



Watertown City Council
Monday, November 10, 2014
7:00 p.m.

Work Session Agenda

Discussion Item:

1. Refuse and Green Waste Program
 - Eugene P. Hayes, Superintendent of Public Works
2. Citibus Operations
 - Eugene P. Hayes, Superintendent of Public Works
3. Watertown Municipal Arena Renovation – Design Update
 - Justin L. Wood, City Engineer
 - Erin E. Gardner, Superintendent of Parks and Recreation



CITY OF WATERTOWN
ENGINEERING DEPARTMENT
MEMORANDUM

DATE: November 5, 2014

TO: Sharon Addison, City Manager

FROM: Justin Wood, City Engineer

SUBJECT: Watertown Municipal Arena Renovation – Design Update

Design of the Municipal Arena Renovation Project has advanced to 66% completion, during which time many features have progressed such as the front addition façade, bleachers, player bench locations, and office arrangements. The enclosed Design Phase Completion Report from Stantec, provides a summary of the project status. The floor plans depicting the proposed layout, and renderings of interior and exterior views are also enclosed. An updated Opinion of Probable Cost (OPC) has also been completed and estimates the construction cost at \$6.24 Million. Adding soft costs for design, FFE, construction administration, commissioning of equipment, and a \$624 k (10 %) contingency, puts the estimated total cost at \$7.65 Million.

During the early stages of project development, the Arena Renovation OPC was as high as \$11 Million. Stantec and City staff, with input from City Council, worked to reduce the estimated price tag, by decreasing programming spaces and functions to the minimum necessary. At the February 10, 2014 City Council work session, the Master Plan for the Arena Renovation project was presented to Council to get concurrence and proceed with detailed design. The Master Plan OPC was \$6.2 M - \$7.0 M total cost, which was based on an RS Means square foot cost method commonly used for deriving preliminary cost estimates. This accounted for the minimum programming space requirements needed, but contained many unknowns and assumptions due to the preliminary nature of the Master Plan phase.

As plans progressed from February 2014 to now, programming modifications, code requirements and scope adjustments resulted in a slightly larger building area and additional costs. Significant cost increases above previous projections have also been realized in equipment upgrades, such as the dehumidification system, and electric service.

There are still some options on the table that Council could consider to further reduce the costs. These options include deferring work, reducing the building footprint, and miscellaneous mechanical and electrical accommodations. If we defer work, it will be more expensive to do later. If we reduce the footprint, we will lose essential programming space that has been deemed a bare minimum up to this point. The mechanical and electrical accommodations have to be explored further, but aren't likely to result in a tremendous savings. That being said, if additional cuts are necessary, we will make the necessary adjustments.

It is important to note, the current OPC does not include a new digital marquee or the pool house renovation work. The pool house renovation, which at a minimum would entail new wall and floor finishes, could be included in the base bid, or listed as an alternate if Council wishes to keep it as an option. The estimated cost of this work is \$50,000.

The project schedule is tracking for a mid December 2014 bid advertisement, and a mid January 2015 bid opening, with the goal of getting a contractor onboard in February 2015. This will allow the contractor to get submittals approved and materials ordered before the ice season ends. Once ice is out, the contractor will have the maximum number of days possible to complete an aggressive, but doable construction schedule before the fall ice season begins. Any modifications to the project will be incorporated into the final design so the Plans, Specifications, Estimate (PSE) package can be completed in the next few weeks. I would like to use this opportunity to get input from council to finalize what the Arena Renovation product will be, so that detailed design can be completed, allowing the project to be advertised for bid on schedule.

Enc.

cc: Erin Gardner, Superintendent of Parks and Recreation
Jim Mills, City Comptroller
File



City of Watertown

Phase Completion Report - DD

Municipal Arena Renovation



November 5, 2014



Stantec

DESIGN PHASE COMPLETION REPORT

Watertown Municipal Arena Renovation

Stantec Project No: 191060204

November 5, 2014

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Stantec Project No: 191060204

November 5, 2014

Executive Summary

The project design has been completed thru Design Development (approximately 66%). Programming decisions were finalized which has allowed the project to move forward at a faster pace. Major decisions accomplished included the front façade design, player bench locations, and office arrangements.

The current Opinion of Probable Cost (OPC) is ~\$650K higher than the originally intended budget. This projected increase is due to several factors including, but not limited to, programming impacts and code requirements. The design team is still working on reducing costs and intends to work with an outside contractor to validate Stantec OPC numbers. In the event there is still a gap in the budget consideration is being given to potential project alternates. The Alternates for the project being considered are as follows:

- Alternate No. 1 – new ice rink floor
- Alternate No. 2 – miscellaneous mechanical and electrical accommodations
- Alternate No. 3– reduced east addition

It must also be noted that additional items such as the Pool House Renovations, that were requested by City Council, and a digital marquee have not been addressed in the current OPC. This work will increase the financial gap if they are still desired.

The project schedule has been developed and indicates that the project is capable of being completed within the windows of the ice rink's closing and subsequent reopening. The project will be on a tight timeline and safeguards will need to be considered to ensure adherence during construction.

The City needs to consider options for administering the project during construction. Options include hiring a Construction Management Firm or a Clerk of the Works. The latter is more economical but will require a highly qualified individual to oversee the project. Stantec can provide this capability as an additional service.

The overall Quality of Stantec's design is being maintained through the Stantec Quality Management System. In maintaining compliance with ISO9001 certification, the entire package continues to be technically reviewed by each of the Engineers of Record. A team-wide "page turn" is being conducted for overall coordination purposes. Independent reviews are being executed and additional reviews will continue throughout the design process.

The overall Stantec design budget is tracking slightly below the plan. It is anticipated that the design effort will accelerate the remaining six weeks of design, thereby closing this gap.

Stantec Project No: 191060204

November 5, 2014

1.0 Project Narratives

1.1 PERIOD ACCOMPLISHMENTS

- Drawing package has been completed up thru Design Development (~66%).
- Front elevation was approved by Watertown based on three options presented
- Interior programming has been firmed up:
 - Recreation staff office locations
 - Additional Vendor location identified
 - Bleachers are now collapsible
 - Players bench is on the north side of the ice (same side as team rooms)
 - Press Box is new and located on the south side of the building
- The Opinion of Probable Cost indicates that the overall project cost is going to be approximately \$7.65M (refer to appendix). This includes all soft costs, contingencies, and profit. The original budget, proposed to City Council, was based on RS Means area-based data (\$/sqft) with a high-end projected cost of \$7M. This increase is mainly attributed, but not limited, to the following items:
 - Area increases:
 - ✓ West Addition increased slightly to align with the existing building
 - ✓ East Addition increased slightly to allow for load-bearing wall alignment (could not install beam due to existing headroom constraints)
 - ✓ Masonry dimensional impacts (not significant but in many areas)
 - ✓ ADA code accommodations (mostly bathroom and circulation space impacts)
 - ✓ Vendor space
 - Unidentified scope adjustments and/or high cost items:
 - ✓ Electric service upgrade with consolidation of two existing services
 - ✓ Fire Code requirements for glass partitions
 - ✓ Dehumidification equipment
- The Team is working to close and/or eliminate the gap in the OPC. With the design only 66% complete there is the potential the estimates will tighten up naturally as the design is progressed. However, these improvements may fall short of the \$650K budget gap. As such, there is an opportunity to introduce potential Alternates to the project. These items would be bid on individually to allow the City to accept or reject them as part of the project, thereby giving the project financial flexibility. These items may include, but are not limited to, the following:
 - Alternate No. 1- Replacing the existing ice rink floor and tubing. This would yield approximately \$650K in savings itself and would greatly reduce any risks to the ice season being affected by the project. This alternate would merely be a deferral of a project that would eventually need to be executed in the future due to the age of the floor system.
 - Alternate No. 2 – This could include a series of smaller miscellaneous items that are yet to be defined (i.e., elimination of a central energy management system,

DESIGN PHASE COMPLETION REPORT

Watertown Municipal Arena Renovation

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mechanical system alternatives, lighting alternatives, etc.). These reductions could save as much as \$100K.

- Alternate No. 3 (Design Alternate) – Defer and/or minimize the East Addition. This would yield approximately \$500K in savings. Deferment is not recommended as the project will end up costing more with having to rebid this and mobilize in the future. In lieu of deferment, from a design perspective, portions of this addition could be reduced with programming being redirected to the West Addition. This would save approximately \$65K.

As a matter of validating the existing Opinion of Probable Cost, Stantec intends to enlist the assistance of an “outside” contractor to evaluate the OPC and projected construction schedule. This will improve the accuracy and potentially provide additional insight to the current bidding environment.

- Building equipment and materials are being selected to meet the scope and OPC requirements. The Basis of Design document will be updated to reflect any adjustments to material and/or system selections.
- A draft of the construction schedule indicates that a 12/15/2014 advertisement will allow for construction to occur with limited impact to the operation of the Arena during the 2015 fall ice season (refer to the appendix). Again, Stantec intends to work with a third party to validate this schedule. Noting the criticality of having the ice available it is our intention to:
 - Develop phasing plans to safely allow access/egress to and from the facility during construction
 - Include Liquidated Damages language in the specifications to drive contractor adherence to the project schedule.

1.2 NEXT PERIOD PLANNED ACTIVITIES

- Progress the drawing package through CD
- Develop the project specifications
- Finalize the OPC with third party verification
- Finalize the list of Alternates
- Finalize the construction schedule with third party verification
- Formal Quality Control review

1.3 AREAS OF CONCERN

- Verification of the project scope versus the budget
- Validation of the proposed construction schedule
- Confirmation by the City of method for administering construction
- Items (i.e., Pool House renovation, marquee, etc.) not currently in the scope of work

1.4 OPEN ISSUES

- Decision on Construction Manager vs Clerk of the Works

DESIGN PHASE COMPLETION REPORT

Watertown Municipal Arena Renovation

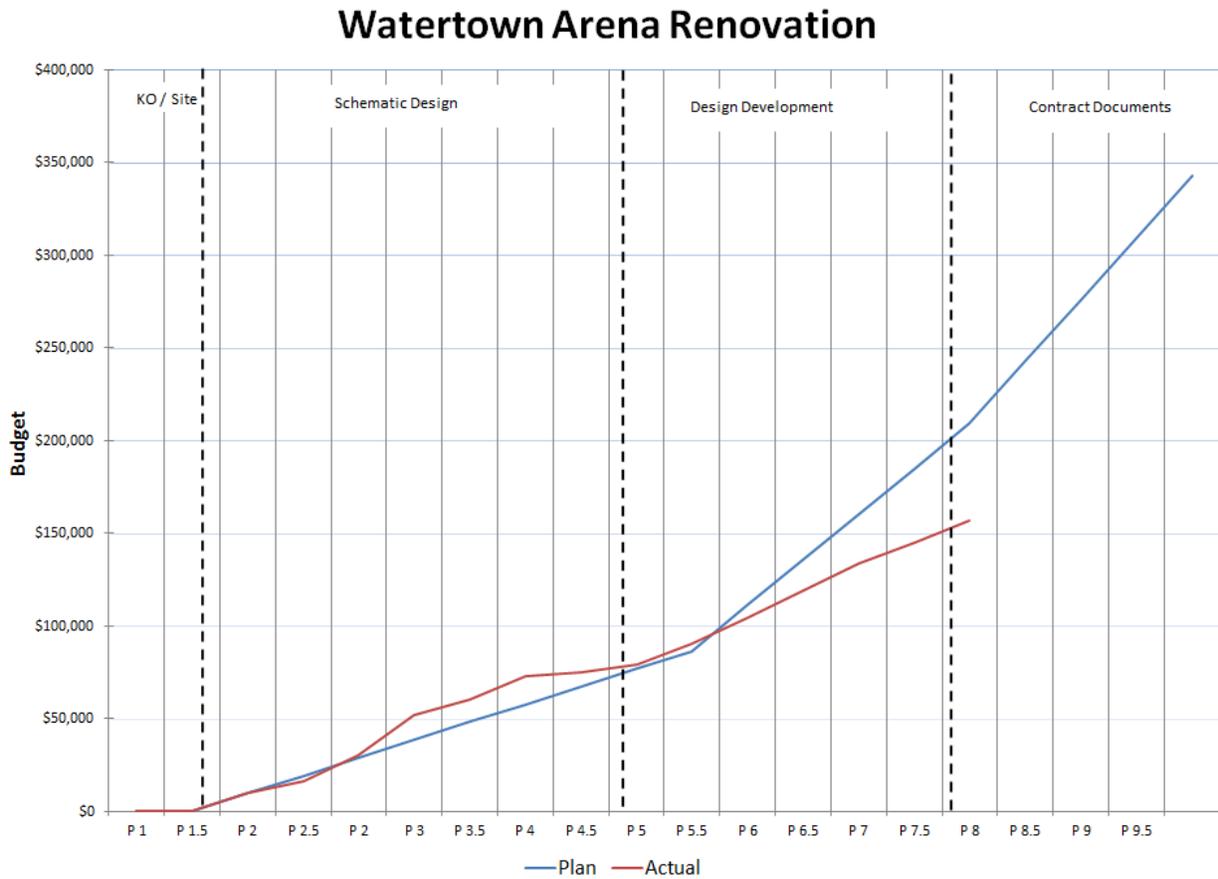
Stantec Project No: 191060204

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2.0 Commercial Summary

2.1 ENGINEERING FEE COST SUMMARY

Below is the spending curve of the project team. The project is currently tracking below the budgeted plan to date; refer to the chart below. However, much of this is due to delays in project design versus the intended schedule. It is anticipated that a major effort will be underway in November that will quickly close this gap.



All project invoices have been paid to date as indicated on the following page.

DESIGN PHASE COMPLETION REPORT

Watertown Municipal Arena Renovation

Stantec Project No: 191060204

November 5, 2014

INVOICE STATUS

| Invoice # | Invoice Date | Invoice Amount | Balance Due |
|------------------|---------------------|-----------------------|--------------------|
| 717622 | 8/26/2013 | \$20,654.27 | \$0.00 |
| 724731 | 9/20/2013 | \$14,736.29 | \$0.00 |
| 734028 | 10/18/2013 | \$18,438.29 | \$0.00 |
| 745623 | 11/29/2013 | \$8,526.08 | \$0.00 |
| 760135 | 1/24/2014 | \$4,130.00 | \$0.00 |
| 767535 | 2/21/2014 | \$27,575.20 | \$0.00 |
| 775838 | 3/21/2014 | \$5,176.42 | \$0.00 |
| 793587 | 5/16/2014 | \$36,865.22 | \$0.00 |
| 802896 | 6/20/2014 | \$35,283.14 | \$0.00 |
| 812975 | 7/25/2014 | \$8,151.00 | \$0.00 |
| 824936 | 8/29/2014 | \$18,203.50 | \$0.00 |
| 832291 | 9/26/2014 | \$23,461.12 | \$0.00 |
| 842769 | 10/24/2014 | \$37,688.00 | \$37,688.00 |

2.2 DESIGN SCHEDULE SUMMARY

The schedule lagged upon project initiation but is positioned to recover for an early December bid advertisement (tentatively 12/15/2014). Stantec resources are working diligently to meet this schedule and it is incumbent upon all team members to remain vigilant and committed to maintaining the schedule.

2.3 DESIGN QUALITY CONTROL

Stantec's Quality Management System, which drives compliance with our ISO9001 certification, mandates that all projects have both a Technical Review and a Peer Review. All documents are entering a review phase by internal peers; reviews will be documented.

3.0 Miscellaneous Activities & Approaches

The project will need to be bid to multiple prime contractors, by trade, in order to accommodate Wick's Law requirements. As such, the project will need to have a party in place during construction to control and coordinate the multiple contractors. The use of a Construction Management firm is one method to achieve this. The use of a Clerk of the Works is another approach to consider. The City needs to identify what method they are comfortable with and make plans to get the appropriate party in place. Currently the OPC is carrying a \$50K place holder for a Clerk. Stantec has the ability to provide these services and may provide a proposal for this additional effort.

4.0 Appendix

- Opinion of Probable Cost
- Schedule



PROJECT NAME: **Watertown Municipal Ice Arena**

Sub-Project Title:

STANTEC PROJECT NUMBER: **191060204**

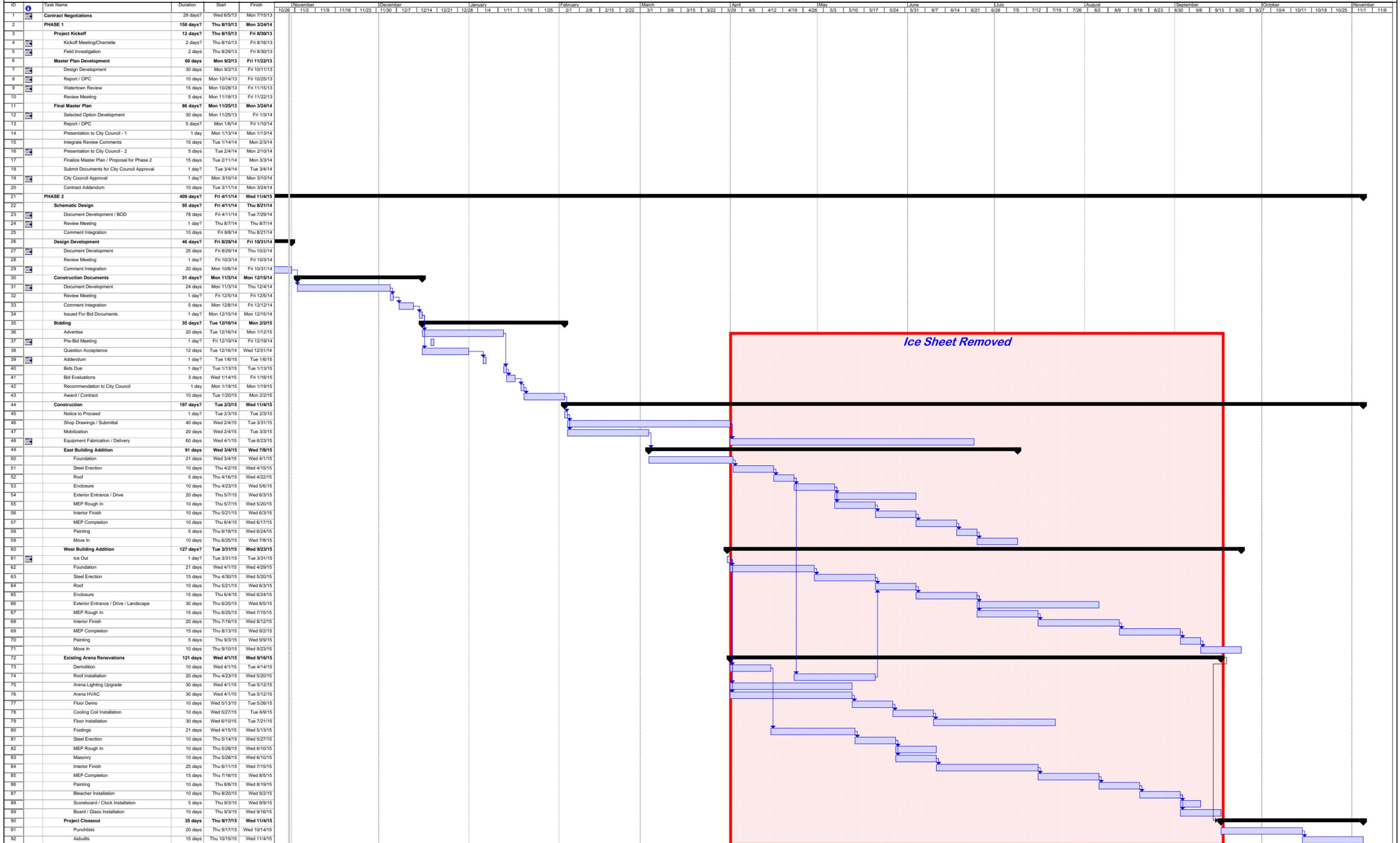
Revision: **Design Development v1**

CLIENT CONTACT: **Justin Wood**

Issue Date: **9/12/2014**

| SUBCONTRACTS | | Incl 90% Labor Rate | | O&P | | |
|---------------------------------------|-------------|---------------------|-------------|--------------------------|-----------|--------------------|
| SUBCONTRACT | MATERIAL | LABOR | TOTAL | % | MARK-UP | TOTAL |
| Architectural | \$1,363,557 | \$1,120,834 | \$2,484,391 | 10% | \$248,439 | \$2,732,830 |
| Structural | \$303,300 | \$263,677 | \$566,977 | 10% | \$56,698 | \$623,675 |
| Civil | \$82,150 | \$54,837 | \$136,987 | 10% | \$13,699 | \$150,686 |
| Mechanical | \$607,734 | \$204,909 | \$812,643 | 10% | \$81,264 | \$893,908 |
| Electrical | \$295,399 | \$189,525 | \$484,924 | 10% | \$48,492 | \$533,416 |
| Plumbing | \$277,659 | \$110,666 | \$388,324 | 10% | \$38,832 | \$427,157 |
| Ice Systems | \$480,500 | \$319,532 | \$800,032 | 10% | \$80,003 | \$880,035 |
| | | | \$0 | 0% | \$0 | \$0 |
| | | | \$0 | 0% | \$0 | \$0 |
| | | | \$0 | 0% | \$0 | \$0 |
| DIRECT COST | | | | | | \$6,241,705 |
| | | | | | | |
| SOFT COSTS | | | | % of Direct Costs | | Amount |
| A/E Services | | | | 8% | | \$510,403 |
| 10% Contingency | | | | 10% | | \$624,171 |
| 3% FF&E | | | | 3% | | \$187,251.15 |
| Clerk of the Works | | | | | | \$50,000 |
| Commissioning | | | | 0.5% | | \$31,209 |
| SOFT COST | | | | | | \$1,403,033 |
| TOTAL Opinion of Probable Cost | | | | | | \$7,644,738 |

**City of Watertown
Municipal Arena Renovation**



Ice Sheet Removed



Watertown Municipal Arena



Watertown Municipal Arena



Watertown Municipal Arena