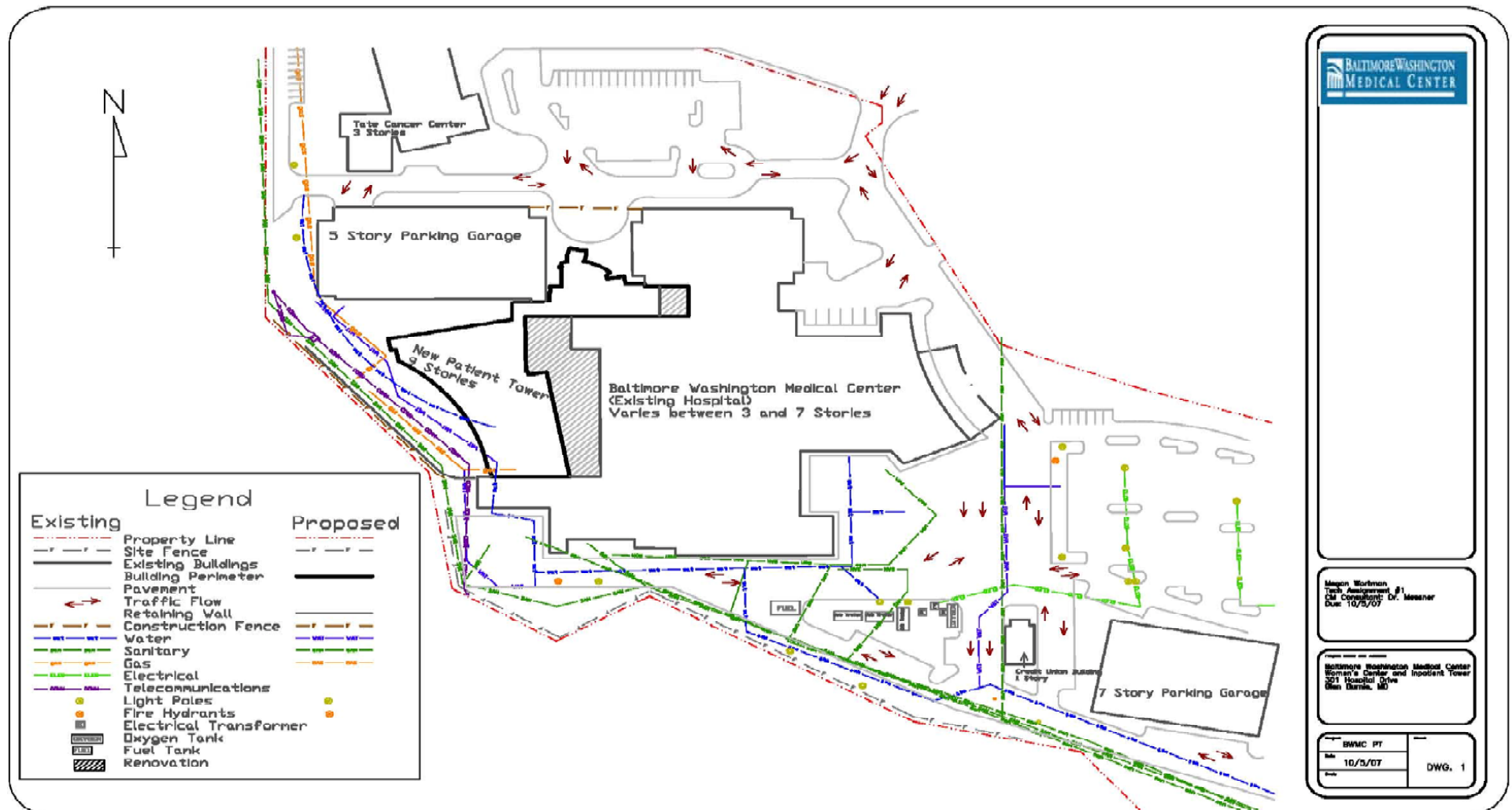




APPENDIX A: EXISTING SITE PLAN



Megan Wortman
 Task Assignment #1
 CA Consultant: Dr. Messner
 Due: 10/5/07

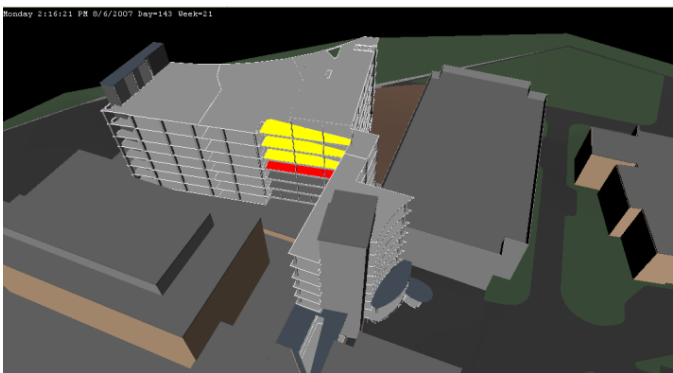
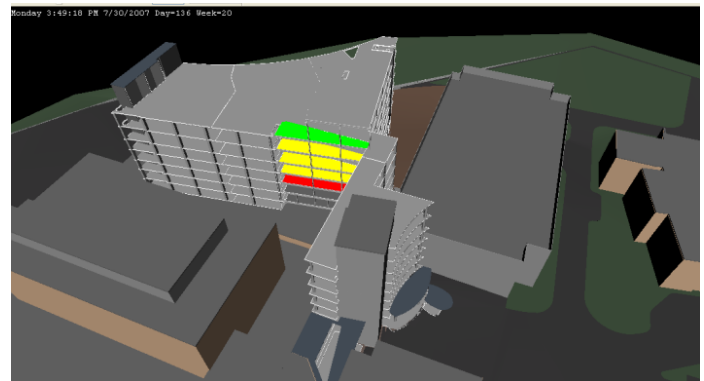
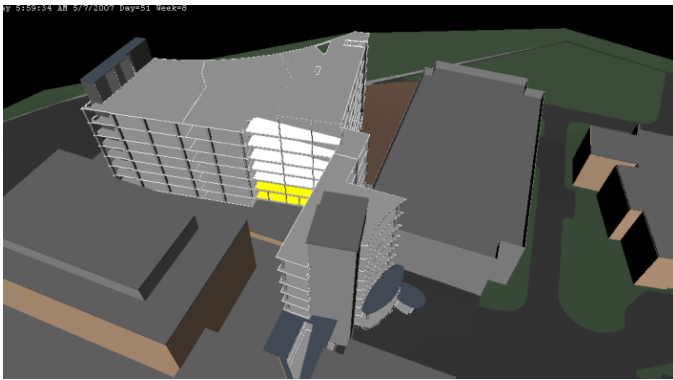
Baltimore Washington Medical Center
 Women's Center and Inpatient Tower
 301 Hospital Drive
 Glen Burnie, MD

| | |
|---------|---------|
| BWMC PT | |
| Date | 10/3/07 |
| DWG. | 1 |



APPENDIX B: 4D MODEL IMAGES

Structural 4D Model



Color Legend

Green- Composite Slab is being constructed

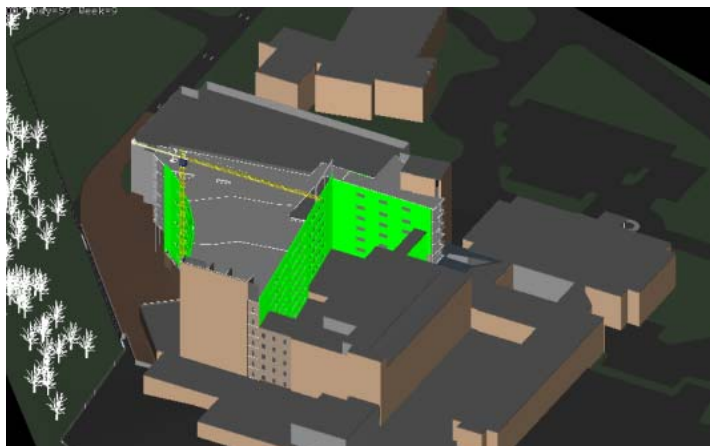
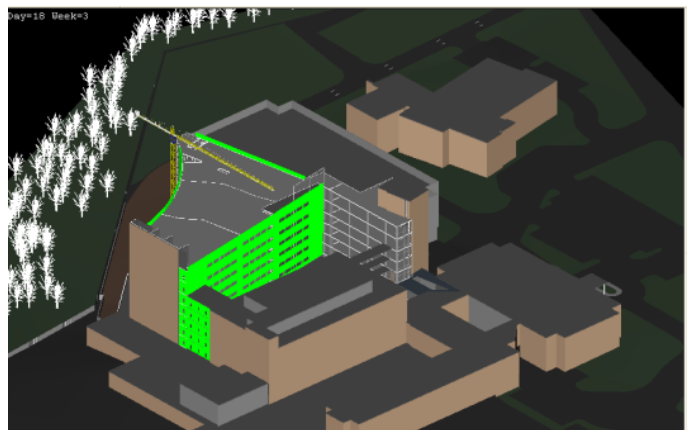
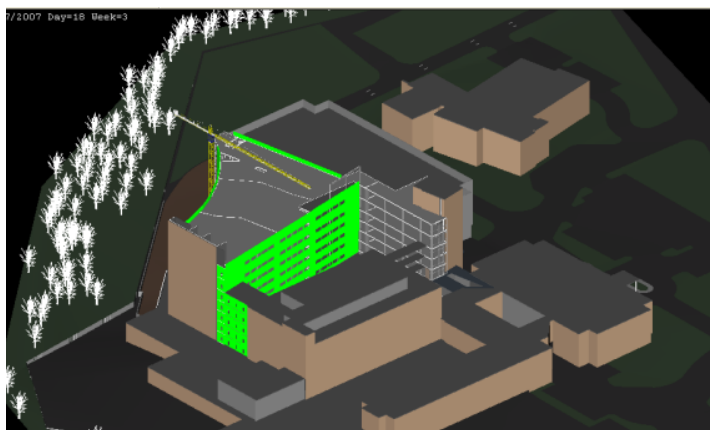
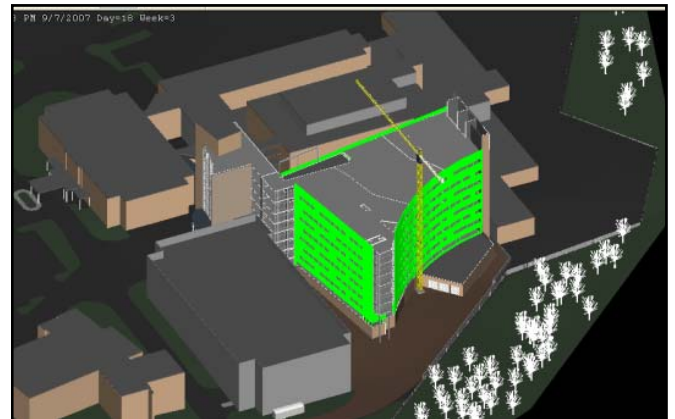
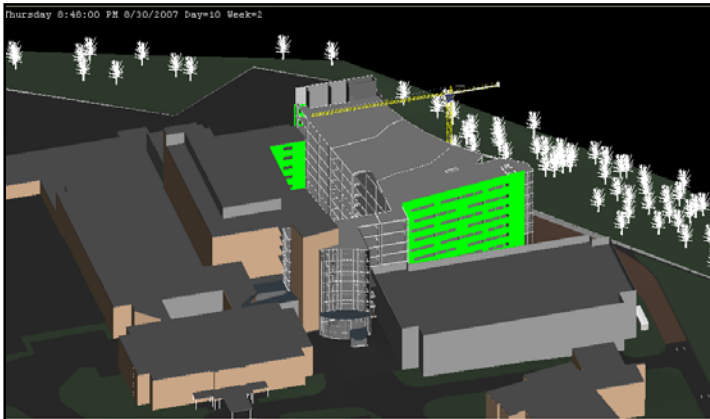
Yellow-Composite Slab is completed

Red- Precast Planks are being constructed

Model Appearance- Precast Planks are completed



Façade 4D Model- EIFS



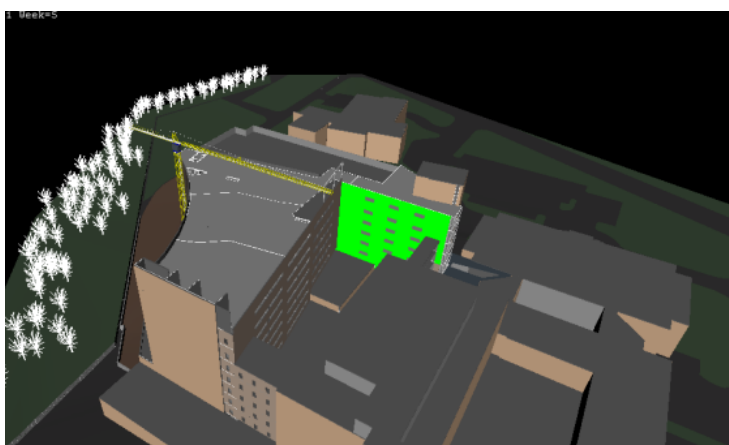
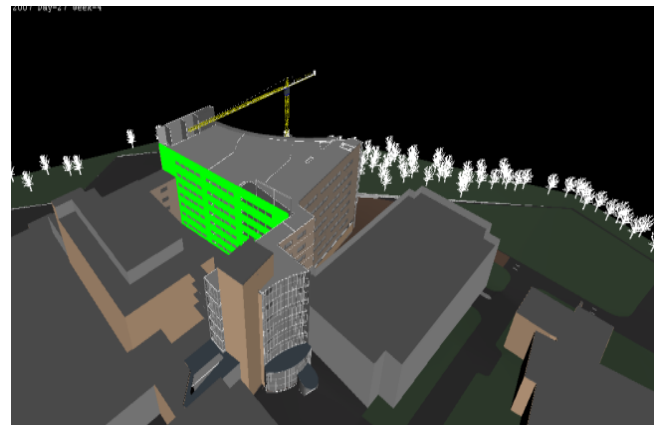
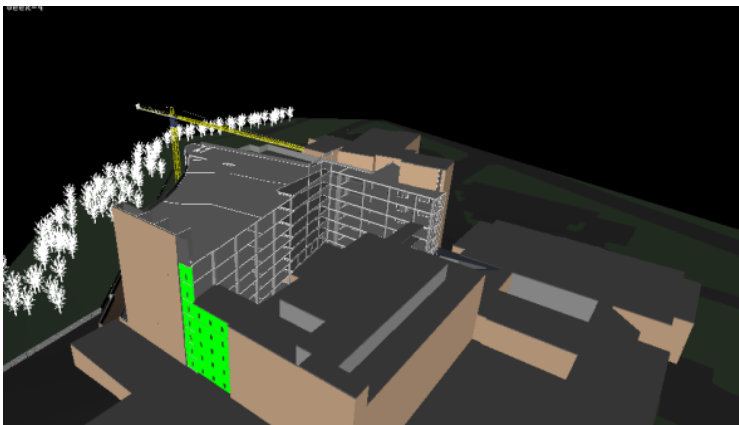
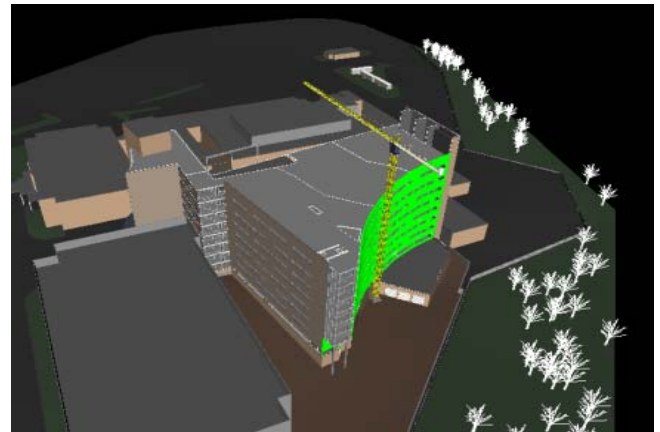
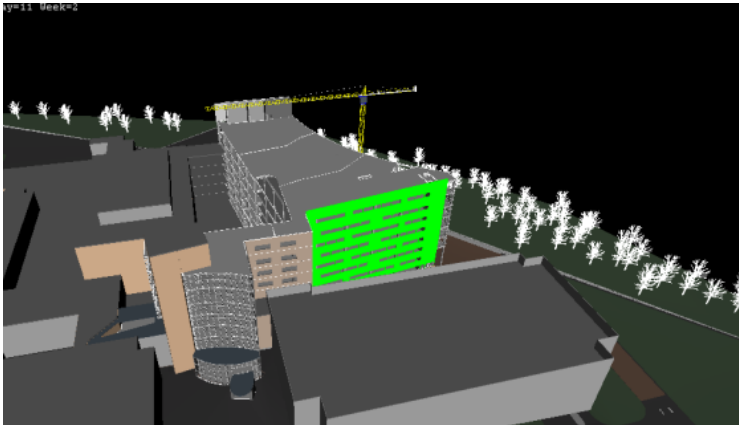
Color Legend

Green - EIFS is being constructed

Model Appearance - EIFS is completed



Façade 4D Model- GFRC



Color Legend

Green- GFRC is being constructed

Model Appearance- GFRC is completed



APPENDIX C: PROPRERY WINDOWS

Windows from RAM Structures

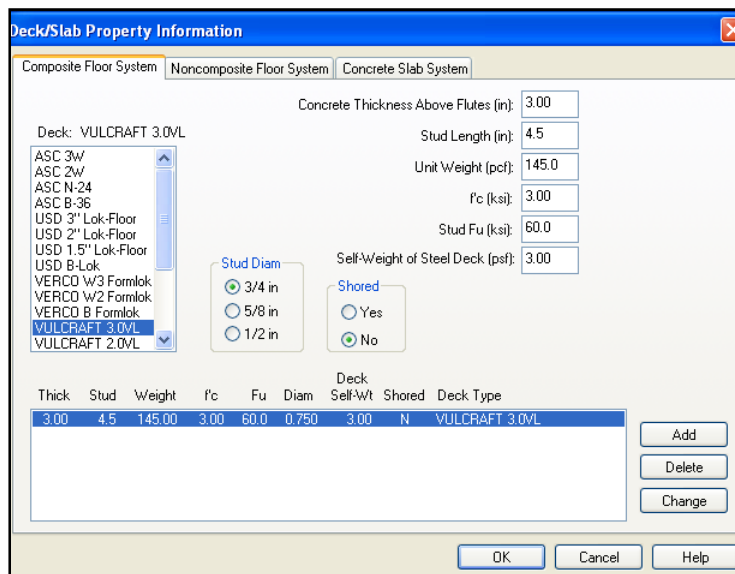


Figure 29. Deck/Slab Property Information from RAM Structures

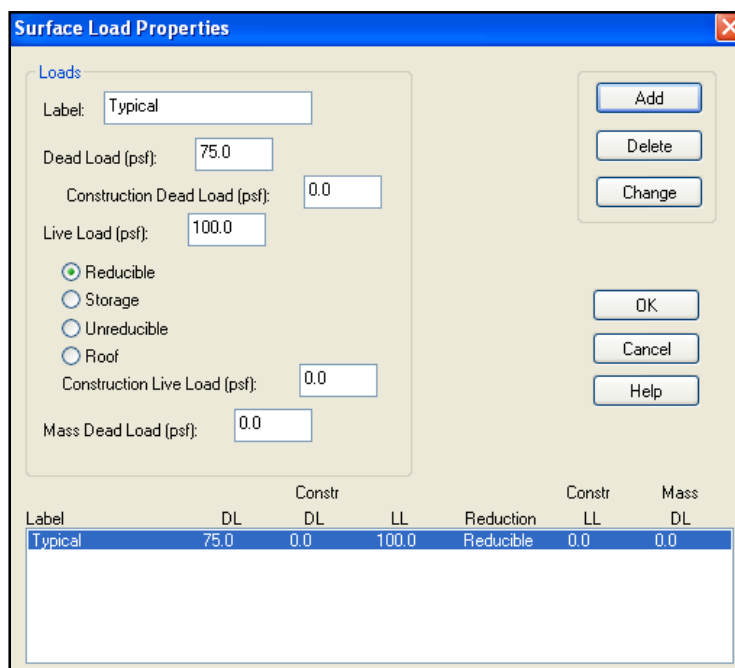


Figure 30. Surface Load Properties from RAM Structures



APPENDIX D: MATERIAL QUANTITY TAKEOFFS

Table 21: Precast Plank System Takeoff

| Precast Concrete Hollow Core Planks Takeoff | | |
|--|-------|----------|
| Item | Units | Quantity |
| 8" Hollow Planks | sf | 7252 |
| 2" Concrete Topping | sf | 7252 |
| 6"x 6" W1.4 x W1.4 W.W.F | sf | 7252 |

Table 22: Structural Steel Takeoff

| Structural Steel Takeoff | | | |
|---------------------------------|----------|----------------|-----------------|
| Member Size | Quantity | At Length (LF) | Tot Length (LF) |
| W8x10 | 7 | 17 | 119 |
| W8x10 | 7 | 15 | 105 |
| W8x10 | 7 | 13 | 91 |
| W8x10 | 7 | 12 | 84 |
| W8x10 | 7 | 10 | 70 |
| Total Beam Length (LF)= | | | 469 |

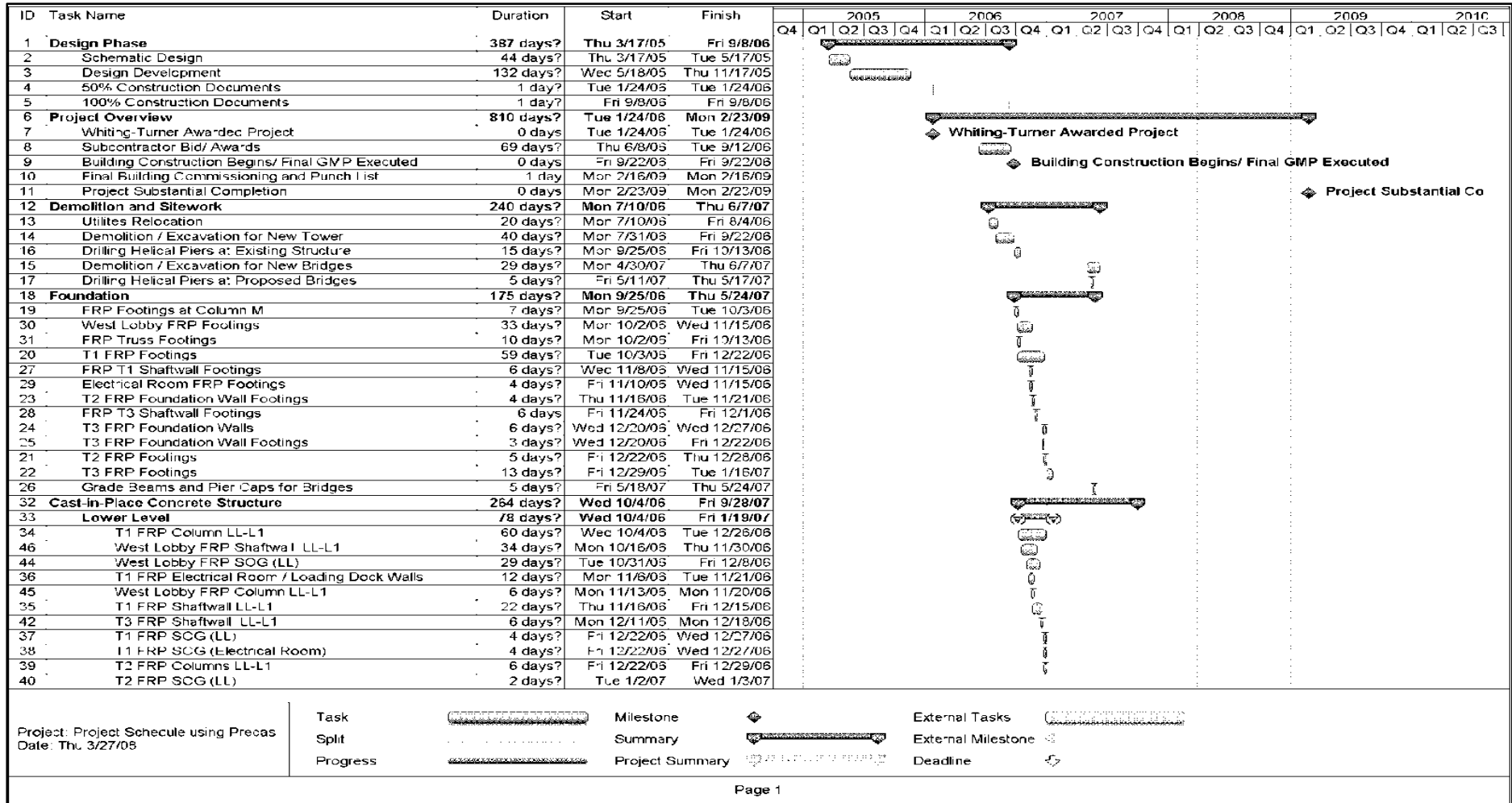
Table 23: Composite Slab System Takeoff

| Composite Slab Takeoff | | |
|-------------------------------|-------|----------|
| Item | Units | Quantity |
| 6" Concrete Slab | sf | 7252 |
| 6"x 6" W1.4 x W1.4 W.W.F | sf | 7252 |
| 3" 20 Gauge Metal Decking | sf | 7252 |



APPENDIX E: STRUCTURAL SYSTEMS SCHEDULES

Composite Slab Structural Schedule



Baltimore Washington Medical Center

Women's Center and Inpatient Tower

Glen Burnie, MD



Megan Wortman | Construction Management | Consultant: John Messner

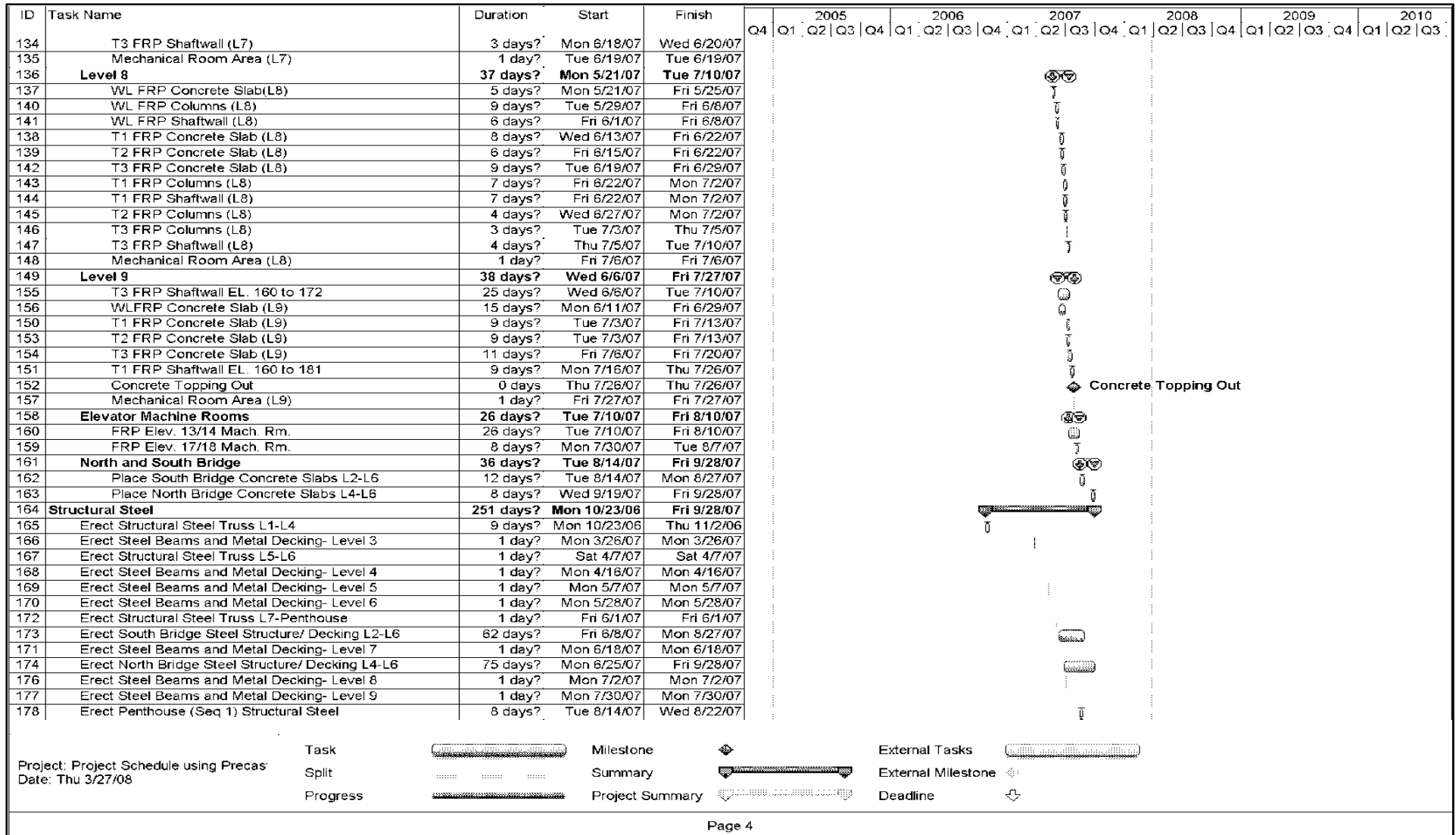
| ID | Task Name | Duration | Start | Finish | 2005 | | | | 2006 | | | | 2007 | | | | 2008 | | | | 2009 | | | | 2010 | | | |
|-----|---------------------------|-----------------|--------------------|--------------------|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|----|
| | | | | | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 |
| 87 | WL FRP Columns (L4) | 2 days? | Fri 3/30/07 | Mon 4/2/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 88 | WL FRP Shaftwall (L4) | 4 days? | Mon 4/2/07 | Thu 4/5/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 89 | T1 FRP Columns (L4) | 5 days? | Mon 4/2/07 | Fri 4/6/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 90 | T1 FRP Shaftwall (L4) | 7 days? | Mon 4/2/07 | Mon 4/9/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 93 | T2 FRP Columns (L4) | 3 days? | Fri 4/6/07 | Mon 4/9/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 94 | T3 FRP Columns (L4) | 8 days? | Wed 4/11/07 | Fri 4/20/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 95 | T3 FRP Shaftwall (L4) | 7 days? | Fri 4/13/07 | Mon 4/23/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 96 | Mechanical Room Area (L4) | 1 day? | Tue 4/17/07 | Tue 4/17/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 97 | Level 5 | 22 days? | Mon 4/9/07 | Tue 5/8/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 98 | WL FRP Concrete Slab(L5) | 5 days? | Mon 4/9/07 | Fri 4/13/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 99 | T1 FRP Concrete Slab (L5) | 8 days? | Tue 4/10/07 | Thu 4/19/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 100 | T2 FRP Concrete Slab (L5) | 10 days? | Wed 4/11/07 | Tue 4/24/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 101 | WL FRP Columns (L5) | 5 days? | Mon 4/16/07 | Fri 4/20/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 102 | WL FRP Shaftwall (L5) | 5 days? | Mon 4/16/07 | Fri 4/20/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 103 | T3 FRP Concrete Slab (L5) | 10 days? | Wed 4/18/07 | Tue 5/1/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 104 | T1 FRP Columns (L5) | 3 days? | Mon 4/23/07 | Wed 4/25/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 105 | T1 FRP Shaftwall (L5) | 3 days? | Mon 4/23/07 | Wed 4/25/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 106 | T2 FRP Columns (L5) | 3 days? | Wed 5/2/07 | Fri 5/4/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 107 | T3 FRP Columns (L5) | 4 days? | Wed 5/2/07 | Mon 5/7/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 108 | T3 FRP Shaftwall (L5) | 3 days? | Thu 5/3/07 | Mon 5/7/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 109 | Mechanical Room Area (L5) | 1 day? | Tue 5/8/07 | Tue 5/8/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 110 | Level 6 | 29 days? | Mon 4/23/07 | Thu 5/31/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 111 | WL FRP Concrete Slab(L6) | 6 days? | Mon 4/23/07 | Mon 4/30/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 112 | T1 FRP Concrete Slab (L6) | 8 days? | Tue 5/1/07 | Thu 5/10/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 114 | WL FRP Columns (L6) | 4 days? | Tue 5/1/07 | Fri 5/4/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 115 | WL FRP Shaftwall (L6) | 4 days? | Tue 5/1/07 | Fri 5/4/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 113 | T2 FRP Concrete Slab (L6) | 9 days? | Thu 5/3/07 | Tue 5/15/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 116 | T3 FRP Concrete Slab (L6) | 9 days? | Wed 5/9/07 | Mon 5/21/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 117 | T1 FRP Columns (L6) | 5 days? | Mon 5/14/07 | Fri 5/18/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 118 | T1 FRP Shaftwall (L6) | 5 days? | Mon 5/14/07 | Fri 5/18/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 119 | T2 FRP Columns (L6) | 2 days? | Fri 5/18/07 | Mon 5/21/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 120 | T3 FRP Columns (L6) | 7 days? | Tue 5/22/07 | Wed 5/30/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 121 | T3 FRP Shaftwall (L6) | 8 days? | Tue 5/22/07 | Thu 5/31/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 122 | Mechanical Room Area (L6) | 1 day? | Mon 5/28/07 | Mon 5/28/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 123 | Level 7 | 34 days? | Mon 5/7/07 | Thu 6/21/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 124 | WL FRP Concrete Slab(L7) | 5 days? | Mon 5/7/07 | Fri 5/11/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 127 | WL FRP Columns (L7) | 2 days? | Mon 5/14/07 | Tue 5/15/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 128 | WL FRP Shaftwall (L7) | 5 days? | Mon 5/14/07 | Fri 5/18/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 125 | T1 FRP Concrete Slab (L7) | 11 days? | Mon 5/21/07 | Mon 6/4/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 126 | T2 FRP Concrete Slab (L7) | 10 days? | Tue 5/22/07 | Mon 6/4/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 129 | T3 FRP Concrete Slab (L7) | 11 days? | Tue 5/29/07 | Tue 6/12/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 130 | T1 FRP Columns (L7) | 1 day? | Mon 6/11/07 | Mon 6/11/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 131 | T1 FRP Shaftwall (L7) | 2 days? | Mon 6/11/07 | Tue 6/12/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 132 | T2 FRP Columns (L7) | 1 day? | Mon 6/11/07 | Mon 6/11/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 133 | T3 FRP Columns (L7) | 4 days? | Mon 6/18/07 | Thu 6/21/07 | | | | | | | | | | | | | | | | | | | | | | | | |

Project: Project Schedule using Precast
Date: Thu 3/27/08

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

Baltimore Washington Medical Center Women's Center and Inpatient Tower Glen Burnie, MD

Megan Wortman | Construction Management | Consultant: John Messner



Baltimore Washington Medical Center
 Women's Center and Inpatient Tower
 Glen Burnie, MD








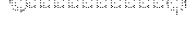



Megan Wortman | Construction Management | Consultant: John Messner

| ID | Task Name | Duration | Start | Finish | 2005 | | | | 2006 | | | | 2007 | | | | 2008 | | | | 2009 | | | | 2010 | | | | | | |
|-----|--|-----------------|--------------------|--------------------|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|----|----|--|--|
| | | | | | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | | |
| 175 | Erect WL Roof/Skylight Structural Framing (L4) | 15 days? | Mon 8/20/07 | Thu 9/6/07 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 179 | Erect Penthouse (Seq 2) Structural Steel | 8 days? | Thu 8/23/07 | Fri 8/31/07 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 180 | Erect Penthouse (Seq 3) Structural Steel | 9 days? | Fri 8/31/07 | Wed 9/12/07 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 181 | Precast Hollowcore Planks/ Concrete Topping | 59 days? | Fri 6/15/07 | Wed 8/29/07 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 182 | Set Precast Planks/ Concrete Topping L3 | 2 days? | Fri 6/15/07 | Mon 6/18/07 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 183 | Set Precast Planks/ Concrete Topping L4 | 2 days? | Fri 6/22/07 | Mon 6/25/07 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 184 | Set Precast Planks/ Concrete Topping L5 | 2 days? | Sat 7/28/07 | Mon 7/30/07 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 185 | Set Precast Planks/ Concrete Topping L6 | 2 days? | Sat 8/4/07 | Mon 8/6/07 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 186 | Set Precast Planks/ Concrete Topping L7 | 2 days? | Sat 8/11/07 | Mon 8/13/07 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 187 | Set Precast Planks/ Concrete Topping L8 | 2 days? | Sat 8/18/07 | Mon 8/20/07 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 188 | Set Precast Planks/ Concrete Topping L9 | 4 days? | Sat 8/25/07 | Wed 8/29/07 | | | | | | | | | | | | | | | | | | | | | | | | | | | |



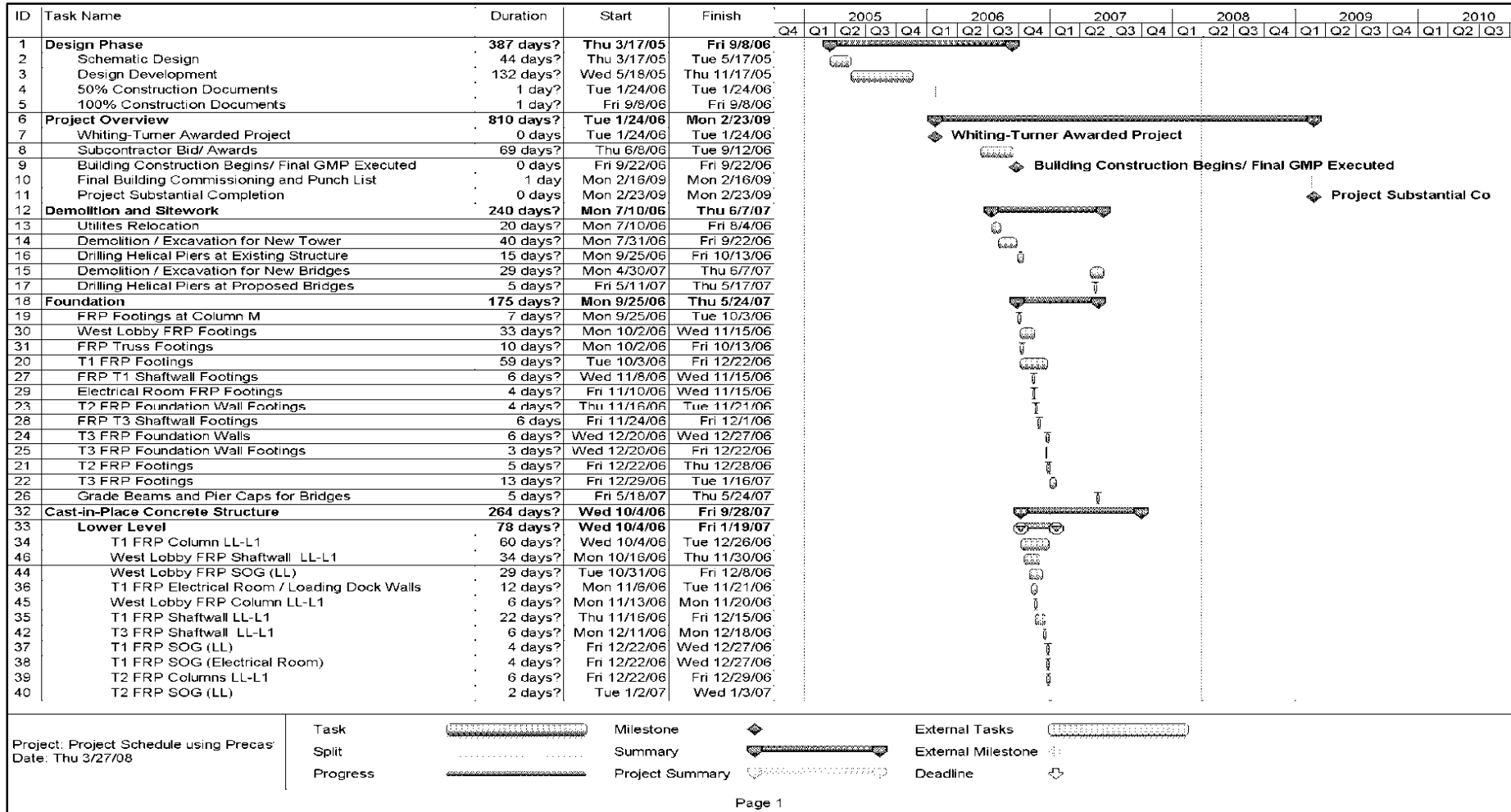
Project: Project Schedule using Precast
 Date: Thu 3/27/08

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

Page 5



Precast Planks Structural Schedule





| ID | Task Name | Duration | Start | Finish | Q4 | 2005 | | | | 2006 | | | | 2007 | | | | 2008 | | | | 2009 | | | | 2010 | | |
|----|---------------------------|-----------------|--------------------|--------------------|----|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|
| | | | | | | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 |
| 41 | T3 FRP Column LL-L1 | 12 days? | Tue 1/2/07 | Wed 1/17/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 43 | T3 FRP SOG (LL) | 13 days? | Wed 1/3/07 | Fri 1/19/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 47 | Level 1 | 48 days? | Wed 12/6/06 | Fri 2/9/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 56 | WL FRP Concrete Slab(L1) | 11 days? | Wed 12/6/06 | Wed 12/20/06 | | | | | | | | | | | | | | | | | | | | | | | | |
| 48 | T1 FRP Concrete Slab (L1) | 11 days? | Fri 12/29/06 | Fri 1/12/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 57 | WL FRP Columns (L1) | 3 days? | Wed 1/10/07 | Fri 1/12/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 58 | WL FRP Shaftwall (L1) | 7 days? | Wed 1/10/07 | Thu 1/18/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 49 | T1 FRP Columns (L1) | 11 days? | Fri 1/12/07 | Fri 1/26/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 | T1 FRP Shaftwall (L1) | 11 days? | Fri 1/12/07 | Fri 1/26/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 51 | T2 FRP Concrete Slab (L1) | 7 days? | Fri 1/12/07 | Mon 1/22/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 53 | T3 FRP Concrete Slab (L1) | 13 days? | Fri 1/12/07 | Tue 1/30/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 52 | T2 FRP Columns (L1) | 2 days? | Mon 1/29/07 | Tue 1/30/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 54 | T3 FRP Columns (L1) | 6 days? | Fri 2/2/07 | Fri 2/9/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 55 | T3 FRP Shaftwall (L1) | 6 days? | Fri 2/2/07 | Fri 2/9/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 59 | Level 2 | 54 days? | Wed 1/3/07 | Mon 3/19/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 61 | T1 FRP Concrete Slab (L2) | 29 days? | Wed 1/3/07 | Mon 2/12/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 60 | WL FRP Concrete Slab(L2) | 11 days? | Fri 1/12/07 | Fri 1/26/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 62 | WL FRP Columns (L2) | 10 days? | Mon 1/29/07 | Fri 2/9/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 63 | WL FRP Shaftwall (L2) | 11 days? | Mon 1/29/07 | Mon 2/12/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 66 | T2 FRP Concrete Slab (L2) | 32 days? | Fri 2/2/07 | Mon 3/19/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 67 | T3 FRP Concrete Slab (L2) | 11 days? | Fri 2/9/07 | Fri 2/23/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 64 | T1 FRP Columns (L2) | 4 days? | Mon 2/12/07 | Thu 2/15/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 65 | T1 FRP Shaftwall (L2) | 14 days? | Mon 2/12/07 | Thu 3/1/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 68 | T2 FRP Columns (L2) | 2 days? | Tue 2/20/07 | Wed 2/21/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 69 | T3 FRP Columns (L2) | 7 days? | Thu 2/22/07 | Fri 3/2/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 70 | T3 FRP Shaftwall (L2) | 6 days? | Wed 3/7/07 | Wed 3/14/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 71 | Level 3 | 33 days? | Tue 2/13/07 | Thu 3/29/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 72 | WL FRP Concrete Slab(L3) | 13 days? | Tue 2/13/07 | Thu 3/1/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 73 | T1 FRP Concrete Slab (L3) | 14 days? | Mon 2/19/07 | Thu 3/8/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 78 | T2 FRP Concrete Slab (L3) | 12 days? | Fri 2/23/07 | Mon 3/12/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 74 | WL FRP Columns (L3) | 3 days? | Mon 3/5/07 | Wed 3/7/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 75 | WL FRP Shaftwall (L3) | 9 days? | Tue 3/6/07 | Fri 3/16/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 79 | T3 FRP Concrete Slab (L3) | 9 days? | Thu 3/8/07 | Tue 3/20/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 76 | T1 FRP Columns (L3) | 2 days? | Fri 3/9/07 | Mon 3/12/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 77 | T1 FRP Shaftwall (L3) | 8 days? | Wed 3/14/07 | Fri 3/23/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 80 | T2 FRP Columns (L3) | 2 days? | Wed 3/14/07 | Thu 3/15/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 81 | T3 FRP Columns (L3) | 7 days? | Wed 3/21/07 | Thu 3/29/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 82 | T3 FRP Shaftwall (L3) | 7 days? | Wed 3/21/07 | Thu 3/29/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 83 | Mechanical Room Area (L3) | 1 day? | Tue 3/27/07 | Tue 3/27/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 84 | Level 4 | 27 days? | Mon 3/19/07 | Mon 4/23/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 86 | T1 FRP Concrete Slab (L4) | 10 days? | Mon 3/19/07 | Fri 3/30/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 85 | WL FRP Concrete Slab(L4) | 8 days? | Tue 3/20/07 | Thu 3/29/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 91 | T2 FRP Concrete Slab (L4) | 6 days? | Mon 3/26/07 | Mon 4/2/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 92 | T3 FRP Concrete Slab (L4) | 10 days? | Thu 3/29/07 | Tue 4/10/07 | | | | | | | | | | | | | | | | | | | | | | | | |

Project: Project Schedule using Precast
 Date: Thu 3/27/08

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

Baltimore Washington Medical Center

Women's Center and Inpatient Tower

Glen Burnie, MD

Megan Wortman | Construction Management | Consultant: John Messner



| ID | Task Name | Duration | Start | Finish | 2005 | | | | 2006 | | | | 2007 | | | | 2008 | | | | 2009 | | | | 2010 | | | |
|-----|---------------------------|-----------------|--------------------|--------------------|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|----|
| | | | | | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 |
| 87 | WL FRP Columns (L4) | 2 days? | Fri 3/30/07 | Mon 4/2/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 88 | WL FRP Shaftwall (L4) | 4 days? | Mon 4/2/07 | Thu 4/5/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 89 | T1 FRP Columns (L4) | 5 days? | Mon 4/2/07 | Fri 4/6/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 90 | T1 FRP Shaftwall (L4) | 7 days? | Mon 4/2/07 | Mon 4/9/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 93 | T2 FRP Columns (L4) | 3 days? | Fri 4/6/07 | Mon 4/9/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 94 | T3 FRP Columns (L4) | 8 days? | Wed 4/11/07 | Fri 4/20/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 95 | T3 FRP Shaftwall (L4) | 7 days? | Fri 4/13/07 | Mon 4/23/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 96 | Mechanical Room Area (L4) | 1 day? | Tue 4/17/07 | Tue 4/17/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 97 | Level 5 | 22 days? | Mon 4/9/07 | Tue 5/8/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 98 | WL FRP Concrete Slab(L5) | 5 days? | Mon 4/9/07 | Fri 4/13/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 99 | T1 FRP Concrete Slab (L5) | 8 days? | Tue 4/10/07 | Thu 4/19/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 100 | T2 FRP Concrete Slab (L5) | 10 days? | Wed 4/11/07 | Tue 4/24/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 101 | WL FRP Columns (L5) | 5 days? | Mon 4/16/07 | Fri 4/20/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 102 | WL FRP Shaftwall (L5) | 5 days? | Mon 4/16/07 | Fri 4/20/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 103 | T3 FRP Concrete Slab (L5) | 10 days? | Wed 4/18/07 | Tue 5/1/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 104 | T1 FRP Columns (L5) | 3 days? | Mon 4/23/07 | Wed 4/25/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 105 | T1 FRP Shaftwall (L5) | 3 days? | Mon 4/23/07 | Wed 4/25/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 106 | T2 FRP Columns (L5) | 3 days? | Wed 5/2/07 | Fri 5/4/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 107 | T3 FRP Columns (L5) | 4 days? | Wed 5/2/07 | Mon 5/7/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 108 | T3 FRP Shaftwall (L5) | 3 days? | Thu 5/3/07 | Mon 5/7/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 109 | Mechanical Room Area (L5) | 1 day? | Tue 5/8/07 | Tue 5/8/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 110 | Level 6 | 29 days? | Mon 4/23/07 | Thu 5/31/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 111 | WL FRP Concrete Slab(L6) | 6 days? | Mon 4/23/07 | Mon 4/30/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 112 | T1 FRP Concrete Slab (L6) | 8 days? | Tue 5/1/07 | Thu 5/10/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 114 | WL FRP Columns (L6) | 4 days? | Tue 5/1/07 | Fri 5/4/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 115 | WL FRP Shaftwall (L6) | 4 days? | Tue 5/1/07 | Fri 5/4/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 113 | T2 FRP Concrete Slab (L6) | 9 days? | Thu 5/3/07 | Tue 5/15/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 116 | T3 FRP Concrete Slab (L6) | 9 days? | Wed 5/9/07 | Mon 5/21/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 117 | T1 FRP Columns (L6) | 5 days? | Mon 5/14/07 | Fri 5/18/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 118 | T1 FRP Shaftwall (L6) | 5 days? | Mon 5/14/07 | Fri 5/18/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 119 | T2 FRP Columns (L6) | 2 days? | Fri 5/18/07 | Mon 5/21/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 120 | T3 FRP Columns (L6) | 7 days? | Tue 5/22/07 | Wed 5/30/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 121 | T3 FRP Shaftwall (L6) | 8 days? | Tue 5/22/07 | Thu 5/31/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 122 | Mechanical Room Area (L6) | 1 day? | Mon 5/28/07 | Mon 5/28/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 123 | Level 7 | 34 days? | Mon 5/7/07 | Thu 6/21/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 124 | WL FRP Concrete Slab(L7) | 5 days? | Mon 5/7/07 | Fri 5/11/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 127 | WL FRP Columns (L7) | 2 days? | Mon 5/14/07 | Tue 5/15/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 128 | WL FRP Shaftwall (L7) | 5 days? | Mon 5/14/07 | Fri 5/18/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 125 | T1 FRP Concrete Slab (L7) | 11 days? | Mon 5/21/07 | Mon 6/4/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 126 | T2 FRP Concrete Slab (L7) | 10 days? | Tue 5/22/07 | Mon 6/4/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 129 | T3 FRP Concrete Slab (L7) | 11 days? | Tue 5/29/07 | Tue 6/12/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 130 | T1 FRP Columns (L7) | 1 day? | Mon 6/11/07 | Mon 6/11/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 131 | T1 FRP Shaftwall (L7) | 2 days? | Mon 6/11/07 | Tue 6/12/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 132 | T2 FRP Columns (L7) | 1 day? | Mon 6/11/07 | Mon 6/11/07 | | | | | | | | | | | | | | | | | | | | | | | | |
| 133 | T3 FRP Columns (L7) | 4 days? | Mon 6/18/07 | Thu 6/21/07 | | | | | | | | | | | | | | | | | | | | | | | | |

| | | | | | | |
|--|----------|--|-----------------|--|--------------------|--|
| Project: Project Schedule using Precast Date: Thu 3/27/08 | Task | | Milestone | | External Tasks | |
| | Split | | Summary | | External Milestone | |
| | Progress | | Project Summary | | Deadline | |

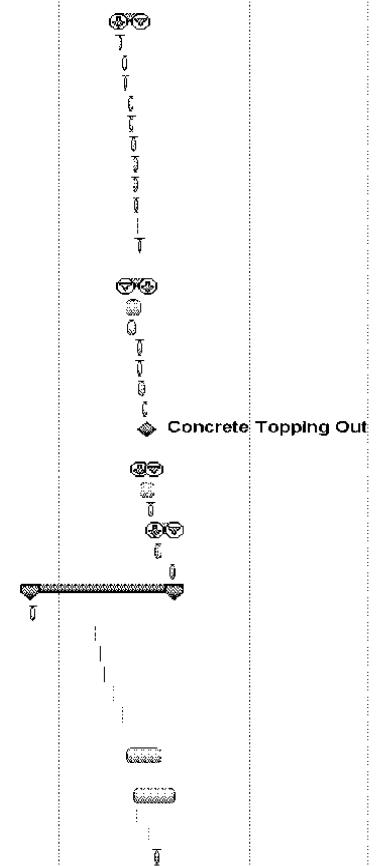
Page 3

Baltimore Washington Medical Center
 Women's Center and Inpatient Tower
 Glen Burnie, MD



Megan Wortman | Construction Management | Consultant: John Messner

| ID | Task Name | Duration | Start | Finish | 2005 | | | | 2006 | | | | 2007 | | | | 2008 | | | | 2009 | | | | 2010 | | |
|-----|---|------------------|---------------------|--------------------|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|
| | | | | | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 |
| 134 | T3 FRP Shaftwall (L7) | 3 days? | Mon 6/18/07 | Wed 6/20/07 | | | | | | | | | | | | | | | | | | | | | | | |
| 135 | Mechanical Room Area (L7) | 1 day? | Tue 6/19/07 | Tue 6/19/07 | | | | | | | | | | | | | | | | | | | | | | | |
| 136 | Level 8 | 37 days? | Mon 5/21/07 | Tue 7/10/07 | | | | | | | | | | | | | | | | | | | | | | | |
| 137 | WL FRP Concrete Slab(L8) | 5 days? | Mon 5/21/07 | Fri 5/25/07 | | | | | | | | | | | | | | | | | | | | | | | |
| 140 | WL FRP Columns (L8) | 9 days? | Tue 5/29/07 | Fri 6/8/07 | | | | | | | | | | | | | | | | | | | | | | | |
| 141 | WL FRP Shaftwall (L8) | 6 days? | Fri 6/1/07 | Fri 6/8/07 | | | | | | | | | | | | | | | | | | | | | | | |
| 138 | T1 FRP Concrete Slab (L8) | 8 days? | Wed 6/13/07 | Fri 6/22/07 | | | | | | | | | | | | | | | | | | | | | | | |
| 139 | T2 FRP Concrete Slab (L8) | 6 days? | Fri 6/15/07 | Fri 6/22/07 | | | | | | | | | | | | | | | | | | | | | | | |
| 142 | T3 FRP Concrete Slab (L8) | 9 days? | Tue 6/19/07 | Fri 6/29/07 | | | | | | | | | | | | | | | | | | | | | | | |
| 143 | T1 FRP Columns (L8) | 7 days? | Fri 6/22/07 | Mon 7/2/07 | | | | | | | | | | | | | | | | | | | | | | | |
| 144 | T1 FRP Shaftwall (L8) | 7 days? | Fri 6/22/07 | Mon 7/2/07 | | | | | | | | | | | | | | | | | | | | | | | |
| 145 | T2 FRP Columns (L8) | 4 days? | Wed 6/27/07 | Mon 7/2/07 | | | | | | | | | | | | | | | | | | | | | | | |
| 146 | T3 FRP Columns (L8) | 3 days? | Tue 7/3/07 | Thu 7/5/07 | | | | | | | | | | | | | | | | | | | | | | | |
| 147 | T3 FRP Shaftwall (L8) | 4 days? | Thu 7/5/07 | Tue 7/10/07 | | | | | | | | | | | | | | | | | | | | | | | |
| 148 | Mechanical Room Area (L8) | 1 day? | Fri 7/6/07 | Fri 7/6/07 | | | | | | | | | | | | | | | | | | | | | | | |
| 149 | Level 9 | 38 days? | Wed 6/6/07 | Fri 7/27/07 | | | | | | | | | | | | | | | | | | | | | | | |
| 155 | T3 FRP Shaftwall EL. 160 to 172 | 25 days? | Wed 6/6/07 | Tue 7/10/07 | | | | | | | | | | | | | | | | | | | | | | | |
| 156 | WLFRP Concrete Slab (L9) | 15 days? | Mon 6/11/07 | Fri 6/29/07 | | | | | | | | | | | | | | | | | | | | | | | |
| 150 | T1 FRP Concrete Slab (L9) | 9 days? | Tue 7/3/07 | Fri 7/13/07 | | | | | | | | | | | | | | | | | | | | | | | |
| 153 | T2 FRP Concrete Slab (L9) | 9 days? | Tue 7/3/07 | Fri 7/13/07 | | | | | | | | | | | | | | | | | | | | | | | |
| 154 | T3 FRP Concrete Slab (L9) | 11 days? | Fri 7/6/07 | Fri 7/20/07 | | | | | | | | | | | | | | | | | | | | | | | |
| 151 | T1 FRP Shaftwall EL. 160 to 181 | 9 days? | Mon 7/16/07 | Thu 7/26/07 | | | | | | | | | | | | | | | | | | | | | | | |
| 152 | Concrete Topping Out | 0 days | Thu 7/26/07 | Thu 7/26/07 | | | | | | | | | | | | | | | | | | | | | | | |
| 157 | Mechanical Room Area (L9) | 1 day? | Fri 7/27/07 | Fri 7/27/07 | | | | | | | | | | | | | | | | | | | | | | | |
| 158 | Elevator Machine Rooms | 26 days? | Tue 7/10/07 | Fri 8/10/07 | | | | | | | | | | | | | | | | | | | | | | | |
| 160 | FRP Elev. 13/14 Mach. Rm. | 26 days? | Tue 7/10/07 | Fri 8/10/07 | | | | | | | | | | | | | | | | | | | | | | | |
| 159 | FRP Elev. 17/18 Mach. Rm. | 8 days? | Mon 7/30/07 | Tue 8/7/07 | | | | | | | | | | | | | | | | | | | | | | | |
| 161 | North and South Bridge | 36 days? | Tue 8/14/07 | Fri 9/28/07 | | | | | | | | | | | | | | | | | | | | | | | |
| 162 | Place South Bridge Concrete Slabs L2-L6 | 12 days? | Tue 8/14/07 | Mon 8/27/07 | | | | | | | | | | | | | | | | | | | | | | | |
| 163 | Place North Bridge Concrete Slabs L4-L6 | 8 days? | Wed 9/19/07 | Fri 9/28/07 | | | | | | | | | | | | | | | | | | | | | | | |
| 164 | Structural Steel | 251 days? | Mon 10/23/06 | Fri 9/28/07 | | | | | | | | | | | | | | | | | | | | | | | |
| 165 | Erect Structural Steel Truss L1-L4 | 9 days? | Mon 10/23/06 | Thu 11/2/06 | | | | | | | | | | | | | | | | | | | | | | | |
| 166 | Erect Steel Beams and Metal Decking- Level 3 | 1 day? | Mon 3/26/07 | Mon 3/26/07 | | | | | | | | | | | | | | | | | | | | | | | |
| 167 | Erect Structural Steel Truss L5-L6 | 1 day? | Sat 4/7/07 | Sat 4/7/07 | | | | | | | | | | | | | | | | | | | | | | | |
| 168 | Erect Steel Beams and Metal Decking- Level 4 | 1 day? | Mon 4/16/07 | Mon 4/16/07 | | | | | | | | | | | | | | | | | | | | | | | |
| 169 | Erect Steel Beams and Metal Decking- Level 5 | 1 day? | Mon 5/7/07 | Mon 5/7/07 | | | | | | | | | | | | | | | | | | | | | | | |
| 170 | Erect Steel Beams and Metal Decking- Level 6 | 1 day? | Mon 5/28/07 | Mon 5/28/07 | | | | | | | | | | | | | | | | | | | | | | | |
| 172 | Erect Structural Steel Truss L7-Penthouse | 1 day? | Fri 6/1/07 | Fri 6/1/07 | | | | | | | | | | | | | | | | | | | | | | | |
| 173 | Erect South Bridge Steel Structure/ Decking L2-L6 | 62 days? | Fri 6/8/07 | Mon 8/27/07 | | | | | | | | | | | | | | | | | | | | | | | |
| 171 | Erect Steel Beams and Metal Decking- Level 7 | 1 day? | Mon 6/18/07 | Mon 6/18/07 | | | | | | | | | | | | | | | | | | | | | | | |
| 174 | Erect North Bridge Steel Structure/ Decking L4-L6 | 75 days? | Mon 6/25/07 | Fri 9/28/07 | | | | | | | | | | | | | | | | | | | | | | | |
| 176 | Erect Steel Beams and Metal Decking- Level 8 | 1 day? | Mon 7/2/07 | Mon 7/2/07 | | | | | | | | | | | | | | | | | | | | | | | |
| 177 | Erect Steel Beams and Metal Decking- Level 9 | 1 day? | Mon 7/30/07 | Mon 7/30/07 | | | | | | | | | | | | | | | | | | | | | | | |
| 178 | Erect Penthouse (Seq 1) Structural Steel | 8 days? | Tue 8/14/07 | Wed 8/22/07 | | | | | | | | | | | | | | | | | | | | | | | |



Project: Project Schedule using Precas
 Date: Thu 3/27/08

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



| ID | Task Name | Duration | Start | Finish | 2005 | | | | 2006 | | | | 2007 | | | | 2008 | | | | 2009 | | | | 2010 | | | | | | | | | | | | | | |
|-----|--|-----------------|--------------------|--------------------|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|----|------|----|----|----|--|--|--|--|--|--|--|--|--|--|--|
| | | | | | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | Q4 | Q1 | Q2 | Q3 | | | | | | | | | | | |
| 175 | Erect WL Roof/Skylight Structural Framing (L4) | 15 days? | Mon 8/20/07 | Thu 9/6/07 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 179 | Erect Penthouse (Seq 2) Structural Steel | 8 days? | Thu 8/23/07 | Fri 8/31/07 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 180 | Erect Penthouse (Seq 3) Structural Steel | 9 days? | Fri 8/31/07 | Wed 9/12/07 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 181 | Precast Hollowcore Planks/ Concrete Topping | 59 days? | Fri 6/15/07 | Wed 8/29/07 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 182 | Set Precast Planks/ Concrete Topping L3 | 2 days? | Fri 6/15/07 | Mon 6/18/07 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 183 | Set Precast Planks/ Concrete Topping L4 | 2 days? | Fri 6/22/07 | Mon 6/25/07 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 184 | Set Precast Planks/ Concrete Topping L5 | 2 days? | Sat 7/28/07 | Mon 7/30/07 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 185 | Set Precast Planks/ Concrete Topping L6 | 2 days? | Sat 8/4/07 | Mon 8/6/07 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 186 | Set Precast Planks/ Concrete Topping L7 | 2 days? | Sat 8/11/07 | Mon 8/13/07 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 187 | Set Precast Planks/ Concrete Topping L8 | 2 days? | Sat 8/18/07 | Mon 8/20/07 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 188 | Set Precast Planks/ Concrete Topping L9 | 4 days? | Sat 8/25/07 | Wed 8/29/07 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Project: Project Schedule using Precast
 Date: Thu 3/27/08

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



APPENDIX F: LIFE CYCLE COST CALCULATIONS FOR EIFS AND GFRC

Table 24: Life Cycle Cost of EIFS

| Life Cycle Cost of EIFS | | | | |
|----------------------------|----------|------|-----------|------------|
| | Quantity | Unit | Unit Cost | Total Cost |
| Initial Cost of System | 45690 | sf | 14.67 | \$670,272 |
| Description of Maintenance | | | | |
| Cleaning | 45690 | sf | \$0.30 | \$13,707 |
| Re-coat Panels | 45690 | sf | \$2.00 | \$91,380 |
| Replace Joint Sealant | 12000 | lf | \$2.50 | \$30,000 |

Table 25: Life Cycle Cost of GFRC

| Life Cycle Cost of GFRC | | | | |
|----------------------------|----------|------|-----------|-------------|
| | Quantity | Unit | Unit Cost | Total Cost |
| Initial Cost of System | 45690 | sf | 48.78 | \$2,228,758 |
| Description of Maintenance | | | | |
| Cleaning | 45690 | sf | \$0.72 | \$32,897 |
| Replace Joint Sealant | 12000 | lf | \$2.50 | \$30,000 |



APPENDIX G: FAÇADE SCHEDULE DURATIONS

Table 26: GFRC Schedule Durations Estimate

| GFRC Schedule Durations Estimate | | | | | |
|----------------------------------|----------------|------------------|---------------|--------------------|-----------------|
| Area | Façade sq. ft. | Avg. sf. / piece | # GFRC Panels | Avg. # Panels /Day | Duration (Days) |
| Tower North Face | 9427 | 150 | 63 | 15 | 4 |
| West Lobby North Face | 3328 | 150 | 22 | 15 | 1 |
| Tower East Face | 7450 | 150 | 50 | 15 | 3 |
| Tower West Face | 10860 | 150 | 72 | 15 | 5 |
| Tower South Face /South Bridge | 4725 | 150 | 32 | 15 | 2 |
| West Lobby South Face | 6490 | 150 | 43 | 15 | 3 |
| North Bridge | 3410 | 150 | 23 | 15 | 2 |
| Total Duration (Days) : | | | | | 20 |

Table 27: Façade Window Schedule Durations

| Window Schedule Durations | |
|--------------------------------|-----------------|
| Area | Duration (Days) |
| Tower North Face | 11 |
| West Lobby North Face | 1 |
| Tower East Face | 14 |
| Tower West Face | 13 |
| Tower South Face /South Bridge | 4 |
| West Lobby South Face | 2 |
| North Bridge | 6 |



Table 28: EIFS Total Schedule Durations

| EIFS Total Schedule Durations | |
|--|-----------------|
| Area | Duration (Days) |
| Metal Studs (All Faces) | 50 |
| EIFS | 65 |
| Total EIFS plus Windows | 72 |
| Extra Time for Windows L1-L8 After EIFS Finished | 7 |
| | |
| Total Duration (Days) : | 122 |

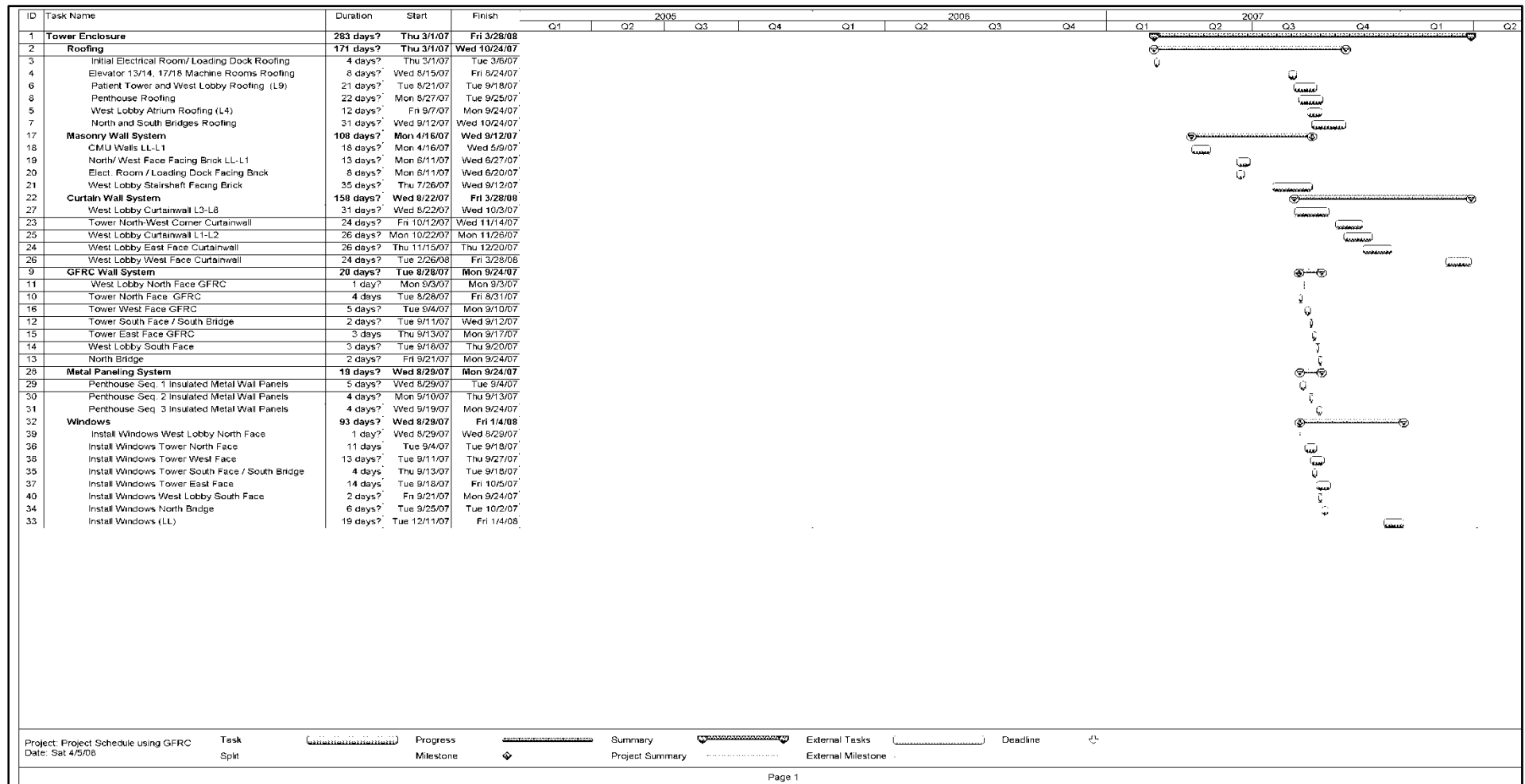
Table 29: GFRC Total Schedule Durations

| GFRC Total Schedule Durations | |
|--|-----------------|
| Area | Duration (Days) |
| GFRC | 20 |
| Total GFRC plus Windows | 29 |
| Extra Time for Windows After GFRC Finished | 9 |
| | |
| Total Duration (Days) : | 29 |



APPENDIX H: FAÇADE SYSTEMS SCHEDULES

GFRC Facade Schedule





EIFS Facade Schedule

