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## **Executive Summary**

The purpose of this study is to evaluate the property at 108 Pierson Avenue, in Edison, NJ for the potential use as a Mission Critical Facility. In this report we identify two possible business models. There are numerous other scenarios that fall in between these cost models, but these models give you the maximum and minimum of potential solutions that can be achieved for this property as a Mission Critical Facility. The models are as follows:

### 1. Data Center Hotel / CoLo Model

In this model, we maximize the total amount of “white space” to fit within the building’s envelope. We based our model on multiple 10,000 square foot white space Pods designed at 100 watts per square foot at Tier III redundancies.

### 2. High Density Data Center Model

In this study, we analyzed the physical properties of the building, in conjunction with the potential power infrastructure, to propose High Density solutions within the space. In this case, we propose two scenarios of 200 (option 2A) and 300 (option 2B) watts per square foot. We provided budgets for a full blown, financial grade, fit out. We also offer models of these densities with reduced Day 1 build outs.

With regard to the two models we present, there are Base Building modifications that have to be performed no matter what cost model is selected for a Mission Critical Facility. We have included cost models for these Base Building Upgrades in this report.

Our cost models are presented in the following manner:

#### A. Powered Base Building (Required Core & Shell Upgrades)

This is work that would have to be performed before the building can be marketed as a Data Center / Co-location facility. Such examples of this work are modifications to the exterior skin, roof upgrades, delivery of a capacious electrical service, and delivery of multiple fiber services. The cost for this work is roughly the same between the cost models.

#### B. Cost for a Typical 10,000SF / 100W per SF Data Center Pod (Option 1) – The amount of Pods that are to be installed vary between the different cost models. In option 1, for example, the model plans for twelve pods.

#### C. Two cost models for the High Density Data Center Enterprise Client Spec (Option 2A & 2B). We also included a reduced scope build out for each of the two options. These options include the build out to the PDU. Branch circuitry, cabinets, and structured cabling are not included in this cost model.

- Option 2A - 200 watts per square foot, full blown 28,500sf of “white” space at 2(N+1) redundancies

- Option 2A - 200 watts per square foot, infrastructure for 28,500sf of “white space” at 2(N+1) redundancies 10,000sf initial Day 1 fit out
- Option 2B - 300 watts per square foot, full blown 28,500sf of “white” space at 2(N+1) redundancies
- Option 2B - 300 watts per square foot, infrastructure for 28,500sf of “white space” at 2(N+1) redundancies 10,000sf initial Day 1 fit out;

## **Building Attributes**

We have outlined a “snapshot” of the property that assisted us in our conclusions in this report. The outline is as follows:

- |   |                     |
|---|---------------------|
| A. Location   |                     |
| a. Proximity to Major Highways                                    | Favorable           |
| b. Proximity to Public Transportation                             | Favorable           |
| c. Distance to Metropolitan Cities<br>(Less than 40 miles to NYC) | Favorable           |
| B. Available Utility Resources                                    |                     |
| a. High Voltage Electrical Services                               | Extremely Favorable |
| b. Water  | Favorable           |
| c. Natural Gas  | Favorable           |
| d. Fiber Connectivity   | Extremely Favorable |
| C. Location / Security  |                     |
| a. Proximity to adjoining buildings / property                    | Mixed               |
| b. Ability to fence / secure property                             | Favorable           |
| c. Susceptibility to natural disasters                            | Favorable           |
| d. Susceptibility to man made disasters                           | Favorable           |
| e. Distance from building structure to streets                    | Mixed               |
| D. Property   |                     |
| a. Available yard space for Mission Critical equipment            | Favorable           |
| b. Paved surfaces / Parking                                       | Mixed               |
| E. Building Attributes  |                     |
| a. Foundation   | Favorable           |
| b. Structural   | Unfavorable         |
| c. Building Enclosure   | Unfavorable         |
| d. MEP Infrastructure   | Unfavorable         |
| e. Gross Enclosed Area for potential rentable space               | Mixed               |

## **Existing Conditions**

### **Site Survey:**

The 16.2 acre site is surrounded on three sides, North, East and West by residential development. The South side of the property borders the New Jersey Turnpike. This can be regarded as an asset and a hindrance and we address it in more detail. Currently, there are minimal security barriers or fencing separating the property from the adjacent surroundings. One would have to navigate through several small residential streets to access the property; however, the property is in close proximity to major highways and public transportation. The entries to the property are on the Northwest corner from a side street, (Tived Lane), which is adjacent to Pierson Ave. The driveway extends down the West side of the property, with ample parking for 165 vehicles. The South side of the property is landscaped, which butts up against the NJ Turnpike. The landscaped area comprises of approximately 120,000SF or roughly 2  $\frac{3}{4}$  acres. A utility ROW runs down the West side parking lot, through the South end of the landscaped area, perpendicular to the New Jersey Turnpike. The West side of the property is paved. On the Southeast corner of the property there is a 150,000 gallon-water storage tank, which is used for the fire suppression system. The North side of the building has paved access to the East side. The North side borders a residential street. The property is mainly populated by a single story structure originally developed as a manufacturing (aluminum smelting) facility for the Alcoa Can Company. In addition there is also a two story office building attached to the main structure. The main building is currently being used as a warehouse.

### **Incoming Services:**

The property has two high voltage individual electrical service entries. The high voltage electrical services have been deactivated and have been replaced by a single 480/277-volt, 1600A service. Other utility services, which are unique to the property, are an 8" domestic water main and a robust Natural Gas service. It is unclear whether this service is operational.

## **Fiber Infrastructure: Connectivity Overview**

This report was compiled in conjunction with the Fiber Connectivity and Reports section which is section VII of this study.

The three major backbone fiber routes between Washington D.C. and New York City pass directly through Edison, NJ. The first fiber route is through Amtrak's North East Corridor Rail line. Long haul fiber carriers such as AT&T, Verizon Business (formally MCI), and Sprint either own or lease fiber that runs down Amtrak's right of way (ROW). The Amtrak ROW is within 4 miles of 108 Pierson Ave. The second fiber route runs down the New Jersey Turnpike otherwise known as Interstate 95 (I95). In this fiber route, there are eight (8) 1 ¼" conduits which were originally designed to carry the New Jersey Turnpike Authority's communications infrastructure. One of the conduits is currently being used for NJTA's systems which include Easy-Pass and an emergency management system. The rest of the seven raceways have been populated through long term leases by major long haul carriers. Adesta, is the managing agent for the conduit system and has a substantial "Meet Me Room" just off of Exit 11 of the NJ Turnpike. Adesta also manages network infrastructure along the Garden State Parkway and the NY State Thruway. Level(3), AboveNet, AT&T, and First Energy are some of the carriers that have fiber infrastructure within the NJTA's raceway system. The NJTA's raceway system is a critical communications artery for critical federal agencies and major financial institutions. This infrastructure links New Jersey, New York City, Philadelphia, and Washington DC's Metro Fiber Rings. The NJTA's fiber raceway system also serves as connection points for the Atlantic cable landings at Manasquan and Tuckerton. This infrastructure is located directly on the opposite side (southbound) side of the NJ Turnpike. The NJ Turnpike abuts the Southern side of 108 Pierson Ave. It would be fairly easy for the providers, or in this case, NJTA / Adesta, to tap into this infrastructure to provide connectivity into 108 Pierson Ave. NJTA / Adesta routinely cross the New Jersey Turnpike by lateral boring. An additional fiber route uses a combination of aerial and underground cables traversing Route 1 and a PSE&G utility right of way. This is used primarily by long haul carriers AT&T, Verizon Business, Level(3), and Global Crossing. Level(3) has legacy aerial Telecove fiber directly on Pierson Ave. which can be utilized to bring connectivity into 108 Pierson Ave. Other carriers have aerial infrastructure located less than one half of a mile from 108 Pierson Ave. In summary, 108 Pierson Ave. is uniquely situated between the crossroads of some of the most important fiber arteries in the nation. Strategically, 108 Pierson Ave. would make an ideal location for a termination point for fiber providers and consequentially an ideal location for a Mission Critical Facility.

### **Main Structure, Envelope, and Physical Attributes:**

The main building was originally designed for manufacturing; however, it is currently being used as a warehouse. The gross enclosed area of the main building is 235,279 square feet, minus the 14,713 footprint of the area comprising the office area which is not included in the master plan for a MCF facility. The main structure sits atop a beefy 10" raised mat slab, typical for a manufacturing facility. The structure is steel framed with large lightweight steel trusses for roof support. Column spacing is roughly 60' centers longitudinal by 40' centers lateral. The columns are rather small in size due to the limited roof load. Throughout the space in various areas there were intermediate columns added. It was unclear what purpose or loads they served. The majority of these columns were anchor bolted to the slab. There is no indication a foundation was constructed under these structural members. Several of these columns have been severely damaged. The exterior skin is comprised of corrugated composite panels. The roof / enclosure system is comprised of gypsum / fiberglass Tectum panels with a moped down felt membrane applied on top. We did not survey the physical condition of the roof system. The interior space has a floor to steel heights the range between +16' and 20'. There is a section in the middle of the building that has floor to steel height of 28'. In this section, the steel supporting members are substantially larger. This section previously had a gantry crane, which traveled on these structural members. The structural members for the gantry crane were incorporated into the structural system of the building. There is a thin, panel and Plexiglas clearstory section that outlines the transition between the low (20') roof and the high (28') roof. The structural members in the loading dock area appear to have been modified at some point in time. Large steel tapered beams were installed to span the 4 bay loading dock. The span is roughly 1 ¾ column bays, which is roughly 105 feet.

### **The Office Building:**

The office building consists of two floors of about 14,365 square feet per floor for a gross enclosed area of 26,981 square feet. The structural make up of the office building is lightweight concrete / metal deck on lightweight bar joist. Column spacing is 20' on centers laterally and longitudinally. We were unable to gain access to the office building to survey existing conditions and modulation of the office space. .

### **Loading Dock Addition**

There was an addition to the original structure which houses a second 5 bay loading dock and additional receiving areas. The structure is comprised of concrete block wall skin and structural framing similar to the loading dock on the opposite side of the Main Building. The gross enclosed area of this structure is 8,715 square feet.

## **MEP Infrastructure:**

### **Electrical Distribution**

There were two high voltage incoming electrical services. One service was an overhead service. The second service was underground. Both of these services have been abandoned. There are two outdoor transformer yards. In each of the yards there are the abandoned oil filled transformers. These units are obsolete and need to be removed. An investigation into whether these transformers contain PCBs or other hazardous material should be preformed. The current electrical service to the building is fed via a 1600A 480/277V main distribution panel. This service feeds the entire site. This equates to less than 5 watts per square foot. The electrical loads are comprised of general receptacle and lighting in the main building and general receptacle and lighting in the office. The old main distribution switchboards are still on site. They are in fairly good condition given the age of the equipment. However, the main distribution switchboards are obsolete. The electrical distribution feeders have been removed from the switchgear. This includes the distribution to the fire pump. Electrical distribution throughout the main building was delivered through tray cable and plug in bus ducts. Most of this distribution has either been abandoned or removed. The lighting system in the main building was installed within the last 15 years. This includes new lighting circuits and new metal halide, high bay fixtures. The fixtures appear to be placed in a 40' x 30' grid.

### **Fire Protection System**

We did not observe fire protection devices in the main building. There was a main fire alarm control panel in the boiler room. It appeared to be non-functional. There is supporting information indicating that there is a functional fire alarm system. This system might be located in the office area

### **Security**

We did observe some door contacts on some of the perimeter doors; however, the wiring to these devices has been removed. It appears that the current electronic security system has limited functionality or is non-operational. There was no indication of CCTV cameras around the site.

### **Mechanical Heating, Cooling, and Ventilation**

We observed two air handling units in the East western section of the building. The units themselves are located on the roof and blow air down into the main building. We do not believe the units are functional. There is a separate mechanical system for the office building. Supporting documentation indicates that this system is functional. We did not inspect the age or condition of the mechanical systems in the office buildings. Heating for the building was achieved by two Weil- McLain boilers. One boiler appears to be newer than the other. These units were oil fired. The fuel oil system has been removed. There are also gas fired radiant heaters located throughout the warehouse space. It was unclear if these are operational for we were unable to determine the functionality of the gas service. There are, however, supporting documents that the gas service and this heating system are functional.

### **Miscellaneous Mechanical Distribution**

There is an extensive gas (propane / natural gas) distribution system. The piping remains in place; however this system appears to be abandoned. There is also an extensive steam distribution system that is non-functional and has been abandoned. Both these systems were used for manufacturing processes.

### **Water and Drainage**

There is an existing 8" combination domestic water / fire service to the building. We believe that this service is adequate and does not have to be upgraded. There is a 6" connection to the city sewer system. We did not observe how storm water is disposed of at this site.

### **Sprinkler System**

We observed a sprinkler piping distribution system. The electrical distribution to the automatic fire pump has been re-routed to the new 480v main electrical service panel. The fire pump was inspected and deemed operational recently this year. In addition, there is a 150,000-gallon water storage tank on site. Because of the recent inspection stickers for the fire suppression system, we are assuming the tank is filled and is operational.

## **Conclusions**

We believe that it is possible to transform this property from its current use into a state of the art Data Center facility. In fact, we believe this site, due to its proximity to fiber infrastructure, location within RFC916 - Reliable Asynchronous Transfer Protocol (RATP), available power infrastructure, and property / building logistics, is an excellent candidate for a Mission Critical Facility. There are however, several minor issues and concerns that would need to be addressed before proceeding.

- A. Additional survey work must be performed to determine the presence of ACMs, PCBs, and other hazardous materials. The majority of these materials have been abated, however, there may be some small trace amounts contained in some of the obsolete equipment
- B. A study / survey into the roof system with regard to weight loading, soundness, and structural integrity. In this survey, we estimate the existing roof system is obsolete and is in need of a complete replacement. This is inclusive of a new roof “deck” and associated roofing systems in accordance with FM Global and similar standards.
- C. Economical aspects with regard to cost of the modifications and the time to market.

The location of the property and its proximity to the residential neighborhood was a potential concern, however, it was conveyed to us that these issues were completely vetted during the use variance process. The building has been approved for a MCF facility and all required variances have granted. In our cost models, we have included the required sound mitigation devices required for this development. Because the property is located within a residential area, it is virtually camouflaged. The residential development also acts as a natural barrier from the main thoroughfares. The storage of fuel oil and glycol, which are classified as hazardous materials, near residential neighborhoods might also be an issue with the governing bodies. Proper spill containment methods will have to be included in the MCF design. These methods are included in our cost models.

The proximity from the site to major thoroughfares and highways are extremely favorable in determining the location for a Data Center. However, the abutting New Jersey Turnpike on the South side of the property may be seen as an unfavorable attribute for an enterprise user. There are no barriers or fencing installed on this side of the property. A person can literally walk out onto the Turnpike from the yard. The Turnpike at its closest point to the building is approximately 200 feet away. This can be remediated by installing a large security barrier between the highway and the residential neighborhood and the property. There is substantial yard space for generators and other mission critical equipment however; distance from the yard to the building can be design /cost issues. The structural slab / foundation is perfect for the loading of large and heavy equipment. However, the structural system that forms the building envelope was designed for low weight loads. Extensive column plating will be required and a substantial roof dunnage system will have to be designed. This issue becomes a challenge because of the long column spans. The building skin will have to be completely removed and replaced. This is included in our cost models.

In the options section below, we offer cost effective solutions to achieve this. A comprehensive study needs to be performed on the roof system and its structural integrity. We list the MEP infrastructure as unfavorable because none of the existing infrastructure (Electric, Gas, Propane, and Fuel Oil) is salvageable. One final concern is the use of the office space. The structure in the office building limits its use to offices or light storage. Only about 5,000 square feet is required for Base Building operations. Potential uses for the office space would be ideal for administrative offices or secondary banking operations.

### **Design Options:**

We propose 2 options for this site.

Option 1 is based on 1MW Block, 10,000SF @ 100W per / SF Pod Architecture – 35MW Total Building Capacity

Option 2A and 2B are based on 1ea High Density data center of +/- 28,500 square feet of 200W per SF and 300W per SF for a total building capacity of 33MW and 36.5MW respectively.

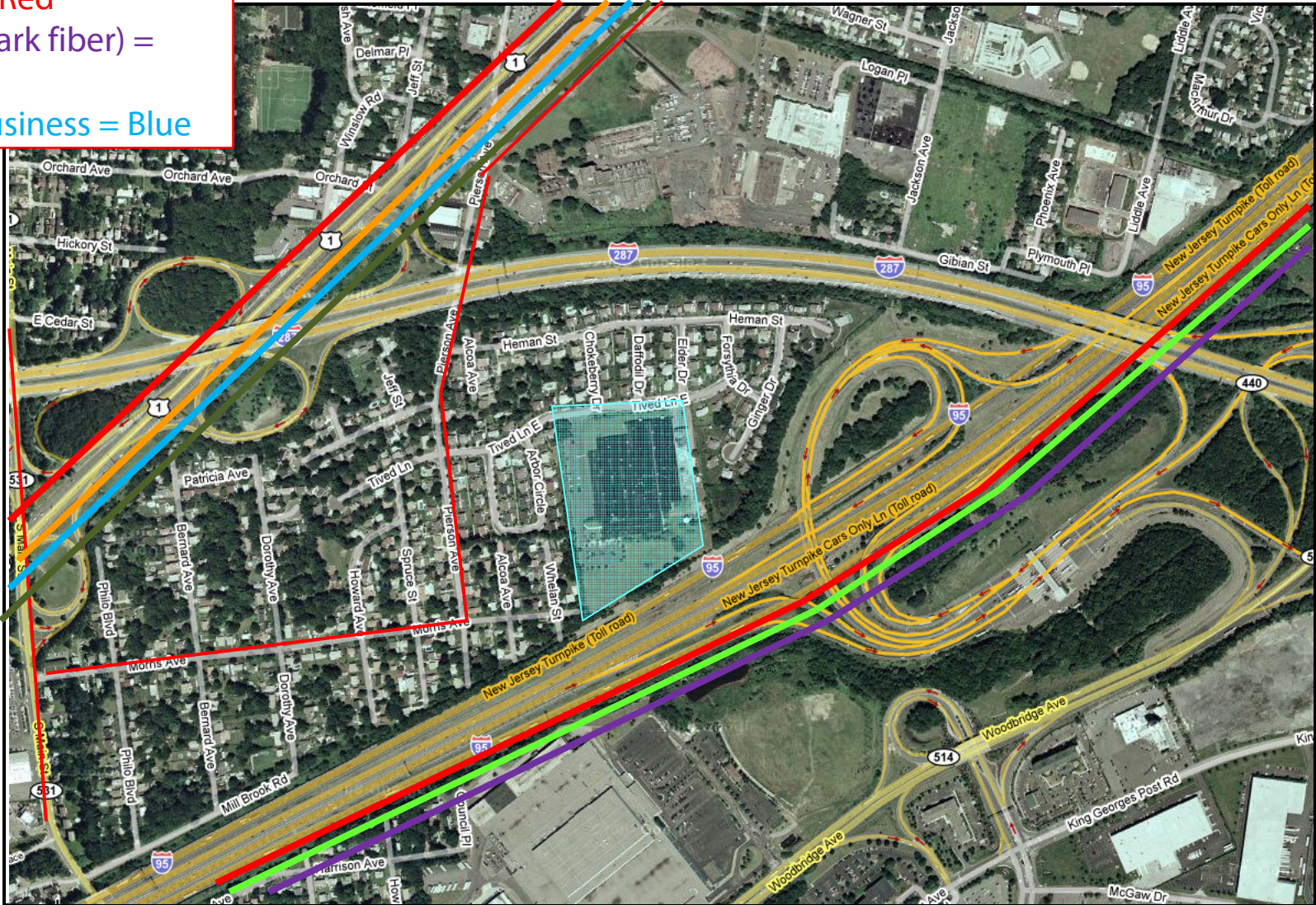
In either option 2A or 2B, there is room for roughly 55,000 or 66,000 square feet of additional “white” leasable area. The additional “white” space is based on power densities of 1MW Block, 10,000SF @ 100W per / SF Pod Architecture

Options 2A and 2B would be appealing to a single user enterprise client such as a financial institution. This would be favorable for credit card and statement processing, disaster recovery, or tier 2 banking operations. Option 2 would also present an opportunity to rent out office space. In both Options, the entire existing MEP infrastructure will have to be demolished. There is nothing salvageable. We tried to optimize the location of equipment areas to the exterior of the building. This property does have substantial yard space however, locating generators and transformers might become cost prohibitive due to long distances between the yard location and the building (greater than 800 feet in some locations). In both options 2A and 2B, we propose to locate the equipment along the exterior of the building. A sound attenuated metal enclosure would replace the composite panels that exist on the building. We also located public access corridors on the perimeter of the building to prevent data center demising walls from touching the exterior. The entire existing building skin will have to be replaced with either the sound attenuated metal enclosures at the equipment locations or either solid concrete block or a preformed “tilt up” panel system. We propose a new roofing system in both options.

In either case, the cost and power load densities for Core and Shell upgrades are relatively the same

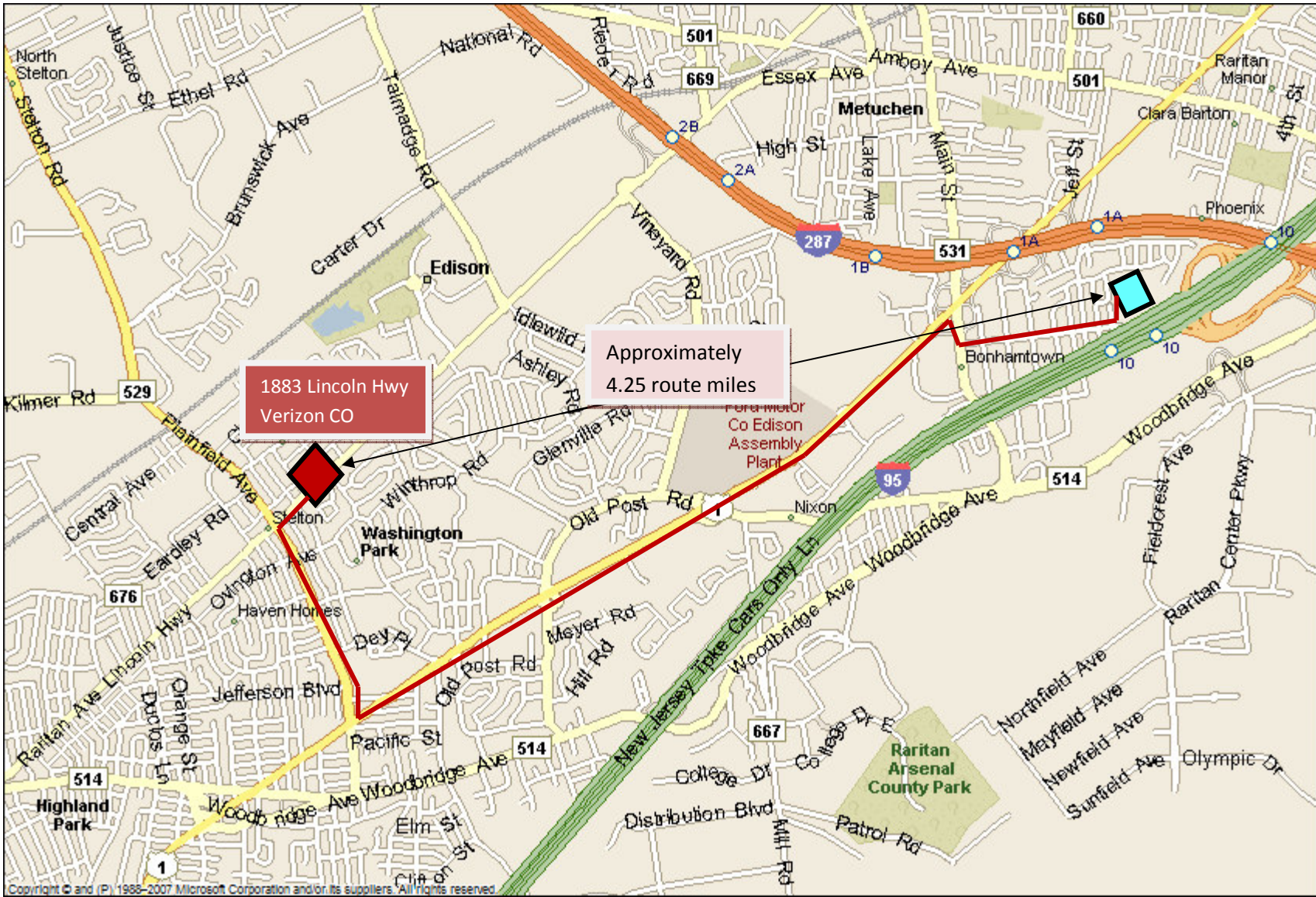
- AboveNet = Green
- Global Crossing = Dark Green
- AT&T = Orange
- Level (3) = Red
- ADESTA (dark fiber) = Purple
- Verizon Business = Blue

**CONCEPT CONSTRUCTION'S CONNECTIVITY REPORT ON**

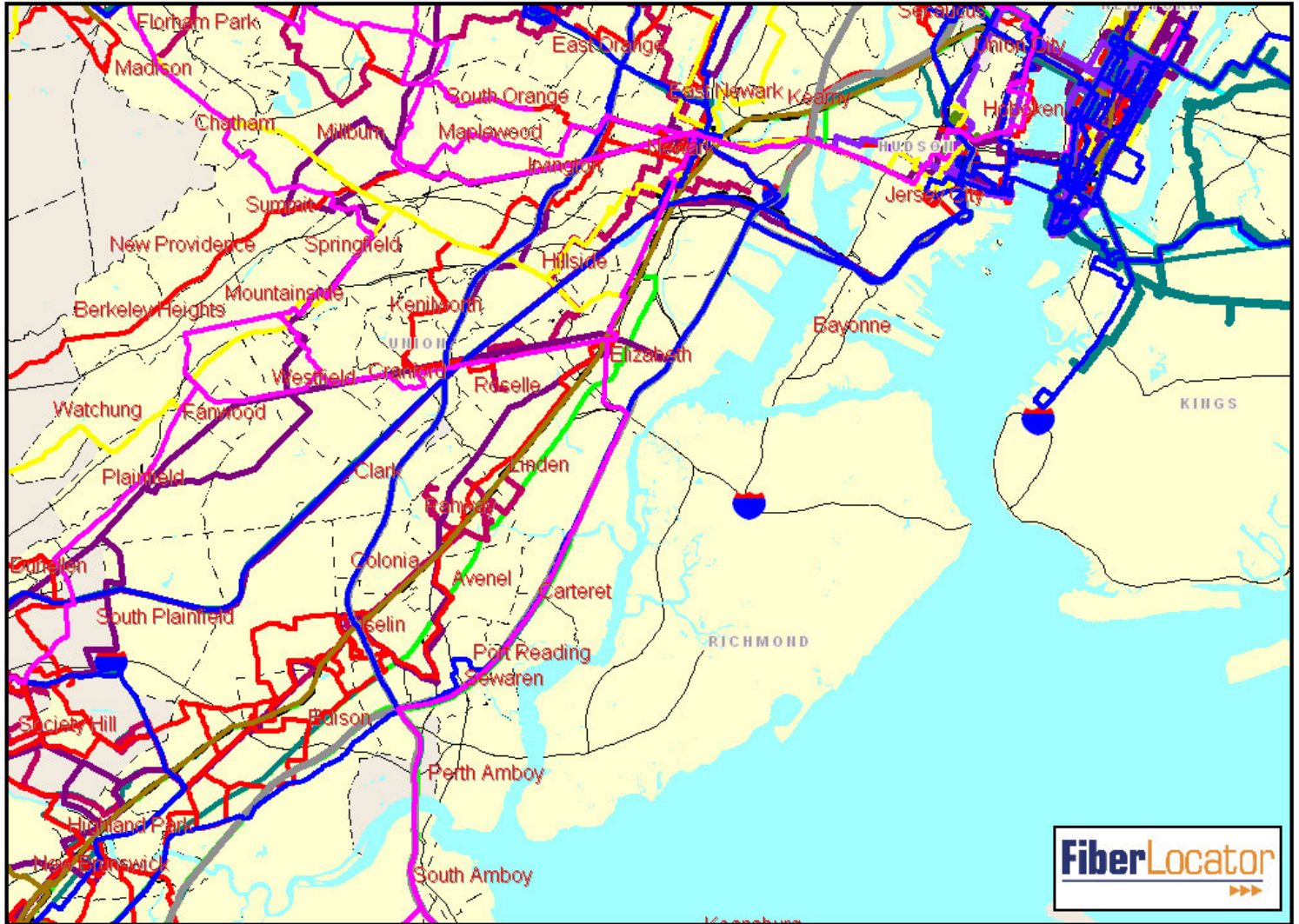


**108 PIERSON AVE. EDISON, NJ**

# THE VERIZON SERVING CENTRAL OFFICE

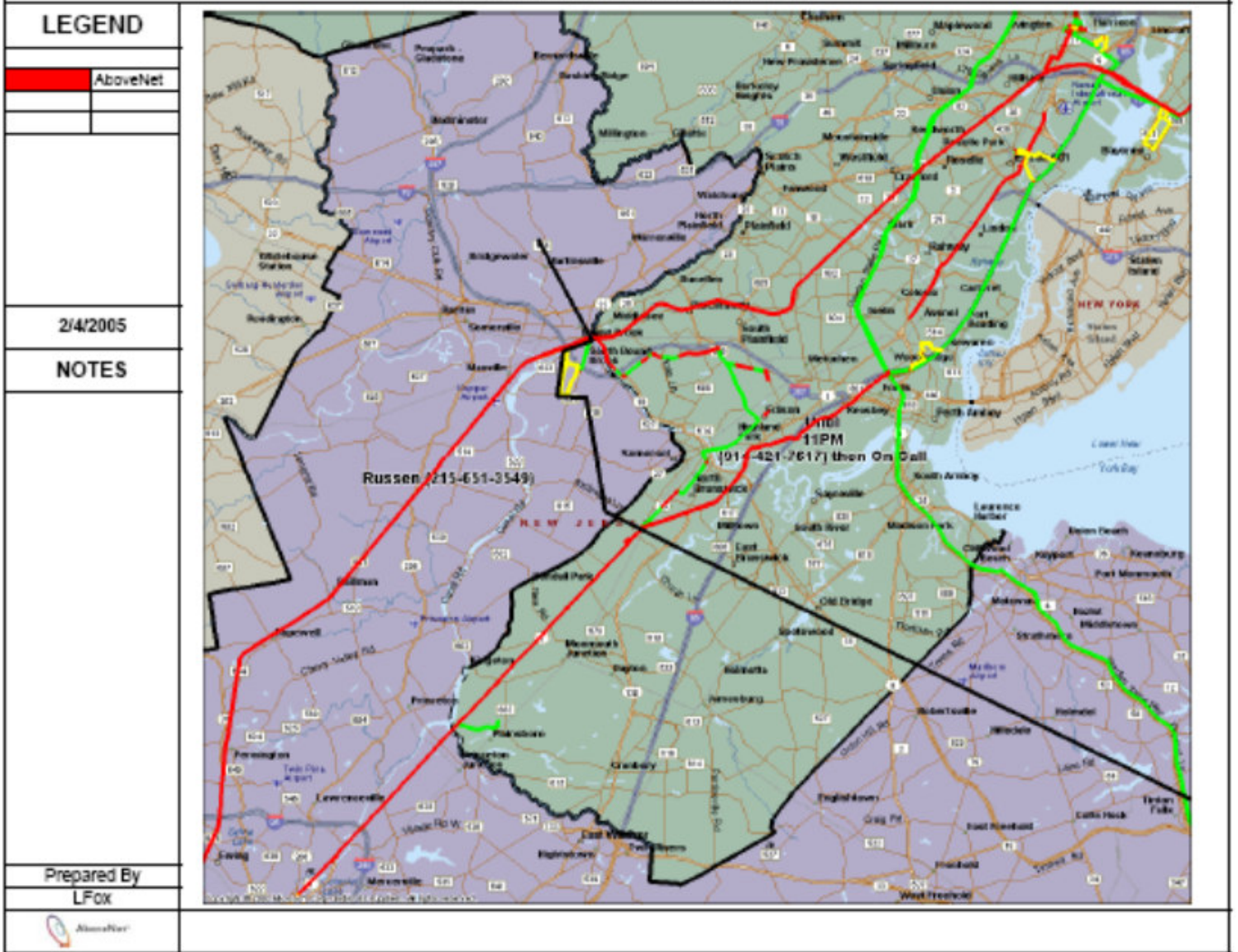


# Major Long Haul Fiber Routes Edison NJ

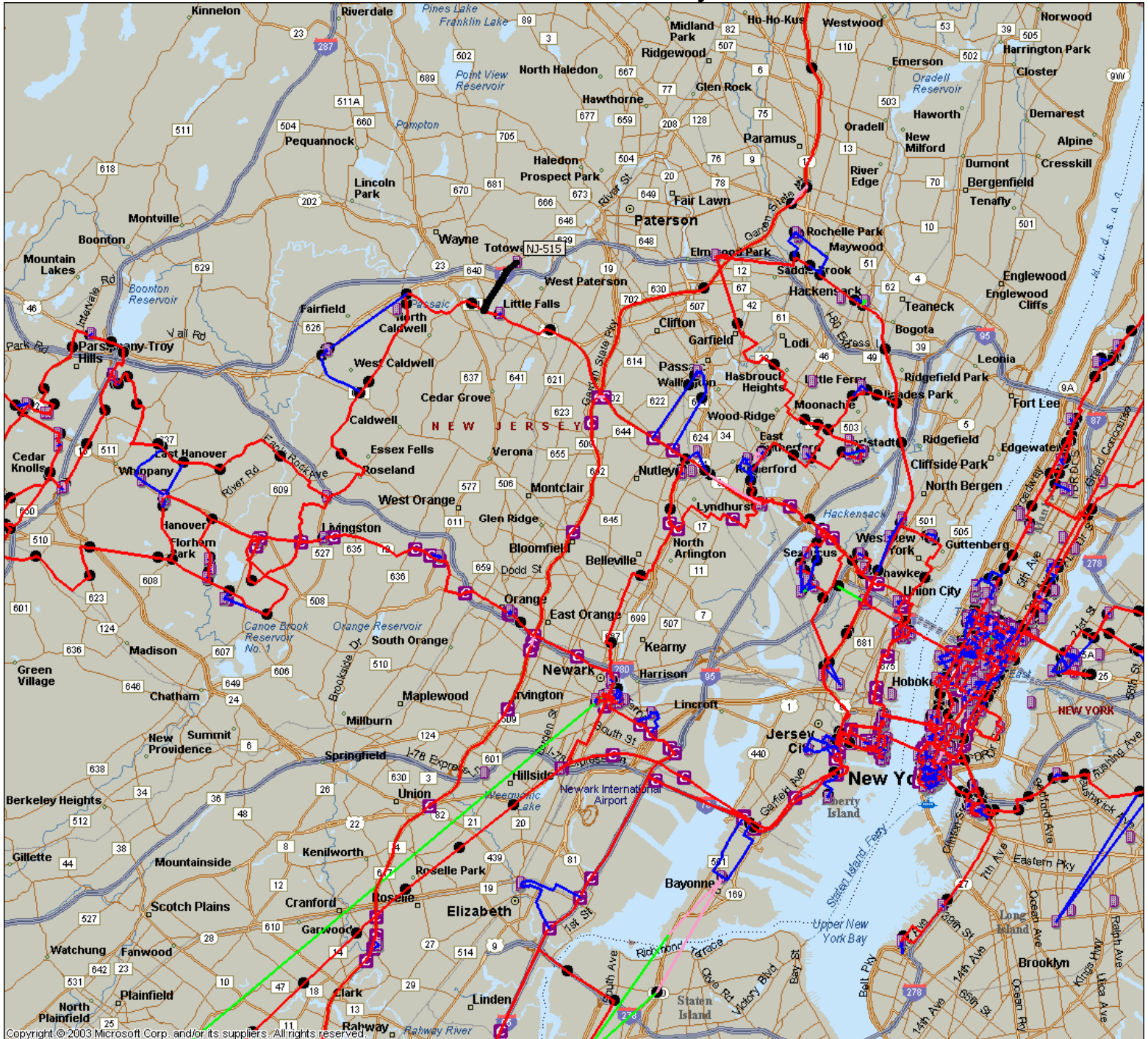


# AboveNet Map #1 Metro NY and Philadelphia Ring

## AboveNet New Brunswick



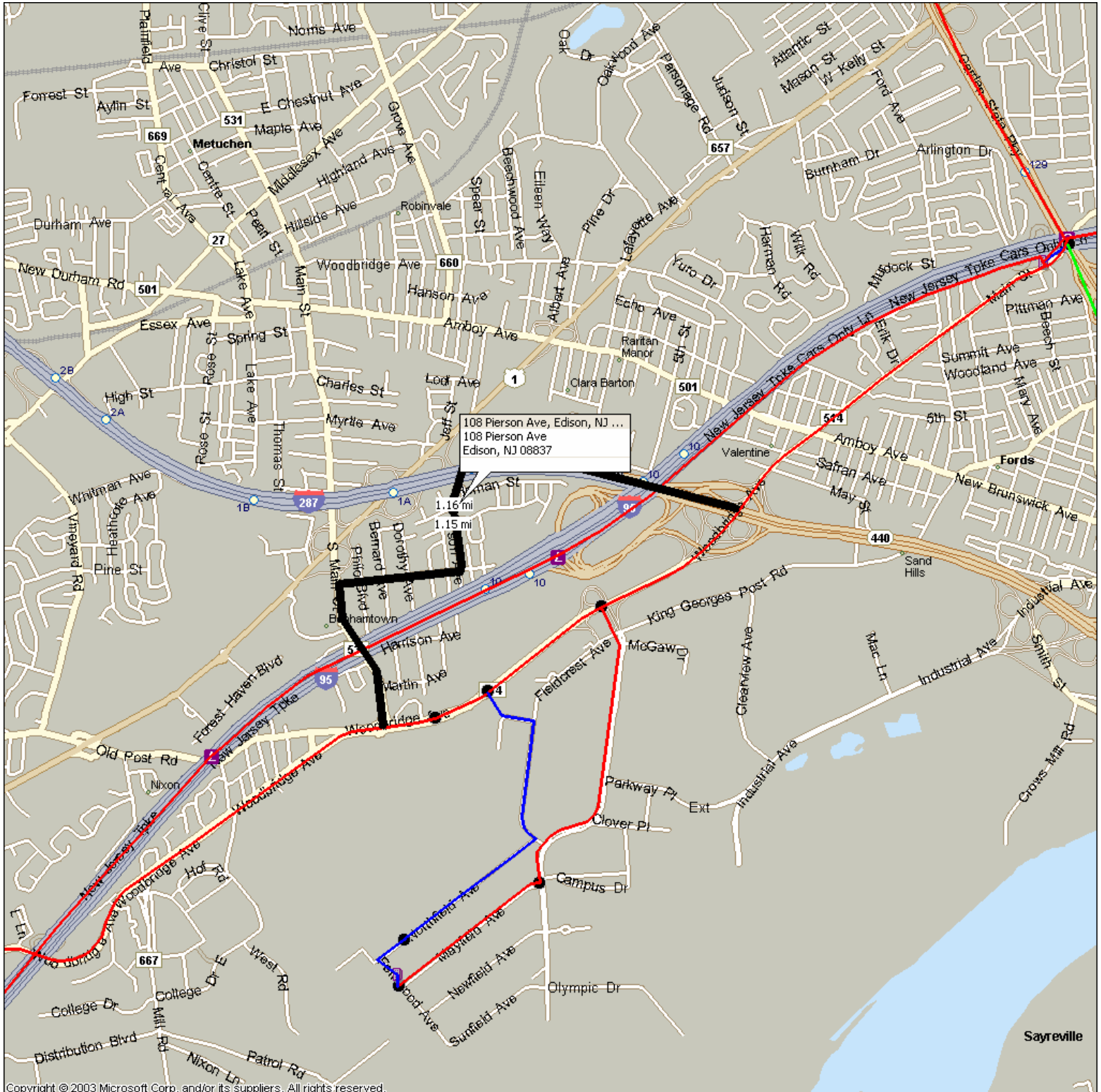
# AboveNet Fiber Map #2 North New Jersey



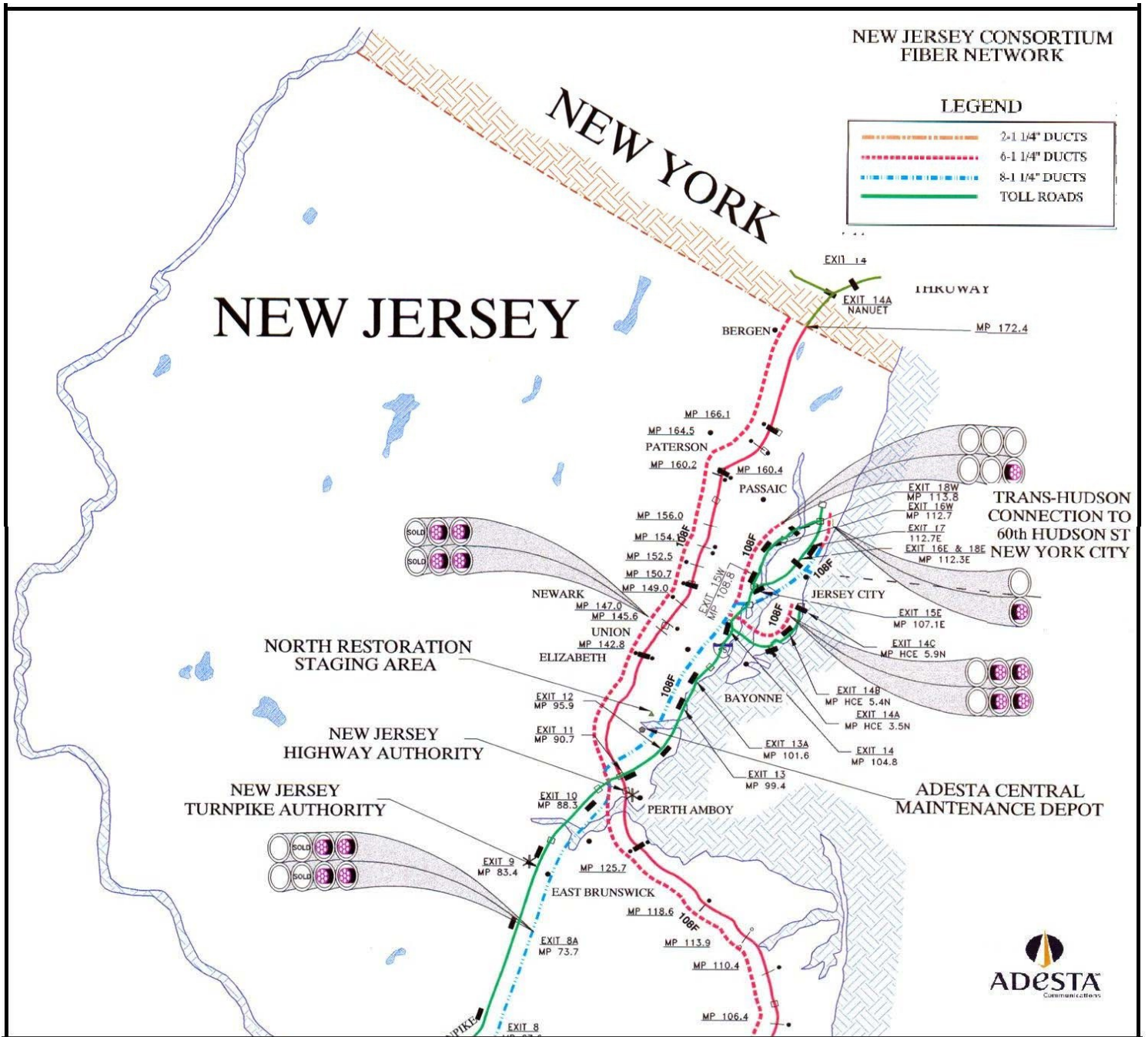


# AboveNet Fiber Map #4

## 108 Pierson St.



# Adesta's Fiber Map



## Data Center Design Criteria Co/Lo Pods and High Density Studies

**DataCenter Options**  
**108 Pierson Ave.**

Traditional A/C System  
Cabinet Densities

IT Load Calculations		10,000 SF	28,000 SF	28,000 SF
Number of Active Racks	EA	28.00	42.00	42.00
Average Power Consumption per Rack	KW	2.50	2.50	2.50
Total Connected Power for Active Racks	KW	70.00	105.00	105.00
Number of Misc Equipment Cabinets	EA	36.00	102.00	102.00
Average Power Consumption per Misc. Equipment Cab	KW	2.50	5.00	10.00
Total Connected Power for Misc. Equip. Cabs	KW	90.00	510.00	1,020.00
Number of Server Cabinets	EA	112.00	300.00	250.00
Average Power Consumption per Server Cab	KW	6.00	15.00	25.00
Total Connected Power for Server Cabs	KW	672.00	4,500.00	6,250.00
<b>TOTAL IT LOAD</b>	<b>KW</b>	<b>832.00</b>	<b>5,115.00</b>	<b>7,375.00</b>
Gross Raised Floor Area	SF	10,000.00	28,500.00	28,500.00
Watts per SF (N Load)	W	83.20	179.47	258.77
Head Room	5%	4.16	8.97	12.94
Total Design	KW	87.36	188.45	271.71
Total amonnut of Cabinets / Racks	EA	176.00	444.00	394.00
Average SF per Cabinet	SF	15.00	18.00	20.00
Square Foot of White Space	SF	2,640.00	7,992.00	7,880.00
<b>Items in Data Center</b>				
Space Allocation for CRACs	SF	1,400.00	8,200.00	12,100.00
Space Allocation for PDUs	SF	525.00	2,850.00	4,275.00
Total used White Space	SF	4,565.00	19,042.00	24,255.00
Average White SF per Cab	SF	25.94	42.89	61.56

Area	Units	Data Center #1	Data Center #2	Data Center #3
		Option 1 100 W / SF	Option 2A 200 W / SF	Option 2B 300 W / SF
Gross Square Foot Whole Building	SF			
Gross Raised Floor Area	SF	10,000.00	28,500.00	28,500.00
Design Computer Equip. Load Density	W/SF	100.00	200.00	300.00
UPS Minimum Usable Capacity	KW	1,000.00	5,700.00	8,550.00
<b>Primary Power</b>				
Gross SF of "White" space * Design Load	W	1,000,000.00	5,700,000.00	8,550,000.00
Total Critical Load	KW	2,000.00	12,000.00	18,000.00
Total Essential Load	KW	738.39	4,229.85	6,337.33
Total Required Load	KW	2,738.39	16,229.85	24,337.33
Total Required Load	KVA	3,422.98	20,287.31	30,421.67
Nominal Transformer Rating	KW	3,000.00	3,000.00	3,000.00
Number of Transformers	EA	1.00	7.00	11.00
<b>Space Allocation</b>				
Indoor Transformer Footprint (Includes Walkway)	SF	1,000.00	1,000.00	1,000.00
Total Required Space	SF	1,000.00	7,000.00	11,000.00
Outdoor Transformer Footprint (Includes Walkway)	SF	400.00	400.00	400.00
Total Required Space	SF	400.00	2,800.00	4,400.00
Allowance for Supplimentary Equipment	SF	300.00	2,100.00	3,300.00



## Data Center Design Criteria Co/Lo Pods and High Density Studies

### UPS System -

#### A System Static

Minimum Usable UPS Capacity "N"	KW	1,000.00	5,700.00	8,550.00
UPS Redundancy KW	2N	2,000.00	11,400.00	17,100.00
Module Rating	KVA	625.00	750.00	750.00
Module Rating	KW	500.00	600.00	600.00
Total Number of Modules Required	EA	4.00	19.00	29.00
Modules per System	EA	2.00	4.00	5.00
Total Number of Systems	EA	2.00	5.00	6.00
Total Capacity per System	KVA	1,250.00	3,000.00	3,750.00
Total Capacity per System	KW	1,000.00	3,000.00	3,600.00
Total Capacity	KVA	2,500.00	15,000.00	22,500.00
Total Capacity	KW	2,000.00	12,000.00	18,000.00
Total Spare Capacity	KW	0.00	600.00	900.00
Total Spare Capacity per system	KW	0.00	120.00	150.00
Number of Batteries	EA	334.00	2,000.00	3,000.00
Batteries per String	EA	45.00	45.00	45.00
Number of Strings	EA	8.00	45.00	67.00
Number of Strings per System	EA	4.00	9.00	12.00

#### Space Allocation

Module Footprint (Includes Walkway)	SF	300.00	300.00	300.00
Number of Mods per system	EA	2.00	4.00	5.00
System Control Cabinet Footprint (Includes Walkway)	SF	300.00	300.00	300.00
Total Required Space per System	SF	900.00	1,500.00	1,800.00
Number of Systems	EA	2.00	5.00	6.00
Total Required Equipment Space	SF	1,800.00	7,500.00	10,800.00
Footprint of Battery Strings	SF	200.00	200.00	200.00
Total required Battery Space per System	SF	800.00	1,800.00	2,400.00
Total Required Battery Space	SF	1,600.00	9,000.00	14,400.00
Total required UPS Space	SF	3,400.00	16,500.00	25,200.00
Allowance for Supplementary Equipment	SF	1,020.00	4,950.00	7,560.00

### PDU(s)

PDU nominal Rating	KVA	300.00	300.00	300.00
ASTS PDU(s)	EA	7.00	38.00	57.00

#### Space Allocation

PDU Footprint (Includes Walkway)	SF	75.00	75.00	75.00
Number of PDU Units for Data Center	EA	7.00	38.00	57.00
Space Required for PDUs in Data Center	SF	525.00	2,850.00	4,275.00
Allowance for Supplementary Equipment	SF	262.50	1,425.00	2,137.50

### Generator Plant

Total Critical Load	KW	2,000.00	12,000.00	18,000.00
Total Essential Load	KW	738.39	4,229.85	6,337.33
Unit Rating	KW	2,000.00	2,000.00	2,000.00
Total Load	KW	2,738.39	16,229.85	24,337.33
Number of N units	KW	1.00	9.00	13.00
System Capacity	KW	2,000.00	18,000.00	26,000.00
Spare Capacity on "N"	KW	-738.39	1,770.15	1,662.67
Configuration	2N	1.00	9.00	13.00
Total # of Generators	EA	2.00	18.00	26.00
Generator Paralleling Switchgear	EA	0.00	3.00	5.00
Number of Gennies per Paralleling Switchgear	EA	0.00	6.00	6.00

#### Space Allocation

Generator Footprint (Includes Walkway)	SF	800.00	800.00	800.00
Number of Generators	EA	2.00	18.00	26.00
Total Footprint of Generator	SF	1,600.00	14,400.00	20,800.00
Allow for Supplimentry Equipment	SF	80.00	720.00	1,040.00
Paralleling Switchgear Footprint	SF	600.00	600.00	600.00
Number of Paralling Switchgear lineups	EA	0.00	3.00	5.00
Total Required Space	SF	0.00	1,800.00	3,000.00
Allowance for Supplementary Equipment	SF	0.00	900.00	1,500.00

## Data Center Design Criteria Co/Lo Pods and High Density Studies

### Diesel Fuel Storage Requirement

Consumption Rate per Generator per HR	Gal	141.00	141.00	141.00
Storage Interval	Hrs	24.00	48.00	48.00
Total Generators	EA	2.00	18.00	26.00
Required Fuel Storage	Gal	6,768.00	121,824.00	175,968.00
Day Tank Volume	Gal	4,000.00	4,000.00	4,000.00
Day Tank Volume Total	Gal	8,000.00	72,000.00	104,000.00

### Air Conditioning

Configuration	2N			
Computer Equipment	Tons	353.75	2,016.38	3,024.56
Pressurization units	Tonns			
UPS Equipment Cooling	Tonns	90.00	525.00	787.50
Envelope & Office Area Cooling	Tonns			
Substation T/F	Tonns			
Misc Cooling	Tonns			
Total A/C Load "N" Load	Tonns	443.75	2,541.38	3,812.06
Chiller Nominal Tonnage	Tonns	450.00	800.00	1,000.00
Number of Chillers Required for Load	EA	1.00	4.00	4.00
Number of Redundant Chillers	EA	1.00	4.00	4.00
Total Number of Chillers	EA	2.00	8.00	8.00
Total System	Tonns	900.00	6,400.00	8,000.00

### Space Allocation

Chiller Footprint (Includes Walkway)	SF	1,000.00	1,000.00	1,000.00
Number of Chillers	EA	2.00	8.00	8.00
Total Required Space for Chillers	SF	2,000.00	8,000.00	8,000.00
Allowance for Supplementary Cooling Equipment	SF	600.00	2,400.00	2,400.00

### CRAC Units

CRAC nominal Capacity	Tonns	30.00	30.00	30.00
number of CRAC for Computer Rm Load	EA	12.00	68.00	101.00
Number of Redundant CRAC at 1 per 5	EA	2.00	14.00	20.00
numbe of CRAC for Equipment	EA	3.00	18.00	16.00
Number of Redundant CRAC at 2N	EA	3.00	18.00	16.00
Total Number of CRAC(s)	EA	20.00	118.00	153.00

### Space Allocation

CRAC Footprint (Includes Walkway)	SF	100.00	100.00	100.00
Number of CRAC Units for Data Center	EA	14.00	82.00	121.00
Space Required for CRACS Data Center	SF	1,400.00	8,200.00	12,100.00
Number of CRAC Units for Equipment	SF	6.00	36.00	32.00
Space Required for CRACS Equipment Rooms	SF	600.00	3,600.00	3,200.00
Allowance for Supplementary Equipment	SF	200.00	1,180.00	1,530.00

### Cooling Tower Make Up Water Requirements

Cooling Towers Capacity	Tonns		1,000.00	800.00
Number of Cooling Towers	EA		8.00	13.00
Total CT Capacity	Tonns	0.00	8,000.00	10,400.00
Design Criteria	Hrs		48.00	48.00
Cooling Tower Make Up Water per Hr	Gal per T		1.73	1.73
Cooling Tower Make Up Water Requirements	Gal	0.00	665,472.00	865,113.60
Proposed Tank	Gal	500,000.00	500,000.00	250,000.00

### Space Allocation

Cooling Tower Footprint (Includes Walkway)	SF	2,000.00	2,000.00	2,000.00
Number of Cooling Towers	EA	0.00	8.00	13.00
Total Required Space for Cooling Towers	SF	0.00	16,000.00	26,000.00
Allowance for Supplementary Equipment	SF	0.00	3,200.00	5,200.00

## Data Center Design Criteria Co/Lo Pods and High Density Studies

### Summary for Space Allocation

#### Primary Power Allocated Space

Indoor Option	SF	1,300.00	9,100.00	14,300.00
Outdoor Option				
Indoor	SF	400.00	2,800.00	4,400.00
Outdoor	SF	300.00	2,100.00	3,300.00
<b>UPS Allocated Space (Indoor)</b>	SF	4,420.00	21,450.00	32,760.00
<b>Generator Allocated Space</b>				
Indoor Option	SF	1,680.00	17,820.00	26,340.00
Outdoor Option				
Indoor	SF	80.00	3,420.00	5,540.00
Outdoor	SF	1,600.00	14,400.00	20,800.00
<b>Fuel Oil Storage Allocated Space</b>	SF		6,091.20	8,798.40
<b>Chiller Space Allocation</b>	SF	2,600.00	10,400.00	10,400.00
<b>Cooling Tower Space Allocation</b>				
Indoor	SF	0.00	3,200.00	5,200.00
Outdoor	SF	0.00	16,000.00	26,000.00
<b>CRAC Space Allocation in Equipment Rooms</b>	SF	800.00	4,780.00	4,730.00
<b>PDU Space Allocation</b>	SF	262.50	1,425.00	2,137.50
<b>Items in Data Center</b>				
Space Allocation for CRACs	SF	1,400.00	8,200.00	12,100.00
Space Allocation for PDUs	SF	525.00	2,850.00	4,275.00
<b>Option #1 Indoor Option Interior Space</b>				
Option #1 Indoor Option Interior Space	SF	11,062.50	68,175.00	95,867.50
<b>Option #1 Indoor Option Exterior Space</b>				
Option #1 Indoor Option Exterior Space	SF	0.00	22,091.20	34,798.40
<b>Option #2 Outdoor Option Interior Space</b>				
Option #2 Outdoor Option Interior Space	SF	5,962.50	47,475.00	65,167.50
<b>Option #2 Outdoor Option Exterior Space</b>				
Option #2 Outdoor Option Exterior Space	SF	4,500.00	38,591.20	58,898.40

**Order of Magnitude Budget  
108 Pierson Ave., Edison, NJ**

**Data Center  
Required Core and Shell Upgrades**

**Day 0 - Powered Base Building (Required Core & Shell Upgrades)**

	<u><b>Option No.1</b></u> Standard POD Architecture	<u><b>Option No. 2A / 2B</b></u> High Density Data Center
<b>Core and Shell</b>		
Site Improvements	\$ 1,312,500	\$ 1,312,500
Architectural/Structural	\$ 10,574,685	\$ 11,550,485
HVAC	\$ 1,678,100	\$ 1,678,100
Plumbing	\$ 100,000	\$ 100,000
Sprinkler	\$ 270,000	\$ 270,000
Electric	\$ 4,382,500	\$ 4,382,500
Subtotal Construction Trade Cost	\$ 18,317,785	\$ 19,293,585
Construction Contingency - 5%	\$ 915,889	\$ 964,679
Subtotal	<u>\$ 19,233,675</u>	<u>\$ 20,258,265</u>
Design Contingency - 5%	\$ 961,684	\$ 1,012,913
Subtotal	<u>\$ 20,195,358</u>	<u>\$ 21,271,178</u>
General Conditions - 4 1/2%	\$ 908,791	\$ 957,203
Subtotal	<u>\$ 21,104,149</u>	<u>\$ 22,228,381</u>
Insurance - 1.5%	\$ 316,562	\$ 333,426
Subtotal	<u>\$ 21,420,712</u>	<u>\$ 22,561,806</u>
CM Fee	TBD	TBD
Total	<u>\$ 21,420,712</u>	<u>\$ 22,561,806</u>

**Build Out Statistics**

	<b>Option #1 Typical 10,000SF POD</b>	<b>@ 200W per SF</b>	<b>@ 300W per SF</b>
High Density "white" space	N/A	28,489 SF	28,489 SF
High Density MEP space	N/A	74,045 SF	93,539 SF
Total Potential Typical PODs	12 EA	6 EA	5 EA
Average SF per POD "white" space	12,371 SF	10,928 SF	11,026 SF
Average MEP space per POD	3,445 SF	5,879 SF	5,435 SF
Total "White" space	148,452 SF	94,057 SF	83,619 SF
Total Power Required	35 MW	33 MW	37 MW
Total Available Rentable Area	228,116 SF	228,116 SF	228,116 SF
Average W/per SF Rentable	153.43 w/sf	144.66 w/sf	160.01 w/sf

**Order of Magnitude Budget  
108 Pierson Ave, Edison, NJ**

**Option #1 Typical 1MW 100W per SF POD Architecture  
Powered Base Building (Required Core and Shell Upgrades)**

<b>Section / Discription</b>	<b>Quantity</b>	<b>Unit</b>	<b>Unit Price</b>	<b>Subtotal</b>	<b>Total</b>
<b><u>Site Improvements</u></b>					
Land Scaping	1	ls	\$ 300,000.00	\$ 300,000	
Fencing	3,400	lf	\$ 250.00	\$ 850,000	
Misc Excavation	2,500	cy	\$ 65.00	\$ 162,500	
				<b>\$ 1,312,500</b>	<b>\$ 1,312,500</b>
<b><u>Architectual / Structural</u></b>					
Demolition					
MEP Components	235,615	sf	\$ 1.75	\$ 412,326	
Miscellaneous interior walls	1	ls	\$ 75,000.00	\$ 75,000	
Exterior Skin	23,680	sf	\$ 8.50	\$ 201,280	
Office Building (Gut)	28,731	sf	\$ 5.00	\$ 143,655	
Remove Floor Slab (for MEP trench)	14,400	sf	\$ 35.00	\$ 504,000	
Building Exterior					
New Concrete Block Wall	12,112	sf	\$ 20.00	\$ 242,240	
New Metal Louver	11,568	sf	\$ 65.00	\$ 751,920	
New Built Up Roof	249,992	sf	\$ 17.00	\$ 4,249,864	
New Exterior panels @ Clearstory Location	6,000	sf	\$ 85.00	\$ 510,000	
Structural					
Plate Columns	87	ea	\$ 25,000.00	\$ 2,175,000	
New Dunnage Post	87	ea	\$ 6,000.00	\$ 522,000	
Base Building Upgrades					
Management Office Fit Out	5,000	sf	\$ 85.00	\$ 425,000	
Demising Walls	30,200	sf	\$ 12.00	\$ 362,400	
				<b>\$ 10,574,685</b>	<b>\$ 10,574,685</b>
<b><u>HVAC</u></b>					
New 250T Air Cooled Chiller	1	ea	\$ 200,000.00	\$ 200,000	
Sheetmetal	40,000	lbs	\$ 19.24	\$ 769,600	
Equipment	1	ls	\$ 65,000.00	\$ 65,000	
Piping	1,500	lf	\$ 145.00	\$ 217,500	
Auto Temp. Control	1	ls	\$ 320,000.00	\$ 320,000	
Insulation	1	ls	\$ 56,000.00	\$ 56,000	
Testing & Balancing	1	ls	\$ 50,000.00	\$ 50,000	
				<b>\$ 1,678,100</b>	<b>\$ 1,678,100</b>
<b><u>Plumbing</u></b>					
Allow misc Fixtures	1	ls	\$ 100,000.00	\$ 100,000	
				<b>\$ 100,000</b>	<b>\$ 100,000</b>
<b><u>Sprinkler</u></b>					
New Distribution	45,000	sf	\$ 6.00	\$ 270,000	
				<b>\$ 270,000</b>	<b>\$ 270,000</b>



**Order of Magnitude Budget**  
**108 Pierson Ave, Edison, NJ**  
**Data Center**  
**Option #2A 2B High Density Data Center 200W / 300W per SF over 28,500SF and 1MW 10,000 SF Pods**  
**(Required Core and Shell Upgrades)**

	Quantity		Unit Price	Subtotal	Total
<b><u>Site Improvements</u></b>					
Land Scaping	1	ls	\$ 300,000.00	\$ 300,000	
Fencing	3,400	lf	\$ 250.00	\$ 850,000	
Misc Excavation	2,500	cy	\$ 65.00	\$ 162,500	
				<b>\$ 1,312,500</b>	<b>\$ 1,312,500</b>
<b><u>Architectual / Structural</u></b>					
Demolition					
MEP Components	235,615	sf	\$ 1.75	\$ 412,326	
Miscellaneous interior walls	1	ls	\$ 75,000.00	\$ 75,000	
Exterior Skin	23,680	sf	\$ 8.50	\$ 201,280	
Office Building (Gut)	28,731	sf	\$ 5.00	\$ 143,655	
Remove Floor Slab (for MEP trench)	18,000	sf	\$ 35.00	\$ 630,000	
Building Exterior					
New Concrete Block Wall	9,952	sf	\$ 20.00	\$ 199,040	
New Metal Louver	13,728	sf	\$ 65.00	\$ 892,320	
New Built Up Roof	249,992	sf	\$ 17.00	\$ 4,249,864	
New Exterior panels @ Clearstory Location	6,000	sf	\$ 85.00	\$ 510,000	
Structural					
Plate Columns	87	ea	\$ 25,000.00	\$ 2,175,000	
New Dunnage Post	87	ea	\$ 6,000.00	\$ 522,000	
Base Building Upgrades					
Management Office Fit Out	10,000	sf	\$ 85.00	\$ 850,000	
Demising Walls	57,500	sf	\$ 12.00	\$ 690,000	
				<b>\$ 11,550,485</b>	<b>\$ 11,550,485</b>
<b><u>HVAC</u></b>					
New 250T Air Cooled Chiller	1	ea	\$ 200,000.00	\$ 200,000	
Sheetmetal	40,000	lbs	\$ 19.24	\$ 769,600	
Equipment	1	ls	\$ 65,000.00	\$ 65,000	
Piping	1,500	lf	\$ 145.00	\$ 217,500	
Auto Temp. Control	1	ls	\$ 320,000.00	\$ 320,000	
Insulation	1	ls	\$ 56,000.00	\$ 56,000	
Testing & Balancing	1	ls	\$ 50,000.00	\$ 50,000	
				<b>\$ 1,678,100</b>	<b>\$ 1,678,100</b>
<b><u>Plumbing</u></b>					
Allow misc Fixtures	1	ls	\$ 100,000.00	\$ 100,000	
				<b>\$ 100,000</b>	<b>\$ 100,000</b>
<b><u>Sprinkler</u></b>					
New Distribution	45,000	sf	\$ 6.00	\$ 270,000	
				<b>\$ 270,000</b>	<b>\$ 270,000</b>



**Order of Magnitude Budget**  
**108 Pierson Ave, Edison, NJ**  
**Data Center**  
**Option #2A 2B High Density Data Center 200W / 300W per SF over 28,500SF and 1MW 10,000 SF Pods**  
**(Required Core and Shell Upgrades)**

	Quantity	Unit	Price	Subtotal	Total
<b>Electrical</b>					
New Electrical Service & Main Switchgear	1	ls	\$ 2,600,000.00	\$ 2,600,000	
Base Building Substation & Distribution	1	ls	\$ 850,000.00	\$ 850,000	
New Base Building Generator	1,000	kw	\$ 520.00	\$ 520,000	
Misc Fit Out					
General Circuit Work	5,000	sf	\$ 1.20	\$ 6,000	
Lighting	5,000	sf	\$ 8.00	\$ 40,000	
Fire Alarm	5,000	sf	\$ 1.30	\$ 6,500	
Fire Alarm FACP	1	ls	\$ 35,000.00	\$ 35,000	
Site Lighting	1	ls	\$ 75,000.00	\$ 75,000	
Security	1	ls	\$ 250,000.00	\$ 250,000	
				<b>\$ 4,382,500</b>	<b>\$ 4,382,500</b>
<b>TOTAL TRADE COST</b>					<b>\$ 19,293,585</b>
<b>Construction Contingency</b>	<b>5.00%</b>				<b>\$ 964,679</b>
				<b>Sub Total</b>	<b>\$ 20,258,265</b>
<b>Design Contingency</b>	<b>5.00%</b>				<b>\$ 1,012,913</b>
				<b>Sub Total</b>	<b>\$ 21,271,178</b>
<b>General Conditions</b>	<b>4.50%</b>				<b>\$ 957,203</b>
				<b>Sub Total</b>	<b>\$ 22,228,381</b>
<b>Insurance</b>	<b>1.50%</b>				<b>\$ 333,426</b>
				<b>Sub Total</b>	<b>\$ 22,561,806</b>
<b>Fee</b>	<b>TBD</b>				<b>\$ -</b>
				<b>Sub Total</b>	<b>\$ 22,561,806</b>
Alternate for Concrete Block Wall around Entire Perimeter			Deduct \$ 440,000		
Alternate for Pre-fab Conc. Panels around Entire Perimeter			Deduct \$ 563,000		

# Option #1 1MW 100W per SF Pods

- 7ft Hallway 2,349 LF
- Building Footprint 249,932 SF
- POD type 1 125,073 SF
- 12ft Hallway 1,508 LF
- Loading Dock 5,700 SF
- Two Story Office Building 28,731 SF
- Services 63,220 SF
- New Metal / Louver Enclosure 738 LF

**LEGEND**

	EXISTING WALLS
	NEW WALLS
	NEW METAL TO BE REPLACED

AMERICAN CAN COMPANY  
 FLOOR  
 REGENCY  
 EDITION TRAN

108 Pierson Ave. SUMMARY SHEET  
1MW / 100W per SF pods

TRADE	DESCRIPTION	100 W / SF 10,000 Pods
010000	General Requirements & GC/CM Project & Job Site Mgt	\$ 477,180.00
020000	Existing Conditions / Demolition	\$ 9,600.00
030000	Concrete	\$ 50,739.16
040000	Masonry	\$ 35,300.00
051000	Structural Steel	\$ 510,000.00
061000	Carpentry	\$ 25,750.00
075000	Roofing	\$ 26,000.00
081000	Doors & Frames	\$ 19,350.00
092000	Drywall	\$ 167,978.90
095100	ACT & Grid System	\$ 109,431.00
096500	Resilient Flooring	\$ 4,020.00
096900	Access Flooring	\$ 199,231.62
099100	Painting	\$ 57,591.00
21000	Fire Suppression	\$ 172,754.87
23000	HVAC	\$ 2,918,095.38
25000	BMS	\$ 385,000.00
26000	Electric	\$ 9,345,202.07
28000	Security	\$ 150,000.00
310000	Earthwork	\$ 16,177.20
323100	Fencing	\$ 28,420.00
	<b>Total Trade Cost</b>	<b>\$ 14,707,821.20</b>
<b>Description</b>	<b>Markup Percent</b>	<b>Markup Amount</b>
Construction Contingency	5%	\$ 735,391.06
Design Contingency	5%	\$ 772,160.61
General Conditions	Included Above	\$ -
Insurance	1.50%	\$ 243,230.59
Fee	TBD	\$ -
	<b>Total Cost Inclusive of Equipment</b>	<b>\$ 15,723,212.41</b>



**108 Pierson Ave. BUDGET ESTIMATE**  
**1MW / 100W per SF Pods**  
**(Typical)**

TRADE	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT	TOTAL
<b>010000</b>	<b>General Requirements &amp; GC/CM Project &amp; Job Site Mgt</b>					
	Site Staff					
	Project Executive	0.25	Week	4000	\$ 1,000.00	
	Senior Project Manager	1	Week	3,800	\$ 3,800.00	
	Superintendent	1	Week	2,750	\$ 2,750.00	
	Project Engineer	1	Week	2,500	\$ 2,500.00	
	Project Estimator	0.25	Week	2,500	\$ 625.00	
	Assistant PM / Superintendent	1	Week	1,759	\$ 1,759.00	
	Plan Clerk /Secretary	0.5	Week	1,000	\$ 500.00	
	Clerical	0.5	Week	1,000	\$ 500.00	
	Phones	5	Week	100	\$ 500.00	
	Laborers	80	Hours	70	\$ 5,600.00	
	Laborers O/T	20	Hours	94	\$ 1,880.00	
	Mini Containers	25	Week	25	\$ 625.00	
	Total Cost per Week (Job Duration)	20	Weeks	\$ 22,039.00	\$ 440,780.00	
	Fixed Cost for Job Duration (Per Suite)					
	Drawing Reproduction	1	Allowance	15,000	\$ 15,000.00	
	OSHA Protection	80	Hours	105	\$ 8,400.00	
	Office Supplies / Copies	1	LS	6,500	\$ 6,500.00	
	Tools & Equipment	1	LS	3,000	\$ 3,000.00	
	Cleaning Supplies	1	LS	2,000	\$ 2,000.00	
	Radios	1	LS	1,500	\$ 1,500.00	
						\$ 477,180.00
<b>020000</b>	<b>Existing Conditions / Demolition</b>					
	Removal of exterior wall / louver	960	SF	\$ 10.00	\$ 9,600.00	
						\$ 9,600.00
<b>030000</b>	<b>Concrete</b>					
	Equipment Pads					
	CW Pumps	3	EA	\$ 650.00	\$ 1,950.00	
	Generators	2	EA	\$ 12,635.00	\$ 25,270.00	
	Concrete Encasement for Ductbank	124.44	CY	\$ 189.00	\$ 23,519.16	
						\$ 50,739.16



**108 Pierson Ave. BUDGET ESTIMATE**  
**1MW / 100W per SF Pods**  
**(Typical)**

<b>040000</b>		<b>Masonry</b>					
	Misc Patching in Walls / Floor	1	LS	\$ 25,000.00	\$ 25,000.00		
	Core Drill / Patch Exterior for new Ductbank	1	LS	\$ 10,300.00	\$ 10,300.00		
						\$	35,300.00
<b>051000</b>		<b>Structural Steel</b>					
	New Dunnage System for Chillers	68	Tns	\$ 7,500.00	\$ 510,000.00		
						\$	510,000.00
<b>061000</b>		<b>Carpentry</b>					
	Misc Protection	1	LS	\$ 6,500.00	\$ 10,900.00		
	Door & Frames Double	4	EA	\$ 400.00	\$ 1,600.00		
	Door & Frames Single	15	EA	\$ 350.00	\$ 5,250.00		
	Hardware Allowance	20	LS	\$ 400.00	\$ 8,000.00		
						\$	25,750.00
<b>075000</b>		<b>Roofing</b>					
	Allow for Mechanical Supports / Penetrations	1	LS	\$ 26,000.00	\$ 26,000.00		
						\$	26,000.00
<b>081000</b>		<b>Doors &amp; Frames</b>					
	Type A 3'0" X 8'0" HM	15	EA	\$ 850.00	\$ 12,750.00		
	Type B (2ea) 3'0" X 8'0" HM	4	EA	\$ 1,650.00	\$ 6,600.00		
						\$	19,350.00
<b>092000</b>		<b>Drywall</b>					
	1 HR - 3 5/8" (20GA 16:OC) ONE LAYER ON EACH SIDE WITH 3" SAB	482	LF	\$ 114.46	\$ 55,169.72		
	1 HR - SAME AS TYPE 1 BUT WITH FOIL BACK AND VAP BARRIER ON ONE SIDE	460	LF	\$ 146.32	\$ 67,307.20		
	Hilti Fireproof spray at head of rated walls	942	LF	\$ 11.80	\$ 11,115.60		
	Frame out opening for new door	20	EA	\$ 88.50	\$ 1,770.00		
	double up studs at doors	20	EA	\$ 88.50	\$ 1,770.00		
	Box out column in data center 2x2	13	EA	\$ 590.00	\$ 7,670.00		
	Box out column in data center (pipe chase) 3x3	2	EA	\$ 826.00	\$ 1,652.00		
	New mechanical shaft 3x3 Type 5	3	EA	\$ 1,770.00	\$ 5,310.00		
	Corner beads	25	EA	\$ 88.50	\$ 2,212.50		
	new meets exiting	2	EA	\$ 88.50	\$ 177.00		
	Job condition	6	EA	\$ 76.70	\$ 460.20		
	Add for spacer bars at all partitions	942	LF	\$ 3.54	\$ 3,334.68		
	Layout & Deliveries	1	LS	\$ 10,030.00	\$ 10,030.00		
						\$	167,978.90
<b>095100</b>		<b>ACT &amp; Grid System</b>					
	ACT & Grid System	10422	LF	\$ 10.50	\$ 109,431.00		
						\$	109,431.00
<b>096500</b>		<b>Resilient Flooring</b>					
	B-1 Base	600	LF	\$ 2.15	\$ 1,290.00		
	VCT-1	420	SF	\$ 6.50	\$ 2,730.00		
						\$	4,020.00

**108 Pierson Ave. BUDGET ESTIMATE**  
**1MW / 100W per SF Pods**  
**(Typical)**

<b>096900</b>	<b>Access Flooring</b>					
	Access Flooring	10422	SF	\$ 15.96	\$ 166,335.12	
	Provide 15% Coverage of Perf Tile	390	EA	\$ 84.35	\$ 32,896.50	
						\$ 199,231.62
<b>099100</b>	<b>Painting</b>					
	Painting & Prime Steel	1	LS	\$ 7,300.00	\$ 7,300.00	
	Concrete Sealer	16800	SF	\$ 0.75	\$ 12,600.00	
	Door & Frames Double	5	EA	\$ 150.00	\$ 750.00	
	Door & Frames Single	15	EA	\$ 75.00	\$ 1,125.00	
	P-1 Walls	19680	SF	\$ 1.25	\$ 24,600.00	
	P-3 Walls	1760	SF	\$ 1.25	\$ 2,200.00	
	EP-1 Epoxy Flooring	5152	SF	\$ 1.75	\$ 9,016.00	
						\$ 57,591.00
<b>21000</b>	<b>Fire Suppression</b>					
	Preaction Upright Heads	116	Ea	\$ 267.03	\$ 30,975.48	
	Preaction System Equipment	1	LS	\$ 40,353.00	\$ 40,353.00	
	Preaction Piping	2183	LF	\$ 34.33	\$ 74,942.39	
	Inspection, Test Rigs	1	LS	\$ 26,484.00	\$ 26,484.00	
						\$ 172,754.87
<b>23000</b>	<b>HVAC</b>					
	Piping	5071	LF	\$ 181.84	\$ 922,110.64	
	Fittings	1	LS	\$ 42,364.00	\$ 42,364.00	
	Hangers	1	LS	\$ 21,182.00	\$ 21,182.00	
	Valves	1	LS	\$ 121,813.00	\$ 121,813.00	
	Equipment					
	225 Ton Air Cooled Chillers	3	EA	\$ 180,000.00	\$ 540,000.00	
	30 Ton CRAC Units	20	EA	\$ 16,597.00	\$ 331,940.00	
	CRAC Units 30 Ton w/ Dehumidification (Install Only)	8	EA	\$ 10,056.00	\$ 80,448.00	
	CRAC Units 30 Ton (Install Only)	8	EA	\$ 9,044.00	\$ 72,352.00	
	CRAC Units 25 Ton (Install Only)	4	EA	\$ 7,020.00	\$ 28,080.00	
	CRAC Units 10 Ton (Install Only)	2	EA	\$ 4,996.00	\$ 9,992.00	
	Air Cooled Chillers (Install Only)	3	EA	\$ 15,939.00	\$ 47,817.00	
	Chilled Water Pumps 675 GPM	3	EA	\$ 37,064.00	\$ 111,192.00	
	Exhaust Fans	4	EA	\$ 7,957.00	\$ 31,828.00	
	Expansion Tank	1	EA	\$ 12,713.00	\$ 12,713.00	
	AHU-200-1	1	EA	\$ 13,978.00	\$ 13,978.00	
	Fan Coil Units	2	EA	\$ 22,453.00	\$ 44,906.00	
	Unit Heaters	2	EA	\$ 6,805.00	\$ 13,610.00	
	Leak Detection System	1	LS	\$ 89,820.00	\$ 89,820.00	

**108 Pierson Ave. BUDGET ESTIMATE**  
**1MW / 100W per SF Pods**  
**(Typical)**

<b>23000</b>	<b>HVAC Cont.</b>					
	Electric Duct Heater	1	EA	\$ 7,197.00	\$ 7,197.00	
	Motorized Pressure Relief Bypass Valve	1	EA	\$ 10,786.00	\$ 10,786.00	
	Air Eliminator	1	EA	\$ 12,713.00	\$ 12,713.00	
	Drip Pans	1	LS	\$ 14,421.00	\$ 14,421.00	
	Motor Controls / VFDs	3	EA	\$ 15,875.00	\$ 47,625.00	
	Isolation / Instruments	1	LS	\$ 51,730.00	\$ 51,730.00	
	Sheet metal	569	#	\$ 44.46	\$ 25,297.74	
	Insulation	1	LS	\$ 57,091.00	\$ 57,091.00	
	Rigging	1	LS	\$ 79,189.00	\$ 79,189.00	
	Testing & Balancing	1	LS	\$ 75,900.00	\$ 75,900.00	
						\$ 2,918,095.38
<b>25000</b>	<b>BMS</b>					
	Per Allowance	1	LS	\$ 385,000.00	\$ 385,000.00	
						\$ 385,000.00
<b>26000</b>	<b>Electric</b>					
	Circuit Work				\$ -	
	Duplex Receptacles	42	EA	\$ 312.67	\$ 13,132.14	
	SPST	9	EA	\$ 312.67	\$ 2,814.03	
	Lighting				\$ -	
	Type A 1x4	50	EA	\$ 357.92	\$ 17,896.00	
	Data Center Lights	202	EA	\$ 357.92	\$ 72,299.84	
	Channel System for Data Center Lighting	1032	LF	\$ 75.33	\$ 77,740.56	
	Exits	14	EA	\$ 398.93	\$ 5,585.02	
	Branch Circuiting	3780	LF	\$ 13.46	\$ 50,878.80	
	Panel & Motor Feeds					
	3/4" EMT	1275	LF	\$ 12.27	\$ 15,644.25	
	1" EMT	115	LF	\$ 16.55	\$ 1,903.25	
	1 1/2" EMT	1070	LF	\$ 18.52	\$ 19,816.40	
	2 1/2" EMT	490	LF	\$ 36.13	\$ 17,703.70	
	3" EMT	3300	LF	\$ 41.29	\$ 136,257.00	
	3 1/2" EMT	2850	LF	\$ 53.43	\$ 152,275.50	
	4" EMT	1020	LF	\$ 64.28	\$ 65,565.60	
	1 1/2" RGS	60	LF	\$ 32.59	\$ 1,955.40	
	3 1/2" RGS	1590	LF	\$ 83.84	\$ 133,305.60	
	#12 THHN	1555	LF	\$ 1.02	\$ 1,586.10	
	#10 THHN	4695	LF	\$ 1.41	\$ 6,619.95	
	#8 THHN	1410	LF	\$ 1.87	\$ 2,636.70	
	#6 THHN	120	LF	\$ 2.47	\$ 296.40	
	#2 THHN	4385	LF	\$ 4.70	\$ 20,609.50	

**108 Pierson Ave. BUDGET ESTIMATE**  
**1MW / 100W per SF Pods**  
**(Typical)**

26000	Electric Cont.					
	#1 THHN	1560	LF	\$ 5.63	\$ 8,782.80	
	1/0 THHN	20940	LF	\$ 6.42	\$ 134,434.80	
	4/0 THHN	1460	LF	\$ 10.91	\$ 15,928.60	
	500MCM THHN	7710	LF	\$ 22.27	\$ 171,701.70	
	600MCM THHN	76410	LF	\$ 26.46	\$ 2,021,808.60	
	Motor Connecting & Disconnect Sws	1	LS	\$ 20,910.00	\$ 20,910.00	
	Fire Alarm					
	Smoke Detectors	226	EA	\$ 393.45	\$ 88,919.70	
	Tie in for Security	1	LS	\$ 4,535.00	\$ 4,535.00	
	Tie in for Existing House System	1	LS	\$ 11,913.00	\$ 11,913.00	
	Test, Tag & Filling	1	LS	\$ 8,579.00	\$ 8,579.00	
	DGP	1	EA	\$ 1,672.00	\$ 1,672.00	
	Branch Cabling / FA Loop	12100	LF	\$ 12.19	\$ 147,499.00	
	Base building Devices	1	LS	\$ 10,000.00	\$ 10,000.00	
	Generators					
	2000KW Emergency Generators	2	EA	\$ 435,000.00	\$ 870,000.00	
	2000KW Standby Generators (Install Only)	2	EA	\$ 25,132.00	\$ 50,264.00	
	4000A ATS Closed Transition (Install Only)	2	EA	\$ 14,530.00	\$ 29,060.00	
	Control Wiring	16480	LF	\$ 0.74	\$ 12,195.20	
	UPS					
	UPS System Material	3000	KVA	\$ 630.00	\$ 1,890,000.00	
	750 KVA Modules (Install only)	4	EA	\$ 4,506.00	\$ 18,024.00	
	SCC Cabinet (Install Only)	2	EA	\$ 12,017.00	\$ 24,034.00	
	Batteries (Install Only)	640	EA	\$ 307.54	\$ 196,825.60	
	Battery Cabinets (Install Only)	4	EA	\$ 7,565.00	\$ 30,260.00	
	Battery Disconnect Sws (Install Only)	4	EA	\$ 4,326.00	\$ 17,304.00	
	Control Wiring	1	LS	\$ 81,405.00	\$ 81,405.00	
	H/V Cabling					
	6" PVC	220	LF	\$ 37.31	\$ 8,208.20	
	6" RGS	280	LF	\$ 158.00	\$ 44,240.00	
	1/0 XLPE	1560	LF	\$ 11.97	\$ 18,673.20	
	500MCM THHN	520	LF	\$ 22.27	\$ 11,580.40	
	Service Equipment					
	Unit Substation 26kv - 480-277 2500KW	1	EA	\$ 238,000.00	\$ 238,000.00	
	Unit Substation 26kv - 480-277 2500KW (Install Only)	1	EA	\$ 52,713.00	\$ 52,713.00	
	Switchboards & Service Equipment	1	LS	\$ 1,200,000.00	\$ 1,200,000.00	
	Swbrd 200A 480/277v 4000A (Install Only)	1	EA	\$ 55,627.00	\$ 49,017.00	
	Swbrd 200B 480/277v 4000A (Install Only)	1	EA	\$ 55,627.00	\$ 55,627.00	

**108 Pierson Ave. BUDGET ESTIMATE**  
**1MW / 100W per SF Pods**  
**(Typical)**

26000	Electric Continued					
	OPD 200A 480/277v 2000A (Install Only)	1	EA	\$ 16,090.00	\$ 16,090.00	
	OPD 200B 480/277v 2000A (Install Only)	1	EA	\$ 16,090.00	\$ 16,090.00	
	ACDP-200A 480/277v 1200A (Install Only)	1	EA	\$ 13,447.00	\$ 13,447.00	
	ACDP-200B 480/277v 1200A (Install Only)	1	EA	\$ 13,447.00	\$ 13,447.00	
	MSA 480/277v 2000A	1	EA	\$ 80,154.00	\$ 80,154.00	
	LP-200D	1	EA	\$ 6,200.00	\$ 6,200.00	
	RP-200D	1	EA	\$ 3,397.00	\$ 3,397.00	
	4000A Feeder Bus (Install Only)	105	LF	\$ 66.10	\$ 6,940.50	
	15KVA T/F	1	EA	\$ 3,698.00	\$ 3,698.00	
	800A ATS	1	EA	\$ 36,513.00	\$ 36,513.00	
	225A MTS`	1	EA	\$ 24,672.00	\$ 24,672.00	
	100A ATS	1	EA	\$ 7,555.00	\$ 7,555.00	
	PDU	10	EA	\$ 15,753.00	\$ 157,530.00	
	300KVA PDU(s) (Install Only)	10	EA	\$ 9,057.00	\$ 90,570.00	
	Raised Floor Grounding					
	2/O Grounding Conductor	3849	LF	\$ 8.27	\$ 31,831.23	
	Post Clamps	840	EA	\$ 37.15	\$ 31,206.00	
	Clips	1680	EA	\$ 3.11	\$ 5,224.80	
	EPO System	1	LS	\$ 50,000.00	\$ 50,000.00	
	3rd Party Testing	1	LS	\$ 150,000.00	\$ 150,000.00	
	Rigging	1	LS	\$ 90,000.00	\$ 90,000.00	
	Commissioning	1	LS	\$ 150,000.00	\$ 150,000.00	
						\$ 9,345,202.07
28000	Security					
	Per Allowance	1	LS	\$ 150,000.00	\$ 150,000.00	\$ 150,000.00
310000	Earthwork					
	Excavation / Backfill for new Conduit Ductbanks	248.88	CY	\$ 65.00	\$ 16,177.20	\$ 16,177.20
323100	Fencing					
	Fence (Typical Roof Top Equipment Std)	196	LF	\$ 145.00	\$ 28,420.00	\$ 28,420.00
						\$ 28,420.00
	<b>Total Trade Cost</b>					<b>\$ 14,707,821.20</b>
<b>Description</b>	<b>Markup Percent</b>					<b>Markup Amount</b>
Construction Contingency	5%					\$ 735,391.06
Design Contingency	5%					\$ 772,160.61
General Conditions	Included Above					\$ -
Insurance	1.50%					\$ 243,230.59
Fee	TBD					\$ -
	<b>Total Cost Inclusive of Equipment</b>					<b>\$ 15,686,442.85</b>

**Add Alternate**

Cost for Public Corridor Around PODS

3192 SF

\$115.50 | \$ 368,676.00 || \$

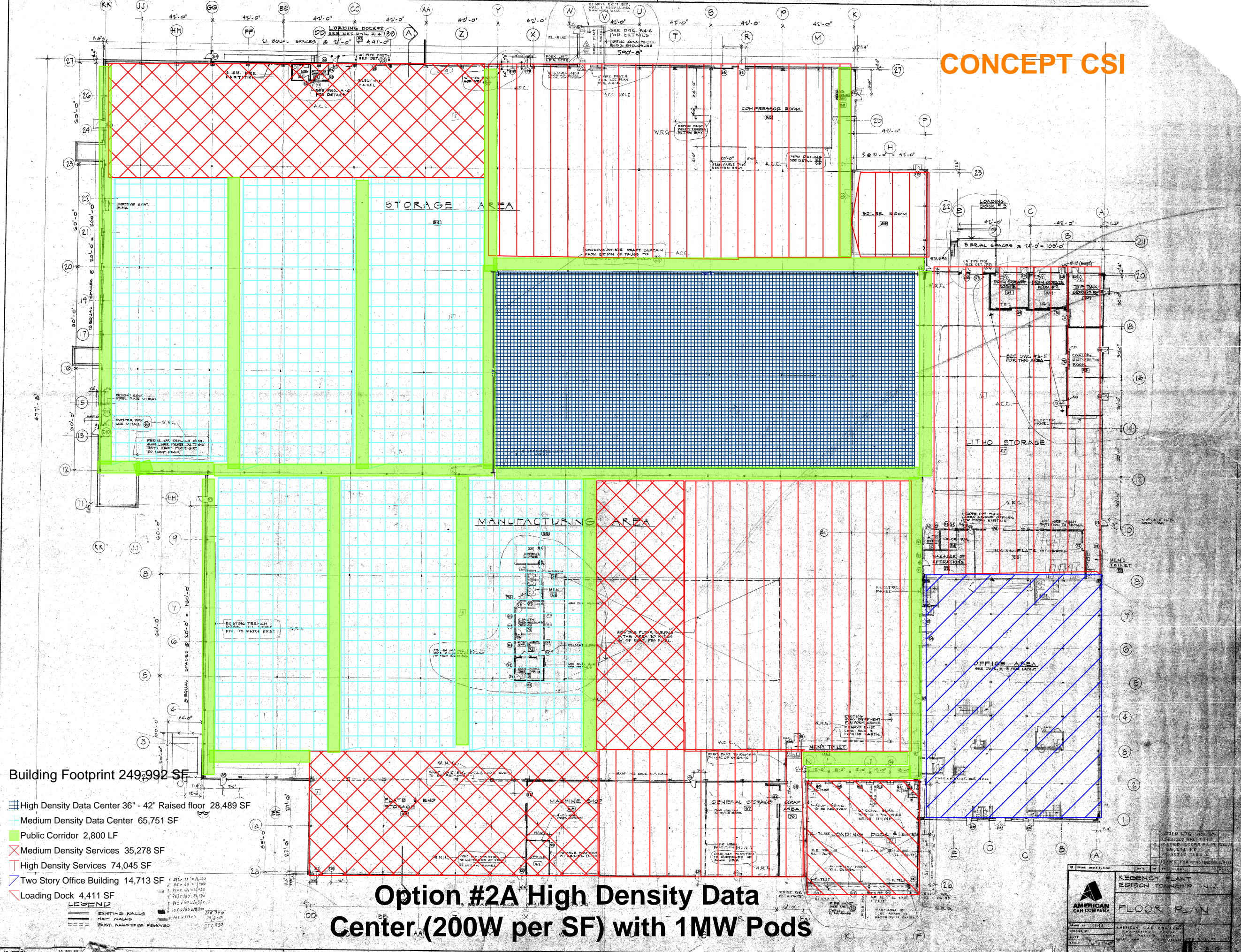


**BUDGET ESTIMATE  
HIGH DENSITY DATA CENTER  
Day 1 Fit Out  
SUMMARY SHEET**

TRADE	DESCRIPTION	Option 2A		Option 2B	
		200 W / SF	200 W / SF	300 W / SF	300 W / SF
		Full Fit Out	Reduced Scope	Full Fit Out	Reduced Scope
		30,000 SF White	10,000 SF White	30,000 SF White	10,000 SF White
010000	General Requirements & GC/CM Project & Job Site Mgt	\$ 1,094,272.00	\$ 609,414.00	\$ 1,182,428.00	\$ 829,804.00
020000	Existing Conditions / Demolition	\$ 9,600.00	\$ 9,600.00	\$ 9,600.00	\$ 9,600.00
030000	Concrete	\$ 466,430.00	\$ 314,810.00	\$ 781,510.00	\$ 485,120.00
040000	Masonry	\$ 180,000.00	\$ 180,000.00	\$ 180,000.00	\$ 180,000.00
051000	Structural Steel	\$ 100,000.00	\$ 100,000.00	\$ 100,000.00	\$ 100,000.00
061000	Carpentry	\$ 25,750.00	\$ 25,750.00	\$ 25,750.00	\$ 25,750.00
075000	Roofing	\$ 63,000.00	\$ 26,000.00	\$ 63,000.00	\$ 26,000.00
081000	Doors & Frames	\$ 19,350.00	\$ 19,350.00	\$ 19,350.00	\$ 19,350.00
092000	Drywall	\$ 378,771.22	\$ 378,771.22	\$ 378,771.22	\$ 378,771.22
095100	ACT & Grid System	\$ 299,250.00	\$ 105,000.00	\$ 299,250.00	\$ 105,000.00
096500	Resilient Flooring	\$ 4,020.00	\$ 4,020.00	\$ 4,020.00	\$ 4,020.00
096900	Access Flooring	\$ 549,753.75	\$ 172,252.50	\$ 549,753.75	\$ 172,252.50
099100	Painting	\$ 205,378.75	\$ 216,003.75	\$ 294,618.25	\$ 295,743.25
21000	Fire Suppression	\$ 1,003,958.02	\$ 458,518.07	\$ 1,163,389.77	\$ 525,230.40
23000	HVAC	\$ 22,209,888.62	\$ 10,787,058.34	\$ 29,310,274.94	\$ 14,438,241.02
25000	BMS	\$ 750,000.00	\$ 300,000.00	\$ 1,100,000.00	\$ 350,000.00
26000	Electric	\$ 53,582,982.78	\$ 25,388,102.69	\$ 77,548,644.78	\$ 39,018,281.69
28000	Security	\$ 375,000.00	\$ 375,000.00	\$ 400,000.00	\$ 400,000.00
310000	Earthwork	\$ 103,090.00	\$ 103,090.00	\$ 162,500.00	\$ 162,500.00
323100	Fencing	\$ 72,500.00	\$ 72,500.00	\$ 72,500.00	\$ 72,500.00
	<b>Total Trade Cost</b>	<b>\$ 81,492,995.14</b>	<b>\$ 39,645,240.57</b>	<b>\$ 113,645,360.71</b>	<b>\$ 57,598,164.08</b>
<b>Description</b>	<b>Markup Percent</b>	<b>Markup Amount</b>	<b>Markup Amount</b>	<b>Markup Amount</b>	<b>Markup Amount</b>
Construction Contingency	5%	\$ 4,074,649.76	\$ 1,982,262.03	\$ 5,682,268.04	\$ 2,879,908.20
Design Contingency	5%	\$ 4,278,382.24	\$ 2,081,375.13	\$ 5,966,381.44	\$ 3,023,903.61
General Conditions	Included Above	\$ -	\$ -	\$ -	\$ -
Insurance	1.50%	\$ 1,347,690.41	\$ 655,633.17	\$ 1,879,410.15	\$ 952,529.64
Fee	TBD	\$ -	\$ -	\$ -	\$ -
	<b>Total Cost Inclusive of Equipment</b>	<b>\$ 87,119,067.79</b>	<b>\$ 42,382,248.87</b>	<b>\$ 121,491,152.30</b>	<b>\$ 61,574,597.33</b>



CONCEPT CSI



Building Footprint 249,992 SF

- High Density Data Center 36" - 42" Raised floor 28,489 SF
  - Medium Density Data Center 65,751 SF
  - Public Corridor 2,800 LF
  - Medium Density Services 35,278 SF
  - High Density Services 74,045 SF
  - Two Story Office Building 14,713 SF
  - Loading Dock 4,411 SF
- LEGEND**
- EXISTING WALLS
  - NEW WALLS
  - EXIST. WALLS TO BE REMOVED

## Option #2A High Density Data Center (200W per SF) with 1MW Pods

AMERICAN CAN COMPANY

REGENCY PLANT  
EDISON TORRINGTON, N.J.

FLOOR PLAN

DATE: 11/12  
 DRAWN BY: [Name]  
 CHECKED BY: [Name]  
 SCALE: 1/8" = 1'-0"

108 Pierson Ave.  
**BUDGET ESTIMATE**  
**HIGH DENSITY DATA CENTER 28,000 SF 200W PER SF 2N+1**  
**Day 1**

TRADE	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT	TOTAL
<b>010000</b>	<b>General Requirements &amp; GC/CM Project &amp; Job Site Mgt</b>					
	Site Staff					
	Project Executive	0.25	Week	\$ 4,000.00	\$ 1,000.00	
	Senior Project Manager	1	Week	\$ 3,800.00	\$ 3,800.00	
	Superintendent	1	Week	\$ 2,750.00	\$ 2,750.00	
	Project Engineer	1	Week	\$ 2,500.00	\$ 2,500.00	
	Project Estimator	0.25	Week	\$ 2,500.00	\$ 625.00	
	Assistant PM / Superintendent	1	Week	\$ 1,759.00	\$ 1,759.00	
	Plan Clerk /Secretary	0.5	Week	\$ 1,000.00	\$ 500.00	
	Clerical	0.5	Week	\$ 1,000.00	\$ 500.00	
	Phones	5	Week	\$ 100.00	\$ 500.00	
	Laborers	80	Hours	\$ 70.00	\$ 5,600.00	
	Laborers O/T	20	Hours	\$ 94.00	\$ 1,880.00	
	Mini Containers	25	Week	\$ 25.00	\$ 625.00	
	Total Cost per Week (Job Duration)	48	Weeks	\$ 22,039.00	\$ 1,057,872.00	
	Fixed Cost for Job Duration (Per Suite)					
	Drawing Reproduction	1	Allowance	\$ 15,000.00	\$ 15,000.00	
	OSHA Protection	80	Hours	\$ 105.00	\$ 8,400.00	
	Office Supplies / Copies	1	LS	\$ 6,500.00	\$ 6,500.00	
	Tools & Equipment	1	LS	\$ 3,000.00	\$ 3,000.00	
	Cleaning Supplies	1	LS	\$ 2,000.00	\$ 2,000.00	
	Radios	1	LS	\$ 1,500.00	\$ 1,500.00	
						\$ 1,094,272.00
<b>020000</b>	<b>Existing Conditions / Demolition</b>					
	Removal of exterior wall / louver	960	SF	\$ 10.00	\$ 9,600.00	
						\$ 9,600.00
<b>030000</b>	<b>Concrete</b>					
	Equipment Pads					
	CW Pumps	1	LS	\$ 50,000.00	\$ 50,000.00	
	Generators	18	EA	\$ 12,635.00	\$ 227,430.00	
	Concrete Encasement for Ductbank	1000	CY	\$ 189.00	\$ 189,000.00	
						\$ 466,430.00

108 Pierson Ave.  
**BUDGET ESTIMATE**  
**HIGH DENSITY DATA CENTER 28,000 SF 200W PER SF 2N+1**  
**Day 1**

040000	Masonry					
	Misc Patching in Walls / Floor	1	LS	\$ 120,000.00	\$ 120,000.00	
	Core Drill / Patch Exterior for new Ductbank	1	LS	\$ 60,000.00	\$ 60,000.00	\$ 180,000.00
051000	Structural Steel					
	Allow for Misc Supports	1	LS	\$ 100,000.00	\$ 100,000.00	\$ 100,000.00
061000	Carpentry					
	Misc Protection	1	LS	\$ 6,500.00	\$ 10,900.00	
	Door & Frames Double	4	EA	\$ 400.00	\$ 1,600.00	
	Door & Frames Single	15	EA	\$ 350.00	\$ 5,250.00	
	Hardware Allowance	20	LS	\$ 400.00	\$ 8,000.00	\$ 25,750.00
075000	Roofing					
	Allow for Mechanical Supports / Penetrations	1	LS	\$ 63,000.00	\$ 63,000.00	\$ 63,000.00
081000	Doors & Frames					
	Type A 3'0" X 8'0" HM	15	EA	\$ 850.00	\$ 12,750.00	
	Type B (2ea) 3'0" X 8'0" HM	4	EA	\$ 1,650.00	\$ 6,600.00	\$ 19,350.00
092000	Drywall					
	1 HR - 3 5/8" (20GA 16:OC) ONE LAYER ON EACH SIDE WITH 3" SAB	482	LF	\$ 114.46	\$ 55,169.72	
	1 HR - SAME AS TYPE 1 BUT WITH FOIL BACK AND VAP BARRIER ON ONE SIDE	1348	LF	\$ 196.20	\$ 264,477.60	
	Hilti Fireproof spray at head of rated walls	1830	LF	\$ 11.80	\$ 21,594.00	
	Frame out opening for new door	20	EA	\$ 88.50	\$ 1,770.00	
	double up studs at doors	20	EA	\$ 88.50	\$ 1,770.00	
	Box out column in data center 2x2	13	EA	\$ 590.00	\$ 7,670.00	
	Box out column in data center (pipe chase) 3x3	2	EA	\$ 826.00	\$ 1,652.00	
	New mechanical shaft 3x3 Type 5	3	EA	\$ 1,770.00	\$ 5,310.00	
	Corner beads	25	EA	\$ 88.50	\$ 2,212.50	
	new meets exiting	2	EA	\$ 88.50	\$ 177.00	
	Job condition	6	EA	\$ 76.70	\$ 460.20	
	Add for spacer bars at all partitions	1830	LF	\$ 3.54	\$ 6,478.20	
	Layout & Deliveries	1	LS	\$ 10,030.00	\$ 10,030.00	\$ 378,771.22
095100	ACT & Grid System					
	ACT & Grid System	28500	LF	\$ 10.50	\$ 299,250.00	\$ 299,250.00

108 Pierson Ave.  
**BUDGET ESTIMATE**  
**HIGH DENSITY DATA CENTER 28,000 SF 200W PER SF 2N+1**  
**Day 1**

096500	Resilient Flooring					
	B-1 Base	600	LF	\$ 2.15	\$ 1,290.00	
	VCT-1	420	SF	\$ 6.50	\$ 2,730.00	\$ 4,020.00
096900	Access Flooring					
	Access Flooring	28500	SF	\$ 15.96	\$ 454,860.00	
	Provide 15% Coverage of Perf Tile	1125	EA	\$ 84.35	\$ 94,893.75	\$ 549,753.75
099100	Painting					
	Painting & Prime Steel	1	LS	\$ 7,300.00	\$ 7,300.00	
	Concrete Sealer	28500	SF	\$ 0.75	\$ 21,375.00	
	Door & Frames Double	5	EA	\$ 150.00	\$ 750.00	
	Door & Frames Single	15	EA	\$ 75.00	\$ 1,125.00	
	P-1 Walls	40400	SF	\$ 1.25	\$ 50,500.00	
	EP-1 Epoxy Flooring	71045	SF	\$ 1.75	\$ 124,328.75	\$ 205,378.75
21000	Fire Suppression					
	Preaction Upright Heads	845	EA	\$ 267.03	\$ 225,640.35	
	Preaction System Equipment	1	LS	\$ 189,000.00	\$ 189,000.00	
	Preaction Piping	14399	LF	\$ 34.33	\$ 494,317.67	
	Inspection, Test Rigs	1	LS	\$ 95,000.00	\$ 95,000.00	\$ 1,003,958.02
23000	HVAC					
	Elect. Cent'l Chillers (800 ton ea)	8	EA	\$ 465,000.00	\$ 3,720,000.00	
	VFD's for Chillers (Incl w/Chillers)				\$ -	
	Cooling Towers (800 ton ea)	8	EA	\$ 205,810.00	\$ 1,646,480.00	
	Sand Filters	4	EA	\$ 59,200.00	\$ 236,800.00	
	Pumps CW, CNDW, MUW	42,150	GPM	\$ 15.85	\$ 668,077.50	
	Duplex Condensate Pumps	8	EA	\$ 10,766.67	\$ 86,133.36	
	Flash Tanks	8	EA	\$ 14,933.33	\$ 119,466.64	
	Condensate Receiv'g Tanks (4)	1	LS	\$ 111,600.00	\$ 111,600.00	
	Expansion Tanks/Airtrols	12	EA	\$ 21,118.18	\$ 253,418.16	
	FO System for Emerg Gen's	1	LS	\$ 85,000.00	\$ 85,000.00	
	Emerg. Gen (muffler & oil conn's)	18	EA	\$ 8,000.00	\$ 144,000.00	
	Fuel Oil Pipe w/in Pipe	1,300	LF	\$ 286.67	\$ 372,671.00	
	Cabinet Unit Heaters	10	EA	\$ 3,200.00	\$ 32,000.00	
	Heat Tracing (CT"s )	1	LS	\$ 76,100.00	\$ 76,100.00	
	Fan Coil Units	12	EA	\$ 6,730.00	\$ 80,760.00	
	H & V Units	8	EA	\$ 46,592.86	\$ 372,742.88	
	CRAC Units	118	EA	\$ 16,597.78	\$ 1,958,538.04	
	Exhaust Fans	12	EA	\$ 7,957.00	\$ 95,484.00	

108 Pierson Ave.  
**BUDGET ESTIMATE**  
**HIGH DENSITY DATA CENTER 28,000 SF 200W PER SF 2N+1**  
**Day 1**

<b>23000</b>	<b>HVAC Continued</b>					
	Glycol Tank & Pump Set	1	EA	\$ 16,000.00	\$ 16,000.00	
	Glycol	30,000	GAL	\$ 9.85	\$ 295,500.00	
	Fuel Oil	72,000	GAL	\$ 2.75	\$ 198,000.00	
	Water Treatment	1	LS	\$ 100,000.00	\$ 100,000.00	
	VFD's	1	LS	\$ 130,000.00	\$ 130,000.00	
	MCC's/Starters	1	LS	\$ 121,000.00	\$ 121,000.00	
	Chilled Water Piping	34,750	LF	\$ 181.84	\$ 6,318,940.00	
	Condenser Water Piping	4,860	LF	\$ 276.00	\$ 1,341,360.00	
	C.W. Make-up Piping	2,195	LF	\$ 52.87	\$ 116,049.65	
	Generator Exhaust Piping	975	LF	\$ 567.73	\$ 553,536.75	
	Seismic / Isolation	1	LS	\$ 150,000.00	\$ 150,000.00	
	Valves, Strainers, Spec'l's	1	LS	\$ 650,000.00	\$ 650,000.00	
	Chilled Water Storage Tank 50,000 gal	2	EA	\$ 101,225.00	\$ 202,450.00	
	Make Up Water Storage Tank 500,000 gal	1	EA	\$ 486,000.00	\$ 486,000.00	
	Sheetmetal				\$ -	
	LP Ductwork	5,184	LBS	\$ 44.46	\$ 230,480.64	
	Air Balancing	150	MH'S	\$ 118.80	\$ 17,820.00	
	Drip Pans	1	LS	\$ 73,480.00	\$ 73,480.00	
	Insulation (Piping)	1	LS	\$ 500,000.00	\$ 500,000.00	
	Commissioning	1	LS	\$ 150,000.00	\$ 150,000.00	
	Temporary Cooling/Heating Standby Labor	1	LS	\$ 100,000.00	\$ 100,000.00	
	Leak Detection System	1	LS	\$ 225,000.00	\$ 225,000.00	
	Rigging	1	LS	\$ 175,000.00	\$ 175,000.00	
						\$ 22,209,888.62
<b>25000</b>	<b>BMS</b>					
	Allowance	1	LS	\$ 750,000.00	\$ 750,000.00	\$ 750,000.00
<b>26000</b>	<b>Electric</b>					
	Circuit Work				\$ -	
	Duplex Receptacles	42	EA	\$ 312.67	\$ 13,132.14	
	SPST	9	EA	\$ 312.67	\$ 2,814.03	
	Lighting				\$ -	
	Type A 1x4	150	EA	\$ 357.92	\$ 53,688.00	
	Data Center Lights	450	EA	\$ 357.92	\$ 161,064.00	
	Channel System for Data Center Lighting	3150	LF	\$ 75.33	\$ 237,289.50	
	Exits	14	EA	\$ 398.93	\$ 5,585.02	
	Branch Circuiting	12350	LF	\$ 13.46	\$ 166,231.00	
	Fire Alarm					
	Smoke Detectors	600	EA	\$ 393.45	\$ 236,070.00	
	Tie in for Security	1	LS	\$ 4,535.00	\$ 4,535.00	

108 Pierson Ave.  
**BUDGET ESTIMATE**  
**HIGH DENSITY DATA CENTER 28,000 SF 200W PER SF 2N+1**  
**Day 1**

26000	Electric Cont.					
	Tie in for Existing House System	1	LS	\$ 11,913.00	\$ 11,913.00	
	Test, Tag & Filling	1	LS	\$ 30,000.00	\$ 30,000.00	
	DGP	4	EA	\$ 1,672.00	\$ 6,688.00	
	Branch Cabling / FA Loop	35000	LF	\$ 12.19	\$ 426,650.00	
	Base building Devices	1	LS	\$ 10,000.00	\$ 10,000.00	
	General Distribution					
	Distribution Panels	6	EA	\$ 35,000.00	\$ 210,000.00	
	LP / RP Panels	25	EA	\$ 6,500.00	\$ 162,500.00	
	Misc T/F	19	EA	\$ 5,900.00	\$ 112,100.00	
	Feeds	10887	LF	\$ 45.00	\$ 489,915.00	
	MTS	5	EA	\$ 6,500.00	\$ 32,500.00	
	ATS	4	EA	\$ 13,500.00	\$ 54,000.00	
	Mechanical Plant					
	CRAH FEEDS (118ea *200' 800A)	23800	LF	\$ 125.00	\$ 2,975,000.00	
	CRAH Connections	118	EA	\$ 6,500.00	\$ 767,000.00	
	Chiller Primary Connection & Feeds	8	EA	\$ 175,000.00	\$ 1,400,000.00	
	MCC Feeds Primary	8	EA	\$ 112,500.00	\$ 900,000.00	
	MCCs	6	EA	\$ 35,000.00	\$ 210,000.00	
	Mech Feeds	24000	LF	\$ 38.00	\$ 912,000.00	
	Misc Connections	1	LS	\$ 99,000.00	\$ 99,000.00	
	Manual Trasfer Sws	12	EA	\$ 28,000.00	\$ 336,000.00	
	Generators					
	Generators 18(ea) 2000KW @ 13.2kv	36000	KW	\$ 200.00	\$ 7,200,000.00	
	Generator Parallel Dist. Switchboard @13.2kv	3	EA	\$ 850,000.00	\$ 2,550,000.00	
	Generator Instalation	36000	KW	\$ 28.00	\$ 1,008,000.00	
	Generator Feeds (13ea* 2 feeds a&b *75')	1950	LF	\$ 147.62	\$ 287,859.00	
	Feeds to Mech Sub 1A	150	LF	\$ 147.62	\$ 22,143.00	
	Feeds to Mech Sub 1B	150	LF	\$ 147.62	\$ 22,143.00	
	Feeds to Critical Sub 2A	150	LF	\$ 147.62	\$ 22,143.00	
	Feeds to Critical Sub 2B	150	LF	\$ 147.62	\$ 22,143.00	
	Feeds to Critical Sub 3A	150	LF	\$ 147.62	\$ 22,143.00	
	Feeds to Critical Sub 3B	150	LF	\$ 147.62	\$ 22,143.00	
	Feeds to Load Bank A1	150	LF	\$ 147.62	\$ 22,143.00	
	Feeds to Load Bank B1	150	LF	\$ 147.62	\$ 22,143.00	
	Gennie Wrap A	550	LF	\$ 147.62	\$ 81,191.00	
	Gennie Wrap B	550	LF	\$ 147.62	\$ 81,191.00	
	Monitoring & Control Wiring	1	LS	\$ 92,857.00	\$ 92,857.00	
	2500KW Resistive Load Bank	2	EA	\$ 180,000.00	\$ 360,000.00	

108 Pierson Ave.  
**BUDGET ESTIMATE**  
**HIGH DENSITY DATA CENTER 28,000 SF 200W PER SF 2N+1**  
**Day 1**

26000	Electric Cont.				
	Connection and Feeds for Fuel Oil Pump	1	LS	\$ 200,000.00	\$ 200,000.00
	13.2KV Primary Service				
	Feeds to 35KV Gear	2800	LF	\$ 147.50	\$ 413,000.00
	Spare Empty Conduit	2800	LF	\$ 45.00	\$ 126,000.00
	15KV to 480/277 Indoor T/F	7	EA	\$ 310,000.00	\$ 2,170,000.00
	15KV Isolation Sws	7	EA	\$ 65,000.00	\$ 455,000.00
	Incoming Primary Feed	2400	LF	\$ 147.50	\$ 354,000.00
	Spare Empty Conduit	2400	LF	\$ 45.00	\$ 108,000.00
	Mechanical Substation 1A 3000/4000KVA - 5000A Secondary	1	EA	\$ 385,000.00	\$ 385,000.00
	Mechanical Substation 1B 3000/4000KVA - 5000A Secondary	1	EA	\$ 385,000.00	\$ 385,000.00
	Critical Substation 2A 3000/4000KVA - 5000A Secondary	1	EA	\$ 385,000.00	\$ 385,000.00
	Critical Substation 2B 3000/4000KVA - 5000A Secondary	1	EA	\$ 385,000.00	\$ 385,000.00
	Critical Substation 3A 3000/4000KVA - 5000A Secondary	1	EA	\$ 385,000.00	\$ 385,000.00
	Critical Substation 3B 3000/4000KVA - 5000A Secondary	1	EA	\$ 385,000.00	\$ 385,000.00
	UPS				
	5ea 750kw Mods * 4sys	15000	KW	\$ 630.00	\$ 9,450,000.00
	UPS Instalation	15000	KW	\$ 340.00	\$ 5,100,000.00
	UPS 1A Input Feeds 1000A per Mod (3 set *4ea*100')	1200	LF	\$ 90.00	\$ 108,000.00
	UPS 1B Input Feeds 1000A per Mod (3 set *4ea*100')	1200	LF	\$ 90.00	\$ 108,000.00
	UPS 2A Input Feeds 1000A per Mod (3 set *4ea*100')	1200	LF	\$ 90.00	\$ 108,000.00
	UPS 2B Input Feeds 1000A per Mod (3 set *4ea*100')	1200	LF	\$ 90.00	\$ 108,000.00
	Bypass Feed (4000A 4ea @ 100' * 10SETS)	4000	LF	\$ 125.00	\$ 500,000.00
	UPS 1A Output Feeds 1000A per Mod (3 set *4ea*100')	1200	LF	\$ 90.00	\$ 108,000.00
	UPS 1B Output Feeds 1000A per Mod (3 set *4ea*100')	1200	LF	\$ 90.00	\$ 108,000.00
	UPS 2A Output Feeds 1000A per Mod (3 set *4ea*100')	1200	LF	\$ 90.00	\$ 108,000.00
	UPS 2B Output Feeds 1000A per Mod (3 set *4ea*100')	1200	LF	\$ 90.00	\$ 108,000.00
	Load Bank Feeds (300' *2ea * 5 sets)	3000	LF	\$ 125.00	\$ 375,000.00
	Maint Bypass (100' 4EA Systems *10sets)	4000	LF	\$ 125.00	\$ 500,000.00
	Primary Output Feed (75' * 4systems * 10 sets)	3000	LF	\$ 125.00	\$ 375,000.00
	Critical Output Dist. Gear (typ 1a,1b, )	4	EA	\$ 183,000.00	\$ 732,000.00
	Tie	400	LF	\$ 125.00	\$ 50,000.00
	Crit Output Feeds 1A & 1B 2A & 2B (400A * 200 * 2feeds * 38 PDU)	15200	LF	\$ 125.00	\$ 1,900,000.00
	Grounding	1	LS	\$ 200,000.00	\$ 200,000.00
	Monitoring & Control Wiring	1	LS	\$ 225,000.00	\$ 225,000.00
	300KVA STS PDU (F & I)	38	EA	\$ 89,000.00	\$ 3,382,000.00
	Raised Floor Grounding				
	2/0 Grounding Conductor	11547	LF	\$ 8.27	\$ 95,493.69
	Post Clamps	2520	EA	\$ 37.15	\$ 93,618.00
	Clips	5040	EA	\$ 3.11	\$ 15,674.40

108 Pierson Ave.  
**BUDGET ESTIMATE**  
**HIGH DENSITY DATA CENTER 28,000 SF 200W PER SF 2N+1**  
**Day 1**

26000	Electric Cont.				
	Pathways from Meet Me Room to Data Center				
	Misc Pull Boxes	8	EA	\$ 2,500.00	\$ 20,000.00
	Empty Conduit	10000	LF	\$ 38.00	\$ 380,000.00
	Site Telco				
	Incoming Telco	2600	LF	\$ 38.00	\$ 98,800.00
	Innerduct	7800	LF	\$ 5.60	\$ 43,680.00
	Spare Conduit	2600	LF	\$ 38.00	\$ 98,800.00
	EPO System	1	LS	\$ 150,000.00	\$ 150,000.00
	3rd Party Testing	1	LS	\$ 500,000.00	\$ 500,000.00
	Rigging	1	LS	\$ 350,000.00	\$ 350,000.00
	Commissioning	1	LS	\$ 300,000.00	\$ 300,000.00
					\$ 53,582,982.78
28000	Security				
	Per Allowance from Safir / Rosetti	1	LS	\$ 375,000.00	\$ 375,000.00
					\$ 375,000.00
310000	Earthwork				
	Excavation / Backfill for new Conduit Ductbanks	1586	CY	\$ 65.00	\$ 103,090.00
					\$ 103,090.00
323100	Fencing				
	Fence	500	LF	\$ 145.00	\$ 72,500.00
					\$ 72,500.00
Total Trade Cost					\$ 81,492,995.14
Description	Markup Percent				Markup Amount
Construction Contingency	5%				\$ 4,074,649.76
Design Contingency	5%				\$ 4,278,382.24
General Conditions	Included Above				\$ -
Insurance	1.50%				\$ 1,347,690.41
Fee	TBD				\$ -
Total Cost Inclusive of Equipment					\$ 87,119,067.79

108 Pierson Ave.  
BUDGET ESTIMATE

HIGH DENSITY DATA CENTER 10,000SF Reduced Infrastructure Expandable to 28,000 SF 200W PER SF 2N+1  
Day 1

TRADE	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT	TOTAL
<b>010000</b>	<b>General Requirements &amp; GC/CM Project &amp; Job Site Mgt</b>					
	Site Staff (Based on Combined Staff for Suite 200 & Suite 230)					
	Project Executive	0.25	Week	\$ 4,000.00	\$ 1,000.00	
	Senior Project Manager	1	Week	\$ 3,800.00	\$ 3,800.00	
	Superintendent	1	Week	\$ 2,750.00	\$ 2,750.00	
	Project Engineer	1	Week	\$ 2,500.00	\$ 2,500.00	
	Project Estimator	0.25	Week	\$ 2,500.00	\$ 625.00	
	Assistant PM / Superintendant	1	Week	\$ 1,759.00	\$ 1,759.00	
	Plan Clerk /Secretary	0.5	Week	\$ 1,000.00	\$ 500.00	
	Clerical	0.5	Week	\$ 1,000.00	\$ 500.00	
	Phones	5	Week	\$ 100.00	\$ 500.00	
	Laborers	80	Hours	\$ 70.00	\$ 5,600.00	
	Laborers O/T	20	Hours	\$ 94.00	\$ 1,880.00	
	Mini Containers	25	Week	\$ 25.00	\$ 625.00	
	Total Cost per Week (Job Duration)	26	Weeks	\$ 22,039.00	\$ 573,014.00	
	Fixed Cost for Job Duration (Per Suite)					
	Drawing Reproduction	1	Allowance	\$ 15,000.00	\$ 15,000.00	
	OSHA Protection	80	Hours	\$ 105.00	\$ 8,400.00	
	Office Supplies / Copies	1	LS	\$ 6,500.00	\$ 6,500.00	
	Tools & Equipment	1	LS	\$ 3,000.00	\$ 3,000.00	
	Cleaning Supplies	1	LS	\$ 2,000.00	\$ 2,000.00	
	Radios	1	LS	\$ 1,500.00	\$ 1,500.00	
						\$ 609,414.00
<b>020000</b>	<b>Existing Conditions / Demolition</b>					
	Removal of exterior wall / louver	960	SF	\$ 10.00	\$ 9,600.00	
						\$ 9,600.00
<b>030000</b>	<b>Concrete</b>					
	Equipment Pads					
	CW Pumps	1	LS	\$ 50,000.00	\$ 50,000.00	
	Generators	6	EA	\$ 12,635.00	\$ 75,810.00	
	Concrete Encasement for Ductbank	1000	CY	\$ 189.00	\$ 189,000.00	
						\$ 314,810.00
<b>040000</b>	<b>Masonry</b>					
	Misc Patching in Walls / Floor	1	LS	\$ 120,000.00	\$ 120,000.00	
	Core Drill / Patch Exterior for new Ductbank	1	LS	\$ 60,000.00	\$ 60,000.00	
						\$ 180,000.00

108 Pierson Ave.  
BUDGET ESTIMATE

HIGH DENSITY DATA CENTER 10,000SF Reduced Infrastructure Expandable to 28,000 SF 200W PER SF 2N+1  
Day 1

051000	Structural Steel						
	Allow for Misc Supports	1	LS	\$ 100,000.00	\$ 100,000.00		\$ 100,000.00
<b>061000</b>	<b>Carpentry</b>						
	Misc Protection	1	LS	\$ 6,500.00	\$ 10,900.00		
	Door & Frames Double	4	EA	\$ 400.00	\$ 1,600.00		
	Door & Frames Single	15	EA	\$ 350.00	\$ 5,250.00		
	Hardware Allowance	20	LS	\$ 400.00	\$ 8,000.00		\$ 25,750.00
<b>075000</b>	<b>Roofing</b>						
	Allow for Mechanical Supports / Penetrations	1	LS	\$ 26,000.00	\$ 26,000.00		\$ 26,000.00
<b>081000</b>	<b>Doors &amp; Frames</b>						
	Type A 3'0" X 8'0" HM	15	EA	\$ 850.00	\$ 12,750.00		
	Type B (2ea) 3'0" X 8'0" HM	4	EA	\$ 1,650.00	\$ 6,600.00		\$ 19,350.00
<b>092000</b>	<b>Drywall</b>						
	1 HR - 3 5/8" (20GA 16:OC) ONE LAYER ON EACH SIDE WITH 3" SAB	482	LF	\$ 114.46	\$ 55,169.72		
	1 HR - SAME AS TYPE 1 BUT WITH FOIL BACK AND VAP BARRIER ON ONE SIDE	1348	LF	\$ 196.20	\$ 264,477.60		
	Hilti Fireproof spray at head of rated walls	1830	LF	\$ 11.80	\$ 21,594.00		
	Frame out opening for new door	20	EA	\$ 88.50	\$ 1,770.00		
	double up studs at doors	20	EA	\$ 88.50	\$ 1,770.00		
	Box out column in data center 2x2	13	EA	\$ 590.00	\$ 7,670.00		
	Box out column in data center (pipe chase) 3x3	2	EA	\$ 826.00	\$ 1,652.00		
	New mechanical shaft 3x3 Type 5	3	EA	\$ 1,770.00	\$ 5,310.00		
	Corner beads	25	EA	\$ 88.50	\$ 2,212.50		
	new meets exiting	2	EA	\$ 88.50	\$ 177.00		
	Job condition	6	EA	\$ 76.70	\$ 460.20		
	Add for spacer bars at all partitions	1830	LF	\$ 3.54	\$ 6,478.20		
	Layout & Deliveries	1	LS	\$ 10,030.00	\$ 10,030.00		\$ 378,771.22
<b>095100</b>	<b>ACT &amp; Grid System</b>						
	ACT & Grid System	10000	LF	\$ 10.50	\$ 105,000.00		\$ 105,000.00
<b>096500</b>	<b>Resilient Flooring</b>						
	B-1 Base	600	LF	\$ 2.15	\$ 1,290.00		
	VCT-1	420	SF	\$ 6.50	\$ 2,730.00		\$ 4,020.00

**108 Pierson Ave.  
BUDGET ESTIMATE**

**HIGH DENSITY DATA CENTER 10,000SF Reduced Infrastructure Expandable to 28,000 SF 200W PER SF 2N+1  
Day 1**

<b>096900</b>	<b>Access Flooring</b>					
	Access Flooring	10000	SF	\$ 15.96	\$ 159,600.00	
	Provide 15% Coverage of Perf Tile	150	EA	\$ 84.35	\$ 12,652.50	
						\$ 172,252.50
<b>099100</b>	<b>Painting</b>					
	Painting & Prime Steel	1	LS	\$ 7,300.00	\$ 7,300.00	
	Concrete Sealer	30000	SF	\$ 0.75	\$ 22,500.00	
	Door & Frames Double	5	EA	\$ 150.00	\$ 750.00	
	Door & Frames Single	15	EA	\$ 75.00	\$ 1,125.00	
	P-1 Walls	48000	SF	\$ 1.25	\$ 60,000.00	
	EP-1 Epoxy Flooring	71045	SF	\$ 1.75	\$ 124,328.75	
						\$ 216,003.75
<b>21000</b>	<b>Fire Suppression</b>					
	Preaction Upright Heads	280	EA	\$ 267.03	\$ 74,768.40	
	Preaction System Equipment	1	LS	\$ 189,000.00	\$ 189,000.00	
	Preaction Piping	4799	LF	\$ 34.33	\$ 164,749.67	
	Inspection, Test Rigs	1	LS	\$ 30,000.00	\$ 30,000.00	
						\$ 458,518.07
<b>23000</b>	<b>HVAC</b>					
	Elect. Cent'l Chillers (1000 ton ea)	4	EA	\$ 465,000.00	\$ 1,860,000.00	
	VFD's for Chillers (Incl w/Chillers)				\$ -	
	Cooling Towers (1000 ton ea)	4	EA	\$ 205,810.00	\$ 823,240.00	
	Sand Filters	2	EA	\$ 59,200.00	\$ 118,400.00	
	Pumps CW, CNDW, MUW	14,050	GPM	\$ 15.85	\$ 222,692.50	
	Duplex Condensate Pumps	2	EA	\$ 10,766.67	\$ 21,533.34	
	Flash Tanks	2	EA	\$ 14,933.33	\$ 29,866.66	
	Condensate Receiv'g Tanks (4)	1	LS	\$ 111,600.00	\$ 111,600.00	
	Expansion Tanks/Airtrols	4	EA	\$ 21,118.18	\$ 84,472.72	
	FO System for Emerg Gen's	1	LS	\$ 85,000.00	\$ 85,000.00	
	Emerg. Gen (muffler & oil conn's)	6	EA	\$ 8,000.00	\$ 48,000.00	
	Fuel Oil Pipe w/in Pipe	1,300	LF	\$ 286.67	\$ 372,671.00	
	Cabinet Unit Heaters	10	EA	\$ 3,200.00	\$ 32,000.00	
	Heat Tracing (CT"s )	1	LS	\$ 76,100.00	\$ 76,100.00	
	Fan Coil Units	12	EA	\$ 6,730.00	\$ 80,760.00	
	H & V Units	8	EA	\$ 46,592.86	\$ 372,742.88	
	CRAC Units	33	EA	\$ 16,597.78	\$ 547,726.74	
	Exhaust Fans	2	EA	\$ 7,957.00	\$ 15,914.00	

108 Pierson Ave.  
BUDGET ESTIMATE

HIGH DENSITY DATA CENTER 10,000SF Reduced Infrastructure Expandable to 28,000 SF 200W PER SF 2N+1  
Day 1

23000	HVAC Cont.					
	Glycol Tank & Pump Set	1	EA	\$ 16,000.00	\$ 16,000.00	
	Glycol	7,000	GAL	\$ 9.85	\$ 68,950.00	
	Fuel Oil	30,000	GAL	\$ 2.75	\$ 82,500.00	
	Water Treatment	1	LS	\$ 100,000.00	\$ 100,000.00	
	VFD's	1	LS	\$ 130,000.00	\$ 130,000.00	
	MCC's/Starters	1	LS	\$ 121,000.00	\$ 121,000.00	
	Chilled Water Piping	12,015	LF	\$ 181.84	\$ 2,184,807.60	
	Condenser Water Piping	4,860	LF	\$ 276.00	\$ 1,341,360.00	
	C.W. Make-up Piping	2,195	LF	\$ 52.87	\$ 116,049.65	
	Generator Exhaust Piping	375	LF	\$ 567.73	\$ 212,898.75	
	Seismic / Isolation	1	LS	\$ 50,000.00	\$ 50,000.00	
	Valves, Strainers, Spec'l's	1	LS	\$ 275,000.00	\$ 275,000.00	
	Chilled Water Storage Tank 50,000 gal	1	EA	\$ 101,225.00	\$ 101,225.00	
	Make Up Water Storage Tank 500,000 gal	1	EA	\$ 486,000.00	\$ 486,000.00	
	Sheetmetal				\$ -	
	LP Ductwork	1,625	LBS	\$ 44.46	\$ 72,247.50	
	Air Balancing	150	MH'S	\$ 118.80	\$ 17,820.00	
	Drip Pans	1	LS	\$ 73,480.00	\$ 73,480.00	
	Insulation (Piping)	1	LS	\$ 200,000.00	\$ 200,000.00	
	Commissioning	1	LS	\$ 50,000.00	\$ 50,000.00	
	Temporary Cooling/Heating Standby Labor	1	LS	\$ 30,000.00	\$ 30,000.00	
	Leak Detection System	1	LS	\$ 75,000.00	\$ 75,000.00	
	Rigging	1	LS	\$ 80,000.00	\$ 80,000.00	
						\$ 10,787,058.34
25000	BMS					
	Allowance	1	LS	\$ 300,000.00	\$ 300,000.00	\$ 300,000.00
26000	Electric					
	Circuit Work				\$ -	
	Duplex Receptacles	42	EA	\$ 312.67	\$ 13,132.14	
	SPST	9	EA	\$ 312.67	\$ 2,814.03	
	Lighting				\$ -	
	Type A 1x4	150	EA	\$ 357.92	\$ 53,688.00	
	Data Center Lights	175	EA	\$ 357.92	\$ 62,636.00	
	Channel System for Data Center Lighting	1050	LF	\$ 75.33	\$ 79,096.50	
	Exits	14	EA	\$ 398.93	\$ 5,585.02	
	Branch Circuiting	3500	LF	\$ 13.46	\$ 47,110.00	

108 Pierson Ave.  
BUDGET ESTIMATE

HIGH DENSITY DATA CENTER 10,000SF Reduced Infrastructure Expandable to 28,000 SF 200W PER SF 2N+1  
Day 1

26000	Electric Cont.					
	Fire Alarm					
	Smoke Detectors	200	EA	\$ 393.45	\$ 78,690.00	
	Tie in for Security	1	LS	\$ 4,535.00	\$ 4,535.00	
	Tie in for Existing House System	1	LS	\$ 11,913.00	\$ 11,913.00	
	Test, Tag & Filling	1	LS	\$ 30,000.00	\$ 30,000.00	
	DGP	4	EA	\$ 1,672.00	\$ 6,688.00	
	Branch Cabling / FA Loop	10000	LF	\$ 12.19	\$ 121,900.00	
	Base building Devices	1	LS	\$ 10,000.00	\$ 10,000.00	
	General Distribution					
	Distribution Panels	6	EA	\$ 35,000.00	\$ 210,000.00	
	LP / RP Panels	25	EA	\$ 6,500.00	\$ 162,500.00	
	Misc T/F	19	EA	\$ 5,900.00	\$ 112,100.00	
	Feeds	10887	LF	\$ 45.00	\$ 489,915.00	
	MTS	5	EA	\$ 6,500.00	\$ 32,500.00	
	ATS	4	EA	\$ 13,500.00	\$ 54,000.00	
	Mechanical Plant					
	CRAH FEEDS (40ea *200' 800A)	8000	LF	\$ 125.00	\$ 1,000,000.00	
	CRAH Connections	40	EA	\$ 6,500.00	\$ 260,000.00	
	Chiller Primary Connection & Feeds	2	EA	\$ 175,000.00	\$ 350,000.00	
	MCC Feeds Primary	2	EA	\$ 112,500.00	\$ 225,000.00	
	MCCs	2	EA	\$ 35,000.00	\$ 70,000.00	
	Mech Feeds	8000	LF	\$ 38.00	\$ 304,000.00	
	Misc Connections	1	LS	\$ 99,000.00	\$ 99,000.00	
	Manual Trasfer Sws	4	EA	\$ 28,000.00	\$ 112,000.00	
	Generators					
	Generators 6(ea) 2000KW @ 13.2kv	12000	KW	\$ 200.00	\$ 2,400,000.00	
	Generator Parallel Dist. Switchboard @13.2kv	1	EA	\$ 850,000.00	\$ 850,000.00	
	Generator Instalation	12000	KW	\$ 28.00	\$ 336,000.00	
	Generator Feeds (5ea* 2 feeds a&b *75')	750	LF	\$ 147.62	\$ 110,715.00	
	Feeds to Mech Sub 1A	150	LF	\$ 147.62	\$ 22,143.00	
	Feeds to Critical Sub 2A	150	LF	\$ 147.62	\$ 22,143.00	
	Feeds to Critical Sub 2B	150	LF	\$ 147.62	\$ 22,143.00	
	Feeds to Load Bank B1	150	LF	\$ 147.62	\$ 22,143.00	
	Gennie Wrap B	550	LF	\$ 147.62	\$ 81,191.00	
	Monitoring & Control Wiring	1	LS	\$ 92,857.00	\$ 92,857.00	
	2500KW Resistive Load Bank	1	EA	\$ 180,000.00	\$ 180,000.00	
	Connection and Feeds for Fuel Oil Pump	1	LS	\$ 200,000.00	\$ 200,000.00	
	13.2KV Primary Service					
	Feeds to 35KV Gear	2800	LF	\$ 147.50	\$ 413,000.00	

**108 Pierson Ave.  
BUDGET ESTIMATE**

**HIGH DENSITY DATA CENTER 10,000SF Reduced Infrastructure Expandable to 28,000 SF 200W PER SF 2N+1  
Day 1**

26000	Electric Cont.					
	Spare Empty Conduit	2800	LF	\$ 45.00	\$ 126,000.00	
	15KV to 480/277 Indoor T/F	6	EA	\$ 310,000.00	\$ 1,860,000.00	
	15KV Isolation Sws	6	EA	\$ 65,000.00	\$ 390,000.00	
	Incoming Primary Feed	2400	LF	\$ 147.50	\$ 354,000.00	
	Spare Empty Conduit	2400	LF	\$ 45.00	\$ 108,000.00	
	Mechanical Substation 1A 3000/4000KVA - 5000A Secondary	1	EA	\$ 385,000.00	\$ 385,000.00	
	Critical Substation 2A 3000/4000KVA - 5000A Secondary	1	EA	\$ 385,000.00	\$ 385,000.00	
	Critical Substation 2B 3000/4000KVA - 5000A Secondary	1	EA	\$ 385,000.00	\$ 385,000.00	
	UPS					
	5ea 750kw Mods * 2sys	7500	KW	\$ 630.00	\$ 4,725,000.00	
	UPS Instalation	7500	KW	\$ 340.00	\$ 2,550,000.00	
	UPS 1A Input Feeds 1000A per Mod (3 set *4ea*100')	1200	LF	\$ 90.00	\$ 108,000.00	
	UPS 1B Input Feeds 1000A per Mod (3 set *4ea*100')	1200	LF	\$ 90.00	\$ 108,000.00	
	Bypass Feed (4000A 4ea @ 100' * 10SETS)	4000	LF	\$ 125.00	\$ 500,000.00	
	UPS 1A Output Feeds 1000A per Mod (3 set *4ea*100')	1200	LF	\$ 90.00	\$ 108,000.00	
	UPS 1B Output Feeds 1000A per Mod (3 set *4ea*100')	1200	LF	\$ 90.00	\$ 108,000.00	
	Load Bank Feeds (300' *1ea * 5 sets)	1500	LF	\$ 125.00	\$ 187,500.00	
	Maint Bypass (100' 2EA Systems *10sets)	2000	LF	\$ 125.00	\$ 250,000.00	
	Primary Output Feed (75' * 2systems * 10 sets)	1500	LF	\$ 125.00	\$ 187,500.00	
	Critical Output Dist. Gear (typ 1a,1b, )	2	EA	\$ 183,000.00	\$ 366,000.00	
	Tie	200	LF	\$ 125.00	\$ 25,000.00	
	Crit Output Feeds 1A & 1B 2A & 2B (400A * 200 * 2feeds * 13 PDU)	5200	LF	\$ 125.00	\$ 650,000.00	
	Grounding	1	LS	\$ 200,000.00	\$ 200,000.00	
	Monitoring & Control Wiring	1	LS	\$ 225,000.00	\$ 225,000.00	
	300KVA STS PDU (F & I)	13	EA	\$ 89,000.00	\$ 1,157,000.00	
	Raised Floor Grounding					
	2/0 Grounding Conductor	3500	LF	\$ 8.27	\$ 28,945.00	
	Post Clamps	1650	EA	\$ 37.15	\$ 61,297.50	
	Clips	1750	EA	\$ 3.11	\$ 5,442.50	
	Pathways from Meet Me Room to Data Center					
	Misc Pull Boxes	8	EA	\$ 2,500.00	\$ 20,000.00	
	Empty Conduit	10000	LF	\$ 38.00	\$ 380,000.00	
	Site Telco					
	Incoming Telco	2600	LF	\$ 38.00	\$ 98,800.00	
	Innerduct	7800	LF	\$ 5.60	\$ 43,680.00	
	Spare Conduit	2600	LF	\$ 38.00	\$ 98,800.00	
	EPO System	1	LS	\$ 50,000.00	\$ 50,000.00	
	3rd Party Testing	1	LS	\$ 225,000.00	\$ 225,000.00	
	Rigging	1	LS	\$ 125,000.00	\$ 125,000.00	
	Commissioning	1	LS	\$ 150,000.00	\$ 150,000.00	
						\$ 25,388,102.69

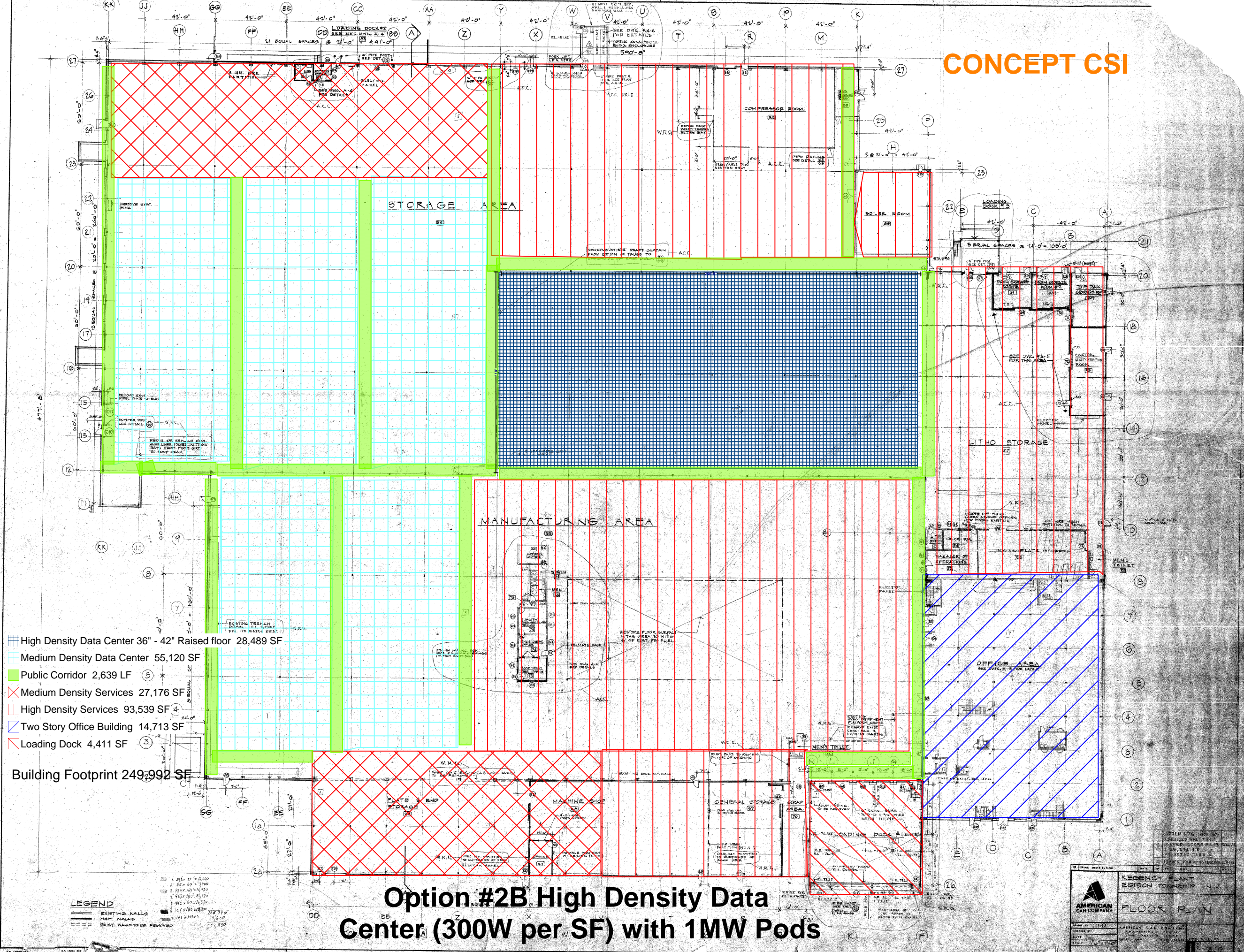


108 Pierson Ave.  
BUDGET ESTIMATE

HIGH DENSITY DATA CENTER 10,000SF Reduced Infrastructure Expandable to 28,000 SF 200W PER SF 2N+1  
Day 1

28000	Security					
	Per Allowance from Safir / Rosetti	1	LS	\$ 375,000.00	\$ 375,000.00	\$ 375,000.00
310000	Earthwork					
	Excavation / Backfill for new Conduit Ductbanks	1586	CY	\$ 65.00	\$ 103,090.00	\$ 103,090.00
323100	Fencing					
	Fence	500	LF	\$ 145.00	\$ 72,500.00	\$ 72,500.00
	<b>Total Trade Cost</b>					<b>\$39,645,240.57</b>
<b>Description</b>	<b>Markup Percent</b>					<b>Markup Amount</b>
Construction Contingency	5%					\$1,982,262.03
Design Contingency	5%					\$2,081,375.13
General Conditions	Included Above					\$0.00
Insurance	1.50%					\$60,954.56
Fee	TBD					\$ -
	<b>Total Cost Inclusive of Equipment</b>					<b>\$41,787,570.26</b>

CONCEPT CSI



- High Density Data Center 36" - 42" Raised floor 28,489 SF
- Medium Density Data Center 55,120 SF
- Public Corridor 2,639 LF
- Medium Density Services 27,176 SF
- High Density Services 93,539 SF
- Two Story Office Building 14,713 SF
- Loading Dock 4,411 SF

Building Footprint 249,992 SF

# Option #2B High Density Data Center (300W per SF) with 1MW Pods

AMERICAN CAN COMPANY

REGENCY PLANT  
EDISON TOWER #2

FLOOR PLAN

DATE: 11/12/08  
SCALE: 1/8" = 1'-0"

108 Pierson Ave.  
**BUDGET ESTIMATE**  
**HIGH DENSITY DATA CENTER 28,000 SF 300W PER SF 2N+1**  
**Day 1**

TRADE	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT	TOTAL
<b>010000</b>	<b>General Requirements &amp; GC/CM Project &amp; Job Site Mgt</b>					
	Site Staff (Based on Combined Staff for Suite 200 & Suite 230)					
	Project Executive	0.25	Week	\$ 4,000.00	\$ 1,000.00	
	Senior Project Manager	1	Week	\$ 3,800.00	\$ 3,800.00	
	Superintendent	1	Week	\$ 2,750.00	\$ 2,750.00	
	Project Engineer	1	Week	\$ 2,500.00	\$ 2,500.00	
	Project Estimator	0.25	Week	\$ 2,500.00	\$ 625.00	
	Assistant PM / Superintendent	1	Week	\$ 1,759.00	\$ 1,759.00	
	Plan Clerk /Secretary	0.5	Week	\$ 1,000.00	\$ 500.00	
	Clerical	0.5	Week	\$ 1,000.00	\$ 500.00	
	Phones	5	Week	\$ 100.00	\$ 500.00	
	Laborers	80	Hours	\$ 70.00	\$ 5,600.00	
	Laborers O/T	20	Hours	\$ 94.00	\$ 1,880.00	
	Mini Containers	25	Week	\$ 25.00	\$ 625.00	
	Total Cost per Week (Job Duration)	52	Weeks	\$ 22,039.00	\$ 1,146,028.00	
	Fixed Cost for Job Duration (Per Suite)					
	Drawing Reproduction	1	Allowance	\$ 15,000.00	\$ 15,000.00	
	OSHA Protection	80	Hours	\$ 105.00	\$ 8,400.00	
	Office Supplies / Copies	1	LS	\$ 6,500.00	\$ 6,500.00	
	Tools & Equipment	1	LS	\$ 3,000.00	\$ 3,000.00	
	Cleaning Supplies	1	LS	\$ 2,000.00	\$ 2,000.00	
	Radios	1	LS	\$ 1,500.00	\$ 1,500.00	
						\$ 1,182,428.00
<b>020000</b>	<b>Existing Conditions / Demolition</b>					
	Removal of exterior wall / louver	960	SF	\$ 10.00	\$ 9,600.00	
						\$ 9,600.00
<b>030000</b>	<b>Concrete</b>					
	Equipment Pads					
	CW Pumps	1	LS	\$ 75,000.00	\$ 75,000.00	
	Generators	26	EA	\$ 12,635.00	\$ 328,510.00	
	Concrete Encasement for Ductbank	2000	CY	\$ 189.00	\$ 378,000.00	
						\$ 781,510.00
<b>040000</b>	<b>Masonry</b>					
	Misc Patching in Walls / Floor	1	LS	\$ 120,000.00	\$ 120,000.00	
	Core Drill / Patch Exterior for new Ductbank	1	LS	\$ 60,000.00	\$ 60,000.00	
						\$ 180,000.00
<b>051000</b>	<b>Structural Steel</b>					
	Allow for Misc Supports	1	LS	\$ 100,000.00	\$ 100,000.00	
						\$ 100,000.00
<b>061000</b>	<b>Carpentry</b>					
	Misc Protection	1	LS	\$ 6,500.00	\$ 10,900.00	
	Door & Frames Double	4	EA	\$ 400.00	\$ 1,600.00	
	Door & Frames Single	15	EA	\$ 350.00	\$ 5,250.00	
	Hardware Allowance	20	LS	\$ 400.00	\$ 8,000.00	
						\$ 25,750.00



108 Pierson Ave.  
**BUDGET ESTIMATE**  
**HIGH DENSITY DATA CENTER 28,000 SF 300W PER SF 2N+1**  
**Day 1**

075000	Roofing						
	Allow for Mechanical Supports / Penetrations	1	LS	\$ 63,000.00	\$ 63,000.00		\$ 63,000.00
081000	Doors & Frames						
	Type A 3'0" X 8'0" HM	15	EA	\$ 850.00	\$ 12,750.00		
	Type B (2ea) 3'0" X 8'0" HM	4	EA	\$ 1,650.00	\$ 6,600.00		\$ 19,350.00
092000	Drywall						
	1 HR - 3 5/8" (20GA 16:OC) ONE LAYER ON EACH SIDE WITH 3" SAB	482	LF	\$ 114.46	\$ 55,169.72		
	1 HR - SAME AS TYPE 1 BUT WITH FOIL BACK AND VAP BARRIER ON ONE SIDE	1348	LF	\$ 196.20	\$ 264,477.60		
	Hilti Fireproof spray at head of rated walls	1830	LF	\$ 11.80	\$ 21,594.00		
	Frame out opening for new door	20	EA	\$ 88.50	\$ 1,770.00		
	double up studs at doors	20	EA	\$ 88.50	\$ 1,770.00		
	Box out column in data center 2x2	13	EA	\$ 590.00	\$ 7,670.00		
	Box out column in data center (pipe chase) 3x3	2	EA	\$ 826.00	\$ 1,652.00		
	New mechanical shaft 3x3 Type 5	3	EA	\$ 1,770.00	\$ 5,310.00		
	Corner beads	25	EA	\$ 88.50	\$ 2,212.50		
	new meets exiting	2	EA	\$ 88.50	\$ 177.00		
	Job condition	6	EA	\$ 76.70	\$ 460.20		
	Add for spacer bars at all partitions	1830	LF	\$ 3.54	\$ 6,478.20		
	Layout & Deliveries	1	LS	\$ 10,030.00	\$ 10,030.00		\$ 378,771.22
095100	ACT & Grid System						
	ACT & Grid System	28500	LF	\$ 10.50	\$ 299,250.00		\$ 299,250.00
096500	Resilient Flooring						
	B-1 Base	600	LF	\$ 2.15	\$ 1,290.00		
	VCT-1	420	SF	\$ 6.50	\$ 2,730.00		\$ 4,020.00
096900	Access Flooring						
	Access Flooring	28500	SF	\$ 15.96	\$ 454,860.00		
	Provide 15% Coverage of Perf Tile	1125	EA	\$ 84.35	\$ 94,893.75		\$ 549,753.75
099100	Painting						
	Painting & Prime Steel	1	LS	\$ 7,300.00	\$ 7,300.00		
	Concrete Sealer	28500	SF	\$ 0.75	\$ 21,375.00		
	Door & Frames Double	5	EA	\$ 150.00	\$ 750.00		
	Door & Frames Single	15	EA	\$ 75.00	\$ 1,125.00		
	P-1 Walls	40400	SF	\$ 1.25	\$ 50,500.00		
	EP-1 Epoxy Flooring	122039	SF	\$ 1.75	\$ 213,568.25		\$ 294,618.25
21000	Fire Suppression						
	Preaction Upright Heads	1016	EA	\$ 267.03	\$ 271,302.48		
	Preaction System Equipment	1	LS	\$ 189,000.00	\$ 189,000.00		
	Preaction Piping	17713	LF	\$ 34.33	\$ 608,087.29		
	Inspection, Test Rigs	1	LS	\$ 95,000.00	\$ 95,000.00		\$ 1,163,389.77

108 Pierson Ave.  
**BUDGET ESTIMATE**  
**HIGH DENSITY DATA CENTER 28,000 SF 300W PER SF 2N+1**  
**Day 1**

23000	HVAC					
	Elect. Cent'l Chillers (1000 ton ea)	8	EA	\$ 465,000.00	\$ 3,720,000.00	
	VFD's for Chillers (Incl w/Chillers)				\$ -	
	Cooling Towers (1000 ton ea)	8	EA	\$ 205,810.00	\$ 1,646,480.00	
	Sand Filters	2	EA	\$ 59,200.00	\$ 118,400.00	
	Pumps CW, CNDW, MUW	63,225	GPM	\$ 15.85	\$ 1,002,116.25	
	Duplex Condensate Pumps	8	EA	\$ 10,766.67	\$ 86,133.36	
	Flash Tanks	8	EA	\$ 14,933.33	\$ 119,466.64	
	Condensate Receiv'g Tanks (4)	1	LS	\$ 111,600.00	\$ 111,600.00	
	Expansion Tanks/Airtrols	16	EA	\$ 21,118.18	\$ 337,890.88	
	FO System for Emerg Gen's	1	LS	\$ 120,000.00	\$ 120,000.00	
	Emerg. Gen (muffler & oil conn's)	18	EA	\$ 8,000.00	\$ 144,000.00	
	Fuel Oil Pipe w/in Pipe	1,800	LF	\$ 286.67	\$ 516,006.00	
	Cabinet Unit Heaters	16	EA	\$ 3,200.00	\$ 51,200.00	
	Heat Tracing (CT"s )	1	LS	\$ 114,000.00	\$ 114,000.00	
	Fan Coil Units	16	EA	\$ 6,730.00	\$ 107,680.00	
	H & V Units	12	EA	\$ 46,592.86	\$ 559,114.32	
	CRAC Units	153	EA	\$ 16,597.78	\$ 2,539,460.34	
	Exhaust Fans	12	EA	\$ 7,957.00	\$ 95,484.00	
	Glycol Tank & Pump Set	1	EA	\$ 16,000.00	\$ 16,000.00	
	Glycol	40,000	GAL	\$ 9.85	\$ 394,000.00	
	Fuel Oil	150,000	GAL	\$ 2.75	\$ 412,500.00	
	Water Treatment	1	LS	\$ 150,000.00	\$ 150,000.00	
	VFD's	1	LS	\$ 190,000.00	\$ 190,000.00	
	MCC's/Starters	1	LS	\$ 165,000.00	\$ 165,000.00	
	Chilled Water Piping	52,125	LF	\$ 181.84	\$ 9,478,410.00	
	Condenser Water Piping	7,530	LF	\$ 276.00	\$ 2,078,280.00	
	C.W. Make-up Piping	4,265	LF	\$ 52.87	\$ 225,490.55	
	Generator Exhaust Piping	1,350	LF	\$ 567.73	\$ 766,435.50	
	Seismic / Isolation	1	LS	\$ 200,000.00	\$ 200,000.00	
	Valves, Strainers, Spec'l's	1	LS	\$ 865,000.00	\$ 865,000.00	
	Chilled Water Storage Tank 50,000 gal	2	EA	\$ 101,225.00	\$ 202,450.00	
	Make Up Water Storage Tank 700,000 gal	1	EA	\$ 759,000.00	\$ 759,000.00	
	Sheetmetal				\$ -	
	LP Ductwork	7,535	LBS	\$ 44.46	\$ 335,006.10	
	Air Balancing	200	MH'S	\$ 118.80	\$ 23,760.00	
	Drip Pans	1	LS	\$ 109,911.00	\$ 109,911.00	
	Insulation (Piping)	1	LS	\$ 750,000.00	\$ 750,000.00	
	Commissioning	1	LS	\$ 200,000.00	\$ 200,000.00	
	Temporary Cooling/Heating Standby Labor	1	LS	\$ 150,000.00	\$ 150,000.00	
	Leak Detection System	1	LS	\$ 225,000.00	\$ 225,000.00	
	Rigging	1	LS	\$ 225,000.00	\$ 225,000.00	
						\$ 29,310,274.94
25000	BMS					
	Allowance	1	LS	\$ 1,100,000.00	\$ 1,100,000.00	
						\$ 1,100,000.00



108 Pierson Ave.  
**BUDGET ESTIMATE**  
**HIGH DENSITY DATA CENTER 28,000 SF 300W PER SF 2N+1**  
**Day 1**

26000	Electric					
	Circuit Work					\$ -
	Duplex Receptacles	42	EA	\$ 312.67		\$ 13,132.14
	SPST	9	EA	\$ 312.67		\$ 2,814.03
	Lighting					\$ -
	Type A 1x4	150	EA	\$ 357.92		\$ 53,688.00
	Data Center Lights	450	EA	\$ 357.92		\$ 161,064.00
	Channel System for Data Center Lighting	3150	LF	\$ 75.33		\$ 237,289.50
	Exits	14	EA	\$ 398.93		\$ 5,585.02
	Branch Circuiting	12350	LF	\$ 13.46		\$ 166,231.00
	Fire Alarm					
	Smoke Detectors	600	EA	\$ 393.45		\$ 236,070.00
	Tie in for Security	1	LS	\$ 4,535.00		\$ 4,535.00
	Tie in for Existing House System	1	LS	\$ 11,913.00		\$ 11,913.00
	Test, Tag & Filling	1	LS	\$ 30,000.00		\$ 30,000.00
	DGP	4	EA	\$ 1,672.00		\$ 6,688.00
	Branch Cabling / FA Loop	35000	LF	\$ 12.19		\$ 426,650.00
	Base building Devices	1	LS	\$ 10,000.00		\$ 10,000.00
	General Distribution					
	Distribution Panels	6	EA	\$ 35,000.00		\$ 210,000.00
	LP / RP Panels	25	EA	\$ 6,500.00		\$ 162,500.00
	Misc T/F	19	EA	\$ 5,900.00		\$ 112,100.00
	Feeds	10887	LF	\$ 45.00		\$ 489,915.00
	MTS	5	EA	\$ 6,500.00		\$ 32,500.00
	ATS	4	EA	\$ 13,500.00		\$ 54,000.00
	Mechanical Plant					
	CRAH FEEDS (178ea *200' 800A)	35600	LF	\$ 125.00		\$ 4,450,000.00
	CRAH Connections	178	EA	\$ 6,500.00		\$ 1,157,000.00
	Chiller Primary Connection & Feeds	8	EA	\$ 175,000.00		\$ 1,400,000.00
	MCC Feeds Primary	8	EA	\$ 112,500.00		\$ 900,000.00
	MCCs	8	EA	\$ 35,000.00		\$ 280,000.00
	Mech Feeds	36000	LF	\$ 38.00		\$ 1,368,000.00
	Misc Connections	1	LS	\$ 99,000.00		\$ 99,000.00
	Manual Trasfer Sws	18	EA	\$ 28,000.00		\$ 504,000.00
	Generators					
	Generators 26(ea) 2000KW @ 13.2kv	52000	KW	\$ 200.00		\$ 10,400,000.00
	Generator Parallel Dist. Switchboard @13.2kv	6	EA	\$ 850,000.00		\$ 5,100,000.00
	Generator Instalation	52000	KW	\$ 28.00		\$ 1,456,000.00
	Generator Feeds (26ea* 2 feeds a&b *75')	3900	LF	\$ 147.62		\$ 575,718.00
	Feeds to Mech Sub 1A	150	LF	\$ 147.62		\$ 22,143.00
	Feeds to Mech Sub 1B	150	LF	\$ 147.62		\$ 22,143.00
	Feeds to Critical Sub 2A	150	LF	\$ 147.62		\$ 22,143.00
	Feeds to Critical Sub 2B	150	LF	\$ 147.62		\$ 22,143.00
	Feeds to Critical Sub 3A	150	LF	\$ 147.62		\$ 22,143.00
	Feeds to Critical Sub 3B	150	LF	\$ 147.62		\$ 22,143.00
	Feeds to Critical Sub 4A	150	LF	\$ 147.62		\$ 22,143.00
	Feeds to Critical Sub 4B	150	LF	\$ 147.62		\$ 22,143.00
	Feeds to Load Bank A1	150	LF	\$ 147.62		\$ 22,143.00

108 Pierson Ave.  
**BUDGET ESTIMATE**  
**HIGH DENSITY DATA CENTER 28,000 SF 300W PER SF 2N+1**  
**Day 1**

Electric Cont.					
Feeds to Load Bank B1	150	LF	\$ 147.62	\$ 22,143.00	
Feeds to Load Bank C1				\$ -	
Gennie Wrap A	550	LF	\$ 147.62	\$ 81,191.00	
Gennie Wrap B	550	LF	\$ 147.62	\$ 81,191.00	
Monitoring & Control Wiring	1	LS	\$ 92,857.00	\$ 92,857.00	
2500KW Resistive Load Bank	3	EA	\$ 180,000.00	\$ 540,000.00	
Connection and Feeds for Fuel Oil Pump	1	LS	\$ 200,000.00	\$ 200,000.00	
13.2KV Primary Service					
Feeds to 35KV Gear	2800	LF	\$ 147.50	\$ 413,000.00	
Spare Empty Conduit	2800	LF	\$ 45.00	\$ 126,000.00	
15KV to 480/277 Indoor T/F	11	EA	\$ 310,000.00	\$ 3,410,000.00	
15KV Isolation Sws	11	EA	\$ 65,000.00	\$ 715,000.00	
Incoming Primary Feed	4200	LF	\$ 147.50	\$ 619,500.00	
Spare Empty Conduit	4200	LF	\$ 45.00	\$ 189,000.00	
Mechanical Substation 1A 3000/4000KVA - 5000A Secondary	1	EA	\$ 385,000.00	\$ 385,000.00	
Mechanical Substation 1B 3000/4000KVA - 5000A Secondary	1	EA	\$ 385,000.00	\$ 385,000.00	
Critical Substation 2A 3000/4000KVA - 5000A Secondary	1	EA	\$ 385,000.00	\$ 385,000.00	
Critical Substation 2B 3000/4000KVA - 5000A Secondary	1	EA	\$ 385,000.00	\$ 385,000.00	
Critical Substation 3A 3000/4000KVA - 5000A Secondary	1	EA	\$ 385,000.00	\$ 385,000.00	
Critical Substation 3B 3000/4000KVA - 5000A Secondary	1	EA	\$ 385,000.00	\$ 385,000.00	
Critical Substation 4A 3000/4000KVA - 5000A Secondary	1	EA	\$ 385,000.00	\$ 385,000.00	
Critical Substation 4B 3000/4000KVA - 5000A Secondary	1	EA	\$ 385,000.00	\$ 385,000.00	
UPS					
5ea 750kw Mods * 6sys	22500	KW	\$ 630.00	\$ 14,175,000.00	
UPS Instalation	22500	KW	\$ 340.00	\$ 7,650,000.00	
UPS 1A Input Feeds 1000A per Mod (3 set *4ea*100')	1200	LF	\$ 90.00	\$ 108,000.00	
UPS 1B Input Feeds 1000A per Mod (3 set *4ea*100')	1200	LF	\$ 90.00	\$ 108,000.00	
UPS 2A Input Feeds 1000A per Mod (3 set *4ea*100')	1200	LF	\$ 90.00	\$ 108,000.00	
UPS 2B Input Feeds 1000A per Mod (3 set *4ea*100')	1200	LF	\$ 90.00	\$ 108,000.00	
UPS 3A Input Feeds 1000A per Mod (3 set *4ea*100')	1200	LF	\$ 90.00	\$ 108,000.00	
UPS 3B Input Feeds 1000A per Mod (3 set *4ea*100')	1200	LF	\$ 90.00	\$ 108,000.00	
Bypass Feed (4000A 6ea @ 100' * 10SETS)	6000	LF	\$ 125.00	\$ 750,000.00	
UPS 1A Output Feeds 1000A per Mod (3 set *4ea*100')	1200	LF	\$ 90.00	\$ 108,000.00	
UPS 1B Output Feeds 1000A per Mod (3 set *4ea*100')	1200	LF	\$ 90.00	\$ 108,000.00	
UPS 2A Output Feeds 1000A per Mod (3 set *4ea*100')	1200	LF	\$ 90.00	\$ 108,000.00	
UPS 2B Output Feeds 1000A per Mod (3 set *4ea*100')	1200	LF	\$ 90.00	\$ 108,000.00	
UPS 3A Output Feeds 1000A per Mod (3 set *4ea*100')	1200	LF	\$ 90.00	\$ 108,000.00	
UPS 3B Output Feeds 1000A per Mod (3 set *4ea*100')	1200	LF	\$ 90.00	\$ 49,017.00	
Load Bank Feeds (300' *3ea * 5 sets)	4500	LF	\$ 125.00	\$ 562,500.00	
Maint Bypass (100' 6EA Systems *10sets)	6000	LF	\$ 125.00	\$ 750,000.00	
Primary Output Feed (75' * 6systems * 10 sets)	4500	LF	\$ 125.00	\$ 562,500.00	
Critical Output Dist. Gear (typ 1a,1b, )	6	EA	\$ 183,000.00	\$ 1,098,000.00	
Tie	600	LF	\$ 125.00	\$ 75,000.00	
Crit Output Feeds 1A & 1B 2A & 2B 3A&B (400A * 200 * 2feeds * 57 PDU)	22800	LF	\$ 125.00	\$ 2,850,000.00	
Grounding	1	LS	\$ 300,000.00	\$ 300,000.00	
Monitoring & Control Wiring	1	LS	\$ 250,000.00	\$ 250,000.00	
300KVA STS PDU (F & I)	57	EA	\$ 89,000.00	\$ 5,073,000.00	
Raised Floor Grounding					
2/O Grounding Conductor	11547	LF	\$ 8.27	\$ 95,493.69	
Post Clamps	2520	EA	\$ 37.15	\$ 93,618.00	

108 Pierson Ave.  
**BUDGET ESTIMATE**  
**HIGH DENSITY DATA CENTER 28,000 SF 300W PER SF 2N+1**  
**Day 1**

		<b>Electric Cont.</b>				
	Clips	5040	EA	\$ 3.11	\$ 15,674.40	
	Pathways from Meet Me Room to Data Center					
	Misc Pull Boxes	8	EA	\$ 2,500.00	\$ 20,000.00	
	Empty Conduit	10000	LF	\$ 38.00	\$ 380,000.00	
	Site Telco					
	Incoming Telco	2600	LF	\$ 38.00	\$ 98,800.00	
	Innerduct	7800	LF	\$ 5.60	\$ 43,680.00	
	Spare Conduit	2600	LF	\$ 38.00	\$ 98,800.00	
	EPO System	1	LS	\$ 200,000.00	\$ 200,000.00	
	3rd Party Testing	1	LS	\$ 600,000.00	\$ 600,000.00	
	Rigging	1	LS	\$ 500,000.00	\$ 500,000.00	
	Commissioning	1	LS	\$ 400,000.00	\$ 400,000.00	
						\$ 77,548,644.78
<b>28000</b>	<b>Security</b>					
	Per Allowance from Safir / Rosetti	1	LS	\$ 400,000.00	\$ 400,000.00	
						\$ 400,000.00
<b>310000</b>	<b>Earthwork</b>					
	Excavation / Backfill for new Conduit Ductbanks	2500	CY	\$ 65.00	\$ 162,500.00	
						\$ 162,500.00
<b>323100</b>	<b>Fencing</b>					
	Fence	500	LF	\$ 145.00	\$ 72,500.00	
						\$ 72,500.00
	<b>Total Trade Cost</b>					<b>\$113,645,360.71</b>
<b>Description</b>	<b>Markup Percent</b>					<b>Markup Amount</b>
Construction Contingency	5%					<b>\$5,682,268.04</b>
Design Contingency	5%					<b>\$5,966,381.44</b>
General Conditions	Included Above					\$0.00
Insurance	1.50%					\$174,729.74
Fee	TBD					\$ -
	<b>Total Cost Inclusive of Equipment</b>					<b>\$119,786,471.89</b>

108 Pierson Ave.  
**BUDGET ESTIMATE**  
**HIGH DENSITY DATA CENTER 10,000SF Reduced Infrastructure Expandable to 28,000 SF 300W PER SF 2N+1**  
**Day 1**

TRADE	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT	TOTAL
<b>010000</b>	<b>General Requirements &amp; GC/CM Project &amp; Job Site Mgt</b>					
	Site Staff					
	Project Executive	0.25	Week	\$ 4,000.00	\$ 1,000.00	
	Senior Project Manager	1	Week	\$ 3,800.00	\$ 3,800.00	
	Superintendent	1	Week	\$ 2,750.00	\$ 2,750.00	
	Project Engineer	1	Week	\$ 2,500.00	\$ 2,500.00	
	Project Estimator	0.25	Week	\$ 2,500.00	\$ 625.00	
	Assistant PM / Superintendent	1	Week	\$ 1,759.00	\$ 1,759.00	
	Plan Clerk /Secretary	0.5	Week	\$ 1,000.00	\$ 500.00	
	Clerical	0.5	Week	\$ 1,000.00	\$ 500.00	
	Phones	5	Week	\$ 100.00	\$ 500.00	
	Laborers	80	Hours	\$ 70.00	\$ 5,600.00	
	Laborers O/T	20	Hours	\$ 94.00	\$ 1,880.00	
	Mini Containers	25	Week	\$ 25.00	\$ 625.00	
	Total Cost per Week (Job Duration)	36	Weeks	\$ 22,039.00	\$ 793,404.00	
	Fixed Cost for Job Duration (Per Suite)					
	Drawing Reproduction	1	Allowance	\$ 15,000.00	\$ 15,000.00	
	OSHA Protection	80	Hours	\$ 105.00	\$ 8,400.00	
	Office Supplies / Copies	1	LS	\$ 6,500.00	\$ 6,500.00	
	Tools & Equipment	1	LS	\$ 3,000.00	\$ 3,000.00	
	Cleaning Supplies	1	LS	\$ 2,000.00	\$ 2,000.00	
	Radios	1	LS	\$ 1,500.00	\$ 1,500.00	
						\$ 829,804.00
<b>020000</b>	<b>Existing Conditions / Demolition</b>					
	Removal of exterior wall / louver	960	SF	\$ 10.00	\$ 9,600.00	
						\$ 9,600.00
<b>030000</b>	<b>Concrete</b>					
	Equipment Pads					
	CW Pumps	1	LS	\$ 50,000.00	\$ 50,000.00	
	Generators	12	EA	\$ 12,635.00	\$ 151,620.00	
	Concrete Encasement for Ductbank	1500	CY	\$ 189.00	\$ 283,500.00	
						\$ 485,120.00
<b>040000</b>	<b>Masonry</b>					
	Misc Patching in Walls / Floor	1	LS	\$ 120,000.00	\$ 120,000.00	
	Core Drill / Patch Exterior for new Ductbank	1	LS	\$ 60,000.00	\$ 60,000.00	
						\$ 180,000.00



108 Pierson Ave.  
**BUDGET ESTIMATE**  
**HIGH DENSITY DATA CENTER 10,000SF Reduced Infrastructure Expandable to 28,000 SF 300W PER SF 2N+1**  
**Day 1**

051000		Structural Steel						
	Allow for Misc Supports	1	LS	\$	100,000.00	\$	100,000.00	\$ 100,000.00
061000		Carpentry						
	Misc Protection	1	LS	\$	6,500.00	\$	10,900.00	\$ 25,750.00
	Door & Frames Double	4	EA	\$	400.00	\$	1,600.00	
	Door & Frames Single	15	EA	\$	350.00	\$	5,250.00	
	Hardware Allowance	20	LS	\$	400.00	\$	8,000.00	
075000		Roofing						
	Allow for Mechanical Supports / Penetrations	1	LS	\$	26,000.00	\$	26,000.00	\$ 26,000.00
081000		Doors & Frames						
	Type A 3'0" X 8'0" HM	15	EA	\$	850.00	\$	12,750.00	\$ 19,350.00
	Type B (2ea) 3'0" X 8'0" HM	4	EA	\$	1,650.00	\$	6,600.00	
092000		Drywall						
	1 HR - 3 5/8" (20GA 16:0C) ONE LAYER ON EACH SIDE WITH 3" SAB	482	LF	\$	114.46	\$	55,169.72	\$ 378,771.22
	1 HR - SAME AS TYPE 1 BUT WITH FOIL BACK AND VAP BARRIER ON ONE SIDE	1348	LF	\$	196.20	\$	264,477.60	
	Hilti Fireproof spray at head of rated walls	1830	LF	\$	11.80	\$	21,594.00	
	Frame out opening for new door	20	EA	\$	88.50	\$	1,770.00	
	double up studs at doors	20	EA	\$	88.50	\$	1,770.00	
	Box out column in data center 2x2	13	EA	\$	590.00	\$	7,670.00	
	Box out column in data center (pipe chase) 3x3	2	EA	\$	826.00	\$	1,652.00	
	New mechanical shaft 3x3 Type 5	3	EA	\$	1,770.00	\$	5,310.00	
	Corner beads	25	EA	\$	88.50	\$	2,212.50	
	new meets exiting	2	EA	\$	88.50	\$	177.00	
	Job condition	6	EA	\$	76.70	\$	460.20	
	Add for spacer bars at all partitions	1830	LF	\$	3.54	\$	6,478.20	
	Layout & Deliveries	1	LS	\$	10,030.00	\$	10,030.00	
095100		ACT & Grid System						
	ACT & Grid System	10000	LF	\$	10.50	\$	105,000.00	\$ 105,000.00
096500		Resilient Flooring						
	B-1 Base	600	LF	\$	2.15	\$	1,290.00	\$ 4,020.00
	VCT-1	420	SF	\$	6.50	\$	2,730.00	
096900		Access Flooring						
	Access Flooring	10000	SF	\$	15.96	\$	159,600.00	\$ 172,252.50
	Provide 15% Coverage of Perf Tile	150	EA	\$	84.35	\$	12,652.50	



108 Pierson Ave.  
BUDGET ESTIMATE

HIGH DENSITY DATA CENTER 10,000SF Reduced Infrastructure Expandable to 28,000 SF 300W PER SF 2N+1  
Day 1

099100	Painting					
	Painting & Prime Steel	1	LS	\$ 7,300.00	\$ 7,300.00	
	Concrete Sealer	30000	SF	\$ 0.75	\$ 22,500.00	
	Door & Frames Double	5	EA	\$ 150.00	\$ 750.00	
	Door & Frames Single	15	EA	\$ 75.00	\$ 1,125.00	
	P-1 Walls	40400	SF	\$ 1.25	\$ 50,500.00	
	EP-1 Epoxy Flooring	122039	SF	\$ 1.75	\$ 213,568.25	
						\$ 295,743.25
21000	Fire Suppression					
	Preaction Upright Heads	360	EA	\$ 267.03	\$ 96,130.80	
	Preaction System Equipment	1	LS	\$ 189,000.00	\$ 189,000.00	
	Preaction Piping	6120	LF	\$ 34.33	\$ 210,099.60	
	Inspection, Test Rigs	1	LS	\$ 30,000.00	\$ 30,000.00	
						\$ 525,230.40
23000	HVAC					
	Elect. Cent'l Chillers (1000 ton ea)	4	EA	\$ 465,000.00	\$ 1,860,000.00	
	VFD's for Chillers (Incl w/Chillers)				\$ -	
	Cooling Towers (1000 ton ea)	4	EA	\$ 205,810.00	\$ 823,240.00	
	Sand Filters	2	EA	\$ 59,200.00	\$ 118,400.00	
	Pumps CW, CNDW, MUW	23,650	GPM	\$ 15.85	\$ 374,852.50	
	Duplex Condensate Pumps	3	EA	\$ 10,766.67	\$ 32,300.01	
	Flash Tanks	3	EA	\$ 14,933.33	\$ 44,799.99	
	Condensate Receiv'g Tanks (4)	1	LS	\$ 111,600.00	\$ 111,600.00	
	Expansion Tanks/Airtrols	6	EA	\$ 21,118.18	\$ 126,709.08	
	FO System for Emerg Gen's	1	LS	\$ 120,000.00	\$ 120,000.00	
	Emerg. Gen (muffler & oil conn's)	6	EA	\$ 8,000.00	\$ 48,000.00	
	Fuel Oil Pipe w/in Pipe	1,800	LF	\$ 286.67	\$ 516,006.00	
	Cabinet Unit Heaters	16	EA	\$ 3,200.00	\$ 51,200.00	
	Heat Tracing (CT's )	1	LS	\$ 114,000.00	\$ 114,000.00	
	Fan Coil Units	16	EA	\$ 6,730.00	\$ 107,680.00	
	H & V Units	12	EA	\$ 46,592.86	\$ 559,114.32	
	CRAC Units	60	EA	\$ 16,597.78	\$ 995,866.80	
	Exhaust Fans	12	EA	\$ 7,957.00	\$ 95,484.00	
	Glycol Tank & Pump Set	1	EA	\$ 16,000.00	\$ 16,000.00	
	Glycol	10,000	GAL	\$ 9.85	\$ 98,500.00	
	Fuel Oil	50,000	GAL	\$ 2.75	\$ 137,500.00	
	Water Treatment	1	LS	\$ 150,000.00	\$ 150,000.00	
	VFD's	1	LS	\$ 190,000.00	\$ 190,000.00	
	MCC's/Starters	1	LS	\$ 165,000.00	\$ 165,000.00	
	Chilled Water Piping	18,650	LF	\$ 181.84	\$ 3,391,316.00	
	Condenser Water Piping	4,860	LF	\$ 276.00	\$ 1,341,360.00	
	C.W. Make-up Piping	2,195	LF	\$ 52.87	\$ 116,049.65	
	Generator Exhaust Piping	1,529	LF	\$ 567.73	\$ 868,059.17	
	Seismic / Isolation	1	LS	\$ 50,000.00	\$ 50,000.00	
	Valves, Strainers, Spec'l's	1	LS	\$ 295,000.00	\$ 295,000.00	



108 Pierson Ave.  
BUDGET ESTIMATE

HIGH DENSITY DATA CENTER 10,000SF Reduced Infrastructure Expandable to 28,000 SF 300W PER SF 2N+1  
Day 1

23000	HVAC Cont.					
	Chilled Water Storage Tank 50,000 gal	1	EA	\$ 101,225.00	\$ 101,225.00	
	Make Up Water Storage Tank 700,000 gal	1	EA	\$ 759,000.00	\$ 759,000.00	
	Sheetmetal				\$ -	
	LP Ductwork	1,625	LBS	\$ 44.46	\$ 72,247.50	
	Air Balancing	150	MH'S	\$ 118.80	\$ 17,820.00	
	Drip Pans	1	LS	\$ 109,911.00	\$ 109,911.00	
	Insulation (Piping)	1	LS	\$ 225,000.00	\$ 225,000.00	
	Commissioning	1	LS	\$ 50,000.00	\$ 50,000.00	
	Temporary Cooling/Heating Standby Labor	1	LS	\$ 30,000.00	\$ 30,000.00	
	Leak Detection System	1	LS	\$ 75,000.00	\$ 75,000.00	
	Rigging	1	LS	\$ 80,000.00	\$ 80,000.00	
						\$ 14,438,241.02
25000	BMS					
	Allowance	1	LS	\$ 350,000.00	\$ 350,000.00	
						\$ 350,000.00
26000	Electric					
	Circuit Work				\$ -	
	Duplex Receptacles	42	EA	\$ 312.67	\$ 13,132.14	
	SPST	9	EA	\$ 312.67	\$ 2,814.03	
	Lighting				\$ -	
	Type A 1x4	150	EA	\$ 357.92	\$ 53,688.00	
	Data Center Lights	175	EA	\$ 357.92	\$ 62,636.00	
	Channel System for Data Center Lighting	1050	LF	\$ 75.33	\$ 79,096.50	
	Exits	14	EA	\$ 398.93	\$ 5,585.02	
	Branch Circuiting	3500	LF	\$ 13.46	\$ 47,110.00	
	Fire Alarm					
	Smoke Detectors	200	EA	\$ 393.45	\$ 78,690.00	
	Tie in for Security	1	LS	\$ 4,535.00	\$ 4,535.00	
	Tie in for Existing House System	1	LS	\$ 11,913.00	\$ 11,913.00	
	Test, Tag & Filling	1	LS	\$ 30,000.00	\$ 30,000.00	
	DGP	4	EA	\$ 1,672.00	\$ 6,688.00	
	Branch Cabling / FA Loop	10000	LF	\$ 12.19	\$ 121,900.00	
	Base building Devices	1	LS	\$ 10,000.00	\$ 10,000.00	
	General Distribution					
	Distribution Panels	6	EA	\$ 35,000.00	\$ 210,000.00	
	LP / RP Panels	25	EA	\$ 6,500.00	\$ 162,500.00	
	Misc T/F	19	EA	\$ 5,900.00	\$ 112,100.00	
	Feeds	10887	LF	\$ 45.00	\$ 489,915.00	
	MTS	5	EA	\$ 6,500.00	\$ 32,500.00	
	ATS	4	EA	\$ 13,500.00	\$ 54,000.00	
	Mechanical Plant					
	CRAH FEEDS (60ea *200' 800A)	12000	LF	\$ 125.00	\$ 1,500,000.00	
	CRAH Connections	60	EA	\$ 6,500.00	\$ 390,000.00	
	Chiller Primary Connection & Feeds	2	EA	\$ 175,000.00	\$ 350,000.00	
	MCC Feeds Primary	2	EA	\$ 112,500.00	\$ 225,000.00	



**108 Pierson Ave.  
BUDGET ESTIMATE**

**HIGH DENSITY DATA CENTER 10,000SF Reduced Infrastructure Expandable to 28,000 SF 300W PER SF 2N+1  
Day 1**

Electric Cont.					
MCCs	2	EA	\$ 35,000.00	\$ 70,000.00	
Mech Feeds	8000	LF	\$ 38.00	\$ 304,000.00	
Misc Connections	1	LS	\$ 99,000.00	\$ 99,000.00	
Manual Trasfer Sws	6	EA	\$ 28,000.00	\$ 168,000.00	
Generators					
Generators 12 ea) 2000KW @ 13.2kv	24000	KW	\$ 200.00	\$ 4,800,000.00	
Generator Parallel Dist. Switchboard @13.2kv	2	EA	\$ 850,000.00	\$ 1,700,000.00	
Generator Instalation	24000	KW	\$ 28.00	\$ 672,000.00	
Generator Feeds (6ea* 2 feeds a&b *75')	900	LF	\$ 147.62	\$ 132,858.00	
Feeds to Mech Sub 1A	150	LF	\$ 147.62	\$ 22,143.00	
Feeds to Critical Sub 2A	150	LF	\$ 147.62	\$ 22,143.00	
Feeds to Critical Sub 2B	150	LF	\$ 147.62	\$ 22,143.00	
Feeds to Critical Sub 3A	150	LF	\$ 147.62	\$ 22,143.00	
Feeds to Load Bank A1	150	LF	\$ 147.62	\$ 22,143.00	
Feeds to Load Bank B1	150	LF	\$ 147.62	\$ 22,143.00	
Gennie Wrap A	550	LF	\$ 147.62	\$ 81,191.00	
Monitoring & Control Wiring	1	LS	\$ 92,857.00	\$ 92,857.00	
2500KW Resistive Load Bank	2	EA	\$ 180,000.00	\$ 360,000.00	
Connection and Feeds for Fuel Oil Pump	1	LS	\$ 200,000.00	\$ 200,000.00	
13.2KV Primary Service					
Feeds to 35KV Gear	2800	LF	\$ 147.50	\$ 413,000.00	
Spare Empty Conduit	2800	LF	\$ 45.00	\$ 126,000.00	
15KV to 480/277 Indoor T/F	6	EA	\$ 310,000.00	\$ 1,860,000.00	
15KV Isolation Sws	6	EA	\$ 65,000.00	\$ 390,000.00	
Incoming Primary Feed	2400	LF	\$ 147.50	\$ 354,000.00	
Spare Empty Conduit	2400	LF	\$ 45.00	\$ 108,000.00	
Mechanical Substation 1A 3000/4000KVA - 5000A Secondary	1	EA	\$ 385,000.00	\$ 385,000.00	
Critical Substation 2A 3000/4000KVA - 5000A Secondary	1	EA	\$ 385,000.00	\$ 385,000.00	
Critical Substation 2B 3000/4000KVA - 5000A Secondary	1	EA	\$ 385,000.00	\$ 385,000.00	
Critical Substation 3A 3000/4000KVA - 5000A Secondary	1	EA	\$ 385,000.00	\$ 385,000.00	
Critical Substation 3B 3000/4000KVA - 5000A Secondary	1	EA	\$ 385,000.00	\$ 385,000.00	
UPS					
5ea 750kw Mods * 4sys	15000	KW	\$ 630.00	\$ 9,450,000.00	
UPS Instalation	15000	KW	\$ 340.00	\$ 5,100,000.00	
UPS 1A Input Feeds 1000A per Mod (3 set *4ea*100')	1200	LF	\$ 90.00	\$ 108,000.00	
UPS 1B Input Feeds 1000A per Mod (3 set *4ea*100')	1200	LF	\$ 90.00	\$ 108,000.00	
Bypass Feed (4000A 2ea @ 100' * 10SETS)	2000	LF	\$ 125.00	\$ 250,000.00	
UPS 1A Output Feeds 1000A per Mod (3 set *4ea*100')	1200	LF	\$ 90.00	\$ 108,000.00	
UPS 1B Output Feeds 1000A per Mod (3 set *4ea*100')	1200	LF	\$ 90.00	\$ 108,000.00	
Load Bank Feeds (300' *2ea * 5 sets)	3000	LF	\$ 125.00	\$ 375,000.00	
Maint Bypass (100' 2EA Systems *10sets)	2000	LF	\$ 125.00	\$ 250,000.00	
Primary Output Feed (75' * 2systems * 10 sets)	1750	LF	\$ 125.00	\$ 218,750.00	
Critical Output Dist. Gear (typ 1a,1b, )	2	EA	\$ 183,000.00	\$ 366,000.00	
Tie	200	LF	\$ 125.00	\$ 25,000.00	
Crit Output Feeds 1A & 1B 2A & 2B 3A&B (400A * 200 * 2feeds * 20PDU)	8000	LF	\$ 125.00	\$ 1,000,000.00	
Grounding	1	LS	\$ 300,000.00	\$ 300,000.00	
Monitoring & Control Wiring	1	LS	\$ 250,000.00	\$ 250,000.00	
300KVA STS PDU (F & I)	20	EA	\$ 89,000.00	\$ 1,780,000.00	
Raised Floor Grounding					
2/O Grounding Conductor	3500	LF	\$ 8.27	\$ 28,945.00	
Post Clamps	1650	EA	\$ 37.15	\$ 61,297.50	



**108 Pierson Ave.**  
**BUDGET ESTIMATE**  
**HIGH DENSITY DATA CENTER 10,000SF Reduced Infrastructure Expandable to 28,000 SF 300W PER SF 2N+1**  
**Day 1**

Electric Cont.						
	Clips	1750	EA	\$ 3.11	\$ 5,442.50	
	Pathways from Meet Me Room to Data Center					
	Misc Pull Boxes	8	EA	\$ 2,500.00	\$ 20,000.00	
	Empty Conduit	10000	LF	\$ 38.00	\$ 380,000.00	
	Site Telco					
	Incoming Telco	2600	LF	\$ 38.00	\$ 98,800.00	
	Innerduct	7800	LF	\$ 5.60	\$ 43,680.00	
	Spare Conduit	2600	LF	\$ 38.00	\$ 98,800.00	
	EPO System	1	LS	\$ 50,000.00	\$ 50,000.00	
	3rd Party Testing	1	LS	\$ 225,000.00	\$ 225,000.00	
	Rigging	1	LS	\$ 125,000.00	\$ 125,000.00	
	Commissioning	1	LS	\$ 150,000.00	\$ 150,000.00	
						\$ 39,018,281.69
<b>28000</b>	<b>Security</b>					
	Per Allowance from Safir / Rosetti	1	LS	\$ 400,000.00	\$ 400,000.00	
						\$ 400,000.00
<b>310000</b>	<b>Earthwork</b>					
	Excavation / Backfill for new Conduit Ductbanks	2500	CY	\$ 65.00	\$ 162,500.00	
						\$ 162,500.00
<b>323100</b>	<b>Fencing</b>					
	Fence	500	LF	\$ 145.00	\$ 72,500.00	
						\$ 72,500.00
	<b>Total Trade Cost</b>					<b>\$57,598,164.08</b>
<b>Description</b>	<b>Markup Percent</b>					<b>Markup Amount</b>
Construction Contingency		5%				<b>\$2,879,908.20</b>
Design Contingency		5%				<b>\$3,023,903.61</b>
General Conditions	Included Above					\$0.00
Insurance		1.50%				\$88,557.18
Fee	TBD					\$ -
	<b>Total Cost Inclusive of Equipment</b>					<b>\$60,710,624.87</b>

