HESPERIA CITY COUNCIL ADVISORY COMMITTEE
AGENDA

Regular Meetings
2nd Wednesday
January, April, July & October

Date: September 23, 2010
(Special Meeting)

Time: 6:00 P.M.

COMMITTEE MEMBERS

Craig Sundgren, Chair

Rosemarie Hellmich, Vice Chair

James Bratton

Al Vogler

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Mayor Pro Tem, Paul Bosacki
Council Liaison

Mike Podegracz, City Manager

CITY OF HESPERIA
9700 Seventh Avenue
Council Chambers
Hesperia, CA 92345
City Offices: (760) 947-1000

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SEPTEMBER 23, 2010
SPECIAL MEETING
AGENDA
HESPERIA CITY COUNCIL ADVISORY COMMITTEE

CALL TO ORDER — 6:00 p.m.

A. Pledge of Allegiance

B. Roll Call:
Chair Sundgren
Vice Chair Hellmich
Member Bratton
Member Vogler
Vacancy

ITEMS FOR CONSIDERATION

1. Approval of Minutes from the April 14, 2010 meeting.

2. Adoption of Ordinance No. 2010-010 adopting the 2010 California Building Codes

Recommended Action:
It is recommended that the Hesperia City Council Advisory Committee review and provide a recommendation to the City Council for adoption of Ordinance No. 2010-010 which repeals and replaces Hesperia Municipal Code Chapters 15.04 and 15.06; adopting and amending the 2010 California Building Code, the 2010 California Residential Code, the 2010 California Electrical Code, the 2010 California Mechanical Code, the 2010 California Plumbing Code, the 2010 California Fire, the 2010 California Green Building Standards Code, and the 2010 California Referenced Standards Code.

PUBLIC COMMENTS

Please complete a "Comment Card" and give it to the Secretary. Comments are limited to three (3) minutes per individual. State your name and address for the record before making your presentation. This request is optional, but very helpful for the follow-up process.

Under the provisions of the Brown Act, Members are prohibited from taking action on oral requests. However, Members may respond briefly or refer the communication to staff.

COMMITTEE MEMBER AND STAFF COMMENTS

Committee Members may make comments of general interest and/or direct staff to add specific items to the next agenda.

ADJOURNMENT

The Chair will adjourn the meeting of the Committee.

I, Tina Bulgarelli, Hesperia City Council Advisory Committee Secretary for City of Hesperia, California do hereby certify that I caused to be posted the foregoing agenda on Thursday, September 16, 2010 at 5:30 p.m. pursuant to California Government Code §54954.2.

Tina Bulgarelli
Hesperia City Council Advisory Committee Secretary

City Council Advisory Committee
Regular Meeting
MINUTES
April 14, 2010

The meeting of the City Council Advisory Committee (CCAC) was held on April 14, 2010, in the Council Chambers at City Hall, 9700 Seventh Avenue, Hesperia, California. The meeting was called to order by Chair Sundgren at 6:01 p.m.

CALL TO ORDER

A. Pledge of Allegiance led by Craig Sundgren
B. Roll Call:

Chair	Craig Sundgren	Present
Vice Chair	Rosemarie Hellmich	Present
Committee Member	James Bratton	Present
Committee Member	Al Vogler	Present

In attendance for Staff: Scott Priester, Director of Development Services

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ITEMS FOR CONSIDERATION

1. Approval of Minutes from February 24, 2010 and March 3, 2010 meetings.
Motion by Member Vogler, Second by Vice Chair Hellmich. Pass 4-0

2. Proposed 2010-11 Capital Improvement Program
Mr. Priester presented a staff report and power point to the committee. The CIP map was presented to the Committee as well for their information. The Ranchero Road project was highlighted.

Member Vogler questioned how long the escrow was for each property. Mr. Priester answered that it was roughly 45 days to 60 days. Mr. Priester mentioned that we originally needed 52 properties, and that if eminent domain was necessary it would delay the project. None of the property owners has been opposed to the process. The City is actually spending quite a bit less than the 4 million dollars on right-of-way originally anticipated. Mr. Priester also mentioned that some of the property owners have passed away and so the City is in the process of obtaining those properties other ways.

Vice Chair Hellmich asked if construction would be started this year. Mr. Priester stated that he has publicly stated that the project would break ground this year. He stated that there were a few steps left to begin construction.

Member Vogler asked if the potential retroactivity of earmarks could affect the project. Mr. Priester answered that no it could not. Member Vogler also asked if we could have money removed by the legislation. Mr. Priester stated no, but other projects in the plan had that potential.

Mr. Priester did an overview of the CalTrans approval process for the project.

Mr. Priester explained the other projects regarding the undercrossing, including the interchange and the road widening. He talked about the funding for each project and where it would come from. He stated that some of the funds are deferred right now, and not available to us, but we are working on getting approval to buy properties and get reimbursed.

Member Vogler asked when the STIP funding expired. Mr. Priester stated that it was a five year program. He stated that the State had to pay the money by next year or it would be lost.

Mr. Priester discussed the lead track project. He discussed the timing of the project and what was involved in it. Member Vogler asked if the businesses connected by the rail spur would be on sewer. Mr. Priester stated that yes they would be on sewer.

Mr. Priester discussed the fire station projects. He went over the timeline of the projects for the last few years and stated that one of the projects was put on hold to see if it could be funded by ERA funding.

Mr. Priester discussed the township project construction. He discussed the entire scope of the project. He discussed the inclement weather and the effect that it had on the project timing. The annual street improvement project was discussed, it was stated that Matich Construction would be doing the work.

Mr. Priester discussed the rest of the projects that were slated to continue in 2010-11. Member Vogler asked what the project regarding the park and ride expansion would improve. Mr. Priester stated that it would double the 185 parking spaces, and that CMAQ funding through a grant would help if the City could secure it. Member Vogler asked if there were other amenities involved, like road side rest type things. Mr. Priester stated that not it did not, but it included landscape and paving. Member Vogler stated that he really liked the parking lot at Costco because of all the space it provided for each car. He wanted to note that it would be helpful for the commuters if the parking spaces were like Costco's, very roomy. Mr. Priester stated that parking spaces in Victorville were 9 feet wide by 20 feet deep. He stated that dual stripes forced the cars to park closer, which affords more room, and centers the car better. Member Vogler stated that he thought Costco's parking spaces were wider than 9 feet.

Mr. Priester discussed the total amount of funding for the program, which he stated was modest in comparison to the total budget. He stated that staff had to estimate what would be left to do at the end of the fiscal year and roll the remaining funds over to the next budget.

Chair Sundgren asked how wide the Main Street bridge would be after the widening project. Mr. Priester answered that the bridge would be 3 lanes in each direction with a raised landscape median in the center. He stated it would take about 3 years to get the permits to widen the aqueduct lanes from the State. He stated what would eventually happen is that there would be a parallel bridge built for eastbound traffic and the existing bridge would house westbound traffic.

The committee discussed the 804 drainage line. Mr. Priester talked about the project's construction and that we would be raising the road 18" to 2' to accommodate this new drain. Member Bratton asked if compaction was an issue, and Mr. Priester answered, no it would be engineered.

Member Vogler asked about the Carl's Jr,. project at Bear Valley and Mariposa. He asked if Planning Commission had approved it. He asked if extra space was allocated to accommodate the Bear Valley widening. Mr. Priester stated yes, and they are paying for a portion of it. He explained other portions of the paving project and that it is moving forward. Mr. Priester also stated that the project would have exactly the same amount of room as the hotel construction. This also applied to the amount of traffic generated by each project.

Member Vogler stated that he wanted it to be mentioned again that he feels that the synchronization of the traffic signals is very important. He stated he has mentioned it for about 8 years. He stated that looking at the total streets budget of 43 million dollars in a variety of categories, each project benefits different people in town. He noticed the amount of money spent on outlying areas for potential development. He stated he cannot think of one project that would benefit more residents than synchronization. He stated there is always a reason to not fund it. He stated some of the reasons that he had heard before. He feels the problem is being ignored. He stated that he sees the need for the signal at Seventh and the new signal at C and Main. He stated that he wanted one of the committee members to suggest that this project go forward immediately. He stated that it would not cost 10 million dollars and that there was wiggle room in the program.

Mr. Priester responded that this project had been mentioned many times and that traffic flow can be increased by the synchronization of signals. He stated that there will be backfill on Main when Ranchero is done. He stated that there were gaps in the signals on Main, and until the system was completely in place, it wouldn't be good to do the synchronization because it wouldn't be efficient. He commented on Main and C and stated there was money there to do this type of project. The ultimate plan to fix this intersection is financially infeasible.

Member Vogler commented that his suggestion was to not wait until the underpass was done to get a traffic count. His suggestion was to begin getting a plan together and go forward. He stated that the core of Main Street was

ignored. He mentioned the apartments across the street from the post office, and that he thought the City paid for it. He feels money was found to do this project, which may reduce a little blight in that area. He feels that it does nothing to reduce the Main Street traffic. He mentioned radius corners on driveways on Main, which was not completed.

Vice Chair Hellmich asked if Ranchero Road traffic speed would be regulated, and if 18-wheeled vehicles would be allowed, because this was a residential area.

Mr. Priester responded that this was a major arterial, and that with 6 lanes, it would have very little signalization and speed suppression. It was meant to accommodate traffic from east to west. It would be 50 miles per hour. He stated that there would be 18-wheelers on that road.

Vice Chair Hellmich stated that she was worried about 18-wheelers being allowed at high rates of speed.

Member Vogler stated that he felt that raised medians would slow traffic down instead of speeding it up. He stated that Mr. Priester stated that the idea was to slow down traffic on Main.

Mr. Priester stated that raised medians do not slow down traffic, it takes away a continuous left turn pocket, which speeds it up, but, yes the idea was to slow people down on Main so they would be inclined to stop and shop.

Mr. Vogler stated that he felt it would bottle neck at the turn pockets and slow it down.

Chair Sundgren stated that it actually speeds traffic up, as long as you have volume.
Mr. Priester stated that the median policy was approved by the City Council in the Main Street/I-15 Specific Plan.

Chair Sundgren asked what percentage of miles would be paved and maintained when we are all done with street paving.

Mr. Priester stated that we have about 450 maintained roads and that we do preventative maintenance on all of them.

Member Vogler asked if a vote was needed to move this on to the City Council. Mr. Priester stated no, it did not, but he would forward the comments to City Council. Mr. Priester also mentioned that the Council liaison could pass along the comments of the committee.

Member Vogler motioned for a vote to forward the comments on to City Council. Second by Chair Sundgren.

Motion failed 2-2.

Member Vogler commented that his no vote did not indicate that he didn't approve and appreciate staff's work. It is because he feels Main Street is so important, and a no vote shows importance.

Chair Sundgren adjourned the meeting at 7:52 pm.

City of Hesperia
STAFF REPORT

DATE: September 23, 2010

TO: Chair and Committee Members

FROM: Scott Priester, Director of Development Services
Tracy Wrigley, Community Development Supervisor
Mike Hearn, Building Inspection Supervisor

BY: ~~Tom~~ Harp, Deputy Director of Development Services/Community Dev. (Ret.)

SUBJECT: Adoption of Ordinance No. 2010-010 adopting the 2010 California Building Codes

RECOMMENDED ACTION

It is recommended that the City Council Advisory Committee review and provide a recommendation to the City Council for adoption of Ordinance No. 2010-10 which repeals and replaces Hesperia Municipal Code Chapters 15.04 and 15.06; adopting and amending the 2010 California Building Code, the 2010 California Residential Code, the 2010 California Electrical Code, the 2010 California Mechanical Code, the 2010 California Plumbing Code, the 2010 California Fire Code, the 2010 California Green Building Standards Code, and the 2010 California Referenced Standards Code.

BACKGROUND

Every three years, the International Code Council (ICC), the International Association of Plumbing and Mechanical Officials (IAPMO), and the National Fire Protection Agency (NFPA) publish revised versions of their respective codes. This was completed and revised versions were published in 2009.

The California Building Standards Commission (BSC) takes the model codes published by ICC, IAPMO, and NFPA, and makes amendments to them based upon specific requirements in State law. Once the amendments are made, the State sets a publication date and an effective date. The purpose of this is to officially notify local jurisdictions that the codes are completed and when they will take effect.

Earlier this year, the BSC set July 1, 2010 as the publication date and January 1, 2011 as the effective date. Consequently, the model ordinance will take effect "as-is" unless the City makes amendments.

ISSUES/ANALYSIS

The code adoption amends the current ordinance, which was last amended in 2007. In summary, it adopts the model codes by reference; and makes changes to Chapters 15.04 and 15.06 of the Hesperia Municipal Code, which addresses Uniform Codes and grading, respectively. The changes recommended fall into three categories; specific appendix chapters being adopted, revisions to codes, and new codes. Each will be discussed separately.

1. Appendix Chapters Specifically Adopted:

The uniform codes and State law are set up in such a way that Appendix Chapters to the various codes are not included unless specifically adopted. Section 15.04.020 of the Hesperia Municipal Code identifies the Appendix Chapters to be included. All of the Appendix Chapters recommended for adoption have been previously adopted with the exception of California Plumbing Code Appendix G regarding "Greywater Systems".

While the City does not anticipate an increase in demand for private greywater systems, there is a growing support for their use at the State level. Many of the green building programs including the California Green Building Code, LEED, and Build It Green promote their use. Adoption of this appendix chapter provides guidelines should a system be proposed.

Other appendix chapters proposed for adoption are currently adopted in the City and include regulations regarding patio covers, septic systems, plumbing installation standards, and a calculation method for sizing water piping systems.

2. Revisions to Codes:

A total of six revisions are proposed to be made to the California Codes. Four of them pertain to fire protection systems, the fifth, to swimming pools, and lastly Chapter 15.06 which pertains to grading.

Section 15.04.030 in the Hesperia Municipal Code (HMC) requires the installation of an automatic fire sprinkler system when the floor area exceeds 5,000 square feet. This requirement has been in place since the mid-1990's and is well known and understood by local builders and developers.

HMC Section 15.04.040 requires a manual or automatic fire alarm system in non-residential buildings of 2,400 square feet and larger. This item has also been in Hesperia's code since the 1990's.

Third on the list is Section 15.04.050 which requires existing, non-sprinklered buildings of 5,000 square feet or more to install fire sprinklers if the building is added to, or if the occupancy changes to a more hazardous use. Again, this requirement has been in Hesperia's code for 15 years or more.

HMC Section 15.04.060 is added to both modify the State code requirements, but also to consolidate swimming pool safety regulations from three different areas into one. This section makes two changes from the State requirements. It reduces the depth of water required to be considered a swimming pool from 24 inches to 18 inches. The 18 inch depth has been Hesperia's standard since incorporation as it was the County standard prior to incorporation. The second change is to raise the barrier fence around a swimming pool from 48 inches to 60 inches. Again, this has been Hesperia's standard since County days. Staff recommends the increased standards as drowning in swimming pools is the number one building code related cause of death for children in residences.

Section 15.04.070 is new to this code cycle and pertains to the residential fire sprinkler requirements called out in the California Residential Code. This new section prohibits the use of antifreeze in single-family residence and duplex fire sprinkler systems. This prohibition is due to

three separate concerns. The National Fire Protection Association has banned the use of antifreeze in single-family residential fire sprinklers pending further review of an incident where an antifreeze solution in a sprinkler system reacted negatively with a kitchen grease fire and a fatality resulted. In addition, potential cross contamination with the residences domestic system, as well as with the public water system, may be possible. Finally, antifreeze systems require additional annual maintenance including a complete draining and recharging of the system. While this is an additional expense for the homeowner, it is anticipated that most systems will not receive the annual maintenance.

Chapter 15.06, regarding grading, has been revised to make minor changes to code sections and titles. The bulk of the changes pertain to a change in the title of a person responsible for preparing a soils report or geotechnical report. Previous language called them out as a soils engineer or engineering geologist. The soils/geotechnical report became simply "geotechnical report". This code amendment changes the title to geotechnical engineer to better match the report being prepared. The only other changes were to several code section cites as the numbers had changed in the new building code. None of the technical provisions changed.

3. New Codes for 2010:

Two completely new codes were added in California. The California Green Building Standards Code (CalGreen) and the California Residential Code. CalGreen has two major segments, a set of seven mandatory measures which have been in place since August 1, 2009, and a voluntary measures program. The voluntary measures are extensive and constructed similar to LEED or Build It Green check lists. Staff is recommending that the voluntary program remain just that. Adoption of the voluntary program would add significantly to construction costs, putting Hesperia at a competitive disadvantage with other cities, and possibly suppressing economic development.

The California Residential Code is being adopted for the first time. While there was a 2006 International Residential Code, the State was not able to make the necessary amendments in order to publish the 2007 California version in a timely fashion. There are two major changes (and many lesser), one of which has been controversial on a nationwide level. The primary controversy has been over the codes requirement for fire sprinklers in all new residential buildings. While Hesperia has adopted a 5,000 square foot fire sprinkler ordinance, it rarely affected single family residences. This code makes an exception for additions and alterations to existing residences. They, additions and alterations, will not cause the residence to be retrofitted with fire sprinklers if the residence did not contain fire sprinklers previously.

The other major change in the California Residential Code is that it extends prescriptive building codes further than previous codes. Prescriptive codes specify building methods under certain conditions. The 2010 code provides prescriptive standards for steel framing, wood structure panels, masonry construction, and concrete walls. While not popular with southern California tract builders, these provisions will allow home builders much more flexibility in building materials and methods.

In total, staff believes the amendments and revisions better address the specific conditions in Hesperia. The appendix chapters give standards for septic systems, greywater systems, and plumbing sizing and installations, as well as for patio construction. The code revisions provide additional fire protection, increased safety standards for swimming pools, consistent grading regulations, and a ban on the use of antifreeze in residential fire sprinkler systems. Finally, the

two new codes (residential and green) added this year provide increased fire protection in homes, a simplified construction process, and adopted green standards that will conserve City resources (land and water). As such, staff recommends adoption of Ordinance No. 2010-010 which will establish the construction codes used in Hesperia during the next three years.

FISCAL IMPACT

The proliferation of the building codes during the previous six years has been more rapid than any time during the previous 25 years. The expansion of building codes will require more training, plan review, and inspection time, which will require an increase in fees passed on to Hesperia builders. Once fees are adjusted, there should be no fiscal impact to the City.

ALTERNATIVE(S)

1. The City Council may choose to not adopt this Ordinance. In this case, the recommended appendices and code changes would not be included. Staff does support this alternative.

2. The City Council may choose not to adopt a specific appendix chapter or not make one or more of the named code amendments. Staff does not support this alternative.

3. Provide alternative direction to staff.

ATTACHMENT(S)

1. Ordinance No. 2010-010

ORDINANCE NO. 2010-010

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF HESPERIA, CALIFORNIA, REPEALING CHAPTERS 15.04 AND 15.06 OF THE HESPERIA MUNICIPAL CODE AND ADOPTING BY REFERENCE THE 2010 CALIFORNIA BUILDING CODE, THE 2010 CALIFORNIA RESIDENTIAL CODE, THE 2010 CALIFORNIA ELECTRICAL CODE, THE 2010 CALIFORNIA MECHANICAL CODE, THE 2010 CALIFORNIA PLUMBING CODE, THE 2010 CALIFORNIA FIRE CODE, THE 2010 CALIFORNIA GREEN BUILDING STANDARDS CODE, AND THE 2010 CALIFORNIA REFERENCED STANDARDS CODE, IN CHAPTER 15.04 WITH AMENDMENTS, AND ADOPTING REVISED GRADING STANDARDS IN CHAPTER 15.06.

WHEREAS, The City of Hesperia has the authority and responsibility to regulate building construction to protect the public health, safety, and welfare; and

WHEREAS, Title 15, Chapters 15.04 and 15.06 of the Hesperia Municipal Code contain such building regulations and grading regulations, for the City of Hesperia; and

WHEREAS, The California Building Standards Commission published the 2010 California Building Code, 2010 California Residential Code, 2010 California Electrical Code, 2010 California Mechanical Code, 2010 California Plumbing Code, 2010 California Fire Code, 2010 California Green Building Standards Code, and the 2010 California Referenced Standards Code, (hereinafter, 2010 Building Codes) on July 1, 2010; and

WHEREAS, The California Building Standards Commission voted to establish January 1, 2011 as the effective date for the 2010 Building Codes; and

WHEREAS, The California Government Code, Section 50022.2 authorizes cities to adopt Building Codes by reference; and

WHEREAS, The California Health and Safety Code, Section 17922, 17958.5, and 17958.7 allows modifications to the 2010 Building Codes when they are necessary to better protect the public safety by reducing the risk of hazards to life and property of the citizens of Hesperia due to:

1. Topographic conditions. The City of Hesperia is bisected by the Burlington Northern - Santa Fe Railroad, the Southern Pacific Railroad, the California aqueduct, the Interstate 15 Freeway, and two major electrical transmission corridors which cause limited access across and through the City. The limited access slows emergency response times for public safety personnel.
2. Geologic conditions. The City of Hesperia is located within fifteen (15) kilometers of the San Andreas Fault and within ten (10) kilometers of the Cleghorn and North Frontal fault systems. This proximity to known fault systems creates an increased potential for severe ground shaking and damage to water supply, delivery systems roads, and structures. Limited access and diminished water supply could slow emergency response times and fire suppression delivery.
3. Climatic conditions. The City of Hesperia lies within the Western Mojave Desert, an area characterized by summer daytime temperatures in excess of 100 degrees Fahrenheit, relative humidity less than 20 percent, and wind speeds in excess of thirty (30) miles per hour. The combination of these factors, and an average rainfall of less than five (5) inches lead to conditions that can cause the rapid spread of fires; and

WHEREAS, A copy of the 2010 Building Codes identified in this Ordinance have been filed with the City Clerk of the City of Hesperia and are kept in the office of the building official in accordance with California Government Code Section 50022.6; and

WHEREAS, On September 23, 2010, the City Council Advisory Committee reviewed the Ordinance and voted to recommend adoption by the Hesperia City Council; and

WHEREAS, On October 5, 2010 the City Council of the City of Hesperia conducted a duly noticed Public Hearing as required by Government Code Section 50022.3 and concluded said hearing on that date; and

WHEREAS, All legal prerequisites to the adoption of this Ordinance have occurred.

NOW THEREFORE, THE HESPERIA CITY COUNCIL DOES ORDAIN AS FOLLOWS:

Section 1. All of the facts set forth in the forgoing recitals are true, correct and are adopted as findings.

Section 2. Chapter 15.04 of the Hesperia Municipal Code entitled Uniform Codes, adopted by Ordinance No. 2007-16 is hereby repealed, provided that said repeal shall not apply to or excuse any violations thereof occurring prior to the effective date of this Ordinance and provided further that the building regulations as adopted by reference and amended by Ordinance 2007-16 shall be applicable to construction projects for which plans have been submitted for plan review and the plan review fees paid as of December 31, 2010; provided that neither the plan review nor permits issued for construction of the structure expire.

Section 3. Chapter 15.04 titled "Uniform Codes" of the Hesperia Municipal Code is hereby added as set forth in Exhibit "A" attached hereto and incorporated herein by this reference.

Section 4. Chapter 15.06 of the Hesperia Municipal Code titled "Grading" adopted by Ordinance No. 2007-16 is hereby repealed and replaced with the language as set forth in Exhibit "B" attached hereto and incorporated herein by this reference.

Section 5. Ordinance No. 2009-013 amending Section 406.1.4 in the 2007 California Building Code and Section 312 in the 2007 Mechanical Code is hereby repealed.

Section 6. This Ordinance shall take effect on January 1, 2011.

Section 7 The City Council of the City of Hesperia hereby declares that should any provision, section, paragraph, sentence, or word of this Ordinance hereby adopted be rendered or declared invalid by any final court action in a court of competent jurisdiction, or by any reason of any preemptive legislation, the remaining provisions, sections, paragraphs, sentences, and words shall remain in full force and effect.

Section 8. The City Clerk shall certify to the adoption of the Ordinance and shall cause the same to be posted in three (3) public places within the City of Hesperia pursuant to the provisions of Resolution 93-78.

ADOPTED AND APPROVED this 19th day of October 2010.

_____
Thurston Smith, Mayor

ATTEST_____
Mike Podegracz, City Clerk

CHAPTER 15.04
UNIFORM CODES

SECTIONS:

15.04.010 California Codes Adopted
15.04.020 Appendix Chapters Added
15.04.030 Automatic Fire Sprinklers
15.04.040 Automatic Fire Alarm Systems
15.04.050 Previously Constructed Buildings- Sprinkler Systems
15.04.060 Swimming Pool Barriers and Safety Devices
15.04.070 Residential Fire Sprinklers

15.04.010 California Codes Adopted

The 2010 California Building Code, Volumes 1 and 2, the 2010 California Residential Code, the 2010 California Electrical Code, the 2010 California Mechanical Code, the 2010 California Plumbing Code, the 2010 California Fire Code, the 2010 California Green Building Standards Code, and the 2010 California Referenced Standards Code, are hereby adopted as the Building Regulations for the City of Hesperia, together with the amendments, additions, deletions, and exceptions set forth in this Section.

15.04.020 Appendix Chapters Added

The following appendix chapters are specifically adopted:

A. Appendix Chapter I of the 2010 California Building Code titled "Patio Covers", is hereby adopted in its entirety.
B. Appendix Chapter A of the 2010 California Plumbing Code titled "Recommended Rules for Sizing the Water Supply System", is hereby adopted in its entirety.
C. Appendix Chapter G of the 2010 California Plumbing Code titled "Graywater Systems", is hereby adopted in its entirety.
D. Appendix Chapter I of the 2010 California Plumbing Code titled "Installation Standards", is hereby adopted in its entirety.
E. Appendix Chapter K of the 2010 California Plumbing Code titled "Private Sewage Disposal Systems", is hereby adopted in its entirety.

15.04.030 Automatic Fire Sprinklers

In addition to the requirements of Section 903 of the 2010 California Building Code, an automatic fire extinguishing system shall be installed in every building of Group A, B ,E, F, H, I, L, M, S or U with 5,000 or more square feet of floor area or two or more stories in height.

EXCEPTIONS:

1. Buildings separated into fire areas of less than 5,000 square feet by one or more four (4) hour separation walls constructed in accordance with Table 720.1(2) of the California Building Code, containing no openings and extending from the foundation to a point at least 30-inches above the roof line.
2. Canopies constructed entirely of non-combustible materials with no enclosing walls and spaced at least ten (10) feet from adjacent buildings or structures.
3. Mini-storage buildings constructed entirely of non-combustible materials and not containing hazardous materials.

4. Buildings with a single, small, low occupancy room on the second floor, when approved by the Fire Chief and Building Official.

15.04.040 Automatic Fire Alarm Systems

An approved manual, automatic, or manual and automatic fire alarm system shall be installed in all buildings of Group A, B, E, F, M or S of 2,400 square feet or larger, but less than 5,000 square feet of floor area except where other provisions of the code require a fire alarm system for a lesser floor area.

EXCEPTION:

1. Canopies constructed entirely of non-combustible materials with no enclosing walls and spaced at least ten (10) feet from adjacent buildings or structures.

15.04.050 Previously Constructed Buildings- Sprinkler Systems

Previously constructed buildings with a floor area of 5,000 square feet or more and which are proposing to add floor area, change their occupancy classification to a more hazardous classification, or significantly alter or remodel the building, shall install an automatic fire extinguisher system.

EXCEPTIONS:

1. Tenant improvements, maintenance and repair such as interior and exterior painting, carpeting, interior window coverings, drapes, interior non-bearing partitions, surface re-roofing or plumbing, mechanical and electrical repairs.

15.04.060 Swimming Pool Barriers and Safety Devices

A. General. Swimming pools shall comply with the requirements of this section and other applicable sections of the California Building Code.

B. Definitions. The following words and terms shall, for the purposes of this section and as used elsewhere in this chapter, have the meaning shown herein.

APPROVED SAFETY POOL COVER means a manually or power-operated safety pool cover that meets all of the performance standards of the American Society for Testing and Materials (ASTM), in compliance with Standard F 1346-91.

BARRIER (ENCLOSURE) means a fence, wall, or other barrier that isolates a swimming pool from access to the home or other buildings and grounds.

EXIT ALARMS means devices that make audible, continuous alarm sounds when any door or window that permits access from the residence to the pool area, that is without any intervening enclosure, is opened, or is left ajar. Exit alarms may be battery operated or may be connected to the electrical wiring of the building.

PRIVATE SWIMMING POOL means a swimming pool located on the grounds of a single-family home.

PUBLIC SWIMMING POOL means a swimming pool for the use of the general public with or without charge, or for the use of the members and guests of a private club. Public swimming pool does not include a swimming pool located on the grounds of a private single-family home.

SWIMMING POOL means any structure intended for swimming, recreational bathing, or wading that contains water over 18 inches (457 mm) deep. This includes in-ground, above-ground, and on-ground pools; hot tubs, spas, portable spas, and fixed-in-place wading pools.

C. BARRIERS (ENCLOSURES)

1. **Barrier Height and Clearances.** The top of the barrier shall be at least 60 inches (1524 mm) above grade measured on the side of the barrier that faces away from the swimming pool. The maximum vertical clearance between grade and the bottom of the barrier shall be 2 inches (51 mm) measured on the side of the barrier that faces away from the swimming pool. Where the top of the pool structure is above grade, the barrier is authorized to be at ground level or mounted on top of the pool structure, and the maximum vertical clearance between the top of the pool structure and the bottom of the barrier shall be 4 inches (102 mm).

2. **Openings.** Openings in the barrier shall not allow passage of a 4-inch-diameter (102 mm) sphere.

3. **Solid Barrier Surfaces.** Solid barriers which do not have openings shall not contain indentations or protrusions except for normal construction tolerances and tooled masonry joints.

4. **Closely Spaced Horizontal Members.** Where the barrier is composed of vertical and horizontal members and the distance between the tops of the horizontal members is less than 45 inches (1143 mm), the horizontal members shall be located on the swimming pool side of the fence. Spacing between vertical members shall not exceed 1 ¾ inches (44 mm) in width. Where there are decorative cutouts within vertical members, spacing within cutouts shall not exceed 1 ¾ inches (44 mm) in width.

5. **Widely Spaced Horizontal Members.** Where a barrier is composed of horizontal and vertical members and the distance between the tops of the horizontal members is 45 inches (1143 mm) or more, spacing between vertical members shall not exceed 4 inches (102 mm). Where there are decorative cutouts within vertical members, spacing within cutouts shall not exceed 1 ¾ inches (44 mm) in width.

6. **Chain Link Dimensions.** Maximum mesh size for chain link fences shall be 2 ¼ inch square (57 mm square) unless the fence is provided with slats fastened at the top or the bottom which reduce the openings to no more than 1 ¾ inches (44 mm) in width.

7. **Diagonal Members.** Where the barrier is composed of diagonal members, the maximum opening formed by diagonal members shall be no more than 1 ¾ inches (44 mm).

8. **Gates.** Access doors or gates shall be equipped to accommodate a locking device. Pedestrian access doors or gates shall open outward away from the pool and shall be self-closing and have a self-latching device. Doors or gates other than pedestrian access doors or gates shall have a self-latching device.

Release mechanisms shall be in accordance with Section 1008.1.9 and 1109.1.2 of the California Building Code. Where the release mechanism of the self-latching device is located less than 54 inches (1372 mm) from the bottom of the door or gate, the release mechanism shall be located on the pool side of the door or gate at least 3 inches (76 mm) below the top of the door or gate, and the door or gate and barrier shall have no opening greater than ½ inch (12.7 mm) within 18 inches (457 mm) of the release mechanism.

9. **Dwelling Wall as a Barrier.** Where a wall of a dwelling serves as part of the barrier, one of the following shall apply:
    1) Doors with direct access to the pool through that wall shall be equipped with an alarm that produces an audible warning when the door and/or its screen, if present, are opened. The alarm shall be listed and labeled in accordance with UL 2017. In dwellings not required to be *Accessible Units, Type A units, or Type B units,* the deactivation switch shall be located 54 inches (1372 mm) or more above the threshold of the door. In dwellings required to be *Accessible units, Type A units, or Type B units*, the deactivation switch(es) shall be located at 54 inches (1372 mm) maximum and 48 inches (1219 mm) minimum above the threshold of the door.
    2) The pool shall be equipped with a power safety cover that complies with ASTM F 1346.
    3) Other means of protection, such as self-closing doors, with self-latching devices, which are approved, shall be accepted so long as the degree of protection afforded is not less than the protection afforded by Section 3109.4.1.8, Item 1 or 2.

10. **Pool Structure as Barrier.** Where an above-ground pool is used as a barrier or where the barrier is mounted on top of the pool structure, and the means of access is a ladder or steps, then the ladder or steps either shall be capable of being secured, locked, or removed to prevent access, or the ladder or steps shall be surrounded by a barrier which meets the requirements of this section. When the ladder or steps are secured, locked or removed, any opening created shall not allow the passage of a 4-inch diameter (102 mm) sphere.

11. **Indoor Swimming Pools.** Walls surrounding indoor swimming pools shall not be required to comply with this section.

12. **Prohibited Locations.** Barriers shall be located so as to prohibit permanent structures, equipment, or similar objects from being used to climb the barriers.

D. **Safety Features Required.** Whenever a building permit is issued for construction of a new swimming pool or spa, or any building permit is issued for remodeling of an existing pool or spa, at a private, single-family home, it shall be equipped with at least one of the following drowning prevention safety features in addition to the barrier as described in 15.04.060C:
    1. The pool shall incorporate removable mesh pool fencing that meets American Society for Testing and Materials (ASTM) Specifications F 2286 standards in

conjunction with a gate that is self-closing and self-latching and can accommodate a key lockable device.

2. The pool shall be equipped with an approved safety pool cover that meets all requirements of the ASTM Specifications F 1346.
3. All doors providing direct access from the home to the swimming pool shall be equipped with a self-closing, self-latching device with an exit alarm and a release mechanism placed no lower than 54 inches (1372 mm) above the floor.
4. Swimming pool alarms that, when placed in pools, will sound upon detection of accidental or unauthorized entrance into the water. These pool alarms shall meet and be independently certified to the ASTM Standard F 2208 "Standard Specification for Pool Alarms" which includes surface motion, pressure, sonar, laser, and infrared type alarms. For purposes of this article, "swimming pool alarms" shall not include swimming protection alarm devices designed for individual use, such as an alarm attached to a child that sounds when the child exceeds a certain distance or becomes submerged in water.
5. Other means of protection, if the degree of protection afforded is equal to or greater than that afforded by any of the devices set forth in items 1-4, and have been independently verified by an approved testing laboratory as meeting standards for those devices established by the ASTM or the American Society of Testing Mechanical Engineers (ASME).

E. **Construction Requirements.** Whenever a building permit is issued for the construction of a new swimming pool or spa:

1. It shall have at least two circulation drains per pump that shall be hydraulically balanced and symmetrically plumbed through one or more "T" fittings, and that are separated by a distance of at least three feet in any dimension between the drains. Suction outlets that are less than 12 inches across shall be covered with anti-entrapment grates, as specified in the ASME/ANSI Standard A 112.19.8 that cannot be removed except with the use of tools. Slots of openings in the grates or similar protective devices shall be of a shape, area, and arrangement that would prevent physical entrapment and would that pose a suction hazard to bathers. Suction outlets shall be designed and installed in accordance with ANSI/APSP-7.

15.040.070 Residential Fire Sprinklers

The use of anti-freeze in residential fire sprinkler systems designed under NFPA 13D or Section R313 in the California Residential Code shall not be permitted.

CHAPTER 15.06
GRADING

Sections:

15.06.010	**General Provisions**
15.06.020	**Definitions**
15.06.030	**Permits Required**
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15.06.060	**Excavations**
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15.06.090	**Drainage and Terracing**
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15.06.110	**National Pollutant Discharge Elimination System (NPDES) Compliance**
15.06.120	**Referenced Standards**

15.06.010 General provisions.

A. Scope. The provisions of this chapter apply to grading, excavation and earthwork construction, including fills and embankments and the control of grading site runoff, including erosion sediments and construction-related pollutants.

The purpose of this chapter is to safeguard life, limb, property, and the public welfare by regulating grading on private property.

B. Flood Hazard Areas. The provisions of this chapter shall not apply to grading, excavation and earthwork construction, including fills and embankments, in floodways within flood hazard areas established in Section 1612.3 or in flood hazard areas where design flood elevations are specified but floodways have not been designated, unless it has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed work will not result in any increase in the level of the base flood.

C. General Hazards. Whenever the building official determines that any existing excavation or embankment or fill on private property has become a hazard to life and limb, or endangers property, or adversely affects the safety, use or stability of a public way or drainage channel, the owner of the property upon which the excavation or fill is located, or other person or agent in control of said property, upon receipt of notice in writing from the building official shall within the period specified therein repair or eliminate such excavation or embankment to eliminate the hazard and to be in conformance with the requirements of this code.

D. Safety Precautions. If at any stage of the work the building official determines by inspection that further grading as authorized is likely to endanger any public or private property or result in the deposition of debris on any public way or interfere with any existing drainage course, the building official may order the work stopped by notice in writing served on any persons engaged in doing or causing such work to be done, and any such person shall immediately stop such work. The building official may authorize the work to proceed if the building official finds adequate safety precautions can be taken or corrective measures incorporated in the work to avoid the likelihood of such

danger, deposition or interference. If the grading work as done has created or resulted in a hazardous condition, the building official shall give written notice requiring correction thereof as specified in Section 15.06.050 of this chapter.

E. Protection of Utilities. The owner of any property on which grading has been performed and that requires a grading permit under Section 15.06.030 shall be responsible for the prevention of damage to any public utilities or services.

F. Protection of Adjacent Property. The owner of any property on which grading has been performed and that requires a grading permit under Section 15.06.030 is responsible for the prevention of damage to adjacent property and no person shall excavate on land sufficiently close to the property line to endanger any adjoining public street, sidewalk, alley, or other public or private property without supporting and protecting such property from settling, cracking or other damage that might result. Special precautions approved by the building official shall be made to prevent imported or exported materials from being deposited on the adjacent public way and/or drainage courses.

G. Storm Water Control Measures. The owner of any property on which grading has been performed and that requires a grading permit under Section 15.06.030 shall be put into effect and maintain all precautionary measures necessary to protect adjacent water courses and public or private property from damage by erosion, flooding, and deposition of mud, debris, and construction-related pollutants originating from the site during grading and related construction activities.

H. Maintenance of Private Devices. The owner of any property on which grading has been performed pursuant to a permit issued under the provisions of this code, or any other person or agent in control of such property, shall maintain in good condition and repair all drainage structures and other protective devices when they are shown on the grading plans filed with the application for grading permit and approved as a condition precedent to the issuance of such permit.

I. Conditions of Approval. In granting any permit under this code, the building official may include such conditions as may be reasonably necessary to prevent creation of a nuisance or hazard to public or private property. Such conditions may include, but shall not be limited to:

1. Improvement of any existing grading to comply with the standards of this code;
2. Requirements for fencing of excavations or fills which would otherwise be hazardous.

15.06.020 Definitions.

For the purposes of this chapter, the terms, phrases, and words listed in this section and their derivatives have the indicated meanings.

"BENCH" means the relatively level step excavated into earth material on which fill is to be placed.

"BORROW" means earth material acquired from an off-site location for use in grading on a site.

"CIVIL ENGINEER" means a professional engineer registered in the state of California to practice in the field of civil works.

"CIVIL ENGINEERING" means the application of the knowledge of the forces of nature, principles of mechanics, and the properties of materials to the evaluation, design, and construction of civil works.

"COMPACTIONS" means the densification of a fill by mechanical means.

"CUT". See "Excavation."

"DESIGN ENGINEER" means the civil engineer responsible for the preparation of the grading plans for the site grading work.

"DESILTING BASINS" means physical structures constructed for the removal of sediments from surface water runoff.

"DOWN DRAIN" means a device for collecting water from a swale or ditch located on or above a slope, and safely delivering it to an approved drainage facility.

"EARTH MATERIAL" means any rock, natural soil, or fill or any combination thereof.

"EROSION" means the wearing away of the ground surface as a result of the movement of wind, water, or ice.

"EXCAVATION" means the removal of earth material by artificial means, also referred to as a cut.

"FIELD ENGINEER" means the civil engineer responsible for performing the functions as set forth in Section J105.4.

"FILL" means the deposition of earth materials by artificial means.

"GEOTECHNICAL ENGINEER" means an engineer experienced and knowledgeable in the practice of geotechnical engineering (geotechnical) engineering.

"GEOTECHNICAL HAZARD" means an adverse condition due to landslide, settlement, and/or slippage. These hazards include but are not limited to loose debris, slope wash, and mud flows from natural or graded slopes.

"GRADE" means the vertical location of the ground surface.

GRADE, EXISTING. "Existing grade" means the grade prior to grading.

GRADE, FINAL. See Section 15.06.050(G)(4).

GRADE, FINISHED. "Finished grade" means the grade of the site at the conclusion of all grading efforts.

GRADE, INITIAL. See Section 15.06.050(G)(2).

GRADE, ROUGH. See Section 15.06.050(G)(3).

"GRADING" means an excavation or fill or combination thereof.

"KEY" means a compacted fill placed in a trench excavated in earth material generally constructed at the toe of the slope.

"LANDSCAPE ARCHITECT" means a person who holds a certificate to practice landscape architecture in the state of California under the applicable landscape architecture provisions of Division 3, Chapter 3.5 of the Business and Professions Code.

"LINE" means and refers to the horizontal location of the ground surface.
Permittee. See Section 15.060.050(F).

"PRIVATE SEWAGE DISPOSAL SYSTEM" means a septic tank with effluent discharging into a subsurface disposal field, into one or more seepage pits or into a combination of subsurface disposal field and seepage pit or such other facilities as may be permitted.

"PROFESSIONAL INSPECTION" means the inspection required by this code to be performed by the project consultants. Such inspections shall be sufficient to form an opinion relating to the conduct of the work.

"PROJECT CONSULTANTS" means the professional consultants required by this code which may consist of the design engineer, field engineer, geotechnical engineer, engineering geologist, and landscape architect as applicable to this chapter.

"SITE" means a lot or parcel of land or contiguous combination thereof, under the same ownership, where grading is performed or permitted.

"SLOPE" means an inclined ground surface, the inclination of which is expressed as a ratio of horizontal distance to vertical distance.

"SOIL" means naturally occurring superficial deposits overlying parent bedrock.

"SOIL TESTING AGENCY" means an agency regularly engaged in the testing of soils and rock under the direction of a civil engineer experienced in soil testing.

"STORM DRAIN SYSTEM" means a conveyance or system of conveyances, including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, and man-made channels, designed or used for collecting and conveying storm water.

"STORM WATER POLLUTION PREVENTION PLAN (SWPPP)" means a site drawing with details, notes and related documents that identify the measures proposed

by the permittee to (1) control erosion and prevent sediment and construction-related pollutants from being carried off-site by storm water, and (2) to prevent non-storm water discharges from entering the storm drain system.

"SURFACE DRAINAGE" means flows over the ground surface.

"TERRACE" means a relatively level step constructed in the face of a graded slope for drainage and maintenance purposes.

15.06.030 Permits required.

A. Permits Required. Except as exempted in this section, no grading shall be performed without first having obtained a permit from the building official. A grading permit does not include the construction of retaining walls or other structures. A separate permit shall be obtained for each site and may cover both excavations and fills. Any engineered grading as described in Section 15.06.040 shall be performed by a contractor licensed by the state of California to perform the work described herein. Regular grading less than five thousand (5,000) cubic yards may require a licensed contractor if the building official determines that special conditions or hazards exist.

B. Exemptions. A grading permit shall not be required for the following:

1. When approved by the building official, grading in an isolated, self-contained area, provided there is no danger to the public, and that such grading will not adversely affect adjoining properties;
2. Excavation for construction of a structure permitted under this code;
3. Cemetery graves;
4. Refuse disposal sites controlled by other regulations;
5. Excavations for wells, or trenches for utilities;
6. Mining, quarrying, excavating, processing or stockpiling rock, sand, gravel, aggregate, or clay controlled by other regulations, provided such operations do not affect the lateral support of, or significantly increase stresses in, soil on adjoining properties;
7. Exploratory excavations performed under the direction of a geotechnical engineer. This shall not exempt grading of access roads or pads created for exploratory excavations. Exploratory excavations must be restored to existing conditions, unless approved by the building official;
8. An excavation that does not exceed fifty (50) cubic yards (38.3 m3°) and complies with one of the following conditions:

a. Is less than two feet (0.6 m) in depth,

b. Does not create a cut slope greater than five feet (1.5 m) measured vertically upward from the cut surface to the surface of the natural grade and is not steeper than two units horizontal to one unit vertical (fifty (50) percent slope);

9. A fill not intended to support a structure, that does not obstruct a drainage course and complies with one of the following conditions:

   a. Is less than one foot (0.3 m) in depth and is placed on natural terrain with a slope flatter than five units horizontal to one unit vertical (twenty (20) percent slope),

   b. Is less than three feet (0.9 m) in depth at its deepest point measured vertically upward from natural grade to the surface of the fill, does not exceed fifty

(50) cubic yards, and creates a fill slope no greater than two units horizontal to one unit vertical (fifty (50) percent slope),

c. Is less than five feet (1.5 m) in depth at its deepest point measured vertically upward from natural grade to the surface of the fill, does not exceed twenty (20) cubic yards, and creates a fill slope no steeper than two units horizontal and one unit vertical (fifty (50) percent slope).

Exemption from the permit requirements of this appendix shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this code or any other laws or ordinances of this jurisdiction.

C. Unpermitted Grading. A person shall not own, use, occupy or maintain any site containing un-permitted grading. For the purposes of this code, unpermitted grading shall be defined as any grading that was performed, at any point in time, without the required permit(s) having first been obtained from the building official, pursuant to subsection A of this section.

D. Availability of Permit at Site. No person shall perform any grading that requires a permit under this chapter unless a copy of the grading permit and approved grading plans is in the possession of a responsible person and available at the site for the building official.

15.06.040 Permit application submittals.

A. Submittal Requirements. In addition to the provisions of California Building Code (CBC) Section 105.3, the applicant shall state the estimated quantities of excavation and fill.

B. Site Plan Requirements. In addition to the provisions of CBC Appendix Section 107, a grading plan shall show the existing grade and finished grade in contour intervals of sufficient clarity to indicate the nature and extent of the work and show in detail that it complies with the requirements of this code. The plans shall show the existing grade on adjoining properties in sufficient detail to identify how grade changes will conform to the requirements of this code.

C. Grading Designation. Grading in excess of five thousand (5,000) cubic yards (three thousand eight hundred twenty-five((3,825) m3) or for the support of a structure shall be performed in accordance with the approved grading plan prepared by a civil engineer, and shall be designated as "engineered grading." Grading involving less than five thousand (5,000) cubic yards (three thousand eight hundred twenty-five ((3,825) m3) and not for the support of a structure shall be designated "regular grading" unless the permittee chooses to have the grading performed as engineered grading, or the building official determines that special conditions or unusual hazards exist, in which case grading shall conform to the requirements for engineered grading.

D. Regular Grading Requirements. In addition to the provisions of CBC Section 105.3 and subsection B of this section, an application for a regular grading permit shall be accompanied by two sets of plans in sufficient clarity to indicate the nature and extent of the work. The plans shall give the location of the work, the name of the owner,

and the name of the person who prepared the plan. The plan shall include the following information:

1. General vicinity of the proposed site;
2. Limits and depths of cut and fill;
3. Location of any buildings or structures where work is to be performed and the location of any buildings or structures within fifteen (15) feet (4.6 m) of the proposed grading;
4. Contours, flow areas, elevations, or slopes which define existing and proposed drainage patterns.

E. Engineered Grading Requirements. In addition to the provisions of CBC Section 105.3 and subsection B of this section, an application for an engineered grading permit shall be accompanied by four sets of plans and specifications, and supporting data consisting of a geotechnical report. The plans and specifications shall be prepared and signed by an individual licensed by the state to prepare such plans or specifications when required by the building official.

Specifications shall contain information covering construction and material requirements. Plans shall be drawn to scale upon substantial paper or cloth and shall be of sufficient clarity to indicate the nature and extent of the work proposed and show in detail that it will conform to the provisions of this code and all relevant laws, ordinances, rules, and regulations. The first sheet of each set of plans shall give location of the work, the name and address of the owner, and the person by whom they were prepared.

The plans shall include but shall not be limited to, the following information:

1. General vicinity of the proposed site;
2. Property limits and accurate contours of existing ground and details of terrain and area drainage;
3. Limiting dimensions, elevations, or finish contours to be achieved by the grading, proposed drainage channels, and related construction;
4. Detailed plans of all surface and subsurface drainage devices, walls, cribbing, dams, and other protective devices to be constructed with, or as a part of, the proposed work. A map showing the drainage area and the estimated runoff of the area served by any drains shall also be provided;
5. Location of any existing or proposed buildings or structures on the property where the work is to be performed and the location of any buildings or structures on land of adjacent owners who are within fifteen (15) feet (4.6 m) of the property that may be affected by the proposed grading operations;
6. Recommendations in the geotechnical engineering report shall be incorporated into the grading plans or specifications. When approved by the building official, specific recommendations contained in the geotechnical engineering report that are applicable to grading may be included by reference;

7. The dates of the geotechnical engineering reports together with the names, addresses, and phone numbers of the firms or individuals who prepared the reports;
8. A statement of the earthwork quantities of material to be excavated and/or filled. Earth work quantities shall include quantities for geotechnical and geological remediation. In addition, a statement of material to be imported or exported from the site;

9. A statement of the estimated starting and completion dates for work covered by the permit;
10. A statement signed by the owner acknowledging that a field engineer, or geotechnical engineer when appropriate, will be employed to perform the services required by this code, whenever approval of plans and issuance of permit are to be based on the condition that such professional persons be so employed. These acknowledgements shall be on a form furnished by the building official;
11. A drainage plan for that portion of a lot or parcel to be utilized as a building site (building pad), including elevations of floors with respect to finish site grade and locations of proposed stoops, slabs and fences that may affect drainage;
12. Location and type of any proposed private sewage disposal system;
13. Location of existing and proposed utilities, drainage facilities, and recorded public and private easements;
14. Location of all recorded natural drainage courses and drainage easements.

F. Geotechnical Report. The geotechnical report required by 15.06.040E shall include data regarding the nature, distribution and strength of existing soils, conclusions and recommendations for grading procedures and design criteria for corrective measures, including buttress fills, when necessary, and opinion on adequacy for the intended use of sites to be developed by the proposed grading as affected by geotechnical engineering factors, including the stability of slopes and liquefaction. Supplemental reports and data may be required as the building official may deem necessary. Recommendations included in the reports and approved by the building official shall be incorporated in the grading plan or specifications.

The geotechnical report required by subsection E of this section shall also include an adequate description of the geology of the site, conclusions and recommendations regarding the effect of geologic conditions on the proposed development, and an opinion on the adequacy for the intended use of sites to be developed by the proposed grading, as affected by geologic factors. The geotechnical report shall include a geologic map and cross sections utilizing the most recent grading plan as a base. Supplemental reports and data may be required as the building official may deem necessary. Recommendations included in the reports and approved by the building official shall be incorporated in the grading plan or specifications.

15.06.050 Grading inspection.

A. General. Grading inspections shall be governed by CBC Section 110 and as indicated herein. Grading operations for which a permit is required shall be subject to inspection by the building official and professional inspection of grading operations shall be provided by the field engineer or geotechnical engineer retained to provide such services in accordance with this section for engineered grading and as required by the building official for regular grading.

B. Special and Supplemental Inspections. The special inspection requirements of CBC Section 1704.7 shall apply to work performed under a grading permit where required by the building official. In addition to the called inspections specified in subsection G of this section, the building official may make such other inspections as may be deemed necessary to determine that the work is being performed in

conformance with the requirements of this code. Investigations and reports by an approved soil testing agency, geotechnical engineer, and field engineer may be required. Inspection reports shall be provided when requested by the building official. Continuous inspection of drainage devices by the field engineer in accordance with this section may be required when the building official determines the drainage devices are necessary for the protection of the structures in accordance with Section 15.06.090 of this chapter.

C. Field Engineer. The field engineer shall provide professional inspection within such engineer's area of technical specialty, oversee and coordinate all field surveys, set grade stakes, and provide site inspections during grading operations to ensure the site is graded in accordance with the approved grading plan and the appropriate requirements of this code. During site grading, and at the completion of both rough grading and final grading, the field engineer shall submit statements and reports required by Sections 15.06.110 and 15.06.120. If the revised grading plans are required during the course of work, they shall be prepared by a civil engineer and approved by the building official.

D. Geotechnical Engineer. The geotechnical engineer shall provide inspection within such engineer's area of technical specialty, which shall include professional inspection of the excavation to determine if conditions encountered are in conformance with the approved report and observation during grading and testing for required compaction. The geotechnical engineer shall provide sufficient observation during the preparation of the natural ground and placement and compaction of the fill to verify that such work is being performed in accordance with the conditions of the approved plan and the appropriate requirements of this chapter. Revised recommendations relating to conditions differing from the approved geotechnical engineering reports shall be submitted to the permittee, the building official and the field engineer.

E. Permittee. The permittee shall be responsible for the work to be performed in accordance with the approved plans and specifications and in conformance with the provisions of this code and the permittee shall engage project consultants, if required, to provide professional inspections on a timely basis. The permittee shall act as a coordinator between the project consultants, the contractor, and the building official. In the event of changed conditions, the permittee shall be responsible for informing the building official of such change and shall provide revised plans for approval.

F. Building Official. The building official shall inspect the project site at the following various stages of work requiring approval to determine that adequate control is being exercised by the project consultants.

1. **Pre-Grade.** Before any construction or grading activities occur at the site. The permittee shall schedule a pre-grade inspection with the building official. The permittee is responsible for coordinating that all project consultants are present at the pre-grade inspection;
2. **Initial.** When the site has been cleared of vegetation and unapproved fill and it has been scarified, benched or otherwise prepared for fill. No fill shall have been placed prior to this inspection;
3. **Rough.** When approximate final elevations have been established; drainage terraces, swales, and other drainage devices necessary for the protection of the

building sites from flooding are installed; berms are installed at the top of the slopes; and the statements required by subsection L of this section have been received;

4. Final. When grading has been completed; all drainage devices necessary to drain the building pad are installed; slope planting is established, irrigation systems are installed; and the as-graded plans and required statements and reports have been submitted.

G. Notification of Non-Compliance. If, in the course of fulfilling their respective duties under this chapter, the field engineer, or the geotechnical engineer finds that the work is not being done in conformance with this chapter or the approved grading plans, the discrepancies and corrective measures which should be taken shall be reported immediately in writing to the permittee and to the building official.

H. Transfer of Responsibility. If the field engineer, or the geotechnical engineer of record is changed during the grading, the work shall be stopped until the replacement has agreed in writing to accept their responsibility within the area of technical competence for approval upon completion of the work. It shall be the duty of the permittee to notify the building official in writing of such change prior to the recommencement of such grading.

I. Non-Inspected Grading. No person shall own, use, occupy, or maintain any non-inspected grading. For the purpose of this code, non-inspected grading shall be defined as any grading for which a grading permit was first obtained, pursuant to Section 15.06.030, but which has progressed beyond any point requiring inspection and approval by the building official without such inspection and approval having been obtained.

J. Routine Field Inspections and Reports. Unless waived by the building official, routine inspection reports shall be provided by the field engineer for all engineered grading projects. The field engineer shall file these reports, with the building official as follows:

1. Weekly during all times when grading of more than ten-thousand (10,000) cubic yards per week is occurring on the site.
2. Bi-weekly during all times when grading of four hundred (400) cubic yards or more per week is occurring on the site;
3. Monthly, at all other times; and
4. At any time when requested in writing by the building official.
5. Such reports shall certify to the building official that the field engineer has inspected the grading site and related activities and has found them in compliance with the approved grading plans, the building code, grading permit conditions, and other applicable ordinances and requirements.

K. Completion of Work. Upon completion of the rough grading work and at the final completion of the work, the following reports and drawings and supplements thereto are required for engineered grading or when professional inspection is required by the building official:

1. An "as-built" grading plan prepared by the field engineer retained to provide such services in accordance with subsection C of this section showing all plan

revisions as approved by the building official. This shall include original ground surface elevations, as-built ground surface elevations, lot drainage patterns, and the locations and elevations of surface drainage facilities and the outlets of subsurface drains. As-built locations, elevations and details of subsurface drains shall be shown as reported by the geotechnical engineer.
The field engineer shall state in a report, to the building official, that to the best of their knowledge, the work within their area of responsibility was done in accordance with the final approved grading plan;

2. A report prepared by the geotechnical engineer retained to provide such services in accordance with subsection D of this section including locations and elevations of field density tests, summaries of field and laboratory tests, other substantiating data, a final description of the geology of the site and any new information disclosed during the grading, and comments on any changes made during grading and their effect on the recommendations made in the approved geotechnical engineering report. Geotechnical engineers shall submit a statement that, to the best of their knowledge, the work within their area of responsibilities is in accordance with the approved geotechnical engineering report and applicable provisions of this chapter. The reports shall contain a finding regarding the safety of the completed grading and any proposed structures against hazard from landslide, settlement, or slippage, as well as a final as-built geologic map and cross sections depicting all the information collected prior to and during grading.

3. The grading contractor shall submit in a form prescribed by the building official a statement of conformance to said as-built plan and the specifications.

L. Notification of Completion. The permittee shall notify the building official when the grading operation is ready for final inspection. Final approval shall not be given until all work, including installation of all drainage facilities and their protective devices, and all erosion control measures have been completed in accordance with the final approved grading plan, and the required reports have been submitted and approved.

M. Change of Ownership. If a grading permit has been issued on a property and the building official has not approved the final grading when a property changes ownership, a new grading application and permit will be required from the new property owner.

15.06.060 Excavations.

A. General. Unless otherwise recommended in the approved geotechnical engineering, cuts shall conform to the provisions of this section. In the absence of an approved geotechnical engineering report, these provisions may be waived, as approved by the building official, for minor cuts not intended to support structures or subject to a surcharge.

B. Maximum Cut Slope. The slope of cut surfaces shall be no steeper than is safe for the intended use and shall be no steeper than two units horizontal to one unit vertical (fifty (50) percent slope) unless the permittee furnishes a geotechnical engineering report, or both, stating that the site has been investigated and giving an opinion that a cut at a steeper slope will be stable and not create a hazard to public or private

property. The building official may require the excavation to be made with a cut face flatter in slope than two units horizontal to one unit vertical if the building official finds it necessary for stability and safety.

C. Slope Surface Protection. All slopes must be stabilized against surface erosion. Stabilization may be accomplished through the application of erosion control blankets, soil stabilizers or other means as approved by the building official.

15.06.070 Fills.

A. General. Unless otherwise recommended in the approved geotechnical engineering report, fills shall conform to the provisions of this section. In the absence of an approved geotechnical engineering report, and if approved by the building official, these provisions may be waived for minor fills not intended to support structures.

B. Preparation of Ground. Fill slopes shall not be constructed on natural slopes steeper than two units horizontal to one unit vertical (fifty (50) percent slope). The ground structure shall be prepared to receive fill by removing vegetation, non-complying fill, topsoil and other unsuitable materials scarifying to provide a bind with the new fill. Where slopes are steeper than five units horizontal to one unit vertical (twenty (20) percent slope) and the height is greater than five feet (1.5 m), the ground surface shall be prepared to receive fill by benching into sound bedrock or other competent material as determined by the geotechnical engineer. The ground preparation shall be in accordance with Figure 15.06.070 or as determined by the geotechnical engineer. The key under the toe of the fill on a slope steeper than five units horizontal to one unit vertical (twenty (20) percent slope) shall be at least ten feet (3.0 m) wide. The area beyond the toe of fill shall be sloped for sheet overflow or a paved drain shall be provided. When fill is to be placed over a cut, the key shall be at least ten feet (3.0 m) wide. The cut shall be made before placing the fill and the geotechnical engineer shall accept the cut as suitable for the foundation and placement of fill material.

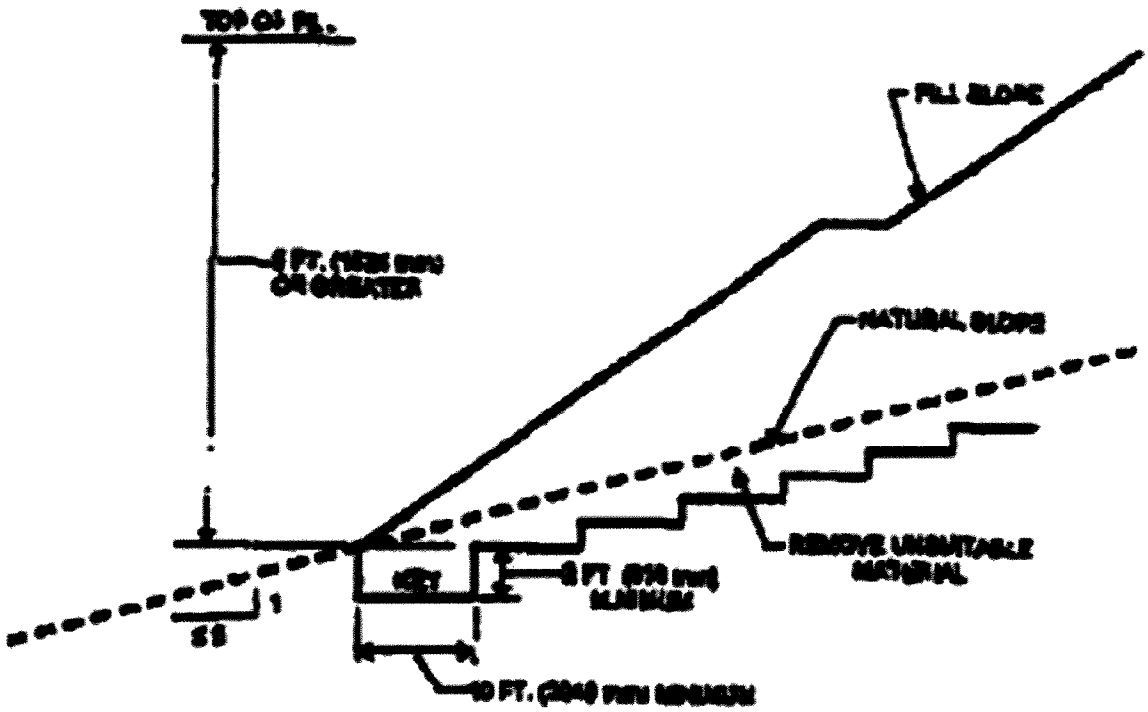

FIGURE 15.06.070
BENCHING DETAILS

C. Subdrains. Except where recommended by the geotechnical engineer as not being necessary, subdrains shall be provided under all fills placed in natural drainage courses and in other locations where seepage is evident. Such subdrainage systems shall be of a material and design approved by the geotechnical engineer and acceptable to the building official. The geotechnical engineer shall provide continuous inspection during the process of subdrain installation to conform to the approved plans and the geotechnical engineer's recommendation. Testing of materials shall be done by a soil testing agency based on the geotechnical engineer's recommendation. The location of the subdrains shall be shown on a plan by the geotechnical engineer. Excavations for the subdrains shall be inspected by the geotechnical engineer when such subdrains are included in the recommendations of the geotechnical engineer.

D. Fill Material. Detrimental amounts of organic material shall not be permitted in fills. Unless approved by the building official, no rock or similar irreducible material with a maximum dimension of greater than twelve (12) inches (0.3 m) shall be buried or placed in fills.

Exception: The building official may permit placement of larger rock when the geotechnical engineer properly devises a method of placement, and continuously inspects its placement and approves the fill stability. The following conditions shall also apply:

1. Prior to issuance of the grading permit, potential rock disposal areas shall be delineated on the grading plan;
2. Rock sizes greater than twelve (12) inches (0.3 m) in maximum dimension shall be ten feet (3.0 m) or more below grade, measured vertically;

3. Rocks shall be placed so as to assure filling of all voids with well-graded soil;
4. The reports submitted by the geotechnical engineer shall acknowledge the placement of the oversized material and whether the work was performed in accordance with the engineer's recommendations and the approved plans;
5. The location of the oversized rock dispersal areas shall be shown on the as-built plan.

E. Compaction. All fills shall be compacted to a minimum of ninety (90) percent of maximum density. Fills shall be compacted throughout their full extent to a minimum relative compaction of ninety (90) percent of maximum dry density within forty (40) feet (12.19 m) below finished grade and ninety-three (93) percent of maximum dry density deeper than forty (40) feet (12.19 m) below finished grade, unless a lower relative compaction (not less than ninety (90) percent of maximum dry density) is justified by the geotechnical engineer. The relative compaction shall be determined by A.S.T.M soil compaction test D1557 where applicable. Where not applicable, a test acceptable to the building official, shall be used unless the owner furnishes a geotechnical engineering report conforming with the requirements of Section 15.06.040(E), stating that the site has been investigated and giving an opinion that a fill at a steeper slope will be stable and not create a hazard to public or private property. Substantiating calculations and supporting data may be required where the building official determines that such information is necessary to verify the stability and safety of the proposed slope. The building official may require the fill slope be constructed with a face flatter in slope than two units horizontal to one unit vertical (fifty (50) percent slope) if the building official finds it necessary for stability and safety.
Field density shall be determined by a method acceptable to the building official. However, not less than ten percent of the required density tests, uniformly distributed, shall be obtained by the sand cone method.
Fill slopes steeper than two units horizontal to one unit vertical (fifty (50) percent slope) shall be constructed by the placement of soil a sufficient distance beyond the proposed finish slope to allow compaction equipment to operate at the outer surface limits of the final slope surface. The excess fill is to be removed prior to completion or rough grading. Other construction procedures may be utilized when it is first shown to the satisfaction of the building official that the angle of slope, construction method and other factors will comply with the intent of this section.

F. Maximum Fill Slope. The slope of fill surfaces shall be no steeper than is safe for the intended use. Fill slopes shall be no steeper than two units horizontal in one unit vertical (fifty (50) percent slope) unless calculations are provided by a geotechnical engineer which indicate a steeper slope will be stable and approved by the building official.

G. Slopes to Receive Fill. Where fill is to be placed above the top of an existing slope steeper than three units horizontal to one unit vertical (thirty-three (33) percent slope), the toe of the fill shall be set back from the top edge of the slope a minimum distance of six feet (1.8 m) measured horizontally or such other distance as may be specifically recommended by a geotechnical engineer and approved by the building official.

H. Inspection of Fill. For engineered grading, the geotechnical engineer shall provide sufficient inspections during the preparation of the natural ground and the placement

and compaction of the fill ensuring that the work is being performed in accordance with the conditions of plan approval and the appropriate requirements of this chapter. In addition to the above, the geotechnical engineer shall be present during the entire fill placement and compaction of fills that will exceed a vertical height or depth of thirty (30) feet (9.1 m) or result in a slope surface steeper than two units horizontal to one unit vertical (fifty (50) percent slope).

I. Testing of Fills. Sufficient tests of the fill soils shall be made to determine the density and to verify compliance of the soil properties with the design requirements. This includes soil types and shear strengths in accordance with referenced standards in Section 15.06.120.

15.06.080 Setbacks.

A. General. Cut and fill slopes shall be set back from the property lines in accordance with this section. Setback dimensions shall be horizontal distances measured perpendicular to the property line and shall be as shown in Figure 15.06.080 unless substantiating data is submitted justifying reduced setbacks is recommended by the geotechnical engineering report, approved by the building official.

B. Top of Slope. The setback at the top of a cut slope shall not be less than that shown in Figure 15.06.080, or than is required to accommodate any required interceptor drains, whichever is greater. For manufactured slopes the grading design must be such that the property line between adjacent lots will be at the apex of the berm at the top of the slope. Property lines between adjacent lots cannot be located on a graded slope equal to five units horizontal to one unit vertical (twenty (20) percent slope).

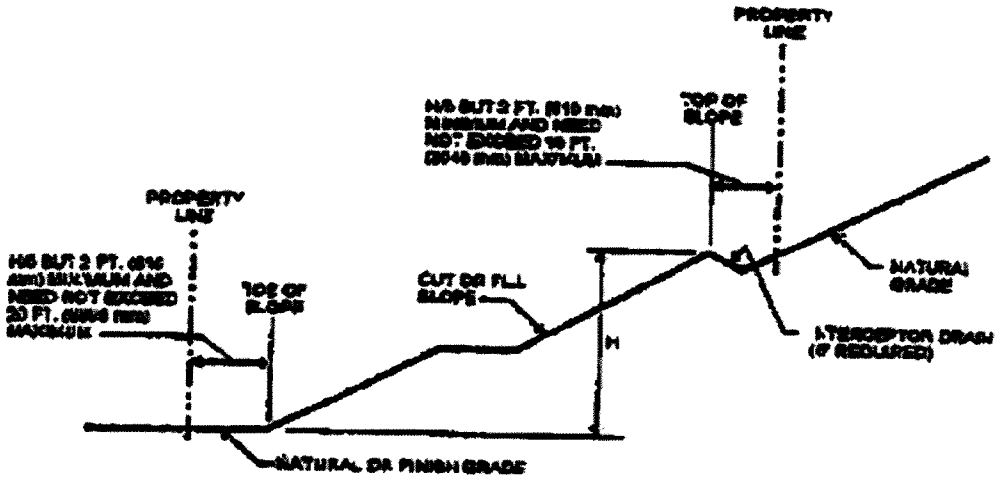

FIGURE 15.06.080
SETBACK DIMENSIONS

C. Toe of Fill Slope. The setback from the toe of a fill slope shall not be less than that shown by Figure 15.06.080. Where required to protect adjacent properties at the toe of a slope from adverse effects of the grading, additional protection, approved by the building official, shall be included. Such protection may include but shall not be limited to:

1. Setbacks greater than those required by Figure 15.06.080;

2. Provisions for retaining walls or similar construction;
3. Erosion protection of the fill slopes;
4. Provision for the control of surface waters.

D. Alternate Setbacks. The building official may approve alternate setbacks. The building official may require an investigation and recommendation by a qualified geotechnical engineer to demonstrate that the intent of this section has been satisfied.

15.06.090 Drainage and terracing.

A. General. Unless otherwise recommended by a registered design professional, and approved by the building official, drainage facilities and terracing shall be provided in accordance with the requirements of subsection B of this section for all cut and fill slope where the ground slope is steeper than three units horizontal to one unit vertical (thirty-three (33) percent slope).

For slopes flatter than three units horizontal to one unit vertical (thirty-three (33) percent slope) and steeper than five units horizontal to one unit vertical (twenty (20) percent slope), a paved swale or ditch shall be provided at thirty (30) foot (9.1 m) vertical intervals to control surface drainage and debris. Swales shall be sized based on contributory area and have adequate capacity to convey intercepted waters to the point of disposal as defined in subsection E of this section. Swales must be paved with reinforced concrete not less than three inches (.08 m) in thickness, reinforced with six-inch (0.2 m) by six-inch (0.2 m) "No. 10 by No. 10" welded wire fabric or equivalent reinforcing centered in the concrete slab or an approved equal. Swales must have a minimum gradient of not less than five percent. There shall be no reduction in grade along the direction of flow unless the velocity of flow is such that slope debris will remain in suspension on the reduced grade.

B. Drainage Terraces. Drainage terraces at least eight feet (2.4 m) in width shall be established at not more than thirty (30) foot (9.1 m) vertical intervals on all cut and fill slopes to control surface drainage and debris. When only one terrace is required, it shall be mid-height. For cut or fill slopes greater than one hundred (100) feet (30.5 m) and up to one hundred twenty (120) feet (6.1 m) in vertical height, one terrace at approximately mid-height shall be twenty (20) feet (6.1 m) in width. Terrace widths and spacing for cut and fill slopes greater than one hundred twenty (120) feet (36.6 m) in height shall be designed by the civil engineer and approved by the building official. Suitable access shall be provided to permit proper cleaning and maintenance. Drainage swales on terraces shall have a longitudinal grade of not less than five percent and no more than twelve (12) percent and a minimum depth of one foot (0.3 m) at the flow line. There shall be no reduction in grade along the direction of flow unless the velocity of flow is such that slope debris will remain in suspension on the reduced grade. Such terraces must be paved with reinforced concrete not less than three inches (0.08 m) in thickness, reinforced with six-inch (0.2 m) by six-inch (0.2 m) "No. 10 by No. 10" welded wire fabric or equivalent reinforcing centered in the concrete slab or an approved equal paving. They shall have a minimum depth at the deepest point of one foot (0.3 m) and a minimum paved width of five feet (1.5 m). Drainage terraces exceeding eight feet (2.4 m) in width need only be so paved for a width of eight feet (2.4 m), provided such pavement provides a paved swale at least one foot (0.3 m) in depth. Down drains or drainage outlets shall be provided at approximately three hundred (300) foot (91.44 m) intervals along the drainage terrace or at equivalent locations. Down drains and

drainage outlets shall be of approved materials and of adequate capacity to convey the intercepted waters to the point of disposal as defined in subsection E of this section.

C. Interceptor Drains and Overflow Protection. Berms, interceptor drains, swales, or other devices shall be provided at the top of cut or fill slopes to prevent surface waters from overflowing onto and damaging the face of a slope. Berms used for slope protection shall not be less than twelve (12) inches (3.0 m) above the level of the pad and shall slope back at least four feet (1.2 m) from the top of the slope.
Interceptor drains shall be installed along the top of manufactured slopes greater than five feet in height receiving drainage from a slope with a tributary width greater than thirty (30) feet (9.1 m) measured horizontally. They shall have a minimum depth of one foot (0.3 m) and a minimum width of three feet (0.9 m). The slope shall be approved by the building official, but shall not be less than fifty (50) horizontal to one vertical (two percent). The drain shall be paved with concrete not less than three inches (0.08 m) in thickness, or by other materials suitable to the application and reinforced as required for drainage terraces. Discharge from the drain shall be accomplished in a manner to prevent erosion and shall be approved by the building official.

D. Drainage Across Property Lines. Drainage across property lines shall not exceed that which existed prior to grading. Excess or concentrated drainage shall be contained on site or directed to an approved drainage facility. Erosion of the ground in the area of discharge shall be prevented by installation of non-erosive down drains or other devices.

E. Disposal. All drainage facilities shall be designed to carry waters to the nearest practicable street, storm drain, or natural watercourse drainage way approved by the building official or other appropriate governmental agency jurisdiction, provided it is a safe place to deposit such waters. Erosion of ground in the area of discharge shall be prevented by installation of non-erosive down drains or other devices. Desilting basins, filter barriers or other methods, as approved by the building official, shall be utilized to remove sediments from surface waters before such waters are allowed to enter streets, storm drains, or natural watercourses. If the drainage device discharges onto natural ground, riprap or a similar energy dissipater may be required.
Building pads shall have a minimum drainage gradient of two percent toward approved drainage facilities, a public street or drainage structure approved to receive storm waters unless waived by the building official. A lesser slope may be approved by the building official for sites graded in relatively flat terrain, or where special drainage provisions are made, when the building official finds such modification will not result in unfavorable drainage conditions.

15.06.100 Slope planting and erosion control.

A. General. The faces of cut and fill slopes shall be prepared and maintained to control against erosion. This control shall consist of effective planting, erosion control blankets, soil stabilizers or other means as approved by the building official.
Exception: Erosion control measures need not be provided on cut slopes not subject to erosion due to the erosion-resistant character of materials as approved by the project consultants to the satisfaction of the building official.
Erosion control for the slopes shall be installed as soon as practicable and prior to calling for final inspection.

B. Other Devices. Where necessary, check dams, cribbing, riprap or other devices or methods shall be employed to control erosion and provide safety.

C. Planting. The surface of all cut slopes more than five feet (1.6 m) in height and fill slopes more than three feet (9.1 m) in height shall be protected against damage by erosion. Slopes exceeding fifteen (15) feet (4.6 m) in vertical height shall be planted with shrubs, spaced at not to exceed ten feet (3.0 m) on centers; or trees, spaced at not to exceed twenty (20) feet (6.1 m) on centers; or a combination of shrubs and trees at equivalent spacings. The plants selected and planting methods used shall be suitable for the soil and climatic conditions of the site. Plant material shall be selected which will produce a coverage of permanent planting to effectively control erosion. Consideration shall be given to deep-rooted plant material needing limited watering, maintenance, high root to shoot ratio, wind susceptibility and fire retardant characteristics. All plant materials must be approved by the building official.
Planting may be modified for the site if specific recommendations are provided by both the geotechnical engineer and a landscape architect. Specific recommendations must consider soils and climatic conditions, irrigation requirements, planting methods, fire retardant characteristics, water efficiency, maintenance needs, and other regulatory requirements. Recommendations must include a finding that the alternative planting will provide a permanent and effective method of erosion control. This modified planting shall be approved by the building official.

D. Irrigation. Slopes required to be planted by subsection C of this section shall be provided with an approved system of irrigation that is designed to cover all portions of the slope. Irrigation system plans shall be submitted and approved prior to installation. A functional test of the system may be required. Specific recommendations must consider soils and climatic conditions, plant types, planting methods, fire retardant characteristics, water efficiency, maintenance needs, and other regulatory requirements. Modifications for irrigation systems shall be approved by the building official.

E. Plans and Specifications. Planting and irrigation plans shall be submitted for slopes required to be planted and irrigated by subsections C and D of this section. Except as waived by the building official for minor grading, the plans for slopes twenty (20) feet (6.1 m) or more in vertical height shall be prepared and signed by a civil engineer or landscape architect. If requested by the building official, planting and irrigation details shall be included on the grading plan.

F. Release of Security. The planting and irrigation systems required by this section shall be installed as soon as practical after rough grading. Prior to final approval of grading and before the release of the grading security, the planting shall be well established and growing on the slopes.

15.06.110 National pollutant discharge elimination system (NPDES) compliance.

A. General. All grading plans and permits shall comply with the provisions of this section for NPDES compliance.

All best management practices shall be installed before grading begins. All best management practices shall be updated as necessary to prevent erosion and control construction-related pollutants from discharging from the site. All best management practices shall be maintained in good working order to the satisfaction of the building official unless final grading approval has been granted by the building official and all permanent drainage and erosion control systems, if required, are in place.

B. Storm Water Pollution Prevention Plan (SWPPP). When requested by the building official, no grading permit shall be issued unless the plans for such work include a storm water pollution prevention plan with details of best management practices, including desilting basins or other temporary drainage or control measures, or both, as may be necessary to control construction-related pollutants which originate from the site as a result of construction-related activities.

15.06.120 Referenced standards.

These regulations establish minimum standards and are not intended to prevent the use of alternate materials, methods or means of conforming to such standards, provided such alternate has been approved.

The building official shall approve such an alternate, provided he or she finds that the alternate is, for the purpose intended, at least the equivalent of that prescribed in this code in quality, strength, effectiveness, durability and safety.

The building official shall require that sufficient evidence or proof be submitted to substantiate any claims regarding the alternate.

The standards listed below are recognized standards.

Testing

TABLE INSET:

1.1	ASTM D 1557	Laboratory Characteristics Compaction of Soil Using Modified Effort
1.2	ASTM D 1556	Density and Unit Weight of Soils in Place by the Sand Cone Method
1.3	ASTM D 2167	Density and Unit Weight of Soils in Place by the Rubber--Balloon Method
1.4	ASTM D 2937	Density of Soils in Place by the Drive-Cylinder Method
1.5	ASTM D 2922	Density of Soil and Soil Aggregate in Place by Nuclear Methods
1.6	ASTM D 3017	Water Content of Soil and Rock in Place by Nuclear Methods