

**DELAWARE COUNTY
DEPARTMENT OF PUBLIC WORKS**

P.O. BOX 311

DELHI, N.Y. 13753

WAYNE D. REYNOLDS, P.E.
COMMISSIONER

Main Office and Yard
Page Avenue
Delhi, N.Y. 13753

February 23, 2018

Delaware County Board of Supervisors
111 Main Street
Delhi, NY 13753

Re: DPW
Main Shop Replacement Project

Dear Supervisors:

As you enter your final deliberations on site selection of the DPW main shop and operations facility, we have some thoughts for your consideration.

History

The existing DPW office and main vehicle maintenance facility was purchased by the County in 1931. The 1927 Sandborn maps show that the building was owned by the Delhi Silk Company and that the shop area was abandoned and in poor repair. Over the years, the County has made a substantial investment in the Page Avenue facility to make it work for the County as the Department expanded and assumed a larger role in the maintenance of the County road network and all (but one) of the publicly owned bridges in the County except for the State DOT/Railroad/DEC/NYCDEP bridges. As highway and bridge standards of maintenance have evolved so has the Department. Substantial increases in traffic and truck loadings have also required the department to expand to address the demands on today's highway system. For the last 87 years, the facility has served the County however, it has outlasted its useful life.

Public Works Committees have known that the construction of a new DPW maintenance facility was inevitable since 1990. In 1990, the Committee went out to bid with a project that would make major structural modifications to the existing facility to bring it up to then current codes. The project would have constructed a peaked roof on the shop as well as a complete new metal exterior to protect the deteriorating common brick. It would have also addressed upgrades to all the utilities and air handling systems to meet current codes. The project was voted down by the Board and the Committee was directed to develop plans for a short term roof replacement having a useful life of 20 years. At the time, the Board did not feel that the major investment in the existing building was cost effective given its age and general condition.

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Over the past 20 years, the Committees have also discussed different ways of providing maintenance services in the most cost effective way. It is recognized that the current DPW/transportation/highway structure contains duplication of services between the State, County, Towns and Villages. The Committee has been very aware of the cost of that duplication and has considered alternate methods of providing the services. To that end, in 2009 the Board entered into an agreement with the Town of Deposit to turn the County patrol garage over to the Town as well as all of the County Roads in the Town. Now other than bridges and large culverts on the old County Roads, the County has no need for a presence in that Town. We have not been able to duplicate that model with any other Town in the County. The Committee has also tried to evaluate whether the Towns and County could consolidate to eliminate duplication of Highway Garages. That too has failed to gain support from any municipality or agency in the County. It is evident that the County DPW has to plan for the status quo as far as jurisdiction goes. In the absence of a long range plan for the entire County to ensure that the desired services are available and cost effective for future generations, the Committee has focused on having long term facilities for Solid Waste and Highways.

At the Board's direction in 1990 an epdm rubber roof over the existing roof was installed for the interim period. The roofing overlay did two things. First it encapsulated the asbestos in the old roof thereby delaying the need for the mitigation of the asbestos containing materials. And second, it provided a new impervious layer to keep moisture out of the shop. The overlay was comprised of pressure treated two by four purlins fastened directly to the existing roofing. The purlins were spaced on 18 inch centers. Next, a layer of three quarter inch thick pressure treated plywood was fastened to the purlins. The plywood had to be covered by a recovery board which was a moisture resistant gypsum board to fully adhere the epdm membrane to. One way vents were placed in the new roof at regular intervals to vent the interstitial space between the old roof and the new roof. They essentially let vapor escape from the space but not enter it. The Committee made the conscious decision during the planning not to put any additional insulation on the roof because it was just a short term fix and it was thought that it would not last long enough to pay for itself. This roof system was finished in the fall of the year 1990. During the summer of 1991 the roofing system was already experiencing problems. The moisture trapped in the old roof insulation was being vaporized by the sun on the flat black epdm roofing. The vaporization caused odor problems in the neighborhood and DPW received numerous complaints about the odor. The design engineer for the system came back and evaluated the problem. It was determined that the only resolution to the problem would be to install a series of blowers and gravity vents to circulate cooler air between the two roofing systems to keep to roof cooler. It was thought that this would significantly lessen the odor. The system worked but not before the moist air between the two roofs had deteriorated the recovery board (gypsum board) to the point that it started to delaminate. The epdm was still fully adhered to the top paper of the recovery board but the paper was no longer fully adhered to the gypsum board. It was not long before the wind uplift forces across the top of the roof were lifting the epdm membrane right off the roof. To counteract that, tires were placed on the roof to ballast the roofing material. As West Nile became more prevalent and Public Health became more concerned about mosquito breeding areas, the tires had to be removed

from the roof and a mechanical fastening of the roof had to be performed. The mechanical fastening was accomplished by putting aluminum strips on top of the epdm roofing going in the direction of the pitch of the roof and mechanically fastened with screws going through the new and old roofing systems and anchoring into the metal roof decking. The aluminum battens were then covered with epdm strips and sealed to the roof. However, the incorporation of more holes in the roofing material made even more places for the roofing to leak.

In 2006, the Wickham automobile dealership came up for sale. Mr. Wickham, being fully aware of the roofing issues that the County was having, called the Department of Public Works and offered them the purchase of his building to act as a temporary location for the mechanics. The Committee considered the offer. They decided that the building was really too small for what was needed by the Department but saw the value of the additional land. They opined that with the two pieces of property, the Department could continue to function using the original garage and the Wickham garage while a new facility could be constructed on the vacant land between the two buildings on the combined property. It was also opined by the Committee that the demolition of the existing shop would mitigate the impact on the floodplain resulting from the proposed location that would have to be raised out of the floodplain. The only concern was the grade difference between Page Avenue and the elevation of the proposed shop to keep it out of the flood waters. It was a concern that it would be too steep to traverse with large equipment. The Wickham property was purchased but not until the Town of Delhi was assured that the Wickham building would be put back on the tax rolls upon completion of the new shop. Although it is extremely small and has certainly cramped the mechanics, the Wickham Building has served as the home of the shop since that time. Due to its size, there is a fair amount of equipment that is serviced outside because there is not enough room to get the equipment in the shop. In addition, there have been times when the Department has operated on less than full employment of mechanics because there is not enough room.

In 2010, the Committee started to get very concerned about the condition of the roof. It continued to deteriorate because of moisture leaking through the epdm roofing material. The water was finding its way through all the roofing layers and was being caught in the metal decking that spans the roof bar joists. The metal decking was rusting and there were small perforations of the decking which is a primary member for the support of the roof. The maintenance of the epdm roofing material was becoming more of a problem. The water that was leaking through the membrane had caused the gypsum board to become very brittle. As maintenance personnel walked on the roof to access and repair perforations in the membrane, you could feel and hear the gypsum board crunching and breaking up. The breakup of the board resulted in the fasteners holding the gypsum board to the plywood to poke through the epdm under foot traffic. In addition when it is windy the roofing material flutters and the fasteners tear the membrane. As the roof continued to deteriorate through the early 2010s, it became apparent that roof maintenance was more damaging due to people walking on it than helpful. As the metal decking deteriorated, there was a concern for asbestos entering the shop.

In the summer of 2010 the Committee authorized the Department to seek proposals for the program development and design of a new facility on the Page Avenue site. The goal was to hire a consultant to determine the needs of DPW Delhi (mechanic, patrols and admin) and design a building to meet our needs on Page Ave. The Committee was giving no consideration to moving away from that site because they believed that the County owned all of the property that was required and that there had been a substantial investment in the property over the years that included the salt shed, bridge maintenance buildings and administration offices. In addition, the presence of municipal water and sewer was a great benefit. Based on those positions, the RFP was issued in the fall of 2010. Four proposals were received, reviewed and evaluated. Wendel was selected as having the most experience with programming and designing municipal highway garages and maintenance facilities. Once selected, the Department negotiated the scope of work required and the associated fee. When it came time to pre-file a resolution for the award of the professional services in December of 2011, the Chairman of the Board and the Budget Officer were not in favor of the action due to the poor economy and the award was delayed.

In March of 2011 the metal roof decking had deteriorated to the point that it was actually falling down in one area of the shop. As the rusty sections of the decking fell it left the original roof insulation exposed to below. It was not long before the insulation started to fall as well. This section of the shop was cordoned off to prevent employees from accessing the area. In an effort to assure the employees that they were not being exposed to any asbestos that had been identified in the original roof in the 1990, additional tests were run on the material that was falling. In a freak mix-up in the lab, the insulation came back as asbestos containing which caused us to immediately close the shop to all personnel and we made arrangements to have them report to other buildings. A specialized environmental consultant was retained to assist in the mitigation of the situation. They took additional samples of all the materials that were exposed from the inside of the building and used another lab. Those samples came back clean. In accordance with standard environmental protocols, additional samples of the same materials were sent to a third independent lab. The third lab also showed that the material was free of asbestos. Therefore it was determined that the original lab either had an error in their analysis or that the samples had been switched somehow. The staff was allowed back into the building but still prevented from accessing the worst sections of the shop.

In August of 2013 due to the concern for the deteriorating condition of the roof and continuing slow economy, the Committee directed the Department to evaluate the possibility of putting a new roof on the existing building. Because of the expense of a roof project, the first thing that had to be done was to ensure that the building structure would meet the then current code. The Department retained an engineer to establish and verify the existing facilities roof load ratings in relation to current code mandated standards. During the course of the engineer's evaluation, they determined that the building did not meet current codes and needed some major structural work in order to get it to meet the codes. The building lacked the required moment connection from the walls to the roof system and it was going to take an extensive effort to retrofit the existing brick walls with a connection to the roof. Given the poor condition of the

brick walls, it was anticipated that the extent of the rework would expand significantly as the contractor attempted to stabilize the old wall. Without meeting code, it was a poor investment to attempt to put another new roof on the building and the effort was abandoned.

Continued deterioration of the roof caused the Committee to push for the award of the professional services for the design of a new building in January of 2014.

Page Avenue Site

Once underway, Wendel performed interviews with key personnel to determine needs and find out how DPW operated. They also provided questionnaires to each of the department's units to ask additional questions about how the units interacted with each other. Based on these interviews, they determined the appropriate space required for each operation. DPW input was considered as far as style of building based on several visits to local contractor facilities, equipment service facilities, Town garages and DOT facilities. The preferred building for mechanics was a herringbone layout with doors at either end. This was a wide open area that was not limited by walls or columns. This type of facility provides for flexibility to work on large and small equipment alike. For the patrol portion of the building where the plows will be kept, the preferred building type was a pre-engineered building that is wide enough to park two trucks with plows nose to nose with doors on either end of each bay. This layout allows the most efficient storage of trucks while providing flexibility of getting individual trucks out of the shop without moving others. The Town of Roxbury's current facility was used as a model building for the patrols. Based on Wendel's programming and schematic design, preliminary designs were fit onto the existing property on Page Avenue between the current facility and the Wickham building. The site had to be elevated to above the 500 year flood elevation which decreased the available footprint of the current property to the point that there just was not enough space for everything and still have sufficient room for vehicles to safely navigate as required.

In March of 2014, Wendel had progressed with their work to the point that they were starting to have some confidence in their understanding of the operation. In reviewing the proposed site and preliminary program, they challenged the position of staying on Page Avenue. They were concerned about the floodplain and the inefficiencies of the site. In March of 2014, a telephone conference call minutes show that the Department was adamant with Wendel that the Committee was committed to staying at the existing site and that no effort should be expended looking at alternate sites. In April of 2014, Wendel came back to the Committee with a preliminary program and very rough conceptual plan for the building. It was extremely evident that the size of the building required to put all the operations on one floor as opposed to a combination of main floor and mezzanines that the department currently utilized, that the footprint was going to be larger and have more impact on the floodplain than could be mitigated with the removal of the existing building. It became evident at that time that floodplain mitigation was going to be a challenge and that there was not sufficient allocation of effort in the scope of work to address the floodplain issues. In May of 2014, the Department negotiated with Wendel to have their sub-consultant provide more

hydrology and hydraulics (H&H) studies to evaluate the options of the current site. The Committee did not want to increase any backwater and affect the neighbors or the Village. In June and July of 2014, the Department and Wendel continued negotiating the added scope of work for the H&H study. Wendel performed more site survey in August through October of 2014 to build a better hydraulic model so that in-depth evaluations could be made on how a proposed building would affect backwater elevations. With the added detailed survey, Wendel's sub consultants created an accurate H&H model to evaluate the impacts of the proposed building on the floodplain. The results of that work were presented in March of 2015. The results showed that there was nothing that could be done with the proposed program that would not have a negative impact on the floodplain which was unacceptable to the Committee. However, the Committee was not yet ready to look at off site options. Wendel and the Department discussed the need for more alternatives to be evaluated from an H&H perspective. Wendel agreed with the Department that it did not make sense for them to be the middleman on continued floodplain evaluations and allowed the Department to contract directly with Woidt Engineering (who had been the sub-consultant specializing in H&H to Wendel's sub-consultant for base mapping and onsite survey) to perform the additional work of trying to figure out how large a building could be constructed on Page Avenue without increasing the backwater. Woidt Engineering was retained and additional models were run on optional building layouts and sizes on Page Avenue.

On November 10, 2015, the Public Works Committee met with the Town and Village of Delhi and a DEC floodplain manager liaison to discuss the options. The Village of Delhi was very much in favor of the Department staying in the Village and was of the opinion that they would do whatever it took to keep it there. The DEC representative was not happy that the salt shed had been constructed in the floodway along with other buildings and were of the opinion that nothing would be allowed until those buildings were removed. The DEC representative did make a recommendation that the buildings be moved to the north towards the floodplain fringe. However, he did not fully understand the size or configuration of the building. This would require the acquisition of additional properties along Main Street one of which was an active business. Another option discussed was floodplain mitigation. This option would involve the purchase of four residential houses on Page Avenue and then lowering the grade of the property to mitigate floodwaters. The Committee was not comfortable with either of those options. However, knowing that the Village strongly supported retaining the DPW facility in the Village, the Committee charged the Department for more H&H work with Woidt Engineering to evaluate mitigation efforts of grading on County owned land to counteract the construction of a new building.

Offsite evaluations

Starting in April of 2016, it was evident that there were no alternatives that would allow for building a building of the required size on the existing property without increasing the backwater. Therefore it was decided that we would have to start evaluating smaller options. One of the options discussed that would allow downsizing the building would be to have offsite, secure, cold storage for offseason equipment. During the Departments search for and evaluation of available property for offsite storage of off-

season equipment, it discovered the advertisement of site number 3 for sale. Upon further review of site number 3, it appeared to be extremely suitable for cost effective development and was large enough to provide the County with a long term plan for continued operations of the DPW. When the site was first proposed to the Committee, they were intrigued by the option but certainly not in favor of the need to construct a new bridge to access the facility. However, after several meetings where the value of the bridge was discussed in detail, they started to develop more interest in the option. After substantial review and evaluation by the Committee, it was decided that the entire relocation of the DPW main facility had merit but they were not comfortable with advancing the idea until the Planning Department performed a siting study to ensure that all potential sites were considered before any formal action would be taken. The Planning Department started their investigations looking for a minimum of 25 acres of developable property within a half mile of a State or County road within 10 miles of the existing site. The 10 mile radius was based on a Herkimer County Study that used that radius to determine the optimal number and location of service centers. That radius was chosen to set a reasonable response time for dealing with snow or obstructions in the road for both winter and summer work. As the first list of sites provided by Planning were evaluated, it became quickly apparent that the 10 mile radius was too far because the patrols already had a 20 mile trip to parts of the service area covered by the Delhi Patrols. In addition, it took the center of DPW operations too far from the County seat and the center of the overall County operations. The radius was reduced to 5 miles with a one quarter mile distance from a State or County road to reduce the access development costs. The new criteria was used by Planning to develop a new list of sites. Those sites were further evaluated for constructability and ranked. The three highest ranked sites were then visited in the field to verify desktop evaluations. Only after that process was completed and thoroughly vetted did the Committee feel that they were ready to present to the full Board.

Option presented to the Board

On January 4th of 2017, the Public Works Committee put forth to the Board resolution 17 of 2017 which authorized the execution of an option on the property for site number 3 which was the Committee's preferred choice for development. This option would tie up the property for a one year period and allow the County's consultants to perform the necessary field investigations to gather data that would be used in a SEQRA review. This work would ensure that the site was buildable from an environmental perspective and would also identify all the issues that would have to be addressed in the designs to mitigate any environmental impacts caused by developing the site. It would also identify any physical features that will affect the constructability of the site. The SEQRA process has to be completed prior to the County being able to spend any money on the purchase of the property. Due to a delay in the negotiations of an option, Board members started to challenge the Committees position and requested additional investigations.

The Village of Delhi was the first to pass a resolution against the development of the McFarland site and to advocate for the facility staying on Page Avenue. As noted above, the Committee had studied alternatives for keeping the facility on Page Avenue

for many months and there was no way to do so without negatively affecting the floodplain and raising backwater. In addition, even with the mitigation work that the Delhi Local Flood Commission was supporting, the Page Avenue property would still flood even after the work was completed. We have attached to this letter the Village resolution, a memo from the Committee dated May 10, 2017 responding to the resolution and a letter from Woidt Engineers that addresses the Delhi LFA impact on the County Page Avenue property.

Throughout the spring and summer of 2017, the Committee listened to the Board's suggestions and requests for additional evaluations. The Committee directed the consulting engineers to evaluate a total of 12 additional sites around the center of the County. This evaluation has been very detailed and has addressed the majority of the concerns expressed by the Board to thoroughly exhaust all the options. The evaluation used criteria and weights that were established by all the members of the Board. The results of all the evaluation is being built into a siting document that will provide details on all the sites reviewed, all considerations given and list the ranking of each site considered. Those additional investigations included evaluating all the NYC owned property that was eliminated from consideration by the Planning Department initially because of the questionable ability of acquire it. In addition, all sites that were offered by individuals in the County were also considered. The latter category included a number of parcels that were outside of the 5 mile radius established by the Committee. In hindsight, the Committee is of the opinion that the five mile radius criteria should not have been expanded due to reasonable response times and distance from the center of overall County operations which is in Delhi. After the evaluation of all of the twelve sites, the field has been narrowed down to two sites. Those sites are site #3 which is the McFarland site and a hybrid solution of site # 11A which is the Bishop site in Hamden and site #7A which is the existing property on Page Avenue in Delhi.

While site 11 has just enough room to provide the entire buildout program, moving the Delhi patrols to Hamden is not acceptable. It moves the operations center for the Delhi Patrols 10 miles from its current location and over 30 miles from the extent of its jurisdiction. The site is generally in the opposite direction from all of the roads served by the two Delhi patrols. While Hamden is closer to the centroid of the County and from purely a DPW access standpoint, may reduce overall travel costs from the outside patrols to the main shop, it will require more travel for the outside agencies using the County maintenance shop for services. It will also be cut off from the County EOC during times of flooding. With SR 10 being flooded in Walton and at Frasers, the shop will become separated from other key locations in the County. During the summer when the sign shop, guiderail, line stripping and Vacuum Truck crews are working, they too may see a reduction in total travel time. However, on a day that weather does not allow those specialty crews to perform their primary function, or on days where there is a higher priority need for those employees to work on another crew, moving them to another patrol will be time consuming and inefficient.

If the hybrid site of 7A and 11A is selected, although not ideal, we would see the following path forward. With Wendel's and others assistance, the SEQRA process would proceed with identifying the project being developed in phases. The first phase would

be the development of a patrol garage on Page Avenue in Delhi. The garage would be elevated out of the floodplain and have access directly to Main Street. Access to Page Avenue and the salt shed would be via a ramp. The salt shed would remain where it is located in the floodway. Obviously, the County would have to obtain a floodplain development permit from the Village of Delhi to develop this alternative. The Village has indicated that they will support a permit to do this but the DEC Floodplain administrative staff has indicated that the permit may be problematic. That will remain to be worked out with the two parties. The patrol garage construction would start as quickly as possible to provide a garage for the snow equipment and men serving the two Delhi patrols. Earthwork for this building will be substantial and will require the excavation of the old mill pond and the construction of a structural embankment to support the new building. Extreme quality control will be required to ensure against differential settlement in the completed project. The proposed patrol garage has been located to allow the Wickham garage to continue in service as the maintenance shop for an interim basis. While the patrol garage is under construction, the SEQRA process and environmental research necessary to proceed with the purchase of site 11 will be advanced. Providing there are no fatal flaws, site number 11 can be purchased and construction can proceed for the main shop area. Upon completion of the shop, the Wickham building will be able to be vacated as all the mechanics will be relocated to Site 11A and the Board will have to decide what they want to do with the vacated building. Construction of the DPW and Planning offices can wait until the current building reaches the end of its useful life but property should be identified for its ultimate location. The Annex, which houses the Elections, OET and Veterans offices will have to be evaluated by an engineer as it has issues and the temporary bracing constructed to stabilize the building is only good for 18 to 24 months as stipulated by Wendel.

If site # 3 is selected, the path forward is to exercise the option, initiate environmental, cultural resources, endangered species research in the spring, perform initial geotechnical investigations for the site and the bridge, perform an environmental site assessment and initiate the SEQRA process.

Current Conditions

During the past 28 years, there have been a lot of discussions about the facility but no plan has been developed. In March of 2016 the metal roof decking had deteriorated to the point that employees were concerned about being injured by falling debris. The Committee authorized the purchase and installation of a netting material under the roof to catch any falling debris before it could reach the floor. During early 2018 the department moved operations out of the building during times of significant snow. To eliminate the hazard to the DPW employees, the committee has determined that the building shall be demolished as soon as possible. That charge has turned out to be very difficult to accomplish. In order to demolish the building, the Annex portion has to be braced in order to save it and have it be independently structurally stable. A bracing plan has been designed by Wendel and the DPW is moving ahead with the plan to install the bracing. However, complications of lead paint on the structural steel and lead dust on the roof bar joists are complicating matters. The paint will have to be

mitigated before the structural modification work can be done. The lead dust will have to be mitigated before the lead paint can be mitigated. Currently two of the five plow trucks are stored outside; three of the plow trucks are able to fit in that portion of the annex that is to remain. So far the roof has held up to the loads but it is deteriorating quickly and at this point it is anyone's speculation on what the actual load path is for support of the roof. Some of the original roof metal decking has completely failed and allowed the original insulation and roofing to sag to the elevation of the original decking.

Committees preferred location

As mentioned in the beginning, the current facility has served the Department of Public Works for the last 87 years. The point here is that your decision is not being made just for current residents. The decision you make will be a long term decision and will serve the next 4 or 5 generations. With that in mind we need to make the best decision possible. The future is changing quickly with major advances in technology. The transportation industry is no different and is faced with smart vehicles, mass transportation in the form of high speed trains developed under public/private partnerships and VTOL (vertical take-off and landing) aircraft. While these forms of transportation will become more prevalent over the next 100 years, there is little chance that they will be cost effective for rural, sparsely populated areas for some time. Therefore, we have to focus on maintaining our system of roads and bridges in as good a condition as possible to support our economy and way of life.

While we understand that this decision will directly affect an individual Town, the facility will serve as the main service facility for all of DPW's operations which serve all 19 Towns and 47,000 residents of the County. Like the Solid Waste Management Center, a community will host the facility while the entire County benefits from it. The decisions made with respect to these facilities have to be sound and foresighted for best interest of all the taxpayers. Investments of this magnitude have to accommodate future growth, efficiency and be flexible in order to respond to future weather, mobility demands and technology changes. The Committee is of the unanimous opinion that the DPW facility is a critical facility for the County and as such it must be accessible during flooding, and all types of natural disasters as well as having some added space for expansion. The facility shall be designed with life cycle costs and sustainability in mind.

After considering all of the additional work performed in 2017, the Committee has agreed unanimously that the Delhi site #3 is by far the best site for the project. The strong engineering attributes of this site are far superior to any of the other sites considered. The size of the parcel allows for the ultimate location of all the DPW core activities to be managed and operated centrally even though the buildout would be over a period of time. It is in close proximity to the County Office Building and the Emergency Operations Center. Within the site, the area that would contain the buildings is very level with extremely limited earthwork requirements to make it development ready. The area is gravel which is great for foundations, drainage, storm water and long term stability. The site is shielded from the south by being one terrace

elevation below County Route 18. It is shielded from the west by a natural row of evergreen trees. The site will require the planting of trees to shield it from the north and east. The lower, floodplain area of the site will be leased for farming and the remainder of the property will be put back on the market. From a development standpoint, this site appears to be the best but still has to be confirmed through the SEQRA process.

One of the primary complaints about the County's consideration of this site is the need for a bridge across the West Branch of the Delaware River in order to provide good access to the site. The Committee is unanimous in the position that the bridge is both a benefit to the County and to the local community. CR 18 currently ends at the Village of Delhi line where the pavement width reduces from 24 feet to 16 feet as Route 18 becomes Delaware Avenue. Delaware Avenue is a narrow, residential street having a posted speed limit of 25 MPH. By providing a bridge at the site, CR 18 can be relocated so that it curves to the North and terminates on State Route 10. By having this direct access to SR 10, the Village can restrict Delaware Avenue to through trucks and limit all truck traffic to local delivery only; that will reduce the traffic through the basically residential areas. In addition, the new bridge will provide an alternate route for the Fitches Covered Bridge crossing. This alternate route will allow the restriction of traffic across the bridge to cars only and only one at a time in order to preserve the historic structure. As the structure ages again, the County will have the opportunity to reduce it to pedestrian traffic only for preservation purposes and not affect access to the south side of the river. This alternate route will provide unrestricted access to County Route 18 east of Delhi for current business to grow and future businesses to develop. The bridge will provide access from the North side of the river to the South during flooding events. This access does not provide access to the east on CR 18 during the flooding because CR 18 itself floods from the Stillwater area east beyond the Covered bridge. It does, however, provide access between the Firehouse, College and business district on the North with the Hospital and School on the South side. The proposed bridge would be accessible after the Bridge Street and Sherwood Road bridge approaches are flooded and the Kingston Street Bridge is closed by DOT due to flowing water against the low chord of the bridge. From the County DPW perspective, it gives access to SR 28 on both sides of the river allowing our crews greater access to respond to our system during flooding. The bridge also gives the flexibility of being able to eliminate the Hoag Crossing bridge when it comes time for its replacement as well as being able to eliminate the Bridge Street crossing at the end of its useful life. With the elimination of the Bridge Street crossing, more improvements will be able to be made in the Village from a floodplain perspective. The proposed bridge provides significant benefit to all municipalities involved.

The Committee has authorized the Department to obtain appraisals for the three affected properties. Two are nearly finished but the third is not. The economic analysis performed on the two sites by Wendel has been based on the asking price for both major parcels and an estimated cost for the third parcel. The asking price for site #3 is \$1,400,000 for 213 acres or an equivalent of \$6,573 per acre. The asking price for site # 11 is \$1,000,000 for 59 acres or an equivalent of \$16,949 per acre. In accordance with Wendel's opinion of probable costs, the cost for developing phase I for site # 3 is

\$26,296,140. The opinion of probable costs for phase I on the hybrid project is \$27,470,940. From an operational cost standpoint, the operational costs of site # 3 are approximately \$85,000 per year less than the hybrid project. Those costs represent the added travel time for the department and the outside agencies traveling to the Hamden location for the shop. The other future consideration is the ability to eliminate the reconstruction of the Hoags Crossing bridge when the time comes to replace it. By developing site # 3, you have the opportunity to eliminate an expenditure of approximately \$6,960,000 to reconstruct that crossing in the future.

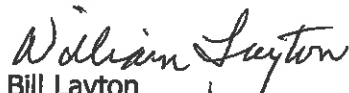
Site number 3 truly provides the best alternative when all technical issues are considered. It keeps the facility in the County seat and within two miles of the existing facility. It minimizes time and mileage for County agencies using the County maintenance facility for service work. It provides the best access during times of flooding to be able to access the most towns from the Delhi Facility. It keeps key operations of the Department, namely maintenance shop, bridge shops, specialty services including guiderail, signs, vacuum truck, administration and the two Delhi patrols in a centralized location. This provides for efficiencies and flexibility in using County labor resources wisely and effectively. It also keeps the Administration and County Planning Department offices in the County seat and allows better access to the Board of Supervisors.

While we know that this project has been significantly more controversial than we ever anticipated, the Committee has focused on doing what is right for the entire County. We also understand that through the SEQRA process, it is incumbent on the County to focus on mitigating those concerns that have been raised by the public during this process. With careful consideration of all of the aforementioned information, we do truly believe that the purchase and construction of the new DPW Facility at site #3 would be in the best interest of the 19 Towns and 47,000 residents of Delaware County for the next 100 years.


Sincerely,


Wayne D. Reynolds


George Haynes

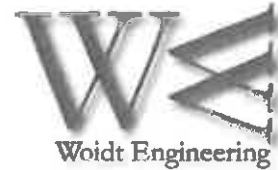

Bill Layton


Dennis Valente


Jerry Verhold


Mike Spaccaforno

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March 20th, 2017

Mr. Wayne Reynolds, Commissioner
Delaware County Public Works Department
PO Box 311
Page Avenue
Delhi, NY 13753

Re: Delaware County DPW Facility Removal
Hydraulic Investigations

WEC Project #: NY E005.2015

Dear Mr. Reynolds:

Per our discussions with yourself and Graydon Dutcher (Delaware County Soil & Water Conservation District) this letter summarizes our findings relative to the removal and/or redevelopment (for non-DPW use) of the DPW facility located along Page Avenue. To complete this analysis we utilized the corrected effective HEC-RAS computer model used in the Delhi Local Flood Analysis (LFA) project downstream of Bridge Street and merged it with the more detailed geometric information (additional cross sections, more detailed overbank modeling) that was used in past independent hydraulic studies for analyzing a new DPW facility on the existing site. It is noted that the additional sections and detail used through the DPW site were obtained for and paid by Delaware County when we investigated the reconfigured DPW site.

To complete this assessment we first updated the corrected effective LFA HEC-RAS model to incorporate the more detailed geometric data through the DPW site. This model becomes the updated "existing conditions" model for the West Branch of the Delaware River. We then looked at two proposed alternatives that included:

- Alternative 1-Removal of all DPW facilities and construction of a flood-plain bench throughout the length of the site. No attempt was made to provide elevated filled areas for redevelopment for this alternative. A typical section for the proposed flood-plain bench is attached and a location map of the proposed floodplain bench is attached.
- Alternative 2 also removed all DPW facilities from the site but also included filled areas that could be redeveloped. Alternative 2 included the use of a smaller flood plain bench that was located closer to the West Branch of the Delaware channel. A typical section for proposed flood-plain bench with the proposed filled area is attached. The filled area was located in the northwestern portion of the DPW site

(see attached Figures). The filled "redevelopment areas" are proposed to have a top elevation of 2' above the Base Flood Elevation (100-year flood) such that new buildings could be constructed that meet federal, state and local flood and building codes. The redeveloped areas presented were located with the criteria of not increasing the existing base flood elevations through or upstream of the site.

Relative to Alternative 1, the removal of all of the DPW facilities and the inclusion of a flood plain bench provides modest reductions of the base flood elevations (BFE) through and upstream of the DPW site (see attached HEC-RAS summary tables). However more importantly, this alternative removes critical facilities and equipment out of the floodplain. Alternative 1 does not provide an area for redevelopment due to the low lying flood-plain bench.

Alternative 2 provides does not increase 100-year flood elevations through or upstream of the site. In fact Alternative 2 provides some modest decreases in the 100-year flood elevations (see attached HEC-RAS summary table). Alternative 2 also removes a critical facility out of the floodplain and additionally creates an area for redevelopment that is elevated above the 100-year floodplain.

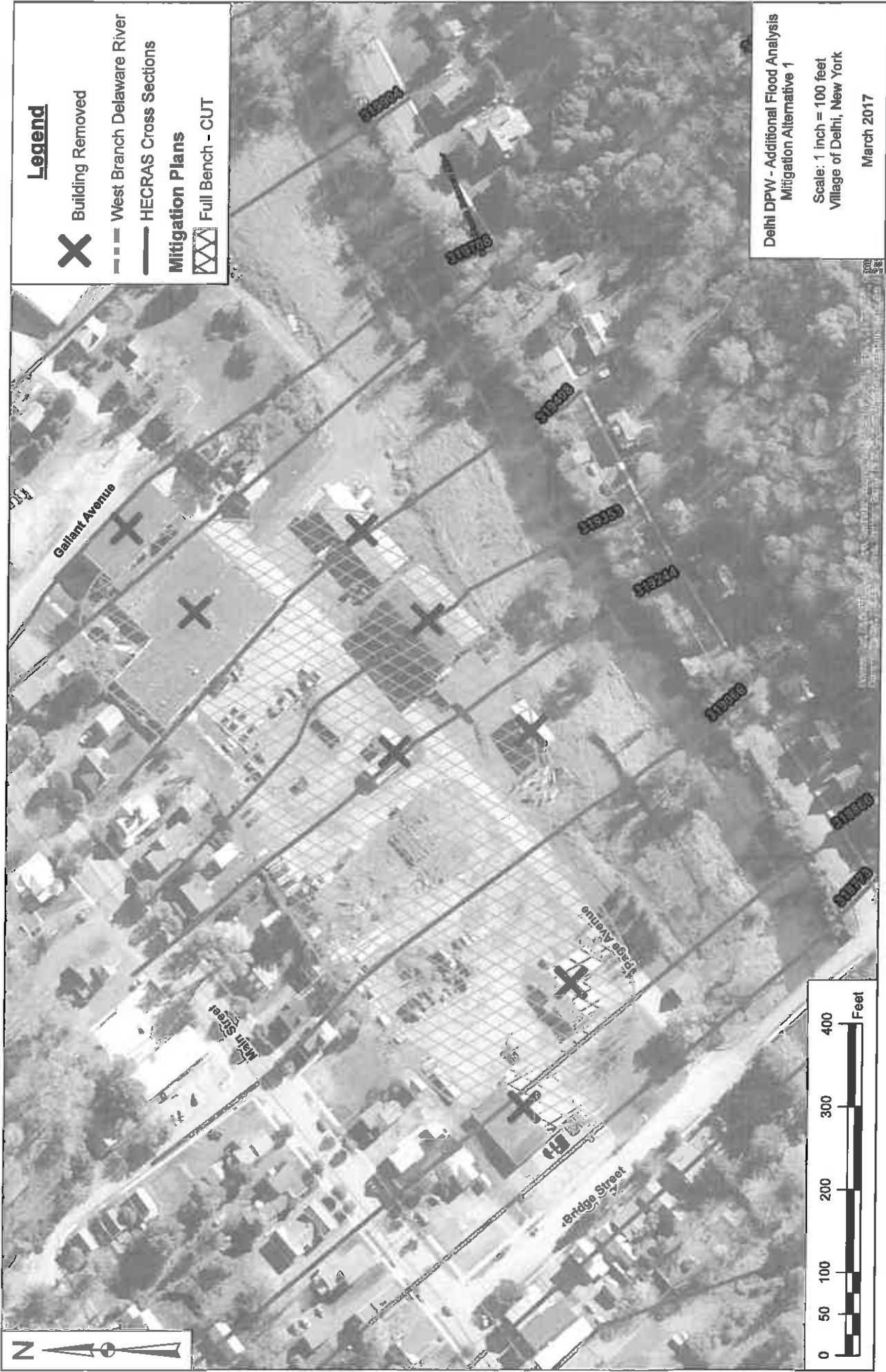
Of final note, the Delhi LFA investigated flood mitigation alternatives downstream of the DPW site that included berm removal, floodplain benches and modifications or removal of the Bridge Street Bridge over the WB of the Delaware River. These mitigation measures provided over a foot of 100-year water surface elevation reduction that extends through the DPW site. Although these mitigation improvements provide much benefit to the Village and Town of Delhi, the DPW facilities will still be inundated with a minimum of several feet of water during the 100-year flood event. As such, a critical facility (DPW) will remain in the floodplain that accordingly could affect emergency response operations. Therefore, the challenges of reconfiguring the DPW site with a new layout would still be highly problematic and challenging even with all the mitigation measures in place.

If you have any questions regarding this summary, please do not hesitate to call.

Sincerely Yours,

Charles F. Woidt Jr.

Charles F. (Rick) Woidt Jr., P.E., CFM
President



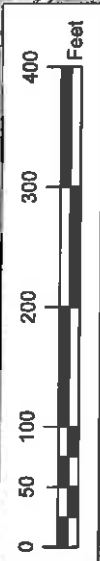
Legend

-  Building Removed
-  West Branch Delaware River
-  HECRAS Cross Sections
- Mitigation Plans**
-  Full Bench - CUT

Delhi DPW - Additional Flood Analysis
Mitigation Alternative 1

Scale: 1 inch = 100 feet
Village of Delhi, New York

March 2017

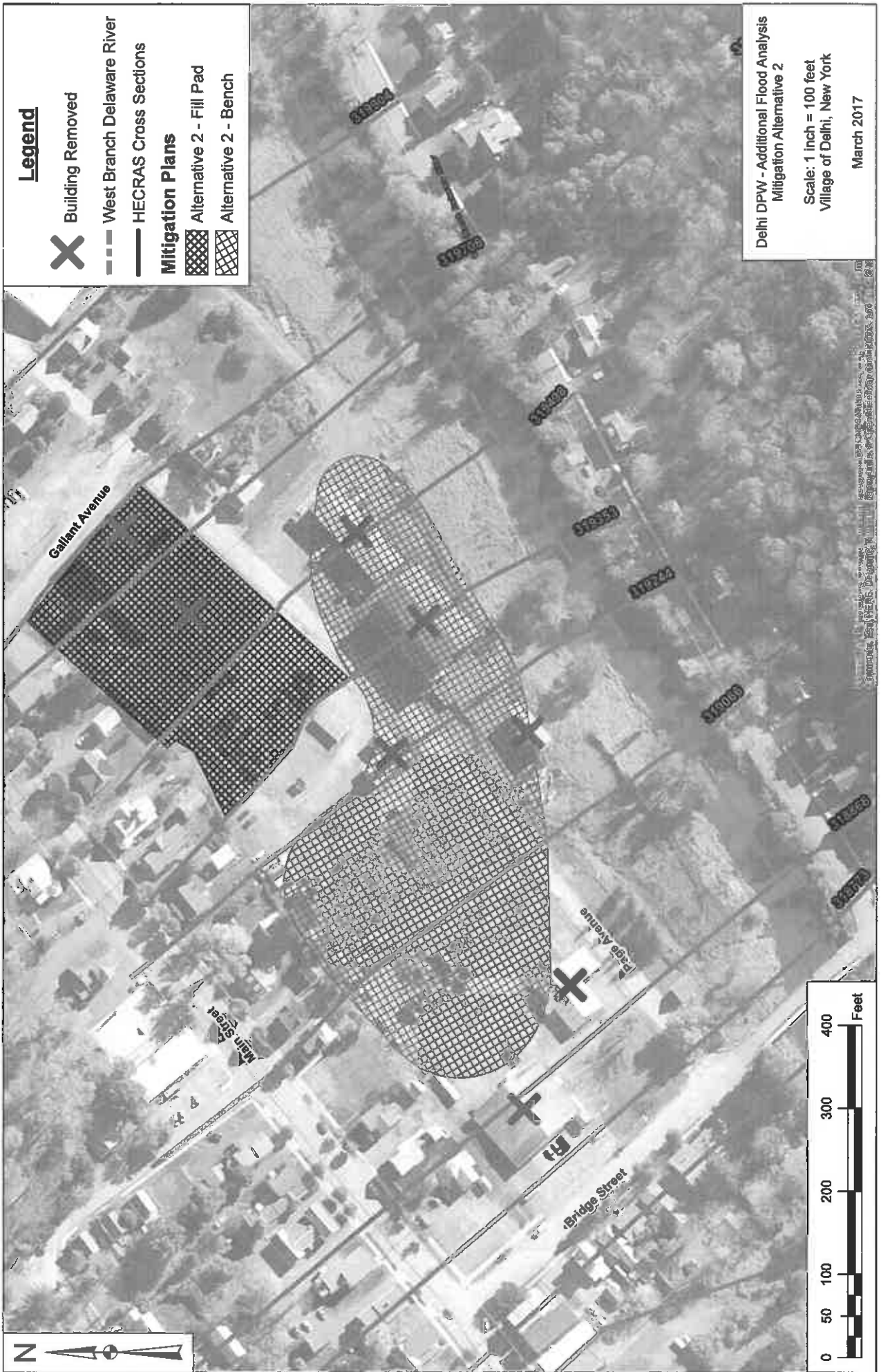


WBDEL Detailed Study Plan: 1) ContEff DelhiDPW SECTION 318353 2) Alternative 1 - DelhiDPW

Legend	
	WS 100-year - ContEff DelhiDPW
	WS 100-year - Full Bench - DelhiDPW
	WS 2-year - Full Bench - DelhiDPW
	WS 2-year - ContEff DelhiDPW
	Ground - Full Bench - DelhiDPW
	Bank Sta - Full Bench - DelhiDPW
	ContEff DelhiDPW
	ContEff DelhiDPW
	Ground - ContEff DelhiDPW
	Ineff - ContEff DelhiDPW
	Bank Sta - ContEff DelhiDPW



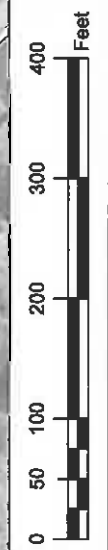
CorrEnt - Deftm DPW				Proposed Mitigation Plan - Full Bench				Difference	
Reach	River Station	Profile	W.S. Elev (ft)	Reach	River Station	Profile	W.S. Elev (ft)	W.S. Elev (ft)	W.S. Elev (ft)
Reach-1	324676	100-year	1369.71	Reach-1	324676	100-year	1369.67		-0.04
Reach-1	324038	100-year	1368.56	Reach-1	324038	100-year	1368.48		-0.08
Reach-1	322786	100-year	1367.35	Reach-1	322786	100-year	1367.17		-0.18
Reach-1	321859	100-year	1366.41	Reach-1	321859	100-year	1366.12		-0.29
Reach-1	320759	100-year	1365.62	Reach-1	320759	100-year	1365.13		-0.49
Reach-1	320540	100-year	1365.48	Reach-1	320540	100-year	1364.94		-0.54
Reach-1	320101	100-year	1365.18	Reach-1	320101	100-year	1364.53		-0.65
Reach-1	319904	100-year	1364.72	Reach-1	319904	100-year	1363.91		-0.81
Reach-1	319708	100-year	1364.56	Reach-1	319708	100-year	1363.70		-0.86
Reach-1	319654	100-year	1364.31	Reach-1	319654	100-year	1363.78		-0.53
Reach-1	319498	100-year	1364.09	Reach-1	319498	100-year	1363.67		-0.42
Reach-1	319353	100-year	1363.51	Reach-1	319353	100-year	1363.49		-0.02
Reach-1	319244	100-year	1363.60	Reach-1	319244	100-year	1363.44		-0.16
Reach-1	319066	100-year	1363.39	Reach-1	319066	100-year	1363.23		-0.16
Reach-1	318866	100-year	1362.95	Reach-1	318866	100-year	1363.05		0.10
Reach-1	318773	100-year	1362.95	Reach-1	318773	100-year	1362.84		-0.11
Reach-1	318721	Bridge Street Bridge		Reach-1	318721	Bridge Street Bridge			
Reach-1	318665	100-year	1362.59	Reach-1	318665	100-year	1362.59		0.00
Reach-1	318417	100-year	1362.41	Reach-1	318417	100-year	1362.41		0.00
Reach-1	318048.*	100-year	1362.21	Reach-1	318048.*	100-year	1362.21		0.00
Reach-1	317679.*	100-year	1361.42	Reach-1	317679.*	100-year	1361.42		0.00
Reach-1	317311	100-year	1361.30	Reach-1	317311	100-year	1361.30		0.00



Legend

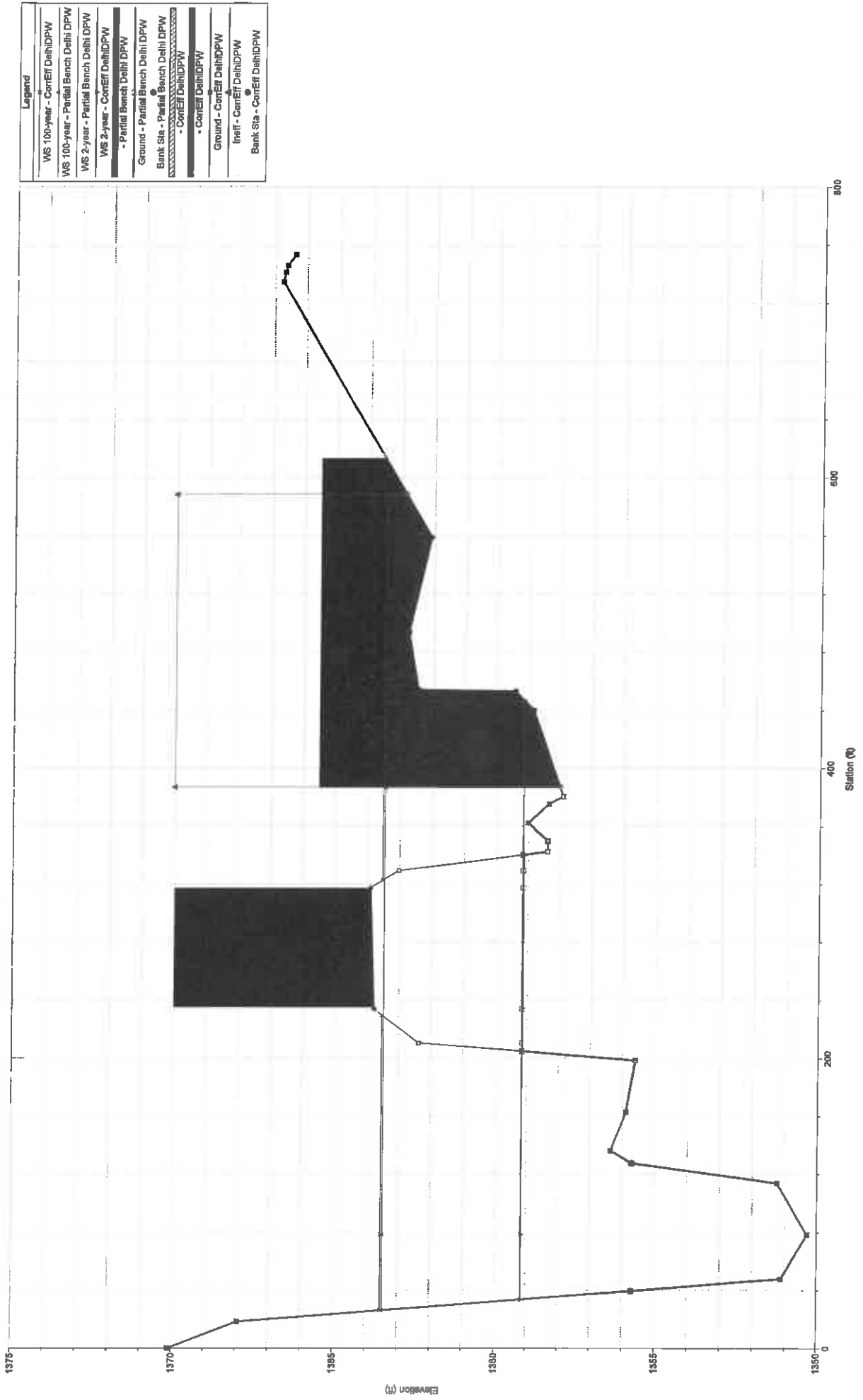
-  Building Removed
-  West Branch Delaware River
-  HECRAS Cross Sections
- Mitigation Plans**
-  Alternative 2 - Fill Pad
-  Alternative 2 - Bench

Delhi DPW - Additional Flood Analysis
 Mitigation Alternative 2
 Scale: 1 inch = 100 feet
 Village of Delhi, New York
 March 2017



Prepared by: DELHI DPW
 Date: 3/15/2017
 Project: DELHI DPW - Additional Flood Analysis
 Mitigation Alternative 2
 Scale: 1 inch = 100 feet
 Village of Delhi, New York
 March 2017

WBDEL Detailed Study Plan: 1) CorErf DelhiDPW 2) Alternative 2 - Delhi DPW
SECTION 318333



CorrEff - Deim DPW				Proposed Mitigation Plan - Partial Bench				Difference
Reach	River Station	Profile	W.S. Elev (ft)	Reach	River Station	Profile	W.S. Elev (ft)	W.S. Elev (ft)
Reach-1	324676	100-year	1369.71	Reach-1	324676	100-year	1369.69	-0.02
Reach-1	324038	100-year	1368.56	Reach-1	324038	100-year	1368.52	-0.04
Reach-1	322786	100-year	1367.35	Reach-1	322786	100-year	1367.26	-0.09
Reach-1	321859	100-year	1366.41	Reach-1	321859	100-year	1366.27	-0.14
Reach-1	320759	100-year	1365.62	Reach-1	320759	100-year	1365.39	-0.23
Reach-1	320540	100-year	1365.48	Reach-1	320540	100-year	1365.23	-0.25
Reach-1	320101	100-year	1365.18	Reach-1	320101	100-year	1364.88	-0.30
Reach-1	319904	100-year	1364.72	Reach-1	319904	100-year	1364.36	-0.36
Reach-1	319708	100-year	1364.56	Reach-1	319708	100-year	1364.17	-0.39
Reach-1	319654	100-year	1364.31	Reach-1	319654	100-year	1363.87	-0.44
Reach-1	319498	100-year	1364.09	Reach-1	319498	100-year	1363.81	-0.28
Reach-1	319353	100-year	1363.51	Reach-1	319353	100-year	1363.46	-0.05
Reach-1	319244	100-year	1363.60	Reach-1	319244	100-year	1363.55	-0.05
Reach-1	319066	100-year	1363.39	Reach-1	319066	100-year	1363.37	-0.02
Reach-1	318866	100-year	1362.95	Reach-1	318866	100-year	1362.87	-0.08
Reach-1	318773	100-year	1362.95	Reach-1	318773	100-year	1362.84	-0.11
Reach-1	318721	Bridge Street Bridge		Reach-1	318721	Bridge Street Bridge		
Reach-1	318665	100-year	1362.59	Reach-1	318665	100-year	1362.59	0.00
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Reach-1	318048.*	100-year	1362.21	Reach-1	318048.*	100-year	1362.21	0.00
Reach-1	317679.*	100-year	1361.42	Reach-1	317679.*	100-year	1361.42	0.00
Reach-1	317311	100-year	1361.30	Reach-1	317311	100-year	1361.30	0.00

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ATTN. WAYNE

865-6071

At a special Meeting of the Village of Delhi
held on April 27, 2017 at 12:00 p.m.
at the Village Hall Board Room.

Resolution #3 of 2017 by the Village of Delhi Board

WHEREAS Delaware County public works department is in dire need of a new public works building;

WHEREAS the Village of Delhi supports the need for a new structure at its current location;

WHEREAS the NYSDEC has recommended that the new structure be relocated up on Main Street by having some of the foot print out of the flood plain;

WHEREAS FEMA has allowed such critical structures providing that the structure is at least two foot above free board;

WHEREAS four of the five land parcels on Main Street are currently owned by Delaware County;

WHEREAS the Delhi Flood Commission presentation states that by completing two mitigation projects the West Branch of the Delaware River will reduce the back flow up stream on Page Ave;

WHEREAS the Village of Delhi currently provides municipal water and sewer to the facility and would continue so doing.

WHEREAS staying at the current location mitigates relocating the salt shed and two current bridge buildings.

WHEREAS Delaware County, with a declining population and tax base, is in need of multiple new structures in the near future.

WHEREAS Delaware County having less developable land available year after year due to land purchases and easement programs.

THEREFORE having stated the above facts; the Delhi Village Board strongly recommends to the Delaware County Board of Supervisors that the new Public Works structure remain in the Village of Delhi, saving money for the tax payers of Delaware County the additional expense for buying additional land and removing a large parcel off the tax rolls.

DELAWARE COUNTY
DEPARTMENT OF PUBLIC WORKS

P.O. BOX 311

DELHI, N.Y. 13753

WAYNE D. REYNOLDS, P.E.
COMMISSIONER

Main Office and Yard
Page Avenue
Delhi, N.Y. 13753

MEMO

To: Board of Supervisors
From: Public Works Committee
Date: May 10, 2017

Re: DPW Main Shop Reconstruction
Site Evaluation

This memo will address the Village of Delhi Resolution #3 that was passed at a special meeting held on April 27, 2017. The resolution is concerning the Delaware County Department of Public Works proposed building.

The third whereas indicates that "the NYSDEC has recommended that the new structure be relocated up on Main Street by having some of the foot print out of the flood plain". In an email to the DPW from a NYS DEC representative dated March 16, 2015 the representative wrote "First, I would **strongly** discourage anyone from building a critical facility, such as the DPW garage, in a floodplain let alone the floodway. In a meeting that was held on November 10, 2015, the Public Works Committee met with the Town and Village of Delhi and a DEC representative about the building of a new County Garage on Page Avenue. It was stated at that meeting by the DEC representative that the building would have to be raised above the flood elevation. He also made it very clear that the Salt Shed should not have been located where it is because it is in the floodway. He also stated that there would be no possibility for financial assistance from the State or Federal Governments for rebuilding the facility within the floodplain. During the discussions he did say that one possible solution would be to move the building up toward Main Street to get it out of the floodplain. The DEC representative was encouraging keeping the building and the access roads to the building out of the floodplain to ensure that it would not be damaged during flooding events and also to ensure that the employees of the Department could focus on the safety of the traveling public during flooding events instead of having to work to protect the building. The Department has evaluated the impacts of moving the building to the Village proposed location of 10 feet behind the sidewalk. In that location and because of the turning radii of large trucks, the door to the building would have to be a minimum width of 26 feet in order to accommodate a truck maneuvering onto the street or from the building to the street. In addition, the truck entering the building would not be able to get out of traffic while the door was being opened to let it in. This would create an unsafe condition and traffic congestion on Main Street. It should also be noted that with elevating the building to be above the 500 year flood elevation, the building floor would be too high above the sidewalk on Bridge Street to make a traversable drive into the building. The Department also evaluated how far away from Main Street the building would have to be moved to allow a entering truck to be completely off the street and square to the building in front of the door. That offset was approximately 98 feet. At that offset, the building would be almost entirely on property currently used by DPW and would not affect the current business

that is located on Main Street. Unfortunately, almost the entire building would be back within the limits of the floodplain. For purposes of safety and efficiency, it appears that the closest that the building could be located to Main and Bridge Street would be 100 feet.

The fourth Whereas indicates "FEMA has allowed such critical structures providing that the structure is at least two foot above free board." We are not aware of any structures that FEMA has authorized to be placed in a floodplain. However, we are aware that Federal Executive Orders 11988 of 1977 and 13690 of 2015 "requires executive departments and agencies to avoid, to the extent possible, the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative." There probably have been projects that FEMA has approved but it is extremely doubtful that there were practicable alternatives. However, the preponderance of the documentation that is available on line and from the Association of State Floodplain Managers strongly discourages development in a floodplain from practical, financial and legal perspectives. The publication entitled "Critical Facilities and Flood Risk" published by the Association speaks to all the reasons why a facility should not be constructed in a floodplain if at all possible. The document entitled "No Adverse Impact Floodplain Management and The Courts" addresses many the legal issues local governments face when both enforcing floodplain regulations and the exposure to lawsuits from not addressing backwater impacts resulting from floodplain developments. The DEC has published NYSDEC Optional Additional Language Model Local Law for Flood Damage Prevention Optional Additional Language. This document deals with Critical Facilities and the fact that they should not be sited in a floodplain. This additional language has not been adopted by the Village of Delhi at this point but from the county perspective, it is just another document that must be considered when making a decision. If this provision were to be adopted by Delhi it could provide 100 points to the Community Rating System but it must prohibit critical facilities from within the 500 year floodplain.

The fifth Whereas indicates "four of the five land parcels on Main Street are currently owned by Delaware County". This is true but the fifth one is a private business. The committee has not looked favorably on any alternative that takes an existing business; they have only looked at vacant, available property. In addition, two of the properties are utilized effectively by the Department of Social Services that would have to be accommodated in some other area at additional cost to the County. If that location allowed for acceptable access off from Main Street for the trucks and also got the entire facility out of the floodplain, the alternative might be a good one. But neither of those statements are accurate.

The sixth Whereas indicates that "the Delhi Flood Commission presentation states that by completing two mitigation projects the West Branch of the Delaware River will reduce the back flow up stream on Page Avenue". This is also true but the local flood analysis is not complete at this time. The Consultant is still developing alternatives and identifying impacts of those alternatives. Until the Local Flood Analysis is completed and adopted by the Village and the Town Boards it is still a document in the works. Even after adoption, there is much work to do to develop plans for the proposed work, obtain rights of way from private individuals, two private buildings to negotiate for the removal of and complete the SEQRA process for implementing the projects. In addition, the funding for the project has to be secured prior to the project moving ahead. All of that takes time and there are no assurances at this point that the project will be completed as preliminarily evaluated. Furthermore, even when completed it is anticipated to only reduce the level of flooding on Page Avenue not eliminate it. In a letter

from Woidt Engineering dated March 20th, 2017, Mr. Woidt evaluates the impacts that the proposed Local Flood Analysis project might have on development of a new Public Works Building on Page Avenue. In his letter he states "Although these mitigation improvements provide much benefit to the Village and Town of Delhi, the DPW facilities will still be inundated with a minimum of several feet of water during the 100- year flood event. As such, a critical facility (DPW) will remain in the floodplain that accordingly could affect emergency response operations. Therefore, the challenges of reconfiguring the DPW site with a new layout would still be highly problematic and challenging even with all the mitigation measures in place."

The seventh Whereas states "the Village of Delhi currently provides municipal water and sewer to the facility and would continue so doing". That is true. That is a valuable service to the County but unfortunately it does not outweigh the importance of being out of the floodplain. If there were any other property within the limits of the Village that was large enough and level enough to develop that was out of the floodplain, it would definitely be a great alternative. However there are none.

The eighth Whereas states "staying at the current location mitigates relocating the salt shed and two current bridge buildings." The Public Works Committee worked from 2014 to late in 2016 to find a solution on Page Avenue. They worked closely with consultant engineers that would allow for the reconstruction of the facility on Page Avenue but to no avail. The salt shed is in the flood way and should not be there. Its location in the floodplain is not consistent with any of the work that the Local Flood Commission is trying to do to keep buildings and other improvements out of harm's way. From history it is clear that as time passes and FEMA redoes the flood maps that the footprints enlarge. They do not get smaller. Weather patterns are changing and the County is suffering more high intensity rainfall events than ever before so it will pay to have a definite buffer between the floodplain limits of today and where the building is sited.

The Public Works Committee is certainly appreciative of the cooperation that the Village of Delhi has provided during the evaluation process.

1990 – the Public Works Committee goes out to bid with a project for major structural modifications to the existing DPW facility to bring it up to then-current building codes. Modifications include

- the construction of a peaked roof on the shop and a new metal exterior to protect the deteriorating brick
- the upgrade of all utilities and air handling systems to meet current codes

The project is voted down by the Board and the Committee is directed to develop plans for a short term roof replacement having a useful life of 20 years

1990

Fall 1990 – Completion of Interim EPDM (synthetic rubber membrane) roofing system to keep moisture out and encapsulate the asbestos in the old roof

Summer 1991 – Odor problems result from trapping of moisture in the roofing system

- design engineer evaluates the problem and designs a circulation system
- the odor is lessened
- the moisture between the two roofs had already delaminated the gypsum board
- Wind begins lifting the EPDM membrane from the roof
- Tires are placed to keep the membrane down
- West Nile Virus concerns result in the removal of the tires
- Mechanical fastening system is employed, resulting in more holes and additional leakage

1991

2006 – the Wickham automobile dealership comes up for sale and is purchased with the intention of operating out of both the original garage and the Wickham garage while constructing a new facility on the vacant land between them

2006

2010 – Moisture has leaked through the EPDM roofing membrane to the point of further roof deterioration

- There is concern regarding the asbestos in the original roof

2010

Summer 2010 – the Public Works Committee authorizes the issuance of a Request for Proposals (RFP) for the program development and design of a new facility at the Page Avenue site. The consultant would:

- determine the needs of DPW's Delhi operations (mechanics, patrols, and administration)
- design a building to meet those needs
- Note: At this time, there was no consideration given to leaving Page Avenue due to investments in the site and the presence of municipal sewer and water

2010

Fall 2010 – RFP is issued

- 4 proposals are received, reviewed, and evaluated
- Wendel Companies is selected as having the most experience with programming and designing municipal highway garages / maintenance facilities
- The scope of work and associated fee is negotiated

2010

December 2011 – At the time for pre-filing a resolution for the award of professional services to Wendel, the Chairman of the Board of Supervisors and the Budget Officer indicate that they are not in favor of the action due to the poor economy

2011

March 2011 – the metal roof decking has deteriorated to the point that it falls down in one area of the shop

- Testing is done to ensure that employees are not being exposed to asbestos
- The part of the shop beneath the roof failure is closed off from employees

2011



August 2013 – the Public Works Committee directs DPW to evaluate the possibility of a new roof on the existing building

- DPW retains an engineer to determine whether the building would satisfy current building codes
- The engineer concludes that the building would require major structural work before it could meet building codes

March 2014 – in the course of evaluations, Wendel questions whether DPW's needs can be met at the Page Avenue site due to layout inefficiencies and floodplain constraints

- the Public Works Committee indicates that they are committed to Page Avenue and that Wendel should not expend effort evaluating alternative sites

May - July 2014 – DPW negotiates an expansion of the scope of work for Wendel's sub-consultants to perform hydrology and hydraulics studies to evaluate the options at the Page Avenue site

- the Public Works Committee establishes a threshold for site development such that increases in backwater / flooding and negative impacts on neighboring properties are not acceptable

November 10, 2015 – the Public Works Committee meets with the Town and Village of Delhi and the regional DEC floodplain manager to discuss options*** (see footnote)

- the Village is supportive of DPW remaining in the Village and indicates a willingness to help keep it there
- DEC indicates that the existing salt shed had been improperly constructed in the floodway and opines that additional floodplain encroachment would require the removal of the salt shed. It is also suggested that any new buildings be moved north, toward Main Street, to minimize floodplain impacts.

2013

2014

2015

January 2014 – In the face of continuing roof deterioration, the Public Works Committee advocates for the award of professional services for the design of a new building

- Award is made Jan. 22, 2014 to Wendel Companies

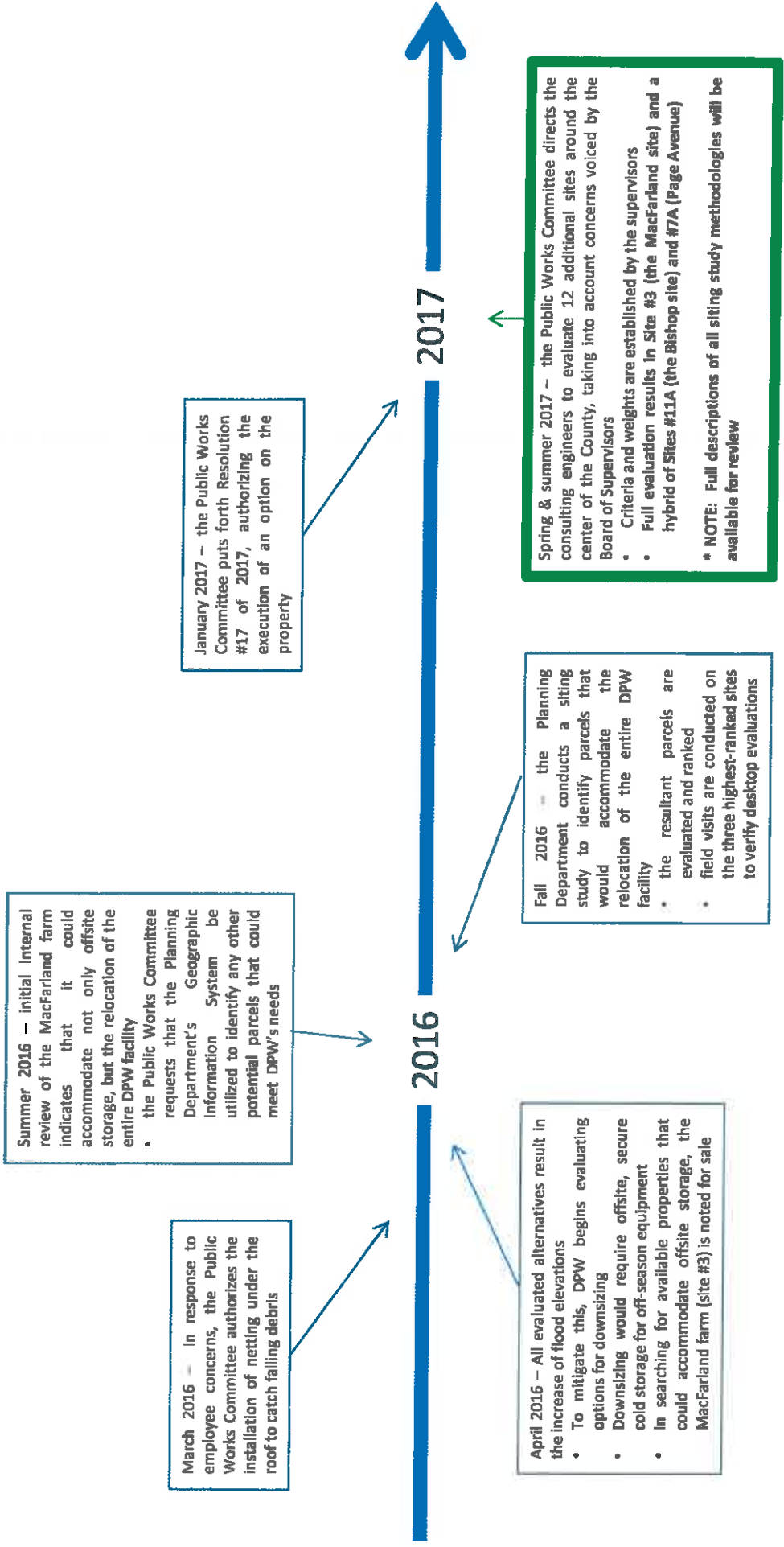
April 2014 – Wendel's preliminary results indicate that a single-story building – large enough to accommodate all needs – would be too large for floodplain impacts to be mitigated by merely removing the existing building

- Wendel's scope of work does not allocate enough time for further evaluation of floodplain issues and mitigation

March 2015 – Page Avenue site development impacts are presented

- The proposed building, as designed, could not be constructed without raising flood waters
- the Public Works Committee requests the evaluation of additional alternatives without looking offsite
- DPW contracts directly with Woidt Engineering (Wendel's sub-consultant) to develop a maximum building size that would not increase flood elevation

*** Options considered: The size of the proposed building would necessitate the acquisition of additional properties along Main Street, one of which is an active business. Another option discussed was floodplain mitigation. This option would involve the purchase of four residential houses on Page Avenue and then lowering the grade of the property to mitigate floodwaters. The Committee was not comfortable with either of those options. However, knowing that the Village strongly supported retaining the DPW facility in the Village, the Committee charged the Department for more H&H work with Woidt Engineering to evaluate mitigation efforts of grading on County owned land to counteract the construction of a new building.



List of Pros for Site #3

1. Would provide a safer walking route across the valley (a)
2. Could reduce truck traffic along Delaware Ave. Village and Town of Delhi could work together to restrict Delaware Avenue to "no through trucks". (Provisions have to be made for local delivery.) This would protect the privacy of the residential community there. (a)
3. Reduce truck traffic and noise within the Village (a)
4. Provide better response times during flood events for DPW (a)
5. Eliminate environmental concerns associated with current location
6. Allow for storm-water measures to be constructed that is currently unable to be implemented due to limited space (a)
7. Bridge location is the shortest span along W. Br. Delaware River with highest elevation (b)
8. Elimination of bridge at Hoags Crossing and possibly Bridge St which would remove constriction of floodplain within the Village (b)
9. Meeting goals of County's All Hazard Mitigation Plan and Town/Village Local Flood Analysis by removing DPW from floodplain and floodway while re-grading floodplain (b)
10. better monitoring of flood conditions north of site along CR 18 (b)
11. add to response during flooding events, that we don't need to protect our facility can respond to roads/bridges and lessens the cost of damage to equipment or site, reduce flood insurance (b)
12. add somewhere that not only provides an additional access to CR 18 but that there is really no safe connection from SR10 to CR18 unless you go all the way to Stamford/Hobart for larger trucks. (b)
13. Bridge and road would provide an alternative route between SR10 and CR18; connecting north and south sides of Delhi during floods (c)
14. Able to maintain farmland in floodplain area (soil type 1) (c)
15. Well draw down concerns due to new Village well and proposed County well could be mitigated with connection to Village water/sewer while providing sewer and water connections along CR 18 (c)
16. Would allow for future redevelopment of Page Ave whether business, recreation, parking, etc. (c)
17. Development of property south of CR 18 (c)
18. Would allow for limited use of Fitch's Covered Bridge to cars/pedestrians to prolong the life of the bridge (c)
19. Would allow for further development along CR 18 and Delaware Ave (c)
20. add that by reselling unneeded land at the site and improving development along CR 18, tax base would be similar to existing (c)
21. possibility of provide recreational access to river; fishing, canoe launch, etc. (c)
22. lay of land could provide aesthetically pleasing/hidden complex (c)
23. retaining historic value of existing house and outbuildings by reselling with a few acres of land (c)
24. Site provides room for future growth and centralized DPW facility placement and management (d)
25. Site is constructible due to being relatively level and comprised of gravel (d)
26. Opportunity to resell house and outbuildings (d)
27. Lessens economic impacts to Village by locating within 2 miles of existing facility (d)
28. Most cost effective option even compared to decentralizing (d)
29. Reduces yearly operation costs of daily activities for all County agencies (d)
30. Would provide possible area to consolidate Town Highway and Village DPW operations (d)
31. better security of site as compared to current site (d)

- 32. money spent on buildings not on site development, therefore lowering total project cost (d)
- 33. truck traffic on Elk Creek, if concerned could limit weight and local deliveries (d)
- 34. Close proximity to County seat, EOC, County agencies (within 2 miles of existing facility) (d)
- 35. Allow for minimal disruption of current DPW operations (maintenance and snowplow routes, patrol areas, response times) (d)

(a) Public Safety

(b) Flood Mitigation

(c) Economic Development

(d) Project Cost

Delaware County DPW Building - Site # 3 Full Build Out

Conceptual Opinion of Probable Project Costs

14-Mar-18

Improvements	Program Area	Unit Cost	Total	Phase 1	Future
Heavy Vehicle Maint (Diesel)	18040.00	250.00	\$4,510,000.00	\$4,510,000.00	
Light Vehicle Maint (Gasoline)	2985.00	250.00	\$746,250.00	\$746,250.00	
Road Patrols (Vehicle wash below)	13020.00	200.00	\$2,604,000.00	\$2,604,000.00	
Parts	5500.00	150.00	\$825,000.00	\$825,000.00	
Small Eng Rep/Tires/Fluids/Comp	5750.00	250.00	\$1,437,500.00	\$1,437,500.00	
Guide Rail/Signs	4838.00	150.00	\$725,700.00	\$725,700.00	
Machine/Fab Shop	1500.00	250.00	\$375,000.00	\$375,000.00	
Toilets/Breakroom	1000.00	250.00	\$250,000.00	\$250,000.00	
Vehicle Wash	1500.00	200.00	\$300,000.00	\$300,000.00	
Bridge Fab/Maint/Cold Storage	15560.00	250.00	\$3,890,000.00	\$0.00	\$ 3,890,000.00
Admin - 1 story (No VA/OET/Elections)	8500.00	150.00	\$1,275,000.00	\$1,275,000.00	\$ -
Building Total	78193.00		\$16,938,450.00	\$13,048,450.00	\$3,890,000.00
Foundation Premium					
Cold Storage	1 ea		\$350,000.00	\$ 350,000.00	
Salt Barn Allowance	1 ea		\$450,000.00	\$ 450,000.00	
Equipment/Crane Allowance	1 ea		\$1,500,000.00	\$ 1,000,000.00	\$ 500,000.00
Site Development (Wendel)	1 ea		\$1,775,000.00	\$1,775,000.00	
Storm/water/sanitary (Lamont)	1 ea		\$390,000.00	\$ 390,000.00	
Phase 3 Power Allowance	1 ea		\$75,000.00	\$ 75,000.00	
Bridge Allowance	1 ea		\$1,900,000.00	\$ 1,900,000.00	
Road Allowance	1 ea		\$610,000.00	\$ 610,000.00	
NO 2 Fuel oil tank	1 ea		\$100,000.00	\$ 100,000.00	
Fuel Depot Allowance	1 ea		\$750,000.00		\$ 750,000.00
Demolition of existing (Inc abatement)	1 ea		\$500,000.00	\$ 500,000.00	
Annex improvements to maintain services	1 ea		\$250,000.00	\$ 250,000.00	
Oil Separator Shed (30 x 20)					
Oil Sep/Utility connection					
Land Purchase Allowance	1 ea		\$1,465,000.00	\$1,465,000.00	
Total			\$27,053,450.00	\$21,913,450.00	\$5,140,000.00
Soft Costs		10%	\$2,705,345.00	\$2,191,345.00	\$514,000.00
Contingency		10%	\$2,705,345.00	\$2,191,345.00	\$514,000.00
Total			\$32,464,140.00	\$26,296,140.00	\$6,168,000.00

Delaware County DPW Building - Site # 7A Hybrid
13-Mar-18

Conceptual Opinion of Probable Project Costs

Improvements	Program Area	Unit Cost	Total	Phase 1	Future
Admin - 1 story (No VA/OET/Elections)	8500.00	150.00	\$ 1,275,000.00	\$1,275,000.00	
Oil Separator Shed (30 x 20)					
Oil Sep/Utility connection		ea	\$ 50,000.00	\$ 50,000.00	
Road Patrols	12000.00	200.00	\$2,400,000.00	\$2,400,000.00	
Building Total	20500.00		\$ 3,725,000.00	\$3,725,000.00	\$0.00
Site Development (Wendel)	1	ea	\$ 1,800,000.00	\$1,800,000.00	
Storm/water/sanitary (Lamont)	1	ea	\$ 275,000.00	\$275,000.00	
Power service Allowance	1	ea	\$ 45,000.00	\$45,000.00	
Annex improvements to maintain services	1	ea	\$250,000.00	\$ 250,000.00	
Demo/shoring of existing (Inc abatement)	1	ea	\$ 500,000.00	\$500,000.00	
Total			\$ 6,595,000.00	\$6,595,000.00	\$0.00
Soft Costs		10%	\$ 659,500.00	\$659,500.00	\$0.00
Contingency		10%	\$ 659,500.00	\$659,500.00	\$0.00
SubTotal Site #7A			\$ 7,914,000.00	\$7,914,000.00	\$0.00

Delaware County DPW Building - Site # 11A Hybrid
13-Mar-18

Conceptual Opinion of Probable Project Costs

Improvements	Program Area	Unit Cost	Total	Phase 1	Future
Heavy Vehicle Maint (Diesel)	18040.00	250.00	\$4,510,000.00	\$4,510,000.00	
Light Vehicle Maint (Gasoline)	2985.00	250.00	\$746,250.00	\$746,250.00	
Road Patrols (Specialized Crews)	8640.00	200.00	\$1,728,000.00	\$1,728,000.00	
Parts	5500.00	150.00	\$825,000.00	\$825,000.00	
Small Eng Rep/Tires/Fluids/Comp	5750.00	250.00	\$1,437,500.00	\$1,437,500.00	
Guide Rail/Signs	4838.00	150.00	\$725,700.00	\$725,700.00	
Machine/Fab Shop	1500.00	250.00	\$375,000.00	\$375,000.00	
Toilets/Breakroom	1000.00	250.00	\$250,000.00	\$250,000.00	
Vehicle Wash	1500.00	200.00	\$300,000.00	\$300,000.00	
Bridge Fab/Maint/Cold Storage	15560.00	250.00	\$ 3,890,000.00	\$0.00	\$ 3,890,000.00
Admin - 1 story (No VA/OET/Elections)					
Building Total	65313.00		\$14,787,450.00	\$10,897,450.00	\$3,890,000.00
Foundation Premium					
Cold Storage	1	ea	\$350,000.00	\$ 350,000.00	
Salt Barn Allowance					
Equipment/Crane Allowance	1	ea	\$1,500,000.00	\$ 1,000,000.00	\$ 500,000.00
Site Development (Wendel)	1	ea	\$1,900,000.00	\$1,900,000.00	
Storm/water/sanitary (Lamont)	1	ea	\$450,000.00	\$ 450,000.00	
Phase 3 Power Allowance	1	ea	\$100,000.00	\$ 100,000.00	
Bridge Allowance (Hoags Crossing)	1	ea	\$4,200,000.00		\$4,200,000.00
Road Allowance (Hoags Crossing)	1	ea	\$1,600,000.00		\$1,600,000.00
No. 2 Fuel oil tank	1	ea	\$100,000.00	\$ 100,000.00	
Fuel Depot Allowance	1	ea	\$500,000.00	\$500,000.00	
Land Purchase Allowance	1	ea	\$1,000,000.00	\$ 1,000,000.00	
Total			\$26,487,450.00	\$16,297,450.00	\$10,190,000.00
Soft Costs		10%	\$2,648,745.00	\$1,629,745.00	\$1,019,000.00
Contingency		10%	\$2,648,745.00	\$1,629,745.00	\$1,019,000.00
SubTotal Site #11A			\$31,784,940.00	\$19,556,940.00	\$12,228,000.00

	Total	Phase 1	Future
Grand Total Site #7A and #11A	\$39,698,940.00	\$27,470,940.00	\$12,228,000.00

