



PROCESS
INDUSTRY
PRACTICES

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Civil

**PIP CVC01015
Civil Design Criteria**

PURPOSE AND USE OF PROCESS INDUSTRY PRACTICES

In an effort to minimize the cost of process industry facilities, this Practice has been prepared from the technical requirements in the existing standards of major industrial users, contractors, or standards organizations. By harmonizing these technical requirements into a single set of Practices, administrative, application, and engineering costs to both the purchaser and the manufacturer should be reduced. While this Practice is expected to incorporate the majority of requirements of most users, individual applications may involve requirements that will be appended to and take precedence over this Practice. Determinations concerning fitness for purpose and particular matters or application of the Practice to particular project or engineering situations should not be made solely on information contained in these materials. The use of trade names from time to time should not be viewed as an expression of preference but rather recognized as normal usage in the trade. Other brands having the same specifications are equally correct and may be substituted for those named. All Practices or guidelines are intended to be consistent with applicable laws and regulations including OSHA requirements. To the extent these Practices or guidelines should conflict with OSHA or other applicable laws or regulations, such laws or regulations must be followed. Consult an appropriate professional before applying or acting on any material contained in or suggested by the Practice.

This Practice is subject to revision at any time.

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1. Scope

This Practice describes minimum requirements for design of civil sitework of process industry facilities at onshore U.S. sites. This Practice covers all work related to preparation of site such as grading, roadways and railroads, and sewer work and related facilities, and all work related to finishing site. This Practice is intended to be used in conjunction with *PIP CVC01017* and *PIP CVC01018*, as applicable.

2. References

Applicable parts of the following PIP Practices, industry codes and standards, and other regulations shall be considered an integral part of this Practice. The edition in effect on the date of contract award shall be used, except as otherwise noted. Short titles are used herein where appropriate.

2.1 Process Industry Practices (PIP)

- PIP CVC01017 - *Plant Site Data Sheet*
- PIP CVC01018 - *Project Data Sheet*
- PIP CVE02350 - *Roadway Design Guide (U.S. Customary)*
- PIP CVE02350M - *Roadway Design Guide (Metric)*
- PIP CVI02350 - *Roadway and Area Paving General Notes and Typical Details*
- PIP CVS02010 - *Geotechnical Engineering Investigation Specification*
- PIP CVS02100 - *Site Preparation, Excavation, and Backfill Specification*
- PIP CVS02350 - *Roadway and Area Paving Construction Specification*
- PIP CVS02700 - *Underground Gravity Sewers Specification*
- PIP CVS02830 - *Chain-Link Fence and Gates Installation Specification*
- PIP PNE00003 - *Process Unit and Offsites Layout Guide*
- PIP STS03001 - *Plain and Reinforced Concrete Specification*

2.2 Industry Codes and Standards

- American Concrete Institute (ACI)
 - ACI 330R - *Guide for the Design and Construction of Concrete Parking Lots*
- American Petroleum Institute (API)
 - API 2610 - *Design, Construction, Operation, Maintenance, and Inspection of Terminal & Tank Facilities*
- American Railway Engineering and Maintenance-of-Way Association (AREMA)
 - *AREMA Manual for Railway Engineering*
- ASTM International (ASTM)
 - ASTM A746 - *Standard Specification for Ductile Iron Gravity Sewer Pipe*
 - ASTM D6391 - *Standard Test Method for Field Measurement of Hydraulic Conductivity Using Borehole Infiltration*