

CARSON CITY STORM DRAINAGE ADVISORY COMMITTEE

Minutes of the July 9, 2001 Meeting

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A regular meeting of the Carson City Storm Drainage Advisory Committee was scheduled for 6:00 p.m. on Monday, July 9, 2001 in the City Hall Capitol Conference Room, 201 North Carson Street, Carson City, Nevada.

PRESENT: Chairperson Russell Plume
Vice Chairperson Howard Anderson
Bob Fredlund
Tony Marangi
Rob Saunders

STAFF: Larry Werner, City Engineer
John Givlin, Senior Project Manager
Randy Bowling, Consultant
Kathleen King, Recording Secretary
(SDAC 07/09/01)

NOTE: Unless indicated otherwise, each item was introduced by Chairperson Plume. A tape recording of these proceedings is on file in the Clerk-Recorder's Office and is available for review and inspection during regular business hours.

A. ROLL CALL AND DETERMINATION OF A QUORUM (1-0001) - Chairperson Plume called the meeting to order at 6:00 p.m. Roll was called; a quorum was present. Members Aldean and Perry were absent.

B. APPROVAL OF MINUTES - JUNE 11, 2001 (1-0010) - Discussion took place regarding the supplement to the report presented to the Board of Supervisors, and Mr. Givlin and Mr. Bowling advised that the supplement will be provided to the stakeholders and the public. Member Saunders moved to approve the minutes. Member Fredlund seconded the motion. Motion carried 5-0.

C. MODIFICATION OF AGENDA (1-0067) - None.

D. PUBLIC COMMENT (1-0068) - Chairperson Plume introduced Ira Andersen, William Goni, and Principal Hydraulic Engineer Paul Frost, of the Nevada Department of Transportation ("NDOT"). Amanda Hammon of the Nevada *Appeal* introduced herself. Chairperson Plume solicited public comment; however, none was provided.

E. DISCLOSURES (1-0084; 0114) - Member Saunders advised that he had prepared and provided the Phase 2 Municipal Requirements to City staff. He further advised he will be stepping down from the Committee in the near future due to a conflict of interest arising from Phase 2 of the NPDES program. He will continue to be available to attend meetings but will no longer be able to participate as a voting member.

F. PUBLIC MEETING ITEMS

F-1. PRESENTATION BY WRC ENGINEERING AND NDOT HYDRAULIC ENGINEERING STAFF ON THE CONDITIONAL LETTER OF MAP REVISION ("CLOMR") FOR THE CARSON CITY FREEWAY (1-0679) - Mr. Frost introduced himself and Mark Forrest of WRC Nevada. Mr. Frost provided background information on the cooperative work done with the City

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for several detention basins which will affect the 100-year flood plain, and an overview of Mr. Forrest's presentation.

Mr. Forrest displayed a basin hydrology map and pointed out the phase 1 freeway improvements. He discussed the multiple cooperative projects constructed as a part of the phase 1 improvements to reduce discharges which would have had to be conveyed by the freeway. The cost of the freeway improvements was substantial because of the necessity of collecting drainage from the northwest quadrant of the City, conveying it along the freeway corridor, and ultimately discharging it to the City's water quality basin. Following a series of alternative analyses encompassed in the northwest master plan, a number of improvements were identified which would reduce discharges to the freeway significantly enough to reduce the costs of facilities NDOT would need to construct. NDOT contributed toward construction of the improvements which include the Shenandoah Detention Basin, the Gravel Pit Detention Basin which is actually part of the freeway project, the Eagle Canyon Detention Basin which is currently under design, outfall improvements on the east side of Carson Street constructed by NDOT, and a conveyance facility to route flows from the Combs Canyon area into detention basins within the Silver Oak development. Improvements to the Silver Oak facilities which augment existing storage and provide for safe outfall and emergency spillways include the driving range and fairway 18. The combination of detention facilities reduces peak discharges from the northwest quadrant very significantly and thus reduced the cost of freeway improvement construction. Mr. Forrest discussed damage to the Shenandoah Heights subdivision caused by shallow sheet flow during the 1986 flood. He advised that Eagle Canyon is fairly large and currently has a flood plain delineation on the FEMA maps which follows Carson Street in a route that goes in front of the K-Mart building and contributes to flooding that occurs in the core part of the City. The detention basin reduces the flow to a rate the storm drain can handle. Outflow in a 100-year event would be confined to those conveyances and would no longer cause flooding along that corridor. Combs Canyon requires construction of a diversion levy or dike along its south side to direct flows into the Silver Oak development where they can be detained in the golf course facilities.

Mr. Forrest displayed a graphic representation of the revised flood plain and reviewed the same. He explained that some of the flood plain reductions are due to hydrology changes which were found to be in error in the original analysis. As a result, a conditional letter of map revision ("CLOMR") request has been submitted to FEMA. Mr. Forrest offered to make the CLOMR available for review by the Committee members and staff. He commented that this particular CLOMR is one of the most substantial he has ever worked on because it encompasses such a large portion of the City and because of the hydrology changes which resulted from improvements constructed by the City and NDOT. One reason for errors in the original study was that only U.S. Geological Survey topographic quads with 40-foot contour intervals were available and, consequently, it was impossible to see topographic subtleties. Since that time, the City and NDOT have flown a portion of the corridor and the major portion of the City's interior to develop a two-foot contour interval topography which has provided more detail regarding flow routes. Mr. Frost commented that there are many areas of the City not reflected on the flood plain map which will receive benefit from the analyses.

In response to a question regarding the retention basin at Western Nevada Community College and plans for expansion of the campus, Mr. Werner advised that during plan review, a current hydrology study of the area showing pre- and post-development will be required. In addition, the detention basin will be required to be sized to accommodate additional flows. Discussion took place regarding the existing basin, the City's requirements for detention basin design, and design parameters to be established by the master plan. Mr. Forrest discussed the problem of contribution to peak flows which can be caused by smaller facilities. Mr.

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Givlin discussed the potential liability of sediment and detention basins which become filled with debris during major events. A source of funding, manpower, a program, and a disposal location have to be available for cleaning out the basins. In response to a question, Mr. Werner described the existing and proposed discharge route of the WNCC detention basin. He advised that projects are being considered for the area above the campus in order to capture flows from the canyons prior to their reaching the campus. Mr. Givlin pointed out basins designed to capture sediment coming out of the Timberline/Combs canyons.

In response to a question, Mr. Forrest reviewed the facilities included in phase 1 of the freeway project. In response to a further question regarding benefits to the community-at-large, Mr. Forrest advised that the improvements eliminate flood plain areas from many undeveloped properties, and shallow sheet flow from residential and commercial properties in the northwest portion of the City. He acknowledged that the Eagle Creek Detention Basin will include a 48" storm drain which will flow down Eagle Valley Ranch Road, across Carson Street at Arrowhead Drive, follow the west side of the freeway, into the box culvert constructed by Carson City along the north side of Broadleaf Lane, into a box culvert along the toe of the freeway, and be discharged into the water quality basin at the south end of town where flows up to a 20-year event would be captured and released very slowly into the downstream discharges. Flows that exceed a 20-year event would flow over the edge of the basin into a channel and downstream unimpeded. In response to a question, Mr. Forrest advised that a temporary water quality basin has been constructed south of College Parkway and north of Highway 50 (adjacent to the Mountain Park subdivision.) Mr. Frost clarified that a culvert will be installed under Highway 50 for drainage and the water quality basin will be constructed during phase 1B. He acknowledged that the basin will be large enough to hold all the water, and advised that full 100-year conveyance will be installed under Highway 50 at the Goni wash. He further acknowledged that the facility will prevent the flooding which occurs along Lompa Lane and Highway 50.

In response to a question, Mr. Frost explained the rationale behind sizing the water quality basin to accommodate a 25-year event. He advised that the design assumes full build-out of sub-basins. Mr. Forrest advised that NDOT had a choice to either treat the runoff from the impervious surface they were building as part of the freeway which would have necessitated many conveyance collection systems along the freeway discharging to multiple small basins along the route, or to build one facility to treat all contributing impervious area from that portion of the City, including the freeway. It was less expensive to construct the one facility than to construct the conveyance systems and smaller basins which would only treat the freeway runoff. This basin will treat freeway runoff, the Goni watershed, and the impervious surfaces in the northern part of the City all the way down to Combs Canyon. Discussion took place regarding the flow route of the Washington Street culvert.

Mr. Frost advised an additional benefit for the citizens of Carson City is that many of the areas in the existing flood plain are designated Zone A which requires flood insurance for financing and refinancing mortgages. The improvements will result in removal of the Zone A designations for many of the properties, thus relieving the property owners of the insurance requirement. In response to a question, Mr. Forrest advised that the flood insurance requirement will not be alleviated until FEMA proves the flood plain revisions. The CLOMR is the first step and any fatal flaws in the plans can be corrected and resubmitted to FEMA prior to construction of the projects. Once the projects are completed, as-built record drawings are developed for the completed improvements and submitted to FEMA as a formal letter of map revision ("LOMR") request. Based upon the as-built drawings, FEMA reviews the improvements to ensure they are in substantial conformance with what was submitted initially in the CLOMR. If it all compares, FEMA will approve the LOMR, the maps can be modified to reflect the improvements and, at that point, the flood insurance requirements are alleviated as well as the City's regulatory requirements for the flood plains and

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flood ways. Up to that point, the City is required to continue regulating the areas as if the improvements are not going to take place. In response to a question, Mr. Frost indicated that phase 2 of the freeway project is anticipated to begin in 2005. Discussion took place regarding the same.

Mr. Forrest advised that the CLOMR request is currently at Michael Baker Engineers in Alexandria, Virginia for review and feedback. In response to a question, Mr. Forrest explained that Michael Baker Engineers are a technical evaluation contractor for FEMA. Mr. Forrest offered to leave the revised flood plain graphic for Mr. Givlin. In response to a further question, he advised that the annotated maps were included in the CLOMR submittal in 11"x17" pieces. Mr. Forrest responded to questions regarding insurance revisions as a result of the phase 1 improvements, the time table for the CLOMR/LOMR process, and FEMA's criteria for approving the CLOMR.

In response to a question, Mr. Forrest advised that Combs Canyon may raise questions during the CLOMR process. He explained that Combs Canyon was delineated as an alluvial fan, which is considered by FEMA to be unpredictable. He explained the concept of an alluvial fan and the problem of sediment load deposits. An alluvial fan flood plain delineation is based upon the probability of flows producing a certain depth and velocity on any portion of the fan surface. Unless sediment controls and erosion processes below the sediment controls are constructed, FEMA will usually eliminate the alluvial fan designation. He advised that the proposed improvement has been used in the past in the Palm Springs, California area and that a number of alluvial fans have been approved by FEMA. He anticipates that the alluvial fan designation for Combs Canyon will "take some argument with FEMA" because neither sediment control upstream of the improvements nor armoring to control erosion will be done. In response to a question, Mr. Forrest advised that the Combs Canyon project is related to the Silver Oak improvements.

Mr. Givlin clarified that the CLOMR is one submittal to FEMA; however, any number of final letters of map revision can be processed for specific areas. In response to a question, Mr. Frost advised that NDOT has not targeted specific letters of map revision. He explained that the CLOMR was added to WRC's contract in order to justify proceeding with the design at the Lompa Ranch. He indicated that, other than cooperation with the City, there is really no direct benefit to NDOT to process the maps in segments. He indicated the matter can be addressed as it comes up. Mr. Forrest advised that it only takes a little more time to package letters of map revision individually as opposed to packaging them all at once. He advised that improvements can be submitted individually, and that the Shenandoah Detention Basin could be submitted now. He further advised that the hydrology model would need to be revised to reflect many of the improvements.

Chairperson Plume commented that one of the first things the Committee reviewed was NDOT's proposal to the City to make certain drainage improvements on Eagle Valley Creek, Combs Canyon Creek, etc. which would reduce the size of the box culvert thereby reducing NDOT's costs along the freeway and providing drainage improvements to the City. The drainage improvements went no farther south than Combs Canyon and Timberline Canyon Creeks. The proposal did not include Vicee Canyon or Ash/Kings Canyons. Mr. Frost explained that NDOT "left the door open" so that when phase 2 of the freeway is constructed, facilities at Vicee, Kings, and Ash Canyons could potentially reduce the bridge across Kings Canyon Creek resulting in cost savings. The facilities won't be of the same magnitude as phase 1A because the northern facilities provide more benefit. Mr. Frost acknowledged that the northern facilities are part of phase 1 of the freeway project and that they went no farther south than Timberline Creek. Mr. Forrest explained that, based on the analyses conducted thus far, Ash and Kings Canyon Creeks have very little affect on the size of the improvements because size is necessitated partly by the back water condition which

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occurs in the Mexican Ditch and creates a ponding condition. Reducing the discharges by 5-10% made only a minor difference in the size of the facilities, i.e., not enough to pay for the cost of facilities at Ash and Kings Canyons. Mr. Forrest indicated that a facility at Vicee Canyon would have had more benefit but would have had to be done before now because of the slight reduction in size of the phase 1 facilities it would have provided. In response to a question, Mr. Forrest advised that Timberline Creek is included in the proposed improvements for Combs Canyon. He responded to questions regarding the revised flood plain map, the improvements, and the flow routes. Chairperson Plume suggested scheduling another field trip, and discussion took place with regard to the same. He thanked Mr. Frost and Mr. Forrest for their presentation.

F-2. DISCUSSION AND POSSIBLE ACTION ON THE GOALS AND PRIORITIES OF THE STORM DRAINAGE ADVISORY COMMITTEE FOR THE NEXT YEAR (1-0097) - Mr. Givlin distributed copies of the U.S. Environmental Protection Agency Phase 2 Municipal Requirements from the December 8, 1999 Federal Register to the Committee members, staff, and citizens present. Member Saunders advised he had prepared and provided the Phase 2 Municipal Requirements to City staff. He indicated he will be stepping down from the Committee in the near future due to a conflict of interest arising from Phase 2 of the NPDES program. He will continue to be available to attend meetings but will no longer be able to participate as a voting member. Mr. Werner suggested that Member Saunders remain a part of the Committee as an ex-officio member due to his expertise and the guidance he can provide.

Mr. Givlin advised that the Committee will be asked to become involved in the storm water master planning effort, the implementation of phase 2 requirements, and continuation of the detailed rate study analysis. Mr. Werner advised that staff is developing a time line and tasks for implementation of the utility itself. In response to a question, Mr. Werner provided an overview of the phase 2 requirements to implement programs in order to apply for an NPDES storm water permit by March 2003. He advised that the same information was provided to the Builders Association of Western Nevada. Member Saunders commented that the document was taken directly from the Federal Register. Chairperson Plume noted for the record that the requirements are federally mandated.

Mr. Givlin advised that a key component of the phase 2 requirements is educational outreach programs, and that the Committee meetings will be a perfect forum to allow for public input. In response to a question, Member Saunders advised that best management practices will need to be selected with measurable goals for each, and an implementation schedule will need to be in place. Discussion took place regarding best management practices. Mr. Givlin advised that the City is applying to the Environmental Protection Agency for a permit. Once the permit is issued, the City will have a regulatory program to improve storm water runoff in the community. This could result in the requirement of an additional permit which would be applied for through the development process. Member Saunders explained that the program will address water quality aspects of the storm drain system, regulatory programs for discharges through the system, commercial and industrial construction, etc. In response to a question, Mr. Werner explained the Committee's involvement in development of the program. He indicated that the process will be very labor intensive. Mr. Givlin explained that an additional aspect of program development will be to "pick up where we left off with the storm water master plan." There will be two key elements: maintenance, including street sweeping and catch basin clean outs; and costs for building infrastructure improvements. He expressed the hope that the master plan document will specify pipe sizes and locations. Mr. Werner advised that staff is in the process of identifying current, ongoing capital projects to solve relatively low cost issues and still be part of the system.

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In response to a question, Mr. Werner advised that funding is available for capital improvements in Ash Canyon. The funding was set aside by the Carson Water Subconservancy District to cover both the design and construction phases. Discussion took place regarding the purpose for the FEMA grant and the responsibility of the Committee following the report presented to the Board of Supervisors. Mr. Werner discussed major categories, including capital improvements, operation and maintenance, administration, regulations, which require a policy, ordinance or direction from staff to the Committee to the Board of Supervisors. He requested input from the Committee members regarding whether they are interested in continuing in their present roles. He acknowledged that the Committee is a good forum for public involvement. Mr. Givlin commented that the Board of Supervisors considers the Committee as a key to public involvement. Mr. Werner advised that, following presentation of the report, the Board of Supervisors charged staff with developing a series of tasks and milestones. Member Marangi commented that staff and the Committee should ensure that the public understands the needs, requirements, and funding mechanism. Mr. Werner advised that the Board of Supervisors has charged staff with having a program in place by November. In response to a question, Mr. Werner advised that an outline has been developed and will be presented to the Committee at the next meeting. In response to a further question, Mr. Werner explained that the outline addresses service levels, cost of service, staffing, organization, etc.

Discussion took place regarding Ash Canyon, and Mr. Givlin advised that David Leid has expressed an interest in developing a parcel map. This may provide an avenue to acquire a separate parcel or easement for the needed drainage improvements. Vice Chairperson Anderson advised that Attorney Todd Russell has volunteered legal services with regard to this matter. Chairperson Plume solicited public comment; however, none was provided.

In response to a question, Mr. Werner solicited input from the Committee regarding priorities and goals which they have individually considered. Mr. Werner advised of discussions with the school district regarding development of storm water/water quality curriculum for elementary school children, combining facilities, and other arrangements to accomplish the City's needs and offset costs for the school district and other large stakeholders.

Member Saunders expressed an interest in maintenance issues and small, ongoing projects. Member Fredlund requested information regarding ongoing maintenance by the Parks and Streets Departments. Mr. Givlin advised that staff will be determining the equipment and manpower needs of the various departments which will be supporting the storm water management program. Because of the mandates of the Clean Water Act and other federal requirements, the City will need to ensure that equipment and manpower are available to meet the requirements. Staff will be discovering these needs during the process, bringing the information to the Committee, educating the public, and providing a forum for Committee and public input.

(1-2205) Bill Goni inquired as to maintenance on Ash Canyon Creek before the next phase of the freeway is started. Chairperson Plume advised that one of the first priorities of the storm water management program is maintenance.

G. INTERNAL COMMUNICATIONS AND ADMINISTRATIVE MATTERS

G-1. FUTURE AGENDA ITEMS (1-2173) - Chairperson Plume requested staff to schedule a tour for the September meeting.

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H. ADJOURNMENT (1-2228) - Member Marangi moved to adjourn the meeting at 7:48 p.m. Vice Chairperson Andersen seconded the motion. Motion carried 5-0.

The Minutes of the July 9, 2001 meeting of the Carson City Storm Drainage Advisory Committee are so approved this 13th day of August, 2001.

RUSSELL PLUME, Chairperson