

GEISINGER GRAY'S WOODS AMBULATORY CARE CAMPUS PHASE 1  
PATTON TOWNSHIP, CENTRE COUNTY, PENNSYLVANIA

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TECHNICAL REPORT 1  
SENIOR THESIS  
October 5<sup>th</sup>, 2007

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Dr. Riley

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October 5<sup>th</sup>, 2007



## TECHNICAL REPORT 1

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## **EXECUTIVE SUMMARY**

### **SECTION I**

Located in Patton Township, Centre County, Pennsylvania, the Geisinger Gray's Woods Ambulatory Care Campus Building Phase 1 demonstrates Geisinger Health System's growth and expansion to provide better health care to rural areas. The building will offer multi-specialty outpatient services as well as an OB/GYN practice, pediatrics, and family medicine. Dedicated to patient care, education, research and community service, Geisinger Health system takes pride in partnership, quality, advocacy and value to create an exceptional facility.

This report is intended to provide information regarding existing conditions and the projects scope of work. Included are summaries of the project schedule, building systems, and project delivery. Additionally, an evaluation of the project costs using the project budget, D4 Cost estimate and R S Means is also included. Readers will also find a site plan of the project, summary of local conditions, and a description of the Construction Managers plan for staffing.

For the 64,000 SF, two-story facility, Geisinger has hired Alexander Building Construction, LLC to provide construction management services with a Cost Plus contract. Also teamed with EwingCole Architects and Engineers and Sweetland Engineering Associates, Inc., this \$15 million project is aiming for LEED certification. Construction started on April 23<sup>rd</sup>, 2007 and substantial completion is plan for June 8<sup>th</sup>, 2008.



## PROJECT SCHEDULE SUMMARY

### SECTION II

After Geisinger and EwingCole progressed through the design phase of the project, on-site construction began on April 23<sup>rd</sup>, 2007. Substantial completion of the project is set for June 6<sup>th</sup>, 2008 and the Owner anticipates moving in on July 22<sup>nd</sup>, 2008. Please refer to Appendix A, Summary Schedule, for further explanation of the project schedule. The attached summary schedule has been broken down into 5 portions: Design, Sitework, Shell & Enclosure, Interiors, and Completion & Closeout.

#### Foundation

The foundation system for the Gray's Woods project consists of cast-in-place concrete pier footings and grade beams. There are no below-grade stories. The West side of the building will require a cast-in-place concrete foundation/retaining wall.

#### Structure

Structural steel erection is planned to be done in three phases. The building will be broken into three sections, from North to South, with erection of the steel starting on the North side of the building. After metal decking for the second floor is in place, the concrete floor can be placed for the first two sections. Following, the last section of the second floor concrete will be placed with the first section of the slab-on-grade floor. Similarly, the roof concrete slab will first have two sections poured, and to finish, the last section of the roof and the last two sections of the slab-on-grade will be placed. To recap, concrete for slabs will be placed for two sections at a time.

#### Finishes

After the building is enclosed, interior finishes may begin. Interior finishes will be completed in the same sequence as steel erection. Subcontractors will progress through the building in the following order:

- Hang Ductwork
- Metal Studs
- MEP Wall Installation
- Drywall/Painting
- Epoxy Terrazzo
- Ceramic Tile
- Ceiling Grid
- Millwork
- Plumbing Fixtures
- Light Fixtures
- Doors



## BUILDING SYSTEMS SUMMARY

### SECTION III

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

#### Structural Steel

Gray's Woods structural steel frame creates the skeleton for the 2-story 60,000 SF medical office building. Structural steel used is primarily ASTM A992, Grade 50.

Bracing for the structural steel frame is provided along four grid lines, two running North-South and two running East-West. While two of the grid lines fall on the exterior of the building, the other two run through interior column lines. HSS steel tubing provides inverted V bracing with gusset plate welded connections to beams and columns.

Both the 2<sup>nd</sup> floor and roof are comprised of composite metal decking. The galvanized composite metal decking is topped with lightweight cast-in-place concrete slabs and reinforced with welded wire fabric.

Steel erection was completed using a 150 ton Crawler Crane.

#### Cast-in-Place Concrete

Cast-in-Place Concrete is utilized for pier footings, grade beams, slabs and walls. Concrete slabs require a minimum design of 3,000 psi while the foundation and walls require a minimum design of 4,000 psi. A pump truck was used to place the concrete. Three different types of formwork were specified for the project: wood, preformed steel, and glass fiber fabric reinforced plastic. The concrete subcontractor used prefabricated steel "Simons" forms for the concrete formwork.

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### Mechanical

On the North-West corner of the building, a boiler/chiller building will house a boiler, chiller, pumps, and room for future equipment. The design of the building is to support the first 3 phases of the project.

Additionally, there are 3 roof top units that include an economizer cycle. Distribution for the VAV (variable air volume) system is through ductwork that includes single duct VAV boxes and hydronic reheat coils. Return air is through the plenum ceiling. For LEED certification, the system is designed for demand control ventilation and heavily commissioned. LEED credits for "Optimize Energy Performance" and "Carbon Dioxide Monitoring" have been included. The system also incorporates a stand alone DDC control system with a workstation in the Chiller Room.

Fire suppression for the building was designed into a Combination Wet Sprinkler System and a Wet Dry Deluge Pre-action Sprinkler System.

### Electrical

A 1000A, 480/277V underground service in a concrete reinforced ductbank through Allegheny Power will be provided for Gray's Woods. Electrical rooms are provided on each floor to house electrical distribution equipment. The 250 kW Emergency Generator will be outdoor packaged. The main emergency Electrical Room on the first floor will house UPS Emergency Power and equipment.

To increase LEED credits, the lighting system consists of T8 lamps, compact fluorescents, electronic ballasts and occupancy sensors. Daylight harvesting was also considered in the design.

Gray's Woods electrical technology also includes a Voice/Data system, Fire Alarm system, Lightning Protection, Nurse Call system, and a Low Voltage Communication system.

### Masonry/EIFS

Masonry on the project includes both load bearing CMU and non-load bearing face brick. Face brick connections to metal stud supports include primarily weld on channels and flexible anchor ties. The Exterior Insulation and Finish System (EIFS) is also supported by metal studs. Scaffolding is necessary for both masonry and EIFS installation due to the fact that both materials extend up to the roof level.

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### Curtain Wall

The glazed aluminum curtain wall is supported by a metal stud curtain wall. Materials include glazing panels, insulation, structural support, sealants, and finishes. The subcontractor's engineer is responsible for the curtain wall design and PE stamp, and the subcontractor will be using intermediate steel members inside the curtain wall for additional support.

### Excavation

Because there was enough room on site to layback the larger and deeper excavations for foundations, no excavation support system was used. Also, some dewatering was necessary during excavation after a large period of rain.

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**PROJECT COST EVALUATION  
 SECTION IV**

The 64,350 SF Gray's Woods medical building has a budgeted building cost of \$15 million dollars, \$233/SF. Geisinger Health System has set the total project cost, including land and permits, to a budget of \$35 million, \$543/SF. Bid packages were made for subcontractors by Alexander Building Construction, the Construction Manager. Below is Alexander's most current schedule of values for the project – dated 9/30/07. An approximate value was given to additional building costs to adjust to the total building cost of \$15 million dollars.

BUILDING SYSTEM COSTS		
Division	SF Cost	Budgeted Cost
1	General Requirements	- 1,212,760
2	Sitework	42.4 2,727,500
3	Concrete	18.7 1,201,464
4	Masonry	4.7 302,000
5	Metals	20.2 1,297,243
6	Wood & Plastics	10.5 673,640
7	Thermal & Moisture Protection	12.3 793,594
8	Doors & Windows	15.4 992,673
9	Finishes	30.9 1,986,755
10	Specialties	-
11	Equipment	-
12	Furnishings	-
13	Special Construction	1.7 109,454
14	Conveying Systems	-
15	Mechanical	61.7 3,973,512
16	Electrical	37.5 2,414,054
	<b>BUILDING COST</b>	<b>\$218/SF \$14,108,649</b>
	Additional Building Costs	15.5 1,000,000
	<b>TOTAL BUILDING COSTS</b>	<b>\$233/SF \$15,108,649</b>



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From the previous schedule of values, and additional building cost amount of \$1 million was added to adjust for general liability insurance, contingency, construction management fee and elevator costs. The entire project costs (\$35 million) include land, permits, FF & E and other soft costs on the project.

Square Foot Estimate

By using RS Means 2007, a square foot estimate for the Gray's Woods project was developed. The Medical Office square foot break down of RS Means does not have a large enough square footage area so the estimate was completed using the Hospital, 2-3 story project type. Difficulty arose due to the projects diverse exterior wall construction.

M.330 Hospital, 2-3 Story, 12 Ft Story Height

Face Brick with Concrete Block Back-up and Steel Frame	55,000 SF Unit Cost =	234.80
	70,000 SF Unit Cost =	230.90
Interpolate	64,000 SF Unit Cost =	232.46
Story Height Adj. / 1 Ft	55,000 SF Unit Cost =	1.45
	70,000 SF Unit Cost =	1.35
Interpolate	64,000 SF Unit Cost =	1.39
Height Adjustment (14 Ft)	$232.46 + (2)1.39 =$	235.24
Building Cost	$235.24 * 64,350 =$	\$15,137,694
Total Cost		\$15,137,694
Location Multiplier (State College, PA = .94)		<b>\$14,229,432</b>

The difference between the budgeted project costs and the Square Foot Estimate is approximately \$1 million dollars. Any difference can be attributed to the exterior wall construction and the LEED certification requirements for the buildings systems.

D4 Cost Estimate

The D4 Cost 2002 Estimate was developed using a 2-story 61,500 SF medical building in Bridgeville, PA. Discrepancies in the site size, exterior wall construction, and technicality of the projects exist. Gray's Woods is design to be a LEED certified building and you are unable to specify this using D4 Cost Estimates. Please see Appendix B, D4 Cost Estimate Summary, for all information produced by the program.

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 October 5<sup>th</sup>, 2007



Below is a comparison of the budgeted projects costs and the D4 Estimate costs. D4 costs have a time multiplier of 1.25 (2002 to 2007) using ENR's most recent Building Cost Index and the Building Cost Index History (also in Appendix B). The D4 Cost Estimate is over \$8 million less than the current project's budget. The total cost of the project estimated using D4 Cost Estimate was \$6.67 million, \$103/SF.

BUILDING SYSTEM COSTS COMPARISON				
Division		Budget	D4 Cost	Difference
1	General Requirements	1,212,760	691,006	521,754
2	Sitework	2,727,500	1,704,916	1,022,584
3	Concrete	1,201,464	831,888	369,576
4	Masonry	302,000	452,250	-150,250
5	Metals	1,297,243	690,663	606,580
6	Wood & Plastics	673,640	68,104	605,536
7	Thermal & Moisture Protection	793,594	162,083	631,511
8	Doors & Windows	992,673	301,010	691,663
9	Finishes	1,986,755	419,666	1,567,089
10	Specialties	-	24,383	-24,383
11	Equipment	-	-	-
12	Furnishings	-	-	-
13	Special Construction	109,454	-	109,454
14	Conveying Systems	-	40,125	-40,125
15	Mechanical	3,973,512	813,077	3,160,435
16	Electrical	2,414,054	479,181	1,934,873
	Additional Building Costs	1,000,000	-	,000,000
	<b>TOTAL BUILDING COST</b>	<b>\$15,108,649</b>	<b>\$6,678,352</b>	<b>\$8,430,297</b>

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October 5<sup>th</sup>, 2007



## **SITE PLAN OF EXISTING CONDITIONS SECTION V**

Geisinger Gray's Woods Ambulatory Care Campus is located on a 52 acre lot in Patton Township, PA. The site can easily be accessed by US Route 220/322.

Please see Appendix C, Site Plan. The site plan shows the layout of the existing conditions for the project. This includes parking, access roads, hydrants, utility locations, neighboring buildings, and traffic patterns. The plan also shows the Gray's Woods building's footprint.

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## LOCAL CONDITIONS

### SECTION VI

Located in Patton Township, Centre County Pennsylvania, the Geisinger Gray's Woods Ambulatory Care Campus project inherits positives and negatives from its local surroundings. Being situated in a rural region of central Pennsylvania, the most predominant construction is design-bid-build with a construction manager for commercial buildings.

Gray's Woods is design for LEED Certification. If a project recycles 55% of the materials, it receives 1 credit and if the project recycles 75% of the materials, it will receive 2 credits. With hopes to gain credits for recycling, Geisinger and Alexander must work together to find a waste management program that will suit the project. In this region of Pennsylvania, it is extremely hard to find a waste management program that specializes in recycling. Centre County's Municipal Solid Waste Authority charges a premium (tipping fee \$66/ton, recycling fee \$10/ton) in this region.

Where the project is located, though, does have its benefits. With US Route 220/332 directly connected to Gray's Woods Boulevard, the project allows for easy access by construction equipment and employees. In addition, since the project can be seen from the highway, it engages community awareness and support for Geisinger Health System.

Lastly, the 52 acres site has several soil and water condition characteristics. The predominant soils on site are:

- Wyoming Gravelly Sandy Loam
- Morrison Sandy Loam
- Hublersburg Silt Loam

The groundwater level is over 100 feet below land level in most regions of the site.

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## CLIENT INFORMATION

### SECTION VII

*"Enhancing quality of life through an integrated health service organization based on a balanced program of patient care, education, research and community service."  
Geisinger Health System, Mission Statement*

As the owner of the project, Geisinger is a physician-led health care system that spans over 40 counties in Central Pennsylvania to serve 2.5 million people. Their vision and values are based on four themes: quality, value, partnerships, and advocacy. With their main focus and drive now on growth, the Gray's Woods Ambulatory Care Campus facility is a step towards expanding the best care to rural areas.

Overall, cost, quality and schedule are all equally important to Geisinger for this project. Set and approved by Geisinger's Health Care Board, the cost of the project can not exceed the budget due to the fact that the Board will not re-negotiate a new cost. Quality for any health care project is high and is held at the optimum level. Scheduling of the project, more specifically completion, is vital to Geisinger to gain revenue off the project. If owner occupancy is delayed, money will be lost.

Gray's Woods Ambulatory Care Campus is the first of four phases planned by Geisinger and EwingCole Architects/Engineers on the 52 Acre site. Phase 2 of the facility, scheduled to begin 5-10 years after Phase 1, includes an addition on the South side of the building and a parking garage. Phase 3 and 4 will entail a traffic light, a 3<sup>rd</sup> floor expansion, and other additions.

The key to completing the project to the owner's satisfaction is not only completing the project on time, under budget, and with high quality, but also to maintain a flow of communication through all parties involved. As stated as a theme, Geisinger Health System values partnering between Architects, Construction Managers, Engineers, and Subcontractors.



## PROJECT DELIVERY SYSTEM

### SECTION VIII

The Gray's Woods project is being delivered with a construction manager. This approach was chosen because Geisinger Health System values relations and communication. In addition, using a construction manager allows for constructability and design to collaborate early in the design process. For this delivery type on this specific project, the Construction Manager will hire subcontractors to perform the work, hold Owner's and Subcontractor's meetings to manage the cost and schedule of the project and to keep communication flowing between all parties involved, and is not liable for any risk with the project.

The subsequent page, Figure 1, demonstrates the key project parties and the types of contracts held between these parties. Geisinger Health System, the Owner, holds three contracts with:

- Architect/Engineer, EwingCole
- Construction Manager, Alexander Building Construction, LLC
- Civil Engineer, Sweetland Engineering & Associates, Inc.

#### Contracts Held

Geisinger holds a standard agreement with a fee contract with both the Architect/Engineer and the Civil Engineer. An Architect/Engineer standard agreement ensures a common vision for the project is present and requirements and expectations of the project are understood. An Architect or Engineer, however, cannot warrant or guarantee results – they are simply required to perform to professional standards.

The type of contract held between the construction manager and Geisinger is a Cost Plus with no risk to the construction manager. A Cost Plus contract allows for any savings on the building to revert back to the owner. Typically, the Owner is responsible for any costs over the budget amount. The benefits of this type of contract is that the building will be built to the owner's satisfaction, no matter what the cost. All subcontractor contracts are held by Alexander except for the elevator. Geisinger has a National Agreement with Otis Elevators but is requiring Alexander to manage the elevator construction processes.

The cost plus fee (control budget) contracts (held by the construction manager) with the Mechanical, Electrical and other subcontractors sets a fixed profit amount. If project costs exceed the budget, the Owner will reimburse the contractor's actual costs, regardless of the amount, and if the project costs are lower than the budget, the Owner will gain these savings. Furthermore, the Owner will pay a negotiated fee not based on project costs. Similarly, Alexander holds a cost plus fee (GMP) with the Sitework Contractor for the project. For this contract, the Piping Contractor will be compensated for a fixed amount if the project is under budget and they have set a maximum cost that the project cannot exceed.



Geisinger Gray's Woods Ambulatory Care Campus Phase I  
 Patton Township, Centre County, PA

Understanding These Contracts

These types of contracts and project delivery method were chosen to have efficient partnering between the Owner and the Construction Manager and subcontractors. Having a construction manager allows critical parties to become involved early in the construction process after agreeing to set fees. A GMP contract was used for the sitework contractor because the civil construction documents were completed prior to hiring this subcontractor so a cost could be set.

Bonds & Insurance

Geisinger Health System is not requiring bonds for the Gray's Woods project for the simple fact that Geisinger does not believe in bondage. The standard subcontractor's insurance (workman's comp., general liability, automobile insurance, umbrella, etc.) is required by Geisinger for all subcontractors and sub-subcontractors. As the construction manager, Alexander holds general liability insurance for the project.

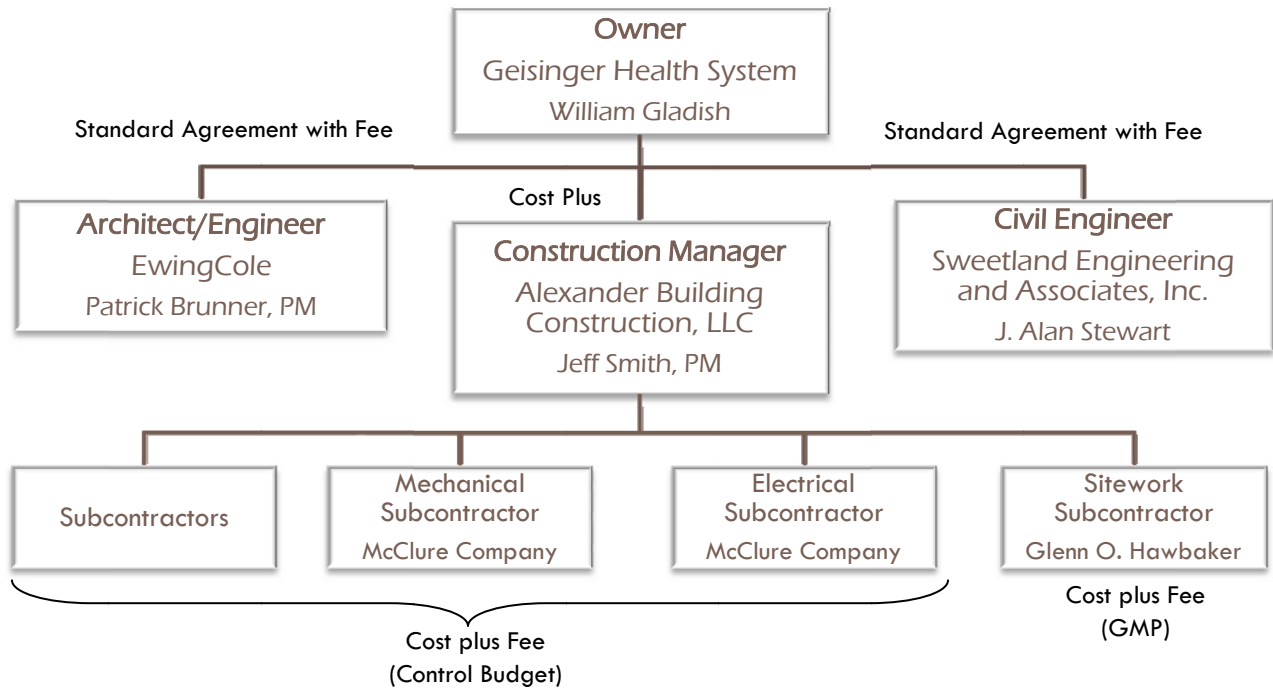


Figure 1: Geisinger Gray's Woods Project Organizational Chart

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## STAFFING PLAN

### SECTION IX

Alexander Building Construction, LLC, Geisinger's Construction Manager, has a well-defined project staff that provides both supervision and project management. Alexander is one branch of Butz Enterprises, Inc., which is comprised of Alexander, Shoemaker Construction Co., and Alvin H. Butz, Inc. With offices in both Harrisburg, PA and State College, PA, the majority of Alexander's management staff for the Gray's Woods project travels from the Harrisburg office. On the other hand, the majority of Alexander's supervision staff is from the local State College office.

Home office personnel include the President, Vice President, Manager of Operations, Senior Project Manager and Project Executive. These personnel visit the site only occasionally, mostly for Owner Meetings that are held every two weeks at the Alexander Job Trailer.

On-site personnel include the Project Manager, Project Engineer, Project Assistant, Superintendent and Assistant Superintendent. All on-site personnel report to the job site everyday except for the Project Manager. Alexander's Project Manager only is on-site three to four days a week due to the fact that he works on other projects as well.

The following page, Figure 1, demonstrates a graphical representation of Alexander Building Construction's Project Staff for the Gray's Woods Ambulatory Care Campus.



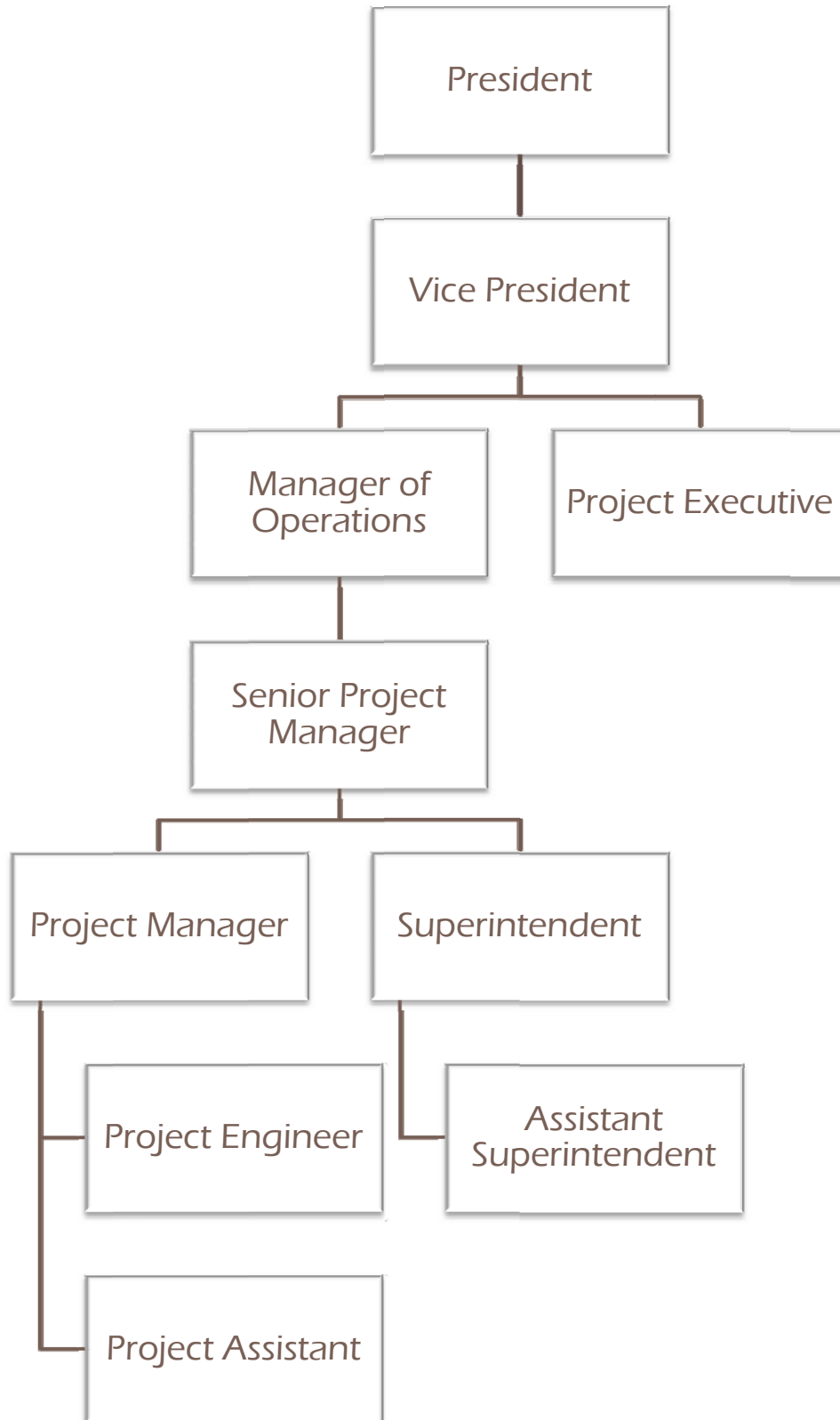
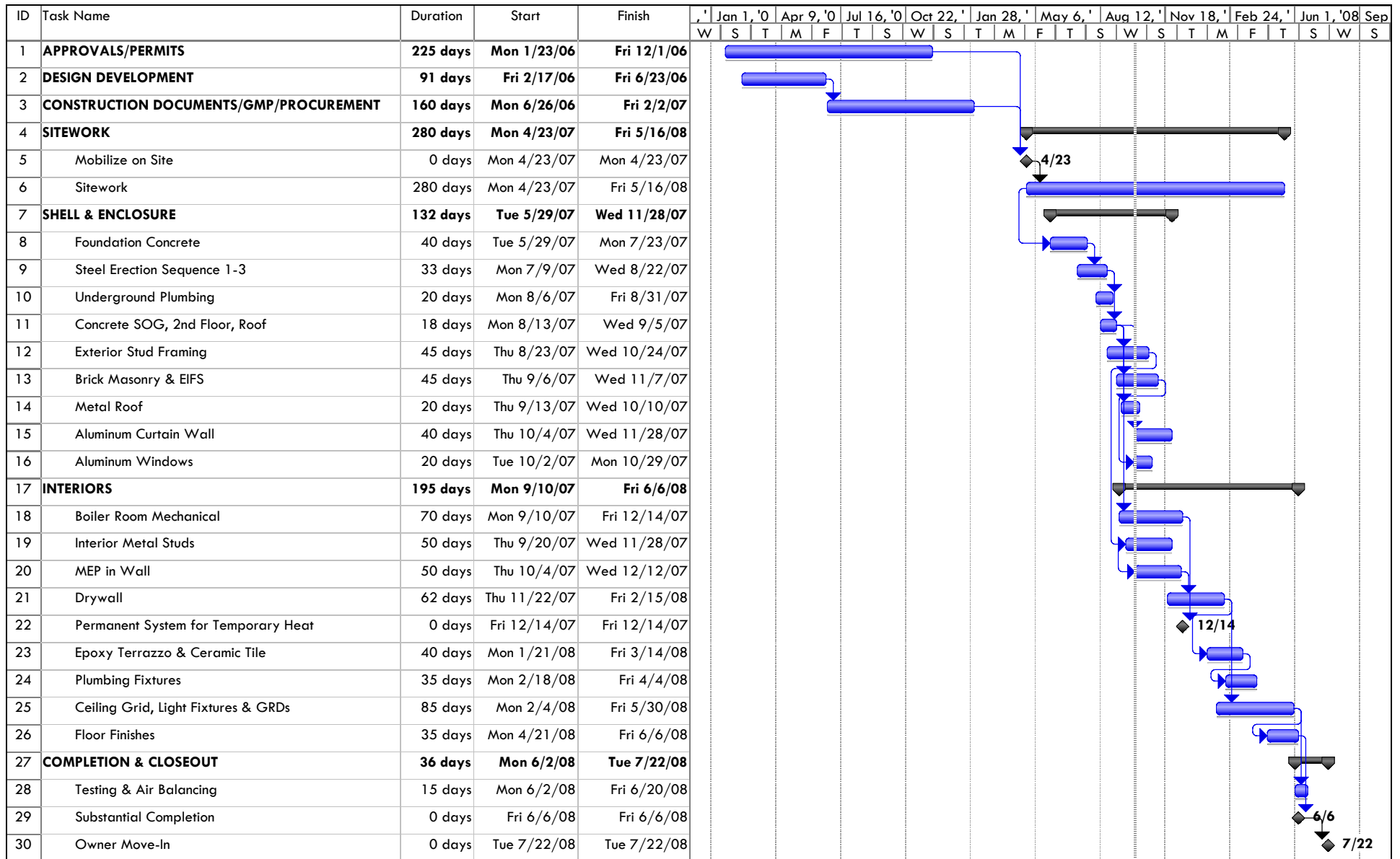


Figure 2: Alexander Building Construction Staffing Plan for Gray's Woods Ambulatory Care Campus Project

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October 5<sup>th</sup>, 2007



**APPENDIX A**  
**SUMMARY SCHEDULE**



Project: Geisinger Gray's Woods Ambulatory Care Campus Phase 1 Summary Schedule	Task		Rolled Up Task		External Tasks	
	Progress		Rolled Up Milestone		Project Summary	
	Milestone		Rolled Up Progress		Group By Summary	
	Summary		Split		Deadline	

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**APPENDIX B**  
**D4 COST ESTIMATE SUMMARY**

# Estimate of Probable Cost

Medical Building (Shell) - Feb 2002 - PA - Other

Prepared By:

**John Deklewa & Sons Inc.**  
**1273 Washington Pike/ PO Box 158**  
**Bridgeville, PA 15017**

Prepared For:

**Fax:**  
 Building Sq. Size: **61500**  
 Bid Date: **2/20/2002**  
 No. of floors: **2**  
 No. of buildings: **1**  
 Project Height: **28**  
 1st Floor Height: **14**  
 1st Floor Size: **33000**

**Fax:**  
 Site Sq. Size: **740520**  
 Building use: **Medical**  
 Foundation: **CON**  
 Exterior Walls: **MAS**  
 Interior Walls: **GYP**  
 Roof Type: **EPD**  
 Floor Type: **CON**  
 Project Type: **NEW**

Division		Percent	Sq. Cost	Amount
01	<b>General Requirements</b>	<b>13.89</b>	<b>8.99</b>	<b>552,805</b>
	General Requirements	13.89	8.99	552,805
03	<b>Concrete</b>	<b>16.73</b>	<b>10.82</b>	<b>665,511</b>
	Concrete	16.73	10.82	665,511
04	<b>Masonry</b>	<b>9.09</b>	<b>5.88</b>	<b>361,800</b>
	Masonry	9.09	5.88	361,800
05	<b>Metals</b>	<b>13.89</b>	<b>8.98</b>	<b>552,531</b>
	Metals	13.89	8.98	552,531
06	<b>Wood &amp; Plastics</b>	<b>1.37</b>	<b>0.89</b>	<b>54,483</b>
	Wood & Plastics	1.37	0.89	54,483
07	<b>Thermal &amp; Moisture Protection</b>	<b>3.26</b>	<b>2.11</b>	<b>129,667</b>
	Thermal & Moisture Protection	3.26	2.11	129,667
08	<b>Doors &amp; Windows</b>	<b>6.05</b>	<b>3.92</b>	<b>240,808</b>
	Doors & Windows	6.05	3.92	240,808
09	<b>Finishes</b>	<b>8.44</b>	<b>5.46</b>	<b>335,733</b>
	Finishes	8.44	5.46	335,733
10	<b>Specialties</b>	<b>0.49</b>	<b>0.32</b>	<b>19,507</b>
	Specialties	0.49	0.32	19,507
14	<b>Conveying Systems</b>	<b>0.81</b>	<b>0.52</b>	<b>32,100</b>
	Elevators	0.81	0.52	32,100
15	<b>Mechanical</b>	<b>16.35</b>	<b>10.58</b>	<b>650,462</b>
	Fire Protection	1.06	0.68	42,000
	Mechanical	15.29	9.89	608,462
16	<b>Electrical</b>	<b>9.63</b>	<b>6.23</b>	<b>383,345</b>
	Electrical	9.63	6.23	383,345
<b>Total Building Costs</b>		<b>100.00</b>	<b>64.70</b>	<b>3,978,752</b>
02	<b>Site Work</b>	<b>100.00</b>	<b>1.84</b>	<b>1,363,933</b>
	Site Work	100.00	1.84	1,363,933
<b>Total Non-Building Costs</b>		<b>100.00</b>	<b>1.84</b>	<b>1,363,933</b>
<b>Total Project Costs</b>		<b>--</b>	<b>--</b>	<b>5,342,685</b>

# Estimate of Probable Cost

## Building Division Notes

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Medical Building (Shell) - Feb 2002 - PA - Other

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General Requirements	Pre-bid information, instructions to bidders, information available to bidders, bid forms, supplements to bid forms, agreement forms, bonds & certificates, general conditions, supplementary conditions, summary of work, allowances, field engineering, identification systems, construction facilities and temporary controls, contract closeout.
Concrete	Formwork, reinforcement, accessories, cast-in-place, curing, grout.
Masonry	Grout, accessories, unit.
Metals	Materials, coatings, fastening, structural framing, joists, decking, cold formed framing, ornamental.
Wood & Plastics	Rough carpentry, finished carpentry, architectural woodwork.
Thermal & Moisture Protection	Waterproofing, insulation, exterior insulation & finish systems, fireproofing, firestopping, membrane roofing, flashing and sheet metal, roof specialties and accessories, skylights, joint sealers.
Doors & Windows	Metal doors and frames, wood and plastic doors, entrances and storefronts, metal windows, hardware, glazing, glazed curtainwalls.
Finishes	Gypsum board, tile, acoustical treatment, special ceiling surfaces, wood flooring, resilient flooring, carpet, painting, wall coverings.
Specialties	Compartments and cubicles, louvers and vents, grilles and screens, wall and corner guards, flagpoles, identifying devices, lockers, fire protection, toilet and bath accessories, wardrobe and closet.
Elevators	One.
Mechanical	Basic materials and methods, insulation, plumbing, HVAC, heat generation, air distribution, controls, testing, adjusting and balancing.
Electrical	Basic materials and methods, power generation - built-up systems, medium voltage distribution, service and distribution, lighting, special systems, communications, resistance heating, testing.

# Estimate of Probable Cost

## Non-Building Division Notes

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Medical Building (Shell) - Feb 2002 - PA - Other

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Site Work

Subsurface investigation, site preparation, dewatering, earthwork, utility piping materials, sewerage and drainage, landscaping.

# Estimate of Probable Cost

## Project Notes

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Medical Building (Shell) - Feb 2002 - PA - Other

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\* Bethel Park, Pennsylvania

\*\* Construction Period: May 2002 to Mar 2003

### Special Project Notes

In March 2003, Pittsburgh Mercy Health System opened its new two-story Outpatient Center, one of the first health and wellness centers in the region. This is the largest and most significant SmartHealth outpatient service center the hospital has developed to date.

The Mercy SMARTHealth Bethel Park Outpatient Center, located at 1000 Higbee Drive between Route 88 and Baptist Road, provides a range of medical and diagnostic services, as well as a full-scale fitness center that offers individual and family memberships. "The concept aligns Mercy's goals of bringing hospital-based services into the community," said Walter J. Furlong, Executive Vice President for system development for Pittsburgh Mercy Health System.

The two-story structure offers an architecturally magnificent presence located on a 17-acre South Hills campus. Comprised of richly colored brick and a modern glass exterior, with masonry and stone accent features, the building's design is not only functional, but it is an attractive building that uniquely blends into the challenging contours of the site and the context of surrounding buildings.

Many aspects of constructing this project were equally challenging to the design team of Celli-Flynn Brennan Turkall (CFBT) and contractor John Deklewa & Sons, Inc. ("Deklewa"). This was a large cut and fill project, in which bulk excavation costs were significant. Luckily once the seam of hard rock was properly located, the design and construction teams relocated the foot print of the building slightly to minimize significant rock excavation, resulting in a savings of several hundred thousand dollars. The foundation system, which required a 270-foot long cast-in-place retaining wall, also consumed a large portion of the project's budget. Planning this project was unique due to the function of spaces: fitness center on the first floor and doctors' offices on the second. The program offered a diversity of spaces and a clear division of usage. The project focused on both the methodology of work, as well as, the making of architectural form. Within these spaces, a strategy for the site had to be developed, as well as an organization of circulation and program realistic in built form.

The 61,500-square-foot facility offers a wide range of on-site health and medical services. The 33,000-square-foot health and fitness club located on the ground floor is operated by Healthtrax Fitness & Wellness, a Glastonbury, Connecticut-based company. Healthtrax provides a place for members to exercise and receive medical information about healthy life styles and preventive health care. The fitness center is complete with strength and cardiovascular training equipment, basketball and racquetball courts, a group exercise studio, aerobics room, yoga room and spinning room. Additional programs include a youth activity center, and an aquatics center that includes a sauna, whirlpool, lap pool and therapy pool. Finally, no fitness center would be complete without the juice bar, member lounge and supervised child center.

Medical and diagnostic services comprise the second floor. Services offered by physicians' practices include family practice, internal medicine, endocrinology, cardiology, obstetrics and gynecology, orthopedics, and physical medicine and rehabilitation.

### MANUFACTURERS/SUPPLIERS

DIV 04: Masonry: Redland Brick.

DIV 07: Skylights: Wausau; EPDM: GenFlex.

DIV 08: Aluminum Entrances & Storefront: YKK AP America.

DIV 09: Gypsum: United States Gypsum; Acoustical Treatment: Armstrong; Flooring: Dupont.

DIV 14: Elevator: Otis.

Photo Courtesy: Armand Wright Photography

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# Estimate of Probable Cost

## User Defined Fields

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Medical Building (Shell) - Feb 2002 - PA - Other

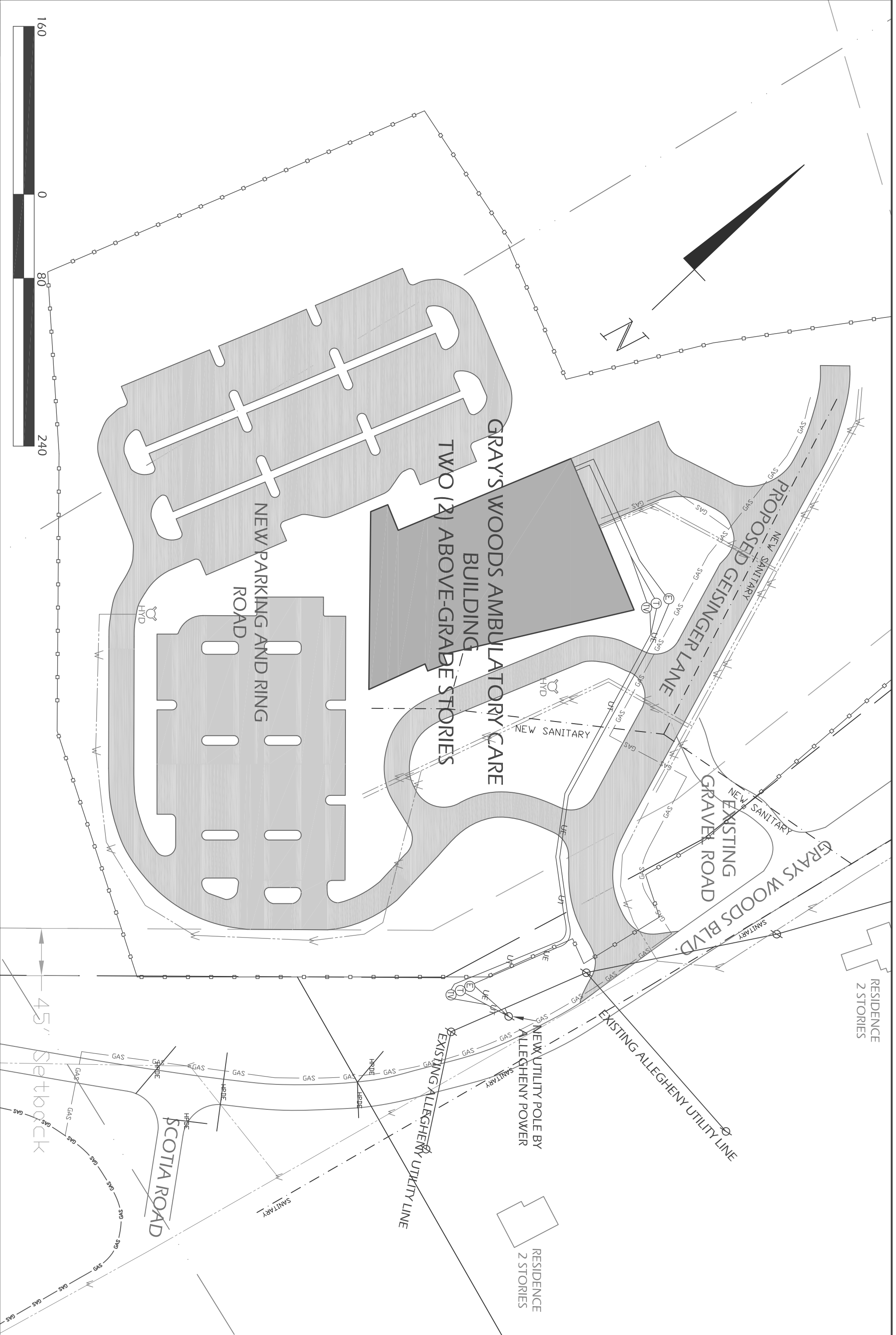
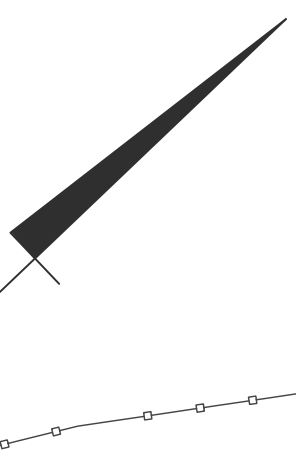
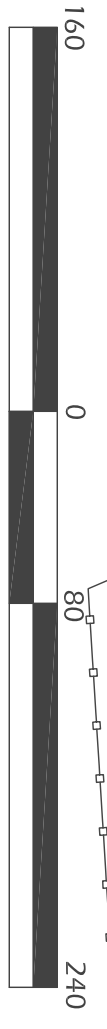
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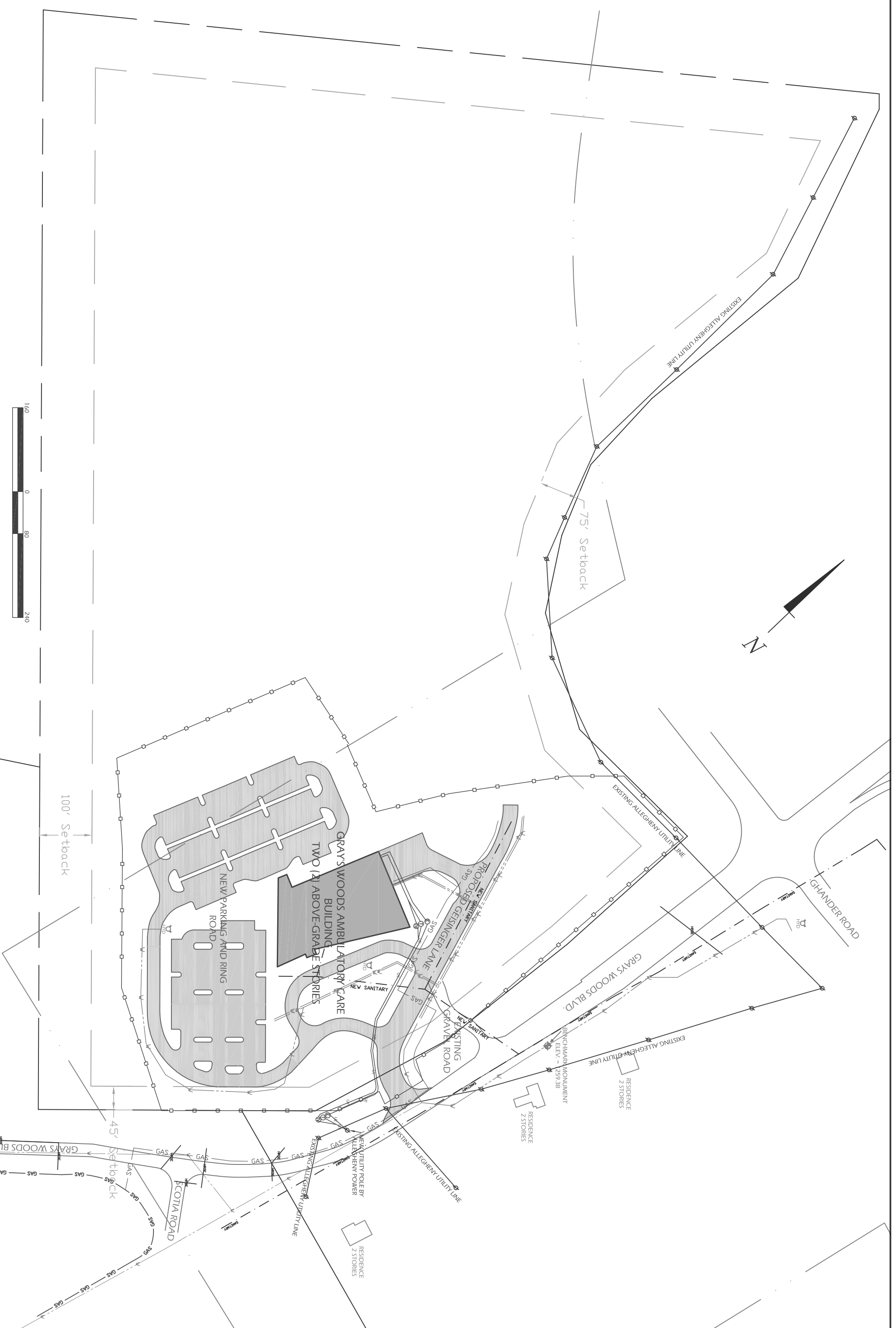
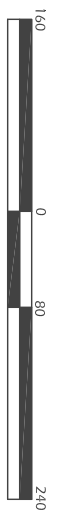
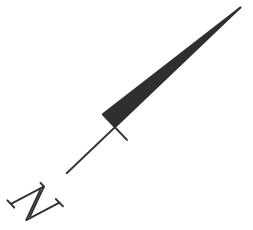
Erica L. Craig  
Construction Management  
October 5<sup>th</sup>, 2007



**APPENDIX C**  
**SITE PLAN**



<p><b>ENLARGED SITE PLAN OF EXISTING CONDITIONS</b>          GEISINGER GRAY'S WOODS AMBULATORY CARE CAMPUS          PATTON TOWNSHIP, CENTRE COUNTY, PA</p>		<p>Date: 9/29/2007          Scale: 1"=80'          Sheet No.: C.2          File No.: 2007.9.29</p>	<p>Drawn By: ELO          Client: Geisinger</p>	<table border="1"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>REVISION</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	NO.	DATE	REVISION									
NO.	DATE	REVISION														



<p><b>DATE</b></p> <p>9/29/2007</p>		<p><b>REVISION</b></p>	
<p><b>Scale</b></p> <p>1"=160'</p>		<p><b>BY</b></p>	
<p><b>Sheet No.</b></p> <p>C.1</p>		<p><b>Drawn By</b></p> <p>ELC</p>	
<p><b>File No.</b></p> <p>2007.9.29</p>		<p><b>Client</b></p> <p>Geisinger</p>	

**SITE PLAN OF**  
**EXISTING CONDITIONS**  
**GEISINGER GRAY'S WOODS AMBULATORY CARE CAMPUS**  
**PATTON TOWNSHIP, CENTRE COUNTY, PA**