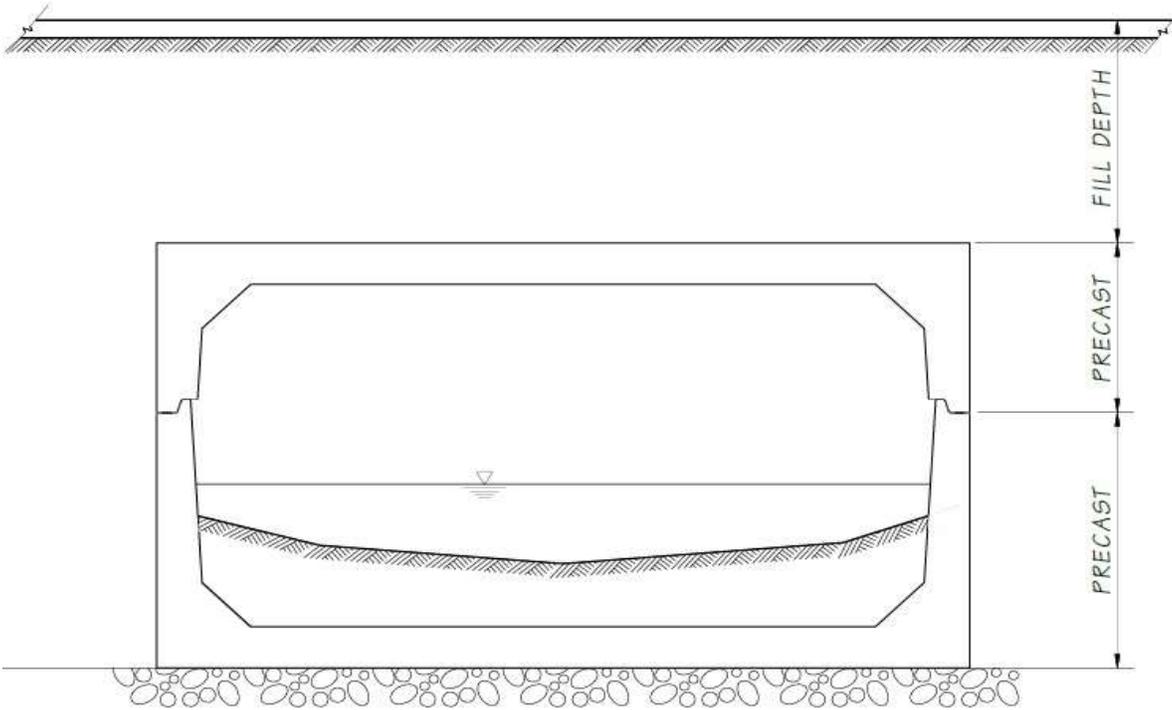


Project \_\_\_\_\_ Supv. \_\_\_\_\_ GDS \_\_\_\_\_ BRG. No. \_\_\_\_\_  
 SR \_\_\_\_\_ Made By \_\_\_\_\_ WJM-III \_\_\_\_\_ Chk'd By \_\_\_\_\_ Date 7/13/2023

Code  
Reference

### 8.3-A4-1

## PRECAST SPLIT BOX BURIED STRUCTURE DESIGN EXAMPLE



## I. GENERAL DEFINITIONS

**Buried Structure** ~ A specific term for a structure built or assembled inside an excavation employing embankment or trench methods, which works with granular backfill to derive its support from both the structure and the surrounding soil through soil-structure interaction.

**Split Box** ~ A reinforced concrete box split into an upper and lower unit by horizontal joints in the vertical walls. The upper unit comprises either a rigid three-sided frame lid, or a flat top slab. The lower unit is a rigid three-sided frame structure.

**Fill Depth** ~ The total backfill and surfacing depth above the top of the Buried Structure when supporting a Roadway. When not supporting a Roadway, the total backfill above the top of the

## II. DESIGN SPECIFICATIONS

- |  |      |
|--|------|
| A - WSDOT Bridge Design Manual, M23-50, 2023, and Interims   | BDM  |
| B - WSDOT Geotechnical Design Manual, M46-03, 2023, and Interims                                       | GDM  |
| C - WSDOT Standard Specifications, M41-10, 2023, and Interims  | SS   |
| D - AASHTO LRFD Bridge Design Specifications, 9th Edition, and Interims                                | ABS  |
| E - AASHTO Technical Manual for Design and Construction of Road Tunnels - Civil Elements, 2010 Edition | ATM  |
| F - NFPA 502 Standard for Road Tunnels, Bridges, and Other Limited Access Highways, 2020               | NFPA |
| G - ASTM C1786 - 19 Standard Specification for Segmental Precast Concrete Box Sections                 | ASTM |
| H - ACI 318 - 19 Building Code Requirements for Structural Concrete                                    | ACI  |