The following installation instructions demonstrates the use of scaffolding as a tall wall bracing and alignment system. The scaffolding system described is available from Form Systems, Inc. For more information contact your local LOGIX representative.

INSTALLATION STEPS

STEP 1: Complete two courses making sure they are straight, level and well anchored (Figure A).

STEP 2: The first scaffolding items needed are the base frames and screw jacks. The left end of the base frame as seen in Figures B and C is the end that will sit against the forms to allow the screw jacks to be adjusted.

STEP 3: Insert the screw jacks into the base frames as seen in Figure C. Create a base frame by attaching two 7ft (2.134m) ledgers (the horizontal pipes) to two base frames. Each ledger end has a wedge to anchor the system together (Figure D). To remove, hit from below. Once base frame is in place, level in all directions.

STEP 4: There are two kinds of vertical poles. Poles with the 2/3 rosettes go against the wall. Those with the full rosettes go into the center cup of the base frame (Figure C).
STEP 5: Install the two-foot ledgers that will hold the decks in place on every third rosette from the bottom. Note that the only 7ft (2.134m) ledger required against the wall is on the base frame. The rest of the scaffolding will require 7ft (2.134m) ledgers only on one side (Figure F).

STEP 6: Place one wire clip per course at each vertical 2/3 rosette pole (Figure E).

STEP 7: Insert 7ft (2.134m) ledgers for railings in the two rosettes above the planks (Figure G).

STEP 8: There are two adjustable diagonals. One is 4ft (1.220m) long and is intended to go to the inside of the vertical poles. It’s designed to align the wall during the second or third build. For the first build, use the 10ft (3.048m) external adjustable diagonal (Figure G).