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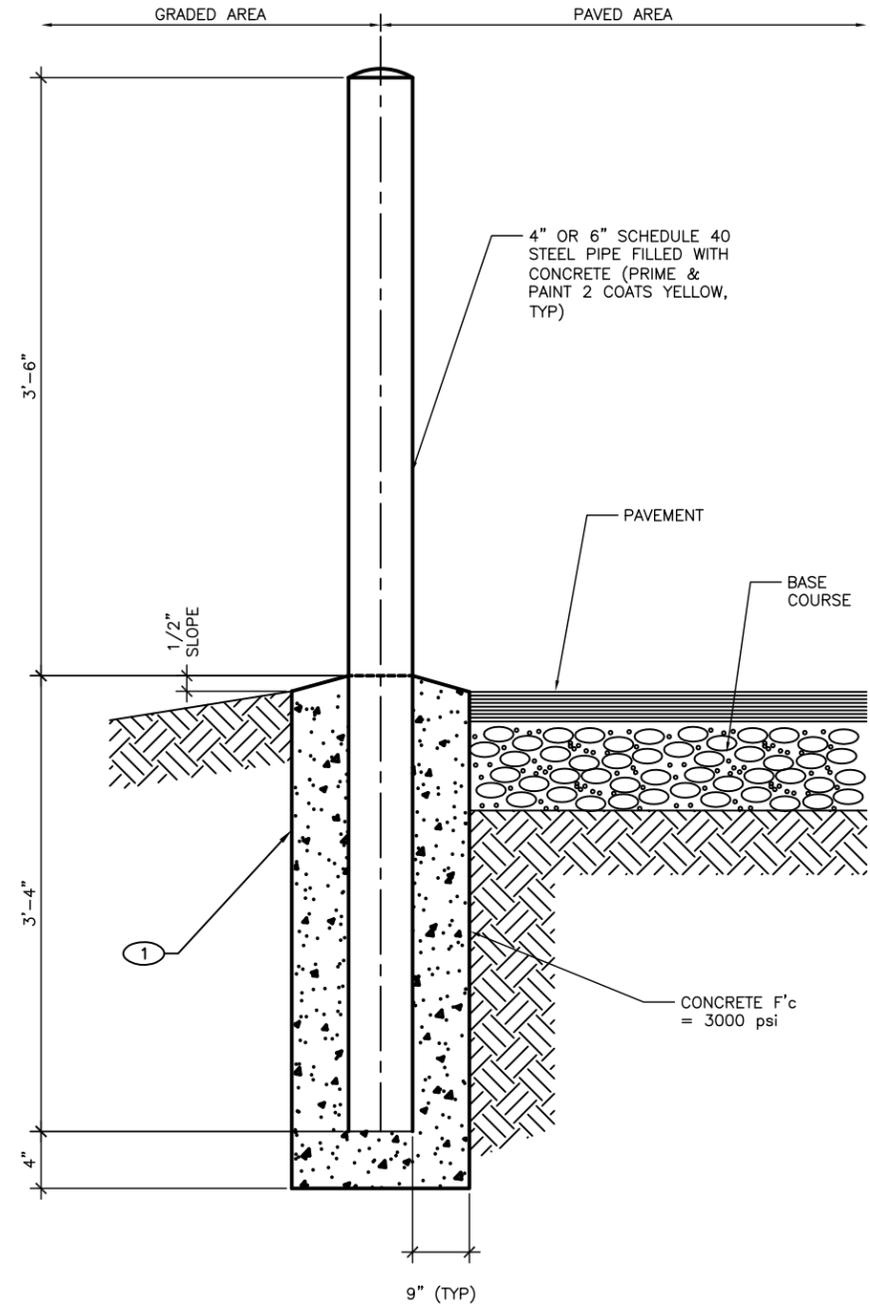
6

D

C

B

A



**BOLLARD DETAIL**  
 X  
 C-XXXX SCALE: NONE

**NOTES FOR DESIGNER:**  
 (DO NOT INCLUDE ON CONSTRUCTION DRAWINGS)

1. WHEN EDITING DETAIL TO SUIT PROJECT, ADD JOB SPECIFIC REQUIREMENTS AND DELETE ONLY THOSE PORTIONS THAT DO NOT APPLY. TO SEEK A VARIANCE FROM APPLICABLE REQUIREMENTS, CONTACT THE ESM CIVIL POC.
2. USE BOLLARDS FOR PROTECTION FROM HAZARDS OF SIGNIFICANCE. DO NOT USE NEAR ROADWAY WHERE IT IS DANGEROUS TO VEHICLES TRAVELING AT HIGH SPEEDS.

**KEYED NOTES:**

1 CONSULT STRUCTURAL ENGINEER OF RECORD BEFORE POURING CONCRETE FOUNDATION FOR BOLLARD IF SIDE OF FOUNDATION WILL BE WITHIN 18" OF BELOW-GRADE OBJECTS (E.G., PIPES, CONDUITS, ETC.) THAT OCCURS WITHIN THE HEIGHT OF THE FOUNDATION.

DRAWING DEVELOPED FOR ML-3/ML-4 PROJECTS. FOR ML-1/ML-2, ADDITIONAL REQUIREMENTS AND QA REVIEWS ARE REQUIRED. (REMOVE THIS NOTE WHEN INSERTED INTO A DRAWING PACKAGE).

NO	DATE	CLASS REV	DC	DESCRIPTION	DWN	DSGN	CHKD	SUB	APP
4	1-28-14	U		GENERAL REVISION	KT	MS	JG	RT	TO
3	1-18-06	U	DY	DELETED BOLLARD LOCATION DETAIL AND GENERAL REVISION.	RP	MS	MS	EH	TO
2	12-12-12	U	DY	ADDED KEYED NOTE 1 AND REVISED BOLLARD FOUNDATION PER CALC. NO. TA-00-CALC-C-0001-RD (3'-4" WAS 2'-8" AND 9" WAS 4").	RP	GP	TH	EH	TO
1	8-23-02	U		GENERAL REVISION AND DWG. NO. WAS ST3011.	RP	EH	MS	EH	TO

**ENGINEERING STANDARDS PROGRAM**

**ENGINEERING STANDARDS MANUAL**

**BOLLARD DETAIL**

TA-XX BLDG XXX

DRAWN: R.PEARSON  
 DESIGN: E.HOTH  
 CHECKED: M.SMITHOUR  
 DATE: 6-28-99

DISCIPLINE POC: EDWARD HOTH APPROVED FOR RELEASE STANDARDS MANAGER: TOBIN ORUCH

Los Alamos NATIONAL LABORATORY PO Box 1663 Los Alamos, New Mexico 87545

1 OF 1

D.C.: UNCLASSIFIED REVIEWER: LARRY BAYS BASIS: BASIS DATE:

PROJECT ID DRAWING NO ESR NO.: REV

CHAPTER3 ST-G30GEN-1 ESR # 4