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Construction Management
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Columbia Heights Community Center
1480 Girard St. NW
Washington, DC 20009
10-05-2005


North Elevation

Technical Assignment 1

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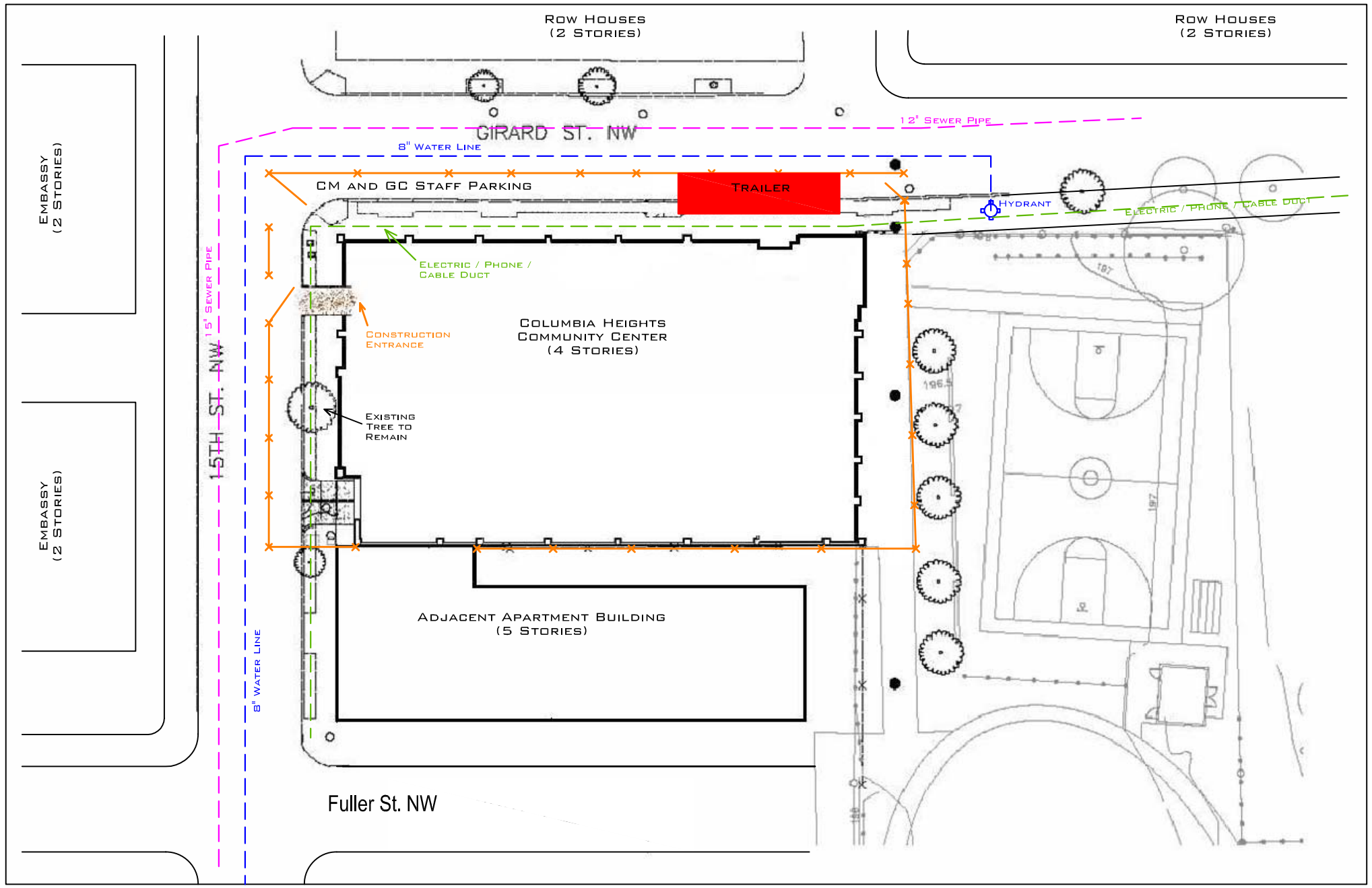
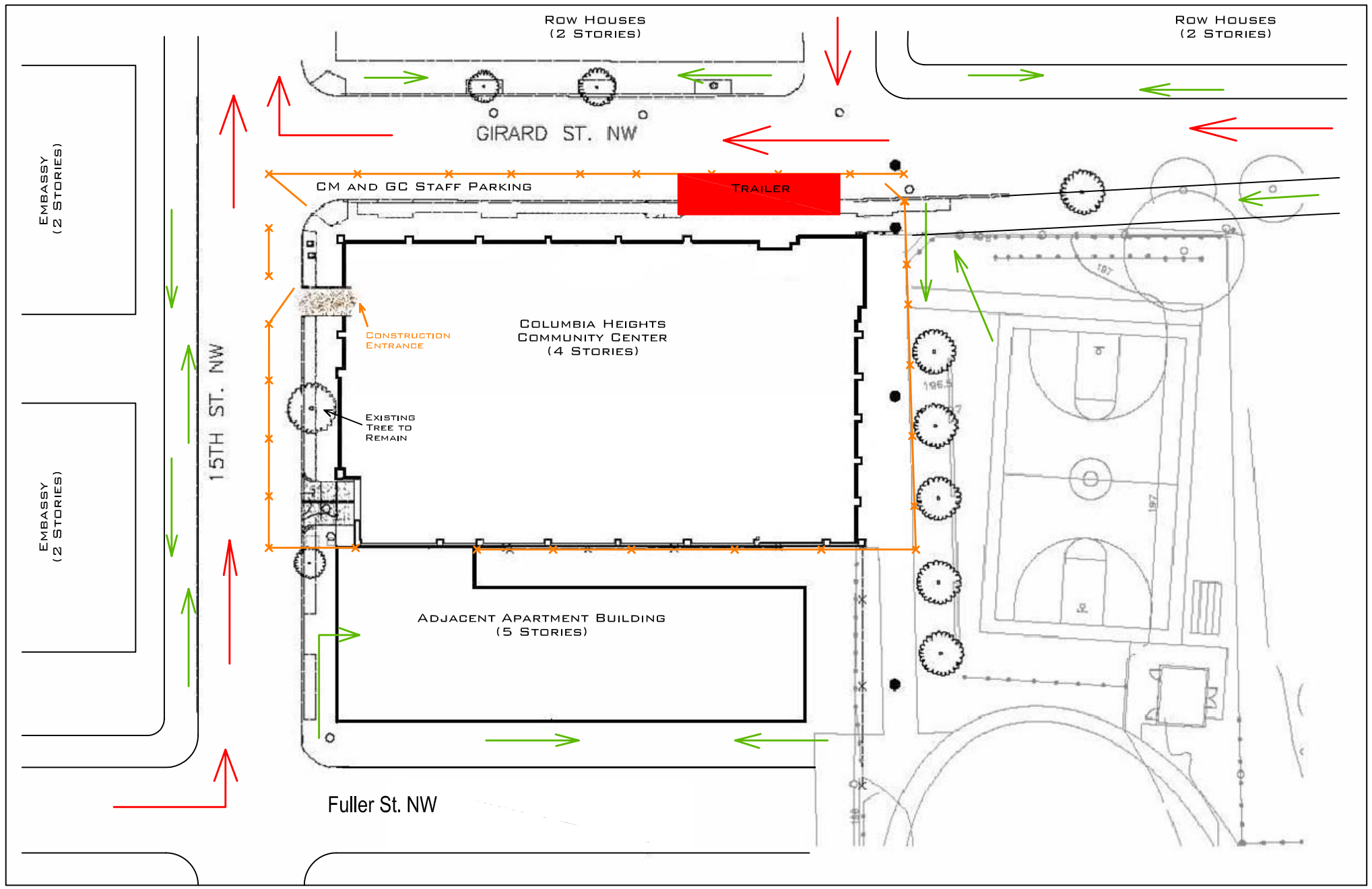


LEGEND:

CONSTRUCTION FENCING

EXISTING CONDITIONS SITE PLAN		
Scale: 1/32" = 1'-0"	Approved By:	Revised:
Date: 10/25/2005		
For: Columbia Heights Community Center		
Drawn By: Christopher Glinski		Drawing Number: C-1



Legend:

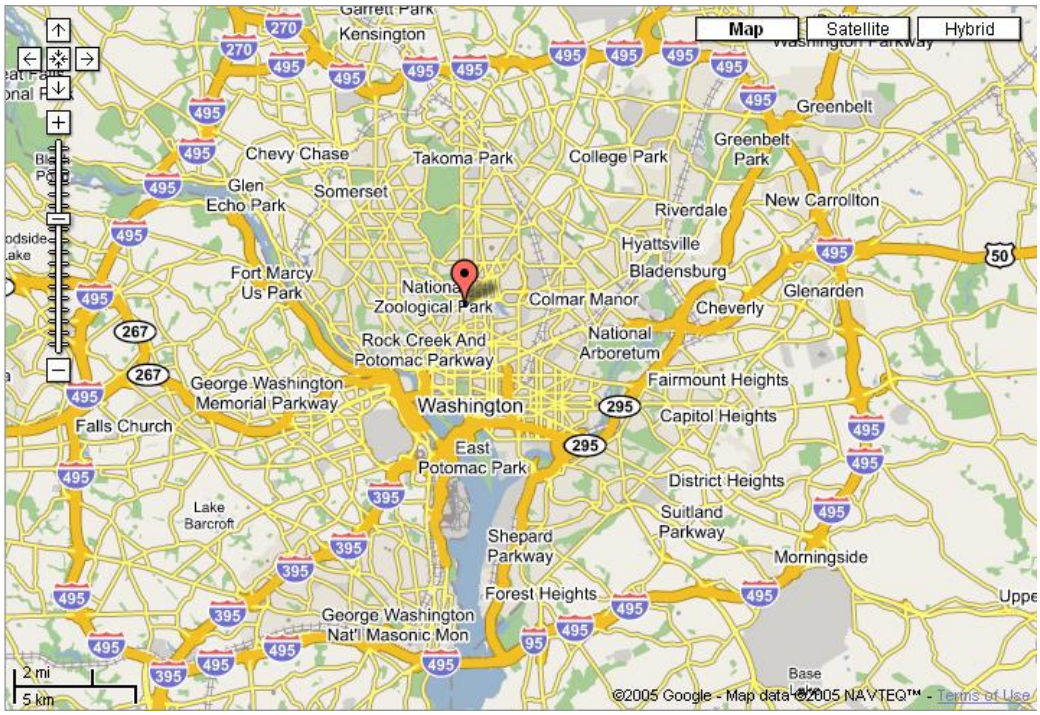
Automobile Traffic

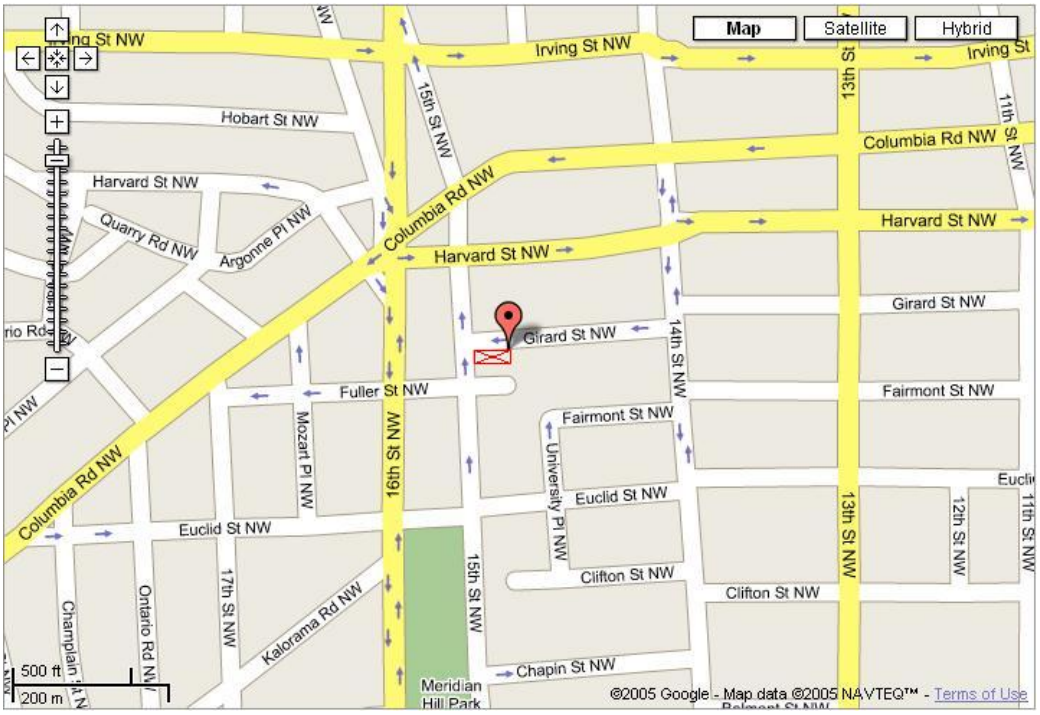
Pedestrian Traffic

Construction Fencing

SITE TRAFFIC PLAN		
Scale: 1/32" = 1'-0"	Approved By:	Revised:
Date: 10/25/2005		
For: Columbia Heights Community Center		
Drawn By: Christopher Glinski		Drawing Number: C-2

Vicinity Maps





Local Conditions

The structure is located in North West Washington DC. Generally, the buildings of this city are constructed out of concrete to maximize floor to floor heights. For Columbia Heights Community Center, this is not the case. The owner has decided upon using a steel frame with a composite concrete slab on deck. A truck crane will be used to set the steel in three phases.

Since this project is in a downtown urban area, parking is at a premium. One lane is closed off along Girard St. (refer to site plan) which houses the trailer and temporarily houses parking only for the owner and construction management staff. Later, the parking spaces will be used as material staging. Subcontractors are responsible for their own parking, which is illustrated in their contract.

Construction waste material within the Washington DC area is normally disposed via dumpsters. Typically, Forrester Construction Co. (the General Contractor on Columbia Heights Community Center) uses Environmental Alternatives Inc. (http://www.eairolloff.com/). A typical dumpster, 30 cubic yards in volume, would cost $150 for the initial drop to site. Each time waste is removed, it costs $225 for each pull up to 6 tons. Any load greater than 6 tons is an additional $50 per ton. No landfills exist within Washington DC limits, but there are several within a few miles in Maryland and Virginia.

The surface soil was found to be a mix of crushed stone in some areas, and top soil in others for a depth of 3 inches. Directly below this existing fill was encountered. It consisted of medium dense silty sand and clay. Also, building material from the previously demolished apartments was mixed throughout. This layer lasted until 5 feet below the surface layer. Underneath the fill, medium loose to very dense silty to clayey gravel was discovered and ranged from 11 to 23.5 feet below the surface. Lastly, the bottom layer, which ranged from 21 to 28.5 feet, was found to contain silt, elastic silt, and silty sand. Upon removal of the site borings, the groundwater level was undetected, even at the cave-in depth.

Evaluation of these soils shows that all subsurface layers are suitable to support the shallow foundations with an allowable soil bearing capacity of 3000 psf. Only in certain areas will structural fill have to be used. The main area in question is the remaining rubble from the buried apartment building that was demolished.

Client Information

The owner of this project is the DC Department of Parks and Recreation (DPR). The department is constructing this community center to serve two purposes: to provide a facility for communal use and recreation and for the department's use as a satellite office. The Columbia Heights Community Center is to be built next to a park and playground, recently completed by DPR.

Cost is very important for the project. DPR is expanding to numerous locations and is on a strict budget so not to overextend. The owner's ability to obtain more funding is very limited and difficult since they are a governmental agency. Additional funds may be obtained, but only after a long process of lobbying and application. This was easily seen when the first change order was submitted by the general contractor. Heavy negotiations occurred to lower the requested amount and much time had elapsed until the contractor was paid.

It is important that this project obtain a LEED™ rating and thus, a certain quality must be maintained. DC Parks and Recreations is moving towards the Green Building aspect of construction to conserve energy and have a sustainable building. The types and quality of the materials in the building are crucial to achieving LEED™. It is so important that the specifications call out any LEED™ rated material to be certified and submitted for review to the general contractor and architect.

Schedule is a concern for DPR, but it is not vital to meet a certain date. Construction was intended to start in the beginning of May, but was pushed back over two months to mid-June due to zoning issues. No impact to the owner was noted due to the delay in schedule other than additional general condition costs.

In terms of safety on the project, the owner and construction crew must comply with OSHA Standards. Along with this, General Contractor issued more stringent guidelines and safety rules because it is an aspect of construction they hold highly. DC Parks and Recreations agree with this decision to raise safety levels.

Prior to occupancy, the owner requires that a complete purge of the mechanical system and indoor air take place. This is mainly to meet LEED™ requirements and to provide a healthy environment for all occupants. Upon completion of the project, DPR will move into its new office facilities and open the building to the public. At this time, the owner expects the building to be completely finished and punched-out. This also includes a successful LEED™ Rating achievement.

Project Delivery System

Columbia Heights Community Center is being delivered using a Traditional Delivery method with a Program Manager, who then hired a General Contractor. The Program Manager has a Lump Sum contract with the owner and the General Contractor has a Lump Sum contract with the Program Manager. The General Contractor then subcontracted the work out at a lump sum price. The Architect / Engineers hold a separate contract with the owner which is Cost plus Fee.

The Program Manager was selected by the owner because they had completed several previous projects and they had already assisted with the pre-construction planning and development for this project. From their past experience and relationships with the owner, the Program Manager has taken on many roles that are typically performed by a Construction Manager and Owner's Representative. Their role on this project is a liaison between the field (the General Contractor), the Architect/Engineer, and the Owner. The General Contractor must submit all applications for payment, change orders, progress reports, and any reports of non-compliance to the Program Manager who then submits them to the Owner. Also, all RFI's and Submittals have to be sent from the General Contractor to the Program Manager prior to the Architect's review.

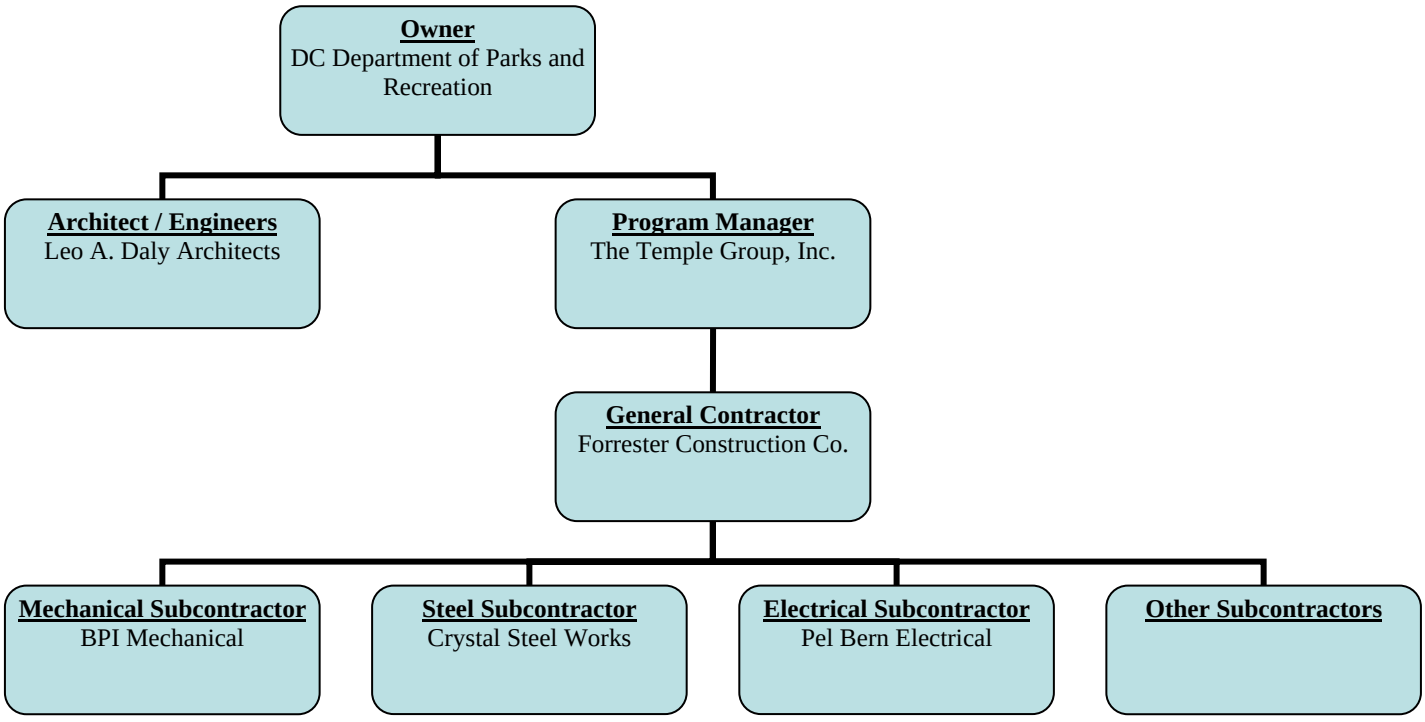
The General Contractor is responsible for all construction planning and activities. Prior to the start of construction, all scheduling and estimating had to be submitted to the Program Manager for approval. The General Contractor also has to do the buyout, the execution, and the closeout. Ultimately, all correspondence must first be sent through the Program Manager. The selection of the General Contractor was based on their bid price and quality of work they provided in the past. The General Contractor must hold both insurance and bonds. All subcontractors for work packages totaling over $250,000 must

also hold bonds. Subcontractors with packages between $100,000 and $250,000 are subject to review for bonding.

The Architect / Engineers are a single entity underneath the Owner. They worked alongside the Program Manager to design the structure and are working together to ensure the work-in-place meets the original specifications. They were chosen based on their design fee and prior experience and were paid to design a LEED™ Silver Rated building.

Despite that this Traditional Delivery Method has been used so many times in the past, I feel that its use on this project is flawed. With the position of the Program Manager as the channel from field information to the owner, the chances of a "bottle-necking" effect are greatly increased. For example, if the General Contractor submitted an application for payment, a change order, and several submittals for review, the speed at which all would be addressed was reduced. Also, issues in the field will not be resolved as quickly because the General Contractor does not have direct contact with the owner. This configuration increased the chances of an issue being overlooked or not prioritized.

Project Delivery Chart



Staffing Plan

The General Contractor on Columbia Heights Community Center organized their staff according to function. There was an operations group, a purchasing group, and an accounting group.

The operations group consisted of three main levels. At the top level, the Project Executive was in charge of owner correspondence and generally overseeing the project and the rest of the operations staff. The next tier included both the Project Manager and Superintendent. The Project Manager's duties included owner correspondence, cost tracking, negotiating changes, subcontractor correspondence, and managing the schedule. The Superintendent's responsibilities were daily on-site coordination of construction activities, maintaining and updating the schedule, safety management, material tracking, and construction planning. Below the Project Manager, an Administrative Assistant was used for payroll tracking, document assembly, shipping, and other miscellaneous tasks. A Field Engineer also worked directly underneath the Project Manager. His tasks included reviewing / processing all incoming and outgoing submittals, generating / processing all RFI's, some owner correspondence, LEED™ point tracking, and some purchasing.

The purchasing group mainly served on the project during the beginning stages. One purchaser was assigned the task of contacting subcontractors and obtaining prices to install work. After receiving multiple prices, the purchaser could make a better choice of which subcontractor to use on the job. This resulted in a lower subcontract price and the surety that all items were covered in the bid. The purchaser also worked closely with the Project Manager to allow for an easy transition from purchasing into operation.

The accounting group consisted of one to two accountants. They were responsible for processing the cash flow: issuing checks, logging losses or gains, and tracking payments. The accountant also works closely with the Project Manager while tracking costs and work-in-place. This ensures that all project team members are aware of the cash flow.

Staffing Chart