

**Owego Elementary School
Facility Relocation Project**

**Appendix D
Subgrantee's
Environmental Evaluation Documentation**

**FEMA Presentation
Owego Elementary School**

Table of Contents

- 1. Introduction**
 - a. Summary
 - b. Timeline of Events
 - c. Population Density Map

- 2. Existing Conditions and Event**
 - a. Flood Plain Map

- 3. Site Evaluations**
 - a. Site Evaluation - 4 Groups of Considerations

- 4. Building Justification and Planning**
 - a. Space Allocation Comparison Code and Education
 - b. Site Plan, Floor Plans and Renderings (Stilts)
 - c. Site Plan, Floor Plans and Renderings (Fill)

- 5. Site Planning and Development**
 - a. Site Plan – Tax Map
 - b. Delineation and Description of Mitigation Area(s)
 - c. Flood Modeling
 - d. Evacuation Plan
 - e. Phase I A&B cultural report
 - f. US Fish and Wildlife Letter

- 6. Cost Estimates**
 - a. Cost Estimate for Building and Site Work

- 7. Appendix**

Public meetings (Elementary School)

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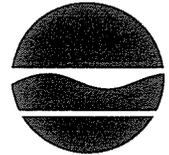
New York State Department of Environmental Conservation

Division of Environmental Permits, Region 7

1285 Fisher Avenue, Cortland, New York 13045-1090

Phone: (607) 753-3095 • Fax: (607) 753-8532

Website: www.dec.ny.gov



Joe Martens
Commissioner

January 3, 2013

Mike Merriman
Project Manager/Permitting Specialist
Ecological Analysis, LLC
633 Route 211 East, Suite 4, Box 4
Middletown, New York 10941

**RE: JURISDICTIONAL DETERMINATION REQUEST
OWEGO-APALACHIN CENTRAL SCHOOL DISTRICT
NEW MAINTENANCE BUILDING SITE, RTE. 98
TOWN OF OWEGO, TIOGA COUNTY**

Dear Mr. Merriman:

We are in receipt of your request for information regarding the above-referenced subject. Based on the information you have provided, it has been determined that no NYSDEC Protection of Streams, Navigable Waters (ECL §15-0501 & §15-0505) or Freshwater Wetlands permits will be required at this time. Owego Creek to the east is a Class C(T) stream and considered navigable, while Catatunk Creek to the west is a Class C stream also navigable.

I would like to bring to your attention that this proposed site is partially located in an Agricultural District (TIO01) according to our GIS data, and the presence of an agricultural district could affect the SEQR review of this proposed action. You may wish to contact the Town of Owego to confirm the district boundaries.

Also, please note the close proximity of public water supply wells to the west and south of this proposed project site.

Soil disturbances of one or more acres of land from construction activities must obtain permit coverage under the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities (GP-0-10-001) by submitting a Notice of Intent and developing and implementing a Stormwater Pollution Prevention Plan. For further information see the NYSDEC Stormwater web page at: www.dec.ny.gov/chemical/8468.html. You may also contact Ellen Hahn with our Division of Water at (315) 426-7504 if you have any questions.

For information on plants or animals of concern in the vicinity of the project you can contact NYSDEC-DFWNR, NY Natural Heritage Program-Information Services, 625 Broadway, 5th Floor, Albany, NY 12233-4757 or on the web at: <http://www.dec.ny.gov/animals/31181.html>.

Mike Merriman, Ecological Analysis, LLC
January 3, 2013
Page 2 of 2

For future projects you may obtain much of this information from the NYSDEC website at: <http://www.dec.ny.gov/ismsaps/ERM> and enter the Environmental Resource Mapper to identify natural resources and environmental features that are state protected or of conservation concern. ERM is part of the NYSDEC Mapping Gateway page which has links to other mapping and data: <http://www.dec.ny.gov/pubs/212.html>

Permits may be required by the U.S. Army Corps of Engineers. If the Corps determines you need a Federal Section 404 permit it may also be necessary to obtain a Section 401 Water Quality Certification from NYSDEC unless you receive a Section 404 Nationwide Permit from the Corps that has already been pre-certified by NYSDEC. The nearest Corps office is in Auburn, NY and they can be reached at 315-255-8090 if you have any questions.

If I can be of further assistance, please contact me at (607) 753-3095, ext. 294.

Sincerely,



Digitally signed by Teri Phelps
Date: 2013.01.03 16:40:43 -05'00'

Teri Phelps, Environmental Analyst
Division of Environmental Permits-Cortland
taphelps@gw.dec.state.ny.us

Enclosure-map

cc: Cortland DEP

WBNG-TV: News, Sports and Weather Binghamton, New York News, Sports, Weather Binghamton, New York

[Print this article](#)

Plans Underway for New Elementary School

Originally printed at <http://www.wbng.com/news/local/Plans-Underway-for-New-Elementary-School-172221261.html>

By Michelle Costanza
October 1, 2012

Owego, NY (WBNG Binghamton) The Owego-Apalachin School District has began the planning process for constructing a new elementary school.

The elementary school was destroyed by the 2011 flood, displacing students and causing several headaches for the district.

A meeting was held at the Owego Free Academy on Monday evening for the purpose of informing the community about the progress and plans of the project.

Several common questions and concerns arose among those that attended.

Superintendent Dr. Bill Russell encouraged the public to ask these questions, with the hopes of having community involvement and support on the project.

Dr. Russell pointed out that the re-build site will be at the same location as the previous school, for many good reasons. The current location is in the heart of the campus, creating a safe and tight-knit community for students and family.

Although codes require flood-proof buildings to be constructed at a certain level, the Owego-Apalachin School District plans to go beyond that, building the new facilities almost two feet above the 500-year flood level.

Many residents are worried about taxes rising, although that apparently will not be an issue. A large chunk of the construction will be funded through insurance, as well as both state and federal emergency monies, and from FEMA.

Students, parents, and other community members are thrilled that plans for the new

school have been put into motion.

"It's going to be a beautiful new facility that will serve this town and village well for the next 40 to 50 years. It will be a nice attraction for young families to move to Owego to have their children go to a beautiful new school, so I think it is going to be a big hit when we're done," said Russell.

Floor plans and building designs are in the process of being drawn up and are not near finalizing yet.

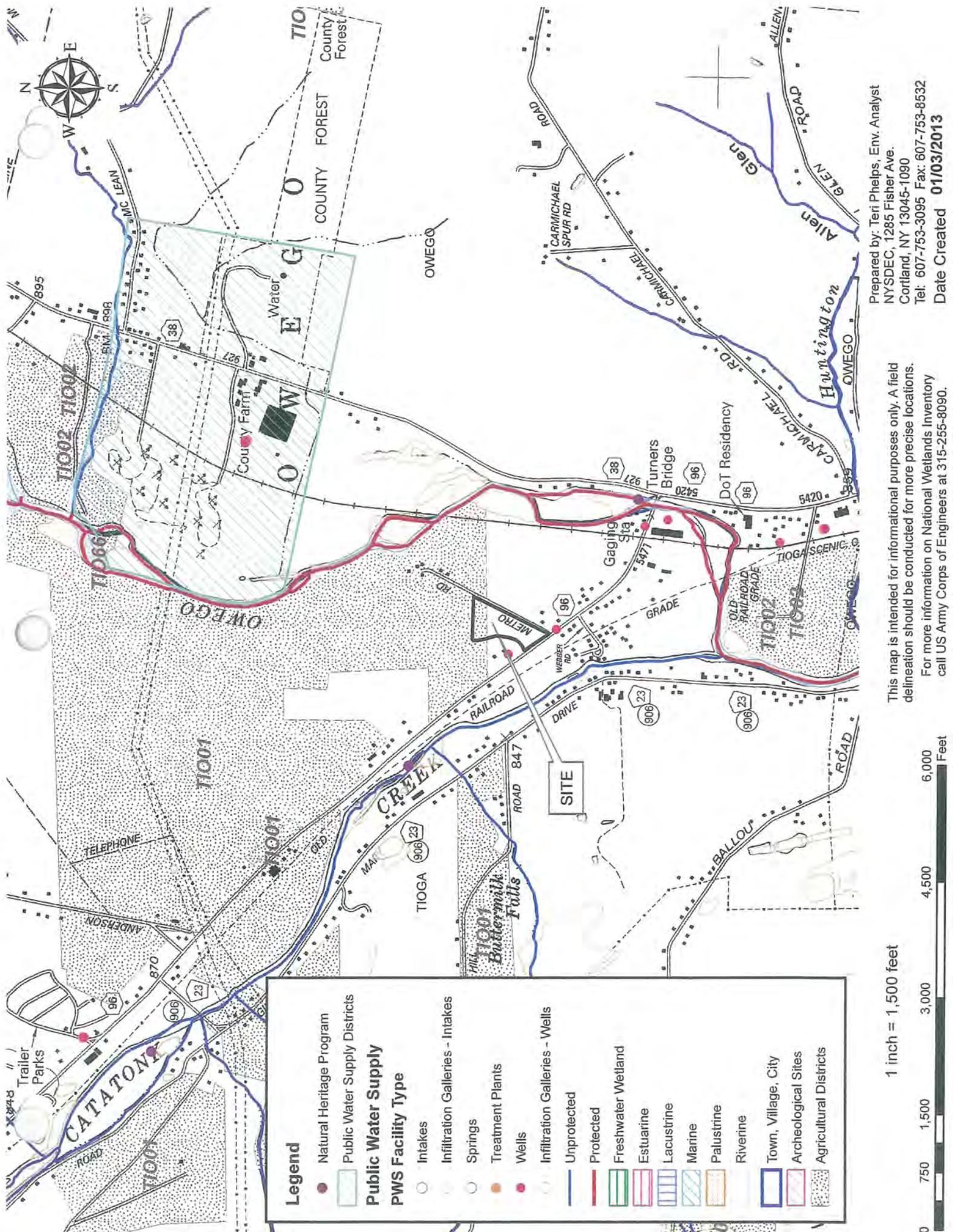
Future informative meetings will be held to keep the school community and Owego residents informed.

The district has established two new e-mail addresses for those who would like to share their ideas for the new school, and those who have questions about the project.

Those e-mail addresses are as follows:

NewSchoolIdeas@oacsd.org

NewSchoolQandA@oacsd.org



Legend

- Natural Heritage Program
- Public Water Supply Districts
- Public Water Supply**
- PWS Facility Type**
- Intakes
- Infiltration Galleries - Intakes
- Springs
- Treatment Plants
- Wells
- Infiltration Galleries - Wells
- Unprotected
- Protected
- Freshwater Wetland
- Estuarine
- Lacustrine
- Marine
- Palustrine
- Riverine
- Town, Village, City
- Archeological Sites
- Agricultural Districts

1 inch = 1,500 feet



This map is intended for informational purposes only. A field delineation should be conducted for more precise locations. For more information on National Wetlands Inventory call US Army Corps of Engineers at 315-255-8090.

Prepared by: Teri Phelps, Env. Analyst
 NYSDEC, 1285 Fisher Ave.
 Cortland, NY 13045-1090
 Tel: 607-753-3095 Fax: 607-753-8532
 Date Created 01/03/2013

Attachment # 6

Q and A on the Rebuild OA Project

The following questions and answers come from two separate information meetings hosted by Dr. Bill Russell, Owego Apalachin superintendent of schools. The meetings, each held in the Large Group Instruction hall (LGI) at Owego Free Academy, began at 7 p.m. and last approximately 75 minutes.

The first meeting, held for parents of students who attend Owego Elementary School (Linnaeus West), was on September 19, 2012. The second, held for all members of the OA community, was on October 1, 2012.

The format was as follows: Dr. Russell opened each session by offering an overview of the most frequently asked questions he has received regarding the project. From there, at each meeting the superintendent opened the meeting to questions from those in attendance. Dr. Russell answered questions until none remained from those in attendance.

Attendance: Approximately 15 attended the September 19 meeting, while about 20 attended the October 1 session.

These meeting notes were taken by Stephen Jensen, OA public information coordinator.

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FROM DR. RUSSELL'S OVERVIEW TO BEGIN EACH MEETING

Q. Why even build a new school? The old one looks to be just fine.

A. Owego Elementary School was flooded throughout. The water level reached to 18 inches high and contained chemicals and biological contaminants that remained in the building for about 36 hours before water receded completely. The district knew right away that there was a possibility the building would need to be replaced.

As the district began to assess the damage, it became apparent that the cost to repair the building would be more than half the cost of a new, replacement building. Under FEMA rules, that finding would point to a new building, rather than investing so much money trying to repair an old, badly damaged one.

In OES there is heavy mold infestation. The heating system could not be saved and would need to be completely replaced. The wiring in the walls and floors was flood-damaged, the floor tiles were popping up, there are now issues pertaining to asbestos in the floors and walls ... the list goes on for 50 to 60 pages of the district's report. In the end, the estimated damage was 58 percent of the building, so FEMA deemed it a replacement project, rather than a repair project.

Q. Is the district proposing to build on the same site?

A. The Board of Education has made the decision to build at the current site for multiple reasons. The district doesn't own other suitable property outside the floodplain, and is not aware of another site being available for sale. Building on the existing site would place the school at the heart of the main OA campus, and proximate to a large residential neighborhood. The current site already has all the necessary water, sewer, electrical, and fiber optic utilities in place. Of course, the building will need to be raised – by nearly 4 feet, which would take it above the 500-year floodplain. If it is deemed to be safe and cost-effective, that is the direction the district plans to go.

Q. Who pays for all this?

A. It's not yet been determined how much, in total, the new school will cost. That funding is expected to come from insurance, from FEMA, and from the state office of emergency management. After insurance recoveries, about 75 percent of the funding will come from FEMA, with the remaining 25 percent coming from the state emergency funds. Governor Cuomo has said that he will commit those funds through the state to aid in recovery from these disasters. If the district was to attempt to add items to the project that may not be covered by those sources, the option would exist to petition the state Education Department.

In short, said Dr. Russell, we don't anticipate the taxpayers of this community will have to pay to rebuild this school or these other damaged buildings.

Q. Before any of this money is spent, even though it's coming in the form of emergency aid, will there be a referendum? Will the OA community be asked to vote on whether or not they support the project(s)?

A. That's probable. There are some technical questions that the district's attorneys are looking at, but, said Dr. Russell, "I am only too happy to ask for our community's support through a referendum." If there was a referendum, and if the project remained on schedule, such a vote could be conducted around March (2013).

Q. Why not combine a new Owego Elementary School with the existing Apalachin Elementary School?

A. Under the Stafford Act, FEMA is responsible to return OA to its "pre-flood condition," and thankfully, AES was not damaged by the 2011 flood. Thus, FEMA would not agree to build a much larger school to house an additional 500 students, and their teachers and staff, from Apalachin. There is also great value in keeping two schools in two different areas. We like the idea of keeping OES connected to the main campus and providing that stability for the community. We're planning a new school that should provide that for the community for the next 50 years.

Q. What about the design process?

A. We're in the beginning phases of that process. Our architects (Highland Associates) have concluded interviews with faculty and staff, and they have begun to put together a preliminary schematic design for us to look at. We hope to see that by mid-October or early November, and we will schedule an additional meeting (or meetings) during which the public will have a chance to review the initial design, comment and make additional suggestions.

FEMA has committed to replace what was lost in the disaster, but FEMA will also fund necessary upgrades that were not part of the picture when OES was built 47 years ago.

We will need to build a larger school, Dr. Russell said, for a number of reasons. In 1965, OES was not built with space for special education programs. The new school will need that (six additional classrooms), including classroom and office space for a psychologist, occupational and speech therapists, as well as

to meet other upgraded needs for building codes, fire safety, etc.

Q. Will the new OES have an actual auditorium?

A. That isn't completely clear yet, but we're discussing it. It's certainly something we would like to see, Dr. Russell said, and something we think may be possible. We're also looking at a good, quality band room to help support our fantastic music program.

Q. What about air conditioning for the new school?

A. That's something else that we're looking at, and would like to do. Our goal is to make this new school an air-conditioned, highly energy-efficient building.

Q. What is the schedule for the school?

A. Our very aggressive goal is to have the school built in two years. We want to open the new OES in September 2014. When we told representatives from all the companies that submitted proposals that this was our goal, they all took a deep breath, but they all said that "barring unforeseen circumstances," it can be done.

Q. How is the district communicating with the public about the reconstruction projects?

A. In a variety of ways.

* OA has set aside one of the four rotating story items on the front page of its new Web site for the latest (and all) news on the reconstruction efforts.

* The district has also established two new e-mail addresses that are checked regularly – one (NewSchoolIdeas@oacsd.org) is offered as a way for people in the community to share their ideas with the district and school designers, while the second (NewSchoolQandA@oacsd.org) is set aside for people in the community to ask questions and receive a direct response.

* The district also places information on the subject on its Facebook page – OA Schools. The fully interactive district Facebook page now has well over 2,000 "friends" and followers, and that number continues to grow, literally daily.

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* This information is also available directly through our **DATELINE OA** e-mail communication resource. These frequent e-mails about “all things OA” (including the rebuild project) are available to anyone who requests to be added to a vast listing. They can write to Stephen Jensen, OA public information coordinator, at jensens@oacsd.org to receive those updates.

* The district also plans to produce videos throughout the project, highlighting different important aspect of the progress.

* OA is in consistent contact with numerous area media outlets, as well, funneling information to the newspapers, television and radio stations of our region.

* And, of course, continued public information sessions will provide a direct line of communication for those interested in attending.

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PERTINENT QUESTIONS FROM THE SEPTEMBER 19 MEETING

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Q. We’ve heard some mention of the new school being elevated. Will the ground be raised? Or will the school be built up?

A. Dr. Russell said that he was scheduled to be in a meeting (on Thursday, September 20) during which that subject was on the agenda. He said there are about 10 different ways to go about it. One way is to build a berm. Another is to construct the foundation of the school to be a flood wall itself. Another is to build the school on concrete pilings then add a nice looking façade to the lower level.

Many options are still being discussed. Since the school is in a neighborhood, a civil engineer has been attending all the planning meetings and “we will need to prove that the construction will have no impact on the surrounding area,” in the event of another flood, said Dr. Russell. An ongoing debate has been whether to build a single story or two-story building. There are pros and cons for each route.

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Q. In terms of construction, will the construction be bid out as “separate primes?”

A. Yes. There will be one general contractor, and different aspects of the job (electrical, for example) will be bid out separately.

Q. Regarding the SED (state education department) and the FEMA plan review, will they be concurrent?

A. Yes.

Q. Will these be “100 percent reviews?”

A. Dr. Russell said that the district has been told that SED and FEMA would like all information for review at once, however, they said they’d take the foundation and utilities plans as a separate package, followed by other aspects of the project. This approach, said Dr. Russell, would allow for the project to continue to progress on an aggressive schedule.

Q. Regarding fixtures and equipment (desks, chairs, etc.), will they be covered by SED and FEMA funding?

A. The district has already purchased some of these items because we had to outfit Linnaeus West, so some of that equipment will be coming to the new OES building. The district will request some of the funds from FEMA be used for this purpose, too, and the district has already received \$1 million in insurance funds for this purpose.

Q. The deadline has been set so that students can be back at a new OES to start school in September 2014. What if that deadline can’t be met?

A. When we first met with companies that bid on this work, one of the first things we said to them was, this is our timetable – September 2014, said Dr. Russell. We have children on a bus for an hour one-way, many of them twice a day, and we need to get them back here on campus. Each one of them took a deep breath, acknowledged that, indeed, it’s a very aggressive schedule, but that it is attainable, given no unforeseen obstacles.

Since we announced that Highland Associates (architecture and design work) and Lend Lease (construction management) were the two companies we would use, they’ve been working non-stop to meet the goal, so we’re operating on that premise. Now, if there is an unforeseen delay, we’ll have to adjust our schedule

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accordingly. We have until July 2014 to consider renewing a lease at Linnaeus West, in the event we need to open school there beyond September 2014.

Q. When will OES be demolished?

A. You'll soon see fencing begin to go up around OES. The work will begin to remove hazardous materials from the building. That takes time, and testing takes more time. Then, of course, we'll see the safe removal and disposal of those materials. So we're looking at mid-winter - we hope in January - for demolition.

Q. Is FEMA willing to move as quickly as our schedule?

A. They are aware of the urgency associated with this project. I think they've finally gotten to a place where they've said, "OK, we don't want to fight with you anymore," but they're a big bureaucracy and there's no telling what delays may occur. We are adhering to our schedules, and will try to make sure that we aren't stalled by unnecessary delays.

Q. Will you be sharing Highland/Lend Lease documents on the district Web site?

A. It's public information, yes. People should understand that some things may change along the way, as necessary, but we want people as informed as possible. People can choose to be as informed as they like based on information we'll make available.

Q. As far as the administration building and the maintenance facilities, will those projects be going on concurrently with the OES project?

A. Yes, they'll be concurrent. We have an agreement with FEMA for them to fund the building of a new administration facility, and maintenance and storage facilities. The maintenance facility will be located just across the bridge from the middle school (parking lot area) and just across the train tracks from the bus garage. That facility will likely be a pre-engineered building, which will go up much more quickly than an elementary school.

Our Board of Education has said that they prefer the administration site and board room to be directly connected to the new OES, rather than as a standalone site. We're still in the planning process of that piece. If I were to

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bet, I'd say that the maintenance building will be finished first, and relatively soon. Those folks really need a building for their operations.

Q. What about the HVAC system in the new elementary school? Will it be energy efficient?

A. Yes. Highland realizes that we are a very progressive district in this regard, and that we value being "green" and "energy efficient," so their design work will steer toward LEED (Leadership in Energy and Environmental Design) specifications. This type of high-performance design will help us reduce utility and operating costs, and will reduce environmental impact. It can also lead to the better health and well-being of students and teachers, can lead to higher test scores, better acoustics, proper ventilation, fewer sick days, etc.

Q. What about trying to maintain some of the history of OES? It would be nice to see some aspect of the old school be incorporated into the new design, so that families with multiple generations who have attended to school, and who now have children there, can see that connection.

A. It's a good idea, and one we'll absolutely discuss.

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PERTINENT QUESTIONS FROM THE OCTOBER 1 MEETING

Q. What's the truth about the administration building? Is it going to be built separately? Or will it be built as part of the new elementary school?

A. The plan now is to combine the administrative/Board of Education areas with the new Owego Elementary School. The OA Board of Education decided to endorse this approach, in large part because if the administrative/BOE segment of the project is combined with the school building, it will then be eligible for state education aid in the event the building would need a new roof, or something else of that nature, in the future.

If a separate administrative/BOE building were built, not only would it require a separate site, of course, but that building would not be eligible for state aid for upgrades/maintenance needs in the future. Instead, those financial burdens would fall to the OA taxpayers.

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Additionally, it should be mentioned here that the maintenance building is being planned with the maintenance storage facility as a part of this structure.

So, essentially, the district is proposing to build two buildings to replace the four that were rendered unusable after the 2011 flood.

Q. When FEMA says it will give X-number of dollars for the reconstruction of the buildings, does that include furnishings, too?

A. Yes. In some cases, the district has already purchased replacement furniture and the like, with proceeds from insurance money. Those items are being used at Linnaeus West now and will be brought into the new school. Of course, there will need to be more items purchased, since the relatively small amount purchased for LW will not be enough to outfit an entire new school building.

Q. The administration building (36 Talcott Street) is an old building. Does it have to be completely demolished?

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A. "I believe so," said Dr. Russell. A follow-up question asked if the district could sell, or even gift, that building to a private entity to be rehabilitated. That could happen, but they would have to flood-proof the building, which the district's engineers have said they do not believe is feasible.

Dr. Russell said once the building is down, it's a possibility that the OA district could gift that property to the village for a neighborhood park space.

Q. Will FEMA funds cover the demolition process, too?

A. Yes. It's a two-stage process. At OES, for example, there will be asbestos removal and other necessary mitigation. Then, the building comes down. Very recently, the tests were completed so we know where the hazardous materials are located. This was a necessary step before the removal process could begin.

Q. It's obviously been challenging working with FEMA thus far. Is there any certainty that FEMA won't come through on their end of this whole deal?

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A. As we've seen and have been hearing about with other situations around the country, OA is not alone in its frustration over dealing with FEMA. And as the cliché goes, there are no guarantees in life. But the district has a very knowledgeable, experienced team in place, and the team is doing everything it

can to make sure OA meets all requirements. There is also a fair amount of political support for OA's project, and it is public knowledge that our representatives in Albany and Washington have let FEMA know they have our backs here.

Q. How will the building (OES) be raised to that level (4 feet, to above the 500-year flood plain)?

A. The plan, at present, is to use fill. There is discussion now about displacement of floodwater caused by the fill, and we've fielded questions from the community about whether or not building a berm for this new school to sit atop will affect The Flats in the event of a future flood. The experts are looking closely at that now, and will recommend a plan that will make sure there is no adverse effect on the surrounding neighborhood in the event the school is raised 40-plus inches.

Q. Has there been any discussion about possibly changing the configuration of grades in the new school?

A. No. Once the new school is open, the fifth grade classes now at the middle school will return to the elementary school. Also, when it's open, the district's universal pre-K (now at Abide in the Vine) will return to the main campus, and to OES.

Q. Where will the district build the maintenance and maintenance storage facilities?

A. We have decided to consolidate those two lost facilities into one. Again, the plan is to build this new maintenance facility adjacent to the middle school, just across the small bridge off the OAMS parking lot. The building will be constructed in the area along the railroad tracks, just across the tracks from the transportation facility. This area did not flood in 2011, and is outside the floodplain, and while we do have a number of athletic fields in that back portion of the main campus, we are currently looking at how we can reconfigure them and continue to use that large area efficiently.

Q. Will the maintenance and maintenance storage buildings be exactly the same size as the old?

A. At this moment (on October 1), the old maintenance building is 26,000

square feet and the new one is proposed at about 30,000 square feet. The reason for this is because in the old maintenance building, over time, we saw some of its storage space begin to creep into the work areas, and we want to rectify that situation. But we're also mindful of FEMA's obligation to provide a replacement facility of similar capacity to the one(s) we lost.

Q. Will that cost (for the additional size) be covered by FEMA?

A. "If it's not, we won't build it that way," said Dr. Russell. He went on to say that FEMA will build a "replacement building," but like with the school building, FEMA gives allowances to bring new buildings up to current codes and standards.

Q. Will the funding of the new, potentially bigger school include funding for possible increases in operating costs for energy, maintenance and staffing?

A. The district plans to build as energy efficient a building as is possible. The hope is to keep these costs at least compatible with current costs, if not to even decrease them wherever possible. The OA district is known for, and has been lauded in recent years, as being very progressive in its sustainable energy projects. It's been a model district, in that regard. (OA video on the subject: <http://www.youtube.com/watch?v=KoF4BU8Q4j8&feature=relmfu>)

"We want to be as good as we can afford," Dr. Russell said. "Of course, we can't afford everything. My estimate is that we may need to add one cleaner for a school building the size that we're looking at."

Q. Will there be any effort to chronicle the impact of the flood on the OA community so that years down the road, people can remember what this community went through?"

A. Christina Bangle is a social studies teacher at the middle school, and she and her Yorkers Club students have been working on a project of this nature for some time now. The district produced a video you can view here (<http://www.youtube.com/watch?v=hcjNQlyksm0&feature=channel&list=UL>). It explains the project and shows people how to become involved with it. The district is also working on another video project to try to capture some of the history of OES for future generations.

We also produced a video that chronicled the rehabilitation of the LGI at OFA (<http://www.youtube.com/watch?v=PvLHyy470rw>) after that high school space was badly damaged by flood waters.

And just a few months after the flood arrived, the district produced an in-depth (<http://www.youtube.com/watch?v=9ZlYYg9Migc&feature=channel&list=UL>) video that detailed the damage, and the recovery progress, to that point.

There have been questions and some discussion about possibly taking bricks from the current OES to use in a future garden at the new school, but there are no definite plans at this time.

The following are notes taken by Stephen Jensen, OA public information coordinator, during the first meeting regarding the planning of a new Owego Elementary School.

This meeting, held at the LGI at Owego Free Academy, had about 20 attendees. This meeting was for parents of students at OES. Three media outlets (Press & Sun-Bulletin, WBNG and YNN) covered the event.

A second meeting of the kind is scheduled (same location) for 7 p.m. Tuesday, October 2, for all members of the OA community.

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After Dr. Bill Russell, OA superintendent, covered some "frequently asked questions" about the project, in an overview, he opened the floor to attendees for questions and comments. (After the October 2 meeting, I'll pull together all the questions/answers - Dr. Russell's list, as well as those discussed at the two meetings - and post them on our Web site, in one document.)

The following questions and answers were discussed Wednesday:

Q. We've heard some mention of the new school being elevated. Will the ground be raised? Or will the school be built up?

A. Dr. Russell said that he was scheduled to be in a meeting today (Thursday, September 20) during which that subject was on the agenda. He said there are about 10 different ways to go about it. One way is to build a berm. Another is to construct the foundation of the school to be a flood wall itself. Another is to build the school on concrete pilings then add a nice looking façade to the lower level. Many options are still being discussed. Since the school is in a neighborhood, a civil engineer has been attending all the planning meetings and "we will need to prove that the construction will have no impact on the surrounding area," in the event of another flood, said Dr. Russell. An ongoing debate is whether to build a single story or two-story building. There are pros and cons for each route.

Q. In terms of construction, will the construction be bid out as "separate primes?"

A. Yes. There will be one general contractor, and different aspects of the job (electrical, for example) will be bid out separately.

Q. Regarding the SED (state education department) and the FEMA plan review, will they be concurrent?

A. Yes.

Q. Will these be "100 percent reviews?"

A. Dr. Russell said that the district has been told that SED and FEMA would like all information for review at once, however, they said they'd take the site review as a separate package, followed by other aspects of the project. This approach, said Dr. Russell, would allow for the project to continue to move forward on an aggressive schedule.

Q. Regarding fixtures and equipment (desks, chairs, etc.), will they be covered by SED and FEMA funding?

A. The district has already purchased some of these items because we had to outfit Linnaeus West, so some of that equipment will be coming to the new OES building. The district will request some of the funds from FEMA be used for this purpose, too, and the district has already received \$1 million in insurance funds for this purpose.

Q. The deadline has been set so that students can be back at a new OES to start school in September 2014. What if that deadline can't be met?

A. When we first met with companies that bid on this work, one of the first things we said to them was, this is our timetable – September 2014, said Dr. Russell. We have children on a bus for an hour one-way, many of them twice a day, and we need to get them back here on campus. Each one of them took a deep breath, acknowledged that, indeed, it's a very aggressive schedule, but that it is attainable, given no unforeseen obstacles. Since we announced that Highland Associates (architecture and design work) and Lend Lease (construction management) were the two companies we would use, they've been working non-stop to meet the goal, so we're operating on that premise. Now, if there is an unforeseen delay, and we need to open the new school, say, on October 1, 2014? Then we'll just move the date to October 1. We have until July 2014 to consider renewing a lease at Linnaeus West, in the event we need to open school there for a few weeks.

Q. When will OES be demolished?

A. In a week or two, you'll see fencing begin to go up around OES. The work will begin to remove hazardous materials from the building. That takes time, and testing takes more time. Then, of course, we'll see the safe removal and disposal of those materials. So we're looking at mid-winter, and we hope January, for demolition.

Q. Is FEMA willing to move as quickly as our schedule?

A. They are aware of our schedule, and they are under some fairly intense political pressure on this project. I think they've finally gotten to a place where they've said, "OK, we don't want to fight with you anymore," but they're a big

bureaucracy and there's no telling what may occur. We are adhering to schedules, but we're aware of what may occur.

Q. Will you be sharing Highland/Lend Lease documents on the district Web site?

A. It's public information, yes. People should understand that some things may change along the way, as necessary, but we want people as informed as possible. People can choose to be as informed as they like based on information we'll make available.

Q. As far as the administration building and the maintenance facilities, will those projects be going on concurrently with the OES project?

A. Yes, they'll be concurrent. We have an agreement with FEMA for them to fund the building of a new administration site and maintenance facilities. The maintenance facility will be located just across the bridge from the middle school (parking lot area) and just across the train tracks from the bus garage. That facility will likely be a pre-engineered building, which will go up much more quickly than an elementary school. Our Board of Education has said that they prefer the administration site and board room to be directly connected to the new OES, rather than as a standalone site. We're still in the planning process of that piece. If I were to bet, I'd say that the maintenance building will be finished first, and fairly soon. Those folks really need a building for their operations.

Q. What about the HVAC system in the new elementary school? Will it be energy efficient?

A. Yes. Highland realizes that we are a pretty progressive district. Being "green" and "energy efficient," so their design work will steer toward LEED (Leadership in Energy and Environmental Design) specifications. This type of high-performance design will reduce utility costs, will reduce operating costs and will reduce environmental impact. It can also lead to the better health and well being of students and teachers, can lead to higher test scores, better acoustics, proper ventilation, fewer sick days, etc.

Q. What about trying to maintain some of the history of OES? It would be nice to see some aspect of the old school be incorporated into the new design, so that families with multiple generations who have attended to school, and who now have children there, can see that connection.

A. It's a good idea, and one we'll absolutely discuss.

+++

Dr. Russell then asked the attendees if the consensus of those in the room was to favor building the new elementary school in the same place, or to have it

somewhere else. Two who responded said they did favor the school being built in its current spot, with one adding, "if it makes sense there."

+++

Again, the next meeting is scheduled for all members of the community at 7 p.m. Tuesday, October 2, in the LGI off the lobby in OFA.

Attachment #1

BOE Meeting Notes

From the September 6, 2012, meeting

The following are notes taken by Stephen Jensen, public information coordinator, regarding the "Rebuilding OACSD" segment of this particular meeting. Note: These are not BOE minutes.

Dr. Bill Russell, OA superintendent, moved into his "Rebuilding OACSD" report. He mentioned the significant media attention OA had received on the heels of FEMA's agreement to fund the replacement of not just OES, but the administration building, maintenance site and the maintenance storage facility.

He said OA is receiving strong recommendations from its project advisers to make the new administration building an annex of the new OES, rather than a standalone building. He said that if it is a piece of a new school building, it could be eligible for state building aid in the future, whereas if it's a standalone building, it would not.

He then focused his attention on addressing the members of the board, telling them that because OA is now discussing the replacement of multiple buildings, the architects (Highland Associates) need information, and rather quickly, in order to stay on a very aggressive schedule, with the goal to have OES students back at school on the main campus this time two years from now.

Dr. Russell said that he would propose to the board that OA build its new maintenance facility in the back of the OA main campus, just across the train tracks from the OA transportation facility, in an area now used for practice and game fields. Dr. Russell said that if built there, the facility would be in an area above the 500-year flood plain. He added that sports fields could then be reconfigured, as needed.

Dr. Russell also said that the district would prefer to build a maintenance facility that had a storage facility included, rather than to build two separate buildings. Tony Clark, facilities supervisor, said he agreed with that preference. Clark also said that his preference for the maintenance facility would be along the train tracks behind the middle school, near the transportation site. Dr. Russell said that while it would be new, it would be a "pre-engineered" building, so aesthetically, it also makes sense to place it toward the back of the campus, rather than somewhere more prominent. He added that it also would place the maintenance storage site very close to the brunt of fields that the department tends to on a regular basis.

The superintendent then spoke about possibilities for the administration building. He said one possible site would be the grassy area across from the swimming pool parking lot on the main OA campus, between OFA and Tioga Opportunities. But he reiterated that if the administration building were a standalone site, it would not be eligible for state building aid for upgrades in the future.

Dr. Russell and the board members then discussed the placement of the new Owego Elementary School. "We've been operating under the assumption to this point that FEMA would be funding a building on the existing site," Dr. Russell said. He mentioned that the site makes sense for a variety of reasons, including existing parking, gas and electric and fiber-optics. An addition factor would be that students in the Flats area would continue to be able to walk to school, at their neighborhood school.

He said that the minimum requirement for elevation by FEMA would be 39 inches which would place the new building above the 500-year flood plain. He added that if elevation (using fill) was necessary, there would be a need to depress an area equal to the elevation in the campus vicinity, something he said would not be a problem due to the immense acreage of the OA main campus. He said land could be scooped in other areas of the campus to prevent any additional flood potential in the Flats area due to elevating the new OES site.

David Barton, BOE president, asked the other board members if they had any interest in investigating other properties to buy, to build a new OES.

John Gatto, BOE member, flatly said, "No."

Linda Frisbie, BOE member, said, "If we can make it work at the current site, that makes the most sense. What's ultimately important, with raising the elevation, how will the Flats be affected, if at all? This is a consideration."

Barton added that he would prefer to see the administration option added to the elementary school, rather than as a standalone building. "Either as an administration floor on a multiple-story school building, or as a separate wing of the school," he said. "Placing it on a second floor would reduce the footprint of the school, as well."

There was some additional conversation about the placement of the buildings. Barton said, "It sounds like a consensus to place the administration in with the OES building as an annex or as a separate floor."

John Crosby, BOE member, asked Dr. Russell why so many older schools of the OES era were single-story buildings. Dr. Russell responded, "They were cheaper."

Dr. Russell told members of the BOE that the district's attorneys are advising the district to go to a referendum on proceeding with the overall project. The question on such a ballot for voters would be: Should OA accept state and federal funds to perform the reconstruction work for the new facilities?

Frisbie then said she was pleased to see that the district has scheduled two public meetings to discuss plans for the new OES, and that she was also happy to see that the district established two new e-mail addresses for people to either give their input on the new OES project, or to ask questions and receive direct answers.

Those meetings are scheduled for:

- * (OES Parents Only) 7 p.m. Wednesday, September 19 at the LGI in OFA
- * (Community Members) 7 p.m. Tuesday, October 2 at the LGI in OFA

The two e-mail addresses people can now use:

- * NewSchoolIdeas@oacsd.org
- * NewSchoolQandA@oacsd.org

Dr. Russell said that the district expects to see an initial schematic design for a new elementary school by mid-October. From there, he said, additional public meetings would be scheduled to share the initial proposals and to receive further community input.

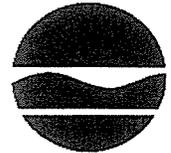
New York State Department of Environmental Conservation

Division of Environmental Permits, Region 7

615 Erie Boulevard West, Syracuse, New York 13204-2400

Phone: (315) 426-7438 • Fax: (315) 426-7425

Website: www.dec.ny.gov



Joe Martens
Commissioner

18 October 2012

Mike Merriman, Project Manager
Ecologic Analysis LLC
633 Route 211 East, Suite 4, Box 4
Middletown, New York 10941

Dear Mike:

Re: Jurisdictional Determination Request
Owego School Reconstruction
Union (T), Tioga County

I have had an opportunity to review the information you forwarded regarding this proposal. I offer the following comments:

1. A Stormwater SPDES General Permit for Stormwater Discharges Associated with Construction Activities (GP-0-10-001) will likely be required for this project. Please contact Ellen Hahn, our Regional Stormwater Control Specialist at 315-426-7504 if you have any questions regarding stormwater permitting.
2. Oswego Creek is a Class C(T) tributary and an Article 15 permit may be needed for any work proposed on the bed or banks of the stream.
3. This location is considered a sensitive archaeological area and archaeological surveys may be required unless the applicant can demonstrate significant ground disturbance in areas proposed for development.
4. Although there are no known NYS-regulated wetlands on this site, our GIS maps suggest the presence of US ACE-regulated riverine wetlands associated with Oswego Creek. You may want to discuss this issue with Corps District Office in Buffalo. Please let me know if you need contact information.
5. Our GIS data also indicated the proximity of the Spatterdock Darner (*Rhionaeschna mutata*), an imperiled species (dragonflies & damselflies), located in a small pond to the southwest across Oswego Creek. Also noted is the occurrence of Brook Floater (*Alasmidonta varicosa*), a threatened freshwater mussel, in Catatunk Creek (north of the project). Although there is no record of those species within the project limits, please ensure that any activity you propose, that may threaten similar habitat in the vicinity of the project, is addressed in your environmental review.

Please contact me at 315-426-7440 or email at dlbimber@gw.dec.state.ny.us if you have any questions relating to this project or the information discussed in this letter. Thank you for your time and assistance in this matter.

Sincerely,

David L. Bimber
Regional Permit Administrator
Division of Environmental Permits

OWEGO APALACHIN CSD
CONCEPTUAL ESTIMATES FOR OES SITE/FOUNDATION OPTIONS

December 11, 2012

The conceptual costs for a 115,000 SF building (100,000 sf 1st floor and 15,000 sf 2nd flr) are as follows:

Element	Site 4	Site 1	Site 2
Building	\$ 20,685,595	\$ 20,685,595	\$ 20,685,595
Foundations*	\$ 1,713,878	\$ 1,164,218	\$ 7,343,953
Cut and Fill	\$ 23,783,230	\$ 1,537,525	\$ 2,711,550
Mitigation	N/A	\$ 568,150	N/A
Site Improvements	\$ 2,316,000	\$ 305,000	\$ 305,000
Total	\$ 48,498,703	\$ 24,260,488	\$ 31,046,098

*The foundation number for Site 2 reflects the use of vibro displacement stone columns due to poor soil conditions noted during test boring.

This estimate is based on historical data as well as prevailing wage rates for the area the project is scheduled to be constructed.



U.S. Fish and Wildlife Service

Natural Resources of Concern

This resource list is to be used for planning purposes only — it is not an official species list.

Endangered Species Act species list information for your project is available online and listed below for the following FWS Field Offices:

NEW YORK ECOLOGICAL SERVICES FIELD OFFICE
3817 LUKER ROAD
CORTLAND, NY 13045
(607) 753-9334
<http://www.fws.gov/northeast/nyfo/es/section7.htm>

Project Name:

Owego School



U.S. Fish and Wildlife Service

Natural Resources of Concern

Project Location Map:



Project Counties:

Tioga, NY

Geographic coordinates (Open Geospatial Consortium Well-Known Text, NAD83):

MULTIPOLYGON (((-76.2713733 42.1191434, -76.270045 42.1141439, -76.2768235 42.1130313, -76.2768235 42.1187614, -76.2713733 42.1191434)))

Project Type:

Development



U.S. Fish and Wildlife Service

Natural Resources of Concern

Endangered Species Act Species List

There are no listed species found within the vicinity of your project.

FWS National Wildlife Refuges

There are no refuges found within the vicinity of your project.

FWS Migratory Birds

Not yet available through IPaC.

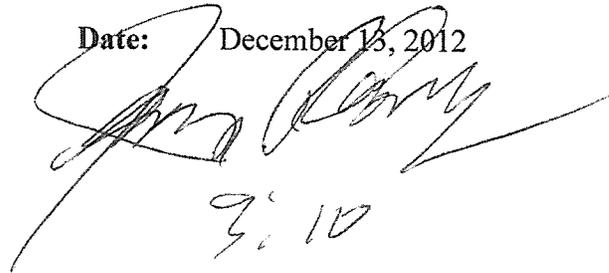
FWS Delineated Wetlands

Not yet available through IPaC.

HIGHLAND ASSOCIATES

To: Mr. James Casey
Heidi Dudek
New York State Office of Emergency
Management
1220 Washington Avenue
Building 22, Suite 101
Albany, NY 12226-2251
518-292-2392

Date: December 13, 2012



3:10

From: Don Kalina
Principal

Subject: FEMA PART 9 PACKAGES

HA PN: 2012-321P

T r a n s m i t t a l

We Transmit

- Herewith
- Hand Delivered By: Paul O'Malley**
- Under Separate Cover VIA:
- Per Your Request
- Overnight Mail
- US Mail
- UPS Overnite: Next Day Delivery
- Other:

The Following:

- Drawings
- Specifications
- Shop Drawing Prints
- Shop Drawing Reproducibles
- Samples
- Product Lit
- Reimbursable
- Non-Reimbursable

Copies

Descriptions and Remarks

Action Code

1

FEMA Part 9 Packages/Elementary School

If you have any questions or need additional information, please do not hesitate to contact me at 570-586-4334.

Cc: w:_2012\12-321p owego elementary school\fema\elementary\trans_delivery of fema packages_nystate office_12-13-12.doc

Highland Center | 102 Highland Avenue | Clarks Summit, PA 18411 | (570) 586-4334 | fax (570) 586-5990 | www.highlandassociates.com

Donald Kalina, Director Dominic Provini, RA Kevin Smith, PE Gil Ben-Ami, PE Charles Consagra, AIA Dennis Dench, AIA Michael G. Dench, AIA Michael Wolf, AIA
Thomas G. Hauck, Jr., AIA Jeffrey Pencek, AIA M. Bilal Hasan, PE William M. Flynn, AIA Teddy T. Muliawan, PE Richard J. Guditus, PE Glenn Leitch, AIA Thomas M. Millard, PE
Highland Associates, Ltd. Architecture Engineering Interior Design Highland Associates Architecture Engineering Design, P.C.

HIGHLAND ASSOCIATES

To: Craig Ketzak
 FEMA RM 742
 1 Clinton Avenue
 Albany, NY
 518-745-7217
Trevor Karl to Sign and Accept

Date: December 13, 2012

[Handwritten Signature]
 12/13/2012 - 2:28 PM

From: Don Kalina
Principal

Subject: FEMA PART 9 PACKAGES

HA PN: 2012-321P

T r a n s m i t t a l

We Transmit

The Following:

- | | | | | |
|-------------------------------------|--------------------------|---|--------------------------|----------------------------|
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Herewith | <input type="checkbox"/> | Drawings |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | Hand Delivered By: Paul O'Malley | <input type="checkbox"/> | Specifications |
| <input type="checkbox"/> | <input type="checkbox"/> | Under Separate Cover VIA: | <input type="checkbox"/> | Shop Drawing Prints |
| <input type="checkbox"/> | <input type="checkbox"/> | Per Your Request | <input type="checkbox"/> | Shop Drawing Reproducibles |
| <input type="checkbox"/> | <input type="checkbox"/> | Overnight Mail | <input type="checkbox"/> | Samples |
| <input type="checkbox"/> | <input type="checkbox"/> | US Mail | <input type="checkbox"/> | Product Lit |
| <input type="checkbox"/> | <input type="checkbox"/> | UPS Overnite: Next Day Delivery | <input type="checkbox"/> | Reimbursable |
| <input type="checkbox"/> | <input type="checkbox"/> | Other: | <input type="checkbox"/> | Non-Reimbursable |

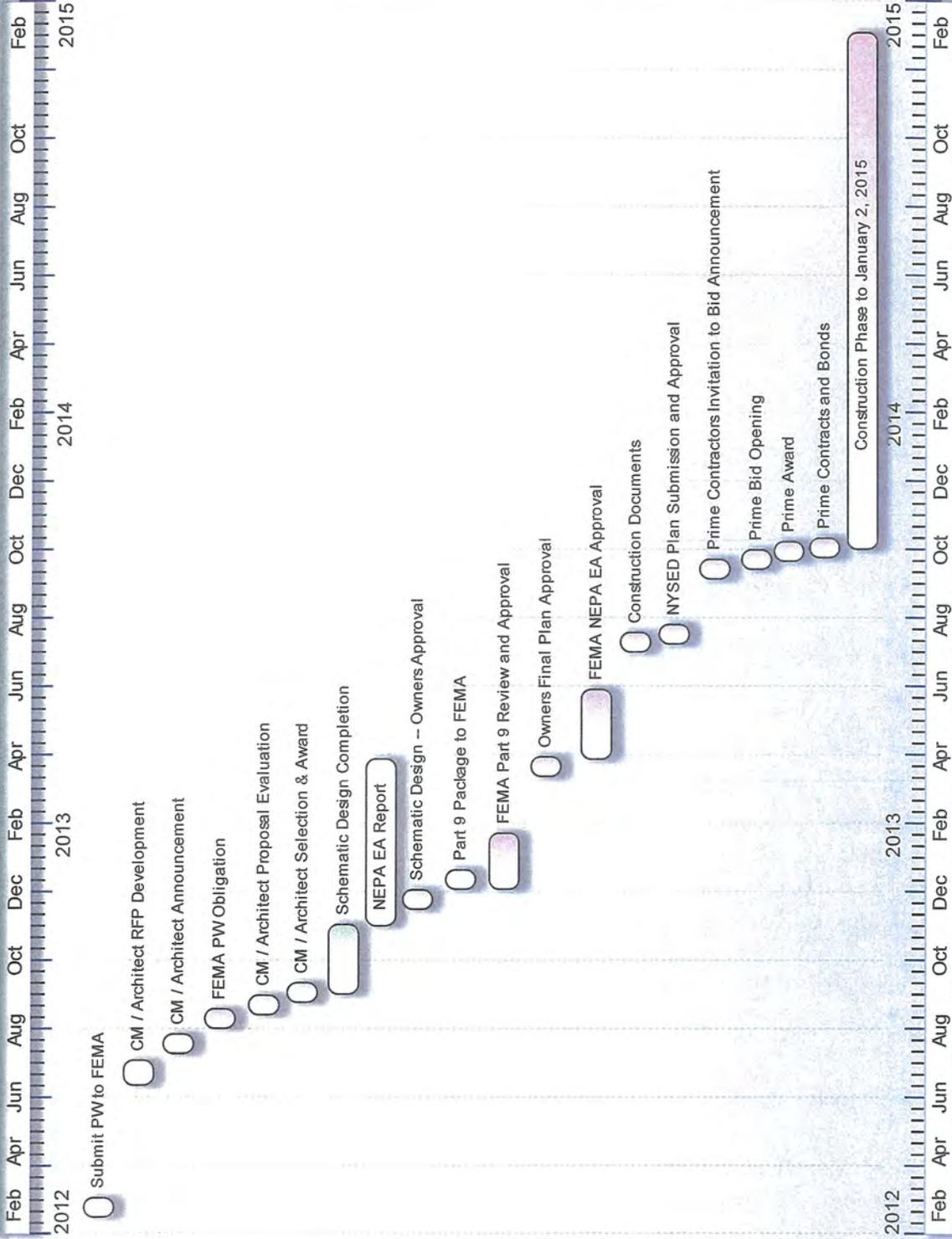
Copies	Descriptions and Remarks	Action Code
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3	FEMA Part 9 Packages/Elementary School	
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If you have any questions or need additional information, please do not hesitate to contact me at 570-586-4334.

Copies to: File: w\2012\12-321p owego elementary school\fema\elementary\trans_delivery of fema packages 12-13-12.doc

Owego Apalachin Elementary School DRAFT Reconstruction Timeline



Legend: Complete InComplete Under Development

SIMMONS
ARCHITECTS & ENGINEERS

BINGHAMTON
UNIVERSITY

State University of New York



PUBLIC ARCHAEOLOGY FACILITY
Nina M. Versaggi, PhD RPA Director
nversagg@binghamton.edu

PO Box 6000
Binghamton, New York 13902-6000
607-777-4786, FAX 607-777-2288

December 12, 2012

Dr. Bill Russell, Superintendent
Owego Apalachin Central School District
36 Talcott Street
Owego, NY 13827

Re: Summary of Findings (Administration Building Area)

Dear Dr. Russell:

Per your conversation today, I now have a summary of the Phase 1 archaeological survey completed for the administration building area.

PAF's crews completed a total of 44 STPs within the project area, which includes the parcel for the new building and any new walkways leading to the building. No prehistoric artifacts were recovered within any of the STPs. Testing produced a total of 14 historic artifacts across the project area. However, the artifacts (glass, bottle glass, cut nails, lamp glass, 2 pieces of ironstone, and 1 piece of whiteware) appear to be general refuse not related to previous historic structures. Therefore, no historic site was designated.

In the summary, Phase 1 testing did not identify prehistoric or historic archaeological sites within the proposed administration building parcel and walkways. Our final report will not be recommending any additional archaeological work.

Our maps are not available at this time. We plan on having the report done next week. Please let me know if you have questions.

Sincerely,

Nina M. Versaggi

Nina M. Versaggi, PhD RPA
Director of PAF

enc.

8

Owego Elementary School

1 Christa McAuliffe Lane
Owego NY 13827

607-687-6261

School Emergency Response Plan

Mrs. Laurie McKeveny, Principal

Revised January 2008

6

6

1. Table of Contents

Introduction.....	3
Visitors Policy.....	3
Crisis Management Team.....	4
Death and Dying.....	4
Death of a student, faculty or staff away from school.....	4
Death of a student, faculty or staff in school.....	5
Dying.....	6
Codes	6
Code Red	6
Code Blue	9
CMT Alert	11
Fire.....	12
Weather and Environmental Crisis.....	13
Bomb Threat.....	13
Appendix	
Evacuation Plan.....	15
Map Locations.....	16
Floor Plan.....	17

**Owego Elementary School
Emergency Response Plan**

Introduction

A school emergency can include any tragic or traumatic event, which there is sufficient evidence to indicate that the effective operation of the school will be disrupted. The danger of injury due to an accident or aggressive behavior by an adult or child could warrant calling the “safety team” together. Our goal is to provide the staff with prevention / intervention strategies to handle the following crisis situations.

Visitors Policy

All staff are asked to assist in making Owego Elementary School a safe place by being alert to suspicious people or situations and promptly reporting them to the office. The following visitor policy, if consistently applied, will help prevent uncomfortable situations and promote a safe school for all.

A visitor to OES is anyone who is not currently an Owego Elementary School employee or OES student. A visitor to OES includes other teachers, parents, student tutors, administrators, or anyone else not directly connected to OES.

The following recommendations are to be followed by all visitors to OES.

1. All visitors will enter through the main entrance of the school.
2. All doors will be locked from the hours of 9:00am – 3:00pm.
3. All visitors will sign in and out at the reception window in the lobby.
4. All visitors will prominently display an OES badge.
5. The office will use their discretion in notifying the person the visitor wants to see.

6. Staff members will ask any visitor to OES, that is not displaying a badge, to go to the office and sign in as we do not permit visitors to walk around the school without a badge.

Owego Elementary School
Emergency Response Plan

Crisis Management Team (CMT)

There are two situations that will activate the group - a crisis occurring during regular school hours and a crisis occurring outside of regular school hours.

If there is a crisis occurring during the school day, you will hear "Code Red", "Code Blue" or "CMT Alert" announced over the PA system. This activates individual team members to respond by leaving wherever they are and reporting to their designated assignments. It also alerts several key people who have agreed to immediately secure our building by going to all exits and making sure they are locked. No one other than school officials, emergency personnel or law enforcement will be allowed into or out of the building while we are in a crisis. It is crucial that any staff who has been asked to cover for a CMT member or for a door security person to take their job very seriously. They should immediately go to cover for that person responding to the alert. At this time, the remainder of the building is "frozen" (in lock down).

When a crisis occurs and school is not in session, the CMT and staff are notified by using the phone tree. If necessary, department heads or grade level chairs will be phoned by the CMT members and will, in turn, notify appropriate staff persons.

Death and Dying

Death of a Student, Faculty or Staff Away from School

1. Designated school spokesperson, Principal, or School Psychologist will contact the school safety team to establish a meeting time and place.
2. Designated team spokesperson will contact the family to:
 - a. request accurate information
 - b. express condolences
 - c. ask for permission to share information regarding the death

- d. inquire about family wishes (i.e. funeral arrangements, donations, special requests)
3. Initiate phone tree.
4. Contact other appropriate school district personnel (i.e. superintendent's office).
 - a. All media inquiries will be referred to the superintendent's office.
5. Safety team meets to make appropriate plans.
 - a. Arrange for mental health support
 - b. Prepare detailed information for faculty and staff regarding knowledge of death, plans for announcement to students, and suggestions for handling various student and staff reactions.
 - c. Consider requesting substitute teachers as back up for the day.

Death of a Student, Faculty or Staff in School

1. Medical emergency procedures are initiated.
 - a. School nurse is called to scene.
 - b. Z-TEAM announcement made: "There is a Z-Team meeting in the (color) section of the building".
 - c. Location is isolated (i.e., move children away from scene, etc.).
 - d. Evaluation of situation brought to Safety Team in the conference room.
 - e. Appropriate contacts made (911, district office, victim's family).
 - f. Media requests referred to district office.
2. Safety team develops statement about situation to be delivered to staff by runners. Students are kept in their current classrooms until the authorities have left the school.
3. After authorities have left the school the safety team plans for the remainder of the school day and prepares for the possible needs of the next day.
 - a. Further notification to staff, student, and parents.
 - b. Plan for mental health support.
 - c. Contact victim's family to:
 - Request accurate information
 - Express condolences
 - Ask for permission to share information regarding the death.
 - Inquire about family wishes (i.e. funeral arrangements, donation special requests).

**Owego Elementary School
Emergency Response Plan**

Dying

This section describes the situation when a student or staff member is known to be seriously ill or injured and death is expected.

1. Designated school spokesperson, principal, or school psychologist will contact the school safety team to establish a meeting time and place.
2. Designated team spokesperson will contact the family to:
 - a. Request accurate information regarding the illness / injury.
 - b. Express concern to family and offer assistance as appropriate.
 - c. Ask permission to share information regarding the illness / injury.
 - d. Inquire about family's desires regarding the situation and how they want the school to support the student or staff member (visitors, home tutoring, etc.).
3. The crisis team issues a statement to those that need to know and keeps them informed as the situation changes.
4. Make resources and services available to those who may need them.
 - a. Tioga County Hospice
 - b. Counseling services

**Medical Emergency
"Code Red"**

Purpose:

A comprehensive response to a life-threatening situation or a potentially life threatening medical emergency that could potentially impact the safety or well being of others, the Code Red team will be called together to provide support and

follow-up as needed for the situation. Established medical procedures will be followed to handle medical emergencies.

Circumstances: Severe chest pain, altered level of consciousness, unconsciousness, severe bleeding, shortness of breath, choking, seizure, electrocution, possible head, neck, chest or any other serious injury.

Activation: Can be activated by any staff person who encounters a victim or at the direction of the school nurse. The Principal or his/her designee will notify the CMT of the need for an emergency meeting.

Immediate Staff Procedure:

Notify the Principal's Office of your **EXACT** location by using the wall phone (enter phone number), two-way radio, directing another person to the Principal's Office, using the PA system or by any other means at their disposal.

Office Staff Procedure:

1. The office staff will announce "**Code Red in...(a specific area)**" 3 times.
2. Call 9-911. When calling the ambulance (9-911), state "**Code Red Emergency in progress.**" This means life-threatening emergency. "**We are unsure of the details at present. Send the ambulance ASAP.**" Tell the dispatcher that "**a second call will be made shortly describing the situation**" and make sure the response team member makes the second call. (See "Hints for Placing 911 Calls" on page
3. Notify parents, transport. Call parent/family when identification is given to you. Request that they meet the ambulance at the hospital of choice.
4. Once the crisis is over, announce "**Code Red completed**" when instructed to do so by an Administrator.

Code Red Team Procedure:

1. Team members should respond quickly with gloves. Each member should perform their designated task and each will be responsible for performing CPR/First Aid as necessary.
2. Tasks to be assigned to individual team members include, but are not limited to the following:
 - Call 9-911 at the direction of the nurse, principal or designee
 - Get the student health card or the employee emergency card
 - Bring AED to scene of emergency
 - Crowd control

- Contact parent/family/principal (if not in building)
 - Act as a recorder-completing necessary forms
 - Meet ambulance and direct personnel to scene of emergency.
3. First person to arrive begins assessing the patient and CPR if needed. Tend to victim, assess situation, and inform the Principal's Office (enter office phone#). If CPR is in progress, the Principal will notify the office staff to call the ambulance and inform them of CPR in progress.
 4. As other team members arrive, two should attend to the patient; one stands nearby for the ambulance giving exact status of patient and proper entrance for the ambulance personnel. A team member must meet and direct the ambulance. Team members not directly involved in the above duties can help stop traffic, move children and reassure those that need it.
 5. Team members relinquish the patient to trained, equipped ambulance personnel, being sure their duties are transferred correctly. A report should be given to EMS Personnel including, but not limited to:
 - **Victim Information:** known allergies, concurrent health problems, medications administered with times, vital signs, hospital preference if known, status of family notification.
 - If you are giving CPR or using the AED, do not stop until EMS personnel are ready to take over and are in a position to do so. When relieved team members may assist where needed.
 - District procedure calls for the building principal or his/her designee to accompany a student to the hospital.
 - **"Code Red completed"** over the announcements signifies the crisis is over.

Administrators:

1. Respond to the scene.
2. Determine the name of the patient and direct the office staff to notify the Parent/family and the Superintendent's Office (Ext. 6224).
3. Assist and maintain crowd control.
4. Stay nearby to give aid if needed.
5. Either appoint a designee or accompany the person to the hospital yourself.

General Staff Procedure: The **"Code Red in ... (a specific area)"** announcement indicates that the following procedure should be followed immediately:

1. Hold all students in classrooms **except** in the immediate area of the emergency.
2. Attendance does not need to be taken.
3. **"Code Red completed"** over the announcements signifies the crisis is over.

Placing 9-911 Calls: Be prepared to give this information to the EMS dispatcher.

1. Location - street address, city, directions, specific school building.
2. Phone number from which the call is being made.
3. Caller's name.
4. What happened.

Discipline Emergency
"Code Blue"

Purpose: A comprehensive response to situations in which there is severe student aggression or violent behavior that is causing or could cause immediate harm to students (s) or others (including an immediate threat of suicide). The **Code Blue Team** will be called together to provide support and follow-up as needed for the situation.

Activation: Can be activated by any staff person who encounters any situation where a student attempts to hurt himself, someone else, property, or refuses to leave an area. The Principal or his/her designee will notify the **CMT** of the need for an emergency meeting.

Immediate Staff Procedure:

1. Notify the Principal's Office of your **EXACT** location by using the wall phone (enter phone number), two-way radio, directing another person to the Principal's Office, using the PA system or by any other means at their disposal.
2. The Principal, his/her designee, and/or the School Resource Officer will go to the area to bring the student to the office.
3. If the student is out of control and refuses to leave the area where the disturbance is going on, the area will be emptied and the Principal or his/her designee will call the office to alert a "**Code Blue**".

Additional Information for Immediate Staff

1. Isolate the problem student by removing the others from the classroom or area.
2. Remain calm, keep talking to the student, limit confrontation, and give the person some time to regain control.
3. If the problem continues or escalates, keep the student in the classroom.
4. If physical restraint becomes necessary for safety reasons, make sure that there are enough staff to restrain the student with minimum of harm to everyone involved, including the student. One person should continue calmly talking to the student, telling the person that they will be released as soon as they regain self-control.

5. If movement to another location becomes necessary, first determine the alternate location (i.e.: another classroom, the office, or the time-out room and then follow the steps in #4 while moving with the student).

Office Staff Procedure:

1. If there is a problem with a student that a teacher thinks a **Code Blue** may need to be called, alert either the Dean (enter phone #) or Principal (enter phone #). If neither is available, contact the Guidance Office (enter phone #) or the School Resource Officer (enter phone #).
2. After the Principal or his/her designee has assessed the situation, he/she will decide whether or not a **Code Blue** and/or the **police** should be called.
3. If it is determined that a **Code Blue** is necessary, announce "**Code Blue in ... (a specific area)**" 3 times.
4. Once the crisis is over, announce "**Code Blue completed**" when instructed to do so by the Principal or his/her designee.

Code Blue Team Procedure:

1. **Code Blue Team** members will go to the area and give the student a brief time to come with them.
2. If the student refuses, he/she will be forced using one of the restraint techniques as certified by the New York State Law.
4. The school officer will take over and remove the student. The student will be taken to the police station.

General Staff Procedure: The "**Code Blue in ... (a specific area)**" announcement indicates that the following procedure should be followed immediately:

1. Hold all students in classrooms except in the immediate area of the emergency.
2. Attendance does not need to be taken.
3. Students in the Cafeteria or Lobby should be moved to pre-designated areas, (return to classroom).
4. "**Code Blue completed**" over the announcements signifies the crisis is over.

Crisis Situation (Intruder or Hostage Present)

"CMT Alert"

Purpose:

This section describes a situation that involves a person around or in the school that appears to be highly suspicious or threatening in some manner. We will assume that the individual is potentially armed. The intruder may ignore or be unresponsive to initial attempts by staff to communicate.

Immediate Staff Procedure: Anyone who encounters or observes this individual should:

1. Call the Principal's Office (240), identify yourself and give details of intruder situation and location.
2. Keep the phone line **open** to the office.
3. Keep as calm as possible.
4. Remember that law enforcement personnel have been called.
5. Talk to the person, attempt to diffuse the conflict, keep your distance, do not antagonize, and do not confront.

Office Staff Procedure:

1. The Administrator in charge makes the decision to call the Crisis Management Team.
2. Keep the phone line **open** to the office.
3. Keep as calm as possible.
4. Remember that law enforcement personnel have been called.
5. Talk to the person, attempt to diffuse the conflict, keep your distance, do not antagonize, and do not confront.

Office Staff Procedure:

1. The Administrator in charge makes the decision to call the Crisis management Team.
2. The Administrator in charge makes the decision to call the Police and Superintendent.
3. The office calls "9-911" to report the situation as well as the school officer in the building. Request "**silent run**" to school.
4. Office uses PA system to announce that there is a "**CMT Alert in ... (a specific area).**"

CMT Procedure:

1. Available CMT members assemble in the Principal's Office.
2. First responders to situation take two-way radio.
3. Principal/CMT members determine appropriate management of situation.
4. Door security and staff are in place.

General Staff Procedure: The "**CMT Alert in ... (a specific area)**" announcement indicates that the following procedure should be followed immediately:

1. Check halls for students and bring to nearest classroom.
2. Designated staff will check bathrooms for students and outside doors to be sure all outside doors are locked.
3. Shut all classroom doors, block or lock if feasible.
4. Shut windows.
5. Take attendance.
6. Move students away from windows and doors. Have them sit on the floor in a group.
7. Keep students as calm as possible.

8. Turn on the classroom computer and keep clear for incoming messages on Groupwise, if available from the office. Updates on the situation will be forthcoming by computer, runners or via the phone system.
9. As soon as the CMT is assembled, additional help will be sent to each area so that there will be **at least 2 people at every entrance**.
10. No phone calls (cell phones, wall phones, or pay phones) should be made from inside the building during the **CMT Alert**.

Fire

1. Pull a fire alarm immediately.
2. Follow evacuation procedures as practiced in fire drills.
3. Available safety team members meet in front of building. Bring prepared routing sheets from the Teacher's Manual for any announcements.
4. Determine evacuation locations and distribute prepared memos for delivery by runner to each teacher.

Weather and Environmental Crisis

This includes severe storms, floods, power failures, toxic hazards, etc...

If such a situation occurs the office will:

1. Announce a "CMT meeting in ...(enter specific place)."
2. The CMT will determine the severity of the situation. Do we need to immediately evacuate the school?
 - If **YES**, pull the fire alarm or hold a fire drill to quickly evacuate the students to predesignated areas. The CMT meets (enter specific place) to plan the next response. Team members from the office bring prepared routing sheets for communication with teachers outside.
 - If **NO**, the CMT meets in the conference room and follows the team guidelines to formulate an appropriate response.

Bomb Threat

In the event of a bomb threat:

1. The office staff receiving the call follows District guidelines for tracing the call.
2. The office staff calls "9-911" **and** the Main Office for the School District (Ext. 6223 or 6224).

3. Principal or designee determines level of immediate threat. If the danger is immediate evacuate building by fire alarm and safety team meets in front of the building to coordinate the next steps.
4. Determine if the threat is district-wide or for Owego Elementary School only. Notify the District Office and proceed with the evacuation.
5. Notify teachers with a written statement (**delivered by runners**) as to the evacuation plan.
6. Follow evacuation plans that are in place.

Bomb Threat Evacuation Plan

1. If OES only, go to OFA along predesignated routes.
2. Attendance will need to be taken at alternative location; please have necessary information with you.
3. Remain at the designated safe location.
4. If district-wide threat, go to prearranged emergency alternate location.
5. If other locations are not safe, proceed to location designated by Principal.
6. **Do not use cell phones or two-way radios in or around school as they could detonate the bomb.**

Appendix

EVACUATION PLAN B

- K, 1 & 2 - Community Center (transportation may be by District school buses, or
3, 4, & 5 - Boys & Girls Club in case they cannot respond, walking)

EVACUATION PLAN C

Remain on school buses parked at Bus Garage or other designated safe location.

EVACUATION PLAN D

If other locations are not safe, proceed to the Owego Fire Station along the sidewalk on North Avenue.

OES Evacuation Plan to OFA

We are unable to safely return to the school. We need to take the students to OFA because of the emergency. Please proceed to OFA with your class according to route A, B or C.

A. From the OES parking lot.

Follow the sidewalk along the athletic fields to OFA. Enter OFA through the front doors on the left.

B. From the playground.

Staying out toward the little league fields walk behind the school toward the sidewalk to OFA. Follow the sidewalk along the athletic fields to OFA. Enter OFA through the front Doors on the left.

C. From out past the playground, toward George Street.

Walk to the little league fields, walk behind the school toward the sidewalk to OFA. Follow the sidewalk along the athletic fields to OFA. Enter OFA through the front doors.

EVACUATION PLAN B

K, 1 & 2 - Community Center (transportation may be by District school buses, or
3, 4, & 5 - Boys & Girls Club in case they cannot respond, walking)

EVACUATION PLAN C

Remain on school buses parked at Bus Garage or other designated safe location.

EVACUATION PLAN D

If other locations are not safe, proceed to the Owego Fire Station along the sidewalk on North Avenue.

- 7. Do not use cell phones or two-way radios in or around the school building as they could detonate the bomb.**

**OWEGO APALACHIN CENTRAL SCHOOL DISTRICT
OWEGO, NEW YORK
CIVIL DEFENSE**

PRINCIPAL: LAURIE MCKEVENY

BUILDING: OWEGO ELEMENTARY SCHOOL

YEAR 2010-2011

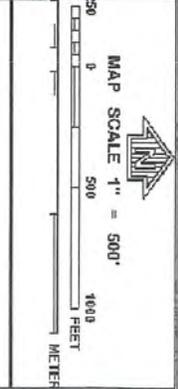
WARDEN	SECURITY & FIRE SERVICE	HEALTH SERVICE	ENGINEERING SERVICE	WELFARE SERVICE
CLASSROOM TEACHER	CUSTODIAN AND TEACHER	NURSE AND SPECIAL TEACHERS	CUSTODIANS AND TEACHERS	CAFETERIA PERSONNEL SECRETARY SPECIAL TEACHERS
To direct pupils to safe areas and to prevent panic	To locate and fight fires and for guard duty	To shut off utilities and make emergency repairs	To prepare food, supply games for pupils, and keep case records	
Names: Melissa Aubel Lynn Barr Kristin Barton Tracy Burns Brittney Dodge Ann Elliker Stephen Ferraro Amy Hallenbeck Amanda Heath Kari Hettinger Nancy Jackson Deidre Jones Carrie Luke Jean Lux Julie McEvoy Karen Monforte Sharlee Montague Janelle O'Neil Toni Schierloh Joe Shambo Stacey Silvestri Sue Sindoni Ruth Toal Sharon Tracz Stefanie Wieckhorst Jackie Willis Reathe Woodburn	Names: John Fleischauer Jeanette Marinich Trevor McCloe Trish O'Neill Roy Vandervort Dan Whippo Greg Woolever	Names: Megan Barnhart Jessica Billard Denise Burts Tracy Olevano Diane Rodgers Michelle Shoen Jennifer Simpson Julie Wold	Names: Don Conning Roy Vandervort Greg Woolever	Names: Ann Bowen Ellen Cronk Margaret Espe Marsha Heeter Kari Hettinger Kathy Lawrence Robin Marzo Terri Mendelson Cathy Synoweiz Linder Weiner Sue Willmot
	First Aid Names: Barnhart Billard Burts Peacock	Fallout Check Names: Merges Tirinato Willmot Woolever		

Owego Apalachin Elementary School
Fall, 2012

Percent of Students	Home - School Distance		Percent of Students	Home - School Distance
19.00%	< 1.0 miles		25%	1.05 miles
42.62%	< 1.5 miles		50%	1.80 miles
55.35%	< 2.0 miles		75%	3.21 miles
63.47%	< 2.5 miles			
72.51%	< 3.0 miles			
80.44%	< 3.5 miles			

Avg Distance, Home - School, All 542 Pre-K - 5 Students = 2.3 miles

Walkers	53 students
Bus-Riders	489 Students



NATIONAL FLOOD INSURANCE PROGRAM

FIRM
 FLOOD INSURANCE RATE MAP
 FOR TIOGA COUNTY, NEW YORK
 ALL JURISDICTIONS

PANEL 0092E

CONTAINS:

OWEGEC, TOWN OF	360839
OWEGEC, VILLAGE OF	360840
TIOGA, TOWN OF	360842

PANEL 382 OF 551
MAP SUFFIX: E

MAP NUMBER
 36107CA382E

EFFECTIVE DATE
 APRIL 17, 2012

Federal Emergency Management Agency

This is an official copy of a portion of the Flood Insurance Rate Map (FIRM) for the Town of Owego, New York, as shown on this map. It is not to be used for any other purpose. The map does not show changes to the FIRM since the last update. The FIRM is the official record of the Flood Insurance Rate Map. It is the responsibility of the user to verify the accuracy of the information shown on this map.

DATE: 1/2012	LOCATIONS 1-3	OWEGO ELEMENTARY SCHOOL FLOOD PROTECTION	OWEGO, NEW YORK
DESIGNED BY: GWR			
CHECKED BY: GWR	 		
PROJECT NO.: FLOOD 2012	SHEET 1 OF 1		

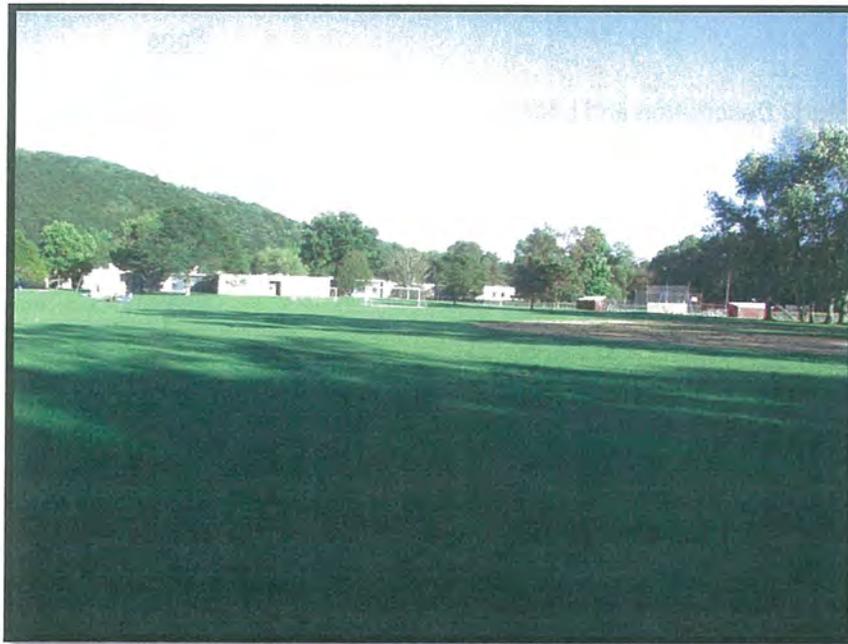
**FEMA Presentation
Owego Elementary School**

		<i>Information to be Submitted to HA</i>	
<i>Table of Contents</i>		<i>Responsibility</i>	<i>Date Due to HA</i>
1.	Introduction		
	a. Summary	Simmons	Complete
	b. Timeline of Events.....	Simmons	Complete
	c. Population Density Map.....	Griffiths.	Complete
2.	Existing Conditions and Event		
	a. Flood Plain Map	Griffiths	Complete
3.	Site Evaluations		
	a. Site Evaluation - 4 Groups of Considerations	Simmons	Complete
4.	Building Justification and Planning		
	a. Space Allocation Comparison Code and Education	Highland	Drew M.
	b. Floor Plans and Renderings (Stilts)	Highland	12/12/12
	c. Floor Plans and Renderings (Fill).....	Highland	12/12/12
5.	Site Planning and Development		
	a. Site Plan – Tax Map	Griffiths	Complete
	b. Delineation and Description of Mitigation Area(s) ...	Highland/Griffiths	Stilt Missing
	c. Flood Modeling	Griffiths	Complete
	d. Evacuation Plan	OACSD	Complete
	e. Phase I A&B cultural report.....	OACSD	Letter Only
	f. US Fish and Wildlife Letter.....	Griffiths	Complete
6.	Cost Estimates		
	a. Cost Estimate for Building and Site Work.....	Lend Lease	12/12/12
7.	Appendix		
	Public meetings (Elementary School).....	Simmons	Complete



**OWEGO CREEK HYDROLOGIC & HYDRAULIC STUDY
FOR PROPOSED REPLACEMENT OF
OWEGO CENTRAL SCHOOL DISTRICT ELEMENTARY SCHOOL**

**Village of Owego
Tioga County, New York**



Prepared for:
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November 27th, 2012

**OWEGO CREEK HYDROLOGIC & HYDRAULIC STUDY
FOR PROPOSED REPLACEMENT OF
OWEGO CENTRAL SCHOOL DISTRICT ELEMENTARY SCHOOL**

**Village of Owego
Tioga County, New York**

TABLE OF CONTENTS

	<u>Page</u>
1. Study Description and Location	1
2. Existing Studies & Hydraulic Models	1
3. Hydrologic Considerations	2
4. Hydraulic Analysis	2
5. Conclusions and Recommendations	4

Appendix A

- Owego Creek Site Plan/ Cross Section Location Map
- Village of Owego DFIRM of Project Study Area
- HEC-RAS 100-year (1% annual chance) Summary Table

1.0 Study Description and Location

This study consists of a hydrologic and hydraulic analysis to determine the effects, if any, of a proposed replacement of the Owego Elementary School. The property is located within the 100-year (1% chance annual flood) floodplain along a reach of Owego Creek in the Village of Owego, Tioga County, NY (see Site Plan/Cross Section Map - Appendix A). It is noted that the existing Elementary School and all proposed replacement alternatives are located outside the regulatory floodway.

The existing Elementary School was severely damaged in September of 2011 from floodwaters resulting from the effects of Tropical Storm Lee. The September 2011 flood represents the flood of record with initial magnitude estimates nearing the 0.2% annual flood along the Susquehanna River and tributaries in Tioga County. During the 2011 flood, the first floor of the Elementary School was inundated with approximately 18" of floodwaters.

The proposed replacement school will be constructed in the same general location as the existing elementary school. Two (2) alternative building design concepts are being considered for the replacement school. The first alternative will elevate the first floor elevation of the proposed replacement school above the existing base flood elevation of approximately 817.5 (1988NGVD) through the placement of fill. The proposed first floor elevation for the fill alternative is 820.0 which provides approximately 2.5' of freeboard above the base flood elevation (1% annual chance flood) and over 1' of freeboard over the 0.2% annual chance flood (500-year flood).

The second alternative consists of a combination of fill and excavation in the vicinity of the proposed school. The excavated portion of the site will feature the school being elevated on stilts such that floodwaters can pass underneath the proposed first floor elevation. The excavation from underneath the school will compensate volumetrically for lost base flood storage volume. It is noted that the Village of Owego Flood Plain Ordinance requires compensatory replacement of any filled base flood volume with an equal excavated volume of material.

2.0 Existing Studies & Hydraulic Models

Review of the updated Flood Insurance Study (April 17th, 2012) for all Jurisdictions in Tioga County, NY revealed that the study reach of Owego Creek was last studied in detail prior to 1982 (the previous effective FIS date for the Village of Owego). The 1982 study utilized detailed hydraulic methods (US Army Corps of Engineers HEC-2 Computer Program) that provided mapping limits for the 100-year and 500-year floods (1% and 0.2% annual chance floods) and also established the 100-year floodway limits.

The updated 2012 Flood Insurance Study (FIS) utilized the 1982 FIS Owego Creek water surface elevations and superimposed them onto detailed LIDAR mapping that was obtained after the June 2006 flood. The Digital Flood Insurance Rate Maps (DFIRMS) reflect the flooding limits utilizing the more accurate LIDAR mapping (see Appendix A). For this study, WEC attempted to obtain the original FIS HEC-2 model but thus far has been unsuccessful in locating the model data from either NYSDEC or FEMA.

3.0 Hydrologic Considerations

Peak discharges for the 1% annual chance storm (34,100 cfs) for Owego Creek was obtained directly from the April 2012 FIS. It is noted that this discharge was developed using 1975 USACOE regression equations from the original 1982 FIS. As a validity check, WEC compared the FIS discharge utilizing updated regional regression equations (2006) that are imbedded into the USGS Stream Stats program. The respective peak discharge for the 1% annual chance floods using the updated regional regression equations is 27,700 cfs. Since the published FIS discharges are higher and are the basis for the Village of Owego Flood Plain Management, they were utilized for all subsequent hydraulic modeling.

4.0 Hydraulic Analysis

The U.S Army Corps of Engineers HEC-RAS computer program (version 4.1) was used to perform the hydraulic analysis. It is noted that HEC-RAS has replaced the HEC-2 computer program. The starting water surface elevations for the study were obtained from information provided from the flood profiles published in the April 2012 FIS. The downstream starting cross section used in the model corresponds to a cross section immediately upstream of the Talcott Road bridge over Owego Creek (see Site Plan/Cross Section Location Map-Appendix A).

Existing Conditions

Since the original hydraulic model for Owego Creek could not be located, a total of 13 new surveyed channel sections were obtained along Owego Creek throughout the study reach (see Cross Section Location Map - Appendix A). The surveyed channel cross sections were based on NGVD88 vertical datum and supplemented with mapping created from the LIDAR mapping used in the April 2012 FIS. Sections 717, 969 and 1216 represent cross sections adjacent to the existing and proposed elementary school footprint. Cross sections 1353 to 3345 represent locations upstream of the elementary school. Manning's roughness coefficients for Owego Creek channel and overbank areas were estimated by field observations and engineering judgment. The HEC-RAS model runs were computed assuming a subcritical flow regime.

Proposed Conditions

The proposed conditions were modeled by including the preliminary proposed school foot prints and associated mitigation areas. Cross sections 717 thru 1716 were adjusted to reflect the proposed changes. Three hydraulic modeling runs were completed to compare the effect of three proposed conditions on the base flood water surface elevations. The hydraulic effect of the proposed project can be observed by comparing the water surface elevations and velocities of the existing and proposed condition models. Proposed model 1 includes the proposed school footprint on fill without mitigation and is shown in Table 1. Proposed model 2 includes the proposed school footprint on fill with the mitigation area, results shown in Table 2. It is noted that the mitigation area consists of an excavated area that compensates for the lost base flood

volume occupied by the placed fill. The third proposed model condition analyzes the "Stilt-fill Alternative" with half the school raised on fill and the other raised on stilts with an excavated volume equal to the raised fill volume. As such the third option does not require additional excavation in the proposed mitigation area (sections 1471 through 1891).

**Table 1 - Owego Creek Proposed Model 1 - School on Fill/no mitigation
100-year Water Surface Elevations and Channel Velocities**

Cross Section ID	Existing Conditions		Proposed Conditions		Difference	
	W.S. Elevation	Channel Velocity	W.S. Elevation	Channel Velocity	W.S. Elevation	Channel Velocity
	(ft)	(ft/sec)	(ft)	(ft/sec)	(ft)	(ft/sec)
1718	819.28	5.24	819.32	5.17	0.04	-0.07
1595	817.72	4.51	817.83	4.17	0.11	-0.34
1471	817.64	6.26	817.86	5.82	0.22	-0.44
1353	817.48	5.73	817.73	5.28	0.25	-0.45
1216	817.37	3.88	817.5	4.72	0.13	0.84
969	817.19	3.59	817.28	3.99	0.09	0.4

As can be noted in Table 1, the proposed fill alternative results in a maximum increase of 0.25' in the 100-year water surface elevation (section 1353) which is immediately upstream of the proposed school footprint. The rise in water surface elevation extends upstream to Owego High School (section 1718). Channel velocities slow down upstream of the proposed school area.

**Table 2 - Owego Creek Proposed Model 2 - School on Fill With Mitigation Area
100-year Water Surface Elevations and Channel Velocities**

Cross Section ID	Existing Conditions		Proposed Conditions		Difference	
	W.S. Elevation	Channel Velocity	W.S. Elevation	Channel Velocity	W.S. Elevation	Channel Velocity
	(ft)	(ft/sec)	(ft)	(ft/sec)	(ft)	(ft/sec)
1718	819.28	5.24	818.68	5.16	-0.6	-0.08
1595	817.72	4.51	817.73	2.02	0.01	-2.49
1471	817.64	6.26	817.94	4.2	0.30	-2.06
1353	817.48	5.73	817.69	5.35	0.21	-0.38
1216	817.37	3.88	817.45	4.78	0.08	0.9
969	817.19	3.59	817.23	4.03	0.04	0.44

Table 2 shows the results with the proposed school on fill with proposed mitigation (excavation). The water surface rise from this scenario effectively disappears within the mitigation area (water surface rise in section 1595 is >0.01'). The water surface elevations immediately upstream of the mitigation areas decrease due to the mitigation area and are more than a half foot lower at Owego High School (section 1718).

**Table 3 - Owego Creek Proposed Model 3 - School on Stilts/Fill
100-year Water Surface Elevations and Channel Velocities**

Cross Section ID	Existing Conditions		Proposed Conditions		Difference	
	W.S. Elevation	Channel Velocity	W.S. Elevation	Channel Velocity	W.S. Elevation	Channel Velocity
	(ft)	(ft/sec)	(ft)	(ft/sec)	(ft)	(ft/sec)
1718	819.28	5.24	819.29	5.23	0.01	-0.01
1595	817.72	4.51	817.74	4.44	0.02	-0.07
1471	817.64	6.26	817.69	6.16	0.05	-0.10
1353	817.48	5.73	817.53	5.63	0.05	-0.10
1216	817.37	3.88	817.44	3.72	0.07	-0.16
969	817.19	3.59	817.24	3.70	0.05	0.11

Additional detailed HEC-RAS summary table results are included in Appendix A.

5.0 Conclusions

Base Flood (1% annual chance) Elevation Considerations

Two preliminary construction alternatives have been proposed to replace the existing Owego Elementary school. An existing condition and three proposed conditions models were completed to determine the influence the two construction alternatives have on the 100-year flood (base flood) water surface elevations. The school on fill alternative without mitigation, results in minor increases in base flood water surface elevations for a length of approximately 1,800 feet upstream of the proposed school. The maximum rise in water surface elevation is 0.25 feet immediately upstream of the proposed school. This scenario does not provide a volumetric balance of filled base flood storage thus does not adhere to the Village of Owego floodplain code. As such, this option is not recommended unless the proposed mitigation area just upstream of the proposed school is included.

With regard to location of the mitigation area, the two preliminary construction alternatives vary by proximity of the mitigation site to the school. The school on fill alternative features a separate excavated mitigation area which is located just upstream of the proposed fill line of the elementary school. The mitigation area for the School on Stilts/Fill alternative is located immediately at the school.

The school on fill alternative with mitigation reduces the length of the increased water surface elevation to less than 400 feet upstream of the school with a maximum rise of 0.30'. The increase in base flood water surface elevation disappears within the mitigation area. The School on Stilts/Fill alternative includes a mitigation area immediately next to the fill volume. One half of the school will be built on construction fill, the other half on stilts. The excavated mitigation area is below the half of the school on stilts. The rise in this water surface elevation from this construction alternative extends 580 feet upstream with a maximum rise of 0.07'.

The results of these modeling exercises demonstrate the influence of the proposed elementary school's fill and the mitigation excavation on the base flood water surface elevations. The school on fill alternative using an upstream mitigation area minimizes the upstream distance of floodplain rise. The school on stilts/fill alternative features a mitigation area immediately next to the proposed school that minimizes the height of the rise. Both alternatives will comply with the Village of Owego floodplain code (including volumetric balancing of displaced base flood plain) as well as the National Flood Insurance Program requirements.

Velocity of Floodwaters

Filling of the floodplain will decrease the cross sectional area of the floodplain resulting in minor increases in velocities immediately adjacent to the proposed school. In general, the channel velocities and overbank velocities adjacent to the proposed school are relatively low, ranging from 3'/second upwards to 6'/second in the channel to 3'/second to 4'/second in the overbank area. For either construction alternative, the channel and overbank velocity increases are very minor (maximum 0.90'/second increase) and quickly dissipate or are reduced just upstream of the proposed school. As such, it is our opinion that floodwater velocities will not significantly change or be a factor for determining a preferred construction alternative.

Rate of Rise of Floodwater/Duration of Flooding

The Owego Central School District Campus is affected by multiple flooding sources. During the September 2011 flood event, initial shallow sheet flow flooding occurred from a small tributary stream (Huntington Creek) upstream of the High School. Flooding from this stream could develop in several hours and is usually associated with sediment and debris blockage at a railroad bridge. Flooding is generally limited to sheet flow flooding of the low lying areas of athletic fields. Owego Creek, with a much larger watershed (340 square miles), peaks hours later and overbank flooding enters the school campus from the floodplain upstream of Huntington Creek. Finally, the Susquehanna River (over 4000 square mile watershed) peaks a day or two later. As such, the duration of flooding on campus can potentially last over several days.

Special Considerations - Levees, Erosion, Subsidence, Sinkholes, Ice Jams, Debris Load, Pollutants, Groundwater flooding, Mudflow

The project study reach of Owego Creek includes an existing earthen levee along the western edge of the campus which may reduce nuisance flooding but does not protect the existing elementary school from the 1% annual base flood. Neither construction alternative will have an impact on the existing function of the levee.

Velocities within the left overbank at the proposed school were used as a surrogate for erosion potential due to the proposed construction alternatives. Both construction alternatives will produce a minor increase in velocities between the river and the river facing bank of the construction fill. As mentioned previously, the velocities in the overbank area are relatively low and are not expected to increase significantly. As such, the potential for erosion for either alternative is anticipated to be low, however, this

assumption will need to be verified as the final design alternative is developed in further detail.

Borings were taken at several locations around the proposed construction area. The underlying geology of the site is alluvial and does not appear to be prone to sinkholes or subsidence. The Tioga County Hazardous Management Plan does not list Tioga County as a county that has experienced land subsidence in the past and does not have unconsolidated aquifer systems.

Ice jams have occurred occasionally on Owego Creek. According the USACOE Cold Regions Research and Engineering Laboratory, an ice jam formed on January 19, 1996 on Owego Creek. It is unclear at this time where on Owego Creek this jam formed. The school on fill alternative will not increase the likelihood of an ice jam forming since the fill is set back a long distance (more than 500 feet) from the active channel and does not feature objects that can trap ice. The school on stilts/fill alternative slightly increases the likelihood of an ice jam forming since the stilts could trap ice but there is a low probability this will occur because the stilts are set far back from the active river corridor. The likelihood of debris jams forming due to either construction alternative is the same likelihood of an ice jam forming. Both construction alternatives are set away from the valley wall (more than 900 ft) and are not susceptible to mud flows.

Both construction alternatives will decrease the potential of pollutant loading to the creek during a 100-year flood. By raising the school to be above the 100-year floodplain, the materials and chemicals stored in the school will not be exposed to flood waters.

The proposed school construction alternatives are not impacted by wave heights or ground water flooding. During the historic floods of 2006 and 2011, ground water flooding was not reported as a problem.

As noted previously, this hydraulic analysis will be refined as the design alternative is chosen and proceeds into final design.



30% SUBMISSION
NOT FOR
CONSTRUCTION

PRELIMINARY SITE PLAN/CROSS SECTION
LOCATION MAP
OWEGO ELEMENTARY SCHOOL
FLOOD PROTECTION PROJECT
TIOGA COUNTY, NY

DATE: 11/09/12
DESIGNED BY: GDF
DRAWN BY: GDF
CHECKED BY: RW
WEG JOB NO.: E006.2012
PLAN NO.
SHEET 1 OF 1

