

MINUTES/COMMITTEE OF THE WHOLE
Monday, October 6, 1997 - 6:00 p.m.

Mayor Owens called the meeting to order. Roll call: Council Members Beach, Hamerlik, Carpenter, Sande, Klave, Beyer, Babinchak, Bakken, Hafner, Hagness - 10; absent: Council Members Polovitz, Glassheim - 2; 2 seats vacant.

1. Matter of interim flood fight plan.

Ken Vein, city engineer, reported that they will have CPS, Ltd. who has been hired as a consultant to do an evaluation of interim flood protection plan, plan to be presented will look at what we can do in case of an event similar to what happened this year. He reported that much of the information to be presented has been worked in conjunction with the city engineering department, and Dean Wieland and Todd Fettig of CPS will make the presentation. The City of Grand Forks has been working and has had a consultant currently working on our levee dike system and a significant amount of work has been done on them, they have been upgraded and are continuing to be upgraded and is bringing this up because even looking at an interim flood protection plan, the most important thing to remember is that they are planning on using in the future the alignment of our levee system that exists now as a primary line of defense and want to beef that system up, are spending additional funds for some additional sluice gates, flapgates, etc. which prior to an event that just occurred was not necessarily needed but have been identified now as future needs for the city. He reported that they are also pursuing permanent flood protection for the city dealing with the Corps of Engineers and once that is constructed and in place, this interim flood protection plan will no longer be used. He reported that the plan is somewhat variable but does give us the basis for how to prepare for future flood fights, specifically if we have a forecasted crest of anywhere near what we had this year.

Dean Wieland, CPS, introduced Todd Fettig, Mark Lambrecht, Hank Hauge and Susie Wieland who all worked on the project. He reported that all council members had been presented package that shows interim flood protection plan. He reported that there was a considerable amount of reading material and also included plan summary and recommendation sheet which is a summarization of the plan. He reported that this is a draft plan and that additional information will be added as they continue, such as buyout program, utility and lift station information, final upgrades on the primary line

and also information from the Corps of Engineers as they move into their study.

Mr. Wieland reported that this plan is a guide for future flood fights which incorporates the existing line of defense or levee system and a backup emergency secondary line of defense that would be used for floods that are of higher magnitude that could not be contained by the primary system. Basically, this plan would remain in place until such time as the Corps of Engineers completes their final flood protection plan and construction. He stated this is a

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fluid plan and will be changing from time to time.

Mr. Weiland reported that the primary line of protection is our existing levee system, existing clay dikes that they installed on emergency basis, road raises, sandbag dikes through backyards and other open area and high ground and all of the alignment that was used to fight the 1997 flood; that the City has let a contract doing several upgrades to the primary line of protection on the diking system and also adding a number of control structures on the storm sewer system. He stated that it is extremely important and would highly recommend that any flood fight that was done has to be done on the primary line of defense, and the secondary line of defense is only as a backup. He reported that the main reason for this is that the City, the Corps and contractors and everyone well experienced with the primary line of defense, and understands that utilities and location and backing off that line brings in lot of unforeseen problems.

He reported that the secondary line of defense will be a backup or emergency plan behind the primary alignment, the plan could be con-sidered and constructed in all or in parts of it, and some of this will depend on predicted crest elevations, time available for con-struction, available manpower and equipment, public safety con-cerns and Corps of Engineers participation and recommendations. Some of the criteria they used to set the secondary line of defense was the 1997 high water profile, that this was a profile they developed from survey information that was taken on both sides of the river by the engineering department and based profile up and down the Red River on the 54.2 ft. river gauge and 833.2 USGS elevation and is important because river gauge up or down stream can fluctuate greatly due to river cresting

or not, but the profile using is based on the 1997 profile. He reported they are also working with the Corps of Engineers to get this updated and to get their interpretation of what they feel the 1997 profile was also. He reported that they tried to minimize the amount of clay required, used 10 ft. dikes with 2 to 1 slopes, and tried to minimize the amount of property left on the wet side of the dike, and in most cases tried to use street rights of way and stay with the higher ground, with biggest problems due to utility crossings (storm sewer) and trying to stop storm sewer flows when they were backing up after the dikes flooded was almost impossible and were working with all utility companies and haven't got this completely worked out yet but are gathering information. He stated quite a bit of work has been done on the storm sewer, have some work on lift stations and sanitary sewers yet, others little easier: electrical, telephone, gas, tv. He reported another thing that will affect are the upgrades that are currently being made to the levee system and these are in the process of being done, and current land acquisition program is really important, where acquiring land under the buyout program because some of these areas can be used to upgrade the primary alignment and also the need for right

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of entry easements in different places. He reported that the other consideration was the ease of construction and access and being able to get to the alignment in a reasonable manner.

Todd Fettig reviewed primary and secondary alignments of the levee system. Mr. Fettig reviewed Exhibit 1 which is the flood profile that Mr. Weiland talked about and is included in larger report, showing 1997 Red River flood profile and included 100-year flood profile. He reviewed Exhibit 2 in the report, which is the primary alignment, and areas where improvements have been made. He reported that through the recent dike rehabilitation project which is still on-going, improvements have been made, including small dike in Riverside Park area which protects to an elevation of approx. 830.5 or river gauge 53.2 and ties into the Riverside Drive dike which protects to an elevation of 829 or river gauge of 51.5; from there several small segments of dike with intermittent high ground have been added along Lewis Blvd. to a protection of approx. 830 or a river gauge of 52 ft. He reported that at that point the primary line follows the bikepath east of North 3rd Street where clay fill could

easily be added as well as to the areas in River-side Drive area which depends on land acquisition and buyout process. He reported that in the downtown area a small dike has been added with elevation protection of 831.5 and river gauge of 52.6 ft. He reported that they get into South 3rd Street area where temporary clay dike added during flood fight time because of instability of the underlying clay and will have to continue to be the case; that Central Park dike has been worked on, widened on top and built to an elevation of approx. 832.0 or river gauge of 52.3 ft., believe in this area could add clay to raise protection; from there go to high ground through backyards in the Reeves Drive area and in this are currently sandbagged only and would be difficult to add clay unless property owners could arrange something. He stated that from there tie into Lincoln Park dike which is also being rehabbed now and protects to an elevation of 832 or river gauge of 50.3, and leads into Lincoln concrete floodwall which is an elevation of 830.5 or river gauge of 49.5; from there run on high ground to temporary clay dike between 13th and 17th Avenues South along Belmont Road which will continue to be the case and could even be extended farther; then into Olson Drive area which is sandbagged only for increased protection; then on East Elmwood there's an area where a temporary clay dike was added during the 1997 flood fight for preparation and this dike protected to an elevation of approx. 833.5 or river gauge of 51.7 ft.; and some potential to increase protection on this dike by adding clay; from there on high ground and sandbagged area, then on south end the river's edge protection plan, and is being done as part of the southend drainway project and planned to build to an elevation of 838 around the Elmwood Subdivision and on both sides of the drainway and to put a concrete structure within the drainway to fit from backup to that elevation of 838 or 55.4 river gauge; from there both primary and secondary alignments tie into Belmont Road and 62nd Avenue South as the

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cutoff on the south end; Belmont ranges from 837 or 839 or river gauge of 54.4 to 56.4 and 62nd Avenue is 839.2 approx. or 56.9 river gauge.

He reported that the next area he will review are the utilities; that storm sewer is the most critical, that several sluice gates are planned for outlets on the Red River and the English Coulee, they are planned to be used with both

the primary and secondary alignments and hopefully for a permanent Corps. dike; that Red River sluice gates are planned for 47th Ave.S. and Elks Drive, English Coulee sluice gates are planned for Gateway Drive, Boyd Drive, 6th Avenue North and University Avenue, and in addition they recommend installation of sluice or flapgate on any outlet over 36" in diameter which is not currently controlled, and if secondary alignment is implemented, manholes and catch basins would have to be plugged where the line crosses the dike or somewhere close, and here in situation of how you plug them, possibility of inflatable plugs or bombing manholes with sandbags or filling with concrete, that using inflatable plugs have to have inventory on hand because if manhole floods cannot install, also manholes will have to be used to pump over the dike, and are preparing inventory as this goes on and will need to have most of them on hand.

He reported that the sanitary sewer is next thing and have to plug manholes and have City personnel inspect homes to make sure that drains are plugged on the wet side so that if homes flooded, don't have inundating sanitary sewer system coming through their drains. He reported storm and sanitary lift stations are another area of concern and currently working with Grand Forks Wastewater Dept. and with alignment trying to minimize number on wet side and with secondary alignment, City personnel would have to supply emergency power and ring dike around some of the cases. It is possible some may need to be shut down and abandoned and are working on procedures to be able to do that. He reported that watermain is the next thing and is not such a concern except when homes flood on the wet side of the dike learned that water meters float and if break off and lose pressure in that system there's potential to contaminate water distribution system, and would recommend that City personnel could do one or all of these when inspect and close main valve within house, or could shut curb stops and gate valves to make sure shut off.

He reported on water treatment plant is another area of concern, Advanced Engineering is currently working on that, ring dike likely to be part of that plan and secondary line tie into that dike, that they also have plans for other measures, and ring dike would be at point where no other choice.

He reported that working with NSP re. gas and electric service, and in initial determination with the proposed alignment show minimal complications and if move that back,

more complications introduced.
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He reported they are working with US West on telephone, but waiting on that.

He reported that they talked with TCI re. cable and minimal complications, and only thing they believe is 2" fibre optic which run under the river between Grand Forks and East Grand Forks and they are already plugged, plugged when installed and come up on wet side of the proposed secondary alignment so shouldn't cause a problem.

Mr. Fettig reviewed the secondary alignment, which follows Bacon Road, Mill Road to Red Dot Place and to Alpha Avenue, and will tie into primary alignment and if necessary could add clay dikes in that area, then likely to follow the primary alignment to the Kennedy Bridge, but that depended on tying into the primary approach to the bridge, if cannot do that then run into 2nd and over to 1st and then down, then run behind St. Anne's and tie into south side of the Kennedy Bridge approach, tie into primary line on Lewis Blvd. and follow on North 3rd bikepath, then to Kittson and tie into ring dike around water plant if it's there, then to Woodland to 4th Avenue South, then either to Reeves and down or possibility on Reeves Court area. He reported this is one of the areas where if property owners could get together and get high ground through backyards and run behind the homes, but for purposes like this in an emergency situation, the simplest thing is to run down street right of way, down to 8th Avenue South. He stated in Lincoln Park they follow high ground around. He reported at 13th Avenue South they would tie into the dike that's been put up in the past (temporary dike on Belmont), that City felt that if that gets too high, can't depend on it at certain levels, and Cottonwood is where high ground starts, go on 13th Avenue South to Cottonwood, down to 17th and over, from there follow Belmont Road to 25th Avenue South through Olson Drive area (here's an area where they would like to tie into the temporary Elmwood dike that's already there, and that could be raised from rights of entry needed to do this but could skip this section of Olson Drive and also after that line goes to Belmont Road and follows as close as they though they could get on high ground to cul-de-sacs and tie in (property owner issue whether get rights of entry), then follow on Loamy Hills to 47th Avenue South, with area between 47th and 49th if get right of entry can tie

directly into River's Edge protection plan, and if not have an alternate to go around Belmont and back down to 49th Ave.S. and tie into River's Edge and from there to Belmont Road and 62nd Avenue South (Exhibit 2 in Plan).

Mr. Weiland again stressed that any flood fight should be conducted on the primary line of defense using existing levee system and temporary dikes and sandbag dikes should only be used on high ground and should also use clay dikes wherever possible; thinks secondary line of defense based on criteria or their recommendations the complications due to backup water through utilities, the amount of property left on the secondary alignment wet side, clay fill

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necessary, easements and buyout program and access to the alignment. He stated that at this time the 1997 flood profile is the best information they have and will submit this plan to the Corps of Engineers this week if the council so desires, ask them to update and give them that information and also to review this plan. He stated that any decision of elevations or river gauges to construct the primary alignment to will be made based on what the Weather Service forecaster outlook is, the estimated time to construct it, and debatable equipment, materials and safety and Corps of Engineers input and recommendations. He stated they would recommend if reach a point on sandbag dikes if have over 3 ft. that they look at beginning secondary line of defense. He stated that construction of the secondary line of defense could be done all at once or in segments; that primary protection for both the Red River and English Coulee shows they have calculated yardage basically in the range of 250,000 yds. for the 1997 flood plus 2 ft. which is a river gauge of 56.3 ft.

Mr. Fettig reported that on the Red River alignment with the 1997 flood plus 2 ft. would be approx. 213,000 yds. and to a river gauge of 60 ft. with about 483,000 yds. He reported that the English Coulee alignment which they haven't discussed (have map showing proposed alignment) and their alignment in conjunction with the University would start with University Avenue on the south and proceed on west side and tie into 27th Avenue North and on east side would tie into Bacon Road where Red River alignment ends. He reported that the west side English Coulee would be to construct to 1997 flood plus 2 ft. or 36,900 yds. or river gauge of 60 ft.

would be 74,100, and east side would be 32,600 for 1997 flood plus 2 ft., and 64,800 for river gauge of 60.

Mr. Weiland also reported that one of their recommendations is that the City develop public input and involvement program to help people understand that the first line of defense is on the primary alignment, and also that the plan should contain information of how the decision will be made of when the secondary line of defense will be built and how the City will assist property owners in shutting off their utilities and vacating their property. He reported they talked to Emergency Operations Center and this should be coordinated through his operations. He stated they also recommended that the City purchase from 80 to 160 acres of land for clay borrow and which could also be used for storage and material and desirable to have on the south end of the city but could also be split in two and partially located on the north end. It was reported that it will be approx. 5 years before go to some form of permanent protection they would recommend that council budget certain amount each year for improvements to both primary and secondary lines of defense.

He reported that one of their concerns has to do with the Harts-ville Coulee on Minnesota side which comes out of the Red River

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down by Thompson bridge, overflowed and according to the USGS may have put from 12 to 19% to the total flow in Red River going through town, that's a good figure and the Corps is considering that in their final plan but the City of East Grand Forks is asking, and he would recommend that the City of Grand Forks pass a resolution asking Polk County and the Corps of Engineers to look at how to temporarily control that because it is a significant amount of water. He reported that they also want to encourage neighborhoods to meet and to assist them in getting right of way or right of entry easements and if can help out will perhaps shorten alignment length. He stated that the final part of the plan is that first part of the draft copy and they are recommending that they continue plan and draw final CADD documents based on Corps of Engineers maps that would show final dike alignment with all upgrades and changes, show location of most probable secondary line of defense and alternates, show location of all easements and rights of way that are needed, where buyouts have taken place, what property has been acquired and

what has been physically removed, and information on all utilities that need to be shut off. He reported that the Corps of Engineers is completing their map. He stated that this plan is another step in preparing for the future floods and would recommend that the council move forward with this plan and future updates as they come in.

Mr. Weiland opened meeting for questions.

Council Member Hafner questioned if on protection plan for the English Coulee were they proposing a closure of University Avenue. Mr. Weiland reported that the University of North Dakota is coming up with their own flood plan and would incorporate that into our plan, but closure on both sides of University Avenue.

Council Member Hamerlik questioned re. purchase of land and clay, whether locating materials, etc. on more than one site, but also because of traffic and ability to move quicker. Mr. Weiland reported he hadn't looked at quantities but probably less clay needed on the north end because of the Riverside dike area but that would be good idea. He also reported that the timing on the next phase of the southend drainway can be such that it is bid and take that material.

Council Member Hamerlik questioned if possible to have more than one river gauge, possibly three. Mr. Weiland stated that probably would be more confusing, they did talk with USGS when had meeting with Weather Service re. getting another gauge at Thompson, they will only put so close together as they fund them; he stated the easiest situation would be to get rid of the gauge and only go with USGS, but lot of confusion because if have river gauge of 54 ft. on the south end could be 836 or 834 on how water coming in or if river crested, etc. and he didn't know except to reference to one particular profile.

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Council Member Sande questioned re. 15th Avenue South area, whether to run the secondary alignment down the alley between Walnut and Cottonwood as most of the houses on the east side of that alley are already toast, that the alley is somewhat lower, but that would be four blocks of houses that would not be on the wet side. Mr. Weiland reported that they could look at that, that they normally try to look at higher ground but if can build on Belmont Road and time, probably wouldn't

move off there, that there are some concerns and is also factor of how buyouts are going to occur and who is living there, but only have parts of it.

Council Member Hagness stated that the Corps is studying the closure of north end of the city on the English Coulee and if there are temporary measures they can take with the backup of the water from the Red into the English Coulee. Mr. Weiland stated that was a point they didn't hit on but the primary line of defense for the English Coulee is to have a good dry dam and diversion that is operating, and if have good secondary line of defense on the Red River so water cannot get to the English Coulee, that as long as they keep the point where the English Coulee meets the Red north of town don't have very many problems because even in this flood the elevation at University Avenue the water only 1.5 to 2 ft. higher at the Red River than at the English Coulee on University Avenue, so more of a factor in keeping water in the channel and then minimize problems on the English Coulee. He noted that the diversion dam was working. Council Member Hagness questioned if there was a retention dam in Minnesota, would that have protected us so that we wouldn't have flooded like we did. Mr. Weiland stated that there is a dry dam near Red Lake Falls and retains about same amount of water as English Coulee dry dam and didn't know if any effect on our water or not. Council Member Hagness questioned so not to have any weak links in Riverside area could they where have problems getting access to build around those areas or what is second line of defense there? Mr. Weiland reported they would deal with them on whatever have to, because if get rights of way through there, it would alleviate a lot of problems in the north end because gives access and ability to build Riverside dike to a very high level of protection. He stated they could build around them but no good answer to it at this point except to try to solve the problem.

Council Member Beyer asked whether they hope to get as many sluice gates, flapgates etc. in this fall, before next spring. Mr. Weiland reported that all Mr. Fettig talked about were being bid and most installed. She stated only concern re. no flapgates on outfall lines on Inland Hills or end of Sloping Hills Cove. Mr. Weiland reported if they become problem, those lines fairly small (24"), and each one would be addressed.

It was moved by Council Members Hagness and Hamerlik to receive and file. Carried 10 votes affirmative.

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Council Members Hagness and Sande moved to adjourn the meeting, meeting adjourned at 7:05 p.m.

Alice Fontaine
City Clerk