DEFENDING INADEQUATE STORM SEWER CLAIMS

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INTRODUCTION

This paper assumes a lawsuit against your community following a severe rainstorm that results in flooding the property of one or more residents because the storm sewers were not of adequate size to handle the volume of water. The paper further assumes the allegations of negligence include defective design (pipe too small) and a failure to upgrade the drainage system.

INVESTIGATION

If you experience a major rain event and subsequent flooding I recommend you begin an immediate investigation at the site. It is absolutely imperative that you be on site with an investigator as soon as the flood waters recede. Your investigator should be prepared to take extensive notes and have a good camera.

What to look for? One important thing to look for is the high water marks. This will aid your expert engineer in determining the volume of water that fell on the watershed. High water marks should be visible on buildings and fences. You should also look for high water marks on land with any kind of slope. On both buildings, fences, and land look for a "debris line." If the storm was accompanied by hail there will be plenty of debris. (See pictures 1 and 2.) On fences and buildings marks the debris line with a pencil and/or take a close-up photograph to assure future identification. Make notes of the high water marks. If there is no physical evidence try to establish the high water mark by interviewing the residents in the area. Try to establish at minimum an upstream high water mark and a downstream high water mark.

Cyclone fences are notorious for trapping debris and slowing down water. Take pictures of any such fences. Wooden fences are literally a dam and will slow down flowing water dramatically. Document anything you find. (See picture 4.)

Look for evidence of the direction the water flowed. This can be done by matted grass. Strong water flow lays the grass flat. Take a picture. Look for gravel washed away from the landscaping. Gravel can be an arrow indicating the direction of flow. Take a picture. Look at the debris impacted up against a cyclone fence. The debris will be on the upstream side of the fence. Take a picture. (See pictures 5 and 6.)

Photograph any flooded cars. Again this will be an aid in water volume if you observe a debris line on the car. Also look for cars floated by the flood waters. Take a picture. This indicates volume and direction of water flow. (See picture 7.)

Look at the damages to the private property. (See picture 8.) Take a picture. Advise potential plaintiffs to keep a record of all personal property damaged or thrown away. (This can be a double edged sword. If they keep a record they forget nothing. If they don't keep a record they can exaggerate their loss and the city will not have much evidence to refute the claim.)

Examine the storm water inlets serving the drainage basin. Are they clear? Take a picture. If the inlets are plugged, determine if they were plugged by the storm debris or a lack of maintenance. If lack of maintenance is the cause you probably should consider settling the claim.

Are there detention ponds serving the drainage basin? Are they functioning? In other words were they silted in due to a lack of maintenance by the property owner. If silted in you obviously have a potential defendant. Look for any evidence that the detention pond overflowed. (See picture 3.) This information is useful in determining the size of the storm also. For example, if the detention pond was designed to detain the one hundred year storm event and it overflowed this

would indicate the storm exceeded a one hundred year event. Was water retained in any depression? Again the information would be necessary to verify the size of the storm. Take pictures.

Ask the residents if they had a rain gauge. If the water is still in the gauge be sure to document with a picture. Equally important as the amount of the rain is the duration of the storm. Therefore, ask the residents when the rain started and when it stopped. Obviously, document this information.

See if any residents got pictures of the storm while it was occurring. Ask for copies.

Finally, take some pictures of the overall scene in case you missed anything.

THE DIAGNOSIS

With your pictures, your notes, and your documentation of high water marks, you are now ready to defend the lawsuit when it comes. At some point the high water marks will have to be surveyed to be useful to your expert. To be on the safe side you may want to do that in advance of any lawsuit and thereby avoid the consequences of the removal or destruction of fences or buildings that you had marked.

Assuming you are sued and the allegations are inadequate pipe capacity, failure to upgrade or some nuisance theory, your next step should be to get expert help. You should seek out a civil engineer with training and extensive knowledge in hydrology. If your drainage basin where the damages occurred exceeds 100 acres, I recommend you find an engineer with knowledge of and experience in using the Storm Water Management Model (SWMM) which is a software program originally developed as a means for the EPA to calculate water pollutant runoffs from land surfaces. It has turned into being one of the premier programs for the calculation of flood conditions and storm sewers in urban areas. Before SWMM runoff and pipe sizes were calculated by hand using a method known as the “Rational Method.” As my expert testified, the Rational Method is to SWMM what the Model T is to a Boeing 747. With SWMM your expert can enter into the computer program the characteristics of the drainage basin such as acres of grass, acres of concrete or roofs, size of storm sewer pipes and their slope turns and elbows, number location and type of inlets, effect of detention ponds and retention ponds, divide the basin into sub-basins, and so on. The computer will tell you when the first drop of rain at the upper end of the basin will reach the outfall pipe. The computer can confirm the amount of rainfall reported. In other words, the expert can tell the computer that three inches of rain fell in thirty minutes. SWMM will compute the flood elevation of the storm water in the basin. If this matches the observed elevation during your investigation you have independent verification of the size of the rainfall event. Another tool to consider is the radar pictures showing the history of the storm in question. HDR, Inc., a large engineering firm, maintain in their Denver office, these radar pictures of storms. By studying the radar pictures of the storm they can estimate when the storm began, when it ended, and where the rain fell and the amount of rain. This can be very useful if there is a dispute over the size of the rain storm.

The goal you want to establish is that the storm sewer system functioned exactly as designed but the rain event was much larger than the design capacity of the storm sewer. You might also want to establish that the system will handle a minimum sized rain event. This will become an issue if the plaintiffs allege that the system was not designed to a recognized engineering standard at the time it was designed. For example, if the storm sewer was designed to handle a rain storm that occurs on average once every five years and the standard recognized by the engineering profession at the time of construction of the sewer is to design a system to handle a storm that occurs every ten years, the plaintiffs will allege a negligent design.

Another issue in this type of litigation is the frequency of the rain event. In other words, what are the chances this type of rain storm will occur in any given year. The higher the frequency the smaller the storm. Therefore, generally you want the storm causing damages to be an infrequent large storm. This supports a position you may want to take that the event was far in excess of the capacity of storm sewer and we can’t and don’t design storm sewers for such large rain storms. It may also go towards establishing an act of God defense.

There exists a document for your city call Technical Paper 25 or T.P. 25. It has been prepared by the U.S. Dept. of Commerce. See a copy of this document with this paper. It is a chart of storm frequency that has been created based upon the storm history for your city. You can plot a particular storm on the chart and determine its frequency. You will probably want it as an exhibit. There is also a T.P. 40 but T.P. 25 is more accurate. We went a step farther and prepared a "Probability Chart," also attached, that helps explain the storm frequency. There are logarithmic aspects to these rain frequencies and so a twenty year event is not twice a ten year event.

Consider reviewing plats of the area which was flooded. Does the plat show elevations for the lots? Compare these elevations with what exists in the field. If there are differences, did the alterations in elevation contribute in any way to the flood? This might happen if the elevation of the lot held the water in the street so that it eventually flooded other properties. If so, you need to consider whether those property owners should be brought into the litigation. Your planning director would be a good person to explain the platting process and the development of the flooded area.

If the plaintiffs have alleged a failure to up grade the system, consider calling your finance director. The finance director can explain the budgeting process, especially the capital improvement portion where there are limited funds available to the city, there are competing projects and the city council must chose which projects will be funded in any fiscal year.

THE LAW

Damages for negligence requires duty, breach of that duty, and damages proximately caused by the breach. Check your state law and ordinances to see if your city is required to provide storm sewers. If not, then there is no duty. If your city has provided them and they proved to be inadequate for the storm in question, the plaintiffs are no worse off then if you had done nothing and probably have benefited from less water in their basement because some water was carried away by the pipes. See *Wilson v. Omaha, 138 Neb. 13, 291 N.W. 732* for a good discussion of this theory.

The next refuge may lie in the exceptions to municipality liability in your state law. If you have the discretionary exception it may provide a complete defense to the claim. This exception applies to claims based upon exercise or performance or the failure to exercise o perform a discretionary function or duty on the part of the city or an officer or employee of the city.

A great case explaining this exception to municipal liability is *Anhalt v. Cities and Villages Mut. Ins. Co., 249 Wis. 2d 62 637 N.W.2d 422 (Wis. App. 2001).* In this case, eighty residents brought an action against the city alleging negligence, private nuisance, inverse condemnation, waste and deprivation of property in violation of §1983 after sustaining substantial damage to their homes and personal property in a flood following a heavy rain in 1998. There was extensive property damage to private homes. Plaintiffs alleged the city was negligent for failing to build a system large enough to drain storm water and to upgrade the system. The city responded by saying that it was immune from liability because the acts of designing, planning and implementing a sewer system are legislative acts protected by Wis. Stat. §893.80(4) which says:

> "No suit may be brought against any [governmental entity] or any agency thereof for the intentional torts of its officers, officials, agents, or employees nor may any suit be brought against such [governmental entity] … or against its officers, officials, agents, or employees for acts done in the exercise of legislative, quasi-legislative, judicial, or quasi-judicial functions."

The court held that legislative and quasi-legislative acts are collectively referred to as "discretionary" acts for determining whether they are protected by governmental immunity. The court held that acts of designing, planning and implementing the sewer system are discretionary acts protected under the doctrine of governmental immunity. Where to build a sewer, when to build a sewer and how to build it are legislative determinations imposed upon a governmental body and "it is not for the court to be judge or jury to second guess them in these determination nor to find that they are liable for negligence."

If you do not have a discretionary exemption or exception by virtue of statutory law there may be case law supporting this theory. I found in Iowa that prior to the adoption of the tort liability of cities act by the Iowa legislature, the Iowa courts in the early 1900's were making an exception for municipalities in these types of cases based upon the rule that the act of approving plans for a storm sewer system was either a judicial or legislative act not subject to judicial review. This theory was also recognized by the United States Supreme Court as far back as 1886. The Court said that the duties of the city council in adopting a general plan of drainage, and determining when and where sewers shall be built, their size and level, are of a quasi-judicial nature, involving the exercise of deliberate judgment and large discretion, and depending upon considerations affecting the public health and general convenience throughout an extensive territory; and the exercise of such judgment and discretion in the selection and adoption of the general plan or system of drainage is not subject to revision by a court or jury in a private action for not sufficiently draining a particular lot of land. *Johnston v. District of Columbia, 118 U.S. 19, 30 L.Ed 75, 6 S.Ct. 923*.

There appear to be four exceptions to the general discretionary rule. One is actual negligence amounting to more than erroneous judgment in adopting a plan. For example, adopting a plan prepared by an unskilled person. The second exception occurs when the plan of drainage causes direct injury to a property owner. For example, the collected water is discharged from the pipe onto private property causing damages. A third exception arises in some jurisdictions
if the plan proves to be deficient by actual operation. A duty may then arise to fix the problem. (But see discussion below). Finally, the general rule will not apply if the storm sewer system is constructed without the judgment of the City Council being exercised in the matter in the adoption of the plans and specifications for the sewer system.

The treatise citations on the discretionary exception to liability are McQuillin Mun. Corp. §53.121 (3d Ed.); 63 C.J.S., Municipal Corporations §785; 57 Am Jur 2d Municipal, County and State Tort Liability §347. All list a number of state cases which will give you a starting point for your state.

A likely claim the plaintiffs will assert is failure to rebuild or enlarge the system. Where the system becomes inadequate due to development within the basin the general rule is the city does not have an obligation to rebuilt the system. A good case explaining this rule is *Barney's Furniture Warehouse of Newark, Inc. et al. v. City of Newark, 62 N.J. 456, 303 A.2d 76 (1973)*. There the court said, "As already noted, the conception of the original plan for draining and sewering the area was an exercise of official judgment….Whenever, thereafter, serious flooding first appeared, governmental judgment and discretion had to be exercised as to whether or when to remedy it, or how, in terms of priorities of need as between that exigency and others the city faced. As previously indicated a good witness to establish this defense is someone from the finance department.

Also check your state law on municipal tort liability. In Iowa we enjoy an exception to liability based upon a claim of negligent design of a public improvement if that public improvement was originally constructed in accordance with a generally recognized engineering standard in existence at the time of construction. It also exempts a claim based upon failure to upgrade the public improvement to the new design standards.

The treatise citations on the failure to upgrade claims are McQuillin Mun. Corp. §53.123 (3d Ed.); 63 C.J.S., Municipal Corporations §785; 57 Am Jur 2d. Municipal, County and State Tort Liability §375. Again, numerous state cases are cited.