

The Township of Mendham

Emergency Services Building

A Post-Construction Analysis &
Recommendations for Future Projects

Lessons Learned Committee

2012



MENDHAM TOWNSHIP - LESSONS LEARNED COMMITTEE

Emergency Services Building (ESB) Report

We, the undersigned members of this committee, affirm that the following report was prepared impartially, independently and without any outside influence. We believe to the best of our knowledge that the findings of fact and the statements herein are accurate and objective. The conclusions and recommendations we make are solely our professional opinions based upon this Committee's collective experience and the information we gathered and analyzed.

<u>Name</u>	<u>Date</u>
• Gene Messina – Chair	<i>Eugene P. Messina</i> 5/10/12
• Jordan Orlins – Vice Chair	<i>Jordan Orlins</i> 5/9/2012
• Sam Barsa	<i>Sam Barsa</i> 5/10/2012
• Tony Giuriceo, Esq.	<i>Tony Giuriceo</i> 5/10/2012
• Scott Ranger	<i>Scott Ranger</i> 5/9/2012
• Michael Shatken, AIA	<i>M. Shatken</i> 5/10/2012
• Frank Vigilante	<i>Frank Vigilante</i> 5/10/2012

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MENDHAM TOWNSHIP - LESSONS LEARNED COMMITTEE

Emergency Services Building – Project Evaluation

May 13th, 2012

EXECUTIVE SUMMARY

Overview

At the behest of the Township Committee, a Lessons Learned Committee (LLC) was formed in June 2011 to better analyze how the Emergency Services Building (ESB) project became so costly and delayed.

The Committee's main purpose was three-fold:

1. Understand what happened and why
2. Determine more precisely the total costs of the project versus estimate
3. Develop a set of recommendations as a guideline to help avoid similar recurrences in the future

The Committee started meeting in early July 2011. Frank Cioppettini was the Committee's Township liaison. The Committee met twice per month, and individually for countless hours, right up to the conclusion of this report. Members of the Committee brought expertise in design, construction, project management, finance and contracts to the task at hand. As a group, we are unanimous in our understanding of the facts and the Committee recommendations incorporated herein.

As the Committee conducted its research we found ourselves questioning many actions, decisions and events that influenced the project's ultimate outcome. To pursue all these avenues of inquiry would have taken far too much time, with little guarantee of meaningful contribution to the purpose at hand. Therefore as a committee, the decision was made to concentrate strictly on the events that led directly to the actual construction of the ESB. This report will not discuss the planning or political decisions which resulted in building a new, stand-alone ESB. Nor will this report deal with the decision to site the building where it stands today. We acknowledge and understand the community concerns that arose around these issues during the course of the project. However in our opinion, and for purposes of this report, these issues are best addressed by township officials.

Furthermore, this committee chose to accept, without further discussion, the inevitable difficulties the township faced in engaging the bonding company (surety) to complete the project. Undoubtedly hindsight would likely suggest alternative and possibly more prudent courses of action in dealing with a surety (a bonding company that guarantees contractor performance and payment). And yes, it was a very costly and time consuming undertaking, as the resultant legal fees will attest. To delve through all the documents, conduct interviews and provide informed opinions would detract from the LLC's core mission--which is to help the township avoid needing to engage a surety in the first place.

Finally and perhaps the most important point of all, the committee concludes that despite the myriad problems and cost overruns, both well-known and obscure, the township has a fully functioning ESB that should serve the community for decades to come. While some operational and quality issues linger, the building functions as intended. We cannot underestimate the value provided to all Mendham Township residents by the dedicated

volunteers of the Fire Department and First Aid Squad. These vital service providers deserve proper quarters and in the final analysis the township delivered a building which generally meets their critical needs, but at a much higher cost than necessary.

Background

In mid-1990 the Township began considering the replacement of the aging Brookside ESB. A Building Facilities Committee was appointed in 1996 by then Mayor Robert Pierson to assess the current inventory and usage of township buildings and then project space needs for the next decade. The committee's draft report found that increases in the size of fire trucks, lack of storage space for equipment, as well as growing space requirements for the First Aid Squad rendered the current structure inadequate. Many options were considered including creating a shared municipal complex, relocating the structure, or expanding the existing structure. By late 2004, acknowledging the occasional flooding of the existing site, the Township Committee decided to build a new facility in a different location on the same property.

Groundbreaking on the new ESB began in December 2006 although some site preparations were done as early as 2005. The ESB was finally placed in service in March 2010. A project that was expected to take slightly more than a year dragged out over three years. Total project costs escalated to almost five million dollars, an increase of roughly 50% from initial estimates as problems and delays mounted. Legal fees grew as the township called the general contractor's bonding company to remedy their insured's inability to perform. Some lingering building problems remain, even to this day.

Although the project should have been a proud achievement for the township and the emergency services providers it was marred by controversy. **In the Committee's opinion, the controversies related to the construction of the ESB could have been mostly avoided or minimized with more comprehensive and skilled project management.** Additionally the end users, mainly the fire department, took a large and relatively unfettered role in the project, essentially becoming the client, when in fact the Township was the client. Township committee members with links to the fire department made determinations as to project viability and later on represented the fire department as the project progressed. Information flow and representation by the fire department was chaotic at best, with large groups of individuals attending and participating in project meetings. And throughout this, it appears to this Committee that the Town Committee did little to provide a system of check and balances, ensuring that taxpayer funds would be spent wisely and efficiently.

Overview of Findings

The Committee focused its efforts on four key areas of inquiry:

1. Budget and Cost
2. Architectural Programming and Design
3. Bidding and Contracts
4. Construction Management

Committee members reviewed township records and project files, interviewed key participants and researched industry resources for relevant standards. Despite fading memories on important details and with many key documents unfortunately missing, the committee was able to piece together a broad picture of what occurred and why.

The committee has no intention to single out or disparage the performance of any person, persons or companies. Rather the committee is “calling it the way we see it,” with the hope that the community can learn from these events. To that end, we have incorporated key points and recommendations in each area as guidance for future capital projects.

In summary, the committee found the following major problems to be the primary causes of the less than favorable project outcome. These problems and others are discussed in more detail throughout the report which follows:

Problem	Recommendations
<p>1. <u>Leadership</u> <i>From the outset, township leadership on the ESB project was fragmented and haphazard. Contractors did not know who was in charge and complained about dealing with an unwieldy “Medusa’s head” of “multiple owners.”</i></p>	<ul style="list-style-type: none"> • For future capital projects; establish and staff a capital project team (or “CPT”) as early as possible in the planning stage. This team will become the “Client” • The town administrator should be the capital project team leader (or “CPTL”) with support from the township CFO and a fully committed township committee member. The team should also include at least one volunteer community expert (e.g. an architect or builder) and a single fully committed representative from each end user group(s). A single spokesperson (chair) would then be selected from the team. • If inexperienced in capital projects, the town administrator should get some form of project management education. This Committee has been informed there are short courses on municipal construction available that would be of tremendous value • End users must channel their input/suggestions to the CPT and NOT attempt to communicate with the architects, contractors, or other outside project participants. • In general, only members of the capital project team will attend regular construction meetings with contractors.

2. Scope & Budget

The township lacked a disciplined facility requirements and budget development process. From inception the project lacked scope definition and so was developed by trial and error. This is the most expensive, time consuming and ineffective way to define a project. Subsequently, it was very difficult to manage trade-offs and costs at all stages of the project.

- The capital project team should establish a well-developed project budget well before the ordinance approval stage (this step necessarily includes the development of a critical requirements list, also known as an architectural Program, for the facility)
- At a minimum, the initial budget should be based upon well-established and widely available industry tools and standards (reinforcing the need for the town manager to receive some level of project management education)
- Oversight of the budget development and subsequent iterations should be the responsibility of the capital project team leader and updated through the design, bidding and construction phases
- Significant variances from the budget are shared and discussed with the capital project team, trade-offs analyzed, and any resulting budget adjustments presented to the township committee for approval or disapproval
- Significant variances to budget or timeline should then be communicated to the broader community without delay. An open and honest dialogue will sustain community trust
- **CRITICAL NOTE:** The Township must proceed with caution and provide effective checks and balances when placing any end-users on the capital project team. Furthermore this Committee strongly recommends that no elected official represent an end-user group. Conflicts of interest in the development and approval of the ESB project undermined trust within the township committee as well as in the community. End-users are vital in the planning phase (particularly in the Programming Phase) but end-user involvement should be limited to an advisory role during the construction phase.

<p>3. <u>Contractor Selection</u></p> <p><i>The general contractor who won the ESB bidding turned out to be financially unsound and relatively inexperienced. This led directly to the most critical and costly issue of the entire project—the failed apparatus bay slab pour.</i></p>	<ul style="list-style-type: none"> • The New Jersey Division of Property Management & Construction (DPMC) list of qualified contractors is the criteria applied to public bidding. It is possible however, to review the performance of a contractor to determine if their results have remained acceptable (within DPMC criteria) on current projects. State law allows for both “Responsive” and “Responsible” selection criteria. • It is not possible to hire a construction manager “at risk” (with contractual obligations to perform on schedule and budget) under the public bidding laws for municipal work. Therefore if the project scope is large or complex enough the Township should hire an Owner’s Representative with a clear scope of services that does not conflict with or supplant the scopes of services provided by other professionals. • Enlist local expertise for the capital project team. A motivated local expert can help the project team detect and avoid trouble before it occurs and effectively deal with problems when they do surface • A single prime contract rather than multiple prime contracts is generally preferable. The benefits associated with a single prime contract are improved coordination between different trades and single source of responsibility for the entire building. Evidence of this may be found in the fact that when the decision was made to remove the slab the general contractor gave little consideration to the electrical and plumbing work installed by other prime contractors.
<p>4. <u>Construction Manager Selection</u></p> <p><i>The construction manager (CM) selected by the township did not meet their fiduciary responsibilities. On several occasions, particularly regarding the failed apparatus bay slab pour, the CM failed to coordinate activities and plan ahead for key events.</i></p>	<ul style="list-style-type: none"> • The capital project team should decide if an Owner’s Representative is truly required. The ESB was a relatively uncomplicated project. A skilled architect with contracted responsibility for Construction Administration is capable of acting as the Owner’s Representative for similar types of projects. In the case that it is advantageous to hire an Owner’s Rep, one with experience in public sector work should be engaged.

	<ul style="list-style-type: none"> • All major professional services contracts must be put to competitive bidding with no fewer than three qualifying responses (or else re-bid). • All professional services contracts must have key player clauses: get the right person for the job and no switching without approval. Reference all required consulting engineering disciplines with detailed scopes of work within the owner/architect agreement
<p>5. <u>Records Keeping</u> <i>There was no central file where all information, including original copies of contracts, was kept. Instead there were three separate sets of files – all incomplete. Documents were missing in every area including bid documents, drawings, contracts, daily reports, monthly reports and other contractor correspondence. This is inexcusable for such a large township project. As a result it was very difficult to develop a complete story about what went wrong.</i></p>	<ul style="list-style-type: none"> • Better record keeping is essential on future capital projects. We recommend the township administrator be responsible for maintaining all project files. • We also recommend the mayor “audit” project files on a regular basis. This puts the mayor on record stating that important capital project files exist and are well organized • To facilitate project management, mitigate the costs related to reproduction and to provide better access to project files, this committee recommends that a digital file sharing program be established at the start of every project. This would be a deliverable required of the project architect. An example of this would be Newforma Project software.

The Chair and Vice-Chair of this committee are ready to discuss this report if so requested by the Township Committee. In addition, the Exhibits Section provides more detail and documentation supporting the discussions within this report.

Respectfully submitted,

The Lessons Learned Committee

May 13, 2012

Budget and Cost

Key Points

Budget

- The township did not properly establish the scope, budget and quality of the firehouse
- The township did not adequately investigate firehouse benchmarks (e.g. scope, budget, quality)
- Township officials did not clearly communicate firehouse budget estimates and cost increases

Cost

- The final cost of the firehouse was 51% higher than funded by ordinance--\$4.9M vs. \$3.2M
- The firehouse took about three times longer to complete than expected--3 years vs. 1 year
- Some firehouse costs were transferred to other Township departments or professionals and not properly attributed to the project

Budget

In the course of our interviews, formal and informal, the Lessons Learned Committee was unable to find evidence that the township ever established a proper budget for the firehouse project. One interviewee stated, "When I buy a house I start with an idea of what I can spend." This was not the case for the firehouse. It is impossible to know upfront exactly what a firehouse should cost but there is sufficient firehouse construction history and commonality of features that a credible baseline, given a certain set of clearly stated requirements, could and should have been established.

As an example, RS Means, a product line of Reed Construction Data Inc., provides cost information to the construction industry so that architects and builders can develop a credible starting point for a project budget. Widely known services like RS Means are a standard pricing tool used by many government agencies and private corporations. RS Means is accessible online and is also integrated in a variety of cost estimating software packages to allow for fast and reliable estimating. The township administrator or any member of the Township Committee could have gone to the RS Means website and quickly and easily (i.e. a few hours) established a rough baseline for the project. Grounding the project's budget in this way would have added discipline and rigor to subsequent discussions with architects and building contractors, especially as requirements and costs began to stray from budgets.

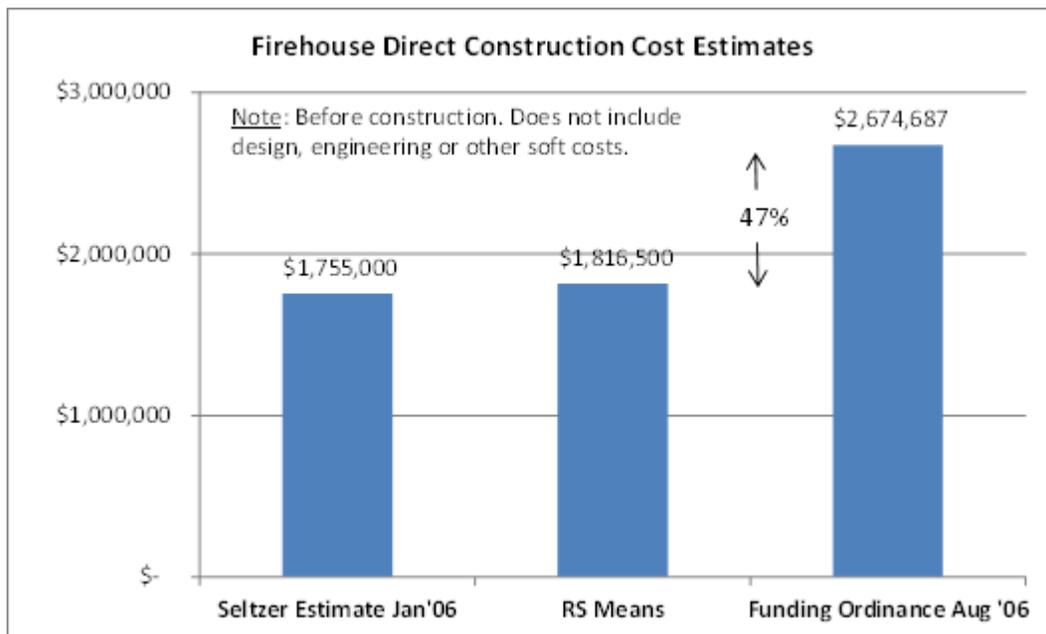
Instead, members of the firehouse squad and township representatives went in different directions, without a common set of requirements, gathering concepts and related cost estimates from several architects and builders.

There was no systematic approach to gathering, analyzing and comparing estimates. There is no evidence that any real, purposeful investigation of costs for similar facilities was ever conducted by the Township or the end-users.

Furthermore, on at least one occasion a critical discussion by the Township Committee regarding a contractor's estimate was apparently held in a closed door session. There is no record or recollection of what was discussed and why the contractor and his estimate were subsequently disqualified.

In summary, the budget and evaluation phase of the firehouse project exhibited two problematic characteristics, 1) a lack of rigor and discipline and, 2) an apparent lack of transparency.

The chart below compares several direct construction cost estimates (i.e. not including soft costs) for the firehouse. Direct costs are those attributed to the construction contracting and fitting out of the building and soft or Indirect costs are those attributed to design, engineering and legal services. The "Seltzer Estimate" was put together by Mr. Scott Seltzer of Seltzer Construction in January 2006 at the behest of Sante D'Emidio. Mr. D'Emidio, a township resident, past member of the Township Committee and owner of Industrial Services Enterprises Inc., a structural steel construction firm, worked extensively with Mr. Seltzer for many years and recommended his work. The RS Means estimate in the chart below was generated by the Lessons Learned Committee using RS Means' online software. This estimate utilized union labor rates and material costs representative of the Summit NJ area to produce an estimate for a two-story, steel joist, concrete block with



limestone cladding 10,000 square foot firehouse—as conservative an estimate as could be generated. The third estimate was produced by the architect selected by the township to design the firehouse, EI Associates, in December 2005. This estimate was refined a few times in subsequent months, including some work done by Construction Technology Corporation, or CTC, the project construction manager, but the direct cost component changed very little from this initial estimate. This estimate remained the core of the cost package adopted as the basis for the firehouse funding ordinance meeting on August 14th 2006.

As the chart above shows, the estimate of direct construction costs utilized by the township for the funding ordinance was substantially higher (nearly 50%) than Mr. Seltzer's and RS Means. The mayor at the time, Mr. Robert Pierson, sent a letter to the Township Committee in January 2006 highlighting the difference between this estimate and Mr. Seltzer's and requested a closed meeting to discuss the matter. However, as mentioned earlier, the Lessons Learned Committee could find no record of the meeting and in interviews with key players there was no recollection of any specifics from that meeting or any follow-up actions.

Another troubling budget issue was the apparent miscommunication of total estimated costs for the firehouse project. In official township records and correspondence and in statements made to the press, representatives of the township gave various and inconsistent estimates of costs which often excluded soft costs. For example, one of the earliest cost estimates from EI Associates dating back to June 2005 included only hard (direct) construction costs. Wittingly or not, these numbers subsequently became synonymous with "total cost" and momentum for the project may have grown on that false impression.

On another occasion, a township representative was quoted by a local newspaper providing what was at the time a misleadingly low estimate of total costs. The committee questioned the representative about the article and he believes he was quoted out of context. It is possible this was the case, none-the-less it highlights the need for better, more complete communication to avoid misunderstandings and maintain the public trust.

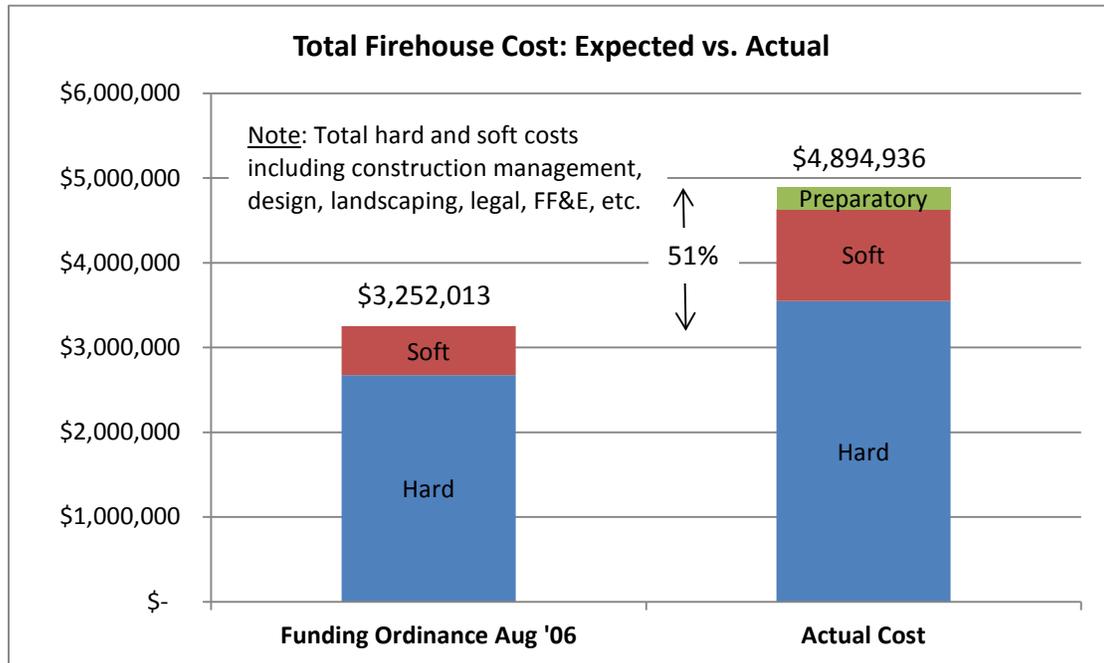
The ordinance meeting in mid-August 2006 resulted in the approval of a \$3.2M firehouse. Township representatives publicly stated their confidence that contractor bids would come in such that the total cost of the firehouse would be plus or minus 5% of this approved number. However, the bids came in higher than expected. **Just months after the \$3.2M ordinance approval meeting the firehouse total cost had jumped to \$3.7M, a sixteen percent increase. The township decided not to pursue a re-bid and to the best of the committee's knowledge never communicated the cost increase to the public. As one representative of the township put it, "At this point (post-bid, pre-groundbreaking) there was significant pressure to push ahead with the firehouse. In hindsight, it would have been better to stop, reassess our requirements, and re-bid the project."**

Cost

The Lessons Learned Committee gathered more than ten years of capital and expense data from the township CFO in order to independently assess the total cost of the firehouse project. All township expenditures from 2002 to early 2011, over 20,000 lines of data, were collected and reviewed.

The records indicate that work related to what eventually became the new firehouse began in early 2005. Therefore the committee started tabulating such expenditures, mostly design and engineering work from that point forward. Another important date for comparing actual vs. expected costs is August 14th, 2006. This is the date of the firehouse funding ordinance meeting. For the purpose of this report, and to keep apples with apples, all expenditures from early 2005 until the funding ordinance meeting in August 2006 were termed "preparatory" costs. Total preparatory costs were \$259,773. All expenditures after the August 2006 ordinance meeting and until firehouse occupancy in May 2010, and some expenditures that occurred later, were deemed "actual" firehouse costs. The \$3.2M ordinance approval was the pre-groundbreaking "expected" cost.

With that in mind, the chart and table below show expected vs. actual firehouse costs, hard and soft, including the expenditure of preparatory costs incurred in the eighteen months prior to ordinance approval.

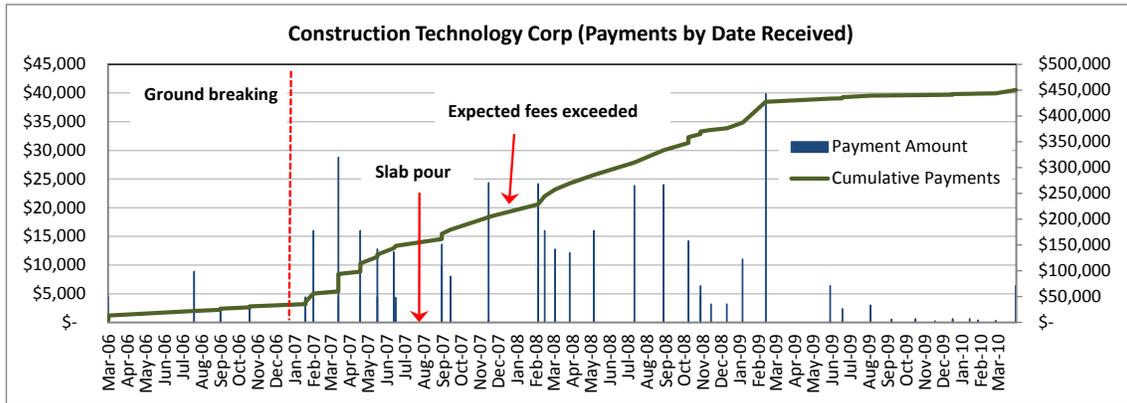


The biggest variance occurred in the soft costs of the firehouse (e.g. non-construction costs). Actual soft costs were about two times higher than anticipated at the time of the ordinance meeting. The biggest impacts in this area were construction management, fixtures, furniture and equipment (FF&E), legal costs and engineering consultants (see 'Largest Variances' table below).

Largest Variances from Expectation (Excludes Preparatory Costs)				
Vendor/Category	Actual	Expected	Dollar Variance	Notes:
Construction Technology Corp	\$ 419,031	\$ 220,800	\$ 198,231	Almost double expectation, active throughout
Legal and Financial	\$ 127,792	\$ -	\$ 127,792	Peckar, Maraziti primarily
Maser Consulting	\$ 126,811	\$ -	\$ 126,811	Never bid but active throughout
Furniture, Fixtures & Equipment	\$ 115,954	\$ 27,692	\$ 88,262	IT, cabinets, lockers, kitchen etc.

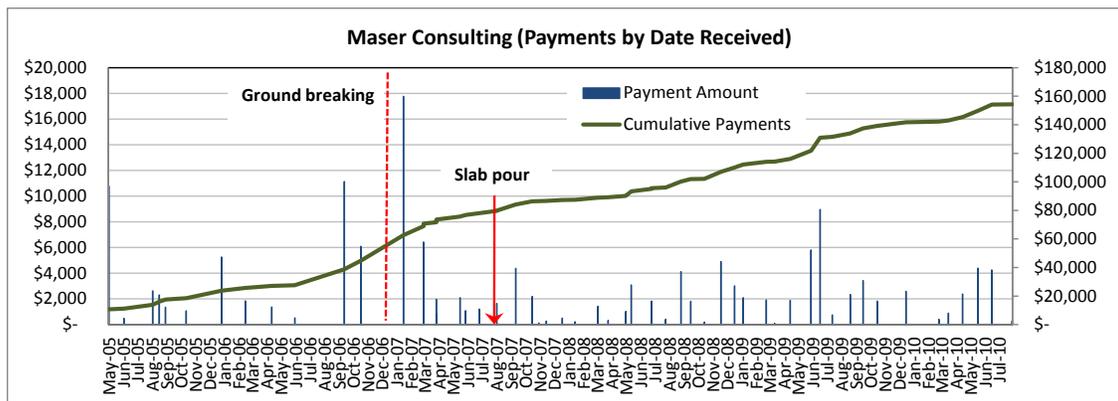
Legal costs exploded after the failed apparatus bay slab floor pour in August 2007. This resulted in work stoppages and many months of legal maneuvering, particularly related to the surety. The failed pour and subsequent legal proceedings and rework were the primary reason the firehouse was completed more than two years behind schedule.

During much of this delay the township continued to pay the construction manager, Construction Technology Corporation, nearly doubling its fees from the estimate at the funding ordinance meeting. Other parts of this report discuss in more detail the construction manager’s role in the project but included below is a time chart of CTC’s payments.



Another service provider playing an extensive role throughout the project was Maser Consulting, which was the township engineer. Maser was the highest costing consultant who did not prepare a proposal or bid on any work. This Committee questions the work Maser performed and how and why it wasn’t part of the original estimate. Furthermore, it is not clear why this work was not the responsibility of the architect of record, as is common practice. A time chart of Maser payments is included below.

The FF&E estimate used for ordinance approval included roughly \$28,000 in furnishings, equipment and specialties. The committee identified approximately \$116,000 in actual FF&E costs for the firehouse, including \$7,022 for wall mount lockers from GearGrid Corporation. The GearGrid lockers were three times more expensive than the lockers called for in the estimate used for ordinance approval. The ordinance estimate also called for a kitchenette. Cost mitigation efforts resulted in dropping the commercial kitchen requirement. Nonetheless, it is obvious that the finished firehouse kitchen is NOT a kitchenette. The committee heard on more than one occasion that there was an agreement between the township and the fire squad that the squad would “outfit” the firehouse. In the end, and under considerable pressure, the township covered many “outfitting” costs. This no doubt also contributed to the variance in FF&E actual vs. expected costs.



Finally, a significant amount of work and cost was transferred to the Department of Public Works (DPW). The DPW was called in to do landscaping work worth about \$35,000 in DPW resources. While the work was necessary it was not called out in the original ordinance estimate and it was not put out to bid.

Budget and Cost Recommendations

- The firehouse project started with an ad hoc set of requirements and little budget or planning discipline. As a result the entire project, from planning to construction, could be characterized as unstructured and often chaotic. **Future capital projects should incorporate from the earliest stages a set of fundamental requirements and a budget for delivering those requirements.** In the next section of this report, *Architectural Programming and Design*, the creation of a “Project Initiation Study” that would address this need is discussed. If the township lacks the necessary expertise to perform these tasks it can solicit resident expertise for assistance, or hire such expertise so long as it is truly independent. Regardless of which path the Township chooses, the selection must be done in a commercially prudent method, consistent with law and common industry practice. Starting with a credible budget, township representatives can more effectively evaluate contractor proposals and cost estimates. The budget also provides a basis for evaluating proposed changes and tracking them through the construction process.
 - Future budgets must include hard and soft cost estimates
 - Any agreements between the township and future tenants/end-users must be documented and integrated into the ordinance approval process
- **Future township capital projects require full and open disclosure on budgets, timelines and subsequent performance.** Township representatives did a terrible job recording and maintaining firehouse project records and did a poor job communicating firehouse project matters to the public. The combination of closed door sessions, misleading cost estimates and then silence in the face of construction stoppages and delays damaged public confidence. The committee recommends over communication on future projects to minimize real or perceived surprises. This could include, among others, mandatory written updates at regularly scheduled public meetings or via the township website.

Key Points

- The Township did not effectively manage the project as an owner
- The Township did not define project parameters at the outset
- Project “due diligence” was not undertaken in a thorough manner
- The Township did not engage qualified and experienced design professionals
- Overall the finished design of the ESB generally meets the program and needs of the residents with the following exceptions
 - Second floor exit configuration
 - Building envelope energy efficiency

Background

The ESB project was originated through the efforts of the Brookside Engine Department and key members of the township committee to address problems with the existing ESB. These problems included periodic flooding and a too low ceiling height to accommodate new fire engines built on larger truck bodies.

The township evaluated several facilities options in the years leading up to the decision to move forward with a new ESB. New locations and configurations were studied to meet the current and future needs of the municipal offices, police and library facilities, as well as the ESB. The decision to move forward to address the ESB was made independent of a plan to address the other facility needs of the Township. The fire department and members of the Township Committee that served in the fire department encouraged the decision to prioritize this project. The project was initiated by the fire department. The fire department members of the township committee did not reclude themselves from voting on allocations or project approvals.

In a review of the meeting minutes of the township committee, it was found in all votes cast and deliberations that members of the committee that served in both capacities as fire fighters and township committee members participated in decision making and appropriations and other key decisions pertaining the project. It was not clear who initially acted as the chairperson of the committee until the Township Administrator, Steve Mountain, assumed this role. No members of the initial building committee or the fire department committee had public construction project experience.

Project “due diligence” was limited to obtaining general estimates of the cost of building construction, an outline building program and conceptual plans. Lacking from the initial considerations of project cost were site development cost, building demolition and soft costs including design fees, permitting, contingencies, escalation, construction management fees, technology, equipment and furnishing, legal fees and a project schedule.

Project Management

The significant role that project management plays in project success cannot be overstated. The Township is not routinely in the business of building new facilities, but is periodically required to do so and it must have the capacity to effectively act as an “owner”. It is important to note that the expenditures for municipal facilities are significant, and the facilities are long lasting. By its nature municipal projects are subject to varying opinions and politics. It is therefore important that an efficient and orderly process be established to manage these projects, which includes best practices, and checks and balances.

The process for management of future projects should effectively address decision making, information processing and funding allocations required for major facilities projects. Looking at similar entities to the township, governmental and institutional entities, what is frequently found within the project management process is a “building steering committee.” The role of the building steering committee is to formulate and manage the project and address project scope and size, project quality, budget and other construction-related activities.

Typically the building steering committee would include individuals with diverse expertise including end-users, design and construction professionals, those with building operations experience, project managers and financial personnel. In addition to the building steering committee a project manager should chair the steering committee and become the primary point of contact with the governing body (Township Committee) that is responsible for making key decisions. Key decisions include acceptance and approval of each phase of the project, authorization to move forward, and approval of fiscal allocations for the project.

Project Parameters and Due diligence

At the outset of a building project, a best practice is to undertake a comprehensive due diligence study and to establish planning parameters for the project, particularly the budget. Another term for this would be a “Project Initiation Study” the contents of which would include:

- Building program (a tabulation of rooms and spaces, their area and a description of their function)
- Exploring alternative means of addressing the space needs
- Benchmarking of the project against similar facilities
- Conceptual design alternatives
- Building code analysis
- Site analysis and site permitting requirements
- Basis of design for building systems (HVAC, electrical, plumbing, fire suppression, exhaust)
- Complete project budget including construction, soft costs and contingencies
- Project schedule

The intent of a thorough Project Initiation Study is to disclose all of the opportunities and challenges a project faces and to establish the parameters for the project at the outset. If this is done at the outset, it is then possible to effectively manage the project’s scope, budget and quality. [Scope is defined as project size--budget is defined as total, all-in, hard and soft project cost--quality is defined as equipment and finishes.] With a well-developed project initiation study, it is possible for the Township’s elected officials to move forward with project appropriations and approvals with a basis for knowing that the public’s needs are being addressed in the most effective manner possible.

As an example of where this process was short-changed, a separate garage bay was added to the ESB to house an antique fire truck that is used once or twice a year for ceremonial purposes. The cost to build this bay, exclusive of soft (design & engineering) and operating costs was between \$125,000 and \$150,000. More cost effective alternatives could have been reclaiming the Ralston firehouse which is currently housing recreational equipment, renting a storage garage at a fraction of the construction cost, storing at the DPW garage, or selling and leasing back the equipment as needed. With regard to this element of the building, once the decision was made to construct a bay for an antique fire truck, a greater use could have been served by making this more of a public feature of the building.

Another example of where the design process for the ESB did not provide full taxpayer value and utility was with regard to utilization of the second floor of the building. While it is understood that the primary function of the building is to provide for emergency services, increased access to the lounge and assembly space on the second floor could have been possible if the design of the bar and liquor storage took other community uses of the building into consideration.

Design Team Selection and Performance

The Township contracted with EI Associates Architects & Engineers for design, contract documents and construction administration services for the ESB. At the time of the interviews for architect selection, EI Associates presented with the Mylan Architectural Group. The Mylan Architectural Group had an extensive portfolio of municipal projects including ESBs. EI Associates' firehouse experience was limited, or non-existent. But their marketing pitch for the project was that Mylan Architectural Group had the project experience while EI Associates had the capacity to perform on large municipal projects. The contract for their architectural services contained no specific criteria for the amount, level, or types of services to be provided by Mylan, who served as the project type experts. As it turned out, Mylan's role in the project was limited to the early conceptual and preliminary design phases of the project only. No engineering consultants were specified, within the contract a major oversight as because as it turned out EI provided an engineering service without the benefit of prior experience in firehouse systems design.

A best practice in selecting design professionals for major capital projects is to undertake a careful due diligence and review of all prior projects by the firm. To check references, one must visit completed projects and go beyond the typical requests for information, proposal processes and marketing materials provided. The following quote regarding EI Associates is now found on that firm's website, proof that thorough due diligence is always beneficial.

"The Township of Mendham retained EI Associates to design a new firehouse. The new firehouse provides a modern facility for the volunteer fire department as well as space for meetings and other social functions. A pre-engineered steel structure was used to accelerate the construction schedule and contain costs"

It is important to note that while most aspects of the project are functional and serving the needs of the Township, the design team's performance adversely impacting the project's outcome in the following ways:

Second Floor Egress

The building has two fire stairs serving the second floor occupants. The design of the second floor plan limits access to one of these stairs to the large assembly room and bar area only. Therefore, the allowable limited occupancy load permitted by code for floor levels served by one means of egress had to be distributed over all other rooms on the second floor. The result of which is the requirement to post the Meeting / Training Room with signage limited its occupancy to 5 persons. The room currently has seating for over 25 occupants and is used on a regular basis for meetings well beyond the posted limited occupancy signage. (Reference: International Building Code, New Jersey Addition Section 1021, 1022, Table 1021.1 and Table 1021.2)

Building Envelope and Energy Efficiency

To avoid freezing the sprinkler piping in the attic no insulation was installed between the ceiling of the second floor and the attic. Heat from the habitable spaces rises through the ceiling tiles to heat the attic space to above the freezing point! A more energy efficient design approach, and a standard building practice, would have been to install a dry sprinkler system in the attic. At the time of the installation the contractor highlighted the attic piping as still being at risk of freezing.

Construction Oversight

The building slab was installed in a single monolithic pour eight inches thick. Aside from this committee's belief the slab is much thicker than necessary; the slab pour did not conform to standards for flatness or pitch to floor drains. In fact, after the slab was poured, an email correspondence marked "Confidential" between the construction manager, CTC and the Township indicates that the slab pitch design was deficient from the get-go and no one acted upon this prior to the pour! This correspondence limited to owner and CM without the inclusion of the architect speaks volumes about EI Associates role at this point in construction administration.

Nevertheless the Construction Manager reviewed and the Architects signed off on the applications for payment certifying the work was installed in accordance with project specifications. Most significantly, when slab removal was proposed, the Architects as well as the Construction Manager failed to recall that they had authorized the contractor to allow the slab to be poured around the electrical conduits. The implications of this is very significant in that the damage to the electrical and plumbing systems imbedded in the concrete was avoidable or at least should have been considered as inherent to the decision to remove the slab.

Further damage to the underground waste lines occurred when the general contractor, in contradiction to direction, removed the defective slab starting from the front of the apparatus bays, rather than from the back. As a result, instead of running heavy equipment over a concrete slab, which would have protected the buried pipes and minimized disturbance of the compacted underlying subgrade, the equipment repeatedly churned up the subgrade and damaged the plumbing lines as the slab sections were removed in an improper sequence. This occurred while the Construction Manager was still engaged on the project.

Separate Contract for Civil Engineering

The civil engineering consulting work for the project was separated from the overall architecture and engineering contract and given to the Township consultant, Maser Engineering, rather than tendering for bid. As a result, this engineering task was billed on a time and material basis at a total cost of approximately \$154,000. A more reasonable cost as estimated by two professionals for this scope of engineering would be between \$50,000 and \$75,000. In addition, on a time and material basis, no contractual requirements existed regarding the scope of engineering services to be completed or the standard of care to be applied to Maser's work product.

Architectural Programming and Design Recommendation

The selection of the design team for a project is a critical step contributing to a favorable project outcome. Future township capital projects should include a formal request for qualifications and proposals from all consultants and their teams. The following items should be included in that request from interested architects:

- Similar project experience
- Project approach statement
- Resumes for key staff and schedule of hours to be committed to the project
- Qualifications of consulting engineers
- Recent References
- Work plan and schedule
- Team organization chart
- In the case of a joint venture, a breakdown of how the work will be distributed between the firms

Bidding and Contracts

Key Points

As a preface to this section, it must be noted that many important files were not found or possibly never existed. Record keeping on the part of the Township and the Construction Manager was haphazard at best.

- The selection process for architect and construction management services exhibited a lack of experience on the part of the township in engaging professional services.
- The bidding for construction services followed the more common methodology of the construction industry and local public contracting law perhaps because the architect and construction manager were on board at this point.
- The files do not contain a comprehensive description of the project and the needs of the users. This description is known in the industry as a Program. Even after an architect was engaged a clear definition of the project and the needs of the users were never executed. This document appeared to be missing throughout the project.
- A decision was made by the Township, with the support of the Construction Manager, to separate the project into multiple prime contractors handling different aspects of the project, such as general construction, plumbing, electrical, structural steel, HVAC, etc. The Township therefore entered into multiple contracts rather than one large contract with single source responsibility. Ostensibly the intent was to save approximately 10% of the construction costs or about \$300,000 when the bids returned higher than expected. This decision, which ironically created the need for the Construction Manager, also resulted in a diluted overall project responsibility. Furthermore, this decision cost the town more money as the Construction Manager was paid over \$400,000 for their services, without assuming any risk for the successful completion of the project.

Bidding

Approximately seven Requests for Proposal (RFP) were sent to architectural firms and two responded. This was a period of unusually high construction activity and of the five bidders that did not bid several indicated that they were busy and could not handle the project. The committee questioned why the township did not obtain more bids. It appears the fire company had decided that Mylan should be involved because of their experience with ESBs. Somehow EI Associates decided, or was asked, to partner with Mylan so their combined expertise could be utilized. Mylan had the ESB experience and EI Associates had the large and multi-disciplined staff (electrical, plumbing, mechanical, etc.) to support this size project.

No in-depth investigation of the construction contracts was done because there appeared to be an acceptable methodology in bidding the construction work. EI Associates prepared the specifications and drawings, a reasonable number of Requests for Quotation (RFQ) were sent, and a reasonable number of contractors responded. It should be pointed out that the prime contractor, Consolidated Building Corporation (CBC), was

known to have had a poor reputation but was the low bidder. Thus the Township believed it was forced to accept CBC based on municipal contracting rules.

There were ways to obtain a more qualified contractor including more thorough due diligence, rejecting and rebidding, or even awarding to a better contractor for cause and defend any legal challenges. While there may be upfront costs and some delay, avoiding future problems such as the defective lintels, slab re-do and window opening misplacements, to name a few, make more aggressive tactics worthwhile. The Township should have pursued this course of action. It should also be noted that unlike all the other consultant design contracts (e.g. electrical, etc.) which the architect let on a lump sum basis as a normal procedure, the civil contract was let outside the scope of the architect's work. The Township's engineering firm was engaged on a cost reimbursable basis (time & expenses) which is highly unusual in design/build construction. This engineering contract should have been part of the architect's contract so that the architect had responsibility for the whole project - thus avoiding a finger pointing issue if a problem arose that added cost. As stated previously, the separate non-bid contracting for civil design definitely cost the Township much more money than necessary.

Based upon the proposal submitted by the construction management (CM) firm, the Township reasonably believed it was securing the services of both a construction manager and an owner's representative. In fact, the Township appears to have gotten neither, as evidenced by the problems, large and small, that occurred on this project. The absence of a contract makes it impossible to clearly understand the scope of work contracted, yet the Township paid over \$400,000 for these services. Furthermore, these services were awarded without competitive bidding or sourcing of other firms to Construction Technology Corporation (CTC) upon the recommendation of a sitting Township Committee member. There is no record of any competitive bidding and there is no obvious commercial reason for not bidding this work to several bidders, if in fact a construction manager was really needed for a project of this small scale.

Contracts

The preparation of the contracts, like the bidding, can be divided into two parts; professional services (architect and CM) and construction. Because of the enormity of the task, a detailed audit of all the available contracts could not be done within a reasonable time frame with the volunteers that worked on this effort. Most notably, the one contract that this committee was most interested in reviewing, the construction manager's (CTC), was missing, leading us to wonder if it ever existed. Nonetheless, several glaring issues were noticed in the professional services contracts we did review:

With respect to architectural services, it was understood from the RFP that EI Associates and Mylan Engineering were partners with Mylan providing the ESB expertise and EI providing the remaining architectural services. This fact was not reflected in the contract between the township and EI Associates. Mylan was simply referred to as a consultant. The contract should have clearly stated their partnership and in addition should have contained a detailed scope of work defining in detail each partner's responsibilities.

It became clear to this Committee that EI Associates used Mylan to secure the project by portraying Mylan as a partner. In reality, Mylan was dismissed from the project shortly after project kick-off. Mylan had virtually no involvement after giving EI the required preliminary plans. In any professional services contract where individuals or partners are selected because of their expertise and knowledge, it is common-practice that these parties be named in the contract and that named individuals and specific scopes of work cannot be changed without the client's permission.

Construction managers are selected to be the customer's representative on a project because of the client's lack of experience, expertise and personnel. It was clear to all participants and this Committee that certain personnel from CTC did not have the experience or even enthusiasm for this project. Furthermore, CTC replaced its on-site representatives four times, the first after the Township insisted because of the disastrous apparatus bay slab pour. This revolving door of construction managers no doubt exacerbated delays and added to costs due to the loss of project management continuity. Whether subsequent personnel changes were in response to township complaints or CTC's internal needs is not known. Had the township's contract with the CM been properly drafted no changes of personnel would have occurred without the Township's consent.

As further evidence of the importance of personal services contracts, the qualifications of the first CTC construction project manager placed on-site were not part of the elaborate CTC marketing brochure. Much of the project's distresses, including the ill-fated slab pour occurred on this person's watch. It is not unreasonable to believe that the Township would have required greater expertise had the Township been properly informed of this person's lack of expertise. As a result the job ran the construction manager, not the other way around.

It was also noticed in the general construction contract that a supplementary clause referring to warranty work discussed damage to "schools and school property." This clause was clearly taken as a cut and paste from another contract involving a school, not the Mendham ESB project. This slip-up demonstrates that these added clauses were not well reviewed by the preparer, the township attorney or the construction manager—an example of questionable care and diligence on all their parts.

Another significant misstep in the contracting phase was that the Township allowed contracts to be executed without adequate retainage. Retainage is the industry practice of withholding a portion of payments due to a contractor. Retainage is intended to a) cover remediation costs of any defective or incomplete work performed by the contractor if they don't self-cure and b) withhold the contractor's profit margin until the project is complete--10% is the industry standard. The Township withheld only 5% of the first \$500,000 of payments and then 2% thereafter. These amounts were grossly insufficient and a material oversight on the part of the Township, its attorney's and the construction manager.

Bidding and Contracts Recommendations

- From the start of any project, the township must be more professional in its records keeping. Many fundamentally important ESB documents were missing or incomplete. It is possible original copies were distributed in the course of litigation or slab remediation and not retrieved. Except in rare cases, only copies of documents should be distributed.
- No professional services contract for a major capital project should be awarded without competitive bidding to properly qualified, experienced and independent bidders. The township should receive at least three qualified bidders, preferably five. There are many reputable firms in the tri-state area and there is no reason to settle for less, thus denying the Township the benefit of better competition, expertise and learning.
- Professional services contracts should include specific, detailed language regarding "key personnel." Key personnel can be partner companies, or specific individuals with special expertise. The language should guarantee that key personnel remain through to project completion. Changes to key personnel must be approved by the township.

CONSTRUCTION MANAGEMENT

Key Points

- The construction manager, Construction Technology Corporation (CTC), was hired without competitive bidding, based primarily on the recommendation of a single member of the township committee
- CTC had virtually no experience in municipal construction and no prior firehouse construction experience
- CTC had “no skin in the game.” They were not at financial risk regarding construction quality, costs and schedule
- The township had no formal contract with CTC, or if one exists, no one, including the Township or CTC can find a copy.. There was only a proposal with broad statements regarding services. There were no specific metrics provided or subsequently developed to measure CTC’s performance on the project
- CTC’s first on-site manager for the ESB project was an inexperienced new hire not long out of college. It was clear from interviews conducted by this Committee that she was ill-prepared to deal with potential problems.

Construction Manager

The construction manager selected by the township committee was Construction Technology Corporation (CTC) of Fairfield NJ. There was no bidding in the selection process and limited independent evaluation, particularly with respect to municipal projects. When asked why CTC was selected several knowledgeable interviewees stated that it was based principally on the recommendation of a single township committee member. No one interviewed recalled an evaluation of any other construction managers. It is also apparent that the Township had no idea of what was a fair and reasonable price for similar services secured on a competitive basis.

In the proposal dated December 8, 2005 CTC states that it is “unique for its specialization in the field of managing the planning, design and construction of institutional facilities.” However, in this Committee’s interview with CTC, we learned that CTC had little “maybe 2%” municipal building experience and no experience with ESB construction. Based on CTC’s claim of projects totaling little more than 100, we infer this means two (2) other public projects.

As stated in its proposal, CTC’s scope of services as the “Construction Manager” during the “Construction Phase” included:

- General management and coordination
- On-site management
- Coordinate testing and controlled inspection
- Coordinate shop drawing submissions
- Review all progress payment requests: receive and review all contractor certificates for payment, review percentage completion for each line item and field verify all work in place and stored materials.
- Provide project scheduling administration
- Project Close out

However, the proposal also clearly states that CTC is not “at risk” on the project, meaning it is acting strictly as a consultant. It is this committee’s opinion that since CTC had no financial incentive for an on-time, on-budget project, their approach, especially in the field, was more akin to that of a Construction Coordinator, not a Construction Manager who would lead a project make decisions and ensure those decisions were executed

properly. Nonetheless, hired to be the Construction Manager, this Committee believes CTC bears significant responsibility for the project's poor outcome, despite their attempts to blame the General Contractor entirely for the myriad problems.

The Monolithic Slab Pour

One of the most vexing issues for this Committee has been trying to pinpoint the exact date of the disastrous apparatus bay concrete slab pour. Despite numerous interviews there is no hard field report or other documentary evidence aside from after-the-fact notes and letters that seem to conflict with participants recollections. What this Committee also found astounding is that the Construction Manager could not place the exact date of the pour and claims to have no other records in their possession leading up to the pour and immediately thereafter.

Nonetheless, this Committee believes that on either August 23, 2007 or August 24, 2007, the general contractor, Consolidated Building Corporation (CBC), poured the entire 5,000 square foot main bay in one monolithic (single) pour. One eye witness remembers the day as being "very hot." Yet Thursday the 23rd, the date of record for the pour according to a later note from CTC's project manager and subsequently referenced by the township's lawyer, was actually a fairly moderate day with highs in the mid-70s according to historical weather records. Friday the 24th was much warmer with highs in the mid-80s. A Friday is the day remembered by at least one township representative as the day of the pour.

Regardless of the exact day, a monolithic pour in August would have the attention of any professional construction manager. Concrete sets up very quickly in hot weather unless proper precautions are taken. There are no records or anecdotal evidence suggesting any such precautions were taken. In fact, it appears that hot weather or not, even minimum standards of skill and execution were not met. According to eye witnesses it was immediately evident that CBC did not have enough manpower to properly place, screed (level) and pitch to drains the concrete coming off the trucks. From pictures taken during the pour and eyewitness accounts, it appears there were no more than five men. These workmen were of uncertain and likely limited experience as the General Contractor self-performed this work, rather than subcontracting the slab to a specialized concrete contractor.



The unfortunate end result was an uneven and improperly pitched main bay floor slab. Included below is the text from the first record the committee could find calling out the floor defects. This email is dated more than two weeks after the pour was apparently made.

*“The apparatus bay floors that were poured on 8/23 are unacceptable. There are visible ridges and ripples in the slab on grade finish along with areas where the floor is not pitched correctly to the floor drains. By your own admission at the construction meeting you said that in some areas the slab was as much as 9” thick, and that the concrete set up faster than expected. The slab-on-grade must be corrected immediately **at no additional cost to the township.**”*

(Email from Carolyn Morris (CTC) to Tom Loreda (CBC), September 7th 2007)

What makes the pitch to the floor drains so critical is that the floor slab is routinely subjected to the presence of water as fire equipment is washed in the bays, hoses are tested and drained and similar activities.

What is especially troubling is that despite this Sept 7th email noting the obvious and very critical defect there is no mention in the official CTC project meeting notes of a slab defect until November 13th—more than two months later! Clearly CTC, the contractors and township representatives were working this problem off-line, including replacing the on-site project manager, while delaying any formal reporting (see supporting emails in exhibits).

CTC subsequently went on record pinning the blame and responsibility for the obviously flawed floor on the general contractor CBC. In interviews with builders and architects the committee learned that a pour of this size, on a warm day, might require ten people to properly place and pitch the slab. As previously mentioned eye-witnesses and photos indicate that there was half this number of workmen on the pour. Eyewitnesses also reported “large clumps” and “mounds” of concrete “piling up” in several locations on the floor. There is little dispute that CBC was under-manned and probably too inexperienced for a pour of this size. This fact was the principle reason the floor slab was botched.

In this Committee’s research, we also uncovered an internal email marked “Confidential” from CTC that was later forwarded by CTC to the Town Administrator. In this email, well after the pour, CTC realized the initial floor slab design had insufficient pitch. So even if the general contractor had poured the slab as designed, water would not have flowed properly to the drains. This committee also noted that the design called for a single monolithic pour which increased the complexity and risk of the work. We see no reason why the slab could not have been poured in stages and we also believe the slab as designed was far thicker than needed, increasing project costs. Although these issues fall to the design architect, this Committee believes this is evidence of inadequate contractual plan review by the construction manager, who was brought in and paid well to support the Township when it was clear the design firm was not fully up to the task.

On-site Construction Project Manager

This committee believes CTC’s on-site manager was inadequately qualified to consult with CBC on its plans to pour the slab. The slab pouring plan should have been coordinated well before the day of the pour with issues such as manpower and concrete mix being covered in detail. There is no record that any of this was done. Coordinating staffing and the qualifications of those doing the work, especially on such a critical piece of work, is something CTC

was contractually obligated to do and is a task routinely executed by experienced construction managers. Concrete, once poured, is extremely difficult and expensive to modify, especially after reaching its full strength after a month of curing. By the time the Township was able to react to the defective pour the concrete had already reached its maximum strength, thereby making any further work far more difficult.

The on-site manager is arguably the single most important person representing the township's interests on the project. Township representatives have other jobs to do and at best are capable of "checking-in" on daily progress and setbacks. As far as this Committee can tell, based upon an interview with CTC, the on-site manager was a recent college graduate with a master's degree in construction management. We were unable to determine what previous field experience she had, if any, before the ESB project. In interviews with township representatives she was described as conscientious, hard-working and earnest but also naïve, impressionable and a "push-over." On the other hand, the general contractor was described in interviews as "fast-talking" and confident. **This combination of an over-matched and inexperienced construction manager versus an aggressive, corner cutting general contractor in apparent financial trouble was a recipe for disaster. All the important warning signs were flashing yet no one sounded the alarm - and the Township paid the price.**

The Construction Manager's (CTC) Response

In an interview with CTC's owner and a senior manager who came to the project at the tail end, their claim was that there was nothing CTC could have done to prevent the failed pour. They had no recollection of whether the pour was discussed and coordinated with the general contractor prior to the event. CTC believes the builder had "a right to perform his services as contracted" and CTC could not interfere with them. However none of the explanations provided as to why defective work in progress could not be stopped by the Owner seemed credible to this committee.

CTC also claimed there was no indication prior to the slab pour that CBC was ill-prepared to perform as expected. However, when asked about their impressions of the general contractor, the owner of CTC said, "He was so inept, so rotten to the core that no amount of oversight would have made a difference." He added further, "From the beginning we had to nurse this guy along, let him try." CTC commented that state mandated municipal bidding requirements tied the township's hands with respect to picking the most qualified GC, therefore the township had to award to the lowest bidder, even if that bidder had questionable qualifications.

The committee's question is this: If from the beginning the general contractor had demonstrated these negative and worrisome characteristics, then why wasn't CTC more proactive and alert, especially before critical construction milestones? Failing to properly-coordinate and oversee the floor pour and staffing the job with an inexperienced, new hire on the ESB project flies directly in the face of their logic. And ironically, CTC allowed the general contractor payments to proceed on an expedited basis without objection, despite all these concerns.

The photo on the left below shows a professionally managed slab, prior to pour. The photo on the right shows the ESB slab preparations prior to pour.



Proper Slab Prep



ESB Slab Prep

CTC was otherwise unable or unwilling to provide missing project documents to the committee. CTC claims that daily and monthly reports were prepared and provided to the township administrator throughout the project, although the administrator disputes this claim. The lack of records in the administrator's file pertaining to the slab pour seems to belie CTC's claim. They also claim that all other documents were turned over to the township at project completion and any remaining in-house documents were destroyed. We are skeptical of this claim as one would reasonably believe that some documents, such as an executed contract, would be retained by the company if for no other reason than for tax purposes. We are equally disappointed, as we have stated in other sections of this report, with the township's poor recordkeeping in general.

Remediation

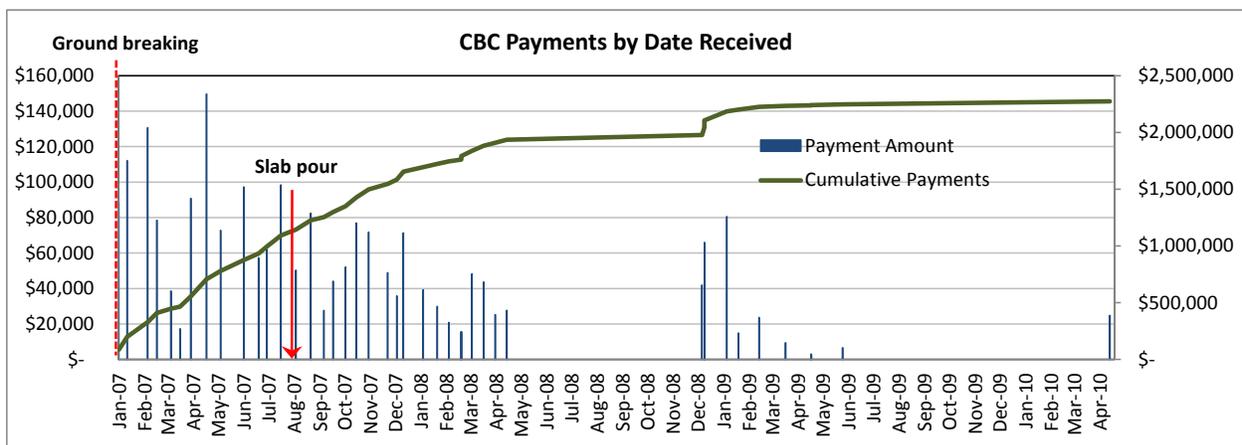
Once the slab defects were identified, numerous options for remediation were proposed; mainly it seems, with the intent of avoiding the ultimate outcome – removal and replacement of the slab. About a month after the defects were discovered, CTC replaced its on-site project manager with a more experienced person. CMX, a consulting company, was retained to evaluate the slab and propose options for repair. The contractor CBC launched an unsuccessful attempt at grinding the slab. Later attempts at further grinding and epoxy top coatings were equally unsuccessful. In mid-May 2008, eight months after the slab was deemed unacceptable, the Township and its consultants came to the conclusion that the slab should be removed and replaced. Note: CBC was paid 98% of the

value of the slab work by the end of 2007, payments approved by both the Architect and the Construction Manager.

The slab was removed at the end of June 2008 by CBC, in a manner that created even more problems. No one it seems recalled that electrical conduits were buried in the concrete. These lines were subsequently severed when the slab was removed. Photographs clearly show the locations of the conduits and the architect had approved these placements. As stated earlier, the removal was done contrary to direction which also resulted in damage to the plumbing waste runs as well as excessive disturbance of the subgrade.



Not surprisingly, relations between the Township and the contractor were worsening as time dragged on and the contractor repeatedly failed to respond properly. Most likely the contractors' funds were drying up and this Committee was informed that subcontractor payments were becoming delayed. Finally in early July 2008, the Township terminated the general contractor for cause. As the construction manager noted in hindsight, the Township should have terminated the contractor immediately and completed the remediation without them. However, until that point, payments to CBC continued unabated, as shown on the chart below.



This committee believes that CTC, based upon their expertise, should have forcefully advocated this recommendation when there was time to act on it. Regardless, the surety company was engaged and the project became subject to legal wrangling as the surety attempted to minimize its exposure and the Township tried in earnest to complete the now much delayed ESB.

Other issues with the Construction Manager

In the limited sample of CTC project documents we have, their Coordination Meeting Minutes provided very little if any information regarding work completed the previous week and work to be performed the following week. While the notes were dense and full of historical discussion, action plans were not clearly presented, nor were accountabilities and weekly schedules. Updated schedules and identification of these work items should have been included with or attached to each meeting’s minutes.

It should also be reiterated that both the design firm, EI Associates, and CTC approved payments for the slab even though the work had not been performed or had not been performed in accordance with the contract documents. Furthermore, the Township was paying the contract as frequently as every two weeks which is definitely not industry standard. And in the case of a financially strapped contractor frequent payment is not an advisable practice as simply good money is thrown after bad – which is exactly what happened here. By the time the slab was poured contract retainage was only 2% meaning insufficient funds were held by the Township to offset any remedial costs. This Committee believes that paying the general contractor in advance of the work being completed is likely to have contributed to the contractor’s poor preparations and execution. The chart below shows payment applications for the slab which was poured in August 2007.

Payment Item No. 25: Concrete Slab on Grade							
Schedule Value:		\$ 40,000.00					
Payment Application No.	Payment Application Date	Previous Amount Invoiced	Amount Invoiced This Period	Total Invoiced To Date	Percent Complete	Balance To Completion	Total Retainage (2%)
11	5/31/2007	\$ -	\$ 16,000.00	\$ 16,000.00	40%	\$ 24,000.00	\$ 320.00
12	6/15/2007	\$ 16,000.00	\$ 14,000.00	\$ 30,000.00	75%	\$ 10,000.00	\$ 600.00
13	6/28/2007	\$ 30,000.00	\$ 4,000.00	\$ 34,000.00	85%	\$ 6,000.00	\$ 680.00
14	7/16/2007	\$ 34,000.00	\$ 2,000.00	\$ 36,000.00	90%	\$ 4,000.00	\$ 720.00
15	8/3/2007	\$ 36,000.00	\$ 2,000.00	\$ 38,000.00	95%	\$ 2,000.00	\$ 760.00
23	12/5/2007	\$ 38,000.00	\$ 1,200.00	\$ 39,200.00	98%	\$ 800.00	\$ 784.00

Conclusions

Had it not been for problems with the slab pour, it is possible that the generalcontractor would have muddled through the project and completed it with plenty of hand-holding by the Construction Manager and Township.

Had that been the case then it would not have been necessary to call in the performance bond and compel the surety to complete the project. Cost overruns (with resultant legal fees being a major factor) and schedule delays would have been significantly less. Nevertheless, as described above, this Committee believes the inadequacy of the Construction Manager's performance is a major contributor to the many project failures, culminating in the most damaging of all - the slab pour.

In our opinion, CTC did not satisfactorily discharge their fiduciary responsibilities to properly plan and coordinate construction activities—especially in advance of critical construction events. This Committee also believes that a construction manager / owner's representative with more municipal experience than CTC could have made a material difference in the project's outcome.

Construction Management Recommendations

- Determine if a construction manager is really needed. The skill and experience of the design firm is often sufficient for many project scopes.
- Competitively bid construction managers for all capital projects. Conduct in-depth due diligence on the bidding firms.
- Incorporate key personnel clauses to eliminate the risk of inexperienced on-site managers.
- Keep organized and secure copies of all construction manager daily project logs and weekly updates.
- Be wary of time and expense costs on consultant contracts. Contract fixed fees for services whenever possible.
- Do not break down capital projects into separate prime subcontracts unless absolutely necessary. The risk is not worth the apparent savings, which are often times illusory, especially for small projects.

EXHIBITS

Township Elected Officials & Administration during the E.S.B. Project									
	2004	2005	2006	2007	2008	2009	2010	2011	
Town Committee	Richard Krieg * Robert Pierson (M) Jack Schrier * Brian Phelan Phyllis Florek	Richard Krieg (M) * Robert Pierson Jack Schrier * Brian Phelan Phyllis Florek	Richard Krieg (M) * Robert Pierson (DM) Jack Schrier * Brian Phelan Phyllis Florek	Richard Krieg Frank Ciopettini Jack Schrier * Brian Phelan Phyllis Florek (M)	Richard Krieg Frank Ciopettini Jack Schrier * Brian Phelan Phyllis Florek (M)	Richard Krieg Frank Ciopettini (M) Jack Schrier * Brian Phelan Phyllis Florek	Richard Krieg (M) Frank Ciopettini Jack Schrier * Brian Phelan Phyllis Florek	<u>(Jan - Feb)</u> Richard Krieg Frank Ciopettini (M) Jack Schrier * Sam Tolley (DM) * Maribeth Thomas	<u>(Mar - Dec)</u> Richard Krieg Frank Ciopettini (M) Richard Merkt * Sam Tolley (DM) * Maribeth Thomas
Town Administrator	Steve Mountain	Steve Mountain	Steve Mountain	Steve Mountain	Steve Mountain	Steve Mountain	Steve Mountain	Steve Mountain	Steve Mountain
Project Stage	Planning	Early Site Work Begins	Project Approved and funded; Sitework continues	Construction Starts, slab poured	Contractor terminated, job stops, surety engaged	Legal proceedings, job restarts	ESB Placed into Service	Punchlist completed	

NOTES: (M) = Mayor

* = Active or Retired Fire Department Member or relative

Project Participants Interviewed by the Lessons Learned Committee

- Sante D’Emilio (Former Town Committee member and structural steel contractor)
- Robert Pierson (Former Town Committee member and Fire Department member)
- Rich Steinberg (Fire Department member)
- Steve Mountain (Township Administrator)
- Frank Ciopettini (Township Committee Member & Building Committee Member)
- Brian Phelan (Former Town Committee member and lifetime Fire Department member)
- Anthony Bastardi (President CTC – Construction Management Firm)
- Richard Rose (Project Manager CTC)
- Kurt Mylan (Mylan Engineering – Firehouse Consultant to the Architectural Firm)

Township \$3.3 million Emergency Services Building

Mendham: Town Staff: Township \$3.3 million Emergency Services Building

By 06.06. on Friday, August 18, 2006 - 4:59 pm:

From OT:

\$3.25 million appropriated for new emergency building
08/18/2006

MENDHAM TWP. – A new, \$3.25 million firehouse and rescue squad building, first considered a decade ago, received initial Township Committee approval on Monday.

Committee members introduced an ordinance to appropriate \$3.3 million in funds for the new Brookside Emergency Services Building and revised site design for the municipal complex.

A public hearing on the ordinance is scheduled for Monday, Sept. 11.

Township Administrator Steve Mountain said the new emergency building would roughly cost \$2.7 million, and that site work, contingencies, fees for construction and design would push the total to an estimated \$3.252.

He said the estimate was rounded up to give room in the bidding process.

The current emergency services building is located on Cherry Lane next to the municipal building, and the new building will be directly behind the current structure, which will be torn down.

Mountain said the \$3.252 million figure is based on an estimate provided by Construction Technology Corp. in Fairfield. The company will be working with the township to manage the project from the bids to the construction.

Mountain said the ordinance would appropriate funds so money would be available to award the contract.

Mountain said if the bid comes in higher than the estimate, and the committee thinks the prices are in a reasonable range of bidding, they can revise the ordinance when the contract is awarded. He also said officials can reject the bids and re-bid the project.

Mountain said he is comfortable with the estimate and that the figures have gone through several different sets of eyes and are as accurate as an estimate can get.

"The hope is the bids are in 5 percent, plus or minus of the estimate," Mountain said

The bids are set to be advertised this week, Mountain said.

Citizens Study

PL

In 1996, when Committeeman Robert Pierson was mayor, he said he appointed a citizens committee to see what was needed in terms of a new emergency services building. He said the original recommendation for a new building came from the citizens group.

Pierson said there has been serious work on plans for the new emergency building for the past three years, involving officials, administrators, outside experts, and both the fire company and the first aid squad.

"We had hoped to add on to the old firehouse," Pierson said, "They had two floods in a row and the fire trucks had to be moved. It became too dangerous."

In addition to this, the new firefighting apparatus the township plans on buying would not fit in the current firehouse, he said.

Pierson said the old firehouse was built in the 1950s, and at that time they had open cab fire trucks. Since then the fire trucks have gotten larger, and there are more tools and other items needed on the trucks that didn't exist 50 years ago.

Pierson said officials decided to keep the firehouse on the current property because the township owns the land, and it is in the area where the majority of the volunteer firemen live.

"We've talked to various architects," Pierson said, "We want this firehouse to last more than 50 years."

The new firehouse will encompass two floors, Pierson said, but will meet zoning codes. In addition the parking lot will be reconfigured, with tree plantings, in addition to plantings along the stream bank to control storm water runoff from the parking lot into the brook that runs adjacent to the property.

Architectural renderings of the property will be available at the public hearing on the ordinance.

Dec 2006

MENDHAM TWP. - After a decade of waiting, the township broke ground last Thursday on a new \$3.2 million emergency services building, which will house Brookside Engine Company No. 1 and the Mendham Township First Aid Squad.

Capped with hard hats, with shovels in hand, township and construction officials and members of the township fire department gathered on the hazy winter morning for the ceremonial groundbreaking.

Mayor Richard Krieg said the building has been long overdue, since the township started a study of the need for an emergency services building in 1996.

"The key thing is this is a collaborative effort between the Township Committee and emergency services, and it will be a benefit the community," said Fire Chief Sam Tolley.

Tolley said the groundbreaking ceremony was particularly poignant because last week marked the beginning of construction on the World Trade Center memorial in New York City, reminding of the need for emergency services.

"I'm thrilled we're getting started now and will be even more thrilled when we cut the ribbon [to commemorate the opening]," said Township Committeeman Robert Pierson, a member of Brookside Engine Company No. 1.

Township Administrator Steve Mountain said the general contractor is Consolidated Building Corp. of Flanders, and several other contractors will handle the structural steel, plumbing, heating/air conditioning/ventilation and electrical, with the total of bids coming in just under \$3.2 million.

6:2.7 - Funded
3.2 - Bid
(500) over
(18.5%)
Why wasn't project stopped here!!

Weather Concerns why didn't they wait for spring??

Mountain said weather may be a factor in the project's timeline. He said the ideal timeline would be 12 months, but construction could take from a year to 15 months. CM contract was for 12 mo's!

"Getting through the end of January is a critical period," Mountain said. "We're hoping to get the shell of the building up through the month of January."

Officials said the current firehouse on Cherry Lane next to the municipal building will be demolished and the new building will be built directly behind the current structure.

The current firehouse was built in the 1950s, and the newer fire trucks do not fit in the building, as trucks have become larger.

Although renovations to the current building were considered, officials said it is located in a flood plain and has raised safety concerns.

The new emergency services building will encompass two floors, roughly 12,600 square-feet, said Michael Wonzy, an architect for EI Associates, the firm in charge of designing the building.

The building will have six bays, five for Brookside Engine Company No. 1 and one bay for the Mendham Township First Aid Squad. One of the bays for the fire department will house the township's antique fire truck.

Wonzy said the first floor of the building will include an entrance lobby, apparatus rooms and office and storage space. There will be an elevator, and upstairs, he said there will be additional offices, a meeting room and a training all-purpose room.

In terms of the structure's visage, Wonzy said the new building will have clapboard siding with stone around the base, and the bay doors will be a carriage house style.

"This is a historic district so the plans were reviewed by the historical society," Wonzy said. "We tried to fit it [the new building] in with the early American character of the neighborhood."

He said the firm is still in the process of narrowing down a color, but it will be fairly neutral.

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MEMO

To: Members of the Township Committee
From: Deputy Mayor Pierson
Date: January 23, 2006
Re: Emergency Services Building

As I mentioned last week, after a visit I had with Sante, he gave the preliminary plan for the Emergency Services Building to Scott Seltzer. Mr. Seltzer is one of the owners of Seltzer Construction Company with whom Sante has done business for the last 25 years, and Sante vouches for him.

As a favor to Sante, Mr. Seltzer completed the enclosed estimate based on drawings and job costs that were shared with him. His estimate came to \$1,750,000. The typing isn't great and some of the specifications are not exact but this estimate is dramatically less than the \$2,800,000+ estimate from EI Associates.

I recommend that we discuss this in closed session Tuesday night prior to voting on employing Mr. Bastardi's firm. I think there may well be a value in employing his firm but I have some information that I'd like to share with you in closed session. We can always come out of closed session and have our vote at the end of the evening.

**MEMO TO T.C REGARDING SELTZER ESTIMATE &
HIRING CTC AS CONSTRUCTION MANAGER.**

FACSIMILE COVER PAGE

To : Sante D'Emidio
Sent : 1/23/2006 at 9:54:08 AM

From : scott Seltzer
Pages : 1 (including Cover)

Subject :

Sante,

I have reviewed the preliminary architectural plans for the Mendham Township Emergency Services building, prepared by Mylan Architectural and EI Associates. While the plans are very preliminary in nature, there is enough information for me to put together a relatively good budget for the cost of construction. This budget includes;

- 1-Layout and limeout, excavation for footings, reinforcing and casting in place of concrete.
- 2-Masonry foundation up to finished floor elevation, reinforced and filled solid, foundation insulation, backfill and compact
- 3-Column footings and pedestals for perimeter structural steel columns
- 4-Structural steel fab and erect and second floor support structure, hollow pan stairs, rails, metal decking
- 5-Perimeter masonry reinforced and filled for seismic, up to roof truss bearing elevations around perimeter
- 6-Pre-engineered 2x plate trusses, designed, fabricated and installed with engineered drawings and calcs, roof sheathed and shingled
- 7-Slab on grade(6-8" where required), slab on deck(4")
- 8-Exterior exposed masonry to receive hardcoat drivit(that's synthetic stucco over wire lath)
- 9-Fascia, soffits, gutters and leaders
- 10-Exterior glass and aluminum overhead doors(motor operators), exterior personnel doors, and glass and aluminum wdws.
- 11-All interior and perimeter first floor walls have been estimated as masonry, all second floor walls(with exception of shaft)have been estimated as metal stud and sheetrock
- 12-HUng acoustical ceilings throughout first and second floors
- 13-Hollow metal door frames and either hollow metal or wood veneer doors, all accessible hardware throughout
- 14-All walls painted, all floors to receive carpet, vct or ceramic tile(bathroom floor and walls), epoxy on first floor service bay floors
- 15-Two stop passenger elevator with all bells and whistles
- 16-HVAC, Electrical, Plumbing, and Sprinkler(first and second floor-not attic)

Includes bond fees, supervision, clean-up, etc. No furnishings, no permit fees, no equipment other than elevator.

Budgetary cost inclusive of overhead and profit-\$1,755,000.00

Any questions, don't hesitate to call.

Scott

SELTZER ESTIMATE

From: Carolyn Morris
Sent: Fri 9/7/2007 7:35 AM
To: Tom Loreda
Cc: Michael Wozny; Steve Mountain; Len D. Jacob
Subject: Apparatus Bay Floors

**FIRST NOTE FOUND INDICATING A
DEFICIENCY IN THE SLAB POUR. NOTE
8/23/2007 DATE**

Tom,

The apparatus bay floors that were poured on 8/23 are unacceptable. There are visible ridges and ripples in the slab on grade finish along with areas where the floor is not pitched correctly to the floor drains. By your own admission at the construction meeting you said that in some areas the slab was as much as 9" thick, and that the concrete set up faster than expected. The slab-on-grade must be corrected immediately at **no additional cost to the Township.**

Regards,

Carolyn C. Morris
Project Manager
Construction Technology Corporation
Mobile :201-926-1626

THIS E-MAIL WAS FORWARDED TO RICHARD ROSE @ CTC ON 6/11/08

From: Carolyn Morris
Sent: Thursday, September 27, 2007 3:32 PM
To: Tom Loreda
Cc: Steve Mountain; Len D. Jacob
Subject: RE: Apparatus Bay Floors
Importance: High

**FOLLOW UP MEMO FROM CTC ON-SITE
CONSTRUCTION MANAGER. NOTE LITTLE
SENSE OF URGENCY. CONCRETE HAS
REACHED MAXIMUM STRENGTH**

Tom,

As you mentioned at the end of the last construction meeting and we discussed this morning, the apparatus floors will be repaired at no cost to the Owner. Please advise when you will be scheduling this work so that I can have the other contractors remove any stored equipment, material, tools, ect.
Your attention to the matter is expected and appreciated.

Regards,

Carolyn C. Morris
Project Manager
Construction Technology Corporation
Mobile :201-926-1626

**MEMOS INDICATING TOWN
BEGINNING TO REALIZE IT HAS A
SERIOUS PROBLEM WITH THE SLAB**

Steve Mountain

From: Steve Mountain [smountain@mendhamtownship.org]
Sent: Wednesday, September 26, 2007 5:08 PM
To: 'phyllisf@netintel.com'
Subject: RE: Floor ES building

Phyllis-

I am aware of the issue and have been assured by our contractor and construction manager that the floor will be fixed (at the contractor's expense) to our satisfaction.

Steve

-----Original Message-----

From: phyllisf@netintel.com [mailto:phyllisf@netintel.com]
Sent: Wednesday, September 26, 2007 6:14 AM
To: Steve Mountain; Frank, June Cioppettini; Brian/Lynn Phelan; Rich Krieg
Subject: Floor ES building

Steve, frank feels we may have a real issue with the way the floor was poured. Are you aware of this and what how caan this be addressed?
Phyllis

Steve Mountain

From: Steve Mountain [smountain@mendhamtownship.org]
Sent: Friday, October 26, 2007 9:39 AM
To: 'frank cioppettini'
Subject: RE: EMS

Will do.

From: frank cioppettini [mailto:frankciop@patmedia.net]
Sent: Friday, October 26, 2007 8:58 AM
To: smountain@mendhamtownship.org
Subject: EMS

I am concerned that the contractors and managers may attempt to pull the wool over our eyes with respect to the concrete floors--the Engineer should be providing us with an opinion letter that states the concrete floors have been constructed in accordance with the plans and specifications and are performing as designed. Anything less then us receiving said statement is a cause for concern.

Please call me next week on my cell 908-229-6093 after we hear from the Engineer.

Thanks

Frank

**IN FACT, EVEN IF THE SLAB
WERE POURED CORRECTLY,
THE DESIGN WAS FLAWED.**

NINE MONTHS AFTER SLAB POUR; CONST MGR IS ACKNOWLEDGING THAT THE SLAB DESIGN WAS IN FACT DEFICIENT TO BEGIN WITH. THE PITCH, OR SLOPE TO THE DRAINS WAS INSUFFICIENT FOR PROPER DRAINAGE.

CONST MGR IS PROPOSING TO CORRECT THE ARCHITECT'S DESIGN FLAW UNDER THE COVER OF THE GENERAL CONTRACTOR'S OBLIGATION TO REPLACE THE DEFECTIVELY Poured SLAB.

Page 1 of 1

Len D. Jacob

From: Len D. Jacob **Sent:** Wed 5/28/2008 10:48 AM
To: smountain@mendhamtownship.org; rhkrieg@gmail.com; frankclop@patmedia.net
Cc:
Subject: FW: Recommend Increased Pitch to Existing Floor Drains
Attachments:

Folks,
The below e-mail is forwarded IN CONFIDENCE ONLY for your use and information.
Len

From: Anthony Bastardi
Sent: Wed 5/28/2008 10:27 AM
To: Len D. Jacob
Subject: Recommend Increased Pitch to Existing Floor Drains

OK -- I understand. Given the difficulty in accomplishing what I believe to be a "perfect" solution (i.e., trench drains) to correct the deficient 1" pitch over an 18' run in the long direction, I would like you and the committee to consider increasing the 1" pitch to 1.5" or even 2.0". I am insistent on this because I am certain that the water will not run to the drains with less than 1/16" per foot pitch in the long direction. When that happens, it could evoke sentiments ranging from unhappiness to severe criticism. Since we are tearing up the entire slab to correct the contractor's admitted defects, we should at the same time correct the deficient pitch to construct a system that will in fact achieve the objective, i.e., move the water from the floor and into the drains. Please forward this e-mail to Steve, Frank, and Rich, in confidence, but no one else since I have referred to the pitch as deficient and do not want to get the designers up in arms or provide the contractor with an excuse. Tony

From: Len D. Jacob
Sent: Wednesday, May 28, 2008 10:05 AM
To: Anthony Bastardi
Subject: BESB - Trench Drain

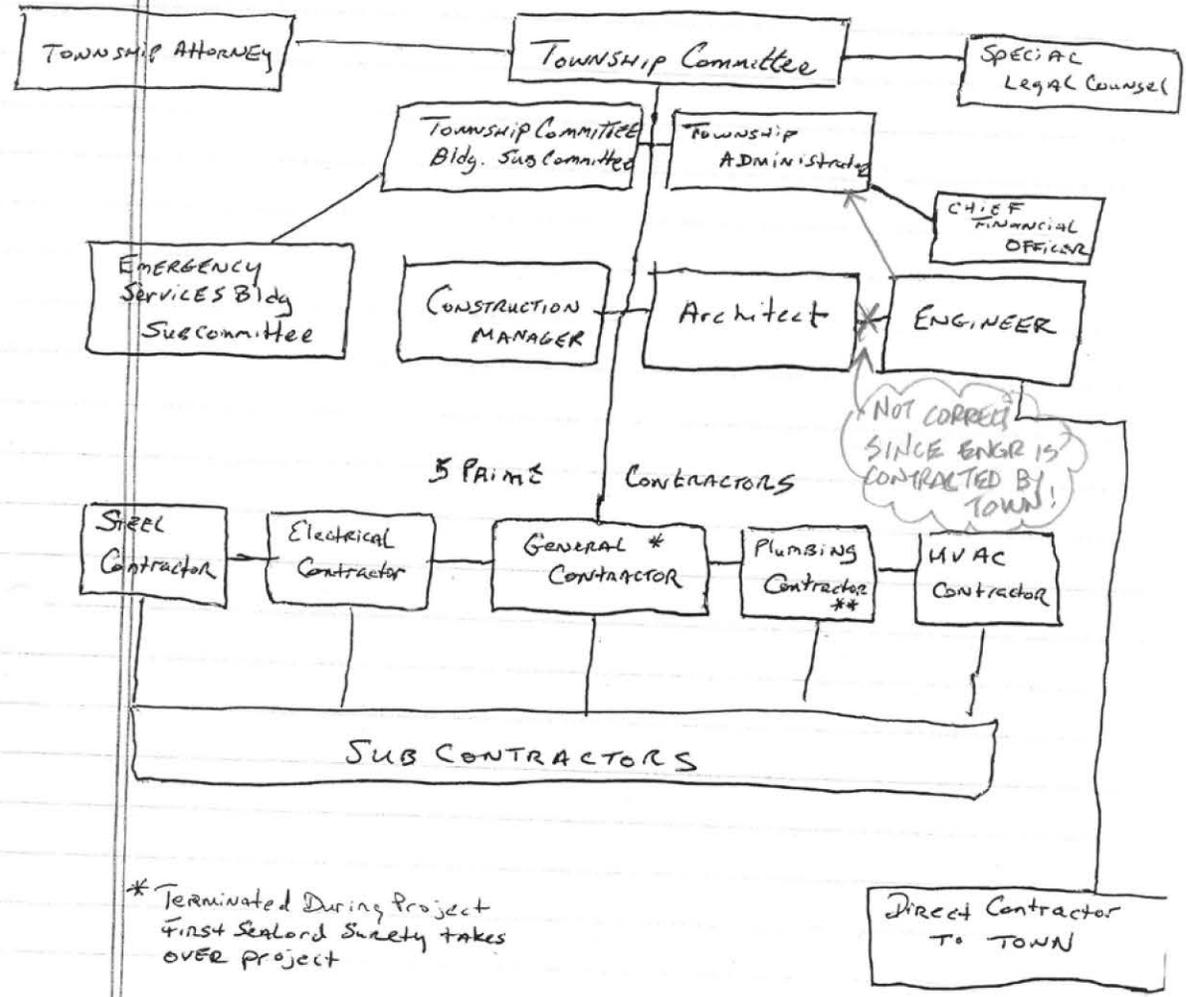
After further review (by myself and the Architect), we cannot use the trench drain concept you suggested. The trench drain requires approximately 4" concrete below the trench drain; obviously, we have 4" at the east end of the building (floor drains closest to the overhead doors), but when we proceed to the west end of the proposed trench drain we are below the slab thickness. The proposed catch basin to be used as a sand filter is approximately 20" deep. Adding the pitch of the drain + 4" concrete below the catch basin results in bottom of the catch basin approximately 24-30" deep. The conduits are approximately 9" deep, so we would have to rework the conduits (and possibly plumbing drain lines?) and excavate (in water?) to install the catch basins.

Reviewed the above with the Architect (who concurred), Steve and Frank - they all feel we should proceed with the individual floor drain concept and slopes as indicated on the plans. We will confirm this at tomorrow's Job Meeting.

**PROJECT ORGANIZATIONAL CHART
SHOWING DIFFUSE ACCOUNTABILITIES
AND UNCLEAR STRUCTURE**

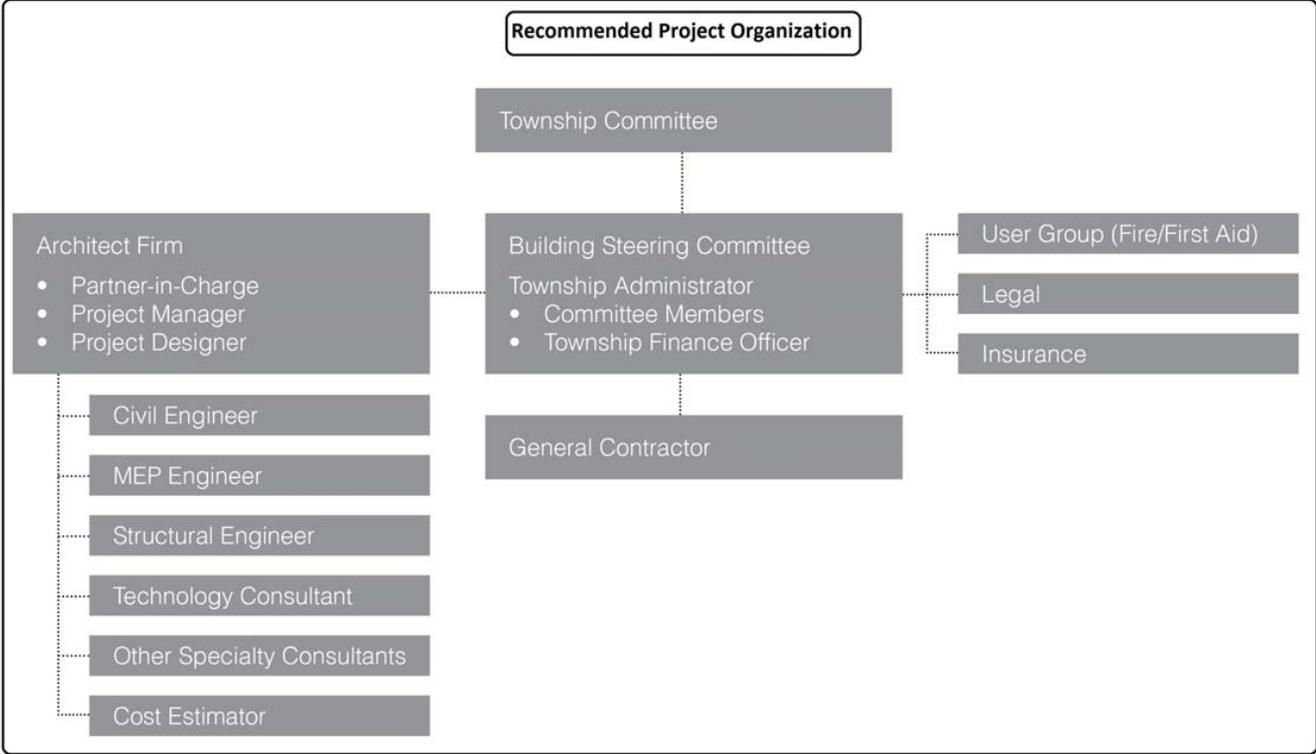
Emergency Services Building Project
Project Management

FROM STEVE M.
7/27/11



* Terminated During Project
First Surety takes
over project

** Left project prior to completion
Replacement plumber hired through
Surety to complete work



**GENERAL CONTRACTOR'S (CBC)
APPLICATIONS FOR PAYMENT,
APPROVED BY THE ARCHITECT**

APPLICATION FOR PAYMENT

Page 1

TO OWNER: Mendham Township
2 West Main St.
Brookside, NJ

PROJECT: MESB101
Emergency Services Building
West Main St.
Brookside, NJ

APPLICATION NO. 15
PERIOD TO: 08/03/2007
PROJECT #s: EG5962.01

Distribution to:
 OWNER
 CONTRACTOR
 ARCHITECT

FROM CONTRACTOR: Consolidated Building Corp.
440 E. Westfield Ave.
Roselle Park, NJ 07204

ARCHITECT: El Associates
8 Ridgedale Ave.
Cedar Knolls, NJ 07927

CONTRACT DATE: 11/24/2006

CONTRACT FOR: Mendham Township Emergency Services Building

CONTRACTOR'S SUMMARY OF WORK

Application is made for payment as shown below.
Continuation Page is attached.

1. ORIGINAL CONTRACT AMOUNT \$2,174,300.00

2. NET CHANGE BY CHANGE ORDERS

3. CONTRACT AMOUNT TO DATE (Line 1 +/- 2) \$2,174,300.00

4. TOTAL COMPLETED AND STORED TO DATE \$1,167,100.00
(Column G on Continuation Page)

5. RETAINAGE:

a. 2.00% of Completed Work
(Columns D + E on Continuation Page)

b. 2.00% of Stored Material
(Column F on Continuation Page)

Total Retainage (Line 5a + 5b or
Column I on Continuation Page) \$23,342.00

6. TOTAL EARNED LESS RETAINAGE \$1,143,758.00
(Line 4 minus Line 5 Total)

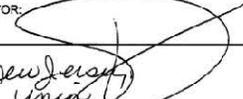
7. LESS PREVIOUS APPLICATIONS FOR PAYMENT \$1,093,435.00
(Line 6 from prior Application)

8. CURRENT PAYMENT DUE \$50,323.00

9. BALANCE TO FINISH, INCLUDING RETAINAGE \$1,030,542.00
(Line 3 minus Line 8)

CHANGE ORDER SUMMARY	ADDITIONS	DEDUCTIONS
Total changes approved in previous months	\$0.00	\$0.00
Total approved this month	\$0.00	\$0.00
TOTALS	\$0.00	\$0.00

Contractor's signature below is his assurance to Owner, concerning the payment herein applied for, that: (1) the Work has been performed as required in the Contract Documents, (2) all sums previously paid to Contractor under the Contract have been used to pay Contractor's costs for labor, materials and other obligations under the Contract for Work previously paid for, and (3) Contractor is legally entitled to this payment.

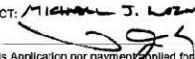
CONTRACTOR:  Date: 3 Aug 07

State of: New Jersey
County of: Union
Subscribed and sworn to before me this 3rd day of August 2007

Notary Public: Kathleen McKinley
My Commission Expires: 3-26-09
KATHLEEN MCKINLEY
Notary Public
STATE OF NEW JERSEY
My Commission Expires 3-26-2009

ARCHITECT'S CERTIFICATION
Architect's signature below is his assurance to Owner, concerning the payment herein applied for, that: (1) Architect has inspected the Work represented by this Application, (2) such Work has been completed to the extent indicated in this Application, and the quality of workmanship and materials conforms with the Contract Documents, (3) the Application for Payment accurately states the amount of Work completed and payment due therefor, and (4) Architect knows of no reason why payment should not be made.

AMOUNT CERTIFIED \$50,323.00
(Attach explanation if amount certified differs from the amount applied for. Initial all figures on this Application and on the Continuation Page that are changed to conform to the amount certified.)

ARCHITECT: Michael J. Lopez
By:  Date: 8/1/07

Neither this Application nor payment applied for herein is assignable or negotiable. Payment shall be made only to Contractor, and is without prejudice to any rights of Owner or Contractor under the Contract Documents or otherwise.

APPLICATION FOR PAYMENT

CONTINUATION PAGE

**SLAB NOT POURED YET AND
CONTRACTOR HAS BEEN PAID FOR
95% OF THE WORK.**

Page 3 of 6

APPLICATION FOR PAYMENT containing Contractor's signed Certification is attached.
Use Column I when variable retainage for line items may apply.

APPLICATION NO.: 15
APPLICATION DATE: 08/03/2007
PERIOD TO: 08/03/2007
PROJECT #s: EG5962.01

ITEM #	WORK DESCRIPTION	SCHEDULED VALUE	COMPLETED WORK		STORED MATERIALS (NOT IN D OR E)	TOTAL COMPLETED AND STORED (D + E + F)	% (G / C)	BALANCE TO COMPLETION (C - G)	RETAINAGE (IF VARIABLE RATE)
			FROM PREVIOUS APPLICATION (D + E)	THIS PERIOD					
17	Water Main	\$15,000.00	\$0.00	\$0.00	\$0.00	\$0.00	0%	\$15,000.00	\$0.00
18	Landscape Area Preparation	\$5,000.00	\$0.00	\$0.00	\$0.00	\$0.00	0%	\$5,000.00	\$0.00
19	New Retaining Wall	\$5,000.00	\$0.00	\$0.00	\$0.00	\$0.00	0%	\$5,000.00	\$0.00
20	Shed & Dumpster Pads	\$2,000.00	\$0.00	\$0.00	\$0.00	\$0.00	0%	\$2,000.00	\$0.00
21	Enclosure Fence	\$3,000.00	\$0.00	\$0.00	\$0.00	\$0.00	0%	\$3,000.00	\$0.00
22	Building Layout	\$16,300.00	\$16,300.00	\$0.00	\$0.00	\$16,300.00	100%	\$0.00	\$326.00
23	Building Excavation & Backfill	\$35,000.00	\$35,000.00	\$0.00	\$0.00	\$35,000.00	100%	\$0.00	\$700.00
24	Concrete Footings	\$60,000.00	\$60,000.00	\$0.00	\$0.00	\$60,000.00	100%	\$0.00	\$1,200.00
25	Concrete Slab On Grade	\$40,000.00	\$36,000.00	\$2,000.00	\$0.00	\$38,000.00	95%	\$2,000.00	\$760.00
26	Concrete Slab On Deck	\$50,000.00	\$50,000.00	\$0.00	\$0.00	\$50,000.00	100%	\$0.00	\$1,000.00
27	Below Grade Masonry	\$80,000.00	\$80,000.00	\$0.00	\$0.00	\$80,000.00	100%	\$0.00	\$1,000.00
28	Above Grade Masonry	\$315,000.00	\$308,700.00	\$3,150.00	\$0.00	\$311,850.00	99%	\$3,150.00	\$6,237.00
29	Cast Stone & Veneer	\$20,000.00	\$0.00	\$0.00	\$0.00	\$0.00	0%	\$20,000.00	\$0.00
30	Waterproofing & Dampproofing	\$6,000.00	\$6,000.00	\$0.00	\$0.00	\$6,000.00	100%	\$0.00	\$120.00
31	Steel Framing Support	\$3,000.00	\$3,000.00	\$0.00	\$0.00	\$3,000.00	100%	\$0.00	\$60.00
32	Disappearing Stairs	\$4,000.00	\$0.00	\$0.00	\$0.00	\$0.00	0%	\$4,000.00	\$0.00
TOTALS		\$1,026,300.00	\$811,250.00	\$5,150.00	\$0.00	\$816,400.00	80%	\$209,900.00	\$16,328.00

CONTINUATION PAGE FOR APPLICATION FOR PAYMENT



CONSTRUCTION TECHNOLOGY CORPORATION
Construction Managers • Design-Builders • Engineers

Mtg #
30
11/20/07

Brookside Emergency Services Building
Mendham Township, NJ
Contractor Coordination Meeting No. 29

Meeting Date: 11/13/07 @ 10:00AM @ Mendham Township Municipal Building

Present:

✓Steve Mountain(SM)	MT	✗Carolyn Morris(CM)	CTC
✓Frank Cioppettini (FC)	MT	✓Leonard Jacob (LJ)	CTC
✓Rich Krieg (RK)	MT	✓Tom Loreda(TL)	CBC
✗Rich Steinberg (RS)	BEC	✓Carl Zenda (CZ)	CBC
✓George McKinnel (GM)	BEC	Sante D'Emidio (SD)	ISE
✗Kurt Schmitt (KS)	MAG	Kenneth Davis (KD)	RMI
✓Michael Wozny (MW)	EIA	✗Joe Carroll (JC)	PWP
✗Tom R. Lemanowicz(TRL)	MC	✗Bob Langlais (BL)	PWP
✗Craig Hermann (CH)	MC	Wayne Jones (WJ)	EVC
		Luke Vega (LV)	EVC

Purpose: A Contractor Coordination Meeting was held with the Prime Contractors, Construction Manager, Architect, Township Engineer, and the Township to discuss construction coordination logistics for the Brookside Emergency Services Building.

Note: Items in bold reflect current meeting discussions.

No.	Item of Discussion	Action	By
	Brookside Emergency Services Building		
	Old Business		
4-1	<u>Septic System</u> (Text truncated for space.)... TL indicated that he would like to commence this work as soon as a BoH decision is reached on the OWS. EIA will inspect the select fill and perform the necessary testing (SM provided verbal approval to MW to proceed with this work; MW to try to have Sor Testing on job in next day or so to take soil samples). (Post Mtg. Note: Sor Testing on job 11/2, took samples of select fill material; initial results indicate soil is not acceptable. TL to review soil material and revise accordingly). ITEM CLOSED. Sample of revised fill material taken 11/9; approval given 11/13. ITEM CLOSED		
14-1	<u>Ductwork</u> (Text truncated for space.) ... TL stated that middle of next week (w/e 10/26) openings for duct penetrations and additional support for AHU5 would be completed, provided that the openings were clearly marked. TL asked that the equipment (AHU5) not be installed until opening is completed, WJ agreed. CM indicated to TL (on drawing M-10) the 6	EI, WJ	

1

**THIS IS FIRST PROJECT
REPORT TO NOTE A
PROBLEM WITH THE SLAB**

done as soon as listed out

	openings to be made within the next 2 weeks. <i>Utilities</i> – Transformer pad to be poured after septic field is completed. Conduits at rear to be installed after siding is completed.		
29-6	Concrete Floors TL indicated that the heavy grinding of the slab-on-grade in the Auxiliary Bay has been completed. A scarifying machine will be used next week to complete the slab finish repair. At the 2 nd Floor, areas that are currently not level or have “dips” will be flashpatched. <i>2 Bays done</i>	TL	
29-7	6-Panel Wood Doors RS confirmed the 6-panel configuration on the wood doors. ITEM CLOSED.	Info	
29-8	Acoustic Ceiling Tile TL presented some unit pricing for various ceiling tiles... - tile as specified: \$0.64/sf (mat'l only); proposed tile (Armstrong 1761 Second Look II): \$0.80/sf (mat'l only); USG Radar (similar to Armstrong 1761): \$0.62/sf (mat'l only); additional labor cost for angled Tegular in lieu of square lay-in: \$0.52/sf. RS to review and advise. (Post Mtg. Note: approximate square footage at 2 nd Floor: 4,800 sf) <i>George: Response by 11/26 TL: 3-5 wk lead time</i>	RS	
29-9	Kitchen Cabinets/Countertops TL indicated that the kitchen cabinets requested by the User can be provided within the current pricing. Proposal for Silestone countertop is \$13,188 (furnish and install) vs. \$3,900 for Formica countertop (furnish only) as included in current pricing. Home Depot is not certified with the Dept of Labor to install the countertop as part of CBC's contract; User can contract directly for the furnishing and installation of countertop. CBC to provide a deduct amount to eliminate furnishing/installation of countertop from the current pricing. TL given ok to release/purchase cabinets. RS indicated that User will have a decision regarding countertop next week. <i>Home Depot will pay for drop down to see</i>	TL, RS	
29-10	Flooring Alternates RS to meet with CBC's flooring contractor to review alternate flooring materials; decision by 11/20. <i># 11/21</i>	RS	
29-11	Concrete Pavers Location and method of installation of dedicated concrete pavers needs to be provided; response by 11/27 <i>not in front dr</i>	RS	

Heavy grinding behind main entry

This concluded the meeting. If the above does not accurately reflect the meeting held, please contact Leonard Jacob of CTC at 973-813-2468. The next meeting will be held **TUESDAY (Note Day Change) November 20th at 10:00 AM (Note Time Change) in the Municipal Building.**

Mtg to on TH 11 x next 2 Th

Color chart for effort - would like to see 11/20

- Drawing floor plan
- Pay survey - RS to select
- Interns on if; User to provide

Next Trip Comm Mtg 12/1/18

11/20



Home Firm People Projects News Contact

Firehouse Town of Mendham | Mendham, NJ

The Township of Mendham retained El Associates to design a new firehouse. The new firehouse provides a modern facility for the volunteer fire department as well as space for meetings and other social functions. A pre-engineered steel structure was used to accelerate the construction schedule and contain costs. The exterior was designed with durable modern construction materials that provide an attractive up-to-date yet rural image befitting the semi-rural, colonial setting of the Historic District.

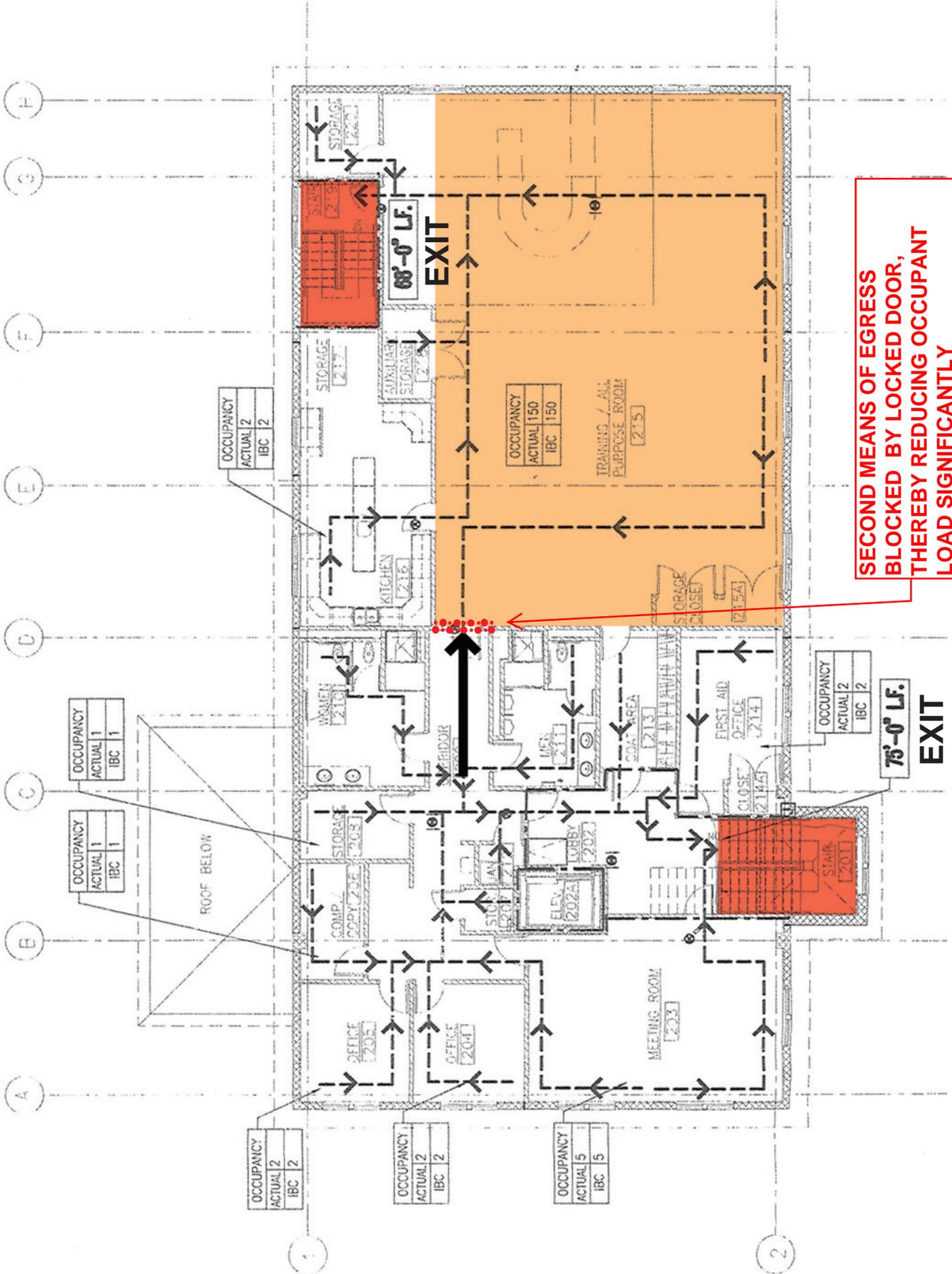


El Associates. Architecture. Website. Harp | oatio s l c. o l o tractors lte ap o tact s



SCREEN SHOT FROM THE ARCHITECTURAL FIRM'S WEBSITE. WITHOUT PROPER DUE DILIGENCE, ONE MIGHT ASSUME THE TOWNSHIP WAS SATISFIED WITH THEIR WORK

www.elassociates.com/project.php?id=96



**SECOND MEANS OF EGRESS
BLOCKED BY LOCKED DOOR,
THEREBY REDUCING OCCUPANT
LOAD SIGNIFICANTLY**

Second Floor Plan: Egress

1019.3 Openness. The long side of an egress balcony shall be at least 50 percent open, and the open area above the guards shall be so distributed as to minimize the accumulation of smoke or toxic gases.

**SECTION 1020
EXITS**

1020.1 General. Exits shall comply with Sections 1020 through 1026 and the applicable requirements of Sections 1003 through 1013. An exit shall not be used for any purpose that interferes with its function as a means of egress. Once a given level of exit protection is achieved, such level of protection shall not be reduced until arrival at the exit discharge.

1020.2 Exterior exit doors. Buildings or structures used for human occupancy shall have at least one exterior door that meets the requirements of Section 1008.1.1.

1020.2.1 Detailed requirements. Exterior exit doors shall comply with the applicable requirements of Section 1008.1.

1020.2.2 Arrangement. Exterior exit doors shall lead directly to the exit discharge or the public way.

**SECTION 1021
NUMBER OF EXITS AND CONTINUITY**

1021.1 Exits from stories. All spaces within each story shall have access to the minimum number of approved independent exits as specified in Table 1021.1 based on the occupant load of the story. For the purposes of this chapter, occupied roofs shall be provided with exits as required for stories.

Exceptions:

1. As modified by Section 403.5.2.
2. As modified by Section 1021.2.
3. In Group R-2 occupancies, one means of egress is permitted within and from individual dwelling units with a maximum occupant load of 10 where the dwelling unit is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.
4. Within a story, rooms and spaces complying with Section 1015.1 with exits that discharge directly to the exterior at the level of exit discharge, are permitted to have one exit.
5. In buildings of Group R-3 occupancy.

**TABLE 1021.1
MINIMUM NUMBER OF EXITS FOR OCCUPANT LOAD**

OCCUPANT LOAD (persons per story)	MINIMUM NUMBER OF EXITS (per story)
1-500	2
501-1,000	3
More than 1,000	4

1021.1.1 Exits maintained. The required number of exits from any story shall be maintained until arrival at grade or the public way.

1021.1.2 Parking structures. Parking structures shall not have less than two exits from each parking tier, except that only one exit is required where vehicles are mechanically parked. Vehicle ramps shall not be considered as required exits unless pedestrian facilities are provided.

1021.1.3 Helistops. The means of egress from helistops shall comply with the provisions of this chapter, provided that landing areas located on buildings or structures shall have two or more exits. For landing platforms or roof areas less than 60 feet (18 288 mm) long, or less than 2,000 square feet (186 m²) in area, the second means of egress is permitted to be a fire escape, alternating tread device or ladder leading to the floor below.

1021.2 Single exits. Only one exit shall be required from Group R-3 occupancy buildings or from stories of other buildings as indicated in Table 1021.2. Occupancies shall be permitted to have a single exit in buildings otherwise required to have more than one exit if the areas served by the single exit do not exceed the limitations of Table 1021.2. Mixed occupancies shall be permitted to be served by single exits provided each individual occupancy complies with the applicable requirements of Table 1021.2 for that occupancy. Where applicable, cumulative occupant loads from adjacent occupancies shall be considered in accordance with the provisions of Section 1004.1. Basements with a single exit shall not be located more than one story below grade plane.

1021.3 Exit continuity. Exits shall be continuous from the point of entry into the exit to the exit discharge.

1021.4 Exit door arrangement. Exit door arrangement shall meet the requirements of Sections 1015.2 through 1015.2.2.

**SECTION 1022
EXIT ENCLOSURES**

1022.1 Enclosures required. Interior exit stairways and interior exit ramps shall be enclosed with fire barriers constructed in accordance with Section 707 or horizontal assemblies constructed in accordance with Section 712, or both. Exit enclosures shall have a fire-resistance rating of not less than 2 hours where connecting four stories or more and not less than 1 hour where connecting less than four stories. The number of stories connected by the exit enclosure shall include any basements but not any mezzanines. Exit enclosures shall have a fire-resistance rating not less than the floor assembly penetrated, but need not exceed 2 hours. Exit enclosures shall lead directly to the exterior of the building or shall be extended to the exterior of the building with an exit passageway conforming to the requirements of Section 1023, except as permitted in Section 1027.1. An exit enclosure shall not be used for any purpose other than means of egress.

Exceptions:

1. In all occupancies, other than Group H and I occupancies, a stairway is not required to be enclosed when the stairway serves an occupant load of less than 10 or serves four or fewer dwelling units and the stairway complies with either Item 1.1 or 1.2. In all cases, the maximum number of connecting open stories shall not exceed two.

- 1.1. The *stairway* is open to not more than one *story* above its *level of exit discharge*; or
- 1.2. The *stairway* is open to not more than one *story* below its *level of exit discharge*.
- 2. *Exits* in buildings of Group A-5 where all portions of the *means of egress* are essentially open to the outside need not be enclosed.
- 3. *Stairways* serving and contained within a single residential dwelling unit or sleeping unit in Group R-1, R-2 or R-3 occupancies are not required to be enclosed.
- 4. *Stairways* in open parking structures that serve only the parking structure are not required to be enclosed.
- 5. *Stairways* in Group I-3 occupancies, as provided for in Section 408.3.8, are not required to be enclosed.
- 6. *Means of egress stairways* as required by Sections 410.5.3 and 1015.6.1 are not required to be enclosed.
- 7. *Means of egress stairways* from balconies, galleries or press boxes as provided for in Section 1028.5.1 are not required to be enclosed.

1022.2 Termination. *Exit enclosures* shall terminate at an *exit discharge* or a *public way*.

Exception: An *exit enclosure* shall be permitted to terminate at an *exit passageway* complying with Section 1023, provided the *exit passageway* terminates at an *exit discharge* or a *public way*.

1022.2.1 Extension. Where an *exit enclosure* is extended to an *exit discharge* or a *public way* by an *exit passageway*, the *exit enclosure* shall be separated from the *exit passageway* by a *fire barrier* constructed in accordance with Section 707 or a *horizontal assembly* constructed in accordance with Section 712, or both. The *fire-resistance rating* shall be at

least equal to that required for the *exit enclosure*. A *fire door assembly* complying with Section 715.4 shall be installed in the *fire barrier* to provide a *means of egress* from the *exit enclosure* to the *exit passageway*. Openings in the *fire barrier* other than the *fire door assembly* are prohibited. Penetrations of the *fire barrier* are prohibited.

Exception: Penetrations of the *fire barrier* in accordance with Section 1022.4 shall be permitted.

1022.3 Openings and penetrations. *Exit enclosure* opening protectives shall be in accordance with the requirements of Section 715.

Openings in *exit enclosures* other than unprotected exterior openings shall be limited to those necessary for *exit access* to the enclosure from normally occupied spaces and for egress from the enclosure.

Elevators shall not open into an *exit enclosure*.

1022.4 Penetrations. Penetrations into and openings through an *exit enclosure* are prohibited except for required *exit doors*, equipment and ductwork necessary for independent ventilation or pressurization, sprinkler piping, standpipes, electrical raceway for fire department communication systems and electrical raceway serving the *exit enclosure* and terminating at a steel box not exceeding 16 square inches (0.010 m²). Such penetrations shall be protected in accordance with Section 713. There shall be no penetrations or communication openings, whether protected or not, between adjacent *exit enclosures*.

1022.5 Ventilation. Equipment and ductwork for *exit enclosure* ventilation as permitted by Section 1022.4 shall comply with one of the following items:

- 1. Such equipment and ductwork shall be located exterior to the building and shall be directly connected to the *exit enclosure* by ductwork enclosed in construction as required for shafts.

**TABLE 1021.2
STORIES WITH ONE EXIT**

STORY	OCCUPANCY	MAXIMUM OCCUPANTS (OR DWELLING UNITS) PER FLOOR AND TRAVEL DISTANCE
First story or basement	A, B ^d , E ^e , F ^d , M, S ^d	49 occupants and 75 feet travel distance
	H-2, H-3	3 occupants and 25 feet travel distance
	H-4, H-5, I, R	10 occupants and 75 feet travel distance
	S ^a	29 occupants and 100 feet travel distance
Second story	B ^b , F, M, S ^a	29 occupants and 75 feet travel distance
	R-2	4 dwelling units and 50 feet travel distance
Third story	R-2 ^c	4 dwelling units and 50 feet travel distance

For SI: 1 foot = 304.8 mm.

- a. For the required number of exits for parking structures, see Section 1021.1.2.
- b. For the required number of exits for air traffic control towers, see Section 412.3.
- c. Buildings classified as Group R-2 equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2 and provided with emergency escape and rescue openings in accordance with Section 1029.
- d. Group B, F and S occupancies in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 shall have a maximum travel distance of 100 feet.
- e. Day care occupancies shall have a maximum occupant load of 10.

code are also met based on such modified number and the *occupant load* does not exceed one occupant per 5 square feet (0.47 m²) of occupiable floor space. Where required by the *building official*, an *approved aisle*, seating or fixed equipment diagram substantiating any increase in *occupant load* shall be submitted. Where required by the *building official*, such diagram shall be posted.

1004.3 Posting of occupant load. Every room or space that is an assembly occupancy shall have the *occupant load* of the room or space posted in a conspicuous place, near the main *exit* or *exit access doorway* from the room or space. Posted signs shall be of an *approved* legible permanent design and shall be maintained by the owner or authorized agent.

1004.4 Exiting from multiple levels. Where *exits* serve more than one floor, only the *occupant load* of each floor considered individually shall be used in computing the required capacity of the *exits* at that floor, provided that the *exit* capacity shall not decrease in the direction of egress travel.

1004.5 Egress convergence. Where *means of egress* from floors above and below converge at an intermediate level, the capacity of the *means of egress* from the point of convergence shall not be less than the sum of the two floors.

1004.6 Mezzanine levels. The *occupant load* of a *mezzanine* level with egress onto a room or area below shall be added to that room or area's *occupant load*, and the capacity of the exits shall be designed for the total *occupant load* thus established.

1004.7 Fixed seating. For areas having fixed seats and *aisles*, the *occupant load* shall be determined by the number of fixed seats installed therein. The *occupant load* for areas in which fixed seating is not installed, such as waiting spaces and *wheel-chair spaces*, shall be determined in accordance with Section 1004.1.1 and added to the number of fixed seats.

For areas having fixed seating without dividing arms, the *occupant load* shall not be less than the number of seats based on one person for each 18 inches (457 mm) of seating length.

The *occupant load* of seating booths shall be based on one person for each 24 inches (610 mm) of booth seat length measured at the backrest of the seating booth.

1004.8 Outdoor areas. Yards, patios, courts and similar outdoor areas accessible to and usable by the building occupants shall be provided with *means of egress* as required by this chapter. The *occupant load* of such outdoor areas shall be assigned by the *building official* in accordance with the anticipated use. Where outdoor areas are to be used by persons in addition to the occupants of the building, and the path of egress travel from the outdoor areas passes through the building, *means of egress* requirements for the building shall be based on the sum of the *occupant loads* of the building plus the outdoor areas.

Exceptions:

1. Outdoor areas used exclusively for service of the building need only have one *means of egress*.
2. Both outdoor areas associated with Group R-3 and individual dwelling units of Group R-2.

**TABLE 1004.1.1
MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT**

FUNCTION OF SPACE	FLOOR AREA IN SQ. FT. PER OCCUPANT
Accessory storage areas, mechanical equipment room	300 gross
Agricultural building	300 gross
Aircraft hangars	500 gross
Airport terminal	
Baggage claim	20 gross
Baggage handling	300 gross
Concourse	100 gross
Waiting areas	15 gross
Assembly	
Gaming floors (keno, slots, etc.)	11 gross
Assembly with fixed seats	See Section 1004.7
Assembly without fixed seats	
Concentrated (chairs only—not fixed)	7 net
Standing space	5 net
Unconcentrated (tables and chairs)	15 net
Bowling centers, allow 5 persons for each lane including 15 feet of runway, and for additional areas	7 net
Business areas	100 gross
Courtrooms—other than fixed seating areas	40 net
Day care	35 net
Dormitories	50 gross
Educational	
Classroom area	20 net
Shops and other vocational room areas	50 net
Exercise rooms	50 gross
H-5 Fabrication and manufacturing areas	200 gross
Industrial areas	100 gross
Institutional areas	
Inpatient treatment areas	240 gross
Outpatient areas	100 gross
Sleeping areas	120 gross
Kitchens, commercial	200 gross
Library	
Reading rooms	50 net
Stack area	100 gross
Locker rooms	50 gross
Mercantile	
Areas on other floors	60 gross
Basement and grade floor areas	30 gross
Storage, stock, shipping areas	300 gross
Parking garages	200 gross
Residential	200 gross
Skating rinks, swimming pools	
Rink and pool	50 gross
Decks	15 gross
Stages and platforms	15 net
Warehouses	500 gross

For SI: 1 square foot = 0.0929 m².

Township of Mendham

INCORPORATED MARCH 29, 1749
P.O. BOX 520
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(973) 543-4555 / FAX (973) 543-6630

**TOWNSHIP EXPRESSING
DEEP FRUSTRATION WITH
QUALITY OF ARCHITECT'S
WORK. HOWEVER
TOWNSHIP IS PICKING UP
COSTS TO KEEP PROJECT
MOVING FORWARD**

March 15, 2007

Mr. Michael Wozny, AIA
Senior Project Manager
EI Associates
8 Ridgedale Avenue
Cedar Knolls, NJ 07927

Dear Mr. Wozny:

I am writing in follow-up to our telephone conversation last week in which I shared my dissatisfaction with several aspects of EI Associates' management of the Township's Emergency Services Building project. The purpose of this letter is to memorialize our concerns and to stress the urgent need to make the changes requested.

The following is a brief summary of the issues we discussed:

1. Attendance at Project Meetings:

We have held eight project meetings since the commencement of construction. According to the minutes from these meetings you have attended fifty percent of these meetings, and only two of the last five. While a junior architect has attended in your stead, this individual does not possess your first hand knowledge of the project and experience level. **As a result, issues that could/should be addressed at these meetings are delayed.** Additionally, first hand familiarity with issues is lost, and the potential for misunderstanding due to second hand communication is greatly increased.

Remedy: The Township requests you and Kurt Schmitt attend all Project Meetings unless explicitly excused.

2. Responses to Issues Identified by Contractors:

The Township has not been happy with the responses from EI Associates on several issues raised by contractors during the early stages of the project. We are specifically dissatisfied with the manner in which the following issues were handled:

- a. Oil separator tank/Floor drain pitch
- b. Lighting – antique truck bay
- c. Several electrical elements (including the energy meter, alarm box, thermostat, etc.)

d. Generator relocation

The problem with responses has been two-fold. First, the response time on several of the Request for Information (RFIs) has not been timely. This has caused frustration among the contractors and the potential for cost over-runs. Second, the responses that have been provided were on several occasions, incomplete, off base or written in such a manner to generate additional questions.

Remedy: The Township requests all RFIs be responded to within 3 days or less (unless an extension is expressly agreed upon by the Township). Responses to RFIs should be reviewed by you and/or Kurt for accuracy, clarity and sensitivity to the owner's needs before they are forwarded to the Construction Manager. Delays on responses should be your responsibility to follow up on internally, not the Construction Manager.

3. De-Centralized Communication:

The third area in which we have become very frustrated is the lack of centralized communication on matters in which EI is involved. Instead of one point of contact (presumably you or Kurt), communications have been channeling directly from a variety of individuals on the EI team. This creates the potential for a great many problems, not the least of which is miscommunication.

Remedy: All communications should run through you or Kurt, and the two of you should be our only points of contact on the project. If you feel we (or the contractors) would benefit from hearing directly from others on the EI team, you should be present when this communication takes place to maintain continuity.

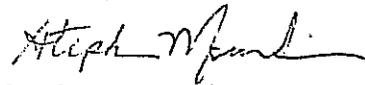
The above issues are especially frustrating to me, given the discussions we had in the fall regarding other similar problems on the design and bidding process. As you know, we were embarrassed by, and upset with the numerous errors (typographical and technical) in the bid documents. In order to get through that process without further delay, the Township (at its own expense) essentially took over the responsibility for correcting those documents. We were also disturbed by the manner in which EI handled the design and approval (by Board of Health) of the septic system. Again at the Township's expense, we had to bring in our Township Engineer (Maser Consulting) to take the lead on this element of the project to ensure the proper submittal and presentation to the Board. It is fact that without such intervention, an approval on this system would have been significantly delayed, causing further embarrassment and expense to the Township.

EI Associates
March 15, 2007
Page 3

To say that we have been patient with EI during the course of this project is an understatement. We have trusted that our verbal direction on a number of these issues would have been enough to effect positive change. Unfortunately the problems continue and I felt it necessary to express these concerns in writing. I urge you to take whatever steps necessary to implement the remedies requested in this letter. Failure to correct these issues will leave the Township with little choice but to request changes in the architectural team and/or the withholding or refunding of fees paid by the Township to EI.

Thank you for your consideration of these issues. I look forward to your prompt attention to our concerns.

Sincerely,

A handwritten signature in black ink, appearing to read "Stephen Mountain". The signature is fluid and cursive, with a long horizontal stroke at the end.

Stephen Mountain
Township Administrator

Cc: Township Committee
Richard Basta
Christopher Falcon