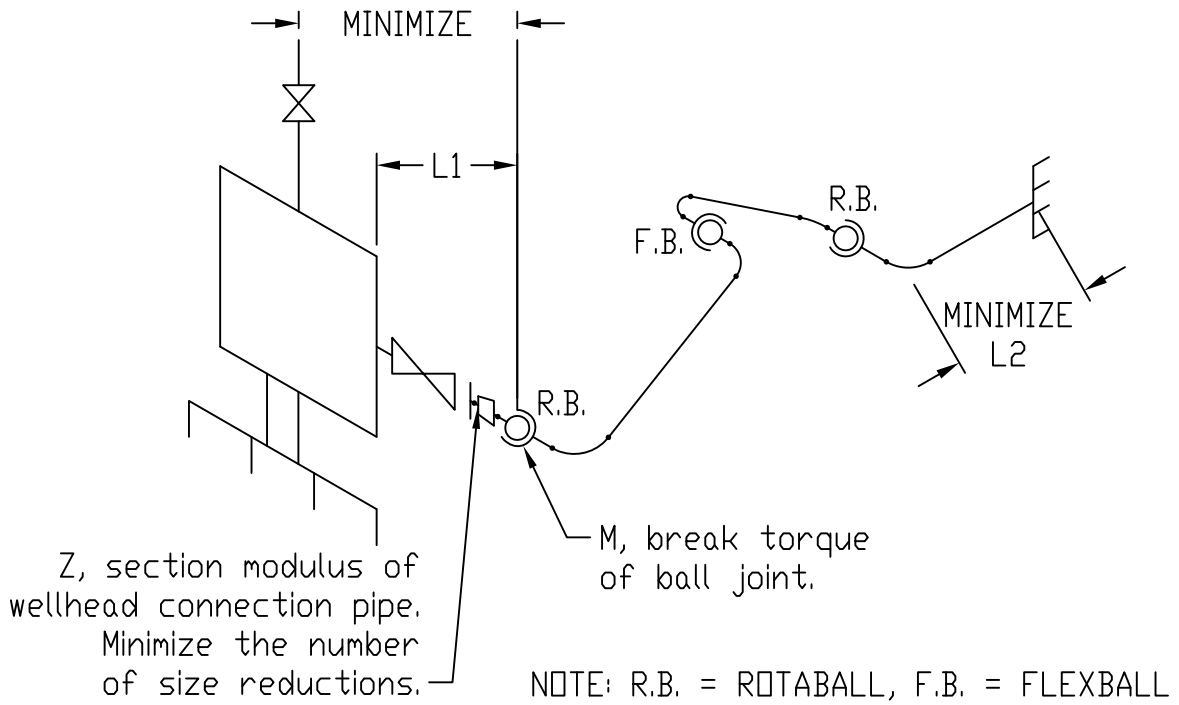
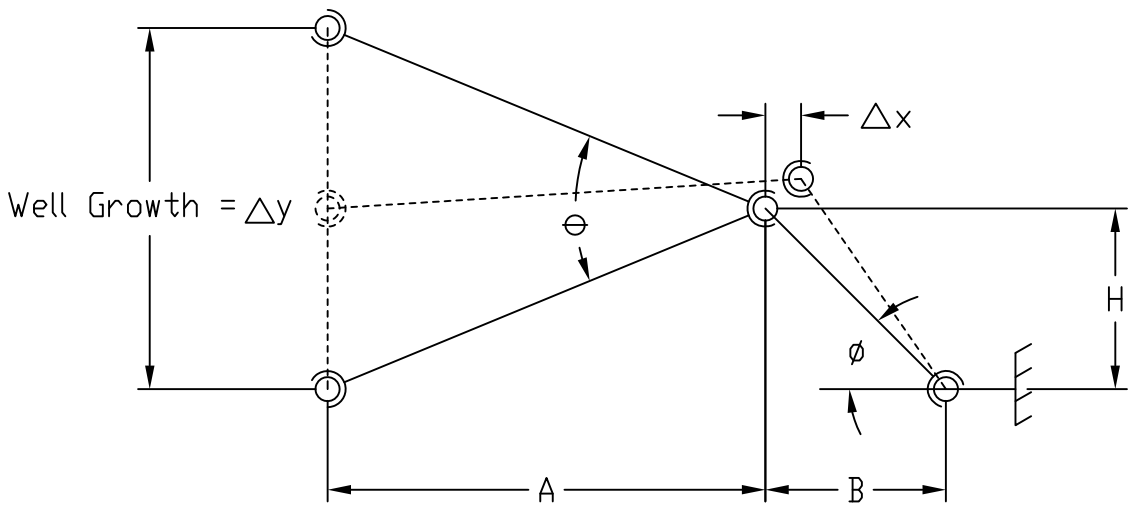
3 SWIVEL LAYOUT



NOTE: R.B. = ROTABALL, F.B. = FLEXBALL



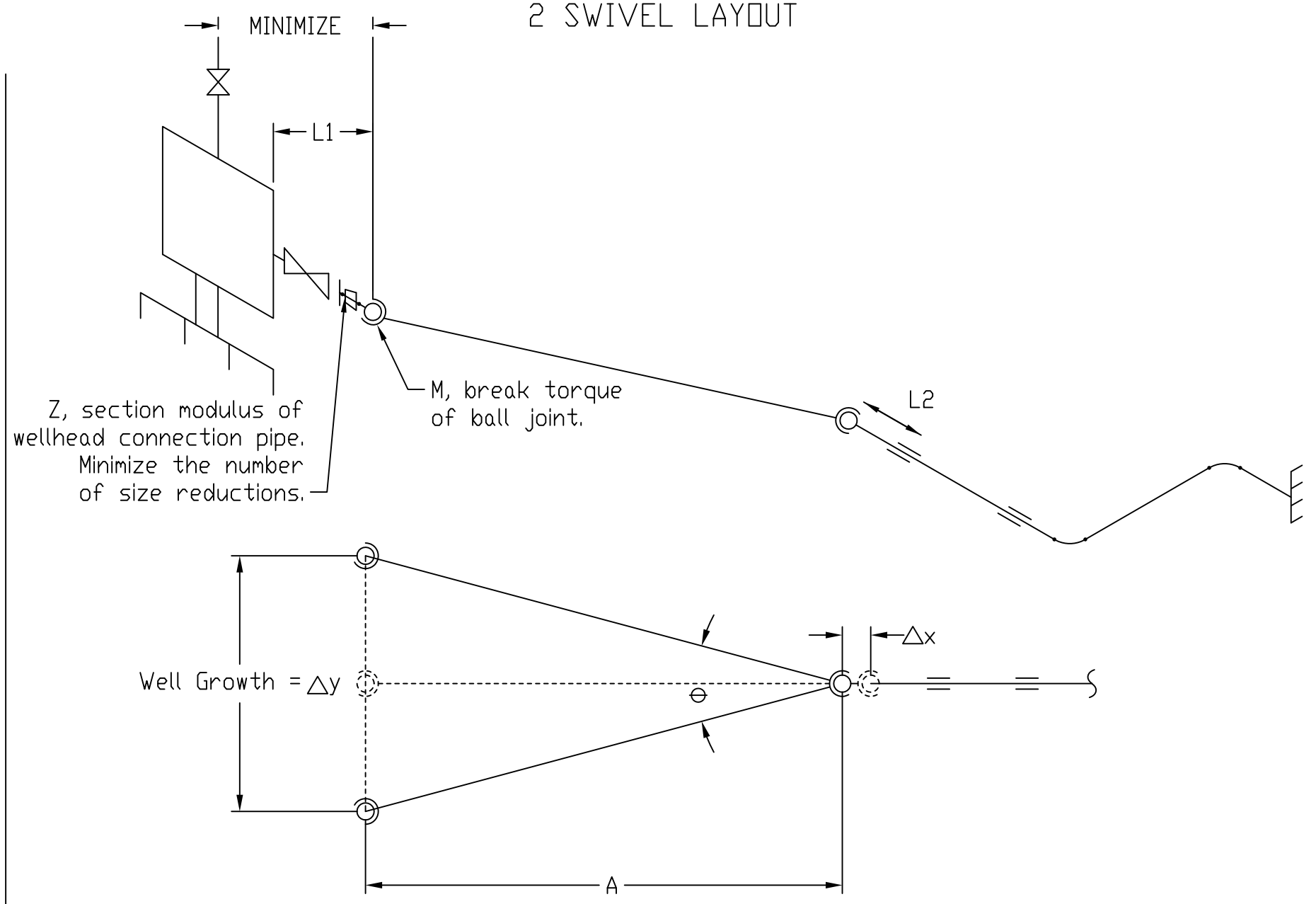
DESIGN GUIDELINES

H and A > M*L1/S*Z
S = Allowable Stress

$A = \triangle y/(2\tan(\Theta/2))$ $B = \triangle y/2\tan\phi$

$\triangle x = \sqrt{A^2 + \triangle y^2/4} - A$

2 SWIVEL LAYOUT



DESIGN GUIDELINES

A > M*L1/S*Z
S = Allowable Stress

Θ = 15° TO 30°

$A = \triangle y/(2\tan(\Theta/2))$ $\triangle x = \sqrt{A^2 + (\triangle y/2)^2} - A$

IMPORTANT: Consider △x in piping design. This movement is a large rotation effect not included automatically in linear stress analysis software.

THESE GUIDELINES ARE SUGGESTED AS A STARTING POINT WITH DESIGN. SIGNIFICANT INCREASES IN A, B, AND H DIMENSIONS MAY BE REQUIRED TO SATISFY PIPING STRESS CODE COMPLIANCE. MINIMIZING DIMENSIONS L1 AND L2 IS CRITICAL. IT IS THE ENGINEER'S RESPONSIBILITY TO VERIFY OVERALL DESIGN AND CODE COMPLIANCE.

BlueSky process solutions

STANDARD MC TOLERANCES UOS

X	±1/16
X.X	±.020
X.XX	±.010
X.XXX	±.005
X°	±1°

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DRAWING TITLE

EXPANSION LOOP DESIGN GUIDELINES

		DATE
DRAWN	ZM	April 13, 2012
CHECKED	ZM	April 13, 2012
DESIGNED	ZM	April 13, 2012
APPROVED	AM	April 13, 2012

SCALE	DRAWING No.	REVISION
NTS	XX3670	0