SINGLE STAND ALONE BOLLARD INSTALLATION

**FRONT VIEW**

- TOP OF CONCRETE
- 10 3/4" O.D. BOLLARD PIPE
- CONCRETE IN BOLLARD TUBE
- GRADE ELEVATION
- EXISTING SUBGRADE
- CHAIR TO RAISE BOLLARD OFF SUBGRADE

**TOP VIEW**

- 24 in"
- 24 in"
- 36 in"
- 36 in"
- 4000 PSI CONCRETE FOOTING

**KEY CAPABILITIES**

1. NO PLACING & TYING REBAR IN CONCRETE FOUNDATION.
2. ONE (1) SINGLE STAND ALONE PREFABRICATED BOLLARD UNIT STOPS THE VEHICLE IMPACT.
3. QUICK INSTALLATION (EXCAVATE, THEN SET BOLLARD & POUR CONCRETE).
4. AVOIDS EXCAVATIONS BEING OPEN OVERNIGHT (SET & POUR BOLLARD ARRAY IN 1 DAY).
5. UNRESTRICTED BOLLARD SPACING (ONE BOLLARD STOPS VEHICLE IMPACT).
KEY CAPABILITIES

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BOLLARD INSTALLATION WITH TURN

KEY CAPABILITIES
1. BOLLARD SYSTEM CAN ACCOMMODATE ANY TURNING RADIUS.
2. FIELD ADJUSTMENTS ARE EASILY MADE.
BOLLARD INSTALLATION ACROSS GRADE CHANGES

FRONT VIEW

STEEL BOLLARD (TYP.)

GRADE ELEVATION

36" CONCRETE DEPTH

UNRESTRICTED SPACING

UNRESTRICTED CLEAR SPACING

BOLLARD COVER SELECTED BY CUSTOMER (SEE COVER TYPES ON FINAL SHEET)

-30"-

BOLLARD COVER HEIGHT (ADJUSTABLE)

GRADE

CONCRETE

MASONRY BLOCKS OR CHAIRS TO ELEVATE BOLLARD STEEL OFF OF SUBGRADE

TOP VIEW

PREFabricATED SET AND POUR BOLLARD (TYP.)

CONCRETE

UNRESTRICTED SPACING

40"  45"

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TYPICAL ARRAY
ASTM M50 (K12)
SET & POUR BOLLARD - MODEL SPB-1200 (PREFABRICATED SINGLE BOLLARD UNIT, NO REBAR IN FOUNDATION)
STOPS 15,000 LB. VEHICLE AT 50 MPH IMPACT (BOLLARD SPACING IS UNRESTRICTED)
ASTM F2656-07 M50(K12)

REMOVABLE BOLLARD MODEL

FRONT VIEW

TOP VIEW

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3. QUICK INSTALLATION (EXCAVATE, THEN SET BOLLARD & POUR CONCRETE).
4. AVOIDS EXCAVATIONS BEING OPEN OVERNIGHT (SET & POUR BOLLARD ARRAY IN 1 DAY).
5. UNRESTRICTED BOLLARD SPACING (ONE BOLLARD STOPS VEHICLE IMPACT).
PREFABRICATED BOLLARD MATERIALS PROVIDED BY BARRIER1 SYSTEMS

(QTY 1) EACH: BOLLARD TUBE
(QTY 4) EACH: PRE-CUT REBAR (INSIDE BOLLARD)
(QTY 1) EACH: BOLLARD COVER

MATERIALS PROVIDED BY INSTALLER

1. CONCRETE, 2.75 CUBIC YARDS PER BOLLARD
2. CHAIRS TO ELEVATE BOLLARDS ABOVE SUBGRADE
REMOVABLE BOLLARDS

PREFABRICATED BOLLARD MATERIALS PROVIDED BY BARRIER1 SYSTEMS

(QTY 1) EACH: BOLLARD SLEEVE
(QTY 1) EACH: BOLLARD TUBE
(QTY 4) EACH: PRE-CUT REBAR (INSIDE BOLLARD)
(QTY 1) EACH: BOLLARD SLEEVE CAP
(QTY 1) EACH: BOLLARD COVER

MATERIALS PROVIDED BY INSTALLER

1. CONCRETE. 2.75 CUBIC YARDS PER BOLLARD.
2. CHAIRS TO ELEVATE BOLLARD ABOVE SUBGRADE

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