

An XP-SWMM hydrology and hydraulic analysis was conducted for the Williston Basin in Wheaton, DuPage County, Illinois, to evaluate the performance of the existing stormwater management system and determine which residential structures and accessory structures may be at risk of flooding. This report describes the calculation methodology used to establish the “existing condition”, describes efforts to calibrate the model to known high water marks, and presents a summary of results.

Williston Basin Calculation Methodology

XP-SWMM is a dynamic stormwater management model that computes runoff hydrographs and routes the hydrographs through a series of hydraulic and hydrologic elements including storm sewers, storm sewer inlets, depressional storage areas, and overland flow routes. The dynamic program models storm flow throughout an entire storm event (and not just at a single point in time corresponding to a peak condition, as is done with static models.) The program allows stormwater runoff to “choose” its route based on the elevation and capacity in the conveyance system. For example, runoff entering a manhole would first flow downstream through a pipe, but once the pipe reaches capacity and surcharges, any additional inflow would surcharge and either be stored at the surface or flow downstream via an overland flow route, depending on the specific physical properties of the location.

XP-SWMM models both hydrology and hydraulics.

Hydrology was modeled using the SCS method, which uses a hydrograph routing technique and input parameters as described below. This method is similar to hydrograph routing performed in TR-20 or HEC-1.

- Subbasin areas tributary to the Williston Basin, which were delineated using DuPage County 2-foot contour mapping supplemented with surveyed topography;
- Runoff Curve Numbers, which were established using standard SCS methodology based on a review of aerial photos;
- Times of Concentration, which were established using standard SCS methodology based on DuPage County 2-foot contour mapping;
- Rainfall depths and distributions based on the Blockhouse Rain Station gage record as provided by the City of Wheaton;

XP-SWMM modeled hydraulics based on user input of the stormwater management system.

- Storm sewers were defined based on atlas and GIS data provided by the City of Wheaton.
- Depressional storage areas were defined using DuPage County 2-ft topographic mapping and V3 survey where applicable.
- Weirs and swales were used to define overland flow routes based on 2-ft topographic mapping from DuPage County and V3 survey.
- Storm sewer inlets in sags in critical areas were modeled as depressional storage areas.



Storm sewers, inlets, and overland flow paths were all input to the same XP-SWMM model to enable flow to seek the “route of least resistance”, and to determine locations where flooding is expected to occur.

The XP-SWMM model represents the main conveyance routes. Not every single segment of sewer or every inlet was modeled; some storm sewer segments were combined in the model to simplify the XP-SWMM model and enable the model to converge to a solution.

The downstream boundary condition (tailwater condition) was established using a recorded gage record at Lake A located at the southeast corner of Prospect Street and Coolidge Avenue in Wheaton. The gage recorded water surface elevation versus time for the storm events that were analyzed, to provide a continuous and varied tailwater record.

Two storm events were analyzed for calibration purposes:

- The July, 2010 storm, which produced 6.67 inches of rainfall over 12 hours and represents the 1% annual chance storm frequency (i.e., 100-year storm).
- The July, 2011 storm, which represents the 10% annual chance storm frequency (i.e., 10-year storm). The July, 2011 storm included two separate periods of rain that produced a total of 3.32 inches of rainfall over 18.5 hours; the second period of rain produced rainfall as strong as 2.26 inches in 1 hour which represents a storm with an annual chance of occurrence between a 10% chance and 5% chance. In total, the 18.5 hour July, 2011 storm represents the 10% annual chance storm.
- Both storms were modeled using the Blockhouse Precipitation Gage. The Blockhouse Gage is located on Lorraine just south of Pershing in close proximity to the project site.

Exhibit 1.0 provides a graphic representation of the XPSWMM model, including subbasin delineation, flow direction, XPSWMM node IDs, and hydrologic input parameters.

Calibration

The simulated model results were compared to high water marks recorded in the watershed. Two recorded high water marks (HWMs) were located within the project area.

1. A debris line was observed in a photograph taken at approximately 9:00 AM on July 24, 2010. It is likely that the peak of the storm event happened a few hours earlier around 6:30am. The location of this debris line was later surveyed with an elevation of 757.40. The debris line is located approximately 100 feet north of structure 46 within Williston Street and applies to the elevations associated with the Kipling and Williston bottoms.
2. A photo was taken between 418 and 422 Byron that indicated the high water mark was approximately 4” below the northwest corner of 422 Byron. V3 Survey shows a spot elevation of 760.01 at this point, so the high water mark has an elevation of approximately 759.67.

Typically, a difference of less than six inches is desirable when comparing simulated versus measured high water marks for high water marks of the highest level of



confidence (such as a gage record). A larger tolerance is acceptable for high water marks with lower levels of confidence.

The initial results simulated elevations that were higher than the recorded elevations and several variables were adjusted in an attempt to reduce these elevations to match the recorded values more closely. Below is a description of the attempts that were made to calibrate this model.

The hydrograph peak shape factor was adjusted. The default shape factor is 484; this was adjusted to a value as low as 200 in an attempt to calibrate the model, following XP-SWMM and NEH-4 methodology. Based on this adjustment, there was no significant change in the simulated water surface elevations in the locations identified above for calibration. The standard hydrograph peak shape factor (484) was used in subsequent simulations.

The rainfall data provided by the City included data from 4 different rain gages. Two of the gages produced a total rainfall depth in excess of the 1% annual chance event (Willow Rain Gage – 6.98” and Blockhouse Rain Gage – 6.67”). In an attempt to calibrate the model, rainfall from the Blockhouse Gage (6.67” total rainfall) was used due to its proximity to the project site and that fact that it has less total rainfall and will result in lower water surface elevations. The other 2 gages were significantly further away from the project site and were not considered. Using the Blockhouse data resulted in lower water surface elevations than the Willow data, but the values were still higher than the recorded HWMs.

Downstream data for Lake A provided by the City of Wheaton was used for the boundary condition (tailwater) at the pipe outfall. Areas downstream of the project area that are tributary to the trunk line were included in the XPSWMM model. Calibration efforts included modeling these storm lines to provide a hydraulic grade line through these lines that is as accurate as possible. For example, the model provides a “big picture” representation of the downstream trunk sewer without modeling every discrete segment of pipe. However, rim elevations of every discrete pipe segment were reviewed and the XPSWMM model was adjusted to use the lowest rim elevation on each segment of modeled pipe. This allows the model to surcharge at the same elevation it would surcharge in the field.

As a test of the model’s sensitivity to the tailwater condition, the model was run with a boundary condition equal to normal depth at the outfall, rather than the Lake A gage information. The results of this simulation showed that the elevations at the calibration points were not significantly impacted (<0.1’) and showed that the model is not sensitive to the tailwater condition.

The storm sewer that runs towards the Williston Basin within Williston Avenue can reverse the flow and leave the basin if the water surface downstream exceeds 751.64. This 18” storm sewer was included in the model to accurately define the storm sewer system and helped by reducing the water levels in the Williston and Kipling bottoms.

Anecdotally, the City provided information that suggests that structure 167 (in the backyard between 418 and 422 Williston) repeatedly surcharges during large storm



events. The XPSWMM simulations suggest that this structure will surcharge during the 1% and 10% annual chance events.

Final calibration results for the July 2010 storm (100-year storm) are shown below in Table 1.

Table 1 – Calibration Results

Location	Measured High Water Mark	Simulated High Water Mark	Difference (Simulated – Measured) (ft)
Kipling Bottom	757.40	759.58	+2.18
Williston Bottom	757.40	759.58	+2.18
422 Byron	759.67	759.90	+0.23

As shown, the simulated water elevation at 422 Byron matches closely to the measured HWM. The model appears to be calibrated at this location. However, the model is simulating an elevation that is over two feet higher than the measured elevation at Kipling and Williston.

To simulate a high water level that more closely matches the measured HWM, the rainfall record was adjusted to produce lower amounts of precipitation. With a total of 4.33 inches of rainfall (65% of the 6.67 inches of rainfall measured at the Blockhouse gage), the simulated water elevation at the Kipling and Williston Bottom is 758.0, and the simulated elevation at 422 Byron would be 759.29. The Blockhouse and Willow rain gages recorded similar amounts of rain, so V3 does not believe the rain gage data is in question. To produce a closer match at Williston and Kipling, an equivalent of 2.3 inches of rain would need to be removed from the system. The model at Williston and Kipling includes storm sewers to remove water from the bottoms, based on the storm sewer atlas information provided by the City. If an unidentified underdrain system exists to remove water from the bottoms, that could result in lower water surface elevations. V3's model is limited to the data received from the City and the V3 survey.

Because the model appears calibrated at 422 Byron, and because removing 2.3 inches (35%) of rain from the system would require significant adjustments to model parameters, V3 believes the debris line used to produce the HWM at Kipling and Williston may not reflect the true high water mark that occurred during the storm.

XPSWMM Results

After accepting the model as “calibrated”, the model was run to analyze the critical duration. The model was run to include the 1, 2, 5, 10, 25, 50, and 100 year storm events for the 1, 2, 3, 6, 12, 18, and 24 hour durations.

The XPSWMM model results were used to create the Inundation and At Risk Structure Map (Exhibit 2.0). A complete record of XPSWMM results are included in the electronic transmission of project files. A description of the depressional areas is included below and is followed by a summary of the results. The summary includes Table 2 which shows Key Elevations from the XPSWMM Model that were used for our Inundation Exhibit and for identifying at-risk structures. Tables 3a and 3b presents a complete list of At-Risk Structures.



Depressional Area 1 (XPSWMM ID: ST 5A)

Depressional Area 1 is located on Indiana, just east of Chase Avenue and has a tributary area of 0.116 acres from ST 1 and 1.634 acres from ST 2. It fills to the elevations shown in Table 2 and discharges via a 10" pipe to the east. There is an overflow at 772.60 to the south that runs between 718 and 722 Indiana where it will fill Depressional Area 3 (Storage 1). This overflow point is engaged in the 1% and 2% chance storm events.

Depressional Area 2 (XPSWMM ID: ST 11)

Depressional Area 2 is located on Evergreen, just east of Chase Avenue and has a tributary area of 2.302 acres. It fills to the elevations shown in Table 2 and discharges via a 10" pipe to the east. There is an overflow at 772.65 to the west at the intersection of Chase and Evergreen where flow will discharge out of the Williston Basin. This overflow point is engaged in the 1% chance storm event.

Depressional Area 3 (XPSWMM ID: Storage 1)

Depressional Area 3 is located in the backyards between Indiana and Evergreen, just east of Chase Avenue and has a tributary area of 2.910 acres and also accepts flow from Depressional Area 1 as described above. It fills to the elevations shown in Table 2 and discharges via an overflow at an elevation of 772.91 behind 813 Evergreen and continues east in the backyards between Indiana and Evergreen. A 4" field tile drain was also modeled to drain in this basin. The overflow elevation was not engaged in any storm event modeled.

Depressional Area 4 (XPSWMM ID: Storage 2)

Depressional Area 4 is located in the backyards between Indiana and Illinois, just east of Chase Avenue. It has a tributary area of 2.350 acres and does not accept flow from any other depressional area. It fills to the elevations shown in Table 2 and discharges via an overflow at an elevation of 771.91 behind 829 Indiana and continues between 829 and 903 Indiana onto Indiana Street. A 4" field tile drain was also modeled to drain in this basin. The overflow elevation was not engaged in any storm event modeled.

Depressional Area 5 (XPSWMM ID: ST 151)

Depressional Area 5 is located on President Street between Indiana and Evergreen. It has a tributary area of 3.245 acres from ST 155 and 5.933 acres from ST 9 as well as any other upstream area piped to this location. It fills to the elevations shown in Table 2 and discharges via a 15" pipe to the south and has an overflow to the east at an elevation of 763.75 between 507 and 511 President. The overflow elevation is engaged in the 10% to 1% chance storm events.

Depressional Area 6 (XPSWMM ID: ST 25A)

Depressional Area 6 is located at the Kipling Bottom and has a tributary area of 5.087 acres and also receives overflow runoff from Depressional Areas 5 and 7. It fills to the elevations shown in Table 2 and discharges via a 10" pipe to the south and has an



overflow to the east (to Depressional Area 7) at an elevation of 757.74 between 515 and 519 Kipling. The overflow elevation is engaged in the 20% to 1% chance storm events.

Depressional Area 7 (XPSWMM ID: ST 44)

Depressional Area 7 is located at the Williston Bottom and has a tributary area of 5.778 acres and also receives overflow runoff from Depressional Area 6. It fills to the elevations shown in Table 2 and discharges via a 10" pipe to the south and has an overflow to the west (to Depressional Area 6) at an elevation of 757.74 between 515 and 519 Kipling. The overflow elevation is engaged in the 10% to 1% chance storm events.

Depressional Area 8 (XPSWMM ID: Storage 3)

Depressional Area 8 is located in the backyards between Williston and Byron, approximately 300 feet south of Illinois. It has a tributary area of 1.535 acres and also receives runoff from ST 55B via surcharging of a 6" storm sewer draining the basin. It fills to the elevations shown in Table 2 and discharges via the 6" field drain pipe to the east and has an overflow to the west (to Depressional Area 7) at an elevation of 759.85 between 503 and 507 Williston. The overflow elevation is engaged in the 10% to 1% chance storm events.

Depressional Area 9 (XPSWMM ID: ST 55B)

Depressional Area 9 is located on Byron approximately 300 feet south of Illinois and has a tributary area of 3.196 acres and also receives runoff from Depressional Area 8 via the 6" storm sewer draining the basin. It fills to the elevations shown in Table 2 and discharges via a 36" pipe to the south and has an overflow to the west (to Depressional Area 8) at an elevation of 763.23 between 418 and 422 Byron. The overflow elevation was not engaged in any storm event modeled but, as stated above, flow makes it to Depressional Area 8 via the 6" storm sewer surcharging the backyards.

Depressional Area 10 (XPSWMM ID: ST 68)

Depressional Area 10 is located at Illinois and Blanchard and has a total tributary area of 36.043 acres from all areas upstream. It fills to the elevations shown in Table 2 and discharges via a 36" pipe to the west and has an overflow to the west at an elevation of 764.39 at the intersection of Illinois and Byron between 418 and 422 Byron. The overflow elevation was not engaged in any storm event modeled.

Conclusion

V3 has completed a hydrology and hydraulic analysis of the Williston Basin Tributary Area to evaluate the critical high water elevations and at-risk structures which exist in this area. We have determined that sixty six (66) structures, including single family homes, garages and sheds, will be impacted during the 1% chance storm event. The attached tables and exhibits provide the details regarding depth of flooding during each storm event and the location of each at-risk structure.



Table 2: Summary of High Water Elevations

Depressional Area	XPSW/MM ID	1 year		2 year		5 year		10 year		25 year		50 year		100 year	
1	ST 5A	766.845	2hr	766.938	1hr	768.635	2hr	771.197	2hr	772.523	2hr	772.729	2hr	772.804	2hr
2	ST 11	766.175	2hr	766.388	2hr	767.844	2hr	769.551	2hr	771.755	2hr	772.596	2hr	772.833	2hr
3	Storage 1	767.849	12hr	768.165	12hr	768.544	12hr	768.831	12hr	769.229	24hr	769.571	24hr	769.924	24hr
4	Storage 2	769.506	3hr	769.706	12hr	770.042	12hr	770.313	12hr	770.724	12hr	771.042	12hr	771.392	12hr
5	ST 151	763.921	3hr	760.509	2hr	763.419	2hr	763.901	2hr	764.006	1hr	764.11	1hr	764.216	1hr
6	ST 25A	755.891	3hr	756.303	2hr	757.813	2hr	758.076	3hr	758.658	3hr	759.082	3hr	759.619	6hr
7	ST 44	755.188	2hr	756.31	2hr	757.311	2hr	758.076	3hr	758.658	3hr	759.082	3hr	759.619	6hr
8	Storage 3	756.894	2hr	757.269	2hr	759.384	2hr	759.856	3hr	759.921	2hr	759.94	3hr	759.967	2hr
9	ST 55B	753.917	2hr	756.798	2hr	760.149	2hr	761.001	2hr	761.909	2hr	762.547	2hr	763.162	2hr
10	ST 68	754.489	2hr	757.165	2hr	760.744	2hr	761.504	2hr	762.458	2hr	763.095	2hr	763.719	2hr



WILLISTON BASIN TRIBUTARY AREA FLOOD STUDY
Table 3a: STRUCTURE INFORMATION TABLE

Address	Type	Finished Floor Elevation	Low Opening Elevation	Lowest Grade Adjacent to Low Opening	Low Opening Description	Basement? (Yes/No)	Lowest Grade Adjacent to Structure	Highest Adjacent Overflow Elevation from Subbasin	Critical At Risk Elevation	Critical 100-year Elevation
717 Evergreen St	Existing Residence	776.17	774.00	774.00	Window Well (East)	Yes	772.02	772.65	774.00	772.833
723 Evergreen St	2 Story Frame Residence	775.39	772.32	773.40	Window Sill (W)	Yes	771.04	772.65	773.40	772.833
727 Evergreen St	1 Story Frame Residence	775.36	772.41	773.39	Window Sill (W)	Yes	772.04	772.65	773.39	772.833
714 E Indiana St	2 Story Frame Residence	777.28	773.77	772.95	Window Sill (E)	Yes	772.22	772.91	773.77	769.924
	Existing Garage	773.79	773.79	773.79	Garage Finished Floor	No	769.22	772.91	773.79	769.924
	Shed	770.41	770.41	N/A	Finished Floor Elevation	No	770.41	772.91	770.41	769.924
	1 Story Frame Residence	774.26	771.12	770.31	Window Sill (S)	Yes	768.53	772.91	771.12	769.924
722 E Indiana St	Frame Garage	773.20	N/A	N/A	Finished Floor	No	768.50	772.91	773.20	769.924
	Shed on Timbers	767.88	N/A	N/A	FFE = Ground +4 Inches for Timbers	No	N/A	772.91	767.88	769.924
	Shed on Timbers	767.55	N/A	N/A	FFE = Ground +4 Inches for Timbers	No	N/A	772.91	767.55	769.924
	1 Story Frame Residence	774.23	771.47	771.18	Window Sill (East)	Yes	769.99	772.91	771.47	769.924
726 E Indiana St	Frame Garage	772.39	N/A	N/A	Garage Finished Floor	No	770.21	772.91	772.39	769.924
	Shed, No Floor	767.40	N/A	N/A	FFE = Nearest Ground Elev	No	N/A	772.91	767.40	769.924
	1 Story Brick Residence	769.08	769.08	769.08	Finished Floor (South)	Yes	768.93	772.91	769.08	769.924
804 E Indiana St	Attached Garage	768.91	768.91	768.91	Garage Finished Floor	No	768.91	772.91	768.91	769.924
812 E Indiana St	Frame Residence	778.43	775.73	775.73	Window Sill (W)	Yes	775.73	772.91	775.73	769.924
	Frame Garage	775.25	N/A	N/A	Finished Floor	No	N/A	772.91	775.25	769.924
818 E Indiana St	Frame Residence	777.06	773.85	777.06	Basement Stairwell	Yes	773.85	772.91	777.06	769.924
	Frame Garage	775.62	N/A	N/A	Finished Floor	No	N/A	772.91	775.62	769.924
822 Indiana St	Frame Garage	775.10	N/A	N/A	Garage Finished Floor	No	774.44	772.91	775.10	769.924
809 Evergreen St	Frame Garage	775.46	N/A	N/A	Finished Floor	No	N/A	772.91	775.46	769.924
813 Evergreen St	Frame Garage	776.01	N/A	N/A	Finished Floor	No	775.50	772.91	776.01	769.924
823 Evergreen St	Frame Garage	773.83	N/A	N/A	Finished Floor	No	772.38	772.91	773.83	769.924
823 Evergreen St	Frame Shed	771.67	N/A	N/A	FFE = Ground +4 Inches for Timbers	No	771.34	772.91	771.67	769.924

Address	Type	Finished Floor Elevation	Low Opening Elevation	Lowest Grade Adjacent to Low Opening	Low Opening Description	Basement? (Yes/No)	Lowest Grade Adjacent to Structure	Highest Adjacent Overflow Elevation from Subbasin	Critical At Risk Elevation	Critical 100-year Elevation
829 Indiana St	Frame Residence	773.49	771.07	772.00	Window Sill (N)	Yes	772.00	771.91	772.00	771.392
	Frame Garage	772.46	N/A	N/A	Garage Finished Floor	No	771.21	771.91	772.46	771.392
	Frame Shed	771.56	N/A	N/A	Finished Floor (Ground Elevation)	No	771.21	771.91	771.56	771.392
903 Indiana St	Frame Residence	771.88	770.90	771.88	Window Sill (N)	Yes	771.88	771.91	771.88	771.392
	Frame Garage	772.00	N/A	N/A	Finished Floor	No	771.73	771.91	772.00	771.392
	Wood Shed	772.81	N/A	N/A	Finished Floor (Ground Elevation)	No	772.23	771.91	772.81	771.392
907 Indiana St	Frame Garage	773.12	N/A	N/A	Garage Finished Floor	No	772.60	771.91	773.12	771.392
	Existing Residence	773.80	773.80	773.37	Finished Floor Elevation	No	772.50	771.91	773.80	771.392
	Attached Garage	773.57	N/A	N/A	Garage Finished Floor	No	773.57	771.91	773.57	771.392
808 Illinois St	Shed	774.26	N/A	N/A	Finished Floor (Ground Elevation)	No	N/A	771.91	774.26	771.392
	Existing Residence	776.56	768.80	773.80	Stairwell (S)	Yes	773.37	771.91	773.80	771.392
	Attached Garage	774.40	N/A	N/A	Garage Finished Floor	No	774.40	771.91	774.40	771.392
814 Illinois St	Shed	772.28	N/A	N/A	Finished Floor (Ground Elevation)	No	N/A	771.91	772.28	771.392
	Existing Residence	778.01	775.22	774.84	Window Well (S)	Yes	774.42	771.91	775.22	771.392
	Attached Garage	777.22	N/A	N/A	Garage Finished Floor	No	777.22	771.91	777.22	771.392
828 Illinois St	Existing Frame Shed	772.23	N/A	N/A	Finished Floor	No	771.55	771.91	772.23	771.392
	Existing Residence	774.04	N/A	N/A	Finished Floor Elevation	No	772.60	771.91	774.04	771.392
	Shed	770.39	N/A	N/A	Finished Floor (Ground Elevation)	No	N/A	771.91	770.39	771.392
819 Indiana St	Existing Residence	775.12	772.19	772.53	Window Sill (NW)	Yes	772.53	771.91	772.53	771.392
	Existing Garage	773.35	N/A	N/A	Garage Finished Floor	No	771.87	771.91	773.35	771.392
	Existing Residence	773.16	770.35	772.56	Window Sill (NW)	Yes	772.32	771.91	772.56	771.392
825 Indiana St	Existing Garage	772.61	N/A	N/A	Garage Finished Floor	No	771.85	771.91	772.61	771.392
	2 Story Frame Residence	764.87	761.03	764.62	Finished Floor Lower Level	Yes	763.65	757.74	764.62	759.619
	Attached Garage	764.63	764.63	764.63	Attached Garage Finished Floor	No	N/A	763.75	764.63	764.216
507 S President St	1 Story Brick Residence	767.26	764.00	764.00	Window Sill (N)	Yes	763.48	763.75	764.00	764.216
	Frame Garage	761.90	N/A	N/A	Finished Floor (Spot Elevations)	No	760.51	757.74	761.90	759.619
	1 Story Brick Residence	767.89	763.71	763.35	Window Sill (NW)	Yes	759.80	763.75	763.71	764.216
511 S President St	Frame Garage	763.66	N/A	N/A	Finished Floor	No	760.70	757.74	763.66	759.619
	1 Story Brick Residence	768.45	763.96	763.61	Window Sill (N)	Yes	763.43	763.75	763.96	764.216
	Frame Garage	763.86	N/A	N/A	Finished Floor	No	759.65	757.74	763.86	759.619

Table 3a: Structure Information Table

Address	Type	Finished Floor Elevation	Low Opening Elevation	Lowest Grade Adjacent to Low Opening	Low Opening Description	Basement? (Yes/No)	Lowest Grade Adjacent to Structure	Highest Adjacent Overflow Elevation from Subbasin	Critical At Risk Elevation	Critical 100-year Elevation
511 Kipling Ct	Existing Residence	762.08	757.27	759.71	Finished Floor Downstairs	Yes	759.66	757.74	759.71	759.619
	Attached Garage	760.53	N/A	N/A	Attached Garage Finished Floor	No	760.37	757.74	760.53	759.619
515 Kipling Ct	Existing Residence	759.52	759.52	759.10	Finished Floor	No	758.03	757.74	759.52	759.619
	Attached Garage	759.24	N/A	N/A	Attached Garage Finished Floor	No	759.16	757.74	759.24	759.619
519 Kipling Ct	Shed	758.14	N/A	N/A	Finished Floor (Ground Elevation)	No	758.12	757.74	758.14	759.619
	Existing Residence	759.13	758.46	757.50	Window Sill (W)	Yes	757.50	757.74	758.46	759.619
523 Kipling Ct	Shed	757.48	N/A	N/A	Finished Floor (Ground Elevation)	No	757.19	757.74	757.48	759.619
	Existing Residence	763.09	754.99	758.66	Top of Steps (E)	Yes	757.80	757.74	758.66	759.619
529 Kipling Ct	Existing Residence	761.03	758.06	757.84	Window Sill (E)	Yes	757.77	757.74	758.06	759.619
	Attached Garage	758.41	N/A	N/A	Attached Garage Finished Floor	No	758.36	757.74	758.41	759.619
1103 Evergreen St	Existing Residence	761.30	757.97	757.17	Window Sill (W)	Yes	756.65	757.74	757.97	759.619
	Attached Garage	759.18	N/A	N/A	Attached Garage Finished Floor	No	N/A	757.74	759.18	759.619
506 Kipling Ct	Shed	759.65	N/A	N/A	Top of Concrete	No	759.01	757.74	759.65	759.619
510 Kipling Ct	Existing Residence	761.10	756.90	759.76	Finished Floor Downstairs	Yes	758.34	757.74	759.76	759.619
	Existing Residence	760.28	757.34	758.17	Window Sill (S)	Yes	758.04	757.74	758.17	759.619
514 Kipling Ct	Existing Garage	758.31	N/A	N/A	Finished Floor	No	757.72	757.74	758.31	759.619
	Existing Residence	759.39	756.47	758.16	Window Sill (S)	Yes	757.49	757.74	758.16	759.619
522 Kipling Ct	Existing Residence	759.12	756.21	757.50	Window Sill (S)	Yes	757.20	757.74	757.50	759.619
	Existing Garage	758.29	N/A	N/A	Garage Finished Floor	No	757.11	757.74	758.29	759.619
528 Kipling Ct	Existing Residence	758.79	755.68	756.93	Window Sill (S)	Yes	756.88	757.74	756.93	759.619
	Existing Garage	757.00	N/A	N/A	Finished Floor	No	756.41	757.74	757.00	759.619
1015 Evergreen St	Existing Residence	759.27	756.26	756.65	Window Sill (N)	Yes	756.65	757.74	756.65	759.619
	Existing Garage	757.73	N/A	N/A	Finished Floor	No	759.76	757.74	757.73	759.619

Table 3a: Structure Information Table

Address	Type	Finished Floor Elevation	Low Opening Elevation	Lowest Grade Adjacent to Low Opening	Low Opening Description	Basement? (Yes/No)	Lowest Grade Adjacent to Structure	Highest Adjacent Overflow Elevation from Subbasin	Critical At Risk Elevation	Critical 100-year Elevation
419 Williston St	Shed	759.00	N/A	N/A	Finished Floor (Read from Spot Elevations)	No	758.86	759.85	759.00	759.967
423 Williston St	Existing Residence	761.95	757.39	760.25	Finished Floor Downstairs	Yes	760.25	759.85	760.25	759.967
	Existing Garage	759.80	N/A	N/A	Finished Floor	No	759.02	759.85	759.80	759.967
	Existing Residence	761.88	759.46	758.51	Window Sill (E)	Yes	758.30	757.74	759.46	759.619
503 Williston St	Attached Garage	760.11	N/A	N/A	Attached Garage Finished Floor	No	759.91	757.74	760.11	759.619
	Existing Residence	761.45	758.75	759.06	Window Sill (N)	Yes	758.42	757.74	759.06	759.619
	Attached Garage	759.41	N/A	N/A	Attached Garage Finished Floor	No	759.31	757.74	759.41	759.619
511 Williston St	Shed	761.03	N/A	N/A	Finished Floor (Ground Elevation)	No	760.58	757.74	761.03	759.619
	Existing Residence	762.25	759.64	759.17	Window Sill (S)	Yes	759.11	757.74	759.64	759.619
	Existing Garage	761.19	N/A	N/A	Finished Floor	No	760.77	757.74	761.19	759.619
515 Williston St	Existing Residence	759.25	758.80	759.06	Window Sill (N)	Yes	758.25	757.74	759.06	759.619
	Existing Garage	760.91	N/A	N/A	Finished Floor	No	N/A	757.74	760.91	759.619
	Existing Garage	763.46	N/A	N/A	Garage Finished Floor	No	N/A	759.85	763.46	759.967
414 Byron Ct	Existing Residence	765.61	761.40	760.60	Window Sill (W)	Yes	760.01	759.85	761.40	759.967
	Existing Garage	763.02	N/A	N/A	Garage Finished Floor	No	760.36	759.85	763.02	759.967
	Existing Residence	764.97	762.18	761.37	Window Sill (W)	Yes	761.26	759.85	762.18	759.967
418 Byron Ct	Shed	758.70	N/A	N/A	Finished Floor (Ground Elevation)	No	N/A	759.85	758.70	759.967
	Existing Residence	765.53	762.23	761.40	Window Sill (S)	Yes	760.01	759.85	762.23	759.967
	Attached Garage	763.90	N/A	N/A	Attached Garage Finished Floor	No	763.59	759.85	763.90	759.967
502 Byron Ct	Existing Residence	N/A	N/A	N/A	N/A	N/A	N/A	759.85	N/A	759.967
	Existing Garage	764.64	N/A	N/A	Finished Floor	No	761.00	759.85	764.64	759.967
	Existing Garage	764.31	N/A	N/A	Garage Finished Floor	No	761.84	759.85	764.31	759.967
502 Williston St	Existing Residence	762.15	761.37	759.64	Window Sill (S)	Yes	759.25	757.74	761.37	759.619
	Existing Garage	760.88	N/A	N/A	Garage Finished Floor	No	760.65	757.74	760.88	759.619
	Existing Residence	759.21	758.22	757.61	Finished Floor Elevation	Yes	757.61	757.74	758.22	759.619
506 Williston St	Existing Garage	758.89	N/A	N/A	Garage Finished Floor	No	758.55	757.74	758.89	759.619
	Existing Residence	758.43	757.59	757.03	Window Sill (W)	Yes	756.73	757.74	757.59	759.619
	Existing Garage	757.29	N/A	N/A	Garage Finished Floor	No	756.81	757.74	757.29	759.619
514 Williston St	Existing Residence	758.55	757.75	756.63	Window Sill (E)	Yes	757.35	757.74	757.75	759.619
	Existing Garage	757.68	N/A	N/A	Garage Finished Floor	No	757.05	757.74	757.68	759.619
	Existing Residence	760.21	759.39	758.63	Window Well Rim (W)	Yes	758.50	757.74	759.39	759.619
518 Williston St	Existing Garage	758.83	N/A	N/A	Garage Finished Floor	No	757.72	757.74	758.83	759.619
	Existing Residence	760.65	760.65	760.65	Finished Floor Elevation	Yes	758.69	757.74	760.65	759.619
	Existing Garage	758.23	N/A	N/A	Garage Finished Floor	No	757.38	757.74	758.23	759.619
522 Williston St	Shed	757.47	N/A	N/A	Finished Floor (Ground Elevation)	No	N/A	757.74	757.47	759.619
	Existing Residence	761.08	757.37	759.12	Door on West	Yes	759.12	757.74	759.12	759.619
	Existing Garage	759.21	N/A	N/A	Garage Finished Floor	No	757.91	757.74	759.21	759.619
1119 Evergreen St	Existing Residence	760.61	760.61	760.61	Window Well (East)	Yes	759.20	757.74	760.61	759.619

Table 3a: Structure Information Table

Address	Type	Finished Floor Elevation	Low Opening Elevation	Lowest Grade Adjacent to Low Opening	Low Opening Description	Basement? (Yes/No)	Lowest Grade Adjacent to Structure	Highest Adjacent Overflow Elevation from Subbasin	Critical At Risk Elevation	Critical 100-year Elevation
407 Byron Ct	Existing Residence	765.24	765.24	764.94	Window Well (East) (See Note 3)	Yes	764.37	764.39	765.24	763.719
	Shed	764.18	N/A	N/A	Finished Floor (Read from Spot Elevations)	No	764.18	764.39	764.18	763.719
1304 Illinois St	Existing Residence	764.80	764.80	764.48	Finished Flood Elevation	No	764.15	764.39	764.80	763.719
	Attached Garage	764.74	764.74	764.74	Garage Finished Floor	No	764.74	764.39	764.74	763.719
402 Blanchard St	Existing Residence	764.04	761.93	761.93	Window Well (SE) (See Note 4)	Yes	762.04	764.39	761.93	763.719
	Existing Garage	762.97	N/A	N/A	Garage Finished Floor (from Spot)	No	762.97	764.39	762.97	763.719
406 Blanchard St	Existing Residence	763.97	762.23	762.23	Window Well (W) (See Note 4)	Yes	761.51	764.39	762.23	763.719
	Existing Garage	762.52	N/A	N/A	Garage Finished Floor	No	762.52	764.39	762.52	763.719
410 Blanchard St	Existing Residence	765.91	763.57	763.57	Window Well (S) (See Note 4)	Yes	763.57	764.39	763.57	763.719
	Existing Garage	764.31	N/A	N/A	Garage Finished Floor	No	764.31	764.39	764.31	763.719
1402 Illinois St	Existing Residence	761.03	761.03	761.03	Finished Flood Elevation	No	760.38	764.39	761.03	763.719
	Existing Garage	760.91	N/A	N/A	Garage Finished Floor	No	760.91	764.39	760.91	763.719
407 Blanchard St	Existing Residence	762.95	761.22	761.22	Window Well (N) (See Note 4)	Yes	761.11	764.39	761.22	763.719
	Existing Residence	765.26	763.51	763.51	Window Well (East) (See Note 4)	Yes	763.49	764.39	763.51	763.719
413 Blanchard St	Shed	761.34	N/A	N/A	Finished Floor (Read from Spot Elevations)	No	761.34	764.39	761.34	763.719
	Existing Residence	764.67	762.22	762.22	Window Well (W) (See Note 4)	Yes	762.14	764.39	762.22	763.719
402 Summit St	Attached Garage	762.77	N/A	N/A	Garage Finished Floor	No	762.51	764.39	762.77	763.719
	Existing Residence	766.46	763.16	763.16	Window Well (N) (See Note 4)	Yes	762.15	764.39	763.16	763.719
408 Summit St	Attached Garage	763.87	N/A	N/A	Garage Finished Floor	No	763.71	764.39	763.87	763.719
	Existing Residence	765.83	763.31	763.31	Window Well (N) (See Note 4)	Yes	763.10	764.39	763.31	763.719
412 Summit St	Existing Garage	763.61	N/A	N/A	Garage Finished Floor	No	762.80	764.39	763.61	763.719
	Shed	762.08	N/A	N/A	Finished Floor (Read from Spot Elevations)	No	762.08	764.39	762.08	763.719
416 Summit St	Existing Residence	765.50	762.94	762.94	Window Well (W) (See Note 4)	Yes	762.85	764.39	762.94	763.719
	Attached Garage	764.37	N/A	N/A	Garage Finished Floor	No	764.00	764.39	764.37	763.719
322 Blanchard St	Existing Residence	763.79	763.31	763.31	Window Well (W) (See Note 4)	Yes	763.21	764.39	763.31	763.719
	Existing Residence	764.20	762.49	762.49	Window Well (N) (See Note 4)	Yes	762.08	764.39	762.49	763.719
1403 Illinois St	Attached Garage	763.12	N/A	N/A	Garage Finished Floor	No	762.22	764.39	763.12	763.719
	Existing Residence	768.12	760.43	765.34	Door at bottom of Stairs on West	Yes	764.57	764.39	765.34	763.719
322 Summit St	Existing Garage	765.37	N/A	N/A	Garage Finished Floor	No	765.17	764.39	765.37	763.719

Table 3a: Structure Information Table

WILLISTON BASIN TRIBUTARY AREA FLOOD STUDY
Table 3b: AT-RISK STRUCTURE TABLE

Address	Structure Type	Critical At Risk Elevation	Adjacent XPSWMM ID (See Note 3)	Critical 1-year Elevation	Critical 2-year Elevation	Critical 5-year Elevation	Critical 10-year Elevation	Critical 25-year Elevation	Critical 50-year Elevation	Critical 100-year Elevation	AT-RISK STRUCTURE? (Yes/No)	Comments
717 Evergreen St	Existing Residence	774.00	ST 11	766.175	766.388	767.844	769.551	771.755	772.596	772.833	No (See Note 1)	
723 Evergreen St	2 Story Frame Residence	773.40	ST 11	766.175	766.388	767.844	769.551	771.755	772.596	772.833	No (See Note 1)	
727 Evergreen St	1 Story Frame Residence	773.39	ST 11	766.175	766.388	767.844	769.551	771.755	772.596	772.833	No (See Note 1)	
714 E Indiana St	2 Story Frame Residence	773.77	Storage 1	767.849	768.165	768.544	768.831	769.229	769.571	769.924	No	
	Existing Garage	773.79	Storage 1	767.849	768.165	768.544	768.831	769.229	769.571	769.924	No (See Note 1)	
	Shed	770.41	Storage 1	767.849	768.165	768.544	768.831	769.229	769.571	769.924	No	
722 E Indiana St	1 Story Frame Residence	771.12	Storage 1	767.849	768.165	768.544	768.831	769.229	769.571	769.924	No (See Note 1)	
	Frame Garage	773.20	Storage 1	767.849	768.165	768.544	768.831	769.229	769.571	769.924	No (See Note 1)	
	Shed on Timbers	767.88	Storage 1	767.849	768.165	768.544	768.831	769.229	769.571	769.924	YES	
	Shed on Timbers	767.55	Storage 1	767.849	768.165	768.544	768.831	769.229	769.571	769.924	YES	
726 E Indiana St	1 Story Frame Residence	771.47	Storage 1	767.849	768.165	768.544	768.831	769.229	769.571	769.924	No	
	Frame Garage	772.39	Storage 1	767.849	768.165	768.544	768.831	769.229	769.571	769.924	No	
	Shed, No Floor	767.40	Storage 1	767.849	768.165	768.544	768.831	769.229	769.571	769.924	YES	
804 E Indiana St	1 Story Brick Residence	769.08	Storage 1	767.849	768.165	768.544	768.831	769.229	769.571	769.924	YES	
	Attached Garage	768.91	Storage 1	767.849	768.165	768.544	768.831	769.229	769.571	769.924	No (See Note 1)	Not Hydraulically connected to ST 5A
812 E Indiana St	Frame Residence	775.73	Storage 1	767.849	768.165	768.544	768.831	769.229	769.571	769.924	No	
	Frame Garage	775.25	Storage 1	767.849	768.165	768.544	768.831	769.229	769.571	769.924	No	
818 E Indiana St	Frame Residence	777.06	Storage 1	767.849	768.165	768.544	768.831	769.229	769.571	769.924	No	
	Frame Garage	775.62	Storage 1	767.849	768.165	768.544	768.831	769.229	769.571	769.924	No	
822 Indiana St	Frame Garage	775.10	Storage 1	767.849	768.165	768.544	768.831	769.229	769.571	769.924	No	
809 Evergreen St	Frame Garage	775.46	Storage 1	767.849	768.165	768.544	768.831	769.229	769.571	769.924	No	
813 Evergreen St	Frame Garage	776.01	Storage 1	767.849	768.165	768.544	768.831	769.229	769.571	769.924	No	
823 Evergreen St	Frame Garage	773.83	Storage 1	767.849	768.165	768.544	768.831	769.229	769.571	769.924	No	
823 Evergreen St	Frame Shed	771.67	Storage 1	767.849	768.165	768.544	768.831	769.229	769.571	769.924	No	
829 Indiana St	Frame Residence	772.00	Storage 2	769.506	769.706	770.042	770.313	770.724	771.042	771.392	No (See Note 2)	
	Frame Garage	772.46	Storage 2	769.506	769.706	770.042	770.313	770.724	771.042	771.392	No (See Note 1)	
	Frame Shed	771.56	Storage 2	769.506	769.706	770.042	770.313	770.724	771.042	771.392	No (See Note 1)	
903 Indiana St	Frame Residence	771.88	Storage 2	769.506	769.706	770.042	770.313	770.724	771.042	771.392	No (See Note 2)	
	Frame Garage	772.00	Storage 2	769.506	769.706	770.042	770.313	770.724	771.042	771.392	No	
	Wood Shed	772.81	Storage 2	769.506	769.706	770.042	770.313	770.724	771.042	771.392	No	
907 Indiana St	Frame Garage	773.12	Storage 2	769.506	769.706	770.042	770.313	770.724	771.042	771.392	No	
808 Illinois St	Existing Residence	773.80	Storage 2	769.506	769.706	770.042	770.313	770.724	771.042	771.392	No	
	Attached Garage	773.57	Storage 2	769.506	769.706	770.042	770.313	770.724	771.042	771.392	No	
	Shed	774.26	Storage 2	769.506	769.706	770.042	770.313	770.724	771.042	771.392	No	
814 Illinois St	Existing Residence	773.80	Storage 2	769.506	769.706	770.042	770.313	770.724	771.042	771.392	No (See Note 2)	
	Attached Garage	774.40	Storage 2	769.506	769.706	770.042	770.313	770.724	771.042	771.392	No	
	Shed	772.28	Storage 2	769.506	769.706	770.042	770.313	770.724	771.042	771.392	No	
820 Illinois St	Existing Residence	775.22	Storage 2	769.506	769.706	770.042	770.313	770.724	771.042	771.392	No	
	Attached Garage	777.22	Storage 2	769.506	769.706	770.042	770.313	770.724	771.042	771.392	No	
828 Illinois St	Existing Frame Shed	772.23	Storage 2	769.506	769.706	770.042	770.313	770.724	771.042	771.392	No	
815 Indiana St	Existing Residence	774.04	Storage 2	769.506	769.706	770.042	770.313	770.724	771.042	771.392	No	
	Shed	770.39	Storage 2	769.506	769.706	770.042	770.313	770.724	771.042	771.392	YES	
819 Indiana St	Existing Residence	772.53	Storage 2	769.506	769.706	770.042	770.313	770.724	771.042	771.392	No	
	Existing Garage	773.35	Storage 2	769.506	769.706	770.042	770.313	770.724	771.042	771.392	No	

Address	Structure Type	Critical At Risk Elevation	Adjacent XPSWMM ID (See Note 3)	Critical 1-year Elevation	Critical 2-year Elevation	Critical 5-year Elevation	Critical 10-year Elevation	Critical 25-year Elevation	Critical 50-year Elevation	Critical 100-year Elevation	AT-RISK STRUCTURE? (Yes/No)	Comments
825 Indiana St	Existing Residence	772.56	Storage 2	769.506	769.706	770.042	770.313	770.724	771.042	771.392	No (See Note 2)	
	Existing Garage	772.61	Storage 2	769.506	769.706	770.042	770.313	770.724	771.042	771.392	No	
503 S President St	2 Story Frame Residence	764.62	ST 25A	755.891	756.303	757.813	758.076	758.658	759.082	759.619	No	Low Opening on East
	Attached Garage	764.63	ST 151	763.921	760.509	763.419	763.901	764.006	764.11	764.216	No	
507 S President St	1 Story Brick Residence	764.00	ST 151	763.921	760.509	763.419	763.901	764.006	764.11	764.216	YES	Low Opening is on East, but Window Sill on NW corner is connected to ST 151
	Frame Garage	761.90	ST 25A	755.891	756.303	757.813	758.076	758.658	759.082	759.619	No	
511 S President St	1 Story Brick Residence	763.71	ST 151	763.921	760.509	763.419	763.901	764.006	764.11	764.216	YES	Low Opening is on East, but Window Sill on NW corner is connected to ST 151
	Frame Garage	763.66	ST 25A	755.891	756.303	757.813	758.076	758.658	759.082	759.619	No	
515 S President St	1 Story Brick Residence	763.96	ST 151	763.921	760.509	763.419	763.901	764.006	764.11	764.216	YES	Low Opening is on East, but Window Sill on NW corner is connected to ST 151
	Frame Garage	763.86	ST 25A	755.891	756.303	757.813	758.076	758.658	759.082	759.619	No	
511 Kipling Ct	Existing Residence	759.71	ST 25A	755.891	756.303	757.813	758.076	758.658	759.082	759.619	No (See Note 2)	
	Attached Garage	760.53	ST 25A	755.891	756.303	757.813	758.076	758.658	759.082	759.619	No	
515 Kipling Ct	Existing Residence	759.52	ST 25A	755.891	756.303	757.813	758.076	758.658	759.082	759.619	YES	
	Attached Garage	759.24	ST 25A	755.891	756.303	757.813	758.076	758.658	759.082	759.619	YES	
	Shed	758.14	ST 25A	755.891	756.303	757.813	758.076	758.658	759.082	759.619	YES	
519 Kipling Ct	Existing Residence	758.46	ST 25A	755.891	756.303	757.813	758.076	758.658	759.082	759.619	YES	
	Shed	757.48	ST 25A	755.891	756.303	757.813	758.076	758.658	759.082	759.619	YES	
523 Kipling Ct	Existing Residence	758.66	ST 25A	755.891	756.303	757.813	758.076	758.658	759.082	759.619	YES	
529 Kipling Ct	Existing Residence	758.06	ST 25A	755.891	756.303	757.813	758.076	758.658	759.082	759.619	YES	
	Attached Garage	758.41	ST 25A	755.891	756.303	757.813	758.076	758.658	759.082	759.619	YES	
1103 Evergreen St	Existing Residence	757.97	ST 25A	755.891	756.303	757.813	758.076	758.658	759.082	759.619	YES	
	Attached Garage	759.18	ST 25A	755.891	756.303	757.813	758.076	758.658	759.082	759.619	YES	
506 Kipling Ct	Shed	759.65	ST 25A	755.891	756.303	757.813	758.076	758.658	759.082	759.619	No (See Note 1)	
510 Kipling Ct	Existing Residence	759.76	ST 25A	755.891	756.303	757.813	758.076	758.658	759.082	759.619	No (See Note 1)	
514 Kipling Ct	Existing Residence	758.17	ST 25A	755.891	756.303	757.813	758.076	758.658	759.082	759.619	YES	
	Existing Garage	758.31	ST 25A	755.891	756.303	757.813	758.076	758.658	759.082	759.619	YES	
518 Kipling Ct	Existing Residence	758.16	ST 25A	755.891	756.303	757.813	758.076	758.658	759.082	759.619	YES	
522 Kipling Ct	Existing Residence	757.50	ST 25A	755.891	756.303	757.813	758.076	758.658	759.082	759.619	YES	
	Existing Garage	758.29	ST 25A	755.891	756.303	757.813	758.076	758.658	759.082	759.619	YES	
528 Kipling Ct	Existing Residence	756.93	ST 25A	755.891	756.303	757.813	758.076	758.658	759.082	759.619	YES	
	Existing Garage	757.00	ST 25A	755.891	756.303	757.813	758.076	758.658	759.082	759.619	YES	
1015 Evergreen St	Existing Residence	756.65	ST 25A	755.891	756.303	757.813	758.076	758.658	759.082	759.619	YES	
	Existing Garage	757.73	ST 25A	755.891	756.303	757.813	758.076	758.658	759.082	759.619	YES	

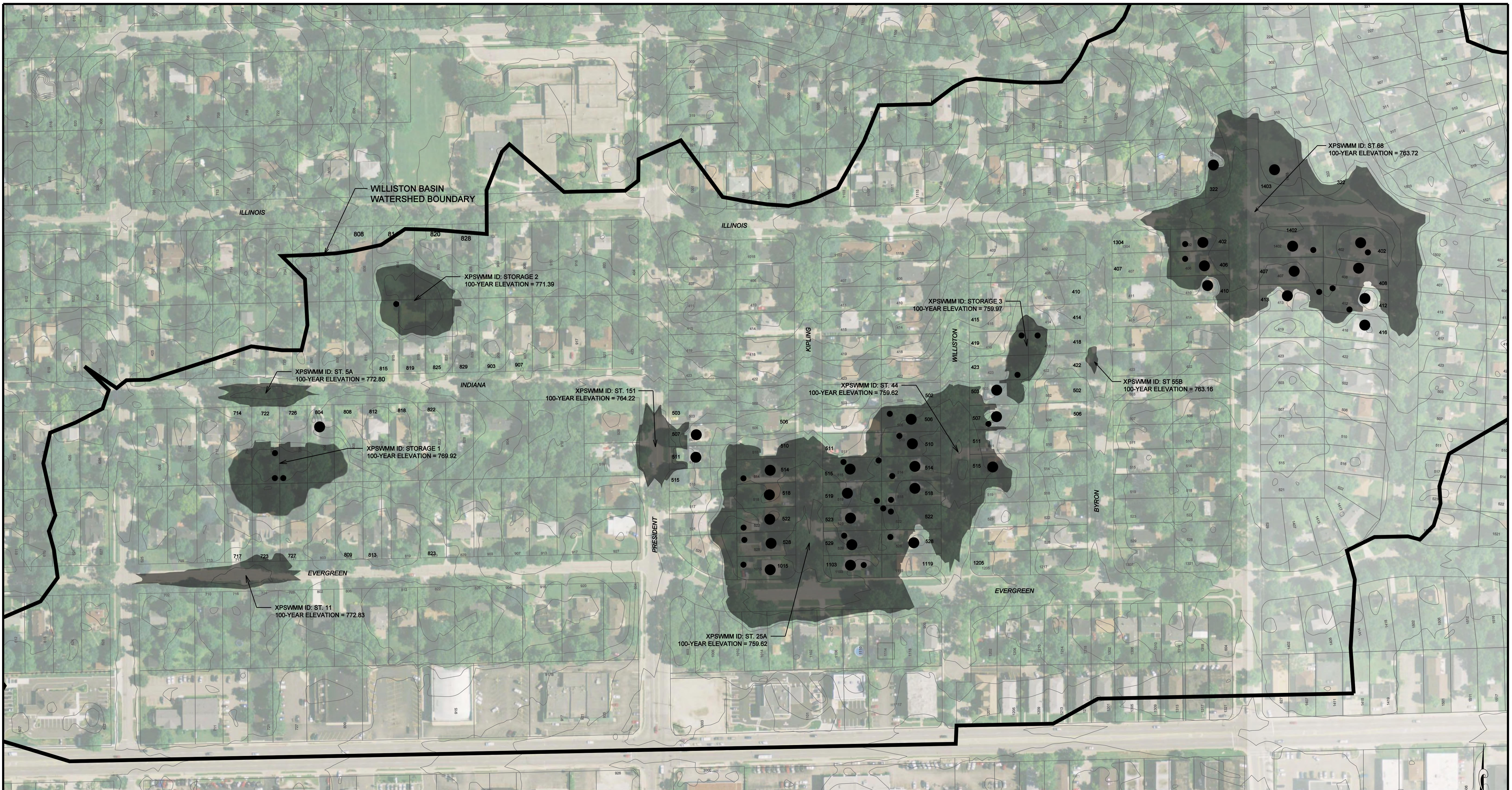
Address	Structure Type	Critical At Risk Elevation	Adjacent XPSWMM ID (See Note 3)	Critical 1-year Elevation	Critical 2-year Elevation	Critical 5-year Elevation	Critical 10-year Elevation	Critical 25-year Elevation	Critical 50-year Elevation	Critical 100-year Elevation	AT-RISK STRUCTURE? (Yes/No)	Comments
419 Williston St	Shed	759.00	Storage 3	756.894	757.269	759.384	759.856	759.921	759.94	759.967	YES	
423 Williston St	Existing Residence	760.25	Storage 3	756.894	757.269	759.384	759.856	759.921	759.94	759.967	No (See Note 2)	
	Existing Garage	759.80	Storage 3	756.894	757.269	759.384	759.856	759.921	759.94	759.967	YES	
503 Williston St	Existing Residence	759.46	ST 44	755.188	756.31	757.311	758.076	758.658	759.082	759.619	YES	
	Attached Garage	760.11	ST 44	755.188	756.31	757.311	758.076	758.658	759.082	759.619	No	
507 Williston St	Existing Residence	759.06	ST 44	755.188	756.31	757.311	758.076	758.658	759.082	759.619	YES	
	Attached Garage	759.41	ST 44	755.188	756.31	757.311	758.076	758.658	759.082	759.619	YES	
	Shed	761.03	ST 44	755.188	756.31	757.311	758.076	758.658	759.082	759.619	No	
511 Williston St	Existing Residence	759.64	ST 44	755.188	756.31	757.311	758.076	758.658	759.082	759.619	No (See Note 1)	
	Existing Garage	761.19	ST 44	755.188	756.31	757.311	758.076	758.658	759.082	759.619	No	
515 Williston St	Existing Residence	759.06	ST 44	755.188	756.31	757.311	758.076	758.658	759.082	759.619	YES	
	Existing Garage	760.91	ST 44	755.188	756.31	757.311	758.076	758.658	759.082	759.619	No	
410 Byron Ct	Existing Garage	763.46	STORAGE 3	756.894	757.269	759.384	759.856	759.921	759.94	759.967	No	
414 Byron Ct	Existing Residence	761.40	STORAGE 3	756.894	757.269	759.384	759.856	759.921	759.94	759.967	No	
	Existing Garage	763.02	STORAGE 3	756.894	757.269	759.384	759.856	759.921	759.94	759.967	No	
418 Byron Ct	Existing Residence	762.18	STORAGE 3	756.894	757.269	759.384	759.856	759.921	759.94	759.967	No	
	Shed	758.70	STORAGE 3	756.894	757.269	759.384	759.856	759.921	759.94	759.967	YES	
422 Byron Ct	Existing Residence	762.23	STORAGE 3	756.894	757.269	759.384	759.856	759.921	759.94	759.967	No	
	Attached Garage	763.90	STORAGE 3	756.894	757.269	759.384	759.856	759.921	759.94	759.967	No	
502 Byron Ct	Existing Residence	N/A	STORAGE 3	756.894	757.269	759.384	759.856	759.921	759.94	759.967	No	Survey shows structure is sufficiently higher than flooding elevation
	Existing Garage	764.64	STORAGE 3	756.894	757.269	759.384	759.856	759.921	759.94	759.967	No	
506 Byron Ct	Existing Garage	764.31	STORAGE 3	756.894	757.269	759.384	759.856	759.921	759.94	759.967	No	
502 Williston St	Existing Residence	761.37	ST 44	755.188	756.31	757.311	758.076	758.658	759.082	759.619	No (See Note 1)	
	Existing Garage	760.88	ST 44	755.188	756.31	757.311	758.076	758.658	759.082	759.619	No	
506 Williston St	Existing Residence	758.22	ST 44	755.188	756.31	757.311	758.076	758.658	759.082	759.619	YES	
	Existing Garage	758.89	ST 44	755.188	756.31	757.311	758.076	758.658	759.082	759.619	YES	
510 Williston St	Existing Residence	757.59	ST 44	755.188	756.31	757.311	758.076	758.658	759.082	759.619	YES	
	Existing Garage	757.29	ST 44	755.188	756.31	757.311	758.076	758.658	759.082	759.619	YES	
514 Williston St	Existing Residence	757.75	ST 44	755.188	756.31	757.311	758.076	758.658	759.082	759.619	YES	
	Existing Garage	757.68	ST 44	755.188	756.31	757.311	758.076	758.658	759.082	759.619	YES	
518 Williston St	Existing Residence	759.39	ST 44	755.188	756.31	757.311	758.076	758.658	759.082	759.619	YES	
	Existing Garage	758.83	ST 44	755.188	756.31	757.311	758.076	758.658	759.082	759.619	YES	
522 Williston St	Existing Residence	760.65	ST 44	755.188	756.31	757.311	758.076	758.658	759.082	759.619	No (See Note 1)	
	Existing Garage	758.23	ST 44	755.188	756.31	757.311	758.076	758.658	759.082	759.619	YES	
	Shed	757.47	ST 44	755.188	756.31	757.311	758.076	758.658	759.082	759.619	YES	
528 Williston St	Existing Residence	759.12	ST 44	755.188	756.31	757.311	758.076	758.658	759.082	759.619	YES	
	Existing Garage	759.21	ST 44	755.188	756.31	757.311	758.076	758.658	759.082	759.619	YES	
1119 Evergreen St	Existing Residence	760.61	ST 44	755.188	756.31	757.311	758.076	758.658	759.082	759.619	No (See Note 1)	

Table 3b: At-Risk Structure Table

Address	Structure Type	Critical At Risk Elevation	Adjacent XPSWMM ID (See Note 3)	Critical 1-year Elevation	Critical 2-year Elevation	Critical 5-year Elevation	Critical 10-year Elevation	Critical 25-year Elevation	Critical 50-year Elevation	Critical 100-year Elevation	AT-RISK STRUCTURE? (Yes/No)	Comments
407 Byron Ct	Existing Residence	765.24	ST 68	754.489	757.165	760.744	761.504	762.458	763.095	763.719	No	
	Shed	764.18	ST 68	754.489	757.165	760.744	761.504	762.458	763.095	763.719	No	
1304 Illinois St	Existing Residence	764.80	ST 68	754.489	757.165	760.744	761.504	762.458	763.095	763.719	No	
	Attached Garage	764.74	ST 68	754.489	757.165	760.744	761.504	762.458	763.095	763.719	No	
402 Blanchard St	Existing Residence	761.93	ST 68	754.489	757.165	760.744	761.504	762.458	763.095	763.719	YES	
	Existing Garage	762.97	ST 68	754.489	757.165	760.744	761.504	762.458	763.095	763.719	YES	
406 Blanchard St	Existing Residence	762.23	ST 68	754.489	757.165	760.744	761.504	762.458	763.095	763.719	YES	
	Existing Garage	762.52	ST 68	754.489	757.165	760.744	761.504	762.458	763.095	763.719	YES	
410 Blanchard St	Existing Residence	763.57	ST 68	754.489	757.165	760.744	761.504	762.458	763.095	763.719	YES	
	Existing Garage	764.31	ST 68	754.489	757.165	760.744	761.504	762.458	763.095	763.719	No	
1402 Illinois St	Existing Residence	761.03	ST 68	754.489	757.165	760.744	761.504	762.458	763.095	763.719	YES	
	Existing Garage	760.91	ST 68	754.489	757.165	760.744	761.504	762.458	763.095	763.719	YES	
407 Blanchard St	Existing Residence	761.22	ST 68	754.489	757.165	760.744	761.504	762.458	763.095	763.719	YES	
413 Blanchard St	Existing Residence	763.51	ST 68	754.489	757.165	760.744	761.504	762.458	763.095	763.719	YES	
	Shed	761.34	ST 68	754.489	757.165	760.744	761.504	762.458	763.095	763.719	YES	
402 Summit St	Existing Residence	762.22	ST 68	754.489	757.165	760.744	761.504	762.458	763.095	763.719	YES	
	Attached Garage	762.77	ST 68	754.489	757.165	760.744	761.504	762.458	763.095	763.719	YES	
408 Summit St	Existing Residence	763.16	ST 68	754.489	757.165	760.744	761.504	762.458	763.095	763.719	YES	
	Attached Garage	763.87	ST 68	754.489	757.165	760.744	761.504	762.458	763.095	763.719	No (See Note 1)	
412 Summit St	Existing Residence	763.31	ST 68	754.489	757.165	760.744	761.504	762.458	763.095	763.719	YES	
	Existing Garage	763.61	ST 68	754.489	757.165	760.744	761.504	762.458	763.095	763.719	YES	
	Shed	762.08	ST 68	754.489	757.165	760.744	761.504	762.458	763.095	763.719	YES	
416 Summit St	Existing Residence	762.94	ST 68	754.489	757.165	760.744	761.504	762.458	763.095	763.719	YES	
	Attached Garage	764.37	ST 68	754.489	757.165	760.744	761.504	762.458	763.095	763.719	No	
322 Blanchard St	Existing Residence	763.31	ST 68	754.489	757.165	760.744	761.504	762.458	763.095	763.719	YES	
1403 Illinois St	Existing Residence	762.49	ST 68	754.489	757.165	760.744	761.504	762.458	763.095	763.719	YES	
	Attached Garage	763.12	ST 68	754.489	757.165	760.744	761.504	762.458	763.095	763.719	YES	
322 Summit St	Existing Residence	765.34	ST 68	754.489	757.165	760.744	761.504	762.458	763.095	763.719	No (See Note 2)	
	Existing Garage	765.37	ST 68	754.489	757.165	760.744	761.504	762.458	763.095	763.719	No	

Notes:

- Note 1: 100-year elevation is above lowest adjacent grade but below the structure's low entry elevation. Water may be adjacent to the structure.
- Note 2: 100-year elevation is above low-entry elevation but adjacent grades are higher and may provide some protection to the structure from flooding. Seepage or failure of the adjacent higher grade would result in water entering the structure.
- Note 3: If a lot is adjacent to multiple XPSWMM nodes, the node and direction is identified in the Corresponding XPSWMM Node column. When identifying at risk structures, V3 has verified if the elevations adjacent to each lot is hydraulically connected to reach a structure.
- Note 4: Only Window Well Rim and adjacent ground elevations were taken at these locations. It is assumed that typical window wells are not water tight so the ground elevation was listed as the elevation to which the window has been protected even if the Window Well Rim (WWR) is higher.



CRITICAL DURATION SUMMARY																
STORM EVENT	ST 151		ST 5A		ST 11		ST 25A		ST 55B		ST 44		Storage 1		Storage 2	
	Elevation	Duration	Elevation	Duration	Elevation	Duration	Elevation	Duration	Elevation	Duration	Elevation	Duration	Elevation	Duration	Elevation	Duration
1 year	763.921	3hr	766.845	2hr	766.175	2hr	755.891	3hr	753.917	2hr	755.188	2hr	767.849	12hr	769.506	3hr
2 year	760.509	2hr	766.938	1hr	766.388	2hr	756.303	2hr	756.798	2hr	756.31	2hr	768.165	12hr	769.706	12hr
5 year	763.419	2hr	768.635	2hr	767.844	2hr	757.813	2hr	760.149	2hr	757.311	2hr	768.544	12hr	770.042	12hr
10 year	763.901	2hr	771.197	2hr	769.551	2hr	758.076	2hr	761.001	2hr	758.076	3hr	768.831	12hr	770.313	12hr
25 year	764.006	1hr	772.523	2hr	771.755	2hr	758.658	3hr	761.909	2hr	758.658	3hr	769.229	24hr	770.724	12hr
50 year	764.11	1hr	772.729	2hr	772.596	2hr	759.082	3hr	762.547	2hr	759.082	3hr	769.571	24hr	771.042	12hr
100 year	764.216	1hr	772.804	2hr	772.833	2hr	759.619	6hr	763.162	2hr	759.619	6hr	769.924	24hr	771.392	12hr

LEGEND

AT RISK HOUSE

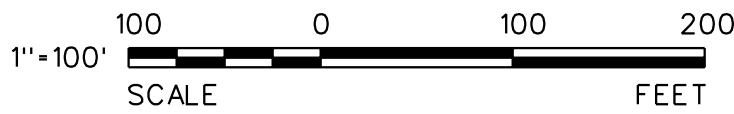
AT RISK GARAGE OR SHED

EXTENTS OF FLOODING, 100-YR STORM
(CRITICAL DURATION VARIES - SEE TABLE)

506

STREET ADDRESS

THIS EXHIBIT IDENTIFIES EXTENTS OF FLOODING AND STRUCTURES AT RISK OF FLOODING BASED ON THE RESULTS OF AN XPSWMM MODEL SIMULATION OF THE 100-YEAR STORM EVENT (CRITICAL DURATION)





V3 Companies
7325 Janes Avenue
Woodridge, IL 60517
630.724.9200 phone
630.724.9202 fax
www.v3co.com

Visio, Vertere, Virtute... "The Vision to Transform with Excellence"

REVISIONS					
NO.	DATE	DESCRIPTION	NO.	DATE	DESCRIPTION

SEAL:

PROJECT NO.:
12045

DESIGNED BY:
CWH

FILE NAME:
EXH2.0.dgn

DRAWN BY:
JW

ORIGINAL ISSUE DATE:
08-15-12

CHECKED BY:
JNHM

SCALE:
1"=100'

PROJECT MANAGER:
JNHM

WILLISTON BASIN TRIBUTARY
AREA FLOOD STUDY

ILLINOIS

WHEATON

INUNDATION AND AT RISK STRUCTURE MAP

DRAWING NO.
2.0