

Alder Creek Watershed Assessment & Management Plan STAKEHOLDER MEETING

November 29, 2007 • 1:00 pm to 3:30 pm • City of Folsom Community Center

Stakeholders in Attendance:

Charlie Alpers (U.S. Geological Survey)

Kevin Kane (MacKay & Soms)

Jeremy Goulart (The Hodgson Company)

Aimee Rutledge (Sacramento Valley
Conservancy)

Gail Furness de Pardo (City of Folsom)

Tom Garcia (City of Folsom)

Michael Gross (California State Parks)

Jim Konopka (City of Folsom)

Tim Murphy (Gencorp)

Corinna Sandmeier (Sacramento Co. Planning)

Alta Tura (Sacramento Urban Creeks Council)

Staff in Attendance:

Sarah Staley (City of Folsom)

Carmel Brown (CKB Environmental)

Joan Chaplick (MIG)

Kim Fettke (EDAW)

Chris Fitzer (EDAW)

Diana Sherman (MIG)

I. Welcome and Introductions

Joan discussed the meeting objectives, including bringing the group up to date on current work and reviewing the timeline.

Meeting Objectives/Process Review

This stakeholder group process is somewhat different from groups that meet regularly in that meetings are scheduled in relation to project milestones rather than a regular meeting cycle. As the project progresses, meetings will be closer together. The current schedule has the group meeting through 2009.

II. Update on City of Folsom Sphere of Influence Activities

Gail presented on the current status of the Programmatic EIR/EIS process for City of Folsom Sphere of Influence. There were several key concerns, specifically traffic and oak woodlands in the area. Parklands are in addition to the open space shown in the oak woodlands area.

Alta asked about creek preservation outside of the main creek—are there tributaries? Yes, some of the tributaries are included; others, however, are seasonal. This is not the only factor in the decision process, however. There are several additional concerns, including where the water supply for future development will come from. Alta asked about using existing tributaries for water rather than piping it in from outside places. Gail wasn't in a position to answer this question, as this information has not yet been submitted. Alta would like more information about what water generally might be piped or removed. More information about these details will be available in the draft environmental document, which will be available about eight months after the NOP.

Chris asked who the lead federal agency will be. It will be the U.S. Army Corps of Engineer.

Tom highlighted some key infrastructure improvements that will occur with the project, including the widening of roads and new connections.

One stakeholder asked how wide a new road would be. It will vary between four and six lanes, but is not a limited access road.

The focus right now is on the major arterials, although there are also a number of smaller roads. Jim suggested mapping trails and bike paths on the map as well so that it's clear where the crossings occur and what type of setbacks from the creeks would be necessary to accommodate trails. Kevin Kane added that allowances for on-stream water storage should be taken into account when determining creek setbacks. The project team would like to have this information, but has not yet been given this information to map. There will be a bike/multiuse trail network associated with this project, however.

Jim noted that the creeks provide very clear limits as far as crossings and paths. Chris asked if there were any preliminary plans available for some of these crossings. No, not at this point. Any questions regarding the crossings can go to Sarah and Carmel to be passed on to Gail and Tom.

Kim asked what level of detail should be provided in watershed team recommendations regarding stream crossings. Tim Murphy responded that they are always looking for new ideas, but they must be cost-effective. Where inexpensive crossings make sense, that's what will be built. However, if there are specific crossings that are problematic and need custom designs, or if stakeholders know of innovative ideas from other areas, it would be good to let Gail and Tom know. This is also the case for any crossings where a specific functionality needs to be preserved. Gail emphasized that prioritizing recommendations is key, so that dollars can be balanced.

Chris asked whether the environmental review for each section of the project would cover the roadways solely within the project area, or whether they would extend beyond that. It's likely that they would cover the roadways within an area. Several people also asked about stormwater basins and how this would be handled.

Carmel requested that you let her know if you are especially interested in this topic, and she will let you know if a meeting is scheduled to focus on this.

III. Stakeholder News

Aimee Rutledge of the Sacramento Valley Conservancy presented on the Conservancy's work, and shared a map of currently protected and targeted areas. She also noted that it is unique that areas within Sacramento County are still zoned Ag-80, since this protects them to some degree from development. As the parcels get smaller, people are much more likely to purchase land for homes instead. She is also interested in trail planning throughout the areas. For instance, in some areas the proposed trails are very narrow, which can be a factor in whether people choose to use these trails.

Tom asked which areas the proposed trails would be crossing, based on the map. He noted that an at-grade crossing would not work with White Rock Road. Amy agreed, and observed that they have already been meeting with key players on this to explore the possibility of an undercrossing or another solution. The County is also interested in a wildlife undercrossing in this area. This may also connect to a small working group focused on stormwater drainage issues, road crossings, and trails. Alta, Amy, Jeremy, and Kevin are interested in participating in this small group.

Charlie Alpers of USGS shared that his organization did some Mercury sampling of waters and aquatic organisms in Alder Creek in 2003. He can share these results at the close of the meeting. They currently have no funding to publish these results, however.

IV. Watershed Assessment Results to Date

Tour

Carmel presented on the watershed tours that took place in April and May 2007. Joan then shared reflections that the group had on various stops along the tours. Carmel also noted the history of the reservoir and the dam that sits above it—little is known about this structure. Chris observed that he may be able to survey it as part of the EDAW work.

Presentation on Technical Assessments

Chris presented on the purpose, methods, site selection, and preliminary results of the Alder Creek watershed assessment. He also highlighted next steps.

Alta asked if the oak woodland lack of age-class diversity and structure was a result of clear-cutting or if it was specifically tied to mining. It's unclear, but Chris has mapped the connection to mining and there do seem to be connections.

Charlie asked whether the team had looked at historic maps. Not extensively, but they do have a 1937 aerial. They have also been in touch with the historical society to identify any other potential photographs that may be available.

They will summarize the data findings in a technical memorandum.

Carmel suggested some interviews with older rancher families to see what information might be available about the history of the creek. For instance, some of these families might have critical information about old stock ponds.

Charlie asked whether EDAW would be compiling other water quality data. They have not done so thus far and the existing data are very limited. Charlie suggested the U.S. Bureau of Reclamation might have done some surveying when they did work in the area. There are also some data on Willow Creek that may be related. Charlie suggested some free panning of the creek to see if visible mercury remains from legacy mining activities.

V. Next Steps and Next Meeting

At the March meeting, Chris will bring some hard data for review, including specific metrics on “bug data.”

Next meeting: Date TBD at Gencorp (620 Coolidge) in the main room. They will provide the AV equipment.

Alder Creek Watershed Assessment & Management Plan

STAKEHOLDER MEETING

April 30, 2008 • 1:00 pm to 3:30 pm • GenCorp Realty Investments

Stakeholders in Attendance:

Dean Blank (Sacramento Co. Transportation)
Rosemary Burnham (ERT/Folsom Auto Mall)
Gail Furness de Pardo (City of Folsom)
Jim Konopka (City of Folsom)
John Mansoor (USA Track & Field)
Tim Murphy (GenCorp Realty Investments)

Mark Rains (Sacramento Co. DWR)
Jim Ray (MacKay & Soms)
Corinna Sandmeier (Sacramento Co. Planning)
Jeff Thatcher (Teichert)
Alta Tura (Sacramento Urban Creeks Council)

Staff in Attendance:

Debra Bishop (EDAW)
Carmel Brown (CKB Environmental)
Joan Chaplick (MIG)

Kim Fettke (EDAW)
Nicole Lewis (MIG)
Sarah Staley (City of Folsom)

I. Welcome and Introductions

Joan Chaplick introduced Tim Murphy, who welcomed the group and oriented everyone to GenCorp office facilities. Joan then provided an overview of the meeting agenda.

II. Project Schedule and Status Update

Carmel reviewed the updated planning timeline for the management planning process and the schedule for Plan completion. Watershed assessment work is nearly complete. EDAW is currently working with NHC on the hydrology and geomorphology study, which they anticipate finishing this June. This spring EDAW will complete the final round of water quality and bioassessment monitoring. The final plan will be completed June 2009.

Carmel also updated the group on Alder Creek stewardship activities. She reported a successful Alder Creek cleanup event held on April 19th in conjunction with the Urban Creeks Council's Creek Week. Fifty representatives of local Cub Scout Packs participated in creek clean-up activities, and are now interested in adopting reaches of Alder Creek and integrating creek stewardship into their community service work. Also, REI has nominated the City and Local Conservation Corps for grant funding to cleanup a portion of Alder Creek. REI has a store on Iron Point Rd. in the Alder Creek Watershed.

III. Review Draft Vision Statement

Joan introduced the draft vision statement to the group, which was based on stakeholder discussion and suggestions shared during the initial stakeholder meeting in March 2007. The goal statements included as part of the vision statement were developed by EDAW based on early meeting feedback and suggestions by the technical team. Joan requested initial feedback from the group related to the

overall flavor and approach: What do you like about the vision statement? What about it do you wish were different?

Stakeholder Response to Draft Vision Statement

Jim Ray suggested that the group change the term “flood water attenuation” in the opening paragraph to broaden how the vision statement addresses flood management – he recommended replacing it with the term “flood water conveyance.” Mark Rains suggested that an updated draft use the more general term “flood plain.” Sarah Staley recommended that the vision statement include storm water management.

Alta Tura requested that the vision statement explicitly state that Alder Creek is an asset to the community, as expressed in previous stakeholder discussion. Alta also suggested that the plan goals be revised to express the group’s desire to exceed regulatory requirements rather than meet them.

Dean Blank suggested that the vision specify the protection of habitat that supports native plants, fish and wildlife, and not simply habitat in general.

Debra Bishop requested that the group return to discussion of the vision statement once those recommendations, and any additional suggestions from the present group, are discussed and incorporated. The stakeholder group will receive the vision statement via email.

IV. Status of Environmental Impact Reports (EIRs) and Opportunities for Input

Folsom SOI EIR

Gail Furness de Pardo reported to the group that the Notice of Preparation (NOP) for the Folsom SOI Draft EIR will be released the first or second week of June and available for review by the next stakeholder meeting. The NOP meets both state and federal requirements. For this reason, the City of Folsom has been coordinating with the Army Corps of Engineers. The Draft EIR will be complete five to seven months following release of the NOP, at which point there will be opportunity for public review.

Glenborough at Easton and Easton Place EIR

Tim reported on the status of the environmental review process for the Aerojet properties. The Draft EIR has been released and comments on the draft are due on June 2nd. GenCorp has been working side-by-side with Sacramento County to complete the EIR.

Tim then presented a Powerpoint® presentation that GenCorp previously presented to the Sacramento County Planning Commission a few weeks ago describing the vision for Easton Place, as well as its program and major features.

Joan then opened the discussion up to questions for Gail or Tim related to the two EIR processes. Gail asked Tim about the timeline for and financing of the development review. Tim said that the timing of the EIR will follow the sequence of the project development phases. Certain infrastructure, including unpaved roads, is already in place on the property.

One stakeholder commented on the importance of ensuring that the connection between the Easton area and Hazel not be lost and asked Tim if GenCorp plans to use the railroad right-of-way to connect the development's proposed trail system with existing trails. Tim responded that the Easton Place trail corridor will be an extension of the American River Parkway that connects to the SOI and provides well-delineated connections for pedestrians and bicyclists. Planning is being done in collaboration with the County Parks Department. Currently, GenCorp and County Parks are compiling information from various agencies to create a map that shows bikeway delineations. Tim will provide an update of the status of this effort at the next meeting.

There was further discussion related to the importance of GenCorp creating a trail system comprised of separate trails to avoid the type of user conflicts that are common along the American River Parkway. John Monsoor requested that GenCorp develop a minimum of two trails – one paved trail for bikes and a second, unpaved trail for runners/joggers and walkers. John Mansoor discussed the American River Parkway. The Parkway's original plan called for the creation of multiple trails to separate user groups. This plan was not implemented, leading to user conflicts between runners, cyclists and equestrian users. The new plan calls for runners to share the Parkway with bicyclists and horseback riders. John also suggested that if the Easton development includes a fire road, that it be open for use by runners to help to avoid user conflicts.

According to Tim, GenCorp is considering a single trail alignment to meet its environmental goals for the project. The single, paved trail would be eight to ten feet wide with decomposed granite (DG) shoulders on both sides to accommodate all user groups.

V. Introduce and Discuss Example Recommendations

Debra opened the discussion of the example recommendations developed by EDAW. She reminded the group that since the Management Plan is scheduled for completion June 2009, creekshed planning meetings, including today's, present an opportunity to provide meaningful input to planning efforts such as the GenCorp project.

As Jim Ray stated and as Joan reiterated later in discussion, the example recommendations discussed here constitute early advice for landowners and other implementing agencies. Draft recommendations and today's conversation are a starting point in the process of drafting Plan recommendations. Stakeholders will have additional opportunity to review and comment upon these recommendations.

Kim Fettke then provided an overview of the proposed watershed protection and management goals and recommendations. Conversation focused heavily on the recommendations, which fall into seven broad categories:

- Land use design
- Water quality protection
- Protection of hydrologic and geomorphic processes and functions
- Implementation of low impact development techniques
- Protection of wildlife, plant communities, and habitat
- Recreation opportunities and trails

- Long-term management of preserved natural lands

The goal of this discussion was to introduce recommendations to the stakeholder group and to receive preliminary input. Kim requested that the group take time after the meeting to review, absorb and provide further response if desired.

Kim noted that for the purposes of these recommendations and the management plan, the term “low impact development” is used in reference to storm water management techniques, and that its definition is consistent with the *Stormwater Quality Design Manual for the Sacramento and South Placer Regions* (see footnote p. 5). She also expressed particular interest in returning to a discussion of creek buffers as part of the meeting’s agenda (recommendations related to land use design, p. 1).

General Comments and Response

Following Kim’s overview of the recommendations, Joan requested that group members first provide general feedback. The review began with a discussion of the role of the plan and who may be likely to adopt it. Carmel stated that the Watershed Management Plan will become an advisory document to implementing entities, and reminded the group that these recommendations are not a hard and fast set of rules. Debra agreed, but also clarified that this plan may be adopted by local governing bodies. Questions were raised about potential adopting agencies and the role of Sacramento County with respect to management of the area not yet annexed by the City of Folsom. Joan assured the group that future meetings will provide opportunity to discuss the role of the Plan.

Jim Ray made the overall comment that the recommendations include many good ideas. At the same time, they raise the bar considerably and do not present a business as usual approach to planning and development. He pointed out that, if implemented, these recommendations would exceed standards, and not simply meet federal, state and local regulatory requirements as the second draft management goal proposes.

Jim also advised that the group take precaution in recommending compliance with LEED Neighborhood Development (ND) standards, given that they are still in their pilot phase. In response to a question from Joan, Jim confirmed that he does not believe that any of the example recommendations set improper standards.

Land Use Design (Tiered Buffers)

From there, review of the recommendations moved into greater specificity, beginning with a discussion of buffers and related land use design recommendations (p. 1). Jim asked Kim and Debra to define “tiered buffers” for the group. Kim explained that a tiered buffer system refers to a system in which certain uses are allowable within each particular buffer tier, or type. Similarly, buffers from different tiers provide specific functions and are generally of different widths – buffers of greater width will provide necessary protection in some areas, whereas more narrow buffers will allow for further encroachment where greater protection may not be necessary.

Kim shared with the group that she believed it would be useful to use stakeholder input and plan goals to define what the uses of each tier may be, and then design buffers of variable width based on site-specific natural resources, adjacent land uses and preservation goals.

Alta Tura suggested that plan recommendations adhere to the overall principle of creating buffers as generous in width as possible where manageable to do so. Jim requested that EDAW articulate the details of the tiered buffers to provide guidance to the stakeholder group and something for them to respond to. Jim noted the difficulty in providing effective feedback when the details related to buffer design or width are not yet established. Kim noted that many applicable studies and references exist to help guide buffer design for the watershed, including a series of setback recommendations developed for Western Placer County (*Setback Recommendations to Conserve Riparian Areas and Streams in Western Placer County*, Placer County Planning Department). However, before EDAW can add detail to buffer recommendations the stakeholder group must first define its objectives. As Debra stated previously, goals and buffers put into place to achieve those goals are directly tied to one another.

Tim added that part of the challenge in applying recommendations evenly is that the character of the watershed varies significantly reach by reach, despite its small area. Debra responded by stating that the example recommendations are meant to provide input into the planning process, and that it is not the role of EDAW in this process to provide specifics with respect to buffer design.

Both Debra and Kim requested input related to the group's overall priorities and preferences for the creekshed. Kim asked the group what its goals are with respect to recreation and education along the creek corridor: How intensive should recreation and educational areas be? Should the primary use be preservation or recreation and education? This type of prioritization will help determine what buffers along the creek's corridor will look like, and will help define goals for land use design.

Water Quality Protection

In reference to water quality recommendation #3 (p. 3), Jeff Thatcher asked EDAW staff whether mercury is a naturally occurring element in local soils. Mercury found in the area is not naturally occurring – it is elemental mercury (quick silver) brought in to process gold. Naturally occurring mercury is in the form of ore/cinnabar. There is atmospheric deposition of mercury from coal power plants, fires, and volcanoes, but these are considered trace amounts.

Jeff questioned how appropriate it is to place emphasis on mercury alone, and requested that this recommendation be broadened to refer to contaminants more generally. According to Jeff, other contaminants exist in drainages to the southwest of the creek, though none have necessarily been found in Alder Creek itself.

Protection of Hydrologic and Geomorphic Processes and Functions

In reference to item #1 (p. 3), Jeff asked the group if the 200-year flood map for Alder Creek is available, and voiced concern and interest in the floodplain area delineation and existing flood management legislation. According to Jim Ray, flood management is an evolving point of legislation, and a 200-year flood map does not yet exist. Carmel said that language used in #2 mirrors language from the NPDES permit soon expected to be released for Sacramento County and its jurisdictions. Specific criteria related to NPDES permit implementation will be laid out by local agencies.

Jim and Mark requested that EDAW remove the second sentence from item #3 (p. 4) - emphasis on implementation of LEED ND standards does not provide the clarification it intends to. Kim stated

the importance of taking advantage of low impact development (LID) BMPs to improve land and storm water management and design – LEED ND embraces many of these.

Tim and Carmel both recommend revising item #9 (p. 4) to make the statement more clear and to avoid misleading plan users to believe that these recommendations are intended to influence construction design. In fact, they are meant to help guide land use decisions more broadly. They advised the consulting team to remove the first part of the statement: “Minimize mass grading in the watershed”. There will be later opportunities to address design construction details.

Implementation of Low Impact Development (LID) Techniques

Dean Blank recommended changing item #1 (p. 5) by removing the statement about omitting sidewalks from street design where possible – this suggestion is based on practical and regulatory limitations related to including and removing sidewalks and the impact of such activity on accessibility.

Dean also advised the group to edit item #2 (p. 5) so that the recommendation clearly states that developers, landowners and implementing agencies should consider using permeable materials for all pavements and concretes.

In Jim’s opinion, item #5 (p. 5) represents a very aggressive approach to reduce parking footprints that should not apply to suburban locations. He recommended that the group remove the detail from this recommendation (i.e. “use no more than 20% of the total development footprint area for surface parking facilities”), and instead articulate an overall objective. Many municipalities have very structured parking requirements that conflict with this recommendation. This makes implementation of recommendation #5 less feasible, particularly in suburban locations.

Protection of Wildlife, Plant Communities and Habitat

There were no specific comments concerning recommendations related to the protection of wildlife, plant communities and habitat (p. 6).

Recreation Opportunities and Trails

Early in the meeting and before he left to meet a previously scheduled obligation, John Mansoor provided feedback related to planning trails in the watershed. John advised that, given existing user conflicts along the American River Parkway, the group consider recommending separate trail systems. According to John, there are ten times more runners and walkers than cyclists that use the Parkway. He also acknowledged the complexity of trails planning, reminding the group that off-road cyclists and mountain bikers who want to use dirt trails may present other issues. As a final comment, he added that incorporating fire lanes into the trail system is a good idea.

Jim Konopka suggested amending item #5 (p. 7) to recommend providing adequate vertical clearance under grade-separated crossings for equestrian users also – at least ten feet is necessary. As a general safety precaution, it is safer to have more vertical clearance. Also, maintenance vehicles should be able to drive under crossings. Carmel called out the issue of trail design to accommodate

horseback riders as a parking lot item that she will take up with Friends of Folsom Parkway, who have members that represent equestrian interests.

Long-term Management of Preserved Natural Lands

Discussion of the recommendations presented in this section focused almost exclusively on the use of conservation easements (item #2, p. 9). In response to a question from Sarah related to the use of conservation easements and public ownership for long-term preservation of natural lands as recommended (item #2, p. 9), Kim explained that these recommendations are based on successful management approaches that utilize this conservation strategy. According to Kim, the placement of conservation easements on private property has not worked very well to meet preservation objectives. Kim asserted that if public agencies were willing to accept ownership of land with conservation easements held and managed by a third party (e.g. land trust), then permanent conservation would be more effective. Jeff disagreed, stating that giving land to a public entity can create long-term conflicts. He said that many people in the conservation community prefer to put land in the hands of private groups such as land trusts in order to ensure long-term protection. Kim agreed, but stated that it is often difficult to find a reputable third party willing to accept ownership of smaller parcels of land in addition to management of the conservation easement requirements.

In addition Tim asked that item #2 be changed so that it does not specify that an easement should be held and managed by a third party – the landowner and the municipality should make this decision. Alta argued that easements in general are critical to preservation and requested that easements remain a part of the recommendations.

More generally, Jim recommended editing recommendations in this section to narrow the focus on long-term management of preserved natural lands to include only those natural lands within the creek corridor. Jim's request prompted Debra to ask the group to consider what the intent of this plan is and again express the importance of answering this question, particularly for municipalities.

VI. Next Steps and Next Meeting

MIG will send a request to those not present at today's meeting to review and provide feedback on the Alder Creek Watershed Recommendations for Development Planning (Preliminary Working Draft – April 2008.) Kim agreed to send Joan a Word version of the preliminary recommendations, who will then send to the group. MIG will create and send all stakeholders an electronic packet including the recommendations, project timeline, meeting minutes, and a matrix that includes all stakeholder suggestions for improving draft recommendations.

MIG will send out a general time frame for the next meeting based on the release of technical reports.

Alder Creek Watershed Assessment & Management Plan

STAKEHOLDER MEETING

November 19, 2009 • 1:00 pm to 4:00 pm • City of Folsom City Hall

In Attendance:

Gail Furness de Pardo (City of Folsom, Community Development and Planning Dept.)
Jim Konopka (City of Folsom, Parks Department)
Mary Maret (Sacramento County Regional Parks)
Tim Murphy (GenCorp)
Janet Parris (Sacramento County Department of Water Resources)
Marks Rains (Sacramento County Department of Water Resources)
Alta Tura (Sacramento Area Creeks Council)
Craig Zoller (McKay & Soms)
Sarah Staley (City of Folsom)
Chris Fitzer (AECOM/EDAW)
Carmel Brown (CKB Environmental)
Barbara Washburn (California Office of the Environmental Health Hazard Assessment)
Joan Chaplick (MIG)
Nicole Lewis (MIG)

Welcome and Opening Remarks

Sarah Staley welcomed members of the Stakeholder group and expressed appreciation for their return after a long pause. The Alder Creek Watershed Management Plan Team is still intact, with Carmel Brown as consulting Project Manager for the City of Folsom, EDAW/AECOM as technical lead for the plan, and MIG providing facilitation support services.

Joan Chaplick of MIG provided an overview of the agenda and goals for the meeting. Overall, there is a great deal of work to accomplish before February 28, 2010, which marks the end of the grant term for the project. This date is a hard deadline, with the final Alder Creek Watershed Assessment and Watershed Management Plan as the end product.

In response to this new accelerated schedule, the project team has designed a compressed process and meeting agendas to accomplish what it originally thought it would get done in eleven stakeholder meetings in six meetings. Despite the shortened schedule, there will be opportunity for stakeholders to share feedback on the plan.

Updates on Activities in the Watershed

Carmel Brown provided the stakeholder group with an update of stewardship activities in the watershed. The work started during the annual Creek Week cleanup day 2 years ago when a very active group of about 50 Boy Scouts and their parents cleaned the area around Alder Pond. This group, led by Scout leader and dedicated steward Neil Kelly, became known as the Folsom Creek Watchers in 2008, and this past year grew in membership and is now called Folsom ACT (Adopt a Creek/ Trail).

Folsom ACT works throughout the city but has a strong presence in the Alder Creek Watershed. Folsom ACT adopted the entire Humbug and Willow Creek corridors and parts of the Alder Creek corridor. Friends of Folsom Parkway, a partner nonprofit group, received a grant from REI to fund creekside trail restoration activities. Folsom ACT has mapped invasive species in riparian corridors throughout Folsom and is in the planning phases of a pilot program to eradicate weeds and replant various areas. The group now works year-round to organize clean-up days and a number of environmental education activities in the community.

Folsom ACT has led clean-up and weed eradication efforts along the ponds by Highway 50. This work highlights and creates opportunities to reach out to businesses in that area. Carmel noted an interest in conducting more outreach to private businesses in the lower watershed, such as Kaiser Permanente.

Carmel reported that there is now a certified Environmental Impact Report (EIR) for the Easton development. Tim Murphy of GenCorp shared that the County Board of Supervisors approved the Glenborough and Easton Place projects by unanimous vote. GenCorp and Sacramento County formed a partnership at the beginning of the project application and review process. This progressive approach is one important reason for this level of project support and approval. Currently, GenCorp is working on detailed design plans and is positioned to begin construction as soon as the housing market recovers.

Gail Furness de Pardo reported on the status of the development review process in the City of Folsom's proposed sphere of influence (SOI) area, which sits to the east of the GenCorp property, on the south side of Hwy 50. The City is working with AECOM/EDAW to develop the Specific Plan and the administrative draft EIR. The end of March 2010 is the target date for completion of the public review drafts of the EIR and the Specific Plan.

Presentation of Watershed Assessment Findings

Chris Fitzer from EDAW presented findings of the Alder Creek Watershed Assessment. He provided a high-level summary of the assessment, key findings, and initial recommendations. An additional meeting has been scheduled for December 1, from 1-4 pm in this same location, to allow for more in-depth review and discussion of the watershed assessment.

Assessment Overview

The purpose of the assessment is to describe and assess existing conditions in the watershed. This assessment is descriptive of existing conditions and is also intended to characterize the magnitude of any kind of impairment or disturbance in place, including those resulting from both historic uses and contemporary activities in the watershed. This analysis will assist in the diagnosis of the causes of impairment, or in answering the question: “What is the underlying issue that caused this problem?”

Because portions of the Alder Creek Watershed are largely undeveloped, the watershed assessment is predictive and explores the question of what will occur as a result of proposed development activities, and how the watershed can be protected and conserved. Recommendations for preservation and conservation are therefore focused on the watershed area south of Highway 50. Opportunities north of Highway 50 focus more on restoration and stewardship activities.

The watershed assessment was conducted in two parts. Part I includes the hydrology and geomorphic assessment approach, results and findings. Part II focuses on the biology and ecology of the watershed. McKay & Soms, GenCorp and the SOI developer group provided information for Part I. Given that the proposal for the SOI is more programmatic in nature and does not provide a lot of detail, the watershed assessment is also relatively high-level.

Hydrogeomorphic Assessment

Northwest Hydraulic Consultants worked with EDAW to develop the model for the hydrogeomorphic assessment. EDAW also conducted field studies at key geomorphic index points, chosen at different areas in the watershed to characterize the entire watershed.

As part of this effort, EDAW identified potential impacts on stream channel stability and sediment transport for pre-and post development conditions and identified and characterized the susceptibility of stream reaches.

One aspect of this assessment is the historical analysis. EDAW looked at maps from the years 1908, 1937, 1952 and 2008 to provide a sense of how active the channel is. The earliest maps illustrate that historic mining have influenced channel conditions.

One key finding relates to Natomas Company Dam, an old dam that exists on GenCorp property. The Natomas Company Dam shows up on the 1937 map and thus pre-dates 1937. This is an historic feature of the watershed that has had a profound effect on sediment transport and channel morphology. Characterizing these impacts, including sediment accumulation behind the dam and channel downcutting downstream, is an important part of the historical analysis.

For illustrative purposes, the assessment includes conceptual hydrographs to illustrate pre-development and post-development hydrology. The hydromodification assessment is based on model simulations for how the creek will act in different storm events. A synthetic hydrology of Alder Creek was developed using data collected from 18 gage sites

throughout the County. Hydraulic parameters were calculated for each index point, including developed discharge, velocity, and sheer stress duration curves.

In addition, the hydrologic analysis shows percentage change in model peak flow at project outfall locations at different flow re-occurrence intervals, including 100-year, 10-year, 5-year, and 2-year peak flow results.

The predictive hydrologic analysis is based on work McKay & Somps conducted in 2007. The level of analysis is very coarse and programmatic and is based on preliminary assumptions applied to each land use.

Hydrographs show ascent and descent of creek flow in response to a rain event. Both with and without detention basins there is a decrease in flow (measured in cubic feet per second, or CFS) for 100-year peak flow results and an increase for 2-year flow results.

Alta Tura asked why there are increases in CFS during low-flow events and decreases during high-flow events. Chris explained that the decrease in cases of higher flows and increase in lower flow periods is fairly common. Generally, detention basins are designed to accommodate larger flows. Until recently, hydrologic analyses have focused on 10-year and 100-year flows and have not looked at small storm events.

This assessment also included development of a sheer stress index and analysis of a range of sheer stress ratios. Sheer stress helps describe the conditions under which particle movement and bank erosion is likely. The index is unitless and shows percent change between existing conditions and conditions following the proposed development. This information tells where there may be problems and helps to identify specific areas of potential concern for the future.

In response to a question from one stakeholder, Chris explained that the sheer stress ratio fluctuates as a function of bed and bank materials. The significance of “increased sheer stress” depends on the bank material.

Based on the above results, most increase in sheer stress results from 1.5 - 2-year recurring events commonly associated with a bankfull event. This is the flow that would fill up a low-flow channel before it overflows into its associated floodplain. These events have the most impact in large part because of the frequency with which they occur.

Chris explained that there are limitations to this analysis. Namely, results are based on synthetic or simulated hydrology, rather than continuous flow data. In other words, flow duration curves are not based on empirical data from the Alder Creek Watershed. Gages used were from throughout the region and data is from 10 to 20 years ago.

These are points important to consider when using the data and further refining this model. Continuous simulation hydrologic modeling could confirm the findings of the analytical approach. Also, it is important to look at the period of record and associated climatic trends during these periods of time.

In summary, more work still needs to be done with respect to the hydrologic analysis. More research will be needed as projects move further into design and development, and as McKay & Soms apply to the Central Valley Regional Water Quality Board and others for permits.

The following points are highlights from the summary of findings for the resulting hydrogeomorphic analysis. These realities influence the hydrologic regime and channel morphology of Alder Creek:

- The Alder Creek Watershed has shallow soils, with limited absorption capacity, and a lot of exposed bedrock.
- The area above the Natoma Company Dam is now filled with sediment.
- The significant amount of cobble limits the channel's susceptibility to vertical instability, or downcutting. However, if there is added force to the creek and it can't increase the depth of its channel, then the channel will want to widen.
- In the middle to lower reaches, riparian forest is dense and substantial, which will limit future erosion and provide an additional level of resiliency to change.

Biological and Ecological Analysis

The biological and ecological component of the Alder Creek Watershed Assessment is in large part based on a review of existing studies and reports. This current effort included development of a GIS database that augments data from previous studies. The database includes inventory and analysis of land cover types and resources, including sensitive resources, vegetation communities, habitat types, common plants and wildlife, and special-status species.

The ecological assessment approach and methods included field data collection, field surveys, aquatic ecological bioassessments, and rapid vegetation assessments.

While water quality samples provide data for a shot in time, study of benthic macroinvertebrates, or aquatic bugs, provide information about the health of the creek for a longer temporal scale. Bioassessments took place at three sites: in the lower watershed where Folsom Blvd. crosses over the creek, above the Prairie City Road crossing, and on a tributary on the north side of Highway 50. At the third site, the corridor is in tact but influenced by upstream residential development.

EDAW identified several kinds of wetlands and waters, including perennial and ephemeral streams, wetlands, vernal pools, seeps and ponds. The Alder Creek rapid vegetation assessment results reveal a dense riparian forest in the upper watershed, with most species that are commonly found throughout the Sacramento Valley. The upper watershed is primarily Oak woodland, much of it savannah characterized by sparse oaks and grasslands. Elderberry is found among the dredger tailings. The watershed includes several special-status species, including Swainson's hawk and other raptors, vernal pool crustaceans and the pond turtle.

Chris shared a map of habitats and vegetation communities. Most of the information to develop this map was provided by GenCorp and GenCorp consultants. A second map – a

1937 aerial photo overlaid with a 2008 aerial - gives an indication of the mining legacy with respect to contamination and impacts on the physical landscape. The watershed includes many dredger tailings.

Study of the physical habitat and water quality reveals that Alder Creek is a low to moderate gradient foothill stream with a riffle-pool-glide complex. Lower creek sections have a lot of woody debris, which provides good habitat complexity. Cobble and gravel dominate the substrate. Overall, water quality is within the expected range. Results from the Benthic Macroinvertebrate (BMI) Richness Measure - a measure of the diversity of the EPT taxa found in study sites - indicate good overall creek health.

The ecological assessment also included application of an index of biological integrity. The Index of Biological Integrity looks at a number of metrics that are discriminators of creek health, providing a composite of data that helps to compare the overall ecological health of Alder Creek to that of other creeks in Sacramento County. In this comparative analysis of mean scores, Alder Creek scores on the positive side of the mean and ranks relatively high. Only Placer County streams scored consistently higher. These streams are higher in the foothills and generally have greater riffle-pool sequences.

Overall, the watershed has a lot of ecological value. With proposed changes to the nature of the watershed, there are many key issues and considerations that the ecological assessment helps to highlight, including the potential for:

- Direct loss and fragmentation of oak and riparian woodland as a result of future development
- Water quality and hydrologic impairment of vernal pools and swales
- A possible shift from intermittent/ephemeral tributary streams to perennial creeks
- Transition from open oak woodland to willow/alder communities along riparian corridors
- Accelerated eutrophication of ponds
- Mercury release and exposure resulting from the methylation of mercury, subsequent uptake into food web and bioaccumulation¹
- Increased stormwater runoff with urbanization

Nuisance vegetation and accelerated eutrophication of ponds and lakes are ecological concerns maintenance issues that, while very important, are not uncommon. Habitat and multifunctional corridor fragmentation are also broader trends resulting from increased development and urbanization. The plan must address these.

Status of Document and Next Steps

Carmel reiterated that Chris' presentation provided a quick run-down of a very complex subject. The December 1 meeting will focus exclusively on the assessment and on giving Chris the feedback EDAW needs to finalize the assessment and related documents. Findings from the assessment report and the hydraulics report will be summarized in the plan, and the reports themselves will become appendices to the Watershed Management Action Plan.

¹ Currently, Lake Natoma has a fish consumption advisory for mercury.

EDAW has prepared an administrative draft of the assessment and has received comments from the City of Folsom, which it is currently using to refine the assessment. The goal is to share the next draft with stakeholders ahead of the December 1 meeting, though the schedule will be tight. Chris will follow up via email about the specific time the document will be available. When complete, stakeholders will be able to access the next draft via ftp.

Carmel suggested that the group identify regulatory agency representatives to invite to the December 1 stakeholder meeting. This is not a regulatory document and so their role would be to serve as a resource to the group as it works to complete the plan. Carmel noted that while response to early outreach efforts to regulatory agencies as part of this process was generally positive, agencies did not have staff resources to commit at the time. Another challenge is that the Department of Fish and Game (DFG) and Fish and Wildlife Service (FWS) representatives that were originally involved in the process are no longer with these agencies.

Stakeholders agreed that perspectives of the regulatory agencies would strengthen the credibility of the document and on the value of extending the invitation. However, in so doing it will be important to make clear their role in the process.

Conceptual Modeling Exercise/Identifying Linkages in the Watershed

Barbara Washburn from the California Office of the Environmental Health Hazard Assessment led the group in a conceptual modeling exercise for Alder Creek. The purpose of this exercise is to understand the relationships between human activity and conditions in the watershed and to use this as a basis for developing solutions.

A conceptual model is a diagrammatic or narrative representation of how a system works. This visual model represents causal relationships and can come in many forms. The model shows the relationship between two factors where data exists; whether factor x or factor y are in play in a watershed is not clear, but the relationship between x and y has been established in the scientific literature. Components of a model are the issues of concern, the stressors and the sources or causes of the stressors.

Barbara and Chris worked together to create a draft conceptual model for the Alder Creek Watershed and presented this to the stakeholder group to discuss and refine. The “Working Model of the Alder Creek Watershed: A Predictive Model Based on Known Linkages” is *included as an attachment to this summary*. The elements of this model are summarized below.

- **Issues of concern:** The part of the watershed about which you are most concerned, or the ecological endpoint. Here the model identifies the overall health of the aquatic ecosystem and the associated corridor as the primary issue of concern. Ecosystem health as characterized in the draft model for Alder Creek includes water quality, fish and wildlife habitat and migration corridors, riparian woodlands, the hydrological cycle, open space, and trails and recreation.

- **Stressors:** Natural or anthropogenic factors that stress or negatively impact the issue or object of concern. Due to limited time, the Alder Creek model focuses on anthropogenic stressors. While the natural variability that induces stress like floods or hurricanes is often beyond our control, we do have an ability to identify man-made stressors and reduce their impact. Examples of stressors for Alder Creek include upland erosion, altered hydrology, habitat loss and pollution.
- **Linkages or Mechanisms:** These are the processes or mechanisms by which the stressor exerts its influence on the issue of concern. As an example, bed and bank scour is the mechanism by which altered hydrology negatively impacts stream and ecosystem health.
- **Sources:** Natural or human-made factor or activity that causes the stressors. These can be historic or contemporary. In the Alder Creek Watershed, sources of stressors include construction activity, historic mining, development/impervious surfaces, altered stream channels, landscaping and roads. It was noted that an activity such as grazing in some areas may be a stressor, and in others help benefit habitat for specific species.

In explaining the modeling exercise, Barbara noted that we are positive that changes will take place as a result of development. Given that the watershed is not well developed this is a great opportunity to identify ways to limit the impacts to the creek and associated ecosystem that this change will bring.

One stakeholder asked if we are assuming that hydromodification is not going to happen because new development will adhere to new stormwater regulations. Barbara clarified that this draft model does not make this assumption. Chris added that the group should assume some level of modification. Regardless of the regulatory environment there will still be a change.

Barbara then asked the group to turn its attention to a map of the Alder Creek Watershed region. All of the primary issues of concern are part of the regional open space vision led by Sacramento Valley Conservancy. Barbara asked stakeholders to keep in mind the corridor connecting American River Parkway along Alder Creek, and south through to Deer Creek Hills Preserve.

Also, Barbara suggested that the stakeholder group keep in mind the possibility that there may one day be will be a fish ladder to permit salmon and steelhead to get into Lake Natoma, and that one day Alder Creek could provide habitat for fall-run chinook salmon. The National Marine Fisheries Service (NMFS) has issued a biological opinion related to salmonids, which recommends installing ladders on Nimbus and Folsom Dams and others to open up historical habitat. The life cycle of fall run salmon could be complementary to the intermittent streams of the Alder Creek Watershed during years of adequate rain.

Based on the quality of substrate, and the relatively good condition of benthic macroinvertebrates, conditions along Alder Creek are often even higher quality than in places

where salmon currently exist. In addition, salmon have adapted to the intermittent streams we have historically had in California.

Stakeholders then provided their input on the conceptual model. The following suggestions were made:

- Add grazing to the list of sources. There are areas south of White Rock Road with stock ponds, where grazing activities continue.
- Consider distinguishing pre-existing from contemporary stressors.
- Add natural sources, including fire and flooding.
- Add a connection in the model between roads and invasive species (stinkwort is a specific concern).
- Add a connection between landscaping and invasive species.
- Add diseases as a stressor associated with the proliferation of mosquitoes and other pests resulting from deteriorating water quality in ponds and detention basins. This relates to vector control.
- Consider noting public health as an issue of secondary concern (related to the above).
- Consider broadening the stressor category “invasives” to include pests and disease.
- Add domestic animals to sources of stressors and connect to pollution and nutrients.

Chris shared that evaluation of the dam is a topic in the Management Plan. The plan recommends step-down actions, including evaluation of the dam from a stability standpoint and additional studies.

Identify Potential Actions

Chris explained that now that the group has identified linkages and underlying relationship, the next step is to identify recommendations or potential solutions. The following are potential solutions to address the sources of stressors identified in the draft conceptual model for Alder Creek.

- **Construction activities:** SWPPP/BMPs
- **Legacy effects of mining:** SWPPP/BMPs, off-stream basins, floodplain and riparian restoration
- **Alteration to stream channel:** Buffers, off-stream basins, LID/WSUD
- **Development (impervious surfaces):** Buffers, off-stream basins, LID/WSUD
- **On-stream detention basins:** Buffers, Off-stream basins
- **Roads:** Buffers, bridge/design/green roads
- **Landscape and infrastructure maintenance requirements:** Buffers, LID/WSUD, builder and homeowner stewardship

Chris shared preliminary recommendations from the draft management plan. Recommendations related to water quality and hydrologic processes include:

- Plan and implement “robust” SWPPP and BMPs to minimize potential for erosion and mercury release and exposure. Mercury is very difficult to work with and so the best approach may be to prevent its release as much as possible.
- Utilize low impact development (LID) and other water sensitive urban design techniques. This means managing water at its source, including promoting planning, design and installation of native and drought-tolerant plant species and implementing increased controls over nuisance flows and water quality. Many recommendations address both water quality and LID.
- Control nuisance flows and nutrient loading to the extent feasible.
- Plan new stormwater facilities to be off-stream.

EDAW recommends designated multi-functional stream setbacks and buffers to protect different parts of the stream corridor. Buffers should be developed between different uses. As an example, parks should serve as a buffer between open space and more developed areas.

In addition, the draft plan recommends preserving sensitive resources through targeted designation of open space areas. Other preliminary recommendations include taking measures to protect and restore the floodplain, maintain connectivity, limit fragmentation of habitats, and locate trails to provide linkages.

Chris explained that plan recommendations will be provided in step-wise fashion and will include planning recommendations, design-level recommendations (LID, water-sensitive urban design, green streets), project-specific recommendations, watershed-wide activities, and a separate chapter on recommended monitoring activities.

Additional solutions proposed by stakeholders during the session include:

- Promote community-based stewardship and restoration activities
- Manage detention basins, i.e. for invasive plants
- Design green streets and implement landscape designs to minimize turf maintenance
- Address changes to perennial flows as a social issue

Alta noted the importance of building on Folsom’s success as part of this effort. Folsom has done a better job with their creeks than most communities in the area. Its existing creek system is a model in terms of stewardship, the look and feel, and demonstrated capability. Willow Creek provides an excellent example.

Before concluding discussion, Gail Furness de Pardo asked how will the final Watershed Management Action Plan will be used and implemented by the different entities. She also asked whether the stakeholders will formally adopt the plan. Carmel acknowledged the importance of this question and recommended adding this to topics for discussion at the January 21 stakeholder meeting.

Next Steps and Next Meeting

The next stakeholder meeting (main topic: detailed review and working group discussion of the watershed assessment results) will take place on Tuesday, December 1, 2009, from 1pm to 4pm at Folsom City Hall.

Stakeholders will receive a draft Watershed Management Action Plan document to review the first week of January 2010. The final stakeholder meeting is scheduled for Thursday, January 21, from 1pm to 4pm at Folsom City Hall. The final meeting will focus on review of the draft Watershed Management Action Plan and discussion of comments on the plan.

Alder Creek Watershed Assessment & Management Plan

STAKEHOLDER MEETING

December 1, 2009 • 1:00 pm to 4:00 pm • City of Folsom City Hall

In Attendance:

Bob Holderness (AKT)
Neil Kelly (Friends of the Folsom Parkway) *via teleconference*
Jim Michaels (California State Parks Gold Fields District)
Bonnie Van Pelt (Bureau of Reclamation)
Janet Parris (Sacramento County Department of Water Resources)
Jim Ray (McKay & Somps)
Kim Schwab (Regional Water Quality Control Board - Central Valley)
Jesse VanHorn (ERT/FAMDA)
Walker Wieland (OEHHA/California State University, Sacramento)
Craig Zoller (McKay & Somps)
Barbara Washburn (California Office of the Environmental Health Hazard Assessment (OEHHA))
Carmel Brown (CKB Environmental/City of Folsom)
Chris Fitzer (AECOM)
Sarah Staley (City of Folsom)
Joan Chaplick (MIG)
Nicole Lewis (MIG)

Welcome and Introductions

Joan Chaplick welcomed the group, invited a round of introductions, and reviewed the agenda for the stakeholder meeting. Given that many meeting participants were not able to attend the November 19, 2009 meeting, the agenda will follow roughly the same format. The watershed management plan team felt it important to provide all stakeholders an overview presentation of the Alder Creek Watershed Assessment. The group will then review the conceptual model modified during the last meeting and provide opportunity for further suggestion for refinement.

Updates on Activities in the Watershed

Carmel Brown shared an update of watershed stewardship events and activities, focusing on the work of Folsom Adopt a Creek and Trail (Folsom ACT), a project of the Friends of Folsom Parkways with a network of about 200 volunteers. Neil Kelly of Folsom ACT participated in the first part of the stakeholder meeting via teleconference. Folsom ACT held

a kick-off event in September 2009 that involved a number of state agencies and volunteers. There is opportunity to incorporate activities of this group into the Alder Creek Watershed Management Plan. Folsom ACT is currently working with Frank Wallace on a species eradication pilot study for invasive star thistle on creeks and trails. Study findings and results can be applied to work in the Watershed. Neil added that he had a conference call scheduled to connect with a professor at UC Davis (Lars Anderson) related to management strategies for dealing with infestations of aquatic weeds.

The goal of Folsom ACT's efforts is to preserve and enhance the stream network and riparian corridor. The group is holding a variety of workshops on stewardship-related topics, including tree planting and bird box building workshops. In addition, Folsom ACT is seeking funds for interpretive signage along the creek corridor that can help educate residents and visitors about the area's rich history. Folsom ACT is also looking for funds to expand its volunteer network. There are four or five core groups in the Alder Creek watershed, but there are many possibilities to expand participation.

Carmel reiterated that there are many possibilities and many partnerships in and around the watershed that can be built upon. There is opportunity to reach out to many employers located in the watershed, including Kaiser, Costco and Intel. She also suggested a possible connection between GenCorp's plans for an interpretive/nature center and the work of Folsom ACT. As an example, project or study findings could be publicized or showcased at the center.

In reference to the importance of partnerships, Jim Michaels noted the connection between Alder Pond and Lake Natoma. The control of invasive exotic species is very important to the health of the watershed. This includes control of invasive exotics in Lake Natoma, which is connected to Alder Creek, and thus will require a collaborative effort.

Janet Parris suggested that if and when funding for interpretive displays and signage is obtained, coordination will be needed so watershed education materials and displays have the same look and feel.

Craig Zoller also pointed out that there is a close relationship between the watershed management plan and the Sacramento Areawide NPDES Stormwater Permit (Stormwater Permit).

Presentation of Watershed Assessment Findings

Chris Fitzer then presented on the Alder Creek Watershed Assessment. He explained that the purpose of this meeting is to review and discuss assessment results in greater depth than time allowed during the previous meeting. He used the same Powerpoint presentation materials used at the November meeting.

The assessment presentation is broken into two components: 1) hydrology and geomorphology; and 2) biological and ecological resources. Chris began with the biological and ecological assessment and then presented the results of the hydrology and geomorphology analysis, explaining that much of the work conducted for this assessment

has been done in support of the planned developments south of Highway 50. For a more comprehensive summary of AECOM's presentation, see the November 19 stakeholder meeting minutes.

Alta Tura commented on the upstream site of the bioassessment, noting that at one point it looked as if there was going to be some development nearby. Has this changed?

Chris called out the presence of a corporate development just to the west of the creek. This development includes some storm detention ponds, and some construction is currently underway. Elliot Homes currently owns much of the open space in the area, but they have no plans to build that he knows of. One stakeholder shared that the City of Folsom General Plan includes the Oak Avenue interchange and crossing project, which will be in close proximity to the creek.

Alta asked what information AECOM and Northwest Hydraulic Consultants (nhc) have used from the Folsom SOI for this assessment. Chris responded that they have used a lot of information generated by this project. The draft plan includes a table with a list of reports made available by the developers. It was recommended that the SOI land use plan be incorporated into the Watershed Management Action Plan.

With respect to water quality, one stakeholder asked if water quality was found to be similar in all locations studied. Chris responded that this was the case, and noted that the assessment includes comparative water quality data.

Janet Parris asked if the samples collected were taken at different times of the year. Chris explained that samples were taken in the spring, after run-off, consistent with standards. There was no snow melt entering the system and they did not sample during a rain event. Samples were taken in May 2007 and 2008 for AC1 and AC2 sites, and only in 2008 at the AC3 site (the tributary site north of Highway 50).

In response to a question from Kim Schwab, Chris confirmed that the Surface Water Ambient Monitoring Program (SWAMP) methodology is being used so that data gathered as part of this effort can be shared with the State Water Resources Control Board (Water Board). Chris noted that there is data available for Alder Creek through the Department of Fish and Game. The Sacramento Stormwater Quality Partnership (SSQP) also has data for different sties in Sacramento County. AECOM and nhc compared their results to this data, as well.

One stakeholder asked, what was the function of the Natomas Company Dam? Chris and Carmel discussed the possible historic uses of the dam. The impoundment may have been used as water supply for mining, where mining operations would use the water to flood a particular area and then float dredgers in it.

The Natomas Company Dam and upstream reservoir was deeded at some point in the past to City of Folsom and the City is still the owner today. There is little evidence to suggest that it was part of the municipal water supply, but historic maps show it could have been used to supply water for downstream orchards and vineyards; this remains a mystery. Sarah Staley recently found an old drawing for the dam in the City files (pre 1930s) and forwarded it to the technical team.

Kim Schwab stated that the SSQP is creating a hydromodification management plan (HMP) in compliance with the Sacramento Areawide NPDES Stormwater Permit (Stormwater Permit) adopted in September 2008. A Stormwater Quality Improvement Plan (SQIP) is also being finalized (undergoing public review through early January). There will be a couple of years before the final HMP will be fully reviewed and approved, but she believes the Sacramento area is on the cutting edge with respect to this policy area. One stakeholder noted the Stormwater Permit will require hydromodification management controls in the developing portions of the watershed. This could mean the use of flow duration control basins in the watershed, which are typically sized larger than conventional stormwater detention facilities found elsewhere in Folsom.

Kim then asked about the hydrologic surveys of creeks: is the consultant team expanding this information to other portions of the creek? Chris clarified that the established geomorphic index points are the sites of analysis, and that this study does not provide a complete longitudinal analysis. The hydromodification assessment report (to be included as appendix to Watershed Management Action Plan) includes detailed information related to this analysis.

Kim also asked if detention basins are the low impact development (LID) concept for the planned developments in the watershed. Jim Ray stated that in the case of the Sphere of Influence (SOI) planned development, these are planned stormwater facilities. However, development in this area will implement a variety of other approaches that are considered LID best management practices. Hydromodification management controls will also be incorporated.

Alta asked how many basins are planned for the SOI planned development. Jim and Craig Zoller estimated that, of 3500 acres of development, there are approximately 13-14 planned detention basins. None of the water quality basins will be on-stream. However, there will be a stormwater detention basin at every outfall, and some peak-flow detention will be on-stream. All in-stream detention is designed to recede within 24 to 48 hours.

The idea is not to use detention basins as the end-all, so the basins constitute more of a flood overflow environment. Kim commented that concern over the methylation of mercury should be one major reason for limiting the use of on-stream detention basins. McKay & Soms would like to see results from pilot studies looking at the methylation of mercury in detention basins.

Carmel stated that the watershed assessment report should accurately characterize where the legacy mercury is potentially located, based on the literature review; were mining activities conducted throughout the whole of Alder Creek, or primarily between Prairie City Road and Lake Natoma? Chris commented that a researcher from the U.S. Geological Survey (USGS), Charlie Alpers, has reported that there was probably exploratory mining conducted in the upper watershed as well, and mercury would have been used for gold extraction in those cases. He also noted that some of the highest concentrations of methyl-mercury in caddisflies were found at site AC-2 just upstream of Prairie City Road crossing.

The biggest concern is disturbing the sediments and tailings that may contain the mercury. One stakeholder noted that mercury settles in over the season and then erodes with a flush event. In other words, seasonal events could erode and then flush mercury into other parts of the watershed.

Following Chris' presentation of the modeled peak flow at project outfall locations, Jim noted that the flow results based on existing and proposed development levels, with detention, appeared inaccurate and could be misleading. He suggested that it was odd that there was such a reduction noted for the 100-year peak flow results¹ and that it was misleading to say we are reducing peak flow by 34 percent on average. He recommended double-checking these figures.

Alta referred to a memo that referenced statewide continuous simulation hydrologic modeling, and asked if this was a superior method that could be used for this or similar studies. Chris responded that, in the case of this low-flow analysis, it could be a more accurate predictor or simulator as opposed to using the synthetic methodology such as what was used in this assessment. (This has been addressed in revised Assessment report, to be included as appendix to Management Action Plan).

She then asked if anyone is watching to see if vegetation along the corridor has changed over time. Chris noted that the riparian community has changed, and that this is a change we will see throughout the watershed. Change in the watershed's hydrology will result in a response from the vegetation community.

Barbara Washburn asked if the assessment included a look at soils throughout the watershed. Were soil horizons analyzed and the soil profiles characterized? Chris reported that some of this work was done in the hydrogeological component of the assessment, but not in the ecological component. One thing he will do is synthesize the hydrogeological and ecological studies and merge them as part of the Watershed Management Action Plan.

Barbara referenced the table at the back of the nhc report, in which she remembered seeing a lot of different types of soils that do not exist in the valley more readily (i.e., many loamy soils). This assessment noted the prevalence of exposed bedrock and low infiltration capacity. However, if there are many loams then this may not be exactly the case with respect to natural rapid runoff. Chris agreed that soils and infiltration capacity will be different at different sites.

Barbara suggested that it would be helpful to classify soils based on the percentages in the three different categories (i.e., sand, silt, clay) because it helps provide a feel for the hydrology of an area. Chris shared that the plan includes a chapter that deals specifically with climate, soils, geology and how these interact.

Alta brought up the issue of future water use, noting that water supply and demand is something that impacts this effort and that, while difficult to address, could change a lot.

¹ The table shown identified a range in modeled peak flow from -11 to -55 percent, with an average reduction of 34 percent of peak flow.

Alta expressed that because the model of human behavior is changing, greater conservation – in part driven by landscaping and water requirements – could impact our assumptions about changes from perennial to ephemeral that may occur in parts of the system

Janet raised the issue of invasive vegetation. Is there anything in the plan that addresses invasive species of aquatic vegetation that are not currently found in the watershed, but that we foresee moving in? Chris stated that the plan will address this issue in a couple of places. First, the plan will address pond management. Existing stock ponds will eventually be converted into stormwater facilities, which will require management, and existing stormwater facilities do have some vegetation growing. The plan will also include several recommendations related to the effect of changes to the stormwater management system, such as invasive growth.

Limiting change to hydrology up front is the most important thing you can do to limit the growth and spread of invasive vegetation. Beyond that, the efforts needed really come in the form of implementing a maintenance plan and program, done primarily by public works and stewardship groups.

Jim Michaels noted that this topic is of clear interest to State Parks, given its ongoing program of treating invasives in the lower watershed. His agency is controlling pompous grass in Lake Natoma, which is connected to Alder Creek. It has also done some work on water hyacinth in Willow Creek and in Alder Pond in the past.

Carmel asked Jim if State Parks has any input based on this work that could be incorporated into the plan. Jim clarified he does not have much information to provide, other than that invasive vegetation does exist in the area, and that they are in maintenance mode to keep it to a manageable level. Jim continued, noting that the importance of working collaboratively on this issue; this is a maintenance burden to share across the watershed. Barbara then stated that if you can identify the conditions that lead to the expansion of the invasives, then you can prevent their spread. Identifying these conditions is very important. Carmel agreed that widespread implementation of River-Friendly Landscaping practices in the upstream watersheds could prevent the spread of invasives downstream and minimize the drain on public budget to do maintenance.

Kim added that she expects that River-Friendly Landscaping will be addressed in the updated *Stormwater Quality Design Manual for Sacramento and South Placer Regions*.

Chris noted that there is a social component to this issue that must be overcome: some people want to use ornamentals in landscaping, and some of these ornamentals are invasive species.

Carmel added that, given the mandate to reduce water use by 20 percent by 2020, future development will have a different look. The only way we can meet this goal is to change structures and paradigms. Not only might communities be designed differently, but people will be charged for water.

Kim asked if the Folsom General Plan has a conservation function that requires habitat corridor conservation. Sarah shared that she is not sure, given that the plan is very old. Most

of the land in the watershed is Sacramento County land. The City's Humbug-Willow Creek Parkway Master Plan is a model or vision for what could happen in Alder Creek. However, the vehicle for habitat corridor conservation would be through the EIR or specific plans themselves. The General Plan could have supportive policies.

Conceptual Modeling Exercise/Identifying Linkages in the Watershed

Barbara Washburn walked through the conceptual model for the Alder Creek Watershed, initially drafted by Barbara and Chris and refined by the group during the November 19 meeting. The model identifies the linkages in the watershed between primary issues of concern, stressors, and activities in the watershed and, based on these linkages, identify solutions.

Barbara reiterated that this is unique opportunity to plan proactively; the watershed is relatively undeveloped, and we now have a great understanding of the impacts of urbanization and development on the aquatic ecosystem.

The National Research Council released a report (fall 2008) concluding, in part, that the Clean Water Act has been a failure when it comes to stormwater permitting. Specifically, the report stated that there has been too much emphasis on water quality and not enough on water quantity.

Barbara then described the vision that has been developed for the area and that can be achieved by taking steps that the conceptual model helps to illustrate.

One stakeholder asked if instream basins pose an issue for the health of the system, particularly with respect to methylation of mercury. Jim Ray and Craig stated that if the in-stream basins drain quickly, then they are not an issue. None have detention that will last more than 48 hours, and all serve to cut the differential between pre- and post-development by storing peak flow so flow doesn't move downstream. Some of these basins are located above road culverts, which provide a limited outlet, and use the natural channel topography. In other words, there will be no excavation to create these basins.

A series of 13 to 14 in-stream basins are planned throughout the upper reach to limit outflow at Prairie City Road. The basins are designed for peak event detention. Road crossings are the control. The creeks are narrow but linear, and pretty deeply incised.

One stakeholder asked, what do you do to address lower flows resulting from more frequent events? McKay & Soms recommends having basins off-stream, which affect the receiving channel downstream to a lesser degree and do not support an increase in vegetation.

Joan concluded that it sounds as if there is the need for more clarity to understand the potential relationship between in-stream detention basins and the methylation of mercury.

One stakeholder inquired about the approach to address conservation of oak woodlands, given that mention of oak woodlands is absent from this conceptual model. Chris developed a separate model for upland areas that looks at primary issues of concern, stressors, and

sources of stressors, with a focus on oak woodlands and vernal pools. Kim noted that when reviewing water quality data, the Water Board looks at connectivity issues, as well, and is looking to cities to plan so that corridor restoration takes place.

The next step in this overall process is to present preliminary recommendations and potential solutions. These are directed at achieving results based on watershed assessment findings and the conceptual model. There are potential solutions for each source of stressors. The plan will illustrate concepts using sketches, drawings and photos.

Chris shared with the group that the plan development process is underway and that the plan will be completed by the end of February. The plan will include a summary of both watershed reports and other information. The main element of the plan will be a chapter focused on management recommendations. AECOM has been working on different plan components in parallel with the assessment reports. Reports will be included in plan appendices.

The plan will be released for stakeholder review in early January. The next stakeholder meeting takes place on Thursday, January 21, and the plan will be the focus of discussion. Stakeholders will need to submit comments in January. The plan team will provide a reviewers guide to help focus stakeholder review.

One stakeholder asked for clarification on the relationship between the watershed plan and the Sphere of Influence (SOI) specific plan. The processes to develop the watershed plan and the SOI specific plan have been moving in parallel, which brings many challenges. The original intent was for this plan to inform the specific plan. Planning-level recommendations from the watershed plan were sent out a while ago, but then grant funds were frozen and it became clear that this process would fall behind as a result. At this stage, planners are reviewing both plans to make sure they are consistent.

Policies and programs implemented to comply with the Stormwater Permit (e.g., HMP) will also inform the specific plan. It may be a year behind the plan process, but it is already referred to in the specific plan in great detail. The HMP (phase I) is in the works right now. It is assumed that the SOI is in the applicability area and that some interim criteria will be proposed. SOI projects that are on a faster track toward completion will receive these interim criteria as recommendations.

Another stakeholder asked if the use of grey water is being considered for the proposed developments. Chris or Jim responded that the SOI developers are not considering true greywater, but there will be a purple pipe system to provide recycled water for landscaping.

Alta expressed concern for the upland area of the watershed. Many of the upland drainages are considered ephemeral drainages and are going to be developed and removed/placed underground in pipes. Is there any possibility preserving more of the upper watershed?

Jim Ray responded that not every ephemeral drainage can be preserved. There are two main branches that will be preserved as open space, and one drainage that moves over the ridge, running parallel to Empire Ranch Road. The upper watershed has a lot of creek open space,

and the main drainage collection areas will be conserved. In addition, there will be no excavation, which means that the natural shape of the topography will not be altered.

One stakeholder noted that while Caltrans is not at the table, they should see the draft watershed plan. Planned crossings in the area are designed to be grade-separated bridge structures over major drainage courses. However, planned improvements will have an impact on the watershed, including the planned Oak Avenue Interchange.

Next Steps

The next stakeholder meeting will take place on January 21, 2010, and there will be opportunity to comment on both the watershed assessment reports and the plan prior to meeting. The watershed management plan comment period closes on January 31th.

Alder Creek Watershed Assessment & Management Plan

Stakeholder Meeting

January 21, 2010 • 1:00 pm to 4:00 pm • City of Folsom City Hall

In Attendance:

Mary Maret (Sacramento County Regional Parks)

Kathy Reynolds (Sacramento Valley Conservancy)

Kim Schwab (Regional Water Quality Control Board - Central Valley)

Alta Tura (Sacramento Area Creeks Council)

Craig Zoller (McKay & Soms)

Tim Murphy (Gencorp)

Barbara Washburn (California Office of the Environmental Health Hazard Assessment (OEHHA))

Craig Zoller (McKay & Soms)

Sarah Staley (City of Folsom)

Carmel Brown (CKB Environmental/City of Folsom)

Chris Fitzer (AECOM)

Joan Chaplick (MIG)

Nicole Lewis (MIG)

Welcome and Introductions

Joan Chaplick welcomed the group to the final stakeholder meeting for the Alder Creek Watershed Management Plan. Following a round of introductions, she reviewed the meeting agenda. The intent of today's meeting is to allow stakeholders opportunity to provide comment on the draft plan. February 1 is the deadline for submitting comments on the draft plan and stakeholders are requested to use the Excel comment form provided by the project team.

Review of Plan Development Process and Overview of Key Documents

Prior to discussion of the plan itself, Chris Fitzer provided a summary overview of the plan development process. The project began in 2007, with initial stakeholder meetings and tours of the watershed. The State budget impasse in 2008 led to a freeze on all bond-funded projects in December of that year and a subsequent stop to all project work. In October 2009, funds were reinstated and the project was quickly re-initiated. The first step was to finish the watershed assessment, inclusive of two reports: a study of the

hydrogeomorphology of the watershed conducted by Northwest Hydraulic consultants (nhc), and the ecological and biological assessment conducted by AECOM. This work was followed by two stakeholder meetings, both of which provided opportunity for stakeholders to review and comment on the watershed assessment and a conceptual model developed for the watershed.

The month of December was spent working hard to develop an internal administrative draft of the watershed management plan, which was shared with Carmel Brown, Sarah Staley and the City of Folsom. AECOM then addressed comments and prepared the stakeholder review draft, which was sent out to the group earlier this month.

Chris provided an annotated table of contents and walked stakeholders through contents of the draft plan. Chris shared that the project team was seeking stakeholder feedback on the entire plan, but on two chapters in particular, chapters 5 and 7. Chapter 5 is the heart of the plan and includes management actions. Chapter 7 characterizes stakeholder involvement in plan implementation. One point of discussion will be the recommendation to hire a watershed coordinator to coordinate plan implementation.

Group Thoughts on Draft Plan

Joan then invited participants to share topics that they were especially interested in discussing. Carmel assured the project team would do its best to resolve outstanding issues, including scheduling another call or meeting to address specific issues if needed. Joan shared that she would follow up with those who request additional, specific direction, particularly if they have limited time to review the plan.

Tim Murphy commented that he reviewed the plan and provided comments to Chris regarding clarification of factual descriptions of the Easton Development. His staff is also reviewing specific elements of the plan, and will submit written comments.

Barbara Washburn noted a concern raised by a colleague at the Water Board – regarding the issue of recruitment of sediment. Substrate found in the Alder Creek streambed was quite diverse in size and didn't have the characteristics normally seen in an urban environment. This suggests the presence of a healthy macroinvertebrate community. What this means is that there is a good source of sediment entering the stream. Cutting off this source of recruitment will have a significant effect on the habitat quality of Alder Creek.

For this reason, it's very important that this group do what can be done to address the issue of sediment recruitment, especially in the case of intermittent streams. This issue was not addressed in the first plan draft.

Barbara asked Chris if he was able to address the issue and, if so, in what way. Chris noted that it has been partially addressed, though not explicitly. There are a number of recommendations related to preserving and maintaining upper tributaries as surface water features. There is talk that some of the upper tributaries will be put into pipes. However, it is true that one of the issues not necessarily identified in the plan was the role of upper

tributaries in contributing sediment to downstream reaches, and the importance of this to creek processes and functions.

Chris shared a graph of the historical channel profile. Sediment transport processes become altered with dams, with sediment accumulation above dams and downcutting of the stream bed occurring downstream. In terms of the upper tributaries, there is no accumulation of sediment, but removing these tributaries could lead to downcutting downstream. Chris made note to add this issue to the discussion in the plan, commenting that the function of the upper tributaries in providing sediment to the system is in line with California Department of Fish and Game's classification of creeks.

Barbara noted that sediment recruitment was not explicitly addressed in the conceptual modeling exercise either, and reiterated that it would be an oversight not to address the issue. Alta Tura agreed that this was an important topic.

Alta raised the topic of water-sensitive urban design, and asked about the origin of this concept and of the accompanying graphic included in the plan. She expressed approval of its inclusion, and noted that it is a new term.

Chris confirmed that water-sensitive urban design is a term that originated in Australia that incorporates drinking water, waste water, and water reuse, as well as stormwater, into management. It integrates the three and identifies concepts and strategies to improve efficiency. This is a term being adopted more and more, especially in California. San Diego County refers to water-sensitive urban design concepts in their low impact development (LID) manual. Carmel noted that this is an umbrella term that describes a lot of what is being done already and requested that narrative be added to the plan to put this into greater context.

Alta stated that she would like to discuss the possibility of establishing a JPA, and would be interested in seeing a plan recommendation to this effect. Implementing the watershed plan would be of benefit to various entities, and there could be many entities interested in supporting and implementing the plan. Establishing a JPA would require that each entity adopt and support the plan, providing a structure for official "buy-in". Establishing a JPA in which each member would contribute a given amount of money could also establish an important source of funding for plan implementation. Carmel suggested that content be expanded and clarified in Chapter 6 related to this topic.

Alta also suggested creating a website that will be dedicated to the plan and that provides plan-related information. Alta recommended including a page for the plan on both the County and the City websites, and offered to put a link on the Creeks Council website.

Craig Zoller shared that after an initial review he was in the process of reviewing the plan in more detail, especially in Chapter 5. Carmel added that Craig had recently participated in a meeting with McKay & Soms to get some clarification on drainage issues, and that resulting information would likely help frame his review. Chris noted that the project team will add a recommendation related to the forthcoming hydromodification management plan. Chris and Carmel noted they may send out a discrete piece to for stakeholder review related directly to activities of the Sacramento Stormwater Quality Partnership (SSQP).

Chris continued, describing a two-part recommendation: the first part will identify additional studies to augment existing information and the second part will be a toolbox, or set of contingency-type measures that could be implemented as needed in response to findings from subsequent analyses.

Alta made note of the language used throughout the policies: there are many “shoulds”, and “where feasible” is used often. She also noted that the plan policies to establish wider buffers near the main creek; and not to site industrial uses near creek are not in conformity with existing uses, including the auto mall and a fairly large industrial area. She commented that there are probably other instances where our recommendations are in direct conflict with existing plans or conditions. In these cases, what do we do?

Chris responded that because it is a watershed plan, and not a regulatory document, policies should be phrased in terms of “shoulds” and “where feasible”. Secondly, because the plan is happening in parallel with planned development, there will be conflicts. It will be difficult to bring the plan into complete alignment with other plans. If the watershed management plan does not conform, we shouldn’t merge the two. Part of the very purpose of developing recommendations is, in effect, to conflict with what is proposed to some degree, in an effort to influence development and watershed activities in a positive way.

Alta suggested that the plan state the consequences or potential impacts to the community and the environment that would result from not following plan recommendations. This may be one way we attempt to get ahead of the planning effort of the development projects, to the extent possible.

Tim commented that Easton is out in front of this issue, and has taken a very comprehensive approach to planning in collaboration with Sacramento County. Tim expressed that he believes that Gencorp and other stakeholders have the same interests at heart in creating and conserving a resource for the community. Chris shared that, based upon his review of the documents publicly available for the Glenborough and Easton Place developments, that the plan was very comprehensive. The plan acknowledges this.

Kim Schwab shared that the Regional Water Quality Control Board (Water Board) commented on the first draft of the environmental impact report (EIR) for the Easton development, which has incorporated a number of low impact development strategies. The Environmental Protection Agency (EPA) has put out a technical advisory paper about incorporating LID in the early planning stages of California Environmental Quality Act (CEQA) compliance. The 411 certification group is also asking for LID and hydromodification if not addressed in the CEQA document. In some cases, developers are coming along, and in other cases there is much more work to be done. Jurisdictions with more resources and political will tend to be further along.

Tim agreed that it may have been more difficult to integrate these principles into the development plans as successfully as they have if they were working with smaller jurisdictions.

Jim Michaels asked about the consequences of inconsistencies between the management plan and development plans. Chris stated that, in some cases, consequences will be small; in others, they may be large. The SOI will be developed by a large group of developers, but the plan remains at a programmatic level of detail. As the plan develops further and projects move forward, implementation will really happen at the project level. In other words, given the potential for the SOI development to break into multiple projects as things move forward, it is difficult to say how this design process will work out and how well SOI developers will adhere to plan recommendations.

One stakeholder suggested that the plan identify larger potential consequences where there are conflicts between plan recommendations and project implementation, perhaps focusing on a few particular areas. Mary Maret suggested using the plan to call out incompatible uses, in a fashion similar to the identification of incompatible uses in land use plans.

Kathy Reynolds from the Sacramento Valley Conservancy was in attendance, and asked for specific direction to help focus the Conservancy's review of the plan. Carmel requested that they focus review on regional trail connections. Kathy shared connecting the future Alder Creek trail to the American River Parkway was of primary concern. Sarah Staley noted that the SOI plan does maintain an open space corridor along the creek mainstem through White Rock Road. Given this focus, Carmel recommended that the Conservancy focus its review in part on policies related to road crossings, etc.

Discussion on Draft Plan Comments and Substantive Issues

a) Creek buffers and how they are described in Chapter 5

Creek buffers have the potential to bring great benefits to the region with respect to hydrology, water quality, sediment transport, wildlife connectivity, and so on. Chris passed around the latest version of this recommendation for stakeholder discussion, including illustrative figures of model buffers (see stakeholder draft plan recommendation DP-1.4).

This recommendation will provide important guidance to developers and landowners. Buffers are also very controversial, and their implementation becomes very site-specific and complicated. There have been court battles and controversy, particularly in many coastal counties in the wine country, where there is a lot of pressure on creek corridors in the form of vineyard development. Counties have tried to pass ordinances requiring buffers and have failed.

The project team has identified a variable width tiered buffer. The buffer is comprised of two zones: one preserved open space buffer directly adjacent to the creek and one passive open space buffer. Widths of both buffers would vary by the creek. For perennial reaches, including the Alder Creek mainstem, the draft plan recommends a buffer wider than the buffers applied to the ephemeral reaches of the upper tributaries.

For reaches with perennial flow, this open space buffer would consist of a minimum of 100 feet of adjacent open space from top of bank. Recommended buffers in areas with floodplains that extend beyond 100 feet could be larger. Carmel requested that plan language

and labels on plan figures be clarified so it is clear that they provide guidance that distinguishes between perennial and ephemeral corridors.

Participants continued to explore the issue of establishing different buffer widths for perennial and ephemeral corridors, and what this means in the context of urbanization and resulting changes to creek flows. Sarah noted that the existing wetland delineation map included in the SOI EIR and Specific Plan identifies the Alder Creek mainstem. She recommended tying buffer-related policies to a baseline established by this delineation.

Mary noted the need to include an additional landscaped buffer to the tiered system for purposes of establishing a fire break, and recommended adding this transitional landscape buffer to the plan figures, as well as plan language, for easy reference.

Alta raised the practical problem of determining which buffer to apply to creeks that you anticipate will change from ephemeral to perennial as a result of development – the buffer for ephemeral streams or the buffer for perennial streams? Chris acknowledged the practical difficulty of this issue, noting that even if you tie this policy to a baseline this change will occur in certain reaches. Perhaps we need to be predictive in our plan and in identifying which buffer is most appropriate to apply. Barbara agreed that this issue should be considered in this planning effort.

Barbara shared that she is currently working on a watershed assessment, part of which is to analyze the effects of disturbances within creek corridors on the biological integrity of creeks. Resulting data shows any disturbance within 100 feet of the creek has a significant impact on the population. In other words, even a concrete-lined trail such as those permitted in the plan's draft passive open space buffer are found to have potential negative impacts on the biological integrity of a stream.

There was a suggestion for a follow up-meeting with the City about creek delineation and to determine how practical it would be to identify which reaches will change. Sarah suggested overlaying GIS data with the SOI plan.

Jim acknowledged that there are likely many policies in the plan to prevent this change from happening. At the same time, he asked if there is any modeling that has been done or could be done to help determine which streams will change from intermittent to perennial at build-out. Sarah suggested developing a plan recommendation that suggests that, as development plans progress, buffers be applied based on future predictive modeling.

Following brief discussion of the relationship between the floodplain and future changes to stream flow, Chris clarified that a change in the 100-year floodplain is not necessarily a predictor of areas where creeks will change from ephemeral to perennial.

Barbara suggested setting up a meeting or call to gather information, bring in experts on the matter and determine the practical next steps. Chris, Carmel and Sarah agreed that this would be a feasible approach if the meeting was kept focused on identifying practical and feasible next steps on this specific issue, in the context of the plan.

(b) Recommendations for design of roadway creek crossing

Chris shared that the plan will provide appropriate recommendations for road crossings. Ultimately, design and implementation of road crossings will vary. Obviously, free-span bridges are too cost-prohibitive to create for each crossing. There is a recommendation to include a free-span crossing at White Rock Road on the mainstem, to maintain connectivity. The draft plan identifies bottomless arched culverts as a minimum standard in other areas. A bottom-arched culvert will maintain sediment transport processes and hydrologic functions more so than a pipe.

Carmel noted that plan development has not included stakeholders of the East-West Connector project, but that they should be referenced in Chapter 6. When the Notice of Preparation came out for the connector, the Alder Creek team provided recommendations. The project EIR has yet to be released.

Sarah raised the issue of road crossing and detention basin design in the SOI development. The SOI development is proposing in-stream detention and the use of road crossings to back up high rain events. This may be a case in which planned improvements are not compatible with recommendations.

Craig clarified that Sarah was referring to crossings on Scott Road. These are bottomless culverts, whereby flows can't pass through the culvert unrestricted, and so water backs up within the buffer area upstream of the crossing. Any development portion within the SOI with a piped outlet will discharge into a water quality and hydromodification basin. These are all off-stream. Once water has been cleaned, it is released into corridor. There are maybe six areas where current tributaries will be backed up behind the road. This will occur in the event of storms in excess of 10-year, and up to 100-year flows. None on of these crossing are proposed along the mainstem.

Barbara asked Craig to share the approximate expanse or extent of the backup in these areas, as this information may help to inform the buffer discussion. Craig could not provide an average range, but stated that at some crossings the backup will be as much as 100 feet wide. These are ephemeral streams and based on research of what 100-year floodplain will look like. Knowing the extent of ponding with a 100-year event will help inform ideas about ephemeral buffers. This is one more layer that could be added to the map or analysis showing the floodplain and streams.

Carmel asked that Craig work with AECOM to indicate, on the map, which basins are on-stream and of what type.

c) References to water-sensitive urban design

Returning to discussion of water-sensitive urban design, Carmel stated she would like to see the plan put this concept into context with respect to the existing stormwater design manual. She remarked that this concept clearly resonates with people in the worlds of sustainability and climate change, and suggested including in the plan reference to the sustainability and climate change co-benefits of water-sensitive urban design. For example, where a vegetative swale exists that also provides sustainability co-benefits, it should be noted.

Kim asked where water conservation fits into the framework for water-sensitive urban design. Chris clarified that this concept focuses on outdoor use, and so conservation is implied in discussion of landscaping, use of native, drought tolerant species, etc. Carmel and Kim both suggested adding water conservation to the water-sensitive urban design diagram, or to the accompanying, narrative text. Water use efficiency is also an important term used, and it is important to ensure that this catches the attention of those responsible and planning for water conservation and water use efficiency. Chris noted the social component of water conservation that moves far beyond design principles.

Carmel requested a review of the plan to ensure consistency with other documents and to make sure that when presenting concepts or terminology that is new or different, the connection to existing, well-established principles or terms is clear. She suggested the use of sidebars to this effect.

Conversation returned briefly to the topic of sediment recruitment. Questions raised included, what are the sources of sediment? Are we making sure we are putting enough in the plan to address these sources? Chris commented that perhaps the plan should describe the benefits of a functioning system, i.e. characterize sediment as a good thing. Barbara agreed and added that getting a better read on the areas that actually do provide sediment would be beneficial. Chris pointed out that, unfortunately, access to determine this is limited

With respect to water-sensitive urban design and the importance of maintaining upper ephemeral tributaries to ensure a functioning system, one stakeholder noted proposed plans for the SOI Regional mall development, which will likely underground an upper tributary. Kim and others gave the El Dorado Hills Town Center as an example of ways in which developments can both preserve creeks and, in doing so, create amenities that benefit their private development and the community. Stakeholders suggested including photos of best practices to help give people ideas about options and best practices that exist and that have been successfully implemented.

Kim pointed out that 411 water quality certification folks are looking closely at issues when water is piped downstream. Developers need to realize that piping alone is not an easy thing, and if they can incorporate.

d) Stakeholder roles in future plan implementation and references to a “watershed coordinator”

Conversation then transitioned into discussion of stakeholder roles in plan implementation. Chris explained that plan policies are largely directed towards development projects. Beginning on p. 5-42, the plan identifies watershed stewardship projects and specific, potential implementation partners. Chris asked that stakeholders review this section of stewardship actions and partners to see if their agency, company or organization should be included. He also asked that stakeholders provide feedback on the clarity of project descriptions.

Chapter 7 also discusses stakeholder partner roles in the context of plan monitoring and adaptive management. Ideally, there will be a group that takes the lead to coordinate these activities. Otherwise, they may simply sit idle. The plan identifies watershed protection

criteria, indicators and targets, which can be used to make watershed management decisions. Table 7-1 also identifies potential monitors. Ultimately, there will be a process outlined for updating the plan and keeping it a living document. However, all of these activities require an agency to carry this out.

One stakeholder noted that the water quality section should identify possible, new water quality monitoring stations in the watershed that may be of interest to SSQP. This could be an experimental effort to test some of the management concepts presented in the plan and implementing elsewhere. Chris agreed with the value of this recommendation, confirming that, to date, there is no good data on a watershed scale where LID practices have been implemented comprehensively.

Barbara suggested adding sediment quality monitoring to the monitoring section. Kim agreed with this suggestion, commenting that limited sediment monitoring will be required under the new MS4 permit. The Surface Water Ambient Monitoring Program (SWAMP) will put together numeric objectives for basin plans, for invertebrates and algae. The next permit will most likely require a bioassessment, so it will be good to include in the plan. Objectives will be benthic macroinvertebrate (BMI) metrics tiered based on risk. There is not a lot of funding for the program so RWQCB is looking to stakeholders and groups for support.

One stakeholder commented that the need for a watershed coordinator becomes clear, particularly when it comes to future monitoring and adaptive management. There were questions about existing models for how a watershed coordinator follows through with implementation in similar watersheds, with similar jurisdictions.

Chris replied that the project team hasn't specifically looked at other watershed plans. However, other watershed groups have boards or councils that are engaged, and include individuals that maintain watershed monitoring and management efforts. Alta stated that she believes it will be important to establish high-profile programs to generate interest in creek protection and keep this effort alive. In other words, we need something bigger than what is in the plan.

Chris agreed, but stated that the challenge is that this is largely private landholding, which makes access and management activities difficult for the time being.

Alta mentioned a nonprofit that was developed prior to development of a watershed. Barbara suggested Laguna Creek as a potential model, noting Carmel's involvement in winning the grant and writing the management plan for the watershed. The plan was completed in June 2009 and the group had a grant-funded part-time coordinator. The group's Board meets monthly to coordinate implementation. Due to state budget constraints, there are no good possibilities for finding a new coordinator. Currently, the group is seeking grants to fund implementation projects.

Barbara suggested the possibility of establishing an endowment that major development groups in the watershed would contribute to and that the City would hold. This could fund a part-time watershed coordinator. A complementary idea would be to establish a regional council in collaboration with Laguna Creek and others. The Dry Creek Watershed Council

is now the American Basin Council of Watersheds, because of the need to take a more regional approach to watershed planning. Political boundaries overlap more than one watershed and there is a certain economy of scale that comes with regional projects.

One stakeholder asked if it would be possible for the City and County to follow up on this endowment idea, and suggested that perhaps the Sacramento Valley Conservancy be a good group to manage this endowment, based on their experience.

Alta expressed that it would be useful to come up with a model that combines some of these ideas. We could potentially generate a lot of energy and money and increase the profile of watershed efforts if we involved decision-makers and developers. In other words, rather than rely entirely on grants, be as high profile as possible to attract private funds and generate political support.

One stakeholder expressed that it would not be reasonable to identify a model before the 28th, after which project funds are no longer available. Carmel suggested that the City consider facilitating a couple of meetings to identify possible leaders in the implementation effort. Or as part of the plan, we could make a recommendation for the City to do so in the future.

Another stakeholder commented on the need to make clear the need for a watershed coordinator in the plan, and to include a description of their roles and responsibilities.

Carmel then raised the question as to whether to combine Chapters 6 and 7. Chris suggested that, given clear links between chapters 5 and 7, this may not be the right approach. The project team will determine the best approach to finalizing these chapters.

Next Steps

Carmel, Sarah and Chris all expressed their thanks to everyone for their dedication to the project and for their flexibility throughout the process, given the project delay and subsequent short time frame. This is a completely different kind of plan, given that development projects are moving entirely in parallel with plan. There are few plans that are so policy driven up front with respect to LID and water-sensitive urban design. Kim noted that she can use this as a reference document in her work with the Water Board and other communities.

Chris shared that the final plan will include appendix with technical documents and memorandums developed in support of the plan. Given the sheer size of these documents, the appendix itself will include a title, brief description and a web link for each component.

Carmel suggested increasing the font size of the document, and formatting the plan so that maps print 11x17. She encouraged other stakeholders to share comments related to format, as well, if they felt it would significantly improve the document.

Joan reminded the group that all comments are due by February 1st. Comments from this meeting will be added to the comments review matrix for the plan for specific follow-up by

the project team. If you want to request a hardcopy please contact Sarah. Joan will follow up with targeted emails to help guide stakeholder review of the plan, as needed.