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FOREWORD

The purpose of these standards is to present criteria for nation-wide use by developers, builders, and consulting engineers in developing privately owned central sewerage systems that will provide properties developed under a program of the Department of Housing and Urban Development - Federal Housing Administration (HUD-FHA) with adequate facilities for disposing of all domestic wastes in a manner that will not create a nuisance or endanger the public health. The material includes design information applicable to the fulfillment of the objectives of the various sewerage system components, as well as the technical exhibits to be submitted to HUD-FHA

at each appropriate project stage.

Preliminary conferences with field office personnel are recommended when the installation or expansion of sewerage systems is contemplated for the purpose of discussing the applicability and the implementation of these standards.

These Minimum Design Standards apply to central sewerage systems and community sewage collection system extensions and treatment plant expansions. All exhibits included in the processing stages indicated under CS300, Submission of Exhibits, will be required for sewerage systems proposed for construction.

The design of existing systems and those which, due to unusual circumstances, are under construction at the time HUD-FHA consideration is requested shall conform to these standards to the extent of complying with the objective set forth in CS100. The exhibits included under Final Planning and Construction Stages will be required to the extent applicable. "As-built" in lieu of "preconstruction" design plans and specifications are to be submitted for completed systems, for all stages of construction that have been completed on existing systems, and for all stages of construction that have been completed or partially completed as of the date that HUD-FHA consideration was requested. The exhibits required for the remaining uncompleted portions of the system and the application of these minimum design standards will be the same as for systems proposed for construction.



References:

A. ASCE Manual of Engineering Practice No. 36, Sewage Treatment Plant Design.

B. Wastewater Treatment Plant Design, Manual of Practice No. 8, Water Pollution Control Federation (a/k/a Water Environmental Federation).

C. ASCE Manual of Engineer Practice No. 37, Design and Construction of Sanitary and Storm Sewers.

D. Design and Construction of Sanitary and Storm Sewers, Manual of Practice No. 9, Water Pollution Control Federation (a/k/a Water Environment Federation).

E. EPA Design Manual, On-sits Waste Water Treatment and Disposal Systems, EPA 625/1-30-012, October 1980.

F. Recommended Standards for Waste Water Treatment Facilities by Great Lakes Upper Mississippi River Board of State Sanitary

Engineers, published by Health Education Service, Albany, New York.

G. HUD Handbook 4940.2, Minimum Design Standards for Community Water Supply Systems.

H. HUD Handbook 4910.1, Minimum Property Standards for Housing.

I. HUD Handbook 4075.12 REV, Central Water and Sewage Systems (ownership and organization) dated 9/76.

J. HUD Handbook 4145.1 REV-2, Architectural Processing and Instructions for Home Mortgage Insurance dated March 1990.

K. Wastewater Engineering, Collection, Treatment, Disposal, Metcalf & Eddy, Inc., McGraw-Hill Book Company.



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L. Handbook of PVC Pips Design and Construction, Uni-Bell Plastic Pipe Association.

M. Concrete Pips Handbook, American Concrete Pipe Association.

N. Environmental Protection Agency Manuals:

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| o Phosphorus Removal (Sept. 1987) | 625/1-87/001 |
| o Land Treatment of Municipal Wastewater (Oct. 1981) | 625/1-81/013 |
| o Supplement for Land Treatment of Municipal Wastewater (Oct. 1984) | 625/1-81/013a |
| o Dewatering Municipal Wastewater Sludges (Sept. 1987) | 625/1-87/014 |
| o Land Application of Municipal Sludge (Oct. 1983) | 625/1-83/016 |
| o Odor and Corrosion Control in Sanitary Sewerage Systems and Treatment Plants (Oct. 1985) | 625/1-85/018 |
| o Municipal Wastewater Disinfection (Oct. 1986) | 625/1-86/021 |
| o Constructed Wetlands and Aquatic Plant Systems for Municipal Wastewater Treatment (Oct. 1988) | 625/1-88/022 |
| o Fine Pore Aeration Systems (Oct. 1989) | 625/1-89/023 |
| o Alternative Collection Systems for Small Communities (Oct. 1991) | 625/1-91/024 |
| o On site Wastewater Treatment and Disposal | |

Systems (Oct. 1980) 625/1-80/012

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