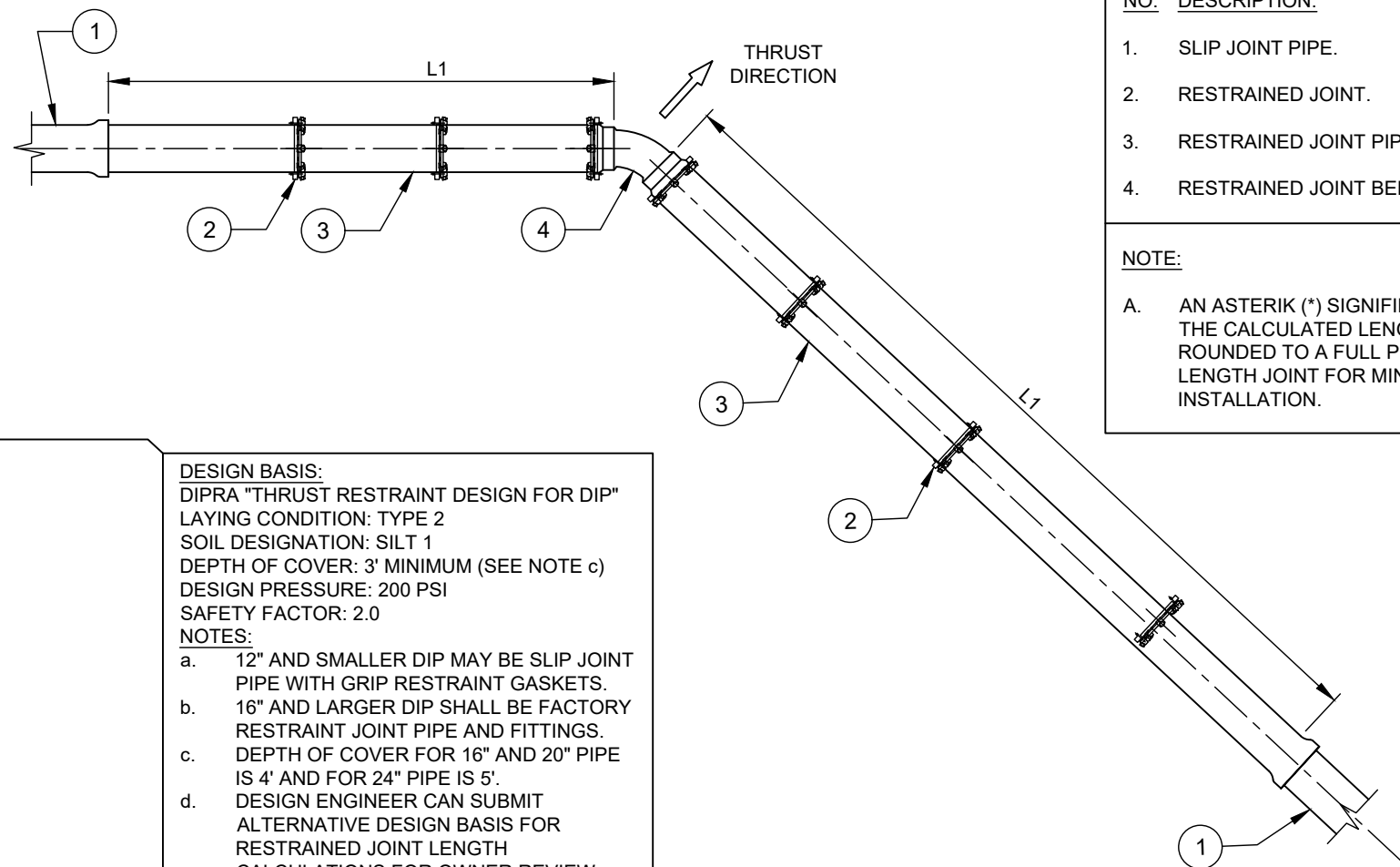


| VERTICAL BEND DOWN (TOP BEND) - L1 (FEET) | | | | | | | | |
|---|------------|-----|-----|-----|-----|-----|-----|-----|
| DIP | DIAMETER | | | | | | | |
| | BEND ANGLE | 6" | 8" | 10" | 12" | 16" | 20" | 24" |
| | 45 | 70 | 91 | 109 | 128 | 128 | 154 | 150 |
| 22.5 | 36* | 54* | 54* | 61 | 61 | 74 | 72 | |
| 11.25 | 18* | 36* | 36* | 36* | 36* | 54* | 36* | |

| POLYWRAPPED DIP/PVC VERTICAL BEND DOWN (TOP BEND) - L1 (FEET) | | | | | | | | |
|---|------------|-----|-----|-----|-----|-----|-----|-----|
| POLYWRAPPED DIP/PVC | DIAMETER | | | | | | | |
| | BEND ANGLE | 6" | 8" | 10" | 12" | 16" | 20" | 24" |
| | 45 | 100 | 129 | 156 | 183 | 182 | 221 | 214 |
| 22.5 | 54* | 62 | 75 | 88 | 88 | 106 | 103 | |
| 11.25 | 36* | 36* | 54* | 54* | 54* | 54* | 54* | |



- NO. DESCRIPTION:**
1. SLIP JOINT PIPE.
 2. RESTRAINED JOINT.
 3. RESTRAINED JOINT PIPE.
 4. RESTRAINED JOINT BEND.

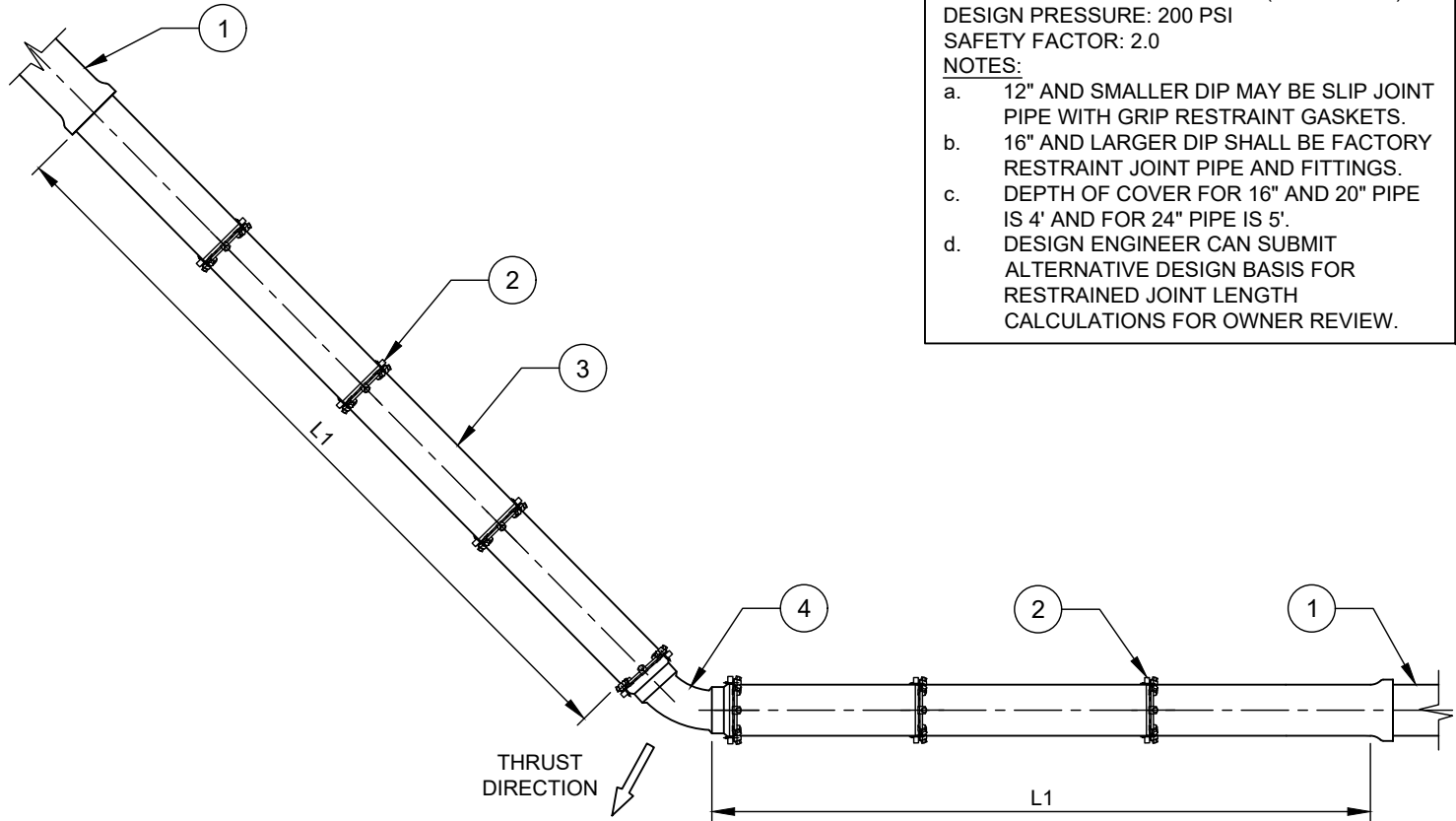
NOTE:

A. AN ASTERIK (*) SIGNIFIES THAT THE CALCULATED LENGTH WAS ROUNDED TO A FULL PIPE LENGTH JOINT FOR MINIMUM INSTALLATION.

DESIGN BASIS:
 DIPRA "THRUST RESTRAINT DESIGN FOR DIP"
 LAYING CONDITION: TYPE 2
 SOIL DESIGNATION: SILT 1
 DEPTH OF COVER: 3' MINIMUM (SEE NOTE c)
 DESIGN PRESSURE: 200 PSI
 SAFETY FACTOR: 2.0

NOTES:

- 12" AND SMALLER DIP MAY BE SLIP JOINT PIPE WITH GRIP RESTRAINT GASKETS.
- 16" AND LARGER DIP SHALL BE FACTORY RESTRAINT JOINT PIPE AND FITTINGS.
- DEPTH OF COVER FOR 16" AND 20" PIPE IS 4' AND FOR 24" PIPE IS 5'.
- DESIGN ENGINEER CAN SUBMIT ALTERNATIVE DESIGN BASIS FOR RESTRAINED JOINT LENGTH CALCULATIONS FOR OWNER REVIEW.



| VERTICAL BEND UP (BOTTOM BEND) - L1 (FEET) | | | | | | | | |
|--|------------|-----|-----|-----|-----|-----|-----|-----|
| DIP | DIAMETER | | | | | | | |
| | BEND ANGLE | 6" | 8" | 10" | 12" | 16" | 20" | 24" |
| | 45 | 54* | 58 | 70 | 81 | 81 | 98 | 94 |
| 22.5 | 36* | 36* | 36* | 54* | 54* | 54* | 54* | |
| 11.25 | 18* | 18* | 18* | 36* | 36* | 36* | 36* | |

| POLYWRAPPED DIP/PVC VERTICAL BEND UP (BOTTOM BEND) - L1 (FEET) | | | | | | | | |
|--|------------|-----|-----|-----|-----|-----|-----|-----|
| POLYWRAPPED DIP/PVC | DIAMETER | | | | | | | |
| | BEND ANGLE | 6" | 8" | 10" | 12" | 16" | 20" | 24" |
| | 45 | 56 | 72 | 86 | 101 | 100 | 120 | 116 |
| 22.5 | 36* | 36* | 54* | 54* | 54* | 58 | 56 | |
| 11.25 | 18* | 18* | 36* | 36* | 36* | 36* | 36* | |