

# **Floodway Property Development for Norwich, CT**

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## **I. Our Task**

The purpose of this project was to research and recommend a commercial use for 26 Shipping Street, 28 South Street, and 27 Terminal Way that accommodated for floodway restrictions. All sites were previously industrial brownfields and require extensive remediation, and in order to acquire a grant for clean up, the city needs a development plan that accounts for sustainability and resiliency for flooding while also being economically viable. While original requests for remediation grants did not work out, as DEEP preferred retreat to redevelopment, converting to green space would result in tax loss, so any redevelopment plan has to balance the commercial potential for the area with the fact that development in a floodway requires a great deal of hoops to jump through.

## **II. Executive Summary**

For a flood prone, small, and slightly inaccessible area, there are a great deal of limitations for effective commercial development, but we believe that post-remediation and demolition of the existing building, seasonal, water-dependent and transportable businesses could have some success. Any development would, of course, be contingent on finding a buyer and business owner(s) willing to invest in a shaky economy post COVID-19 crisis, grant funding for extensive remediation, and coordination with the railroad and state to build a railroad crossing gate. Due to the construction restrictions listed in the limitations section, we do not recommend large scale permanent structures, even utilizing the existing building, as total demolition and rebuilding under strict guidelines would be necessary to comply with flood zone



Norwich, Connecticut. FEMA Map. NorwichCT.mapgeo.io

26 Shipping Street was a former mill-site and has since been out of use and abandoned. The building on that lot contains asbestos and lead so it would need to be remediated before any use. Judging by the state of the building and its proximity to the Thames River from what we saw when we visited the site, as well as the legal restrictions on flood zones listed in the limitations section, it is likely the entire building would need to be removed to create a safer structure.

28 South Street and 27 Terminal Way both had former industrial uses but are now overgrown gravel lots. All of the lots are located within the floodway of the Thames River. All the properties are either directly on the river or just across the street from it.

The lots have varied types and concentrations of pollutants. According to the Environmental Site Assessment for 26 Shipping Street, Trichloroethylene (TCE) was found in the soil at various points in the lot but particularly under the old United Metals buildings. TCE is listed by the CDC as a toxic substance that can negatively affect fetal development and is carcinogenic to humans ([CDC.gov](https://www.cdc.gov)). Also at 26 Shipping Street there are impacts of petroleum releases which would also require remediation in order to comply with state standards (2018, Tighe and Bond).

There is site-wide fill in the lots, some areas had fill as deep as 7 feet below grade, as reported in the ESA for 26 Shipping Street. In order to comply with Connecticut Department of Energy and Environmental Protection's Remediation Standard Regulations all of the polluted fill needs to be removed from the site ([CT DEEP](#)).

The ESA on 26 Shipping Street also reports concentrations of vinyl chloride in the groundwater, which is a product of TCE. Vinyl chloride can have negative effects on human health if exposed to a significant amount, the minimum being 10,000 ppm if inhaled. Some effects are becoming tired, dizzy, passing out, and if exposure is significant enough even death. Long term contact can result in increased likelihood of developing cancer ([CDC.gov](https://www.cdc.gov)). The report indicated that the vinyl chloride is not found in the Terminal Way property, meaning that it dissipates before reaching the river (2018, Tighe and Bond). The groundwater is not approved

for human consumption without treatment so exposure risks are relatively low but the substance can evaporate quickly into the atmosphere in the right conditions (2018, Tighe & Bond).

The estimated cost of remediation and abatement for the properties is around \$2 million. This would include excavating and moving the fill material, bringing the buildings up to compliance as there was asbestos and lead found in them (2015, Tighe & Bond).

#### **IV. Limitations to Development**

##### **1. Floodway Limitations**

The primary challenge to development is its location in a floodway, which severely limits the types and sizes of new development that can be created. Connecticut regulations forbid any fill or structure that would change the hydraulic characteristics of the flood or increase elevation unless compensatory space was created. All the floodplain restrictions apply to not only new, but “substantially improved” buildings, which means that all the floodway laws applying to water equipment, sewer systems, and construction activity would still apply if the old mill was repurposed (R.C.S.A. §§ 25-68h-1—25-68h-3).

On March 10th we had a call with Stacey Pappano and several others at DEEP to discuss development options. While they were not entirely set on retreat, they said that for the old mill building, it would still essentially have to be demolished and rebuilt to be flood compliant. While it could be a positive to end up with an overall smaller footprint, it seems unlikely that the existing building would be able to be used and it may be cost prohibitive to demolish and rebuild from scratch.

##### **2. Access Limitations**

The site also offers limited parking and access, and accessing the waterfront land and property with the old mill requires crossing a railroad track. Redevelopment on the river side of the railroad track would necessitate more frequent crossings, possibly including trailers.

We have spoken with Thomas Ferris from Northern Region Railroads about the crossing, and he did not anticipate that being a barrier to use of the property but mentioned that if crossings become more frequent or include large trailers it may be necessary to negotiate with the state to put in a crossing gate.

### 3. Economic Limitations

The estimated cost of demolition and remediation as found by the EPA is listed in the site description. Norwich had previously attempted to win grant money from the state of Connecticut to put towards environmental remediation and economic restoration of this area. The town submitted an application for the Brownfield Remediation Grant. The grant application was denied for reasons we are not entirely sure of. Rhodes informed us that DEEP did not want any new development on the site as it would interfere with the flow of the water from the river if it floods in the future and it is not a permitted use of the funds allotted by the grant, but during the DEEP call in March it seemed like there was still the possibility for commercial use and acquiring a grant with some more restrictions.

While a DECD or Brownfields grant may be attainable, the town would also need to find a buyer. There are financial implications following the COVID-19 crisis. With high unemployment rates and an unstable economy, it may be difficult to find entrepreneurs who are interested in investing in a small business in the near future. While it may now be cheaper to buy the mill property from its current owners, finding a private business that is able to succeed may be more difficult than originally anticipated.

### 4. Other

We originally discussed the idea of a marina for this property and brought up the possibility during the DEEP call. They felt that while the area may be appropriate for a boat launch, due to its narrowness at that particular point a Marina would not make much sense from a navigational perspective and mentioned that the former American Wharf would be a better spot for a new marina.

## **V. Recommendations**

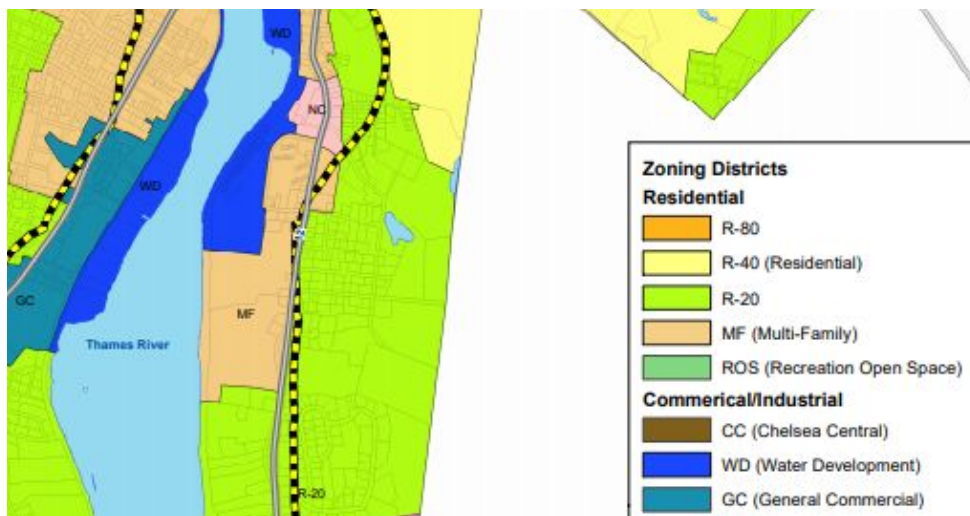
Our recommendations for these sites are to retreat from the riverside by demolishing the building on 26 Shipping Street that is closest to the Thames and not building any permanent structures in the regulatory floodway outlined in the FEMA map. There was a proposal to build a marina on the Shipping Street lot and interest from a local developer to do so. As there are several marinas up the road from this location, all of them having more water maneuverability due to their spots on the river, we do not think that the marina should move forward. After a conversation with DEEP it was agreed that the river at the site is quite narrow which could lead to clearance complications for boats that are passing through. This combined with the poor accessibility to the site from the main roads leads us to the conclusion that a marina would not be suitable development.

We believe that all sites, to the best of the town's ability, should be remediated. Which would primarily include the removal of contaminated fill materials and treatment of groundwater. After Tighe & Bond's review they determined that even the removal of fill will help in the remediation of the groundwater (2018, Tighe & Bond). The groundwater flows towards the river and not towards the houses to the east but there is still risk of exposure to the contaminants.

After remediation, large, permanent buildings and fixtures should be avoided as the area is in such a flood-prone space. This could be a good venue for a food truck mall or trailers to be brought down and set up semi-permanently. That way in a storm event the trailers could be moved elsewhere in the town and out of the floodway. When we spoke to DEEP they mentioned how the use of movable buildings could resolve the concern of developing the space instead of retreating, which was cited as part of the reason Norwich's brownfield grant application was denied.

This property is zoned for Water Development in the Town of Norwich. Norwich defines a Waterfront Development District as property whose use must be water-dependent. Community gardens, open spaces, and docks and piers do not require permits to be built. Retail sales and

rentals are allowed as long as they are for boats and boating, fishing, diving, and bathing supplies (Town of Norwich, Zoning Regulations).



Norwich, Connecticut. Zoning Map. NorwichCT.org

The Shipping Street property could be used for a bait and tackle shop, canoe and kayak rental, which could be another movable structure or a new compliant building. As Norwich would be removing the existing building the compensatory storage of the lot would be increased even if the town used part of the area that the mill currently occupies. The parking lot which is in poor condition has to be repaved so changing it to a permeable surface would also increase the storage space, because permeable pavement would allow water to penetrate into the soil and eventually enter the groundwater supply rather than running off and collecting at the surface.

Combined with small boat access to the river we think the business could do well there. It would connect to the Norwich Harbor Water Trail, which is a path along the river that shows the history and culture of the town (Norwich Water Trail Brochure). This would provide access on that side of the river because the nearest point to get on the water is across the bridge on a busy road.

## **VI. Conclusion**

This location does not seem ideal for a marina or costly permanent structures, but we believe by utilizing Norwich's fishing reputation and the waterfront views this spot has a great deal of potential for beautification, revenue, and public use. With likely cooperation from DEEP and the railroad company, our recommendation for the Shipping Street and Terminal Way properties are mobile commercial ventures only, such as a bait and tackle shop, food trucks, or other small businesses that can operate out of small portable trailers. Once the area is safe and clean, people may be drawn to this spot for fishing or small boat launching, and a seasonal business could thrive. Keeping new development projects mobile would lessen the construction costs as well as provide the ability to immediately retreat from flooding.



## Sources

26 Shipping Street, Norwich, Connecticut. Phase III Environmental Site Assessment. Tighe & Bond. May 2018.

27 Terminal Way, Norwich, Connecticut. Phase II Environmental Site Assessment. Tighe & Bond. May 2018.

28 South Street, Norwich, Connecticut. Phase II Environmental Site Assessment. Tighe & Bond. May 2018.

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