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# **QUALIFICATION BOOKLET**

**MPM Project Solutions, Inc.**

**199 Pomeroy Road, Parsippany, New Jersey**

**Tel. 973-599-4418 Fax 973-428-6048**

September 2004

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## Executive Summary

MPM Project Solutions, Inc. offers both engineering design services and staffing solutions to help our customers meet their project schedule at favorable costs.

Our licensed engineers are versed in all types of structural design works, including but not limited to vessels, tanks, duct, supports, access and building enclosures for industrial projects. Materials of construction can be steel, FRP, reinforced concrete, or special alloys. We can design to all current standards: ASTM, AISC, ASME, ACI, UBC, BOCA, etc. Our design work ranges from simple ladder and walkway design to complicated computer aided finite element stress analysis. No job is too big or too small for us.

Our drafting personnel, complimented by the well-trained drafters in our oversea offices, will tailor the design drawings to meet our customers' standards and job specific specifications. Our experienced designers in the New Jersey office will check all of the outsourced drafting work for accuracy and US standards compliance. Our customers will enjoy the benefits of top US quality work at low-outsourced level cost.

Our engineers are available to work at the customers' office for ease of on-site coordination and customer convenience.

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MPM Project Solutions, Inc. is fully covered by General Liability Insurance and Professional Liability Insurance policies (\$1,000,000 each \$2,000,000 aggregate).

- **Vessel/Reactor and Tanks (Steel and FRP)**
- **Tall Stacks**
- **Casing and Hoppers**
- **Support Structure**
- **Access Facilities – Platform, Stairs and Ladders**
- **Stair Towers**
- **Flue and Duct work (Steel and FRP)**
- **Weather Enclosures**
- **Structural Design for Material Handling Systems**
- **Piping Stress Analysis and Piping Design**
- **Structural Design for Piping Support Systems**
- **Commercial and Institutional Building**
- **Foundation and Footing**
- **Site Development / Earthwork**
- **Computer Aided Analysis for Completed Structural System using Programs such as: STAAD Pro. 2004, Stackdes, CyberVessel and HydroCad**
- **Design Review & Certification by Registered Professional Engineers.**
- **Steel Detailing using X-Steel Computer Program.**

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## Key Personnel Resume

- **Scott Wang**
- **Doug John Kim**
- **Shui-yeh Chen**
- **Frank Z. Krmpotich**

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**SCOTT S. WANG, P.E.**  
**CIVIL/STRUCTURAL ENGINEER**

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**BACKGROUND:**

- Graduate civil/structural engineer with extensive experience in project engineering management, civil/structural design and construction management.
- Served various engineering companies that were primarily involved in the mass transit system, material handling industries, chemical/petrochemical industries, pharmaceutical and water/wastewater treatment plants.
- Over eleven years in business as a consultant with successful engineering expertise and business management skills.
- Over twenty-eight years experience as a Professional Engineer, licensed in the State of New York and the State of New Jersey.
- Fluent in English, Chinese, Japanese and Taiwanese.

**EDUCATION:**

- BSCE - National Taiwan University, Taipei, Taiwan.
- MSCE - West Virginia University, Morgantown, West Virginia.

**EXPERIENCE:**

**MTA / New York City Transit** Dec / 02 – Jan / 04

Civil/Structural Engineering Consultant

- Responsible for structural steel and reinforced concrete design for MTA New York City Transit subway system.
- Projects involved the installation of ADA elevators and escalators along subway lines.

**BURNS AND ROE ENTERPRISES, INC.** April / 01 – Dec / 02

Oradell, NJ

*Senior Civil/Structural Engineer*

- Responsible for structural steel and reinforced concrete design for MTA New York City Transit subway system.
- Projects involved the installation of ADA elevators and the rehabilitation of existing pump room facilities along subway lines.

**SPARTAN DESIGN** Jan / 01 – April / 01

Somerville, NJ

**Consultant**

- Investigated the serviceability of existing structures for the support of telecommunication (wireless) equipment.

**WATKINS ENGINEERS AND CONSTRUCTORS** Aug / 96 – Jan / 01

Mt. Arlington, NJ

*Senior Structural Engineer*

- Responsible for structural steel and reinforced concrete design for cement plant and bulk material handling systems.

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**EDC, INC.**

Ramsey, NJ

*Consultant*

Aug / 95 – Aug / 96

- Produced civil/structural design for conveyor systems and bulk material handling facilities.
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**KAWA ENGINEERING CONSULTANTS, INC.**

Fairfield, NJ

*Vice President - Engineering*

Feb / 92 – Aug / 95

- Projected estimates and drafted proposals to clients. Handled detail design and construction management of steel structures and concrete foundations.
  - Major projects included tank farm containment, truck unloading containment for bulk chemicals, multi-story enclosed steel buildings for specialty chemicals production facilities, masonry MCC building and general paving design for plant containment.
  - Major client served: Troy Chemical Corporation in Newark, NJ, a specialty chemical manufacturer.
  - Total completed projects grossed over \$5.0 million.
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**WILLIS & PAUL GROUP**

Denville, NJ

*Senior Staff Engineer*

Nov / 88 – Feb / 92

- Provided civil/structural engineering schedules.
  - Reviewed structural design drawings by engineers/draftsmen.
  - Major projects involved cement plant and paper mills.
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**ROBINS ENGINEERS & CONSTRUCTORS, INC.**

Totowa, NJ

*Consultant*

May / 86 – Nov / 88

- Handled structural steel/reinforced concrete foundation design.
  - Reviewed/approved structural steel shop detail drawings.
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**DAVY McKEE CORPORATION**

Berkeley Heights, NJ

*Project Engineer*

Sep / 84 – May / 86

- Managed WTP-100 project, a vitamin B-1 project for Takeda Chemical Products U.S.A., Inc. plant in Wilmington, NC.
  - Total project cost over \$4.5 million.
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**ROBINS ENGINEERS & CONSTRUCTORS, INC.**

Totowa, NJ

*Consultant*

Dec / 80 – Sep / 84

- Handled structural steel/reinforced concrete foundation design.
  - Reviewed/approved structural steel shop detail drawings.
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**EBASCO SERVICES, INC.**

New York, NY

*Senior Engineer*

- Structural steel design/reactor building, for WPPSS nuclear power plant project No.3.

Aug / 79 – Dec / 80

**ROBINS ENGINEERS & CONSTRUCTORS, INC.**

Totowa, NJ

*Consultant*

- Handled structural steel/reinforced concrete foundation design.  
Reviewed/approved structural steel shop detail drawings.

Apr / 78 – Aug / 79

**ARTHUR G. McKEE & CO.**

Berkeley Heights, NJ

*Senior Engineer*

- Responsible for the design of steel structures and the related reinforced concrete foundations.
- Major projects included Kronitex Expansion Project for FMC Corporation, Crude Fractionation Unit for Louisiana Land & Exploration Company, Calcium Phenate, C4 Feed Fractionation, Partial Oxidation Unit & Waste Treatment Facilities Projects for Exxon Corporation plants in Linden, NJ, and Baton Rouge, LA, Synthetic Pharmaceutical Facility for American Cyanamid Company.

Oct / 73 – Apr / 78

**HAVENS & EMERSON, LTD.**

Saddle Brook, NJ

*Design Engineer*

- Civil/structural design in steel and concrete for filter press/incinerator buildings, administration building, underground reinforced concrete structures such as settling tanks, pump stations, culverts and retaining walls.
- Participated in major projects as Sludge/Washwater Disposal for Passaic Valley Water Commission in NJ and Secondary Treatment Facilities for BeechNut Inc. in Canajoharie, New York.

Sep / 69 – Oct / 73

**PUBLIC WORKS BUREAU, TAIPEI MUNICIPAL GOVERNMENT**

Taipei, Taiwan

*Intermediate Construction Engineer*

- Prepared construction schedules.
- Performed field survey and inspection for storm sewer / wastewater treatment plant construction projects.

Jun / 62 – Nov / 65

**REFERENCES FURNISHED UPON REQUEST**

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**Dougjohn Kim**  
**Civil / Structural Engineer**

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**Education:** Han-Yang University in Seoul, Korea. 1961.  
B.S. Degree in Structural Engineering.

**Registration:** P.E. in Architectural Engineering, Korea.  
P.E. in Construction Engineering, Korea.

**Experience Summary:** Dougjohn has over 42 years of experience in design of pharmaceutical, biotechnology, chemical, petrochemical, food industries and power plants by nuclear, coal, oil, gas and hydraulic. Other design experience in air pollution control systems, sewage and water treatment plants, and bulk material handling systems for iron ore, coal, cement and grains. Expertise in supervising and design of structural steel, reinforced concrete sub and super structures, earth work, site work, paving and surface storm drainage systems. And also work activities involved the release of material for procurement, construction inspection, material takeoff estimates, scheduling, and specification writing for steel and concrete items.

**Employment History:**

- AKER KVAERNER E & C CO. – Bridgewater, NJ  
July, 1991 to March 2003  
Principal Engineer
- RESEARCH-COTTRELL, CO. – Somerville, NJ  
October, 1990 to July 1991  
Sr. Structural Engineer
- H-R INTERNATIONAL, INC. – Edison, NJ  
June, 1990 to September 1990  
Sr. Structural Engineer
- ROBINS ENGINEERS & CONSTRUCTORS, INC. – Totowa, NJ  
June, 1987 to June 1990  
Principal Design Engineer
- ORBA CORP./ AMCA INTERNATIONAL – Mountain Lakes, NJ  
May, 1980 to May, 1987  
Sr. Structural Engineer
- SHIH ENGINEERING CORP. – Fairfield, NJ  
May, 1986 to December, 1987  
Consultant
- LEVER BROTHERS CO. – New York, NY  
April, 1975 to May, 1980  
Sr. Structural Engineer
- BECHTEL CORPORATION – New York, NY  
April, 1973 to March, 1975  
Structural Engineer
- W.S. ATKINS & PARTNERS – Epsom, England  
September, 1972 to March, 1973  
Structural Engineer
- KOREA ELECTRIC COMPANY – Seoul, Korea  
March, 1961 to August, 1972

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**Shui-yeh Chen, P.E.**  
**Structural Engineer**

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**Summary**

Thirty five years of diverse professional experience with more than twenty years of supervisory in the design, analyses, field inspection and construction of steel and concrete buildings for high-rise, hospitals, school, air traffic control tower, airfield operation facility, pharmaceutical, food beverage, industrial and power plants. Have extensive knowledge and experience in computer application.

**Experience**

N.Y.C. School Construction Authority  
L.I.C. New York 1990 - 2003

Project Lead Engineer - Structural

- \* Design school buildings, works include design and supervise design of new schools, new interconnection bridge between buildings, modification of existing schools and large capital improvement projects such as air condition retrofit, cinder concrete repair, roof replacement and masonry repair works.

Division of School Buildings  
N.Y.C. Board of education, L.I.C. New York 1988 - 1990

Civil Engineer

- \* Reviewed and coordinated of plans and specifications of school building projects. Supervised all of the school building construction activities, to obtain compliance with the requirements of plans and specifications by all contractors, and to be directly responsible for all the technical aspects of general construction work.

Severdrup Corporation, Whippany, New Jersey 1985 - 1987

Project Lead Engineer - Structural

- \* Prepared conceptual design, performed overall design and supervised design engineers in design development. Prepared design criteria, specifications, scheduling and cost estimates. Performed field inspection and construction for industrial and commercial building projects

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Stone and Webster (NES Inc., Danbury CT)

1984

Lead Structural Engineer

- \* Supervised and provided technical directions to structural engineers designing steel and concrete building structures for power plants.

Burns and Roe Inc. Oradell, N.J.

1973 - 1983

Senior Structural Engineer

- \* Performed design and analyses of steel and concrete buildings for power plants. Both conventional design and computer programs, such as STRUDL and ANSYS were used. Design and analyses conformed to AISC, ACI, Uniform Building and City Codes.
- \* Responsible for modifying design procedures and supervision a group of seventeen engineers utilizing modified procedures designing steel structures for projects.
- \* Field inspection, evaluation, modification and repairing of existing building structures subjects to technical and code compliance.
- \* Prepared and amended specifications.
- \* Responsible in resolving field construction problems.

Edwards and Hjorth Consulting Engineer  
New York, N.Y.

1970 - 1973

Structural Engineer

- \* Designed steel and concrete building for high-rise, hospitals and sewage treatment buildings

**Education**

Brigham Young University, Provo, Utah  
New York University, New York, N.Y.

B.E.S., Civil Engineering, 1970  
M.S., Civil Engineering, 1973

**License**

Registered Professional Engineer - New York (Obtained 1975)

**Membership**

American Society of Civil Engineers

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**FRANK Z. KRMPOTICH**  
**Mechanical Engineer**

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**OVERVIEW**

A Mechanical Engineer with an extensive knowledge base in all aspects of Fiberglass Reinforced Plastics (FRP). Over twenty-five years of varied experience in the areas of design, lamination, analysis, fabrication and inspection. Knowledgeable in cost estimating, preliminary design, drafting, project management and customer technical service. Utilize skills to develop computer programs for structural analysis as well as implementing computer aided design capabilities and lamination analysis.

**EXPERIENCE**

**Fiberglass Consulting Engineering** – As Consulting Engineer, consisting of experience with FRP Process Equipment including;

- Hand lay-up & Filament Wound Shop Tanks
- Field Wound Tanks and Scrubbers to 65 ft. dia.
- Complex internals for scrubbers & packed towers
- Buried pipe designs for varied soil conditions
- Quality Control Manuals with procedures (ISO 9000, ASME RTP-1)
- Base supported, hanging and guyed stacks.
- Stack liners to 30 ft. dia.
- Large high temperature ducting systems operating under positive & negative pressure
- Large above ground fluid piping on saddles
- Pressure Vessels
- Stress Analysis
- Review of calculations
- Repair Procedures for Shop & Field Tanks
- Seismic, wind & thermal loads analysis
- Body flanges and Van Stone flanges
- Underground Storage Tanks and piping for oil stations
- Lamination Analysis
- Design Calculations (BS 4994, ASME RTP-1, DIN)

**Belding Tank Technologies** - Chief Engineer designing FRP equipment; tank, stack, scrubber, piping, and fittings. ASME RTP-1 design. Wrote specifications and FRP inspection as well as performing lamination analysis.

**Ershigs, Bellingham, WA** - Worked as Design Engineer designing FRP equipment; tank, stack, scrubber, piping, and fittings. Wrote specifications and FRP inspection as well as performing lamination analysis

**TEST CO., Anchorage, AK** - Design Engineer responsible for designing FRP piping, tanks, and pressure vessels for oil companies

**MECHANICAL ENGINEERING INSTITUTE, Zagreb, Croatia** - Design Engineer responsible for designing FRP equipment and inspection for nuclear power plant and oil field.

**FIBERGLASS FABRICATOR – Zagreb, Croatia** – Design Engineer responsible for design and fabrication of FRP equipment. Supervised production facility of 100 workers.

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## **EDUCATION**

Arctic Engineering, University of Anchorage, Alaska - 1985

BSME, University of Zagreb, Croatia - 1978

## **PROFESSIONAL AFFILIATIONS**

- Selected Member of the American Society of Mechanical Engineers and The American National Standards Institute (ASME / ANSI RTP-1) –
  - The Committee on the Design and Fabrication.
  - The Committee on Accreditation.
- Selected Member of the Society of the Plastic Industry of Canada (SPI-Canada)
  - Standards Writing Committee for General Standard, Tank Standard, Piping Standard & Duct Standard.
- The National Society of Professional Engineers (NSPE)
- The American Society of Mechanical Engineers (ASME)
- National Association of Corrosion Engineers (NACE)
- The Society of the Plastic Industry (SPI) - Canada

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**Sample Drawings**  
(soft file can be supplied upon request)

- **Open Spray Tower Scrubber Vessel**
- **Support Structure / Stair Tower**
- **Foundation**