The Retrofit NY Process

“It is only when the abstract comes into contact with the concrete that anything new can happen.”

- Pythagoras
A General Contractor’s Perspective

The Retrofit NY Process

- Retrofit NY gave General Contractors a “seat at the table”
  - Integrative Process of Design & Construction

- Essential in developing a cost effective, constructible & replicable solution.

- Credo is one of collaboration, problem solving and fair dealings.
A General Contractor’s Perspective

Subject Location: 300-304 East 162\textsuperscript{nd} Street, Bronx, NY

- 42,000 sq.ft. 5 story walk-up built in 1925
- 42 residential units, fully occupied
- Joisted masonry construction
- 2 gas fired steam boilers & DHW system
- Last renovated in 1997
- East 162\textsuperscript{nd} Street
A General Contractor’s Perspective

The Retrofit NY Scope of Work
300-304 East 162nd Street

- Building Envelope – Windows, Panels, Masonry, Roof
- Ventilation & IAQ
- Space Heating & Cooling – VRF Solution
- DHW – Heat Pump
- Electrical & Solar
- Ancillary Work
A General Contractor’s Perspective

Execution Concerns - General

- Tenant Relocations / Phasing
- Site Logistics
- Scheduling / Timing
- Shortage of Skilled Tradesmen
- Noise Mitigation
Execution Concerns – Scope Specific

- Exterior Cladding Installation
- VRF System – Phasing of Central Heating System Shutdown
- VRF System – Shared versus Individual Condensers
- Structural Considerations for Rooftop Loading
- Unforeseen Conditions – Roofing & Plumbing
### A General Contractor’s Perspective

**Preliminary Cost Estimate**

Note: Excludes Soft Costs & Tenant Relocation Costs.

<table>
<thead>
<tr>
<th>Item Description</th>
<th>Conceptual Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 General Requirements</td>
<td>$322,000.00</td>
</tr>
<tr>
<td>2 Site Work</td>
<td>$182,500.00</td>
</tr>
<tr>
<td>3 Concrete</td>
<td>$15,750.00</td>
</tr>
<tr>
<td>4 Masonry</td>
<td>$369,308.00</td>
</tr>
<tr>
<td>5 Metals</td>
<td>$369,626.00</td>
</tr>
<tr>
<td>6 Woods and Plastics</td>
<td>$187,425.00</td>
</tr>
<tr>
<td>7 Thermal/Moisture Protect</td>
<td>$417,180.00</td>
</tr>
<tr>
<td>8 Doors and Windows</td>
<td>$223,250.00</td>
</tr>
<tr>
<td>9 Finishes</td>
<td>$449,898.00</td>
</tr>
<tr>
<td>10 Specialties</td>
<td>$31,350.00</td>
</tr>
<tr>
<td>11 Equipment</td>
<td>$154,300.00</td>
</tr>
<tr>
<td>12 Furnishings</td>
<td>$23,850.00</td>
</tr>
</tbody>
</table>
| 13 Special Construction | $-
| 14 Conveying Systems | $-
| 15 Mechanical | $-
| 16 Electrical | $-
| 15.1 Heating/Ventilation | $210,080.00 |
| 15.2 Plumbing | $146,650.00 |
| 15.3 Fire Protection/Sprinklers | $5,000.00 |
| 16.1 Electrical | $898,000.00 |
| 16.2 Fire Alarm System | $40,000.00 |
| Subtotal | $4,046,167.00 |
| Insurance | $60,692.51 |
| Overhead (2% - 4%) | $161,846.68 |
| Profit (Up to 10%) | $404,616.70 |
| TOTAL | $4,673,322.89 |
| Incentives | $74,400.00 |
| TOTAL Including Incentives | $4,598,922.89 |
| Total / unit | $218,996.33 |

*Volmar Construction Inc.*
A General Contractor’s Perspective

Potential Areas for Cost Savings

- Minimize tenant relocation costs
  - Hospitality Suite in Cellar
  - Vacate entire building for a limited duration
- Exterior Cladding
- Solar Financing Options
- Electric Heat Pump Option for DHW
- Electrical Service Review
An Owner’s Perspective

Why Participate?

- Building Upgrade
- Economic Benefits
- Legacy
An Owner’s Perspective

The Subject Property

- Renovated under a HPD PLP loan in 1997
- Subject to Rent Regulatory Agreement until 2029
- Subject to Rent Stabilization, no RC units
- Average rent $869 per month – large apartments
- Market Rate Financing & HPD Loan at 20% LTV
An Owner’s Perspective

Regulatory Considerations

- Rent Stabilization and its future
- Affordability Requirements
  - Rent Levels
  - Term of Agreement
- Tenant Electric Metering of VRF Shared Condensers
- J-51 versus 421a
# Economic Considerations

<table>
<thead>
<tr>
<th></th>
<th>Current Estimate</th>
<th>Goal</th>
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</thead>
<tbody>
<tr>
<td>Hard Costs</td>
<td>$218,000 per unit</td>
<td>$175,000 per unit</td>
</tr>
<tr>
<td>Soft Costs (Design, Interest, Legal, etc.)</td>
<td>$20,000 per unit</td>
<td>$15,000 per unit</td>
</tr>
<tr>
<td>Other Costs (Relocation, Lost Rent)</td>
<td>$4,000 per unit</td>
<td>$2,000 per unit</td>
</tr>
<tr>
<td>Total Program Costs per Unit</td>
<td>$242,000 per unit</td>
<td>$192,000 per unit</td>
</tr>
<tr>
<td>Total Program Costs</td>
<td>$10,164,000</td>
<td>$8,064,000</td>
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</tbody>
</table>
An Owner’s Perspective

Financing Options

- NYC Department of Housing Preservation and Development
- Community Preservation Corporation
- J-51 / Article XI Tax Benefits
- Con Edison Incentives
An Owner’s Perspective

Energy Score Card

300 East 162nd Street
300 East 162nd Street, Bronx, NY, 10451

Total Energy (EUI)
Whole Building

- Cooling
  Whole Building
  - 1.3 STU, Efficiency: A
  - $1,797

- Heating
  Whole Building
  - 14.7 STU, Efficiency: B
  - $13,715

- Electric Base Load
  Whole Building
  - 4.203 kWh/ft^2

- Fossil Fuel Base Load
  Whole Building
  - 10.4 kgCO2/ft^2

- Water
  - 39.4 gal/day

Electric: $20,846
Gas: $26,039
Water: $21,294
Total Spend: $68,178

Volmar Construction Inc.
## Expense Analysis

<table>
<thead>
<tr>
<th>Expenses</th>
<th>Year 2014</th>
<th>Year 2014</th>
<th>Year 2015</th>
<th>Year 2016</th>
<th>Year 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water &amp; Sewer</td>
<td>$17,257</td>
<td>$38,912</td>
<td>$56,377</td>
<td>$43,088</td>
<td>$41,316</td>
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<tr>
<td>Electricity</td>
<td>$11,557</td>
<td>$13,668</td>
<td>$12,841</td>
<td>$10,335</td>
<td>$9,721</td>
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<tr>
<td>Gas</td>
<td>$58,145</td>
<td>$69,697</td>
<td>$68,675</td>
<td>$59,654</td>
<td>$46,688</td>
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<tr>
<td>Maintenance &amp; Repairs</td>
<td>$18,042</td>
<td>$19,956</td>
<td>$17,708</td>
<td>$16,680</td>
<td>$22,601</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>$105,001</strong></td>
<td><strong>$142,233</strong></td>
<td><strong>$155,601</strong></td>
<td><strong>$129,757</strong></td>
<td><strong>$120,326</strong></td>
</tr>
<tr>
<td><strong>Total per Unit</strong></td>
<td>$2,500</td>
<td>$3,386.50</td>
<td>$3,704.78</td>
<td>$3,089.45</td>
<td>$2,864.90</td>
</tr>
</tbody>
</table>
An Owner’s Perspective

Financing Options

**Benefits**
- Lower Utility Costs
- Upgraded Physical Plant
- Stable Tenancies
- Low Cost Financing

**Considerations**
- Ties to Electric Power
- Long Term Agreement
- Regulatory Agreement
- Restrictions on Optionality