



## City of Valparaiso Drainage Master Plan

A draft report of potential projects has been completed and is currently under review by the City Administration and Utility Board. This report is shown on the City website. The draft report lists new projects identified after the major storm event in September of 2008 and existing projects from the original list of priority projects. The projects listed in the draft report are NOT currently prioritized; rather they are just listed to show what projects have been identified.

The City received over 1,800 of the drainage surveys sent out in November seeking information on flooding problems within the City. The data from the returned surveys has been analyzed and assembled, by Valparaiso University, into different categories with maps showing the areas that suffered from drainage problems. A report was recently completed by the University summarizing the results. This report is also on the City's website.

The next step in the process of addressing a 10-year drainage master plan for the City of Valparaiso is for City personnel to review the survey report results submitted by Valparaiso University and compare them to the current draft report of potential projects to look for areas not currently identified. After all potential projects are identified based on the results of the V.U. survey and past information, the City will host public meetings to explain the potential projects identified and seek feedback from concerned citizens. Cost estimates will be compiled for the projects identified and a 10-year plan will be presented. The City will then look at the options to fund the identified projects.

Sincerely,

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**Valparaiso Utilities  
Board**

**Drainage Master Plan  
City of Valparaiso, Indiana**

**DRAFT  
POTENTIAL PROJECTS**

This preliminary report is presented to the Utilities Board for the start of a review and ranking process that will identify projects for action in the coming years. Staff has updated the report to reflect several potential “NEW” projects made apparent with the September 2008 major rain. Staff still awaits the results of the community survey identifying additional drainage problem areas.

Note that some of the project descriptions remain from their original listing a number of years ago. Others are for information purposes only at this time. They could evolve into possible projects as more data is acquired.

**Proposed for preliminary review January 27, 2009  
Updated January, 2009  
Updated January 23, 2006**

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## Potential New Projects

### CENTRAL CALUMET

This area consists of the Calumet corridor south of Vale Park to McDonald Drive.

Primary flooding issues are at Schultz Florist and the Caldwell Banker building. Limited information available at this time indicates that runoff came across Calumet from the west side to the east and flooded the subject properties.

The primary causes of the flooding appear to be:

1. lack of runoff management facilities (primarily detention) on both sides of the corridor,
  2. lack of emergency overflows on the east side of the corridor.
- (See "Preliminary Comments" attached)

Possible solutions are:

1. Increase the amount of detention along the corridor.
  - a. The Wall Street detention basin's storage capacity can be increased by roughly 10% by re-grading the facility. This will make mowing a little more difficult but that may be acceptable in light of the added storm protection gained. In addition, storm water quality BMPs could be added to the project. SEE SPECIFIC WALL STREET DETENTION BASIN PROJECT PROPOSED HEREIN.
  - b. On the west side of the corridor, there appears to be a large grassed area to the west and south of the CSI building that might be used to detain some runoff. There are also smaller grassed areas west of the McColley, Chuck's Bakery and Premier Grill buildings that might be used for detention.
  - c.
    - i On the east side of the corridor there is a larger grassed area east of the Pilot gas station and Schultz's Floral buildings that might be used for detention. This area might also incorporate a defined overflow away from the Schultz depression. The overflow would need to flow to the east through either the Hattie Smith or the car wash properties.
    - ii There are detention basins that exist on the credit union site and the medical center site that are south of the building east of Coldwell Banker. These basins could be expanded to probably double their storage capacity. This area could also be expanded west in the grassed area between Coldwell Banker and the commercial building to the south. This improvement could also provide a better overflow for the Coldwell Banker site.
    - iii There is an additional open area that could be used for runoff management. It is on the former Home Mountain property and land that extends south to McDonald Drive. The southerly parcel probably has wetlands located on it so its capacity for detention might be diminished.

2. Create overflow routes out of existing depressed areas, particularly at the two subject sites.
  - a. An overflow out of the Schultz site appears to be possible through either the Hattie Smith property or the car wash property. Some pavement reconstruction will be required to provide the proper elevations.
  - b. An overflow out of the Coldwell Banker site appears to be possible to the south through the existing detention basins and then connecting to a new basin on the parcel south of the former Home Mountain building.

Note: It is important to create additional detention storage along the corridor along with the creation of the overflow routes so that the flooding problem is not simply relocated to a different area.

Additional study is required in order to determine the feasibility of the possible solutions.

It is proposed that staff continue to acquire data and explore the possible solutions listed above. As solutions are determined feasible they can be brought to the Utility Board for consideration and possible action.

NOTES:

## Potential New Projects

### NORTH CALUMET

Location is the Calumet Avenue corridor between Vale Park Road on the south and the north lines of the Cumberland Crossing development and the Ace Hardware site. Heaviest emphasis is on the east side of the corridor.

During the major rain that occurred on September 12-14, 2008, a number of businesses along the east side of Calumet experienced flooding or near flooding. It appears that the flooding occurred because there were/are no overflows out of the low points in the subject area. (See Preliminary Comments" attached for history).

Engineering staff has met with a representative of Wise Way and their engineer to discuss their site and what might be done to reduce their chances for flooding.

Future work A substantial amount of data still needs to be acquired in order to address and propose possible solutions to the flooding problems along this corridor. The completion of the Cumberland Crossing development may ease the flooding somewhat; the extent is still to be determined.

The City proposes a round-a-bout at the intersection of Calumet and Vale Park. The tentative date for construction is 2011. That project will add both additional impervious areas and some extensions of storm sewers. It appears that the roundabout project may be the appropriate opportunity to also address at least some of the flooding problems.

It is proposed that staff continue to work towards the development of possible solutions to the flooding problems. As possible solutions are found they can be proposed as drainage projects to be considered by the Utility Board or for the City to include as part of their projects.

### NOTES:

## Potential New Projects

### CHAUTAUQUA PARK/CITYVIEW SEPARATION STUDY

Ref. Projects to be Considered for Removal from Plan: Valparaiso Technical Institute Detention Basin and Chautauqua Park Interceptor Storm Sewers.

With the greatly diminished possibility of the above two former projects it remains a necessity to address the issues of flooding and sewer separation in the Bond, Grove and Ridgeland Street areas. On each of those streets there exist significant low points a few hundred feet west of Campbell Street. Storm runoff collects in those low areas during any significant rain events. Since the sewers in the area are combined, the runoff regularly surcharges them and causes basement flooding in nearby homes.

It is proposed that additional studies be performed to search for means to eliminate or reduce the surcharging of the sewers and/or the basement flooding problems.

#### NOTES:

## Potential New Projects

### GREENFIELD CREEK INTERNAL

Problems are located primarily at detention basins 3 and 4 where homes have experienced flooding due to high water levels in the basins during major rain events.

The flooding problems were due in part to debris in the basins clogging the outlet structures. Staff worked with the homeowner's association and recommended alternatives to either replace the discharge grates with non-clog designs or to baffle the structures to keep the debris from reaching the structures. The association has now replaced the grates with designs more suitable to the situation. The new grates appear to have remedied the problems due to plugging.

Additional concerns arose because the capacity of the emergency overflow from basin 3 (a 36" pipe) was restricted by a grate with relatively small openings. Staff has recommended the replacement of the grate with one of more suitable design. Note that this will most likely require modifications to the concrete pathway in that location. The association is considering this recommendation.

At least one of the affected homeowners has also blocked up the window openings that allowed the flooding into their home.

Note: Because the street downstream from basin 3 is higher than the overflow from the basin, there will always be some risk of flooding in this area.

Staff still needs to pursue more information regarding the area around basin 4.

At this time there is no apparent need for the Board to consider any project internal to the subdivision.

### NOTES:

## Potential New Projects

### GREENFIELD CREEK/GOODRICH ROAD

Problem located at low point(s) on Goodrich Road at Greenfield Creek. The existing culvert under Goodrich Road has limited capacity because of its size. During the heavier rainfall events, the runoff backs up in the low area on the east side of the road until the runoff overflows the road. Officials close the road to traffic during these events. It is not known if any residences east of Goodrich Road experience flooding because of the back-up of the runoff.

The watershed for this location roughly extends east to Campbell Street and north to St. Clair Road (550 North). Developed lands in the watershed include Meridian Woods, Campbell Meadows, Dublin Green and the large lot development Knollcreek. The Center Township school administration building and other large lot residential sites also exist in the watershed.

The undersized culvert under Goodrich Road and the road flooding has existed for some time. During an early attempt to develop the Greenfield Creek site, "officials" accepted the idea that the culvert would not be increased in size in order to take advantage of the detention of the runoff east of the road. This same acceptance apparently held during the later platting of Greenfield Creek itself.

Based on information available to staff, the problem to be considered is the flooding of Goodrich Road.

Sites that were developed under City jurisdiction were Meridian Woods, Dublin Green and the school administration building. All three of those site's approved plans incorporated storm water detention basins. Staff is currently reviewing the design of those plans for obvious blunders or inconsistencies. When the weather breaks staff will also inspect the storm runoff management facilities on those sites.

Preliminary thoughts at this time seem to agree that a new larger culvert could be constructed under Goodrich Road. The new culvert would have a control structure on its east side that would continue to allow the low flow runoff through to Greenfield Creek but would then cause the excess to pond east of the road. The control structure would then allow the runoff to pass through the new culvert before it reaches the level of the road pavement. This solution would maintain most of the existing conditions but prevent the road from flooding.

The design of the preliminary solution will require computer modeling of the watershed and the control structure. The assistance of a consultant would most likely be required.

### NOTES:

## Potential New Projects

### HAWTHORN EAST

Location is lots 1 (4400 Silhavy) and 2 (4402 Silhavy) in Hawthorn subdivision. The lots are at the southeastern corner of the development on the right side of Silhavy just after you enter the development.

Runoff from the field to the east of the lots has entered the lots and flooded the home on lot 2.

#### Solution:

The City has acquired an easement from the adjacent landowner to the east and has contracted with Johnson Excavating to construct a swale to divert the runoff to the Flint Lake Garden Terrace Drain. At such time as the land to the east is developed, the City will also “provide” the culvert crossing for the required entrance road across the swale.

No action is required at this time.

#### NOTES:

## Potential New Projects

### HAWTHORN NORTH

Location is lots 54 through 56 (2501 through 2505 Pennington) on the far north side of the Hawthorn development.

Lots 54 (2505) and 56 (2501) have experienced property damage on several occasions due to runoff from lands north of Hawthorn entering through rear/side windows in the lower levels of their homes. Lot 55 has a foundation but no house as of this date.

A significant tributary area of approximately 170 acres appears to contribute runoff to Hawthorn at the rear of the subject lot. The developer of Hawthorn attempted to divert this runoff around the subdivision in a 36" to 48" storm sewer. The sewer runs east along the north line of the development and then south along the east line and discharges into the Flint Lake Garden Terrace Drain (ditch) just east of the Silhavy entrance road into the development.

During certain heavy rain events, debris washed from the fields to the north and plugged the grate that covered the inlet end of the 36" diversion sewer. This caused the runoff to pond and overflow into the homes. Note that when corn is planted in the field to the north, it seems to generate more debris and the plugging is at its worst. This past year soy beans were planted and there seemed to be much less debris.

During the recent major storm event (September 12-14) the volume of runoff exceeded the capacity of the by-pass sewer. Flooding of the homes again occurred, this time because of lack of capacity in the diversion sewer system.

In response to this "problem" the homeowner at 2501 Pennington has raised the exterior grade in front of the impacted rear basement window. This apparently has not totally corrected the problem as the home was damaged again during the September rain.

It appears that the developer had the correct idea in diverting the runoff around the development. However, it is questionable if a 36"/48" sewer is sufficient to convey the runoff from a major storm event. A seat of the pants analysis indicates that there might be a significant deficiency.

Comments regarding possible solutions follow:

Reduce the existing rate of runoff This solution requires the construction of a detention basin on the vacant land to the north to capture excess runoff and release it at a rate that the existing diversion pipe is capable of conveying. It is not expected that the basin would be excessively large as its discharge rate would be much greater than normally required for detention. Land would have to be acquired for the basin and for spoiling the excavated materials. An easement would be required for access.

The basin could possibly be used in the future by a developer of the land surrounding it. The costs of the acquisition of the land for the basin might be recovered.

Increase the capacity of the existing diversion sewer. The existing pipes rest in the rear yards of homes along the north and east borders of the development. Nineteen lots/homes would be directly and significantly impacted by the excavation and removal of the existing and the placement of the larger pipes. The easement widths are limited and construction would be made increasingly difficult as a result. The new diversion sewer would again have a limited, defined capacity, which, if development continues in the vacant lands to the north, could again be found insufficient at some future date. Maintenance of the diversion would be difficult because of its location in the rear yards of the development. This solution requires additional aerial mapping and survey work to determine the contributing areas and a thorough hydrologic analysis and design.

Construct additional or other diversion(s)/by-pass

Internal It appears that an internal diversion could easily be constructed by acquiring the “vacant” (fdn. only) lot 55 and lowering the grade so that the excess runoff from the north could flow across the lot to the street (Pennington). Under some circumstances this might be permitted if that runoff remained in the street system to an acceptable outlet. In Hawthorn this does not occur because of the elevations of the streets (Blair and/or Staffordshire) required to convey the runoff towards the south. If the subject runoff is diverted into the development it would overflow Pennington at the low point just east of Staffordshire and flow south along the rear yards. Since some of the homes abutting these rear yards already experiencing drainage problems (flooding) this alternative does not appear to be acceptable.

External The lands adjacent to the development are vacant on the north, east and west boundaries. The ultimate outlet for the diverted runoff is the Flint Lake Garden Terrace Drain (ditch). It is physically possible to construct additional diversions to the east and/or to the west and then south to the Drain. A diversion to the east/south would be entirely on lands owned by at least two other entities. A diversion to the west would be in part owned by one other entity and then on lands possibly controlled by the developer(?). The diversion to the east would have a maximum cut of approximately 19’ and would be approximately 2100’ in length. A diversion to the west would have a maximum cut of approximately 15’ and would be approximately 1500’ in length.

Each option could be accomplished by constructing a pipe or a ditch. An open ditch is preferred as it will probably be less expensive and will offer the greatest carrying capacity. Easements or fee simple acquisition would be required from the land owners.

Temporary “remedy” The City administration has proposed that:

1. The two impacted property owners totally block and waterproof the openings in their homes that allow the excess runoff to enter, and,
2. the City, with the permission of the owner of lot 55, will construct a small temporary ditch between the lots to the street.

The intent is that this remedy would suffice to eliminate or minimize property damages until such time as the land to the north is proposed for development. That developer could possibly be directed towards limiting the flows to the existing 36" diversion sewer.

NOTES:

## Potential New Projects

### SILHAVY / EVANS INTERSECTION

This intersection floods during heavy rain events.

Prior to the construction of the Task Force Tips facility at the southeast corner of this intersection, runoff could flow towards the southeast to a culvert under the Grand Trunk Railroad. The construction of Task Force Tips building and the required fill and drives appear to have blocked that drainage course. Currently the runoff from the intersection flows into the pond in front of the facility. The outlet from the pond is controlled with a small (10"?) pipe. If the pipe cannot convey the flow, the water level rises and floods the drainage system at the intersection.

The drainage system at the intersection consists of culverts to convey the runoff from the north and west to the southeast. These existing culverts may also be undersized which contributes to runoff overtopping the roads.

The City has contracted with the consulting firm of Lawson Fisher to prepare construction plans for Silhavy Road between LaPorte Avenue and Evans. It is proposed that a remedy to this drainage problem be included as a part of that design.

### NOTES:

Potential new Projects

## WALL STREET DETENTION BASIN

Ref. Central Calumet Project(s) above.

It is proposed to plan the rehabilitation of the Wall Street detention basin to maximize its storage capacity and increase protection against flooding for properties downstream.

NOTES:

## Beauty Creek Projects

### Beauty Creek - Forest Park Branch

This project consists of studying this section/branch of Beauty Creek to determine what type of flood control and sediment control measures need to be implemented, then implementing those measures. The purpose of the project is to slow down the rate of runoff in this branch of Beauty Creek and the related erosion. The project(s) might involve the use of drop structures, detention facilities, hard armoring the channel, and use of interceptors to catch suspended solids.

*Certain repairs are obviously necessary and require little study. These are located at the upstream end of the ravine near the intersection of Clover and Sheffield. Here, the discharges from at least two storm sewers have eroded away significant portions of the upstream end of the ravine. The initial plan is to replace the storm sewers from the ravine to their inlet points at the streets as they appear to be corrugated metal pipe and/or clay tile and are broken and deteriorated. Then, at the ravine, drop structures would be constructed to allow the runoff to drop to the bottom elevation without eroding the stream bed and undermining the banks. PROJECT PER THIS PARAGRAPH IS COMPLETED.*

Other needed improvements include the repair/replacement of drop pipes from existing inlets in the streets (Fernhill and DelVista) above the ravine. These pipes carry the collected runoff from the inlets at street level to the bottom of the ravine, a drop of about 25 to 30 feet. They are intended to eliminate the erosion that would occur if the pipes did not exist and the runoff was simply discharged over the bank.

There are several locations along the ravine where it appears that detention basins could be constructed very easily if studies show that they are, in fact, warranted. Other areas may require armoring to protect them from erosion.

### NOTES:

Beauty Creek Projects

Beauty Creek St. Paul's (East) Branch

This project consists of studying this section/branch of Beauty Creek to determine what type of sediment and erosion control measures need to be implemented, then implementing those measures. This project may involve drop structures, hard armoring the channel, and use of interceptors to catch suspended solids.

NOTE: RECENT RAIN EVENTS HAVE GREATLY INCREASED EROSION IN THIS WATER COURSE.

NOTES:

## Beauty Creek Projects

### Beauty Creek Main Branch/Harrison Boulevard. Bridge

This project consists of replacing the existing bridge over the main branch of Beauty Creek at Harrison Blvd. The structure has deteriorated, which has resulted in a weight limit being assigned to the bridge. As Harrison Blvd. becomes more and more important as an entry to Valparaiso from the west, the replacement of this structure will also become more important and necessary.

#### NOTES:

## Beauty Creek Projects

### Beauty Creek Oakwood Estates Branch

This project consists of studying this section/branch of Beauty Creek to determine what type of erosion control measures need to be implemented, then implementing those measures. This project may involve the use of detention facilities, hard armoring the channel, and use of interceptors to catch suspended solids.

*Note: See Oakwood Golf Course detention basin*

NOTE: THE PHASE 1 PROJECT ON THE KOBAK BRANCH OF THIS DRAIN HAS BEEN COMPLETED. THAT PROJECT CONSISTED OF MAXIMIZING THE USE OF AN EXISTING SMALL LOW AREA TO DETAIN RUNOFF FROM THE GOLF COURSE AND REDUCE THE FLOW RATES IN THE KOBAK RAVINE. PHASES 2 AND 3, IF AND WHEN IMPLEMENTED, WOULD INVOLVE INCREASING THE SIZE OF THE DETENTION BASIN BY EXCAVATING EASTWARD INTO THE GOLF COURSE (SEE FOLLOWING PROJECT), AND ALSO ARMORING THE REMAINDER OF THE KOBAK RAVINE DOWNSTREAM TO THE MAIN OAKWOOD BRANCH OF BEAUTY CREEK.

NOTES:

## Beauty Creek Projects

### Oakwood Golf Course Detention Basin

This project is one phase of the Beauty Creek Oakwood branch project. It consists of the construction of a detention basin (pond/golf hazard?) on the number two fairway at the golf course. The construction of the pond would slow down the rate of flow from this area to the branch of Beauty Creek in Oakwood Estates. This, hopefully, will also reduce the rate of erosion in that branch.

**NOTE: THIS PROJECT BENEFITS THE KOBAK RAVINE AND THE OAKWOOD ESTATES BRANCH OF BEAUTY CREEK.**

NOTES:

Beauty Creek Projects

Candlewood Pond Discharge Structure

This project involves the design and construction of a controlled outlet for the existing Candlewood Pond to restrict the outflow and extend the time the storm water runoff is detained in the pond. At present the discharge from the pond flows directly to the 36" sewer constructed by the City to alleviate flooding in the development.

NOTE: THIS IS A RATHER SIMPLE PROJECT. IT WILL BE SOMEWHAT CONTROVERSIAL AS THE HOMEOWNERS AROUND THE EXISTING POND WILL BE SENSITIVE TO ANY POTENTIAL FLOODING. THIS PROJECT WOULD BE ONE SMALL COMPONENT OF THE IMMEDIATELY FOLLOWING PROJECT.

NOTES:

## Beauty Creek Projects

### Beauty Creek/Candlewood Branch/Manchester Meadows

This project consists of studying this section/branch of Beauty Creek to determine what type of flood control and sediment control measures need to be implemented, then implementing those measures. This project may involve the use of detention facilities, hard armoring of the channel and use of interceptors to catch solids. Before this project is studied or implemented, it is recommended that the discharge structure be designed and constructed at the outlet of the Candlewood Pond to fully utilize its detention storage capabilities (SEE PRECEEDING PROJECT).

#### NOTES:

## Beauty Creek Projects

### Beauty Creek Detention Basin Number 1 - Study

One of the early drainage studies (Cole?) performed for the City proposed detention basins at certain locations along Beauty Creek. The first of those basins was proposed on the Beauty Creek's Main Branch on the Ransom property just south of Ransom Road.

An engineering study of the proposed project is required to determine:

1. Hydraulic analysis of flows and storage required,
2. Feasibility of project re: impacts on wetlands that exist at the proposed site,
3. Feasibility of project re: required land acquisition, and
4. Feasibility of project re: construction costs.

Dependant on the findings of the study the project phases could proceed per the following:

#### NOTES:

Beauty Creek Projects

Beauty Creek Detention Basin Number 1 Land Acquisition

This project involves the acquisition of the land needed for the first Beauty Creek Detention Basin No. 1.

NOTES:

Beauty Creek Projects

Beauty Creek Detention Basin Number 1 Design

This project consists of the design of the Beauty Creek Detention facility No 1 near its head waters.

NOTES:

Beauty Creek Projects

Beauty Creek Detention Basin Number 1 Construction

This project consists of the construction of the Beauty Creek Detention Basin No. 1

NOTES:

## KNODE CREEK PROJECTS

NOTE: THE PREVIOUS BOARD DETERMINED THAT THE FOLLOWING KNODE CREEK PROJECTS SHOULD NOT BE CONSIDERED FOR IMPLEMENTATION UNTIL THE KNODE CREEK DETENTION BASIN NO. 2 IS COMPLETED. THAT BASIN IS NOW COMPLETED AND IS FUNCTIONING.

## Knode Creek Projects

### Beech Street Storm Sewer

The full extent of this project is not yet known. The project will consist of the construction of a storm sewer both east and west on Beech Street from Knode Creek. This would improve drainage and would remove storm runoff from the combined sewer system in that area.

Note: there have not been many complaints from this area in past months and years.

### NOTES:

## Knode Creek Projects

### Elm Street Storm Sewer

The full extent of this project is not yet known. This project involves the construction of storm sewers both east and west on Elm Street from Knode Creek. This would remove some storm flows from entering the sanitary sewer in that area.

Note: there have not been many complaints from this area in past months and years.

### NOTES:

## Knode Creek Projects

### Institute Street Storm Sewer

The full extent of this project is not yet known. The project will consist of the construction of a storm sewer both east and west along Institute Street. This will improve drainage and will remove storm runoff from the combined sewers in the area. Note that there have not been many complaints from this area in past months and years.

### NOTES:

## Knode Creek Projects

### Oak Street Storm Sewer

The full extent of this project is not yet known. The project will consist of the construction of a storm sewer both east and west on Oak Street from Knode Creek. This will improve drainage in the area and remove storm runoff from the combined sewers. Note that there have not been many complaints from this area in past months and years.

### NOTES:

## Knode Creek Projects

### Parkview Street Storm Sewer

The full extent of this project is not yet known. It appears that an existing storm line that serves Wood Street near Parkview School and then extends north towards Blaylocks Subdivision is in need of replacement. The sewer that is constructed under an existing garage is made of corrugated metal pipe and is deteriorating. This line needs to be replaced and, possibly, increased in size. This project needs to be studied for its feasibility. If possible, the system might be constructed in phases through the development and through the school property and park.

NOTE: STAFF NEEDS TO FOLLOW UP RE: THIS PROJECT TO DETERMINE IF NEED STILL EXISTS.

NOTES:

## Knode Creek Projects

### Wood Street Storm Sewer

The full extent of this project is not yet known. This project will consist of the construction of a storm sewer west on Wood Street from Knode Creek. This will improve drainage and will remove runoff from the combined sewers in the area. Note that there have not been many complaints from this area in past months and years.

### NOTES:

## VALPARAISO STREET PROJECTS

NOTE: THE FOLLOWING PROJECTS ARE DEPENDANT UPON THE COMPLETION OF PHASE 1 OF THE VALPARAISO STREET PROJECT. THAT PROJECT WILL BE COMPLETED THIS SPRING.

## Valparaiso Street Projects

### Berkley/ Johnson Drain

The homes on the east side of Berkley Drive at the south end of the street receive a lot of runoff in their back yards during heavy rains. The rear yard of the Johnson property regularly floods. It appears that the problem could be remedied quite easily by constructing a swale and/or drainpipe from the rear yards out to the street (Glendale). However, this has not been verified. We are also reluctant to add more water to the Glendale area as the street already floods and the discharge from this location goes into the combined sewers. This project needs to be studied in greater detail before any recommendations are made.

**NOTE: THIS PROJECT MAY REQUIRE THE PARTIAL COMPLETION OF THE GLENDALE BLVD. WEST STORM SEWER.**

NOTES:

## Valparaiso Street Projects

### Evans Avenue (West) Storm Interceptor

This project involves the construction of a 48" storm sewer from Evans and Valparaiso Streets west to Washington Street. At that location it would intercept the previously constructed north Washington Street Storm Sewer which collects the runoff from the area between Evans and Glendale on Washington Street. This sewer currently discharges into a combined sewer. This project cannot be constructed until the Valparaiso Street storm sewer is in place. The cost of this project is estimated at \$475,000 (THIS IS AN OLD NUMBER).

### NOTES:

## Valparaiso Street Projects

### Evans Avenue (West) Storm Sewer

This project cannot be implemented until the West Evans Avenue Storm Interceptor is completed. This project consists of the extension of a storm sewer west from Evans and Washington to Evans and Beulah Vista (if depth is available) to pick up the runoff that currently finds its way into the combined sewers. This project might not be justified until the street itself is reconstructed with curb and gutter so the runoff is collected.

### NOTES:

## Valparaiso Street Projects

### Fair Street Storm Sewer

This project involves the construction of a storm sewer both east and west from Valparaiso Street to collect runoff that currently finds its way into the combined sewers. To the west it should be constructed as far as Franklin Street then north (if possible) to Randle Street. The project might not be justified until the street itself is reconstructed with curb and gutter to collect the runoff.

### NOTES:

## Valparaiso Street Projects

### Glendale Boulevard (East) Storm Sewer

The project consists of constructing a storm sewer east from Valparaiso Street to the existing low point east of Albert Street to pick up runoff that currently enters the combined sewer at that location. The flooding that takes place at that location is intended. The street is being used as a detention basin to reduce flooding in basements in the area.

#### NOTES:

## Valparaiso Street Projects

### Glendale Boulevard (West) Storm Sewer

The project consists of constructing a storm sewer west to Linden then north (if possible) to a point south of John Glenn Drive. The sewer would pick up the runoff that currently finds its way into the combined sewers. The flooding that occurs at Berkley Drive, which is intended and acts as a detention basin to reduce basement flooding in the area, could be reduced.

#### NOTES:

## Valparaiso Street Projects

### Harrison Boulevard Storm Sewer

The project involves the construction of a storm sewer both east and west of Valparaiso Street. To the west the sewer might be extended as far as Franklin Street. The sewer would pick up the runoff that currently finds its way into the combined sewers in that area. The project might not be justified until the street itself is reconstructed with curb and gutter to collect the runoff.

### NOTES:

## Valparaiso Street Projects

### McKinley Street Storm Sewer

The project involves the construction of a storm sewer both east and west of Valparaiso Street. To the west the sewer should be extended (if possible) to the alley between Franklin and Washington Streets. The sewer would pick up runoff that currently finds its way into the combined sewers. It would help to alleviate basement flooding on McKinley Street.

### NOTES:

## Valparaiso Street Projects

### Northview Drive Storm Sewer

The project consists of the construction of a storm sewer west from Valparaiso Street to Franklin Street to pick up runoff that currently finds its way into the combined sewers. The project might not be justified until the street itself is reconstructed with curb and gutter to collect runoff.

### NOTES:

## Valparaiso Street Projects

### Randle Street Storm Sewer

The project consists of the construction of storm sewers both east and west of Valparaiso Street to pick up the runoff that currently finds its way into the combined sewers. The project might not be justified until the street itself is reconstructed with curb and gutter to collect the runoff.

### NOTES:

## Valparaiso Street Projects

### Stanley Street Storm Sewer

This project involves the construction of a storm sewer west from Valparaiso Street toward Franklin Street to pick up the runoff that currently finds its way into the combined sewers in the area.

### NOTES:

## Valparaiso Street Projects

### Washington Street Rear Yard Storm Sewer

This project cannot be implemented until the West Evans Avenue Interceptor is completed. The project involves the construction of a storm sewer west from Washington Street (between Harrison and McKinley) along the rear yards to pick up runoff that presently floods yards and basements.

### NOTES:

HILLTOP AREA PROJECTS  
(Formerly called “Union Street Projects”)

NOTE: PROJECT 1A, SOUTH VALPARAISO STREET, AND 2, HOSPITAL SEWER, ARE COMPLETED OR SUBSTANTIALLY COMPLETE. FUTURE PROJECTS BUILD ON THE WORK COMPLETED AND MUST BE PURSUED IN A DETERMINED SEQUENCE AS PROPOSED HEREIN.

PROJECT NUMBERS SHOWN ARE THOSE PER THE ENGINEERING STUDY (EARTH TECH).

## Hilltop Area Projects

### Project 1B Union Street Storm Sewer

This project proposes the construction of a storm sewer on Union Street from Valparaiso east to Greenwich Street. This work was eliminated from previous Project 1A because of cost limitations. Since federal monies remain from the substantially completed Project 2, it is proposed to use those funds to assist with the completion of this project.

### NOTES:

Hilltop Area Projects

Project 3, Crosby Ditch, West Street Culvert

This proposes the replacement of the existing 48" culvert with a 4'8" by 9' aluminum pipe arch to increase the flow capacity and eliminate a flow restriction at this location.

NOTE THAT PROJECTS 3, 4 AND 7 DO NOT HAVE TO BE CONSTRUCTED IN SEQUENCE, BUT ALL MUST BE COMPLETED PRIOR TO OTHER HILLTOP PROJECTS.

NOTES:

## Hilltop Area Projects

### Project 4, Crosby Ditch Energy Dissipater

This project proposes the construction of a concrete energy dissipater at the discharge of the existing hospital sewer into Crosby Run. The existing condition promotes erosion at the discharge and in the channel downstream.

NOTE THAT PROJECTS 3, 4 AND 7 DO NOT HAVE TO BE CONSTRUCTED IN SEQUENCE, BUT ALL MUST BE COMPLETED PRIOR TO OTHER HILLTOP PROJECTS.

NOTES:

## Hilltop Area Projects

### Project 7, Franklin Street Detention Basin

This project proposes the design and construction of a detention basin on Crosby Run east of Franklin Street. Much of the required land is already under the ownership of the City. There will be some additional land required.

The project also includes the replacement of the 48” culvert under Franklin Street with a 36” culvert to control flows downstream.

**NOTE THAT PROJECTS 3, 4 AND 7 DO NOT HAVE TO BE CONSTRUCTED IN SEQUENCE, BUT ALL MUST BE COMPLETED PRIOR TO OTHER HILLTOP PROJECTS.**

NOTES:

## Hilltop Area Projects

### Project 5, Hospital Sewer Branches

This project proposes the construction of storm sewer branch lines from the previously constructed Hospital Storm Sewer to Lincolnway on Locust, College and Garfield and a branch on Brown Street to College.

NOTES:

## Hilltop Area Projects

### Project 6, Morgan Blvd. Interceptor Sewer

This project proposes the construction of an interceptor storm sewer from Will Park to Morgan Blvd. and then north to Lincolnway. It also includes branch sewers running west from Morgan on Brown, Monroe and Indiana, and along Michigan from Indiana to Lincolnway.

This project provides the interceptor sewer required for the construction of Projects 8, 9 and 10.

NOTES:

## Hilltop Area Projects

### Project 8, Morgan Blvd Sewer Extension

This project proposes the construction of a storm sewer north on Morgan Blvd. from Lincolnway to Jefferson, both east and west on Jefferson to Michigan and Garfield, and south on Garfield to Lincolnway.

NOTES:

## Hilltop Area Projects

### Project 9, Michigan Avenue Sewer

This project proposes the construction of a storm sewer on Michigan from Jefferson to Institute, along Institute from Michigan to Morgan Blvd., and along Morgan Blvd. north to Beech Street.

NOTES:

## Hilltop Area Projects

### Project 10, Chicago Street Sewer

This project proposes the construction of a storm sewer on Chicago from Michigan to Greenwich, and along Wood Street from near Franklin Street to Locust Street.

NOTES:

## Individual Projects

### Burlington Beach/ Brentwood Drainage Project

The low point in Burlington Beach Road at Brentwood floods during moderate to heavy rainfalls. This flooding has caused the blocking of the street and has threatened some of the homes in the area. The extent of the project is unknown, as the solution is yet to be determined. It was proposed several years ago to increase the size of the outlet pipe from the low point to handle the increased flow. However, a study (computer modeling) by Stu Walesh showed that this would not solve the problem. A possible solution might involve the construction of a new storm sewer west to Campbell Road to an existing storm sewer. This would only be feasible if and when the north Campbell Road sewer is reconstructed. Note: We have not received any complaints from this area for some time.

**NOTE: COMPLAINTS HAVE INCREASED RECENTLY; PROPERTY DAMAGE MAY HAVE OCCURRED RE THE SEPTEMBER RAINFALL.**

NOTES:

## Individual Projects

### Fairlane Street / Smith Ditch Rear Yard Drain

This project consists of the design and construction of a drain for the rear yards along Smith Ditch to relieve their flooding problem.

Note: we have not had any complaints about problems in this area for several years.

#### NOTES:

## Individual Projects

### Franklin Street (South) Storm Sewer

This project involves constructing a new storm sewer from the Norfolk Southern Railroad south to Crosby Run. The new sewer would replace the existing deteriorated storm sewers. The project should include the construction of new pavement and curb and gutter so as to contain the runoff in the street until it reaches inlet points.

This project should probably not be pursued until the Franklin Street Detention Basin is completed (see Hilltop Area Projects).

### NOTES:

## Individual Projects

### Horseprairie / Sager Run Culvert

This project includes the study of the culvert to ensure its adequacy and condition. It may be replaced as a part of this project. It will be extended to allow pedestrian traffic to pass over it without being in the traffic lane.

NOTE: THE MAJOR STORM IN SEPTEMBER 2008 CAUSED A SIGNIFICANT SINK HOLE AT THIS LOCATION. THE CULVERT IS IN A VERY DETERIORATED CONDITION AND NEEDS TO BE REPLACED IN THE NEAR FUTURE.

#### NOTES:

## Individual Projects

### Hotter Lagoon Spill Protection

This project will consist of the design and construction of BMPs that will help ease impacts from spills on the existing wetlands.

*Note: There was a large oil spill in February 2003 that made its way into Hotter's Lagoon. The oil was quickly contained and remediated costing \$42,011.56. This cost could easily be much higher if other spills occur and no BMPs are in place to alleviate the contaminants from entering the lagoon.*

### NOTES:

## Individual Projects

### Hotter Lagoon “Pond”

This project would consist of the design and construction of modifications to the existing Hotter Lagoon Detention Facility to incorporate more environmentally favorable techniques. These may include excavating a portion of the basin to provide a “wet detention” area that will help with water quality issues. This project, if implemented, is intended to be a showcase and set the standard for future detention facility design in Valparaiso.

A study is the first step required in order to determine what water quality benefits would be realized by implementing the project.

### NOTES:

## Individual Projects

### Kinsey / Stokes Storm Sewer

This project consists of the design and construction of a storm drainage system. A low point exists along Kinsey Street east of Stokes. In the past this low area has collected a large amount of storm runoff which then flows through a rear yard of the lot on the corner. It is proposed that a storm sewer is constructed from the low point, south, on an alignment to be determined, to the wetlands treatment facility.

### NOTES:

Individual Projects

Knode Creek Detention Basin #1  
(Thorgren Basin) Rehabilitation

This project will involve the reevaluation of the existing Thorgren Detention Basin to maximize its usefulness in detaining and cleaning storm water runoff in Knode Creek. The idea for this basin parallels that for Hotter Lagoon.

NOTE: MATT IS WORKING WITH THE SAVE THE DUNES FOUNDATION TO ASSIST WITH FUNDING A STUDY TO DETERMINE THE BASIN'S FEASIBILITY FOR REHABILITATION.

NOTES:

## Individual Projects

### Lind Courts Storm Sewer System

This project will be complete in conjunction with the Knode Creek Detention Basin Number 1 project above. This project will involve the design and construction of a storm sewer system to drain the storm water runoff from the Lind Courts area to Thorgren Pond. This project may involve the use of a BMP such as an interceptor before the water reaches the pond.

*Note: Many of the inlet castings in this area were clogged. This could be the reasoning behind the poor drainage in the area. The city has replaced the castings and is waiting to see how well this improves the drainage in the area.*

### NOTES:

## Individual Projects

### Marks Road Storm Sewer

This project consists of removing and replacing the existing storm sewer system along Marks Road. It will also involve the reconstruction of the roadway itself to install sidewalks and curbs. The estimated cost of the storm drain portion of this project is \$250,000 (OLD NUMBER). It is planned that the road reconstruction and sidewalks will be financed from sources other than the former Storm Water Management Board. This issue is yet to be resolved.

### NOTES:

## Individual Projects

### Milton Street / George Street Drain

This project consists of the design and construction of a storm drainage system to relieve flooding at the intersection of Bond Avenue and Milton Street. Note: We have not received any complaints from this area for some time.

### NOTES:

## Individual Projects

### Napoleon / Haas Street Drainage System

This project consists of the design and construction of a storm drainage system that will separate the combined sewers along these two streets and relieve flooding at the intersection of Haas Street and Napoleon Street.

#### NOTES:

## Individual Projects

### Silver Lake Outlet Control Structure

This project consists of the design and construction of an outlet structure to protect property downstream and upstream.

#### NOTES:

## Individual Projects

### Vale Park Road Drainage System

This project consists of the design and construction of a drainage system along Vale Park Road. The system will be included as a part of the Vale Park Road project. It will probably consist of the construction of sewers along Vale Park Road, and also an outlet sewer from the LaCount/Dean pond south to the storm sewer in Glendale Blvd.

NOTE: THE REDEVELOPMENT COMMISSION HAS PLANNED THE IMPROVEMENT OF VALE PARK ROAD AS A 'MAJOR ENTRANCE' INTO THE CITY. THE DRAINAGE IMPROVEMENTS SHOULD BE A PART OF THAT PROJECT ALONG WITH THE OUTLET TO THE SOUTH.

#### NOTES:

## Individual Projects

### Whitcombs Subdivision Drainage System

This project would be in the area containing Crocket Avenue, Eisenhower Avenue, and Truman Avenue. The project involves the design and construction of a storm water drainage system (storm sewers) for the subdivision. The project will be similar to the Marion Manor project. Storm sewers would supplement existing roadside swales.

Note: There has not been a lot of public pressure to do this project.

### NOTES:

Projects to be Considered for Removal from Plan

Valparaiso Technical Institute Detention Basin

This project involves using the land along State Road 130 and Center Street for a detention facility to eventually separate the combined sewers located on the southwest side of Valparaiso. This project is currently being studied by the Sewage Utility.

NOTE: THE IDEA OF THE PROJECT HELD GREAT MERIT UNTIL THE CONSTRUCTION OF THE APARTMENTS ON CENTER STREET WAS PERMITTED. THAT CONSTRUCTION ELIMINATED A GREAT DEAL OF THE LAND AVAILABLE FOR THE BASIN.

NOTES:

Projects to be Considered for removal from Plan

Chautauqua Park Interceptor Storm Sewers

This project consists of the design and construction of a separate storm sewer system for the Chautauqua Park area. These sewers will drain into the proposed Valpo Tech Detention Basin if it is constructed.

NOTE: WITH THE ELIMINATION OF THE VALPO TECH DETENTION BASIN THE PRIME OUTLET FOR THE PROPOSED INTERCEPTOR SEWERS WAS ELIMINATED.

IT MAY BE POSSIBLE TO DIRECT INTERCEPTOR SEWER(S) TO ANOTHER OUTLET BUT THAT IS NOT APPARENT AT THIS TIME.

NOTES:

Projects to be Considered for Removal from Plan

Forest Park Avenue / Harrison Boulevard Sewer

The existing storm sewer system that drains the existing low point in Forest Park Avenue is suspect in its ability to carry the runoff that collects. During a large storm several years ago the water collected at this location to a depth that threatened the homes in the area. The system should be field located, televised and any deficiencies noted. Those findings would then set the possible alternatives for solutions to any problems.

NOTE: TO THE BEST OF OUR KNOWLEDGE, THERE HAVE BEEN NO APPARENT PROBLEMS AT THIS LOCATION FOR SOME TIME.

NOTES:

Projects to be Considered for Removal from Plan

Urschel/Listenberger Detention Basin  
Study:Enhancement and Acquisition

This project is a study of the possible acquisition of the existing Urschel/Listenberger detention facility to bring it into the city's maintenance program and allow the city to install BMP's as needed to control pollutants currently entering and exiting this pond.

*Note: VLACD is currently exploring the possibility of doing work on the basin as recommended by their Diagnostics Study for the Lakes area. Either project, if implemented, would be a total water quality project.*

NOTE: THE CONSTRUCTION OF THE CUMBERLAND CROSSING DEVELOPMENT HAS APPARENTLY OBTIATED THE NEED TO CONSIDER THE PROPOSED PROJECT(S)

NOTES:

## Completed Projects

### Beauty Creek Oakwood Estates Branch

#### KOBAK RAVINE PHASE 1

New storm sewers and structures have been constructed in and adjacent to Sherwood Drive to direct runoff to the east side of the road into an existing low area. The discharge from this area is restricted from a 36" to an 8" for "normal" rain events.

The continuation of this work consists of the expansion of the detention basin and the protection of the Koback ravine with armoring or some other means.

#### NOTES:

## Completed Projects

### Beauty Creek - Forest Park Branch CLOVER SHEFFIELD

The reconstruction of existing sewers and structures and a drop structure has been completed by the Collections Division at this upper end of the Forest Park Branch of Beauty Creek. This work has eliminated erosion concerns in that area.

Notes from the original project follow:

*Certain repairs are obviously necessary and require little study. These are located at the upstream end of the ravine near the intersection of Clover and Sheffield. Here, the discharges from at least two storm sewers have eroded away significant portions of the upstream end of the ravine. The initial plan is to replace the storm sewers from the ravine to their inlet points at the streets as they appear to be corrugated metal pipe and/or clay tile and are broken and deteriorated. Then, at the ravine, drop structures would be constructed to allow the runoff to drop to the bottom elevation without eroding the stream bed and undermining the banks.*

NOTES:

## Completed Projects

### Burlington Beach Storm Sewer

This project replaced the failing sections of the existing storm sewer along Burlington Beach Road near Victoria Drive. The storm sewer serves Concord Meadows, Kingsridge Subdivision, and the easterly part of Cook's Corners Subdivision. The budgeted cost for this project was \$600,000. The initial contract cost was \$332,629.51. We also paid NIPSCO \$9,678 for the relocations of certain parts of their facilities.

### NOTES:

## Completed Projects

### Horseprairie / Crosby Run Culvert

This project consisted of constructing new culverts under Horseprairie Avenue at Crosby Run. This project was necessary to provide the capacity required for the anticipated runoff volumes from the east, in particular the Union Street Storm Sewer Project. The project is complete. Estimated cost was \$42,000 and the final cost was \$48,526.

### NOTES:

## Completed Projects

### Hospital Storm Sewer (Project 2)

This project branched off from the South Valparaiso Street Sewer and re-constructed the section of the existing Hospital Storm Sewer easterly to the intersection of Garfield and Brown.

### NOTES:

## Completed Projects

### Knode Creek Detention Basin Number 2

This project consisted of the design, acquisition, and construction of detention basin number 2 along Knode Creek in the vicinity of Chicago Street. The contract cost was \$452,290. Project is complete and has functioned well during major storm events.

### NOTES:

## Completed Projects

### Knode Creek/Triangle Intersection Culvert Trash Rack

This project consisted of designing and installing a trash rack over the inlet to the enclosed section of Knode Creek just north of the triangle intersection. The trash rack prevents debris, and possibly people, from being swept into the pipe in large rain events. This project was made part of the Knode Creek Basin No. 2 Project. It is complete.

NOTE: WHILE THE TRASH RACK PREVENTS CERTAIN PROBLEMS IT ALSO PRESENTS MAINTENANCE REQUIREMENTS REGARDING CLEANING ESPECIALLY DURING MAJOR RAIN EVENTS.

#### NOTES:

## Completed Projects

### Marian Manor Drainage System

The existing drainage system in Marion Manor consisted of swales, ditches, and culverts. There were storm sewers in some areas. This project consisted of studying and documenting problem areas, constructing storm sewers, cleaning and/or deepening swales and ditches, constructing new swales and ditches in needed areas, and enlarging or adding culverts under certain areas. The estimated cost of this project was \$330,000 and the contract cost was \$272,991.00.

### NOTES:

## Completed Projects

### South Valparaiso Street Sewer (Project 1A)

This project constructed the main interceptor storm sewer from Morgan Blvd. east to Valparaiso Street and then north to Lincolnway. It provides the spine for future branch sewers to be constructed.

#### NOTES:

## Completed Projects

### Stimson Drain Watershed Projects

The City was the recipient of several grants through the Lake Michigan Coastal Program. The grants funded the study and design of conventional and alternative BMPs for use in the watershed and the design and construction of a demonstration project of alternative BMPs at the Porter County Jail site.

### NOTES:

## Completed Projects

### Valparaiso Street Phase 1

This project consisted of construction of a new roadway, and new storm and sanitary sewers along Valparaiso Street and Evans Avenue from Calumet through Glendale. The project will have a significant impact on the City's combined sewer system by re-routing storm water toward the Fairgrounds Park detention facility. It will also allow future extensions of the storm sewers both west and east from Valparaiso Street. The estimated total project cost is \$3,600,000. The Storm Water Management Board contributed \$500,000 toward this project.

### NOTES: