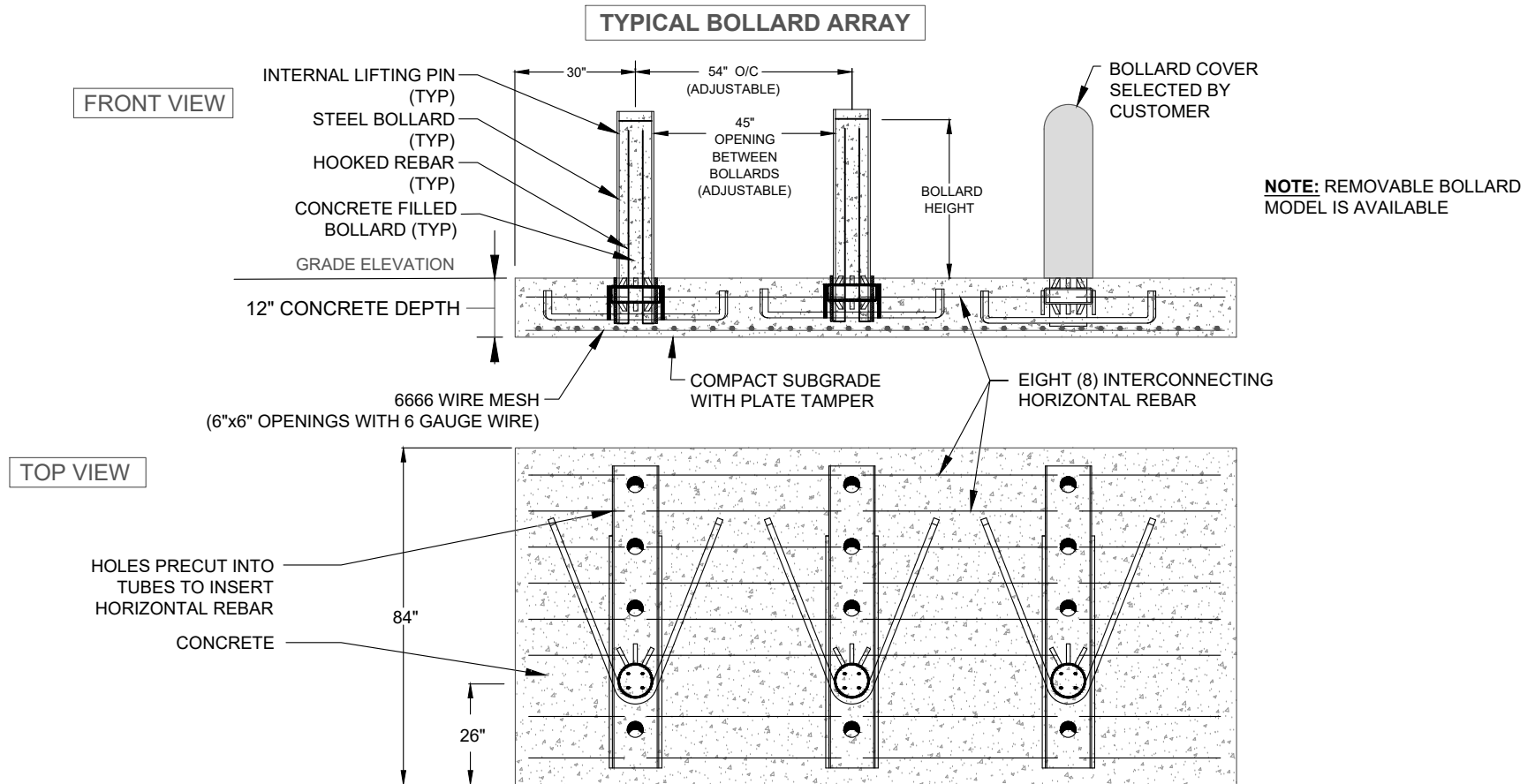


SHALLOW FOUNDATION BOLLARD - MODEL SMB-800 (MODULAR & PREFABRICATED)

STOPS 15,000 LB. VEHICLE AT 40 MPH IMPACT
 ASTM F2656-07 M40 P1(K8) CERTIFIED, APPROVED ON DoD ANTI-RAM LIST



KEY CAPABILITIES

1. SIMPLE AND QUICK INSTALLATION - ONLY ONE PREFABRICATED MODULAR BOLLARD COMPONENT
2. ADJACENT BOLLARDS ARE CONNECTED BY HORIZONTAL REBARS.
3. ONLY A TAMPED SUB GRADE IS REQUIRED (NO GRAVEL OR CONCRETE MUD PAD).
4. SHALLOW FOUNDATION AVOIDS UNDERGROUND UTILITIES.
5. NO FIELD WELDING OR BOLTING (REDUCES INSTALLATION TIME AND COST).
6. MODULAR BOLLARD SYSTEM ACCOMMODATES TURNS, GRADE CHANGES, AND FIELD ADJUSTMENTS.
7. NO STIRRUPS OR REBAR TYING IS NEEDED. HORIZONTAL REBAR SLIDES INTO PREDRILLED HOLES.
8. NO SPECIALTY BOLLARDS, COMPONENTS, OR PARTS REQUIRED TO MAKE TURNS OR INSTALL ACROSS GRADE CHANGES.
9. COATINGS AND FINISHES AVAILABLE INCLUDING PRIMED & PAINTED, HOT DIPPED GALVANIZED, POWDER COATED, ETC.
10. VARIETY OF BOLLARD COVERS AVAILABLE (THERMOPLASTIC, DECORATIVE, STAINLESS STEEL, CONCRETE, LIGHTED, ETC.)



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SHALLOW MOUNT
 MODULAR BOLLARD
 SYSTEM - M40 (K8)

SAMPLE DRAWING

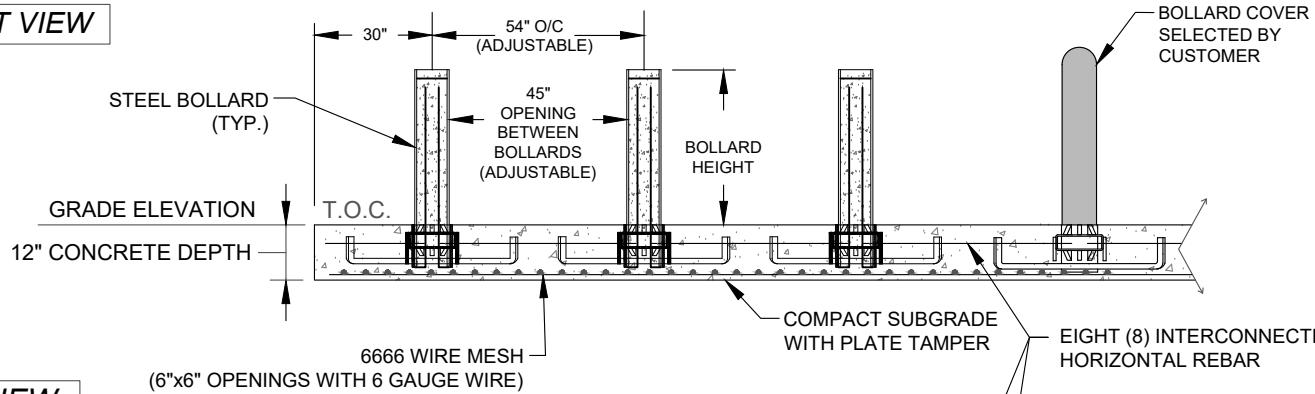
SHEET: 1 OF 7
 20180209-02-PD
 SCALE: N.T.S.

SHALLOW FOUNDATION BOLLARD - MODEL SMB-800 (MODULAR & PREFABRICATED)

STOPS 15,000 LB. VEHICLE AT 40 MPH IMPACT
 ASTM F2656-07 M40 P1(K8) CERTIFIED, APPROVED ON DoD ANTI-RAM LIST

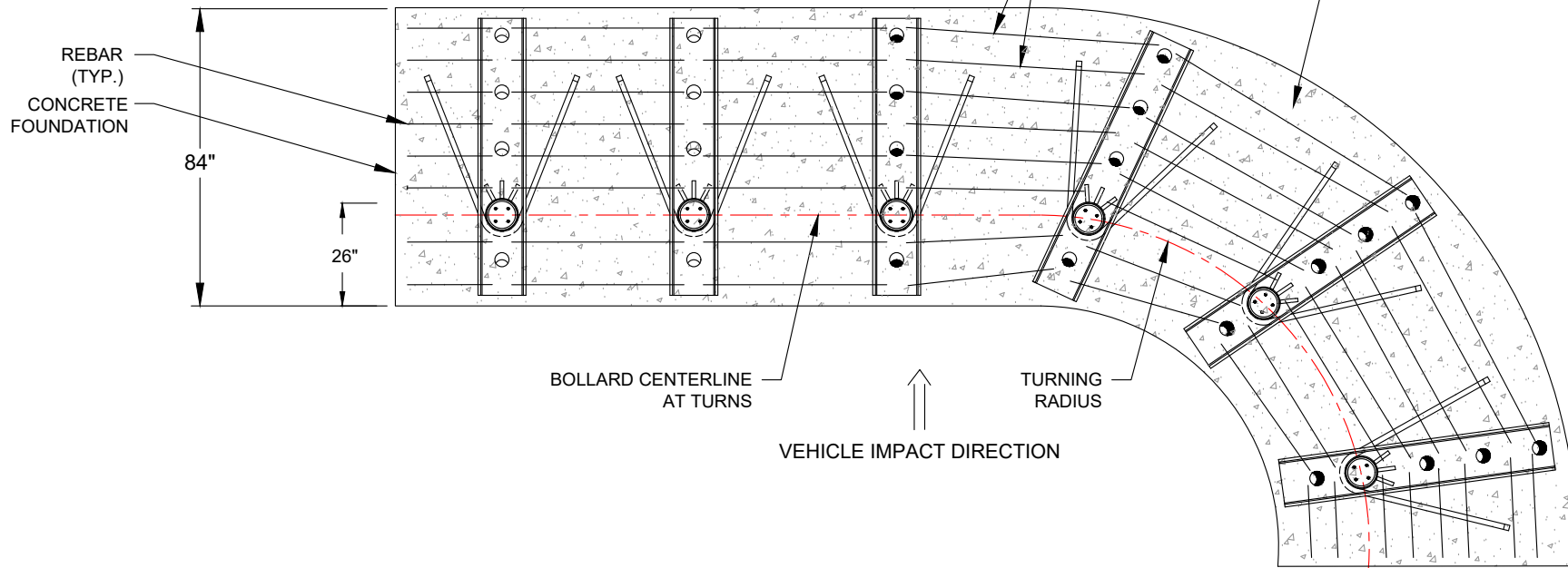
BOLLARD INSTALLATION WITH TURN

FRONT VIEW



NOTE: REMOVABLE BOLLARD MODEL IS AVAILABLE

TOP VIEW



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**SHALLOW MOUNT
 MODULAR BOLLARD
 SYSTEM - M40 (K8)**

SAMPLE DRAWING

SHEET: 2 OF 7

20180209-02-PD

SCALE: N.T.S.

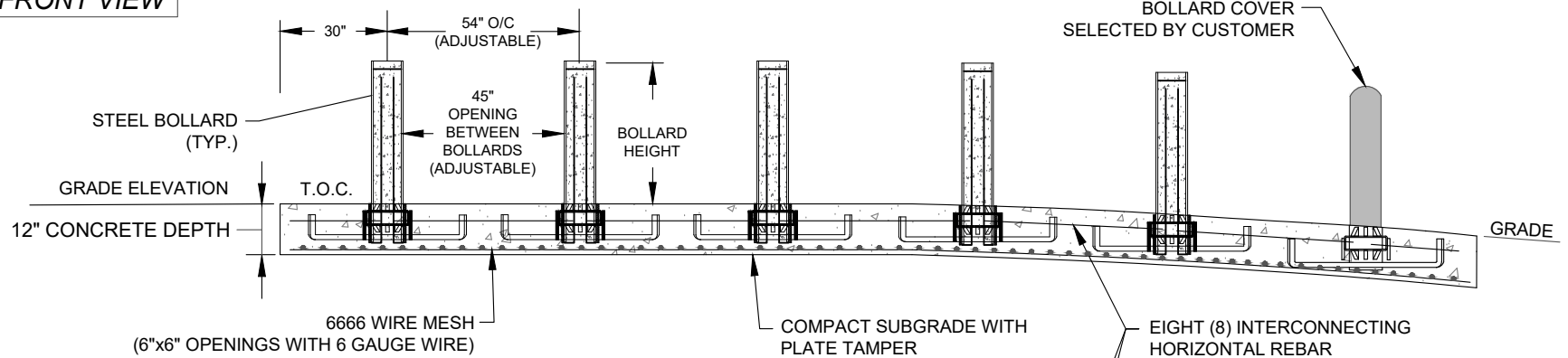
SHALLOW FOUNDATION BOLLARD - MODEL SMB-800 (MODULAR & PREFABRICATED)

STOPS 15,000 LB. VEHICLE AT 40 MPH IMPACT
 ASTM F2656-07 M40 P1(K8) CERTIFIED, APPROVED ON DoD ANTI-RAM LIST

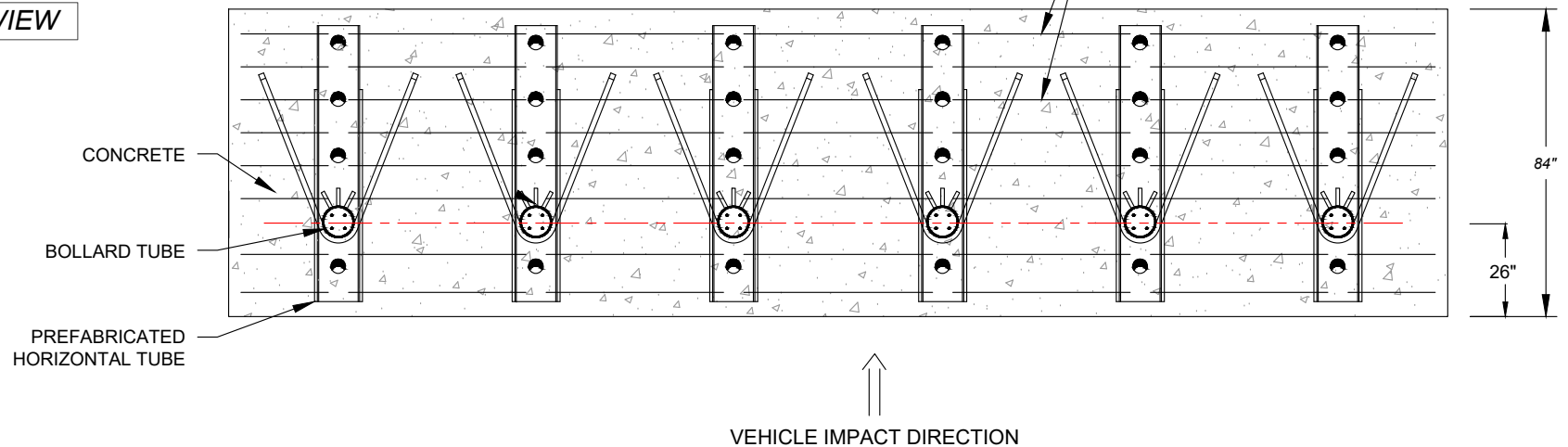
BOLLARD INSTALLATION ACROSS GRADE CHANGE

NOTE: REMOVABLE BOLLARD MODEL IS AVAILABLE

FRONT VIEW



TOP VIEW



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SHALLOW MOUNT
 MODULAR BOLLARD
 SYSTEM - M40 (K8)

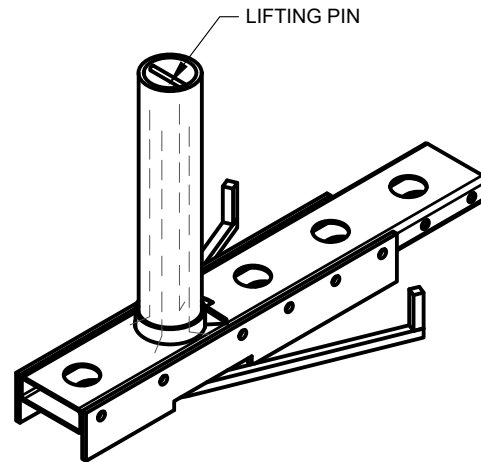
SAMPLE DRAWING

SHEET: 3 OF 7
 20180209-02-PD
 SCALE: N.T.S.

SHALLOW FOUNDATION BOLLARD - MODEL SMB-800 (MODULAR & PREFABRICATED)

STOPS 15,000 LB. VEHICLE AT 40 MPH IMPACT
ASTM F2656-07 M40 P1(K8) CERTIFIED, APPROVED ON DoD ANTI-RAM LIST

MATERIALS PROVIDED BY BARRIER1 SYSTEMS



(1) EACH:
PREFABRICATED BOLLARD
WITH BASE STRUCTURE
(PRE-ASSEMBLED)



(1) EACH:
BOLLARD COVER
SELECTED BY CUSTOMER

TYPICAL MATERIALS PROVIDED BY INSTALLATION CONTRACTOR:

1. ABOUT 1.25 CUBIC YARDS OF CONCRETE PER BOLLARD
2. EIGHT (8) HORIZONTAL REBAR PER BOLLARD TO CONNECT ADJACENT BOLLARDS
3. 6666 WIRE MESH
4. MASONRY BRICKS OR CHAIRS TO ELEVATE BOLLARD STEEL OFF SUBGRADE



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**SHALLOW MOUNT
MODULAR BOLLARD
SYSTEM - M40 (K8)**

SAMPLE DRAWING

SHEET: 4 OF 7

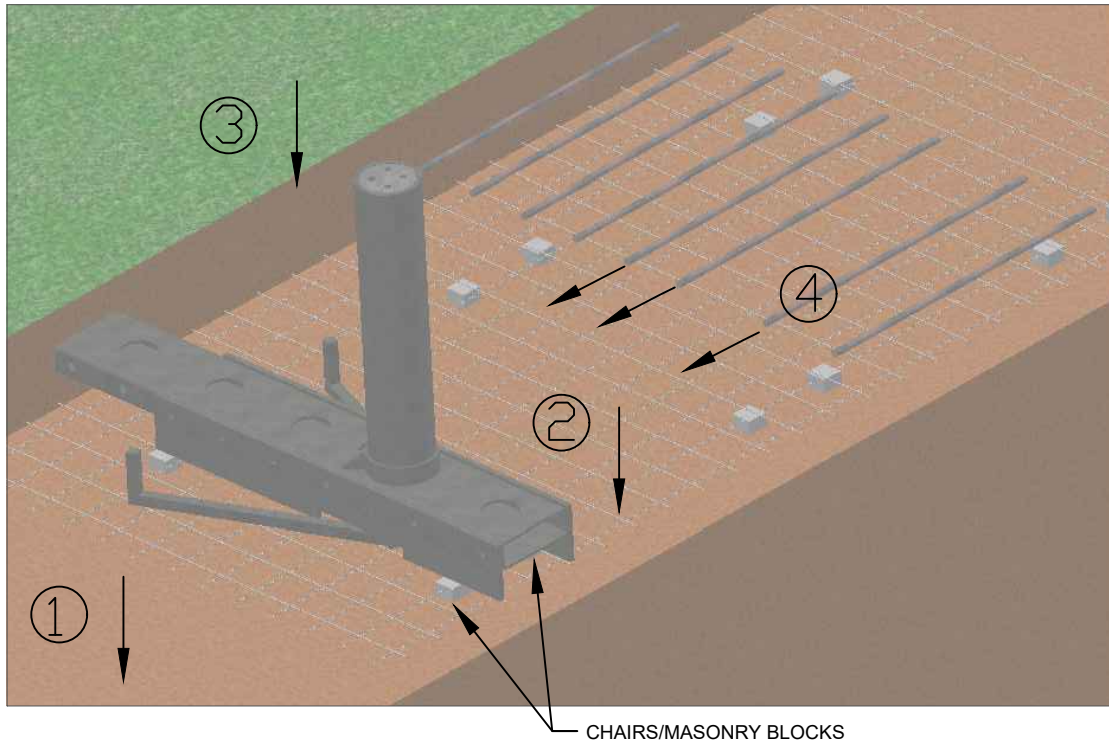
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SHALLOW FOUNDATION BOLLARD - MODEL SMB-800 (MODULAR & PREFABRICATED)

STOPS 15,000 LB. VEHICLE AT 40 MPH IMPACT
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INSTALLATION STEPS



① EXCAVATE THEN TAMP SUBGRADE WITH PLATE TAMPER FOR FINISHED EXCAVATION DEPTH OF 12" MINIMUM.

② PLACE WIRE MESH. USE MASONRY BLOCKS OR CHAIRS TO ELEVATE WIRE MESH OFF SUBGRADE. MASONRY BLOCKS OR CHAIRS ARE PLACED WHERE BOLLARDS WILL BE SET

③ PLACE PREFABRICATED BOLLARDS INTO EXCAVATION. MASONRY BLOCKS OR CHAIRS BELOW THE WIRE MESH SUPPORT THE BOLLARD. TOP OF GUSSET / SLEEVE IS SAME HEIGHT AS TOP OF CONCRETE.

④ INSERT HORIZONTAL REBAR INSIDE HOLES TO INTERCONNECT ADJACENT BOLLARDS.

⑤ POUR AND VIBRATE CONCRETE.

⑥ BEFORE CONCRETE CURES, CHECK PLUMB AND LEVEL OF VERTICAL BOLLARD TUBE AND ADJUST TUBE AS NEEDED.

⑦ PLACE BOLLARD COVERS.

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INSTALLATION STEPS

SAMPLE DRAWINGS

SHEET: 5 OF 7

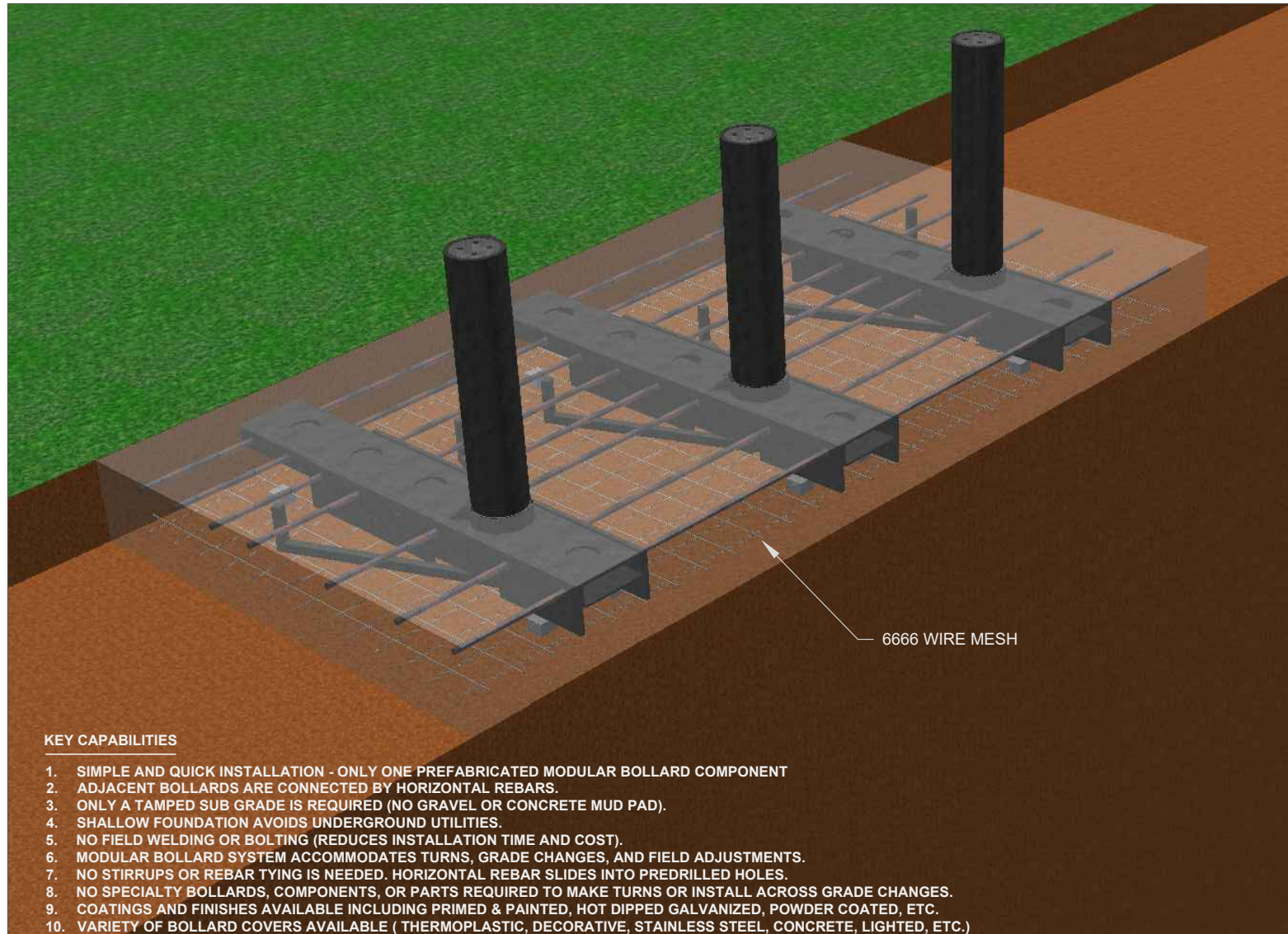
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SHALLOW FOUNDATION BOLLARD - MODEL SMB-800 (MODULAR & PREFABRICATED)

STOPS 15,000 LB. VEHICLE AT 40 MPH IMPACT
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3D VIEW PRIOR TO POURING CONCRETE



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3D VIEW PRIOR
TO POURING CONCRETE

SAMPLE DRAWINGS

SHEET: 6 OF 7

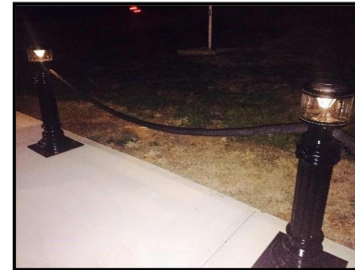
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BOLLARD COVER EXAMPLES - CUSTOM TYPES, SIZES, SHAPES AND COLORS ARE AVAILABLE



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BOLLARD COVER
 EXAMPLES

SAMPLE DRAWINGS

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