CHUCK STEELE, FEMA: ...The question then becomes, "Where is a safe place to build. The problem, is that if you allow indiscriminate development in the floodplain, the problem is the same as what happens when you get into a full bath tub. You get into a bath tub the water goes up. If you build anywhere in the floodplain the water is going to be blocked, diverted, its got to go somewhere and its going to harm other people. ... The basic thing the county has to do is to adopt regulations that say we will not worsen the situation.

... In some states, they allow no rise in the floodwaters. The minimum federal criteria is one foot. Once you reach the one foot rise then no further development can occur.

We do not have a floodway in the lower delta area. But there is a floodway upstream.

...There is no good reason for a variance in this area...

AO ZONES

Steele: AO Zones are very difficult to deal with. These are the floodplain management measures the county needs to have in their ordinance. Extensive AO zones south of Mt. Vernon. We are recommending that the county adopt considerably more stringent floodplain management measures adjacent to the levees and in the other AO zones especially where there are fast velocities. We are recommending engineering foundations or post and pier construction. In order that the water can flow thru. This is a dangerous area.

SPREADING THE RISK

Steele: The concept that is involved here is spreading the risk for
insurance purposes. We need to show what the risk would be basin wide in the entire delta as opposed to any point in the delta. As we point out in the report at any given on the map the flood conditions could be a whole lot worse than what we are showing on these maps. If a levee were to break in a particular area the depths and velocities could be a whole lot worse then what we are showing on these maps. We just can't predict where that could happen. So therefore you have a situation that is understating the case for many people but the averages of what could happen throughout the entire delta are depicted on the map.

We played around with the density concept at the request of the flood control committee. We analyzed that and came up with a figure of you could build about 10% of your property. The problems and questions that were raised were just to much to deal with so we dropped that concept. We dropped the concept from the study but we feel that it is very much a live concept with relationship to the City of Burlington.

The approach we used was we accepted the COE figure of 240,000 cfs at Sedro Woolley was the 100 yr flood. We kept 110,000 cfs in the channel, without the levees. We essentially said the levees weren't there. We had a 130,000 cfs overland.

**FLOODWAYS**

Steele: Floodways were not determined for reasons stated here (IV. HYDRAULIC ANALYSES). No particular floodflow path was inherently more efficient than others. Uncertainty of where levees would break. Floodways at this point have not been designated.

**QUESTION FROM AUDIENCE:** Just for point of clarification. The floodways you are referring to are regulatory floodways is that correct? There is a difference between regulatory floodways and
floodways as administered by the state is there not?

STEELE: Yes. That is correct!

SPECIAL REQUIREMENTS FOR SKAGIT COUNTY AND BURLINGTON FOR RETENTION
OF CONVEYANCE IN FLOW PATH I

STEELE: One thing I would like to spend some time on is the encroachment standard in the Burlington area. This is a very difficult situation. Hovering in the back of this thing is always the possibility that ... FEMA could always come back and do a floodway at some point. The mechanics are there to do a floodway. In lieu of the floodway what must be applied is the encroachment standard. This encroachment standard is best described by reading it to you. NOTE: Mr. Steele read 44 CFR SEC 60.3C(10). What that basically means is that an engineering analysis would be required in certain areas where there is a blockage problem. A particular area that comes to mind is in Burlington. The area in south Burlington. For if that area was to become blocked up, again the flows got to go somewhere. Again, the optimum is always there for us to come in and run a big ole floodway thru that area. The way we interpret this encroachment standard in the Burlington Area is not the same way we interpret it along other rivers. What we are saying here is that for single family residences I don't see the need for engineering analysis. But for larger scale development like the Cascade Mall for example, a person would have to go out and hire an engineer to find out if that encroachment would cause a problem. The mall people did do that and they did make some changes after they found out they would cause some impacts. That encroachment standard has to be enforced particularly in the City of Burlington.

... When you say that development plus the cumulative effect that means everybody.*** So there is a big problem there unless the city takes action.
I would like to make this point. That is that the State Flood Zone Act has almost an identical requirement. (WAC 508-60) We weren't sure at first so we sent a letter to the state and they said, "Yep. That's the same thing." So they have to do the same thing. . . The City can't issue a permit until the State does. We are requiring that in this ordinance. So before Burlington can issue a permit the State has to issue a permit. Those are pretty serious criteria.

FLOOD PLAIN MANAGEMENT MEASURES IN LIEU OF FLOODWAYS

Steele: This is just a summary that has been banging around for several years of just what the city and the county could do in terms of coming up with measures in short of designating a floodway. You may well use these to come up with a master plan. . .

It would probably involve such things as prohibiting any solid fill perpendicular to the flow of water. Cumulative fills would cause that same sort of blockage. Thirdly, use minimum amt of fill needed.

Fourthly, definitely designating certain natural drainageways, such as Gages Slough, be closed off to any encroachment because that's the natural channel. It's an old channel of the Skagit River. Anything like the Gages Slough should be left in its natural state. . . if it gets any worse then we're going to have a major problem. Similar low spots that have a similar characteristic should be left alone as well. If you wanted to allow development in those adjacent areas then you could require post, pier, pile construction.

. . . Finally, generally encouraging the use of post, pier, pile or column-type construction to be sure that the underneath areas aren't restricting the flow.

The most important one is really the density criteria.
combination of things could occur. Designating certain areas as reserve, reserving lands for effective flow areas, post and pier type construction and a density criteria. With a combination of these, you may be more reasonable than that 75% stated by the flood control committee and you may be more reasonable then our 10%. I think that this would be seriously looked at by us... The method that could be used to go about making this kind of a determination would include, identifying low effective drainage areas and storage areas and reserve them for passage of water. You would probably have to go out and do a topography map first. That hasn't been done. The second thing is I would go out and identify any strips of land adjacent to these effective flow areas and I'm thinking primarily of Gages Slough which is so messed up these days. That if any new construction were allowed adjacent to the slough it would have to be allowed using certain construction standards, that would still allow the water to pass thru.

Thirdly, the cut and fill provisions that we talked about.

Fourthly, I would certainly consider this to be a major problem. I would certainly consider acquisition programs, you have to start someplace.

Fifth, I would seriously consider finding an engineer to compute the density criteria we talked about earlier. There is a mythology that could be used site specific in the south Burlington area for example. And I also would reconsider flood control works like the Avon Bypass.

QUESTION FM AUDIENCE: CHUCK, DO YOU HAVE ANY IDEA ON HOW ANY OF THESE METHODS MIGHT BE FUNDED?

Steele: Yes. General obligation bonds for example. Its a matter
of determining how you want to handle the problem. If you're looking
to the federal government for money you can forget it. There isn't
any. It's a matter of addressing that problem yourselves.

STATEMENT FROM AUDIENCE: if I interpret what your saying correctly,
your saying its not the federal government that’s trying to develop
this area its the local people and it should be up to them to fund
these things.

Steele: Federal government is actively trying to not develop this
area. We actively sought to kill the Garl Street Improvement Project
under executive order 11988. We had to. It didn't comply with the
executive order. For federal money to be used it has got to comply
with the executive order. ...

...MEETING ADJOURNED...