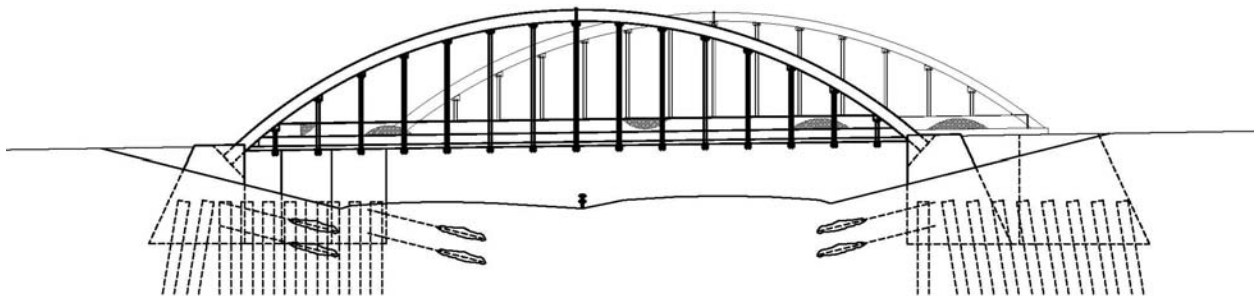




THRUWAY STRUCTURES DESIGN MANUAL

FOURTH EDITION
(U.S. CUSTOMARY UNITS)



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Outside Cover – Various Recent Thruway Structural Design Bureau Projects.

Inside Cover – Concept - Skewed Unbraced Untied Steel Tube Arch Bridge with reinforced concrete plinth substructures supported on drilled shafts and soil anchors.

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NOTES TO THE READER

The Thruway Structures Design Manual – Fourth Edition (Manual) contains policies, guidance and procedures for structures project development and design for the New York State Thruway Authority (Authority). It is intended to be used as a tool in concert with other available tools such as state and federal manuals, approved design and analysis programs, and current research. While every effort has been made to gather the necessary references and data required to perform the typical design work of the Structural Design Bureau, it is the user's responsibility and obligation to comply with all regulations and requirements including those that may have been omitted from this Manual.

Manual information contained on the Authority's website (www.thruway.ny.gov) is regularly updated. Users who purchase hard copies of the Manual through the Authority's Contracts Unit will automatically receive revisions. For those users who download the Manual from the Authority's website, revision notifications will be posted on the website. ***Downloading of the Manual by individuals will not be considered a violation of the Authority's Copyright restrictions; however, reprinting of downloaded documents for the purpose of distribution is strictly forbidden.*** Users are responsible for reviewing the website for revision notifications to ensure that they have the most up-to-date information.

This Manual should prove useful to designers for all Thruway structures projects; however, it is expected that the Professional Engineer will apply all of their experience and resources to develop the best final product possible.

TECHNICAL REFERENCES

As noted above, Professional Engineers should utilize all applicable reference materials in conjunction with this Manual. Reference materials include, but are not limited to, the following:

AASHTO Standard Specifications for Highway Bridges – 17th Edition
AASHTO LRFD Bridge Design Specifications – 4th Edition w/all current Interims
AASHTO Construction Handbook for Bridge Temporary Works – 1st Edition w/all current Interims
ASTM – 2009 Book of ASTM Standards
AISC – Steel Construction Manual – 9th Edition
AISC – Steel Construction Manual – 13th Edition
AWS – 2008 Bridge Welding Code – D1.5
ACI – Building Code Requirements for Structural Concrete – ACI 318-08
NYSDOT Standard Specifications, May 2008 – Including Current Addenda
NYSDOT Steel Construction Manual, 3rd Edition, March 2008 – Including Current Addenda
NYSDOT 2008 Bridge Manual U.S. Customary, 1st Edition
NYSDOT Highway Design Manual – Including Current Updates
NYSTA Design Reference Manual (TAP-423)
NYSTA Occupancy and Work Permit Accommodation Guidelines (TAP-401)
NYSTA Utility Occupancy Supplement (TAP-4010)
NYSTA General Design and Construction Requirements for Occupancies (TAP-421A-E)
NYSDOT Bridge Deck Evaluation Manual
VAOT 2004 Standard Specifications
VAOT 2004 Structures Manual