

TABLE OF CONTENTS

	Page
ABSTRACT	i
1.0 INTRODUCTION	1-1
2.0 HISTORICAL OVERVIEW: SMALL STRUCTURES ON MARYLAND'S ROADWAYS	2-1
Transportation Networks 1631-1948.....	2-4
3.0 TYPES OF SMALL STRUCTURES ON MARYLAND'S ROADWAYS.....	3-1
3.1 Masonry Small Structures	3-4
3.2 Concrete Small Structures.....	3-10
3.2.1 Concrete Slab	3-13
3.2.2 Concrete Box Culvert.....	3-16
3.2.3 Concrete Girder	3-18
3.2.4 Concrete Arches and Arched Culverts	3-20
3.2.5 Concrete Rigid Frame.....	3-23
3.3 Metal Small Structures	3-25
3.4 Timber Small Structures	3-28
3.5 Pipes	3-31
4.0 EVALUATING MARYLAND'S SMALL STRUCTURES.....	4-1
4.1 Significant Contexts.....	4-1
4.2 National Register Criteria of Eligibility.....	4-2
4.3 Integrity	4-5
4.4 Potential Eligibility of Small Structure Types.....	4-6
4.4.1 Masonry	4-8
4.4.2 Concrete	4-10
Concrete Slab	4-10
Concrete Box Culvert.....	4-11
Concrete Girder (Beam).....	4-12
Concrete Arches and Arched Culverts	4-13
Concrete Rigid Frame.....	4-14
4.4.3 Metal.....	4-15
4.4.4 Timber	4-16
4.4.5 Pipes and Pipe Arches.....	4-17
4.5 Summary of National Register Eligibility	4-18
5.0 BIBLIOGRAPHY	5-1

LIST OF TABLES

Table	Page
3.1 Standard Plans for Small Structures Issued by the Maryland State Roads Commission, 1912-33	3-3
4.1 Key to Structural Component Importance Rating	4-7
4.2 Structural Component Importance Rating for Masonry Small Structures	4-9
4.3 Structural Component Importance Rating for Concrete Slab Small Structures	4-10
4.4 Structural Component Importance Rating for Concrete Box Culverts.....	4-11
4.5 Structural Component Importance Rating for Concrete Girder Small Structures	4-12
4.6 Structural Component Importance Rating for Small Concrete Arches and Arched Culverts	4-13
4.7 Structural Component Importance Rating for Concrete Rigid Frame Small Structures	4-14
4.8 Structural Component Importance Rating for Metal Beam Small Structures	4-15
4.9 Structural Component Importance Rating for Timber Beam Small Structures	4-16
4.10 Summary of Individual National Register Eligibility of Small Structure Types	4-18

TABLE OF FIGURES

Figure	Page
1.1 Drawing of Stone Culvert	1-2
1.2 Drawing of a Culvert	1-2
1.3 Drawing of a Small Bridge.....	1-2
2.1 Map of Maryland Showing Geographical Divisions and Counties.....	2-3
3.1 Isometric View of Masonry Arched Structure	3-6
3.2 Types of Masonry Arches	3-7
3.3 Types of Stone-laying Techniques.....	3-7
3.4 Elevation and Transverse View of Typical Slab Structure	3-15
3.5 Isometric View of Slab Structure	3-15
3.6 Steel-Concrete Box Culvert, 1919 Standard Plans.....	3-17
3.7 Box Culvert from 1931 Standard Plans	3-17
3.8 Girder Section from 1919 Standard Plans.....	3-19
3.9 “Standard Girder Bridges, General Plan” from 1919 Standard Plans.....	3-19
3.10 1903 Arched Concrete Culvert.....	3-20
3.11 Section of Closed Spandrel Concrete Arch.....	3-22
3.12 Rigid Frame Structure.....	3-24
3.13 Steel Beam, Elevation and Transverse View.....	3-27
3.14 Standard Steel Beam Bridges for Secondary Roads from 1931 Standard Plans	3-27
3.15 Timber Bridge from Standard Plans of 1931	3-30
3.16 End Elevation and Longitudinal Section of a Pipe Culvert Under an Embankment	3-31
3.17 Concrete Pipe Shapes	3-33
3.18 Standard Corrugated Steel Culvert Shapes	3-34
3.19 Details, Standard Metal or Concrete Pipe	3-35

APPENDIX

Standard Plans for Small Structures Adopted by the Maryland State Roads Commission 1912-1933

(Originals on file at Maryland State Highway Administration,
Office of Bridge Development, Baltimore, MD)

Contents

	<u>Page</u>
1912 Standard Plans	A-1
Single Sheet with Box Culverts and Box, Slab and Girder Bridges	A-2
1919 Standard Plans	A-3
Details for Standard Slab Bridges.....	A-4
Standard Girder Bridges, General Plan	A-5
Standard Girder Bridges, Details	A-6
1924 Standard Plans	A-7
Standard 6-foot Slab Bridge	A-8
Standard 8-foot Slab Bridge	A-9
Standard 10-foot Slab Bridge	A-10
Standard 12-foot Slab Bridge	A-11
Standard 16-foot Slab Bridge	A-12
Standard 18-foot Slab Bridge	A-13
Standard Bridge Abutments	A-14
1928 Standard Plans	A-15
Standard Open Handrail	A-16
1930 Standard Plans	A-17
Standard Bridge Abutments	A-18
Standard Slab Bridge Isometric View	A-19
Standard 6-foot Slab Bridge	A-20
Standard 8-foot Slab Bridge	A-21
Standard 10-foot Slab Bridge	A-22
Standard 12-foot Slab Bridge	A-23
Standard 14-foot Slab Bridge	A-24
Standard 16-foot Slab Bridge	A-25
Standard 18-foot Slab Bridge	A-26
1931 Standard Plans	A-27
Reinforced Concrete Box Culverts--No Fill	A-28
Reinforced Concrete Box Culverts--5-foot maximum fill	A-29
Reinforced Concrete Box Culverts--10-foot maximum fill	A-30