
# Walker Jones

100 L Street NW
Washington, DC 20005

Technical Assignment #1
Dr. Messner
9/29/08

**Maria Piergallini | Construction Management**

# Walker Jones Educational and Community Center

**Washington, DC**


## Project Team

| | |
|---|---|
| **Owner:** | Office of the Deputy Mayor for Planning and Economic Development |
| **Architect:** | Hord Coplan & Macht |
| **Construction Manager:** | Forrester Construction & Columbia Enterprises (joint venture) |
| **Structural Engineer:** | Simpson Gumpertz & Heger |
| **MEP Engineer:** | Burdette Koehler Murphy & Associates |

## Mechanical

- 8 roof top air handling units ranging in size from 3,150 CFM to 20,200 CFM with energy recovery wheels
- AHU's work in conjunction with 2 boilers to serve the 2 pipe VAV system that ventilates the building
- Commissioning for all MEP systems
- Pre-occupancy building flush-out to increase indoor air quality

## Building Statistics

| | |
|---|---|
| **Size:** | 125,000 SF |
| **Function:** | Pre-K – 8 school, public library, and community center |
| **Building Cost:** | $36 Million |
| **Construction Dates:** | March 2008-August 2009 |
| **Delivery Method:** | Design-Bid-Build with GMP |

## Structural

- Concrete foundation walls sit on spread footing system supported by soil reinforced with impact piers and helical anchors ranging in length from 19' to 42'
- Steel superstructure with concrete composite slabs on metal deck supported by wide flange beams
- W shaped beams and columns with HSS in multi story spaces

## Architecture

- Organized by grade based on floor level with shared spaces at circulation nodes
- "C" shape footprint designed to provide a safe area in the middle of the "C" for kids to play
- Seeking LEED certification upon completion
- 29,000 SF of green roof with access for students

## Electrical

- Building distribution is 480V, 3 phase, 4 wire from Pepco supply
- 3000A main switchboard with 1000A, 400 A and 225A distribution panelboards
- 275kW 480/277V emergency generator with 500 gallon fuel tank for 23 hours of operation at full load

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**Construction Management**

**www.psu.edu/ae/thesis/2009/mkp5000**

## Table of Contents

## Executive Summary

Technical Assignment 1 takes an in-depth look at the existing conditions for Walker Jones Educational and Community Center, located on the block bound by New Jersey Avenue, Pierce Street, 1st Street, and K Street in Northwest Washington, DC. This report is intended to provide a solid background of existing conditions and scope of work, as well as an idea of opportunities and constraints of the design and construction process.

The new Walker Jones project is a 100,000 SF DC public school, 15,400 SF community center, and 7,000 SF public library designed to replace two existing schools. Walker-Jones Elementary and Terrell Junior High School have been partially demolished to allow room for construction and will be completely demolished upon completion of the project. The new educational and community center has been designed as part of an effort to revitalize the area now known as the Northwest One neighborhood.

The fast-paced 15 month schedule, LEED certification, and tight budget provide many coordination and logistical challenges. A negotiated GMP of $36 million was agreed on between Forrester Construction (the general contractor), and The Office of the Deputy Mayor for Planning and Economic Development (the owner). The steel structure and primarily brick façade are accented by strategically placed curtain wall and unique features such as 29,000 SF of green roof.

This technical assignment analyzes ten aspects of Walker Jones Educational and Community Center. This analysis includes the project schedule, building systems, project cost, existing conditions site plan, local conditions, client information, project delivery systems and a staffing plan for the general contractor.

## Project Schedule Summary

Design for Walker Jones Educational and Community Center began in early 2007. Mid-way through the design process, Forrester Construction was hired to perform paid pre-construction services. Because the project is public, it was put out for competitive bid and on February 1, 2008, Forrester Construction was awarded the project. Construction started shortly after with the Notice to Proceed issued March 3, 2008. Forrester quickly began mobilizing and the groundbreaking ceremony followed two weeks later. The building is expected to be watertight by April 24, 2009 with substantial completion and certificate of occupancy July 2, 2009. The punch list is anticipated to be complete within three weeks of substantial completion.

For all of these milestones to be achieved, a lot of work must go into place. The sequence of construction is Area B, Area A, Area C and finally, Area D.

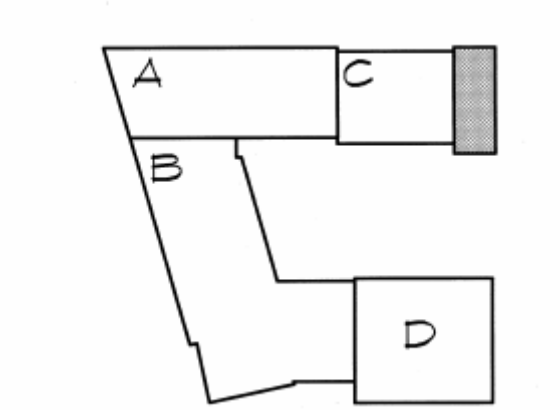



**Figure 1 – Breakup of the building for sequencing purposes.**

Within each area, construction is broken up by floor. After excavation is complete, work on foundations and superstructure begins. This includes installation of soil support system (geopiers), footings, grade beams, below grade walls and slab on grade. Once these items are complete, structural steel will begin followed by MEP work. Masonry façade and storefront will follow behind steel until the building is watertight and interior trades can begin work.

Please see **Appendix A** for project schedule summary.

## Building Systems Summary

| Work Scope | Yes | No |
|---|---|---|
| Demolition Required? | X | |
| Structural Steel Frame | X | |
| Cast in Place Concrete | X | |
| Precast Concrete | | X |
| Mechanical System | X | |
| Electrical System | X | |
| Masonry | X | |
| Curtain Wall | X | |
| Support of Excavation | X | |

*Demolition*

Approximately 150,000 SF of demolition was required to build the new Walker Jones School. Terrell Junior High School was demolished to allow room for construction and the adjacent Walker Jones Elementary School will be completely demolished once the new school is complete. The majority of the demolition was concrete and masonry which was crushed onsite, as shown in Figure 2. This material was then used as backfill in several areas to save money.


**Figure 2 - Demolition of Terrell Junior High.**

Several issues required an abatement crew to prepare the school prior to being wrecked. There was a small amount of asbestos used in Terrell Junior High. In addition, the fluorescent light fixtures had to be removed because of the hazardous materials contained in the older ballasts. Below the structure there were also two abandoned fuel tanks, 10,000 and 20,000 gallons which needed to be dealt with. The smaller tank was not a problem to remove; however, the larger tank was leaking. Due to schedule impacts, the larger tank was covered and will be removed at a later time. Special precautions must be taken around the tank- the soil must be separated, removed, and treated properly.

*Structural Steel Frame*

Steel moment frames and reinforced CMU shear walls will be used to resist wind and seismic lateral forces. The majority of the school will have a 5 ½" slab (3 ½" of lightweight 4000 psi concrete topping over 2" x 18 gauge composite metal deck) supported by wide flange steel beams at 8'-0" on center. The beams are supported by wide flange steel girders along the perimeter and along either side of the corridor running

the length of the classroom wing column lines. The roof framing will consist of 1-1/2" x 22 gauge acoustical galvanized metal deck (3 spans) supported by steel bar joists spaced from 4'-0" to 6'-0" on center, specially designed to accommodate equipment hung from the roof.


**Figure 3 – Steel erection, week 12.**

The crane used to erect steel is located in the center courtyard area (on grade at level 2). A Link Belt track mounted conventional fixed boom crane with a 200 ton capacity is being used. It is currently set up with 160' of main boom & 40' of offset jib.

*Cast in Place Concrete*

Cast in place concrete is used for spread footings, foundation walls, and floor slabs. Typical wood formwork is used for both horizontal and vertical forms. The spread footings and foundation walls were placed using a crane and bucket; however, the floor slabs will use a concrete truck and pump. The slab on grade was placed in skip pours.

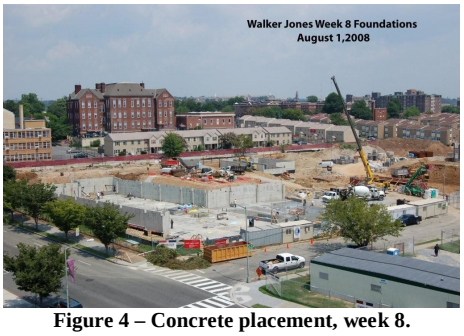



**Figure 4 – Concrete placement, week 8.**

*Mechanical System*

The mechanical rooms are located in Area C in a partial basement and on the third floor above the kitchen. The building's eight air handling units are located on the roof of the building. The cafeteria, gymnasium and kitchen have constant air volume systems while the rest of the building has a variable air volume (VAV) system. Heating water will be generated from three (3) gas fired boilers located in the northeast mechanical room above the kitchen. Two (2) heating water pumps (primary and standby) will circulate heating water to the air handling units. All major mechanical equipment items (boilers, air handling units, pumps, etc.), as well as all air terminals, temperature sensors, etc., will be capable of being controlled and/or monitored through the web-based energy management control system (EMCS).

The building will be provided with a wet pipe fire protection sprinkler system in accordance with NFPA and the local jurisdiction. Standpipe risers will be provided in each stairwell and sprinkler zone assemblies will be provided to provide sprinkler coverage throughout the building. A fire pump will be provided to meet the fire protection system flow and pressure required by the local jurisdiction.

*Electrical System*

The main service feeder for the building enters from Pepco transformer vaults in the North-East corner of the building adjacent to the basement mechanical room. The service is 3 Phase, 4 Wire, 480/277 Volt with a 3000A Main Switchboard. Emergency power is supplied by a 275kW 480/277V generator with a 500 gallon fuel tank for 23 hours of operation at full load. The generator is located outside the building adjacent to the Pepco ductbank in a sound attenuated enclosure.

*Masonry*

The exterior masonry walls are load bearing. In Areas A and B, the classroom section, the brick exterior walls will be backed up with 6" light gauge metal stud. Typical window openings on the exterior wall are "punch" windows and loose angle lintels will be provided to span the openings. In addition, brick veneer will be hung from the floor above with galvanized steel shelf angles. In Areas C and D, the exterior walls are reinforced CMU bearing walls clad with a brick veneer separated by an air space cavity. These CMU bearing walls will be used to resist wind and seismic lateral forces.

The mason's mixing station is on site and location varies depending on requirements. Scaffolding is primarily tube and plank with one motorized scaffold.

*Curtain Wall*

There is about 9,000 SF of curtain wall used in the south-west corner of the building at the library and where stairs are located throughout the building. The curtain wall system is composed of an aluminum frame with glass panels. These panels will be hung with a small crane (type to be determined) and will be attached through a series of bolted connections at the top and bottom. The panels will be installed in elevations as far as the crane can reach in both directions. The crane will then move to the next location and repeat until a strip is complete. The crane will then move up to the next level of panels and repeat.

*Support of Excavation*

Typical sheeting and shoring was used in two areas during excavation. The system was composed of H beams, wood lagging, and appropriate bracing. Tiebacks were required for lateral support. Pressure injected anchors were installed at an angle of 15° to the horizontal. In locations where tiebacks could not be installed, rakers and heel blocks were used.

The site sits about the water table, therefore the only concern is rain water collection & pump off. The elevator pits are being used as dewatering stations until the building is out of the ground. Electric powered sump pumps have been set up in each pit to collect & pump off water. Again, this project does not have a water table problem/ issue, therefore, there is no permanent dewatering system designed or used.

## Project Cost Evaluation

(Actual cost evaluation is based on the estimates of Forrester Construction. The numbers are slightly altered and are in no was indicative of actual bid costs.)

| | |
|---|---|
| *Square Footage of School:* | 100,000 SF |
| *Square Footage of Community Center:* | 15,400 SF |
| *Square Footage of Library:* | 7,000 SF |
| *Total Square Footage:* | 122,400 SF |

*Construction Cost:*

Actual: $25,548,800
Per SF: $209

*Total Project Cost:*

Actual: $36,000,000
Per SF: $294

*Major Building Systems:*

*Mechanical*
Actual: $6,500,000
Per SF: $53.10

*Electrical*
Actual: $4,400,000
Per SF: $35.95

*Structural*
Actual: $4,000,000
Per SF: $32.68

*Plumbing*
Actual: $1,500,000
Per SF: $12.11

*Roof*
Actual: $1,000,000
Per SF: $8.17

*Fire Protection*
Actual: $450,600
Per SF: $3.68

*Elevator Systems:*
Actual: $180,000
Per SF: $1.47

## *R.S. Means Square Foot Data:*

(All information from: Balboni, Barbara. **R.S. Means 2008 Square Foot Costs.** Kingston, MA: Reed Construction Data, Inc., 2007.)

| | |
|---|---|
| *Square Footage of School:* | 100,000 SF |
| *Square Footage of Community Center:* | 15,400 SF |
| *Square Footage of Public Library:* | 7,000 SF |
| *Location Factor - Washington, DC:* | 0.99 |

The *2008 R.S. Means Square Foot* estimate guide contained several options for school projects. It was decided to use item M.580: School, Jr High, 2-3 Story in combination with M.390: Library. Each section of the project was calculated individually (school and public library), and the two costs were added together to find the total cost. The reasons for this decision were the following:

• Walker Jones is a school teaching K-8. Jr. High falls in that range and provides a more conservative price than elementary school would have.

• The project is divided into three parts; a school, a public community center, and a public library. M.580: School, Jr High, 2-3 story includes a gymnasium in the cost, and the price is more conservative than M.170: Community Center. Since the community center part of the project is mainly a gym with locker rooms and several classrooms, the area of the school and community center were all calculated under M.580: School, Jr High, 2-3 story. To account for this and have the most conservative price possible, the project was estimated as two projects and final construction costs were combined.

*115,400 SF School:*

| | |
|---|---|
| Base Cost 110,000 SF: | $149.40 / SF |
| Base Cost 125,000 SF: | $149.10 / SF |
| Interpolated Cost: | $149.15 / SF |
| Interpolated LF: | 1882 LF |
| Adjusted Perimeter: | ($4.15) |
| Adjusted Height: | ($1.50) |
| Adjusted Cost/SF: | $143.50 |
| Additives: | |
| Bleachers: | $70,840.00 |
| Elevators: | $115,600.00 |
| Flagpoles: | $3,450.00 |
| Kitchen Equipment: | $21,030.00 |
| Lockers: | $105,194.00 |
| Seating: | $110,000.00 |
| Additional Cost / SF: | $4.26 |
| Total Cost / SF: | $147.76 |
| Total Cost: | $17,051,635.56 |
| Adjusted for Location: | *$16,881,119.20* |

*7,000 SF Public Library:*

| | |
|---|---|
| Base Cost 7,000 SF: | $171.05 / SF |
| Cost / SF: | $171.05 |
| Additives: | |
| Furnishings: | $115,200.00 |
| Additional Cost: | $115,200.00 |
| Additional Cost / SF: | $16.46 |
| Total Cost: | $1,312,550.00 |
| Adjusted for Location: | *$1,299,424.50* |

Total RS Means Cost: $18,180, 543.70
Total Cost/SF: **$148.53**

*D4Cost Analysis*
(All information obtained using D4Cost 2002 Software)

*Total Building Cost:*

Actual: $23,841,754
Per SF: $194.79

*Major Building Systems:*

*Mechanical & Plumbing*
Actual: $4,413,333.00
Per SF: $36.06

*Electrical*
Actual: $2,263,488.00
Per SF: $18.49

*Structural*
Actual: $4,383,896.00
Per SF: $35.82

When comparing the three estimates, the total project cost should not be considered because no other estimating tool accounted for sitework, contingencies, design fees, etc. For this reason, the comparison is between the *Actual Construction Cost* vs. *R.S Means 2008* and *D4 2002*.

The R.S. Means 2008 price is relatively low in comparison to the actual cost ($208.73/SF Actual vs. $148.53/SF R.S. Means). It is important to note that the school price was calculated based on a two story school. If the price calculated under M.580: School, Jr High, 2-3 story is multiplied by 1.75 to account for the fact that the average height of the school portion is 3.5 stories, the new total price becomes $251.97 / SF. This new price is a conservative estimate compared to the actual $208 / SF cost, which is to be expected of R.S. Means on a fairly typical project.

The D4 2002 cost estimate is slightly low ($208.73/SF Actual vs. $194.79 D4Cost). This could be attributed to outdated information or not finding suitable combined use project matches; however, upon further examination, the mechanical and plumbing systems are almost solely responsible for the difference in prices. The actual cost of the mechanical and plumbing system is twice as much as D4Cost accounts for. The extra $3.6 million unaccounted for in D4Cost's mechanical and plumbing estimate would put the D4Cost estimate in the vicinity of the actual cost. This difference may be due to high performance mechanical and plumbing systems with a slightly higher initial cost that will be made up for in life-cycle cost.

## Site Plan of Existing Conditions

The site for Walker Jones is located on the block bound by New Jersey Avenue, Pierce Street, 1st Street, and K Street in Northwest Washington, DC.

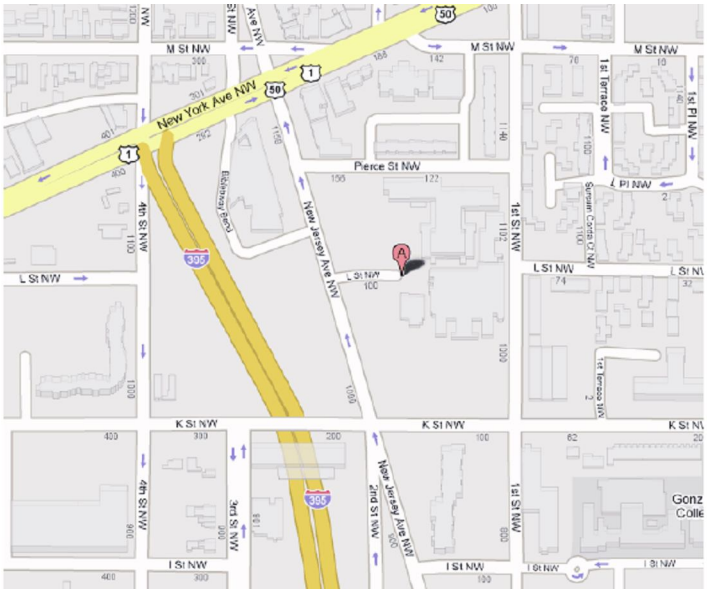



**Figure 5 – Map of the vicinity.**

While there is nothing directly adjacent to the site, there are several buildings in the area which cause concern. Across Pierce Street, there is a residential neighborhood consisting of two-story row homes. Across New Jersey Avenue, there is an eight-story assisted living community. In both cases, scheduling is an issue as local ordinances limit construction time to 7 am - 7 pm. Additionally, pedestrian access and handicap accessibility around the site was an important issue. A covered walkway with handicap ramps was installed along New Jersey Avenue to ensure safety of pedestrians.

The relocation of utilities is minimal. Because there were two schools located on the site previously, gas, water, electric, and telephone lines are easily accessible. Most existing utilities will be cut and capped, then reconnected once the new facility is ready.

Please see **Appendix B** for the site plan of existing conditions.

## Local Conditions

Walker Jones is located in the northwest quadrant of Washington, DC. Construction is common in the area, and structures typically vary depending on the type of building.

Parking restrictions within the neighborhood vary widely. There are several sections where parking is always prohibited. Sections of North Capitol Street allow off-peak parking only, but the street is very busy and a few blocks from the site. Parking is not permitted on the east side of First Street. Parking restrictions on the east-west streets in the area vary widely. Parking meters are concentrated on North Capitol Street, H Street and New Jersey Avenue. The remaining streets within the study area have un-metered parking, but much of it is used by residents. These parking restrictions cause problems for the workers. Each subcontractor is allowed to park one vehicle on the street adjacent to the site, and the rest of the workers must use public transportation or find parking elsewhere.

Poor soil required a soil reinforcement design of impact piers and helical anchors. The original boring reports revealed that the soil was almost entirely silty clay transitioning to clayey sand. There were seventeen borings to a depth of fifty feet. Only one boring, located in the northwest section of area B, resulted in auger refusal at 31' due to the presence of a boulder/cobble soil. None of the other borings found any substantial soil requiring more than thirty blows per foot of penetration.

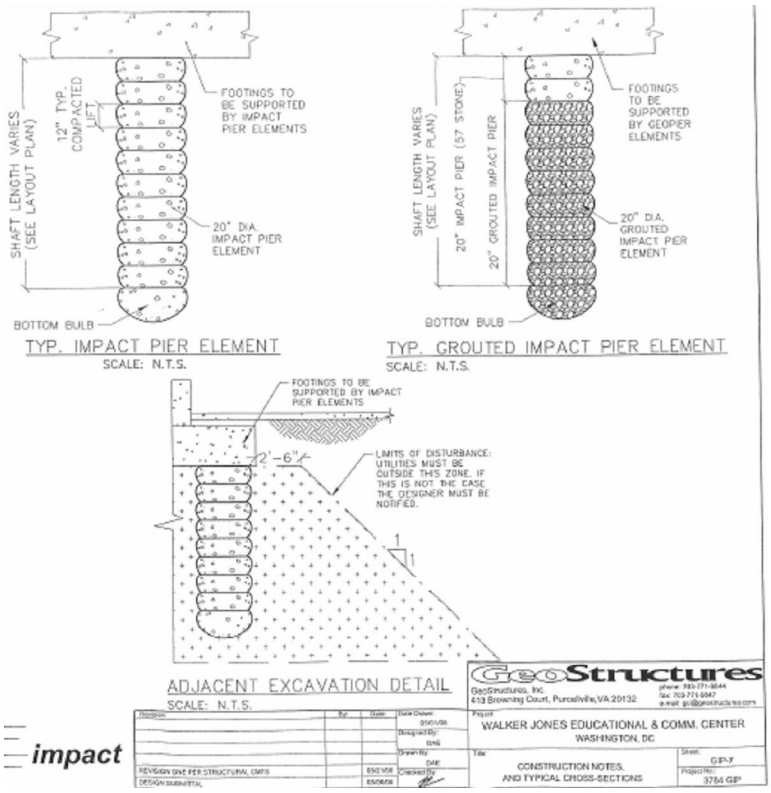



**Figure 6 – Impact pier design.**

On average, the water level was found at 23'; however, values varied from 12'-30.' The water table is deeper than excavation, so there is no long-term water concern. The elevator pits were set up as pumps during excavation due to excessive rainwater; however, this project does not have a water table problem and there is no permanent dewatering system designed or used.

Being a LEED project, recycling on this project is very important. A company was hired to remove the construction dumpsters, sort the garbage and recycling, and produce a report to aid in achieving LEED Credit MR 2.1: Construction Waste Management. Typical costs for this service have been $600 per dumpster.

## Client Information

The owner of the project is the District of Columbia Office of the Deputy Mayor for Planning and Economic Development. When Mayor Fenty assumed office in January of 2007, he immediately began the long-overdue transformation of the District of Columbia Public Schools (DCPS) by placing them under the authority of the Mayor. DCPS has begun a new era of high-quality education with a new management team, new personnel rules and an ambitious facilities modernization program. Mayor Fenty decided to start the transition from the bottom, so he chose the area now known as Northwest One. The Office of the Deputy Mayor for Planning and Economic Development worked with The Office of Planning's Neighborhood Planning & Development/Urban Design Division to develop a master plan for the Northwest One neighborhood which revitalizes it as a vibrant, mixed-use community fully integrated within the larger city of Washington.

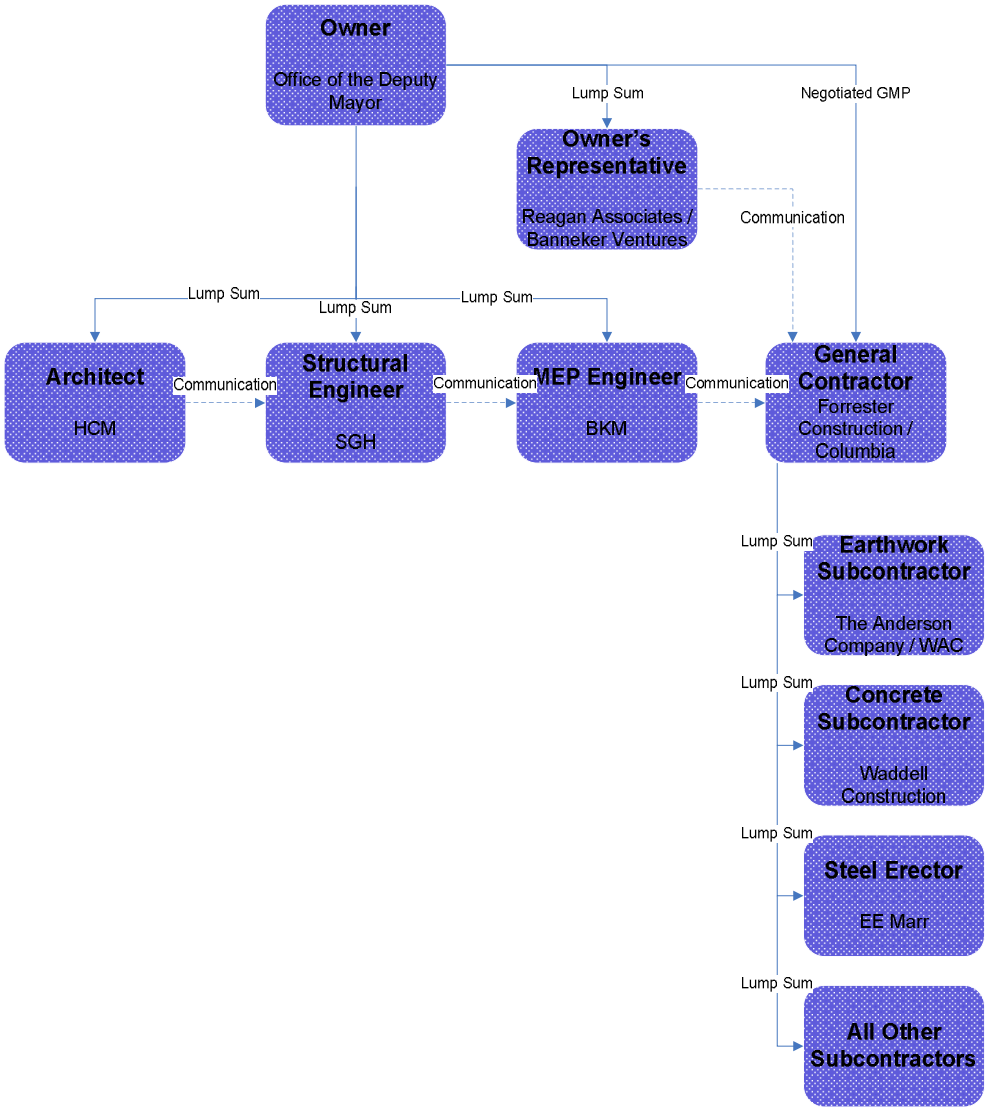
Two District of Columbia public schools located in the neighborhood – Walker Jones Elementary School and Terrell Junior High School – have been important community anchors for decades; however, both schools continued to be among the lowest performing schools in the District despite coordinated efforts to improve curriculum, academic achievement and other services. Walker Jones is a Tier 1 school – meaning District of Columbia Public Schools (DCPS) targeted it as a school in need of immediate physical reconstruction. It has a current enrollment of 529 students and a capacity of 552. Terrell Junior High School was a Tier 2 school – meaning DCPS targeted it as a school in need of rehabilitation/reconstruction at some point in the near future. It had an enrollment of 294 and a capacity of 546. Terrell Junior High School was demolished to make room for the new school and the old Walker Jones Elementary will be demolished when the new school is completed in the fall of 2009.

Walker Jones will be the first new school to be built under Mayor Fenty, and education is something the mayor feels very strongly about so quality is of utmost concern. Because the mayor is so passionate about the reconstruction of DCPS, he shows his support by stopping by the site frequently. Being a public school, however, the budget is tight. The project was awarded to the low bidder and a guaranteed maximum price was agreed on. It is also important that the project is completed by August 2009 so that it is fully functioning by the beginning of the school year. Having an active construction site located adjacent to a functioning school raises a lot of safety concerns. Special care was taken in fencing the site and securing gates to ensure that students can not wander onsite.

Another key client concern is community relations throughout the duration of the project. It is imperative that the construction team works with the neighborhood and its residents. Forrester Construction and Columbia Enterprises have invested a lot of time and effort in developing positive relationships with neighborhood residents. They are working with the Department of Employment Services to employ people in the neighborhood on the project and have given back to the community through several community service projects at local community centers.

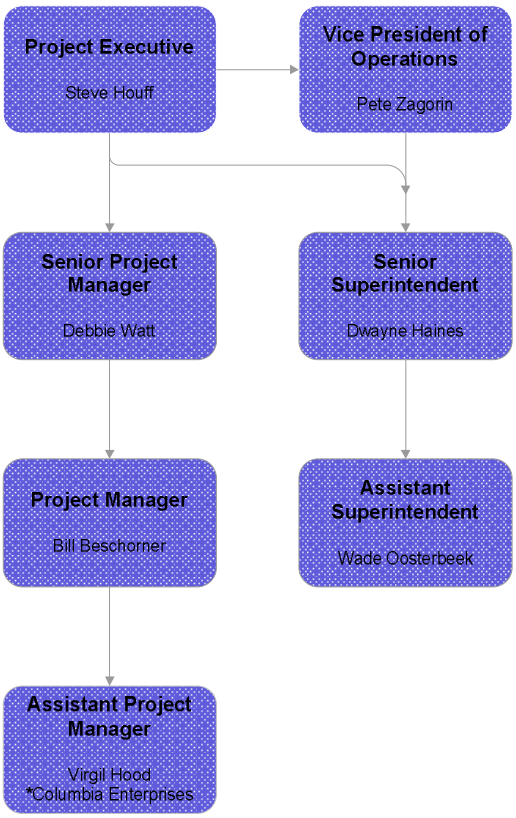
Safety, schedule, cost, and the community are the top concerns of the owner. That being said, completing this project on time and under budget while delivering a quality state of the art school and maintaining a positive atmosphere in the Northwest One neighborhood would satisfy the client.

## Project Delivery System




The project delivery method is a type of design-bid-build, with preconstruction services added. Forrester Construction Company offered paid preconstruction services, but was selected based on a competitive bid since it is a public project. Forrester's contract as a GC is a negotiated guaranteed maximum price. Due to the short schedule, this agreement allows for allowances for aspects of the design that were not 100% complete when the contract was signed. The remaining owner contracts are lump sum, as are Forrester's contracts with each subcontractor. This is a typical contract arrangement and allows for change orders to easily reimburse costs that exceed the project budget. Due to a 50% Certified Business Enterprises (CBE) requirement, there are several joint ventures to achieve the requirement for local, minority, or disadvantaged businesses. On this chart, joint ventures include the owner's representative, general contractor, and the earthwork subcontractor.

## Staffing Plan




Forrester Construction Company, the General Contractor, staffs their projects based on building type. Walker Jones falls under the education group. For this group, Steve Houff is the Business unit leader. The business unit leader acts as the project executive for all education projects and it is his responsibility to correspond with the owner and manage the office side of the project. He is ultimately responsible for all Forrester decisions on the project. The VP of Operations, Pete Zagorin usually collaborates with the business unit leader to staff the project based on experience and availability. He supervises the superintendents and ensures that all work is being performed on time, on budget, and to a satisfactory quality level.

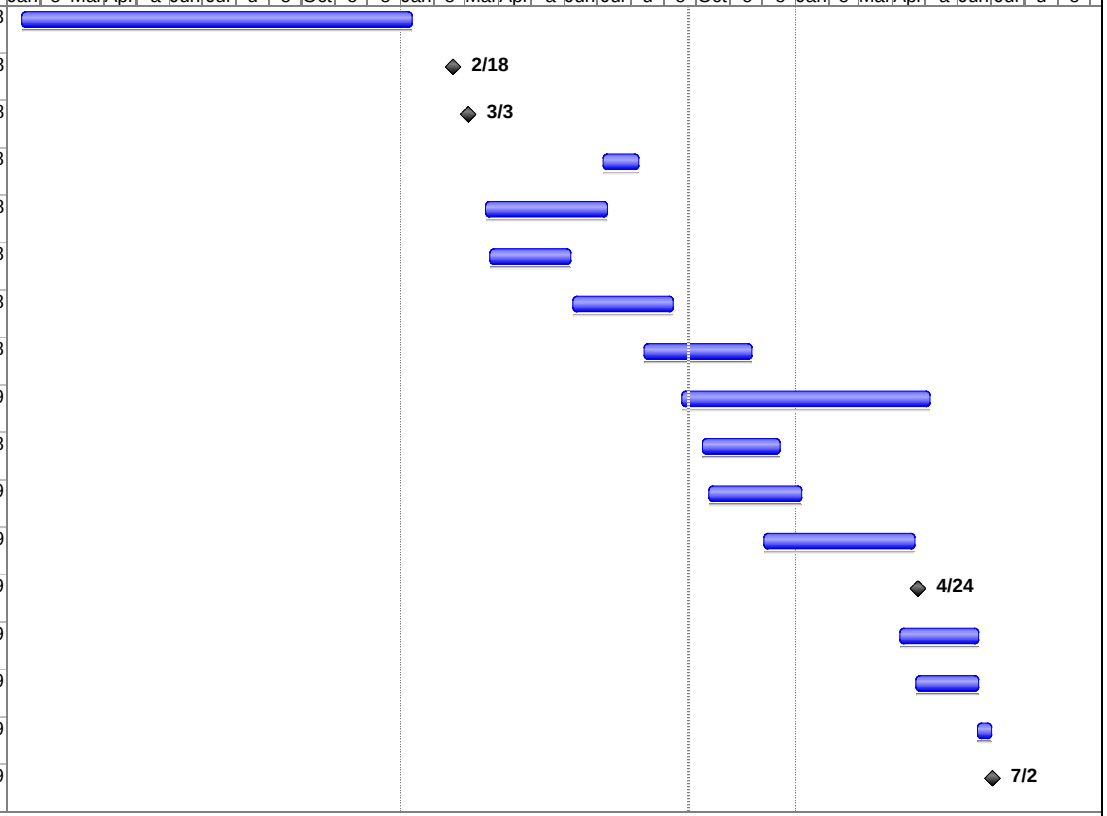
The project managers and superintendents run the project from this point. The senior project manager works with the project executive to guarantee everything is being done correctly in the office. The project manager works with the senior project manager and project executive to ensure the project is on track and continues to make sense financially. Virgil Hood, the assistant project manager, represents Columbia Enterprises in their joint venture with Forrester Construction. He works closely with the project manager.

On the field side, Dwayne Haines and Wade Oosterbeek work together to implement safety, manage and coordinate the subs, ensure the project is on schedule, and solve the many dilemmas that occur every day in the construction industry.

# Appendix A

Summary Schedule

| ID | Task Name | Duration | Start | Finish |
|---|---|---|---|---|
| 1 | Design and Preconstruction | 260 days | Mon 1/15/07 | Fri 1/11/08 |
| 2 | Project Awarded to Forrester | 1 day | Mon 2/18/08 | Mon 2/18/08 |
| 3 | Notice to Proceed | 1 day | Mon 3/3/08 | Mon 3/3/08 |
| 4 | Abatement & Demo | 25 days | Mon 7/7/08 | Fri 8/8/08 |
| 5 | Building Permit Applications | 81 days | Thu 3/20/08 | Thu 7/10/08 |
| 6 | Excavation | 55 days | Mon 3/24/08 | Fri 6/6/08 |
| 7 | Foundations and Substructure | 67 days | Mon 6/9/08 | Tue 9/9/08 |
| 8 | Erect Steel | 72 days | Thu 8/14/08 | Fri 11/21/08 |
| 9 | MEP Installation | 164 days | Thu 9/18/08 | Tue 5/5/09 |
| 10 | CMU Walls | 52 days | Tue 10/7/08 | Wed 12/17/08 |
| 11 | Masonry Façade | 62 days | Mon 10/13/08 | Tue 1/6/09 |
| 12 | Storefront & Glazing | 100 days | Wed 12/3/08 | Tue 4/21/09 |
| 13 | Building Watertight | 1 day | Fri 4/24/09 | Fri 4/24/09 |
| 14 | Interior Finishes | 53 days | Wed 4/8/09 | Fri 6/19/09 |
| 15 | Systems Commissioning | 42 days | Thu 4/23/09 | Fri 6/19/09 |
| 16 | Final Inspections | 9 days | Fri 6/19/09 | Wed 7/1/09 |
| 17 | Substantial Completion | 1 day | Thu 7/2/09 | Thu 7/2/09 |

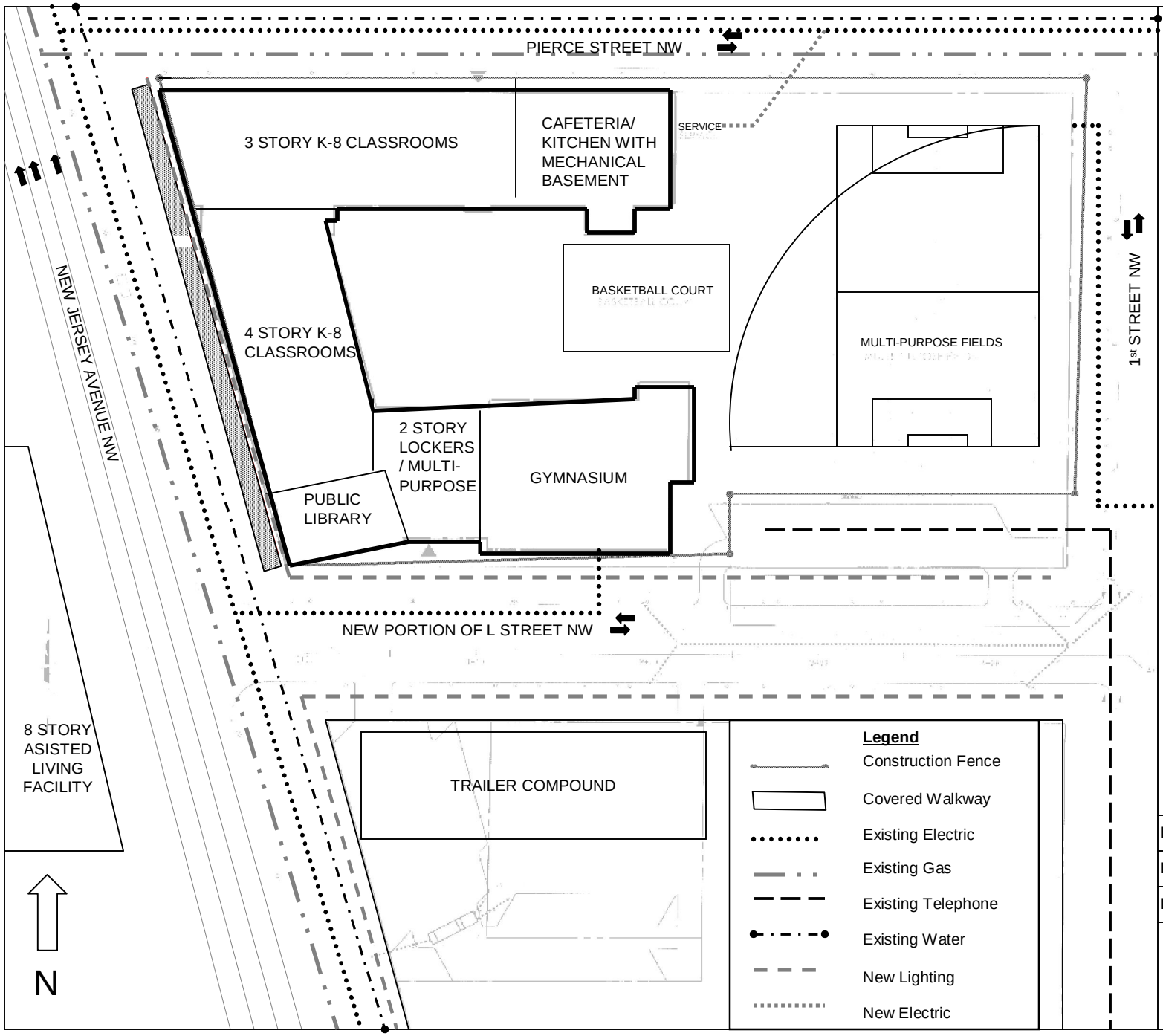



Project: Schedule
Date: Tue 9/23/08

| | | | |
|---|---|---|---|
| Task | Milestone | External Tasks | |
| Split | Summary | External Milestone | |
| Progress | Project Summary | Deadline | |

# Appendix B

Site Plan of Existing Conditions




# Walker Jones School
# 100 L Street NW
# Washington, DC 2005

**Existing Site Conditions**

**Drawn By: Maria Piergallini**

**Date: September 29, 2008**

**1 of 1**