City of Capitola Agenda

Mayor:	Stephanie Harlan
Vice Mayor:	Michael Termini
Council Members:	Jacques Bertrand
	Ed Bottorff
	Kristen Petersen
Treasurer:	Peter Wilk

CAPITOLA CITY COUNCIL
REGULAR MEETING

THURSDAY, OCTOBER 12, 2017

7:00 PM

CITY COUNCIL CHAMBERS
420 CAPITOLA AVENUE, CAPITOLA, CA 95010

CLOSED SESSION – 6:30 PM
CITY MANAGER'S OFFICE

An announcement regarding the items to be discussed in Closed Session will be made in the City Hall Council Chambers prior to the Closed Session. Members of the public may, at this time, address the City Council on closed session items only. There will be a report of any final decisions in City Council Chambers during the Open Session Meeting.

CONFERENCE WITH LEGAL COUNSEL - EXISTING LITIGATION
[Govt. Code § 54956.9(d)(1)]

City of Capitola v. Water Rock Construction, Inc.
Santa Clara Superior Court Case No. 16CV295795

LIABILITY CLAIMS [Govt. Code § 54956.95]

Claimant: Richard Willis
Agency claimed against: City of Capitola

REGULAR MEETING OF THE CAPITOLA CITY COUNCIL - 7 PM

All correspondences received prior to 5:00 p.m. on the Wednesday preceding a Council Meeting will be distributed to Councilmembers to review prior to the meeting. Information submitted after 5 p.m. on that Wednesday may not have time to reach Councilmembers, nor be read by them prior to consideration of an item.

All matters listed on the Regular Meeting of the Capitola City Council Agenda shall be considered as Public Hearings.

1. ROLL CALL AND PLEDGE OF ALLEGIANCE

Council Members Kristen Petersen, Michael Termini, Jacques Bertrand, Ed Bottorff, and Mayor Stephanie Harlan

2. REPORT ON CLOSED SESSION

3. ADDITIONAL MATERIALS

Additional information submitted to the City after distribution of the agenda packet.

4. ADDITIONS AND DELETIONS TO AGENDA

5. PUBLIC COMMENTS

Oral Communications allows time for members of the Public to address the City Council on any item not on the Agenda. Presentations will be limited to three minutes per speaker. Individuals may not speak more than once during Oral Communications. All speakers must address the entire legislative body and will not be permitted to engage in dialogue. All speakers are requested to print their name on the sign-in sheet located at the podium so that their name may be accurately recorded in the minutes. A MAXIMUM of 30 MINUTES is set aside for Oral Communications at this time.

6. CITY COUNCIL / CITY TREASURER / STAFF COMMENTS

City Council Members/City Treasurer/Staff may comment on matters of a general nature or identify issues for staff response or future council consideration.

7. CONSENT CALENDAR

All items listed in the "Consent Calendar" will be enacted by one motion in the form listed below. There will be no separate discussion on these items prior to the time the Council votes on the action unless members of the public or the City Council request specific items to be discussed for separate review. Items pulled for separate discussion will be considered following General Government.

Note that all Ordinances which appear on the public agenda shall be determined to have been read by title and further reading waived.

A. Consider the September 25 and September 28, 2017, City Council Meeting Minutes
RECOMMENDED ACTION: Approve minutes.

B. Receive Planning Commission Action Minutes for the Regular Meeting of October 5, 2017
RECOMMENDED ACTION: Receive minutes.

C. Liability Claim of Richard Willis
RECOMMENDED ACTION: Deny liability claim.

D. Schedule Hearing to Consider an Appeal of a Vicious Animal Declaration
RECOMMENDED ACTION: Schedule an appeal hearing for October 26, 2017.

E. Consider Amendments to Records Coordinator and Receptionist Job Descriptions
RECOMMENDED ACTION: Approve the amended job descriptions.

F. Consider Public Works Project Manager Job Description Changes
RECOMMENDED ACTION: Approve changes to the job title and description for Public Works Project Manager and approve a side letter with Mid-Management Employees.

G. Consider a Resolution Amending the 2017/18 Budget to Transfer $58,000 from the Road Maintenance and Rehabilitation Account to Highway 1 Enhanced Bike Lane Improvement Project
RECOMMENDED ACTION: Adopt resolution.

H. Consider Contract Change Order No. 1 for the Rispin ADA Pathway Phase II Project and a Notice of Completion
RECOMMENDED ACTION: Approve Contract Change Order No. 1 for the Rispin ADA Pathway Phase II Project in the amount of $135,334 and accept the project as complete by approving a Notice of Completion.

8. GENERAL GOVERNMENT / PUBLIC HEARINGS

All items listed in "General Government" are intended to provide an opportunity for public discussion of each item listed. The following procedure pertains to each General Government item: 1) Staff explanation; 2) Council questions; 3) Public comment; 4) Council deliberation; 5) Decision.

A. Capitola Avenue Railing Public Art
RECOMMENDED ACTION: Approve the recommended railing Public Art Project along Capitola Avenue and approve the contract with Sculptural Accents for $30,000.

B. Coastal Climate Change Vulnerability Report
RECOMMENDED ACTION: Accept report.

C. Section 8 Landlord Incentive Program
RECOMMENDED ACTION: Authorize the City Manager to allocate $4,040 of Housing Successor funds to support the Section 8 Landlord Incentive Program.

D. Subdivision Ordinance Cleanup
RECOMMENDED ACTION: Introduce an Ordinance amending Municipal Code Chapter 16 pertaining to Subdivisions.

9. ADJOURNMENT

Note: Any person seeking to challenge a City Council decision made as a result of a proceeding in which, by law, a hearing is required to be given, evidence is required to be taken, and the discretion in the determination of facts is vested in the City Council, shall be required to commence that court action within ninety (90) days following the date on which the decision becomes final as provided in Code of Civil Procedure §1094.6. Please refer to code of Civil Procedure §1094.6 to determine how to calculate when a decision becomes "final." Please be advised that in most instances the decision become "final" upon the City Council's announcement of its decision at the completion of the public hearing. Failure to comply with this 90-day rule will preclude any person from challenging the City Council decision in court.

Notice regarding City Council: The City Council meets on the 2nd and 4th Thursday of each month at 7:00 p.m. (or in no event earlier than 6:00 p.m.), in the City Hall Council Chambers located at 420 Capitola Avenue, Capitola.

Agenda and Agenda Packet Materials: The City Council Agenda and the complete Agenda Packet are available for review on the City's website: www.cityofcapitola.org and at Capitola City Hall and at the Capitola Branch Library, 2005 Wharf Road, Capitola, prior to the meeting. Agendas are also available at the Capitola Post Office located at 826 Bay Avenue, Capitola. Need more information? Contact the City Clerk's office at 831-475-7300.

Agenda Materials Distributed after Distribution of the Agenda Packet: Pursuant to Government Code §54957.5, materials related to an agenda item submitted after distribution of the agenda packet are available for public inspection at the Reception Office at City Hall, 420 Capitola Avenue, Capitola, California, during normal business hours.

Americans with Disabilities Act: Disability-related aids or services are available to enable persons with a disability to participate in this meeting consistent with the Federal Americans with Disabilities Act of 1990. Assisted listening devices are available for individuals with hearing impairments at the meeting in the City Council Chambers. Should you require special accommodations to participate in the meeting due to a disability, please contact the City Clerk's office at least 24-hours in advance of the meeting at 831-475-7300. In an effort to accommodate individuals with environmental sensitivities, attendees are requested to refrain from wearing perfumes and other scented products.

Televised Meetings: City Council meetings are cablecast "Live" on Charter Communications Cable TV Channel 8 and are recorded to be rebroadcasted at 8:00 a.m. on the Wednesday following the meetings and at 1:00 p.m. on Saturday following the first rebroadcast on Community Television of Santa Cruz County (Charter Channel 71 and Comcast Channel 25). Meetings are streamed "Live" on the City's website at www.cityofcapitola.org by clicking on the Home Page link "**Meeting Video**." Archived meetings can be viewed from the website at anytime.

CAPITOLA CITY COUNCIL AGENDA REPORT

MEETING OF OCTOBER 12, 2017

FROM: City Manager Department

SUBJECT: Consider the September 25 and September 28, 2017, City Council Meeting Minutes

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RECOMMENDED ACTION: Approve minutes.

DISCUSSION: Attached for City Council review and approval are the minutes of the special meeting of September 25, 2017, and the regular meeting of September 28, 2017.

ATTACHMENTS:

1. 9-25-17 special draft minutes
2. 9-28-17 draft minutes

Report Prepared By: Linda Fridy
City Clerk

Reviewed and Forwarded by:

Jamie Goldstein, City Manager 10/6/2017

DRAFT
CAPITOLA CITY COUNCIL
SPECIAL MEETING ACTION MINUTES
MONDAY, SEPTEMBER 25, 2017

CLOSED SESSION 12:30 PM

CALL TO ORDER

Mayor Harlan called the meeting to order at 12:30 p.m. with the following items to be discussed in Closed Session:

CONFERENCE WITH LEGAL COUNSEL - EXISTING LITIGATION
[Govt. Code § 54956.9(d)(1)]
Friends of Monterey Park v. the City of Capitola
Santa Cruz Superior Court Case No. CV 16CV01091

There was no public comment. The City Council moved to the Closed Session in the City Manager's Office, after which it recessed until the start of the public meeting.

SPECIAL MEETING OF THE CAPITOLA CITY COUNCIL 6 PM

1. ROLL CALL AND PLEDGE OF ALLEGIANCE

Council Member Ed Bottorff: Present, Council Member Jacques Bertrand: Absent, Mayor Stephanie Harlan: Present, Vice Mayor Michael Termini: Absent, Council Member Kristen Petersen: Present.

2. REPORT ON CLOSED SESSION

City Attorney Tony Condotti reported that Council met regarding pending litigation. Present were Council Members Bottorff and Petersen and Mayor Harlan. Council Members Bertrand and Termini had previously recused themselves from the issue being litigated. The Council members received a report and gave direction to the City Attorney's Office. A question was raised about a defense and indemnity agreement from the June 23, 2016, meeting. By motion those present voted to affirm its previous approval 3-0.

3. ADDITIONAL MATERIALS

A. Item 4.A – 45 emailed comments.

4. GENERAL GOVERNMENT / PUBLIC HEARINGS

A. Reconvene a Hearing for an Appeal of the Planning Commission's Decision to Certify an Environmental Impact Report and Approve a Conditional Use Permit, Design Permit, and Coastal Development Permit for the Monterey Avenue Skate Park
RECOMMENDED ACTION: In light of the Court ruling regarding Capitola City

Council's June 23, 2016, meeting on the Monterey Park skate park appeal, consider the following actions:

1. a. Adopt the attached Resolution certifying the Environmental Impact Report (EIR) and adopting written findings and the Mitigation, Monitoring, and Reporting Program (MMRP).

   b. Alternatively, by Motion, affirm the Planning Commission's certification of the Environmental Impact Report (EIR) and adopt the Mitigation, Monitoring and Reporting Program (MMRP).
2. By Motion, approve and adopt the attached findings to support issuance of a Conditional Use Permit, Design Permit, and Coastal Development Permit for a modified project as described as Alternative 1 of the EIR;
3. By Motion, authorize the City Manager to execute the attached right-of-entry agreement.

Attorney Condotti explained that this hearing reconvenes a hearing of June 23, 2016, and that all of those Council Members participating at this time were present at the dais or in the audience at the prior meeting. Community Development Director Richard Grunow provided an abbreviated review of the project as previously discussed and the Superior Court decision following litigation that sent back the previous 2-1 approval of project permits.

Marie Martorella and Tricia Proctor, applicants, spoke in favor of the project and asked that the previous approval be upheld.

Bill Parkin, attorney for Friends of Monterey Park, spoke to the Court's decision and addressed the argument of adoption by resolution versus a motion, emphasizing the need for written findings and a minimum number of votes for certain actions.

Mayor Harlan opened public comment by thanking the many people who took time to write and share their opinions on the project.

Speaking against the previous approval of the project:
Elizabeth Russell
Richard Lippi
Steve Shank
Andy Furgart
Al Globus
Ann Stow
Terry Thomas

Speaking in support of the previous approval of the project:
Dennis Norton
Tori DelFavro
Cynthia Rothmeier
Terry Campion
Ellie Martin
Cheryl Ban
Jason
Michaela

Richard Novak
Penny Novak Disbrow
Diana Peters

At this point in the proceeding, there was a widespread power outage. Participants agreed to continue with battery lights and recording devices, and the clerk's computer continued to operate on battery power.

Colin Pearce, attorney for the applicants and resident of the Cliffwood Heights neighborhood, challenged the contention that a resolution is the only way for the Council to make written findings. He asserted that the judge's decision requires written findings for the EIR and project permits, but cannot mandate a resolution. He noted that the Council previously certified the EIR on a 3-0 vote.

Power was restored at this point.

Attorney Parkin equated adopting a resolution with making the required findings for both EIR certification and project permits based on the judge's signed order. He does not believe the EIR has been certified by the previous vote, saying it would require removing portions related to project approval.

Council Member Bottorff asked for clarification regarding the EIR resolutions. Attorney Condotti said the agenda packet has a revised resolution specific to the EIR with related findings.

Council Member Bottorff acknowledged the confusion of the legal concerns. He said he believes it comes down to a technicality regarding a resolution versus a motion. He supports the many youth who have spoken in support of the project over its history and upholds the previous decision.

Council Member Petersen expressed support for skating and youth recreation, but said someone can support those in general and not support this project. She said the process has not trusted the residents of the neighborhood to serve as credible witnesses to their daily experiences, unlike other situations in which the City has continued to work with neighbors to address concerns. She said a judge already overturned the previous decision on this project and she cannot support this skate park due to its location.

Mayor Harlan expressed sympathy for those who have been working and discussing this project for so long. She said the skate park doesn't fit in the neighborhood and she can't find precedent for supporting a project that the immediate neighbors oppose.

Council Member Bottorff moved to adopt the revised EIR resolution and findings, thereby certifying the EIR. Mayor Harlan seconded the motion. The motion received a vote by roll call of 2-1, which failed pursuant to Government Code § 36936 requiring adoption of a resolution by a full quorum of Council (three votes).

Council Member Bottorff offered a motion to approve the project permits. It died for lack of a second.

Council Member Bottorff then offered a motion to approve permits for a 3,500-square-foot project. It died for lack of a second.

MOTION:	**ADOPT RECOMMENDED RESOLUTION CERTIFYING THE ENVIRONMENTAL IMPACT REPORT.**
RESULT:	**DEFEATED [2-1]**
MOVER:	Ed Bottorff, Council Member
SECONDER:	Stephanie Harlan, Mayor
AYES:	Ed Bottorff, Stephanie Harlan
NOES:	Kristen Petersen
ABSENT:	Jacques Bertrand, Michael Termini

5. ADJOURNMENT

The meeting was adjourned at 8:15 p.m.

_____
Stephanie Harlan, Mayor

ATTEST:

_____
Linda Fridy, City Clerk

DRAFT CAPITOLA CITY COUNCIL
REGULAR MEETING ACTION MINUTES
THURSDAY, SEPTEMBER 28, 2017

CLOSED SESSION 6:30 PM

CALL TO ORDER

Mayor Harlan called the meeting to order at 6:30 p.m. with the following item to be discussed in Closed Session:

LIABILITY CLAIMS [Govt. Code § 54956.95]
Claimant: Jacob Fisher
Agency claimed against: City of Capitola

There was no public comment; therefore, the City Council closed the Chambers and held Closed Session.

REGULAR MEETING OF THE CAPITOLA CITY COUNCIL - 7 PM

1. ROLL CALL AND PLEDGE OF ALLEGIANCE

Council Member Ed Bottorff: Present, Council Member Jacques Bertrand: Present, Mayor Stephanie Harlan: Present, Vice Mayor Michael Termini: Present, Council Member Kristen Petersen: Present.

Treasurer Peter Wilk was present.

2. PRESENTATIONS

A. Introduction of Capitola Police Department's Pink Patch Project

Police Chief Terry McManus introduced the Capitola Police Department's Pink Patch Project. Sgt. Leo Moreno noted that all officers will wear pink patches during October to honor everyone battling cancers. The Capitola Police Officers' Association is selling the patches and pins to benefit local support organization WomenCARE and already raised $10,000. Officers presented a patch and pin to Council members and WomenCARE representatives gave an overview of the program.

3. REPORT ON CLOSED SESSION

City Attorney Anthony Condotti noted the liability claim discussed during closed session is on the consent calendar.

4. ADDITIONAL MATERIALS

A. Item 9.A – Two public comment emails

B. Item 9.D – One public comment email

5. ADDITIONS AND DELETIONS TO AGENDA - None

6. PUBLIC COMMENTS

Denise Elerick invited the community to an opioid epidemic information event on October 1 and distributed related materials.

7. CITY COUNCIL / CITY TREASURER / STAFF COMMENTS

Council Member Bertrand announced an upcoming solutions summit sponsored by the Seniors Council promoting independence and asked interested caregivers to contact him. He attended the League of California Cities Convention and while there, a seminar on pooled transportation, which may have local applications. He asked to investigate trail options for the rail line and asked Council if it would sponsor an informational session. He noted that a Central Coast Climate Collaborative is being formed and membership should be considered at a future agenda.

Council Member Termini announced that the Safety Foundation golf tournament is October 6 and the Begonia Festival gala is October 14.

Council Member Petersen attended the League of California Cities Convention and a coastal cities issue meeting there that addressed sea level rise. A California Coastal Commission guide was discussed. She and Mayor Harlan participated in a Seaside Middle School project where a team of students learned about Capitola and gave a presentation.

Mayor Harlan distributed an emergency survival guide and encouraged preparation and awareness. She encouraged Council and community members to participate in upcoming Santa Cruz Mid-County Groundwater meetings.

Treasurer Peter Wilk acknowledged Commission on the Environment Member Megan Sixt for spearheading the fishing line receptacles on the Wharf. He noted that Measure F Wharf upgrades have started with the recent replaced pilings, and praised outreach by Save Our Shores aimed at reducing plastics on the beach.

Council Member Bertrand asked for an update on the Village Employee parking application. Public Works Director Steve Jesberg said it has just been completed and a test rollout will begin shortly.

8. CONSENT CALENDAR

Regarding Item 8.E, Mayor Harlan expressed disappointment that youth members would not be restricted to Capitola residents. Other Council members noted that residents can be given preference during the review process.

MOTION:	**APPROVE OR DENY ITEMS AS RECOMMENDED.**
RESULT:	**ADOPTED [UNANIMOUS]**
MOVER:	Michael Termini, Vice Mayor
SECONDER:	Ed Bottorff, Council Member
AYES:	Bottorff, Bertrand, Harlan, Termini, Petersen

A. Consider the August 24, 2017, City Council Regular Meeting Minutes
RECOMMENDED ACTION: Approve minutes.

B. Receive Planning Commission Action Minutes for the Special Meeting of September 6, 2017, and Regular Meeting of September 7, 2017
RECOMMENDED ACTION: Receive minutes.

C. Approval of City Check Register Reports Dated August 4, August 11, August 18 and August 25, 2017
RECOMMENDED ACTION: Approve check registers.

D. Liability Claim of Jacob Fisher [Claims Binder]
RECOMMENDED ACTION: Deny liability claim.

E. Consider Policy for Youth Participation on Advisory Bodies
RECOMMENDED ACTION: Approve policy.

F. Consider a Side Letter with the Association of Capitola Employees Regarding Union Participation in New Employee Orientation
RECOMMENDED ACTION: Approve side letter.

9. GENERAL GOVERNMENT / PUBLIC HEARINGS

A. Consider Approval of Library Detailed Design
RECOMMENDED ACTION Approve the detail design of the Capitola Branch Library by Noll and Tam Architects.

Director Jesberg presented the staff report and updated progress in the plan details based on the previous schematic approval. He noted the plans are still working documents, and the Planning Commission will review the project in November. Architect Chris Noll noted that construction costs are increasing and his firm made some adjustments including less expensive exterior materials and some interior finishes. The deck trellis will likely be an optional element when the project is bid, and the budget continues to have a cushion for increased costs. He presented the detailed building design.

Landscape designer Joni Janecki walked the Council through the plans for the site and landscaping. Mayor Harlan asked for milkweed planting to attract butterflies. Council Member Bottorff confirmed that the tree by the exit is existing with a high canopy for good visibility. Council Member Bertrand confirmed a traffic study was prepared. In response to Council questions, Ms. Janecki said she is working with an arborist on health and preservation of existing oaks and is adding two new oaks as well as other trees.

Linda Smith asked for an option to include historic elements in the décor and coordination with the Historical Museum.

Bob Edgren expressed concern about adequate parking and asked about an Environmental Impact Report (EIR). He said he is worried about the location of the parking lot exit close to a curve. Director Jesberg clarified that a traffic study and environmental studies were done, but an EIR was not required. The traffic study suggestions are based on actual speeds, not limits. He also noted that a history room was eliminated when the overall size was reduced.

MOTION:	**APPROVE THE DESIGN DETAIL PLANS FOR THE NEW LIBRARY.**
RESULT:	**ADOPTED [4 TO 1]**
MOVER:	Michael Termini, Vice Mayor
SECONDER:	Kristen Petersen, Council Member
AYES:	Jacques Bertrand, Stephanie Harlan, Michael Termini, Kristen Petersen
NAYS:	Ed Bottorff

B. Consider Library Fundraising Memorandum of Understanding
RECOMMENDED ACTION: Authorize the City Manager to sign the attached Memorandum of Understanding with the Capital Campaign for the Capitola Branch Library.

City Manager Jamie Goldstein presented the staff report. The memorandum addresses how public fundraising will be used in the construction of the library.

Council Member Bottorff said while he thinks the building is well designed, he continues to have concerns about the budget and a project that is not fully funded.

MOTION:	**AUTHORIZE THE CITY MANAGER TO SIGN THE MEMORANDUM OF UNDERSTANDING.**
RESULT:	**ADOPTED [4 TO 1]**
MOVER:	Michael Termini, Vice Mayor
SECONDER:	Jacques Bertrand, Council Member
AYES:	Jacques Bertrand, Stephanie Harlan, Michael Termini, Kristen Petersen
NAYS:	Ed Bottorff

C. Report on Santa Cruz County "Collective of Results and Evidence-Based Investments" for Community Group Funding
RECOMMENDED ACTION: Receive report.

Assistant to the City Manager Larry Laurent provided background on the City's community grant program. Madeline Noya from Santa Cruz County provided an overview on the County's CORE program and the transition to a new funding model. The program was developed in response to the County Board of Supervisor's desire for a better understanding and evaluation of the success of programs being funded. It used a request for proposal approach. The focus was maintaining continuity of safety net services, and in the first round of funding 94 percent of the money went to previously funded agencies, and 25 percent of funded programs were new.

Several Council Members asked how the process impacts organizations that cannot quantify results and if the process diverts staff time and money away from services. Ms. Noya said the groups are not being asked for more information than they were previously, but perhaps different information.

Clay Kempf of the Seniors Council noted his agency both funds and requests grants. It has been challenged by the "quantifiable" bar. He would welcome a streamlined application.

Treasurer Wilk expressed support for on-site audit or review.

Bob Edgren called for oversight and does not support homeless services.

Council Member Petersen advocated for a process that values homeless prevention and anti-poverty programs.

RESULT:	**RECEIVED REPORT**

D. Consider a Contract for the Concept Design for the Wharf, Flume, and Jetty Improvement Projects
RECOMMENDED ACTION: Award a contract to Moffatt and Nichol in the amount of $183,100 for the concept design and engineering for the Wharf, Flume, and Jetty Improvement Projects, and provide direction on the selection of an architect for the Wharf building improvements included in the overall Wharf project.

Director Jesberg presented the staff report. He noted that when voters approved Measure F, the City committed to direct funds toward ocean front projects. The broad goals are to improve the resiliency of the Wharf and other upgrades, line the flume, and restore the jetty to original elevations. Replacement of buildings on the Wharf are a potential additional expense. Grant funding may be available, especially for the Wharf.

He asked for direction about wharf architecture and presented three options, from maintaining existing buildings with one new bathroom, to adding a second bathroom to a complete demolition and rebuild of structures. When added to the structural portion plus flume and jetty projects, those costs could be as much as $8.4 million, with design, engineering and permit costs an additional $1.3 million. City Manager Goldstein said Measure F currently provides about $1.1 million a year and has a 10-year life, but bond financing costs and other priorities such as police staffing may impact how much is available.

In response to a question from Treasurer Wilk, Director Jesberg explained the jetty is the biggest combatant against sea level rise because it provides the beach.

Council members noted that existing Wharf structures are deteriorating and expressed support for a complete rebuild as part of the Measure F commitment. They also felt architect recruitment should be begin locally. Mayor Harlan asked that the contractor avoid holding workshops during the holiday months of November and December.

MOTION:	**AWARD THE CONTRACT TO MOFFATT AND NICHOL AS RECOMMENDED AND DIRECT STAFF TO RECRUIT LOCALLY FOR ARCHITECTS TO LEAD THE REBUILDING OF WHARF STRUCTURES.**
RESULT:	**ADOPTED [UNANIMOUS]**
MOVER:	Michael Termini, Vice Mayor
SECONDER:	Ed Bottorff, Council Member
AYES:	Bottorff, Bertrand, Harlan, Termini, Petersen

E. Review Employee Down Payment Assistance Program and Approve Resolution
RECOMMENDED ACTION: Adopt **Resolution No. 4087** authorizing the City Manager to approve and amend policies to administer the new Employee Down Payment Assistance Program.

Assistant to the City Manager Laurent presented the staff report and policy highlights, including a preference for length of service and no interest payment for the first five years. The policy may be amended depending on financing partner requirements. City Manager Goldstein noted that the 5 percent interest after the first five years is intended to encourage repayment and get money recycled back into the program.

Treasurer Wilk said the Finance Advisory Committee understanding was that the program would be a recruiting tool and weighting in favor of seniority may undermine that effort. Council expressed support for seniority weighting as described.

MOTION:	**ADOPT THE RESOLUTION AS RECOMMENDED.**
RESULT:	**ADOPTED [UNANIMOUS]**
MOVER:	Ed Bottorff, Council Member
SECONDER:	Michael Termini, Vice Mayor
AYES:	Bottorff, Bertrand, Harlan, Termini, Petersen

10. ADJOURNMENT

The meeting was adjourned at 10:10 p.m.

_____
Stephanie Harlan, Mayor

ATTEST:

_____
Linda Fridy, City Clerk

CAPITOLA CITY COUNCIL AGENDA REPORT

MEETING OF OCTOBER 12, 2017

FROM: City Manager Department

SUBJECT: Receive Planning Commission Action Minutes for the Regular Meeting of October 5, 2017

RECOMMENDED ACTION: Receive minutes.

ATTACHMENTS:

1. 10-05-2017 Planning Commission Action Minutes

Report Prepared By: Linda Fridy
City Clerk

Reviewed and Forwarded by:

Jamie Goldstein, City Manager 10/6/2017

ACTION MINUTES
CAPITOLA PLANNING COMMISSION MEETING
THURSDAY, OCTOBER 5, 2017
7 P.M. – CAPITOLA CITY COUNCIL CHAMBERS

1. ROLL CALL AND PLEDGE OF ALLEGIANCE

Chairperson Edward Newman: Present, Commissioner Linda Smith: Present, Commissioner Sam Storey: Present, Commissioner Susan Westman: Present, Commissioner TJ Welch: Present

2. ORAL COMMUNICATIONS

A. Additions and Deletions to Agenda

B. Public Comments

C. Commission Comments

D. Staff Comments

3. PRESENTATION

A. State Density Bonus Overview by Senior Planner Katie Herlihy

4. APPROVAL OF MINUTES

A. Draft Minutes September 6, 2017 Special PC Meeting

1. Planning Commission - Special Meeting - Sep 6, 2017 6:00 PM

RESULT:	**ACCEPTED [UNANIMOUS]**
MOVER:	Susan Westman, Commissioner
SECONDER:	Sam Storey, Commissioner
AYES:	Smith, Newman, Welch, Westman, Storey

B. Draft Minutes September 7, 2017 PC Meeting

1. Planning Commission - Regular Meeting - Sep 7, 2017 7:00 PM

RESULT:	**ACCEPTED [UNANIMOUS]**
MOVER:	Sam Storey, Commissioner
SECONDER:	Linda Smith, Commissioner
AYES:	Smith, Newman, Welch, Westman, Storey

5. CONSENT CALENDAR

A. 4530 Garnet Street #17-0267 APN: 034-034-02

Design Permit application for a new two-story, single-family residence located in the R-1 (Single-Family Residential) zoning district.
This project is in the Coastal Zone but does not require a Coastal Development Permit.
Environmental Determination: Categorical Exemption
Property Owner: Clark Cochran
Representative: Dennis Norton, filed: 8/15/16

MOTION: Approve Design Permit

RESULT:	**APPROVED [UNANIMOUS]**
MOVER:	Sam Storey, Commissioner
SECONDER:	TJ Welch, Chairperson
AYES:	Smith, Newman, Welch, Westman, Storey

B. 1890 46th Avenue #17-0299 APN: 034-011-45

Design Permit for a remodel and addition to a single-family home with a new attached single-car garage with living space above. The property is located in the R-1 (Single-Family Residential) zoning district.
This project is in the Coastal Zone but does not require a Coastal Development Permit.
Environmental Determination: Categorical Exemption
Property Owner: Pauline Moore Naber
Representative: Dennis Norton, filed: 8/8/17

MOTION: Approve Design Permit

RESULT:	**APPROVED [UNANIMOUS]**
MOVER:	Sam Storey, Commissioner
SECONDER:	TJ Welch, Chairperson
AYES:	Smith, Newman, Welch, Westman, Storey

6. PUBLIC HEARINGS

A. 108 Monterey Avenue #17-0350 APN : 035-262-09

Coastal Development Permit for a seasonal ice skating rink.
This project is in the Coastal Zone and requires a Coastal Development Permit which is appealable to the Coastal Commission after all local appeals are exhausted.
Environmental Determination: Categorical Exemption
Property Owner: City of Capitola
Representative: Capitola Village Wharf Business Improvement, filed: 9/11/17

MOTION: Approved Coastal Development Permit, as Amended

RESULT:	**APPROVED AS AMENDED [UNANIMOUS]**
MOVER:	Linda Smith, Commissioner
SECONDER:	Susan Westman, Commissioner
AYES:	Smith, Newman, Welch, Westman, Storey

B. 3400 Clares Street #17-054 APN: 034-261-35

Design Permit, Conditional Use Permit, and Sign Permit with Variance requests for multiple wall signs for a new Olive Garden Restaurant at the location of the former Marie Callender's building located in the CC (Community Commercial) zoning district.
This project is not in the Coastal Zone and does not require a Coastal Development Permit.
Environmental Determination: Categorical Exemption
Property Owner: Cypress Properties
Representative: Terry Womack, filed: 4/6/17

MOTION: Approved Design Permit, Conditional Use Permit and Sign Permit with Variance, as Amended

RESULT:	**APPROVED AS AMENDED [UNANIMOUS]**
MOVER:	Sam Storey, Commissioner
SECONDER:	TJ Welch, Chairperson
AYES:	Smith, Newman, Welch, Westman, Storey

7. DIRECTOR'S REPORT

8. COMMISSION COMMUNICATIONS

9. ADJOURNMENT

CAPITOLA CITY COUNCIL AGENDA REPORT

MEETING OF OCTOBER 12, 2017

FROM: City Manager Department

SUBJECT: Liability Claim of Richard Willis

RECOMMENDED ACTION: Deny liability claim.

DISCUSSION: Richard Willis has filed a liability claim against the City in the amount of $7,500.

Report Prepared By: Liz Nichols
Executive Assistant to the City Manager

Reviewed and Forwarded by:

Jamie Goldstein, City Manager 10/6/2017

CAPITOLA CITY COUNCIL AGENDA REPORT

MEETING OF OCTOBER 12, 2017

FROM: City Manager Department

SUBJECT: Schedule Hearing to Consider an Appeal of a Vicious Animal Declaration

---

RECOMMENDED ACTION: Schedule an appeal hearing for October 26, 2017.

BACKGROUND: On September 25, 2017, the City Clerk's office received an appeal letter regarding the declaration of a Capitola resident's dog as a vicious animal by Santa Cruz County Animal Services (Attachment 1). Santa Cruz County Animal Shelter employees serve as the City's "poundmaster" and the Capitola Municipal Code allows decisions by the poundmaster to be appealed to the City Council.

DISCUSSION: Staff in coordination with Animal Services recommends that an appeal hearing be scheduled for the regular City Council meeting of October 26, 2017.

ATTACHMENTS:

1. Vicious animal appeal letter

Report Prepared By: Linda Fridy
City Clerk

Reviewed and Forwarded by:

Jamie Goldstein, City Manager 10/6/2017

To: Linda Fridy, Capitola City Clerk
From: Brian and Pam Schnack, 4310 Trotter Street, Capitola, CA 95010, (831) 824-9100
Regarding: Appeal of decision from poundmaster and notice pursuant to 6.08.140

September 25, 2017

Dear Ms. Fridy and, ultimately, members of the Capitola City Council,

On September 13, 2017, we were formally served by Officer Stousy of the Santa Cruz County Animal Shelter with a declaration of vicious animal. Please consider this letter a formal appeal of the declaration, provided to you within 10 business days of the notice.

First and foremost, our appeal is not an attempt to shirk our obligations as dog owners, friends, parents, neighbors, or citizens of the City and County. Just as important, our appeal is not a statement against Officer Stousy, who was very up-front and professional with us and who does incredible work across the County for animal rescue.

Secondly, regardless of our appeal of the ruling, Pam and I are continuing to take steps to ensure we have a safe, sane environment for our family, our dogs, and our neighborhood. Our actions are outlined at the end of this appeal and include our working with Carla Braden (County Animal Behaviorist, PMCT, CPDT-KA) – who is scheduled to visit our family on Wednesday, September 27, 2017 (the earliest she could visit). We are looking forward to Carla's assessment and recommendations.

At issue is whether Presley is a vicious animal. Per the declaration issued to us on September 13th, the General Manager of the Santa Cruz County Animal Shelter determined Presley to be a vicious animal due to biting a human on three separate occasions (those occasions being 11/5/2014, 12/17/2016, and 9/1/2017). We are not contesting that each of the three bites occurred.

What was neither reported nor detailed was the circumstances of each event and the degree of the resulting bite. Specifically, our appeal contends that Presley does not meet the definition of a "vicious animal" per Animal Control Ordinance 6.04.010 (Q). This ordinance states (emphasis ours)

> *"Vicious animal" means any animal, except a dog assisting a peace officer engaged in law enforcement duties, which bites any human being or any domestic animal or which demonstrates menacing behavior toward human beings or domestic animals but does not include an animal which bites, attacks or menaces a trespasser on the property of its guardian or harms or menaces anyone who has tormented, tortured, or exhibited cruelty to such animal as such terms are defined in California Penal Code Section 597.*

Again, we do not deny that the three reported bites occurred. However, each of the three bites occurred under circumstances which might moderate the degree to which Presley acted viciously or menacingly. Without arguing that the events reported did occur, the following are our concerns with each of the reported events, starting with the most questionable event

1. **12/17/2016, reported by Sean Ferry**
   On 12/17/2016, Sean Ferry was "house sitting" our two dogs and our son, Nico, for the night.

On this night, our two dogs were competing over the same wrapped gift. Presley ultimately got the present, and laid down, pawing and gnawing at it – like it was his.

It is in this situation that Sean decided to take the present away from Presley. He reached toward the present as Presley growled. Despite the growling, Sean took the present, and Presley bit his hand, breaking his skin with a single tooth mark.

Again, there's no excuse for Presley biting Sean. Having said that, Presley bit Sean (one tooth mark) after communicating his annoyance with someone entering his space, taking something that belonged to him (the present). Please note that Sean will be willing to testify.

2. **11/5/2014, reported by Rocco Rouse**

This was the first avoidable event. On this day, Rocco knocked on the door for Nico to play. This unfortunately got Stella (our second dog, a Chihuahua/Dachsund mix) barking like crazy. Stella's the alpha dog of the house, and her shrieking bark triggered Presley.

With both dogs barking and jumping at the front door, Nico (age 10 at this time), opened the door while grabbing Presley's collar. Sadly, Presley and Stella got out, immediately barking at Rocco, who in turn ran away from them. Frightened at two barking dogs, Rocco waved and flailed at Presley – who bit Rocco's hand. Rocco suffered a single tooth wound to the hand.

This is our fault for placing the dogs in a situation where they could not succeed, and in exposing other people to a situation in which our dogs could scare and potentially hurt them. After this event, we made it entirely clear to Nico that we never open the door to visitors if our dogs are not under our control (on leash or isolated in another part of the house). We enforce this to this day.

3. **9/1/2017, reported by Callahan Gagarin**

This most recent event was avoidable and, as with the biting of Rocco, a matter of NOT putting dogs in a place where we can ensure they succeed. In this case, a friend and her daughter (Kirsten and Callahan Gagarin) were house sitting our dogs for the weekend, something they've done 5-10 times with no incident.

After spending all day since early morning inside, the dogs were excited when Kirsten came over and picked up Presley to take him with her to pick up Callahan at school. Presley loves car rides, but we have not been taking him on them since he was diagnosed with a torn ACL. It causes him discomfort to jump up into the car and stay seated with all the jostling. Having said that, Kirsten pulled into the parking lot, parked, and Callahan jumped into the car, immediately bear-hugging Presley.

For some reason – discomfort, uncertainty, surprise – Presley bit Callahan's hand, leaving one tooth bite. Please note that Kirsten will be willing to testify.

There are several things in common with each event

1. Each occurred while Presley was under the control of a minor and/or someone other than his owner
2. Each event was avoidable. Particularly, on 12/17/16, clear signs of "do not take my thing" were presented by Presley as he was covering the present with paws and muzzle. On 11/4/14, our

son (accidently) let his barking dogs escape through the front door. Rocco was defending himself from what he saw as an aggressive dog – and Presley bit his hand.

3. The degree of each bite was 1 tooth puncture, with no lacerations or bruising. After each bite, Presley expressed immediate passivity or remorse (while emphasizing this doesn't justify it) [Here is where we will state formally that many people are quick to demonize 'pitbulls', whereas studies show that 'pitbull' breeds are no more or less aggressive than other breeds; furthermore, the term 'pitbull' itself is used as a pejorative. See https://bestfriends.org/]

Again, the length of this letter does not mean that we are justifying Presley's behavior. We are not. As we note in an appendix to this letter, we have tried to and will continue to work on providing a safe, sane home for our family and our pets, not to mention for our friends and neighbors. This starts with Carla Braden's pending review and upcoming behavior training sessions.

What Pam and I are doing, though, is appealing the grounds for Presley being declared a "vicious animal" per Animal Control Ordinance 6.04.010 (Q). Our family has logged hundreds of miles with Presley on walks, and thousands of hours on the couch and in the yard. We took Presley to training after rescuing him from the shelter in 2014, have leash and muzzle trained him (an ongoing practice), never have nor ever will let our dogs off leash, and have strived to never put him in a place where he can't succeed – or where he can scare or harm others.

I appreciate the time the county, city, and you have already spent on this matter. Regardless of the outcome of this appeal, we look forward to Carla Braden's upcoming visit, assessment, and training for both Presley, Stella (the second dog), and us.

Regards,

Brian and Pam Schnack
4310 Trotter Street, Capitola, CA 95010
831-824-9100

Postscript

- This letter will be printed, signed, and delivered in person to the Office of the City Clerk, Capitola, CA on 9/25/17
- In parallel, this letter will be emailed to Ms. Linda Friday, Capitola City Clerk, at lfridy@ci.capitola.ca.us from theschnack@gmail.com, cc-ing brian.schnack@five9.com
- Please see following page for background on our past and current actions with respect to being responsible dog owners for ourselves, our dogs, and our community.

Appendix: What have done and are doing regardless of this appeal

Regardless of our contesting the ruling, we are taking steps to ensure we have a safe, sane environment for our family and our dogs, starting with working with an animal behaviorist. Specific steps we have taken up through now and are taking moving forward are as follows

- We have our first of a series of visits with Carla Braden (County Animal Behaviorist, PMCT, CPDT-KA) scheduled for Wednesday, 9/27. It is unfortunately the earliest she could meet, but we look forward to working with her on her initial review and, based on her review, subsequent training
- We never let our dogs off-leash when they are outside of our property enclosure. Even if prior events never occurred, we are strong proponents of keeping dogs on leash and under control. I have always walked Presley with a collar and lead (typically 7 days a week up until recent events), and appreciate it when other dog owners do as well
- Similarly, Presley is muzzle-trained – something we reinforce 1-2 times a week. A few years ago, I muzzle trained him for when he was in uncertain environments (like me trimming his nails or cleaning an infected ear). He accepts the muzzle for intermediate periods -- and it's never applied as a means of punishment
- Following that note, we continue to "reward" as opposed to "punish" the dogs. Both of our dogs respond far more effectively to positive stimuli and rewards, as opposed to threats (example: rewarding the dog for sitting down and looking at me when the mail comes -- as opposed to yelling at him when he barks at the mail. Barking is the dog's natural voice, and punishing that voice will lead to worse behavior)
- We place the dogs in a separate space (in the backyard, in a fenced-off area of the backyard, or in one of the back bedrooms) if people come over, and will continue to do so to avoid further issues. They have a great backyard with thick, solid fencing, with plenty of birds and squirrels to chase. Otherwise, they are very happy to spend 5-10 hours at a time indoors, asleep on their beds

CAPITOLA CITY COUNCIL AGENDA REPORT

MEETING OF OCTOBER 12, 2017

FROM: City Manager Department

SUBJECT: Consider Amendments to Records Coordinator and Receptionist Job Descriptions

---

RECOMMENDED ACTION: Approve the amended job descriptions.

BACKGROUND: As the requirements of the City Hall front desk position have increased over time, it has become necessary to involve a greater number of employees in the front desk coverage plan. Currently the receptionist and records coordinator positions have different supervisors.

DISCUSSION: The proposed changes to the receptionist job description move the position under the City Clerk. The changes to the Records Coordinator job description include the addition of basic receptionist duties.

These changes would allow for better coverage of the front desk and better employee cross-training.

FISCAL IMPACT: None.

ATTACHMENTS:

1. Records Coordinator Job description revised 10-17
2. Receptionist Job Description - Revised 10-17

Report Prepared By: Larry Laurent
Assistant to the City Manager

Reviewed and Forwarded by:

Jamie Goldstein, City Manager 10/6/2017

City of Capitola

RECORDS COORDINATOR

GENERAL PURPOSE

Under general direction of the City Clerk, plans, manages, coordinates the conduct of the City's centralized records management program, including the receipt, storage, retrieval, and disposition of official City records; works with records representatives from all departments; provides training; performs related duties as required.

SUPERVISION RECEIVED

Reports to and works under the general supervision of the City Clerk.

ESSENTIAL DUTIES AND RESPONSIBILITIES

- Coordinate all records management functions for the City, including the receipt, storage, retrieval and disposition of official City records in accordance with legal requirements and records management policies and procedures.
- Develop and implement Disaster Preparedness and Vital Records Program.
- Inventory and order supplies and equipment according to established procedures; review related invoices for payments.
- Advise, and otherwise provide, assistance to the City Clerk and other City personnel regarding records management policies, procedures, and legal requirements; assist in the conduct of research and the development of departmental policies and procedures, and records management systems.
- Develop, implement and maintain policies and procedures for the recording, indexing, filing and retrieving of active documents and the storage of inactive documents.
- Responds to public inquiries and Public Record Act requests, verbally and in writing, and provides assistance in the use of public records.
- Review and monitor legal requests for records.
- Directs and participates in the development and maintenance of manual and automated indexing and storage systems.
- Ensures the effective implementation of the records retention program.
- Assist the public and City employees by providing information and research assistance regarding the City's documents.
- Assists in the development of budgetary requirements for maintenance and improvements to the records management program.
- Instructs other personnel in the operation and routine maintenance of telephone and micrographic equipment as necessary; maintains procedures manuals.
- Assigns work to subordinate staff and volunteers and provides training and assistance; reviews work for accuracy and conformity to established standards.
- Interpret Federal, State, and other regulations relating to records keeping and destruction requirements and ensure compliance with all regulations.
- Perform a variety of administrative duties in support of the City Clerk's office.
- Participates in the staffing of the front desk as determined.

DESIRED MINIMUM QUALIFICATIONS

Education and Experience:

Any combination of experience and education that provides the skills, knowledge and abilities shown above is qualifying. A typical way to obtain these requirements would be:

- Successful completion of two years of college-level course work in Business or Public Administration, Secretarial Science or a directly related field, and two years of increasingly responsible record keeping experience including the maintenance of automated and manual records and files; or
- High school graduation or tested equivalent and four years of increasingly responsible record keeping experience including the maintenance of automated and manual records and files; or

Necessary Knowledge, Skills and Abilities:

Knowledge of:

- Standard office procedures, practices and equipment
- Proper grammar, spelling, punctuation and business correspondence format
- Computer processing skills (Word, Excel, Power Point, data bases, etc.)
- Current records management practices and procedures
- Laws related to records retention and disposition.

Skills:

- Effectively operate modern office equipment including computer equipment, copier, scanner, microfilm reader, etc.
- Effectively develop and coordinate office systems and work under pressure to meet deadlines.
- Effectively use word processing and spreadsheet programs.
- Effectively compose correspondence and routine administrative reports.

Ability to:

- Interact effectively with all levels of employees and the public.
- Maintain good working relationships with other departments and employees.
- Develop and implement division goals, objectives, policies and procedures.
- Communicate effectively both verbally and in writing.
- Train, motivate and supervise employees.
- Conduct needed analysis to determine the City's Records Management needs both on a short and long-term basis.
- Anticipate staff's records storage and access needs and work cooperatively with staff to identify alternatives and/or implement conversions.
- Meet the public and assist callers by directing or transferring them to the appropriate person or office.
- Analyze work procedures and determine automation and other technologies to streamline procedures and aid in the City's effective and efficient operation.

SPECIAL REQUIREMENTS

None.

TOOLS AND EQUIPMENT USED

Personal computer; computer network workstation; telephone; copy machine; fax machine. Microsoft Office Software Programs (particularly Word, Excel, Power Point, Outlook, etc.)

PHYSICAL DEMANDS

The physical demands described herein are those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this job, the employee is frequently required to sit and talk or hear, use hands and fingers to handle or feel objects, tools or controls; and reach with hands and arms. The employee is occasionally required to walk.

The employee must occasionally lift and/or move up to 25 pounds. Specific vision abilities required by this job include close vision and the ability to adjust focus.

WORK ENVIRONMENT

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

The noise level in the work environment is usually quiet to moderate.

SELECTION GUIDELINES

Formal application; rating of education and experience; oral interview; reference check and job-related tests may be required.

The duties listed above are intended only as illustrations of the various types of work that may be performed. The omission of specific statements of duties does not exclude them from the position if the work is similar, related or a logical assignment to the position.

The job description does not constitute an employment agreement between the employer and employee, and is subject to change by the employer as the needs of the employer and requirements of the job change.

Effective Date: 11/5/01
Rev 10/17

City of Capitola

RECEPTIONIST

General Purpose

Under general direction, meet the public and assist callers by directing or transferring them to the appropriate person or office; assist public in obtaining various city hall services; provide clerical/administrative support to staff; assist in the administration of standard operating policies and procedures of the assigned department; and perform related clerical work as required.

Supervision Received

Works under the close supervision of the ~~Executive Assistant to the City Manager~~City Clerk and others as assigned. May receive assignments from other departmental staff.

Supervision Exercised - None.

Essential Duties and Responsibilities

- Answers inquiries concerning the location and function of various sections and personnel of the City.
- Greets visitors and directs them to sources of information, appropriate personnel or offices.
- Gives out standard forms and basic/simple building permits, explains how to complete them, and screens for completeness.
- Schedules inspections for the Building Department.
- Provides basic answers to Community Development inquiries.
- Answers telephone, providing information and routing calls; takes and relays messages.
- Receives, opens, sorts and distributes incoming mail. Maintains the outgoing mail system.
- Types general correspondence, rough drafts and other documents and forms from clear copy.
- Performs general clerical tasks as needed.
- Inventories and orders all office supplies.
- Business License: Provides business license information to the public and staff; takes in license applications and fees.
- Receives and processes payments; issues receipts; completes proper forms, maintains cash box.
- Prepares and maintains calendar for department/division operations
- Maintains the City Scroll

Peripheral Duties

Operates a vehicle.

May serve on various employee committees, as required and assigned.

Desired Minimum Qualifications

Education and Experience:

(A) Graduation from a high school or GED equivalent with specialized course work in general office practices such as typing, filing, accounting and bookkeeping, and (B) one year of increasingly responsible related experience involving clerical work and meeting the public, or any equivalent combination of related education and experience.

Necessary Knowledge, Skills and Abilities:

(A) Working knowledge of computers and electronic data processing; working knowledge of modern office practices and procedures; some knowledge of accounting principles and practices; some knowledge of city services and recreation programs; proper English usage, grammar, punctuation, vocabulary and spelling

(B) Skill in operation of listed tools and equipment.

(C) Ability to: perform cashier duties accurately, meet the public with poise, understand public inquires and assist them in getting them help; learn and remember a wide range of information about the personnel, organization and procedures of the departments; communicate effectively verbally and in writing; handle stressful situations; type at a moderate rate of speed; maintain strict confidentiality of information, multitask, learn the activities and operations of city, understand and follow complex oral and written instructions; perform arithmetical calculations using addition, subtraction, multiplication and division; effectively and tactfully communicate in both oral and written forms, intermittently bend and twist to reach equipment on surrounding desk; intermittently reach above and below shoulder level to reach books, files reports on shelves and in filing cabinets, squat and kneel to reach files and related documents; sit at a desk using near vision for long periods of time; speak English.

Tools and Equipment Used

Telephone switchboard; personal computer including word processing software; typewriter, copy machine, postage machine; fax machine.

Physical Demands

The physical demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

While performing the duties of this job, the employee is frequently required to sit and talk or hear. The employee is occasionally required to walk; use hands to finger, handle, or feel objects, tools, or controls; and reach with hands and arms; bend, twist and squat.

~~Specific vision abilities required by this job include close vision and the ability to adjust focus.~~

Work Environment

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this job. Reasonable accommodations may be made to enable individuals with disabilities to perform the essential functions.

The noise level in the work environment varies from quiet to moderately loud.

Selection Guidelines

Formal application, rating of education and experience; oral interview and reference check; job related tests may be required.

The duties listed above are intended only as illustrations of the various types of work that may be performed. The omission of specific statements of duties does not exclude them from the position if the work is similar, related or a logical assignment to the position.

The job description does not constitute an employment agreement between the employer and employee and is subject to change by the employer as the needs of the employer and requirements of the job change.

Effective Date: 1-1-97
rev. 1/12/98
rev 9/10/12

rev 10-17

CAPITOLA CITY COUNCIL AGENDA REPORT

MEETING OF OCTOBER 12, 2017

FROM: City Manager Department

SUBJECT: Consider Public Works Project Manager Job Description Changes

---

RECOMMENDED ACTION: Approve changes to the job title and description for Public Works Project Manager and approve a side letter with Mid-Management Employees.

BACKGROUND: During the 2016/2017 mid-year budget session, the City Council approved the creation of the Civil Engineer/Project Manager position. The job description was approved at the March 23, 2017 City Council meeting.

DISCUSSION: The City began to recruit for the position soon after the position was approved, however, staff has been unable to find a candidate to fill the position.

Due to the priority of having a qualified project manager on staff, the job description has been revised to move the civil engineer requirements of the position from required to desirable. At this time, the project management functions are the most critical.

This change will allow experienced construction project managers to now qualify for the position.

The attached side letter incorporates the job title change into the MOU with the Mid-Management Employees.

FISCAL IMPACT: None.

ATTACHMENTS:

1. PW - Project Manager job description revised 10-17
2. Mid-management Side Letter 10-2017

Report Prepared By: Larry Laurent
Assistant to the City Manager

Public Works Project Manager
October 12, 2017

Reviewed and Forwarded by:

Jamie Goldstein, City Manager 10/6/2017

CITY OF CAPITOLA

PUBLIC WORKS PROJECT MANAGER

DEFINITION:

Under general direction from the Public Works Director, performs difficult and responsible professional project management in the field and office; may act as resident ~~engineer~~ project manager on construction projects; may supervise subordinate professional and sub-professional ~~engineering~~ personnel; and performs related duties as required.

ESSENTIAL DUTIES & RESPONSIBILITIES (May include, but are not limited to:)

Primary duties include overseeing the City's Capital Improvement Program and serving as a Qualified Storm Water Professional for the City.

SUPERVISION RECEIVED AND EXERCISED

- Receives direction from the Public Works Director.
- May exercise functional and technical supervision over assigned staff
- Bargaining Unit: Mid-Management
- FLSA: Exempt

DISTINGUISHING CHARACTERISTICS

Under general supervision from the Public Works Director, the ~~Civil Engineer/~~Project Manager is a professional-level classification responsible for implementing the Capital Improvement Program and other Public Works projects. The position will manage and oversee projects from inception through completion.

Essential Duties:

- ~~Supervise the~~ Manages City projects ~~design of such engineering structures~~such as streets, parking lots, parks, storm drains, facilities, and ~~appurtenant~~ structures
- Prepare, coordinate, review and/or supervise the preparation of: plans, specifications and cost estimates for street, park, facility, storm drain and other improvement projects
- Prepare and coordinate reports, correspondence, plats, petitions, diagrams as needed for completion of projects
- Review development plans for storm water compliance with State and local regulations including BMP development and implementation, conduct construction site inspections, and program monitoring and reporting on behalf of the City
- Review rights-of-way maps and boundary descriptions
- Make computations requiring the use of ~~advanced engineering~~ mathematics; and traffic operations studies, surveys, and geotechnical investigations

- Manage and update City Pavement Management Program
- Inspect and manage construction projects to assure quality of construction and conformance with contract requirements including coordination of inspections, materials testing, traffic control, coordination with contractors and computing progress payments
- Supervises the checking of maps and improvement plans of subdivisions for compliance with local and state regulations
- Review environmental documents ~~for engineering related issues~~
- ~~Develop and m~~Maintain City Standards for construction in public right-of-way
- Participate in the negotiation and acquisition of rights-of-way and easements
- Assist in the preparation of the City capital improvement program document including developing project estimates, maps and priority lists
- Manage project budgets
- Reviews and supervises the formation and operation of assessment districts, open space districts, and development impact fee programs
- Attends and represents the City at meetings and serves on committees
- Serves as liaison with other public, state, and private agencies for the planning, preparation and completion of Public Works projects, grants and disaster relief funds;
- Represent ~~the~~ Public Works on the Project Review Committee to establish requirements regarding public infrastructure needed for private development and conformance with City standards
- Prepare and present recommendations concerning public works projects and related matters to pertinent individuals, committees, and organizations such as the Planning Commission and City Council
- Use computer equipment and ~~and civil engineering and CAD~~CAD software in the review and preparation of plans
- Provide guidance and ~~engineering~~ support to Public Works field crews on city projects as needed.

MINIMUM QUALIFICATIONS

Abilities:

- Oversee, plan, organize, conduct, coordinate, and implement projects and programs.
- Learn more complex principles, practices, techniques, and regulations pertaining to assigned duties.
- Implement, explain, and apply applicable laws, codes, and regulations.

- Analyze and interpret large sets of laboratory, field, and/or statistical data.
- Perform mathematical calculations.
- Write and compile effective technical and administrative reports.
- Read, interpret, and record data accurately.
- Read and interpret maps, sketches, drawings, specifications and technical manuals.
- Adjust standard operating procedures to improve effectiveness and comply with regulatory changes as appropriate.
- Participate in the establishment of section, division, and/or department goals, objectives and methods for evaluating achievement and performance levels.
- Assist with budget development and monitoring.
- Plan, organize, and direct work of assigned staff.
- Communicate clearly and concisely, both orally and in writing.
- Follow written and oral directions.
- Work independently, as well as in a team context.
- Observe safety principles and work in a safe manner.
- Establish and maintain effective working relationships with representatives of community organizations, private landowners, state, federal, and local agencies and associations, City staff, the public and other stakeholders.
- May safely and effectively operate the tools and equipment used in fieldwork, sampling and/or laboratory testing and analysis.
- May calibrate and maintain environmental sampling and monitoring equipment.
- May collect a variety of samples in the field.
-

OTHER REQUIREMENTS

Work occasional evenings and weekends, as assigned. Attend off-site meetings and training sessions.

REQUIRED EDUCATION AND EXPERIENCE

~~Any combination equivalent to graduation from college or university with a major in Civil Engineering and three years' experience in civil engineering in the following areas: design, construction inspection, surveying, preliminary project planning, subdivision map/plan review, traffic operations and planning, or other phases of engineering related to public works in a municipality.~~ 3+ years of Construction Project Management Experience

Must possess ~~a valid certificate of registration as a Civil Engineer issued by the California Board of Registration for Civil and Professional Engineers,~~ and a valid California motor vehicle "C" operator's license.

Must obtain Qualified Storm Water Practitioner (QSP) certificate within one year of date of appointment from the State Water Resources Control Board.

DESIRABLE QUALIFICATIONS

Graduation from college or university with a major in Civil Engineering and three years' experience in civil engineering in the following areas: design, construction inspection, surveying, preliminary project planning, subdivision map/plan review, traffic operations and planning, or other phases of engineering related to public works in a municipality.

A valid certificate of registration as a Civil Engineer issued by the California Board of Registration for Civil and Professional Engineers

Experience working with Geographic Information Systems

Experience with Caltrans Local Assistance procedures and reporting

ENVIRONMENTAL AND WORKING CONDITIONS

Position requires sitting, standing, walking on level, uneven and slippery surfaces, reaching, twisting, turning, kneeling, bending, stooping, squatting, crouching, grasping and making repetitive hand movements in the performance of daily duties. The position also requires near, far and color vision when collecting and analyzing samples. The need to lift, carry, and push tools, equipment and supplies weighing 25 pounds is also required. Additionally, the incumbent may be exposed to biohazards and a variety of working conditions, including mechanical, electrical and water - related hazards, loud noises when collecting samples and performing field inspections and surveys. The incumbent may work in adverse weather conditions, including wet, heat and cold, when collecting samples or performing inspections. The incumbent may use cleaning and lubricating chemicals or work in an environment that may involve exposure to fumes, dust and air contaminants. The nature of the work also requires the incumbent to climb ladders and steep slopes. The incumbent may be required to occasionally work evenings and weekends. Some of these requirements may be accommodated for otherwise qualified individuals requiring and requesting such accommodations.

The job description does not constitute an employment agreement between the employer and employee and is subject to change by the employer as the needs of the employer and requirements of the job change.

Effective 3/27/2017

Modified 10/2017

SIDE LETTER
BETWEEN CITY OF CAPITOLA AND
MID-MANAGEMENT EMPLOYEES

WHEREAS, the City of Capitola (City) and Capitola Mid-Management Employees, have met and conferred in good faith regarding salary & benefits; and

WHEREAS, the City and the Union have previously agreed on an MOU with a term beginning on July 1, 2012 and expiring on June 30, 2018; and

WHEREAS, it has become beneficial and necessary for the City and Public Works Department to hire a Civil Engineer/Project Manager position; and

WHEREAS, the City Council approved the Civil Engineer/Project Manager position during the Mid-Year budget meeting on February 23, 2017; and

IT IS HEREBY AGREED AS FOLLOWS;

1. Introductory paragraph of the existing MOU shall be amended to read:

This Memorandum of Understanding (MOU) is made and entered between the City of Capitola (hereinafter referred to as "City") and the Mid-Management employees. Classifications covered by this MOU are: Associate Planner, Housing and Redevelopment Project Manager, Senior Planner, Senior Mechanic Maintenance Superintendent, Field Supervisor, Recreation Supervisor, Building Official, Environmental Projects Manager, Public Works Project Manager, and Senior Accountant. This MOU shall be in effect for the period beginning on July 1, 2012 and ending on June 30, 2018 and shall be effective upon ratification by the bargaining unit and approval by the Capitola City Council.

2. Section 1 Article 3 shall be amended to read:

3. Overtime

All employees within the Mid-Management unit except for the position of Building Official, Public Works Project Manager, Environmental Projects Manager, Senior Planner and Senior Accountant which are exempt from FLSA, are hourly employees and can accrue overtime subject to the laws, rules, regulations and any other MOU provisions of the City, state and federal government.

The position of Building Official, Public Works Project Manager, Environmental Projects Manager, Senior Planner and Senior Accountant are professional positions exempt under FLSA, and therefore not entitled to overtime compensation. An Employee filling exempt positions are entitled to ten days per year of administrative time off. Administrative leave is non-cumulative. It may not be converted to cash. One year's worth of Administrative Leave becomes available on the first day of the calendar year. The exception is persons hired mid-year, in which case administrative leave is prorated for the applicable period. (Reso. #3486)

.

3. Attachment A – Salary Schedule will have the Public Works Project Manager Position and Salary added

Mid-Management Employees

_____

_____

_____

_____

_____

_____

_____

_____

Dated: _____

City of Capitola

_____
Jamie Goldstein, City Manager

Dated: _____

Attachment A – Salary Schedule

MID-MANAGEMENT SALARY SCHEDULE											
JULY 2, 2017 - JUNE 30, 2018	Monthly						Hourly				
3.1% COLA	A	B	C	D	E		A	B	C	D	E
ASSOCIATE PLANNER	$5,909.06	$6,204.84	$6,514.76	$6,840.99	$7,183.53		$34.09	$35.80	$37.59	$39.47	$41.44
BUILDING OFFICIAL	$6,794.23	$7,134.59	$7,491.27	$7,865.34	$8,258.99		$39.20	$41.16	$43.22	$45.38	$47.65
PUBLIC WORKS PROJECT MANAGER	$6,794.23	$7,134.59	$7,491.27	$7,865.34	$8,258.99		$39.20	$41.16	$43.22	$45.38	$47.65
ENVIRONMENTAL PROJECTS MANAGER	$5,909.06	$6,204.84	$6,514.76	$6,840.99	$7,183.53		$34.09	$35.80	$37.59	$39.47	$41.44
MAINTENANCE SUPERINTENDENT	$5,813.33	$6,106.41	$6,410.21	$6,730.09	$7,066.06		$33.54	$35.23	$36.98	$38.83	$40.77
FIELD SUPERVISOR	$5,416.60	$5,686.45	$5,972.38	$6,270.82	$6,581.77		$31.25	$32.81	$34.46	$36.18	$37.97
RECREATION SUPERVISOR	$5,237.89	$5,500.59	$5,777.59	$6,067.09	$6,369.11		$30.22	$31.73	$33.33	$35.00	$36.74
SENIOR PLANNER	$6,794.23	$7,134.59	$7,491.27	$7,865.34	$8,258.99		$39.20	$41.16	$43.22	$45.38	$47.65
SENIOR ACCOUNTANT	$6,794.23	$7,134.59	$7,491.27	$7,865.34	$8,258.99		$39.20	$41.16	$43.22	$45.38	$47.65
SENIOR MECHANIC	$5,032.38	$5,284.36	$5,548.84	$5,825.84	$6,117.13		$29.03	$30.49	$32.01	$33.61	$35.29

CAPITOLA CITY COUNCIL AGENDA REPORT

MEETING OF OCTOBER 12, 2017

FROM: Public Works Department

SUBJECT: Consider a Resolution Amending the 2017/18 Budget to Transfer $58,000 from the Road Maintenance and Rehabilitation Account to Highway 1 Enhanced Bike Lane Improvement Project

---

RECOMMENDED ACTION: Adopt resolution.

BACKGROUND: Senate Bill 1, known at the Road Maintenance and Rehabilitation Account (RMRA), was signed into law in April 2017 to address the state's basic road maintenance and critical safety needs. In August 2017, the California Transportation Commission adopted annual reporting guidelines that include provisions that the annual allocations to cities be included in the budget at a regular meeting. In fiscal year 2017/18, the City will receive approximately $58,000 from RMRA. In future years, the city will receive approximately $150,000 annually.

On July 27, 2107, the City Council approved a Capital Improvement Program list of projects that included allocations for Regional Transportation Commission (RTC) Measure D funds, local funds, and RMRA funds. The 2017/18 RMRA allocation was not included as the final guidelines had not been adopted.

SB1 requires the City adopt a resolution indicating how the City's RMRA allocation will be used. An amended list is included as Attachment 1 that includes the $58,000 RMRA 2017 allocation.

DISCUSSION: In fiscal year 2017/18 staff is recommending that the $58,000 allocation of RMRA funds be transferred to the Highway 1 Enhanced Bike Lane Project to augment the RTC Measure D and City funds in the project. The addition of the RMRA funds to the Highway 1 Enhanced Bike Lane Project is consistent with the program guidelines and allows for $22,000 of local funding to be re-allocated to the Citywide Slurry Seal Project.

FISCAL IMPACT: The $58,000 of RMRA funds was originally allocated in the Gas Tax Fund. This transfer will move the funding to the CIP fund. A budget amendment is included as Attachment 2.

ATTACHMENTS:

1. Amended Capitola Measure D 5 and RMRA list 2017 (PDF)
2. Hwy 1 Bike Lane (XLSX)

SB1 Resolution
October 12, 2017

Report Prepared By: Steve Jesberg
Public Works Director

Reviewed and Forwarded by:

Jamie Goldstein, City Manager 10/6/2017

SB1 Resolution
October 12, 2017

RESOLUTION NO. ____

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF CAPITOLA AMENDING THE FISCAL YEAR 2017/18 CAPITAL IMPROVEMENT PROGRAM BUDGET IN THE AMOUNT OF $58,000 TO ADD ROAD MAINTENANCE AND REHABILITATION ACCOUNT FUNDS TO THE HIGHWAY 1 ENHANCED BIKE LANE IMPROVEMENT PROJECT

WHEREAS, the City-adopted Capital Improvement Program (CIP) includes the Highway 1 Enhanced Bike Lane Improvement Project with funding from Measure O and Measure D; and

WHEREAS, Senate Bill 1 (SB 1), the Road Repair and Accountability Act of 2017 (Chapter 5, Statutes of 2017) was passed by the Legislature and signed into law by the Governor in April 2017 in order to address the significant multi-modal transportation funding shortfalls statewide; and

WHEREAS, SB 1 includes accountability and transparency provisions that will ensure the residents of the City of Capitola are aware of the projects proposed for funding in our community and which projects have been completed each fiscal year; and

WHEREAS, the City of Capitola must include a list of all projects proposed to receive funding from the Road Maintenance and Rehabilitation Account (RMRA), created by SB 1, in the current budget, which must include a description and the location of each proposed project, a proposed schedule for the project's completion, and the estimated useful life of the improvement; and

WHEREAS, the City of Capitola will receive an estimated $58,000 in RMRA funding in Fiscal Year 2017-18 from SB 1; and

WHEREAS, the full amount of the anticipated 2017/18 RMRA disbursement shall be allocated to Highway 1 Enhanced Bike Lane Improvement Project; and,

WHEREAS, a budget amendment is required to amend the adopted FY 2017/18 CIP to add the funds to the project.

NOW, THEREFORE, BE IT RESOLVED AND ORDERED that the City of Capitola amends the adopted FY 2017/18 CIP in the amount of $58,000 as detailed below:

ALLOCATE $58,000 IN RMRA FUNDS TO THE HIGHWAY 1 ENHANCED BIKE LANE IMPROVEMENT PROJECT

The above and foregoing resolution was duly and regularly adopted by the City Council of the City of Capitola at a regular meeting held on the 12th day of October 2017 by the following vote:

AYES:
NOES:
ABSENT:
ABSTAIN:

Approved: _____
Stephanie Harlan, Mayor

Attest: _____
Linda Fridy, City Clerk

City of Capitola Capital Improvement Program

Amended Measure D and RMRA Expenditure Plan: 5-Year Plan (FY17/18-FY21/22))

Name/Road/ limits	Description, complete streets components	Total cost estimate	Measure D Funds	Road Maintenance Rehab Account	Other funds	Schedule	Major project*	Benefits
Recommended Projects								
						year	Yes/no	Road/Bike/Ped
Highway 1 Interchange Bike Lane Imrovements	enhance bike lanes at 41st Avenue, Bay Avenue and Park Avenue interchanges - Green Bike Lanes	$ 200,000	65,000	58,000	77,000	2017/18	no	Bike
Citywide Slurry Seal		$ 355,000	220,000	-	135,000	2017/18	no	Road
42nd Avenue, Diamond Ave, Ruby Court Pavement rehab	repave road, reconstruct curb ramps	$ 750,000	300,000	150,000	300,000	2018/19	no	Road/Ped
Brommer Street Imrpvoements	Road, bike and sidewalk improvements between 41st Ave and 38th Ave	$ 500,000	300,000	150,000	50,000	2019/20	no	Road/Bike/Ped
Fanmar Avenue Improvements	Pavement and drainage improvements	$ 550,000	250,000	150,000	150,000	2020/21	no	Road
McGregor Drive road way Improvements	Sidewalk, bike lane and pavement improvements - east of Park Avenue	$ 1,000,000	300,000	150,000	550,000	2021/22	no	Road/Bike/Ped
			1,435,000	658,000	1,262,000			
Other Eligible Projects								
Capitola Avenue Improvements	Sidewalk, bike lane and pavement improvements from Bay Avenue to Village	$ 1,250,000				TBD	yes	Road/Bike/Ped
Capitola Avenue Roundabout	Roundabout at Capitola Avenue & Bay Avenue	$ 1,100,000				TBD	yes	Road/Bike/Ped
Hill Street Sidewalks	Sidewalk from Rosedale to Bay Ave	$ 500,000				TBD	no	Ped

**For Major Projects (e.g. require CEQA, over $1M, and/OR lots of public interest), provide separate one-page summary with longer desciption, describe consistency with the*

Amended to include RMRA allocations

City of Capitola Budget Adjustment Form

Date 10/12/2017

Requesting Department Public Works

Administrative Council [ ]
[X]

Item #
Council Date
Council Approval

Revenues		
Account #	Account Description	Increase / Decrease
1200-00-00-000-3910.310	Interfund Transfer In-Gas Tax	58,000
Total		58,000

Expenditures		
Account #	Account Description	Increase / Decrease
1310-00-00-000-4910.200	Interfund Transfer Out-CIP	58,000
Total		58,000

Net Impact	-

Purpose: The RMRA funding of $58,000 replaces general fund money originally allocated to the Highway 1 Enhanced Bike Lane Project #CS0033 in the amount of $60,000 in FY 2015-16

Department Head Approval

Finance Department Approval

City Manager Approval

Attachment: Hwy 1 Bike Lane (SB1 Resolution)

CAPITOLA CITY COUNCIL AGENDA REPORT

MEETING OF OCTOBER 12, 2017

FROM: Public Works Department

SUBJECT: Consider Contract Change Order No. 1 for the Rispin ADA Pathway Phase II Project and a Notice of Completion

---

RECOMMENDED ACTION: Approve Contract Change Order No. 1 for the Rispin ADA Pathway Phase II Project in the amount of $135,334 and accept the project as complete by approving a Notice of Completion.

BACKGROUND: Earthworks Paving Contractors was awarded the construction contract in the amount of $299,690 for the Rispin Perry Pathway Phase 2 project on April 14, 2016. Earthworks started work in May 2016 and completed approximately one-half of the project by September 2016.

As work began on the second portion of the project, the upper portion of the pathway in the garden area of the Rispin Park, it became apparent that there were discrepancies between the design and bid documents. Construction was halted for the winter to allow redesign work to be completed. In May 2017 Earthworks restarted work and completed the project in August 2017. The net effect of halting the work and identification of extra work needed to complete the project resulted in extra costs of $135,334. The extra work included remobilization, exporting and then importing 155 cubic yards of material that had been removed per the original plans, sidewalk and concrete stairway construction, demolition of the Wharf Road wall, and related curbing, walls, and grading work.

The final work has been inspected by the City's Americans with Disabilities Act (ADA) compliance officer and determined to meet ADA standards. A Notice of Completion is included as Attachment 1 and a breakdown of the final costs is included as Attachment 2.

DISCUSSION: While the some of the extra work costs were foreseeable as the work was restarting, the final tally was not evident until the work was completed. Looking at the cost summary, 40 percent of the extra work was from quantity changes in the original bid items. Of these costs, the biggest was for exporting material, concrete wall construction, and thickened edge sidewalk. The extra wall and sidewalk work was necessary to support the hillside along the pathway running along the lower portion of the pathway and also along the joint pathway and bike lane. The remaining 60 percent of the extra work was a result of stopping and restarting work, omissions in the bid items, and importing material.

Rispin Pathway Phase II Contract Change Order No 1 and Notice of Completion
October 12, 2017

FISCAL IMPACT: The Rispin Perry Pathway Phase 2 project and Rispin Park Project have a fund balance of $423,811. The payment of the extra costs of $135,334 will reduce this balance to $288,477. The final park plans are currently being reviewed to insure compliance with ADA standards and the cost estimates will be reviewed as part of this work. The current estimate is $340,000 for the remaining work. At the time bids are received, budget adjustments may be required to fund the project.

ATTACHMENTS:

1. Rispin Pathway Phase 2 Notice of Completion
2. Rispin Peery Pathway Phase 2 Final Cost Summary

Report Prepared By: Steve Jesberg
Public Works Director

Reviewed and Forwarded by:

Jamie Goldstein, City Manager 10/6/2017

RECORDING REQUESTED BY
AND WHEN RECORDED MAIL TO:

City of Capitola
Public Works Department
Attn: Steven Jesberg
420 Capitola Avenue
Capitola, California 95010

SPACE ABOVE THIS LINE FOR RECORDER'S USE

THIS INSTRUMENT IS BEING RECORDED FOR THE BENEFIT OF THE CITY OF CAPITOLA.
NO RECORDING FEE IS REQUIRED PURSUANT TO GOVERNMENT CODE §27383.

NOTICE OF COMPLETION

NOTICE IS HEREBY GIVEN that the City of Capitola, owner of the property hereinafter described, whose address is 420 Capitola Avenue, Capitola, California, has caused a work of improvements more particularly described as follows:

PROJECT NAME: Rispin Peery Pathway Improvements Phase II

PROJECT DESCRIPTION: Pathway Construciton

to be constructed on property more particularly described as follows:

DESCRIPTION: Rispin and Peery Parks

ADDRESS: N/A

APN: N/A

The work of the improvement was completed by:

CONTRACTOR: Earthworks Paving Contractors, Inc

ADDRESS: 310 A Kennedy Drive, Capitola CA 95010

The work of the improvements was actually completed on the 30th day of August 2017, and accepted by the City Council of said City on the 12th day of October 2017

Signature of City Official: _____

The undersigned certifies that he is an officer of the City of Capitola, that he has read the foregoing Notice of Completion and knows the content thereof; and that the same is true of his own knowledge, except as to those matters which are therein stated on information or belief, and as to those matters that he believes to be true. I certify under penalty of perjury that the foregoing is true and correct. Executed at the City of Capitola, County of Santa Cruz, State of California.

Steven E. Jesberg
Director of Public Works

Signed: _____

Date: _____

Project Cost Summary

Project: Rispin/Peery Park Pathway Improvements - Phase II
Bid Opening 13-Apr-16

				Earthworks Paving		Final Total		Difference	
Item	Description	Unit	Quantity	Unit Price	Total	Qty	Cost		
1	Mobilization	LS	1	$15,000.00	$15,000	1.00	$15,000	-	0
2	Surveying and Construction Staking	LS	1	$8,700.00	$8,700	1.00	$8,700	-	0
3	Demolition	LS	1	$33,000.00	$33,000	1.00	$33,000	-	0
4	Temporary Water Pollution Control and Erosion Control	LS	1	$2,800.00	$2,800	1.00	$2,800	-	0
5	Earthwork (Export)	CY	340	$170.00	$57,800	538.00	$91,460	198.00	$ 33,660
6	Class II Aggregate Base	CY	81	$110.00	$8,910	118.00	$12,980	37.00	$ 4,070
7	Concrete Curb	LF	482	$28.00	$13,496	-	$0	(482.00)	$ (13,496)
8	Concrete Retaining Wall	LF	114	$69.00	$7,866	181.00	$12,489	67.00	$ 4,623
9	Deepened Vertical Curb/Dwarf Wall	LF	100	$69.00	$6,900	458.00	$31,602	358.00	$ 24,702
10	Concrete Sidewalk	SF	402	$11.00	$4,422	205.00	$2,255	(197.00)	$ (2,167)
11	Concrete ADA Sidewalk (Bowman Williams Plans)	SF	1950	$11.00	$21,450	256.00	$2,816	(1,694.00)	$ (18,634)
12	Thickened Edge Concrete Sidewalk with Welded Wire	SF	1715	$15.00	$25,725	2,787.00	$41,805	1,072.00	$ 16,080
13	Asphalt Concrete Pavement	SF	1282	$6.00	$7,692	1,070.00	$6,420	(212.00)	$ (1,272)
14	Pedestrian Handrailing	LF	764	$69.50	$53,098	684.00	$47,538	(80.00)	$ (5,560)
15	Guard Rail with Handrail	LF	146	$83.50	$12,191	232.00	$19,372	86.00	$ 7,181
16	Decomposed Granite	SF	2000	$10.32	$20,640	2,100.00	$21,672	100.00	$ 1,032
	Original Bid				$299,690		$349,909	$50,219	$50,219
	Changes								
	Traffic Control	LS	1	$7,400.00	$7,400	1.00	$7,400	1.00	$ 7,400
	Sidewalk deno Wharf Road	LS	1	$9,400.00	$9,400	1.00	$9,400	1.00	$ 9,400
	Wood Wall	LS	1	$7,063.00	$7,063	1.00	$7,063	1.00	$ 7,063
	Stair Construction	sf	40	$97.00	$3,880	40.00	$3,880	40.00	$ 3,880
	Driveway	SF	48	$15.00	$720	131.00	$1,965	131.00	$ 1,965
	Curb & Gutter	LF	64	$79.00	$5,056	71.00	$5,609	71.00	$ 5,609
	Demo Wharf Road Wall	SF	432	$27.00	$11,664	432.00	$11,664	432.00	$ 11,664
	Tree Removal	EA	1	$640.00	$640	1.00	$640	1.00	$ 640
	Wall Patch	LS	1	$864.00	$864	1.00	$864	1.00	$ 864
	Header	LF	120	$14.00	$1,680	120.00	$1,680	120.00	$ 1,680
	Mobilization	LS	1	$4,000.00	$4,000	1.00	$4,000	1.00	$ 4,000
	Survey and Staking	LS	1	$4,600.00	$4,600	1.00	$4,600	1.00	$ 4,600
	import Material	CY	155	$170.00	$26,350	155.00	$26,350	155.00	$ 26,350
					$83,317		$85,115		$ 85,115
					$383,007		**$435,024**		$ 135,334

Retention $43,502.40 10%

Original Contract $299,690
Extra Work $ 135,334
Contract Final Cost $435,024

CAPITOLA CITY COUNCIL AGENDA REPORT

MEETING OF OCTOBER 12, 2017

FROM: City Manager Department

SUBJECT: Capitola Avenue Railing Public Art

RECOMMENDED ACTION: Approve the recommended railing Public Art Project along Capitola Avenue and approve the contract with Sculptural Accents for $30,000.

BACKGROUND: The City of Capitola Public Art Ordinance requires all commercial projects valued at over $250,000 either must incorporate art into their project or contribute to the City's Public Art fund. One of the duties of the City of Capitola Art and Cultural Commission is to administer the Public Art Fund and recommend public art projects for the City of Capitola.

In 2013, the City of Capitola, for safety reasons, installed a galvanized guardrail along the elevated sidewalk on the eastern side of the 300 block of Capitola Avenue.

The Art and Cultural Commission believed that replacing the existing guardrail and installing a handrail along the sloped sections would be an excellent opportunity for a public art project. The Commission initiated a call to artists for the project.

The art selection subcommittee of the Art and Cultural Commission reviewed 21 submissions and recommended two to submit detailed proposals to the full Commission. The subcommittee included members of the Commission along with community members from the area. The Art and Cultural Commission reviewed the two proposals in May 2017, and the Commission unanimously recommended the proposal from Ernest and Lois Rich of Sculptural Accents.

DISCUSSION: Sculptural Accents has extensive experience in the creation of handrails and guardrails as well as other types of functional art. In addition, Sculptural Accents has created many other sculptures, including public art projects (Attachment 1). The proposal from the Riches incorporated many elements of ocean and water themes associated with Capitola (Attachment 2).

The existing guardrail section is approximately 38 feet in length. The entire railing and guardrail project is approximately 90 feet in length and will run the full length of the sloped section of sidewalk. The design proposal will meet all the required safety and Americans with Disability Act (ADA) requirements.

The guardrail section of the railing will be 42-inches high and the handrail section will be approximately 38-inches in height.

FISCAL IMPACT: The proposed project cost is $30,000. The Public Art Fund has $75,000 allocated in Fiscal Year 2017/2018 for public art projects. The Public Art Fund is restricted, and may only be used for public art projects.

Capitola Avenue Railing Public Art
October 12, 2017

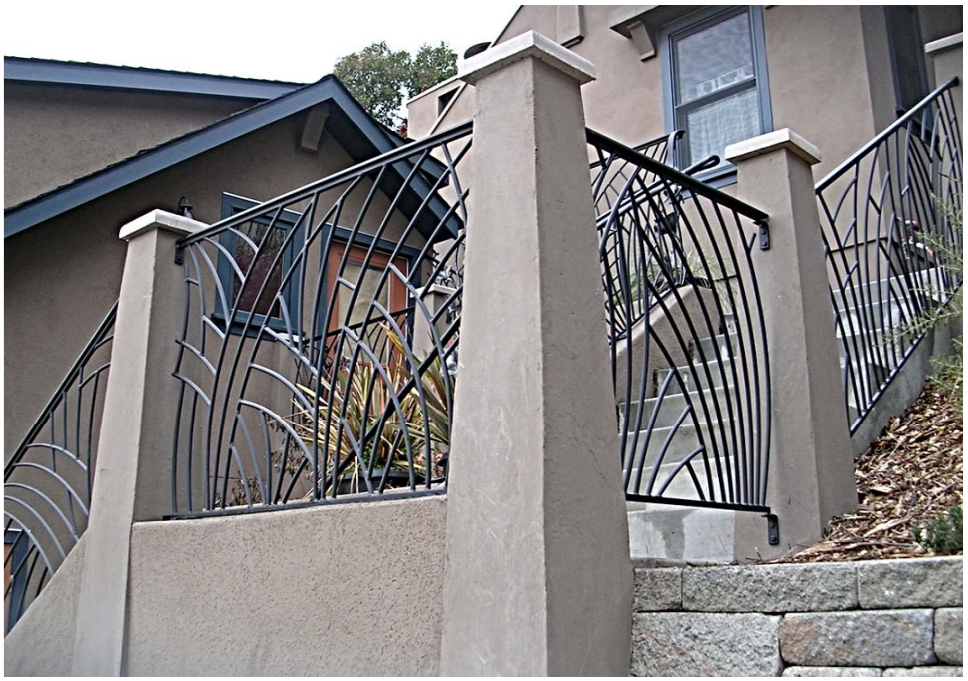
ATTACHMENTS:

1. Sculptural Accents examples of past work
2. Sculptural Accents images of proposal concept
3. Capitola Railing - Scultptural Accents Contract

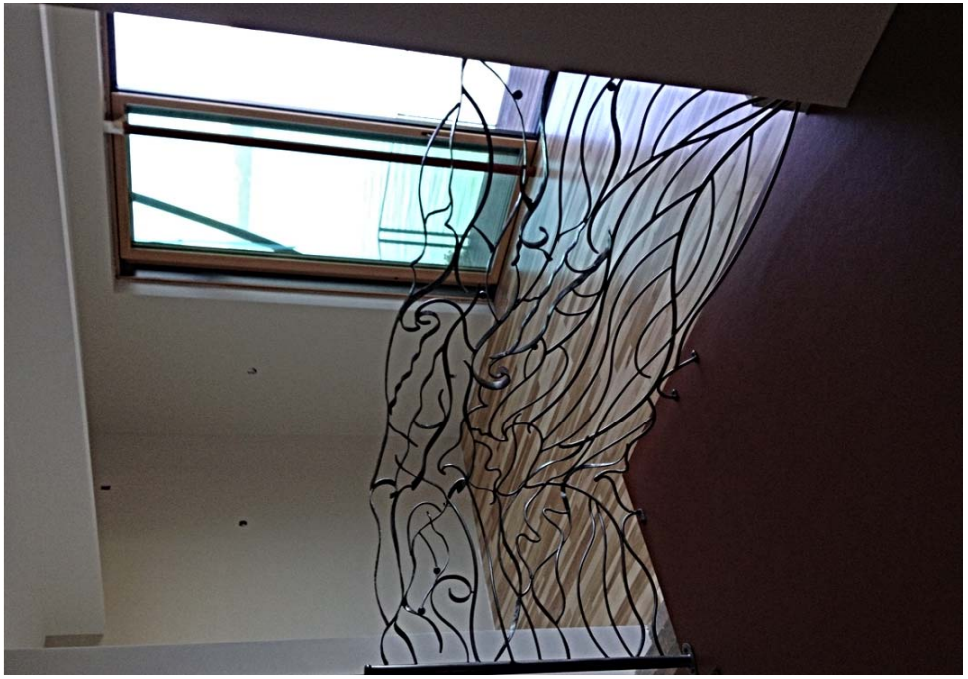
Report Prepared By: Larry Laurent
Assistant to the City Manager

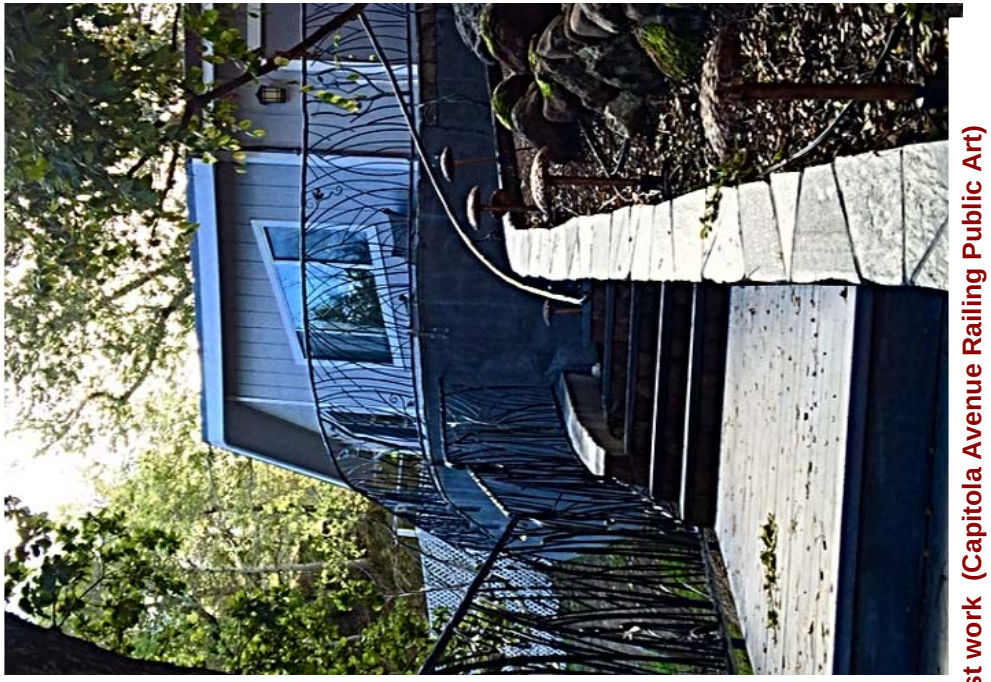
Reviewed and Forwarded by:

Jamie Goldstein, City Manager 10/6/2017



Attachment: Sculptural Accents examples of past work (Capitola Avenue Railing Public Art)





Attachment: Sculptural Accents examples of past work (Capitola Avenue Railing Public Art)

Attachment: Sculptural Accents examples of past work (Capitola Avenue Railing Public Art)

Images of Capitola Railing Concept

Attachment: Sculptural Accents images of proposal concept (Capitola Avenue Railing Public Art)

Images of Capitola Railing Concept

CAPITOLA AVENUE RAILING ART AGREEMENT

This Capitola Avenue Railing Art Agreement ("Agreement") is entered into this 12th day of October, 2017 by and between the City of Capitola, California, a municipal corporation ("City"), and Sculptural Accents ("Artist").

1. SCOPE OF SERVICES. The Artist agrees to design and fabricate the Capitola Avenue Railing (Railing) in accordance with the previously approved concept design and specifications furnished to the Commission which is attached hereto as Exhibit "A". Upon delivery of the Railing by Artist to the City, the Artist will work with the City to install the Railing on along the 300 block of Capitola Avenue.

2. TIME FOR PERFORMANCE. The Railing shall be completed and installed on or before March 31, 2018, unless mutually agreed upon by both parties.

3. COMPENSATION. The Artist shall receive compensation in the amount of Thirty Thousand Dollars ($30,000.00) to be paid as follows:

(a) Fifteen Thousand Dollars ($15,000.00) upon execution of this Agreement.
(b) Ten Thousand Dollars ($10,000.00) upon the completion of the construction of the center guardrail section of the railing prior to galvanizing.
(c) Five Thousand Dollars ($5,000.00) at the completion of installation.

4. COPYRIGHT. Except as provided herein, the Artist retains all reproduction rights under the Copyright Act of 1976, 17 U.S.C., Sections 101, et.seq. The Artist hereby grants to the City and its assigns an irrevocable license to make photographs, drawings, or other two dimensional reproductions of the Railing without prior consent of the Artist, including but not limited to reproductions used in advertising, brochures, media publicity, promotional and tourist publications, noncommercial reproductions, in the City's portfolio of public art, and catalogues or other similar publications, provided that these rights are exercised in a reasonable manner.

5. GUARANTEE. The Artist does hereby guarantee that the Railing shall be free from any and all defects of any kind and nature in material, workmanship and fabrication, and the Artist shall provide the necessary materials and labor for, and shall bear any expenses in connection with repair of such defects of which the Artist is given written notice by the City within two years from the date of delivery. The Artist will not be responsible for damage resulting from fire, vandalism, acts of God or normal wear and tear attributable to weather.

6. ORIGINAL WORK. The Artist warrants that the Railing designed for City's purchase under this Agreement is a unique and original project of the Artist's creative efforts; and that it has not been nor will be accepted for sale or installed elsewhere.

7. INDEMNIFICATION. Each party agrees to defend, indemnify, and save the other party harmless from any and all claims, liability, losses, expenses, attorneys' fees or costs arising out of said party's or said party's employees', officers' or agents' negligent acts, errors, omissions or willful misconduct while performing their obligations pursuant to this Agreement, but only in proportion to and to the extent such liability, losses, expenses, attorneys' fees, costs or claims for

injury or damages are caused by the negligent or intentional acts or omissions of said party, their employees, officers, or agents.

8. INSURANCE. The Artist, as of the date of this Agreement, at the Artist's sole cost and expense, shall obtain, furnish and maintain in full force and effect a liability insurance policy to protect the City against any and all claims for personal and property injury, including death, arising from or in connection with the performance of the services hereunder by Artist, its agents, representatives, employees or subcontractors in the amount of One-Million Dollars ($1,000,000.00) per occurrence. The insurance policy shall remain in effect until after said work of art is accepted and installed by the City and shall name the City and its officials and employees as additionally insured. A certificate of insurance shall be provided to the City verifying the required insurance coverage.

9. COMPLIANCE WITH LAWS. The Artist shall comply with all applicable laws and ordinances of the United States, State of California and the City of Capitola.

10. SUBCONTRACTING & ASSIGNMENT. If any part of the subject sculpting or fabrication is to be done through the use of subcontractors, the City must first approve the use of any subcontractor in writing. The City shall not unreasonably withhold the approval of any qualified subcontractor. The Artist shall not assign this Agreement without the prior written consent of the City.

11. CHANGES. All changes to this Agreement shall require a written agreement signed by all parties prior to any change.

12. TERMINATION. The City may, by written notice to the Artist, terminate this Agreement in whole or in part at any time, either for the City's convenience or because of the failure of the Artist to fulfill her contractual obligations. If termination is for the convenience of the City, the Artist shall be entitled to the full Thirty Thousand Dollars ($30,000.00) less an amount equal to expenses anticipated to be incurred by the Artist at the time of execution of this Agreement but not yet incurred at the time of such termination.

If termination of the Agreement is due to failure of the Artist to fulfill the Artist's contract obligations, the Artist shall remit to the City a sum equal to all payments made by City pursuant to this Agreement prior to termination.

If the Artist terminates this Agreement due to death or an incapacity which prevents the Artist from completing the project, all materials purchased for the Railing shall become the property of the City. The Artist or her representative shall provide the City with comprehensive models and plans which will enable the City to complete the Railing. The Artist shall not be entitled to further compensation but shall not be required to refund to the City funds previously paid to the Artist.

13. REMOVAL OR DISASSEMBLAGE. The Artist understands and agrees that the Railing will be owned by the City. As such, at any time in the future the City in its sole and absolute discretion, may move the Railing to another location or disassemble it. Should City so elect, the City assumes full responsibility for the moving and reserves the right to reinstall the Railing at a different site, or to dispose of the Railing as the City deems appropriate. Such a determination is the sole right of the City. However, the City will attempt to contact the Artist to obtain the Artist's views regarding relocation or disposition of the Railing.

14. DISPUTES. This Agreement is governed by the laws of the State of California and all actions shall be brought in court in Santa Cruz County, California.

15. ENTIRE AGREEMENT. This Agreement contains the entire agreement between the parties hereto, and they shall not be bound by any terms, conditions, statements, warranties or representations, oral or written, not herein stated.

Dated: _____ CITY OF CAPITOLA, a municipal corporation

By_____
Jamie Goldstein, City Manager

Approved As To Form:

_____
City Attorney

Dated: _____ ARTIST

By_____
Ernest Rich, Owner

By_____
Lois Rich, Owner

CAPITOLA CITY COUNCIL AGENDA REPORT

MEETING OF OCTOBER 12, 2017

FROM: Community Development

SUBJECT: Coastal Climate Change Vulnerability Report

RECOMMENDED ACTION: Accept report.

BACKGROUND: The County of Monterey was awarded a $150,000 grant from the California Coastal Conservancy Ocean Protection Council in November 2013 to study regional sea level rise vulnerability and evaluate potential adaptation responses. The City of Capitola and the County of Santa Cruz partnered on the study along with the Central Coast Wetlands Group, Center for Ocean Solutions, Nature Capital Project, and the Nature Conservancy.

The grant-funded study was concluded in June 2017. Findings and results for Capitola are presented in a Coastal Climate Change Vulnerability Report for Capitola (Attachment 1).

DISCUSSION: The City of Capitola has taken a number of actions over the past several years to better understand and address the effects of climate change, including preparation of a Sea Level Rise Assessment (2012), an updated Local Hazard Mitigation Plan (2012), a baseline greenhouse gas inventory (2013), the General Plan Update (2014), and adoption of the City's first Climate Action Plan (2015). The attached Coastal Climate Change Vulnerability Report builds upon these previous efforts and provides additional hazard-specific forecasts for the long-term impacts of sea level rise. The information in the report is intended to facilitate future City efforts develop sea level rise adaptation strategies.

The study evaluated the anticipated effects of sea level rise on critical coastal infrastructure and public and private improvements over three time horizons: 2030, 2060, and 2100. The study considered effects resulting from different types of coastal hazards, including rising tides, storm flooding, river flooding, and erosion. The study also provides estimates of the economic value of vulnerable infrastructure and improvements and offers possible adaptation strategies the City may consider in future planning efforts.

Sea level rise projections used in the report were based on the results of a 2012 National Research Council study. Unlike past efforts, this study also evaluated the effects of Soquel Creek flooding in conjunction with the effects of sea level rise. The study also distinguishes the potential impacts and time horizons of each type of coastal hazard to help the City identify appropriate adaptation strategies. For example, flooding from rising tides is a brief event that results in temporary impacts which can often be repaired. Conversely, bluff failure resulting from coastal erosion results in permanent impacts that require more proactive adaptation measures to effectively mitigate.

Key findings of the study include:

- The number of properties and improvements vulnerable to coastal hazards in 2030 is similar, but slightly higher than current conditions.
- The number of vulnerable properties and improvements increases significantly by 2060.
- By 2060, all 12 of the City's public coastal access ways may be compromised.
- By 2060, projected flood water depths along the Soquel Creek pathway are estimated to be as much as 8 feet.
- Cliff Drive will be vulnerable to bluff failure by 2060 if armoring is not replaced.
- By 2100, most of the beach may be lost if Esplanade businesses remain in their current locations.
- As many as 221 properties may be threatened by bluff failure by 2100 if armoring is not replaced or introduced.
- By 2100, much of the Village may be periodically flooded during winter storms and high river discharges.
- By 2100, over $395 million of properties, transportation, and utility infrastructure will be at risk from coastal hazards.

The number of properties and improvements vulnerable to coastal hazards increases over time as sea levels continue to rise and existing coastal armoring fails. For the purposes of the study, it was assumed that all existing coastal armoring (sea walls, revetments, rip rap, jetties, etc.) would no longer be present by 2060.

The following three tables provide a summary of assets vulnerable to coastal hazards (Table 1), critical public facilities vulnerable to coastal hazards (Table 2), and the projected valuation of properties and infrastructure at risk from various coastal hazards (Table 3).

TABLE 1: Assets Vulnerable to Cumulative Coastal Hazards by Time Horizon

Asset	2010	2030 (with armor)	2060 (no armor)	2100 (no armor)
Buildings	206	219	295	370
Roads	6,473 feet	7,012 feet	13,316 feet	17,138 feet
Rail	422 feet	422 feet	2,076 feet	3,261 feet
Stormwater Pipes	8,039 feet	8,686 feet	11,864 feet	11,992 feet
Sewer Pipes	12,636 feet	13,452 feet	19,819 feet	23,901 feet
Water Mains	12,857 feet	13,774 feet	19,360 feet	23,339 feet

TABLE 2: Critical Public Facilities Vulnerable to Coastal Hazards by Time Horizon

Facility	Coastal Hazard Type	Projected Impact Year
City Hall/Police Station	River Flooding	2030
Fire Station	River Flooding	2030

	Storm Flooding	2060
Capitola Wharf	Storm Flooding	2030
	Erosion	2060
Capitola Beach	Erosion	2030
	River Flooding	2030
	Storm Flooding	2060
Cliff Drive and Stockton Bridge	Erosion	2060
Esplanade	Storm Flooding	2010
	River Flooding	2030
	Erosion	2060
Prospect Avenue	Erosion	2100

TABLE 3: Total Value of Capitola Properties and Infrastructure at Risk

Asset	2010	2030 (with armor)	2060 (no armor)	2100 (no armor)
Property Losses	$185,850,000	$200,150,000	$275,040,000	$344,210,000
Transportation	$1,930,600	$2,081,520	$4,309,760	$5,711,720
Utility Infrastructure	$24,153,996	$24,852,462	$38,313,598	$45,824,072
Total	$211,934,596	$227,083,982	$317,663,358	$395,745,792

Next Steps

Staff recommends the City Council accept the report. No immediate action is currently proposed; however, it is anticipated that the study and its findings will serve as a foundation for future adaptation planning and preparation.

FISCAL IMPACT: None.

ATTACHMENTS:

1. Capitola Coastal Climate Change Vulnerability Report

Report Prepared By: Rich Grunow
Community Development Director

Reviewed and Forwarded by:

Jamie Goldstein, City Manager 10/6/2017

City of Capitola

Coastal Climate Change Vulnerability Report

Image: L. Engelking

JUNE 2017

CENTRAL COAST WETLANDS GROUP

MOSS LANDING MARINE LABS | 8272 MOSS LANDING RD, MOSS LANDING, CA

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Prepared by

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Technical assistance provided by

ESA

Revell Coastal

The Nature Conservancy

Center for Ocean Solutions, Stanford University

Prepared for

City of Capitola

Funding provided by

The California Ocean Protection Council

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Summary of Findings

This hazard evaluation is intended to provide a predictive chronology of future risks to benefit local coastal planning and foster discussions with state regulatory and funding agencies. Estimates of the extent of assets at risk of various climate hazards were made using best available regional data. This approach allows planners to understand the full range of possible impacts that can be reasonably expected based on the best available science, and build an understanding of the overall risk posed by potential future sea level rise. The hazard maps provide projected hazard zones for each climate scenario for each of the three planning horizons. For clarity, this report focuses the hazard analysis on a subset of those scenarios, recommended by local and state experts.

Key findings for the City of Capitola include:

- Infrastructure closest to the beach will continue to be impacted by the force of waves, the deposition of sand, kelp and other flotsam, and by floodwaters that do not drain between waves.
- Infrastructure further inland is most vulnerable to flooding by a combination of ocean and riverine sources.
- Infrastructure identified as vulnerable to coastal flooding by 2030 is similar to that which is currently vulnerable.
- Total property values at risk from the combined hazards of coastal climate change for 2030 were estimated at $200 million.
- Property value at risk may increase to $275 million dollars by 2060. That value is reduced by approximately $50 million dollars if current coastal armoring is replaced or upgraded.
- By 2060 use of all 12 public access ways may be restricted due to various coastal climate vulnerabilities.
- Projected flood water depths along the river walkway are estimated to be as much as 8 feet by 2060.
- Cliff Drive remains a key western access road into the downtown area and is vulnerable to cliff erosion by 2060 if coastal armoring is not replaced.
- By 2100 most of the beach may be lost due to higher sea levels and beach erosion if back beach structures are rebuilt in their current locations.

- As many as 221 properties are within the 2100 bluff erosion zone if protective structures are not maintained or replaced.
- By 2100 SLR and Fluvial models used in this analysis project that much of the downtown area may be periodically flooded during winter storms and high river discharges.
- By 2100 tidal inundation within portions of the downtown area may become a serious challenge, risking 23 residential and 23 commercial buildings to monthly flooding.
- By 2100, portions of Capitola may be too difficult and costly to protect from the combined hazards of Coastal Climate Change.

This study confirms that coastal flooding will remain a primary risk to low-lying areas of Capitola Village. This study also suggests that river flooding may be of greater risk to the community than previously realized and significant investments will be required to protect all public and private infrastructure from future erosion risks. Establishing strategic managed retreat policies early will likely best enable the long-term implementation of these policies and ensure long term sustainability for the community.

1. Introduction

1.1 Project Goals

This report was funded by The Ocean Protection Council through the Local Coastal Program Sea Level Rise Adaptation Grant Program. This grant program is focused on updating Local Coastal Programs (LCPs), and other plans authorized under the Coastal Act[1] such as Port Master Plans, Long Range Development Plans and Public Works Plans (other Coastal Act authorized plans) to address sea-level rise and climate change impacts, recognizing them as fundamental planning documents for the California coast.

This project will achieve three key objectives to further regional planning for the inevitable impacts associated with sea-level rise (SLR) and the confounding effects of SLR on fluvial processes within the City of Capitola. This project will:

1. Identify what critical coastal infrastructure may be compromised due to SLR and estimate when those risks may occur;
2. Identify how fluvial processes may increase flooding risk to coastal communities in the face of rising seas; and
3. Define appropriate response strategies for these risks and discuss with regional partners the programmatic and policy options that can be adopted within Local Hazard Mitigation Plan and LCP updates.

This report is intended to provide greater detail on the risks to the city from coastal climate change during three future time horizons (2030, 2060 and 2100). Risks to properties were identified using the ESA PWA Monterey Bay Sea Level Rise Vulnerability Study[2] layers developed in 2014 using funding from the California Coastal Conservancy.

The City of Capitola adopted a Hazard Mitigation Plan in May 2013.[3] This plan "identifies critical facilities that are vital to the city's and other local agencies' response during a natural disaster, particularly those that are currently vulnerable or at risk, assesses vulnerability to a variety of natural disasters

[1] State of California. California Coastal Act of 1976. http://www.coastal.ca.gov/coastact.pdf

[2] ESA PWA. 2014. Monterey Bay Sea Level Rise Vulnerability Study: Technical Methods Report Monterey Bay Sea Level Rise Vulnerability Study. Prepared for The Monterey Bay Sanctuary Foundation, ESA PWA project number D211906.00, June 16, 2014

[3] RBF and Dewberry. 2013. City of Capitola Local Hazard Mitigation Plan. Prepared for the City of Capitola.

(earthquake, flood, coastal erosion, etc.), and identifies needed mitigation actions." Sea level rise is noted as a significant hazard to the city. The plan also sets goals to protect the city from sea level rise. Potential actions listed include integrating the results of this City of Capitola Coastal Hazards Vulnerability Report into the Local Hazard Mitigation Plan risk assessment and incorporating climate change risks and climate adaptation options into the general plan.

1.2 Study Area

The planning area for Capitola's Local Coastal Program encompasses the Coastal Zone within the City of Capitola. However, because the vulnerability study includes a fluvial analysis for Soquel Creek, the study area for the purpose of this report extends outside of the Coastal Zone along Soquel Creek (Figure 1).

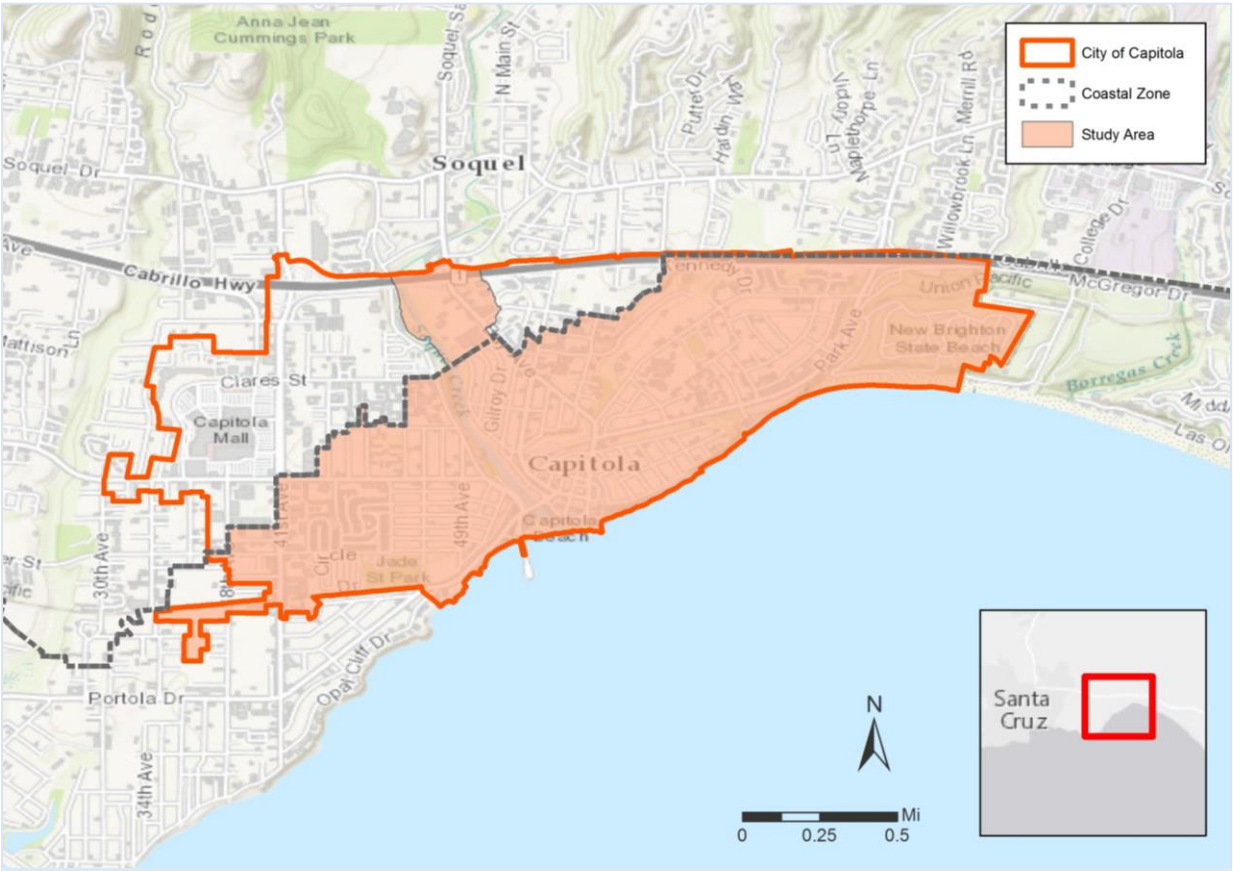

Figure 1. City of Capitola Vulnerability Assessment Study Area with Soquel Creek floodplain

2. Community Profile

2.1 Setting and Climate

Capitola is a small coastal city located in Santa Cruz County in California's Monterey Bay Area (figure 1.). The town was founded in the late 1800's first as a vacation resort. Capitola's main beach is located at the mouth of the Soquel Creek, buffered by coastal cliffs and pocket beaches to the East and West. The Capitola Esplanade provides a pleasant stroll along a row of restaurants, historic homes and small shops and unique vistas of Monterey Bay. In September, Capitola hosts a number of beach front events (Begonia Festival and the Capitola Art & Wine Festival) along the Esplanade.

According to the United States Census Bureau[5], the city has a total area of 1.7 square miles, of which 1.6 square miles is land and 0.1 square miles (5%) is water of Soquel Creek. Capitola's climate is mild with summer temperatures in the mid-70s and winter temperatures in the mid-50s. Capitola has an average of 300 sunny days a year with low humidity for a coastal city. Average rainfall is 31 inches per year, with most of the rainfall occurring between November and April.[4]

2.2 Demographics

The community has a population of 10,189 residents, 52.4% female and 47.6% male. 80.3% identify as white, 1.2% identify as black, 4.3% identify as Asian, and 19.7% identify as Hispanic or Latino (of any race). The median household income is $56,458, and 7.1% of the civilian workforce is unemployed, with 7.4% of people under the poverty line. 92.7% of people have a high school diploma, and 38.3% have a bachelor's degree or higher.[5]

2.3 Community Resources and Assets

Land Use

Critical Facilities*:* Capitola's Police and Fire Stations, as well as City Hall, are located downtown, in close proximity to the beach and the Village. Emergency shelters are located at Jade Street Community Center and New Brighton School, and the Public Library is used as a backup emergency response center. There are several storm and wastewater pump stations, one of which is located in Esplanade Park.

[4] National Oceanic and Atmospheric Administration. NowData – NOAA Online Weather Data. Retrieved from http://w2.weather.gov/climate/xmacis.php?wfo=ilx (Aug 6, 2016)

[5] United States Census Bureau. 2015. American Community Survey 5-Year Estimates. Retrieved from https://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml (April 2, 2016)

Capitola Village: The downtown commercial and visitor serving district of Capitola supports about 45 tourist shops and 27 other businesses, 20 restaurants and 10 cafes, 4 hotels, and 30 vacation rentals (28 listed).[6] The Village is a true mixed-use district with a diversity of visitor-serving commercial establishments, public amenities, and residential uses.[7,8] Capitola has a popular beach and waterfront area, with the beach area used for tourism, junior lifeguarding, surfing, and more.

Capitola Wharf: The Wharf is a popular destination for fishermen. With its restaurant and great views of Capitola and the ocean, the wharf is popular with tourists and provides access to boat rentals and boat moorings offshore.

Historical Buildings and Districts*:* Based on a 1986 architectural survey of structures prior to 1936, that had retained architectural integrity, Capitola has approximately 240 buildings that "best represented traditional architectural styles locally or the community's vernacular architecture." As a result of the survey, three National Register Historic Districts were established in Capitola in 1987: Venetian Court District, Six Sisters/Lawn Way District, and Old Riverview Historic District.[9]

Recreation and Public Access

Beaches and Parks*:* Capitola Beach is a popular tourist destination and is in close proximity to Capitola Village's shops and restaurants, and the Capitola Wharf. The beach (averaging 5.8 acres of summer sand) supports numerous sports and community events including junior lifeguards program, surfing lessons, sand castle contests, volleyball and other beach activities. There are eight City parks in Capitola, totaling 18 acres, including Monterey Avenue Park, Noble Gulch Park, Peery Park, Soquel Creek Park, Jade Street Park and Esplanade Park. New Brighton State Beach is also located within Capitola.

Coastal Access: Defined coastal access points (with specific access ways to coastal resources) were mapped specifically for this project (Figure 2). There are two stairway coastal access ways and one partially paved ramp near the wharf that are used extensively by the public to reach Capitola beach. The low wall along the Venetian Court allows easy access to

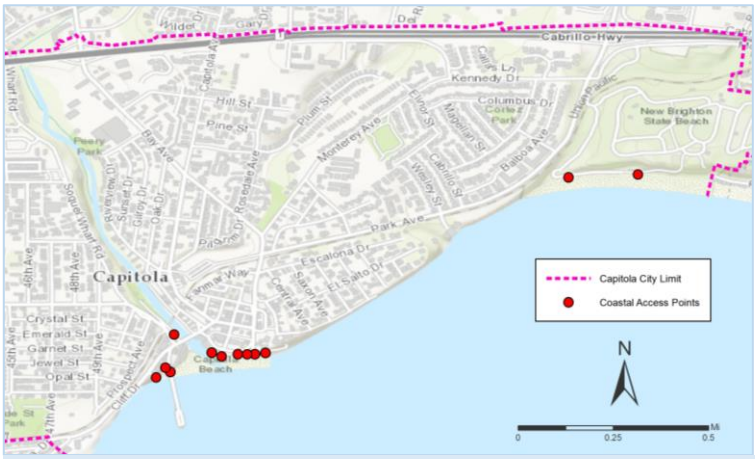

Figure 2. Coastal access points within the City of Capitola

[6] Capitola Village Business Industry Association. Capitola Village. Retrieved from www.capitola village.com (March 2, 2016)

[7] City of Capitola. 2014. Capitola General Plan.

[8] For the purpose of this analysis Capitola building land use was cross-walked with Santa Cruz County and Monterey County land uses so that the analysis could be consistent between jurisdiction, however many of the buildings in the village are actually designated as mixed-use by the City of Capitola.

[9] Swift, C. 2004. Historical Context Statement for the City of Capitola. Prepared for City of Capitola Community Development Department.

the beach along its entire stretch. There are numerous access ways along the Esplanade, all of which can be blocked during winter storms to restrict incoming waves.

Public Visitor Parking: Public parking is distributed throughout the community and includes metered parking along the Esplanade and other downtown streets, several parking lots within the downtown area, and parking lots located within Noble Gulch and above City Hall.

Coastal Trail: The Coastal Trail in Capitola runs along the railroad track and the coastline.

Transportation

Roads*:* Some of the main roads in Capitola Village include Monterey Ave, Cliff Drive, Wharf Road, Stockton Avenue, and the Esplanade. The Stockton Bridge crosses Soquel Creek and connects the cliffs to the Village.

Summer Shuttle*:* There is a free weekend summer shuttle that transports people from parking lots to the beach.

Railroad*:* The railroad through Capitola has been closed to passengers since the 1950s but was recently purchased by the county to provide pedestrian, bike and rail opportunities in the future.[10] The railroad trestle bridge crosses Soquel Creek north of Stockton Bridge.

Natural Resources

Wetland: Soquel Creek and Noble Creek are mapped as Riverine systems by the National Wetland Inventory. The mouth of the creek is mapped as an Estuarine and Marine Wetland.[11]

Kelp Forest: Kelp forests persist offshore of Capitola and provide valuable habitat and fishing opportunities within a short boat ride of the wharf.

Critical Habitat*:* The Soquel Creek is home to several endangered species such as Steelhead Trout and Coho Salmon.[12] Restoration efforts are underway to help these populations recover.

Utilities

Water Infrastructure: The City of Capitola has extensive below ground drinking water, storm drain and wastewater infrastructure within the areas identified as vulnerable. There is a wastewater pump station located next to the Esplanade Park restroom. Storm drain structures discharge to the river and beach.

[10] Whaley, D., Santa Cruz Trains, Capitola. retrieved from: http://www.santacruztrains.com/2014/11/capitola.html (July 8, 2016)

[11] US Fish and Wildlife Service. National Wetland Inventory. Retrieved from https://www.fws.gov/wetlands/Data/Mapper.html (July, 8, 2016)

[12] California Natural Diversity Database (CNDDB). 2015. Records of Occurrence for Capitola USGS quadrangle. Sacramento, California. 2014. Retrieved from http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp (October 2015)

Utility Infrastructure: PG&E electric and natural gas infrastructure data were not available for this study.

2.4 Historic Events

Capitola has experienced many coastal flooding events caused by high wave action during winter high tides. Table 1 provides a list of these storms. The 1982-1983 El Niño was an extreme example of the periodic impacts this coastal community faces from severe winter storms (Figure 3).

Historical flooding from the river is well documented, including the December 1931 flood, which is depicted as:

> *"Soquel "River" widens to sixty feet, the highest since 1890, damaging property in Soquel and all the way to the mouth at Capitola. Orchards are lost with the rapid rise of water. Hundreds gather to watch the tides batter the concessions at the beach. There is a "vortex of water where the river and sea meet." The waterfront is piled high with flood debris thrown back up the beach."*[13]

On March 26, 2011, a large flood event occurred on the Noble Creek causing a subsurface storm drain pipe to fail during a large winter storm, causing creek waters to flow down Noble Gulch, flooding the downtown commercial district. Commercial and residential properties, including the fire and police stations, were flooded, leading to significant costs for repair.

Figure 3. January 23rd, 1983: high tide, high river flow event in Capitola. (Photo: Minna Hertel)

[13] City of Capitola Historical Museum. 2013. Capitola Local Hazard Mitigation Plan, Appendix A: Timeline of Natural Hazard events impacting the City of Capitola

Table 1. Major Floods in Soquel and Capitola Villages 1890 to Present
(adapted from Appendix A of the Capitola Hazard Mitigation Plan)

NEWSPAPER DATE	HAZARD	DESCRIPTION OF DAMAGE
1862	Flood	Major event—Soquel village inundated; mills, flumes, school, town hall, houses and barns were destroyed. Massive pile of debris went out to sea and then washed ashore at Soquel Landing
1890	Flood	Capitola floods, footbridge and span of wagon bridge destroyed. Esplanade flooded
1906	Flood	Buildings from Loma Prieta Lumber Company camp above Soquel are destroyed. Debris at Capitola.
1913	Storms and Tide	Waves ran across the beach to the Esplanade and water spread "clear to the railroad tracks." Union Traction Company racks covered with sand. Water reached the Hihn Superintendent's Building (Capitola and Monterey Avenues), and waves were described as "monster." About 200 feet of wharf washed away.
1914	Flood	Flood along Soquel Creek
1926	High Tide	High Tide: Waves to 20 feet. Wharf damaged. Sea wall promenade broken at Venetian Courts. Apartments flooded. Breakers slammed into Esplanade, destroying boathouse/bathhouse, beach concessions. Tide hits the second floor of Hotel Capitola. Water runs a foot deep through village
1931	Storm and High Tide	Soquel "River" widens to sixty feet, the highest since 1890, damaging property in Soquel and all the way to the mouth at Capitola. The creek cuts across the beach and moves sand below the new outlet.
1935	Flood	Capitola Village floods; thirty feet of the sea wall is taken out. Beach playground disappears. Venetian Courts hit hard but damage minimal.
1940	Flood	Logs pile against bridge in downtown Soquel and village floods. Landslides in watershed.
1955	Flood	Capitola exceeded $1 million damage including the Venetian Courts. Noble Creek and Tannery Creek also flooded.
1982-1983	El Nino Storm and High Tide	Early winter storms initiated erosion and left the beaches eroded and vulnerable to subsequent storms in January-February 1983.
1995	Flood	The creek rose near the village.
1997-1998	Flood	Yards and basements of homes along both sides of Soquel Creek near the village were flooded.
2011	Flood	Noble Creek floods village; Tannery Creek rushes through New Brighton State Park parking lot and undermines the cliff roadway within the State Park

2.5 Coastal Protection Infrastructure and Management

There are 1.2 miles of sea walls and rip-rap that protect coastal structures from winter storms and wave impacts. Capitola's downtown commercial district is currently protected from winter storms by low hip-walls along the Esplanade and Venetian Court and a large concrete wall that protects portions of the eastern cliff from erosion. Two rip-rap groins on the east end of the beach lay perpendicular to the Esplanade and help accumulate sand and increase the width of the beach. Rip-rap protects the cliffs west of the wharf and concrete walls maintain the edge of the creek under restaurants along the Esplanade (Figure 4). Table 2 outlines the existing coastal armoring that helps protect Capitola from coastal hazards.

The Soquel River mouth lagoon is actively managed to minimize flooding during the winter and maximize recreational opportunities during the summer. The river mouth is closed before Memorial Day and remains closed (draining excess flow through the concrete spillway) until after Labor Day. The river is mechanically breached in the fall to reconnect the lagoon with the ocean and prepare for increased flows during winter storms. The lower 2000 feet of the river are channelized and restricted by a combination of wood and concrete channel walls. Private yards and a public access trail parallel the channel from the Stockton Ave Bridge inland 800 feet to the Noble creek culvert and Blue Gum Ave.

Table 2. Inventory of Existing Coastal Protection Structures in Capitola

STRUCTURE LOCATION	TYPE OF STRUCTURE	PUBLIC OR PRIVATELY OWNED
Grand Ave, eastern end of promenade, below Crest apartment	Retaining wall	Public
Grand Ave, eastern end of promenade, below Crest apartment	Concrete wall	Private
Esplanade, seaward of road and parking lot	Concrete wall	Public
Esplanade, in front of restaurant	Revetment	Public
Esplanade, in front of Zeldas at inlet of river	Revetment	Public
Seaward of Venetian Court adjacent to Capitola Beach	Wall	Private
Cliff Drive, seaward of residences at beach	Revetment	Private
Cliff Drive, at the top of coastal bluff underneath recreation path	Retaining wall	Public
Cliff Drive, seaward of road at base of bluff	Revetment	Public
Opal Cliff Drive, seaward of residence on the upper portion of bluff	Surface armor	Private
Grove Lane, base of cliff	Revetment	Private

COASTAL PROTECTIONS

Sea Wall in front of Esplanade Park

Hip wall in front of the Venetian

Rip rap against cliff below Cliff Drive

Rip rap along Capitola Beach looking West

Hip wall in front of Village Center restaraunts

Jetty off Capitola Beach looking East

Hip wall in front of the Esplanade

The coastal protection structures within Capitola are of various ages, conditions and levels of service. The current condition of these structures (sea walls, rip-rap and groins) was evaluated with the intent of estimating the expected future lifespan of these structures. Observational data were collected for the dominant structures along the city coastline. The technical team determined that these field observations can be used to provide some estimate of future life expectancy, but not at a level of certainty any more precise than assuming that all current coastal protection infrastructure will need to be replaced or significantly improved at some point between 2030 and 2060.

Figure 4. Coastal Protection Structures around the City of Capitola
(Photos: Ross Clark and Sarah Stoner-Duncan)

3. Projecting Impacts

3.1. Disclaimer: Hazard Mapping and Vulnerability Assessment

Funding Agencies

The hazard GIS layers were created with funding from The Coastal Conservancy and this Vulnerability Analysis was prepared with funding from the Ocean Protection Council. The results and recommendations within these planning documents do not necessarily represent the views of the funding agencies, its respective officers, agents and employees, subcontractors, or the State of California. The funding agencies, the State of California, and their respective officers, employees, agents, contractors, and subcontractors make no warranty, express or implied, and assume no responsibility or liability, for the results of any actions taken or other information developed based on this report; nor does any party represent that the uses of this information will not infringe upon privately owned rights. These study results are being made available for informational purposes only and have not been approved or disapproved by the funding agencies, nor has the funding agencies passed upon the accuracy, currency, completeness, or adequacy of the information in this report. Users of this information agree by their use to hold blameless each of the funding agencies, study participants and authors for any liability associated with its use in any form.

ESA PWA Hazard Layers

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CCWG Vulnerability Assessment

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3.2. Coastal Hazard Processes

The ESA coastal hazard modeling and mapping effort[14] led to a set of common maps that integrate the multiple coastal hazards projected for each community (i.e. hazards of coastal climate change). There is however a benefit to evaluating each hazard (or coastal process) separately. Two important limitations of the original hazard maps were addressed within this focus effort for Capitola. ESA was contracted for this project to model the combined effects of rising seas and increased winter stream flows due to future changes in rainfall. CCWG staff further accounted for reductions in potential hazards provided by current coastal protection infrastructure (see section 3.4). This refinement of coastal hazard mapping helped to better understand the future risks Capitola may face from each coastal hazard process.

Each modeled coastal process will impact various coastal resources and structures differently. This report evaluates the risks to infrastructure from each coastal hazard process for each time horizon. The following is a description of the hazard zone maps that were used for this analysis. For more information on the coastal processes and the methodology used to create the hazard zones please see the Monterey Bay SLR Vulnerability Assessment Technical Methods Report.[15]

FEMA

FEMA flood hazard maps are used for the National Flood Insurance Program and present coastal and fluvial flood hazards. These flood maps were used to identify current hazards as defined by FEMA. These maps, however, are believed to underestimate coastal flood hazards for future time horizons.

Combined Hazards

CCWG merged the coastal hazard layers provided by ESA to create a new combined hazard layer for each planning horizon (2030, 2060 and 2100). These merged layers represent the combined vulnerability zone for "Coastal Climate Change" for each time horizon. Projections of the combined hazards of Coastal

[14] ESA PWA. 2014. Monterey Bay Sea Level Rise Vulnerability Assessment Technical Methods Report

[15] Ibid.

Climate Change are intended to help estimate the cumulative effects on the community and help identify areas where revised building guidelines or other adaptation strategies may be appropriate. Combined hazards however, do not provide municipal staff with the necessary information to select specific structural adaptation responses. Therefore, this study also evaluates the risks associated with each individual coastal hazard.

Rising Tides

These hazard zones show the area and depth of inundation caused simply by rising tide and ground water levels (not considering storms, erosion, or river discharge). The water level mapped in these inundation areas is the Extreme Monthly High Water (EMHW) level, which is the high water level reached approximately once a month. There are two types of inundation areas: (1) areas that are clearly connected over the existing digital elevation through low topography, (2) and other low-lying areas that don't have an apparent connection, as indicated by the digital elevation model, but are low-lying and flood prone from groundwater levels and any connections (culverts, storm drains and underpasses) that are not captured by the digital elevation model. This difference is captured in the "Connection" attribute (either "connected to ocean over topography" or "connectivity uncertain") in each Rising Tides dataset. These zones do not, however, consider coastal erosion or wave overtopping, which may change the extent and depth of regular tidal flooding in the future. Projected risks from rising tides lead to reoccurring flooding hazards during monthly high tide events.

Coastal Storm Flooding

These hazard zones depict the predicted flooding caused by future coastal storms. The processes that drive these hazards include (1) storm surge (a rise in the ocean water level caused by waves and pressure changes during a storm), (2) wave overtopping (waves running up over the beach and flowing into low-lying areas, calculated using the maximum historical wave conditions), and (3) additional flooding caused when rising sea level exacerbate storm surge and wave overtopping. These hazard zones also take into account areas that are projected to erode, sometimes leading to additional flooding through new hydraulic connections between the ocean and low-lying areas. These hazard zones do NOT consider upland fluvial (river) flooding and local rain/run-off drainage, which likely play a large part in coastal flooding, especially around coastal confluences where creeks meet the ocean. Storm flood risks represent periodic wave impact and flooding.

Cliff and Dune Erosion

These layers represent future cliff and dune (sandy beach) erosion hazard zones, incorporating site-specific historic trends in erosion, additional erosion caused by accelerating sea level rise and (in the case of the storm erosion hazard zones) the potential erosion impact of a large storm wave event. The inland extent of the hazard zones represents projections of the future crest of the dunes, or future potential cliff edge, for a given sea level rise scenario and planning horizon. Erosion can lead to a complete loss of habitat, infrastructure and/or use of properties.

Fluvial Flooding

An additional river flooding vulnerability analysis was done as part of this study to evaluate the cumulative impacts of rising seas and future changes in fluvial discharge due to changes in rainfall within the Soquel watershed. The ESA modeling team expanded hydrologic models of the Soquel watershed provided by the County to estimate discharge rates under future climate scenarios. The fluvial model estimates localized flooding along the Soquel Creek when discharge is restricted by future high tides. The model results are presented here and reviewed within the separate Fluvial Report by ESA.[16]

3.3. Scenario Selection and Hazards

The California Coastal Commission guidance document[17] recommends all communities evaluate the impacts from sea level rise on various land uses. The guidance recommends using a method called "scenario-based analysis" (described in Chapter 3 of this Guidance). Since sea level rise projections are not exact, but rather presented in ranges, scenario-based planning includes examining the consequences of multiple rates of sea level rise, plus extreme water levels from storms and El Niño events. As recommended in the Coastal Commission guidance, this report uses sea level rise projections outlined in the 2012 NRC Report, *Sea-Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future*[18] (Figure 5). The goal of scenario-based analysis for sea level rise is to understand where and at what point sea level rise and the combination of sea level rise and storms, pose risks to coastal resources or threaten the health and safety of a developed area. This approach allows planners to understand the full range of possible impacts that can be reasonably expected based on the best available science, and build an understanding of the overall risk posed by potential future sea level rise. The coastal climate change vulnerability maps used for this study identify hazard zones for each climate scenario for each of the three planning horizons. For clarity, this report focuses the hazard analysis on a subset of those scenarios,

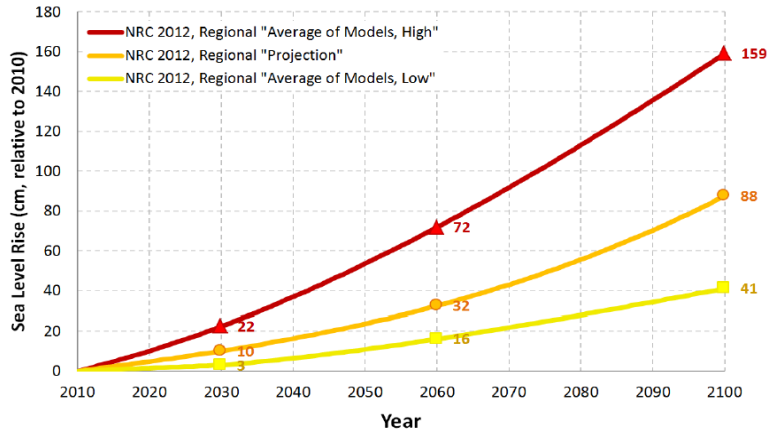


Figure 5. Sea Level Rise scenarios for each time horizon
(Figure source: ESA PWA 2014)

[16] ESA. 2016. Climate Change Impacts to Combined Fluvial and Coastal Hazards. May 13, 2016.

[17] California Coastal Commission. 2015. California Coastal Commission Sea Level Rise Policy Guidance: Interpretative Guidelines for Addressing Sea Level Rise in Local Coastal Programs and Coastal Development Permits. Adopted August 12, 2015.

[18] National Research Council (NRC). 2012. Sea-Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future. Report by the Committee on Sea Level Rise in California, Oregon, and Washington. National Academies Press, Washington, DC. 250 pp.

recommended by local and state experts (Table 3).

The Coastal Commission recommends all communities evaluate the impacts of the highest water level conditions that are projected to occur in the planning area. Local governments may also consider including higher scenarios (such as a 6.6 ft (2m) Scenario) where severe impacts to Coastal Act resources and development could occur from sea level rise. We use a similarly high scenario of 1.59m with an increase in projected storm intensity for this analysis (Table 3). In addition to evaluating the worst-case scenario, planners need to understand the minimum amount of sea level rise that may cause impacts for their community, and how these impacts may change over time.

Table 3. Sea level rise scenarios selected for analysis

TIME HORIZON	EMISSIONS SCENARIO	SLR	NOTES
2030	med	0.3 ft (10 cm)	Erosion projection: Includes long-term erosion and the potential erosion of a large storm event (e.g. 100-year storm)
2060	high	2.4 ft (72 cm)	Erosion projection: Includes long-term erosion and the potential erosion of a large storm event (e.g. 100-year storm) Future erosion scenario: Increased storminess (doubling of El Niño storm impacts in a decade)
2100	high	5.2 ft (159 cm)	Erosion projection: Includes long-term erosion and the potential erosion of a large storm event (e.g. 100-year storm) Future erosion scenario: Increased storminess (doubling of El Niño storm impacts in a decade)

3.4. Assumptions and Modifications to ESA Hazard Zones

Coastal Armoring

The ESA coastal hazard projections do not account for the protections that existing coastal armoring provide. The areas identified as vulnerable by the original coastal erosion ESA GIS layers overestimate future hazard zones (as recognized within the ESA supporting documentation). A GIS layer of existing coastal armoring was referenced within this analysis to recognize areas where some level of protection currently exists.[19]

To account for the protections provided by coastal armor, properties and structures located behind those structures were in most cases reclassified as protected from erosion for the 2030 erosion vulnerability analysis. Coastal flooding layers, however, did account for the height of coastal structures (hip walls etc.) and estimate wave overtopping and flooding that may occur with those structures in place. Some structures were therefore identified as protected from coastal erosion and vulnerable to coastal flooding.

[19] California Coastal Commission. 2014. GIS layer of existing coastal armor structures in Santa Cruz County.

Because the life span of coastal infrastructure is limited, this vulnerability analysis assumes that all existing coastal protection infrastructure will fail and may need to be removed, replaced or significantly redesigned at some point between 2030 and 2060. If these structures are removed once they fail, erosion will accelerate and quickly meet projected inland migration rates (as documented at Stilwell Hall, Fort Ord) unless protective measures are implemented. Therefore, the vulnerability analysis for the 2060 and 2100 planning horizons assumes that current coastal armoring will no longer function and that the modeled hazard zone layers provided by the ESA technical team fully represent future hazards for these time horizons.

Erosion

Cliff erosion and dune erosion were originally two sets of separate coastal hazard layers provided by ESA-PWA. Cliff erosion was characterized as erosion of mudstone cliff sides generally along the Santa Cruz County coastline. Whereas dune erosion was characterized as erosion of sandy slopes predominantly found along the Monterey Bay coastline. Since these two hazards were functionally different and spatially separate, it was decided to merge them into one set of 'Erosion' coastal hazard process layers using the 'Merge' tool within ArcGIS. Therefore, for each time horizon both cliff erosion and dune erosion impact zones were combined into a single erosion impact zone. The 'erosion' coastal hazard series was used throughout the analysis and included in the tables. Erosion hazard layers were modified as described above to account for the protections provided by existing seawalls through 2030.

Coastal Storm Flooding

The ESA hazard layers included cliff areas predicted to have eroded during previous time horizons as being vulnerable to coastal flooding hazards, because the land elevation within those areas was assumed to have been reduced due to that cliff erosion. For example, sections of cliff in Capitola that are projected to erode by 2060 (after coastal armoring is assumed to no longer function) are also projected to experience coastal flooding and wave over-topping within those newly eroded coastal areas. This is an accurate interpretation of the projected coastal processes but does not reflect the progression of asset losses. For simplicity, Cliff top assets predicted to be vulnerable to coastal flooding for the 2060 and 2100 planning are reported as vulnerable. This is likely inaccurate because those assets would likely no longer be present but lost due to previous impacts from coastal erosion.

To more accurately represent coastal flooding and wave over-topping vulnerabilities of low-lying assets behind coastal armoring for the Existing (2010) and 2030 planning horizons, assets located below the 20- foot topographic contour line along the base of existing cliffs were reported to be vulnerable.

3.5. Assets Used in Analysis

For this study, city infrastructure and assets were categorized as: Land Use and Buildings; Water and Utility Infrastructure; Recreation and Public Access; Transportation; Natural Resources and Other. GIS layers were obtained from data repositories, or created by the Central Coast Wetlands Group. In some cases, assets that were used in the analysis fell outside of the planning area and therefore were not

included in this report. Further, several data layers that were intended to be used in this analysis were not available. Table 4 lists the assets used in the analysis.

Table 4. List of Data Layers used for Analysis

ASSET CATEGORY	ASSET	STATUS OF ASSET IN ANALYSIS
Land Use	Building footprints	Analyzed
	Commercial, Residential, Public, Visitor Serving	Analyzed
	Emergency Services: Hospitals, Fire, Police	Analyzed
	Schools, Libraries, Community Centers	Analyzed
	Parcels	Not used in analysis[20]
	Farmland	None in Planning Area
	Military	None in Planning Area
	Historical and Cultural Designated Buildings	Analyzed, but not reported[21]
Water and Utilities	Sewer Structures & Conduits	Analyzed
	Water Main Lines	Analyzed
	Gas	Unable to obtain for analysis
	Storm Drain Structures & Conduits	Analyzed
	Tide gates	None in Planning Area
Recreation and Public Access	Coastal Access Points	Analyzed
	Parks	Analyzed, but not reported[22]
	Beaches	Analyzed
	Coastal Trail	Analyzed
	Coastal Access Parking	Analyzed
Transportation	Roads	Analyzed[23]
	Rail	Analyzed
	Bridges	Analyzed
	Tunnels	None in Planning Area
Natural Resources	Wetlands	Analyzed
	Critical Habitat	Analyzed, but not reported[24]
	Dunes	None in Planning Area
Other	Hazmat cleanup sites, Landfills, etc.	None in Planning Area

[20] Building foot print layers were used instead of parcels maps to better project future structural vulnerabilities.

[21] The data are available but not reported within this document.

[22] The parks layer included acres of State Beaches as well as City Parks and was duplicative with the Beach impact analysis. City parks vulnerable to various hazards are listed within the text but not included in tabular form.

[23] All projected impacts to Hwy 1 were determined to be unreliable in this area due to the height of the roadway.

[24] Critical habitat data layers were not of high enough resolution to provide accurate estimates of impacts.

4. Combined Impacts of Coastal Climate Change

4.1 Background

Predicted storm driven hazards to the Capitola shoreline and low-lying areas was derived by compiling the geographic extend of hazard areas for a combination of different coastal processes. Waves can damage buildings through blunt force impact, often damaging exterior doors and window, railings, stairways and walkways. Waves that overtop beaches and coastal structures lead to flooding of low lying areas. Flooding is often exacerbated by coastal walls and malfunctioning storm drains that impede drainage of those waters back to the ocean. Future risks of flooding and wave damage may be magnified as higher local sea levels and greater wave heights combined with higher river discharges during winter storms. Greater wave impact intensity may cause greater damage to coastal structures and greater wave heights may extend risks of damage further inland as waves overtop coastal structures more intensively and propagate further up the Soquel Creek. These cumulative threats are termed within this document as the risks of "Coastal Climate Change."[25]

4.2 Existing Vulnerability

FEMA

FEMA maps identify a large portion of the Capitola Village as vulnerable to riverine flooding during a 100-year flood event (Figure 6). Similar flooding occurred during the 2011 Noble Gulch event that flooded much of the downtown commercial district. A total of 262 mixed use buildings, more than 6,500 feet of roadway, 6,800 feet of storm drain pipe and 132 storm drain boxes are located within the FEMA hazard map 100-year flood zone (Table 5).

Flooding within the FEMA hazard map areas is expected to become more severe (although not currently recognized by FEMA) due to changing rainfall patterns associated with climate change. Future threats from increased river flows during these less frequent but more intense rain events were investigated within this project and are reported in Section 5.4.

[25] This study did not investigate the risks from increased heat, decreases in water supply or increases in threats from fire that are also predicted for Santa Cruz County due to climate change.

Existing (2010 with Armoring)

The combined risks of Coastal Climate Change from current climatic conditions (2010 model year) were evaluated for Capitola (Figure 6). The ESA coastal hazard modeling results for the 2010 planning year overlay 62 residential and 134 commercial properties, suggesting they are presently vulnerable to the impacts of storm flooding, classified as Coastal Climate Change (Table 5).

To note, FEMA flood maps do not account for projected sea level rise which may lead to greater regularity of flooding than that FEMA 100-year flood zone identifies. Figure 6 compares assets that lie within the FEMA hazard zone and the modified 2010 combined coastal climate change hazard zone. Many of the additional residents that fall within the FEMA hazard zone are located further upstream along the river outside of the zone threatened by storm induced ocean swells. One of the main emergency service facilities (Capitola fire station) is within this flood hazard area, and was impacted during the 2011 flood. The police station falls outside of the ESA modeled existing (2010) hazard zone, but within the FEMA 100-year flood hazard zone. The station was also impacted during the 2011 flood.

Figure 6. Existing (2010) Flood Hazard Zone Compared to FEMA 100-Year Flood zone

Table 5. Existing Conditions Comparison between FEMA and Existing (2010) hazard layers.

ASSET	UNIT	TOTAL	FEMA	2010 (WITH ARMOR)
Land Use and Buildings				
Total Buildings	Count	3,025	262	206
Residential	Count	2,600	122	62
Commercial	Count	326	132	134
Public	Count	67	6	6
Visitor Serving	Count	15	2	4
Other	Count	17	0	0
Schools	Count	1	0	0
Post Offices	Count	1	0	0
Emergency Services	Count	2	2	0
Transportation				
Roads	Feet	119,994	6,651	6,473
Rail	Feet	8,503	496	422
Bridges	Count	4	3	3
Recreation and Public Access				
Beaches	Acres	5.8	3.9	6
Coastal Access Points	Count	12	9	11
Parking Lots	Acres	4	1	0.7
Coastal Trail	Feet	9,543	0	0
Water and Utility Infrastructure				
Storm Drain Structures	Count	667	132	160
Storm Drain Conduits	Feet	50,173	6,869	8,039
Sewer Structures	Count	472	59	55
Sewer Conduits	Feet	118,365	12,555	12,636
Water Mains	Feet	144,206	11,946	12,857
Natural Resources				
National Wetlands	Acres	16	10	16

4.3 Summary of Future Vulnerabilities by Planning Horizon

Due to climate change, the cumulative number of Capitola properties and infrastructure at risk increases as projected ocean water elevation and storm intensity increase (Table 6). There is a significant increase in the number of properties projected to be at risk of coastal climate change impacts after the 2030 planning horizon. This increase in vulnerability is driven by two assumptions made when interpreting the model outputs. First, by 2060 ocean levels are estimated to rise by 72 cm[26], leading to a greater portion of the downtown area being vulnerable to flooding during winter storms. Flood waters in the downtown area are projected to be higher due to increased wave energy and higher tides pushing more water past current beachfront infrastructure. Some buildings within the downtown area at elevations that do not flood today may be affected by flooding in the future.

Secondly, the technical team determined that it is likely that all coastal protection infrastructure (sea walls, rip-rap, and groins) will need to be replaced or significantly improved at some point before 2060, and therefore the 2060 and 2100 coastal erosion analyses do not account for the protections provided by existing structures. Rather, the analysis accounts for the expected lifespan of coastal structures and assumes that future actions must be taken to replace structures if the community intends to protect structures from these projected hazards. This approach to future hazard analysis recognizes that current coastal armoring may continue to provide protection from wave impacts through 2030 but may fail prior to 2060.

2030

For 2030, the vulnerability analysis was completed assuming that current coastal protective structures would still be present and functioning. A total of 219 buildings are vulnerable to coastal climate impacts by 2030, only 13 more properties than currently at risk (2010 vulnerability assessment). This suggests that current coastal protection infrastructure does not provide full protection from all future hazards.

More than 7,000 linear feet of roadway may be vulnerable to coastal climate change (primarily flooding) by 2030 and approximately 10% of sewer and storm drain infrastructure is within the identified hazard areas. Roads and utilities are not equally vulnerable to different coastal hazards (flooding, erosion etc.) and therefore the analysis of individual coastal hazards (Section 5) may be more useful for response planning.

2060

By 2060, 113 residential buildings and 166 commercial mixed use buildings may become vulnerable to the combined effects of coastal climate change. Only 76 additional buildings are vulnerable to Coastal Climate Change by 2060 than are vulnerable in 2030 even though the 2060 vulnerability model no longer accounts for protections provided by current coastal armoring. Risks to roadways nearly double (in linear feet) by 2060, reflecting the predicted loss of protections provided by coastal armoring for Cliff

[26] National Research Council (NRC). 2012. Sea-Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future.

Drive. Upgraded coastal armoring is estimated to cost between $20 and $52 million per mile ($10,000 per linear foot) to construct.[27]

2100

By 2100 the combined models used in this analysis project that much of the downtown area may be flooded during winter storms and high river discharges. Furthermore, most of the dry beach (98%) may be lost due to higher sea levels and beach erosion if back beach structures are rebuilt in their current locations. Further, hundreds of storm drain structures may be compromised and may become conduits for inland flooding if modifications are not made.

By 2100 the impacts experienced periodically during large winter storms may become more frequent and for many coastal properties, may become an annual event. Wave run-up energy may impact structures during most high tides causing flood and wave damage. River flooding is projected to be more frequent and threats of coastal erosion may become more significant as ocean forces migrate inland and impact structures more routinely and forcefully. Maintaining and replacing coastal armoring may become more costly and difficult to engineer. By 2100, portions of Capitola may be too difficult and costly to protect from the combined hazards of Coastal Climate Change.

[27] Evaluation of erosion mitigation alternatives for Southern Monterey Bay, ESA PWA 2012.

Figure 7. Future Combined Coastal Climate Change Hazard Zones (2030, 2060, 2100)

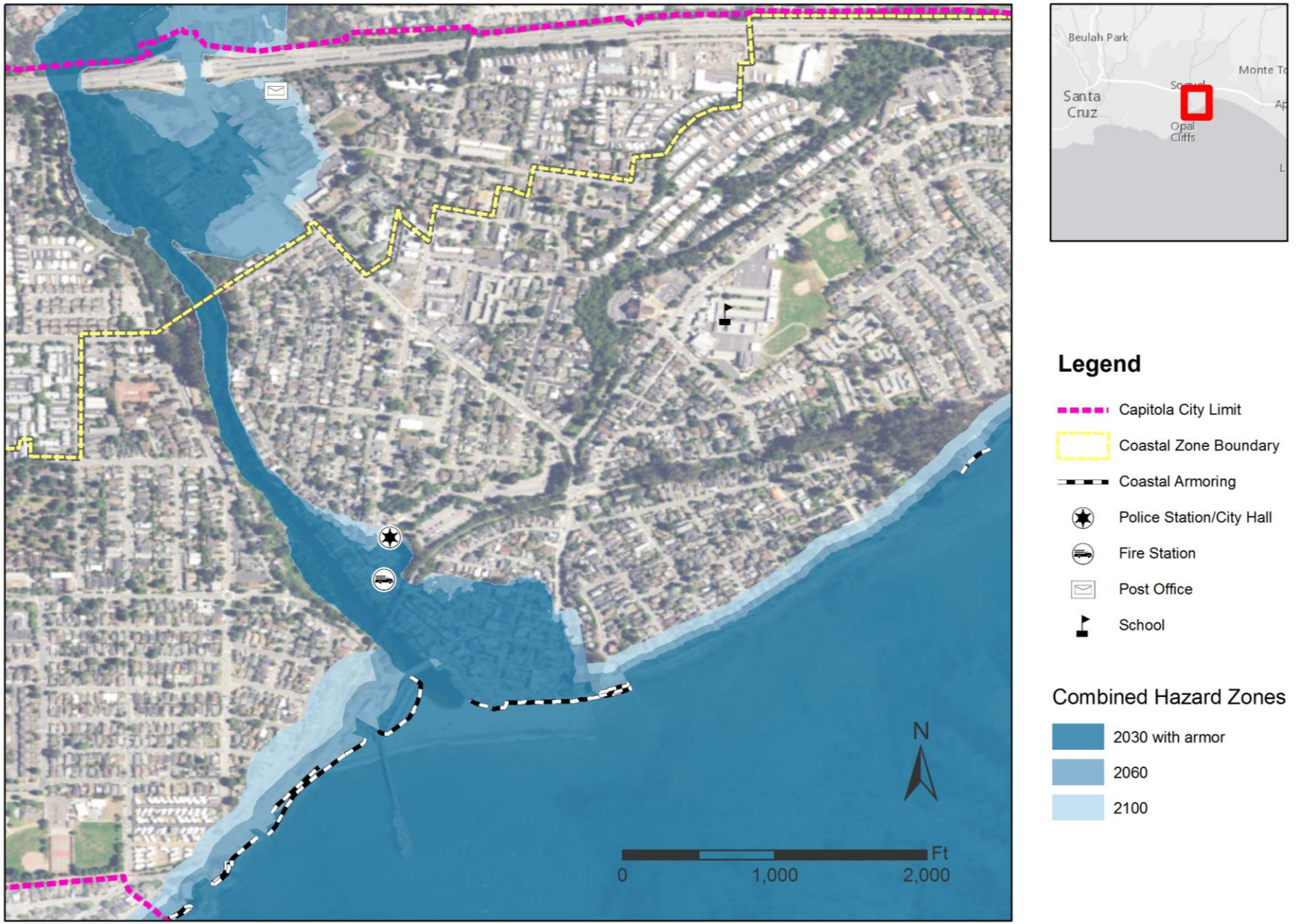
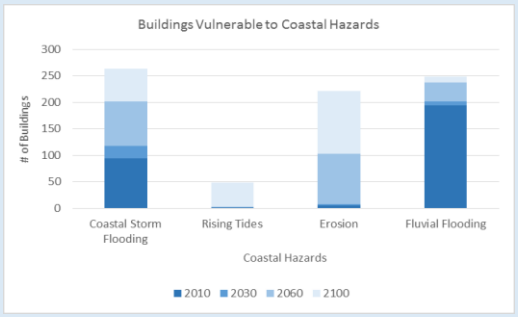
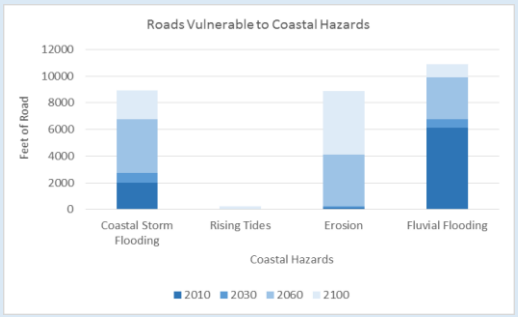


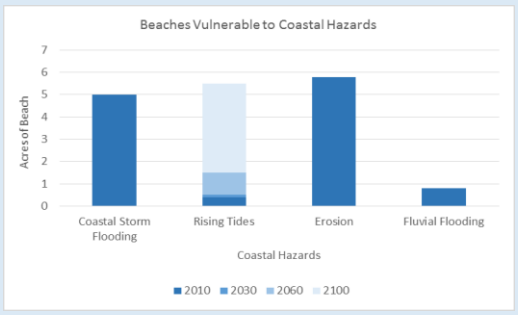
Table 6. Summary of Assets Vulnerable to all Coastal Hazards at 2030, 2060, and 2100

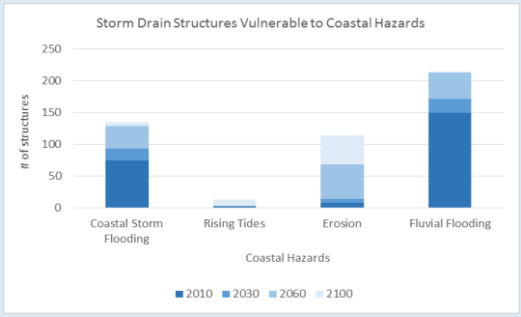
ASSET	UNIT	TOTAL	2030 (WITH ARMOR)	2060 (NO ARMOR)	2100 (NO ARMOR)
Land Use and Buildings					
Total Buildings	Count	3,025	219	295	370
Residential	Count	2,600	68	113	176
Commercial	Count	326	138	166	172
Public	Count	67	7	9	13
Visitor Serving	Count	15	6	7	9
Other	Count	17	0	0	0
Public Facilities	Count	16	0	0	0
Schools	Count	1	0	0	0
Post Offices	Count	1	0	0	1
Emergency Services	Count	2	1	2	2
Transportation					
Roads	Feet	119,994	7,012	13,316	17,138
Rail	Feet	8,503	422	2,076	3,261
Bridges	Count	4	3	3	4
Recreation and Public Access					
Beaches	Acres	5.8	5.8	5.8	5.8
Coastal Access Points	Count	12	11	12	12
Parking Lots	Acres	4	0.7	1.4	1.9
Coastal Trail	Feet	9,543	0	1,705	3,020
Water and Utility Infrastructure					
Storm Drain Structures	Count	667	185	239	244
Storm Drain Conduits	Feet	50,173	8,686	11,864	11,992
Sewer Structures	Count	472	56	83	102
Sewer Conduits	Feet	118,365	13,452	19,819	23,901
Water Mains	Feet	144,206	13,744	19,360	23,339
Natural Resources					
National Wetlands	Acres	16	16	16	16

5. Vulnerability by Individual Coastal Hazard









Estimating the risks from the combined hazards of Coastal Climate Change can help establish areas for modified building guidelines and estimate the cumulative effects on sectors of the social and economic community. Combined hazards, however, do not provide city staff with the necessary information to select appropriate adaptation responses. Therefore, to better link vulnerabilities with adaptation alternatives (Section 7), this project has evaluated the temporal risks of infrastructure for each time horizon and for each coastal hazard process separately.

The risks associated with each of the modeled coastal processes (wave run-up and overtopping, coastal erosion, rising tides and fluvial flooding) threaten various types of coastal infrastructure differently. Wave and fluvial flooding can damage buildings, temporarily restrict use of public amenities, make storm drains and tide gates ineffective and limit the use of roads and walkways. Many of these impacts are temporary and repairs can be made. Cliff erosion and monthly high tide flooding, however, are permanent impacts and may require extensive rebuilding, a change in property use or the abandonment of the property. In Section 7 of this report we investigate possible adaptation strategies for properties at risk from these various hazards.

Figure 8. Assets vulnerable to coastal climate change hazards at each time horizon

5.1 Vulnerability to Hazards by Time Horizon

Different hazards threaten different assets more significantly at different times (Figure 8). River and coastal storm flooding hazards threaten the greatest number of buildings up through 2030. Coastal erosion begins to threaten similar numbers of buildings between 2060 and 2100. Storm drains and roads are vulnerable to river flooding as well and erosion threatens more infrastructure by 2060. By 2100, Capitola beach is potentially lost due to frequent tidal flooding.

5.2 Vulnerability to Rising Tides

Flooding from the predicted increases in monthly high tides (due to local sea level rise) poses minimal threat to Capitola until 2100. Table 7 outlines the projected impacts to assets within Capitola from rising tides. Tidal inundation poses unique threats to low lying areas that may be difficult for many types of development to adapt. Specifically, monthly tidal flooding may lead to salt water damage and a reduction in reliability and availability of some properties and infrastructure. Monthly tidal flooding poses long term maintenance issues and the loss of public service reliability.

Land Use and Buildings

Projected inundation from 2060 high tides is limited. By 2100 high tides may become a more serious risk and may impact 23 residential and 23 commercial properties along Soquel Creek. The areas projected to be vulnerable to tidal flooding by 2100 (mainly properties along the creek) may need to be elevated by approximately 20-40cm to be above projected tidal range.

Transportation

Few roads are projected to be at risk from rising tides till 2100. By 2100, one street (Riverview Ave) may be flooded monthly.

Recreation and Public Access

Rising tides may lead to a reduction in beach width and a loss of recreational opportunities. By 2100 the Capitola main beach width is estimated to be reduced by 95% if back shore structures remain in their current location. By 2100 high tides may temporarily impact four of the 12 public access ways.

Water and Utilities

Two storm drains are already under water along the Soquel Creek. The number of storm drains that will be below mean water elevation in the river and ocean may increase to 13 by 2100.

Natural Resources

Higher tides driven by sea level rise may modify hydrology of the Soquel Creek and flood up to 2/3 of existing wetland habitat monthly with salt water by 2100. These wetlands will likely transition towards a brackish water ecosystem.

Figure 9. Buildings Vulnerable to Rising Tides

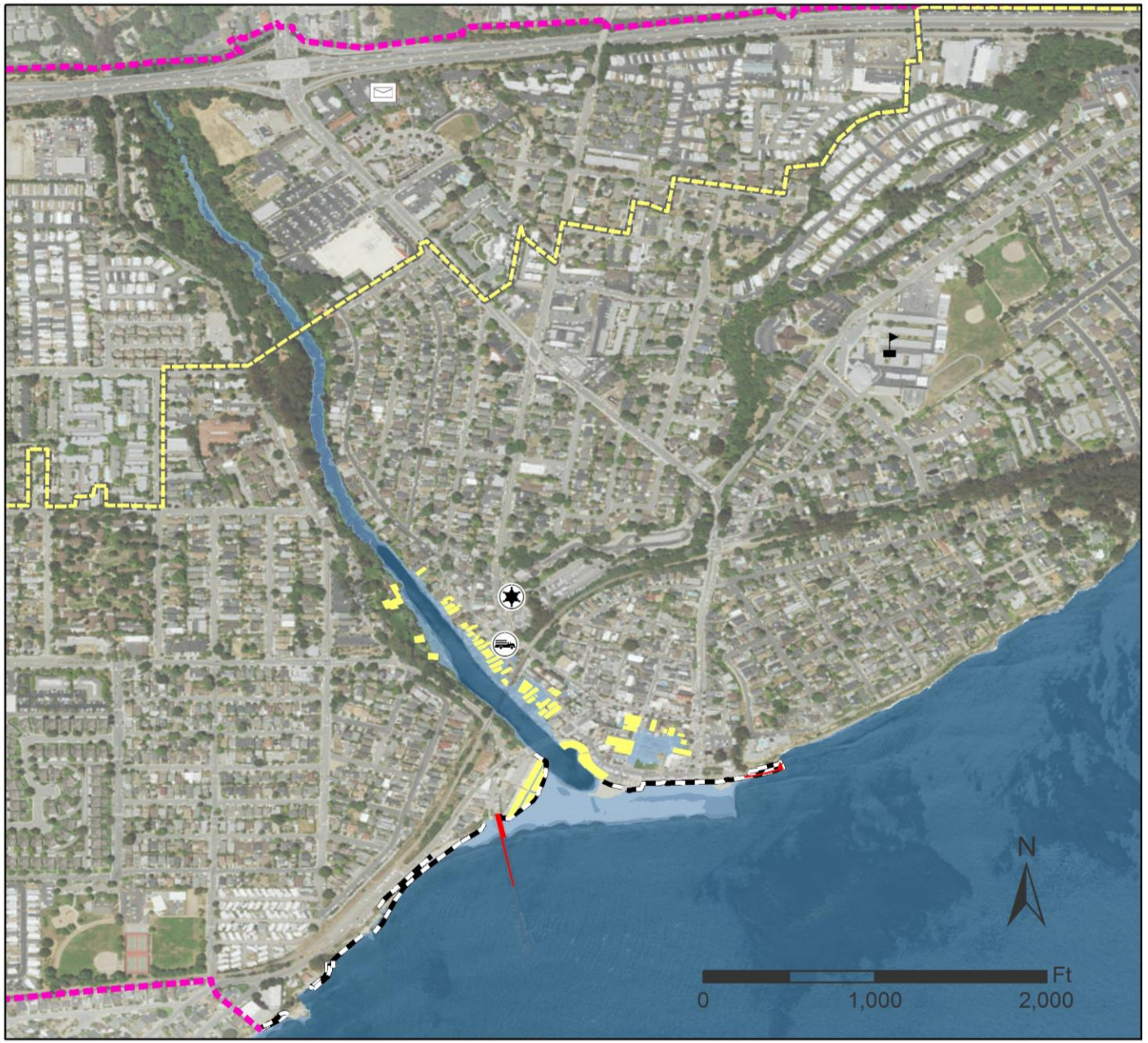


Table 7. Summary of Assets Vulnerable to Impacts by Rising Tides

ASSET	UNIT	TOTAL	2010 (WITH ARMOR)	2030 (WITH ARMOR)	2060 (NO ARMOR)	2100 (NO ARMOR)
Land Use and Buildings						
Total Buildings	Count	3,025	1	1	2	48
Residential	Count	2,600	0	0	1	23
Commercial	Count	326	0	0	0	23
Public	Count	67	1	1	1	1
Visitor Serving	Count	15	0	0	0	1
Other	Count	17	0	0	0	0
Schools	Count	1	0	0	0	0
Post Offices	Count	1	0	0	0	0
Emergency Services	Count	2	0	0	0	0
Transportation						
Roads	Feet	119,994	0	0	0	238
Rail	Feet	8,503	0	0	0	183
Bridges	Count	4	0	0	0	2
Recreation, and Public Access						
Beaches	Acres	5.8	0.4	0.5	1.5	5.5
Coastal Access Points	Count	12	0	0	1	4
Parking Lots	Acres	4.1	0	0	0	0
Coastal Trail	Feet	9,543	0	0	0	0
Water and Utility Infrastructure						
Storm Drain Structures	Count	667	2	2	2	13
Storm Drain Conduits	Feet	50,173	17	21	34	342
Sewer Structures	Count	472	0	0	0	1
Sewer Conduits	Feet	118,365	0	0	0	552
Water Mains	Feet	144,206	0	0	0	564
Natural Resources						
National Wetlands	Acres	16	1.6	1.6	2.1	10.3

5.3 Vulnerability to Coastal Storm Flooding

Coastal flooding due to high winter waves has long been a hazard to Capitola. The ESA hazard models estimated that both wave run-up force and the height of flood water within low lying areas may be greater over time. Infrastructure closest to the beach will continue to be impacted by the force of waves, the deposition of sand, kelp and other flotsam, and by the floodwaters that do not drain between waves. Infrastructure further inland is most vulnerable to flooding by a combination of ocean and riverine sources (Section 5.4). Table 8 outlines the projected impacts to assets within Capitola from coastal storm flooding.

Land Use and Buildings

Infrastructure projected to be at risk from coastal flooding by 2030 is similar to those properties currently vulnerable. In total, 27 residential and 84 commercial buildings may be vulnerable to storm flooding by 2030 (22 more than presently).

Coastal storm flooding may pose risks to 84 additional buildings by 2060 than are projected at risk in 2030, including the Capitola fire station. By 2100, even more structures may be at risk of flooding (48 additional residential and 11 commercial). Before 2060, structures adjacent to the shore may see more frequent and severe wave damage due wave run-up encroachment inland while infrastructure location remains static (Figure 10). However, for the 2060 and 2100 planning horizons projected flood zones may be misleading. For instance, cliff areas where coastal armoring is not replaced by 2060 are assumed to retreat as projected in the erosion hazard models (see Section 5.5). Houses within this erosion zone will be lost prior to this area becoming vulnerable to flooding in 2060.

Tidal inundation and wave run-up in Capitola Jan, 2008 (Photo: Patrick Barnard, USGS Santa Cruz)

Transportation

For the 2030 planning horizon, six local roadways (Esplanade Rd, San Jose Ave, Riverview Ave, Capitola Ave, Monterey Ave, and California Ave) are projected to be at risk of flooding during winter storms, restricting crosstown traffic and totaling more than 2,700 feet. Almost twice as many feet of roadway may be flooded by 2060.

Recreation and Public Access

Most of Capitola beach currently floods and may continue to flood during winter storms. Most coastal access ways may be unavailable during storms. Areas of Esplanade Park and Soquel Creek Park may be impacted by coastal storm flooding as early as 2030.

Water and Utilities

Currently, more than 70 storm drains are projected to be impacted by coastal storm flooding, with an additional 19 storm drains projected by 2030. Additionally, four of the storm drain discharge points along the Esplanade that provide coastal storm flood relief, may be compromised. Significant amounts of subsurface water and wastewater infrastructure is located within the flood zones and may see impacts from periodic flooding.

Natural Resources

Few natural resources are vulnerable to flooding by 2100 other than 6.8 acres of Soquel Creek, most of which is currently vulnerable.

Figure 10. Buildings Vulnerable to Coastal Storm Flooding

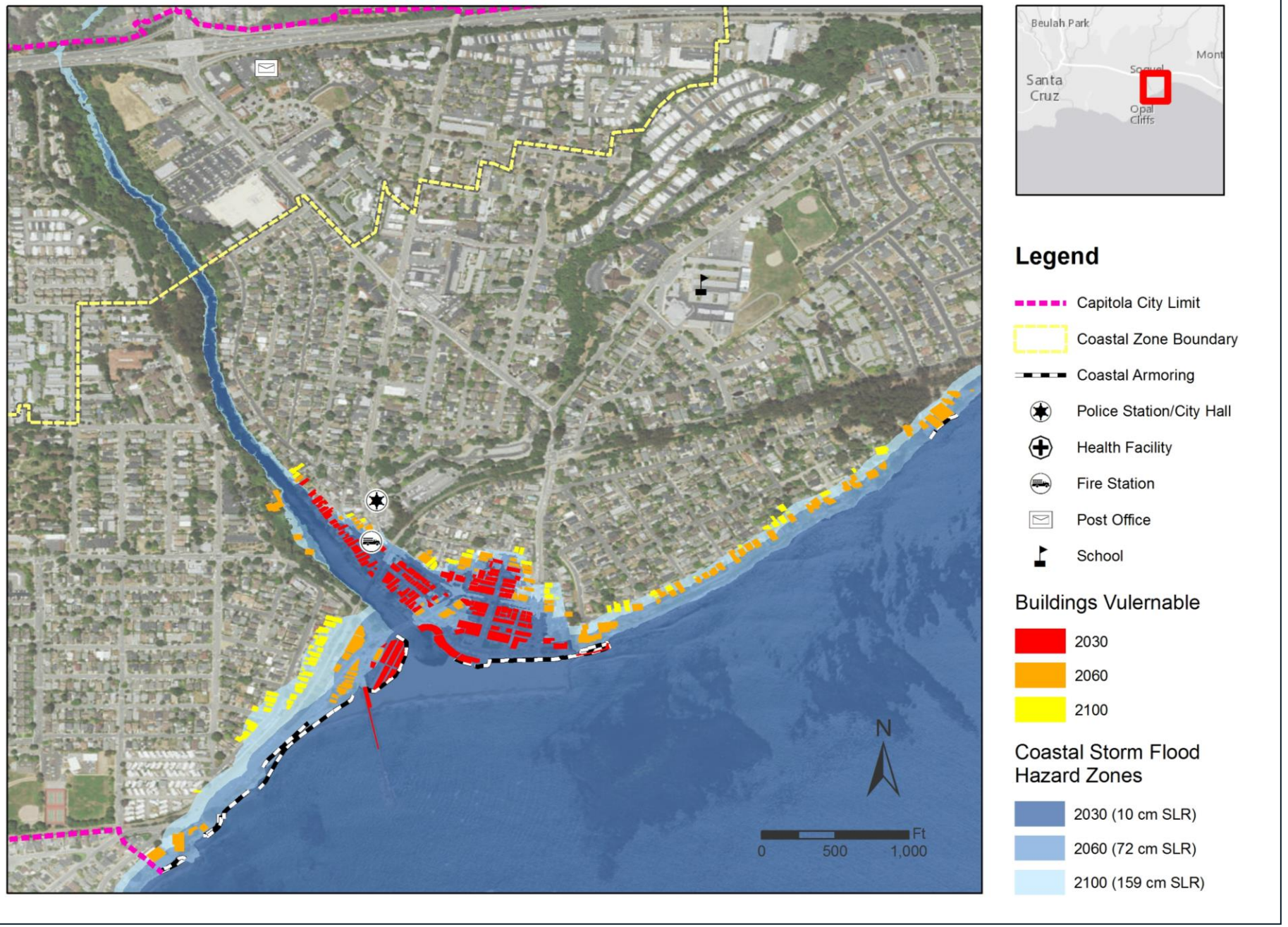


Table 8. Summary of Assets Vulnerable to Coastal Storm Flooding

ASSET	UNIT	TOTAL	2010 (WITH ARMOR)	2030 (WITH ARMOR)	2060 (NO ARMOR)	2100 (NO ARMOR)
Land Use and Buildings						
Total Buildings	Count	3,025	94	118	201	263
Residential	Count	2,600	24	27	66	114
Commercial	Count	326	65	84	122	133
Public	Count	67	4	4	6	7
Visitor Serving	Count	15	1	3	7	9
Other	Count	17	0	0	0	0
Schools	Count	1	0	0	0	0
Libraries	Count	0	0	0	0	0
Post Offices	Count	1	0	0	0	0
Emergency Services	Count	2	0	0	1	1
Transportation						
Roads	Feet	119,994	2,014	2,759	6,772	8,950
Rail	Feet	8,503	229	291	1,107	3,261
Bridges	Count	4	2	2	3	3
Recreation and Public Access						
Beaches	Acres	5.8	5.8	5.8	5.8	5.8
Coastal Access Points	Count	12	10	10	12	12
Parking Lots	Acres	4.1	0.4	0.5	1.3	1.7
Coastal Trail	Feet	9,543	0	0	1,428	1,684
Water and Utility Infrastructure						
Storm Drain Structures	Count	667	74	93	128	135
Storm Drain Conduits	Feet	50,173	2,429	3,125	5,007	5,869
Sewer Structures	Count	472	19	24	51	70
Sewer Conduits	Feet	118,365	4,741	5,916	12,925	16,219
Water Mains	Feet	14,4206	4,127	6,128	9,870	11,238
Culverts	Count	3	0	0	0	0
Natural Resources						
National Wetlands	Acres	16	5.2	5.3	6.3	6.8

5.4 Vulnerability to River Flooding

Storm intensity is predicted to increase within Santa Cruz County through 2100. These more infrequent but intense rain events are predicted to cause rivers and creeks to rise rapidly leading to localized flooding and erosion. This study evaluated the combined threats of higher ocean levels during storm events and higher river discharge caused by excessive localized rain events within the Soquel watershed. This fluvial analysis generated an additional hazard zone for each time horizon that was then used to evaluate structures vulnerable to this river flooding. The projected increase in fluvial discharge within Soquel Creek due to more intense rainfall during storms used for this analysis is outlined in Table 9.[28] River flooding height due to more intense rainfall is estimated to increase by approximately 2 feet (increasing depth to 8.5 feet in parts of downtown) between 2010 and 2060. Table 10 outlines the projected impacts to assets within Capitola from fluvial flooding.

Table 9. Increase in 100-year Discharge for Soquel Creek Relative to Historic Period (1950-2000)

EMISSIONS SCENARIO	2030	2060	2100
Medium (RCP 4.5 5th percentile)	13%	15%	20%
High (RCP 8.5 90th percentile)	62%	68%	95%

Land Use and Buildings

Large areas of Capitola and Soquel are vulnerable to river flooding along Soquel Creek, Capitola Village and the Nob Hill shopping center (Figure 11). Fifty-nine residential properties (along Riverview Dr. and within Capitola Village) are currently projected to be vulnerable to flooding from the combined threat of high river levels during high tide events. In total, 84 more buildings are identified as at risk of river flooding by 2030 than identified within the coastal flooding layer for 2030.

Transportation

Twice the length of roadway is projected to be at risk of flooding from the Soquel River than is projected to be at risk from coastal storm flooding alone. Access to Highway 1 may be compromised due to flooding of on-ramps by 2100.

Recreation and Public Access

River flooding poses a lesser risk to coastal access but may impact parks adjacent to Soquel Creek such as Soquel Creek Park. Peery Park, although adjacent to the Soquel Creek, is at an elevation where it should not be impacted.

[28] ESA. 2016. Monterey Bay Sea Level Rise: Climate Change Impacts to Combined Fluvial and Coastal Hazards.

Water and Utilities

Currently 149 storm drains are projected to be impacted by Soquel Creek flood waters (twice that of coastal flooding) and an additional 22 storm drains may be compromised by the higher ocean and river elevation by 2030. Several drains that currently provide flood relief may be further compromised due to higher river water levels and may become conduits for inland flooding by 2060 to areas isolated from current flooding.

Natural Resources

Wetland and Riparian resources along Soquel Creek are identified within the fluvial hazard layer as early as 2030 but are likely resilient to these hazards.

Capitola Avenue flooded from Noble Gulch Creek on Saturday March 26, 2011 (Photo: Santa Cruz Sentinel)

Figure 11. Buildings Vulnerable to River (Fluvial) Flooding

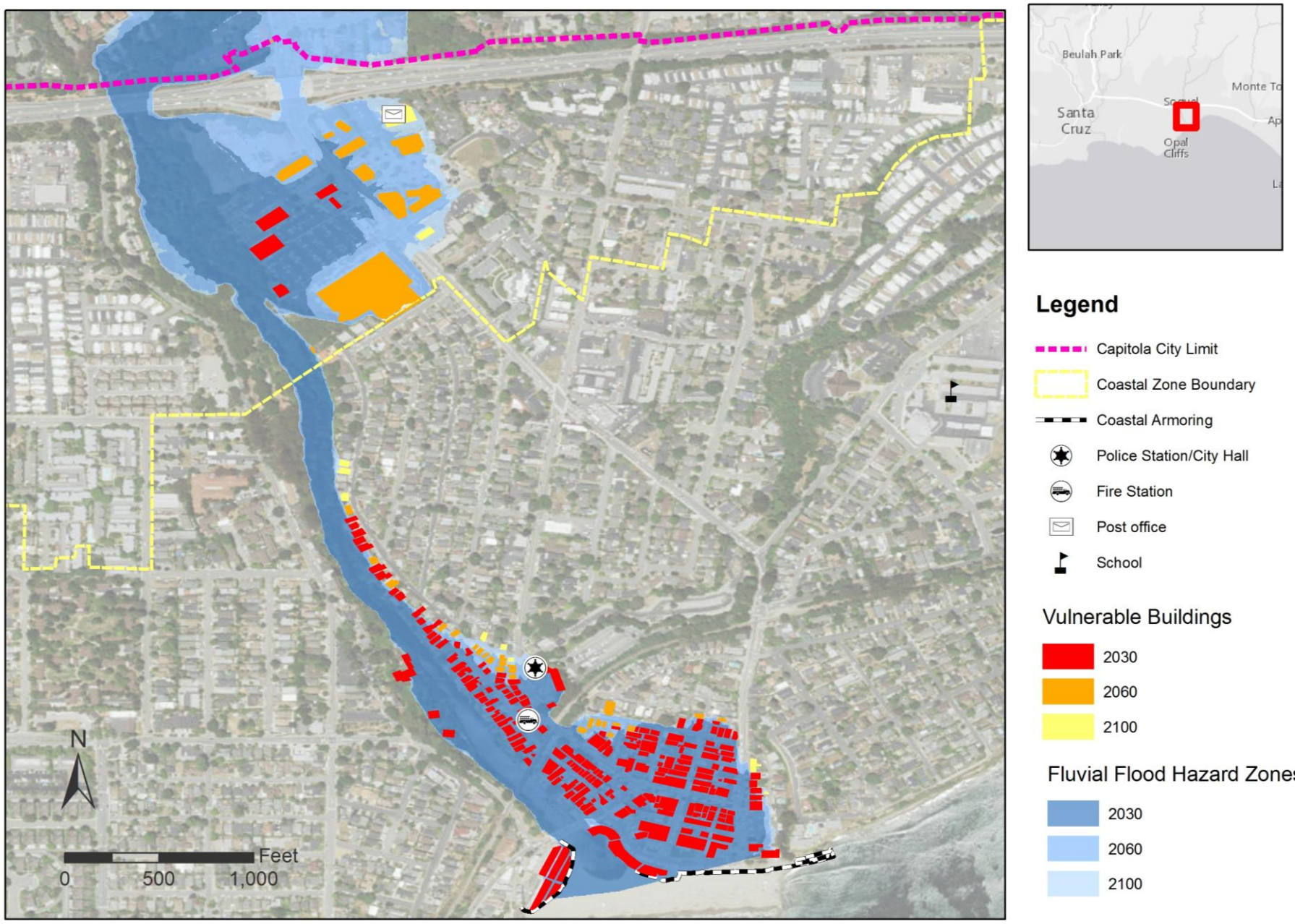


Table 10. Summary of Assets Vulnerable to River (Fluvial) Flooding

ASSET	UNIT	TOTAL	2010	2030	2060	2100
Land Use and Buildings						
Total Buildings	Count	3,025	194	202	238	248
Residential	Count	2,600	59	62	78	82
Commercial	Count	326	130	134	154	160
Public	Count	67	4	4	4	4
Visitor Serving	Count	15	1	2	2	2
Other	Count	17	0	0	0	0
Schools	Count	1	0	0	0	0
Post Offices	Count	1	0	0	0	1
Emergency Services	Count	2	1	2	2	2
Transportation						
Roads	Feet	119,994	6,128	6,783	9,932	10,889
Rail	Feet	8,503	428	431	435	435
Bridges	Count	4	3	3	3	3
Recreation and Public Access						
Beaches	Acres	5.8	0.8	0.8	0.8	0.8
Coastal Access Points	Count	12	2	2	2	2
Parking Lots	Acres	4.1	0.6	0.6	0.7	0.8
Coastal Trail	Feet	9,543	0	0	0	0
Water and Utility Infrastructure						
Storm Drain Structures	Count	667	149	171	213	214
Storm Drain Conduits	Feet	50,173	7,319	8,068	10,685	10,836
Sewer Structures	Count	472	44	45	58	61
Sewer Conduits	Feet	118,365	8,846	9,703	12,301	12,854
Water Mains	Feet	144,206	11,078	11,911	14,539	15,326
Natural Resources						
National Wetlands	Acres	16	7.2	7.2	7.3	7.3

5.5 Vulnerability to Erosion

Capitola is vulnerable to impacts from coastal erosion along the cliff edges west and east of downtown. There are rip-rap and concrete structures in place along the base of portions of these cliffs that have reduced bluff erosion significantly. If these structures are not upgraded or replaced they may continue to decay as climate change stresses add to current intensity of storm damage. Table 11 outlines the assets vulnerable to beach and cliff erosion. Project specific studies however may be needed to better estimate site specific erosion rates.

Photo Source: Timeline of Natural Hazard Events Impacting the City of Capitola, City of Capitola

Land Use and Buildings

Several residential and commercial structures are currently threatened by coastal erosion in areas where seawalls or other structures are not present. Five buildings are at risk of bluff erosion currently and this may increase to 8 properties by 2030. The number of properties vulnerable to erosion may increase significantly (32) by 2060 as new areas not protected by armoring begin to become vulnerable. An additional 100 properties are at risk by 2060 if current coastal armoring is not upgraded or replaced. A total of 98 homes are at risk of being lost by 2100 along Grand Avenue and Cliff Drive if coastal armoring is allowed to deteriorate or is removed. Bluff erosion is also predicted for the base of the Wharf and the Venetian Courts if sea walls are not maintained or rebuilt. As many as 221 properties are within the bluff erosion zone by 2100 if protective structures are not maintained, expanded or replaced.

Although many of these homes are more than 200 feet from the current bluff edge, the models highlight the significant erosion risk to this area in the future if existing coastal armoring fails. If bluff retreat is halted by replacing coastal armoring, however, many beach access ways and most of Capitola beach may be lost (Figure 12) as ocean tides progress inward towards these stationary structures (aka Coastal Squeeze).

Transportation vulnerable to erosion

Lateral road access along the east side of town has already been lost due to cliff erosion. Cliff Drive remains a key western access road into the downtown area and is vulnerable to cliff erosion by 2060 if protective measures are not implemented. Additional transportation infrastructure that is in jeopardy

include the public access way along what remains of Grand Avenue and the rail corridor which was recently purchased by the county to provided alternate transportation corridor throughout the county.

Recreation and Public Access

Cliff erosion threatens numerous parks and visitor serving resources within Capitola. Five coastal access points are currently vulnerable to bluff erosion and by 2060 all access ways may be at risk unless coastal protection is updated. Loss of beach area (95% by 2100) is reported within Section 5.4 (Tidal Inundation).

Water and Utilities

A significant number of storm water and wastewater structures are currently vulnerable to erosion, when accounting for coastal protective structures. The number of structures and feet of pipe at risk increase significantly by 2060 if coastal armoring is not maintained or replaced. Sewer and water mains are vulnerable during all time horizons to failure due to coastal erosion.

Natural Resources

Approximately half of the wetland habitat along Soquel Creek is vulnerable to erosion by 2100.

Figure 12. Buildings Vulnerable to Erosion

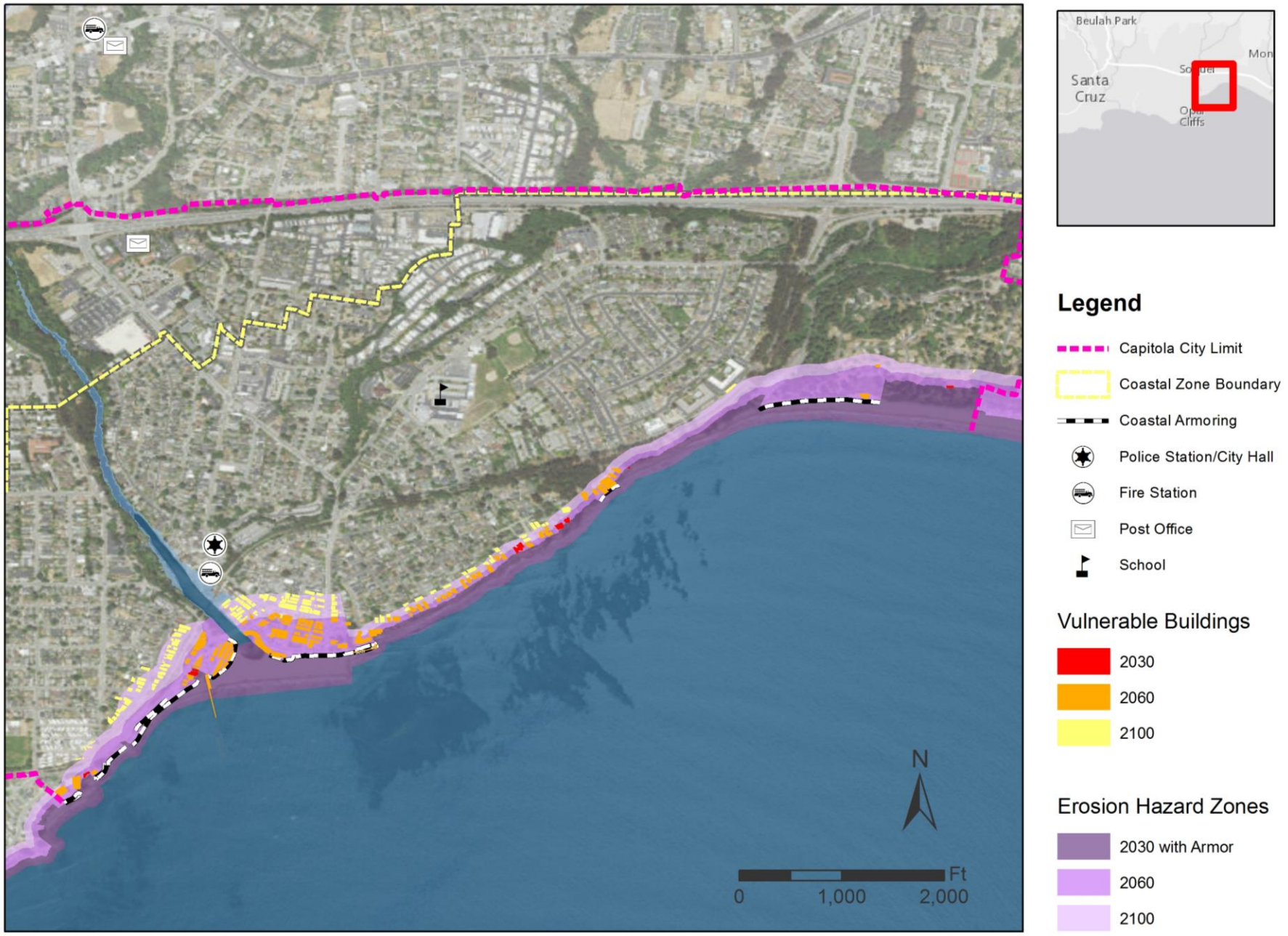


Table 11. Summary of Assets Vulnerable to Erosion

ASSET	UNIT	TOTAL	2010 (WITH ARMOR)	2030 (WITH ARMOR)	2060 (NO ARMOR)	2100 (NO ARMOR)
Land Use and Buildings						
Total Buildings	Count	3,025	5	8	103	221
Residential	Count	2,600	0	3	39	98
Commercial	Count	326	2	2	52	105
Public	Count	67	1	1	6	10
Visitor Serving	Count	15	2	2	6	8
Other	Count	17	0	0	0	0
Schools	Count	1	0	0	0	0
Post Offices	Count	1	0	0	0	0
Emergency Services	Count	2	0	0	0	0
Transportation						
Roads	Feet	119,994	152	247	4,140	8,891
Rail	Feet	8,503	0	0	986	3,142
Bridges	Count	4	0	0	0	1
Recreation and Public Access						
Beaches	Acres	5.8	5.8	5.8	5.8	5.8
Coastal Access Points	Count	12	5	8	12	12
Parking Lots	Acres	4.1	0.1	0.0	1.4	1.9
Coastal Trail	Feet	9,543	3	32	1,550	2,404
Water and Utility Infrastructure						
Storm Drain Structures	Count	667	8	14	68	114
Storm Drain Conduits	Feet	50,173	387	500	2,914	4,568
Sewer Structures	Count	472	3	3	38	63
Sewer Conduits	Feet	118,365	892	950	9,808	17,192
Water Mains	Feet	144,206	756	1,038	6,966	13,898
Natural Resources						
National Wetlands	Acres	15.6	0.9	1.2	8.3	8.3

5.6 Summary of Specific Vulnerable Assets

Venetian Court

The Venetian court hip-wall provides protection from mild winter storms and maintains a sand free walkway adjacent to the beach. Currently the beach and walkway are approximately the same elevation on opposite sides of the wall. As ocean encroachment progresses, the wall will provide a hard backshore resisting the migration of the beach inward but may provide less protection from wave overtopping and wave damage.

Capitola Esplanade

The Esplanade walkway provides a defined boundary between the urban area and the beach. The hip-wall adjacent to the walkway provides a key protective function during winter high wave events, reducing wave impacts and flooding to the Village. The Esplanade includes several public access points that can be blocked off during winter storms. There are discharge holes that provide minimal drainage and several storm drain discharge points seaward of the wall. As wave height and sea levels rise, the hip-wall may provide less and less protection to the commercial district along the Esplanade. Wave run-up energy may be more significant in the future, leading to greater volumes of water overtopping the wall, causing additional flooding downtown. Greater wave heights may possibly lead to greater structural impacts from water and debris. The Esplanade may need to be realigned landward in the future if the community wishes to maintain beach width and storm protection capacity.

Historic Districts

All three of the designated Historic Districts in Capitola are projected to be impacted by coastal climate change hazards. The proximity of the Venetian Historic District to coastal hazards leaves it vulnerable to coastal erosion, coastal storm flooding and wave impacts. The Old Riverview Historic District is adjacent to Soquel Creek making it most vulnerable to river flooding. Six Sisters/Lawn Way Historic District lies within the low-lying areas of Capitola Village and is vulnerable to coastal wave impacts and storm flooding, river flooding, and erosion after 2030 if coastal armoring begins to fail.

River walkway

The river walkway parallels the east side of Soquel Creek from the Stockton St. Bridge inland to the Noble Creek culvert near Riverview and Blue Gum avenues. The walkway provides a valuable public access way along the river and a pedestrian link between the residential area and the coast. Presently there are private patios and yards westward of the walkway. The yards and the walkway are approximately 3 feet above base flow within the creek. During extreme river flow conditions, this area is prone to flooding. In addition, a number of storm drains flow under the walkway and discharge to the creek. Flood water depths along the river walkway are estimated to be as much as 8 feet by 2060.

Parking lots and public access ways

Parking spaces along the Esplanade are already vulnerable to periodic flooding during storm events. By 2030 such flooding may occur more often. Beach and Village Parking Lots number 1 and 2 near City Hall are also vulnerable to river flooding. A number of public access ways are vulnerable to flooding due to higher river levels, wave impacts and coastal erosion. By 2060 use of all 12 public access ways may be periodically restricted due to various coastal climate risks.

Emergency services and city hall

The Capitola fire station is currently at risks of coastal storm flooding and river flooding (FEMA flood maps). City Hall and the police station, which are currently located in the 100-year FEMA flood zone, are vulnerable to river flooding by 2030.

Schools

No schools are at risk.

Storm drains

Capitola already experiences periodic flooding of the downtown during winter storms. During these storms the storm drain system may back up or be overwhelmed when submerged during ocean storms and high river elevations. These submerged discharge pipes may also become a conduit for inland flooding, bypassing coastal protection structures. Field surveys were completed to document the surface elevation of storm drains and drop inlets throughout the village. Storm drain elevations were correlated with tidal water height for each planning horizon to document when these storm drains may act as conduits for inland flooding (Figure 13). By 2060, five storm drain drop boxes located within city streets may be below high tide elevations, posing a monthly flood risk to these areas of the community. Some of these storm drains are inland of the Rising Tides hazard zones, suggesting that storm drains may prove to exacerbate tidal flooding by mid-century.

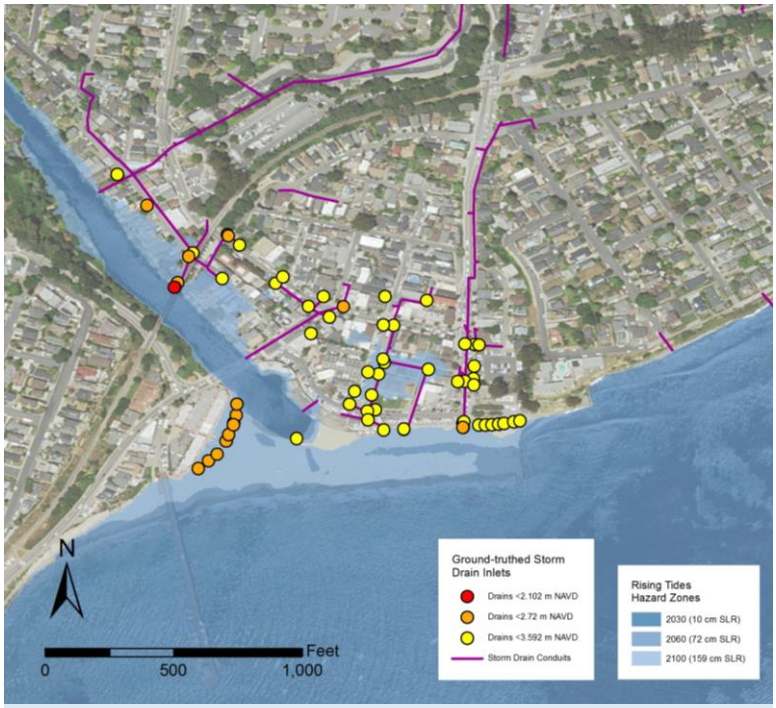


Figure 13. Storm drains with elevations within the projected tidal range for each time horizon

Table 12 further outlines the earliest time horizon that specific assets may become vulnerable to each of the coastal hazards.

Table 12. Important Assets Vulnerable to Coastal Hazard Impacts

FACILITY	TYPE	COASTAL HAZARD IMPACT	IMPACT THRESHOLD
Fire Station	Emergency	Coastal storm flooding River flooding	2060 2030
Police Station	Emergency	River flooding	2030
City Hall/ Emergency Operations	Public	River flooding	2030
Post office	Government	River flooding	2100
Capitola Historical Museum	Public/Visitor Serving and Historic District	River flooding	2030
Capitola Venetian (and Historical District)	Visitor Serving	Coastal storm flooding River flooding Erosion Rising Tides	2010 2010 2060 2100
Capitola Wharf	Public/Visitor Serving	Coastal storm flooding Erosion	2030 2060
Soquel Creek Park	Park	Coastal storm flooding River flooding Rising tides	2010 2030 2100
Esplanade Park	Park	Coastal storm flooding Erosion	2010 2030
Capitola Beach	Beach	Coastal storm flooding Erosion River flooding	2010 2030 2030
Beach access at Esplanade	Coastal Access	Coastal storm flooding Erosion Rising tides River flooding	2010 2030 2060 2030
Cliff Drive beach access	Coastal Access	Erosion	2060
Coastal Trail	Trail	Coastal storm flooding Erosion	2060 2060
Esplanade parking lot	Parking lot	Coastal storm flooding Erosion River flooding	2010 2060 2030
Wharf Rd parking lot	Parking lot	Coastal storm flooding Erosion	2030 2060

FACILITY	TYPE	COASTAL HAZARD IMPACT	IMPACT THRESHOLD
Cliff Drive parking	Parking lot	Erosion	2060
Prospect Avenue parking	Parking lot	Erosion	2100
City Hall parking lot	Parking lot	River flooding	2030
Esplanade Road	Road	Coastal storm flooding Erosion River flooding	2010 2060 2030
Cliff Drive	Road	Erosion	2060
Wharf Avenue	Road	Coastal storm flooding	2030
Grand Avenue	Road	Erosion	2030
Prospect Drive	Road	Erosion	2100
Stockton Bridge	Bridge	Erosion	2060
Soquel Creek	Creek/Wetland	Coastal storm flooding Rising Tides	2010 2030
Six Sisters/Lawn Way Historic District	Historic District	Coastal storm flooding Erosion River flooding Rising Tides	2010 2060 2030 2100
Old Riverview Historic District	Historic District	Coastal storm flooding Erosion River flooding Rising Tides	2010 2060 2010 2100

CUMULATIVE RISKS TO CAPITOLA FROM COASTAL CLIMATE CHANGE

This study suggests that by 2030 flooding during winter storms may increase in intensity as ocean wave run-up energy and increases in river discharge act together. Coastal erosion currently threatens five unprotected structures in Capitola including two commercial properties (Figure 12). By 2030 eight structures may be at risk including two residential properties if current coastal protection structures remain in place but no new structures are constructed. A significant number of storm, water and wastewater structures and many feet of pipe are vulnerable from coastal erosion during all time horizons. Cliff Drive remains a key western access road into the downtown area and is vulnerable to cliff erosion by 2060 if protective measures are not replaced. A table of key facilities at risk of various hazards and time horizons (Table 12) is intended to aid adaptation planning. This study confirms that coastal flooding may remain a primary risk for Capitola. This study also finds that river flooding may be of greater risk to the community than previously realized and that sea level rise may greatly impact the beach and public areas by 2100 unless retreat policies are adopted.

6. Economics of Future Climate Risks

The costs to repair damage caused by wave impacts and flooding can be quite large. For example, the Capitola Public Works Director estimated that approximately $500,000 worth of damage to city property, and several million dollars' worth of damage to the city-owned Pacific Cove Mobile Park occurred as a result of the 2011 flood event in Capitola Village.

The protection of structures and properties within the coastal and fluvial flood hazard zones is a high priority for the community. Understanding the cumulative value of the properties and infrastructure that are vulnerable to the identified hazards may aid the selection of protection and adaptation strategies, and help to direct limited public and private resources towards the most pragmatic and effective actions. Longevity of various protection and adaptation strategies, the costs to construct and the future reliability of coastal infrastructure should all be weighed before response strategies are selected.

Property valuation of vulnerable properties and infrastructure

Some studies (Santa Cruz County Hazard Mitigation Plan[29] and Coastal Regional Sediment Management Plan for the Santa Cruz Littoral Cell[30]) have estimated future property loss separately for building values and land values. This technique allows impacts to be calculated separately for structural impacts (due to coastal and river flooding) and property loss (due to coastal erosion and sea level rise). Unfortunately, the property value estimates used within these studies are linked to County assessor data which are often much lower than current appraised value and thus underrepresent real economic risks.

A simple economic estimation of costs of the projected climate hazards was completed to provide rough estimates of property loss for each time horizon. The average property value for residential and commercial properties within Capitola were estimated (Table 13) and used to quantify the cumulative economic impact of replacing or relocating these buildings and services. The Capitola Hazard Mitigation Plan identified costs to replace or move critical municipal infrastructure found to be at risk of various natural hazards (not including price of property to relocate).

[29] County of Santa Cruz. 2015. Santa Cruz County Local Hazard Mitigation Report

[30] United States Army Corps. 2015. Coastal Regional Sediment Management Plan for the Santa Cruz Littoral Cell, Pillar Point to Moss Landing. Prepared for The California Coastal Sediment Management Workgroup.

Table 13. Property valuation data sources for economic analysis

ASSET	VALUATION	SOURCE
Residential properties	$930,000	Capitola average sale price[31]
	$2,100,000	Capitola beach front sale price[32]
	$662,631	US Census[33]
	$809,860	Santa Cruz Littoral Cell report[34]
	$1,400,000	Pacific Institute Report 2009[35]
	$987,727	SCC-LHMP fire residential[36]
	$958,043	**Average of studies**
Commercial properties	$145,005	SCC-LHMP fire commercial
	$2,600,000	Average LoopNet Listings[37]
Public	$4,000,000	Capitola Local Hazard Mitigation Plan[38]
Emergency Services	$1,500,000	Capitola Local Hazard Mitigation Plan
Roads /ft	$280	TNC 2016[39]
Rail /ft	$237	SJVR Business Plan[40]
Storm Drain conduit /ft	$1,080	TNC 2016
Waste Water conduit /ft	$1,080	TNC 2016
Drinking Water conduit /ft	$189	TNC 2016

[31] Zillow. Capitola. http://www.zillow.com/capitola-ca/ (Dec 2016)

[32] Ibid.

[33] United States Census Bureau. Capitola Quick Facts. http://www.census.gov/quickfacts/table/PST045215/0611040 (Dec 2016)

[34] United States Army Corps. 2015. Coastal Regional Sediment Management Plan for the Santa Cruz Littoral Cell, Pillar Point to Moss Landing.

[35] Heberger M, H Cooley, P Herrera, PH Gleick, E Moore. 2009. The Impacts of Sea-Level Rise on the California Coast. Prepared by the Pacific Institute for the California Climate Change Center.

[36] County of Santa Cruz. 2015. Santa Cruz County Local Hazard Mitigation Report

[37] LoopNet. Capitola. http://www.loopnet.com/for-sale/capitola-ca/?e=u (Dec 2016)

[38] City of Capitola. 2014. Capitola Local Hazard Mitigation Plan

[39] Leo, K.L., S.G. Newkirk, W.N. Heady, B. Cohen, J. Calil, P. King, A. McGregor, F. DePaolis, R. Vaughn, J. Giliam, B. Battalio, E. Vanderbroek, J. Jackson, D. Revell. 2017. Economic Impacts of Climate Adaptation Strategies for Southern Monterey Bay. Technical Report prepared for the California State Coastal Conservancy by The Nature Conservancy. SCC Climate Ready Grant #13-107.

[40] Railroad Industries Incorporated. 2011. Business Plan for Operations of the SJVR in Fresno County. Prepared for Fresno Council of Governments

Currently $211 million in property and infrastructure are vulnerable to the combined hazards of coastal climate change within the City of Capitola (Table 14). By 2030, the total value increases to $227 million in property and infrastructure. By 2030 $62 million (26% of potential losses) in residential properties are at risk. Almost $130 million in commercial properties (57% of potential losses) are vulnerable to 2030 hazards. Approximately $35 million in public properties and infrastructure are within the hazard zone for 2030. Waste water and storm drain conduit are the infrastructure at greatest risk of projected hazards within the City.

Table 14. Total Value (2016 dollars) of Capitola Properties at Risk

ASSET	VALUE PER UNIT	2010 (WITH ARMOR)	2030 (WITH ARMOR)	2060 (NO ARMOR)	2100 (NO ARMOR)
PROPERTIES					
Residential	$930,000	$56,730,000	$62,310,000	$104,160,000	$162,750,000
Commercial	$930,000	$124,620,000	$128,340,000	$154,380,000	$159,960,000
Public	$500,000	$4,500,000	$7,500,000	$12,500,000	$17,500,000
Emergency Services	$2,000,000	$0	$2,000,000	$4,000,000	$4,000,000
Property losses		*$185,850,000*	*$200,150,000*	*$275,040,000*	*$344,210,000*
TRANSPORTATION					
Roads (ft)	$280	$1,812,440	$1,963,360	$3,728,480	$4,798,640
Rail (ft)	$280	$118,160	$118,160	$581,280	$913,080
Transportation losses		*$1,930,600*	*$2,081,520*	*$4,309,760*	*$5,711,720*
WATER AND UTILITY INFRASTRUCTURE					
Storm Drain conduit (ft)	$1,080	$8,678,466	$9,376,932	$12,807,727	$12,945,909
Waste Water conduit (ft)	$1,080	$12,872,500	$12,872,500	$21,839,205	$28,457,898
Drinking Water conduit (ft)	$189	$2,603,030	$2,603,030	$3,666,667	$4,420,265
Utility Losses		*$24,153,996*	*$24,852,462*	*$38,313,598*	*$45,824,072*
TOTAL COMBINED LOSSES		**$211,934,596**	**$227,083,982**	**$317,663,358**	**$395,745,792**

Property values within the 2060 coastal climate hazard zone increase to $317 million unless current coastal armoring is replaced and new structures are constructed to protect infrastructure vulnerable to 2060 hazards. If almost one mile of coastal armoring within the city is upgraded or replaced before 2060 (at an estimated cost of $20-52 million to construct), the total value of properties at risk is reduced by relatively small $56 million. The total value of private residential properties at risk increases to $162 million (41% of all assets at risk) by 2100.

Many of the properties identified during each time horizon are vulnerable to multiple hazards (i.e. erosion and coastal flooding). Depending on the engineering complexity and costs of replacing these coastal protection structures, and the secondary environmental and economic impacts of such construction, protecting all of the identified properties is likely cost prohibitive.

This initial economic evaluation highlights the need for constructive discussions between city decision makers, public citizens and private property owners to establish protection and adaptation policies that fairly allocate costs of protection and adaption efforts and that weigh public and private property concerns equitably.

A more comprehensive economic analysis that accounts for relative scale of property damage for each projected hazard (i.e. temporarily flooded or total loss of property) is possible with the current data but is beyond the scope of this study. Using the compiled hazard and vulnerability data generated by this project, coastal armor construction costs and the secondary environmental and economic impacts resulting from constructed structures can be compared with costs to move structures and losses resulting from abandoning vulnerable structures. Together these data can be used to generate temporal cost/benefit/consequence scenarios for each section of coastline and each time horizon.

7. Adaptation

The risks associated with each of the modeled coastal processes (wave run-up and overtopping, coastal erosion, rising tides and fluvial flooding) threaten various types of coastal infrastructure differently. Selection of adaptation options must be driven by consideration of the possible damage of each risk and the frequency of reoccurring impact. Unfortunately, the models used for this report estimate the likelihood of each hazard for each of three time horizons, but do not report the likely frequency.

Wave and fluvial flooding can damage buildings, and temporarily restrict use of public amenities, make storm drains ineffective and limit the use of roads and walkways. Storm flood risks represent periodic impacts and require periodic responses.

Cliff erosion and flooding during high tides are permanent or reoccurring impacts that can lead to a complete loss of infrastructure and use of those properties. Such hazards require extensive rebuilding or reinforcement, a change in use of the property, or abandonment of the property entirely.

Future investments in the protection of public and private structures need to be weighed by city staff and property owners against the property's value, construction costs of selected adaptive measures, limitations provided by regulatory agencies, and the expected effectiveness and longevity of the adaptation strategy selected. Secondary implications of adaptation options should also be considered, including restrictions to coastal access, loss of beach and the visual degradation of the coastline. This adaptation analysis highlights the need for long-range coastal management planning to best balance property values and adaptation measures costs with the resulting changes to the public beach and coastline.

7.1 Current Strategies Used by the City of Capitola

Capitola currently relies on various storm protection strategies to reduce winter storm flooding. These include building sand berms on the beach to reduce wave impacts (Figure 14), placement of flashboards at access points in the Esplanade hip-wall, sandbags within door and access ways, opening Soquel Creek to the ocean and ensuring that storm drains have been services and are functioning properly. Capitola has also installed 1.2 miles of sea walls along the coastline to reduce cliff erosion and flooding during winter storms. Residents and businesses in Capitola prepare for impacts by boarding doors and windows and placing sand bags.

Figure 14. Berms built at Capitola Beach help to decrease coastal flooding of the Village (Photo: R. Clark)

During storms, City staff provides response services including visual monitoring of creeks and storm drain inlets throughout the city and manned response with equipment including pumps and generators as needed to address localized flooding. Once storms have ended, cleanup of sand and debris and repair of damaged infrastructure begins. Response and municipal repair costs for the 2014-2015 El Niño winter totaled an estimated $20,000 to date with another $130,000 pending.

Costs of storm response for the 2016-2017 winter La Niña are not tallied as of completion of this report but are expected to be significantly higher. Early estimates for 2017 road repairs for Santa Cruz County exceed $30 million.

Strategies listed within existing Capitola Plans

General Plan

On June 26 2014, the Capitola City Council adopted the General Plan Update to replace the City's previous 1989 General Plan. The General Plan Update provides new goals and policies to promote sustainability, improve protections of residential neighborhoods and historic resources, and enhance economic vitality.[41] Among the Guiding Principles described within the General Plan for Environmental Resources is to:

> *"Embrace environmental sustainability as a foundation for Capitola's way of life. Protect and enhance all natural resources—including the beaches, creeks, ocean, and lagoon—that contribute to Capitola's unique identify and scenic beauty. Reduce greenhouse gas emissions and prepare for the effects of global climate change, including increased flooding and coastal erosion caused by sea-level rise."*

Hazard Mitigation Plan

The 2014 Capitola Local Hazard Mitigation Plan[42] evaluates risks from river and coastal flooding and makes programmatic and project related recommendations to address these risks. A number of those recommended actions will directly address the risks identified within this report (Table 15).

[41] City of Capitola. 2014. Capitola General Plan.

[42] RBF and Dewberry. 2013. Capitola Local Hazard Mitigation Plan

Table 15. City of Capitola Local Hazard Mitigation Plan Recommendations

ACTIONS WITHIN HAZARD MITIGATION PLAN THAT ADDRESS PREDICTED CLIMATE RISKS
▪ Evaluate the likelihood of debris flow impacts to the Stockton Avenue bridge during a catastrophic flooding event. ▪ Relocate or elevate critical facilities (e.g. City hall, police, fire, etc.) above the level of the 100-year flood elevation. ▪ Assist in the planning and/or improvement of infrastructure (sewers) and facilities to help minimize flooding impacts, particularly in critical flood-prone areas (e.g. Capitola Village). ▪ Continually monitor and review FEMA's National Flood Insurance Program (NFIP) requirements to ensure the City's floodplain management regulations are in compliance. ▪ Review and update the city's existing ordinances as they relate to storm / flooding hazards, consistent with the risks identified in this LHMP. ▪ Work in close coordination with state and local agencies and organizations to protect and preserve the coastline and its coastal bluffs through restoration efforts to help ensure safe coastal access and the protection of adjacent infrastructure and facilities. These efforts may include beach replenishment, coastal bluff protection, seawall construction, and other appropriate measures. ▪ Support the timely and accurate update of tsunami inundation maps within the Monterey Bay area. Then integrate the new tsunami inundation maps into the risk assessment of this Local Hazard Mitigation Plan ▪ Continue to update and enhance mapping data and the City's GIS for all hazards *(including coastal climate change).* ▪ Integrate the results of the Monterey Bay Sea Level Rise Study (this report) into the Local Hazard Mitigation Plan risk assessment and the General Plan Safety Element. ▪ As part of the General Plan Update process, develop a plan to address climate change/ climate adaptation issues within the City and its surroundings. ▪ Protect and preserve the coastline through permit review and continue to review coastal development for conformance with applicable City regulations (e.g. geologic, flood). ▪ Review and update the city's existing ordinances as they relate to hazards and risks identified in this LHMP

7.2 Future Adaptation Options and Strategies

Numerous reports have compiled lists of sea level rise adaptation options and described their use in addressing different climate risks.[43] Information on the costs to implement these strategies is limited but examples of most strategies exist. Local public works departments are best able to estimate the true costs of various construction projects and municipal planners, NGOs and consultants continue to evaluate the feasibility and efficacy of planning and regulatory options. Table 16 provides an overview of which adaptation strategies may be appropriate for each coastal climate change hazard. A special investigation of the role that natural habitats may play in reducing the vulnerabilities identified within this report was completed by Center for Ocean Solutions[44] (Appendix A). Policy options are also discussed within the report.

7.3 Potential Strategies for Capitola Climate Adaptation

2017-2030 Adaptation Options

Adopt policies to limit municipal capital improvements that would be at risk (Building Codes and Resilient Designs)

Prudent adaptive management to climate change begins with not placing new municipal infrastructure at risk to known future hazards. City policies that establish review processes for proposed Capital Improvement Projects located within future hazard zones have been adopted by the City of San Francisco.[45] These guidelines help staff to review proposed infrastructure projects and ensure that those projects will not become vulnerable to projected climate risks within the projects expected lifespan.

Improve resiliency to flooding along the Creek and Coast (Flood Wall and Elevate)

This risk assessment suggests that flooding of the downtown area will continue to be a primary hazard. Continued focus on emergency response and improved building guidelines (increase free board and first floor parking) can help reduce temporary impacts of flooding. A temporary or permanent flood wall along the Soquel Creek walking path may help to reduce flooding within high risk areas.

Investigate natural habitat buffering to reduce coastal flooding (beach and kelp management)

The Center for Ocean Solutions investigated the protective role that coastal habitats (Kelp, surf grass, wetlands, dunes) may play to reduce projected hazards.[46] Figure 15 shows locations of these habitats. For Capitola, the report finds that "the small beach and lagoon system at the mouth of Soquel Creek plays a relatively moderate role in reducing exposure to erosion and inundation." The report similarly

[43] Grannis, J. 2011. Adaptation Tool Kit: Sea Level Rise and Coastal Land Use

[44] Center for Ocean Solutions. 2016. Coastal Adaptation Policy Assessment: Monterey Bay

[45] City and County of San Francisco Sea Level Rise Committee. Guidance for Incorporating Sea Level Rise into Capital Planning in San Francisco: Assessing Vulnerability and risk to Support Adaptation. Prepared for the San Francisco Capital Planning Committee. Adopted by Capital Planning Committee December 14, 2015.

[46] Center for Ocean Solutions. 2016. Coastal Adaptation Policy Assessment: Monterey Bay

finds that "the proximity of Capitola's commercial development to the coast limits the city's options for nature-based adaptation strategies." Maintaining Capitola's beach and kelp forests, however, will likely provide some reduction in wave impacts.

Figure 15. Distribution of natural habitats that may play protective role in Capitola.
(Figure source: COS, 2016)

Storm drain upgrades (tidal (flap) gate and pumps)

Storm drains are currently vulnerable to high water during winter storms and these systems may be compromised further as water levels rise at discharge points along the coast and creek. Greater flood water volumes projected in the downtown by 2030 may further strain the effectiveness of the storm drain system. Coastal flood hazard models suggest that 93 storm drain structures may be compromised by high water levels by 2030 (Table 8, page 29). These submerged discharge pipes may become a conduit for inland flooding, possibly bypassing coastal protection structures. To address this issue, storm drain upgrades including gates and check valves should be investigated and additional pumping of storm water within vulnerable storm drains may be needed by 2030. The Capitola Hazard mitigation plan similarly identifies several structures (Noble Gulch Storm Pipe (already repaired), Capitola Pump Station and Soquel Pump Station (both wastewater facilities), and Lawn Way Storm Drain Pump Station) within the FEMA flood zone that may need to be upgraded.

STATE GUIDANCE

The Coastal Act allows for protection of certain existing structures. However, armoring can pose significant impacts to coastal resources.

To minimize impacts, innovative, cutting-edge solutions will be needed, such as the use of living shorelines to protect existing infrastructure, restrictions on redevelopment of properties in hazardous areas, managed retreat, partnerships with land trust organizations to convert at risk areas to open space, or transfer of development rights programs. Strategies tailored to the specific needs of each community should be evaluated for resulting impacts to coastal resources, and should be developed through a public process, in close consultation with the Coastal Commission and in line with the Coastal Act

Coastal Commission support of Cities that update their Local Coastal Plans to include the adaptation measures prioritized by the community can aid successful implementation of a community's adaptation strategy

Living shorelines provide an alternative to bulkheads and seawalls, while also providing critical habitat. (Photo: Tracey Skrabal)

Table 16. List of Adaptation Strategies (short= 0-5 years, med= 5-30 years, long= 30+ years)

TYPE	DURATION OF PROTECTION	RIVER FLOODING	COASTAL STORM FLOODING	EROSION	WAVE IMPACTS	RISING TIDES
Hard						
Levee	medium	●	●			●
Seawall or Revetment	medium		●	●	●	
Tidal Gate	medium		●			●
Flood wall	medium	●	●			●
Groin	medium		●	●	●	
Soft						
Wetland shoreline	medium		●		●	
Dune restoration	medium		●	●	●	●
Beach Nourishment	short		●		●	
Offshore structure	medium		●		●	
Accommodate						
Elevate	medium	●	●			
Managed Retreat						
Retreat	long	●	●	●	●	●
Rolling easement	long	●	●	●	●	●
Strict land use re-zone	long	●	●	●	●	●
Regulatory Tools						
Stricter Zoning	long	●	●	●	●	●
Floodplain Regulations	long	●	●		●	●
Building Codes and Resilient Designs	long	●	●		●	●
Setbacks/Buffers	long	●	●	●	●	●
Rebuilding Restrictions	long	●	●	●	●	●
Planning Tools						
Comprehensive Plan	long	●	●	●	●	●

Rebuild current beach groins

Capitola currently has two groins located on the east end of the main beach. These structures were designed and constructed in response to changes in sediment supply that occurred after the construction of Santa Cruz harbor breakwater. The two groins were constructed in the 1960's to capture sediment being transported east and to build the width of Capitola beach. The groins have since deteriorated, reducing their height and sediment capture efficiency. Rebuilding or upgrading these structures may be a cost-effective adaptation response to mitigate short term beach loss. Long term (2060-2100) capacity of these structures to retain beach width may be reduced as ocean elevations rise.

Using groins to capture sand may lead to accelerated cliff erosion along Grand Avenue. The 2016 TNC report[47] found that the combination of groin construction and beach nourishment was a cost effective medium duration adaptation measure that helped reduce the loss of public beaches and natural habitats for an estimated twenty years (periodic sand replenishment would be required). Although this analysis was done in Monterey County, it provides useful information that may be transferable to Capitola.

Investigate beach nourishment in concert with groins

Small to medium scale opportunistic beach nourishment has been found to be a cost effective, although temporary, adaptation measure when material is available.[48] Such materials are routinely diverted from the Santa Cruz harbor down current towards Capitola (providing beach sands for the Pleasure Point area). Other sources may include excess accumulation in local rivers that compromise flood management. Sediments from dam maintenance projects may also be obtained. Off shore sand has also been examined by the 2016 TNC report and may be cost effective but may also initiate more complex regulatory processes. Groins are recommended to extend sand retention time and upgrades to existing groins should be considered in Capitola to support any beach nourishment project.

Large sand placement projects were estimated to cost approximately $3,300,000 per linear km and opportunistic nourishment was estimated at $400,000 per linear km but must be repeated more often.[49] An example opportunistic sand placement project occurred along Del Monte Beach in Monterey where approximately 8000 cubic meters of sand was placed on the beach between 2012 and 2013. Sand helped protect inland structures but, because no groins were present to limit sand movement, much of the sand was redistributed during 2015 winter storms.[50]

Prioritize coastal protection structures for upgrade and replacement (seawall and revetment)

The most common community response to cliff erosion that threatens private and public property and infrastructure is to construct or upgrade coastal armoring structures. The costs to replace or construct new coastal armoring however, is high. Recent estimates for constructing new seawalls that withstand

[47] Leo et al. 2017. Economic Impacts of Climate Adaptation Strategies for Southern Monterey Bay.

[48] Ibid.

[49] Ibid.

[50] The Watershed Institute, California State University Monterey Bay. A Small-Scale Beach Nourishment Project in Monterey. California. Publication No. WI-2015-05. 25pp.

periodic wave impacts are estimated at up to $52 million per mile.[51] Therefore, completion of a coastal bluff and beach management plan for Capitola that outlines short and long term coastal bluff management strategies will help to establish local protection and adaptation priorities.

The secondary environmental and economic impacts that result from the construction of sea walls are significant. The 2016 TNC report found that coastal armoring was less expensive than beach nourishment and groin construction (although Capitola already has groins in place that may lower costs) and effectively reduced municipal and private property losses. Economic and community impacts from the loss of beach area, however, were estimated to be twice the value of the properties those structures were intended to protect. Therefore, the future allocation of public funds to protect current infrastructure should to be prioritized and weighed against the longevity and feasibility of the proposed protective structures.

Depending on cost, construction feasibility and legality of replacing current protective structures, it may be decided that some of the sea walls may be replaced or upgraded while other development may need to adapt to the projected hazards or be lost. Both the construction costs as well as the secondary implications of such armoring on coastal resources (access, beach width, view) may likely be significant.

Consider resiliency improvements to protect coastal access ways

The City may consider additional resiliency improvements and/or new protective structures to maintain critical vehicular and coastal access ways (including Cliff Drive and the Wharf. note: the City is currently evaluating resiliency improvements for the wharf).

2030-2060 Adaptation Options

Protection of all properties and infrastructure identified at risk during each time horizon is likely infeasible. Therefore, Capitola will need to establish adaptation strategies that best meet local long-term goals. Coastal municipalities will need to set adaptation policies that weigh public cost considerations, longevity of adopted strategies and resultant changes to the community. Establishing equitable managed retreat policies for coastal properties years before they are implemented will benefit successful long-term implementation of these policies and help to ensure the sustainability of the community. Selecting time horizons and climate conditions for which next phase adaptation strategies are triggered will allow the community to anticipate and prepare for future actions.

Identify priority areas for future protection accounting for costs, structural feasibility and secondary implications. (flood wall, seawall or revetment)

This study assumes that the 1.2 miles of coastal protection infrastructure will need to be replaced, upgraded or removed sometime after 2030. Decisions regarding which structures to rebuild in their current location and which structures to remove or relocate (managed retreat) will need to be made.

[51] ESA-PWA. 2012. Evaluation of Erosion Mitigation Alternatives for Southern Monterey Bay. Report prepared for the Monterey Bay Sanctuary Foundation and the Southern Monterey Bay Coastal Erosion Working Group. http://montereybay.noaa.gov/research/techreports/tresapwa2012.html.

Secondary impacts of coastal protection should be considered including loss of public access, beach area, economic valuation of the beach and impacts to community identity.

Between 2060 and 2100, Capitola is at risk of losing much (95%) of its public beach if all current coastal protection structures are rebuilt in their current location. Additionally, some structures (Venetian Court and Esplanade hip walls) would need to be raised significantly to protect structures from future projected wave impacts. The raising of these walls would likely compromise public and private valuation of the coastline significantly, making such actions undesirable and contrary to Capitola community values.

TNC ECONOMIC ANALYSIS REPORT 2016

The 2016 TNC report suggests that net benefits of non-armoring approaches are consistently greater than armoring approaches for almost all near-term scenarios. Future funding should be sought to further investigate the cost benefit relationships of various adaptation strategies and the legal and financial strategies necessary to offset municipal and private losses with public benefits.

Identify priority areas for managed retreat to retain sufficient beach area for recreational use (Stricter Zoning, Floodplain regulation, Rolling Easements, Retreat)

Further site-specific modeling is needed to identify which areas can be protected from the combined forces of sea level rise and increased storm intensity. Between 2060 and 2100, some properties may be too difficult or expensive to protect in place and therefore a change in use may be necessary. Such policy decisions should be made early enough for property owners to accommodate these changes. Coordination with State and federal agencies can help municipalities implement these policies and ensure that programs are established to compensate private property owners for the transition of private properties to public use (i.e. beaches, public access and river and bluff setbacks).

2060-2100 Adaptation Options

Between 2060 and 2100, increased coastal wave damage, greater flooding frequency and depth, and higher tides may threaten significant portions of current beach front properties. Protection of all properties from these risks may be costly, technically challenging and may degrade *Capitola's unique identity and scenic beauty*. Decisions regarding what the urban/beach front area may look like in 2100 will need to be made much earlier (i.e. coastal bluff and beach management plan) if adaptation is to be strategic and cost effective. Adopting coastal adaptation and retreat policies once all efforts to protect existing infrastructure fail is a more costly strategy.

Implement managed retreat strategies (Comprehensive Plan, Strict land use Re-zone, Rolling Easement)

There are a number of theoretical managed retreat strategies that have been described within the literature. Examples of coastal communities adopting re-zoning, building restrictions and other land use policies to drive the removal of buildings and infrastructure from the California coast, however, are few.

How retreat strategies can be adopted within a fully developed community like Capitola is unclear. Restrictions on redevelopment triggered by coastal development permit actions may lead to individual property owners implementing setbacks and building restrictions while neighbors are not required to comply. Such a case by case (or "Swiss Cheese") approach will most likely have limited success protecting either coastal properties or coastal resources. Rather, adaptation strategies and future land use decisions (that account for the costs to private property owners and the city) should be drafted long before they become enforceable. Programs to systematically implement adopted adaptation strategies along stretches of coastline (similar to Pacifica) will need support of state agencies and non-governmental organizations. The Local Coastal Program could be an excellent tool to drive these strategies.

Cost sharing between private property owners and state and local agencies will need to be defined and local land trusts may play an important role in administering these programs in years to come. Coastal Hazard (similar to Geologic Hazard) Abatement Districts where neighbors collect taxes on their properties to fund neighborhood scale

EXPLORING ADAPTATION POLICY

The Coastal Commission 2015 Guidance references strategies that include:

> *"restrictions on redevelopment of properties in hazardous areas, managed retreat, partnerships with land trust organizations to convert at risk areas to open space, or transfer of development rights programs"*

The 2014 Pacifica LCP[52] sets policy for coastal bluff development so that,

> *"All new development proposed on or adjacent to a coastal bluff shall require a site stability survey conducted by a licensed Certified Engineering Geologist or Geotechnical Engineer to determine the necessary setback, taking into account bluff retreat projected over the economic life of the development."*

This and most revised municipal policies set a process to establish setbacks for new development, there are no policies yet adopted that outline areas where current development will be modified or removed due to changing coastal hazards projected from these climate models.

The Marin SLR Adaptation effort[53] completed focus area analysis of coastal communities (i.e. Bolinas) similar to this Capitola report and has identified infrastructure that will need to be raised or otherwise modified to respond to tides and coastal flooding. Agriculture lands have been identified for transition to wetlands. No residential or commercial private properties have been identified for removal and no procedures have been identified to support municipalities to *"convert at risk areas to open space."*

[52] Dyett and Bhatia. 2014. Draft Pacifica Local Coastal Land Use Plan. Prepared for City of Pacifica. March 2014.

[53] Sea-Level Marin: Adaptation Response Team and Marin County Community Development Agency. 2015. Marin Ocean Coast Sea Level Rise Vulnerability Assessment, Draft Report.

solutions have been suggested to serve this function.

Realign roads and utility infrastructure (Retreat and other building designs)

Future realignment of roadways and utility infrastructure is costly but those costs can be minimized if managed adaptation and retreat policies are established decades before implementation. City and utility districts and companies can integrate future land use changes into current infrastructure repair and replacement decisions to minimize future costs of infrastructure loss and realignment. Basic cost estimate (based on previous reports) to realign roads and infrastructure that may be at risk by 2100 is outlined in Table 14 (page 47).

A draft adaptation strategy for the City of Capitola is provided below (Table 17).

Table 17. Draft Adaptation Strategy for the City of Capitola

ADAPTATION CATEGORY:

1. hard protection 2. soft protection 3. accommodate 4. Managed retreat 5. regulatory 6. planning

COASTAL HAZARDS	THROUGH 2030	CATEGORY	THROUGH 2060	CATEGORY	THROUGH 2100	CATEGORY
Coastal Storm Flooding	employ temporary protective structures	1, 2	employ secondary containment	1, 2	Implement Managed retreat policies	5
	upgrade storm drains	3	upgrade building guidelines in vulnerable areas	6		
	integrate storm pumps into flood response	3	Establish Managed retreat policies	6		
	investigate secondary barriers to coastal flooding	1, 2				
	Maintain and upgrade building standards in vulnerable areas	5				
Wave Impacts	continue winter sand berm placement	2	Establish Managed retreat policies	6	Implement Managed retreat policies	5
	increase efficiency of sand bag deployment	2				
	upgrade building guidelines in vulnerable areas	6				
	maintain coastal protection structures	1				

COASTAL HAZARDS	THROUGH 2030	CATEGORY	THROUGH 2060	CATEGORY	THROUGH 2100	CATEGORY
River Flooding	Increase freeboard along riverwalk (hip wall)	1	Establish Managed retreat policies	6	Implement Managed retreat policies	5
	upgrade storm drains	3				
	integrate storm pumps into adaptation	3				
	upgrade building standards in vulnerable areas	5				
	investigate secondary barriers to river flooding	1, 2				
Erosion	Maintain current coastal protective structures	1	prioritize replacement of coastal protection structures based on cost, feasibility, longevity and secondary implications	1	Implement Managed retreat policies	5
	Upgrade groins on beach	1	Establish Managed retreat policies	6		
	Investigate beach nourishment options	1, 2	Implement Coastal management strategy	5		
	set strategies for unprotected areas identified at risk	6				
	Investigate long-term feasibility and costs of maintaining current placement of coastal structures	6				
Rising Tides	Identify areas vulnerable to tidal flooding and integrate into zoning and building guidelines	6	Establish Managed retreat policies	6	Implement Managed retreat policies	5
	Draft coastal management plan for 2030, 2060 and 2100 to inform land use policy and private investments	6				

8. Conclusion

This vulnerability analysis is intended to provide a projected chronology of future hazards in order to support local adaptation planning and inform discussions within the community and with State regulatory and funding agencies.

Capitola has responded to and adapted to numerous environmental hazards throughout its 150 years. Development has changed, hotels have burned, and the city has flooded. After each disaster, the community has responded through reconstruction, upgraded infrastructure, and modifications in land use, all intended to retain Capitola's unique charm while responding to nature's lessons.

This vulnerability assessment provides projections of future hazards so the community can begin planning for strategic adaptation to these hazards rather than responding to future climatic events without sufficient forethought or understanding of costs and consequences. Capitola is uniquely vulnerable to coastal climate change. Capitola has stepped forward to partner with County and State agencies to complete this vulnerability assessment and begin planning proper responses to these environmental risks. The State has recently begun providing funding for projects that implement adaptation strategies. This vulnerability report is intended to provide Capitola with necessary information to prioritize actions to become more resilient and to partner with state agencies to implement selected priority actions. Additional State and federal funding is needed to aid local municipalities like Capitola who have taken steps to identify appropriate adaptation strategies.

POSSIBLE NEXT STEPS

- Adopt Capital Improvement Project review guidelines for sea level rise hazard areas.
- Integrate 2030 hazard maps into future Capitola Local Hazard Mitigation Plan updates.
- Investigate beach groin upgrade costs and effectiveness.
- Identify and prioritize storm drain upgrades necessary to address future hazards.
- Work with California Coastal Commission to integrate preferred adaptation strategies into the Capitola Local Coastal Program.
- Continue to participate in regional discussions regarding climate hazard avoidance and adaptation best practices.
- Initiate public outreach and education efforts to inform citizens of projected future hazards.

Mechanisms to implement the identified adaptation strategies requires further investigation, coordination among municipalities within the Monterey Bay and coastal California and development of partnerships that ensure efficient implementation of adopted strategies. Additional strategic dialog with California Coastal Commission staff is needed. The climate report team will work with the City of Capitola and Santa Cruz County to obtain additional funding to extend the adaptation opportunity analysis to the rest of Santa Cruz County, expand the environmental and economic implication analysis and further develop an adaptation implementation strategy for integration into general plans and local coastal programs.

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City of Capitola

Coastal Climate Change Vulnerability Report

Appendices

JUNE 2017

CENTRAL COAST WETLANDS GROUP

MOSS LANDING MARINE LABS | 8272 MOSS LANDING RD, MOSS LANDING, CA

Appendix A.

Coastal Adaptation Policy Assessment: Monterey Bay

(Center for Ocean Solution, 2016)

CENTER FOR OCEAN SOLUTIONS

Coastal Adaptation Policy Assessment: Monterey Bay

August 30, 2016

To support decisionmakers in their efforts to manage coastal resources in a changing climate, the Center for Ocean Solutions (Center) engaged with Monterey and Santa Cruz Counties and other partners to model, map and assess the role of natural habitats along the coast of Monterey Bay in providing the ecosystem service of coastal protection. In addition, the Center evaluated existing and potential land use policy strategies that prioritize nature-based climate adaptation strategies. Ecosystem service modeling and assessment was conducted using the Integrated Valuation of Environmental Services and Tradeoffs (InVEST) decision support tool, a suite of tools to map and value the goods and services from nature. Specifically, the Center utilized the InVEST Coastal Vulnerability model for this assessment.

This ecosystem services and adaptation policy assessment focuses on the coastline of Monterey Bay and two specific geographic areas of interest: Capitola in Santa Cruz County and Moss Landing in Monterey County. For each location, we identify the distribution and ecosystem services provided by coastal habitats, map the role of those habitats in reducing exposure to storm impacts, evaluate land use policy adaptation strategies with the potential to maintain or improve nature's role in reducing exposure to these impacts, and highlight policy considerations relevant for each strategy. In addition, we include an introduction to our science-to-policy approach, a compilation of general considerations for pursuing land use policy approaches, as well as a summary of our analysis methodology.

This assessment addresses Task 4B of the Ocean Protection Council's grant entitled: "Collaborative Efforts to Assess SLR Impacts and Evaluate Policy Options for the Monterey Bay Coast." Results from this assessment will inform local planning in both Capitola and Moss Landing, as well as regional or county-wide planning in both Monterey and Santa Cruz Counties. This collaborative, regional project is underway in parallel with other coastal jurisdictions through a statewide investment in updating coastal land use plans in accordance with projections of rising sea levels and more damaging storms.

Coastal Adaptation Policy Assessment: Monterey Bay

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Coastal Adaptation Policy Assessment: Monterey Bay

EXECUTIVE SUMMARY

As sea levels rise, the impacts of more frequent large storm events driven by the El Niño Southern Oscillation (ENSO) will be greater than those historic events of similar magnitude, exposing coastal areas to the combined effects of elevated tides, increased storm run up and enhanced wave impacts. This increase in the frequency and intensity of storms will likely lead to economic, social and environmental vulnerabilities for coastal communities. California has proactively prioritized coastal adaptation planning that addresses vulnerabilities associated with a changing climate. As a result, the Monterey Bay Region is one of many locations to receive significant funding support to conduct a regional assessment of coastal vulnerability. The results of this coastal adaptation policy assessment will provide information that municipalities can leverage as they engage in adaptation planning for coastal land use.

Successful local, regional and state climate adaptation planning should take into account the role of natural habitats in ensuring a resilient coastline. Coastal habitats can play a protective role in reducing exposure to wind and wave impacts while also providing many additional beneficial ecosystem services to people and nature. Through proactive climate adaptation planning, coastal communities should prioritize nature-based strategies (e.g., dune or wetland restoration, conservation easements, etc.) when and where they are most feasible. If nature-based strategies are not practical in a given location, then coastal planners should consider approaches that seek to maintain the integrity of natural habitats and allow for adaptive coastal planning in the future (e.g., planned retreat, redevelopment limits, etc.).

With combined funding from the State Coastal Conservancy's (SCC) Climate Ready and Ocean Protection Council's (OPC) Local Coastal Program Sea Level Rise grant programs, the Monterey Bay Region is a part of a statewide investment to update coastal land use plans in accordance with projections of rising sea levels and more damaging storms. In parallel with additional select counties, the SCC and OPC provided funding in 2013 for Monterey and Santa Cruz Counties to include impacts from rising sea levels in their ongoing Local Coastal Program updates. The full study area includes the Monterey Bay coastline from Año Nuevo in Santa Cruz County to Municipal Wharf Two in Monterey County. Through discussion with county and city planners as well as with grant organizers from Central Coast Wetlands Group, two community-level study areas were identified—Capitola and Moss Landing—for exposure of coastal assets analyses, the role of natural habitats in reducing coastal exposure and the implications for potential climate adaptation strategies. Detailed analysis and synthesis in these case study locations will be the catalyst for similar investigations throughout Monterey Bay and potentially other sections of the California coast.

Executive Summary: Key Messages

Monterey Bay Coastal Study Area

- The Monterey Bay coastline features diverse coastal habitats including: dense kelp forests; brackish wetland habitats along creeks, lagoons, and sloughs; and expansive beach and dune systems that cover the central and southern sections of the coastline.
- While each coastal habitat plays some protective role, the dune systems in southern Monterey Bay play the highest role in reducing exposure of coastal development to erosion and inundation during storms relative to the entire study area.
- Any climate adaptation strategies under consideration along the Monterey Bay coastline should conform with the strictures of the Coastal Act, consider the recommendations from the Coastal Commission's sea level rise guidance, and respect the cultural significance of the region.
- A primary consideration for proactive coastal adaptation is to incentivize proactive climate adaptation planning that utilizes a blend of approaches across multiple timescales; optimal strategies should not limit adaptation options for future generations.

Capitola

- The small beach and lagoon system at the mouth of Soquel Creek plays a relatively moderate role in reducing exposure to erosion and inundation in comparison with the entire study area.
- The proximity of Capitola's commercial development to the coast limits the city's options for nature-based adaptation strategies.
- Adaptation options for developed sections of Capitola include implementing overlay zones that account for anticipated rising seas. In addition, limiting redevelopment or implementing redevelopment guidelines in these zones can provide a plan for relocation in coming years.

Moss Landing

- Relative to the entire Monterey Bay study area, the large dunes north and south of Moss Landing provide the highest protective role from coastal storm impacts.
- Nature-based climate adaptation options in the Moss Landing case study area include restoration or preservation of dune and wetland habitats. In addition, nourishing beachfront locations with additional sediment can be an option if appropriate environmental concerns are addressed.
- Built structures—including some coastal dependent structures—limit adaptation options for parts of Moss Landing. Critical infrastructure such as the Moss Landing power plant, harbor infrastructure, and Highway 1 all present challenges to implementing many otherwise viable strategies.

Our Climate and Ecosystem Services Science-to-Policy Approach

Coastal decisionmakers are actively determining how coastal communities will adapt to rising sea levels and more damaging storms. Favorable adaptation approaches consider the role of natural habitats and prioritize resilient strategies that do not limit future planning options.[1] Since 2010, the Center for Ocean Solutions has worked with coastal planners and managers to incorporate the role of natural habitats in climate adaptation planning.[2] Below, we outline our scalable, transferable approach to bridging a spatial assessment of natural protective services with coastal land use policy decisions in an era of changing climate.[3]

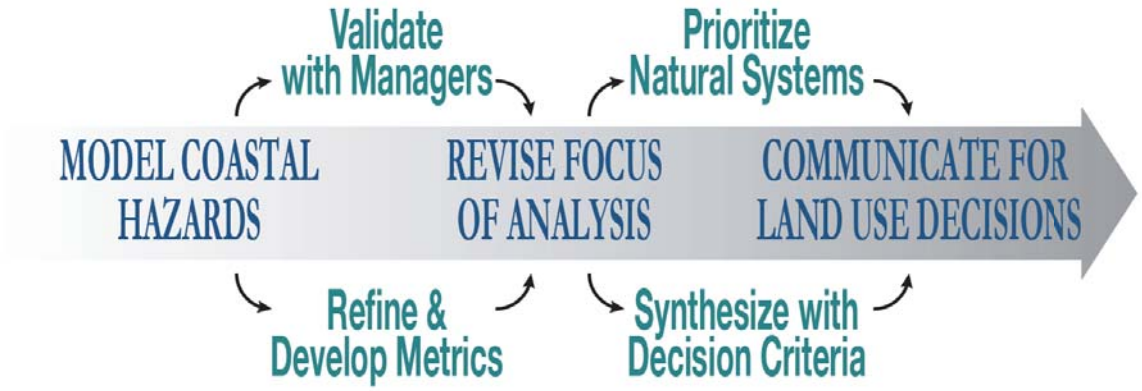

Fig. 1: Our transferable, scalable ecosystem services to coastal adaptation policy approach.

Coastal Ecosystem Services

Ecosystem services are the benefits that natural habitats provide to people (e.g., water purification, aesthetic attachment, carbon sequestration and coastal protection). Thriving, healthy ecosystems provide the greatest provision of services and are most resilient in the face of dynamic environmental conditions. In the coastal context, ecosystems play an important role in protecting shorelines against wave action by dissipating wave energy, or, in the case of sand dunes, physically impeding wave run-up. Climate change impacts, such as rising sea levels and increased storm intensity, are altering patterns of wave action along the coast and exposing new locations to physical forces. As waves travel from the open sea to coastal regions with shallower waters, they interact with the natural and geologic features of the seabed. Increased intensity and frequency of storms and rising seas, further emphasizes the important role of coastal habitats in reducing shoreline erosion and of increasing resilience in coastal areas.

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[1] Jon Barnett & Saffron O'Neill, *Maladaptation* 20 GLOBAL ENVTL. CHANGE 211 (2010).

[2] Suzanne Langridge et al., *Key lessons for incorporating natural infrastructure into regional climate adaptation planning* 95 OCEAN & COASTAL MANAGEMENT 189 (2014); Sarah Reiter et al., *Climate Adaptation Planning in the Monterey Bay Region: An Iterative Spatial Framework for Engagement at the Local Level* 6 NATURAL RESOURCES 375 (2015); Lisa Wedding et al., *Modeling and Mapping Coastal Ecosystem Services to Support Climate Adaptation Planning*, *in* OCEAN SOLUTIONS EARTH SOLUTIONS 389 (Dawn J. Wright ed., 2016).

[3] *See* Figure 1. For further information on this approach, see also the "Analysis, Methodology and Assumptions" section *infra*.

Diverse habitats along California's coastline (e.g., sea grasses, kelp forests, salt marshes, dunes) play a role in reducing exposure to storm impacts while also providing a variety of additional services. As coastal development and rising sea levels degrade or damage these habitats, coastlines, communities and infrastructure become increasingly vulnerable to storms. An important challenge for decisionmakers is determining the best climate adaptation strategies that protect people and property while also protecting the ability of coastal habitats to provide a protective service into the future. To address this challenge, coastal communities need to identify where natural habitats provide the greatest protective benefits so that they may prioritize adaptation planning efforts that protect or restore their critical natural habitats.

Spatial Modeling and Mapping of the Protective Services

Modeling and mapping the ecosystem service of coastal protection can support the spatial prioritization of science-based climate adaptation strategies. For this assessment, we used InVEST (Integrated Valuation of Ecosystem Services and Tradeoffs) in combination with ArcGIS to identify areas where natural coastal habitats provide greater relative protection from storms and shoreline erosion.[4] The spatial models account for service supply (e.g., natural habitats as buffers for storm waves), the location and activities of people who benefit from services and infrastructure potentially affected by coastal storms. The InVEST Coastal Vulnerability model produces a qualitative estimate of coastal impact exposure to erosion and inundation during storms. By coupling exposure results with population information, it can identify the areas along a given coastline where humans are most vulnerable to storm waves and surge. The model does not value any environmental service directly, but ranks sites as having a relatively low, moderate or high risk of erosion and inundation through an exposure index.

The Coastal Exposure index is calculated by combining the ranks of the seven biophysical variables at each shoreline segment: geomorphology, natural habitats (biotic and abiotic), net sea level change, wind and wave exposure, surge potential and relief (bathymetry and topography). Model inputs serve as proxies for various complex shoreline processes that influence exposure to erosion and inundation. The resulting coastal exposure ranks range from very low exposure (rank=1) to very high exposure (rank=5), based on a mixture of user- and model-defined criteria. The model output helps to highlight the relative role of natural habitats at reducing exposure—also through a 1–5 ranking. This relative role output can be used to evaluate, how certain management actions can increase or reduce exposure of human populations to the coastal hazards of erosion and inundation. For this assessment, the model outputs were mapped on the shoreline of the Monterey Bay study area in order to interpret the relative role of natural habitats in reducing nearshore wave energy levels and coastal erosion—thus highlighting the protective services offered by natural habitats to coastal populations.

[4] InVEST is a free and open-source suite of software models created by the Natural Capital Project at the Stanford Woods Institute for the Environment to map and value the goods and services from natural capital. *See* INTEGRATED VALUATION OF ECOSYSTEM SERVICES AND TRADEOFFS, http://www.naturalcapitalproject.org/models/coastal_vulnerability.html (last visited Aug. 30, 2016).

Coastal Vulnerability Model Considerations

While this vulnerability modeling approach includes average wave and storm conditions, the InVEST Coastal Vulnerability model does not account for coastal processes that are unique to a region, nor does it predict changes in fluvial flooding or shoreline position or configuration. The model incorporates a scenario-based approach to evaluate the role that coastal habitats play in reducing exposure to coastal impacts. We use the Coastal Vulnerability index here to better understand the relative contributions of different input variables to coastal exposure and highlight the protective services offered by natural habitats to coastal populations. Results provide a qualitative representation of erosion and inundation risks, rather than quantifying shoreline retreat or inundation limits. The compiled role of habitat map products depicts results from a "presence/absence" analysis that calculates the difference between erosion indices with and without habitats in place. In effect, this approach indicates the change in coastal exposure if natural habitats are lost or degraded.

Connecting Spatial Modeling to Planning

Understanding the role that nearshore habitats play in the protection of coastal communities is increasingly important in the face of a changing climate and rising seas. To develop this analysis, we integrated feedback from coastal planners to better understand their information needs on coastal vulnerability and potential adaptation options. The map products created from the InVEST Coastal Vulnerability model support the spatial evaluation of nature-based adaptation planning alternatives with rising sea levels, and highlight how protective services might change in the future. Connecting these model results with existing land use planning and zoning information and current policies provides a pathway for identifying locations in which nature-based strategies can be prioritized as more effective and feasible than competing traditional strategies.

Monterey Bay Coastal Study Area

Monterey Bay Coastal Management Context

The study area from Año Nuevo in Santa Cruz County to Wharf Two in Monterey County features a diverse range of land uses and densities. This range includes the City of Santa Cruz's highly developed coastline, the sparsely populated coastal properties of southern Santa Cruz County, and undeveloped beaches in Santa Cruz and Monterey Counties.[5] Farmlands dominate much of the inland areas, especially around Watsonville, Castroville, and Salinas. The main feature of the coastline is the Monterey Bay itself, which includes a submarine canyon leading seaward from Elkhorn Slough and the coast of Moss Landing. The Moss Landing power plant is the largest structure on the Bay, and the coastline features numerous important points of interest, roads, critical infrastructure, and research and educational facilities.

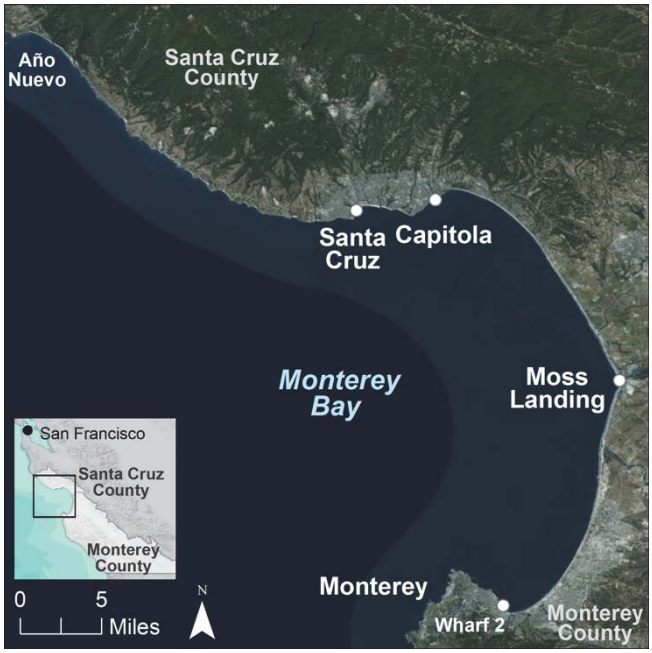

Fig. 2: Satellite image of Monterey Bay.

Several governmental agencies oversee the Monterey Bay coastline. For instance, the California Department of Parks and Recreation manages the state parks and reserves. The California Department of Transportation (CalTrans) oversees the coastal roadways, particularly the Pacific Coast Highway (Highway 1). The California Energy Commission regulates the Moss Landing power plant. The U.S. Fish and Wildlife Service governs the Salinas River National Wildlife Refuge. The National Oceanic and Atmospheric Administration (NOAA) administers the Elkhorn Slough National Estuarine Research Reserve (ESNERR) in partnership with the California Department of Fish and Wildlife. ESNERR and the non-profit Elkhorn Slough Foundation protect 5,500 acres of land, comprising property owned and managed by the reserve and property owned or managed by the foundation in the surrounding hillsides.[6] NOAA also administers the Monterey Bay National Marine Sanctuary and has jurisdiction over the marine mammals in the area. The most active land management agencies in the coastal zone include: the California Coastal Commission, which oversees land use and public access; the State Coastal Conservancy, which strives to protect or improve natural coastal ecosystems; and the State Lands Commission, which manages California's public trust lands.[7]

[5] The full project study area includes the Monterey Bay coast from Año Nuevo in Santa Cruz County to Municipal Wharf Two in the City of Monterey. Note that this study area does not include sections of Santa Cruz County north of Año Nuevo or sections of Monterey County west and south of Wharf 2. *See* Figure 2.

[6] ELKHORNSLOUGH.ORG, http://www.elkhornslough.org/conservation/what.htm (last visited Aug. 29, 2016).

[7] Public trust lands are held and managed by the state for the benefit of the public. In the coastal zone, public trust lands include all ungranted tide and submerged lands. The Coastal Commission also retains some oversight over the use of granted tide and submerged lands.

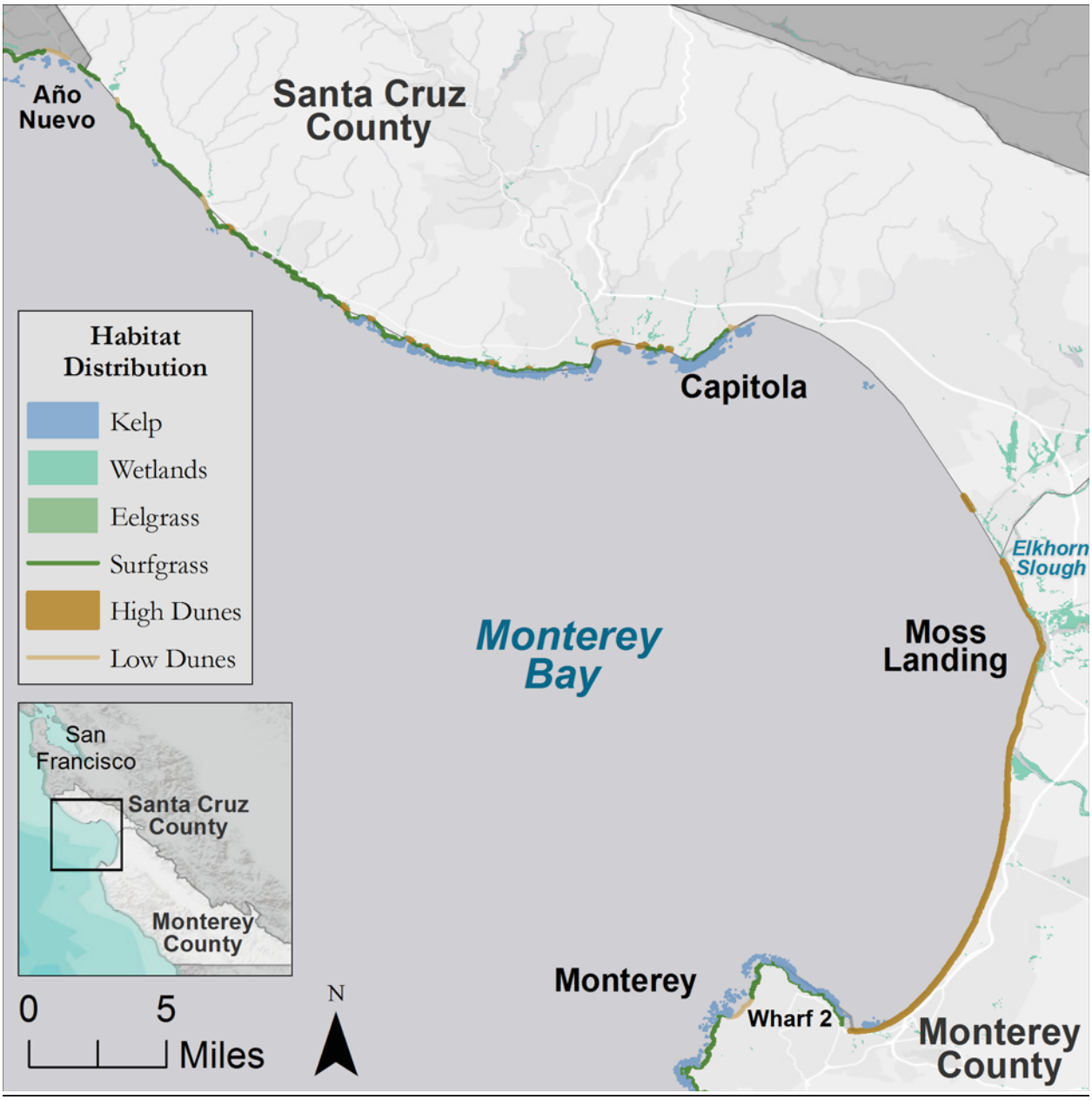

Fig. 3: Coastal habitats in Monterey Bay and surrounding area.

The Pacific coast of Santa Cruz and Monterey Counties has extensive natural habitats including some of the most imperiled habitats in the United States. Freshwater wetlands, coastal prairie and maritime chaparral, as well as kelp forests, estuarine wetlands, small and large beaches, and dunes are all present in the region.[8] The northern section of the study area (Año Nuevo to Capitola) includes a mostly rocky coastline fronted by seaweeds and surfgrass, backed by open agricultural lands. Occasional pocket beaches, typically fed by creeks, interrupt the bluffs and provide coastal access. Near the river mouths of the city of Santa Cruz, there is a greater concentration of small pocket beaches and wetland habitats than elsewhere in the area. The central section of the study

[8] *See* Figure 3.

area (Capitola to Moss Landing), is predominantly characterized by beaches and low dune systems backed by cliffs that decrease in size from north to south. The southern section of the study area (Moss Landing to Monterey) is dominated by large dune systems at the southern extent of the Santa Cruz littoral cell—the cycle of sediment sources and sinks from Pillar Point to the Monterey Canyon.[9] These habitats are all locally important and provides significant ecosystem services and benefits to certain communities.

Monterey Bay Protective Role of Habitats

Coastal habitats provide the ecosystem service of coastal protection for people, property and infrastructure by providing a natural buffer to mitigate erosion and inundation from ocean waves and storms. Our analysis focused on the direct effects of sea level rise on the risk of coastal communities to erosion and flooding. Our model results suggest that with rising sea levels the ability of dune systems to mitigate coastal exposure and keep this section of coastline in the low-moderate exposure range could be compromised.[10] Rising seas will likely impact the protective role of many beaches and dune habitat backed by coastal armoring that could result in the loss of existing beach area and the associated recreation and tourism income to coastal communities.[11] Overall, the loss of coastal dunes, wetlands, kelp forests and seagrass habitats would increase the exposure to erosion and flooding along the Monterey Bay study area. The extensive high dune systems throughout the southern section of Monterey Bay play a relatively high protective role compared to other natural habitats along the coastline. Storm surge is an important model factor from Marina to Monterey which alludes to the high role of coastal habitats in this area for protecting people and property along the coast. The coastal dune habitat in the Monterey Bay region suffers from high rates of erosion.[12] As a result, shoreline armoring has been used extensively along developed areas to address erosion and protect infrastructure and other areas of coastal development from waves, erosion and inundation. With increasing human pressure on these coastal ecosystems, there is a need to prioritize adaptation planning efforts in these important dune systems and other habitats that play significant roles in coastal protection.

Coastal wetlands along Monterey Bay stabilize shorelines and protect coastal communities by attenuating waves. Wetland habitat in the study area provides a relatively moderate role in mitigating erosion and inundation during storms. As sea levels rise, wetlands need to migrate to maintain their protective role. A recent study in Santa Cruz found that 17% of wetland habitat will be unable to migrate with sea level rise due to existing development.[13] The model does not predict migration or loss of habitat under the different sea level rise scenarios. Further research is needed to understand the extent to which habitats will be able to adapt to climate change effects.[14]

[9] U.S. ARMY CORPS OF ENGINEERS, COASTAL REGIONAL SEDIMENT MANAGEMENT PLAN FOR THE SANTA CRUZ LITTORAL CELL, PILLAR POINT TO MOSS LANDING (2015).
[10] *See* Figure 4.
[11] Philip G. King et al., THE ECONOMIC COSTS OF SEA-LEVEL RISE TO CALIFORNIA BEACH COMMUNITIES (2011).
[12] Gary Griggs & Rogers Johnson, *Coastline erosion: Santa Cruz County, California* 32 CALIFORNIA GEOLOGY 67 (1979); Edward Thornton et al., *Sand mining impacts on long-term dune erosion in southern Monterey Bay* 229 MARINE GEOLOGY 45 (2006).
[13] MATTHEW HEBERGER ET AL., THE IMPACTS OF SEA-LEVEL RISE ON THE CALIFORNIA COAST (2009).
[14] Langridge, *supra* note 2.

The southern coastline of Monterey Bay is exposed to high wave energy, which was a substantial driver of the high coastal exposure in this area. Surfgrass provides some wave attenuation for the adjacent shoreline but compared to other habitats in the study area, it plays a relatively low role in reducing overall exposure. Although kelp forest habitats along the broader Monterey Bay coastline also play a relatively low role in reducing exposure to coastal hazards compared to the coastal dune habitats, these habitats offer important co-benefits to California's people and the economy such as fisheries habitat and recreation.

Monterey Bay Ecosystem Services of Coastal Habitats

The Monterey Bay is nationally regarded as a culturally important marine habitat. This section of the coast includes six state marine protected areas as well as a national marine sanctuary.[15] Monterey Bay also supports a diverse ocean and coastal-based economy including agriculture, tourism, industry, aquaculture, fishing as well as a number of marine research and education institutions. Many tourists flock to the area for offshore whale watching, coastal birding, kayaking, surfing, boating, fishing, and beach-going. The diverse habitats noted below play an important role in preserving the open natural system of this region.

Creeks, Rivers, and Lagoons

Along the Northern coast of Monterey Bay there are numerous creeks and rivers reaching coastal lagoons and beaches along the Pacific shoreline. Several waterways also weave through the urbanized residential areas in Santa Cruz or Capitola, along with more rural neighborhoods such as in Aptos. These coastal waterways provide habitat for commercially important fish species (e.g., salmon and steelhead) during juvenile stages of their lifecycle. Many non-commercial fish and birds are also endemic to these creeks, while amphibians and reptiles use the damp banks for shelter and a source for food.[16] These riparian corridors and their lagoons provide aesthetic value and streamside recreation opportunities in the form of parks and trails, particularly in more urbanized neighborhoods. They also perform water filtration services, and nutrient cycling. When this habitat remains intact, it can aid in flood control and water storage during the wet season and major storm events.[17]

[15] The Marine Protected Areas include: Greyhound Rock and Elkhorn Slough State Marine Conservation Areas as well as Año Nuevo, Natural Bridges, Elkhorn Slough, and Moro Cojo State Marine Reserves.
[16] Mary E. Power et al., *Rivers*, *in* ECOSYSTEMS OF CALIFORNIA 713 (Harold Mooney & Erika Zavaleta eds., 2016).
[17] Walter G. Duffy et al., *Wetlands*, *in* ECOSYSTEMS OF CALIFORNIA 669 (Harold Mooney & Erika Zavaleta eds., 2016).

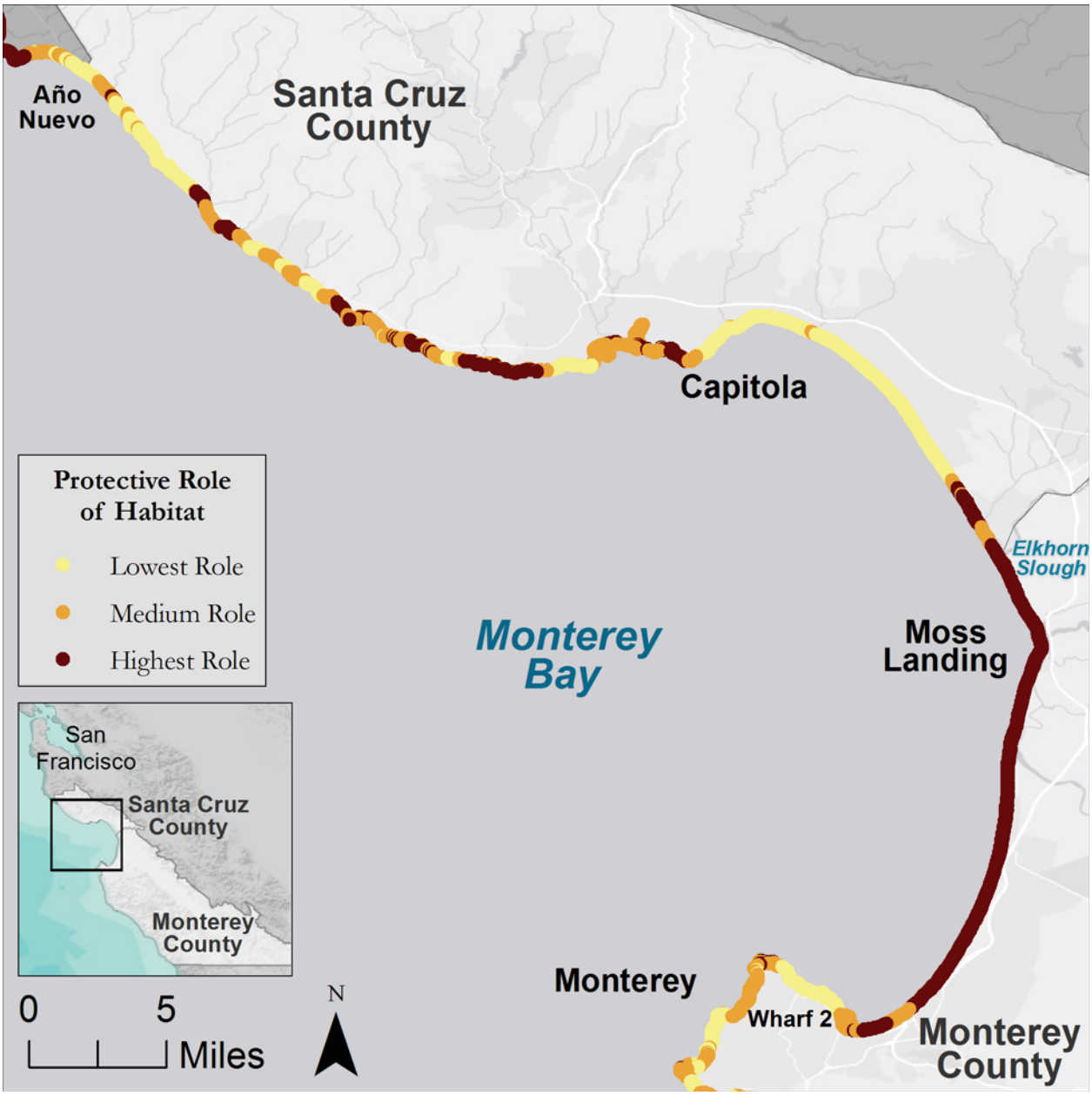

Fig. 4: Relative role of coastal habitats around Monterey Bay in reducing exposure to erosion and inundation.

Kelp Forests of Monterey Bay's Northern Coast

On the Northern end of the bay, near Año Nuevo, dense kelp forests grow from the sandstone and claystone reefs offshore. Kelp forests provide juvenile fish habitat and shelter them from predation. Kelp is also harvested at small scales to provide food for abalone aquaculture, particularly for abalone farms along the wharfs of Monterey.[18] Since no recreational or commercial fishing of any abalone species is allowed south of San Francisco, local aquaculture operations are the only source

[18] Mark H. Carr & Daniel C. Reed, *Shallow Rocky Reefs and Kelp Forests*, *in* ECOSYSTEMS OF CALIFORNIA 311 (Harold Mooney & Erika Zavaleta eds., 2016).

of Monterey Bay abalone for human consumption.[19] Forests of giant kelp (*Macrocystis pyrifera*) and bull kelp *(Nereocystis luetkeana*), nourished by cold, nutrient-rich waters, are highly productive and support a food web of hundreds of fish and invertebrate species along with a diverse assemblage of birds and marine mammals.[20] In addition, litter from broken kelp fronds washes up on local beaches as wrack and detritus, sustaining a separate food web of terrestrial insects and shorebirds.[21] Kelp require high light levels and cool water temperatures to grow. As such they are sensitive to excess sedimentation and nutrient overloads that stimulate growth of light-blocking organisms. Strong wave action from storms can rip out entire kelp patches and significantly damage the remaining fronds. Accordingly, shifts in ocean thermal regimes or winter storm patterns such as El Niño can pose threats to sustaining kelp habitats.[22]

Wetlands of Elkhorn Slough

At the heart of Monterey Bay is Elkhorn Slough, an estuarine system known for its biological significance. Its channels, mudflats, eelgrass beds, salt marshes, and hard substrates provide habitat for more than 100 fish, 265 bird, and 500 marine invertebrate species, and more than two dozen rare, threatened, or endangered species.[23] Elkhorn Slough also provides safe habitat for several species of marine mammals. Sheltered from larger marine predators, harbor seals and Southern sea otters use the Slough as a safe feeding and pupping ground. Because of its rich diversity of birds and mammals, Elkhorn Slough's sheltered waters are a popular location for kayaking, paddle boarding, and wildlife viewing. These wetlands contribute to flood control, water filtration, and nitrogen runoff control services.[24] Wetlands provide additional benefits as sinks for carbon through their vegetation growth and accumulation of slowly decomposing sediment.[25]

Coastal Dune and Beach Systems

Extensive coastal dune systems along the southern coast of Monterey Bay support important plant communities between mean high tide and the furthest reach of storm waves.[26] The Monterey Bay beaches and dunes are also a favorite for locals and tourists alike due to its pristine coastline and sandy shores along many coastal access sites. The beach and dune habitats in this region also

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[19] CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE, STATUS OF THE FISHERIES REPORT (2011).

[20] Yuri Springer et al., *Toward ecosystem-based management of marine macroalgae—the bull kelp, Nereocystis luetkeana* 48 OCEANOGR. MAR. BIOL. ANNUAL REVIEW 1 (2010); *see also* Carr & Reed, *supra* note 18.

[21] Jenny Dugan et al., *The response of macrofauna communities and shorebirds to macrophyte wrack subsidies on exposed sandy beaches of southern California* 58 ESTUARINE COASTAL AND SHELF SCIENCE 25 (2003).

[22] Yuri Springer et al., *Toward ecosystem-based management of marine macroalgae - the bull kelp, Nereocystis luetkeana* 48 OCEANOGRAPHY AND MARINE BIOLOGY: AN ANNUAL REVIEW 1 (2010); Paul Dayton & Mia Tegner, *Catastrophic Storms, El Niño, and Patch Stability in a Southern California Kelp Community* 224 SCIENCE 283 (1984).

[23] CHANGES IN A CALIFORNIA ESTUARY: A PROFILE OF ELKHORN SLOUGH 4 (Jane Caffrey et al. eds., 2002) (Elkhorn Slough's habitats include "the slough's channels, mudflats, eelgrass beds, salt marsh, and hard substrate; the adjacent harbor, coastal dunes, and open beaches; and the grasslands, oak, woodlands, chaparral, and other upland areas.").; Jessica Lyons, *Scientists and Activists Aim to Save Elkhorn Slough from Erosion and Development Before it is too Late*, MONTEREY CNTY. WEEKLY, Dec. 13, 2007, *available at* http://www.montereycountyweekly.com/news/cover/article_11c69d2e-dfd5-502d-92ca-bada34be8709.html.

[24] James E. Cloern et al., *Estuaries: Life on the Edge, in* ECOSYSTEMS OF CALIFORNIA 359 (Harold Mooney & Erika Zavaleta eds., 2016).

[25] John Callaway et al., *Carbon Sequestration and Sediment Accretion in San Francisco Bay Tidal Wetlands* 35 ESTUARIES AND COASTS 1163 (2012).

[26] Iris Hendriks et al., *Photosynthetic activity buffers ocean acidification in seagrass meadows* 11 BIOGEOSCIENCES 333 (2014).

provide numerous benefits to people and nature, such as critical shoreline bird habitat, mammal haul out locations, as well as coastal recreation and shoreline fishing spots.

General Policy Considerations

There are several general policy considerations that apply to the entire study area, regardless of the adaptation strategy implemented.[27] Most importantly, any climate adaptation strategies should conform to the various strictures of the Coastal Act, and take into account the Coastal Commission's sea level rise recommendations. Additionally, adaptation solutions should be place-based, designed with each specific location's characteristics and limitations in mind. Adaptation strategies should also incentivize proactive planning and limit subsidizing building in hazardous locations. Finally, the cultural significance of the study area should be considered. These considerations are investigated below.

The Coastal Act sets out various legal requirements with which all coastal adaptation policies must be consistent.[28] Likewise, the Commission's Sea Level Rise Guidance (Guidance) contains several persuasive and compelling recommendations. The Guidance recommends pursuing a suite of actions designed to protect in the short term, accommodate in the midterm, and promote retreat in the long term, instead of focusing on any one strategy type or time scales.[29] This hybrid approach permits flexibility and allows communities to tailor adaptation strategies to their unique circumstances. For instance, it would allow the use of protection, accommodation, and retreat strategies simultaneously—as needed and as appropriate—and would also allow these strategies to change over time.[30] Under such an approach, protection of existing structures is allowed but may be limited by certain factors, such as the economic life of a structure.

While a variety of coastal adaptation strategies for adjusting coastal land uses in response to climate impacts are possible in any given area, the appropriate adaptation measures for specific locations will depend on factors such as those locations' topographies and existing infrastructure. Accordingly, each location's unique characteristics should inform the adaptation strategies employed there. For example, the strategies suitable for the study area's open and undeveloped coastlines are likely unsuitable for the city of Santa Cruz and other highly developed areas. Furthermore, specific strategies should take into account predicted rates of local sea level rise and an area's vulnerability to storm events. Finally, existing regulations for each targeted location—such as local coastal programs, rules specific to the Monterey Bay National Marine Sanctuary[31] and any other applicable federal, state or local laws[32]—should be noted and followed.

[27] These considerations are in addition to the overarching policy consideration of this assessment: that nature-based solutions could be prioritized when possible to ensure maximum co-benefits and beneficial services associated with these strategies.

[28] *See, e.g.*, CAL. PUB. RES. CODE §30235.

[29] CALIFORNIA COASTAL COMMISSION, SEA LEVEL RISE ADOPTED POLICY GUIDANCE 125 (2015) *available at* http://www.coastal.ca.gov/climate/slrguidance.html.

[30] *Id.* at 122-23 ("In many cases, a hybrid approach that uses strategies from multiple categories will be necessary, and the suite of strategies chosen may need to change over time.").

[31] *See, e.g.*, 15 C.F.R. § 922.132 (listing prohibited or otherwise regulated activities in the MBNMS).

[32] For instance, the National Historic Preservation Act of 1966 would govern efforts to move or alter historic buildings on the National Register of Historic Places. 16 U.S.C. §§ 470 *et seq.*

Keeping these limitations in mind, communities should pursue strategies that internalize the risks associated with building and buying properties in hazardous locations and incentivize proactive planned retreat and relocation where appropriate. Proactive planning is especially important in areas with a large number of repetitive loss properties, such as Aptos.[33] Superstorm Sandy and other disasters have proven that making decisions early is less expensive, and potentially less devastating, than waiting until the effects of a disaster take hold.[34] One way governments could internalize the risks associated with building in hazardous locations would be to stop spending public funds to rebuild private structures on sites damaged by rising seas and storms. Another option to internalize these risks would be to amend existing flood insurance policies.[35]

The cultural significance of California's beaches and the Monterey area can also be considered. California's beaches are important to Californians and play a large part in the State's identity. Furthermore, Monterey, and its surrounding areas, are culturally important for many reasons. Coastal adaptation planning can take the area's rich heritage into account when considering which coastal adaptation strategies to pursue. Particularly, adaptation decisions should consider the potential social impacts of decisions affecting culturally and socially significant areas. Moreover, culturally important points of interest in the area should be preserved if possible. Accordingly, decisionmakers can consider the social impacts of any proposed adaptation actions when prioritizing coastal adaptation strategies.

[33] Particularly State Park Drive and Beach Drive in Aptos, CA. COUNTY OF SANTA CRUZ LOCAL HAZARD MITIGATION PLAN 2015-2020 64 (2015) *available at* http://www.sccoplanning.com/Portals/2/County/Planning/policy/2015%20LHMP%20Public%20Review%20Draft.pdf.

[34] *See, e.g.*, Anne R. Siders, *Anatomy of a Buyout—New York Post-Superstorm Sandy*, Vermont Law School 16th Annual Conference on Litigating Takings Challenges to Land Use and Environmental Regulations (Nov. 22, 2013) (explaining lessons learned in acquisition and buyout programs post-Sandy in New York).

[35] Such a change would need to come at the federal level through amendment to the National Flood Insurance Program. 42 U.S.C. § 4001.

Community-Level Study Areas

Capitola: Coastal Setting

Capitola was one of the earliest populated beaches on the west coast and hosts a highly developed coastline. Similar to the neighboring city of Santa Cruz, Capitola faces flooding, cliff erosion and episodic bluff failure during King Tides—highest annual tides—and ENSO storm events. Soquel Creek bisects Capitola, and its beach, and plays a large role in riverine inundation in the area. Riprap lines the beach and protects both the beach and development beyond it, such as a modest commercial area that is the economic center of the community.

Fig. 5: Satellite image of Capitola.

Capitola's unique characteristics inform the adaptation policies and strategies that might be prioritized in the area.[36] The coastal city of Capitola is dominated by steep cliffs, pocket beaches and low dune systems. Surfgrass beds line the shore and kelp forests populate nearshore reefs from the mouth of Soquel Creek westward toward the city of Santa Cruz. There are a number of low coastal terraces and cliffs that allow coastal access to these scattered beaches. Downtown Capitola and Capitola Beach are saddled between two steep coastal cliffs forming an economically important beachfront tourist destination and coastal recreation site for the community. Soquel Creek runs through downtown Capitola, housing a string of wetlands before flowing to the ocean through an ephemeral lagoon system.

Capitola: Protective Role of Habitats

The low dune and beach habitat in Capitola plays a relatively moderate role in reducing the exposure of Capitola Village and the mouth of Soquel Creek to erosion and inundation during storms compared to the lower protection provided by rest of the adjacent coastline.[37] Beach sands in front of the creek mouth buffer wave run-up and the reach of salt water upstream during storm surge. The main drivers of coastal exposure in the Capitola area are the low elevation and erodible geomorphology surrounding Soquel Creek. The presence of wetlands reduces wave heights along the overall Monterey Bay coastline as coastal wetland and creek vegetation serve as a shoreline buffer. However, model results suggest that Soquel Creek does not serve a strong role in protecting the Capitola shoreline in all locations or scenarios due to the low-lying elevation and coastal flooding during storm events. This phenomenon is not unique to Soquel Creek as large scale regional erosion and river outflow can often overwhelm the ability of vegetation to attenuate waves.[38] The Capitola area is less exposed to wind and waves compared to the broader Monterey Bay study region, yet the relatively greater distance from the continental shelf drives an increase in storm surge potential. Kelp forest habitats along the broader Capitola coastline play a relatively low protective role, based on the model ranking methodology, in reducing exposure compared to the coastal dune and wetland habitats in this area.

[36] *See* Figure 5.
[37] *See* Figure 6.
[38] Keryn Gedan et al., *The present and future role of coastal wetland vegetation in protecting shorelines: answering recent challenges to the paradigm* 106 CLIMATIC CHANGE 7 (2011).

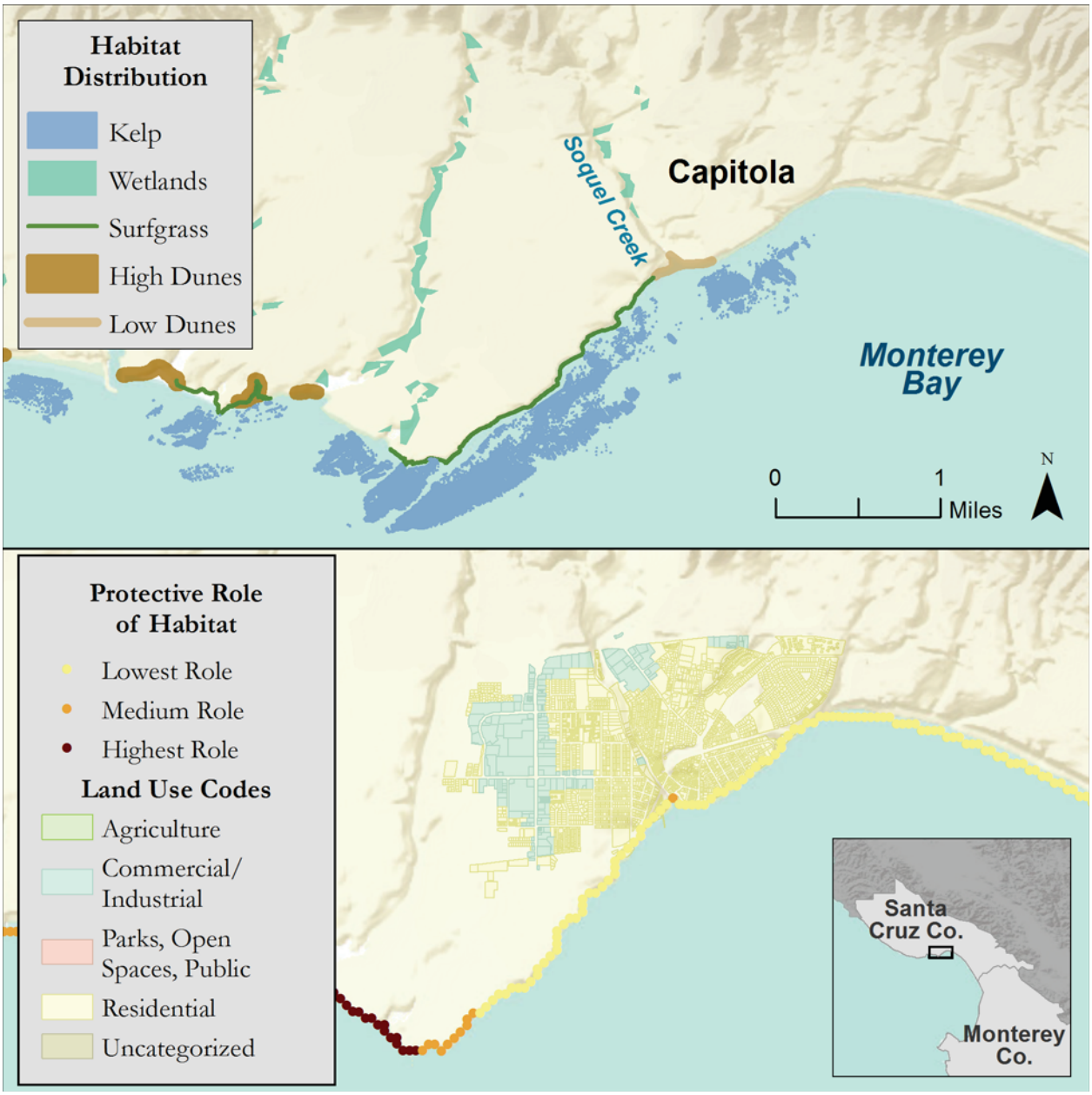

Fig. 6: Coastal habitats around Capitola, CA (Top). The relative role of coastal habitats along the shoreline of Capitola in reducing exposure to erosion and inundation with relevant land use zoning information (Bottom). Land use categories from the General Plan Land Use Codes were aggregated into four broad land use codes (see Bottom legend). Nearly all areas belonged distinctly to one category of land use. Only one land classification, Visitor Serving/L-M Density Residential, had uses from multiple categories, and it was categorized as Residential for this map.

Capitola: Ecosystem Services of Coastal Habitats

Wetlands in Riverine System

As Soquel Creek approaches the Pacific Ocean, the change in slope provides opportune locations for wetland habitats that slow the pace of the river and filter nutrients and pollutants, which leads to an improvement in water quality.[39] Closer to the coast, the river may transition into a lagoon

[39] Duffy et al., *supra* note 17.

system depending on the extent of the beach and low dune system at the mouth. Fish, small invertebrates and birds inhabit the lagoon as a feeding and breeding ground.[40] During strong rains, the lagoon typically breaches to create a direct opening to the ocean.[41] The distinction between this tidal versus lagoon interface plays a significant role in managing flood risks for the city of Capitola, particularly due to the many homes that line the creek and lagoon. While lagoon status influences the volume of tidal water that enters the creek system, intact wetlands can buffer surrounding areas against inundation. For instance, water is absorbed into soils instead of collecting on impermeable surfaces.[42]

Coastal Dune and Beach Systems

The beach and low dune habitat along the mouth of Soquel Creek provides the coastal community with recreation opportunities (e.g., surfing, fishing, kayaking, swimming, beach access). The Capitola Village and beach areas near the mouth of the creek draw over twenty percent of Santa Cruz County's tourism visitors annually.[43] The lagoon system at the mouth of Soquel Creek is actively managed by articifical breaching to release water as part of flood control and water quality maintainence. When open to the ocean, lagoons effectively function as small estuaries. Breaching alters the amount of tidal exchange, temperatures, salinity profiles and water flow for the lower portion of the creek. Depending on time of year and conditions surrounding the breaching event, the shift from closed to open system may influence patterns of species movement and habitat use.[44] Controlled breaching events are typically closely overseen by City Watershed Management monitoring teams, with crews on hand to keep threatened and endangered fish in their respective habitats with nets or transport upstream if needed.[45]

Kelp Forests and Surfgrass

Surfgrass and kelp forest habitats near the Capitola shoreline serve an important natural service by providing food and habitat for a suite of marine species that are also important to recreational fishing for residents and visitors. Kelp forests of the Monterey Bay support rockfish, urchins, crabs and many other commercially valuable species, while surfgrass acts as a nursery for juveniles of these adult kelp forest species.[46] Detritus from kelp forests washes out into open water and submarine canyons, providing subsidies of nutrients and food material to the Monterey Bay's deeper habitats.[47]

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[40] Cloern et al., *supra* note 24.
[41] *Id.*
[42] Walter Duffy and Sharon Kahara, *Wetland ecosystem services in California's Central Valley and implications for the Wetland Reserve Program* 21 ECOLOGICAL APPLICATIONS S18 (2011).
[43] LAUREN SCHLAU CONSULTING, SANTA CRUZ COUNTY VISITOR PROFILE (2010).
[44] Cloern et al., *supra* note 24.
[45] Jessica York, *Beach lagoon breached to alleviate flooding*, SANTA CRUZ SENTINEL, August 17, 2015, http://www.santacruzsentinel.com/article/NE/20150817/NEWS/150819676.
[46] Kevin Hovel, *Habitat fragmentation in marine landscapes: relative effects of habitat cover and configuration on juvenile crab survival in California and North Carolina seagrass beds* 110 BIOLOGICAL CONSERVATION 401 (2003); Carey J. Galst & Todd W. Anderson, *Fish-habitat associations and the role of disturbance in surfgrass beds* 365 MARINE ECOLOGY PROGRESS SERIES 177 (2008); *see also* Carr & Reed, *supra* note 18.
[47] Christopher Harrold et al., *Organic enrichment of submarine-canyon and continental-shelf macroalgal drift imported from nearshore kelp forests benthic communities by macroalgal drift imported from nearshore kelp forests* 43 LIMNOLOGY & OCEANOGRAPHY 669 (1998).

Both kelp forests and surfgrass beds also have potential to sequester some carbon dioxide from the atmosphere and surrounding water by incorporating carbon into their tissues. On a short-term scale, photosynthesis temporarily removes carbon dioxide from the water during the day, potentially reducing the impacts of ocean acidification.[48] Over time, marine sediments slowly bury and trap the plant matter—and therefore the carbon—for longer time scales.[49] As carbon sequestration markets develop, this ecosystem function could be of economic interest to the Capitola area from both a hazard and emission mitigation perspective.

Capitola: Adaptation Strategies & Considerations

Coastal Adaptation Options

Capitola's highly developed coastline limits the available coastal adaptation options. Due to high-density development and the prevalence of cliffs and bluffs, limited opportunities exist to apply nature-based strategies, with the exception of Capitola's beach—a possible candidate for beach nourishment. Beach nourishment could reinforce the beach and surrounding areas, slowing coastal erosion due to rising seas. This strategy would also buffer the upland structures—at least in the short term—from rising seas and storm events.

Other adaptation options would also be feasible in Capitola. A particularly useful and flexible option would be to develop sea level rise overlay zones for Capitola's vulnerable areas.[50] An overlay zone is a tool that groups certain properties together because of a feature they share, or because of some regulatory aim that a local government wishes to accomplish. An overlay zone would allow additional zoning regulations or building code restrictions to be established in the future for the properties in that zone, as deemed necessary. Establishing a sea level rise overlay zone would provide immediate notice to owners of homes and businesses that they are in an area that is vulnerable to rising sea levels.[51] This zone could be coterminous with, or go beyond, existing floodplain zones in the area.[52]

Overlay zones can also designate certain areas as protection, accommodation, or retreat zones and implement appropriate regulations for restricting future development and redevelopment in each zone. For instance, regulations might allow rebuilding of structures in an "accommodation zone," but only if they are raised or otherwise built to withstand rising seas. Likewise, a "retreat zone" might include setbacks and other redevelopment restrictions, such as requiring certain uses to end after a specific time period. Finally, a "protection zone" could allow protection strategies for properties that feature coastal dependent structures, such as harbors.

An overlay zone might also include additional strategies to promote responsible coastal adaptation. For instance, redevelopment in vulnerable areas could be limited through downzoning. This

[48] Hendriks, *supra* note 26; Lester Kwiatkowski et al., *Nighttime Dissolution in a Temperate Coastal Ocean Ecosystem Increases under Acidification* 6 SCIENTIFIC REPORTS 1 (2016).

[49] Elizabeth McLeod et al., *A blueprint for blue carbon: Toward an improved understanding of the role of vegetated coastal habitats in sequestering CO_2* 9 FRONTIERS IN ECOLOGY AND THE ENVIRONMENT 552.

[50] Capitola currently uses several overlay districts in its zoning classifications. *See, e.g.*, CAPITOLA CITY, CAL., MUNICIPAL CODE §17.20.010 (affordable housing overlay district).

[51] A building moratorium could be put in place while overlay zones are developed. The building moratorium could encompass all areas that might be included in these zones. *See* CAL. GOV. CODE § 65858 (outlining procedures for local governments adopting interim ordinances as urgency measures).

[52] CAPITOLA CITY, CAL., MUNICIPAL CODE §17.50.090.

strategy rezones land to less intensive uses. Currently, the properties at the greatest risk of flooding and rising seas in Capitola are those close to Soquel Creek. These properties are currently zoned for several different land uses and could be prioritized for efforts to downzone.[53] Downzoning would lead to nonconforming uses in the short term—i.e., uses not allowed under the new zoning ordinances, but nonetheless "grandfathered" in because they existed prior to the downzoning. Regulations can be framed to allow these nonconforming uses initially but require them to cease after some period of time.

To achieve these longer-term coastal adaptation strategies, Capitola could consider taking several proactive steps in the short term. For instance, retreat strategies require that uplands be identified and purchased to make space for relocated structures. Land banking properties now could satisfy this future need.[54] Since these lands might not be used for this purpose immediately, this strategy could proceed gradually through phased and voluntary purchases of suitable upland properties. If this strategy does not succeed, or if the timeline becomes more urgent due to rising seas, it could be accomplished through eminent domain.[55] Likewise, Capitola could use transfers of development rights (TDRs) (where landowners sell the rights to develop their property) of vulnerable properties to help facilitate retreat.[56] This strategy could monetarily incentivize coastal landowners to provide their properties for retreat, and it could keep undeveloped coastal land undeveloped.

Capitola's existing coastal protection structures might also be studied to determine their efficacy and need for replacement or removal. Capitola's large sandy beach currently relies on two rip-rap groins on its east end to accumulate sand. To facilitate managed retreat, some of the existing coastal protection structures might need to be phased out. Others might need to be replaced if they are deemed necessary to coastal protection and provided they fit within Capitola's overall coastal adaptation strategy now and in the projected future.

Barriers and Considerations

There are several considerations that should be taken into account when moving forward with any of these coastal adaptation strategies in Capitola. First, limited undeveloped land is available immediately upland of the vulnerable areas, limiting retreat options in the area. As a result, businesses and residences that relocate might have to be moved farther inland than would be necessary elsewhere on the coast. Furthermore, the vulnerability of properties on bluffs and cliffs are less predictable than those along the lower-lying coastline, making long-term planning in these areas more challenging.[57]

[53] *See* Figure 6.

[54] Land banking is the buying of land for some future use. Michael Allan Wolf, *Strategies for Making Sea-Level Rise Adaptation Tools "Takings-Proof"* 28 J. LAND USE & ENVTL. L. 157, 182 (2013).

[55] Eminent domain is the power of the government to take land for a public purpose. This power is limited by the U.S. Constitution and the California Constitution. U.S. CONST. AMEND. V; CAL. CONST. ART. I § 19.

[56] JESSICA GRANNIS, ADAPTATION TOOL KIT: SEA-LEVEL RISE AND COASTAL LAND USE 57-60 (2011).

[57] Cliffs and bluffs are more vulnerable to episodic erosion than beaches, which alternatively face constant erosive pressures. *See, e.g.*, episodic erosion events at Pacifica Lands End Apartments.

Takings concerns routinely arise when local governments undertake proactive planning for rising seas.[58] To avoid takings concerns, restrictions could be tailored to avoid depriving property owners of all economic value of their parcels.[59] Furthermore, restrictions could account for the economic lives of properties to avoid takings concerns, or could be grounded in avoiding and abating nuisances. Furthermore, any building moratoria could be tailored to be temporary.[60]

Third, regarding zoning classifications, any changes to the current classifications would likely include a grandfather provision allowing existing nonconforming uses to continue.[61] If grandfathering provisions are included in new ordinances, downzoning would only immediately affect undeveloped properties or properties whose uses have been abandoned. But, "grandfathered" provisions could be written to require landowners to comply with new zoning restrictions after a landowner renovates or rebuilds on his property, or when s/he changes the use.[62] Furthermore, as explained above, nonconforming uses could only be allowed for a certain period of time, after which they must cease.

Finally, cost and ecological drawbacks of proposed coastal adaptation strategies are necessary considerations when planning coastal adaptation strategies in Capitola. Cost is an important consideration because Capitola is highly developed and much of its vulnerable areas are in private ownership. Some parcels will be more expensive to buyout or pay just compensation for than others. Likewise, buyouts of private property might be less feasible than comparable options involving state or city lands. Property buyouts to facilitate relocation and to promote retreat face similar concerns. Likewise, cost versus long-term benefits of competing coastal adaptation options should be considered. Similarly, the ecological drawbacks of strategies such as beach nourishment should be weighed against their cost and their relatively short-term effectiveness.

[58] Governmental taking of private property for public good—as well as regulations that "go too far" and result in "regulatory takings"—are common themes and constant considerations that arise when considering coastal adaptation strategies that require retreat from increasingly dangerous coastlines due to rising seas. Penn Coal Co. v. Mahon, 260 U.S. 393 (1922).

[59] Lucas v. South Carolina Coastal Council, 505 U.S. 1003 (1992).

[60] Tahoe-Sierra Preservation Council, Inc. v. Tahoe Regional Planning Agency, 535 U.S. 302 (2002).

[61] *See, e.g.*, CAPITOLA MUNICIPAL CODE § 17.50.310 ("A structure which was lawful before enactment of this chapter, but which is not in conformity with the provisions of this chapter, may be continued as a nonconforming structure subject to the following condition: if any nonconforming structure is destroyed by flood, earthquake, tsunami or, for another cause to the extent of fifty percent or more of its fair market value immediately prior to the destruction, it shall not be reconstructed except in conformity with the provisions of this chapter.").

[62] Local governments may end nonconforming uses in a variety of ways. Declare nuisance, pay just compensation, or require use to stop after a date certain. CECILY TALBERT BARCLAY & MATTHEW S. GRAY, CALIFORNIA LAND USE & PLANNING LAW 60-61 (2016).

Moss Landing: Coastal Setting

Moss Landing's relatively undeveloped coastline, surrounded by large tracts of farmlands, provides more adaptation options than other more densely populated sections of the coast. The shores surrounding Moss Landing are lined with high dune and sandy beach habitats extending north to Rio Del Mar and south to the edges of the city of Monterey.[63] This area includes many state beaches as well as local beach access points. Sediment for these beaches originates from rivers draining into the Monterey Bay.[64] Just inland of Highway 1, Elkhorn Slough drains the seasonal creeks and rivers that supply water to the surrounding agricultural areas, creating a network of wetlands and estuaries of gradually changing salinity.[65] Within the estuary, eelgrass and salt marsh habitats are prevalent. Much of this area is part of the ESNERR or the California network of Marine Protected Areas. While agriculture often runs up to the boundaries of arable land, most public recreational access to the water is constrained to a few entry points in local parks or at the Moss Landing Harbor.

Fig. 7: Satellite image of Moss Landing.

Moss Landing is the center point of the Monterey Bay coastline and is adjacent to diverse natural systems, including extensive wetland habitats in nearby Elkhorn Slough, sand dunes along the open coast, and sandy beaches north and south of the harbor mouth. Along with this connection to multiple natural systems, Moss Landing is a primary commercial and party-boat fishing hub for the central California coast with landing locations for market squid, rockfish, crab, lingcod, groundfish and other fisheries. Moss Landing also functions as a key marine research center due to the confluence of ecosystems and direct access to the deep Monterey Submarine Canyon.[66]

Moss Landing: Protective Role of Habitats

The dune and beach systems starting just north of Moss Landing and continuing south to Monterey play a greater protective role relative to the full study area extent.[67] The orientation of the coastline in the Moss Landing study area, which directly faces predominant incoming waves, is a significant driver of exposure in this region. In addition, coastal geomorphology and low elevation contribute to high exposure index scores in this location, meaning that existing habitats are critical to countering this relatively high exposure to hazards. Model results indicate that the presence of wetlands can reduce wave heights and associated damages to property from storm events. Coastal wetlands are not as effective at reducing erosion in areas of high wave energy.[68] The Moss Landing coastline is a high wave energy environment and the wetlands in this area play a moderate role in reducing coastal exposure to erosion and inundation during storms compared to the large dune

[63] *See* Figure 7.
[64] *See* U.S. ARMY CORPS OF ENGINEERS, *supra* note 9.
[65] A key concern in this area is the historic changes in groundwater levels in the Pajaro and Salinas Valleys. These changes are further exacerbated by the effect of saltwater intrusion on highly productive agricultural lands as well as domestic potable water quality.
[66] Monterey Bay Aquarium Research Institute (MBARI) and Moss Landing Marine Labs (MLML) are two primary centers for marine research in the region.
[67] *See* Figure 7.
[68] Gedan, *supra* note 38.

systems. Loss of wetland habitat with rising seas will affect agriculture lands near Moss Landing. These wetland areas are highly exposed to waves mainly due to their large extent and proximity to the coastal zone.

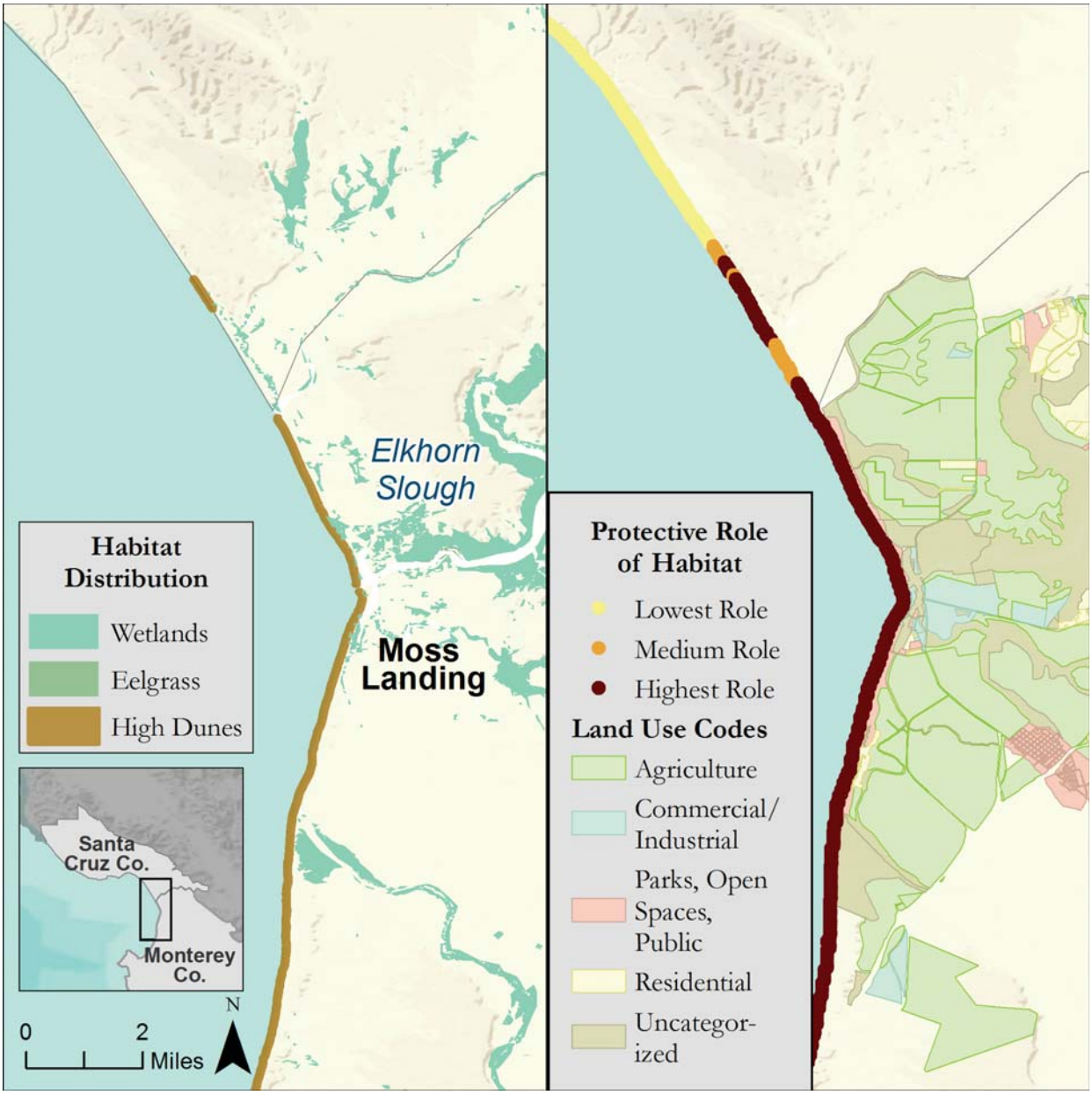

Fig. 7: Coastal habitats around Moss Landing, CA (Left). The relative role of coastal habitats near the mouth of Elkhorn Slough in reducing exposure to erosion and inundation with relevant land use zoning information (Right). Zoning information was distilled using the same methodology used for Capitola (Fig. 5).

Moss Landing: Ecosystem Services of Coastal Habitats

Coastal Dune and Beach Systems

The relatively dry areas on the high beach behind dunes are sheltered from wind and spray, serving as nesting grounds for endemic shorebirds and haul out spots for marine mammals. These beaches provide opportunities for coastal recreation, fishing, and wildlife viewing in the surrounding area in addition to their role protecting the coastline from high energy waves.

Elkhorn Slough

The estuarine system of Elkhorn Slough is the largest marsh habitat in California outside of San Francisco Bay and provides critical habitat for shorebirds and fishes. This area has also been home to a suite of competing human uses for more than 150 years (e.g., agriculture, cattle grazing, railroad and road construction, fishing, municipal energy production, marine research, tourism, recreation) that have led to the historical development of engineered structures (e.g., levees, embankments) and the construction of Moss Landing Harbor at the mouth of the estuary. These engineered structures have significantly influenced the structure and function of the estuarine system.[69] While the wetland systems in Elkhorn Slough are an ecologically and economically important feature of the area, they are also at risk due to a squeeze between rising sea levels and little room to migrate inland.[70]

Wetland habitats provide a number of key ecosystem services beyond coastal protection, including carbon sequestration, water quality improvement, flood abatement and biodiversity support.[71] The sheltered estuarine waters and seagrass meadows within the slough serve as a nursery for juveniles of commercially important fish species.[72] Elkhorn Slough is one of the few remaining freshwater and saltwater resting stops on the Pacific flyway. The slough is a critical habitat for migratory bird species and was designated a globally important bird area in 2000.[73] The banks of the Slough also serve as a major haul out area for marine mammals.

Additionally, wetland habitats store large amounts of carbon in their submerged soils when kept intact and have the potential to be used for carbon sequestration on the scale of decades or longer.[74] On a more immediate time scale, coastal vegetation helps buffer against ocean acidification by removing carbon dioxide from the water.[75] As larval fish and invertebrates experience more harmful effects from acidifying water conditions than adults, the wetlands and marshes of Elkhorn Slough may aid in protecting important species from harmful water chemistry in addition to protecting them from predators.[76]

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[69] Eric Van Dyke & Kerstin Wasson, *Historical Ecology of a Central California Estuary*: *150 Years of Habitat Change* 28 ESTUARIES 173, 179 (2005); *see also* CHANGES IN A CALIFORNIA ESTUARY: A PROFILE OF ELKHORN SLOUGH (Jane Caffrey et al. eds., 2002).

[70] Kerstin Wasson et al., *Ecotones as Indicators of Changing Environmental Conditions: Rapid Migration of Salt Marsh–Upland Boundaries* 36 ESTUARIES AND COASTS 654 (2013).

[71] WORLD RESOURCES INSTITUTE, ECOSYSTEMS AND HUMAN WELL-BEING: WETLANDS AND WATER SYNTHESIS (2005) (a report of the Millennium Ecosystem Assessment).

[72] Michael Beck et al., *The identification, conservation, and management of estuarine and marine nurseries for fish and invertebrates* 51 BIOSCIENCE 633 (2001).

[73] CHANGES IN A CALIFORNIA ESTUARY: A PROFILE OF ELKHORN SLOUGH, *supra* note 23.

[74] Cloern et al., *supra* note 24; McLeod, *supra* note 49.

[75] Hendriks, *supra* note 26.

[76] Haruko Kurihara, *Effects of CO2-driven ocean acidification on the early developmental stages of invertebrates* 373 MARINE ECOLOGY PROGRESS SERIES 275 (2008); Philip Munday et al., *Replenishment of fish populations is threatened*

Wetland habitats are threatened in the Elkhorn Slough area—and throughout the state—due to increased erosion from rising sea levels and land use development (agricultural, urban and/or rural). Fertilizer from agricultural runoff contributes to eutrophication and massive algal blooms that smother native flora, while urban pollutants may impair water quality.[77] Wetlands and coastal dunes that are exposed to coastal hazards could potentially migrate upslope given a path free of barriers from coastal development or shoreline hardening.

Moss Landing: Adaptation Strategies & Considerations

Coastal Adaptation Options

Moss Landing's coastline lends itself to several nature-based adaptation strategies. For instance, because the dunes in the area play a large role in protecting Moss Landing's coastline, adaptation strategies that protect, restore and enhance these areas could be targeted to maintain the integrity of the area. A dune restoration and enhancement project currently provides protection for MBARI. Additional suitable areas for dune restoration in Moss Landing could be identified and prioritized based on the protective role of specific dune habitats as well as factors specifically relevant to the local planning community. Beach nourishment might also be used to stem beach loss and to buffer these important dunes from erosion. Wetland restoration is another nature-based solution possible for Moss Landing. Wetland restoration in the area would carry various possible co-benefits including: sequestration of carbon dioxide, maintaining these areas as corridors for gradual coastline retreat and providing protection against storm surges.

Other nature-based options might be suitable here as well. Conservation easements could be implemented in some of these areas, particularly those most vulnerable to rising seas. This strategy involves either paying a landowner not to develop vulnerable land, or the landowner agreeing to do so without compensation, or in exchange for some other incentive, such as a tax break. This strategy would ensure that undeveloped lands stay undeveloped, and it could help transition currently developed but threatened lands to undeveloped lands. Rolling easements are another attractive but controversial option.[78] These can be used to allow the sea to migrate inland while slowly requiring the removal of structures within some distance of the approaching sea.[79]

In addition to the nature-based options outlined above, Moss Landing's coastline might also be suitable for other coastal adaptation strategies. For instance, accommodation and armoring might be appropriate for Moss Landing because it features a number of coastal dependent structures, such as the Monterey Bay Aquarium Research Institute, the Moss Landing Marine Laboratories, the Moss Landing power plant, and various boating and fishing facilities. Any of these structures might be protected or raised, depending on building design and construction, the anticipated

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by ocean acidification 107 PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCE OF THE UNITED STATES OF AMERICA 12930 (2010).

[77] Brent Hughes et al., *Recovery of a top predator mediates negative eutrophic effects on seagrass* 111 PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES 36444 (2014).

[78] *See generally* Meg Caldwell & Craig Holt Segall, *No Day at the Beach: Sea Level Rise, Ecosystem Loss, and Public Access Along the California Coast*, 34 ECOLOGY L.Q. 533, 535 (2007) (explaining that a rolling easement is "a device, rooted in statutory or common law or in permit conditions, that allows the publicly owned tidelands to migrate inland as the sea rises, thereby preserving ecosystem structure and function.").

[79] JAMES G. TITUS, ROLLING EASEMENTS (2011) *available at* https://www.epa.gov/sites/production/files/documents/rollingeasementsprimer.pdf.

building life cycle, end of use, and planned deconstruction. Furthermore, because of the various coastal-dependent buildings in the area, moveable structures could be installed and moved as needed in order to keep these structures on the coast as needed.

Other options can be pursued for undeveloped parcels in the area and existing structures that are not coastal dependent. Highway 1 could be moved inland or raised.[80] As was discussed for Capitola, an overlay zone could provide notice to the owners of vulnerable properties and restrict building and redevelopment in the area, as deemed appropriate. Furthermore, a moratorium on development could be imposed for some certain time period, while proactive coastal planning is pursued.

Moss Landing has a large amount of surrounding undeveloped and agricultural land.[81] Accordingly, some of these open spaces may be appropriate, stable sites for managed retreat of buildings in the area. Buyouts might be necessary in certain areas where planning is not able to sufficiently address increasingly rising seas.[82] Transfers of development rights might also be appropriate in certain similar circumstances.[83]

Barriers and Considerations

This area of the coastline is dominated by water, protected areas and sensitive ecosystems. The abundance of seawater and wetland areas might pose challenges for coastal adaptation for several reasons. For instance, the abundance of inland waterways and wetlands means that there is not much land immediately upland to move vulnerable buildings via managed retreat. Additionally, while this area features many coastal dependent facilities that might be protected or raised, there are drawbacks to pursuing these strategies. For instance, raising structures might bring additional regulatory requirements, such as those imposed by the Americans with Disabilities Act.[84]

Developing coastal adaptation strategies for coastal dependent structures carries with it its own set of unique challenges. Coastal dependent structures are prioritized for coastal land use under the Coastal Act.[85] Coastal dependent structures are not a high priority to move upland because of their dependence on water, but they need to be protected from rising seas nonetheless. Leaving these coastal dependent assets where they are makes them more susceptible to massive storm events than slowly rising seas. However, protecting these structures by armoring with seawalls would exacerbate erosion around these protective structures. If these coastal dependent structures are armored in the short term, long-term plans should be made to remove the armoring and move the structures.

Moving or raising Highway 1 presents issues as well. While raising Highway 1 in place is a possible short-term solution, Highway 1 may eventually need to be moved inland due to rising seas and repeated storm events. Moving Highway 1 immediately landward of its current location also presents drawbacks. Inland relocation would put it right in the middle of protected areas such

[80] The issues with this proposition are discussed *infra* in the Barriers and Considerations section.
[81] *See* Figure 7.
[82] *See, e.g.*, New York's Recreate NY Smart Home Buyout Program.
[83] *See, e.g.*, Penn Central Transportation Co. v. New York City, 438 U.S. 104 (1978).
[84] 42 U.S.C. §§12101-12213.
[85] CAL. PUB. RES. CODE §§ 30235 & 30255.

as Elkhorn Slough[86] and could restrict coastal access.[87] Moving Highway 1 would also require CalTrans to exercise its eminent domain authority, which can be controversial. Finally, moving Highway 1 to upland areas, such as those currently used for agriculture, will introduce additional complexities because of how these lands are currently prioritized in the current LCP.[88]

Managed retreat faces several challenges in this area. While Moss Landing is surrounded by open area, much of the region comprises wetlands or otherwise sensitive or protected areas. For instance, the area features Elkhorn Slough State Marine Conservation Area, Elkhorn Slough State Marine Reserve, Moro Cojo Slough State Marine Reserve, Moss Landing State Beach, and the Moss Landing Wildlife Area. The abundance of state lands and conservation lands creates challenges for managed retreat. On the other hand, public and open spaces might be well-suited for conservation easements such that they are set aside to become inundated and form new wetland and marsh areas. Section 30240 of the Coastal Act protects environmentally sensitive habitat areas (ESHAs), and further complicates using any of the areas surrounding these protected areas in Moss Landing for managed retreat.[89]

Another issue is possible challenges to zoning changes in the area. Property owners affected by new regulations sometimes claim that these regulations impermissibly "take" their property without just compensation. As was the case for Capitola, local governments should be weary of enacting regulations that possibly deprive property of all of its economic value and of instituting moratoria that do not specify end dates.

Summary

Communities in the Monterey Bay region, like many areas of California and the nation, are actively planning for a changing climate. Rising sea levels and increasingly damaging storm events are expected to cause increased erosion and inundation, which will further threaten people, property, infrastructure and coastal habitats. If these habitats are lost, degraded or unable to adapt by migrating inland, then local communities also lose the beneficial services they provide, including carbon sequestration, improving water quality, buffering ocean chemistry, providing nursery or nesting grounds, and protecting from erosion and inundation.

Proactive adaptation planning that takes into account the role of coastal habitats—coupled with advanced construction designs and technologies—and policy pathways for implementation, will allow local communities to proceed from planning to implementation more effectively. Ultimately, this approach—in concert with similar coastal adaptation decisions throughout California—can lead to coastal management processes that are consistent for statewide needs and flexible for local needs while ensuring a vibrant coastline for future generations.

[86] *See* list of protected areas in region *supra* note 15.
[87] The Coastal Act seeks to protect and maximize public coastal access. CAL PUB. RES. CODE. § 30211.
[88] MONTEREY COUNTY, NORTH COUNTY LAND USE PLAN 45-49 (1982).
[89] CAL. PUB. RES. CODE § 30240.

Habitat Type	Relative Protective Role*	Protective Attributes	Additional Ecosystem Services	Management Options
Kelp Forests	Relatively Low Role	Kelp forests attenuate low-energy wave action and have a dimished protective role as wave power increases.	Habitat for commercially viable fish and invertebrate species	Maintain healthy water conditions for kelp growth and reproduction.
			Vegetation harvested for commercial abalone aquaculture	
			Nutrient and vegetation export to local beach ecosystems	
			Integral ecosystem for culturally important species	
Wetlands	Relatively Moderate Role	Wetland ecosystems absorb water to reduce inundation and also serve to dissipate wave energy.	Flood control from inland inundation	Consider conservation of key areas of vegetation and soils before allowing development.
			Nutrient and sediment retention for improved water quality	
			Habitat for diverse species including marine mammals	Provide space for habitat to migrate inland as sea level rises.
			Carbon sequestration	
Seagrass	Relatively Low Role	Eelgrass beds attenuate low-energy waves which help decrease erosion of loose soils.	Wave attenuation	Provide space for habitat to migrate inland as sea level rises.
			pH buffer	Conserve existing habitat and restore damaged submerged aquatic vegetation.
			Nursery and essential habitat for fish and invertebrate species	
			Carbon sequestration	Maintain healthy water conditions and limit habitat degradation.
High Dune Systems**	Relatively High Role	Large dune systems dissipate high-energy waves and resist runup from powerful storms.	Cultural and aesthetic attachment	Maintain dune structure and vegetation.
			Location for recreation	
			Habitat for important bird and plant species	Regulate and/or limit dune sediment extraction.
Low Dunes & Beaches**	Relatively Moderate to High Role	Low dune systems and beaches dissipate low and moderate energy waves.	Habitat for important bird and plant species	Limit the implementation of built structures that impede migration of beach systems.
			Location for recreation	
			Cultural and aesthetic attachment	Maintain beach structure and access to continued sediment supply.

Table 1: Compilation of Ecosystem Services

*Protective role is based on model outputs created for and relative to the full study area (Año Nuevo to Wharf 2).

**Dunes were classified as “high dune” if their crest was higher than five meters. High dunes are less likely to lead to overwash and inundation from coastal storms.

Adaptation Strategy	Definition*	Example**	Potential Applications	Role of Natural System
Protection: *Hold the Line*	Employ built measure to defend development in current location	Wetland Restoration	Elkhorn Slough; northern section of Moss Landing Harbor; potentially in creeks near Capitola	Enhances extent of ecologically important natural areas
		Dune Restoration	North and south of Moss Landing on outer coast; southern Monterey Bay	Enhances extent of ecologically important natural areas
		Beach Nourishment	Soquel Creek Lagoon; outer coast of Moss Landing	Adds to natural system; requires thorough environmental monitoring
		Hard Protection	Near coastal-dependant or critical infrastructure such as power plant or critical transportation routes	Often limits natural habitat migration and increases erosion at edges of armoring
Accommodation: *Adjust to the line*	Modify existing or new development to decrease hazard risks	Overlay Zones	Existing flood zones or areas expected to be impacted by rising sea levels	N/A
		Limit Redevelopment	Locations that encounter repetitive loss or in (newly delineated) sea level rise overlay zones	May facilitate migration of natural systems or allow them to reestablish themselves
		Mobile Structures	Structures that are location dependent yet also encounter large episodic flood events	N/A
		Conservation Easement	Open and undeveloped areas in existing flood plain and areas adjacent to flood plains	Keeps natural system intact
Retreat: *Get away from the line*	Relocate existing development out of hazard areas and/or limit construction of new development in vulnerable areas	Planned Retreat	Highly vulnerable areas or locations with suitable upland areas available nearby	Removes structures allowing corridor for habitats to naturally migrate inland
		Buyout Programs	Lands suitable for becoming open areas	Can help promote natural system to replace previously developed area
Hybrid: *Maintain a flexible line*	Using strategies from multiple categories that may need to change over time	Accommodate over short term; relocate over long term	Hybrid adaptation options could be designed with enough flexibility to be applied across many different areas as needed	Provides pathway for taking actions that allow habitat to migrate and may provide opportunities for nature-based solutions
		Update land use designations and zoning ordinances		
		Redevelopment restrictions		
		Permit conditions		

Table 2: Compilation of Adaptation Strategies

* Definitions of adaptation strategies are distilled explanations derived from chapter seven of the California Coastal Commission's Sea Level Rise Guidance (Guidance).

** Many examples are summarized descriptions from figure 17 of the Guidance.

Analysis, Methodology, and Assumptions

This assessment involved a combination of ecosystem service modeling and adaptation policy research in an effort to identify and map priority locations for nature-based strategies that reduce vulnerability of critical assets using feasible land use policy methods.

To map and value the goods and services from natural habitats, we used the InVEST (Integrated Valuation of Environmental Services and Tradeoffs) free and open-source suite of software models created by the Natural Capital Project at Stanford University. The InVEST Coastal Vulnerability model incorporates a scenario-based approach to evaluate the role of natural habitats in reducing exposure to coastal impacts. [90] The InVEST Coastal Vulnerability model produces a qualitative estimate of coastal exposure. The Exposure Index differentiates areas with relatively high or low exposure to erosion and inundation during storms.

Data inputs included: 1) **Geomorphology**: Polyline representing coastal geomorphology based on the National Oceanic and Atmospheric Administration (NOAA) Environmental Sensitivity Index; 2) **Coastal habitat**: Polygons representing the location of natural habitats (e.g., seagrass, kelp, wetlands, etc.) from the Department of Fish and Wildlife website created for Marine Life Protection Act process; 3) **Wind and wave exposure**: Point shapefile containing values of observed storm wind speed and wave power across an area of interest using Wave Watch III data provided by NOAA; 4) **Surge potential**: Depth contour that can be used as an indicator for surge level default contour is the edge of the continental shelf. In general, the longer the distance between the coastline and the edge of the continental shelf at a given area during a given storm, the higher the storm surge; 5) **Relief**: A digital elevation model (DEM) representing the topography and (optionally) the bathymetry of the coastal area—this analysis includes a five meter bathymetric and topographic merge from US Geologic Survey for the California coast; 6) **Sea-level rise**: Rates of (projected) net sea-level change derived from the National Research Council 2012 report (highest range for 2030: 12" of sea level change);[91] 7) **Hard Armoring**: Data set inventory of man-made structures and natural coastal barriers that have the potential to retain sandy beach area in California. This armoring dataset is a compilation of the UC Santa Cruz Sand Retention Structures, Monterey County Barriers, and US Army Corps of Engineers Coastal Structures.

One main limitation with this modeling approach is that the dynamic interactions of complex coastal processes occurring in a region are overly simplified into the geometric mean of seven variables and exposure categories. InVEST does not model storm surge or wave field in nearshore regions. More importantly, the model does not take into account the amount and quality of habitats, and it does not quantify the role of habitats for reducing coastal hazards. Also, the model does not consider any hydrodynamic or sediment transport processes: it has been assumed that regions that belong to the same broad geomorphic exposure class behave in a similar way. In addition, using this model we assume that natural habitats provide protection to regions that are protected against erosion independent of their geomorphology classification (e.g., rocky cliffs). This limitation artificially deflates the relative vulnerability of these regions, and inflates the relative vulnerability

[90] INTEGRATED VALUATION OF ECOSYSTEM SERVICES AND TRADEOFFS, http://www.naturalcapitalproject.org/models/coastal_vulnerability.html (last visited Aug. 30, 2016).

[91] NATIONAL RESEARCH COUNCIL (NRC) COMMITTEE ON SEA LEVEL RISE IN CALIFORNIA, OREGON, AND WASHINGTON, SEA-LEVEL RISE FOR THE COASTS OF CALIFORNIA, OREGON, AND WASHINGTON: PAST, PRESENT, AND FUTURE (2012).

of regions that have a high geomorphic index. Based on these limitations and assumptions, the InVEST Coastal Vulnerability tool is an informative approach to investigate *relative exposure* for a coastline and identify locations where coastal habitats play a relatively significant role in reducing exposure. However, for local scale decisions regarding locally specific geomorphic conditions, further analysis is needed (e.g., the InVEST Nearshore Wave and Erosion model).

Results can help evaluate tradeoffs between climate adaptation strategy approaches. In this assessment, we compared the InVEST Exposure Index results both with and without the protective services provided by natural habitats. This approach (computing the difference between exposure indices) provides a priority index for locations in which coastal habitats play the largest relative role in reducing exposure to erosion and inundation. These locations can then be further investigated for nature-based strategies to reduce vulnerability.

We began our policy research by exploring academic and practitioner guidance on potentially appropriate coastal adaptation strategies for sea-level rise. We reviewed a number of guidance documents that outline land use planning and regulatory options that should be considered in coastal areas. Next, we identified how priority or high-risk locations align with various land-use or zoning designations in Monterey and Santa Cruz Counties using land use zoning layers provided by Monterey and Santa Cruz Counties as well as from planning staff from the City of Capitola. The zoning designations and population density in the various high-risk areas guided our determination of the strategies most feasible in each location. For example, high-density zoning designations—in most cases—reduce the feasibility of habitat restoration or retreat options. We also researched relevant state- and county-level laws and policies on acceptable strategies for near- and long-term adaptation to rising sea levels. We identified the limitations these policies place on adaptation options in the Monterey Bay Region and explored potential changes to the existing policies that may increase adaptive capacity. Ultimately, these prioritized policy considerations may be relevant to both Santa Cruz and Monterey Counties—as well as local jurisdictions—through the development of the Local Coastal Program update process.

In addition to this specific engagement in the Monterey Bay Region, the Center for Ocean Solutions is also involved in Local Coastal Program updates throughout the state. The Center is playing a key role in compiling, distilling, and distributing information on incremental adaptation actions with current county partners (i.e., Sonoma, Marin, Santa Cruz, and Monterey Counties) as well as with the State Coastal Conservancy and California Coastal Commission through the development of the California Coastal Adaptation Network. By developing a transferable methodology that incorporates the role of natural capital into county-level coastal adaptation planning, the Center for Ocean Solutions is scaling these best practices to a statewide prioritization of adaptation strategies that preserve the integrity of natural systems. The Center's work advances the state's efforts for flexible consistency in accordance with the California Coastal Commission's Sea Level Rise Policy Guidance.

Appendix B.

Climate Change Impacts to Combined Fluvial and Coastal Hazards (ESA, 2016)

MONTEREY BAY SEA LEVEL RISE

Climate Change Impacts to Combined Fluvial and Coastal Hazards

Prepared for
Moss Landing Marine Labs with Funding from the
California Ocean Protection Council

May 13, 2016

ESA

MONTEREY BAY SEA LEVEL RISE

Climate Change Impacts to Combined Fluvial and Coastal Hazards

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May 13, 2016

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1 INTRODUCTION

As part of the Sea Level Rise study for the Monterey County Local Coastal Program (LCP) ESA simulated and mapped the potential inundation from extreme coastal and fluvial conditions for multiple scenarios of future climate conditions. Two fluvial systems were analyzed for this effort (1) the Reclamation Ditch watershed which includes Gabilan Creek and Tembladero Slough the and drains to the Moss Landing Harbor, and (2) Soquel Creek which runs through the City of Capitola in Santa Cruz County. The Reclamation Ditch watershed is mostly agricultural while the lower reaches on Soquel Creek are mostly urbanized. These two systems were selected to enable risk assessment for a range of natural and manmade resources.

Climate data analysis was conducted to evaluate future extreme rainfall-runoff events and extreme coastal tide and wave events. For the rainfall-runoff and fluvial climate change analysis ESA used public climate model data to develop medium and high estimates of 100-year discharge for 2030, 2060, and 2100 time periods. ESA also developed estimates of extreme tide conditions with sea level rise for medium and high climate change scenarios for the three future periods. The flood levels and extents were then estimated for these scenarios using hydraulic modeling driven by combined watershed and coastal water level conditions under climate stress.

The study developed geospatial datasets for the extent and depth of inundation under flooding for existing conditions and future climate scenarios. The key products and findings for this study include:

- **Key products developed**
    - GIS layers of flood inundation extent for the Moss Landing Harbor and surrounding areas, and Soquel Creek in Capitola, for six scenarios (1) existing conditions 100-year flood, (2) future conditions 100-year flood under high emissions for 2030, (3 and 4) medium and high emissions for 2060, and (5 and 6) medium and high emissions for 2100.
    - GIS depth rasters for both systems and the six scenarios listed above.
    - Amendments to previously developed coastal flooding layers based on newly surveyed structural information in flooded areas in Monterey Bay.
    - Technical metadata and reporting contained herein
- **Key analysis findings**
    - Analysis of existing hydrologic climate data indicates an increase in peak flow for the 100-year discharge of 337 cfs (25%) for high emissions by 2100 on the Reclamation

Ditch system and by 1660 cfs (95%) for Soquel Creek for the same emissions and time horizon scenario.

- Analysis of existing sea level rise trends and anticipated coastal flood levels indicate an increase in downstream water level of 5.2 ft for high emissions by 2100.

- As anticipated the increase in rainfall intensity and 100-year discharge combined with the increase in sea level under climate change increases flood extent on both systems. In comparing the 100-year event under existing conditions with the year 2100 high-emissions scenario, the increase in flood extent for the Reclamation Ditch system is approximately 1736 acres (95%) and the change in flood depth is approximately 2.6 feet (36%). The same comparison for Soquel Creek, which is more topographically constrained, shows a total increase in flood extent of 65 acres (65%) and an increase in flood depth of 3.01 feet (29%).

The following four report sections lay out the technical analysis methodologies, flood hazard mapping results, and applications for the resulting information in planning and adaptation assessments. Specifically Section 2 describes the climate analysis conducted to develop boundary conditions for the hydraulic model for several scenarios representing change in 100-year discharge due to increased precipitation intensity and depth with climate change and the change in extreme ocean level coincident with the 100-year flow. Section 3 describes the model development process for both the Reclamation Ditch and Soquel Creek systems. Section 4 summarizes the flood hazard mapping analysis conducted to develop the geospatial datasets of flood hazard for the climate scenarios analyzed. Section 5 summarizes the applicability of the datasets to planning and adaptation efforts for the communities that may be at risk of additional flooding under stress by climate change.

2 CLIMATE ANALYSIS

2.1 Emissions Scenarios

The goal of the climate change data analysis was to review existing climate model data to estimate changes in extreme rainfall, coastal water level, and the resulting extent of flood hazards. The changes in extreme rainfall conditions were used to drive the inflow boundary for the hydraulic models of the two systems. Climate model data were evaluated for the latest set of General Circulation Models (GCMs) developed for the IPCC's fifth Assessment Report (AR5). The GCM data produced for AR5 has been aggregated by the World Climate Research Programme under the Coupled Model Intercomparison Project Phase 5 (CMIP5). The emissions scenarios used to drive the GCMs for CMIP5 are referred to as Representative Concentration Pathways (RCPs). The highest scenario, RCP 8.5, reflects a track with little mitigative measures to reduce greenhouse gas emissions resulting in a net increase in radiative forcing of 8.5 W/m^2 by 2100 relative to pre-industrial conditions. A medium level emissions scenario, RCP 4.5, reflects a future wherein changes in technology and energy usage stabilize the increase in net radiative forcing to 4.5 W/m^2 by 2100. These emissions scenarios, RCP 4.5 and RCP 8.5, were used to reflect respectively medium and high emissions trajectories for this study. Existing conditions was also modeled which is representative of a low emissions scenario thus the scenarios selected effectively span low, medium, and high climate change conditions.

These emissions scenarios supersede the scenarios developed in the Special Report on Emissions Scenario (SRES) utilized for the IPCC's fourth Assessment Report (AR4) and used to drive GCMs for CMIP Phase 3 (CMIP3). In general, the RCP4.5 emissions scenario tracks closely with the prior SRES B1 scenario, while RCP8.5 tracks slightly above SRES A2. The following figure (Figure 1) compares the change in mean surface temperature for the SRES and RCP emissions scenarios.

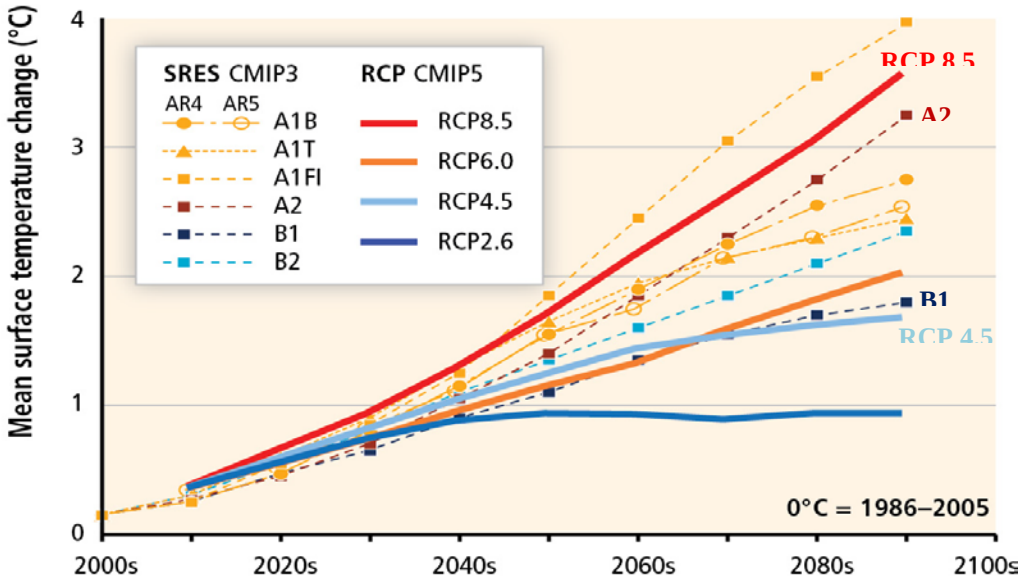

Figure 1. Comparison between SRES and RCP emissions scenarios. Reproduced from Figure 1-4 of IPCC AR5, WGII, Chapter 1

2.2 Extreme Fluvial Streamflow Analysis

Model output from GCMs driven by the RCP emissions scenarios was downscaled by CMIP5 institutions to regionalize the data from a global scale to higher resolution local scale. The downscaled data were then used to drive hydrologic models and estimate runoff for a daily timestep on a 12km x 12km grid from 1950-2100 in a study conducted by the USBR (2014). ESA used the resulting data from the USBR study to route baseflow and surface runoff and generate a time series of daily streamflow at the outlet of the two systems. The routing routine used is a component of the Variable Infiltration Capacity (VIC) model used in the USBR study to develop the runoff datasets.

The resulting daily streamflow time series from 1950-2100 was used to conduct flood frequency analysis to estimate 100-year discharge (Q_{100}) for medium and high emissions for 2030, 2060, and 2100. From the daily time series, peak annual flows were extracted for each year from 1950- 2100. A frequency curve was then fit to subsets of the peak annual flows using the Log Pearson III (LP-III) fitting method outlined in the USGSs Bulletin 17b (USGS, 1982). The USGS conducted a 2011 study updating many of the elements of Bulletin 17b based on updated gage records through water year 2006 for California gages (USGS, 2011). Two significant elements that were updated were the methods for estimating values for generalized skew (G_{gen}) and mean square error for generalized skew (MSE-G_{gen}) based on the average elevation of the basin. The average elevation of the basin is 479 feet for the Reclamation Ditch system and 1,141 feet for Soquel Creek. Based on the non-linear model for G_{gen} and the relationship between MSE-G_{gen} and average basin elevation summarized in USGS, 2011 Tables 7 and 8 respectively, the values estimated for G_{gen} and MSE-G_{gen} for the Reclamation Ditch watershed are -0.613 and 0.14, respectively, and -0.581 and 0.14 respectively for Soquel Creek.

Using these updated values in the LP-III method, we computed 100-year discharge for each GCM and each emissions scenario for an historical period, and three future time periods—2030, 2060 and 2100. A sample figure for the flood frequency curve for the historic time period for a single GCM for RCP4.5 is shown in Figure 2. Subsets of the data were selected for the time periods as summarized in Table 1.

TABLE 1
SUBSETS FOR TIME PERIODS USED IN FLOOD FREQUENCY ANALYSIS

Time period	Years for which peak annual flow was used in flood frequency analysis	Emissions scenario	GCM percentile	Resulting 100-year flow variable
2030	2015-2045	RCP 4.5 (medium)	50th	Q_{100}-2030-medium
		RCP 8.5 (high)	90th	Q_{100}-2030-high
2060	2045-2075	RCP 4.5 (medium)	50th	Q_{100}-2060-medium
		RCP 8.5 (high)	90th	Q_{100}-2060-high
2100	2070-2100	RCP 4.5 (medium)	50th	Q_{100}-2100-medium
		RCP 8.5 (high)	90th	Q_{100}-2100-high

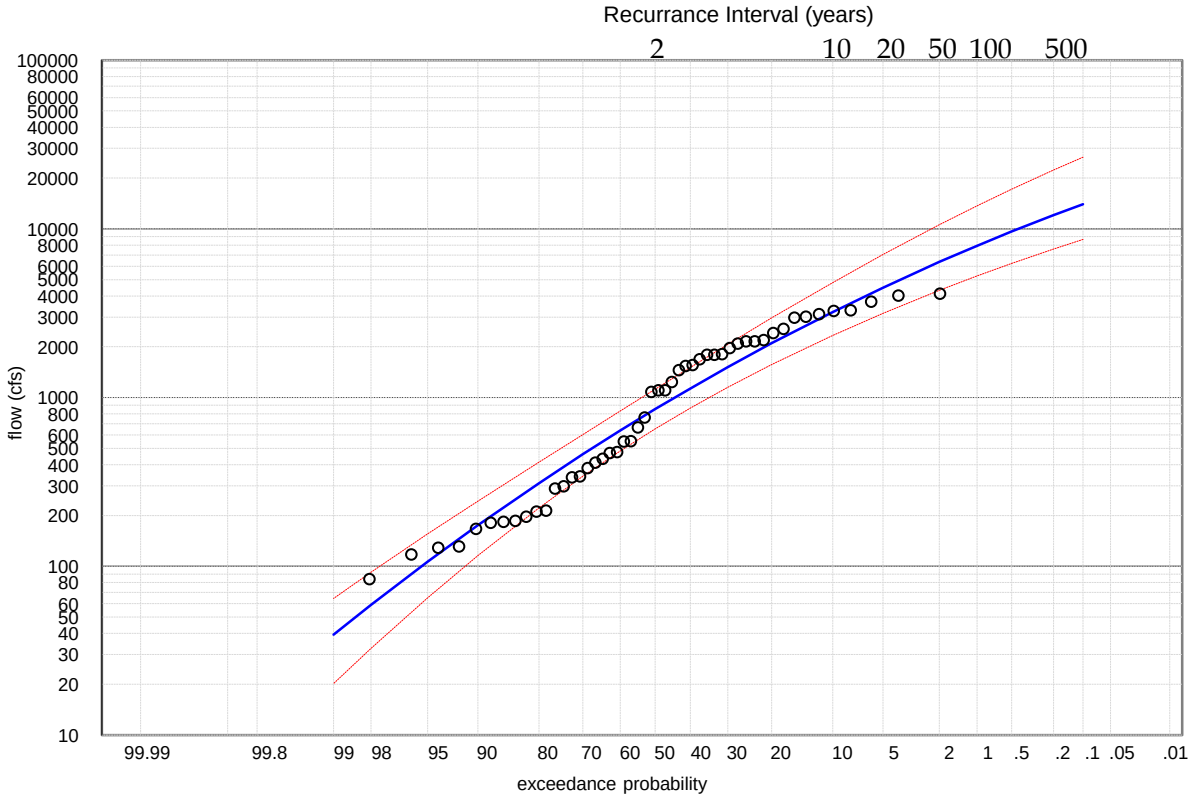

Figure 2. Log Pearson III flood frequency curve for historic time period (1950-2000) for GCM ACCESS[1] 1-0 for the RCP4.5 emissions scenario. The black dots show peak annual flow from routed GCM hydrology, the blue line shows the fitted LP-III curve, and the red lines show the 95- and 5-percent confidence intervals.

Because this analysis was conducted for each individual GCM, a distribution of GCMs can be created. The distribution highlights the discrepancy between individual models and the need to select a representative percentile for characterizing climate risk on any system. An example of the distribution of all models considered for a single emissions scenario and selected percentiles within the model distribution is shown for change in peak annual flow in Figure 3.

[1] Australian Community Climate and Earth-System Simulator (ACCESS)

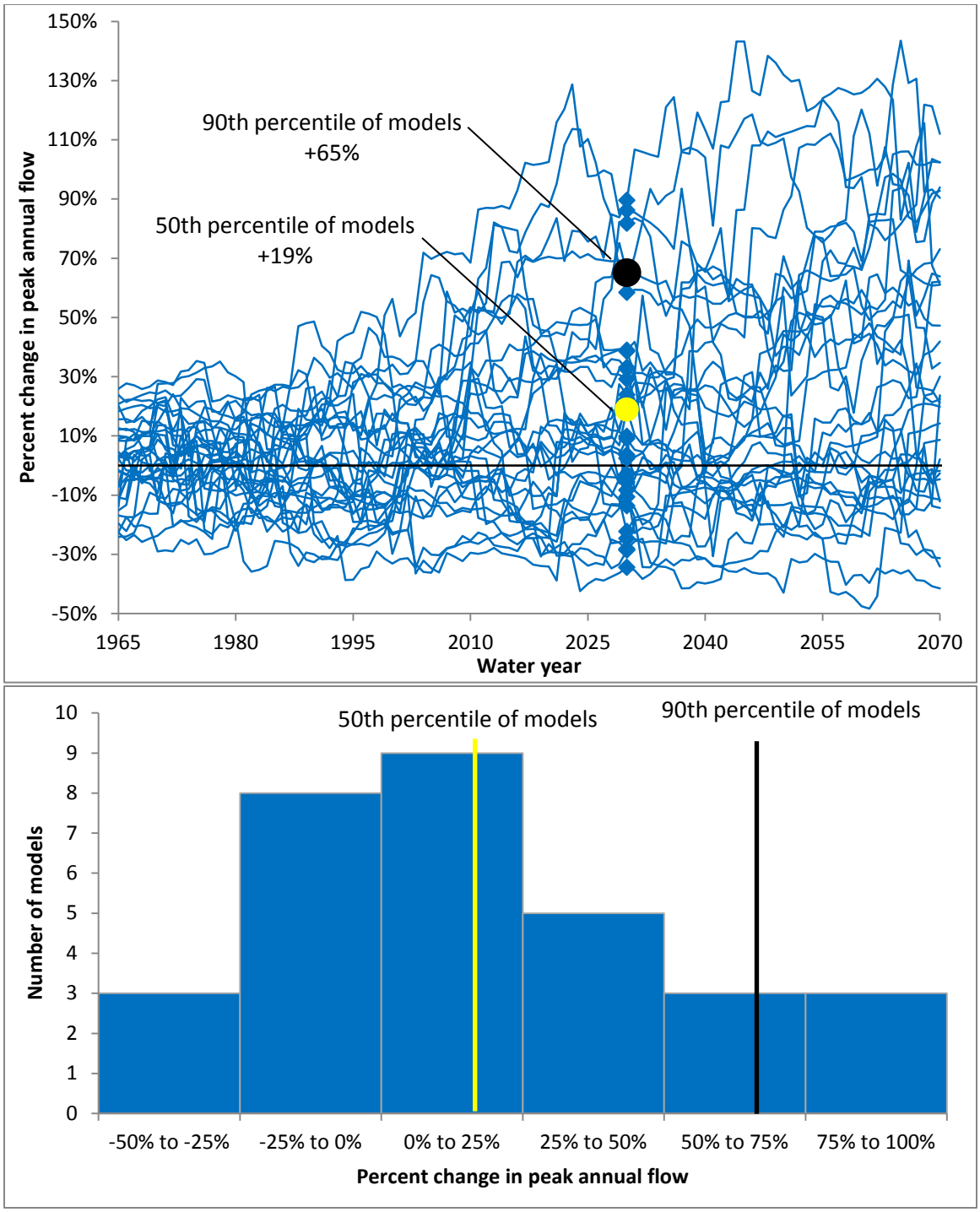

Figure 3. Percent change in peak annual flow relative to 1950-2000 average for all GCMs under RCP 4.5 emissions, blue lines show individual GCM trajectories and blue dots show result at year 2030 (top), and (bottom) histogram of total number of models for given ranges of percent change in peak annual flow

The 100-year discharge and the change in 100-year discharge for the three future time periods relative to the historic time period was calculated for each GCM based on the following equation:

$$\Delta Q_{100} = Q_{100-year-emissions} - Q_{100-hist}$$

Where ΔQ_{100} is the change in Q_{100} in cfs
$Q_{100\text{-year-emissions}}$ is the Q_{100} for a given GCM at a specific time horizon and emissions scenario
$Q_{100\text{-hist}}$ is the Q100 for the historical time period based on the GCM data

The distribution of GCMs for the change in Q_{100} on the Reclamation Ditch is shown for RCP 4.5 in Figure 4 and for RCP 8.5 in Figure 5. The distribution of GCMs for the change in Q100 on the Soquel Creek is shown for RCP 4.5 in Figure 6 and for RCP 8.5 in Figure 7.

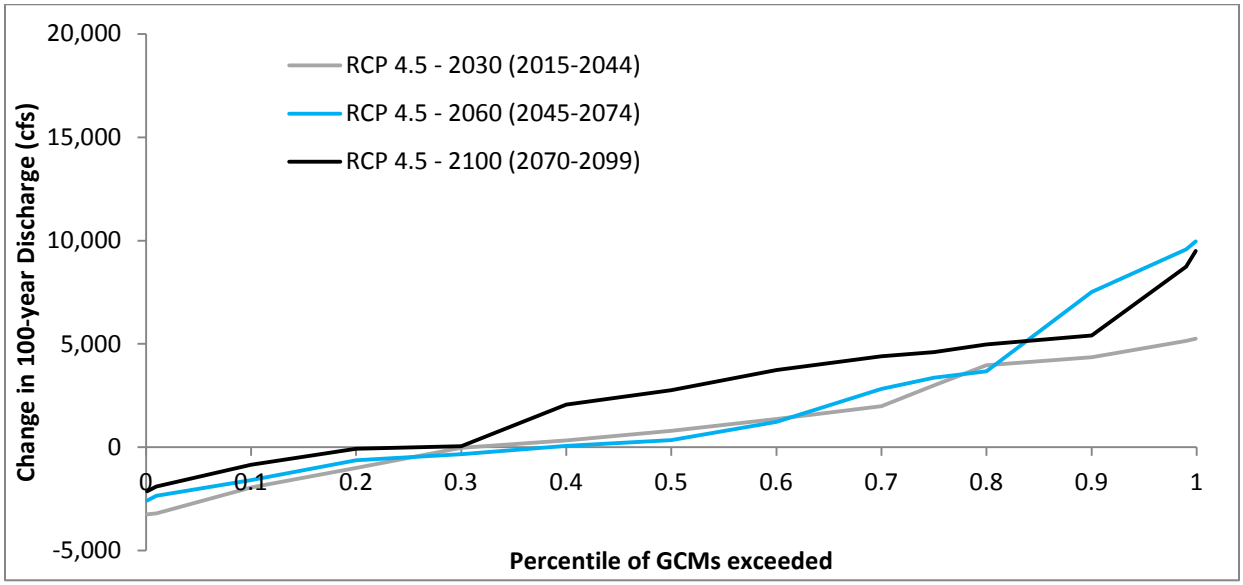

Figure 4. Distribution of change in Q_{100} for each GCM for 2030, 2060, and 2100 for RCP 4.5 on the Reclamation Ditch System

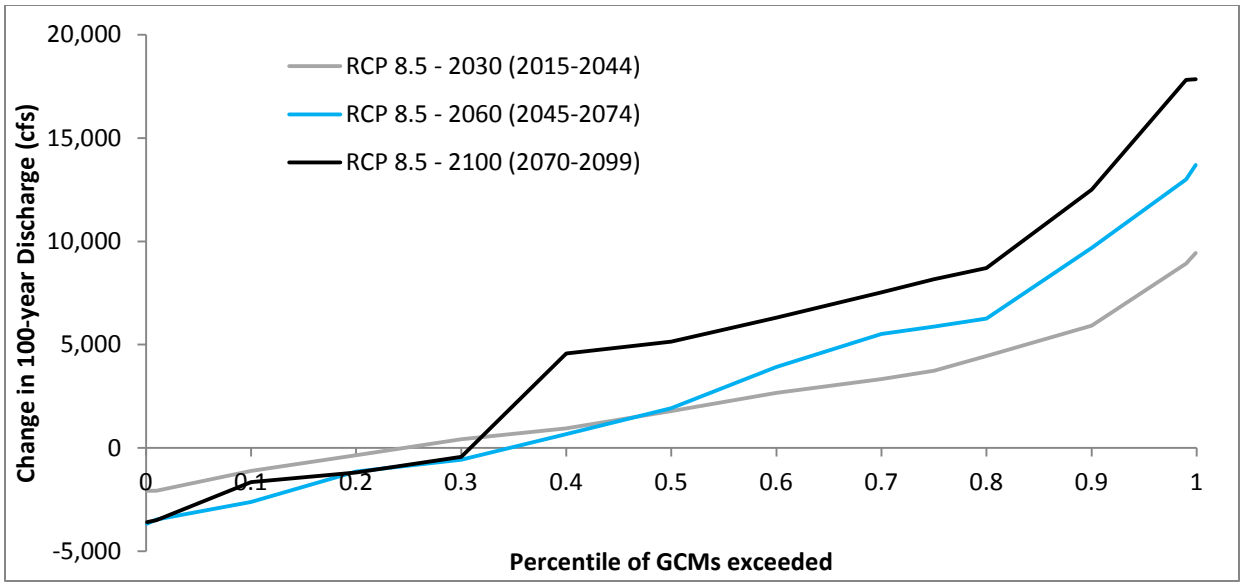

Figure 5. Distribution of change in Q_{100} for each GCM for 2030, 2060, and 2100 for RCP 8.5 on the Reclamation Ditch

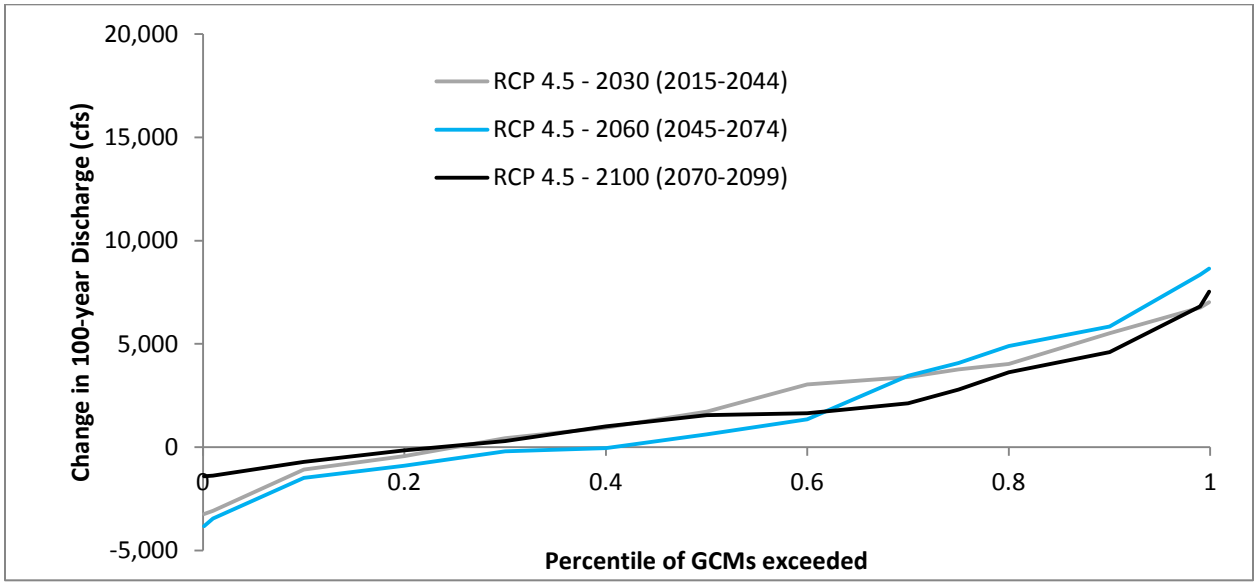

Figure 6. Distribution of change in Q_{100} for each GCM for 2030, 2060, and 2100 for RCP 4.5 on Soquel Creek

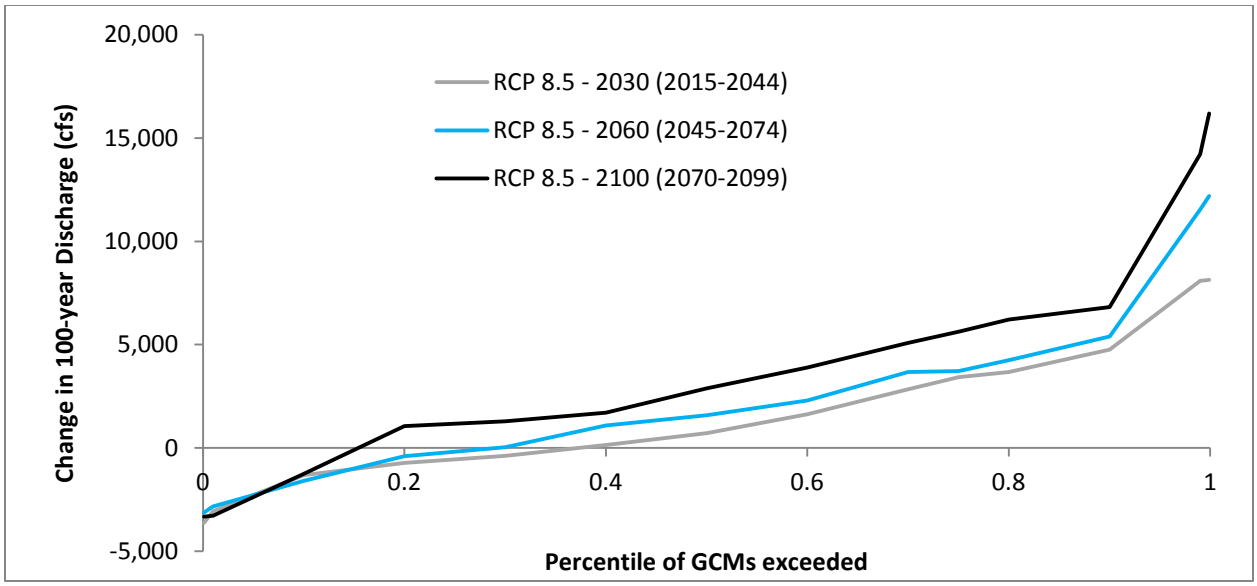

Figure 7. Distribution of change in Q_{100} for each GCM for 2030, 2060, and 2100 for RCP 8.5 on Soquel Creek

These figures indicate that for RCP 4.5, the emissions scenarios are grouped fairly closely for each future time period. The 'medium' emissions scenario was estimated from approximately the 50th percentile for the three time periods for RCP 4.5. It was determined that the 90th percentile of the models for RCP 8.5 for each individual year would be used to represent the 'high' emissions scenario. The changes estimated for 100-year discharge for both systems are summarized in Table 2.

TABLE 2
CHANGE IN 100-YEAR DISCHARGE FOR BOTH SYSTEMS RELATIVE TO HISTORIC PERIOD (1950-2000)

	Reclamation Ditch system			Soquel Creek		
Emissions scenario	**2030**	**2060**	**2100**	**2030**	**2060**	**2100**
Medium (RCP 4.5 50th percentile)	20%	40%	60%	13%	15%	20%
High (RCP 8.5 90th percentile)	140%	210%	275%	62%	68%	95%

The flows estimated in the extreme streamflow analysis were used to drive the hydraulic models which, in turn, were used to map inundation extents for existing conditions and the five future climate conditions (2030 high, 2060 and 2100 medium and high emissions). In addition to the extreme streamflow change, the downstream coastal water levels are influenced by sea level rise. The following section describes the analyses conducted to characterize the extreme coastal water level that would be coincident with the 100-year flood.

2.3 Extreme Coastal Water Level Analysis

2.3.1 Reclamation Ditch Extreme Tide Levels

The ocean boundary condition from the existing unsteady HEC-RAS hydraulic model consisted of a repeated tide cycle that peaked at about MHHW. To represent extreme tide conditions we used a 10-year tide as the ocean boundary for existing conditions. Given that the mouth of this system (the mouth to Moss Landing Harbor) is relatively deep we assumed that the mouth would not support wave setup, and therefore no additional water level increase was added for wave setup. The input ocean stage hydrograph was scaled up to peak at the 10-year water level (7.69 ft NAVD, from Monterey NOAA Buoy 9413450).

For future conditions the 10-year tide was increased at the rate of sea level rise based on the CA Coastal Commission guidance document (CCC, 2013). The total amount of SLR added for each scenario was estimated by fitting curves to the NRC 2012 SLR values, following this guidance. The peak tide elevation for each scenario is summarized in Table 3. These are the same water levels used by ESA for the Monterey Bay hazard mapping (ESA PWA, 2014).

TABLE 3
EXTREME TIDE CONDITIONS FOR RECLAMATION DITCH SYSTEM

	Sea level rise (ft)		10-year tide level + SLR (ft NAVD)	
Time period	Medium	High	Medium SLR	High SLR
2015	-	-	7.69	
2030	0.3	0.7	8.0	8.4
2060	1.1	2.4	8.8	11.0
2100	2.9	5.2	10.6	12.9

2.3.2 Soquel Creek Extreme Tide Levels

The Soquel Creek model is steady state thus there is no time dimension to the peak coastal water level. Recognizing this, it was deemed not representative to use the 10-year peak water level to represent extreme tide levels given that this elevation is only reached for a brief period during the 10-year event. We selected the 1-year recurrence interval as a tide level that would have a long enough time dimension to be considered credibly steady-state during an extreme tide event. Based on the Monterey Bay tide gauge (NOAA# 9413450), the 99% exceeded (1-year recurrence) tide elevation is 6.87 ft NAVD. Additionally, given the geomorphic configuration of this system, we added an additional increase in the steady state boundary to account for storm surge and wave setup. We selected 2-feet to account for these factors based historic data and previous studies of joint probability between coastal storm surge and high intensity rainfall as described below.

The steady downstream water surface boundary condition for Soquel Creek was chosen based on review of traditional practice and consideration of past analyses of joint probability of peak river discharges with elevated ocean water levels. A past study on San Lorenzo Creek by (USACE 2011) showed a correlation

between peak discharges and storm surges, with average tidal residuals during river flood events ranging from 0.4 to 1.5 feet and wave setup ranging from 0.2 to 2 feet. We also examined historic data for Soquel Creek and nearby Aptos Creek for coastal storm events based on USGS stream gauge, CDIP buoy, and NOAA tide gauge records to estimate the wave setup during past events. We found similar patterns in the tide residuals, wave setup, and tide peak elevation during the storm. The wave setup and tide peak for a set of extreme tide and flow events is summarized in Table 4. The tidal peak water level that occurred around the time of the peak river discharge was found to be near the 1-year recurrence elevation with an average residual 0.5 feet and average estimated wave runup of 1.2 feet.

TABLE 4
COASTAL STORM SURGE AND WAVE SETUP FOR EVENTS ON SOQUEL AND APTOS CREEKS

Creek	Date	Approximate peak flow (cfs)	Ocean Residual ft (1-day average)	Offshore Wave Height, H (ft) approx	Wave Setup hsetup (ft)[1]	Total ocean water anomaly (wave setup + residual) ft	Tide Peak During Storm (ft NAVD)
Aptos	2/6/1983	210	0.74	16	1.6	2.38	6.1
Aptos	2/25/1983	210	0.43	11	1.1	1.58	6.9
Aptos	2/23/2009	280	-0.04	7	0.7	0.7	5.6
Aptos	1/20/2010	210	1.17	21	2.1	3.3	6
Aptos	12/21/2010	310	0.65	10	1	1.63	7
Aptos	12/29/2010	140	0.23	16	1.6	1.87	6.3
Aptos	2/25/2011	n/a	0.12	8	0.8	0.94	5.6
Soquel	10/13/2009	4000	0.85	7	0.7	1.51	6.1

[1]steady (average) setup ~= 0.1*H

The future conditions 100-year discharge combined with the future conditions extreme coastal tide level were used as boundary conditions for the hydraulic modeling analysis. The modeling analysis is described in the following section.

3 HYDRAULIC AND HYDRODYNAMIC MODELING ANALYSIS

3.1 Reclamation Ditch Unsteady Modeling

The basis for the unsteady HEC-RAS hydraulic model was a model provided by the Monterey County Water Resources Agency (MCWRA) to ESA in 2014. The model is an updated version of the HEC-RAS model originally developed by Schaaf & Wheeler (1999) for flood analysis. The model has been periodically updated for flood mapping studies. However, the original channel data dates back to the original study. The existing conditions 100-year hydrology was also developed by Schaaf & Wheeler in 1999 using a HEC-1 hydrologic model for the Gabilan Creek watershed. This formed the basis for the existing conditions 100-year unsteady hydrograph boundary conditions used in the model. Updates to the model geometry required including positioning the model in real geospatial coordinates and updating overbank areas with LiDAR topography are described in the following section.

3.1.1 Model Geometry Development

Hydraulic Roughness – The parameter representing the resistance to flow within a channel or floodplain due to vegetation, bedform, and bed material is known as the manning's roughness or 'n' value. The manning's n values were adopted from the existing model. The values are 0.025 for channel roughness and 0.065 for floodplain roughness.

Georeferencing – The original model provided by Monterey County required georeferencing to spatially orient the model input and output. The original mode was shifted to correctly orient the confluence of the Tembladero Slough and drainage canal from Merritt Lake (just upstream of Castroville). Tembladero Slough was digitized from Moss Landing up the Reclamation Ditch to the Hwy 101 crossing in Salinas using the HEC-GeoRAS toolbar in ArcGIS and then imported to the HEC-RAS model. Cross section spacing was then adjusted in HEC-RAS to align known bridge crossings with their spatial location. The model layout is shown in Figure 8.

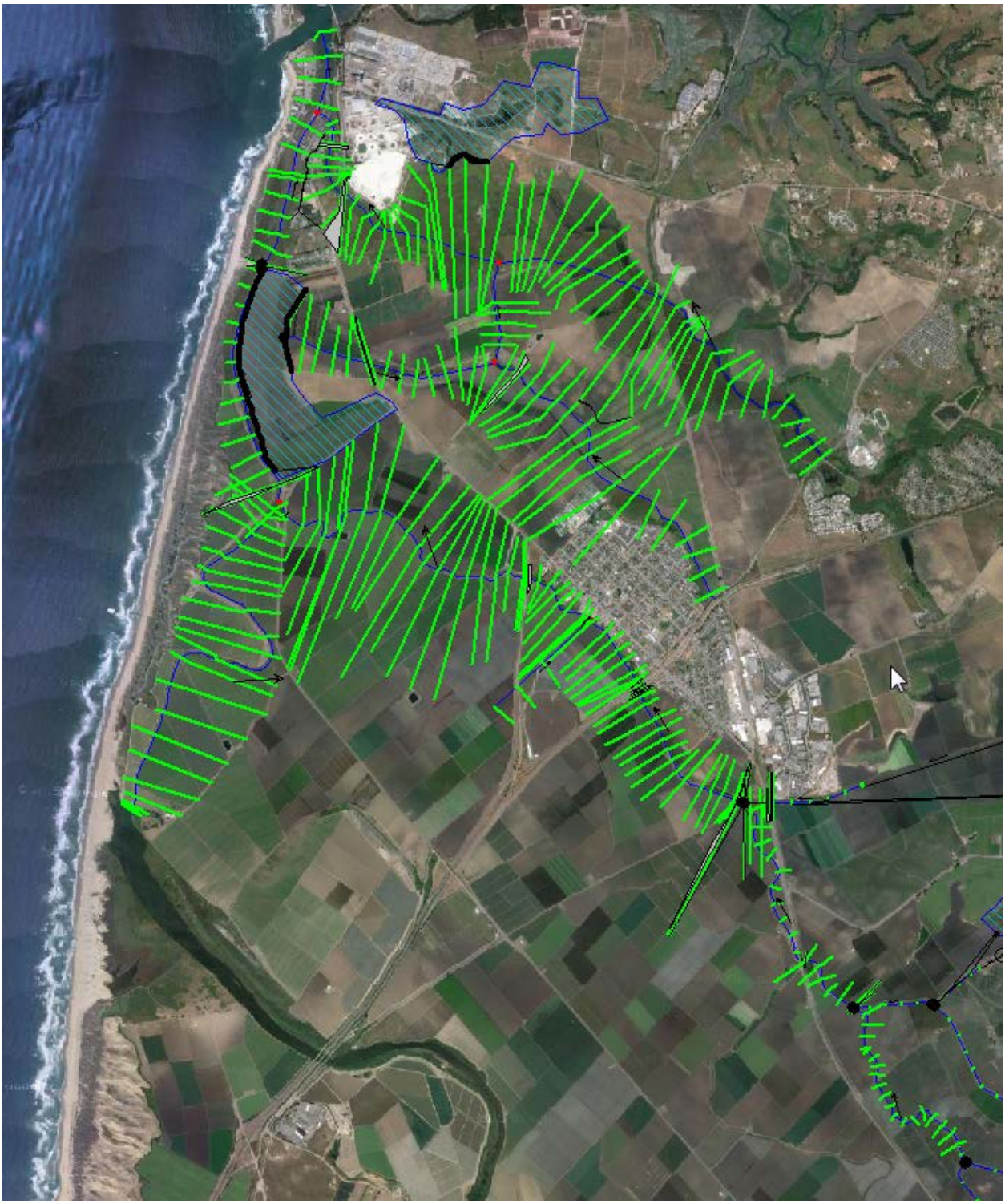

Figure 8. Reclamation Ditch hydraulic model layout

Update with LiDAR – Because the overbank representation of the existing model was limited, it was necessary to update the overbank topography from new sources. This was accomplished by first extending the channel cross sections to include the full floodplain and then updating the cross section

station-elevation data with topography from the 2009-2011 CA Coastal Conservancy Coastal Lidar Project: Hydro-flattened Bare Earth DEM that was downloaded from http://coast.noaa.gov/dataviewer/. This was only done for cross sections downstream of the railroad crossing west of Hwy 183, as the focus was primarily on flood behavior downstream. We determined that the elevations of the existing model were vertically referenced to an old vertical datum NGVD29. We thus converted the elevations to NAVD88 using the conversion factors listed in the FIS (+2.7 ft for Tembladero Slough, +2.77 ft for Reclamation Ditch). The model was also expanded into the Moro Cojo Slough and historic slough area between the Tembladero and Moro Cojo to represent alternate flood pathways that became apparent during the December 2014 flood.

Incorporation of MLML data – Hydraulic structure data was provided by Ross Clark, Charlie Endris, that was used to develop preliminary geometry for hydraulic structures located in the expanded portions of the model including:

1. Cabrillo Hwy crossing over Moro Cojo Slough

2. Moss Landing Rd tide gates at Moro Cojo

Other minor structure crossings in the model area were not accounted for due to lack of data. One improvement to the model would be to survey these crossings and add them into the model geometry to improve the representation of flow routing in the system.

3.1.2 Model Hydrology Inputs

Future flows determined in the future Q_{100} climate analysis were simulated by scaling the existing unsteady 100-year hydrographs that came with the HEC-RAS model provided by Monterey County. Base flow was maintained for the input hydrographs by only scaling the peak of each input hydrograph (flows > ~75% of the existing peak discharge). Within each hydrograph peak, a polynomial scaling function was used to produce smooth transitions between the existing rising and falling limbs and the future hydrograph peaks.

Inflow hydrographs were developed for Moro Cojo Slough and the unnamed canals/historic slough watershed. Area was determined for each watershed using USGS streamstats online tools. Then hydrographs were scaled from nearby subwatersheds analyzed by Schaff and Wheeler that possessed similar attributes (drainage area, relief, and impervious percentage) using watershed area as the scaling factor. These were scaled for future conditions using the method described above.

The downstream boundary was driven by an unsteady tide as described in the extreme coastal tide level section for the Reclamation Ditch.

3.1.3 Model Validation

The results of the updated hydraulic model run with the existing conditions 100-year hydrology and MHHW tailwater were compared to flooding extent and hydraulic flowpaths from a flood event that occurred in December 2014. The MLML provided a map of estimated extents and observed flow

directions during this event. One key observation for this event was that flow backing up at the Moss Landing tide gates overtopped adjacent farm fields contributing additional water into Moro Cojo Slough which routes water to the harbor through the culverts under Moss Landing Road. The model reproduced this observed pattern for the 100-year flow as shown in Figure 9.

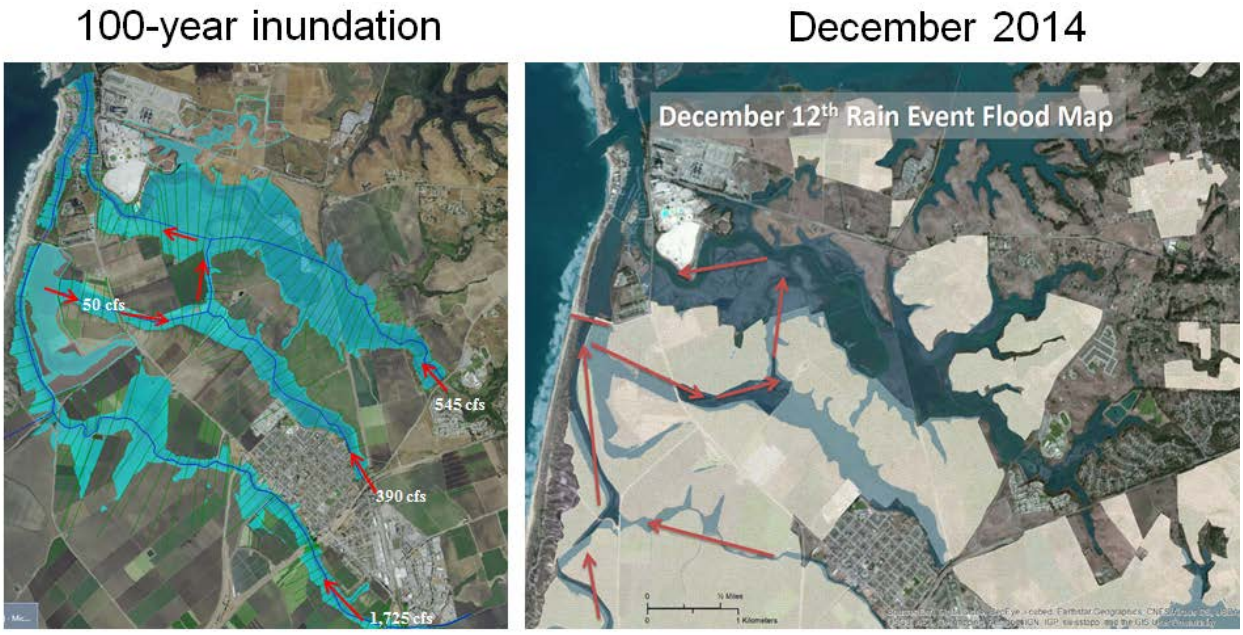

Figure 9. Comparison of Modeled 100-year flowpaths and observed flowpaths during December 2014 flood

3.1.4 Model Limitations

Flood mapping was truncated for Tembladero Slough at the Cabrillo Hwy, Moro Cojo up to the Railroad, and the historic slough in between. From the Tembladero up to the City of Salinas, the cross sections are limited to in channel portions, and floodplains were not mapped for any of the model coverage upstream. Given the uncertainty regarding the location of cross-sections an improvement to the model would be collecting new channel cross-sections and channel bathymetry in the model domain. Additionally, replacing the overbank areas with 2D flow elements would improve the routing of flow once it escapes the channel and goes out of bank. Lastly, the main Salinas River channel is not represented in the model. There are known interactions with the Salinas River and the Reclamation Ditch system including breakout flows from upstream entering the Reclamation Ditch and a water control structure connection between the mouth of the Salinas River and the old Salinas River alignment. The model could be improved significantly by combining the model with a model of the Salinas River and replacing the overbank areas with 2D flow elements.

3.2 Soquel Creek Steady State Modeling

3.2.1 Model Geometry Development

Hydraulic Roughness – The manning's n values were adopted from the existing FEMA model to maintain consistency. The channel and floodplain n values are 0.1 and 0.4 respectively.

Georeferencing – The existing conditions model for Soquel Creek came from the effective FEMA model for the system which was provided by FEMA as HEC-2 data-the precursor to HEC-RAS. The model was converted to HEC-RAS and georeferencing was performed to geospatially orient the model cross-sections and flood results. The georeferencing was accomplished by digitizing the length of Soquel Creek from the Pacific Ocean upstream to the limit of existing model coverage with HEC-GeoRAS tools in ArcGIS. Once the new stream centerline was imported to HEC-RAS, cross section spacing was adjusted to align bridge crossings with the known locations determined by the Terrain or aerial imagery. The model cross-section layout is shown in Figure 10.

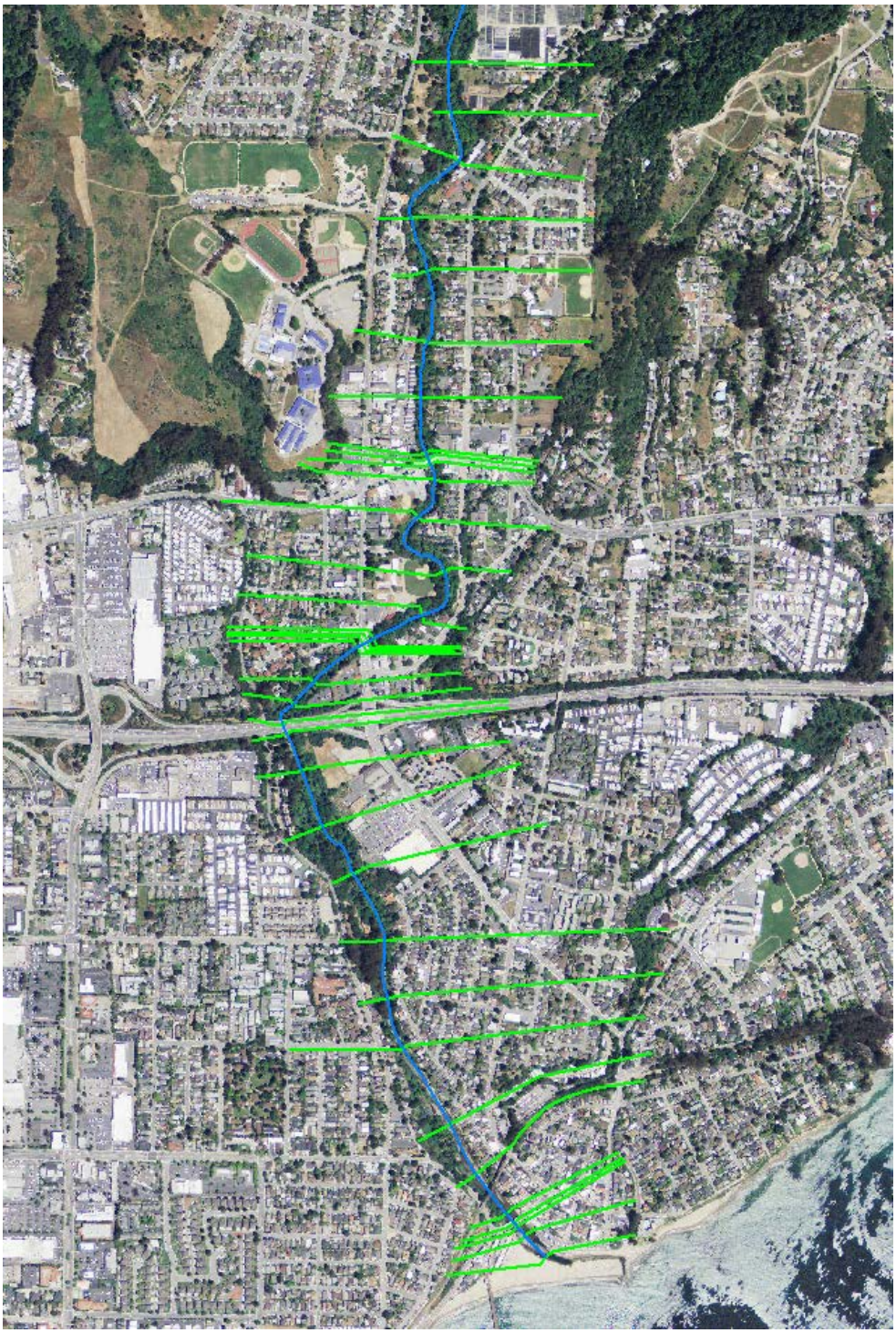

Figure 10. Soquel Creek hydraulic model layout

Update with LiDAR – Channel cross sections were extended to include the full floodplain and the cross section station-elevation data was updated with topography from the 2009 - 2011 CA Coastal Conservancy Coastal Lidar Project: Hydro-flattened Bare Earth DEM (downloaded here: http://coast.noaa.gov/dataviewer/). This was only done for cross sections downstream of Soquel Nursery Growers Plant Nursery. In-channel bathymetry and hydraulic structure data were maintained, and were shifted from NGVD29 to NAVD88 using the datum conversion factor from the FIS (+2.75 ft).

Incorporation of MLML data – Hydraulic structure data (stormdrains, manholes, etc.) were provided by Ross Clark, Charlie Endris, but were not used in the model. These data can (are going to) be used to update flood connectivity of previously mapped coastal flooding hazards (ESA 2014), and would serve to improve fluvial flood mapping from an unsteady model of Soquel Creek.

3.2.2 Model Hydrology Inputs

Future peak flows determined in the future Q_{100} climate analysis were modeled in steady state. Flows were increased by the percent change calculated for the medium and high emissions scenarios and the three future time horizons. The downstream boundary was driven by a steady tide as described in the extreme coastal tide level section for Soquel Creek.

3.2.3 Model Limitations

The geometry information in the model, including hydraulic structures and in-channel bathymetry, are out of date and may not be representative of current channel conditions. These should be updated to better represent the current conditions in Soquel Creek. Because the model is steady state, overbank flooding is potentially overestimated. Flooding extents could be improved by switching to an unsteady model.

4 MODEL RESULTS AND FLOOD HAZARD MAPPING

The hydraulic model results include water elevations in each cross-section which were translated into geospatial datasets of flood extent and depth for each of the scenarios modeled. This flood hazard mapping process was accomplished using the HEC-GeoRAS toolbar for ArcGIS which enables data transfer between GIS and HEC-RAS. Water surface profiles from the model results were exported to GIS and differenced against the underlying NOAA LiDAR topography to map flood extent. This topographic dataset does not include bathymetry below the water line thus flow depths in the channel are representative of depth above the water line at the time during which the LiDAR data were surveyed. Though some channel bathymetry for Tembladero Slough and the Reclamation Ditch was present in the original HEC-RAS model, no clear geospatial information was available for precisely locating these data. Thus the bathymetry from the cross-sections was not integrated into the topographic surface. The results of the inundation mapping are shown for the Reclamation Ditch system in Figure 11 and for Soquel Creek in Figure 12.

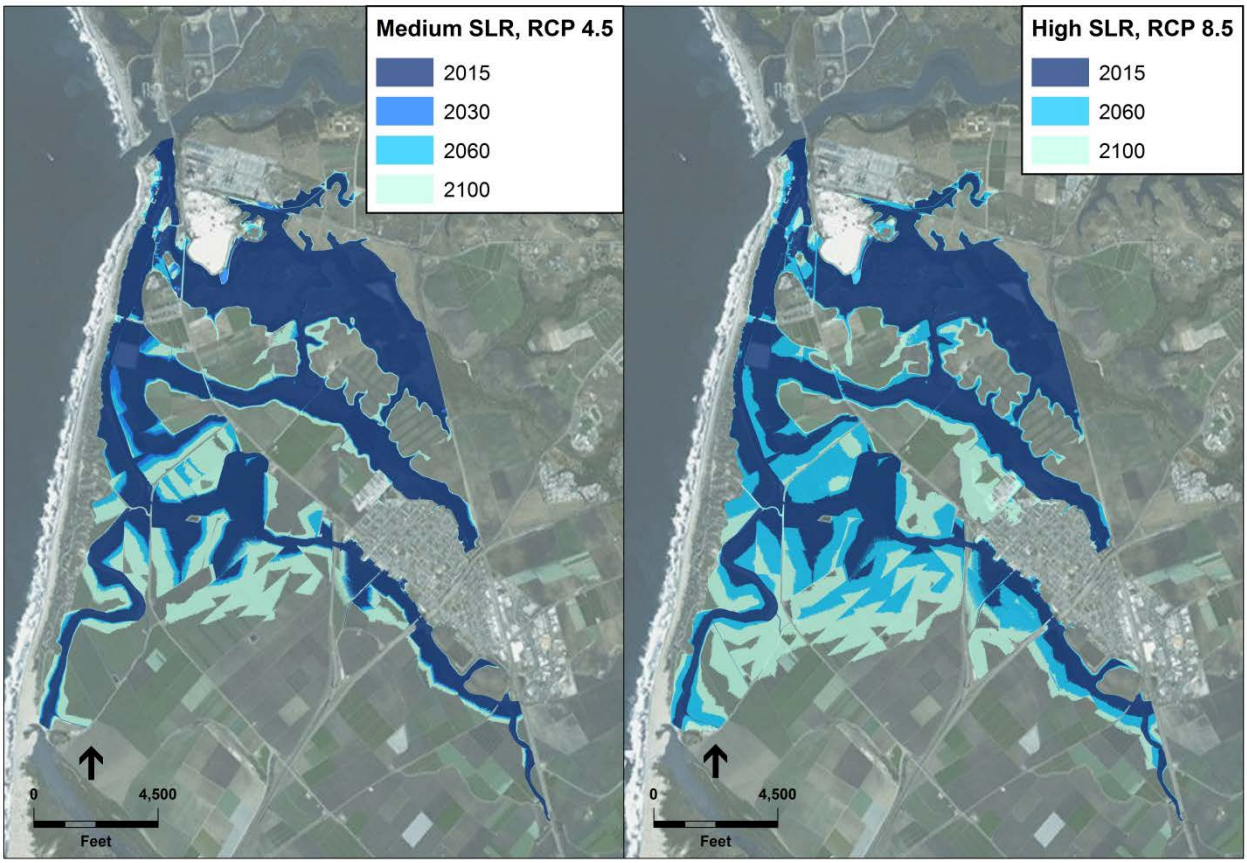

Figure 11. Flood inundation hazard maps for multiple climate scenarios on the Reclamation Ditch system

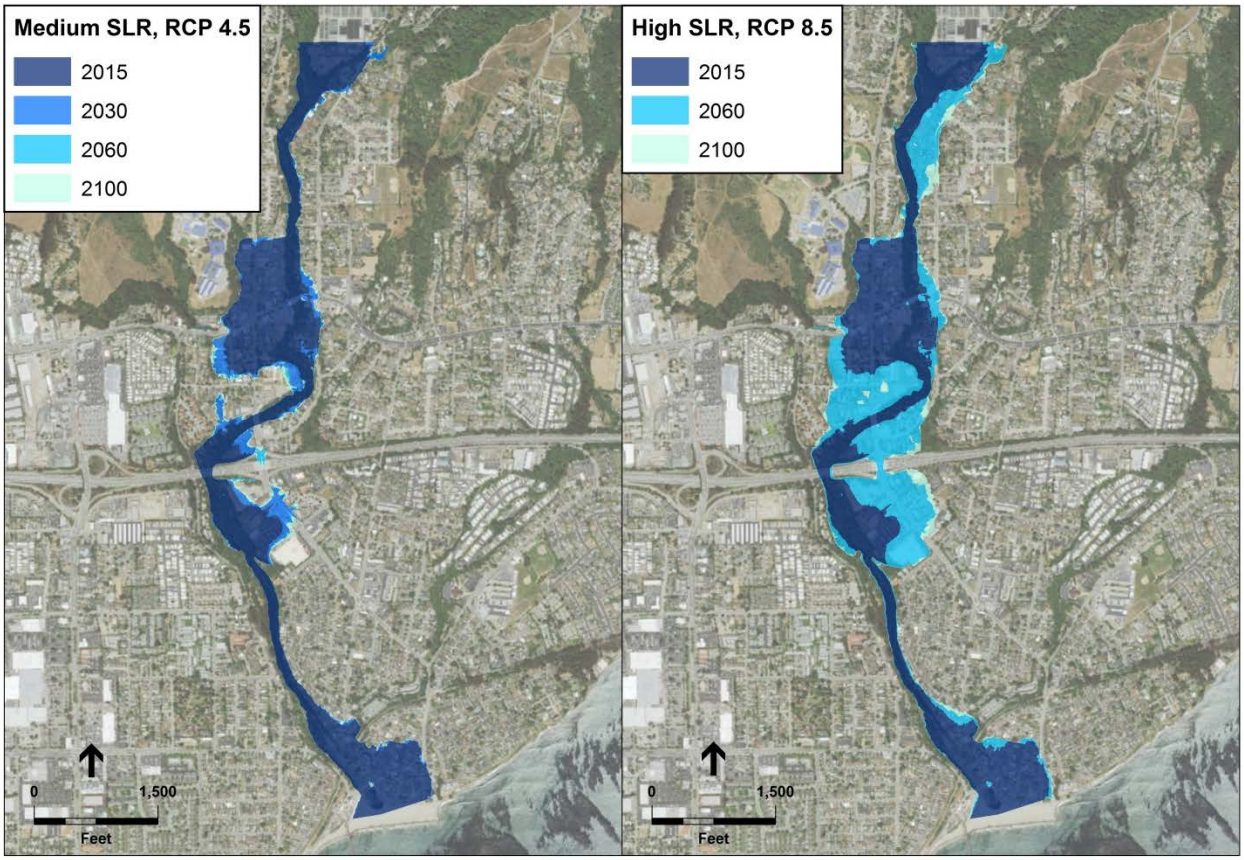

Figure 12. Flood inundation hazard maps for multiple climate scenarios on Soquel Creek

As Figure 11 shows, the flood extent increases significantly from existing conditions to 2100 on the Reclamation Ditch system. The majority of additional flooding is on the agricultural properties adjacent to Tembladero Slough and the Old Salinas River channel. The increase is exacerbated by the flatness of the terrain which results in a large increase in flooding for small increases in discharge. The additional flooded area is approximately 960 and 1740 acres for the Medium and High scenarios respectively, and the increase in flood depth is approximately 1.1 and 2.6 feet respectively. Depth measurements were sampled just upstream of the Hwy 156 crossings on Tembladero Slough.

For Soquel Creek, the change in 100-year discharge is less significant than on the Reclamation Ditch system. Additionally, the topography is more constrained in areas that are already flooded by the existing conditions 100-year flood. Thus the extent of flooding does not change as significantly on this system. The additional flooded area is approximately 18 and 65 acres for the Medium and High scenarios respectively, and the increase in flood depth is approximately 0.8 and 3.0 feet respectively.

In addition to the fluvial flood hazard mapping analysis, coastal storm flooding hazard zones were provided for the purposes of updating flooding connectivity in the Capitola and Salinas-Elkhorn areas. Coastal storm flooding hazards were previously mapped for the Monterey Bay Sea Level Rise Vulnerability Study (ESA PWA 2014) prepared for The Monterey Bay Sanctuary Foundation, and were provided in shapefile format for these two areas.

For the Capitola area (Soquel Creek), ESA provided MLML with intermediate coastal hazards shapefiles that contained separate polygons for the various hazards modeled. Equipped with the separated hazards and by using GIS data of storm drain networks and other flood management infrastructure, staff at MLML can make any warranted flood connectivity updates to the coastal flooding hazard layers provided in the MBSLR study (ESA PWA 2014). Described in the shapefile metadata, the separated versions of the coastal flooding hazards include layers for wave overtopping, wave runup, event tide flooding (100-yr tide), and erosion layers depicting eroded conditions of cliffs and dune areas (which would be considered as flooded in the future). Elevations associated with each flooding mechanism (except the erosion layers) are provided as attributes for each mechanism ("Method" in the attributes table).

As a part of a subsequent study "Economic Impacts of Climate Adaptation Strategies for Southern Monterey Bay" by ESA, The Nature Conservancy and others, flood connectivity was updated to reflect known water control structures in the area. The main structures considered are the tide gates on Tembladero Slough at Potrero Road, the Cabrillo Hwy road crest separating low lands from backwatering from the Moro Cojo Slough, and the water control structure between the Salinas Lagoon and Old Salinas channel to the north. In this update, flooding methods and associated flooding elevations for the Salinas River were altered to produce more accurate flood extents:

- Beach berm flooding – the elevation of flooding behind the beach berm at the Salinas River lagoon mouth was lowered from 4.88 m NAVD to 3.66 m NAVD (from 16ft to 12 ft) to represent the hydraulic control structure that diverts water north to the old Salinas River channel. These flooding layers also assume a 15 ft crest elevation for the levee on the north bank of the Salinas River, estimated from LiDAR.

- 100-yr tide flooding – flooding by the 100-year tide was updated to reflect the Potrero Rd tide gates and the road crest at Cabrillo Hwy, which affects primarily farmlands south of the Elkhorn Slough mouth.

The geospatial layers for the flood hazard extent and depths were compiled in an ESRI ArcGIS compatible geodatabase. The geodatabase was provided to MLML on 1/29/2016. Additionally the coastal flooding shapefiles adjusted to incorporate structural information on both systems was provided with this geodatabase. A table of the layers provided is included in Attachment A.

5 DISCUSSION

The climate analysis and hydraulic modeling show how future conditions flooding can change with increased precipitation intensity and higher coastal water levels with extreme coastal flood events. The flood hazard inundation extents can be used to inform planning efforts in the areas that are at risk of increased flooding as climate change puts added pressure on flood parameters. The range of scenarios provided allows for interpretation of potential flood risk given uncertainty in how climate will evolve. Planning efforts can be informed by considering a range of future scenarios and associated vulnerabilities, and the community's tolerance for risk, which should conceptually relate to the community's resilience.

The fluvial flood hazard maps add value to the previous coastal flooding analyses conducted by ESA by incorporating changes to watershed hydrology into the flood potential. This enables an assessment of the flood risk from combined changes in increasing coastal water levels and increased precipitation intensity. This is beneficial to communities at risk of flooding from both coastal and fluvial sources and provides a more complete set of scenarios for planning in those communities.

The resulting hazard maps can be used to assess risk as well as plan for future adaptation measures. By highlighting areas at risk currently and areas potentially at risk under different climate scenarios, communities can begin to develop and implement specific localized measures for adapting to these future risks. Future study should be considered to develop adaptation plans now that the tools for assessing risk have been developed and are available for further use.

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Monterey Bay Sea Level Rise

Climate Change Impacts on Combined Fluvial and Coastal Hazards

ATTACHMENT A

GIS Data Layers Provided With Report

Attachment A - Files transmitted via 20150126_fluvialHZ_w_Metadata.zip

Folder	Subfolder	File	Geographic Location	Type	SLR	Emissions
RecDitch_Tembladero_UTMz10						
	area					
		river100yr_floodplain_ec2010.shp	Tembladero Slough	Fluvial flooding extents polygon shapefile	none	none
		river100yr_floodplain_hi2060.shp	Tembladero Slough	Fluvial flooding extents polygon shapefile	High	RCP 8.5
		river100yr_floodplain_hi2100.shp	Tembladero Slough	Fluvial flooding extents polygon shapefile	High	RCP 8.5
		river100yr_floodplain_med2030.shp	Tembladero Slough	Fluvial flooding extents polygon shapefile	Medium	RCP 4.5
		river100yr_floodplain_med2060.shp	Tembladero Slough	Fluvial flooding extents polygon shapefile	Medium	RCP 4.5
		river100yr_floodplain_med2100.shp	Tembladero Slough	Fluvial flooding extents polygon shapefile	Medium	RCP 4.5
	depth					
		MaxDepth_100yr_ec2010.tif	Tembladero Slough	Fluvial flooding max depth raster	none	none
		MaxDepth_100yr_hi2060.tif	Tembladero Slough	Fluvial flooding max depth raster	High	RCP 8.5
		MaxDepth_100yr_hi2100.tif	Tembladero Slough	Fluvial flooding max depth raster	High	RCP 8.5
		MaxDepth_100yr_med2030.tif	Tembladero Slough	Fluvial flooding max depth raster	Medium	RCP 4.5
		MaxDepth_100yr_med2060.tif	Tembladero Slough	Fluvial flooding max depth raster	Medium	RCP 4.5
		MaxDepth_100yr_med2100.tif	Tembladero Slough	Fluvial flooding max depth raster	Medium	RCP 4.5
SoquelCreek_UTMz10						
	area					
		river100yr_floodplain_ec2010.shp	Soquel Creek	Fluvial flooding extents polygon shapefile	none	none
		river100yr_floodplain_hi2060.shp	Soquel Creek	Fluvial flooding extents polygon shapefile	High	RCP 8.5
		river100yr_floodplain_hi2100.shp	Soquel Creek	Fluvial flooding extents polygon shapefile	High	RCP 8.5
		river100yr_floodplain_med2030.shp	Soquel Creek	Fluvial flooding extents polygon shapefile	Medium	RCP 4.5
		river100yr_floodplain_med2060.shp	Soquel Creek	Fluvial flooding extents polygon shapefile	Medium	RCP 4.5
		river100yr_floodplain_med2100.shp	Soquel Creek	Fluvial flooding extents polygon shapefile	Medium	RCP 4.5
	depth					
		MaxDepth_100yr_ec2010.tif	Soquel Creek	Fluvial flooding max depth raster	none	none
		MaxDepth_100yr_hi2060.tif	Soquel Creek	Fluvial flooding max depth raster	High	RCP 8.5
		MaxDepth_100yr_hi2100.tif	Soquel Creek	Fluvial flooding max depth raster	High	RCP 8.5
		MaxDepth_100yr_med2030.tif	Soquel Creek	Fluvial flooding max depth raster	Medium	RCP 4.5
		MaxDepth_100yr_med2060.tif	Soquel Creek	Fluvial flooding max depth raster	Medium	RCP 4.5
		MaxDepth_100yr_med2100.tif	Soquel Creek	Fluvial flooding max depth raster	Medium	RCP 4.5

Key

SLR	High	high sea level rise (NRC 2012) of 159 cm by 2100, relative to 2010
	Med	medium sea level rise (NRC 2012) of 72 cm by 2100, relative to 2010
Emissions	RCP 8.5	future emissions scenario (IPCC, AR 5)
	RCP 4.5	future emissions scenario (IPCC, AR 5)

100-year fluvial flooding rasters and polygons are projected to UTM Zone 10N coordinates. Raster depths are in Feet.

Attachment A - Files transmitted via 20150129_Draft_UpdatedCoastalFloodHZ

Folder	File	Geographic Location	Type	SLR
coastal_storm_flood_MBSLR_Capitola				
subfolder "combined"	coastal_floodhz_ec2010_dissolved.shp	Capitola / Soquel Creek	Coastal Storm flooding extents	none
	coastal_floodhz_s12030_dissolved.shp	Capitola / Soquel Creek	Coastal Storm flooding extents	Low
	coastal_floodhz_s12060_dissolved.shp	Capitola / Soquel Creek	Coastal Storm flooding extents	Low
	coastal_floodhz_s12100_dissolved.shp	Capitola / Soquel Creek	Coastal Storm flooding extents	Low
	coastal_floodhz_s22030_dissolved.shp	Capitola / Soquel Creek	Coastal Storm flooding extents	Medium
	coastal_floodhz_s22060_dissolved.shp	Capitola / Soquel Creek	Coastal Storm flooding extents	Medium
	coastal_floodhz_s22100_dissolved.shp	Capitola / Soquel Creek	Coastal Storm flooding extents	Medium
	coastal_floodhz_s32030_dissolved.shp	Capitola / Soquel Creek	Coastal Storm flooding extents	High
	coastal_floodhz_s32060_dissolved.shp	Capitola / Soquel Creek	Coastal Storm flooding extents	High
	coastal_floodhz_s32100_dissolved.shp	Capitola / Soquel Creek	Coastal Storm flooding extents	High
subfolder "separated"	coastal_floodhz_ec2010.shp	Capitola / Soquel Creek	Coastal Storm flooding extents, with separate EL and HZ type attributes	none
	coastal_floodhz_s12030.shp	Capitola / Soquel Creek	Coastal Storm flooding extents, with separate EL and HZ type attributes	Low
	coastal_floodhz_s12060.shp	Capitola / Soquel Creek	Coastal Storm flooding extents, with separate EL and HZ type attributes	Low
	coastal_floodhz_s12100.shp	Capitola / Soquel Creek	Coastal Storm flooding extents, with separate EL and HZ type attributes	Low
	coastal_floodhz_s22030.shp	Capitola / Soquel Creek	Coastal Storm flooding extents, with separate EL and HZ type attributes	Medium
	coastal_floodhz_s22060.shp	Capitola / Soquel Creek	Coastal Storm flooding extents, with separate EL and HZ type attributes	Medium
	coastal_floodhz_s22100.shp	Capitola / Soquel Creek	Coastal Storm flooding extents, with separate EL and HZ type attributes	Medium
	coastal_floodhz_s32030.shp	Capitola / Soquel Creek	Coastal Storm flooding extents, with separate EL and HZ type attributes	High
	coastal_floodhz_s32060.shp	Capitola / Soquel Creek	Coastal Storm flooding extents, with separate EL and HZ type attributes	High
	coastal_floodhz_s32100.shp	Capitola / Soquel Creek	Coastal Storm flooding extents, with separate EL and HZ type attributes	High
event_flood_SMB_SalinasElkhorn				
subfolder "combined"	event_flood_AER_ec2010.shp	Salinas River / Elkhorn Slou	Coastal Storm flooding extents	none
	event_flood_AER_s22030.shp	Salinas River / Elkhorn Slou	Coastal Storm flooding extents	Medium
	event_flood_AER_s22060.shp	Salinas River / Elkhorn Slou	Coastal Storm flooding extents	Medium
	event_flood_AER_s22100.shp	Salinas River / Elkhorn Slou	Coastal Storm flooding extents	Medium
	event_flood_AER_s32030.shp	Salinas River / Elkhorn Slou	Coastal Storm flooding extents	High
	event_flood_AER_s32060.shp	Salinas River / Elkhorn Slou	Coastal Storm flooding extents	High
	event_flood_AER_s32100.shp	Salinas River / Elkhorn Slou	Coastal Storm flooding extents	High
subfolder "separated"	event_flood_AER_ec2010_EL.shp	Salinas River / Elkhorn Slou	Coastal Storm flooding extents, with separate EL and HZ type attributes	none
	event_flood_AER_s22030_EL.shp	Salinas River / Elkhorn Slou	Coastal Storm flooding extents, with separate EL and HZ type attributes	Medium
	event_flood_AER_s22060_EL.shp	Salinas River / Elkhorn Slou	Coastal Storm flooding extents, with separate EL and HZ type attributes	Medium
	event_flood_AER_s22100_EL.shp	Salinas River / Elkhorn Slou	Coastal Storm flooding extents, with separate EL and HZ type attributes	Medium
	event_flood_AER_s32030_EL.shp	Salinas River / Elkhorn Slou	Coastal Storm flooding extents, with separate EL and HZ type attributes	High
	event_flood_AER_s32060_EL.shp	Salinas River / Elkhorn Slou	Coastal Storm flooding extents, with separate EL and HZ type attributes	High
	event_flood_AER_s32100_EL.shp	Salinas River / Elkhorn Slou	Coastal Storm flooding extents, with separate EL and HZ type attributes	High

Key

SLR

low sea level rise (NRC 2012) of 22 cm by 2100, relative to 2010
medium sea level rise (NRC 2012) of 72 cm by 2100, relative to 2010
high sea level rise (NRC 2012) of 159 cm by 2100, relative to 2010

coastal storm flooding rasters and polygons are projected to UTM Zone 10N coordinates

CAPITOLA CITY COUNCIL AGENDA REPORT

MEETING OF OCTOBER 12, 2017

FROM: Community Development

SUBJECT: Section 8 Landlord Incentive Program

RECOMMENDED ACTION: Authorize the City Manager to allocate $4,040 of Housing Successor funds to support the Section 8 Landlord Incentive Program.

BACKGROUND: Santa Cruz County is one of the most expensive and competitive rental markets in the country. With escalating rents and low vacancy rates, our community is a challenging market to find rental housing, particularly for low-income households seeking housing with a Section 8 voucher. Many landlords will not rent to Section 8 recipients because the property owners consider such recipients to be higher risk tenants and units are easily rented to higher income households.

DISCUSSION: In an effort to increase landlord participation in the Section 8 program, the Housing Authority of Santa Cruz has proposed a Landlord Incentive Program. The program would offer landlords a risk mitigation fund that would cover up to $2,500 for unpaid rent or damages that exceed the security deposit, as well as vacancy loss and legal fees, if problems arise during the first year of tenancy.

The program would be offered to all landlords in Santa Cruz County with the hope that landlords will recognize the social and business benefits of renting to Section 8 households. With an increase in landlord participation, the Housing Authority would be able to help hundreds more families and bring millions of additional federal dollars into our community.

The funds each participating jurisdiction commits to the program will not be used unless there are eligible claims within that jurisdiction, and all claims will be subject to the availability of funds. Further, while the funds obligated by participating jurisdictions represent the maximum financial cost to the jurisdiction, those funds may not be expended. In this way, a small investment from Capitola can provide a major benefit to low-income families in our community.

The Housing Authority proposes to administer the program in much the same way as the long-standing Security Deposit Program, which tracks expenditures for the whole program and by jurisdiction. Participating jurisdictions would receive quarterly reports of the activity in the jurisdiction.

Applying the Homeless Action Partnership (HAP) share-of-cost model, an initial year set aside for a $100,000 program would be broken out as described in the following chart:

Section 8 Landlord Inventive Program
October 12, 2017

Proposed Jurisdictional Share of Cost for Landlord Incentive Program			
Jurisdiction	**Shared Percentage***		**Share of Costs**
County of Santa Cruz	53.54%	$	53,540
City of Santa Cruz	21.21%	$	21,210
City of Watsonville	17.17%	$	17,170
City of Capitola	4.04%	$	4,040
City of Scotts Valley	4.04%	$	4,040
TOTAL	**100%**	**$**	**100,000**
*based on share of cost used for HAP expenses			

FISCAL IMPACT: The requested $4,040 is available from the Housing Successor Fund.

ATTACHMENTS:

1. Landlord Incentive Program Overview
2. Landlord Incentive Scope of Work

Report Prepared By: Rich Grunow
Community Development Director

Reviewed and Forwarded by:

Jamie Goldstein, City Manager 10/6/2017

Landlord Incentive Program Overview

The Landlord Incentive Program is intended to expand the pool of landlords with Housing Choice Vouchers, by reducing associated financial risks.

Eligible Clients: The Landlord Incentive program will be available to all landlords renting to a tenant with any kind of tenant based Housing Choice Voucher, effective January 1, 2018. The program will be available during the first year of tenancy at the assisted unit, subject to the availability of funds.

How the Program Works: Landlords rent to a tenant with a Housing Choice Voucher. Within the first 12 months of tenancy, if any of the following circumstances occur, the landlord can submit a claim to the Housing Authority

Circumstances for Landlord Claims:

- Lease termination with cause
- Tenant vacates unit with damages
- Tenant vacates unit owing back rent, utilities or late fees

In the event of these circumstances, the landlord may make a claim for compensation from the Housing Authority *to cover eligible expenses that exceed the security deposit*.

Eligible Expenses for Claims – In the event of any of the above circumstances, landlords may claim up to a total of $2,500 for the following expenses, to the extent that the actual expenses exceed the security deposit.

- Damages caused by the tenant
- Unpaid rent (up to 4 months), late fees and utilities
- Vacancy loss, in the event of vacancies due to lease violations. The maximum claim is 100% of the contract rent for the first 30 days following the vacancy, and 80% of contract rent for the following 30 days, if the unit remains vacant.
- Legal fees associated with terminations for lease violations and lease compliance

Review of Claims – Landlords will be required to provide documentation supporting claims. If the claim is eligible, and if there is funding available in the Landlord Incentive Program for the jurisdiction in which the assisted unit is located, the Housing Authority will pay the claim to the landlord.

Program Administration – Each jurisdiction will establish a primary contact person as a program liaison. The Housing Authority will contact the program liaison in the event of any questions. On a quarterly basis, the Housing Authority will provide a report and invoice to each jurisdiction in which there have been claims.

Landlord Incentive Program Scope of Work

Term: January 1, 2018 – December 31, 2018

The Housing Authority will provide the following activities under this scope of work.

1. Program Utilization:
    a. Promote the program to landlords and managers at Housing Authority briefings and via the website.
    b. Promote the program to Housing Choice Voucher applicants and participants at Housing Authority briefings and via the website.

2. Customer Service through the single point of contact:
    a. Respond to landlord and manager inquiries promptly.
    b. Assist the landlord/manger complete the claim form as necessary.

3. Accounting Responsibility:
    a. Process claims promptly dependent on availability of funds.
    b. Track expenditures for the whole program and by jurisdiction.
    c. Follow standard accounting procedures.

4. Reimburse landlords/managers:
    a. Reimburse claims that exceed the security deposit.
    b. Reimburse claims that have required documentation.
    c. Reimburse claims up to $2,500 per unit/tenant.
    d. Reimburse claims dependent on availability of funds by jurisdiction.
    e. Reimburse claims when submitted for incidents within the first 12 months of tenancy.
    f. Reimburse claims only for eligible expenses:
        i. Damages caused by tenant,
        ii. Unpaid rent balances after tenant vacates the unit – up to four months' rent; late fees, and utilities
        iii. Vacancy loss in the event of vacancy due to lease termination (not expiration). The maximum claim is 100% of the contract rent for the first 30 days following the vacancy, and 80% of the contract rent for the following 30 days, if the unit remains vacant,
        iv. Legal fees associated with termination for lease violations and lease compliance.

5. Report and Evaluate:
    a. Send quarterly reports of the activity in each jurisdiction.
    b. Evaluate the effectiveness of the program and report annually.

CAPITOLA CITY COUNCIL AGENDA REPORT

MEETING OF OCTOBER 12, 2017

FROM: Community Development

SUBJECT: Subdivision Ordinance Cleanup

RECOMMENDED ACTION: Introduce an Ordinance amending Municipal Code Chapter 16 pertaining to Subdivisions.

BACKGROUND: The City's Subdivision Ordinance was last updated in 1980. Several significant changes have occurred in the 37 years since the City's last update, including numerous revisions to the California Subdivision Map Act, changes in local land use regulations, and development of most remaining vacant lots in Capitola.

A comprehensive update to the Subdivision Ordinance is overdue and is included in the Community Development Department's long-term work plan. Although a comprehensive update is not proposed at this time, staff is proposing a focused amendment to address several issues with the current ordinance.

DISCUSSION: The proposed amendments to the subdivision ordinance are shown in strikeout/underline in Attachment 1. The amendments include the following:

- Adding new and/or revised definitions for flag lot, frontage, road, and street to clarify the purpose and intent of associated subdivision regulations;
- Clarifying that the Planning Commission is the decision-making body for minor subdivisions;
- Revising the time limit to record a tentatively approved map from 12 to 24 months consistent with the California Subdivision Map Act;
- Authorizing the Building Official to approve new street names to be consistent with long-standing practice;
- Providing the Planning Commission and City Council the ability to authorize exceptions to subdivision design criteria;
- Removing "1973" from references to the City's Standard Drawings for construction of improvements;
- Adding a new division to establish standards and procedures for lot line adjustments;

Subdivision Ordinance Cleanup
October 12, 2017

FISCAL IMPACT: None

ATTACHMENTS:

1. Subdivision Ordinance Amendments
2. LCP Amendment Resolution
3. CEQA 15183 Exemption

Report Prepared By: Rich Grunow
Community Development Director

Reviewed and Forwarded by:

Jamie Goldstein, City Manager 10/6/2017

Chapter 16.04
FORMAT

Sections:

16.04.010 Citations to Government Code.

A. The format of this title is designed to be coordinated with the numbering of the Subdivision Map Act.

B. Parallel citations from the Government Code can be determined by adding the numbers "664" immediately preceding the section number found in the ordinance codified in this title. Thus, Section 11 of Ordinance 483 will find its parallel in Government Code Section 66411. (Ord. 483 § 1(A), 1980)

16.04.020 Adoption by reference.

Where a Government Code section is self-explanatory, it has been made a part of this title by means of the following language:

"Government Code incorporated by reference." Such incorporation by reference is intended to include future amendments of the Subdivision Map Act by the California Legislature, as well as the wording of the particular Government Code section at the time of passage of the ordinance codified in this title. Where necessary, explanatory language has been included in any section of this title which incorporates a Government Code section by reference. (Ord. 483 § 1(B), 1980)

Chapter 16.08
DEFINITIONS

Sections:

16.08.010 Reserved.

(Ord. 483 § 14, 1980)

16.08.020 Advisory agency.

“Advisory agency” means the planning commission of the city of Capitola. (Ord. 483 § 15, 1980)

16.08.030 Appeal board.

“Appeal board” means the city council of the city of Capitola. (Ord. 483 § 16, 1980)

16.08.040 County surveyor.

“County surveyor” means the surveyor of Santa Cruz County. (Ord. 483 § 17, 1980)

16.08.050 Design.

Government Code Section 66418 incorporated by reference. (Ord. 483 § 18, 1980)

16.08.052 Flag Lot.

“Flag lot” also known as a “panhandle lot” – A lot predominantly situated behind another lot and having access to a street or a private road by means of a narrow portion of the flag lot extending out to a street or private road.

16.08.054 Frontage.

“Frontage” means that portion of a property abutting a street or a private road.

16.08.060 Improvement.

Government Code Section 66419 incorporated by reference. (Ord. 483 § 19, 1980)

16.08.070 Local agency.

“Local agency” means the city of Capitola. (Ord. 483 § 20, 1980)

16.08.080 Local ordinance.

"Local ordinance" refers specifically to the ordinance codified in this title, together with provisions of any other Capitola ordinances which meet the criteria of Government Code Section 66421, which is incorporated by reference. (Ord. 483 § 21, 1980)

16.28.082 Lot Line Adjustment.

"Lot line adjustment" refers to a process to realign the property lines between four of fewer legal lots where land is taken from a parcel and added to an adjoining parcel.

16.08.084 Road.

"Road" refers to a public or private way which provides access to abutting properties.

16.08.090 Streets.

"Street~~s~~" means a public way more than 20 feet in width which affords a primary or principal means of access to an abutting property. "Streets" also includes highways. (Ord. 483 § 22, 1980)

16.08.100 Subdivider.

Government Code Section 66423 incorporated by reference. (Ord. 483 § 23, 1980)

16.08.110 Subdivision, major division and minor division defined.

"Subdivision" is defined in Government Code Section 66424, which is incorporated by reference. "Major division" means a division or proposed division of a parcel into five or more parcels. "Minor division" means a division or proposed division of a parcel into two, three or four parcels. Designated remainder parcels, as defined by Government Code Section 66424.6 shall not be included in the computation of the number of lots for major or minor divisions. (Ord. 493 (part), 1980; Ord. 483 § 24, 1980)

Chapter 16.12
MAP FILING PROCEDURES GENERALLY

Sections:

16.12.010 Reserved.

(Ord. 483 § 51, 1980)

16.12.020 Time limits – Extension by mutual consent.

The time limits specified in this title for reporting and acting on maps may be extended by mutual consent of the subdivider and the advisory agency or legislative body required to report or act. (Ord. 483 § 51.1, 1980)

16.12.030 Fees.

The city council may establish reasonable fees for the processing of tentative, final, and parcel maps and other procedures contemplated by the Subdivision Map Act by means of resolution. (Ord. 483 § 51.2, 1980)

16.12.040 Time and notice of public hearings held pursuant to this title or Subdivision Map Act.

Government Code Section 66451.3 incorporated by reference. (Ord. 483 § 51.3, 1980)

16.12.050 Correction and amendment of maps.

Government Code Sections 66469 through 66472 incorporated by reference. (Ord. 483 § 69, 1980)

16.12.060 Approval or disapproval of map, depending upon whether imposed conditions have been performed.

Government Code Section 66473 incorporated by reference. Any person applying for approval of a tentative map and who desires a waiver of the provisions of this section on the grounds that failure of the map is a result of a technical and inadvertent error may, at the time of the consideration of application for final map, request

that the city council determine whether the errors are, indeed, technical or inadvertent and do not materially affect the validity of the map. (Ord. 483 § 73, 1980)

16.12.070 Requirement for provision of future passive or natural heating or cooling opportunities.

Government Code Section 66473.1 incorporated by reference. (Ord. 483 § 73.1, 1980)

16.12.080 Proposed subdivisions must be consistent with general plan.

Government Code Section 66473.5 incorporated by reference. (Ord. 483 § 73.5, 1980)

16.12.090 Findings requiring denial of final or tentative maps.

The planning commission or city council shall deny approval of a final or tentative map if it makes any of the following findings:

A. That the proposed map is not consistent with applicable general and specific plans;

B. That the design or improvement of the proposed subdivision is not consistent with applicable general and specific plans;

C. That the site is not physically suitable for the type of development;

D. That the site is not physically suitable for the proposed density of development;

E. That the design of the subdivision or the proposed improvements are likely to cause substantial environmental damage or substantially and avoidably injure fish or wildlife or their habitat;

F. That the design of the subdivision or the type of improvements will conflict with easements, acquired by the public at large, for access through or use of property within the proposed subdivision. In this connection, the city council may approve a map if it finds that alternate easements for access or for use will be provided, and that these will be substantially equivalent to ones previously acquired by the public. This subsection shall apply only to easements of record or to easements established by judgment of a court of competent jurisdiction. (Ord. 483 § 74, 1980)

16.12.100 Mandatory approval of final maps in accord with tentative maps.

Government Code Section 66474.1 incorporated by reference. (Ord. 483 § 74.1, 1980)

16.12.110 Additional requirements for subdivisions which are also land projects.

Government Code Section 66474.5 incorporated by reference. (Ord. 483 § 74.5, 1980)

16.12.120 Waste discharge may not violate regional water quality control board requirements.

Government Code Section 66474.6 incorporated by reference. (Ord. 483 § 74.6, 1980)

16.12.130 Rights of appeal from planning commission decisions.

Government Code Section 66474.7 incorporated by reference. All planning commission decisions pursuant to this title which are otherwise final are appealable by any interested person to the city council in the manner provided in Section 2.52 ~~16.16.130~~. (Ord. 483§ 74.7, 1980)

Chapter 16.16
TENTATIVE AND PARCEL MAPS

Sections:

16.16.010 When tentative and parcel maps may be required or waived.

Tentative maps shall be required where this title requires parcel maps. Parcel maps shall be required for subdivisions unless the preparation of a parcel map is waived pursuant to the provisions set forth in Sections 16.16.020 through 16.16.070. (Ord. 483 § 28 (part), 1980)

16.16.020 Waiver of requirement.

The requirement under the Subdivision Map Act of a parcel map shall be waived in accordance with the procedures set forth in Sections 16.16.020 through 16.16.070. A tentative map may be required in cases where a parcel map is waived. (Ord. 483 § 28(A), 1980)

16.16.030 Waiver – Application – Fee.

An application for waiver of the requirement of a parcel map shall be filed with the city upon such forms and accompanied by a plot plan and such information as may be prescribed by the city. The filing of such application shall be accompanied with payment of a filing fee of $ _____, or such other fee as may hereafter be set by resolution of the city council. (Ord. 483 § 28(B), 1980)

16.16.040 Waiver – Action by commission.

A. The planning commission, or the city council, on appeal, shall by written document or resolution approve the application for waiver if it finds that the proposed division of land complies with such requirements of the Subdivision Map Act and city ordinances as to area, improvement and design, floodwater drainage control, appropriate improved public roads, sanitary disposal facilities, water supply availability, environmental protection, and other requirements of the Subdivision Map Act or local ordinance enacted pursuant thereto, so long as the monumentation for the resulting parcels is adequate.

B. Any requirements for the construction of reasonable off-site and on-site improvements for a parcel being created by the proposed division of land shall be set forth in the instrument approving the application of waiver.

The construction of such improvements shall be required prior to the subsequent issuance of a permit or other grant of approval by the city for the development of such parcel, but fulfillment of such construction requirement shall not be required until such time as a permit or other grant of approval is issued by the city.
(Ord. 483 § 28(C), 1980)

16.16.050 Waiver – Approval for and issuance and recording of certificate of compliance.

Approval of an application for waiver of the requirement of a parcel map shall automatically constitute approval for the issuance of a certificate of compliance pursuant to the provisions of Section 66499.35 of the Subdivision Map Act and Section 16.64.030 of this title. When approval has been given to an application for waiver of requirement of a parcel map, then concurrently therewith or at any time thereafter, at the request of the owner of the property, the city shall, without further application or proceedings, issue a certificate of compliance consistent with such waiver and shall cause said certificate of compliance to be filed for record with the recorder of Santa Cruz County, in the manner set forth in Section 16.64.030 of this title. (Ord. 483 § 28(D), 1980)

16.16.060 Waiver – Government agencies.

In situations where the property is either conveyed or leased, either by or to the state, the county, the city, or any local agency, the community development director may waive the parcel map requirements with or without application from one of the involved parties. (Ord. 483 § 28(E), 1980)

16.16.070 Waiver – Findings required.

No wavier shall be granted unless a finding of the variety required by Government Code Section 66428 is made. (Ord. 483 § 28(F), 1980)

16.16.080 Tentative map – Filing.

Tentative maps shall be filed with the community development director as a necessary part of any application for either a major division or a minor division. They shall be in such detail as the community development director determines is necessary to provide accurate, and adequate information, such that there can be informed planning commission action upon the application. (Ord. 493(part), 1980; Ord. 483 § 52, 1980)

16.16.090 Time limitation on planning commission deliberations – Approval, disapproval or recommendations on major and minor divisions.

A. The planning commission shall render its decision for minor divisions and offer ~~or~~ recommendations ~~upon applications~~ for major divisions ~~and minor divisions~~ within the times specified in Government Code Section 66452.1.

B. Regarding applications for major divisions, the planning commission may recommend to the city council that the city council approve the application subject to any conditions which the planning commission recommends as appropriate. If the planning commission disapproves an application for major division, that decision is final unless appealed to the city council by the applicant in accord with the procedures specified in Section 2.52 ~~16.16.130~~.

C. Regarding applications for minor divisions, the planning commission is authorized to conditionally approve, or disapprove, such application and all such decisions, unless appealed pursuant to Section ~~16.16.130~~2.52, shall be final. (Ord. 493 (part), 1980; Ord. 483§ 52.1, 1980)

16.16.100 City council proceedings upon applications for major division which have been recommended for approval by planning commission.

Government Code Section 66452.2 incorporated by reference. (Ord. 493 (part), 1980; Ord. 483 § 52.2, 1980)

16.16.110 Staff and planning commission reports and recommendations on applications for major and minor divisions.

Government Code Section 66452.3 incorporated by reference. (Ord. 493 (part), 1980; Ord. 483 § 52.3, 1980)

16.16.120 Approval of applications for major or minor divisions as a result of planning commission or city council failure to act.

Government Code Section 66452.4 incorporated by reference. (Ord. 493 (part), 1980; Ord. 483 § 52.4, 1980)

16.16.130 Appeal procedures and time limitations with regard to appeals.

Appeal of Planning Commission decisions may be appealed to the City Council in accordance with Section 2.52. ~~Government Code Section 66452.5 incorporated by reference. The appeal board is the city council. With respect to Government Code Section 66452.5(d), "interested persons" does not include persons who do not meet any of the following criteria:~~

~~A. Do not live within the city;~~

~~B. Do not live within one-fourth mile of the property under consideration;~~

~~C. Do not own property or operate a business within one-fourth mile of the property under consideration.~~

~~Interested persons may appeal planning commission decisions made under the authority of this title.~~

~~(Ord. 483 § 52.5, 1980)~~

16.16.140 Expiration of approved applications for major divisions or minor divisions.

Approved or conditionally approved applications for major divisions and minor divisions shall be subject to the provisions of Government Code Sections 66452.6 and 66463.5. Approvals shall expire within ~~twelve~~ twenty-four months unless formally extended by the body which granted the approval. All stay proceedings provided for by Government Code Section 66452.6(c) shall be heard by the city council in accordance with its normal public hearing procedures. (Ord. 493 (part), 1980; Ord. 483 § 52.6, 1980)

16.16.150 Extension of tentative map approval time to allow consideration by office of intergovernmental management.

Government Code Section 66452.7 incorporated by reference. (Ord. 483 § 52.7, 1980)

16.16.160 Review of tentative map by intergovernmental agencies.

Government Code Sections 66453 through 66455.7 incorporated by reference. (Ord. 483 § 53, 1980)

16.16.170 Procedure for dedication.

Any parcel map which contemplates that any public or offsite improvements will be made after the recordation of the parcel map must be approved by the city council. Tentative maps for minor division which do not involve either dedications or deferred public or offsite improvements may be approved as parcel ~~mans~~ maps by the planning commission. (Ord. 493 (part), 1980; Ord. 483 § 63, 1980)

16.16.180 Expiration of approved applications for minor divisions.

See Section 16.16.140. (Ord. 493 (part), 1980; Ord. 483 § 63.5, 1930)

16.16.190 Tree removal.

Applications for tentative map may request that trees for which removal is contemplated may be so designated upon the approved tentative and final maps. The city may condition any such approvals with measures necessary to ensure that if the trees are, in fact, removed the project will also be finished. Upon such approval and appropriate designation appearing upon the tentative or final map, any such designated trees may be removed without the owner of the property having to comply with any other tree removal ordinances of the city,

provided such removal takes place within three years of the approval of the tentative map. (Ord. 483 § 100, 1980)

Chapter 16.20
FINAL MAPS

Sections:

16.20.010 Reserved.

(Ord. 483 § 33, 1980)

16.20.020 Content and form requirements of final maps – Requirement of civil engineer or licensed land surveyor preparation.

Government Code Section 66434 incorporated by reference. (Ord. 483 § 34, 1980)

16.20.030 Owner's development liens created pursuant to Education Code Section 39327 must be shown on final map.

Government Code Section 66434.1 incorporated by reference. All geologic/ engineering reports prepared in conjunction with an application to subdivided property shall be noted on the map as provided in Government Code Section 66434(f). (Ord. 628 § 2, 1987; Ord. 483 § 34.1, 1980)

16.20.040 Public inspection of soils and geologic reports.

The soils report, geologic report, or soils and geologic reports specified in subdivision (f) of Section 66434 shall be kept on file for public inspection by the city. (Ord. 483 § 34.5, 1980)

16.20.050 Combining certificates and acknowledgments.

Prior to filing, those certificates and acknowledgments set forth in this chapter shall appear on the final map and may be combined where appropriate. (Ord. 483 § 35, 1980)

16.20.060 Certificates of all parties having record title interest in real property to be subdivided – Requirement thereof – Exceptions.

Government Code Section 66436 incorporated by reference. (Ord. 483 § 36, 1980)

16.20.070 Dedications and offers of dedications must be certified on final map.

Government Code Section 66439 incorporated by reference. (Ord. 483 § 39, 1980)

16.20.080 City clerk certificate required of all final maps – Contents of certificate.

Government Code Section 66440 incorporated by reference. (Ord. 483 § 40, 1980)

16.20.090 Engineer's or surveyor's certificate required on parcel maps.

Government Code Section 66441 incorporated by reference. (Ord. 483 § 41, 1980)

16.20.100 Form of engineer's or surveyor's certificate.

Government Code Section 66449 incorporated by reference. (Ord. 483 § 49, 1980)

16.20.110 Submission of parcel maps to city engineer – Twenty days for action thereon – Form of city engineer's certificate.

Government Code Section 66450 incorporated by reference. (Ord. 483 § 50, 1980)

16.20.120 Multiple final maps.

Government Code Section 66456.1 incorporated by reference. (Ord. 483 § 56.1, 1980)

16.20.130 Request for final map approval.

Government Code Section 66457 incorporated by reference. (Ord. 483 § 57, 1980)

16.20.140 Time limitations for decision by city council as to whether required conditions have been met.

Government Code Section 66458 incorporated by reference. (Ord. 483 § 58, 1980)

16.20.150 Subdivision agreements.

If, at the time of approval of the final map by the city council, any public improvements required by the city pursuant to this chapter or the California Subdivision Map Act have not been completed and accepted in accordance with standards established by the city at the time of the approval or conditional approval of the tentative map, the city council, as a condition precedent to the approval of the final map, shall require the subdivider to enter into one of the agreements, as specified by the city council, that are referenced in California Government Code Section 66462 (Subdivision Map Act). All such agreements shall, at a minimum, comply with the requirements specified in California Government Code Section 66462. (Ord. 884 § 2, 2005)

Chapter 16.24
DESIGN STANDARDS

Sections:

16.24.010 Planning commission defined.

"Planning Commission" as used in this chapter means a five-person body appointed by the city council and authorized to issue decisions on minor land divisions and to review and make recommendations on major land divisions in accordance with section 16.16.090. ~~city council with regard to any matter first heard by the planning commission but later reviewed by the city council.~~ (Ord. 483 § 11(A), 1980)

16.24.020 Standard specifications for improvements.

In addition to the specifications contained in this chapter, improvements required pursuant to any tentative map, parcel map, or subdivision map must meet the requirements of the ~~1973~~ city's "Standard Drawings" which are incorporated herein by reference and which contain specifications relative to streets, sidewalks, storm drains, signs, elevation grades, street tree placement, railways, fences, and street lighting. (Ord. 483 § 11(B), 1980)

16.24.030 Street alignment.

All streets shall as far as practicable be in alignment with existing adjacent streets by continuance of the centerline thereof or by adjustments by curves and shall be in general conformity with the plans of the planning commission for the most advantageous development of the area in which the subdivision lies. (Ord. 483 § 11(C)(1), 1980)

16.24.040 Intersection angles.

Streets shall be required to intersect one another at an angle as near to a right angle as is practicable in each specific case. (Ord. 483 § 11 (C)(2), 1980)

16.24.050 Dead-ends and cul-de-sacs.

Where necessary to give access to or permit a satisfactory future subdivision of adjoining land, streets shall extend to the boundaries of the property and the resulting dead-end streets may be approved without a turnaround. In all other cases, a turnaround having a minimum radius of thirty-two feet shall be required. (Ord. 483 § 11 (C)(3), 1980)

16.24.060 Intersection corner rounding.

Whenever a major street or state highway intersects any other street or highway, the property lines at each block corner shall be rounded with a curve having a radius of not less than thirty feet. On all other street intersections, the property line at each block corner shall be rounded with a curve having a radius of not less than twenty feet. In either case, a greater curve radius may be required if streets intersect other than at right angles. (Ord. 483 § 11(C)(4), 1980)

16.24.070 Curve radius.

The centerline curve radius on all streets and highways shall conform to accepted engineering standards of design and shall be subject to approval of the public works director. (Ord. 483 § 11(C)(5), 1980)

16.24.080 Grades of streets and highways.

No street or highway shall have a grade of less than five-tenths percent nor more than seven percent unless, because of topographical conditions or other exceptional conditions, the public works director determines otherwise. (Ord. 483 § 11(C)(6), 1980)

16.24.090 Non-access strips.

Reserved strips controlling the access to public ways or minimizing values for special improvement assessments will not be approved, unless such strips are necessary for the protection of the public welfare or

of substantial property rights, or both, and in no case unless the control and disposal of the land comprising such strips is placed definitely within the jurisdiction of the city under conditions approved by the planning commission. (Ord. 483 § 11(C)(7), 1980)

16.24.100 Street and highway widths.

Streets and highways not shown on a city master street and/or plan line for streets or highways plan or not affected by proceedings initiated by the council or approved by the council upon initiation by other legally constituted governmental bodies, shall not be of less width than those set forth under this chapter, except where it can be shown by the subdivider to the satisfaction of the planning commission that the topography of the small number of lots served and the probable future traffic development are such as to unquestionably justify a narrower width. Increased widths may be required where streets are to serve commercial property or where probable traffic condition warrant such. Approval or determination of street of highway classification shall be made by the planning commission. (Ord. 483 § 11(C)(8), 1980)

16.24.110 Service roads and off-street parking.

When the front of any lots proposed for commercial usage front on any major or secondary street or highway, the subdivider shall be required to dedicate and improve a service road to provide ingress or egress to and from such lots or in lieu thereof, if approved by the planning commission, the subdivider shall be required to dedicate for public use and improve an area approved by the planning commission and adjacent to such lots for off-street parking purposes. When the front of any lots proposed for residential usage front on any freeway, state highway, or parkway, the subdivider shall dedicate and improve a service road at the front of such lots, unless such is already existent as a part of such freeway or parkway. In addition to any requirement for a service road, the planning commission shall require adequate off-street parking areas for all lots proposed for commercial usage. (Ord. 483 § 11(C)(9), 1980)

16.24.120 Non-access and planting strips.

When the rear of any lots border any major or secondary street, highway, or parkway, the subdivider may be required to execute and deliver to the city an instrument, deemed sufficient by the city attorney, prohibiting the right of ingress and egress to the rear of any lots across the side lines of such streets or highways. When the rear of any lots border any freeway, state highway, or parkway, the subdivider may be required to dedicate and improve a planting strip adjacent to such parkway or freeway. (Ord. 483 § 11(C)(10), 1980)

16.24.130 Alleys.

When any lots are proposed for commercial or industrial usage, alleys at least thirty feet in width may be required at the rear thereof with adequate ingress and egress for truck traffic. (Ord. 483 § 11(C)(11), 1980)

16.24.140 Street names.

All street names shall be as approved by the Building Official ~~planning commission~~. (Ord. 483 § 11(C)(12), 1980)

16.24.150 Acre or large lot subdivision.

Where a parcel is subdivided into lots of one acre or more, the planning commission may require that the blocks shall be of such size and shape, and be so divided into lots as to provide for the extension and opening of streets and alleys at such intervals as will permit a subsequent division of any parcel into lots of normal size. (Ord. 483 § 11(C)(13), 1980)

16.24.160 Utilities, lighting and signs.

A. Utilities. Available and necessary utilities, including CATV hookup facilities, with connections to each lot within the subdivision, shall be constructed in accordance with the utility's requirements. All utilities shall be underground except where (1) subdivider makes a specific request for waiver of this requirement; (2) extremely unusual circumstances necessitate such waiver; (3) the planning commission approves such request and makes findings specifying the nature of the extremely unusual circumstance.

B. Easements. The subdivider shall grant easements not less than five feet in width for public utility, sanitary sewer, and drainage purposes on each side of rear lot lines, along side lot lines, and in planting strips wherever necessary, provided easements of lesser width may be allowed when at the determination of the city engineer the purpose of easements may be accomplished by easements of lesser width and provided further that in such determination the city engineer shall prescribe the width of such easements. If undergrounding is waived, overhead easements shall be at the rear of all lots, except where alleys are available, and in contiguous locations to permit anchorage, line continuity, ingress, and egress. Dedication of necessary easements shall be to the city for the purpose of installing utilities, planting strips, and for other public purpose as may be ordered or directed by the council.

C. Street Lighting. Street lighting shall be installed in accordance with city standards as provided by this title or other ordinances.

D. Street Signs and Hydrants. Street signs and hydrants shall be placed on all streets as directed by the city. (Ord. 483 § 11(D), 1980)

16.24.170 Lot Designs.

A. The size and shape of lots shall be in conformance to any zoning regulations effective in the area of the proposed subdivision.

B. The side lines of all lots, so far as possible, shall be at right angles to the street which the lot faces, or radial or approximately radial if the street is curved.

C. The planning commission may require that building set-back lines shall be indicated by dotted lines on the subdivision map.

D. No lot shall be divided by a city boundary line.

E. Lots without frontage on a dedicated public street or private road of twenty feet or more will not be permitted. Frontage requirements for flag lots may be satisfied by a 20-foot or greater driveway accessing a street or a private road.

F. Lots other than corner lots may front on more than one street where necessitated by topographic or other unusual conditions.

G. In riparian corridors no lots may be created which do not contain adequate building area outside the riparian or stream setback. (See Chapter 17.95.) (Ord. 634 § 2, 1987; Ord. 483 § 11(E), 1980)

H. The Planning Commission or the City Council may grant an exception to one or more design standards if they find that strict conformance is impractical due to the site's physical, topographic, or geometric conditions or if it would result in an undesirable or inferior subdivision design. Exceptions may not be granted for minimum lot size requirements or subsections D and G above.

16.24.180 Walkways.

The subdivider may be required to dedicate and improve walkways across long blocks or to provide access to school, park, or other public areas. (Ord. 483 § 11(F), 1980)

16.24.190 Watercourses.

The subdivider shall, subject to riparian rights, dedicate a right-of-way for storm drainage purposed conforming substantially with the lines of any natural watercourse or channel, stream, or creek that traverses the subdivision, or at the option of the subdivider provide by dedication further and sufficient easements or construction, or both, to dispose of such surface and storm waters. (Ord. 483§ 11(G), 1980)

16.24.200 Deed restrictions.

A copy of the deed restrictions applicable to the subdivision shall be filed with the planning commission at the time of tentative map application. (Ord. 483 § 11(H), 1980)

16.24.210 Flood and geologic hazards.

If any portion of any land, within the boundaries shown on any such final map, is subject to overflow, inundation, flood hazard by storm waters, or other known geologic hazard, such fact and said portion shall be clearly shown on such final map, enclosed in a border on each sheet of said map. (Ord. 483 § 11(I), 1980)

16.24.220 Erosion and grading control.

At the time of the application for any tentative map or parcel map, the applicant shall specify the general nature, the location, and the extent of all proposed grading activities. The community development director and the planning commission may require of the applicant all such technical information as is necessary to determine the erosion, including sedimentation, implications of the grading or any other development activities which may result from the applicant's project. The city shall have the authority to impose all such conditions as are necessary to prevent or mitigate damages resulting to off-site properties as a result of sedimentation or other erosion related problems. (Ord. 483 § 11(1), 1980)

16.24.230 Improvement approval.

A. Improvement work shall not be commenced until plans and profiles for such work have been submitted to and approved by the city engineer and/ or public works director. Such plans may be required before approval of the final map. All such plans and profiles shall be prepared on good quality tracing cloth or tracing paper in accordance with requirements of the city engineer and/or public works director, and all tracings shall become the property of the city. At completion of work, original tracings shall be made as built and filed with the city.

B. All required improvements shall be constructed under the inspection of and subject to approval of the public works director. Cost of inspection shall be paid by the subdivider in any such amount as may be set by city council resolution.

C. All underground utilities, sanitary sewers, and storm drains installed in streets, service roads, alleys, or highways shall be constructed prior to the surfacing of such streets, service roads, alleys, or highways. Service connections for all underground utilities and sanitary sewers shall be placed to such length as will obviate the necessity for disturbing the street or alley improvements, when service connections thereto are made.

D. Technical details regarding improvements which are not specifically set forth in this ordinance or other ordinances of the city shall be determined by the public works director or the city engineer. (Ord. 483 § 11(K), 1980)

16.24.240 City regulation of divisions into four or fewer lots – Limitations on city's ability to impose requirements – Required improvements must be noted on map – Time when city-required improvements must be constructed – Required findings.

Government Code Section 66411.1 incorporated by reference. (Ord. 483 § 11.1, 1980)

16.24.250 Limitations on applicability of Subdivision Map Act.

Government Code Section 66412 incorporated by reference. (Ord. 483 § 12.1, 1980)

16.24.260 In applying title, housing needs of the region must be considered.

Government Code Section 66412.2 incorporated by reference. (Ord. 483 § 12.2, 1980)

16.24.270 Reserved.

(Ord. 483 § 12.5, 1980)

16.24.280 Effect of annexation on county-approved maps.

Government Code Section 66413 incorporated by reference. (Ord. 483 § 13, 1980)

Chapter 16.28
DEDICATIONS

Sections:

16.28.010 Required dedications.

Government Code Section 66475 incorporated by reference. It is the city's intention to maintain maximum authority under said section. (Ord. 483 § 75, 1980)

16.28.020 Dedications for bicycle path approval.

Government Code Section 66475.1 incorporated by reference. The city council may, in approving any subdivision, to the fullest extent provided in Government Code Section 66475.1, require the dedication of land for the purpose of providing bicycle paths. (Ord. 483 § 75.1, 1980)

16.28.030 Dedications for local transit facilities.

The city council, in approving subdivisions, may in the criteria of Government Code Section 66475.2, require dedications for purposes of providing local transit facilities as contemplated by said Government Code Section. (Ord. 483 § 75.2, 1980)

16.28.040 Solar easements.

Reserved. (Ord. 483 § 75.3, 1980)

16.28.050 Non-access strips.

In approving any subdivision that the city may require, to the fullest extent allowed by Government Code Section 66476, a waiver of direct access rights to streets abutting upon the subdivided property may be included. (Ord. 483 § 76, 1980)

16.28.060 Dedication or in-lieu fees for park and recreational purposes.

In approving subdivisions, the city may, to the fullest extent allowable under Government Code Section 66477, require the dedication of land or the payment of fees in lieu thereof, or a combination of both, for park and recreational purposes, so long as the criteria of Government Code Section 66477 are met. (Ord. 483 § 77, 1980)

16.28.070 Acceptance or rejection of offer of dedication at time of approval of final map.

Government Code Section 66477.1 incorporated by reference. (Ord. 483 § 77.1, 1980)

16.28.080 Acceptance of offer of dedication after acceptance of final map.

Government Code Section 66477.2 incorporated by reference. (Ord. 483 § 77.2, 1980)

16.28.090 Acceptance of dedication offers not final until recordation of map.

Government Code Section 66477.3 incorporated by reference. (Ord. 483 § 77.3, 1980)

16.28.100 Dedication to school districts.

Reserved. (Ord. 483 § 78, 1980)

16.28.110 Mandatory requirements for provision of public access to public resources.

Government Code Sections 66478.1 through 66478.14 incorporated by reference. (Ord. 483 § 78.1, 1980)

16.28.120 Reservation of areas for parks, recreational facilities, fire stations, libraries, or other public uses.

Government Code Sections 66479 through 66482 incorporated by reference. The city shall have all authority provided by said Government Code sections, provided its adopted specific plans and general plans contain sufficient specificity. (Ord. 483 § 79, 1980)

Chapter 16.32
GENERAL STANDARDS

Sections:

* The provisions of this chapter correlate to Chapter 2 Article 1 of the Subdivision Map Act.

16.32.010 Reserved.

(Ord. 483 § 25, 1980)

16.32.020 Divisions of land which require tentative maps, final maps, or parcel maps are required.

Government Code Section 66426 incorporated by reference. (Ord. 483 § 26, 1980)

16.32.030 Maps not showing buildings or division of air space do not preclude city regulation by ordinance of design or location of buildings – Fee computation.

Government Code Section 66427 incorporated by reference. (Ord. 483 § 27, 1980)

16.32.040 Findings required for conversion of condominiums, etc.

Government Code Section 66427.1 incorporated by reference. (Ord. 483 § 27.1, 1980)

16.32.050 Certain restrictions on condominium, etc., conversions only allowed when contained in general or specific plans.

Government Code Section 66427.2 incorporated by reference. See also city ordinance No. 460.

(Ord. 483 § 27.2, 1980)

16.32.060 Reserved.

(Ord. 483 § 29, 1980)

16.32.070 Consent of all parties necessary for final or parcel map.

Government Code Section 66430 incorporated by reference. (Ord. 483 § 30, 1980)

16.32.080 When county surveyor may perform city engineer duties.

Government Code Section 66431 incorporated by reference. (Ord. 483 § 31, 1980)

16.32.090 Requirements for conversion of mobile home parks.

For additional requirements for conditional use permits involving the conversion of mobile home parks, see Chapter 17.90. (Ord. 576§ 4, 1984)

Chapter 16.36
FEES

Sections:

16.36.010 Fees for planned drainage facilities, removal of surface and storm waters, and construction of planned sanitary sewer facilities.

Government Code Section 66483 incorporated by reference. (Ord. 483 § 83, 1980)

16.36.020 Fees for defraying actual and estimated costs of constructing bridges or major thoroughfares.

The city shall have the authority to require payment of fees as described in Government Code Section 66484, which is by reference incorporated in this chapter. Particular emphasis is called to the following facts: these must be imposed by specific reference to the circulation element of the general plan; there must be a public hearing; there must be a fair method of allocating costs. (Ord. 483 § 84, 1980)

16.36.030 Fees for groundwater recharge facilities.

Reserved. (Ord. 483 § 84.5, 1980)

Chapter 16.40
REIMBURSEMENT FOR EXPENSES

Sections:

16.40.010 City may require improvements which contain supplemental size or capacity.

The city shall have maximum authority under Government Code Section 66485, and by this reference incorporates that section. (Ord. 483 § 85, 1980)

16.40.020 Agreement with subdivider for reimbursement of portion of subdivider's costs.

Government Code Sections 66484 through 66487 incorporated by reference. (Ord. 483 § 86, 1980)

16.40.030 Drainage for sanitary sewer area fees.

Government Code Section 66488 incorporated by reference. (Ord. 483 § 88, 1980)

16.40.040 Establishment of area of benefit.

Government Code Section 66489 incorporated by reference. (Ord. 483 § 89, 1980)

Chapter 16.44
SOILS REPORT

Sections:

16.44.010 Preliminary soils report required.

A preliminary soils report, in accord with Government Code Section 66490, shall be required of all subdivisions of five or more lots and may be required for applications to divide property into four or fewer parcels. However, preliminary soils reports may be waived if the determinations outlined in Government Code Section 66491 are made by the city. (Ord. 483 § 90, 1980)

16.44.020 Soils investigation.

Government Code Section 66491(b) incorporated by reference. (Ord. 483 § 91, 1980)

Chapter 16.48
TAXES AND ASSESSMENTS

Sections:

16.48.010 Taxes and assessments.

Government Code Sections 66492 through 66494 incorporated by reference. (Ord. 483 § 92, 1980)

Chapter 16.52
MONUMENTS

Sections:

16.52.010 Required monumentation.

Government Code Section 66495 incorporated by reference. (Ord. 483 § 95, 1980)

16.52.020 Circumstances where interior monuments need not be set.

Government Code Section 66496 incorporated by reference. (Ord. 483 § 96, 1980)

16.52.030 Notice of final setting of all monuments and payments of fees.

Government Code Section 66497 incorporated by reference. (Ord. 483 § 97, 1980)

16.52.040 Death, disability or retirement of engineer or surveyor setting monuments.

Government Code Section 6698 incorporated by reference. (Ord. 483 § 98, 1980)

Chapter 16.56
IMPROVEMENT SECURITY

Sections:

16.56.010 Manner of providing security.

The city disfavors the practice of allowing recordation of the final map before actual completion of all improvements. However, upon a clear showing of desirability or need, and upon approval of the city council, improvements may be allowed after recordation of the final map. In such a situation, and in any other situation in which act or agreement arises pursuant to this title, such security may be in any of the forms provided in Government Code Section 66499, which is by this reference incorporated in this chapter. (Ord. 483§ 99, 1980)

16.56.020 Form of faithful performance bonds.

Government Code Section 66499.1 incorporated by reference. (Ord. 483 § 99.1, 1980)

16.56.030 Form of bond for the security of laborers and materialmen.

Government Code Sections 66499.2 incorporated by reference. (Ord. 483 § 99.2, 1980)

16.56.040 Amount of security which must be provided.

Government Code Sections 66499.3 and 66499.4 incorporated by reference. (Ord. 483 § 99.3, 1980)

16.56.050 Procedure for reducing the amount of security.

Government Code Sections 66499.5 and 66499.7 incorporated by reference. (Ord. 483 § 99.5, 1980)

16.56.060 Security immune from attachment.

Government Code Section 66499.6 incorporated by reference. (Ord. 483 599.6, 1980)

16.56.070 Cases where performance of secured obligation is subject to approval of another agency.

Government Code Section 66499.8 incorporated by reference. (Ord. 483 § 99.8, 1980)

16.56.080 Limitations of liability upon security given.

Government Code Section 66599.9 incorporated by reference. (Ord. 483 § 99.9, 1980)

16.56.090 Lawsuit against security or surety.

Government Code Section 66499.10 incorporated by reference. (Ord. 483 § 99.10, 1980)

Chapter 16.60
REVERSIONS AND EXCLUSIONS

Sections:

16.60.010 Commencement of proceedings for reversion to acreage.

Government Code Sections 66499.11 and 66499.12 incorporated by reference. (Ord. 483 § 99.11, 1980)

16.60.020 Form of petition.

Government Code Section 66499.13 incorporated by reference. (Ord. 483 § 99.13, 1980)

16.60.030 Fee.

Government Code Section 66499.14 incorporated by reference. Fee may be set or amended from time to time by council resolution. (Ord. 483 § 99.14, 1980)

16.60.040 Notice.

Government Code Section 66499.15 incorporated by reference. (Ord. 483 § 99.15, 1980)

16.60.050 Required findings.

Government Code Section 66499.15 incorporated by reference. (Ord. 483 § 99.16, 1980)

16.60.060 Mandatory conditions of reversion.

Government Code Section 66499.17 incorporated by reference. (Ord. 483 § 99.17, 1980)

16.60.070 Reversion, when effective.

Government Code Section 66499.18 incorporated by reference. (Ord. 483 § 99.18, 1980)

16.60.080 Return of fees and deposits.

Government Code Section 66499.19 incorporated by reference. (Ord. 483 § 99.19, 1980)

16.60.090 Reversion of land previously subdivided consisting of four or less contiguous parcels.

Government Code Section 66499.20-1/2 incorporated by reference. (Ord. 483 § 99.20 1/2, 1980)

16.60.100 Merger of subdivided lands and resubdivision of same without reverting to acreage.

Government Code Section 66499.20-3/4 incorporated by reference. The subject of exclusions is a matter for county and court determination. Interested persons should consult Government Code Sections 66499.21 through 66499.29. (Ord. 483 § 99.20-3/4, 1980)

Chapter 16.64
ENFORCEMENT

Sections:

* Government Code Sections 66499.30, 66499.32, 66499.33 and 66499.37 do not require city implementation and have no parallel sections in this chapter.

16.64.010 City prohibited from issuing any permits for land in violation of this title or the subdivision map.

Government Code Section 66499.34 incorporated by reference. (Ord. 483 § 99.34, 1980)

16.64.020 City proceedings to determine whether or not real property is in violation of this title or the Subdivision Map Act – Certificate of compliance.

Government Code Section 66499.35 incorporated by reference. (Ord. 483 § 99.35, 1980)

16.64.030 Notice of intention to record a notice of violation of this title or the Subdivision Map Act.

Government Code Section 66499.36 incorporated by reference. (Ord. 493 § 99.36, 1980)

Chapter 16.68
CONDOMINIUM AND COMMUNITY APARTMENT CONVERSIONS

Sections:

16.68.010 Purpose.

A. This chapter is enacted to establish requirements and procedures for the control and approval of conversion of existing multifamily rental housing and nonresidential structures to residential condominium and community apartment projects. By their unique character and requirements, conversions differ specifically from other subdivisions and apartments. The unique status of such projects tends to magnify the effects associated with higher urban densities to a point where public health, safety, welfare, and economic prosperity of the city of Capitola are significantly affected. Such projects may conflict with the policy of the city as set forth in the general plan to provide a reasonable balance of rental and ownership housing within the city, to provide a variety of individual choices of tenure, type, price, and location of housing and to maintain the supply of rental housing for low and moderate income persons and families.

B. To insure that such problems are avoided in both the short and long term, it is the express intent of the city to treat such projects differently from multiple-family dwellings or other projects which are not residential condominium or community apartment projects and to establish rules and standards thereto regulating the conversion to residential condominium or community apartment projects in the city.

C. This chapter is enacted to insure that proposed conversions are approved consistent with policies and objectives of the city, particularly as follows:

1. To make adequate provisions for the housing needs of all economic segments of the community;

2. To facilitate inhabitant ownership of residential units while recognizing the need for maintaining adequate rental housing inventories;

3. To provide a reasonable balance of rental and ownership housing;

4. To inform prospective conversion purchasers regarding the physical conditions of the structure offered for purchase. (Ord. 460 (part), 1979)

16.68.020 Compliance with Government Code.

A. The city shall comply with Government Code Section 66427.1 in its present form and as hereafter amended.

B. The city shall comply with Government Code Section 66427.2 in its present form and as hereafter amended. This section provides in abbreviated form that without general or specific plan provision containing definite objectives, the city may not reject condominium conversions for failure to comply with the general plan or on the basis of one of the Government Code Section 66474findings, justifying disapproval. Reference should be made to the full statute for particulars. (Ord. 460 §§ 1.1 and 1.2, 1979)

16.68.030 Definitions.

For the purpose of this section, certain words and phrases are defined and certain provisions shall be construed as set forth in this section unless it is apparent from their context that a different meaning is intended.

A. “Association” is the organization of persons who own a condominium unit or right of exclusive occupancy in a community apartment.

B. “Common area” is an entire project excepting all units therein.

C. “Community apartment or stock cooperative” is an estate in real property consisting of an undivided interest in common in a parcel of real property and the improvements therein coupled with the right of exclusive occupancy for residential purposes of an apartment located thereon. All references to a “condominium” in this chapter shall be deemed to refer to a condominium, community apartment, and stock cooperative, except where specifically noted.

D. “Condominium” is an estate in real property consisting of an undivided interest in common in a portion of a parcel or real property together with a separate interest in space in a residential, industrial, or commercial building on such real property, such as an apartment, office, or store. A condominium may include, in addition, a separate interest in other portions of such real property.

E. “Conversion” is a change in the type of ownership of a parcel or parcels of land, together with the existing attached structures, to that defined for a condominium project regardless of the present or prior use of such land and structures and whether substantial improvements have been made or are to be made to such structures.

F. “Developer” is the owner or subdivider with a controlling proprietary interest in the proposed project.

G. “Low and moderate income” means those income levels as defined by AMBAG in the Housing Opportunity Plan dated January, 1978, and as updated to reflect current income levels.

H. “Organizational documents” are the declaration of covenants, conditions and restrictions, articles of incorporation, bylaws, and any contracts for the maintenance, management, or operation of all or part of the project.

I. “Project” is a residential condominium project or a community apartment project.

J. “Recreational open space” is an open space on the project (exclusive of the required front setback area) which shall be used exclusively for leisure and recreational purposes, for the use and enjoyment of occupants (and their visitors) of units on the project and to which such occupants (and their visitors) shall have the right of use and enjoyment. Accessory structures such as swimming pools, recreational buildings, and landscaped areas may be included as open space.

K. A “residential condominium project” is the conversion of an existing structure to a condominium containing five or more condominiums for residential purposes.

L. “Unit” is the element of a residential condominium project which is not owned in common with the owners of other condominiums in project or is an apartment in a community apartment project to which an owner of an undivided interest in common or community apartment project has a right of exclusive occupancy.
(Ord. 460 §§ 2.1 – 2.13, 1979)

16.68.040 Conditional use permit and subdivision map required.

A. No conversion to a project shall be permitted in any district unless a conditional use permit and subsequent final map have been applied for and granted pursuant to this chapter and other applicable state and local ordinances regulating use permit and subdivision approvals.

B. In no case shall a unit be converted that was built (final inspections) prior to January 1, 1970.

C. No building for which a building permit was issued after the effective date of the ordinance codified in this chapter may thereafter be converted to a condominium unless, prior to the issuance of the building permit, the project was one for which there was an approved tentative condominium subdivision map. (Ord. 460 § 3.1, 1979)

16.68.050 Contents of application for conditional use permit for conversion of condominium or community apartments.

The application for a conditional use permit for conversion shall include the following information:

A. A detailed description of the project proposal to include applicant's provisions for meeting the standards set forth in Sections 16.68.100 through 16.68.190;

B. A preliminary site plan showing all existing proposed improvements (to include designated open-space areas);

C. A detailed analysis establishing the criteria set forth in the housing element of the city's general plan, and Section 16.68.290;

D. Makeup of existing tenant households, including family size, length of residence, age of tenants, and whether receiving federal or state rent subsidies;

E. All rental history detailing the size in square footage, the current or last rental rate, the monthly rental rate for the preceding two years, and the monthly vacancy over the preceding two years of each rental unit proposed to be converted;

F. The planning commission may required that the applicant shall distribute to all tenants a questionnaire to be returned to the city directly. The questionnaire shall contain any or all questions deemed necessary by the planning commission in order to fully determine the physical condition of the units and/or rental history for each unit. (Ord. 460 § 3.2, 1979)

16.68.060 Contents of application for tentative map for conversion of condominium and community apartments.

The application for a tentative map for conversion shall include the following information:

A. A boundary map showing the location of all existing easements, structures and trees to be removed, and other improvements upon the property;

B. A property report describing the condition and estimating the remaining useful life of each of the following elements of each structure situated within the project proposed for conversion: roofs, foundations, exterior paint, paved surfaces, mechanical systems, electric systems, plumbing systems. Such report shall be prepared by an appropriately licensed contractor or licensed engineer;

C. A structural pest control report. Such report shall be prepared by a licensed structural pest control operator pursuant to Section 8516 of the Business and Professions Code;

D. A building history report including the following:

1. The date of construction of all elements of the project,

2. A statement of the major uses of the project since construction,

3. The date and description of each major repair and/or renovation of any element since the date of construction. For the purposes of this subsection, a “major repair” and/or renovation shall mean any repair for which an expenditure of more than five hundred dollars was made,

4. Statement regarding current project ownership;

E. A true copy of each application to the Department of Real Estate of the state for issuance of a final public report for the project proposed for conversion including all attachments and exhibits thereto required by the Department pursuant to Section 11011 of the Business and Professions Code; a true copy of the statement of compliance (Form 643 as amended) pursuant to Title 10, California Administration Code, Section 2792.9, or its successor, relating to operating and maintenance funds during start-up; a statement of the amount and type of capital contributions to be provided by the developer to the association for deferred maintenance of the common areas, and the sum and date on which the association will receive said sum. All contributions shall be made prior to recordation of a final map;

F. A true copy of the Supplemental Questionnaire for Apartments Converted to Condominium Projects submitted to the Department of Real Estate of the state for the project proposed for conversion; this shall include all attachments and exhibits thereto;

G. The proposed annual operating budget containing a sinking fund to accumulate reserve funds to pay for major anticipated maintenance, repair, or replacement expenses, with the developer providing a proportional payment relative to the number of units held at each anniversary date;

H. A copy of warranty to be made against defects to provide a minimum coverage of two years from sale of unit. (Ord. 460 § 3.3, 1979)

16.68.070 Waiver from application content requirements.

An applicant may apply to the planning commission for permission to omit any of the information required by Section 16.68.050 or 16.68.060. That application shall only be granted if the planning commission concludes that the items which the applicant seeks to exclude from his or her application would be of little or no value to the commission in its deliberations. (Ord. 460 § 3.4, 1979)

16.68.080 Covenants, conditions and restrictions.

Unless specifically waived by the city council upon application by the applicant to the city council, the covenants, conditions and restrictions for any conversion to five or more units shall contain the following provisions;

A. The specific assignment of parking spaces;

B. Provisions for management and maintenance of common areas and facilities within the project;

C. Provisions making the city a party in title to enforce maintenance requirements contained in the covenants, conditions and restrictions and to compensate the city for reasonable attorney's fees and costs in so enforcing;

D. Provisions that, in the event of default in payment of annual assessments, members of the association shall be subjected to penalties for late payment and reasonable attorney's fees and costs incurred in collection of the assessments;

E. Provisions allowing the association to terminate the contract of any person or organization engaged by the developer;

F. See Section 16.68.140;

G. Restrict RVs or provide separate screened area. (Ord. 460 § 3.5, 1979)

16.68.090 Draft versions.

In lieu of providing the information required by the subsections E and F of Section 16.68.060, the applicant may submit drafts of the various required items in the event the various items have not actually been submitted to or been approved by the state agencies. In the event the applicant changes the contents of any of the documents

above-mentioned from the contents of those documents submitted to the city, he or she shall immediately notify the city. Unless the city attorney determines that the changes are quite unlikely to have a bearing upon the city's interests in these matters, as described in Section 16.68.010, the changes in the contents of the items submitted to the city along with the application(s) shall render null and void any previous city approvals of the application(s). (Ord. 460 § 3.6, 1979)

16.68.100 Residential condominium and community apartment conversion development standards – Generally.

Subject to the provisions of Section 16.68.020B, to achieve the purposes of this-chapter, all conversion projects shall conform to the development standards set out in Sections 16.68.110 through 16.68.190. (Ord. 460 § 4.1 (part), 1979)

16.68.110 Off-street parking.

The off-street parking requirements for a project shall be at least one assigned and covered space for each unit. There shall be an additional one space, per unit and at least one space per four units which shall be unassigned (for guests). (Ord. 460 § 4.1(a), 1979)

16.68.120 Meters and control valves.

The consumption of gas and electricity within each unit shall be separately metered so that the unit owner can be separately billed for each utility. A water shut-off valve shall be provided for each unit or for each plumbing fixture. Each unit shall have access to its own meter(s) and heater(s) which shall not require entry through another unit. (Ord. 460 § 4.1(b), 1979)

16.68.130 Overcurrent protection.

Each unit shall have its own panel board for all electrical circuits which serve the unit. (Ord. 460 § 4.1(c), 1979)

16.68.140 Impact sound insulation.

Wall and floor-ceiling assemblies shall conform to Title 25, California Administrative Code, Section 1092, or its successor, or permanent mechanical equipment, including domestic appliances, which is determined by the director of building and zoning to be a potential source of vibration or noise, shall be shock-mounted, isolated from the floor and ceiling, or otherwise installed in a manner approved by the director of building and zoning to lessen the transmission of vibration and noise. Floor covering may only be replaced by another floor covering that provides the same or greater insulation. (Ord. 460 § 4.1(d), 1979)

16.68.150 Compliance with building and housing codes.

All projects shall meet the requirements of the city building and fire codes as they existed at the time of construction of the project, and the housing code as it exists at the time of application approval and also provisions of:

A. Smoke Detectors. Each living unit shall be provided with approved detectors of products of combustion other than heat conforming to the latest Uniform Building Code Standards, mounted on the ceiling or wall at a point centrally located in the corridor or area giving access to rooms used for sleeping purposes.

B. Maintenance of Fire Protection Systems. All on-site fire hydrants, fire alarm systems, portable fire extinguishers, and other fire protective appliances shall be retained in operable condition at all times maintained by the homeowner's association and delineated in the covenants, conditions, and restrictions. (Ord. 460 § 4.1(e), 1979)

16.68.160 Storage facilities.

Separate storage facilities shall be provided for each unit in such manner, size, and location to be determined by the planning commission at the time of use permit approval with the minimum area to be two hundred cubic feet. (Ord. 460 § 4.1(f), 1979)

16.68.170 Open spaces.

Provisions for open spaces shall be the same as that required for multiple-family units in the zoning ordinance. (Ord. 460 § 4.1(g), 1979)

16.68.180 Condition of equipment and appliances.

The applicant shall supply written certification to the buyer of each unit on the initial sale after conversion that any dishwashers, garbage disposals, stoves, refrigerators, hot water tanks, and air conditioners that are provided are in working condition as of the close of escrow. At such time as the homeowner's association takes over management of the development, the applicant shall provide written certification to the association that any pool and pool equipment and any appliances and mechanical equipment to be owned in common by the association is in working condition. (Ord. 460 § 4.1(h), 1979)

16.68.190 Waiver of requirements.

The provisions of Sections 16.68.110 through 16.68.180 may be waived by the planning commission if the existing circumstances warrant waiver and the proposed conversion substantially conforms to the intent of this section. (Ord. 460 § 4.1(i), 1979)

16.68.200 Property and structural pest control reports.

After reviewing the property and structural pest control reports required to be submitted pursuant to Section 16.68.040, and inspecting the structures situate within the project when he or she deems such inspection necessary, the building official shall identify all items evidenced by such reports and/or inspection to be hazardous to the life, health, or safety of the occupants of such structure within the project or of the general public. No final map shall be approved for recordation until the building official has certified that the requirements of this paragraph and Sections 16.68.100 through 16.68.190 have been met, or that sufficient bonding has been provided to cover the total cost of completing required modifications. (Ord. 460 § 5.1, 1979)

16.68.210 Information to purchasers.

The city may condition approval of the applications upon the developer agreeing to provide any or all of the documents listed in Sections 16.68.040 through 16.68.090 to each prospective purchaser or unit. Failure of the developer or his or her successors to comply with the provisions of this section shall constitute a misdemeanor. (Ord. 460 § 5.2, 1979)

16.68.220 Notice of intent to convert.

A notice of intent to convert shall be delivered to each tenant. Evidence of receipt shall be submitted with the tentative map. The form of the notice shall be as approved by the planning department and shall contain not less than the following:

A. Name and address of current owner;

B. Name and address of proposed subdivider;

C. Approximate date on which the tentative map is proposed to be filed;

D. Approximate date on which the final map or parcel map is to be filed;

E. Approximate date on which the unit is to be vacated by nonpurchasing tenants;

F. Tenant’s right to purchase;

G. Tenant's right of notification to vacate;

H. Tenant's right of termination of lease;

I. Statement of no rent increase;

J. Provision for special cases; and

K. Provision of moving expenses.

Other information may be required as deemed necessary. (Ord. 460 § 6.1, 1979)

16.68.230 Tenant's right to purchase.

As provided in Government Code Section 66427.1(b), any present tenant or tenants of any unit shall be given a nontransferable right of first refusal to purchase the unit occupied at a price no greater than the price offered to the general public. The right of first refusal shall extend for at least sixty days from the date of issuance of the subdivision public report or commencement of sales, whichever date is later. (Ord. 460 § 6.2, 1979)

16.68.240 Vacation of units.

Each nonpurchasing tenant, not in default under the obligations of the rental agreement or lease under which he or she occupies his or her unit, shall have not less than one hundred twenty days from the date of receipt of notification from the subdivider of his or her intent to convert, or from the filing date of the final subdivision map or parcel map, whichever date is later, to find substitute housing and to relocate. (Ord. 460 § 6.3, 1979)

16.68.250 No increase in rents.

A tenant's rent shall not be increased unless first approved by the planning commission from the time of filing of the tentative map until relocation takes place or until the subdivision is denied or withdrawn. Any requests for rent increases must be accompanied with sufficient supporting data to satisfy the planning commission as to the necessity of it. (Ord. 460 § 6.4, 1979)

16.68.260 Special cases.

Any nonpurchasing tenant aged sixty-two or older or handicapped or with minor children in school shall be given an additional six months in which to find suitable replacement housing. (Ord. 460 § 6.5, 1979)

16.68.270 Moving expenses.

The subdivider shall provide moving expenses of one and one-half times the monthly rent to any tenant who relocates from the building to be converted after receipt of notification from the subdivider of his or her intent to convert, except when the tenant has given notice of his or her intent to move prior to receipt of notification from the subdivider of his or her intent to convert. (Ord. 460§ 6.6, 1979)

16.68.280 Notice to new tenants.

After submittal of the tentative map, any prospective tenants shall be notified in writing of the intent to convert prior to leasing. (Ord. 460 § 6.7, 1979)

16.68.290 Effect of proposed conversion on city's low and moderate income housing supply.

In reviewing requests for conversions of existing apartments to condominiums, the planning commission shall consider the following:

A. Whether or not the amount and impact of the displacement of tenants if the conversion is approved would be detrimental to the health, safety, or general welfare of, the community;

B. The role that the apartment structure plays in the existing housing rental market. Particular emphasis will be placed on the evaluation of rental structures to determine if the existing apartment complex is serving low and moderate income, and low and moderate income rents used by the federal and state governments will be used in the evaluation. Along with other factors, the city will consider the following:

1. The probable income range of tenants living in existing apartments based on the assumption that households should pay between one-fourth and one-third of their income for housing. The income range will be used to determine whether potential displaced tenants can be categorized as low and moderate income,

2. The applicant shall show provisions for insuring that a minimum of fifteen percent of the units will be available for low-income households (defined as eighty percent of median income) and that an additional twenty percent will be available to low and moderate income households (defined as one hundred twenty percent of median income). The provisions should include private and public financing programs, projected selling prices and other proposed considerations. Any variance to these minimum requirements must be approved by the city council. In requesting a variance, the applicant must provide sufficient evidence to clearly establish' that the provisions of this section are not applicable to the proposed project due to its housing type location, etc.;

C. The need and demand for lower cost home ownership opportunities which are increased by the conversion of apartments to condominiums;

D. If the planning commission determines that vacancies in the project have been increased for the purpose of preparing the project for conversion, the tentative map may be disapproved. In evaluation of the current vacancy level under this subsection the increase in rental rates for each unit and the average monthly vacancy rate for the project over the preceding two years shall be considered. (Ord. 460 § 6.8, 1979)

Chapter 16.70
CONVERSION OF MOBILE HOME PARKS TO RESIDENT OWNERSHIP

Sections:

16.70.010 Purpose and intent.

The purpose of this chapter is to establish requirements and procedures that are necessary and appropriate to comply with state laws related to the conversion of mobile home parks to resident ownership. The city of Capitola further declares that the purposes of this chapter are also:

A. To ensure that conversions of mobile home parks to resident ownership are bona fide resident conversions in accordance with state law;

B. To balance the need for increased home ownership opportunities with the need to protect existing affordable housing opportunities;

C. To ensure the public health and safety in converted parks; and

D. To ensure that park residents receive appropriate and timely information to assist them in fully understanding their rights and obligations under the state law. (Ord. 923 § 1, 2007)

16.70.020 Definitions.

For the purpose of this chapter, the following words, terms and phrases shall be defined as follows:

A. “Mobile home park conversion to resident ownership” means the conversion of a mobile home park composed of rental spaces to a condominium or common interest development, as described in and/or regulated by Government Code Section 66427.5 and/or Section 66428.1.

B. “Resident” or “tenant” means the person or persons owning a mobile home in a space within a mobile home park pursuant to a rental agreement. (Ord. 923 § 1, 2007)

16.70.030 Applicability.

The provisions of this chapter shall apply to all conversions of mobile home parks to resident ownership, except those conversions for which mapping requirements have been waived pursuant to Government Code Section 66428.1. These provisions do not apply to the conversion of a mobile home park to an alternate use pursuant to Government Code Section 65863.7 and Section 66427.4. (Ord. 923 § 1, 2007)

16.70.040 Information and disclosure requirements for resident survey.

To assist the residents in determining how to respond to the resident survey required by subdivision (d) of Government Code Section 66427.5, the following information and disclosures shall be provided by the park owner to each tenant household sufficiently in advance of the survey to allow its consideration:

A. A statement describing the effects that the mobile home park conversion will have on the application of the rent control provisions of Capitola Municipal Code Chapter 2.18 for both lower income households and for other households who continue residency as tenants. The statement shall specifically describe the effects that the conversion will have on the application of the vacancy control provisions of Chapter 2.18 of this code, and a statement describing the effects of vacancy decontrol under Government Code Section 66427.5 on the resale value of mobile homes of both lower income households and of other households which continue residency as tenants. Included with this statement shall be a separate statement prepared by the city summarizing the major provisions of the city’s mobile home park rent stabilization ordinance (Chapter 2.18 of this code).

B. A statement specifying the income level that is applicable pursuant to subdivision (f)(2) of Government Code Section 66427.5, to determine whether households in the mobile home park qualify as a lower income

household or are not lower income household, and requesting that the households identify whether they are a lower income household, or are not a lower income household.

C. A statement specifying whether the subdivider will begin the phase-in of market level rents pursuant to subdivision (f)(1) and the rent adjustment provisions of subdivision (f)(2) of Government Code Section 66427.5 upon the sale of one lot, upon the sale of more than fifty percent of the lots, or upon the sale of some other percentage of lots.

D. A statement specifying the method by which the fair market rent levels authorized by subdivision (f)(1) of Government Code Section 66427.5 will be established, or in the alternative, the specification of the range of rent levels that will be applicable to the subdivided units in the mobile home park, including, but not limited to, the inclusion of any inflation adjustment formula to be utilized.

E. A statement specifying how space rents will be set for purchasers of mobile homes owned by lower income households and by other households (who continue residency as tenants under subdivision (f) of Government Code Section 66427.5).

F. A statement specifying the method by which the sales prices of the subdivided mobile home space parcels will be established, or in the alternative, the specification of a range of purchase prices that will be applicable to the subdivided mobile home space parcels in the mobile home park, including, but not limited to, the inclusion of any inflation adjustment formula to be utilized.

G. A statement specifying the method for determining and enforcing the controlled rents for nonpurchasing households pursuant to Government Code Section 66427.5 (f)(2), and, to the extent available, identification of the number of tenant households likely to be subject to these provisions.

H. A statement assessing the potential for nonpurchasing residents to relocate their homes to other mobile home parks within Santa Cruz County, including the availability of sites and the estimated cost of home relocation.

I. An engineer's report on the type, size, current condition, adequacy, and remaining useful life of each common facility located within the park, including but not limited to water systems, sanitary sewer, fire protection, storm water, streets, lighting, pools, playgrounds, and community buildings. A pest report shall be included for all common buildings and structures. "Engineer" means a registered civil or structural engineer, or a licensed general engineering contractor.

J. If the useful life of any of the common facilities or infrastructure is less than thirty years, an engineer's estimate of the cost of replacing such facilities over their useful life, and the subdivider's plan to provide funding for same.

K. An estimate of the annual overhead and operating costs of maintaining the park, its common areas and landscaping, including replacement costs as necessary, over the next thirty years, and the subdivider's plan to provide funding for same.

L. A maintenance inspection report conducted on site by a qualified inspector within the previous twelve calendar months demonstrating compliance with Title 25 of the California Code of Regulations ("Title 25 Report"). Proof of remediation of any Title 25 violations or deficiencies shall be confirmed in writing by the California Department of Housing and Community Development (HCD).

M. A detailed description of the city and state procedures to be followed for the proposed conversion, including, but not limited to, a tentative timeline.

N. The phone number and address of an office designated by the city council that can be contacted for further information relating to the proposed mobile home park conversion.

O. The subdivider shall attach a copy of this chapter to each survey form. (Ord. 923 § 1, 2007)

16.70.050 Information and disclosure requirements for impact report.

The report by the subdivider on the impact of the mobile home park conversion required by subdivision (b) of Government Code Section 66427.5 shall include, but not be limited to, the following disclosures:

A. That information specified by subsections A through M of Section 16.70.040, required to be provided to park tenants for purposes of the resident survey.

B. A statement specifying the number of mobile home spaces in the park and the rental rate history for each such space over the four years prior to the filing of the application.

C. A statement specifying the method and timetable for compliance with Government Code Section 66427.5 (a), and, to the extent available, an estimate of the number of existing tenant households expected to purchase their units within the first four years after conversion including an explanation of how the estimate was derived.

D. An estimate of the number of residents in the park who are lower income households pursuant to subdivision (f)(2) of Government Code Section 66427.5, including an explanation of how the estimate was derived.

E. An estimate of the number of residents in the park who are seniors (sixty-two years of age or older) or disabled, including an explanation of how the estimate was derived. (Ord. 923 § 1, 2007)

16.70.060 Application submittal requirements.

The following information shall be submitted as part of the resident survey results with any subdivision application for conversion to a resident owned mobile home park pursuant to Government Code Section 66427.5:

A. A statement of the total number of spaces occupied by residents (excluding any spaces occupied by the subdivider, a relative of the subdivider, or employee of the subdivider); and the total number of votes of such residents in favor of the conversion and the total number of votes of such residents in opposition to the conversion, with no more than one vote allocated for each mobile home space.

B. The subdivider shall demonstrate that the procedures and timing used to conduct the survey were in accordance with an agreement between the subdivider and an independent resident homeowners association, if any. In the event that more than one resident homeowners association purports to represent residents in the park, the agreement shall be with the resident homeowners association which represents the greatest number of tenant homeowners in the park.

C. A written statement signed by the authorized representative(s) of an independent resident homeowners' association verifying that the survey form was approved by the association in accordance with the requirements of subdivision (d)(2) of Government Code Section 66427.5.

D. A copy of the information and disclosures provided to tenant households pursuant to Section 16.70.040.

E. A copy of the tenant impact report required pursuant to Section 16.70.050.

F. A tentative subdivision and final map or parcel map unless waived pursuant to Government Code Section 66428.1. A parcel map shall be required for all projects that contain less than five parcels and do not create more condominium units or interests than the number of rental spaces that exist prior to conversion. If additional interests are created or if the project contains more than five parcels a tentative and final subdivision map shall be required. The number of condominium units or interests to be created shall not determine the type

of map required unless additional condominium units or interests are created over and above the number of rental spaces that exist prior to conversion. (Ord. 923 § 1, 2007)

16.70.070 Criteria for approval of conversion application.

In addition to any applicable findings for the approval of subdivision or parcel maps set forth in the California Subdivision Map Act or Title 16 of this code, an application for the conversion of a mobile home park to resident ownership shall be approved only if the decision maker finds that:

A. A survey of resident support has been conducted and the results filed with the city in accordance with the requirements of Government Code Section 66427.5 and this chapter;

B. A tenant impact report has been completed and filed with the city in accordance with the requirements of Government Code Section 66427.5 and this chapter;

C. The conversion is a bona fide resident conversion. For purposes of determining whether a proposed conversion is a bona fide resident conversion, the following presumptions shall be applied based on the results of the survey of resident support conducted in accordance with Government Code Section 66427.5 and with this chapter. The presumptions created by this subsection may be overcome through the submission of substantial evidence either at or prior to the hearing.

1. Where the survey of resident support shows that fifty percent or more of the resident survey vote supports the conversion to resident ownership, the proposed conversion shall be presumed to be a bona fide resident conversion.

2. Where the survey of resident support shows that less than fifty percent of the resident survey vote supports the conversion to resident ownership, the proposed conversion shall be presumed to not be a bona fide resident conversion and the subdivider shall have the burden of demonstrating that the proposed conversion is a bona fide resident conversion. (Ord. 923 § 1, 2007)

16.70.080 Tenant notification.

The following tenant notifications are required:

A. If the application for conversion is approved, the subdivider shall give each resident household written notice of its exclusive right to contract for the purchase of the dwelling unit or space it occupies at the same or more favorable terms and conditions than those on which such unit of space shall be initially offered to the general public. The right shall run for a period of not less than ninety days from the issuance of the subdivision pubic

report (“white paper”) pursuant to California Business and Professions Code Section 11018.2, unless the subdivider received prior written notice of the resident’s intention not to exercise such right.

B. If the application for conversion is approved, the subdivider shall give each resident household written notice of its right to continue residency as a tenant in the park as required by Government Code Section 66427.5 (a). (Ord. 923 § 1, 2007)

Chapter 16.74
LOT LINE ADJUSTMENTS

Sections:

16.74.010 Purpose.

The purpose of this division is to establish the procedures and standards for changing the boundary or boundaries between four or fewer existing adjoining parcels as provided by the Subdivision Map Act to ensure lot line adjustments are consistent with the General Plan, Zoning Ordinance, and the Local Coastal Program.

16.74.020 Application required.

A request for a lot line adjustment must be made through submittal of a City application and requisite fees. At a minimum, an application package shall include copies of deeds for all properties included in the request, a plat map depicting existing and proposed lot lines and drawn to scale by a licensed land surveyor or registered civil

engineer, and written permission from each property owner involved in the application. Additional information may be required as determined by the Community Development Director.

16.74.030 Approval authority.

The Community Development Director shall be authorized to issue decisions on lot line adjustment applications. Lot line adjustment applications accompanied by other permits under the jurisdiction of the Planning Commission or City Council shall be considered by the highest decision-making body.

16.74.040 Public hearing.

Applications for a lot line adjustment shall be considered in a public hearing if it is accompanied by other permits which require a public hearing (e.g., coastal development permit).

16.74.050 Lot line locations.

Lot lines shall not be relocated if it would result in any of the following:

1. Impair any legal access or easements.

2. Include any lots, which in the Director's judgment, based on design, size, or specification of the original document creating the parcel, were not intended as a building site (e.g. utility lots or road lots).

3. Result in any lots which do not comply with applicable zoning regulations, including but not limited to lot size and building setback requirements, or exacerbate the non-conformity of any existing undersized lot.

16.74.060 Findings.

The following findings shall be made to approve an application for a lot line adjustment:

1. All lots resulting from a lot line adjustment comply with the General Plan and Zoning Ordinance.

2. Within the coastal zone, all lots resulting from a lot line adjustment comply with the Local Coastal Program (as applicable).

3. All lots involved in the proposed lot line adjustment were legally created pursuant to the California Subdivision Map Act and any local ordinance in effect at the time.

16.74.070 Appeals.

An interested party may appeal a Community Development Director decision to the Planning Commission by filing a complete appeal application with requisite fees within 10 business days of the decision. Decisions by the Planning Commission may be appealed to the City Council in accordance with Chapter 2.52. Appeals of lot line adjustments which include a coastal development permit shall be processed in accordance with the Local Coastal Program.

16.74.080 Time limitations.

A lot line adjustment approval shall be valid for one year from the effective approval date. Prior to expiration, the property to be exchanged must be conveyed and revised deeds which describe the reconfigured parcels must be recorded with the County of Santa Cruz.

16.74.090 Time extensions.

Upon written application and requisite fees submitted prior to expiration of the lot line adjustment, a single one-year extension may be granted. The one-year extension shall commence from the initial expiration date.

RESOLUTION NO. _____

RESOLUTION OF THE CAPITOLA CITY COUNCIL AUTHORIZING SUBMITTAL TO THE CALIFORNIA COASTAL COMMISSION FOR THE CERTIFICATION OF AN AMENDMENT TO THE LOCAL COASTAL PROGRAM AMENDING CHAPTER 16 (SUBDIVISIONS) OF THE CAPITOLA MUNICIPAL CODE

WHEREAS, the City of Capitola's Local Coastal Program (LCP) was certified by the California Coastal Commission in December of 1981 and has since been amended from time to time; and

WHEREAS, the Capitola City Council conducted a duly noticed public hearing on October 12, 2017, and at this meeting the City Council passed the proposed Ordinance to a second reading, and on October 26, 2017 adopted an Ordinance of the City Council of the City of Capitola amending Chapter 16, Subdivisions; and

WHEREAS, the City Council adopted a CEQA section 15183 exemption for the project which found that the proposed ordinance and LCP amendment would not have a significant effect on the environment; and

WHEREAS, Public Notice was provided as required under Coastal Act 30514 et seq.

NOW, THEREFORE, BE IT HEREBY RESOLVED, by the City Council of the City of Capitola that this Resolution declares and reflects the City's intent to amend the LCP Implementation Plan as it pertains to subdivisions within the City of Capitola, as drafted, if certified by the California Coastal Commission, in full conformity with the City of Capitola LCP and provisions of the California Coastal Act.

BE IT FURTHER RESOLVED, that the City Manager or his designee is directed to submit the said Coastal Commission LCP Amendments to the California Coastal Commission for its review and certification. If the Coastal Commission approves the amendment package, it will take effect automatically upon Coastal Commission approval. If the Coastal Commission modifies the amendment package, only the modifications will require formal action by the City of Capitola.

I HEREBY CERTIFY that the above and foregoing resolution was passed and adopted by the City Council of the City of Capitola at its regular meeting held on the 26th day of October, 2017, by the following vote:

AYES:
NOES:
ABSENT:
ABSTAIN:

_____
Stephanie Harlan, Mayor

ATTEST:

_____
Linda Fridy, City Clerk

Statement of Reasons for Exemption from Additional Environmental Review and 15183 Checklist

Pursuant to CEQA Guidelines §15183

Date: October 2, 2017
Project Title: Subdivision Ordinance Cleanup
Project Address: Citywide
GP Designation: N/A
Zoning: N/A
Lot Size: N/A
Applicant: City of Capitola
Staff Contact: Richard Grunow
rgrunow@ci.capitola.ca.us

Project Description

The project is an amendment to the City of Capitola Subdivision Ordinance (Ordinance), which resides in Chapter 16 of the Capitola Municipal Code. The proposed amendment consists largely of cleanup items which aim to eliminate internal inconsistencies, clarify code language and definitions, and align outdated code sections with current provisions of the Subdivision Map Act. The amendment would also introduce an exception process for lot design standards and add new standards and procedures for lot line adjustment applications.

The proposed exception process would allow the Planning Commission or City Council, as applicable, to grant an exception to lot design standards if it is found that strict conformance is impractical due to a site's physical, topographic, or geometric conditions, or if strict conformance would result in an inferior or undesirable subdivision design.

The proposed lot line adjustment standards outline procedures for processing applications, including establishment of decision-making authority, standards for lot line locations, findings, appeals, and time limitations. These standards generally reflect long-standing City processes which had not been previously codified.

Overview

California Public Resources Code section 21083.3 and California Environmental Quality Act (CEQA) Guidelines Section 15183 provide an exemption from additional environmental review for projects that are consistent with established zoning, community plan or general plan policies for which an Environmental Impact Report (EIR) was certified, except as might be necessary to examine whether there are project-specific significant effects which are peculiar to the project or its site. Section 15183 specifies that examination of environmental effects shall be limited to those effects that: (1) Are peculiar to the project or the parcel on which the project would be located, and were not analyzed as significant effects in a prior EIR on the zoning action, general plan, or community plan, with which the project is consistent, (2) Are potentially significant off-site impacts and cumulative impacts which were not discussed in the prior EIR prepared for the general plan, community plan or zoning action, or (3) Are previously identified significant effects which, as a result of substantial new information which was not known at the time the EIR was certified, are determined to have a more severe adverse impact than discussed in the prior EIR. Section 15183(c) further specifies that if an impact is not peculiar to the parcel or to the proposed project, has been addressed as a significant effect in the prior EIR, or can be substantially mitigated by the imposition of uniformly applied development policies or standards, then an additional EIR need not be prepared for that project solely on the basis of that impact.

General Plan Update Program EIR

The City of Capitola General Plan Update (GPU) establishes a blueprint for future land development in Capitola that meets community desires and balances the environmental protection goals with the need for housing, infrastructure, economic vitality, and environmental protection. The GPU included adoption of new General Plan elements, which set the goals and policies that guide future development. It also included a corresponding land use map, a road network map, and other implementing policies and ordinances.

The GPU EIR was certified in conjunction with adoption of the GPU on June 26, 2014. The GPU EIR comprehensively evaluated environmental impacts that would result from Plan implementation, including information related to existing site conditions, analyses of the types and magnitude of project-level and cumulative environmental impacts, and feasible mitigation measures that could reduce or avoid environmental impacts.

Summary of Findings

The proposed ordinance amendment is consistent with the analysis performed for the GPU EIR. Further, the GPU EIR adequately anticipated and described the impacts of the proposed project, identified applicable mitigation measures necessary to reduce project specific impacts, and the project implements these mitigation measures. The GPU EIR is available for review of the City of Capitola website at: http://www.cityofcapitola.org/communitydevelopment/page/capitola-general-plan

A comprehensive environmental evaluation has been completed for the project as documented in the attached §15183 Exemption Checklist. This evaluation concludes that the project qualifies for an exemption from additional environmental review because it is consistent with the development density and use characteristics established by the City of Capitola General Plan, as analyzed by the General Plan Update Final Program EIR (SCH #2013072002), and all required findings can be made.

In accordance with CEQA Guidelines §15183, the project qualifies for an exemption because the following findings can be made:

1. **The project is consistent with the development density established by existing zoning, community plan or general plan policies for which an EIR was certified.**
   The proposed ordinance revisions would correct internal inconsistencies; clarify standards, procedures, and definitions; and update old ordinance sections to align with the Subdivision Map Act. The ordinance amendment would also codify the City's procedures and standards for processing lot line adjustment applications. These changes would not have any effect on existing density regulations of the General Plan or the analysis contained in GPU EIR.

   The proposed lot design exception process could theoretically allow subdivisions on properties which may not otherwise be able to strictly comply with lot design standards; however, the changes would have no effect on density for the following reasons: 1) the City is nearly built-out and there are very few remaining lots which have subdivision potential under current density limits; 2) of the lots remaining with subdivision potential, most are zoned multi-family which allows apartments, single-lot condominium developments, and multiple homes on single lots which do not require a land division; 3) applicants could pursue a Planned Development which allows a project to establish unique lot design standards which may differ from those found in the zoning ordinance; and 4) although some R-1 zoned lots may have an increased subdivision potential through a design exception process, the maximum allowable density established by the General Plan and evaluated by the GPU EIR would remain the same. See attachment 1 for additional details.

2. **There are no project specific effects which are peculiar to the project or its site, and which the GPU EIR Failed to analyze as significant effects.**

The proposed ordinance amendment would apply citywide and therefore would not target any specific site which has peculiar characteristics.

3. **There are no potentially significant off-site and/or cumulative impacts which the GPU EIR failed to evaluate.**
The proposed ordinance amendment would not result in any increase in density or development intensity and therefore is consistent with analysis contained in the GPU EIR. As previously noted, the proposed subdivision design exception process could theoretically facilitate land divisions on limited R-1 properties; however, any additional development potential would represent a small portion of the growth that was forecast for build-out of the General Plan. The GPU EIR considered the incremental impacts of the proposed project, and as explained further in the 15183 Exemption Checklist below, no potentially significant off-site or cumulative impacts have been identified which were not previously evaluated.

4. **There is no substantial new information which results in more severe impacts than anticipated by the GPU EIR.**
No new information has been identified which would result in a determination of a more severe impact than what had been anticipated by the GPU EIR.

5. **The project will undertake feasible mitigation measures specified in the GPU EIR.**
The proposed ordinance amendment would not result in any significant environmental effects; therefore, no mitigation is required.

	October 6, 2017
Signature	Date
Richard Grunow	**Community Development Director**
Printed Name	Title

CEQA Guidelines §15183 Exemption Checklist

Overview

This checklist provides an analysis of potential environmental impacts resulting from the proposed project. Following the format of CEQA Guidelines Appendix G, environmental effects are evaluated to determine if the project would result in a potentially significant impact triggering additional review under Guidelines section 15183.

- Items checked "Significant Project Impact" indicates that the project could result in a significant effect which either requires mitigation to be reduced to a less than significant level or which has a significant, unmitigated impact.

- Items checked "Impact not identified by GPU EIR" indicates the project would result in a project specific significant impact (peculiar off-site or cumulative that was not identified in the GPU EIR.

- Items checked "Substantial New Information" indicates that there is new information which leads to a determination that a project impact is more severe than what had been anticipated by the GPU EIR.

A project does not qualify for a §15183 exemption if it is determined that it would result in: 1) a peculiar impact that was not identified as a significant impact under the GPU EIR; 2) a more severe impact due to new information; or 3) a potentially significant off-site impact or cumulative impact not discussed in the GPU EIR. A summary of staff's analysis of each potential environmental effect is provided below the checklist for each subject area.

	Significant Project Impact	Peculiar Impact not identified by GPU EIR	Substantial New Information
1. AESTHETICS – Would the Project:			
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	☐	☐	☐
d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	☐	☐	☐

Discussion

1(a) The proposed ordinance amendment would apply citywide and could potentially effect properties which are within or near a scenic vista; however, the proposed ordinance amendments would not increase density or relax any existing regulations or development standards intended to protect scenic vistas.

1(b) The proposed ordinance amendment would apply citywide and could potentially effect properties which support scenic resources; however, the proposed ordinance amendments would not increase density or relax any existing regulations or development standards intended to protect scenic resources.

1(c) The proposed ordinance amendment would not increase allowable density or relax any development standards which could adversely affect visual character.

1(d) The proposed ordinance amendment would create a new source of light or glare.

Conclusion

As discussed above, the project would not result in any significant impacts to aesthetics; therefore, the project would not result in an impact which was not adequately evaluated by the GPU EIR.

	Significant Project Impact	Peculiar Impact not identified by GPU EIR	Substantial New Information
2. Agriculture/Forestry Resources – Would the Project:			
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide or Local Importance as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, or other agricultural resources, to a non-agricultural use?	☐	☐	☐
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐

c) Conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production?	☐	☐	☐
d) Result in the loss of forest land, conversion of forest land to non-forest use, or involve other changes in the existing environment, which, due to their location or nature, could result in conversion of forest land to non-forest use?	☐	☐	☐
e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Important Farmland or other agricultural resources, to non-agricultural use?	☐	☐	☐

Discussion

2(a) There are no Farmlands of Local Importance, Prime Farmland, Unique Farmland, or Farmlands of Statewide Importance in the City of Capitola.

2(b) The City does not have any properties under a Williamson Act contract or have any agriculturally zoned lands.

2(c) There are no timberland production zones in the City of Capitola.

2(d) There are no forest lands in the City of Capitola.

2(e) The City does not have any important farmlands or active agricultural production areas.

Conclusion

The City of Capitola does not include any lands which are used or designated for agricultural or timber harvesting purposes. There are no properties in the City which have been designated as Farmland of Local Importance, Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, or forests with timber harvest potential.

	Significant Project Impact	Peculiar Impact not identified by GPU EIR	Substantial New Information
3. Air Quality – Would the Project:			
a) Conflict with or obstruct implementation of the Regional Air Quality Strategy (RAQS) or applicable portions of the State Implementation Plan (SIP)?	☐	☐	☐
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☐

d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐

Discussion

3(a) The project would not involve any operational emissions which could contribute to the non-attainment of any ambient air quality standards.

3(b) The proposed ordinance amendment would not produce any emissions or effect any existing air quality standards.

3(c) The proposed ordinance amendment would not produce any emissions or effect any existing air quality standards.

3(d) The proposed ordinance amendment would not produce any emissions or effect any existing air quality standards.

3(e) The proposed ordinance amendment would not produce any odors or effect any existing regulations related to odors.

Conclusion

As discussed above, the project would not result in any significant impacts to air quality; therefore, the project would not result in an impact which was not adequately evaluated by the GPU EIR.

	Significant Project Impact	Peculiar Impact not identified by GPU EIR	Substantial New Information
4. Biological Resources – Would the Project:			
a) Have a substantial adverse effect, either directly or through habitat modifications, on any candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or US Fish and Wildlife Service?	☐	☐	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐
e) Conflict with the provisions of any adopted Habitat Conservation Plan, Natural Communities Conservation Plan, other approved local, regional or state habitat conservation plan or any other local policies or ordinances that protect biological resources?	☐	☐	☐

Discussion

4(a) The proposed ordinance amendment would not result in any physical development which could impact sensitive biological resources and the amendment would not change any existing regulations intended to protect biological resources.

4(b) The proposed ordinance amendment would not result in any physical development which could impact riparian habitats and the amendment would not change any existing regulations intended to protect biological resources.

4(c) The proposed ordinance amendment would not result in any physical development which could impact wetlands and the amendment would not change any existing regulations intended to protect wetlands.

4(d) The proposed ordinance amendment would not result in any physical development which could impact sensitive biological resources and the amendment would not change any existing regulations intended to protect biological resources. Therefore, the project would not interfere with the movement of any native resident or migratory fish or wildlife species, or established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

4(e) The proposed ordinance amendment would not effect any adopted Habitat Conservation Plans, Natural Communities Conservation Plans, or other local, regional or state habitat conservation plans.

Conclusion

The project would not result in any significant impacts to any sensitive biological resources; therefore, the project would not result in an impact which was not adequately evaluated by the GPU EIR.

	Significant Project Impact	Peculiar Impact not identified by GPU EIR	Substantial New Information
5. Cultural Resources – Would the Project:			
a) Cause a substantial adverse change in the significance of a historical resource as defined in 15064.5?	☐	☐	☐

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to 15064.5?	☐	☐	☐
c) Directly or indirectly destroy a unique geologic feature?	☐	☐	☐
d) Directly or indirectly destroy a unique paleontological resource or site?	☐	☐	☐
e) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☐

Discussion

5(a) The proposed ordinance amendment would not result in any physical development and would not affect any existing regulations intended to protect historic resources.

5(b) The proposed ordinance amendment would not result in any physical development and would not affect any existing regulations intended to protect archaeological resources.

5(c) The proposed ordinance amendment would not result in any physical development and would not affect any existing regulations intended to protect unique geologic features.

5(d) The proposed ordinance amendment would not result in any physical development and would not affect any existing regulations intended to protect paleontological features.

5(e) The proposed ordinance amendment would not result in any physical development and would not affect any existing regulations intended to protect archaeological resources.

Conclusion

The proposed ordinance amendment would not have any effect on cultural resources.

	Significant Project Impact	Peculiar Impact not identified by GPU EIR	Substantial New Information
6. Geology and Soils – Would the Project:			
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, liquefaction, and/or landslides?	☐	☐	☐
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in an on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐

Discussion

6(a)(i) The City of Capitola does not have any land identified as a fault rupture hazard zone by the Alquist-Priolo Earthquake Fault Zoning Act, Special Publication 42, Revised 1997, Fault-Rupture Hazards Zones in California.

6(a)(ii) The proposed ordinance amendment would not result in any physical development and would not affect any existing regulations intended to prevent erosion.

6(a)(iii) The proposed ordinance amendment is citywide and may apply to properties which are subject to liquefaction; however, the ordinance amendment does not involve any physical development and it would not affect any existing regulations intended to prevent impacts resulting from liquefaction.

6(a)(iv) The proposed ordinance amendment is citywide and may apply to properties which are subject to landslides; however, the ordinance amendment does not involve any physical development and it would not affect any existing regulations intended to prevent impacts resulting from landslides.

6(b) The proposed ordinance amendment does not involve any physical development and it would not affect any existing regulations intended to prevent erosion.

6(c) The proposed ordinance amendment is citywide and may apply to properties which are subject to landslides; however, the ordinance amendment does not involve any physical development and it would not affect any existing regulations intended to prevent impacts resulting from unstable geologic formations.

6(d) The proposed ordinance amendment is citywide and may apply to properties which have expansive soils; however, the ordinance amendment does not involve any physical development and it would not affect any existing regulations intended to prevent impacts from building over expansive soils.

6(e) All properties in the City of Capitola rely on public sewer.

Conclusion

As discussed above, the project would not result in any physical development which could result in significant impacts to/from geology/soils; therefore, the project would not result in an impact which was not adequately evaluated by the GPU EIR.

	Significant Project Impact	Peculiar Impact not identified by GPU EIR	Substantial New Information
7. Greenhouse Gas Emissions – Would the Project:			
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☐

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐

Discussion

7(a) The proposed ordinance amendment does not involve any physical development; however it is possible that the amendment could allow a modest number of properties to subdivide which otherwise could not have strictly conformed to lot design criteria. However, the marginal increase in development potential would not collectively generate more than the 900 metric ton screening threshold established by the California Air Pollution Control Officer's Association (CAPCOA) white paper for determining the need for additional analysis and mitigation for GHG-related impacts under CEQA. The 900 metric ton carbon dioxide equivalent screening level referenced in the CAPCOA white paper (http://www.capcoa.org/wpcontent/uploads/downloads/2010/05/CAPCOA-White-Paper.pdf) is being used as a conservative criterion for determining the size of projects that would require further analysis and mitigation with regard to climate change. The CAPCOA white paper reports that the 900 metric ton screening level would capture more than 90% of the development projects, allowing for mitigation toward achieving the State's GHG reduction goals. For example, a project including 36,000 square-feet of office space would produce approximately 900 metric tons. As described in attachment 1, the lot design exception process could theoretically facilitate subdivisions on up to eight properties zoned for single-family development which could yield a maximum of 11 new lots. However, the additional subdivision potential would not create additional development over the allowable maximum density or the growth projections used in the GPU EIR analysis. Consequently, the proposed ordinance amendment would not result in an 900 metric tons of additional CO2e emissions per year, and there would be a less-than-cumulatively considerable impact.

7(b) As described above, the project would not result in a cumulatively considerable contribution to global climate change. Accordingly, the project would be consistent with the City's General Plan and Climate Action Plan goals to reduce GHG emissions.

Conclusion

As discussed above, the project would not result in any significant impacts to greenhouse gas emissions; therefore, the project would not result in an impact which was not adequately evaluated by the GPU EIR.

	Significant Project Impact	Peculiar Impact not identified by GPU EIR	Substantial New Information
8. Hazards and Hazardous Materials – Would the Project:			
a) Create a significant hazard to the public or the environment through the routine transport, storage, use, or disposal of hazardous materials or wastes or through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☐

b) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐
c) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, or is otherwise known to have been subject to a release of hazardous substances and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐
d) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐
e) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐
g) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐
h) Propose a use, or place residents adjacent to an existing or reasonably foreseeable use that would substantially increase current or future resident's exposure to vectors, including mosquitoes, rats or flies, which are capable of transmitting significant public health diseases or nuisances?	☐	☐	☐

Discussion

8(a) The project will not create a significant hazard to the public or the environment because it does not propose any physical development or the storage, use, transport, emission, or disposal of Hazardous Substances.

8(b) The proposed ordinance amendment would apply citywide; however, the project would not involve any physical development or affect any existing regulations related to hazardous emissions or materials which could impact an existing or proposed school.

8(c) The proposed ordinance amendment would apply citywide; however, the project would not involve any physical development or affect any existing regulations related to hazardous materials which could impact the public or the environment.

8(d) The City does not include any lands which are located within an Airport Land Use Compatibility Plan (ALUCP), an Airport Influence Area, or a Federal Aviation

Administration Height Notification Surface. Also, the project does not propose construction of any structure equal to or greater than 150 feet in height, constituting a safety hazard to aircraft and/or operations from an airport or heliport.

8(e) There are no properties in Capitola which are within one mile of a private airstrip.

8(f) The project will not interfere with any emergency evacuation plans because it will not prohibit subsequent plans from being established or prevent the goals and objectives of existing plans from being carried out.

8(g) The City of Capitola does not support not have any lands which are adjacent to wildlands which are vulnerable to wildland fires.

8(h) The project does not involve any physical development and would not affect any existing regulations related to vector control.

Conclusion
As discussed above, the project would not result in any significant impacts to/from hazards/hazardous materials; therefore, the project would not result in an impact which was not adequately evaluated by the GPU EIR.

	Significant Project Impact	Peculiar Impact not identified by GPU EIR	Substantial New Information
9. Hydrology and Water Quality – Would the Project:			
a) Violate any waste discharge requirements?	☐	☐	☐
b) Is the project tributary to an already impaired water body, as listed on the Clean Water Act Section 303(d) list? If so, could the project result in an increase in any pollutant for which the water body is already impaired?	☐	☐	☐
c) Could the proposed project cause or contribute to an exceedance of applicable surface or groundwater receiving water quality objectives or degradation of beneficial uses?	☐	☐	☐
d) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐
e) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☐
f) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course	☐	☐	☐

of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?			
g) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems?	☐	☐	☐
h) Provide substantial additional sources of polluted runoff?	☐	☐	☐
i) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map, including Floodplain Maps?	☐	☐	☐
j) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☐
k) Expose people or structures to a significant risk of loss, injury or death involving flooding?	☐	☐	☐
l) Expose people or structures to a significant risk of loss, injury or death involving flooding as a result of the failure of a levee or dam?	☐	☐	☐
m) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐

Discussion

9(a) The proposed ordinance amendment does not involve any physical development and would not affect any existing regulations pertaining to waste discharge requirements.

9(b) The proposed ordinance amendment does not involve any physical development and would not affect any existing regulations related to the Clean Water Act Section 303(d) list.

9(c) The proposed ordinance amendment does not involve any physical development and would not affect any existing regulations related to discharges affecting groundwater quality.

9(d) The proposed ordinance amendment does not involve any physical development and would not affect any existing regulations of outside water suppliers.

9(e) The proposed ordinance amendment does not involve any physical development and would not affect any existing regulations related to drainage or erosion control.

9(f) The proposed ordinance amendment does not involve any physical development and would not affect any existing regulations related to drainage or flooding.

9(g) The proposed ordinance amendment does not involve any physical development and would not create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems.

9(h) The proposed ordinance amendment does not involve any physical development and would not affect any existing regulations related to drainage stormwater management.

9(i) The proposed ordinance amendment would apply citywide including areas within floodplains; however, the amendment would not affect any existing regulations related to floodplain development.

9(j) The proposed ordinance amendment would apply citywide including areas within floodplains; however, the amendment would not affect any existing regulations related to floodplain development.

9(k) The proposed ordinance amendment would apply citywide including areas within floodplains; however, the amendment would not affect any existing regulations related to floodplain development.

9(l) There are no mapped dam inundation zones in the City of Capitola.

9(m) The proposed ordinance amendment would apply citywide including areas within tsunami zones; however, the amendment does not affect any regulations pertaining to development in a tsunami zone.

Conclusion
As discussed above, the project would not result in any significant impacts to/from hydrology/water quality; therefore, the project would not result in an impact which was not adequately evaluated by the GPU EIR.

	Significant Project Impact	Peculiar Impact not identified by GPU EIR	Substantial New Information
10. Land Use and Planning – Would the Project:			
a) Physically divide an established community?	☐	☐	☐
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐

Discussion
10(a) The proposed ordinance amendment does not involve any physical development which could divide an established community.

10(b) The proposed ordinance amendment would not conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect, including policies of the General Plan.

Conclusion
As discussed above, the project would not result in any significant impacts to land use/planning; therefore, the project would not result in an impact which was not adequately evaluated by the GPU EIR.

	Significant Project Impact	Peculiar Impact not identified by GPU EIR	Substantial New Information
11. Mineral Resources – Would the Project:			
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐

11(a) There are no properties in Capitola which could be suitable for mineral extraction because a mine would be incompatible with existing, surrounding land uses. A mining operation located anywhere in the City would create significant impacts to neighboring properties for issues such as noise, air quality, traffic, and possibly other impacts. Therefore, the project will not result in the loss of a known mineral resource because the resource has already been lost due to incompatible land uses in the immediate vicinity.

11(b) The City's General Plan does not identify any locally important mineral resource recovery sites anywhere in the City.

Conclusion
As discussed above, the project would not result in any significant impacts to mineral resources; therefore, the project would not result in an impact which was not adequately evaluated by the GPU EIR.

	Significant Project Impact	Peculiar Impact not identified by GPU EIR	Substantial New Information
12. Noise – Would the Project:			
a) Exposure of persons to generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐

Discussion

12(a) The proposed ordinance amendment would not involve any physical development and would not affect any existing regulations related to noise.

12(b) The proposed ordinance amendment would not involve any physical development and would not affect any existing regulations related to noise.

12(c) The proposed ordinance amendment would not involve any physical development and would not affect any existing regulations related to noise.

12(d) The proposed ordinance amendment would not involve any physical development and would not affect any existing regulations related to noise.

12(e) The City of Capitola does not have any lands within an Airport Land Use Compatibility Plan (ALUCP) for airports or within 2 miles of a public airport or public use airport.

12(f) The City of Capitola does not have any lands within a one-mile vicinity of a private airstrip.

Conclusion

As discussed above, the project would not result in any significant impacts to/from noise; therefore, the project would not result in an impact which was not adequately evaluated by the GPU EIR.

	Significant Project Impact	Peculiar Impact not identified by GPU EIR	Substantial New Information
13. Population and Housing – Would the Project:			
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐

Discussion

13(a) The project will not induce substantial population growth in an area because the project does not propose any physical development or regulatory change that would remove a restriction to or encourage population growth in an area.

13(b) The proposed ordinance amendment does not involve any physical development which could displace existing housing.

13(c) The proposed ordinance amendment does not involve any physical development which could displace existing housing or its residents.

Conclusion

As discussed above, the project would not result in any significant impacts to populations/housing; therefore, the project would not result in an impact which was not adequately evaluated by the GPU EIR.

	Significant Project Impact	Peculiar Impact not identified by GPU EIR	Substantial New Information
14. Public Services – Would the Project:			
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance service ratios for fire protection, police protection, schools, parks, or other public facilities?	☐	☐	☐

Discussion

14(a) The proposed ordinance amendment does not involve any physical development or regulatory changes which would promote significant growth and a resultant need for new or expanded services and facilities.

Conclusion

The project would not result in any significant impacts to public services; therefore, the project would not result in an impact which was not adequately evaluated by the GPU EIR.

	Significant Project Impact	Peculiar Impact not identified by GPU EIR	Substantial New Information
15. Recreation – Would the Project:			
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☐

Discussion

15(a) The proposed ordinance amendment does not involve any physical development or regulatory changes which would promote significant growth which could result in an increased demand for public parks and recreational facilities.

15(b) The proposed ordinance amendment does not involve any recreational facilities or require the construction or expansion of existing facilities.

Conclusion

The project would not result in any significant impacts to recreation; therefore, the project would not result in an impact which was not adequately evaluated by the GPU EIR.

	Significant Project Impact	Peculiar Impact not identified by GPU EIR	Substantial New Information
16. Transportation and Traffic – Would the Project:			
a) Conflict with an applicable plan, ordinance or policy establishing measures of the effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths and mass transit?	☐	☐	☐
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the congestion management agency for designated roads or highways?	☐	☐	☐
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐
e) Result in inadequate emergency access?	☐	☐	☐
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐

Discussion

16(a) The proposed ordinance amendment would not involve any physical development and does not include any changes to existing regulations related to traffic or transportation.

The amendment could conceivably allow a marginal number of new subdivided lots; however, any resulting development would be within the growth projections used for the GPU EIR.

16(b) The proposed ordinance amendment would not involve any physical development and does not include any changes to existing regulations related to traffic or transportation. The amendment could conceivably allow a marginal number of new subdivided lots; however, as further described in attachment 1, any resulting development would be within the maximum allowable densities and growth projections used for the GPU EIR.

16(c) The City of Capitola does not have any lands within an Airport Influence Area not within two miles of a public or public use airport.

16(d) The proposed ordinance amendment would not involve any physical development and does not include any changes to existing regulations related to traffic, transportation safety, or sight distance requirements.

16(e) The proposed ordinance amendment would not involve any physical development and does not include any changes to existing regulations related to traffic, transportation, or emergency access requirements of the fire code.

16(f) The project will not result in the construction of any road improvements or new road design features that would interfere with the provision of public transit, bicycle or pedestrian facilities.

Conclusion
As discussed above, the project would not result in any significant impacts to transportation or traffic; therefore, the project would not result in an impact which was not adequately evaluated by the GPU EIR.

	Significant Project Impact	Peculiar Impact not identified by GPU EIR	Substantial New Information
17. Utilities and Service Systems – Would the Project:			
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐

Attachment: CEQA 15183 Exemption (Subdivision Ordinance Cleanup)

e) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐

Discussion

17(a) The proposed ordinance amendment does not involve any physical development which would discharge domestic waste to a public sewer system that is permitted to operate by the RWQCB.

17(b) The proposed ordinance amendment does not include any physical development which would require new or expanded water or wastewater treatment facilities nor would it require the construction or expansion of water or wastewater treatment facilities. Although amendments could facilitate development of a marginal number of new subdivided lots, the increase in growth is within the projections of the GPU EIR.

17(c) The proposed ordinance amendment does not include any physical development which would require new storm water drainage facilities. Although amendments could facilitate development of a marginal number of new subdivided lots, the increase in growth is within the projections of the GPU EIR.

17(d) The proposed ordinance amendment does not include any physical development which would require new water connections. Although amendments could facilitate development of a marginal number of new subdivided lots, the increase in growth is within the projections of the GPU EIR.

17(e) The proposed ordinance amendment does not include any physical development which would require new wastewater connections. Although amendments could facilitate development of a marginal number of new subdivided lots, the increase in growth is within the projections of the GPU EIR.

17(f) The proposed ordinance amendment does not include any physical development which would require additional landfill capacity. Although amendments could facilitate development of a marginal number of new subdivided lots, the increase in growth is within the projections of the GPU EIR.

17(g) The proposed ordinance amendment does not include any physical development which would improperly dispose of solid waste.

Conclusion

As discussed above, the project would not result in any significant impacts to utilities and service systems; therefore, the project would not result in an impact which was not adequately evaluated by the GPU EIR.

Attachment 1

ANALYSIS OF PROPOSED LOT DESIGN EXCEPTION PROCESS AND LOT LINE ADJUSTMENT PROCEDURES

This analysis has been prepared to support the environmental evaluation contained in the accompanying section 15183 CEQA document for the proposed subdivision ordinance amendments.

The proposed amendments to the subdivision ordinance consist largely of cleanup items which aim to eliminate internal inconsistencies, clarify code language and definitions, and align outdated code sections with current provisions of the Subdivision Map Act. There is one proposed change, however, that would allow a lot design exception which warrants a more thorough analysis to ensure an accurate representation of potential environmental effects. This proposed revision is analyzed below to determine if they could result in additional density or growth not previously considered by the GPU EIR, and if so, whether the additional density or growth could result in any unforeseen environmental effects.

Lot Design Exception Process

The proposed lot design exception process would allow the Planning Commission or City Council, as applicable, to grant an exception to lot design standards if it finds that strict conformance is impractical due to a site's physical, topographic, or geometric conditions, or if strict conformance would result in an inferior or undesirable subdivision design. The proposed exception would allow decision makers to waive requirements for shape, direct frontage on a public street, and the angle of side lot lines. An exception would not be allowed for minimum lot size.

The proposed lot design exception process could theoretically allow subdivisions on properties which may not otherwise be able to strictly comply with lot design standards. Consequently, City staff performed a GIS exercise to identify all residential lots in the City which have adequate lot size to split into one or more additional parcels.

Commercial and industrial properties were not included in the analysis because development intensity in these zones are regulated by floor area ratio (FAR) rather than density. Moreover, the development intensity of commercial and industrial properties are not restricted by subdivision potential as it is common for multiple commercial or industrial uses to be located on the same property and a subdivision would not enable a property to benefit from additional FAR.

Single-family Zoned Lots

The City of Capitola Zoning Code designates lots zoned for single-family residential development as R-1. The R-1 zone requires a minimum 5,000 square-foot lot size. Accordingly, a R-1 zoned property would need to be a minimum of 10,000 square-feet in size to qualify for a subdivision.

Based on the City's GIS database, there are presently 49 total lots zoned R-1 which are at least 10,000 square-feet in size. Of these, 41 lots have significant constraints which severely limit subdivision potential, including steep topography, environmental conditions (wetlands, sensitive habitat, coastal bluffs, etc.), and existing development which occupies most the property. The remaining eight lots could theoretically have greater subdivision potential by providing for a design exception process. Based strictly on their lot size, these eight lots could yield an additional 11 lots if they were each subdivided to their maximum potential (five lots could be split in two; three lots could be split into three).

Multi-Family Zoned Lots

The City of Capitola Zoning Code designates lots zoned for multi-family residential development as R-M. The R-M zone requires a minimum 5,100 square-foot lot size to support one or more dwelling units. Accordingly, a R-M zoned property would need to be a minimum of 10,200 square-feet in size to qualify for a subdivision.

Based on the City's GIS database, there are presently 102 total lots zoned R-M which are at least 10,200 square-feet in size. Of the 102 R-M properties with subdivision potential, 92 would be unlikely to realize any benefit from a lot design exception process because they either have adequate size to be designed without the need for an exception or are fully developed with existing improvements which would need to be demolished prior to redevelopment with greater density.

Notwithstanding a potential increase in subdivision potential, the proposed design exception process would not result in any increased density in R-M zoned properties because multi-family development does not require a subdivision to achieve maximum density potential. R-M zoned properties may be developed at maximum density as apartments, a one-lot condominium project, a planned development, co-op living arrangements, or multiple residences on a single underlying lot. Consequently, even if a lot design exception process facilitated subdivisions on R-M zoned lots, it would not increase the density potential over existing conditions.

GPU EIR Build-Out Analysis

The GPU EIR relied on the 2012 Regional Growth Forecast for the AMBAG region to complete its buildout analysis. The Regional Growth Forecast predicted that an additional 170 residents, 19 new housing units, and 1,189 new jobs would be developed in Capitola by 2035. Additionally, the GPU EIR also considered AMBAG's 2013 Travel Demand Forecast to model traffic volumes resulting from buildout of the General Plan. The Travel Demand Forecast predicted an additional 24,962 daily trips by 2035.

Conclusion

The proposed lot design exception process could conceivably facilitate subdivisions on eight R-1 zoned lots which could yield a maximum of 11 new developable parcels. While it is not expected that all eight of the identified lots will be subdivided, or that they would necessarily require a lot design exception to subdivide, the maximum potential increase in development would be within the growth projections of the GPU EIR. Furthermore, the lot design exception process would not increase the density limits considered by the GPU EIR nor would the potential increased development result in more severe environmental impacts, such as traffic, air quality, or GHG emissions.