# **GOUVERNEUR HEALTHCARE SERVICES**

227 MADISON STREET, NEW YORK, NY, 10002

# TECHNICAL ASSIGNMENT II



ALEX D DESPOTOVICH | CONSTRUCTION MANAGEMENT FACULTY ADVISOR: DR. JOHN I. MESSNER WEDNESDAY, OCTOBER 19, 2011

### **EXECUTIVE SUMMARY**

The purpose of Technical Report II is to analyze various aspects of construction to the Gouverneur Healthcare Services facility, including a detailed project schedule, detailed structural estimate, general conditions estimate, LEED evaluation, and Building Information Modeling use evaluation. These analyses will further an understanding of the key features of the project that effect overall project execution.

The Gouverneur Healthcare Services facility is undergoing a major modernization that includes a complete renovation of the existing thirteen story building, existing mechanical infrastructure upgrades, and addition to the existing facility. The facility will remain active during the six phases of construction, beginning construction on January 30, 2009 with a projected project substantial completion date of December 30, 2013. The phasing and critical turnover milestones are presented through a project schedule description, project summary schedule and detailed project schedule.

Included in this report are two detailed estimates for both the structural system and general conditions for the project. The detailed estimate concluded a total cost of \$6,942,582; total volume of concrete of 3,376 cubic yards; total reinforcing steel of 65 tons; and total steel member weight of 1,115 tons. The general conditions estimate concluded a total cost of \$18,022,753.56 and a monthly cost of \$300,379. Additionally, the total estimated project management staffing cost is \$6,127,250 for Hunter Roberts Construction Group based on a 60 month, preconstruction through construction duration.

Although the Gouverneur Healthcare Services project is not pursuing a LEED certification or implementing BIM throughout design and construction, an analysis was performed to determine the benefits if they had been pursued or implemented. After completing a LEED scorecard, it was determined that the current design would result in 32 points which would not achieve a LEED certification. However, possible points that can be achieved with minimal effort and cost to the overall budget were recorded and resulted in an additional 24 points which would make the project eligible for a LEED Silver certification. The study of Building Information Modeling analyzes the benefits of the project in delivering safer, more efficient construction, better understand the potential uses of BIM, and how it could be used to achieve specific project goals.

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#### **PROJECT SUMMARY SCHEDULE**

From architectural design and preconstruction services to final project substantial completion, the Gouverneur Healthcare Services facility will serve as a four year project. During that time, the facility will receive a complete renovation of the existing building, existing mechanical infrastructure upgrades, and a new five story building and eight story "bump out" of additional space to the existing building. Throughout the entire project, the healthcare facility will remain fully operationally for staff and patients. In order to prevent disruption to the staff and patients, the construction of the facility will occur in six different phases allowing certain floors to be turned over in order to proceed with demolition and renovation services on other floors.

Please refer to Figure 1 and Figure 2 to establish the difference between the new and existing building. Additionally, please note for the new building, the podium is considered floors 1-6 and the tower is considered floors 7-13. These titles will be referenced in the project summary schedule, detailed project schedule, and throughout this technical report.

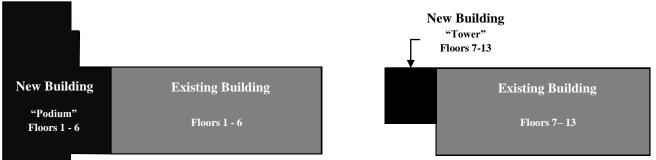


Figure 1: Floor Plan 1-6 Diagram

Figure 2: Floor Plan 7-13 Diagram

The detailed project schedule for the Gouverneur Healthcare Services project is located in Appendix A. The project schedule is organized into two major categories, New Building Construction and Existing Building Construction. The New Building Construction category features a detailed schedule for the foundation, structural steel, concrete, curtain wall, and interior phases of construction. The Existing Building Construction category features a detailed schedule for the demolition and interior phases of construction. The Existing Building Construction. The interior phases of construction for both categories are organized by floor and depicts five major phases of construction including Demolition of Existing Interior; MEP Systems Overhead and Rough-In;

Interior Wall and Ceiling Framing; Interior Wall, Ceiling, and Floor Finishes; and MEP Installation. The major items included in the interior phases of demolition, renovation, and new construction can be seen below for each category.

DEMOLITION OF EXISTING INTERIOR:

- General Demolition
- General Abatement

#### MEP SYSTEMS OVERHEAD AND ROUGH-IN:

- Install Overhead Ductwork
- Install Overhead Plumbing
- Install Overhead Sprinkler
- Install Overhead Electrical
- Rough-In Electrical

#### INTERIOR WALL AND CEILING FRAMING:

- Layout
- Install Top Track
- Install Framing and Doors

INTERIOR WALL, CEILING, AND FLOOR FINISHES:

- Install Sheet Rock (Walls and Ceilings)
- Tape Coats on Walls
- Polish Sheet Rock Walls

#### **MEP** INSTALLATION:

- Install Ceiling HVAC Drops
- Install Electrical Box Drops
- Install Sprinkler Drops
- Install Electrical Switches/Outlets

- MEP Systems Demolition
- Existing Window Demolition
- Rough-In Plumbing
- Insulate/Inspect Plumbing
- Pull and Terminate Telecom/Security Cables
- Install Black Iron
- Install Ceiling Grid
- Apply Coats of Paint
- Install Casework
- Install Plumbing Fixtures
- Install Control Devices
- Install Ceiling Lights
- Install Fire Alarm Components

To efficiently depict the project schedule, the two main categories are broken down by floor to allow for one to understand the various phases of construction. This will further an understanding for how Hunter Roberts Construction Group is working closely with the owner to 5<sup>th</sup> Floor Work

6<sup>th</sup> Floor Work

7<sup>th</sup> Floor Work

8<sup>th</sup> Floor Work

9<sup>th</sup> Floor Work

10<sup>th</sup> Floor Work

11<sup>th</sup> Floor Work

12<sup>th</sup> Floor Work

13<sup>th</sup> Floor Work

MEP Modernization

6-25-2012

6-25-2012

6-25-2012

10-10-2012

4-10-2013

10-8-2013

12-30-2013

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9/6/2011

13-30-2011

highlights the major dates of construction by activity and floor.											
TABLE 1: PROJECT SCHEDULE SUMMARY CHART											
Phase	New Building	Construction	Existing Demoli	tion and Renovation							
	Start Date	Finish Date	Start Date	Finish Date							
Foundations	1-30-2009	8-21-2009	-	-							
Structural Steel	8-8-2009	12-15-2009	-	-							
Superstructure Concrete	8-31-2009	12-15-2009	-	-							
Curtain Wall	11-16-2009	5-17-2010	-	-							
1 <sup>st</sup> Floor Work	11-2-2009	9-1-2011	8-10-2012	5-22-2013							
2 <sup>nd</sup> Floor Work	12-7-2009	8-22-2011	10-26-2011	7-26-2012							
3 <sup>rd</sup> Floor Work	1-4-2010	8-22-2011	10-26-2011	7-26-2012							
4 <sup>th</sup> Floor Work	2-1-2010	9-2-2011	10-26-2011	7-26-2012							

8-29-2011

11-16-2011

11-30-2011

12-14-2011

12-30-2011

1-13-2012

1-20-2012

9-6-2011

9-6-2011

1-5-2011

4-6-2011

9-21-2011

9-21-2011

7-11-2012

10-25-2011

4-25-2013

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9/24/2009

2-26-2010

efficiently deliver construction while maintaining an active healthcare facility. Table 1 highlights the major dates of construction by activity and floor.

Note that the 12<sup>th</sup> floor of the existing building does not have dates listed for demolition and renovation. This is due to the fact that this floor was previously demolished and renovated prior to the current project. For a further breakdown of the values that were determined, please see Appendix A. Appendix A features two Gantt bar schedules to help further an understanding of the durations and phasing of construction for each floor of the new and existing building construction.

Gantt Bar Schedule 1: Summary Project Schedule

3-4-2010

4-27-2010

5-19-2011

6-2-2010

6-7-2010

6-10-2010

6-16-2010

6-22-2010

7-1-2010

• Gantt Bar Schedule 2: Detailed Project Schedule

## **DETAILED STRUCTURAL ESTIMATE**

The structural system of the new podium and tower for the Gouverneur Healthcare Services facility is comprised of a concrete foundation that supports a structural steel with concrete on metal decking superstructure system. In order to accurately estimate the structural system designed to support the new building, a detailed takeoff was performed on the foundations and a typical bay takeoff was performed and extrapolated to represent quantities for the superstructure systems. This estimate includes quantity takeoffs and costs involving the following items:

CONCRETE:

- Foundation Pile Caps
- Foundation Piers
- Foundation Walls and Footers

STRUCTURAL STEEL:

- Driven Steel Piles
- Structural Steel Columns
- Structural Steel Beams

- Foundation Grade Beams
- Foundation Slab-on-Grade
- Elevated Slabs
- Metal Decking
- Base Plates and Anchor Bolts
- Reinforcing Steel

The determined costs for the structural system estimate were produced using material, labor, and equipment costs from RS Means Building Construction Cost Data 2011 and were adjusted with the New York, NY location factor of 133%. All comparisons made include total cost with project overhead and profit because the values provided by Hunter Roberts Construction Group include project overhead and profit. Table 2 shows a summary breakdown of the divisions that make up the total value of the structural system estimate.

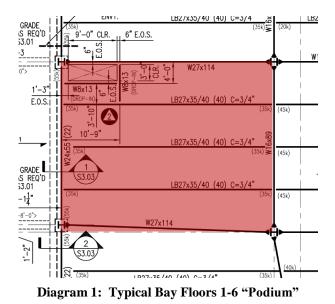
TABLE 2: SUMMARY OF RS MEANS 2011 DIVISION COST BREAKDOWN										
CSI Division		Total Cost	To	otal Cost Incl O&P						
03.11 Concrete Forming	\$	397,058.46	\$	558,466.40						
03.21 Reinforcing Steel	\$	106,400.45	\$	142,397.00						
03.22 Welded Wire Fabric Reinforcing	\$	47,915.53	\$	66,579.67						
03.30 Cast-In-Place Concrete	\$	723,694.52	\$	907,472.87						
05.05 Common Work Results for Metals	\$	1,745.00	\$	2,325.00						
05.12 Structural Steel Framing	\$	2,661,387.17	\$	2,999,154.78						
05.31 Steel Decking	\$	325,707.57	\$	395,486.70						
31.62 Driven Piles	\$	118,779.00	\$	148,104.00						
Total Superstructure Cost	\$	4,382,687.70	\$	5,219,986.42						
Total Superstructure Cost with New York, NY Location Factor of 133%	\$	5,828,974.64	\$	6,942,581.94						

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Table 3 shows a summary breakdown of the quantity of materials that make up the total value of the system estimate.

TABLE 3: SUMMARY OF RS MEANS 2011 DIVISION MATERIAL BREAKDOWN								
CSI Division	Unit	Quantity						
03.11 Concrete Forming	SFCA	49622.50						
03.21 Reinforcing Steel	Ton	65.11						
03.22 Welded Wire Fabric Reinforcing	CSF	1091.47						
03.30 Cast-In-Place Concrete	CY	3375.55						
05.05 Common Work Results for Metals	Set	50.00						
05.12 Structural Steel Framing	LF	25715.18						
03.12 Structural Steel Planning	Ton	1114.82						
05.31 Steel Decking	SF	112116.00						
31.62 Driven Piles	VLF	5100.00						

In the process of quantifying a cost for the structural steel system for the building, a detailed estimate was performed for a typical bay of the system followed by an extrapolation to determine values for the entire structure. For the Gouverneur Healthcare Services building, two typical bays were chosen for analysis due to the fact floors 1-6 "podium" and floor 7-13 "tower" feature different types of bays to support the building. Below, Diagram 1 and Diagram 2 feature the typical bays there were used to determine overall material quantities and total costs for the structural system.



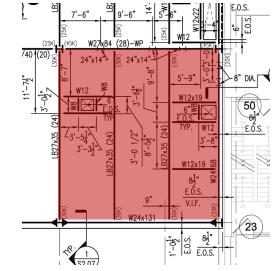
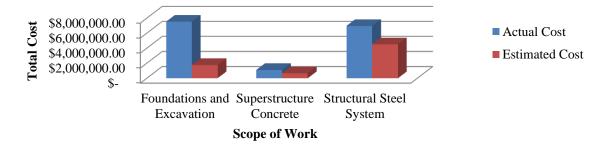


Diagram 2: Typical Bay Floors 7-13 "Tower"

Table 4 and Diagram 3 show a comparison between estimated costs versus actual project costs broken down by scope of work.

TABLE 4: ACTUAL VERSUS ESTIMATED COST COMPARISON											
Scope of Work	Actual Cost		C	Cost/SF		Estimated Cost	C	Cost/SF			
Foundations and Excavation	\$	7,533,000.00	\$	69.02	\$	1,761,100.48	\$	16.14			
Superstructure Concrete	\$	1,099,000.00	\$	10.07	\$	663,516.04	\$	6.08			
Structural Steel System	\$	6,958,000.00	\$	63.75	\$	4,517,965.42	\$	41.39			
Total	\$	15,590,000.00	\$	142.83	\$	6,942,581.94	\$	63.61			

ACTUAL VERSUS ESTIMATED COST COMPARISON



**Diagram 3: Cost Comparison Bar Chart** 

For the most part, the estimated costs are comparable to those of the actual costs for the project. As with any estimates however, there are always sources of error that may explain the differences in costs. In general, it is difficult to compare the estimated versus actual costs for a project of the type and magnitude. The Gouverneur Healthcare Services project consists of both new construction and existing demolition and renovation. A source of error may be due to the fact that the full scope of work for foundations, superstructure concrete, and structural steel is not definitively known. The detailed estimate that was produced is strictly based off of new construction even though the actual costs may contain work for the existing building which was not accounted for in the estimate. Some major sources of error are listed below:

John Civetta & Sons Inc. and D & B Cousins Construction Corporation are contracted as
a joint venture for responsibility of excavation and foundation work. The only cost
available for comparison is the total contract value for both excavation and foundations;

however, quantities and estimates were produced based strictly on material, labor, and equipment for foundations.

- AG Construction is contracted to perform all work involving superstructure concrete for both the new building and existing building. The actual cost shown contains a scope of work that includes new and existing concrete work.
- Weir Welding Company Inc. is contracted to fabricate and install all work involving the structural steel system for the building. The estimated cost does not include bolts, connections, and welding involved for connecting steel members.

For a further breakdown of the values that were determined, please see Appendix B. Appendix B features a variety of tables that show in detail how all quantities of materials and costs were determined to produce final estimate values.

- Table 11: Structural Estimate RS Means 2011 Division Breakdown
- Table 12: Steel Pile Detailed Takeoff
- Table 13: Foundation Pier Takeoff
- Table 14: Foundation Pile Cap Takeoff
- Table 15: Cellar Foundation Wall Detailed Takeoff
- Table 16: Cellar Foundation Slab Detailed Takeoff
- Table 17: Grade Beam Takeoff
- Table 18: Typical Bay Takeoff
- Table 19: Typical Bay Steel Takeoff Extrapolation
- Table 20: Miscellaneous Item Takeoff

# **GENERAL CONDITIONS ESTIMATE**

The total estimated cost for the general conditions for the Gouverneur Healthcare Services project is \$18,022,753.56 and costs about \$300,379 per month. The determined costs for the structural system estimate were produced using material, labor, and equipment costs from RS Means Building Construction Cost Data 2011 and were adjusted with the New York, NY location factor of 133%. Table 5 shows a summary breakdown of the divisions that make up the total value of the general conditions estimate. This general conditions estimate was produced from the perspective of Hunter Roberts Construction Group serving as the Construction Management Agency. All comparisons made include total cost with project overhead and profit because the provided values from Hunter Roberts Construction Group include project overhead and profit. Additionally, all values determined that were percentage based were multiplied by the actual total building construction cost of \$157,445,805.

TABLE 5: SUMMARY OF RS MEANS 2011 DIVISION COST BREAKDOWN										
CSI Division		Total Cost	Т	otal Cost Incl O&P						
01.31 Project Management and Coordination	\$	4,001,660.00	\$	6,505,119.93						
01.32 Construction Progress Documentation	\$	20,750.00	\$	70,233.74						
01.41 Regulatory Requirements	\$	-	\$	3,148,916.10						
01.51 Temporary Utilities	\$	507,661.95	\$	606,352.56						
01.52 Construction Facilities	\$	32,520.00	\$	35,725.00						
01.54 Construction Aids	\$	1,225.00	\$	1,350.00						
01.56 Temporary Barricades and Enclosures	\$	96,762.95	\$	105,925.75						
01.58 Project Identification	\$	26,500.00	\$	29,500.00						
01.71 Examination and Preparation	\$	25,084.50	\$	37,800.00						
01.71 Cleaning and Waste Management	\$	1,156,932.92	\$	2,208,335.42						
01.91 Commissioning	\$	-	\$	787,229.03						
02.21 Surveying	\$	9,703.40	\$	14,455.00						
Total	\$	5,878,800.72	\$	13,550,942.52						
Total General Conditions Cost with New York, NY Location Factor of 133%	\$	7,818,804.95	\$	18,022,753.56						

The general conditions estimate and actual project general conditions are based on a total project duration of 60 months starting with preconstruction planning and design to final project substantial completion. Table 6 shows a comparison between estimated costs versus actual project costs.

TABLE 6: ACTUAL VERSUS ESTIMATED COST COMPARISON											
Category	Category Actual Cost			Cost/Month		Estimated Cost	Cost/Month				
General Conditions	\$	17,947,366.00	\$	299,122.77	\$	18,022,753.56	\$	300,379.23			

Upon completion of the general conditions estimate for the Gouverneur Healthcare Services project, it is apparent that the owner is exposed to substantial costs for any major delays in construction. This will be a very helpful tool in future studies on schedule acceleration because there will an opportunity for substantial savings to the owner if a few weeks or even months can be saved during the life of the project.

For a further breakdown of the values that were determined, please see Appendix C. Appendix C features two tables that show in detail how all quantities and costs were determined.

- Table 21: General Conditions RS Means 2011 Division Breakdown
- Table 22: General Conditions Construction Management Staffing Plan

# **LEED EVALUATION**

The Gouverneur Healthcare Services project will not be putting forth efforts to achieve any level of LEED certifications. The study has been rated based actual green implementations to the design, as well as possible points that can be achieved with minimal effort and cost to the overall budget and are strictly based on the students' opinion. Throughout this analysis, "LEED 2009 for New Construction and Major Renovations" was used as a reference to better understand how points can be achieved through the LEED system and the efforts that are involved to do so.

Table 7 shows the results of the LEED evaluation based on current design implementations and additional points that can be achieved with minimal effort. In Table 7, "yes" means that the current design can achieve points with no additional effort, "possible" means that additional points can be achieved with minimal to moderate effort and cost, and "no" means the current project design will not achieve points nor is it felt that these credits would be worth the effort or money based on owner needs.

TABLE 7: LEED SCORECARD SUMMARY									
	Points								
Category	Yes	Possible	Combined						
Sustainable Sites	16	2	18						
Water Efficiency	0	5	5						
Energy and Atmosphere	4	3	9						
Materials and Resources	0	8	8						
Indoor Environmental Quality	12	3	15						
Innovation and Design Process	0	1	1						
Regional Priority	0	2	2						
Total	32	24	56						
LEED Certification	None	None	Silver						

With the current implemented design and construction efforts, this study shows that the project would not achieve a LEED certification. However, based on additional possible points with minimal effort and cost to the budget, this study shows that design and construction efforts could result in a LEED Silver certification. For a full breakdown of the LEED scorecard, please see Appendix D.

#### SUSTAINABLE SITES

Due to the project location, many points in the sustainable sites category of the LEED system can be achieved with none to minimal effort to altering the design. Site location promotes high usage of public transportation with multiple bus stops and subway stations located within a quarter mile walking distance. Additionally, the site is located in a very dense community population that promotes community connectivity by containing at least 10 of the LEED approved basic services within a half mile radius to the site. Possible points can be achieved through efficient storm water design due to the fact that New York City code requires buildings to control the amount of storm water released into the city's system.

#### WATER EFFICIENCY

Due to the high volume of plumbing required to meet hospital demands, there is an opportunity to obtain credits for innovative wastewater technologies and water use reduction by incorporating water conserving fixtures in the design throughout the new and existing structure. A simple change to the design can have a dramatic effect on the amount of water reduction the facility can achieve.

#### **ENERGY AND ATMOSPHERE**

Being that this project has made no efforts to achieve any level of LEED certification, it would be very difficult to achieve points in this category without putting forth a large amount of money and effort to updating the MEP systems. However, since the project scope of work includes a full modernization of the existing infrastructure, all of the new equipment that will be installed throughout both the new and existing building will be energy efficient. Because of this, it is believed that up to three points can be achieved with the current implemented design for optimized energy performance. Additionally, because of the building usage type, an enhanced commissioning program was incorporated to ensure that all equipment throughout the building is operating as efficiently as possible to support various spaces. Through the process of demolition of existing conditions, all existing equipment that contained chlorofluorocarbon based refrigerants were safely removed and replaced with equipment that minimize or eliminate the emission of compounds that contribute to ozone depletion and climate change.

#### MATERIAL AND RESOURCES

The existing building of the Gouverneur Healthcare Services facility will undergo a complete interior demolition, and will therefore not be able to receive any points for building reuse. However, being that thirteen stories of interior space are being demolished, there is a big opportunity for the project to gain points for recycling or salvaging material from demolition and

possibly reusing those materials as recycled content. Due to the location of the project, there is definitely an opportunity to use a reasonable percentage of regional materials in the design of the project. Lastly, there is a large quantity of wood furniture that is used throughout the spaces of the facility that could potentially use rapidly renewable materials and certified wood.

#### **INDOOR ENVIRONMENTAL QUALITY**

Due to the facility type, the design for indoor environmental air quality is very important not only for the end product, but also during construction due to the fact that the existing facility will remain active during new and existing building construction. The comfort of both the staff and patients of the healthcare facility was set as a very high priority during design. This ultimately led to much emphasis on user friendly system controls, a thermally comforting design, and a connection between indoor and outdoor spaces by providing daylight and views into regularly occupied areas of the building, as stated and required in "LEED 2009 for New Construction and Major Renovations".

#### **INNOVATION AND DESIGN PROCESS**

This category does not directly apply to the Gouverneur Healthcare Services project. However, if the owner had decided achieving a LEED certification was a priority, it would definitely have been possible to assign a LEED Accredited Professional to the construction management team.

#### **REGIONAL PRIORITY CREDITS**

Refer to Table 8 for points that can be obtained based on the following project parameters.

SEARCH PARAMETERS

- Country: United States
- Zip Code: 10002
- Rating System: LEED 2009 for New Construction

TABLE 8: REGIONAL PRIORITY CREDITS										
Credit ID	Options	Threshold/Path	Applicable							
EAc1	Option 1	40% New / 36% Existing	No							
EAc2	-	1% Renewable Energy	No							
MRc1.1	-	Building Reuse: 55%	No							
SSc5.1	-	-	No							
SSc6.1	-	-	Possible							
WEc2	-	-	Possible							

#### **BUILDING INFORMATION MODELING USE EVALUATION**

The Gouverneur Healthcare Services project will not be implementing Building Information Modeling methods during the design, construction, and facility management process. This study will identify areas where the use of Building Information Modeling would possibly benefit the project in delivering safer and more efficient construction and are strictly based on the students' opinion. Throughout this analysis, the "BIM Project Execution Planning Guide" was used as a reference to better understand the potential uses of BIM and how it could be used to achieve specific project goals.

Table 9 shows a list of project goals that could benefit the project and potential BIM uses that could be implemented achieve those goals based on a priority level from low to high.

TABLE 9: BIM GOALS AND USES											
Priority High/Medium/Low	Goal Desciption	Potential BIM Uses									
High	Identify potential and critical space and time conflicts associated with phasing of construction while maintaining an active healthcare facility	Site Utilization Planning									
Medium	Decrease layout error and increase communication between office and field personnel	3D Control and Planning									
High	Reduce and eliminate conflicts in the field, particularly concerning the high volume of MEP equipment to be installed	3D Coordination									
Medium	Increase the efficiency of field productivity and decrease construction time	Design Reviews, 3D Coordination									
High	Track progress of construction and create a better understanding of the phasing to the owner and project participants during all six phases of construction	4D Modeling									
Medium	Create model to aid in future 3D coordination for future renovations and expansions	Record Modeling									
High	Provide owner with different design options and alternatives	Design Reviews, Design Authoring, Engineering Analysis									
Medium	Track costs associated with design changes and alternatives	Cost Estimation									
Medium	Accurately model existing conditions in preparation for renovation design and construction	Existing Conditions Modeling									

Upon completion of determining BIM goals that would be beneficial to implement, a BIM Use Analysis was performed and can be seen in Appendix E of this report. The purpose of this analysis was to determine which BIM uses would be most beneficial to the contractors, construction manager, designers, and owner and rank them based on priority to each party. The analysis resulted in six definitive BIM uses that could assist the overall project team in delivering a more efficient method of design and construction and one possible use depending on the preference of the owner. The BIM uses that were determined include the following.

#### SITE UTILIZATION PLANNING

Site utilization planning would assist the project team greatly in determining site logistics during the various phases of construction. Being that the facility will stay active during construction, site utilization planning will help identify how the site is being utilized, especially due to the very tight site conditions that are associated with working in the New York City region. Additionally, the first phase turns over the new building to the owner which completely changes the site logistics of the job. From that point on, all construction occurs in the existing building. Site utilization planning will greatly help in the organization of site logistics after major phases and floors are turned over to the owner and further an understanding to both the project team and owner to how space will be utilized while considering the safety of the workers, hospital staff, patients of the facility, and pedestrians.

#### **3D** COORDINATION

Due to the high volume of MEP work that is being installed, 3D coordination would greatly assist in reducing conflicts between major system components. The ceiling space in this facility is very limited, yet must accommodate a large volume of ductwork, conduit, plumbing, and other MEP systems. 3D coordination could reduce or even eliminate conflicts in the field which could potentially increase productivity, decrease construction cost, and decrease construction time. It also has the potential to greatly reduce the number of Requests for Information to architect and MEP engineers by working through conflicts prior to installation. Additionally, 3D coordination serves as a great tool for visualizing the systems that are to be installed, which is especially beneficial to the subcontractors that are actually performing the work. Depending on the owners needs for an existing conditions model, 3D coordination would be very helpful during the modernization of the existing MEP infrastructure, especially in the mechanical penthouse where major system components are being replaced.

#### **4D MODELING**

As previously stated in Site Utilization Planning, understanding the phasing of the schedule is key to the success of this project. 4D modeling can serve as a great tool for delivering that understanding to owner and other parties involved in the project by identifying the critical path of the project. It could also serve as a great tool for understanding which floors are being demolished, renovated, finished, and turned over for occupancy. Prior to bidding a job, 4D modeling would serve as a great tool in a proposal for delivering a project of this magnitude and complexity.

#### **ENGINEERING ANALYSIS**

The Gouverneur Healthcare Services facility will be undergoing a major modernization of the MEP infrastructure of the existing building, as well as designing additional MEP systems to support the new addition of the building. In the process of designing these systems, it would be most beneficial to the owner for the design team to put forth efforts in analyzing efficient or energy efficient designs possible to support building operations. The ultimate result of these engineering analyses could potentially save the owner money not only in design and construction, but in the future as well. Additionally, it's very important that the MEP systems incorporated in the building's design are as energy efficient as possible and provide its users with the upmost comfort possible.

#### **COST ESTIMATION**

Incorporating cost estimation in the BIM process will allow the team to quickly determine costs involving various items of the project. This is particularly important for efficiently managing the costs of the project while working under a public city agency such as the Dormitory Authority for the State of New York. Cost estimation allows the project team to provide the owner with cost estimations for design alternatives in a more efficiently manner. This will assist in saving the estimator time by providing takeoffs automatically and allowing them to focus on other, higher priority issues.

#### **DESIGN AUTHORING**

The design authoring aspect of BIM is very important in successfully delivering a project using BIM methods. Many of the other uses that were selected to implement BIM on this project incorporate the results of design authoring which ultimately results in a 3D model of the design. A project team could use the results of design authoring to further an understanding of the components of the project including system properties and quantities; costs; and schedules.

Table 10 shows the primary BIM uses that could be utilized on the Gouverneur Healthcare Services project during the phase of design and construction that they would be most beneficial.

ТАВ	BLE 10: BIM USES						
X	Plan	Х	Design	X	Construct	Х	Operate
	Programming	X	Design Authoring	x	Site Utilization Planning		Building Maintenance Scheduling
	Site Analysis		Design Reviews		Construction System Design		Building System Analysis
		Х	3D Coordination	Х	3D Coordination		Asset Management
		X	Structural Analysis		Digital Fabrication		Space Management / Tracking
			Lighting Analysis		3D Control and Planning		Disaster Planning
		Χ	Energy Analysis	Х	Record Modeling	Χ	Record Modeling
		Х	Mechanical Analysis				
			Other Engineering Analysis				
			Sustainability (LEED) Evaluation				
			Code Validation				
X	Phase Planning (4D Modeling)	X	Phase Planning (4D Modeling)	X	Phase Planning (4D Modeling)		Phase Planning (4D Modeling)
X	Cost Estimation	Х	Cost Estimation	Х	Cost Estimation		Cost Estimation
	Existing Conditions Modeling		Existing Conditions Modeling		Existing Conditions Modeling		Existing Conditions Modeling

Upon completion of the BIM use analysis, a Level One Process Map was developed to further an understanding of the overall BIM process, identify lines of communication between all parties, and define each party's tasks that will be implemented throughout the BIM collaboration process. The Level One Process Map elaborates on the BIM uses located in Table 10 above and

determines whether they will be implemented during schematic design, design development, construction documents, and operations. This step is an overview of the process prior to completing a use specific Level Two Process Map, which could possibly serve as an analysis for future thesis studies. The Level One Process Map can be found in Appendix E of this report.

Overall, this study has concluded that BIM methods of delivery could greatly increase the efficiency of design, construction, and facility management for the project. For the Gouverneur Healthcare Services project, understanding the phasing of construction between new building and existing building construction is key to the success for the project team. Due to this, much emphasis was put forth on furthering an understanding of the site logistics and site utilization of the site during different phases of construction, as well as the major milestones and critical of the schedule during the four year duration project. BIM also has the potential to play a huge role in construction efficiency through the use of 3D coordination for the high volume of MEP equipment to be installed in the building. The use of BIM methods of construction could result in cost savings to the owner by preventing clashes in the field, increasing construction efficiency, and determining the most energy efficient systems to implement in the design that have the fastest return on investment. Concluding, the Gouverneur Healthcare Services building could greatly benefit through the use of BIM methods, particularly concerning the complex phases of construction, tight site conditions, and high volume of MEP equipment. The use of BIM could result in cost savings to the owner and fast return on investment by providing the opportunity to deliver design and construction more efficiently than traditional methods.

# **APPENDIX A**

**DETAILED PROJECT SCHEDULE** 

# GOUVERNEUR HEALTHCARE SERVICES SUMMARY SCHEDULE

	Tesla Manage	Dti	Chant	Ci-i-h	2005	2007	2000	2000	2010	2014	2012	2012	2014
ID	Task Name	Duration	Start	Finish	2005 2006 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4	2007	2008	2009	2010	2011	2012	2013	2014
1	Pre-Construction Phase	1090 days	Tue 1/2/07	Mon 3/7/11	Pre-Construction Phase					3/7		4 41 42 43	4 4 42
4	New Building Construction	776 days	Fri 1/30/09	Fri 1/20/12		New Build	ling Constructio	on 🥥 🚃 🚃			1/20		
5	Excavation & Foundations	146 days	Fri 1/30/09	Fri 8/21/09		Excavatio	n & Foundation	ns 🛁 🛶	8/21		10.00		
13	Superstructure	201 days	Sat 8/8/09	Mon 5/17/10			Supe	erstructure 🗰	5/17	7			
39	Interior Fitout & Finishes	580 days	Mon 11/2/09	Fri 1/20/12			Interior Fit	out & Finishes		I. K. I	1/20		
40	Podium Construction : Floors 1 - 6		Mon 11/2/09	Tue 9/6/11		Podi	um Constructio	on : Floors 1 - 6			9/6		
41	1st Floor Construction	479 days	Mon 11/2/09	Thu 9/1/11				or Construction			9/1		
46	2nd Floor Construction	446 days	Mon 12/7/09	Mon 8/22/11			2nd Flo	oor Constructio	on		3/22		
51	3rd Floor Construction	426 days	Mon 1/4/10	Mon 8/22/11			3rd F	loor Construct	tion		3/22		
56	4th Floor Construction	415 days	Mon 2/1/10	Fri 9/2/11			4th	Floor Construc	ction		9/2		
61	5th Floor Construction	388 days	Thu 3/4/10	Mon 8/29/11			5t	h Floor Constru	uction		8/29		
66	Completion of Podium	0 days	Tue 9/6/11	Tue 9/6/11					Completi	ion of Podium 🧉	9/6		
67	Substantial Completion of Podium	0 days	Tue 9/6/11	Tue 9/6/11				Sub	bstantial Completi	ion of Podium	9/6		
68	Temporary Certificate of Occupancy Aquired		Tue 9/6/11	Tue 9/6/11			,		rtificate of Occupa				
69	Tower Construction : Floors 6 - 13	454 days	Tue 4/27/10	Fri 1/20/12					ors 6 - 13		1/20		
70	6th Floor Construction	407 days	Tue 4/27/10	Wed 11/16/11				6th Floor Cons			11/16		
75	7th Floor Construction	401 days	Wed 5/19/10	Wed 11/30/11					struction		11/30		
80	8th Floor Construction	401 days	Wed 6/2/10	Wed 12/14/11					nstruction		12/14		
85	9th Floor Construction	410 days	Mon 6/7/10	Fri 12/30/11					instruction		12/30		
90	10th Floor Construction	417 days	Thu 6/10/10	Fri 1/13/12					Instruction		1/13		
95	11th Floor Construction	418 days	Wed 6/16/10	Fri 1/20/12					onstruction		1/20		
100	12th Floor Construction	316 days	Tue 6/22/10	Tue 9/6/11					onstruction		9/6		
106	13th Floor Construction	309 days	Thu 7/1/10	Tue 9/6/11					onstruction		9/6		
112	Completion of Tower	0 days	Fri 1/20/12	Fri 1/20/12					•	ompletion of To			
114	Existing Building Construction	and the second second	Thu 9/24/09	Mon 12/30/13		Exi	isting Building	Construction					12/30
115	Infrastructure Modernization	481 days	Fri 2/26/10	Fri 12/30/11				ture Moderniz			12/30		•/
122	13th Floor Demolition and Renovation	508 days	Thu 9/24/09	Tue 9/6/11		13th Floor	Demolition and				9/6		
132	6th Floor Demolition and Renovation	319 days	Wed 4/6/11	Mon 6/25/12					<ul> <li>molition and Rend</li> </ul>		6/25		
141	7th Floor Demolition and Renovation	199 days	Wed 9/21/11	Mon 6/25/12					loor Demolition a				
150	8th Floor Demolition and Renovation	276 days	Wed 9/21/11	Wed 10/10/12					loor Demolition a			10/10	
159	5th Floor Demolition and Renovation	189 days	Wed 10/5/11	Mon 6/25/12					Floor Demolition a		•		
168	2nd Floor Demolition and Renovation	197 days	Wed 10/26/11						Floor Demolition		1		
100	3rd Floor Demolition and Renovation	197 days	Wed 10/26/11						Floor Demolition				
186	4th Floor Demolition and Renovation	197 days 197 days	Wed 10/26/11 Wed 10/26/11						Floor Demolition				
186	9th Floor Demolition and Renovation	197 days 196 days	Wed 7/11/12	Wed 4/10/13				40			Fenovation		
	1st Floor Demolition and Renovation	204 days	Fri 8/10/12	Wed 4/10/13 Wed 5/22/13					20171001	echoncion anu	The same of the same of	5/22	
204	10th Floor Demolition and Renovation	204 days 249 days	Thu 10/25/12								10/25	•	
213	11th Floor Demolition and Renovation	178 days	Thu 10/25/12 Thu 4/25/13	Mon 12/30/13							10/25	4/25	
	Entire Project Substantial Completion	0 days	and the second second second second	Mon 12/30/13							ntire Project Substa	•	• • •
231	Entire Project Substantial Completion	0 days 0 days	Tue 2/11/14	Tue 2/11/14							and the second s	t Final Completion	
252	Endre Project Phila Completion	ouays	100 2/11/14	1 de 2/11/14							Linuie Projec	c mar complet	
	Test		Deals -+ C.		In a stir state	0	M 14			Deciliar	4		
Gouver	meur Healthcare Services		Project Sum		Inactive Milestone				ib entremente di		*		
	sporovien		External Task	(5	Inactive Summary	Q.	Manual 9	Summary	÷	Progress			
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	Summary		Inactive Task		Duration-only	200	Finish-on	nly	3				
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ALEX DESPOTOVICH | CONSTRUCTION MANAGEMENT

# GOUVERNEUR HEALTHCARE SERVICES DETAILED SCHEDULE

ID	Fask Name		Duration	Start	2005 2006 4 Q1 Q2 Q3 Q4 Q1 Q2	2007	2008	2009		011 2012 1 02 03 04 01 0	2013	2014
1	Pre-Construction Phase		1090 days	Tue 1/2/07	+   Q1   Q2   Q3   Q4   Q1   Q2	1/2				<b>3/7</b>		
2	Pre-Construction Plannin	g	562 days	Tue 1/2/07	Pre-Construction	Planning		2/25				
3	Architectural Design		1090 days	Tue 1/2/07	Architectura	al Design				3/7		
4	New Building Construction	n	860 days	Mon 10/6/08			10	/6 🖵 🗕 🗕	E E E E E	1/20	1	
5	Soil Remediation		85 days	Mon 10/6/08			Soil Remediati	ion <b></b> 1/30		1000-000		
6	Excavation & Foundati	ons	146 days	Fri 1/30/09				1/30 - 8/2	1			
7	Notice to Proceed		0 days	Fri 1/30/09			Notice to	Proceed 🔶 1/30				
8	Detailed Excavation		45 days	Fri 1/30/09			Detailed Ex	cavation 💼 4/2				
9	Install 100 Ton Piles		30 days	Fri 3/27/09			Install 1	00 Ton Piles 💼 5/7				
10	F/R/P Pile Caps and P	iers	21 days	Fri 5/1/09			F/R/P Pile C	aps and Piers 🔳 5/29				
11	F/R/P Grade Beams		28 days	Mon 6/1/09			F/R/	P Grade Beams 💼 7/8				
12	F/R/P Foundation Wal	ls	30 days	Mon 6/29/09			F/R/P F	oundation Walls 💼 8/7				
13	F/R/P Foundation Slat	)	21 days	Sun 7/26/09			F/R/I	P Foundation Slab 🔳 8/21				
14	Superstructure		201 days	Sat 8/8/09				8/8	5/17			
15	Mobilize Crawler Crar	ne	5 days	Sat 8/8/09			Mob	ilize Crawler Crane T 8/13	18			
16	Baseplates/Columns -	Floor 1	2 days	Thu 8/13/09			Baseplates	/Columns - Floor 1 T 8/14				
17	Install Beams : Floors	1 - 3	8 days	Mon 8/17/09			Install [	Beams : Floors 1 - 3 1 8/26	i -			
18	Baseplates/Columns -	Floor 3	2 days	Thu 8/27/09			Baseplate	s/Columns - Floor 3 ± 8/28	1			
19	Install Beams : Floors	4 - 6	8 days	Mon 8/31/09			Install	Beams : Floors 4 - 6 1 9/9				
20	Install Baseplates/Colu	umns - Floor 6	1 day	Thu 9/10/09			Install Baseplate	s/Columns - Floor 6 19/1	0			
21	Install Beams : Floors	7 - 8	2 days	Fri 9/11/09			Install	Beams : Floors 7 - 8 19/1	4			
22	Install Baseplates/Colu	umns - Floor 8	1 day	Tue 9/15/09			Install Baseplate	es/Columns - Floor 8 29/1	5			
23	Install Beams : Floors	9 - 10	2 days	Wed 9/16/09			Install	Beams : Floors 9 - 10 + 9/1	7			
24	Install Baseplates/Colu	umns - Floor 10	1 day	Fri 9/18/09			Install Baseplate	s/Columns - Floor 10 <sub>1</sub> 9/1	8			
25	Install Beams : Floors	11 - 12	2 days	Mon 9/21/09			Install B	eams : Floors 11 - 12 79/2	22			
26	Install Baseplates/Colu	umns - Floor 12	1 day	Wed 9/23/09			Install Baseplate	s/Columns - Floor 12 <sub>19/2</sub>	23			
27	Install Beams : Floors	13 - Roof	2 days	Thu 9/24/09			Install Bea	ms : Floors 13 - Roof 19/2	25			
28	Structural Steel Toppi	ng Out	0 days	Mon 9/21/09			Structura	al Steel Topping Out 💊 9/	21			
29	Install Metal Decking/	Concrete : Floors 1 - 3	21 days	Mon 8/31/09		Install f	Metal Decking/Co	oncrete : Floors 1 - 3 🍙 9/2	28			
30	Install Metal Decking/	Concrete : Floors 4 - 6	21 days	Mon 9/28/09		Instal	Metal Decking/	Concrete : Floors 4 - 6 🍙 1	0/26			
31	Install Metal Decking/	Concrete : Floors 7 - 8	10 days	Mon 10/26/09		Insta	all Metal Decking,	Concrete : Floors 7 - 8 🔳 1	.1/6			
32	Install Metal Decking/	Concrete : Floors 9 - 10	10 days	Fri 11/6/09		Insta	ll Metal Decking/	Concrete : Floors 9 - 10 🔳	11/19			
33	Install Metal Decking/	Concrete : Floors 11 - 12	10 days	Thu 11/19/09		Instal	Metal Decking/0	Concrete : Floors 11 - 12 🔳	12/2			
34	Install Metal Decking/	Concrete : Floors 13 - Roof	10 days	Wed 12/2/09		Install f	Metal Decking/Co	oncrete : Floors 13 - Roof 🔳	12/15			
35	Install Curtain Wall : I	Floors 1 - 3	45 days	Mon 11/16/09			Install C	urtain Wall : Floors 1 - 3 🧧	<b>1/15</b>			
36	Install Curtain Wall : I	Floors 4 - 6	45 days	Sat 1/16/10			Instal	l Curtain Wall : Floors 4 - 6	3/18			
37	Install Curtain Wall : I	Floors 7 - 8	14 days	Fri 3/19/10			In	stall Curtain Wall : Floors 7	-8 🛛 4/7			
38	Install Curtain Wall : I	Floors 9 - 10	14 days	Thu 4/8/10			Ins	stall Curtain Wall : Floors 9	- 10 📱 4/27			
39	Install Curtain Wall : I	Floors 11 - 13	14 days	Wed 4/28/10			Ins	tall Curtain Wall : Floors 1	1 - 13 🔋 5/17			
40	Interior Fitout & Finish	es	580 days	Mon 11/2/09				11/2 🖵		1/20	i	
		Task		Project Summary		nactive Milestone	ŵ	Manual Summary Re		Deadline		
	neur Healthcare Services	Split		External Tasks		nactive Summary	U	Manual Summary		Progress		
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		Summary		Inactive Task		Duration-only		Finish-only	2			
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ID	Task Name	Duration	Start	2005 2006 2007 2008 2009 2010 2011 2012 2013 2014
41	Podium Construction : Floors 1 - 6	481 days	Mon 11/2/09	
42	1st Floor Construction	479 days	Mon 11/2/09	11/2 9/1
43	MEP Systems Overhead and Rough-In	250 days	Mon 11/2/09	MEP Systems Overhead and Rough-In 10/15
44	Interior Wall and Ceiling Framing	145 days	Mon 2/15/10	Interior Wall and Ceiling Framing 9/3
45	Interior Wall, Ceiling, and Floor Finishes	296 days	Thu 7/15/10	Interior Wall, Ceiling, and Floor Finishes
46	MEP Systems Installation	193 days	Tue 11/2/10	MEP Systems Installation 7/28
47	2nd Floor Construction	446 days	Mon 12/7/09	12/7 3 8/22
48	MEP Systems Overhead and Rough-In	215 days	Mon 12/7/09	MEP Systems Overhead and Rough-In
49	Interior Wall and Ceiling Framing	195 days	Mon 3/1/10	Interior Wall and Ceiling Framing
50	Interior Wall, Ceiling, and Floor Finishes	270 days	Tue 8/10/10	Interior Wall, Ceiling, and Floor Finishes
51	MEP Systems Installation	156 days	Mon 12/20/10	MEP Systems Installation
52	3rd Floor Construction	426 days	Mon 1/4/10	1/4
53	MEP Systems Overhead and Rough-In	215 days	Mon 1/4/10	MEP Systems Overhead and Rough-In 10/29
54	Interior Wall and Ceiling Framing	175 days	Fri 4/2/10	Interior Wall and Ceiling Framing 12/2
55	Interior Wall, Ceiling, and Floor Finishes	219 days	Wed 10/20/10	Interior Wall, Ceiling, and Floor Finishes 28/22
56	MEP Systems Installation	140 days	Tue 12/28/10	MEP Systems Installation7/1
57	4th Floor Construction	415 days	Mon 2/1/10	2/1 9/2
58	MEP Systems Overhead and Rough-In	290 days	Mon 2/1/10	MEP Systems Overhead and Rough-In 3/11
59	Interior Wall and Ceiling Framing	175 days	Thu 5/6/10	Interior Wall and Ceiling Framing 1/5
60	Interior Wall, Ceiling, and Floor Finishes	241 days	Sat 10/2/10	Interior Wall, Ceiling, and Floor Finishes
61	MEP Systems Installation	196 days	Wed 11/3/10	MEP Systems Installation
62	5th Floor Construction	388 days	Thu 3/4/10	3/4 - 3/29
63	MEP Systems Overhead and Rough-In	255 days	Thu 3/4/10	MEP Systems Overhead and Rough-In
64	Interior Wall and Ceiling Framing	175 days	Mon 5/31/10	Interior Wall and Ceiling Framing 1/28
65	Interior Wall, Ceiling, and Floor Finishes	244 days	Wed 9/22/10	Interior Wall, Ceiling, and Floor Finishes <b>2007</b> 8/29
66	MEP Systems Installation	109 days	Wed 3/2/11	MEP Systems Installation 2/1
67	Completion of Podium	0 days	Tue 9/6/11	Completion of Podium 🔶 9/6
68	Substantial Completion of Podium	0 days	Tue 9/6/11	Substantial Completion of Podium 🔶 9/6
69	Temporary Certificate of Occupancy Aqcuired	0 days	Tue 9/6/11	Temporary Certificate of Occupancy Aqcuired 🔶 9/6
70	Tower Construction : Floors 6 - 13	454 days	Tue 4/27/10	4/27 - 1/20
71	6th Floor Construction	407 days	Tue 4/27/10	4/27 - 11/16
72	MEP Systems Overhead and Rough-In	365 days	Tue 4/27/10	MEP Systems Overhead and Rough-In 9/19
73	Interior Wall and Ceiling Framing	29 days	Tue 8/2/11	Interior Wall and Ceiling Framing 💼 9/9
74	Interior Wall, Ceiling, and Floor Finishes	62 days	Tue 8/23/11	Interior Wall, Ceiling, and Floor Finishes <b>11/16</b>
75	MEP Systems Installation	25 days	Wed 9/21/11	MEP Systems Installation 👔 10/25
76	7th Floor Construction	401 days	Wed 5/19/10	
77	MEP Systems Overhead and Rough-In	359 days	Wed 5/19/10	MEP Systems Overhead and Rough-In
78	Interior Wall and Ceiling Framing	228 days	Wed 11/10/10	Interior Wall and Ceiling Framing
79	Interior Wall, Ceiling, and Floor Finishes	62 days	Tue 9/6/11	Interior Wall, Ceiling, and Floor Finishes
80	MEP Systems Installation	27 days	Mon 10/3/11	MEP Systems Installation 🍅 11/8
	Task		Project Summar	ary 👽 💶 Inactive Milestone 💠 Manual Summary Rollup 💶 Deadline 景
	rneur Healthcare Services espotovich Split		External Tasks	Inactive Summary V Manual Summary Progress —
80000000000	er 19, 2011 Milestone 🔶		External Milesto	
	Milestone		Inactive Task	
	Summary		<ul> <li>mactive rask</li> </ul>	
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Image: construction         Out days         Weid 62/0           41         MBF Systems Overhead and Rough-In         3.53 days         Weid 62/0           42         MBF Systems Overhead and Rough-In         3.53 days         Weid 62/0           43         Dateor Wall and Colling Finning         0.21 days         MIP Systems Overhead and Rough-In         1.07           44         Interior Wall and Colling Finning         0.24 days         MIP Systems Overhead and Rough-In         1.07           45         MBF Systems Notenhead and Rough-In         1.04 days         MIP Systems Overhead and Rough-In         1.07           46         Interior Wall and Colling Finning         0.71 days         MIP Systems Overhead and Rough-In         1.07           46         MIP Systems Overhead and Rough-In         0.64 days         Text 0.01         MIP Systems Overhead and Rough-In         1.02           46         MIP Systems Notenhead In Rough-In         0.64 days         Text 0.01         1.02         <	013 2014
as         Interior Will, Celling Framma         201 gw         Sun 101010           65         MBP Systems Installation         43 days         Mon 01011           65         MBP Systems Control and Regultan         106 days         Mon 01011           66         MBP Systems Control and Regultan         106 days         Mon 01011           67         MEP Systems Control and Regultan         106 days         Mon 01010           68         Interior Will (Celling Framma         107/1           69         MEP Systems Control and Regultan         106 days         Mon 0710           69         Interior Will (Celling Framma         107/1           69         Interior Will (Celling Framma         107/1           61         The Control and Regultan         64 days         Tus 10411           61         Interior Will (Celling Framma         26 days         Till 10001           64         Till 100011         MEP Systems Control and Regultan         50 days           64         Till 100011         MEP Systems Control and Regultan         50 days           64         Till 100011         MEP Systems Control and Regultan         50 days           64         Till 100011         MEP Systems Control and Regultan         50 days           64	
as         Interior Wall, Celling, and Floor Finishes         32.4ys         Tue 92011           65         Shit Foor Construction         31.4ys         Mon 107001         MP Systems Installation         32.7           67         MIP Systems Constant and Rough-In         106 days         Mon 67710         12.7           68         Interior Wall, Celling, and Floor Finishes         64 days         Tue 10411         Interior Wall, Celling, and Floor Finishes         12.7           69         MIP Systems Constant and Rough-In         106 days         Mon 67710         MIP Systems Installation         12.7           71         Interior Wall, Celling, and Floor Finishes         64 days         Tue 10411         Interior Wall, Celling, and Floor Finishes         12.7           72         MIP Systems Constant and Rough-In         71 days         The 61070         12.7         12.7           73         Interior Wall, Celling, and Floor Finishes         71 days         The 61070         12.7         12.7           74         Interior Wall, Celling, and Floor Finishes         71 days         The 61070         12.7           75         MIP Systems Sockad and Rough-In         79 days         Wed 161610         12.7           76         MIP Systems Sockad and Rough-In         79 days         71.0170         MIP S	
65         MEP Systems Installation         34 days         Mon (0/10)           65         97h Bord Construction         100 days         Mon 6/710         107 days           67         MEP Systems Conclude and Reagh-In         100 days         Mon 6/710         107 days           68         Interior Wall and Ceiling Framing         271 days         San (1010)         107 days         107 days           68         Interior Wall and Ceiling Framing         271 days         San (1010)         107 days         107 days           69         MEP Systems Concluding Framing         28 days         Tin (0/101)         MEP Systems Installation         107 days           91         MEP Systems Concluding Framing         28 days         Tin (0/101)         MEP Systems Installation         107 days           92         MEP Systems Installation         9 days         Tin (0/101)         MEP Systems Installation         11/2           93         Interior Wall and Ceiling Framing         28 days         Tin (10/11)         MEP Systems Installation         11/2           94         MEP Systems Installation         9 days         Tin (10/11)         MEP Systems Installation         11/2           95         MEP Systems Installation         9 days         Tin (10/11)         MEP Systems Installation	
$\frac{16}{20}$ 9b. Flore Construction410 day.Num 67/106/77/20 $\frac{7}{20}$ MEP Systems Overhead and Rough-In10/3110/3110/3110/31 $\frac{89}{20}$ Interior Wall, Calling, Farming271 daysSan 10/10MEP Systems Overhead and Rough-In10/31 $\frac{90}{20}$ MEP Systems Overhead and Rough-In363 daysFri 10/10MEP Systems Overhead and Rough-In10/31 $\frac{90}{20}$ MEP Systems Overhead and Rough-In363 daysFri 10/10MEP Systems Overhead and Rough-In10/31 $\frac{90}{20}$ MEP Systems Overhead and Rough-In363 daysFri 10/10MEP Systems Overhead and Rough-In10/31 $\frac{90}{20}$ MEP Systems Overhead and Rough-In370 daysWei 616/10MEP Systems Overhead and Rough-In11/31 $\frac{90}{20}$ MEP Systems Overhead and Rough-In370 daysWei 616/10MEP Systems Overhead and Rough-In11/31 $\frac{90}{20}$ MEP Systems Overhead and Rough-In370 daysWei 616/10MEP Systems Overhead and Rough-In11/31 $\frac{90}{20}$ MEP Systems Overhead and Rough-In370 daysWei 616/10MEP Systems Overhead and Rough-In11/31 $\frac{90}{20}$ Interior Wall, Calling, and Floor Finishes39 daysTue 10/311MEP Systems Notehead and Rough-In11/32 $\frac{90}{20}$ Interior Wall, Calling, and Floor Finishes39 daysTue 10/311MEP Systems Notehead and Rough-In11/32 $\frac{90}{20}$ Interior Wall, Calling, and Floor Finishes39 daysTue 10/211MEP Systems Notehead and Rough-In <td></td>	
9         IMEP Systems Conclused and Rough-In         106 days         Mee Systems Conclused and Rough-In         10/21           98         Interior Wall and Caling Framing         271 days         Tue 10/411         Interior Wall and Caling Framing         10/21           90         MBE Systems Conclused and Rough-In         30 days         Fri 10/141         MEE Systems Installation         12/30           91         Tub Hoer Construction         47 days         Tub 6/10/0         MEE Systems Installation         11/21           92         MEE Systems Conclused and Rough-In         36 days         Tub 6/10/0         11/23           93         Interior Wall and Caling Framing         20 days         Fri 10/10         Interior Wall and Caling Framing         11/24           95         MIN PSystems Installation         50 days         Fri 10/10         MEE Systems Sorthead and Rough-In         11/24           95         MIN PSystems Installation         20 days         Fri 10/10         MEE Systems Sorthead and Rough-In         11/28           96         Interior Wall and Caling Framing         20 days         Fri 10/10         MEE Systems Sorthead and Rough-In         11/28           97         MMEP Systems Installation         20 days         Fri 10/10         MEE Systems Sorthead and Rough-In         12/20	
Bareirs Wall and Ceiling Framing       271 days       Sun 1010/10         Bit Interior Wall and Ceiling and Floor Finishes       64 days       The 104/11         Bit Interior Wall Ceiling, and Floor Finishes       12/10         Bit MEP Systems Installation       39 days       Fin 101411         Bit MEP Systems Installation       39 days       Fin 101411         Bit MEP Systems Installation       6/10       6/10         Bit MEP Systems Installation       50 days       Fin 101411         Bit MEP Systems Installation       50 days       The 101011         Bit MEP Systems Installation       50 days       The 101011         Bit MEP Systems Installation       50 days       The 101011         Bit MEP Systems Installation       50 days       The 101010         Bit MEP Systems Installation       50 days       The 101010         Bit MEP Systems Installation       20 days       Fin 101101         Bit MEP Systems Installation       20 days       The 111/11         Bit Interior Wall and Ceiling Framing       20 days       The 111/11         Bit Interior Wall and Ceiling Framing       20 days       The 111/11         Bit Interior Wall and Ceiling Framing       20 days       The 111/11         Bit Interior Wall and Ceiling Framing       20 days       Th	
a         Interior Wall, Ceiling, and Floor Finishes         64 day         Tue 104/11           90         MEP Systems Installation         39 days         Fit 014/11         MEP Systems Systems Installation         12/7           91         Uth Floor Construction         41 days         Tue 010/0         6/10         11/3           92         MEP Systems Overhead and Rough-In         303 days         Fit 01/10         11/4           93         Interior Wall and Ceiling Faming         12/7         11/4           94         Interior Wall Acquing and Floor Finishes         11/3           95         MEP Systems Stream	
90         MEP Systems Installation         93 dups         Fri 1014/11           91         10th Floor Construction         17 dups         The 6/010         1// dups           92         10th Floor Construction         33 dups         The 6/010         1// dups           93         Interior Wall and Celling Framing         28 dups         The 10/10         1// dups           94         Interior Wall and Celling Framing         20 dups         The 10/10         1// dups           95         MEP Systems Netallation         50 dups         The 10/201         1// dups         1// dups           96         Interior Wall and Celling Framing         20 dups         Wed 0/r010         MEP Systems Noverhead and Rough-In         1// 28           97         MEP Systems Noverhead and Rough-In         370 dups         Wed 0/r10         MEP Systems Noverhead and Rough-In         1// 28           98         Interior Wall and Celling Framing         20 dups         Med 0/r10         MEP Systems Noverhead and Rough-In         1// 28           90         Interior Wall and Celling Framing         20 dups         Med 1// 24         MEP Systems Noverhead and Rough-In         1// 28           100         MEP Systems Noverhead and Rough-In         1// 28         Mer Systems Noverhead and Rough-In         1// 28	
91         10th Hoor Construction         417 days         Fm 6/10/10           92         MEP Systems Corefread and Rough-In         363 days         Thu 6/10/10           93         Interior Wall and Celling Framing         286 days         Fm 10/1/0           94         Interior Wall and Celling Framing         286 days         Thu 10/1/1           95         MEP Systems Installation         50 days         Thu 10/1/1           96         11th Foor Construction         418 days         Wed 6/6/0           97         MEP Systems Installation         6/1.6         11/4           98         Interior Wall and Celling Framing         230 days         Fri 10/1/0         MEP Systems Installation         1/28           99         Interior Wall and Celling Framing         230 days         Fri 10/1/0         MEP Systems Installation         1/28           100         MEP Systems Overhead and Rough-In         10/4 days         Twe 6/2/10         MEP Systems Installation         1/28           101         121 froor Construction         316 days         Twe 6/2/10         MEP Systems Installation         1/3           102         MEP Systems Installation         6/2/2         9/6         6/2/2         9/6           103         Interior Wall and Celling Framing	
92         MEP Systems Overhead and Rough-In         363 days         Thi 6/10/10           93         Interior Wall, Ceiling, Farming         286 days         Fr 10/1/0         11/3           94         Interior Wall, Ceiling, and Floor Finishes         64 days         The 10/1/0         11/3           95         MEP Systems Installation         50 days         The 10/2/01         MEP Systems Installation         12/3           96         Hith Floor Construction         379 days         Wed 6/6/00         6/15         9/2           97         MEP Systems Installation         230 days         The 10/1/0         MEP Systems Installation         21/2           98         Interior Wall, Ceiling, and Floor Finishes         9 days         Net 11/2/1         MEP Systems Installation         21/2           100         MEP Systems Installation         29 days         The 11/1/1         MEP Systems Installation         1/3           102         MEP Systems Installation         76 days         The 6/2/2/10         1/5         1/2           103         Interior Wall, Ceiling, and Floor Finishes         1/0 days         The 6/2/2/10         1/6         1/2           104         Interior Wall and Ceiling Framing         1/3 days         Yed 4/2/11         1/2         1/2         1/2	
93         Interior Wall and Ceiling Framing         286 days         Fri 101/10           94         Interior Wall and Ceiling Framing         286 days         Fri 101/10           94         Interior Wall, Ceiling, and Floor Finishes         64 days         Tue 107811           95         MEP Systems Installation         50 days         Fri 10710         11/28           95         Ith Floor Construction         418 days         Wed 61610         12/28           97         MEP Systems Novehead and Rough-1n         370 days         Fri 1071/10         11/28           98         Interior Wall and Ceiling Framing         20 days         Fri 1071/10         11/28           99         Interior Wall and Ceiling Framing         20 days         Tue 602/10         11/28           100         MEP Systems Installation         20 days         Tue 602/10         MEP Systems Novehead and Rough-1n         10/37           101         Interior Wall and Ceiling Framing         100 days         Wed 10/24/10         MEP Systems Novehead and Rough-1n         11/3           103         Interior Wall and Ceiling Framing         10 days         Tue 6/21/10         MEP Systems Novehead and Rough-1n         1/3           104         Interior Wall and Ceiling Framing         10 days         Tue 6/21/10 <td< td=""><td></td></td<>	
94       Interior Wall, Ceiling, and Floor Finishes       64 days       Tue 10/18/11         95       MEP Systems Installation       50 days       The 10/20/11         96       III. Floor Construction       48 days       Wed 616/10         97       MEP Systems Overhead and Rough-In       379 days       Wed 616/10         98       Interior Wall, Ceiling, and Floor Finishes       59 days       Tue 11/28         99       Interior Wall, Ceiling, and Floor Finishes       59 days       Tue 11/28         100       MEP Systems Overhead and Rough-In       1/20         101       Izith Floor Construction       36 days       Tue 11/28         102       MMEP Systems Overhead and Rough-In       1/20         103       Interior Wall, Ceiling, and Floor Finishes       1/20         104       Interior Wall, Ceiling, and Floor Finishes       1/26 days         105       MEP Systems Overhead and Rough-In       1/3         106       Temporary Certificate of Cocupancy Acquired 0 days       1/4         107       I33h Hoor Construction       30 days       The 7/10         108       MEP Systems Norehead and Rough-In       160 days       Tue 9/61         107       I33h Hoor Construction       30 days       The 7/10       MEP Systems Installation<	
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117       New Fire Pump and Piping       372 days       Fri 2/26/10         118       Refurbish Existing Air Handling Units       435 days       Mon 5/3/10         119       Mechanical Penthouse Equipment/Piping       207 days       Tue 3/1/11	12/30
117       New Fire Pump and Piping       372 days       Fri 2/26/10         118       Refurbish Existing Air Handling Units       435 days       Mon 5/3/10         119       Mechanical Penthouse Equipment/Piping       207 days       Tue 3/1/11	
118       Refurbish Existing Air Handling Units       435 days       Mon 5/3/10       Refurbish Existing Air Handling Units       12/30         119       Mechanical Penthouse Equipment/Piping       207 days       Tue 3/1/11       12/14	
119       Mechanical Penthouse Equipment/Piping       207 days       Tue 3/1/11         Mechanical Penthouse Equipment/Piping       12/14	
Task Project Summary Inactive Milestone 🚸 Manual Summary Rollup Deadline 🗣	
Gouverneur Healthcare Services	
Alex Despotovich Split Inactive Summary V Manual Summary Progress	
October 19, 2011 Milestone + External Milestone + Manual Task Start-only E	
Summary Inactive Task Duration-only Finish-only	
Appendix A	

ID	Task Name	Duration	Start	2005 2006	2007 2008	2009	2010	2011	2012	201	3	2014
				Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q		Q3 Q4 Q1 Q2 Q3	Q4 Q1 Q2 C	Q3 Q4 Q1 Q2 Q	Q3 Q4 Q1 Q2			4 Q1 Q2
121	Cellar Mezzanine Equipment Piping	63 days	Mon 8/1/11					quipment Piping				
122	HVAC Equipment Modernization Complete	0 days	Fri 12/30/11					Nodernization Com				
123	13th Floor Demolition and Renovation	508 days	Thu 9/24/09			9/24 🛡			<b></b> 9/6			
124	General Demolition and Abatement	30 days	Thu 9/24/09			olition and Abatement						
125	MEP Systems Demolition	42 days	Wed 10/28/09			<b>MEP Systems Demolition</b>						
126	Demolish Exsiting/Install New Punch Windows	30 days	Fri 12/25/09			nstall New Punch Windo						
127	Interior Wall and Ceiling Framing	250 days	Fri 2/5/10		Inte	rior Wall and Ceiling Fra		1/20				
128	MEP Systems Overhead and Rough-In	160 days	Mon 8/2/10			MEP Systems Overhead						
129	Interior Wall, Ceiling, and Floor Finishes	219 days	Mon 11/1/10			Interior Wall, Ceiling,			<b>9/1</b>			
130	MEP Systems Installation	100 days	Mon 3/14/11					stallation	a state of the second			
131	Temporary Certificate of Occupancy Aqcuired	0 days	Tue 9/6/11			Temporary C		cupancy Aqcuired				
132	Residents Move-In	0 days	Tue 9/6/11				F	Residents Move-In	9/6			
133	6th Floor Demolition and Renovation	319 days	Wed 4/6/11					4/6 🖵		6/25		
134	General Demolition and Abatement	116 days	Wed 4/6/11			General D	emolition and	Abatement	9/14			
135	MEP Systems Demolition	44 days	Fri 7/1/11				MEP Syste	ems Demolition 🧧	📕 <mark>8</mark> /31			
136	Demolish Exsiting/Install New Punch Windows	30 days	Thu 9/1/11			Demolish Exs	iting/Install Ne	w Punch Windows	s 💼 10/12			
137	Interior Wall and Ceiling Framing	129 days	Mon 9/19/11				Interior Wall a	and Ceiling Framin	g <b>2000 3</b> /19	5		
138	MEP Systems Overhead and Rough-In	149 days	Mon 9/26/11			M	P Systems Ove	rhead and Rough-l	In <b>(1993)</b> 4/	19		
139	Interior Wall, Ceiling, and Floor Finishes	97 days	Fri 2/10/12				Interior Wall,	Ceiling, and Floor	Fin shes	6/25		
140	MEP Systems Installation	60 days	Fri 3/16/12					MEP Systems In	nstallation	6/7		
141	Residents Move-In	0 days	Mon 6/25/12					Resi	dents Move-In 🖕	6/25		
142	7th Floor Demolition and Renovation	199 days	Wed 9/21/11					9/21	L <b></b>	6/25		
143	General Demolition and Abatement	40 days	Wed 9/21/11			G	ieneral Demolit	ion and Abatemer	nt 💼 11/15			
144	MEP Systems Demolition	10 days	Wed 11/2/11				ME	P Systems Demolit	tion 11/15			
145	Demolish Exsiting/Install New Punch Windows	30 days	Wed 11/2/11			Demolish	Exsiting/Install	New Punch Windo	ows 🔳 12/13			
146	Interior Wall and Ceiling Framing	70 days	Fri 12/2/11				Interior W	all and Ceiling Fra	ming 3/8			
147	MEP Systems Overhead and Rough-In	90 days	Fri 12/9/11				MEP Systems	Overhead and Rou	igh- n 4/:	12		
148	Interior Wall, Ceiling, and Floor Finishes	102 days	Fri 2/3/12					Ceiling, and Floor				
149	MEP Systems Installation	60 days	Fri 3/9/12					-	nsta lation 📷			
150	Residents Move-In	0 days	Mon 6/25/12						dents Move-In			
151	8th Floor Demolition and Renovation	276 days	Wed 9/21/11							10/10		
152	General Demolition and Abatement	40 days	Wed 9/21/11			G	ieneral Demolit	ion and Abatemer		•		
153	MEP Systems Demolition	10 days	Wed 11/2/11					P Systems Demolit				
154	Demolish Exsiting/Install New Punch Windows	30 days	Wed 11/2/11			Demolish		New Punch Windo	-			
155	Interior Wall and Ceiling Framing	70 days	Fri 12/2/11					all and Ceiling Fra	_			
156	MEP Systems Overhead and Rough-In	90 days	Fri 12/9/11					Overhead and Rou		12		
157	Interior Wall, Ceiling, and Floor Finishes	179 days	Fri 2/3/12					Ceiling, and Floor	and the second	10/10		
158	MEP Systems Installation	136 days	Fri 3/9/12				interior viun,		nsta lation			
158	Residents Move-In	0 days	Wed 10/10/12					WEP Systems II	Residents Move			
102.00			Wed 10/10/12					10/	5 g			
160	5th Floor Demolition and Renovation	189 days	wed 10/5/11					10/		0/25		
	Task	(A.	Project Summa	ry Inactive	e Milestone 🛛 🗇	Manual Summar	v Rollup	Dead	dline			
	rneur Healthcare Services											
	espotovich Split				Summary	Manual Summar		Prog	1622			
Octobe	er 19, 2011 Milestone	٠	External Milest	one 🔶 Manua	Task	Start-only	E					
	Summary	<b>~</b>	Inactive Task	Duratio	n-only	Finish-only	C					
	÷			A	opendix A							

ID T	Task Name		Duration	Start		2006 200		2008	2009	2010	2011	2012	2013	2014
161	General Demolition ar	Abotamant	30 days	Wed 10/5/11	Q4 Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4 Q1	Q2 Q3 Q4 0	Q1   Q2   Q3   Q4		4 Q1 Q2 Q3	on and Abatement	4 Q1 Q2 Q3	04 Q1 Q2 Q3	Q4 Q1 Q2
161	MEP Systems Demoli		10 days	Wed 11/16/11					Ge		Systems Demolition			
162		tall New Punch Windows	31 days	Wed 11/16/11					Demolish F		New Punch Windows	-		
164	Interior Wall and Ceil		70 days	Fri 12/16/11					Demonante		all and Ceiling Framing			
164	MEP Systems Overhe		90 days	Fri 12/23/11					1		overhead and Rough-I			
165	Interior Wall, Ceiling,	· · · · · · · · · · · · · · · · · · ·	90 days 92 days	Fri 2/17/12							Ceiling, and Floor Finis		75	
166	MEP Systems Installa		55 days	Fri 3/23/12						interior wail,	MEP Systems Instal			
167	Residents Move-In	uon	0 days	Mon 6/25/12								Move-In 💊 6		
0.000	2nd Floor Demolition at	nd Demonstran	0 days 197 days	Wed 10/26/11								s wove-m 🍝 6,		
169 170	General Demolition ar			Wed 10/26/11					G	onoral Domolit	tion and Abatement	Southan Desperators	//20	
170	MEP Systems Demoli		46 days	Wed 12/7/11					G		P Systems Demolition			
			10 days	Wed 12/7/11 Wed 12/7/11					Demolish		New Punch Windows	-		
172		tall New Punch Windows	32 days	and the second se					Demolish	50	Vall and Ceiling Framin			
173	Interior Wall and Ceil		68 days	Tue 1/10/12							Overhead and Rough-	and the second se		
174	MEP Systems Overhe	A second s	89 days	Mon 1/16/12										
175	Interior Wall, Ceiling,		100 days	Fri 3/9/12						Interior wall,	Ceiling, and Floor Fin			
176	MEP Systems Installa	tion	56 days	Fri 4/20/12							MEP Systems Insta			
177	Residents Move-In		0 days	Thu 7/26/12								ts Move-In 🔶		
178	3rd Floor Demolition an		197 days	Wed 10/26/11					-				//26	
179	General Demolition ar		46 days	Wed 10/26/11					G		tion and Abatement			
180	MEP Systems Demoli		10 days	Wed 12/7/11					-		P Systems Demolition	-		
181		tall New Punch Windows	32 days	Wed 12/7/11					Demolish		New Punch Windows	-		
182	Interior Wall and Ceil	-	68 days	Tue 1/10/12							Vall and Ceiling Framin			
183	MEP Systems Overhea		89 days	Mon 1/16/12							Overhead and Rough			
184	Interior Wall, Ceiling,		100 days	Fri 3/9/12						Interior Wall,	Ceiling, and Floor Fin			
185	MEP Systems Installa	tion	56 days	Fri 4/20/12							MEP Systems Insta			
186	Residents Move-In		0 days	Thu 7/26/12								ts Move-In 🔶		
187	4th Floor Demolition ar		197 days	Wed 10/26/11							en anteres anteres a secondaria a secondaria de s		7/26	
188	General Demolition ar		46 days	Wed 10/26/11					G		tion and Abatement	-		
189	MEP Systems Demoli	tion	10 days	Wed 12/7/11							P Systems Demolition			
190	Demolish Exsiting/Ins	tall New Punch Windows	32 days	Wed 12/7/11					Demolish		New Punch Windows			
191	Interior Wall and Ceil	ing Framing	68 days	Tue 1/10/12							Vall and Ceiling Fram <mark>i</mark> i			
192	MEP Systems Overhe	ad and Rough-In	89 days	Mon 1/16/12						MEP Systems	Overhead and Rough-	In <b>5/17</b>	,	
193	Interior Wall, Ceiling,	and Floor Finishes	100 days	Fri 3/9/12						Interior Wall,	Ceiling, and Floor Fin	ishes 🗾 7	/26	
194	MEP Systems Installa	tion	56 days	Fri 4/20/12							MEP Systems Insta	allation 🚃 7/	6	
195	Residents Move-In		0 days	Thu 7/26/12							Resider	ts Move-In 🔶	7/26	
196	9th Floor Demolition ar	nd Renovation	196 days	Wed 7/11/12								7/11 💭	4/10	
197	General Demolition ar	nd Abatement	32 days	Wed 7/11/12						Ge	neral Demolition and	Abatement 💼	8/23	
198	MEP Systems Demoli	tion	10 days	Tue 7/31/12							MEP System	Demolition I	8/13	
199	Demolish Exsiting/Ins	tall New Punch Windows	30 days	Fri 8/10/12						Demolish Ex	siting/Install New Pur	ch Windows 🍙	9/20	
200	Interior Wall and Ceil	ing Framing	68 days	Thu 8/30/12							Interior Wall and C	eiling Framing	12/3	
		Task		Project Summar	v 🖵 🔤	Inactive Milest	one 🔶	Ν	Manual Summary I	Rollup	Deadline		4	
	neur Healthcare Services	Split			-	Inactive Summ			Manual Summary		Progress			
110.000.000.000.000	espotovich r 19, 2011		•							-				
Octobel	1 13, 2011	Milestone	•	External Milesto	one 🗣	Manual Task			Start-only	с ,				
		Summary		Inactive Task		Duration-only		E F	inish-only	2				
						Appendix	: A							

Bull? System Vertical and Racychin         Prilage         Diel Die Roll	ID	Task Name		Duration	Start	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
122         MEP system handling         01 alogs         10 alogs						Q4 Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 Q4	Q1 Q2 Q3 0		Q1 Q2 Q3		3 Q4 Q1 Q2 C	Q3 Q4 Q1 Q2 C	3 Q4 Q1 Q2
201         MB2 <sup>2</sup> /system. Induition → 0.4 say         MB2 <sup>2</sup> /system. Induition → 0.4 say         Visit				-								2			
Interface         Out, Source				-							Int				
100         10 how Providence and Accessment         40.4 days         FF 84 012           207         MBP Systems Densition and Advancement         10.4 days         FF 89 21/12           207         MBP Systems Densition and Advancement         10.4 days         FF 89 21/12           207         MBP Systems Chemical and Advancement         10.4 days         FF 89 21/12           207         MBP Systems Chemical and Advancement         10.4 days         FF 89 21/12           208         MBP Systems Chemical and Advancement         10.4 days         FF 89 21/12           208         MBP Systems Chemical and Advancement         10.4 days         FF 12 61/12           218         MBP Systems Institution         41.1 days         FF 12 61/12           219         MBP Systems Institution         41.2 days         FF 12 61/12         FF 12 61/12           218         Other and Providement and Advancement         32.4 days         FF 12 10.1 days         FF 12 10.1 days           219         MBP System Institution         41.4 days         FF 12 10.1 days         FF			tion									M			
100       General Benelition and Abatement 1, 10/4         207       MEP Systems Dendition 1, 10/4         208       Denditis Exating/Install New Yorki Windows 20 days 1, 10 03112         208       Denditis Exating/Install New Yorki Windows 20 days 1, 10 03112         210       MEP Systems Dendition 2, 10/4         211       Interst Wind Colling Finite 1, 10/4         212       MEP Systems Dendition 2, 10/4         213       Interst Wind Colling Finite 1, 10/4         214       MEP Systems Dendition 2, 10/4         215       General Denditis Abatement 1, 10/4         216       MEP Systems Dendition 2, 10/4         217       Denditis Metantion 2, 20 days 1, 11/25/12         218       General Denditis and Abatement 2, 10/4         219       Denditis Metantion 2, 20 days 1, 11/25/12         215       General Denditis and Abatement 2, 10/4         216       MEP Systems Dendition 2, 10/7         217       Denditis Resting/Install New York Window 3, days New 110/012         218       General Denditis and Abatement 2, 10/4         219       Denditis Resting/Install New York Window 3, days New 110/012         219       Denditis Resting/Install New York Window 4, days Tra 10/712         210       Denditis Resting/Install New York Window 6, days Tra 10/712         210 </td <td></td> <td>• •</td> <td>~ I</td>														• •	~ I
10000       MEP System Desclarm       104 days       Prior 2012         2000       MEP System Desclarm       104 days       Prior 2012         2000       MEP System Desclarm       104 days       File 102312         2010       MEP System Desclarm       104 days       File 102312         2110       MEP System Installation       421 days       File 102312         2121       MEP System Installation       421 days       File 102312         2132       MEP System Installation       421 days       File 102312         2133       Residera Mee-En       0 days       File 102312         2134       MEP System Desclarm       0 days       File 102312         2135       Otsend Desclarm Desclarm       0 days       File 102312         2136       MEP System Desclarm       0 days       File 102312         2137       MEP System Desclarm       0 days       File 102312         2136       MEP System Desclarm       104 days       File 102312         2137       MEP System Desclarm       104 days       File 102312         2136       MEP System Desclarm       104 days       File 102312         224       MEP System Desclarm       104 days       File 10231         225	205	1st Floor Demolition an	d Renovation	204 days	Fri 8/10/12										22
Deenside Existing Existing Facility Process Works         90.4995         Frie 1992/112           Deenside Existing Facility Process Works         90.4995         Frie 297/13           Deenside Existing Facility Process Works         10.4995         Works Works         10.499           Deenside Existing Facility Process Works         10.4995         Works Works         10.797           Deenside Existing Facility Process Works         10.4995         Works Works         10.4995           Deenside Existing Facility Process Works         10.4995         Works Works         10.475           Deenside Existing Facility Process Works         10.4995         Works Works         10.475           Deenside Existing Facility Process Works	206	General Demolition ar	nd Abatement	40 days	Fri 8/10/12						Ge				
200         Detector, Wall and Celling Framing         70 days         Teck (12)/13           210         MER Systems Overhead and Rough-In         90 days         Feb (20)/13           211         Interior Wall, Celling, and Hoor Finishe         10/2 days         Feb (20)/13           212         MER Systems Develotion and Rough-In         90 days         Feb (20)/13           213         Resident Move-In         0 days         Wel S/22/13           214         FUE (12)/12         MER Systems Develotion and Abscencer         32 days         Tak (10)/14/12           215         General Develotion and Abscencer         32 days         Tak (10)/14/12         Demotion Easting Finality (12)/12         Demotion Easting Finality (12)/12           215         General Develotion and Abscencer         32 days         Tak (10)/14/12         Demotion Easting Finality (12)/12         Demotion Easting Finality (12)/12           216         MER Systems Develotion and Abscencer         31 days         Fin 12/1/12         Demotion Easting Finality (12)/12         Demotion Easting Finality (12)/12 <td>207</td> <td></td> <td></td> <td>10 days</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>and the second second</td> <td>and a second state of the second second</td> <td></td> <td></td>	207			10 days								and the second second	and a second state of the second second		
200       MEP System Conclusional Actional-Interior Wall, Colling, and Posic Final-Se.       90 days Final-Sectional Posicional Actional Posicional Posicio Posicional Posicional Posi	208	Demolish Exsiting/Ins	tall New Punch Windows	30 days	Fri 9/21/12						Demolish Ex				
111         Interior Wall, Celling, and Flore Finalhes         100 days         Fri 12/1/2           221         MEP Systems Installation         4/3           232         MEP Systems Installation         4/3           233         MEP Systems Installation         4/3           234         MEP Systems Installation         4/3           235         Oranal Denolition and Abatement         32 days           236         MEP Systems Installation         32 days           237         Denolitio Essing finatall New Puch Windows         32 days           238         MEP Systems Installation         32 days           239         MEP Systems Installation         32 days           230         MEP Systems Installation         32 days           231         MEP Systems Installation         30 days           232         MEP Systems Installation         30 days           233         MEP Systems Installation         39 days           234         MEP Systems Installation         9/20           235         MEP Systems Installation         9/20           236         MEP Systems Installation         9/20           237         Interior Wall Celling Finally         9/20           236         MEP Systems Installation o	209	Interior Wall and Ceil	ing Framing	70 days	Tue 10/23/12							Interior Wall	ard Ceiling Frami	ing 🗾 1/28	
1212       MUP Systems Installation       \$2,34,94       Thu 10,055,0213         131       Reidents Move Ch       \$2,04,94       Thu 10,055,121       10,05	210	MEP Systems Overhe	ad and Rough-In	90 days	Tue 10/30/12										
233       Keisdents Move-fin       0 days       Wei 1092573         41001 Evolution and Abatement       22,04 dsv       11002573         155       General Demolition and Abatement       22,04 dsv       11002573         156       MEP Systems Demolition and Abatement       22,04 dsv       110,02 str         157       Bit discrite Move-fin and Abatement       22,04 dsv       110,27 tsr         157       Bit discrite Move-fin and Abatement       22,04 dsv       110,27 tsr         158       Interior Wall and Celling Faming       32,04 ssv       Mail 12,2412         159       MEP Systems Demolition and Abatement       21,21 tsr       MEP Systems Orchood and Rough-fin       10/5 tsr         150       MEP Systems Orchood and Rough-fin       0 days       Fri 122,112       MEP Systems Orchood and Rough-fin       10/6 tsr         151       MEP Systems Demolition and Abatement       32,04 sv       The 10,013 tsr       423       10/1 Nove-fin and 10,00 tsr       10/2 tsr       MEP Systems Demolition and Abatement and Aba	211	Interior Wall, Ceiling,	and Floor Finishes	109 days	Fri 12/21/12						1	Interior Wall, Cei	lirg, and Floor Fir	nishes <b>Earne</b> 5/2	22
1243       With Renovationand Renovation       220,4yx       The ID/251/2         125       Green Densition of Autometerit       32, days       The ID/251/2         126       MEP Systems Densition of Autometerit       32, days       With Renovation       10/15         127       Densition of Autometerit       31, days       With Renovation       11/27         128       Interior Wall and Calling Framing       30, days       With ID/251/2       Densition of Autometerit       32, days         129       MEP Systems Overhead and Rough-In       30, days       With ID/251/3       Densition of Autometerit       32, days         120       MEP Systems Overhead and Rough-In       90, days       Fin 12/14/12       Densition of Autometerit       32, days         120       MEP Systems Densition       10, days       Fin 12/14/12       Densition of Autometerit       32, days         120       MEP Systems Densition       10, days       Fin 12/14/12       Densition of Autometerit       32, days         121       MEP Systems Densition       10, days       With 2/15, days       Fin 12/14/12       Densition of Autometerit       32, days         1220       MEP Systems Densition       10, days       Mith 2/15, days       Fin 12/14/12       Densition of Autometerit       22, days      <	212	MEP Systems Installa	tion	52 days	Tue 2/5/13								MEP Systems Inst	tallation 💼 4/17	
15         General Lenvilion and Abatement         12/7           16         MEP Systems Domolition         0 days         Wei 11/4/12           17         Demolith Exciting/Install New Punck Windows         32 days         Mon 12/2/12           17         Demolith Exciting/Install New Punck Windows         32 days         Mon 12/2/12           17         Demolith Exciting/Install New Punck Windows         32 days         Mon 12/2/12           17         MEP Systems Completion         92 days         Fin 12/2/12           17         MEP Systems Installation         92 days         Fin 12/2/12           17         Optimization         92 days         Fin 12/2/12           17         MEP Systems Installation         92 days         Fin 12/2/12           17         Data         Odays         Fin 12/2/13           17         Data         Note Systems Installation         92 days           17         Odays         Vex 10/8/13         MEP Systems Installation         92 days           17         Demolith Exsting/Install New Punck Windows         31 days         Mon 52/2/13         Mer Systems Installation         92 days           17         Demolith Exsting/Install New Punck Windows         31 days         Mon 52/2/13         Mer Systems Installation	213	Residents Move-In		0 days	Wed 5/22/13								Reside	ents Move-In 🔶 5/	22
165       MEP System Demolition I 1/27         27       Demolition Security-Mail Move Purck Windows 32 days 4xen 1/26/12         131       Interior Wall, Celling, and Poor Finishes       90 days 4xi 1/27/12         132       MEP System Overhead and Rough-In       90 days 4xi 1/27/12         133       MEP System Overhead and Rough-In       90 days 4xi 1/27/12         134       MEP System Overhead and Rough-In       90 days 4xi 1/27/12         135       MEP System Overhead and Rough-In       90 days 4xi 1/27/13         132       Interior Wall, Celling, and Poor Finishes       90 days 4xi 1/27/13         133       MEP System Installation 32 days 4xi 1/27/13       MEP System Installation 32 days 4xi 1/27/13         134       MEP System Rough-In and Rough-In 32 days 4xi 1/27/13       MEP System Rough-In and Rough-In 32 days 4xi 1/27/13         135       MEP System Rough-In and Rough-In 32 days 4xi 1/27/13       MEP System Rough-In 32 days 4xi 1/27/13         135       MEP System Rough-In 30 days 4xi 1/27/13       MEP System Rough-In 32 days 4xi 1/27/13         136       MEP System Rough-In 30 days 4xi 1/27/13       MEP System Rough-In 32 days 4xi 1/27/13         137       Interior Wall Celling, and Rough-In 30 days 4xi 1/27/13       MEP System Rough-In 32 days 4xi 1/27/13         137       Interior Wall Celling, and Rough-In 30 days 4xi 1/27/13       MEP System Rough-In 32 days 4xi	214	10th Floor Demolition a	and Renovation	249 days	Thu 10/25/12								10/2	25	10/8
121       Demolish Essting/Install New Pack Windows       33 days       MEn 1/2/1/2         1215       Interior Wall and Celling Faming       70 days       Fri 12/1/1/2         1220       Interior Wall and Celling Faming       70 days       Fri 12/1/1/2         1221       MEP Systems Conclusing and Floor Finishes       16 days       Fri 12/1/1/2         1222       Residents More-In-       0 days       Fri 12/1/1/2         1223       MEP Systems Installation       31 days       Fri 12/1/1/2         1224       General Demolition and Abstement       32 days       Tub 4/2/31         1225       MEP Systems Installation       10 days       Fri 6/1/13         1226       General Demolition and Abstement       62 days       Fri 6/2/13         1227       Interior Wall and Celling Faming       94 days       Fri 6/2/13         1228       MEP Systems Routhild New Punch Windows 1 /8       /8         1230       MEP Systems Installation       9 days       Fri 6/2/13         1231       Interior Wall and Celling Faming       9 days       Fri 6/2/13         1232       Interior Wall and Celling Faming       9 days       Fri 6/2/13         1233       Interior Wall Celling and Floor Finishes       10/2/3         1234       Interio	215	General Demolition ar	nd Abatement	32 days	Thu 10/25/12							General Demoli	tion and Abateme	ent 💼 12/7	
123         Interior Wall and Colling: Framing         70 days         Fri 12/11/2           123         MEP Systems Orchood and Kough-In         9/12           124         Interior Wall, Colling, and Hoor Finishes         108 days         Fri 12/11/2           123         Interior Wall, Colling, and Hoor Finishes         108 days         Fri 12/11/2           124         Interior Wall, Colling, and Hoor Finishes         108 days         Fri 12/11/2           124         Resident More-In         0 days         Fri 12/11/2         MEP Systems Orchood and Kough-In         107 days           123         11h Boor Denotition and Kenovation         10 days         Ved 4/25	216	MEP Systems Demoli	tion	10 days	Wed 11/14/12										
1319       MEP Systems Overhead and Rough-In       90 days       Fri 2/12/12         220       Interior Wall, Celling, and Floor Finishes       106 days       Fri 2/15/13       107         221       MEP Systems Installation       51 days       Fri 2/15/13       108       MEP Systems Installation       9/20         222       Resident Move-In       0 days       Tue 1/25/13       MEP Systems Installation       9/20         223       Staff Roor Domotificition and Abatement       32 days       Tue 4/25/13       MEP Systems Installation       9/20         226       General Demolish Existing Install New Purch Windows       31 days       Med 5/21/13       Med Systems Installation       7/20         227       Interior Wall and Celling Faming       69 days       Fri 6/1/13       Fri 6/1/13       Fri 6/1/13         224       MEP Systems Installation       60 days       Tri 6/1/13       Fri 6/1/13       Fri 6/1/13       Fri 6/1/13         227       Interior Wall and Celling, and Floor Finishes       9 days       Fri 6/2/13       Fri 6/2/13       Fri 6/2/13         228       MEP Systems Installation       60 days       Tri 8/13/13       Fri 8/16/13       Fri 8/16/16/16/16/16/16/16/16/16/16/16/16/16/	217	Demolish Exsiting/Ins	tall New Punch Windows	32 days	Mon 11/26/12						Demolis	h Exsiting/Install	New Punch Wind	lows 💼 1/8	
220         Interior Viall, Ceiling, and Floor Finishes         10/8         MEP Systems Installation         10/8           221         MEP Systems Installation         0 days         Tate 10/813         MEP Systems Installation         10/8           222         Residents Move-In         0 days         Tate 10/813         MEP Systems Installation         10/8           223         Utb Floor Dramition and Abstament         12/8 days         Thu 42/513         MEP Systems Demolition and Abstament         6/7.8           225         Demolish Sxintig Thatal New Panck Windows         3 days         Fri 6/2/13         MEP Systems Demolition and Abstament         6/7.8           226         Demolish Sxintig Thatal New Panck Windows         3 days         Fri 6/2/13         MEP Systems Demolition and Abstament         6/7.3           227         Interior Wall, Ceiling Framing         6/9 days         Fri 6/2/13         MEP Systems Demolition and Abstament         6/7.3           228         Interior Wall, Ceiling Framing         6/2.3         Fri 6/2/13         MEP Systems Demolition and Abstament         6/7.3           229         Interior Wall, Ceiling Framing         9/3.8         Fri 6/2/13         MEP Systems Demolition 10/13         10/2.3           229         Interior Wall, Ceiling Framing         0 days         Thu 12/00/13 <td< td=""><td>218</td><td>Interior Wall and Ceil</td><td>ing Framing</td><td>70 days</td><td>Fri 12/14/12</td><td></td><td></td><td></td><td></td><td></td><td></td><td>Interior W</td><td>al<mark>l</mark> and Ceiling Fra</td><td>iming 🚃 3/21</td><td></td></td<>	218	Interior Wall and Ceil	ing Framing	70 days	Fri 12/14/12							Interior W	al <mark>l</mark> and Ceiling Fra	iming 🚃 3/21	
221       MEP Systems Installation	219	MEP Systems Overhe	ad and Rough-In	90 days	Fri 12/21/12							MEP Systems (	overhead and Rou	igh-In 📻 4/25	
222         Residents Move-In         Uds         Two 108/13           223         110b Poor Demolition and Abarement         5/24         General Demolition and Abarement         5/21         12/20           226         Demolisio BisstimgTantal New Puch Windows         31 days         Mod 25/13         Besidents Move-In         10/23         General Demolition and Abarement © 7/8         Periodicion and Abarement © 7/2         Periodicion and Abarem	220	Interior Wall, Ceiling,	and Floor Finishes	168 days	Fri 2/15/13							Interior Wall,	Ce <mark>i</mark> ling, and Floor	Finishes	10/8
223       11th Floor Demolition and Abatement       32 days       Thu 4/25/13       General Demolition and Abatement       32 days       Thu 4/25/13       General Demolition and Abatement       32 days       Wef 5/5/13       Mef 5 systems Demolition and Abatement       5/28       Demolish Exiting Install New Punch Windows       31 days       Wef 6/16/13       Mef 5/27/13       Mef 5/	221	MEP Systems Installa	tion	51 days	Fri 7/12/13								MEP Syst	_	-
224       General Demolition and Abatement       32 days       Thu 4/25/13         225       MEP Systems Demolition       10 days       Wed 5/15/13         226       Demolish Exsting Install New Punch Windows       37 days       MEP Systems Demolition and Abatement       6/7         227       Interior Wall and Ceiling Framing       69 days       Fri 6/2/13       Demolish Exsting Install New Punch Windows       7/8         228       MEP Systems Overhead and Rough-In       89 days       Fri 6/2/13       MEP Systems Overhead and Rough-In       10/73         229       Interior Wall and Ceiling Framing       69 days       Fri 6/2/13       MEP Systems Overhead and Rough-In       10/73         230       MEP Systems Installation       60 days       Thu 8/15/13       2/30       MEP Systems Installation       12/013         231       Residents Move-In       12/013       Track       Men 2/30/13       MEP Systems Installation completion       12/30         232       Entire Project Substantial Completion       0 days       Inactive Milestone       Manual Summary Rollup       Deadline       4         4ke Despotovich       Split       External Task       Inactive Summary       Manual Summary       Progress	222	Residents Move-In		0 days	Tue 10/8/13									Residents Move-I	n 🔶 10/8
225       MEP Systems Demolisition       10 days       Wed \$15'13         226       Demolisit Essiting Instail New Punch Windows       31 days       Mon 527'13         227       Interior Wall ad Ching Framing       69 days       Fri 621/13         228       MEP Systems Overhead and Rough-In       89 days       Fri 621/13         220       MEP Systems Installation       60 days       The 91/13         231       Residents Move-In       0 days       Mon 12/20/13         232       Striter Project Substantial Completion       0 days       Minu 91/9/13         233       Entire Project Substantial Completion       0 days       Mon 12/20/13         233       Entire Project Substantial Completion       0 days       Mon 12/20/13         233       Entire Project Substantial Completion       0 days       The 2/11/14         234       Entire Project Substantial Completion       2/10         235       Entire Project Substantial Completion       0 days         236       Entire Project Substantial Completion       2/21         Milestone       Entire Project Substantial Completion       2/11         236       File       Project Summary       Inactive Milestone       Manual Summary Rollup       Deadline         Split       Exte	223														
225       Demolish Exsting/Install New Punch Windows       31 days       Mon 5/27/13         227       Interior Wall and Celling Framing       69 days       Fri 61/413         228       MEP Systems Concende and Rough-In       89 days       The 61/13         229       Interior Wall and Celling Framing       9/18         220       Interior Wall and Celling Framing       9/18         221       MEP Systems Concende and Rough-In       80 days       Thu 9/19/13         222       Interior Wall Celling, and Floor Finishes       98 days       Thu 9/19/13         223       MEP Systems Concende and Rough-In       0 days       Mon 12/30/13         223       Entire Project Substantial Completion       0 days       Mon 12/30/13         223       Entire Project Final Completion       0 days       The 2/11/14         223       Entire Project Final Completion       0 days       The 2/11/14         224       Entire Project Final Completion       12/30/13       Entire Project Final Completion       2/11         225       Entire Project Final Completion       0 days       The 2/11/14       Entire Project Final Completion       2/11         226       Entire Project Final Completion       0 days       The 2/11/14       Entire Project Final Completion       2/11 </td <td></td> <td></td> <td></td> <td>32 days</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Genera</td> <td></td> <td></td> <td></td>				32 days								Genera			
227       Interior Wall and Ceiling Framing       69 days       Fri 6/14/13         228       MEP Systems Overhead and Rough-In       89 days       Fri 6/14/13         229       Interior Wall end Ceiling Framing       9/18         229       MICP Systems Overhead and Rough-In       90 days       Fri 6/21/13         220       MEP Systems Installation       60 days       Thu 9/19/13         231       Residents Move-In       0 days       Mon 1/230/13         232       Entire Project Substantial Completion       0 days         0 days       Tue 2/11/4       Entire Project Substantial Completion       12/20         233       Entire Project Final Completion       0 days       Tue 2/11/4       Entire Project Final Completion       2/10         Alex Despotrich       V       Manual Summary Rollup       Deadline       *         Alex Despotrich       Spilt       External Tasks       Inactive Milestone       Manual Summary       Progress       -         Alex Despotrich       Spilt       External Tasks       Inactive Sammary       Manual Summary       Progress       -       -         Spilt       External Tasks       Inactive Task       Duration-only       Finish-only       I       -       -	225	MEP Systems Demoli	tion	10 days											
228       MEP Systems Overhead and Rough-In       89 days       Fri 6/21/13         229       Interior Wall, Ceiling, and Floor Finishes       98 days       Thu 9/19/13         230       MEP Systems installation       0 days       Mon 12/30/13         231       Residents Move-In       0 days       Mon 12/30/13         232       Entire Project Final Completion       0 days       Mon 12/30/13         233       Finite Project Final Completion       0 days       Tue 2/11/14         234       Residents Move-In       0 days       Tue 2/11/14         235       Entire Project Final Completion       0 days       Tue 2/11/14         236       MEP Systems installation       2/30       Entire Project Final Completion       2/30         Alex Despotovich       0 days       Tue 2/11/14       External Tasks       Inactive Milestone       Manual Summary Rollup       Deadline       *         Alex Despotovich       Split       External Milestone       Manual Summary       Manual Summary       Projeet Summary       Manual Summary       Projeet Summary       Manual Summary       External Milestone       Manual Summary       Finish-only       I		Demolish Exsiting/Ins	tall New Punch Windows	31 days									-		
222       Interior Wall, Ceiling, and Floor Finishes       98 days       Thu 8/15/13       2/20         230       MEP Systems Installation       60 days       Thu 9/19/13       MEP Systems Installation       12/11         231       Residents Move-In       0 days       Mon 12/20/13       MEP Systems Installation       12/11         232       Entire Project Substantial Completion       0 days       Tue 2/11/4       Tue 2/11/4       Entire Project Substantial Completion       2/20         233       Entire Project Final Completion       0 days       Tue 2/11/4       Tue 2/11/4       Entire Project Substantial Completion       2/21         Gouverneur Healthcare Services       Task       Project Summary       Inactive Milestone       Manual Summary Rollup       Deadline															
230       MEP Systems Installation       60 days       Thu 9/19/13         231       Residents Move-In       0 days       Mon 12/30/13         232       Entire Project Substantial Completion       0 days       Mon 12/30/13         233       Entire Project Substantial Completion       0 days       Mon 12/30/13         233       Entire Project Final Completion       0 days       Tue 2/11/14         Solution Project Final Completion         0 days       Tue 2/11/14       Tue 2/11/14         Gouverneur Healthcare Services Alex Despotovich         Ctober 19, 2011       Task       Project Summary       Inactive Milestone       Manual Summary       Progress         Manual Summary       Inactive Task       Inactive Task       Sart-only       Entire Project Start         Milestone       Manual Task       Start-only       Entire Finish-only       Inactive Task			•											-	
231       Residents Move-In       0 days       Mon 12/30/13         232       Entire Project Substantial Completion       0 days       Mon 12/30/13         233       Entire Project Substantial Completion       0 days       Tue 2/11/14         Gouverneur Healthcare Services Alex Despotovich October 19, 2011       Task       Project Summary       Inactive Milestone       Manual Summary Rollup       Deadline         V       Manual Summary       Progress       —       —       —       —         Milestone       External Tasks       Inactive Summary       Manual Task       Start-only       E         Under Task       Duration-only       Finish-only       I       —       —       —	229			98 days								Inter			
232       Entire Project Substantial Completion       0 days       Non 12/30/13 Tue 2/11/14       Entire Project Substantial Completion • 12/30 Entire Project Final Completion • 2/11         233       Entire Project Final Completion       0 days       Tue 2/11/14       Entire Project Substantial Completion • 2/11         Gouverneur Healthcare Services Alex Despotovich October 19, 2011       Task       Project Summary External Tasks       Inactive Milestone Manual Task       Manual Summary Manual Task       Deadline Progress       •         Gurmary       Inactive Task       Duration-only       Finish-only       I       •       •			tion										MEPS		
Z33       Entire Project Final Completion       0 days       Tue 2/11/14       Entire Project Final Completion       2/11         Gouverneur Healthcare Services Alex Despotovich October 19, 2011       Task Split       Project Summary External Tasks       Inactive Milestone       Manual Summary Manual Summary       Deadline       +         Milestone       External Tasks       Inactive Summary       Manual Summary       Progress				0 days	and the second se										
Gouverneur Healthcare Services       Task       Project Summary       Inactive Milestone       Manual Summary Rollup       Deadline       Imactive Summary         Gouverneur Healthcare Services       Split       External Tasks       Inactive Summary       Manual Summary Rollup       Deadline       Imactive Summary         October 19, 2011       Milestone       External Milestone       Manual Task       Start-only       Imactive Task				0 days									and the second sec	and the second	
Gouverneur Healthcare Services       Split       External Tasks       Inactive Summary       Manual Summary       Progress         Alex Despotovich       Milestone       External Milestone       Manual Task       Start-only       External Milestone         Summary       Inactive Task       Duration-only       Finish-only       Inactive Summary	233	Entire Project Final Com	oletion	0 days	Tue 2/11/14								Entire	e Project Final Com	pletion 🔶 2/11
Gouverneur Healthcare Services       Split       External Tasks       Inactive Summary       Manual Summary       Progress         Alex Despotovich       Milestone       External Milestone       Manual Task       Start-only       External Milestone         Summary       Inactive Task       Duration-only       Finish-only       Inactive Summary															
October 19, 2011     Milestone <ul> <li>External Milestone</li> <li>Manual Task</li> <li>Start-only</li> <li>Finish-only</li> <li>Inactive Task</li> <li>Duration-only</li> <li>Finish-only</li> <li>Inactive Task</li> <li>Ina</li></ul>				6	20120 - 2020 B	ry				1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ollup			+	
Summary Inactive Task Duration-only Finish-only I								a conclusion and	~			- Progre	:55		-
	Octobe	115,2011		•		one 🔶									
Appendix A		y.	Summary		<ul> <li>Inactive Task</li> </ul>					Finish-only	E				
							Appe	endix A							

# **APPENDIX B**

**DETAILED STRUCTURAL ESTIMATE** 

# GOUVERNEUR HEALTHCARE SERVICES DETAILED STRUCTURAL ESTIMATE

TABLE 11: STRUCT	FURAL ESTIMATE RS MEANS 2011 DIVISION BREAKDOWN															
						2	011 I	RS Means	Cost	s				Total	Project	Cost
CSI Division	Item	Unit	N	Aaterial		Labor	Eq	uipment		Total	Total Incl O&P	Quantity		Total Cost	Tot	al Cost Incl O&P
			]	Division 3 -	Con	crete										
03.11 Concrete Form	ning	T	T		1		1		T			-1			T	
03.11.13.25.6500	Columns, 24"x24" columns, 1 use	SFCA	\$	2.43	\$	6.90	\$	-	\$	9.33	\$ 13.20	547	\$	5,103.51	\$	7,220.40
03.11.13.35.7000	Edge forms to 6" high, on elevated slab, 4 use	LF	\$	0.17	\$	2.62	\$	-	\$	2.79	\$ 4.20	1319	\$	3,680.01	\$	5,539.80
03.11.13.45.3000	Pile cap, square or rectangular, job-built plywood, 1 use	SFCA	\$	2.33	\$	4.51	\$	-	\$	6.84	\$ 9.45	2661	\$	18,201.24	\$	25,146.45
03.11.13.50.0020	Grade beam, job-built plywood, 1 use	SFCA	\$	2.37	\$	3.80	\$	-	\$	6.17	\$ 8.45	5 19840	\$	122,412.80	\$	167,648.00
03.11.13.65.2000	Slab on grade, curb forms, wood, 6" to 12" high, on grade, 1 use	SFCA	\$	1.80	\$	6.10	\$	-	\$	7.90	\$ 11.35	360	\$	2,844.00	\$	4,086.00
03.11.13.85.2000	Walls, job-built playwood, over 8' to 16' high, 1 use	SFCA	\$	2.38	\$	7.20	\$	-	\$	9.58	\$ 13.65	25555	\$	244,816.90	\$	348,825.75
03.21 Reinforcing S	teel															
03.21.10.60.0100	Reinforcing in place, beams & girders, #8 to #18	Ton	\$	900.00	\$	970.00	\$	-	\$	1,870.00	\$ 2,550.00	21.48	\$	40,167.60	\$	54,774.00
03.21.10.60.0200	Reinforcing in place, columns, #8 to #18	Ton	\$	900.00	\$	1,025.00	\$	-	\$	1,925.00	\$ 2,650.00	7.33	\$	14,110.25	\$	19,424.50
03.21.10.60.0500	Reinforcing in place, footings, #8 to #18	Ton	\$	810.00	\$	430.00	\$	-	\$	1,240.00	\$ 1,575.00	9.32	\$	11,556.80	\$	14,679.00
03.21.10.60.0600	Reinforcing in place, slab on grade, #3 to #7	Ton	\$	855.00	\$	675.00	\$	-	\$	1,530.00	\$ 2,025.00	22.52	\$	34,455.60	\$	45,603.00
03.21.10.60.0700	Reinforcing in place, walls, #3 to #7	Ton	\$	855.00	\$	515.00	\$	-	\$	1,370.00	\$ 1,775.00	4.46	5 \$	6,110.20	\$	7,916.50
03.22 Welded Wire	Fabric Reinforcing	-	1		-		1						-		1	
03.22.05.50.00	Sheets, 6X6 -W2.1x2.1 (8x8) 30 lb. per C.S.F.	CSF	\$	18.90	\$	25.00	\$	-	\$	43.90	\$ 61.00	1091.47	\$	47,915.53	\$	66,579.67
03.30 Cast-In-Place	Concrete	T	T		1		1		T			-1			T	
03.30.53.40.0900	Columns, 24"x24", minimum reinforcing	CY	\$	221.00	\$	365.00	\$	32.50	\$	618.50	\$ 845.00	46.05	\$	28,481.93	\$	38,912.25
03.30.53.40.3200	Elevated slabs, including finish, regular concrete, 6" slab	SF	\$	1.96	\$	0.92	\$	0.34	\$	3.20	\$ 3.91	109147	\$	349,270.40	\$	426,764.77
03.30.53.40.3825	Footings, spread, 1 CY to 5 CY	CY	\$	185.00	\$	108.00	\$	0.55	\$	293.55	\$ 370.00	515.03	\$	151,187.06	\$	190,561.10
03.30.53.40.4350	Wall, free-standing, 15" thick, 12' high	CY	\$	140.00	\$	167.00	\$	14.90	\$	321.90	\$ 425.00	473.23	\$	152,332.74	\$	201,122.75
03.30.53.40.4900	Slab on grade, including finish, 12" thick	SF	\$	3.88	\$	1.02	\$	0.01	\$	4.91	\$ 5.80	8640	\$	42,422.40	\$	50,112.00
	Division 3 -	Concrete '	Total										\$	1,275,068.96	\$	1,674,915.94
				Division 5	- Me	etals										
05.05 Common Wor	k Results for Metals	-														
05.05.23.05.0350	Anchor Bolt, L-type, inculding hex nut & washer, 1" diameter x 12" long	Set	\$	16.75	\$	18.15	\$	-	\$	34.90	\$ 46.50	50	\$	1,745.00	\$	2,325.00
05.12 Structural Stee	el Framing	-	1		-		1						-		1	
05.12.23.17.7350	Column, W Shape, A992 steel, 2 tier, W14x74	LF	\$	91.50	\$	2.70	\$	1.65	\$	95.85	\$ 107.00	830.47	\$	79,600.55	\$	88,860.29
05.12.23.17.7400	Column, W Shape, A992 steel, 2 tier, W14x120	LF	\$	149.00	\$	2.76	\$	1.69	\$	153.45	\$ 170.00	283.46	\$	43,496.94	\$	48,188.20
05.12.23.17.7450	Column, W Shape, A992 steel, 2 tier, W14x176	LF	\$	218.00	\$	2.91	\$	1.78	\$	222.69	\$ 247.00	3341.88	\$	744,203.26	\$	825,444.36
05.12.23.65.0500	Plates, For connections & stiffener plates, 1" thick (40.8 lb./S.F.)	SF	\$	46.00	\$	-	\$	-	\$	46.00	\$ 50.50	168.06	5 \$	7,730.76	\$	8,487.03
05.12.23.75.4900	Beam, W Shape, A992 steel, W24x55	LF	\$	68.00	\$	3.45	\$	1.56	\$	73.01	\$ 82.50	1993.1	\$	145,516.23	\$	164,430.75
05.12.23.75.5300	Beam, W Shape, A992 steel, W24x68	LF	\$	84.00	\$	3.45	\$	1.56	\$	89.01	\$ 100.00	710.45	\$	63,237.15	\$	71,045.00
05.12.23.75.5780	Beam, W Shape, A992 steel, W24x146	LF	\$	181.00	\$	3.65	\$	1.65	\$	186.30	\$ 207.00	668.96	5 \$	124,627.25	\$	138,474.72
05.12.23.75.5800	Beam, W Shape, A992 steel, W27x84	LF	\$	104.00	\$	3.22	\$	1.45	\$	108.67	\$ 121.00	668.96	5 \$	72,695.88	\$	80,944.16
05.12.23.75.5920	Beam, W Shape, A992 steel, W27x114	LF	\$	141.00	\$	3.33	\$	1.51	\$	145.84	\$ 162.00	5204.21	\$	758,981.99	\$	843,082.02
05.12.23.77.4700	Castellated beams, light sections, to 50#/L.F., maximum	Ton	\$	2,600.00	\$	380.00	\$	232.00	\$	3,212.00	\$ 3,775.00	193.43	\$	621,297.16	\$	730,198.25
05.31 Steel Decking																

er 19, 2011												Gouve	RNEUR	HEALTHCA
05.31.13.50.550	Non-cellular composite decking, galvanized, 2" deep, 16 gauge	SF	\$	2.37	\$	0.49	\$ 0.	03 5	2.89	\$ 3.51	109147	\$ 315,434.83	\$	383,1
05.31.23.50.3400	Steel Roof Decking, 3" deep, 18 gauge, under 50 squares	SF	\$	2.94	\$	0.49	\$0.	03 5	3.46	\$ 4.17	2969	\$ 10,272.74	\$	12,3
	Divisio	n 5 - Metals T	'otal									\$ 2,988,839.74	\$	3,396,9
			Div	ision 31 -	Earthv	vork								
31.62 Driven Piles														
31.6216.13.0190	Steel piles, round, concrete filled, 12" tip, 120 ton capacity, 30' depth	VLF	\$	16.30	\$	4.19	\$ 2.	80 5	23.29	\$ 29.04	5100	\$ 118,779.00	\$	148,1
	Division 3	31 - Earthwork	c Total									\$ 118,779.00	\$	148,1
	Total S	uperstructure (	Cost									\$ 4,382,687.70	\$	5,219,9
	Total Superstructure Cost with	New York, N	Y Loca	tion Factor	r of 13	3%						\$ 5,828,974.64	\$	6,942,5

# **GOUVERNEUR HEALTHCARE SERVICES FOUNDATIONS TAKEOFF**

TABLE 12: STEEL	PILE DETAILED TAKEOFF				
Туре	Length (ft)	Tip Diameter (in)	Capacity (ton)	Quantity	
DP1	30.00	12.75	100.00	170.00	

TABLE 1	3: FOUNDATIO	ON PIER TAKE	OFF												
Cellar L	evel														
										Reinforcing Steel					
			Concrete				Vertic	al Bar (ft)			Stirrup Bar (ft)			Formv	vork
Туре	Width (ft)	Length (ft)	Height (ft)	Quantity	Total C.Y.	Quantity	Туре	Total Length	Weight/LF	Stirrup Type	Stirrup Length	Weight/Lf	Total Weight (ton)	# of Sides	SFCA
<b>P</b> 1	2.00	2.00	10.50	1.00	1.56	16.00	#8	168.00	2.67	#3 @ 12" O.C.	84.00	0.38	0.24	4.00	84.00
2	2.33	2.33	10.25	6.00	12.40	16.00	#9	984.00	3.40	#4 @ 12" O.C.	669.67	0.67	1.90	4.00	95.67
93	2.50	2.50	12.50	3.00	8.68	20.00	#9	750.00	3.40	#4 @ 12" O.C.	468.75	0.67	1.43	4.00	125.00
25	1.67	2.00	9.00	1.00	1.11	12.00	#8	108.00	2.67	#3 @ 12" O.C.	60.00	0.38	0.16	4.00	66.00
<b>°</b> 6	1.50	1.83	9.00	1.00	0.92	12.00	#7	108.00	2.04	#3 @ 12" O.C.	49.50	0.38	0.12	4.00	60.00
		Тс	otal		24.67				Tota	l			3.84	Total	430.67
first Flo	or Level														
22	2.33	2.33	5.50	3.00	3.33	16.00	#9	264.00	3.40	#4 @ 12" O.C.	179.67	0.67	0.51	4.00	51.33
93	2.50	2.50	6.50	12.00	18.06	20.00	#9	1560.00	3.40	#4 @ 12" O.C.	975.00	0.67	2.98	4.00	65.00
		To	otal		21.38				Tota				3.49	Total	116.33

										Reinfo	orcing Steel					
			Concrete				Toj	p Bar (ft)				Bottom Bar (ft)			Formy	work
Туре	Width (ft)	Length (ft)	Height (ft)	Quantity	Total C.Y.	Quantity	Туре	Total Length	Weight/LF	Quantity	Туре	Total Length	Weight/Lf	Total Weight (ton)	# of Sides	SFC
Cellar Lo	evel															
PC-2	8.00	3.75	3.50	1.00	3.89	6.00	#8	48.00	2.67	6.00	#4	22.50	0.67	0.07	4.00	82.
C-3	7.50	3.75	8.00	2.00	16.67	8.00	#8	120.00	2.67	8.00	#8	60.00	2.67	0.24	4.00	180
C-4	8.00	4.00	8.00	2.00	18.96	8.00	#9	128.00	3.40	8.00	#9	64.00	3.40	0.33	4.00	192
C-5	9.83	4.42	9.83	2.00	31.61	15.00	#8	294.90	2.67	15.00	#8	132.50	2.67	0.57	4.00	280
C-6	12.50	5.50	8.00	3.00	61.11	12.00	#9	450.00	3.40	18.00	#9	297.00	3.40	1.27	4.00	288
C-7	12.50	5.00	11.50	4.00	106.48	14.00	#9	700.00	3.40	14.00	#9	280.00	3.40	1.67	4.00	402
C-8	12.50	5.00	11.50	1.00	26.62	14.00	#10	175.00	4.30	14.00	#10	70.00	4.30	0.53	4.00	402
C-10	12.50	5.75	12.50	5.00	166.38	19.00	#9	1187.50	3.40	19.00	#9	546.25	3.40	2.95	4.00	456
		Total			431.72					Total				7.62	Total	2283
'irst Flo	or Level															
C - 1	3.50	3.50	3.33	4.00	6.05	6.00	#6	84.00	1.50	6.00	#6	84.00	1.50	0.13	4.00	46
C - 2	8.00	3.50	3.75	11.00	42.78	6.00	#8	528.00	2.67	6.00	#4	528.00	0.67	0.88	4.00	86
C - 3	7.50	8.00	3.75	3.00	25.00	8.00	#8	180.00	2.67	8.00	#8	180.00	2.67	0.48	4.00	116
C - 4	8.00	8.00	4.00	1.00	9.48	8.00	#9	64.00	3.40	8.00	#9	64.00	3.40	0.22	4.00	128
		To	otal		83.31					Total				1.71	Total	377

Fotal	Length	(ft)

5100.00

TABLE 15	: CELLAR FO	UNDATION W	ALL DETAILI	ED TAKEOFF											
									Reinfo	orcing Steel					
		Con	crete			Top/B	ottom Bar (ft)			Horiztor	nal Bar (ft)			Form	vork
Туре	Width (ft)	Height (ft)	Length (ft)	Total C.Y.	Quantity	Туре	Total Length	Weight/LF	Quantity	Туре	Total Length	Weight/Lf	Total Weight (ton)	# of Sides	SFCA
1.00	1.33	20.50	360.00	363.53	6.00	#7	2160.00	2.04	2.00	#5 @ 12" O.C.	720.00	1.04	2.58	2.00	19630.80
2.00	1.33	8.50	262.00	109.70	6.00	#7	1572.00	2.04	2.00	#5 @ 12" O.C.	524.00	1.04	1.88	2.00	5923.82
		Total		473.23					Total				4.46	Total	25554.62

TABLE 16	6: CELLAR FO	UNDATION SI	LAB DETAILE	D TAKEOFF											
									Reinfo	orcing Steel					
		Con	crete			Т	op Bar (ft)			Botton	n Bar (ft)			Form	work
Туре	Width (ft)	Height (ft)	Length (ft)	Total C.Y.	Quantity	Туре	Total Length	Weight/LF	Quantity	Туре	Total Length	Weight/Lf	Total Weight (ton)	# of Sides	SFCA
					12" O.C.	#7	8100.00	2.04							
2-Way	90.00	1.00	90.00	300.00	265.00	#7	3355.00	2.04	12" O.C.	#8	8100.00	2.67	22.52	4.00	360.00
		Total		300.00					Total				22.52	Total	360.00

		M TAKEOFF								Dainfonding Ctorl					
			Concrete				Top/Bottom B	or (ft)		Reinforcing Steel	Stirrup Bar (ft)			Formwo	- al-
Туре	Width (ft)	Height (ft)	Length (ft)	Quantity	Total C.Y.	Quantity	Туре	Total Length	Weight/LF	Stirrup Type	Stirrup Length	Weight/Lf	Total Weight (ton)	# of Sides	SFCA
Cellar Le		fieight (it)	Length (It)	Quantity	10101 0.11	Quantity	турс	Total Length	W CIGIL/LI	Stillup Type	Surrup Lengui	W CIGIIU LI	Total Weight (toll)	# 01 51005	SICA
SGB-1	2.50	13.33	29.33	1.00	36.20	28.00	#10	821.24	4.30	#4 @ 12" O.C.	1954.84	0.67	2.42	2.00	1954.84
SGB-2	1.92	18.83	28.83	1.00	38.60	24.00		691.92		#4 @ 12" O.C.	2084.62	0.67	1.87	2.00	2084.62
SGB-3	3.33	11.25	28.83	1.00	40.00	24.00		691.92		#4 @ 8" O.C.	2160.09	0.67	1.90	2.00	2160.09
SGB-4	2.00	9.25	21.00	2.00	28.78	8.00		336.00	2.67	#4 @ 16" O.C.	1554.00	0.67	0.97	2.00	777.00
SGB-6	1.33	10.25	21.00	2.00	21.21	8.00		336.00	2.67	#4 @ 12" O.C.	1145.13	0.67	0.83	2.00	572.57
SGB-7	2.00	11.33	21.00	1.00	17.62	8.00	#9	168.00	3.40	#4 @ 12" O.C.	951.72	0.67	0.60	2.00	951.72
SGB-8	2.00	11.25	30.00	1.00	25.00	10.00	#9	300.00	3.40	#4 @ 12" O.C.	1350.00	0.67	0.96	2.00	1350.00
SGB-8A	2.00	12.25	29.25	1.00	26.54	10.00	#9	292.50	3.40	#4 @ 12" O.C.	1433.25	0.67	0.98	2.00	1433.25
		Тс	otal		233.96				Tota	l			10.53	Total	11284.08
First Floo	or Level					-									
GB-1	1.50	4.00	60.00	1.00	13.33	6.00	#8	360.00	2.67	#4 @ 12" O.C.	720.00	0.67	0.72	2.00	720.00
GB-2	1.33	3.67	90.00	1.00	16.27	12.00	#8	1080.00	2.67	#4 @ 12" O.C.	878.60	0.67	1.74	2.00	878.60
GB-3	1.50	4.50	80.00	1.00	20.00	10.00	#9	800.00	3.40	#4 @ 12" O.C.	1080.00	0.67	1.72	2.00	1080.00
GB-5	1.33	7.08	94.00	1.00	32.78	8.00	#8	752.00	2.67	#4 @ 12" O.C.	1770.28	0.67	1.60	2.00	1770.28
GB-6	1.50	3.67	60.00	1.00	12.23	8.00	#8	480.00	2.67	#4 @ 12" O.C.	660.60	0.67	0.86	2.00	660.60
GB-7	2.50	3.50	30.00	1.00	9.72	16.00	#8	480.00	2.67	#4 @ 12" O.C.	525.00	0.67	0.82	2.00	525.00
GB-8	2.50	4.00	30.00	1.00	11.11	10.00	#8	300.00	2.67	#4 @ 8" O.C.	600.00	0.67	0.60	2.00	600.00
GB-9	1.17	3.00	164.00	1.00	21.32	6.00	#7	984.00	2.04	#4 @ 12" O.C.	1151.28	0.67	1.39	2.00	1151.28
GB-10	1.33	4.00	110.00	1.00	21.67	6.00	#9	660.00	3.40	#4 @ 12" O.C.	1170.40	0.67	1.51	2.00	1170.40
		To	otal		158.45				Tota				10.95	Total	8556.16

# GOUVERNEUR HEALTHCARE SERVICES TYPICAL BAY STRUCTURAL TAKEOFF

Co	oncrete Slab								Steel					
			Reinforceme	nt	Metal Decking	r			Beams				Columns	
Total S.F.	Height (ft)	Total C.Y.	Туре	Total C.S.F.	Туре	Total S.F.	Туре	Quantity	Total Length (ft)	Weight (ton)	Туре	Quantity	Total Height (ft)	Weight (ton)
oors 1-6 ''Poo	dium''													
							LB 27x40	3.00	117.50	2.35	W14x159	1.00	12.50	0.99
							W27x114	2.00	78.33	4.47	W14x99	1.00	12.50	0.62
					2" 16 Gage Galvanized		W16x89	1.00	31.25	1.39	W14x159	1.00	12.50	0.99
1200.00	0.35	15.74	6X6 -W2.1x2.1 WWF	12.00	Composite Deck	1200.00	W 24x55	1.00	30.00	0.83	W14x257	1.00	12.50	1.61
Tota	ป	15.74	Total	12.00	Total	1200.00	Тс	tal	257.08	9.03	Tot	al	50.00	4.21
Total/S	S.F.	0.0131	Total/S.F.	0.0100	Total/S.F.	1.0000	Tota	/S.F.	0.2142	0.0075	Total	/S.F.	0.0417	0.0035
oors 7-13 ''Te	ower''													
							LB27x35	3	93.99	1.64	W14x120	1.00	12.50	0.75
							W24x68	1	31.33	1.07	W14x211	1.00	12.50	1.32
					2" 16 Gage Galvanized		W24x131	1	29.5	1.93	W14x193	1.00	12.50	1.21
916.5	0.35	11.88	6X6 -W2.1x2.1 WWF	91.65	Composite Deck	916.5	W27x84	1	29.5	1.24	W14x193	1.00	12.50	1.21
Tota	ป	11.88	Total	91.65	Total	916.5	Тс	otal	184.32	5.88	Tot	al	50.00	4.48
Total/S	77	0.0120	Total/S.F.	0.1000	Total/S.F.	1.0000	Tota	/S.F.	0.2011	0.0064	Total	/SE	0.0546	0.0049

TABLE 19: TYP	PICAL BAY STI	EEL TAKEOFF	EXTRAPOLATION									
				Beams						Columns		
Total Bay S.F.	Туре	Quantity	Total Length (ft)	Length/S.F.	Total Building SF	Total Adjusted Length	Туре	Quantity	Total Height (ft)	Length/S.F.	Total Building SF	Total Adjusted Length
Floors 1-6 "Po	dium''											
	LB27x40	3.00	117.50	0.10	79724	7806.31	W14x159	1.00	12.50	0.010	79724	830.46
	W27x114	2.00	78.33	0.07	79724	5204.21	W14x99	1.00	12.50	0.010	79724	830.46
	W16x89	1.00	31.25	0.03	79724	2076.15	W14x159	1.00	12.50	0.010	79724	830.46
1200	W 24x55	1.00	30.00	0.03	79724	1993.10	W14x257	1.00	12.50	0.010	79724	830.46
Floors 7-13 ''T	ower''											
	LB27x35	3	93.99	0.10	20783	2131.36	W14x120	1.00	12.50	0.014	20783	283.46
	W24x68	1	31.33	0.03	20783	710.45	W14x211	1.00	12.50	0.014	20783	283.46
	W24x131	1	29.5	0.03	20783	668.96	W14x193	1.00	12.50	0.014	20783	283.46
916.5	W27x84	1	29.5	0.03	20783	668.96	W14x193	1.00	12.50	0.014	20783	283.56

TABLE 20: MISC	CELLANEOUS ITEM TAKEC	DFF							
		Base Plates			Anchor Bolts			Edge Forms	
Туре	Plate S.F.	Quantity	Thickness	Total S.F.	Туре	Quantity	Perimeter (ft)	Height (ft)	Total S.F.
22x22	3.36	50	1"	168.06	L-Type 1" Diameter by 12" long	200	1319	0.5	659.5

# **APPENDIX C**

**GENERAL CONDITIONS ESTIMATE** 

# GOUVERNEUR HEALTHCARE SERVICES GENERAL CONDITIONS ESTIMATE

						2011	RS Mean	s Cos	ts					Total P	roject (	ost
CSI Division	Item	Unit	Material		Labor	Eq	uipment		Total	Total Incl O&P		Quantity		Total Cost	Т	otal Incl O&P
			Divis	ion 1	- General Re	equire	ements									
01.31 Project Manag	gement and Coordination															
	Total Project	Construction	n Manageme	nt Sta	affing Cost								\$	4,001,660.00	\$	6,127,250.00
		See App	endix C, pag	e 36 :	for Breakdov	wn of	Project Sta	affing	Costs	I	_		T		<b></b>	
01.31.13.30.0020	Building risk insurance, minimum	Job	\$ -	\$	-	\$	-	\$	-	0.24%	\$	157,445,805.00	\$	-	\$	377,869.93
01.22.0																
	Progress Documentation	T.1.	¢	¢		¢		¢		0.020	¢	157 445 805 00	¢			47.000.74
01.32.13.50.0650	Rule of thumb, CPM scheduling, Large job (\$50 mil +)         Photoscolar and the scheduling of the	Job	\$ -	\$	-	\$	-	\$	-	0.03% \$ 460.00	\$	157,445,805.00	\$	-	\$	47,233.74
01.32.33.50.0200	Photographs, 8"x10", 4 shots, 2 prints each, in color	Set	\$ 415.00	\$	-	\$	-	\$	415.00	\$ 460.00		50.00	\$	20,750.00	\$	23,000.00
01.41 Regulatory Re 01.41.26.50.0100	Permits, minimum	Job	\$ -	\$	_	\$	_	\$		2%	\$	157,445,805.00	\$	_		3,148,916.10
01.51 Temporary Ut		JOD	ф -	\$	-	¢	-	¢	-	2.70	\$	137,443,803.00	Φ	-	<u> </u>	5,146,910.10
01.51.13.80.0100	Heat, incl. fuel and operation, per week, 12 hrs. per day	CSF	\$ 27.50	\$	3.55	\$		\$	31.05	\$ 36.00		4456.10	¢	138,361.91	¢	160,419.60
01.31.13.80.0100	Heat, mei. ruer and operation, per week, 12 ms. per day	СЪГ	\$ 21.30	¢	5.55	¢	-	ф	51.05	\$ 50.00		4430.10	Ф	138,301.91	<u>م</u>	100,419.00
01.51.13.80.0360	Lighting, inlc. service lamps, wiring & outlets, maximum	CSF	\$ 5.80	\$	23.50	\$	-	\$	29.30	\$ 41.50		4456.10	\$	130,563.73	\$	184,928.15
														,		<u> </u>
01.51.13.80.0430	Power for temp lighting only, per month, average/month 11.8 KWH	CSF	\$ -	\$	-	\$	-	\$	0.92	\$ 1.01		4456.10	\$	4,099.61	\$	4,500.66
01.51.13.80.0600	Power for job duration inlc elevator, etc., minimum	CSF	\$ -	\$	-	\$	-	\$	47.00	\$ 51.50		4456.10	\$	209,436.70	\$	229,489.15
01.51.13.80.1000	Temporary toilets, rent portable toilet chemical per month	Each	\$ 0.11	\$	18.65	\$	56.00	\$	168.00	\$ 180.10		150.00	\$	25,200.00	\$	27,015.00
01.52 Construction F	Facilities		1					1		1	_					
01.52.13.20.0250	Trailers, furnished, no hookups, 20'x8', rent per month	Month	\$ 146.00	\$	-	\$	-	\$	146.00	\$ 160.00		45.00	\$	6,570.00	\$	7,200.00
01.52.13.40.0100	Office equipment rental average	Month	\$ 200.00	\$	-	\$	-	\$	200.00	\$ 220.00		50.00	\$	10,000.00	\$	11,000.00
01.52.13.40.0120	Office supplies, average	Month	\$ 86.00	\$	-	\$	-	\$	86.00	\$ 94.50		50.00	\$	4,300.00	\$	4,725.00
01.52.13.40.0140	Telephone bill; average bill/month incl. long distance	Month	\$ 81.00		-	\$	-	\$	81.00	\$ 89.00		50.00	\$	4,050.00	\$	4,450.00
01.52.13.40.0160	Lights & HVAC	Month	\$ 152.00	\$	-	\$	-	\$	152.00	\$ 167.00		50.00	\$	7,600.00	\$	8,350.00
01.54 Construction A				-		1		1					1			
01.54.09.60.6220	Safety supplies and first aid kits	Month	\$ 24.50	\$	-	\$	-	\$	24.50	\$ 27.00		50.00	\$	1,225.00	\$	1,350.00
	arricades and Enclosures			_		[		1			-					
01.56.23.10.0150	Barricades, 5' high, 3 rail at 2"x8" movable	LF	\$ 4.10			\$	-	\$	27.10			600.00	\$	23,700.00	\$	23,700.00
01.56.26.50.0100	Temporary fencing, chain link, 11 ga, 6' high	LF	\$ 5.30			\$	-	\$	7.13			815.00	\$	5,810.95	\$	7,049.75
01.56.29.50.2400	Sidewalk protection, 2"x12" plank, 2 uses, 5/8" thick	SF	\$ 0.35	\$	0.53	\$	-	\$	0.88	\$ 1.19		5400.00	\$	4,752.00	\$	6,426.00
01.56.32.50.0020	Watchman, service, monthly basis, uniformed person, minimum	HR	<b>\$</b> -	\$	-	\$	-	\$	25.00	\$ 27.50		2500.00	\$	62,500.00	\$	68,750.00
01.58 Project Identif			Ψ	ψ		Ψ		Ψ	25.00	φ 27.50		2300.00	Ψ	02,300.00	Ψ	00,750.00
01.58.13.50.0020	Signs, high intensity reflectorized, no posts, buy	SF	\$ 26.50	\$	-	\$	-	\$	26.50	\$ 29.50		1000.00	\$	26,500.00	\$	29,500.00
01.71 Examination a		1 ~~-	+ 20.00					· *	_0.00			1000100				
	Construction layout for building, trenching or pipe laying, 3 persons															
01.71.23.13.1200	crew	Day	\$ -	\$	1,125.00	\$	69.50	\$	1,194.50	\$ 1,800.00		21.00	\$	25,084.50	\$	37,800.00
01.71 Cleaning and	Waste Management															
01.74.13.20.0020	Cleaning, after job completion, allow, minimum	Job	\$ -	\$	-	\$	-	\$	-	0.30%	\$	157,445,805.00	\$	-	\$	472,337.42

			<b>• • • •</b>	<b>•</b>		<i>•</i>	1 50	<i>•</i>	••••	¢ (2.50	20000.00	<i>•</i>	1 1 5 6 0 2 2 0 2	<b>.</b>	1 = 2 = 000 00
01.74.13.20.0050	Cleanup of floor area, continuous, per day, during construction	MSF	\$ 1.70	\$	25.50	\$	1.79	\$	28.99	\$ 43.50	39908.00	\$	1,156,932.92	\$	1,735,998.00
1.91 Commissioning		_						-							
01.91.13.50.0200	Enhanced building commissioning, minimum	%	\$ -	\$	-	\$	-	\$	-	0.5%	\$ 157,445,805.00	\$	-	\$	787,229.03
	Division 1	- General	Requirements	Tota	al Cost							\$	5,869,097.32	\$	13,536,487.52
			Divi	sion 2	2 - Existing	Condi	tions								
02.21 Surveying										_		-			
02.21.13.09.0020	Topographical surveying, conventional, minimum	Acre	\$ 18.20	\$	340.00	\$	21.00	\$	379.20	\$ 565.00	7	\$	2,654.40	\$	3,955.00
	Boundary and survey markers, lot location and lines, large quantities,														
02.21.13.13.0320	average	Acre	\$ 51.50	\$	900.00	\$	55.50	\$	1,007.00	\$ 1,500.00	7	\$	7,049.00	\$	10,500.00
	Division	2 - Existir	ng Conditions '	Total	Cost							\$	9,703.40	\$	14,455.00
	То	tal Genera	al Conditions C	Cost								\$	5,878,800.72	\$	13,550,942.52
	Total General Conditions	Cost with	New York, N	Y Loc	cation Factor	r of 13	33%					\$	7,818,804.95	\$	18,022,753.56

						2011	RS Means Costs	5				Total	Project	Cost
Name	CSI Division	Position	Unit		Labor		Total	То	tal Incl O&P	Duration		Total Cost	То	tal Cost Incl O&P
		Divis	ion 1 - Gene	ral Re	quirements									
Project Executive											-		-	
James Palace	01.31.13.20.0220	Project manager, maximum - Project Executive	Week	\$	2,375.00	\$	2,375.00	\$	3,650.00	283.00	\$	672,125.00	\$	1,032,950.00
Project Management													_	
Fred Castellbueno	01.31.13.20.0200	Project manager, average - Project Manager	Week	\$	2,075.00	\$	2,075.00	\$	3,175.00	87.00	\$	180,525.00	\$	276,225.00
Michael Creighton	01.31.13.20.0200	Project manager, average - Project Manager	Week	\$	2,075.00	\$	2,075.00	\$	3,175.00	144.00	\$	298,800.00	\$	457,200.00
Michele Koslab	01.31.13.20.0180	Project manager, minimum - Assistant Project Management	Week	\$	1,800.00	\$	1,800.00	\$	2,750.00	270.00	\$	486,000.00	\$	742,500.00
Dina Lay	01.31.13.20.0180	Project manager, minimum - Assistant Project Management	Week	\$	1,800.00	\$	1,800.00	\$	2,750.00	78.00	\$	140,400.00	\$	214,500.00
Julia Drake	01.31.13.20.0180	Project manager, minimum - Assistant Project Management	Week	\$	1,800.00	\$	1,800.00	\$	2,750.00	187.00	\$	336,600.00	\$	514,250.00
George Rodriguez	01.31.13.20.0180	Project manager, minimum - Assistant Project Management	Week	\$	1,800.00	\$	1,800.00	\$	2,750.00	178.00	\$	320,400.00	\$	489,500.00
Uros Skoko	01.31.13.20.0290	Timeskeeper, average - Estimator	Week	\$	1,130.00	\$	1,130.00	\$	1,725.00	127.00	\$	143,510.00	\$	219,075.00
Joey Engracia	01.31.13.20.0290	Timeskeeper, average - Estimator	Week	\$	1,130.00	\$	1,130.00	\$	1,725.00	135.00	\$	152,550.00	\$	232,875.00
Jenishia Laureano	01.31.13.20.0020	Clerk, average - Executive Administrator	Week	\$	410.00	\$	410.00	\$	630.00	200.00	\$	82,000.00	\$	126,000.00
Superintendents														
Joseph Murray	01.31.13.20.0280	Superintendent, maximum - Lead Superintendent	Week	\$	2,200.00	\$	2,200.00	\$	3,375.00	194.00	\$	426,800.00	\$	654,750.00
Craig Burst	01.31.13.20.0260	Superintendent, average - Superintendent	Week	\$	1,925.00	\$	1,925.00	\$	2,950.00	190.00	\$	365,750.00	\$	560,500.00
Thomas Voustas	01.31.13.20.0260	Superintendent, average - Superintendent	Week	\$	1,925.00	\$	1,925.00	\$	2,950.00	174.00	\$	334,950.00	\$	513,300.00
Marcus Caamano	01.31.13.20.0240	Superintendent, minimum - Assistant Superintendent	Week	\$	1,750.00	\$	1,750.00	\$	2,675.00	35.00	\$	61,250.00	\$	93,625.00
		Total Project Staffing Cost									\$	4,001,660.00	\$	6,127,250.00
		Total Project Staffing Cost with New York, NY Lo	cation Factor	r of 13	33%						\$	5,322,207.80	\$	8,149,242.50

# **APPENDIX D**

### **LEED EVALUATION SCORECARD**

# **LEED EVALUATION SCORECARD**

	ENBUIL	DING		LEED 2009 for New Construction	and Ma	ajor Renovations	
S. 66.	52	3.2	DUNO	Project Checklist			
1 I	USG	BC		Project Name: Gouverneur Healthca Services	re	Date: October 19, 2011	
16	2	8		Sustainable Sites		Possible Points:	26
Y	Р	Ν	d/C				
Y			С	Prereq 1	Con	struction Activity Pollution Prevention	
0	0	1	d	Credit 1	Site	Selection	1
5	0	0	d	Credit 2	Dev	elopment Density and Community Connectivity	5
1	0	0	d	Credit 3	Brow	wnfield Redevelopment	1
6	0	0	d	Credit 4.1		rnative Transportation—Public Transportation Access	6
1	0	0	d	Credit 4.2	Roo		1
)	0	3	d	Credit 4.3	Veh	rnative Transportation—Low-Emitting and Fuel-Efficient icles	3
2	0	0	d	Credit 4.4	Alte	rnative Transportation—Parking Capacity	2
)	0	1	С	Credit 5.1	Site	Development-Protect or Restore Habitat	1
)	0	1	d	Credit 5.2	Site	Development-Maximize Open Space	1
)	1	0	d	Credit 6.1	Stor	mwater Design—Quantity Control	1
)	1	0	d	Credit 6.2	Stor	mwater Design—Quality Control	1
)	0	1	С	Credit 7.1	Hea	t Island Effect—Non-roof	1
)	0	1	d	Credit 7.2	Hear	t Island Effect—Roof	1
1	0	0	d	Credit 8	Ligh	nt Pollution Reduction	1
)	5	5		Water Efficiency		Possible Points:	10
ľ	Р	Ν					
ľ			d	Prereq 1	Wat	er Use Reduction—20% Reduction	
)	0	4	d	Credit 1	Wat	er Efficient Landscaping	2 to 4
					0	Reduce by 50%	2
					0	No Potable Water Use or Irrigation	4
)	2	0	d	Credit 2	Innc	ovative Wastewater Technologies	2
)	3	1	d	Credit 3	Wat	er Use Reduction	2 to 4
					0	Reduce by 30%	2
					3	Reduce by 35%	3
					0	Reduce by 40%	4
l I	3	28		Energy and Atmosphere		Possible Points:	35
7	Р	Ν	1				
7			С	Prereq 1	Fun	damental Commissioning of Building Energy Systems	
7			d	Prereq 2	Min	imum Energy Performance	
7			d	Prereq 3	Fun	damental Refrigerant Management	
)	3	16	d	Credit 1	Opti	imize Energy Performance	1 to 19
					U	Improve by 12% for New Buildings or 8% for Existing Building Renovations	1
						Improve by 14% for New Buildings or 10% for Existing Building Renovations	2
					3	Improve by 16% for New Buildings or 12% for Existing Building Renovations	3
					0	Improve by 18% for New Buildings or 14% for Existing Building Renovations	4
					0	Improve by 20% for New Buildings or 16% for Existing Building Renovations	5

0	1	1	С	Credit 4	Re	cycled Content	1 to 2
_					0	Reuse 10%	2
	<u> </u>				1	Reuse 5%	1
0	1	1	С	Credit 3	Ma	aterials Reuse	1 to 2
					2	75% Recycled or Salvaged	2
	ļ				0	50% Recycled or Salvaged	1
0	2	0	С	Credit 2	Co	nstruction Waste Management	1 to 2
0	0	1	С	Credit 1.2		ements	1
					0 Bu	Reuse 95% ilding Reuse—Maintain 50% of Interior Non-Structural	3
					0	Reuse 75%	2
					0	Reuse 55%	1
0	0	3	С	Credit 1.1		ilding Reuse—Maintain Existing Walls, Floors, and Roof	1 to 3
Y			d	Prereq 1		brage and Collection of Recyclables	1
Y	Р	Ν			1		
0	8	6		Materials and Resources		Possible Points:	14
0	0	2	С	Credit 6	Gr	een Power	2
0	0	3	С	Credit 5	Me	easurement and Verification	3
2	0	0	d	Credit 4		hanced Refrigerant Management	2
2	0	0	С	Credit 3	En	hanced Commissioning	2
					0	13% Renewable Energy	7
					0	11% Renewable Energy	6
					0	9% Renewable Energy	5
					0	7% Renewable Energy	4
					0	5% Renewable Energy	3
	İ		1		0	3% Renewable Energy	2
					0	1% Renewable Energy	1
)	0	7	d	Credit 2	On	-Site Renewable Energy	1 to 7
					0	Improve by 48%+ for New Buildings or 44%+ for Existing Building Renovations	19
					0	Improve by 46% for New Buildings or 42% for Existing Building Renovations	18
					0	Building Renovations	17
					0	Building Renovations Improve by 44% for New Buildings or 40% for Existing	16
					0	Building Renovations Improve by 42% for New Buildings or 38% for Existing	15
						Building Renovations Improve by 40% for New Buildings or 36% for Existing	
					0	Building Renovations Improve by 38% for New Buildings or 34% for Existing	14
					0	Building Renovations Improve by 36% for New Buildings or 32% for Existing	13
					0	Improve by 34% for New Buildings or 30% for Existing	12
					0	Improve by 32% for New Buildings or 28% for Existing Building Renovations	11
					0	Building Renovations	10
					0	Building Renovations Improve by 30% for New Buildings or 26% for Existing	9
					0	Building Renovations Improve by 28% for New Buildings or 24% for Existing	8
						Building Renovations Improve by 26% for New Buildings or 22% for Existing	
					0	Improve by 24% for New Buildings or 20% for Existing	7

					0 20% of Content	2
0	2	0	C	Credit 5	Regional Materials	1 to 2
					0 10% of Materials	1
					2 20% of Materials	2
0	1	0	С	Credit 6	Rapidly Renewable Materials	1
0	1	0	С	Credit 7	Certified Wood	1
12	3	0		Indoor Environmental Quality	Possible Points:	15
Y	Р	Ν				
Y			d	Prereq 1	Minimum Indoor Air Quality Performance	
Y			d	Prereq 2	Environmental Tobacco Smoke (ETS) Control	
0	1	0	d	Credit 1	Outdoor Air Delivery Monitoring	1
0	1	0	d	Credit 2	Increased Ventilation	1
1	0	0	С	Credit 3.1	Construction IAQ Management Plan—During Construction	1
1	0	0	С	Credit 3.2	Construction IAQ Management Plan—Before Occupancy	1
1	0	0	С	Credit 4.1	Low-Emitting Materials-Adhesives and Sealants	1
1	0	0	С	Credit 4.2	Low-Emitting Materials-Paints and Coatings	1
1	0	0	С	Credit 4.3	Low-Emitting Materials—Flooring Systems	1
1	0	0	С	Credit 4.4	Low-Emitting Materials—Composite Wood and Agrifiber Products	1
0	1	0	d	Credit 5	Indoor Chemical and Pollutant Source Control	1
1	0	0	d	Credit 6.1	Controllability of Systems—Lighting	1
1	0	0	d	Credit 6.2	Controllability of Systems—Thermal Comfort	1
1	0	0	d	Credit 7.1	Thermal Comfort—Design	1
1	0	0	d	Credit 7.2	Thermal Comfort—Verification	1
1	0	0	d	Credit 8.1	Daylight and Views—Daylight	1
1	0	0	d	Credit 8.2	Daylight and Views—Views	1
0	1	5		Innovation and Design Process	Possible Points:	6
Y	Р	Ν				
0	0	1	d/C	Credit 1.1	Innovation in Design: Specific Title	1
0	0	1	d/C	Credit 1.2	Innovation in Design: Specific Title	1
0	0	1	d/C	Credit 1.3	Innovation in Design: Specific Title	1
0	0	1	d/C	Credit 1.4	Innovation in Design: Specific Title	1
0	0	1	d/C	Credit 1.5	Innovation in Design: Specific Title	1
0	1	0	d/C	Credit 2	LEED Accredited Professional	1
0	2	2		Regional Priority Credits	Possible Points:	4
Y	Р	Ν				
0	1	0	d/C	Credit 1.1	Regional Priority: SSc6.1	1
0	1	0	d/C	Credit 1.2	Regional Priority: WEc2	1
0	0	1	d/C	Credit 1.3	Regional Priority: Specific Credit	1
				G 19 1.4	Designed Driveriter Securities Carelit	1
0	0	1	d/C	Credit 1.4	Regional Priority: Specific Credit	1

# **APPENDIX E**

# BUILDING INFORMATION MODELING USE LIST AND PROCESS MAP

# **GOUVERNEUR HEALTHCARE SERVICES BIM USE ANALYSIS**

BIM Use	Value to Project	Responsible Party	Value to Responsible Party	Capability Rating Scale 1-3 (1 = Low)			Additional Resources / Competencies Required to	Notes	Proceed with Use
			High / Med / Low						
	High / Med / Low			Resources	Competency	Experience	Implement		YES / NO / MAYBE
Site Utilization Planning	High	Contractor	High	2	3	3	-	Important for	Yes
		СМ	High	3	3	3	-	phasing of construction	
		Owner	High	2	2	2	-	with active facility	
3D Coordination	High	СМ	High	3	3	3	Coordination software required	_	Yes
		Contractor/Subs	High	2	2	2	Need training on latest software	Important for	
		Architect	Medium	2	3	2	Coordination software required	high volume of	
		MEP Engineer	High	3	3	3	-	MEP equipment	
		Structural Engineer	Medium	3	3	3	-		
Design Reviews	Medium	Architect	Low	2	2	2	-	Reviews are	No
		-	-	-	-	-	-	based on 3D	
		-	-	-	-	-	-	design model	
4D Modeling	High	Contractor	High	2	2	1	Need training on latest software	Important for	Yes
		СМ	High	3	3	3	-	phasing of construction	
		-	-	-	-	-	-	with active facility	

Record Modeling	Medium	СМ	Medium	2	2	2	Requires training and software	For permitting	Maybe
		Owner	High	1	2	1	Requires training and software	and future renovations	
		Architect	Medium	3	3	3	-	and/or expansions	
	ī								
Engineering Analysis	High	Architect	Medium	2	2	2	-	For state-of-the- art healthcare	Yes
		MEP Engineer	High	3	3	3	-		
		Structural Engineer	Medium	2	3	3	-	equipment	
Cost Estimation	Medium	СМ	High	2	3	3	-	Efficiently	Yes
		Contractor	Medium	2	2	2	-	monitor costs of project	
		-	-	-	-	-	-		
Existing Conditions Modeling	Medium	Owner	Medium	1	1	1	Provide existing drawings	Assist with 3D coordination of MEP in existing	No
		Architect	Low	2	2	2	-		
		СМ	High				Training in 3D scanning tools	structure and site planning	
Design Authoring	High	Architect	High	3	3	3	-	-	Yes
		MEP Engineer	High	3	3	3	-	-	
		Structural Engineer	Medium	3	3	3	-	-	

#### **GOUVERNEUR HEALTHCARE SERVICES BIM LEVEL ONE PROCESS MAP**

