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Courtesy of Polshek Partnership

SANTA FE OPERA REHEARSAL HALL by Karina Tribble

The Santa Fe Opera is a world renowned outdoor opera company that sits high in the hills just outside Santa Fe, New Mexico. The original open air theater was covered in 1995 by a cable supported roof system designed by Polshek Partnership and Ove Arup and Partners. The roof sits high above

the audience to protect against rain and the theater remains an open air space.

The Opera is now building an enclosed rehearsal hall designed by Polshek Partnership directly behind the theater. The new rehearsal hall is approximately 13,000 square feet in size and consists of a cellar level, ground level and small mezzanine. The design consists of a curved front

wall with an adjoining circular stair tower. A large hanger-like door at the rear wall allows for scenery and instruments to be brought from the main theater into the rehearsal space.

Keeping with the traditional style of adobe construction that is mandatory within Santa Fe and common in much of New Mexico, the new rehearsal hall is load bearing CMU construction with

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RSA PROJECTS IN THE NEWS

Project: Whitehall Ferry Terminal

Architect: Schwartz Architects

RSA Staff: Nat Oppenheimer, Robert Santiago, Scott Hughes, Andrew Ostman, Jim Villano, Jamal Adams, Noel O'Campo, Mike Machado, Christine San Pedro

Giuliani Describes City Plans For Staten Island and Its Ferry, by Eric Lipton (NY TIMES September 26, 2000 CITY)

New Boats, Terminals On Deck for S.I. Ferry by Frank Lombardi (DAILEY NEWS September 26, 2000-News & View)

Officials really dig work at Whitehall by Reginald Patrick (STATEN ISLAND ADVANCE September 26, 2000)

Mayor Giuliani presided over the ceremonial ground breaking for The new \$180 Million Whitehall Ferry Terminal for the Staten Island Ferry yesterday. The new terminal, designed by Schwartz Architects, will have a crystalline glass facade on the land side and stainless steel portals facing the water. There is also a 75 foot high entry hall and a rooftop viewing deck. The structure will replace a smaller one that had been renovated after a fire in 1991. The existing building will be demolished as the new one goes up, without interruption of ferry service, provided by the city since 1905. The terminal will be completed early 2003, providing 1200 construction jobs in the process. Guiliani hopes to spur a revitalization of downtown Manhattan and Staten Island. The city agencies overseeing the project are the Economic Development Corp. (EDC) and the Dept. of Transportation (DOT). Additional projects planned or underway for Staten Island include the new terminal on the St. George, Staten Island side, the purchase of 2 new ferry boats, the National Lighthouse Museum (another RSA project), and the Yankees minor league ballpark.

The project includes replacement of the existing fire damaged Manhattan terminal and rotted pile foundation for the Staten Island Ferry, located adjacent to Battery Park. The new structure will be a large, steel framed building, partially over water, supported on caisson foundations, with a new glass curtain wall

cont'd page 2

RSA NEW PROJECTS by Andrew Ostman

It's Just a Wild, Wild Life... People have often remarked that at times working in the RSA office is like living in a zoo. Well then, it's about time we did some work on one. RSA is involved with ABC Architects in the renovation of the existing historic buildings at the "Lions Court" at The Bronx Zoo. Work on this project will include work on the Monkey House. Kurt Vonnegut would be proud. So the next time you see Joe T. pacing in his office like a caged lion, or screeching like a howler monkey, don't worry, he's fine. He's just getting into character for this project...-

Going from the bestial to the botanical, RSA's relationship with Polshek Partnership continues to blossom. We will work with them in the construction of a new lab building at the New York Botanical Garden.

Fun with the Ferry, Outer Borough Style... Once RSA helps finish the new Whitehall Ferry Terminal, hordes of eager travelers will no doubt be looking for weekend excursions on Staten Island. RSA is working with Jan Hird Pokorny Associates to provide just that sort of diversion. The National Lighthouse Center and Museum is right by the ferry terminal, and involves the restoration

and modification of several 19th and 20th century manufacturing and storage buildings for reuse as a museum and restaurant.

Houses of the Holy... Congregation Beit Yaakov, with Thierry W. Despont Ltd. has been approved by the landmarks commission. The project includes such interesting elements as two subgrade levels, a garden terrace on the second floor, and an elliptical dome...-St. Francis College, located in Brooklyn Heights is in the schematic design phase. RSA will work with Helpert Architects on an expansion to the college which will include the addition of eight new stories on top of an existing gym building on a 130' by 130' seismic platform. Also, four new stories will be added to an existing seven story science building.

Warehouses of Vice... RSA is working for the New York State Landmarks Conservancy to conduct interim repairs and to stabilize a mid to late 1800's Tobacco Warehouse. This structure was built in the "Mill House" style expressly for the purpose of storing tobacco. Originally four stories, but later cut down to a single story, double height structure, the building has loadbearing 20" solid masonry walls and heavy timber framed floors.

Fair Field, MSKCC and White Hall...

I know what you're thinking. "Those projects aren't new! They're older than dirt!" Well, yes. And no. At Fair Field, schematic design of the outer buildings has begun. Word is there will be a beach pavilion, pool pavilion, caretaker's house, maintenance building, two gate houses and more...-At Memorial Sloan-Kettering Cancer Center, RSA conducted a study to extend the facade of the building using outriggers off the columns to support new panel walls. The new facade would enclose exterior mechanical ducts which would be used for a new state-of-the-art Infection Control system...-Notice the space between E and H in White Hall. This is not just a cruel trick to confuse accounting, but actually a new rehabilitation project with Peter Gisolfi Architects. The building was the second ever built for Cornell University's campus. The rehabilitation of the building will involve minimal disturbance of the original structure, which is stone masonry bearing wall with wood framed floors. Some interesting elements of this building are the ornate wood trusses which were enclosed as attic space in a 1959 renovation. The trusses were found to be in good condition, and will be exposed again as part of the rehabilitation. ■

RSA Projects in the News *con't from page 1*

facade, new subway station entrance and enhanced design of Peter Minuet Plaza. Also included is the design of or interfacing with significant marine engineering features such as a bulkhead wall, reuse of existing slip and relieving platforms, galleys and machinery for ferry boarding ramps, piles and grade beams. The project also must interface with significant transportation features which pass below or immediately adjacent to the new building, including the roadway tunnel linking the FDR Drive with the West Side Highway, as well as the BMT (N&R), and IRT (1, 9, 4 & 5) subways.

Project: Fallingwater

RSA is the Prime Consultant working with WASA as the architectural sub-consultant.

RSA Staff: Robert Silman, Kent Nash, John Matteo
The Plan to Save Fallingwater, by Robert Silman (SCIENTIFIC AMERICAN, Volume 283, Sept 2000, Scientific American Inc. NY, NY (pp 88-95).



The article, written by our very own Robert Silman, describes RSA's plans to save Frank Lloyd Wright's "masterpiece" from collapse. It gives a brief history of what is probably Wright's most famous building, revealing that structural inadequacies were apparent even before construction started back in 1936, and became more evident as construction got underway. The cantilever design lacked the necessary structural reinforcement, the concrete beams began tilting, and cracks appeared in the parapets. The article goes on to describe our firm's investigation and analysis, using non-destructive

evaluation techniques that used instruments employing impulse radar, ultrasonic pulses and high resolution magnetic detection. Using a computer model of Fallingwater created by our engineers, we tested theories on how the existing structure functions and looked for the structural shortcomings. Our findings revealed that the concrete cantilever beams' deflections were indeed increasing, and the cracks were widening. We recommended immediate temporary shoring and permanent repairs. Planned permanent repairs involve post-tensioning, which will relieve the stresses in the cantilever beams. The strengthening of the cantilever beams will guarantee the structural stability of the house for many years. The plan of repairs, which will take place during the winter of 2001-2002, will not eliminate the deflections completely, but will keep them from increasing. The tilted terraces will illustrate the history of the building and the problems it has been up against through its lifetime. *cont'd page 3*

RSA Projects in the News cont'd from pg 2



Project: Two Residential Towers on West and Perry Streets called Perry West

Architect: Richard Meier

RSA Staff: Liviu Schwartz, Rick NG

As Village Towers Loom, Foes Seek New Boundaries by Denny Lee (*NEW YORK TIMES* Neighborhood Report July 9, 2000).

Extraordinary Properties for Sale (*Architectural Digest*, July 2000).

Ice Palaces, by Christine Pittel (*House Beautiful*, September 2000)

In reaction to the two new Richard Meier-designed residential towers on West Street and Perry Street, the Greenwich Village residents are trying to extend the local historic district west to the Hudson River in order to prevent further development. Although Richard Meier's famous Westbeth (built in this neighborhood in the 1960's) is considered important and appreciated, these new towers are a different story. The local area residents are "dismayed by his desire to put up so much glass and metal in this very 19th century-feeling area." Mr. Meier disagreed, saying, "There is no uniform scale and no uniform materials. It varies from every scale of commercial use and every scale of residential use." So far the Landmarks Preservation

Commission agrees with Mr. Meier. Local preservationists are continuing their efforts by installing plaques commemorating historic sites like the one posted on Weehawkin Street, an alley off Christopher Street, that is considered among the area's oldest streets.

The concrete towers will be clad in clear glass with painted aluminum mullions, and will be 17 stories high at the corner of Perry and West Streets. The design is minimalist. The apartments, which are floor to ceiling glass exposures, are 2000 to 4000 sf. The structure and service core, which will sustain earthquake and wind forces, will be located at the rear of each building. Apartments on the upper floors will cost \$8 million or more, and will offer panoramic views of the Hudson River and New Jersey. The ground floor in one of the towers will house a cafe designed by Jean-Georges Vongerichten, and there will be a private fitness center for residents. The scheduled completion date is 2002.

Project: The Hudson Hotel

Architect: Phillippe Starck & Polshek

RSA Staff: Sofya Levin

Interior City: Hotel As the New Cosmopolis by Herbert Muschamp (*NEW YORK TIMES* Critic's Notebook, October 5, 2000)

Urban Idyll by Rowan Moore (*Vogue* November 2000, page 496)

Ian Schrager's (of Studio 54 fame) new hotel, The Hudson, described as "design euphoria" has stunned critics by its uniqueness. Located on West 58th Street between 8th and 9th Avenues in NYC, its exterior appears relatively ordinary with an unmarked entrance and bronze shutters, except for a torch with an eternal flame. Once inside, your senses are taken on an exotic field trip of complex contradictions. "It is both ultra-solid and ultra ethereal, ultra-natural and ultra-artificial, ultra-austere and ultra-sensual, ...sophisticated and childlike." The Hudson is cheap, beautiful, and fun. It has a thousand rooms, a library with an antique billiard table, private gardens, a bar with a translucent yellow floor lit from below, a "dining hall" style restaurant, a spa, gym and pool, a bowling alley and archery court, shops, and two escalators that take you up to the main lobby.



Project: Scandinavia House

Architect: Polshek Partnership

RSA Staff: Yegal Shamash

Scandinavia House: A Smorgasbord of Nifty Ideas by Roberta Smith (*NEW YORK TIMES* Design Review, November 3, 2000)

A six story 28,000 sf building on Park Avenue below 38th Street in NYC, portrays Scandinavian architecture and design, exhibiting modern and traditional works plus films, lectures, and a school program. The new building is the permanent home for the American Scandinavian Foundation, a non-profit group founded in 1910. The facade is made of zinc highlighted with strips of Norwegian spruce. It includes a cafe, a bookstore and gift shop, a 170 seat auditorium, a library, children's learning center, and an outdoor sculpture terrace in the rear.

Walking through its doors enables the visitor to travel through Northern European cultures of Scandinavia without leaving town. The third floor exhibition galleries house "Young Nordic Design: The Generation X" representing the results of 50 young Scandinavian designers and design teams who have experimented with traditional and new technologies from blond bent-wood chairs to "smart" snow suits with sensors that maintain body heat, communicate vital signs and the location of the wearer, and as outrageous as a plastic lamp shade that inflates when the light is on and deflates when the light goes off. ■

Seminar Summaries

Seminars: What's New With Wood and RAM

by Stephen Frech

I recently attended the Wood Solutions Fair sponsored by the wood industry as well as a seminar on RAM V7.0. Although information on both will be presented in-house at a later date, here's a little something to get you going. If you would like to know more before I have a chance to cook up a presentation, just ask.

Wood Solutions Fair

I attended six seminars on the following topics: lateral loads, the NDS, building codes, metal plate wood trusses, engineered wood projects and timber frame construction. Overall, the conference seemed haphazardly organized and some of the speakers were a bit unfocused. Nonetheless, I was able to glean a few tidbits of information from the morass.

- Investigation of wood roofs damaged by wind events indicates that the most common failure mode is progressive pullout of the sheathing beginning at the gable end overhangs. Ringed-shank nails at 4" & 6" are recommended for greater pull out values in these areas. Just try to get someone to drive them!
- The Devil's in the details: as you might expect, most wood structures fail due to poor connection design and detailing rather than member failure..
- Blocking at the roof level enhances the ability of the roof diaphragm to transmit horizontal shear into the walls below thus increasing the performance of the entire system.
- The International Building Code (IBC) has a design procedure that results in more economical designs for shear walls with openings. Typically, an IBC design results in higher hold-down anchor loads but requires fewer connectors (one is not necessarily required at each break in the shear wall).
- The NDS repetitive use factor $C_r = 1.15$ is very conservative. Testing indicates that the actual value is closer to 1.7. Could be good to know if you're evaluating an existing structure (I'm sure Tim has been on to this for years).
- Metal plate wood trusses can be specified on a job in much the same way that open web joists are. Namely, given loading and geometry, the truss manufacturer will perform the design and ship to site. In order for this to be economical, dimensions must be fixed at time of issue and the roof geometry

should have little variation. Although this may occur with commercial or institutional work, these conditions are rarely met on our high-end house projects. Even when economy is not an issue, the contractors on these homes may prefer to do all framing themselves.

- Code accepted performance specs are available for engineered lumber. We are looking into adopting such a spec for our projects rather than specifying a particular product. This provides the contractor more leeway in finding a low cost supplier yet assures that what was designed is installed.
- Whenever I read 'two month snow load', I mistakenly thought that means there's snow on the roof for two months every winter (that's pretty long if you're from the South). However, the load duration intervals are cumulative over 10 years. Further, although load duration and event probability do not correlate directly, C_D of 1.15 is based on a 50 year event load as given in ASCE 7-95. That means there is a 20% chance your structure will see this load in 10 years. File that under: Cocktail Party Knowledge.
- Design values for bolts greater than 1" in diameter were removed from the NDS because testing found they are individually so stiff that connections are destroyed by splitting. The localized yielding that would allow all bolts in the connection to be developed does not occur. Rather, the last bolt in the group loads, splits the end of the member, then the connection essentially 'unzips'.

RAM version 7.0

The boon and the bane of RAM continues. At various times powerful and problematic, modeling in RAM has always been tricky (at least the funky stuff we do with existing buildings) but the enhancements to V7.0 should help. The new program workflow will take a little getting used to but there are new analysis features as well. We have a copy of the program but need to determine many of the new default settings before it can be installed (see notes on Frame program 'modes' below). A small group, myself included, plan to review the program and determine these defaults. If you are interested let me know.

General

- You'll see features in all modules of the program that are unavailable or 'grayed-out'. RAM has created some new analysis

tools that require purchase of additional software modules (foundation design, unit energy design for deflection control, etc.). We still have all the functionality of the current RAM (including the drift-at-point report).

- Report generating options are much better. All reports can be viewed on screen.

Modeling

- Still no undo but changes to the operation add/delete fence will eliminate some problems. Specifically, the fencing tool is somewhat like Autocad's where only items completely within the fence are acted upon.
- Radically changed use of grids. Grids are not automatically generated at the ends of every item you draw (no more trouble with grids associated with items you have deleted). Multiple grids can be applied to various levels. Better yet, you can have both local and global grid systems. The improved grid system allows items to be moved by moving their grids with less trouble than before.
- Knee braces can now be directly modeled.
- What were once click-and-drag operations are now click only (e.g. deck and load polygons). This different feel takes some getting used to!
- Keyboard coordinate entry provides a non-graphical means of data entry and convenient display of item coordinates.

Manager

- Models can be zipped for archive directly from the manager. That way you know you have the required files (out of the 100 or so each model generates) in your archive and can delete the rest.
- You now DXF export the column schedule from the Manager rather than the Column module.

Frame

- There is now an "Analysis" and "Steel" mode. The steel mode is roughly equivalent to the post-processing mode in V6.2 but the workflow and menus have changed. Each of these modes has what RAM calls "sub-modes". The steel mode has sub-modes for design based on standard provisions (including seismic) as well as a special "seismic" sub-mode for design according to UBC-97 or AISC 97-LRFD. Determination of the design defaults for the "seismic" sub-mode are the main sticking point on V7.0 installation in this office.
- Joint design! The program will design stiffeners and/or doublers. (Although why you would use a column that requires a doublers is beyond me). ■

NEWS FROM DOWN SOUTH by Lisa Clarke

RSA-DC has had a busy summer. We have grown into an office of nine engineers thanks to the addition of four new people. To accommodate our new and anticipated growth, we have relocated to a new space in an old industrial (machine shop) building, perched above the historic C&O canal. We share the building with a printer, several architects, an industrial real estate firm, and an internet company. Although the space has a total of 4,000 square feet, we renovated only half of it and plan on subleasing the rest. The new office's design is based on the New York office, so anyone visiting us from the North will have no problem settling down and feeling right at home.

Our four new engineers come from a variety of backgrounds. George Gerber had his own structural engineering firm here in Georgetown for many years. Fortunately for us, he decided to come out of retirement and lend his expertise in historic preservation to our firm on a part time basis. Waseem Chughtai joined the firm in August. He is a recent undergraduate of the University of Maryland, and is one of many siblings in the design and construction industry. Nicole Ferran joined us from the Bechtel Corporation. A workshop she attended in Assisi, Italy which was organized to discuss restoration approaches for the Basilica of St. Francis, helped her find her way to RSA-DC. Mary Malhiot joins our Georgetown office after a career change into structural engineering. She holds a BS in Physics and was a computer programmer

for NASA. She then raised two perfect children, and in May 2000, completed her MS in Civil Engineering at the University of Maryland.

Although our biggest job has been our relocation, RSA-DC continues to work on exciting and notable projects throughout the area. We will be doing two restorations for the National Trust for Historic Preservation. The Anderson Cottage, which was Abraham Lincoln's summer home while he was president (and the location where he wrote much of the Emancipation Proclamation), will be restored and turned into a Lincoln Research Center. Decatur House is one of the oldest surviving homes in Washington, DC, and one of only three remaining residential buildings in the country designed by Benjamin Henry Latrobe, the father of American architecture. The buildings distinguished neo-classical architecture and prominent location across from the White House made Decatur House one of the capital's most desirable addresses and has been home to many of our nation's most prominent figures.



Top L to R: Kirk, Nicole, Paul, Waseem, Brandon, Kevin
Bottom L to R: Lisa, Mary. (Unfortunately, George Gerber is not in the picture.)

We are working on a special task for the Architect of the Capitol doing design and shop drawing production for a Telecommunication Upgrade throughout the United States Supreme Court building. The office is also doing various conversions — turning two historic school buildings on Capital Hill into luxury loft-style residences, and converting an abandoned industrial building into the new Fleet Maintenance Facility for the Metropolitan Washington Police.

Again, ongoing projects and prospects are too numerous to mention in any detail. We are enjoying our new size and our new space and looking forward to seeing more of you down here. ■

CANstruction 2000



Spinning a Web of Hope

In the timeless childhood story, Charlotte's Web, the innocent compassion of an 8 year old girl and the selfless act of a common spider manage to save the life of Wilber, a tiny pig, who was simply considered troublesome by the human world. Although heroes and heroines in the non-fiction world might not be as extraordinary as Charlotte, the fabled spider who spun words in her web that rescued a pig from ultimate demise, the story does remind us

that a little bit of help can go a long way. We can reach out to the "Wilburs" of our world who need a little help, a little love, and a little food, and spin our own web of hope. We all can learn a lesson or two from Charlotte-the spider with lots of heart.

- Our team this year:
 Laura Harris-Captain
 Kristian Fields
 Mike Auren
 Amy Hwang
 Yegal Shamash

Thank you to fellow firm members Robert Silman, Joseph Tortorella, Pat Arnett, Ellen Blumenthal, Burt Dallas, Erin Davis, Alastair Elliott, Stephen Frech, Tim Lynch, Brian Maloney, Deb McGuinness, Nava Meheraban, Noel Ocampo, Nat Oppenheimer, Andrew Ostman, Vivek Patel, Liviu Schwartz, Melanie Stroe, and Karina Tribble.

A huge thank you to Pillsbury for donating the LeSeur cans. Special thank you's to Joe Manfretto, manager at Waldbaum's Supermarkets in Brooklyn, and Walter Sadowski and Ed Staar at A&P, for spending the time with us to acquire the necessary cans in an expedient manner. CANstruction was held Nov. 9, at the Design Center at 200 Lexington Avenue, NYC. ■

Faces from left to right:

- Amy Hwang
 Nava Meheraban
 Stephen Frech
 Yegal Shamash
 Laura Harris
 Kristian Fields
 Andrew Ostman
 Mike Auren Sofya
 Levin Alastair
 Elliott
 Pat Arnett
 Dan Cuoco



STAFF BIO: JOHN MATTEO*by Jamal Adams*

John Matteo has temporarily relocated to Savannah, Georgia, with his wife, Chris Ann, and his 3 year old daughter, Lucy. Their

move was made so that Chris Ann could accept a one year teaching position at the Georgia College and State University. Despite the move, John has continued working with us and is presently coordinating 3 local projects in the South: the Ford Plantation, in Richmond Hill, GA,

Kimble Residence, in Kiawah Island, SC and Drayton Hall in Charleston, SC. He continues to collaborate with the staff at the New York office as well as the Washington DC office on various other projects, which is good fortune for us, not to mention a great way to keep in touch.

John's engineering experience is noteworthy and some of his achievements are marked with distinction. Only a few of these will be mentioned here: After earning a Bachelor of Science in Engineering at Tufts, he received a Fulbright Scholarship to study in Switzerland at the Federal Polytechnic University at Lausanne. When John returned, he completed a Masters degree at Princeton. His thesis involved a cable analysis of the NYC Williamsburg Bridge using probabilistic methods as well as an historical evaluation of the

overall design.

Since joining the RSA team, Mr. Matteo has been involved in a number of very interesting projects. Again, only a few will be noted: Frank Lloyd Wright's "Fallingwater" in Mill Run, PA., The Museum of Immigration at Ellis Island, NY/NJ, the Restoration of the MetLife Tower, the terra cotta restoration at Ca'd'zan (John & Mable Ringling Museum of Art) in Sarasota, FL. John is also a Registered P.E. in NY, and has taught a course at the Columbia University Graduate School of Architecture, Planning and Preservation.

On a lighter note, John occupies his free time with his new salt water fish tank, which houses the hermit crab he adopted during his site visit to Kiawah Island. He and Lucy call their new friend Jeremiah. ■

NEW KIDS *by Brian Maloney*

There are a whole lot of new faces around the office. So for those of you with a bad memory or a short attention span, here are the Cliffs Notes:

Dan Cuoco was born and raised in Pleasantville, New York (that's in Westchester, for those who were wondering). Dan graduated from Lehigh University this past June and then promptly went to Europe for a month to recover from college life and rest up for his first "real" job at RSA. As for hobbies, he likes most sports (he's already contributed to the RSA softball team) and he absolutely loves skiing. In the music area, he's down with funk, jazz and that ever popular classic rock.

Jamal Adams grew up in Moncton, New Brunswick. He also lived in Halifax and Montreal before his latest move to Forest Hills, Queens. Jamal went to DalTech University's School of Architecture and Engineering in Halifax, Nova Scotia. While an undergraduate, Jamal worked at Bowater Mersey Paper Company, Inc. doing mostly project and construction management. Since coming to RSA, he's worked on the Barry Residence, the Buckley Residence, the Saratoga Community Center and others. Most significantly, though, Jamal has joined the team working on the Whitehall Ferry Terminal. Having previously been in a band in his native Canada, Jamal still plays bass and guitar frequently. He's also excited to go camping, skiing or snowboarding and has been known to spend some time on the beach as well.

Melanie Stroe was born in Romania in a town named Brasov. She graduated from the Technical University and worked alternately as a design

engineer and CAD drafter at an architectural and engineering company in Romania. She came to the States after getting a Visa about one year ago with her daughter and husband and they settled in Elizabeth, NJ. Before coming to RSA Melanie worked for a small construction company as a CAD drafter. In her free time, she likes to travel and see museums or stay at home and do gardening.

Farhana Mansoori recently came to the US from Bombay, India. She now lives in Flushing, Queens. This is her first job, and since starting she has mainly been working on Smith College. When she's not working, Farhana likes to listen to music and read the classics. If you think she looks a bit familiar, that's because Farzana is her aunt.

Vivek Patel was also born in India. At the age of five, however, he set forth for a better life, according to his parents, and moved to NY. He now lives in Sunset Park, Brooklyn. Vivek graduated from Polytechnic University this past June with a BS in Civil Engineering and came to work here at RSA. His father is also a Structural Engineer and may have had some influence on Vivek's career. So far though, he seems to like his work a lot. Being Hindu, he's been a vegetarian from birth (he's really missing out on the Bistro Burger). This probably serves him well, though, since he loves to stay in shape by playing basketball, bike riding, running, and swimming (if he ever learns how). He's currently registered for a physical fitness trainer program which will allow him to obtain his certification by next year. In what free time remains, he loves listening to music (from Bob Marley to Jay-Z and Amber) and watching movies (from the Shawshank

Redemption to Good Will Hunting to Fools Rush In).

Another international addition to the office is **Paul Askham**, who comes to us from Sheffield, England. While still in England, Paul received a B S in Structural Engineering with Architecture. Immediately after graduation, he set out for the States and landed a position with E. W. Finley P.C. where he first met Tim Lynch, John Giannetti, and Farzana Mulla. While working for E. W. Finley, Paul did several structural rehabilitations of NYC and NYS penitentiaries (and spent many unpleasant days on Rikers Island) as well as several South Bronx NYC housing projects (avoiding after dark site visits). After a few years, Paul moved on to Feld, Kaminitzky and Cohen, P.C., where he did "a hell of a lot of Local Law 10/80 inspections", and also worked on many forensic investigations and litigation cases evaluating failures of block and plank, foundations and retaining walls, steel and concrete framing/connections, roof and parapet collapses, scaffolding and sidewalk-bridge collapses, and facade distress, from leaks to collapse. He emphatically states that his investigation of these various failures gave him a deep appreciation for good structural detailing. It was during this time that Paul became licensed as a Professional Engineer in New York State and became certified as an ACI field technician. Since coming to RSA, Paul has been working on 345 Adams Street, 18 school renovations, and Princeton's Lockhart Hall. Outside the office, Paul has wreaked havoc on the city's pool halls, where he is an avid 9-ball and 8-ball billiards player. He's a member of both the APA (Amateur Pool Association), where the winner of the NYC tournament gets an all expense paid trip to Las Vegas to play in the National Finals, and the Tri-State Tour, where the prizes are cold hard cash.. ■

AUTOCAD DEPARTMENT TIDBITS FALL 2000 by Mark Maghakian

I would like to take this column to go over some important do's and don'ts while using AutoCAD. The idea of this column is to get a better understanding of why it is important to get into good habits while using AutoCAD. Please adhere to these guidelines.

DO'S.....

- **Purge The Drawing Before Exiting** This reduces the amount of bytes the drawing file has. You could have a drawing at 2 megs get reduced to 300,000 bytes by purging. At the command line, type "PURGE", and select "ALL"...this eliminates all unused blocks, layers, and linetypes—a great space saver. Repeat the process until AutoCAD tells you that "no unreferenced blocks, layers, etc" are found.
- **Use The Created Line Types** I still notice that we don't always use the created line types that Autocad has for :
 - Beam Removed —//—//—
 - Wire mesh —X—X—X—
 Please do not draw these in manually...it won't be consistent, its a pain to erase, and it doesn't look good.
- **Create Blocks With The "B-__Dwg Designation.** when doing file clean-up. It enables me to quickly weed out what files are dispensable. a quick b-*.dwg search lets me delete all the blocks at the end of the day. These can take up a large amount of space on the network, so getting rid of these files is very important

DONT'S.....

- **Explode Section mark Cuts and Other Attributes..**This is very counterproductive. An attribute is informational text associated with a block. If exploded, the text loses its block/text qualities. To edit attributes, simply use the DDATE command. Also note that exploded attributes will not show up on an x-refed file.
- **Put objects on the Wrong Layer.** ..This is easy to do if you are not focused on what you are doing. Some cad drafters like to draw everything on one layer and then change the layer properties afterwards. That is fine, except that not everyone remembers to do that after they are done. Please remember to put every object on the correct layer.
- **Change Colors manually..**If steel is magenta in the layer dialogue box, then do not change its color to green, or any other color—maintain the properties of the dialogue box. They should govern what colors are on the screen. Please make sure that every color is set for "BYLAYER". That simply means that the color in the dialogue box will match the color on the screen. Please adhere to this at all times.

Well that is all for now. If I can think of any others DO's and DON'Ts , I will be sure to let you know. ■

Bowling Party Recap

by Mark Maghakian

A whopping 18 people showed up for the October bowling bash !!!!!...Everyone had a great time and enjoyed knocking down the pins...good music, food and drink were part of the deal as well...some of the high scores were Laura T with a 154, Scott with a 151, Pat with a 147, and Mark with a 174...Laura T's team won all 3 games, but the highlight of the evening was seeing Laura do the "Funky-Chicken" after a strike !!!!!...I understand that bootleg videos of her doing it are out on the streets as we speak...some people are already asking when the next one will be.....I'll keep you posted. ■

COOPER UNION STUDENTS SENIOR PROJECTS

Robert Silman Associates is helping Cooper Union Students in their Senior Projects. Rick Ng is working with 2 CU teams, with Mark Paquiz, & Mike Capuzzi's group, who are following the West Perry project—the two towers on Perry and West Streets designed by Richard Meier, and with Helena Tam and Andre Georges' group on PS/IS 395 in Brooklyn, a new construction needing special consideration for handicapped students. As a part of their school study for their Senior research project, they offered themselves for field work and other tasks.

IN HOUSE SEMINAR: Underpinning

Given by Tim Lynch , Nov. 7, 2000

Surprisingly enough, there are little or no code guidelines or legislation which govern either design or construction. This is amazing to me considering that one can specify the property line resupport of a building that is neither owned nor checked by the underpinning party. Due to the fact that there are no code requirements for underpinning, when it is specified, generic details are imported onto the drawings. OK- this may be industry standard, but is it correct and does this reflect good engineering judgement?

Underpinning is one of the main sources of building collapses and damage to architectural finishes and is one of the biggest legal quagmires in our industry. Not without reason. It is not unusual that three out of four underpinning jobs end up in law suits. After one looks at the issues, this percentage is to be expected. As an office, we have not formalized our policy for this important subject. Hopefully, the seminar has raised your awareness.

There is a design element to underpinning. Note: Contrary to popular belief and even when executed correctly, **underpinning** on subgrade, including rock, **causes building settlement.** The value ranges from 1/4" to 1/2" on rock, more on sands, and even greater values on clays. This settlement relates to the engineering performance of the subgrade. In addition to subgrade performance, one can expect settlement and distress due to the underpinning construction procedure.

I have written a report on an underpinning job being performed in Soho. The report is based on a viewpoint of the affected neighboring party. Even though the underpinning was specified and installed in accordance with industry standard, a number of questions come to mind: Is it true to say that because no code governs the work, there is no room for engineering judgement and "due diligence"?

London is primarily founded on a clay subgrade. When built upon, clay is very prone to settlement. Due to the vast number of legal cases dealing with underpinning , effects of piling operations etc, legislation was passed in 1936 called "The party wall act etc". If two adjacent parties are affected by some party wall work, there is a special protocol to be followed that ensures a minimum level of correspondence and engineering is performed prior to any work proceeding on the party wall. I understand that the legislation is not applicable here, BUT, it forms a basis for what may be regarded as a minimum input prior to starting work. In the event that distress occurs and events lead to litigation, one can demonstrate that at a minimum, due care has been shown. ■

SANTA FE *cont'd from page 1*
 stucco applied to the CMU surface to mimic adobe.

The most challenging aspect of the structural design of the relatively small and straight forward building was the foundation design. The building is being built into the side of the a hill which created an unbalanced soil load condition. The retaining wall required to counter this unbalanced condition is quite large and would require extensive sheeting and shoring. Our office and the geotechnical engineer GeoTest of Santa Fe, NM arrived at a design that minimizes excavation, provides shoring and provides permanent soil retention. Drilled concrete piers 2 ft. in diameter will be installed at 4 ft.

on center. The soil spans the 2 feet between the closely spaced piers allowing the piers to retain the soil. Once the piers are installed, the soil is excavated down approximately 9 ft. and soil anchors are installed towards the top of the piers to pin back the pier. The soil is then excavated down to the final cellar slab level. A grade beam at the top of the piers acts as a continuous surface that supports the load bearing CMU wall above grade. Thus, the piers act as soil retainers, shoring, and wall support, thus saving shoring and excavation costs.

Construction has begun and the rehearsal hall is scheduled to be complete by late spring for the next outdoor opera season. ■

AWARDS

NY Construction News Best of 2000 Awards

American Airlines Theater - Merit Award

Architect: Karlsberger

RSA Staff: Principal-Joseph Tortorella Engineer-Mike Auren

Boston Society of Architects Citation for Community Design Process

La Casa de Esperanza (LESMHA)

Architect: John Ellis

RSA Staff: Principal-Joseph Tortorella

NY CARES *by Noel Ocampo*

What is New York Cares Day? Every October, in partnership with the New York City Board of Education, New York Cares mobilizes thousands of volunteers throughout the city for an incredible day of hands-on service at New York City's public schools. Some volunteers paint murals, line games, and hallways. Others revitalize gardens, play spaces, libraries, and classrooms - all to make our city's schools brighter and cleaner places for students to learn and play. This year, 10,000 volunteers united for this amazing day, and our efforts changed the face of about 110 public schools!

This year the volunteer crew representing RSA including Yegal and Laurie, Karina, Deb and John met October 14. Their target was a school fence in Brooklyn.



Visit the NY Cares website for more information at www.NYcares.org. ■

Coordinators Notes

Coordinator: Ellen Blumenthal

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OFFICE CORNER

compiled by Noel Ocampo

Birthday Blues :

(between 9/15 and 12/14/00)

- Deborah Mc. Sept. 21
- Karen Gulino Sept. 26
- Kirk M. - DC (big 40th!) Sept. 27
- Amy H. Oct. 10
- Joe T. Oct. 24
- Michael A. Oct. 11
- Robert Sa. Oct. 31
- Vivek P. Nov. 16
- Erin D. Nov. 21
- Nat O. Nov. 23
- Yegal S. Nov. 27
- Kristian F. Nov. 28
- Lyn S. Dec. 9
- Kevin M. - DC Dec. 6

Happy Birthday to all!!!

LET'S ALL CONGRATULATE

Jim and Michelle Villano were Re-married Nov. 25, 2000

ANNIVERSARIES :

Ellen Blumenthal - 5 Years with RSA

Mike Machado - 5 Years with RSA

LET'S ALL WELCOME!!!

New York Office

Paul Askham

Vivek Patel

Kristian Fields

Dan Cuoco

Karen Gulino

Helena Tam

Mike Capuzzi

Lauren Fulcrod

Washington DC Office

Kevin Miller

Nicole Ferran

Waseem Chughtai

Mary Malhiot

George Gerber