

**David Ormiston**

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**From:** Jay White <jaywhitevt@gmail.com>  
**Sent:** Friday, August 19, 2016 11:12 AM  
**To:** David Ormiston  
**Cc:** Jeff Goodrich; Daniel.Dupras@esvllc.com; claus.bartenstein@esvllc.com; patrick@uplandconstruction.com  
**Subject:** Documents for August 24 Meeting with Selectboard.  
**Attachments:** Complete set of Aug 24 presentation documents.pdf

Hi, Dave,

Please review the attached documents and call me if clarification is necessary.

**COST ANALYSIS:** The first and key document in the attachments related to cost is the **8 19 16 Summary of Norwich Police and Fire Project Costs and Options**. The top part in orange indicates the estimate of the Basic Design Option cost without Net Zero or Requested Options upgrades.

The building cost comes in at \$786,470 which calculates to an efficient and low \$133/sf. But the site development costs are estimated to come in at about \$395,339, which is nearly a third of the project. Although the building cost per square foot is a little less than our project in Royalton, the site costs are much higher, primarily because we were building on the footprint of a former building and we already had parking and a driveway, but at Norwich we are building roads and parking for 41 cars, while also bringing in a new 4" water line for the sprinkler system and a separate 6" water line for a fire hydrant by the Senior Housing that Jeff Goodrich tells me is required by the Fire District, and a new electrical service to use the energy efficient Air Exchange Heat Pump System.

If we reduce the program to have 30 parking spaces instead of 41, we save about \$105,000. This is because we avoid ANR permitting and can use normal paving instead of pervious paving. Since there are only 10 parking spaces now and we are not dramatically increasing staff, we may find that 3 times the existing parking is sufficient. If not, the additional 11 parking spaces could be built later at much less cost in the same location shown on Site Plan C1.

The green shaded area of the **8 19 16 Summary of Norwich Police and Fire Project Costs and Options** indicated the projected cost of each item getting closer to a Net Zero Building. The recommended options add about \$87,080 (just over 10%) to the building cost. Site costs do not change.

The solid yellow shaded area, indicates the projected cost of the list of Options in the RFP. Two of those are not recommend and the chart says why.

The darker shaded area at the very bottom indicates costs for various options.

My recommended project with the parking reduced to 30 parking spaces as shown on Sheet C1 Alt. is estimated to cost **\$1,345,009** and is marked near the bottom of the Summary Spread Sheet. This recommendation includes all of the recommended Net Zero upgrades as well as the recommended RFP Options, plus two others that are needed, plus normal A/E fees and permitting costs. The lowest cost project would be **\$1,168,207** with none of the Net Zero Options or RFP Options. And there are options in between, with each item's estimated cost to add or subtract in the spread sheet.

The highest cost option is the same as the recommended option but adds \$105,000 more to get the 11 extra parking spaces, but still does not include an additional reservoir under the underground base material Pathways Consulting specified. I don't think a reservoir will be necessary, even with the 41 parking spaces project shown on Sheet C1 and certainly NOT necessary with the 30 parking spaces project recommended shown on Sheet C1Alt. If an underground

water storage layer is necessary, it will add about \$37,000 more. Jeff will be at the meeting to answer questions about the site and civil engineering proposed on the attached drawings, C2 and C3.

**COMBINED DRAWINGS:** Also attached are a full set of new drawings, that mainly add the civil engineering design that Pathways had to do before they could estimate its cost. We also raised the height of the building by 12" so we have more room between the ceiling and the attic floor for all of the piping required to get in more plumbing and a sprinkler system that we did not have in the Royalton project. All of these changes are factored into the cost estimates. None of them change the agreed program.

**BASIS OF DESIGN:** This is where you will find a description of what our estimates are based on. Those from Engineering Services of Vermont list the Basis of Design for the Base Building in the first part, and the Basis of Design for the Net Zero upgrade in the second part. The Outline Specifications and Basis of Design from me indicate what is in the building.

**DETAILED COST ESTIMATES UPLAND CONSTRUCTION** has two separate estimates: One for the Base Building and one for a Net Zero Building. The added cost for each item to get toward Net Zero are listed on the Summary spread sheet.

PATHWAYS CONSULTING, prepared two spreads sheet, but I am only including the one in this attachment (with the reservoir); the other is essentially the same, but omits the reservoir. They are both based on the full program of 41 parking spaces, which therefore require expensive paving (nearly double) and underground containment system. It is unknown of the Reservoir, which adds an additional 18" of base below their normal 24" of base material would be needed, but I'm guessing not because Pathways has confirmed that we have well drained soil, which is a good thing. But Jeff did work with me to get to a savings achieved by doing normal paving without an expensive ANR analysis and underground drainage work if we can live with 11 less parking spaces now, or build them as a separate project later if they are really necessary. Although the Pathways estimate includes a 20% contingency, I have reduced it in my analysis to a normal 15% contingency consistent with schematic design, which I think is safe given the amount of design and calculations that were done prior to the estimate.

**WHOLE BUILDING MODELING** You were very helpful in tracking down yesterday what Dan Dupras needs to finish the modeling, which he can do in time for our meeting, but not today. Without his explanation of conclusions and recommendations that can only be done when he analyses the capacity of your existing solar array system, the modeling attached here may not be clear to those not familiar with how to read the results and make meaningful recommendations from them. Dan will be at the meeting on August 24 to explain the results and his conclusions.

I have combined all of the documents into one file in the order I think makes the most sense and therefore can be printed with a single "print" click. The drawings are formatted to print at 11x17. There are 54 pages in the attachment.

Our whole team is planning to be there to answer whatever questions we can; please confirm a time when we should arrive on August 24.

Thanks.

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