

Good evening, Ms. Bean:

I represent various mutual water companies and public agency water suppliers in Southern California. One of my clients, Valencia Heights Water Company, is located in West Covina, which has some areas that are in a statutorily designated "Very High Fire Hazard Severity Zone." A development is under construction in that area and Governor Brown's Executive Order's prohibition on outdoor irrigation creates a significant health and safety/fire concern.

Below is an e-mail from the developer's counsel that sets forth that concern in more detail, along with the attachments referenced in that e-mail.

It would seem prudent to me that the regulations that implement the Executive Order include some exception on the irrigation prohibition where exterior irrigation is necessary to protect against fire hazards. That would seem very reasonable as water used for firefighting purposes is essentially wasted water (albeit necessary to fight and put out any fire).

Thank you for your consideration of this comment.

Best regards,

Jim Ciampa
Lagerlof, Senecal, Gosney & Kruse, LLP
301 North Lake Avenue, 10th Floor
Pasadena, CA 91101
(626) 793-9400
jciampa@lagerlof.com

From: Mau, Glenn [<mailto:gmou@archernorris.com>]
Sent: Thursday, April 09, 2015 5:17 PM
To: dmichalko@vhwc.org; Jim Ciampa
Cc: Angela Wilson
Subject: RE: Drought Restrictions (TM)
Importance: High

Dave and Jim,

Angela was kind enough to forward me your e-mail and asked me to elaborate more on the Governor's Executive Order of April 1st.

Obviously, while the order provided some parameters for encouraging water conservation, the details and exceptions that should be made were not addressed though we expect to see of those details in any directives handed down from the State Water Board. As an example, we did not see how the Governor or the Water Board is to address residential homes that are within areas designated by statute as being in a high fire hazard area or where the local fire districts call for fuel modification zones. This is particularly relevant for the lots in West Covina that will be served by VHWC.

As you may know, the lots in West Covina to be served by VHWC are located in a statutory designated "Very High Fire Hazard Severity Zone" (see attached Natural Hazard Disclosure Report, and maps). The lots are also subject to slope fuel modification plans approved by the Fire Department (also attached). The City of West Covina has also weighed in with conditions of approval and landscape guidelines for the lots to be served by VHWC (I've attached one of the City resolutions and the landscape guidelines). As you can see, irrigation of the landscaping required is not based on aesthetics but for health and safety of persons and property. Drip irrigation and microspray will be insufficient to meet the safety requirements and conditions dictated by the City, Fire Department and CalFire, and would only exacerbate potentially dangerous fire conditions and create unstable soils and slopes.

While we appreciate the severity of the drought conditions the State is currently experiencing, the Executive Order fails to address how the safety and welfare of residents living in areas such as those in the South Hills development that have no choice but to irrigate the lawns and slopes without using drip irrigation and microspray methods. It is our hope that VHWC will take into account these factors when evaluating how the Governor's Executive Order eventually gets implemented.

Let me know if there are any questions or thoughts you might have concerning the above or the attached. Thanks.

Glenn

From: Dave Michalko <dmichalko@vhwc.org>
Date: April 1, 2015 at 1:01:46 PM PDT
To: Angela Wilson <AWilson@taylormorrison.com>
Subject: RE: Drought Restrictions (TM)

Thanks Angela, any information that you can provide me that you feel may be helpful is greatly appreciated.

This is new territory and no one really knows what it all means.

Dave

"Someone's sitting in the shade today because someone planted a tree a long time ago."

— Warren Buffet

From: Angela Wilson [<mailto:AWilson@taylormorrison.com>]
Sent: Wednesday, April 01, 2015 12:58 PM
To: Dave Michalko
Cc: Gloria Galindo; Barbara Karady; Jim Ciampa; Tom Baine; Daniel Hollingshead
Subject: RE: Drought Restrictions (TM)

Hi Dave:

Our potable water is used for Fuel Mod Landscape and is part of our fuel mod plans.

OUR SAME BUILDING HAS A NEW ADDRESS STARTING FEBRUARY 2, 2015!

Warmly,

TaylorMorrison®



Angela Meyer

Director, Forward Planning
100 Spectrum Center Drive.,
Suite 1450
Irvine, CA 92618
Phone: 949.341.1211
Cell: 909.841.8077
Email:
AWilson@taylormorrison.com
www.taylormorrison.com

This message may contain confidential information and is intended only for the named addressee. If you are not the named addressee you should not distribute or copy this e-mail. If you have received this e-mail by mistake please delete it from your system.

From: Dave Michalko [<mailto:dmichalko@vhwc.org>]
Sent: Wednesday, April 1, 2015 12:45 PM
To: Angela Wilson
Cc: Dave Michalko; Gloria Galindo; Barbara Karady; Jim Ciampa
Subject: Drought Restrictions (TM)

See attached,

At this time I am not sure of the implications of the Governor's action this morning, but I think you should be aware that some restrictions may be required shortly. The Governor has banned the use of potable water for irrigation at new homes and developments.

We will review the actual order and our attorney will provide a report to the Board on the April 23. The Board will likely take action to enforce their understanding of the executive order at that time.

*P. David Michalko,
General Manager*

Valencia Heights Water Company
3009 E Virginia Avenue
West Covina, Ca 91791
dmichalko@vhwc.org

626.332.8935

"Someone's sitting in the shade today because someone planted a tree a long time ago."

— Warren Buffet

**The First American
MASTER PROPERTY DISCLOSURE REPORT
PDR®**

Information Provided by:



PLEASE VERIFY THAT THE PROPERTY INFORMATION BELOW IS CORRECT.

Underlying APN ("Property"): N/A

LOTS 39 OF TRACT 42169, 28,29,76-112 & 193-201 OF TRACT 32324 AND 30 AND 31 OF TRACT 47809

Project Name: MAGNOLIA

City, State, Zip: WEST COVINA, CA

Report Date: 07/07/2014

RECIPIENTS

TAYLOR MORRISON OF CALIFORNIA LLC
Attn.: APRIL TORNILLO
8105 IRVINE CENTER DR. #1450
IRVINE, CA 92618

NOTICE

First American Natural Hazard Disclosures ("FANHD") is pleased to provide Recipient with this Property Disclosure Report ("PDR®") for the Property identified above. Please note that this PDR® ("Report") is a contract subject to the Methods and Limitations (Section 5) set forth herein which should be reviewed carefully.

*If you have any questions or comments regarding this Report,
please contact FANHD's Customer Service Department at (800) 200-2561.*



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Property Address: ,**Report Date:** 07/07/2014
 WEST COVINA, LOS ANGELES County, CA **Report Number:** 1559259

Parties: The parties for whom this Report was prepared are the Recipient, any owner(s) of the Property on the Report Date (“Owners”), and any owner or legal entity owned by the Owners.

CONTENTS

This Report includes (i) a **Determination Summary** (following pages) showing the disclosure determinations specific to the Property provided in detail in Sections 1 through 4, inclusive, and (ii) the Methods and Limitations (Section 5) and this Report is not complete if any one of these 5 sections is missing. Please note that the determinations and information provided address the disclosures mandated by California law to be provided for 1-4 family California residential properties when being sold or transferred.

SECTION	TITLE	PURPOSE
1.	Statutory Disclosures	The statutory disclosures applicable to the Property as required by California Civil Code § 1103 (the “Law”).
2.	County Level Natural Hazard Disclosures	County level disclosures.
3.	City Level Natural Hazard Disclosures	City level disclosures
4.	Other Disclosures and Advisories	Additional mandated disclosures specific to the property and important advisories and notices dealing with potential general concerns related to home ownership in California but not specific to the Property.
5.	Methods and Limitations (IMPORTANT)	A summary explanation of the methods used to make the disclosure determinations and limitations on liability.

THIS IS A PUBLIC RECORD REPORT ONLY: This Report only provides information identified in this Report. While FANHD has made good faith efforts to report from the Public Records as accurately as possible, the quality, accuracy, and currency of the information contained in these Public Records can vary greatly. For more information regarding a specific disclosure and the related Public Record, please read Sections 1 through 4, inclusive of this Report.

NOT AN INSPECTION REPORT: This Report is not the same thing as a physical inspection report nor a full environmental or geological assessment report. FANHD has not physically inspected the Property. This Report only summarizes the information from the specified Public Records.

LIABILITY PROTECTIONS: Upon filing of the DRE Application, the Parties involved in the DRE Application are protected against loss caused by any error in this Report as specified in Section 5 below entitled “Methods and Limitations.”

NOT AN INSURANCE POLICY: This Report is a binding contract but is not an insurance policy. The price charged for the Report does not cover the costs that would be necessary to provide all of the protections of an insurance policy.

NOT FOR DISCLOSURES TO THIRD PARTIES: This Report may not be used to satisfy any disclosure requirements to third parties including, but not limited to, any future transactions of the Property.



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DETERMINATION SUMMARY

This Report discloses the results of a review of officially adopted maps ("Public Records") containing the information applicable to the Property. For a detailed explanation as to the meaning of each of the disclosures and the reporting standards used to make the determinations, please refer to the Disclosure Explanations in the specific Section as indicated.

SUMMARY AND INDEX OF DISCLOSURES AND ADVISORIES

For a complete explanation of the disclosures summarized below, please refer to the sections and pages indicated.

SECTION 1 STATUTORY DISCLOSURES

<u>State Level Statutory Zone Disclosures</u>	<u>Determination</u>	
Flood	A SPECIAL FLOOD HAZARD AREA	NOT IN See Section 1 Page 1
	AN AREA OF POTENTIAL FLOODING	NOT IN See Section 1 Page 1
Fire	A VERY HIGH FIRE HAZARD SEVERITY ZONE	IN See Section 1 Page 2
	A WILDLAND FIRE AREA (SRA)	NOT IN See Section 1 Page 2
Seismic	AN EARTHQUAKE FAULT ZONE	NOT WITHIN See Section 1 Page 3
	A SEISMIC HAZARD LANDSLIDE ZONE	IN See Section 1 Page 3
	A SEISMIC HAZARD LIQUEFACTION ZONE	IN See Section 1 Page 3

* N/A = The map is not yet released by the State.

SECTION 2 COUNTY LEVEL DISCLOSURES

<u>County Level Zone Disclosures</u>		
FAULT	NOT WITHIN	See Section 2 Page 1
LANDSLIDE	WITHIN	See Section 2 Page 1
LIQUEFACTION	NOT IN	See Section 2 Page 1
HILLSIDE	IN	See Section 2 Page 1
DAM INUNDATION	NOT IN	See Section 2 Page 1
Tsunami	NOT IN	See Section 2 Page 1
FIRE	NOT IN	See Section 2 Page 1



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METHANE	NOT IN	See Section 2 Page 1
DEBRIS FLOW	NOT IN	See Section 2 Page 1

SECTION 3 CITY LEVEL DISCLOSURES

City Level Natural Hazard Disclosures

The jurisdiction in which the subject property is located is either in an unincorporated area or does not have officially adopted mapped information available at this time from which a geologic determination can be made.

SECTION 4 OTHER DISCLOSURES AND ADVISORIES

<u>Other Zone Disclosures</u>	<u>Determination</u>
Mello-Roos, Special Assessment, and Supplemental Tax Disclosures	See Section 4
Military Ordnance	
1 MILE FORMER MILITARY ORDNANCE SITE RADIUS	NOT WITHIN
Commercial/Industrial	
1 MILE COMMERCIAL OR INDUSTRIAL SITE RADIUS	WITHIN
Airports	
AIRPORT INFLUENCE AREA	NOT IN
AIRPORT NOISE 65 DECIBEL ZONE	NOT WITHIN
California Energy Commission	IN
Right to Farm Disclosure	
1 MILE STATE-DESIGNATED FARMLAND RADIUS	MNA
Notice of Mining Operations	
1 MILE REPORTED MINING OPERATION(S) RADIUS	NOT IN
Gas and Hazardous Liquid Transmission Pipeline Database Advisory	See Section 4



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SECTION 1 EXPLANATION OF STATUTORY DISCLOSURES

This Section provides a detailed explanation of certain statutory disclosures made in this Report including identifying the applicable Public Record.

REPORTING STANDARD: "IN" shall be reported if any portion of the Property is situated within any of the Statutory Hazard Zones as designated in the Public Record. "NOT IN" shall be reported if no portion of the Property is situated within any of the Statutory Hazard Zones. "Map Not Available" shall be reported if the Property is situated in an area which has not yet been evaluated by responsible government agency.

SPECIAL FLOOD HAZARD AREAS

DETERMINATION

NOT IN a Special Flood Hazard Area. The Property is IN a FEMA-designated Flood Zone D, X500. If the property is located in or partially in any Zone A or V, in certain circumstances some lenders may be required by federal law to require homeowners to purchase and maintain flood insurance.

Zones X: An area of moderate to minimal flood risk.

Zones C, D: NOT IN an area of "100-year" flooding. Area of minimal (Zone C) or undetermined (Zone D) flood hazard.

DISCUSSION: Property in a Special Flood Hazard Area (any type of Zone "A" or "V" as designated by the Federal Emergency Management Agency ("FEMA")) is subject to flooding in a "100-year rainstorm." Federally connected lenders are required to have homeowners maintain flood insurance in these zones. A 100-year flood occurs on average once every 100 years, but may not occur in 1,000 years or may occur in successive years. According to FEMA, a home located within a SFHA has a 26% chance of suffering flood damage during the term of a 30-year mortgage. Other types of flooding, such as dam failure, are not considered in developing these zones. In some cases, the insurance requirement may be waived or modified by obtaining a "Letter of Map Revision" ("LOMR") or "Letter of Map Amendment" ("LOMA") from ("FEMA"). This might be possible where flooding is shallow and fill was placed on the site, appropriate flood control measures were taken, or only the lot and no part of the structure is in the zone. Contact FEMA directly for more information. Flood insurance for properties in Zones B, C, X or D is available but is not required. This disclosure is not the same as a flood certification as required by federal law for certain lenders.

PUBLIC RECORD: Official Flood Insurance Rate Maps ("FIRM") compiled and issued by the Federal Emergency Management Agency ("FEMA") pursuant to 42 United States Code §4001, et seq.

AREA OF POTENTIAL FLOODING

DETERMINATION

NOT IN an area of potential dam inundation.

DISCUSSION: Local governmental agencies, utilities, and owners of certain dams are required to prepare and submit inundation maps for review and approval by the California Office of Emergency Services ("OES"). A property within an Area of Potential Flooding Caused by Dam Failure is subject to potential flooding in the event of a sudden and total dam failure with a full reservoir. Such a failure could result in property damage and/or personal injury. However, dams rarely fail instantaneously and reservoirs are not always filled to capacity. Please note that not all dams (such as federally



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controlled dams) located within the state have been included within these dam inundation zones. Also these maps do not identify areas of potential flooding resulting from storms or other causes.

PUBLIC RECORD: Official dam inundation maps or digital data thereof made publicly available by The State of California Office of Emergency Services ("OES") pursuant to California Government Code §8589.5.

VERY HIGH FIRE HAZARD SEVERITY ZONE (VHFHS Zones)

DETERMINATION

IN a very high fire hazard severity zone.

DISCUSSION: VHFHSZs can be defined by the California Department of Forestry and Fire Protection ("Calfire") as well as by local fire authorities within "Local Responsibility Areas" where fire suppression is the responsibility of a local fire department. Properties located within VHFHS Zones may have a higher risk for fire damage and, therefore, may be subject to (i) additional construction requirements such as a "Class A" roof for new construction or replacement of existing roofs; and (ii) additional maintenance responsibilities such as adequate vegetation clearance near the structure, spark screens on chimneys and stovepipes, leaf removal from roofs, and other basic fire-safety practices. Contact the local fire department for a complete list of requirements and exceptions.

PUBLIC RECORD: Maps issued by Calfire pursuant to California Public Resources Code § 51178 recommending VHFHSZs to be adopted by the local jurisdiction within its Local Responsibility Area, or VHFHSZs adopted by the local jurisdiction within the statutory 120-day period defined in California Public Resources Code § 51179.

WILDLAND FIRE AREA - STATE RESPONSIBILITY AREA

DETERMINATION

Not in a wildland-state responsibility area.

DISCUSSION: The State Board of Forestry classifies all lands within the State of California based on various factors such as ground cover, beneficial use of water from watersheds, probable damage from erosion, and fire risks. Fire prevention and suppression in all areas which are not within a Wildland - State Responsibility Area ("WSRA") is primarily the responsibility of the local or federal agencies, as applicable.

For property located within a WSRA, please note that (1) there may be substantial forest fire risks and hazards; (2) except for property located within a county which has assumed responsibility for prevention and suppression of all fires, it is NOT the state's responsibility to provide fire protection services to any building or structure located within a WSRA unless the Department has entered into a cooperative agreement with a local agency; and (3) the property owner may be subject to (i) additional construction requirements such as a "Class A" roof for new construction or replacement of existing roofs; and (ii) additional maintenance responsibilities such as adequate vegetation clearance near the structure, spark screens on chimneys and stovepipes, leaf removal from roofs, and other basic fire-safety practices

The existence of local agreements for fire service is not available in the Public Record and, therefore, is not included in this disclosure. For very isolated properties with no local fire services there may be significant fire risk or only seasonal fire services. If the Property is located within a WSRA, please contact the local fire department for more detailed information.

PUBLIC RECORD: Official maps or digital data thereof issued by the California Department of Forestry and Fire Protection (Calfire) pursuant to California Public Resources Code § 4125.



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SRA Fire Prevention Benefit Fee Advisory

On January 23, 2012, the State Board of Forestry and Fire Protection ("Board") adopted an emergency regulation that implements a Fire Prevention Benefit Fee ("Benefit Fee") imposed annually on property owners in wildland areas where the state has responsibility for providing fire protection. According to the adopted regulation, the Benefit Fee is one hundred-fifty dollars (\$150.00) per habitable structure in the State Responsibility Area ("SRA"), including single-family homes, multi-dwelling structures, mobile and manufactured homes, and condominiums. The Board regulation is pursuant to Chapter 1.5 (commencing with Section 4210) to Part 2 of Division 4 of the Public Resources Code (also known as Assembly Bill X1 29). The regulation allows a fee reduction of thirty-five dollars (\$35.00) per habitable structure located in the SRA and within the boundaries of a local agency that provides fire protection services. For more information, please refer to "Part 5. State Responsibility Area Fire Prevention Fee" in the FANHD Property Tax Report.

EARTHQUAKE FAULT ZONE

DETERMINATION

NOT IN an earthquake fault zone designated pursuant to the Alquist-Priolo Act.

DISCUSSION: Earthquake Fault Zones are delineated and adopted by California as part of the Alquist-Priolo Earthquake Fault Zone Act of 1972. Property within an Earthquake Fault Zone ("EF Zone") does not necessarily have a fault trace existing on the site. EF Zones are areas or bands delineated on both sides of known active earthquake faults. EF Zones vary in width but average one-quarter (1/4) mile in width with the "typical" zone boundaries set back approximately 660 feet on either side of the fault trace. The potential for "fault rupture" damage (ground cracking along the fault trace) is relatively high only if a structure is located directly on a fault trace. If a structure is not on a fault trace, shaking will be the primary effect of an earthquake. During a major earthquake, shaking will be strong in the vicinity of the fault and may be strong at some distance from the fault depending on soil and bedrock conditions. It is generally accepted that properly constructed wood-frame houses are resistant to shaking damage.

Property that lies partially or entirely within a designated EF Zone may be subject to requirements for site-specific geologic studies and mitigation before any new or additional construction may take place. If an active fault is found on a property, structures (including new and replacement structures) generally will not be allowed to be constructed within 50 feet of the fault trace.

PUBLIC RECORD: Official earthquake fault zone or special study zone maps or digital data thereof approved by the State Geologist and issued by the California Department of Conservation, California Geological Survey pursuant to California Public Resources Code §2622.

SEISMIC HAZARD ZONE

DETERMINATION

IN an area of potential liquefaction designated pursuant to the Seismic Hazard Mapping Act. **IN** an area of earthquake-induced land sliding designated pursuant to the Seismic Hazard Mapping Act.

DISCUSSION: Official Seismic Hazard Zone ("SH Zones") maps currently available from the California Geological Survey pursuant to the Seismic Hazards Mapping Act (California Public Resources Code §2690 *et seq.*) delineate Areas of Potential Liquefaction and Areas of Earthquake-Induced Landsliding. A property that lies partially or entirely within a designated SH Zone may be subject to requirements for site-specific geologic studies and mitigation before any new or additional construction may take place.



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Areas of Potential Liquefaction are areas where there is a potential for, or an historic occurrence of liquefaction. Liquefaction is a soil phenomenon that can occur when loose, water saturated granular sediment within 40 feet of the ground surface, are shaken in a significant earthquake. The soil temporarily becomes liquid-like and structures may settle unevenly. The Public Record is intended to identify areas with a relatively high potential for liquefaction but not to predict the amount or direction of liquefaction-related ground displacement, nor the amount of damage caused by liquefaction. The many factors than control ground failure resulting from liquefaction must be evaluated on a site specific basis.

Areas of Earthquake-Induced Landslide are areas where the potential for earthquake-induced landslides is relatively high. Areas most susceptible to these landslides are steep slopes in poorly cemented or highly fractured rocks, areas underlain by loose, weak soils, and areas on or adjacent to existing landslide deposits. The CGS cautions these maps do not capture *all* potential earthquake-induced landslide hazards and that earthquake-induced ground failures are not addressed by these maps. Furthermore, no effort has been made to map potential run-out areas of triggered landslides. It is possible that such run-out areas may extend beyond the zone boundaries.

An earthquake capable of causing liquefaction or triggering a landslide may not uniformly affect all areas within a SH Zone.

PUBLIC RECORD: Official seismic hazard maps or digital data thereof approved by the State Geologist and issued by the California Department of Conservation, California Geological Survey pursuant to California Public Resources Code §2696.



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SECTION 2

EXPLANATION OF COUNTY LEVEL DISCLOSURES

This Section provides a detailed explanation of the County level disclosures made in this Report including identifying the applicable Public Record and the Reporting Standard used to make each determination.

The following natural hazard disclosures are provided to give local-level Seismic Safety information for the subject property.

NOTE: California law allows cities and counties to establish policies and criteria stricter than those set by the State respecting, but not limited to, the permitting and development of properties found to be IN or affected by the following and other natural hazards. This information may be used by the local jurisdiction relative to making decisions regarding new development or additional construction. The agencies and jurisdictions that develop the official maps do not necessarily define or delineate hazards in the same way. A site can be *in* a hazard zone from one source and *not in* a hazard zone from another source.

LOS ANGELES County Geologic and Seismic Zone Determination

This Property is:

- in a mapped hillside area
- not in a mapped area of county-designated liquefaction susceptibility
- not in a mapped area of known shallow methane accumulation
- not in a mapped dam or debris basin inundation area
- not in a mapped fault zone or within one-eighth of one mile of a mapped fault trace
- not in a mapped fire zone 4 or additional areas of high fire hazard
- not in a mapped general area within or adjacent to the los angeles basin impacted by historic mud and debris flooding
- not in a mapped tsunami inundation area
- WITHIN 5 to 100 acre landslide for county landslide

NOTE: If the site is in a locally mapped hazard zone or if information of concern exists in another source, the property may require a geologic study prior to any new or additional construction. The disclosures above are material facts and should prudently be disclosed to buyers in addition to the Statutory Natural Hazard Disclosures. Additional sources of information which are not officially adopted, may be available at the local jurisdiction that are not reported here.

LOS ANGELES COUNTY GEOLOGIC ZONES DISCUSSION

PUBLIC RECORD(S) SEARCHED: The following Public Records, created by the County Department of Regional Planning and Leighton & Associates and incorporated into the Safety Element of the County General Plan as adopted by the County Board of Supervisors in 1990, are utilized for those county-level disclosures below: "Fault Rupture Hazards and Historic Seismicity," "Landslide Inventory," "Liquefaction Susceptibility," "Engineering Geologic Materials," "Flood and Inundation Hazards," and "Wildland and Urban Fire Hazards."

FAULT

- **Active Faults:** Several faults and fault segments not included as part of the Earthquake Fault Zone Act are considered active by the County. Zones from 1000 feet to 1.2 miles wide have been defined by the County around these faults. Properties in these zones are at some risk for fault rupture (surface cracking along the fault).
- **Potentially Active Faults:** Faults active in the last 750,000 years but with no historical activity (past 11,000 years) are considered "potentially active" by the County. Zones from 1000 feet to 1.2 miles wide have been defined by the County around these faults. Properties within a Potentially Active Fault Zone may be at some risk for fault rupture, but the risk is probably lower than that for active faults.



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- **Conditionally Active Faults:** Faults active between 750,000 and 2,000,000 years ago are considered "conditionally active" by the County. Properties located directly on one of these faults are at an undetermined but relatively small risk of rupture.

Reporting Standards: If any portion of the Property is within either a fault zone or one-eighth of one mile (660 feet) of a fault not contained within such a fault zone as delineated in the Public Record, "WITHIN" shall be reported.

LANDSLIDE INVENTORY

- **Slope Stability Zones** The County Safety Element inventories landslides and slope stability hazards. The minimum size of a slide is five acres, but clusters of slides may be shown as a single landslide. Bedrock landslides are categorized as definite and probable. They are also distinguished as 5 to 100 acres in size and greater than 100 acres in size. A delineated landslide is not a definitive statement of a site's stability, either now or in the future. Many slides are mitigated during development. For detailed stability information, a geotechnical consultant should be retained.
- **Area Impacted by Storm-Induced Landsliding:** Areas that experienced storm-induced shallow landsliding during the particularly wet years of 1969, 1978, and 1980 have been delineated on the maps.
- **Area of Shallow Surficial Landslides:** These areas include regions in the Santa Monica and San Gabriel Mountains and the Puente Hills where abundant shallow landslides may occur.

Reporting Standards: Mapped "Definite" and "Probable" Bedrock Landslides 5-100 acres in size, as well as mapped Storm-Induced Landslide Areas, are mapped uniformly and do not effectively take into account either size or direction; therefore, if any portion of the Property is within a Landslide or Slope Stability Zone as delineated in the Public Record, or is within one-quarter of one mile (1,320 feet) of either, "IN" shall be reported.

LIQUEFACTION

Liquefaction is a liquid-like soil condition which may occur during strong earthquake shaking if the groundwater is shallow and the subsurface soils are loose and cohesionless (such as sands).

- **Liquefiable Areas (Zone L):** These are areas where groundwater is less than 30 feet deep. While presence within this zone does not necessarily mean that liquefaction will occur during earthquake shaking, this zone has a higher potential for liquefaction.
- **Potentially Liquefiable Areas (Zone PL):** Flat-lying valley areas of relatively low liquefaction potential.
- **Low Liquefaction Susceptibility (Zone LL):** Flat to gently sloping areas of relatively low liquefaction potential.
- **Very Low Liquefaction Susceptibility (Zone VL):** Areas not normally susceptible to liquefaction.

Reporting Standards: This Report discloses if any portion of the Property is in either (1) a Liquefiable Area or a Potentially Liquefiable Area OR (2) a Low Liquefaction Susceptibility Zone or a Very Low Liquefaction Susceptibility Zone as delineated in the Public Record. If a Property is situated within a Liquefiable or Potential Liquefiable Area AND a Low of Very Low Liquefaction Susceptibility Zone, only the former will be reported.



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HILLSIDE AREAS AND DEBRIS FLOW AREAS

- **"Hillside Areas"** are subject to slope instability, particularly if slope gradients exceed 25 percent. If a Property is in a designated Hillside Area it does not necessarily mean that landslides exist on the property or that landsliding is imminent or probable.
- **"Debris Flow Areas"** are those identified in the Public Record impacted by historic mud and debris flooding in the years 1969, 1978, and 1980; however, these are restricted to areas within and adjacent to the Los Angeles Basin only. Furthermore, the public record advises that historical damage does not predict, nor preclude, impact of these or other hillside areas in future storms.

Reporting Standards: If any portion of the Property is within a Hillside Area or a Debris Flow as delineated in the Public Record, "IN" shall be reported, respectively.

DAM INUNDATION

- **Dam inundation areas** may be subject to flooding in the event of dam failure. They are defined assuming an instantaneous dam failure with a full reservoir. However, dams rarely fail instantaneously and reservoirs are not always filled to capacity.

Reporting Standards: If any portion of the Property is within a Dam or Debris Basin Inundation Area as delineated in the Public Record, "IN" shall be reported.

TSUNAMI INUNDATION

- **Tsunami inundation areas** have been designated as a zone of moderate risk for tsunami (seismic sea wave or "tidal wave") run-up. The tsunami zone may be inundated by waves which recur on average of once every 500 years.

Reporting Standards: If any portion of the Property is within a Tsunami Inundation Area as delineated in the Public Record, "IN" shall be reported.

FIRE HAZARDS

- **Fire Zone 4** encompasses most of the areas having a potential for woodland and brush fires. These areas require strategies to enforce stringent fire enforcement measures including fire-resistant construction materials, brush clearance, fire breaks, and fuel load management requirements.
- **Areas of High Fire Hazard** represents areas outside Fire Zone 4 but having features similar to those included in Fire Zone 4. Within wildland areas, fires are most likely to start in areas of man's activity such as roads, campgrounds, cabins, wood cutting areas, power lines, and the urban-wildland interface.

Reporting Standards: If any portion of the Property is within either a Fire Zone 4 or Area of High Fire Hazard as delineated in the Public Record, "IN" shall be reported.

AREAS OF KNOWN SHALLOW METHANE ACCUMULATION

Several areas in the County are known to be the sites of shallow methane gas accumulations. The absence of methane gas areas on the map is not a guarantee of the absence of gas in the soil. Most of the shallow methane found to date seems to be spatially associated with shallow oil and gas fields.

Reporting Standards: If any portion of the Property is within an Area of Known Shallow Methane Accumulate as delineated in the Public Record, "IN" shall be reported.



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SECTION 3 EXPLANATION OF CITY LEVEL DISCLOSURES

The jurisdiction in which the Property is located in is either in an unincorporated area or does not have officially adopted mapped information available at this time from which a geologic determination can be made.

This Section provides a detailed explanation of the City level disclosures made in this Report including identifying the applicable Public Record and the Reporting Standard used to make each determination.

The following natural hazard disclosures are provided to give local-level seismic safety information for the subject property.

NOTE: California law allows cities and counties to establish policies and criteria stricter than those set by the State respecting, but not limited to, the permitting and development of properties found to be IN or affected by the following and other natural hazards. This information may be used by the local jurisdiction relative to making decisions regarding new development or additional construction. The agencies and jurisdictions which develop the official maps do not necessarily define or delineate hazards in the same way. A site can be *in* a hazard zone from one source and *not in* a hazard zone from another source.

WEST COVINA Geologic and Seismic Zone Determination

CITY-LEVEL GEOLOGIC AND SEISMIC ZONES DISCUSSION

This disclosure report reviews the officially adopted geologic hazard maps in the Safety Element that each incorporated city in California is required to include in its General Plan. The city the subject property is located in has either not officially adopted hazard zonation maps in its General Plan at an appropriate scale to delineate where hazards may exist on a single parcel basis or will not make such maps available outside city offices. However, potential natural hazards may exist and be delineated on other sources used by the city in its Planning, Engineering, or Building Departments. Such potential sources are not reviewed in this report.

All parties should be aware that California is "earthquake country." Faults that may exist in this City or in neighboring regions could cause earthquake shaking or other fault related phenomena at the property. Other geologic hazards such as, but not limited to liquefaction (a type of soil settling that can occur when loose, water-saturated sediments are shaken significantly in an earthquake) may occur in certain valley floor areas and landslides are a possibility in any hillside area.

NOTE: County and city-level information sources are developed independently of each other and do not necessarily define or delineate hazards in the same way. A site can be in a geologic hazard zone according to the city and not in zone according to the county and vice versa. Cities and counties may use other information in addition to their General Plan sources to determine if hazards exist at a site or which sites may require geologic studies prior to new or additional construction. Such information could be a material fact to be disclosed in addition to General Plan information.

Additional natural hazards may exist and be delineated on other sources used by the City in its Planning, Engineering, or Building Departments. Such potential sources are not reviewed in this report. To investigate other



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sources of natural hazard information that may be available and used at the city level, contact the city Engineering, Planning, or Building departments.



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SECTION 4 **OTHER DISCLOSURES AND ADVISORIES**

This Section provides a detailed explanation of the Other Disclosures and Advisories made in this Report including identifying the applicable Public Record and the Reporting Standard used to make each determination.

MELLO-ROOS and SPECIAL ASSESSMENT DETERMINATION

NO DETERMINATIONS MADE IN THIS REPORT

Discussion

California laws allow "special taxes" and "special assessments" to be levied against a parcel of real property in addition to ad valorem property taxes in order to help fund benefits such as streets, curbs, gutters and underground sewer and water infrastructure. The Mello-Roos Community Facilities Act ("Mello-Roos") and the Improvement Bond Act of 1915 ("1915 Bond Act") are two of these assessment laws, and assessments made under these laws carry a disclosure obligation as of January 1, 2002 (California Civil Code § 1102.6b).

When either of these assessment laws is activated, an assessment lien is placed against each affected parcel of property and a special assessment appears on the property tax bill until the amortized debt is fully paid. An important feature of "Mello-Roos" and "1915 Bond Act" assessment districts is that the lien has a priority status. If the assessment tax is not paid on time, the home can be foreclosed upon and sold through an accelerated foreclosure process. Even though a "special" or "supplemental assessment" may appear on the property tax bill, it is not necessarily a "Mello-Roos" or "1915 Bond Act" bond assessment subject to a property lien or a specific disclosure requirement.

**Note: A comprehensive property tax disclosure report has been ordered along with this Report.
Please contact FANHD for additional information**



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FORMER MILITARY ORDNANCE SITE DISCLOSURE

DETERMINATION

The Property is **NOT WITHIN** one mile of a Formerly Used Defense (FUD) site containing military ordnance.

DISCUSSION

California Civil Code §1102.15 requires the seller of residential real property who has actual knowledge of any "Former Ordnance Locations" (former state or federal ordnance locations which have been identified by an agency or instrumentality of the federal or state government as an area once used for military training purposes which may contain potentially explosive munitions) within the "neighborhood area" (defined as within one (1) mile of the residential real property) to give written notice of that knowledge to buyer as soon as practicable before transfer of title.

Besides former military sites which may have contained ordnance, other Sites may also include real properties containing industrial waste (such as fuels), ordnance or other warfare materiel, unsafe structures to be demolished, or other debris. California Civil Code Section 1102 only requires disclosure of those sites containing unexploded ordnance. "Military ordnance" is any kind of munitions, explosive device/material or chemical agent used in military weapons. Unexploded ordnance are munitions that did not detonate. Only those Sites that the USACE has identified to contain Military Ordnance or have mitigation projects planned for them are disclosed in this Report.

NOTE: Active military bases are NOT eligible FUD Sites; however, portions of currently active facilities that were previously operated or owned by DOD may be reported. In some rare cases the Public Record may not effectively differentiate those divested Sites and may as a result include the currently operated facility within the study area for that Site.

PUBLIC RECORD: Data contained in Inventory Project Reports, Archives Search Reports, and related materials produced for, and made publicly available in conjunction with, the Defense Environmental Restoration Program for Formerly Used Defense Sites by the U.S. Army Corps of Engineers. Sites for which no map has been made publicly available shall not be disclosed.

REPORTING STANDARD: "IN" shall be reported if one or more facility identified in the Public Record is situated within a one (1) mile radius of the Property. The name of that facility shall also be reported. "NOT IN" shall be reported if no facility identified in the Public Record is situated within a one (1) mile radius of the Property.



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COMMERCIAL/INDUSTRIAL ZONE DISCLOSURE

DETERMINATION

Based on publicly-available parcel zoning records only:

The Property IS within one-mile of a property that is zoned for industrial or commercial use.

DISCUSSION: Pursuant to California Civil Code § 1102.17, the seller of residential real property who has actual knowledge that his/her property is affected by or zoned to allow commercial or industrial use (as defined in California Code of Civil Procedure § 731a) must give written notice of that knowledge to the buyer as soon as practicable before transfer of title. CCP 731a defines industrial use as areas in which a city and/or county "...has established zones or districts under authority of law wherein certain manufacturing or commercial or airport uses are expressly permitted...."

The "Commercial/Industrial Zoning Disclosure" made in this Report DOES NOT purport to determine whether the Property is or is not "**affected by**" a commercial or industrial zone. As stated above, that determination must be based upon ACTUAL KNOWLEDGE of the seller of the Property.

The disclosure provided in this Report only identifies if any parcels of property zoned for commercial or industrial use exists within a one (1) mile of the Property. It is very common that the general vicinity around a home will have one or more properties that are zoned for commercial or industrial use such as restaurants, gasoline stations, convenience stores, golf courses, country clubs, etc.

PUBLIC RECORD: Based on publicly-available hardcopy and/or digital zoning and land use records for California cities and counties.

REPORTING STANDARD: "IN" shall be reported if one or more property identified in the Public Record as "commercial," "industrial," or "mixed use" is situated within a one (1) mile radius of the Property. Please note that an airports facility that may be classified as public use facility in the Public Record will be reported as "commercial/industrial" in this disclosure. "NOT IN" shall be reported if no property classified by Public Record as "commercial," "industrial," or "mixed use" is situated within a one (1) mile radius of the Property.



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AIRPORT INFLUENCE AREA DISCLOSURE

DETERMINATION

Based on certain mapped Airport Influence Areas determined by a County Airport Land Use Commission, the following determination can be made:

The Property is NOT IN an officially-designated Airport Influence Area (AIA) and is NOT WITHIN two (2) statute miles of an airport for which no AIA has been officially designated.

DISCUSSION: Certain airports are not disclosed in this Report. FANHD has made a good faith effort to identify the airports covered under California Civil Code § 1102.6a(d) and California Business and Professions Code 11010 *et seq.* Most facilities for which an Airport Influence Area (also referred to as an "Airport Referral Area") has been designated are included in the "California Aeronautical Facilities, Airports & Heliports, (FAA) 5010 Airport Master Records" list maintained by the California Department of Transportation's Division of Aeronautics. Not disclosed in this Report are public use airports that are not in the Master Records List- airports that are physically located outside California, heliports and seaplane bases that do not have regularly scheduled commercial service, private airports, and military air facilities unless included in materials provided by the ALUC or other designated government body.

NOTE: Proximity to an airport does not necessarily mean that a property is exposed to significant aviation noise levels. Alternatively, there may be properties exposed to aviation noise that are more than two (2) miles from an airport. Factors that affect the level of aviation noise can include weather, aircraft type and size, frequency of aircraft operations, airport layout, flight patterns or nighttime operations. Aviation noise levels can vary seasonally or change if airport usage changes.

PUBLIC RECORD: Based on officially adopted land use maps and/or digital data made publicly available by the governing ALUC or other designated government body. If the ALUC or other designated government body has not made publicly available a current officially adopted airport influence area map, then California law states that "a written disclosure of an airport within two (2) statute miles shall be deemed to satisfy any city or county requirements for the disclosure of airports in connection with transfers of real property."

REPORTING STANDARD: "IN" shall be reported along with the facility name(s) and the "Notice of Airport in Vicinity" if any portion of the Property is situated within either (a) an Airport Influence Area as designated on officially adopted maps or digital data or (b) a two mile radius of a qualifying facility for which an official Airport Influence Area map or digital data has not been made publicly available by the ALUC or other designated governing body. "NOT IN" shall be reported if no portion of the Property is within either such area.



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AIRPORT NOISE DISCLOSURE

DETERMINATION

Based on certain 65 decibel (dB) Community Noise Equivalent Level (CNEL) contour maps produced under the Federal Aviation Administration's *Airport Noise Compatibility Planning Program* Part 150, the following determination has been made:

The Property IS NOT within a delineated 65 dB CNEL or greater aviation noise zone.

DISCUSSION: California Civil Code § 1102.17 requires that the seller(s) of residential real property who has (have) actual knowledge that his/her property is affected by airport use must give written notice of that knowledge as soon as practicable before the transfer of title.

Not all airports have produced noise exposure maps. A property may be near or even at some distance from an airport and not be within a delineated noise exposure area, but still experience aviation noise. Unless 65dB CNEL contour maps are published, helipads and military sites are not included in this section of the Report.

The *Airport Noise Compatibility Planning Program* is voluntary and not all airports have elected to participate. Not all property in the vicinity of an airport is exposed to 65dB CNEL or greater average aviation noise levels. Conversely a property may be at some distance from an airport and still experience aviation noise. Purchasers should also be aware that aviation noise levels can vary seasonally or change if airport usage changes after a map is published or after FANHD has received the annual updated maps within the schedule set by FANHD. FANHD uses the most seasonally conservative noise exposures provided.

Federal funding may be available to help airports implement noise reduction programs. Such programs vary and may include purchasing properties, rezoning, and insulating homes for sound within 65dB areas delineated on CNEL maps. Airport owners have also cooperated by imposing airport use restrictions that include curfews, modifying flight paths, and aircraft limitations.

PUBLIC RECORD: Certain 65 decibel (dB) Community Noise Equivalent Level (CNEL) contour maps produced under the Federal Aviation Administration's *Airport Noise Compatibility Planning Program* Part 150.

REPORTING STANDARD: "IN" shall be reported if any portion of the Property is situated within a 65 decibel Community Noise Equivalent Level contour identified in the Public Record. "NOT IN" shall be reported if no portion of the Property is situated within a 65 decibel Community Noise Equivalent Level contour identified in the Public Record.



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CALIFORNIA ENERGY COMMISSION DUCT SEALING & TESTING REQUIREMENT

DISCUSSION: According to the California Energy Commission (“CEC”) most California homes have improperly sealed central air conditioning and heating system ducts such that approximately 30 percent of the conditioned air actually leaks outside the home.

Effective October 1, 2005, in order to combat this waste of energy and money, the CEC set forth new duct sealing and testing requirements in Title 24 of the Building Energy Efficiency Standards. Title 24 requires that, in specific climate zones as designated by the CEC, **when a central air conditioner or furnace is installed or replaced**, homeowners must have ducts tested for leaks. Ducts found to leak more than 15 percent or more must be repaired. Once a contractor tests and fixes these ducts, you must have an approved third-party verifier determine that the ducts have been properly sealed. The CEC cautions homeowners that a contractor who fails to obtain a required building permit and fails to test and repair your ducts “is violating the law and exposing you to additional costs and liability.” If you do not obtain a permit, you may be required to bring your home into compliance with code requirements for that work and may incur additional penalties and fines that have to be paid prior to selling your home. Remember that you have a duty to disclose whether you obtained required permits for work performed to prospective buyers and appraisers.

Local governments may mandate more stringent requirements; however, please be advised that duct sealing and associated testing is generally not required:

- if homes are located in specific coastal climates;
- when systems have less than 40 feet of ductwork in unconditioned spaces such as attics, garages, crawlspaces, basements, or outside the building; or
- when ducts are constructed, insulated, or sealed with asbestos.

Please note there are specific alternatives that allow high efficiency equipment and added duct insulation to be installed instead of fixing duct leaks. Please also be advised that there are separate regulations which govern duct insulation levels required by climate zone and HVAC system.

For more information on these requirements, please contact the California Energy Commission or visit the official CEC “2005 HVAC Change-Out Information” portal at <http://www.energy.ca.gov/title24/changeout/>

PUBLIC RECORD: Vector digital rendition of the official “California Building Climate Zone Map” made publicly available by the California Energy Commission (“CEC”).

REPORTING STANDARD: “IN” shall be reported if the Property is situated within climate zone 2 or any climate zone 9 through 16 as designated in the Public Record. These are areas wherein duct sealing is “prescriptively required when an air conditioner or furnace is replaced and when new ducts are added or ducts are altered in an existing home.” “NOT IN” shall be reported if the Property is situated in climate zone 1 or any climate zones 3 through 8 as designated in the Public Record.



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RIGHT TO FARM DISCLOSURE

DETERMINATION

The California Department of Conservation, Division of Land Resource Protection, has not designated important farmland areas for the county (or portion thereof) in which the Property is located. Therefore, no determination is provided here.

DISCUSSION: California has a "Right to Farm Act" (Civil Code Section 3482.5) to protect farming operations. When agricultural land within the State's agricultural areas is bought and sold, the purchasers are often not made aware of the fact that there are right-to-farm laws. This has led to confusion and a misunderstanding of the actual uses of the land or uses of the surrounding agricultural lands.

In 2008 the State of California enacted Assembly Bill 2881 to limit the exposure of farmers to nuisance lawsuits by homeowners in neighboring developments. The mechanism of this bill is a formal notification of the buyer, through a "Notice of Right to Farm" in an expert disclosure report, that advises the buyer if the subject property is within one mile of farmland as defined in the bill.

If the seller has actual knowledge of an agricultural operation in the vicinity of the subject property that is not disclosed in this report, and that is material to the transaction, the seller should disclose this actual knowledge in writing to the buyer.

PUBLIC RECORD: Based on the most current available version of the "Important Farmland Map" issued by the California Department of Conservation, Division of Land Resource Protection, utilizing solely the county-level GIS map data, if any, available on the Division's Farmland Mapping and Monitoring Program website, pursuant to Section 11010 of the Business and Professions Code, and Section 1103.4 of the California Civil Code.

REPORTING STANDARD: "IN" shall be reported and the "Notice of Right to Farm" provided if any portion of the Property is situated within, or within one mile of, a parcel of real property designated as "Prime Farmland," "Farmland of Statewide Importance," "Unique Farmland," "Farmland of Local Importance," or "Grazing Land" in the public record. "NOT IN" shall be reported if no portion of the Property is within that area.

Some counties, or parts thereof, are not included in the Public Record because they have not been mapped for farmland parcels under this State program. Typically, this is because the county area is public land and not planned for incorporation, or, in the case of San Francisco, the county is entirely incorporated. In those instances, we report "Map Not Available" above, or "MNA" in the Summary of Disclosures and Advisories at the beginning of this report.



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NOTICE OF MINING OPERATIONS DISCLOSURE

DETERMINATION

The Property is **NOT IN** a one mile radius of a reported mining operation(s).

If the Property has been determined to be located within one (1) mile of a reported mining operation(s), the following notice is provided as mandated by California law:

NOTICE OF MINING OPERATIONS

This property is located within one mile of a mine operation for which the mine owner or operator has reported mine location data to the Department of Conservation pursuant to Section 2207 of the Public Resources Code. Accordingly, the property may be subject to inconveniences resulting from mining operations. You may wish to consider the impacts of these practices before you complete your transaction.

DISCUSSION: Historically mining operations have been located in remote areas. However, increasing urbanization has resulted in some residential projects being developed near existing mining operations.

California Public Resources Code §2207 requires owners and operators of mining operations to provide annually specific information to the California Department of Conservation ("DOC"), including but not limited to, (i) ownership and contact information, and (ii) the latitude, longitude, and approximate boundaries of the mining operation marked on a specific United States Geological Survey map. The Office of Mining Reclamation ("OMR") is a division of the DOC. Using the mandatory data specified above, OMR provides map coordinate data that can be used by GIS systems to create points representing mine locations ("OMR Maps"). For more information please visit OMR's Mines OnLine Map Viewer (<http://maps.conservation.ca.gov/mol/index.html>).

Effective January 1, 2012, California Civil Code §1103.4 requires the seller of residential property to disclose to a buyer if the residential property is located with one (1) mile of mining operations as specified on OMR Maps.

Special Notes:

1. This statutory disclosure does **not** rely on the OMR's "AB 3098 List," a list of mines regulated under the Surface Mining and Reclamation Act of 1975 ("SMARA") that meet provisions set forth under California Public Resources Code §2717(b). The AB 3098 List does not include map coordinate data as required under California Public Resources Code §2207 and may not include all mining operations subject to the "Notice of Mining Operations" disclosure.
2. This "Notice of Mining Operations" disclosure is not satisfied by disclosing abandoned mines. An abandoned mine is NOT an operating mine. California Civil Code §1103.4 is satisfied only by disclosing based on OMR Maps.

PUBLIC RECORD: Mining operations as provided on OMR Maps made publicly available by DOC pursuant to California law.

REPORTING STANDARDS: "IN" is reported if any portion of the Property is located within a one (1) mile radius of one or more mining operation(s) identified in the Public Record for which map coordinate data is provided. If "IN", the name of the mining operation(s) as it appears in the Public Record is also reported. "NOT IN" is reported if no portion of the Property is located within a one (1) mile radius of a mining operation specified on OMR Maps.



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GAS AND HAZARDOUS LIQUID TRANSMISSION PIPELINE DATABASE DISCLOSURE REQUIREMENT

DISCUSSION: Following a number of pipeline disasters in the U.S., such as the 2010 San Bruno explosion in Northern California, there is an increased awareness of the potential dangers associated with underground transmission pipelines. As a result, the California Legislature unanimously passed Assembly Bill 1511 (Bradford), signed by Governor Jerry Brown on July 13, 2012. This law, effective January 1, 2013, is chaptered as California Civil Code Section 2079.10.5 and mandates the disclosure of the following notice to homebuyers:

NOTICE REGARDING GAS AND HAZARDOUS LIQUID TRANSMISSION PIPELINES

This notice is being provided simply to inform you that information about the general location of gas and hazardous liquid transmission pipelines is available to the public via the National Pipeline Mapping System (NPMS) Internet Web site maintained by the United States Department of Transportation at <http://www.npms.phmsa.dot.gov/>. To seek further information about possible transmission pipelines near the property, you may contact your local gas utility or other pipeline operators in the area. Contact information for pipeline operators is searchable by ZIP Code and county on the NPMS Internet Web site. (California Civil Code Section 2079.10.5(a))

Civil Code Section 2079.10.5(c) adds, *“Nothing in this section shall alter any existing duty under any other statute or decisional law imposed upon the seller or broker, including, but not limited to, the duties of a seller or broker under this article, or the duties of a seller or broker under Article 1.5 (commencing with Section 1102) of Chapter 2 of Title 4 of Part 4 of Division 2.”*

Such “existing duties” include the disclosure of actual knowledge about a potential hazard, such as may be created by the delivery of a letter from the local utility company informing the seller that a gas transmission pipeline exists within 2,000 feet of the Property.

Beginning on the law’s January 1, 2013, effective date, except where such “existing duties” apply, “Upon delivery of the notice to the transferee of the real property, the seller or broker is not required to provide information in addition to that contained in the notice regarding gas and hazardous liquid transmission pipelines in subdivision (a). The information in the notice shall be deemed to be adequate to inform the transferee about the existence of a statewide database of the locations of gas and hazardous liquid transmission pipelines and information from the database regarding those locations.” (California Civil Code Section 2079.10.5(b))

The disclosure of underground transmission pipelines helps the parties in a real estate transaction make an informed decision and is in the best interest of the public. Buyer should be aware that, according to the NPMS Internet Web site, gas and/or hazardous liquid transmission pipelines are known to exist in 49 of California’s 58 counties, the exceptions being in rural mountainous parts of the state. Every home that utilizes natural gas is connected to a gas “distribution” pipeline, which is generally of smaller size and lower pressure than a transmission pipeline.

For More Information: For a parcel-specific disclosure of gas and hazardous liquid transmission pipelines within 2,000 feet of the Property as depicted on the NPMS website, please obtain the FANHD Residential EnviroCheck Report. To investigate whether any pipeline easement (right-of-way) exists on the Property, buyer should review the Preliminary Title Report. **Buyer should consult an attorney for interpretation of any law. This notice is for information purposes only and should not be construed as legal advice.**



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TSUNAMI MAP ADVISORY

DISCUSSION: The California Emergency Management Agency (CalEMA), the University of Southern California Tsunami Research Center (USC), and the California Geological Survey (CGS) have prepared maps that depict areas of maximum tsunami inundation for all populated areas at risk to tsunamis in California (20 coastal counties). The maps were publicly released in December 2009 with the stated purpose that the maps are to assist cities and counties in identifying their tsunami hazard and developing their coastal evacuation routes and emergency response plans only.

These maps specifically contain the following disclaimer:

Map Disclaimer: This tsunami inundation map was prepared to assist cities and counties in identifying their tsunami hazard. It is intended for local jurisdictional, coastal evacuation planning uses only. This map, and the information presented herein, **is not a legal document and does not meet disclosure requirements for real estate transactions nor for any other regulatory purpose.** The California Emergency Management Agency (CalEMA), the University of Southern California (USC), and the California Geological Survey (CGS) make no representation or warranties regarding the accuracy of this inundation map nor the data from which the map was derived. Neither the State of California nor USC shall be liable under any circumstances for any direct, indirect, special, incidental or consequential damages with respect to any claim by any user or any third party on account of or arising from the use of this map.

A tsunami is a series of ocean waves or surges most commonly caused by an earthquake beneath the sea floor. These maps show the maximum tsunami inundation line for each area expected from tsunamis generated by undersea earthquakes and landslides in the Pacific Ocean. Because tsunamis are rare events in the historical record, the maps provide no information about the probability of any tsunami affecting any area within a specific period of time.

Although these maps may not be used as a legal basis for real estate disclosure or any other regulatory purpose, the CGS has, however, provided diagrams of the maps online which the public can view. To see a maximum tsunami inundation map for a specific coastal community, or for additional information about the construction and/or intended use of the tsunami inundation maps, visit the websites below:

State of California Emergency Management Agency, Earthquake and Tsunami Program:
<http://myhazards.calema.ca.gov/>

University of Southern California –Tsunami Research Center:
<http://www.usc.edu/dept/tsunamis/2005/index.php>

State of California Geological Survey Tsunami Information:
http://www.conservation.ca.gov/cgs/geologic_hazards/Tsunami/index.htm

National Oceanic and Atmospheric Agency Center for Tsunami Research (MOST model):
<http://nctr.pmel.noaa.gov/time/background/models.html>



The First American MASTER PROPERTY DISCLOSURE REPORT PDR®

Property: LOTS 39 OF TRACT 42169, 28,29,76-112 & 193-201 OF TRACT 32324 AND 30 AND 31 OF TRACT 47809
APN: N/A
Property Address: ,**Report Date:** 07/07/2014
WEST COVINA, LOS ANGELES County, CA **Report Number:** 1559259

SECTION 5 **METHODS AND LIMITATIONS**

This Section will summarize (a) the methods used in creating this Report, (b) the limitations with respect to the determination and the Public Record, and (c) the responsibilities and liabilities of FANHD under this Report. Please read this section to fully understand the limitations of this Report and FANHD's responsibilities.

A. LIMITATIONS ON PUBLIC RECORD INFORMATION AND THIS REPORT

FANHD has accurately reported the information in the Public Records with respect to the Property as of the Report Date. With respect to the Public Records, it is important to understand that:

- The Public Records may not be accurate, current, fully detailed, or complete.
- A parcel of real property may be affected by hazards that have not been identified in the Public Records.
- There may be other governmental Public Records with relevant information which are not included in this Report.
- FANHD does not make any representations as to:
 - The significance or extent of any hazard disclosed.
 - Any related health or risk of the hazard to humans or animals or how they may affect the Property.
 - The drinking water sources for the Property.
 - Any information regarding the Property after the Report Date.

B. REPORTING STANDARDS

The Reporting Standards utilized by FANHD in making each determination are specified in the Disclosure Explanations (Sections 1 through 4, inclusive) of this Report. If the Property is near the state border, hazards which may be in the adjoining state or nation are not disclosed in this Report. Where appropriate, FANHD may use the assessor's rolls, cadastral-type maps, photographic enlargements of maps and various cartographic techniques to locate the site on the appropriate map. The respective determination is made as accurately as reasonably possible using these maps. For purposes of defining property lines, the assessor's parcel number and parcel maps are used. Any errors in the assessor's rolls may affect the determination procedures. If the Public Record is not of sufficient accuracy or scale that a reasonable person can determine if the Property is within a delineated hazard area or zone, "IN" or "YES" will be reported for the corresponding disclosure.

C. NOT AN INSPECTION REPORT

FANHD does not perform a physical examination or any testing of the Property. This Report only provides information electronically derived from the specific Public Record identified for each disclosure in the Disclosure Explanation (Sections 1 through 4, inclusive) of this Report. This Report should not be considered a substitute for an on-site environmental and/or geological or engineering assessment. If additional information is desired, the Parties are encouraged to investigate other sources and to consult an environmental expert, a geologist, an engineer or other expert.

D. CHANGES TO PUBLIC RECORD AFTER REPORT DATE

The Parties are advised that the Public Records may change after the Report Date and FANHD is not responsible for advising the Parties of any changes to the determinations that may occur after the Report Date. As a courtesy, FANHD will update this Report at no cost during the transaction process for which this Report was issued, if requested.



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E. ONLY THE PARTIES MAY RELY ON THIS REPORT

This Report is valid, the Parties may rely on the Report, and a contract is formed with FANHD, **only** upon receipt by FANHD of payment of the full price of the Report. This Report cannot be relied upon (a) by any persons or entities other than the Parties, (b) for any other real property, or (c) for any future transactions involving the Property. The price paid for the Report does not include any amounts for protection of such other parties.

F. ERRORS AND OMISSIONS INSURANCE

FANHD maintains errors and omissions insurance. As of the Report Date, FANHD has \$15M aggregate in errors and omissions insurance.

G. LIMITATIONS ON FANHD'S LIABILITY

FANHD is not responsible for:

- Any inaccuracies or incompleteness of the information in the Public Records.
- Inaccurate address information provided for the Property.
- Any other information not contained in the specified Public Records as of the Report Date.
- Any information which would be disclosed by a physical inspection of the Property.
- Any information known by one of the Parties.
- The health or risk to humans or animals that may be associated with any of the disclosed hazards.
- The costs of investigating or remediating any of the disclosed hazards.

This Report is not an insurance policy and does not provide the same protections as an insurance policy. The price of this Report has been established with the understandings of the responsibilities of FANHD as set forth in this Section. The premium for an insurance policy would be significantly greater than the cost of this Report. The Parties acknowledge that claims for damages beyond actual losses can significantly increase the costs of Reports and make prompt resolution of claims more difficult. In order to induce FANHD to provide this Report for the price charged, and to help streamline the process of resolving any disputes between the Parties and FANHD, the Parties agree that if there is a material error or omission in this Report:

- **The Party who suffers damages as a result of such error or omission shall be entitled at most to recover from FANHD the price paid for this Report. The Party making such claim must notify FANHD promptly of such claim, take no action which adversely affect FANHD's liability or defenses to such claim and the Party must fully cooperate with FANHD in the defense of such claim. The Party shall cooperate with providing reasonable evidence of the claim as requested by FANHD.**
- **FANHD shall not be liable for indirect, consequential, personal injury, physical damage or punitive damages (including, but not limited to, emotional distress or pain and suffering).**
- **FANHD will defend the Parties regarding a claim made in accordance with the foregoing provisions. FANHD shall have the right to choose the legal counsel and control the defense of such claim as it reasonably determines.**
- **FANHD shall be subrogated to all rights of the claiming Party against anyone including, but not limited to, another Party who had actual knowledge of a matter and failed to disclose it to the other Parties in writing.**

H. PARTY'S RESPONSIBILITY OF FULL DISCLOSURE

Regardless of the information in this Report, if a Party has any actual knowledge of hazards potentially affecting the Property, that information must be disclosed.



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I. OTHER AGREEMENTS

This Report sets forth the complete, integrated agreement between FANHD and the Parties. Evidence of prior or contemporaneous statements, representations, promises or agreements shall not be admissible to vary the terms of this written agreement. This agreement may not be changed or amended except by a written document signed by an authorized representative of FANHD and the Parties. In the event that any dispute arises between FANHD and any Parties arising out of or relating to this Report or its subject matter, or any act or omission of FANHD, the prevailing party shall be entitled to recover his, her or its reasonable costs, including attorneys' fees, from the losing party.

J. CANCELLATION FEE

Recipient agrees that a cancellation fee equal to the Report price shall be remitted to FANHD if this Report is cancelled for any reason.

END OF REPORT

PLANNING COMMISSION

RESOLUTION NO. 14-5673

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF WEST COVINA, CALIFORNIA, APPROVING ADMINISTRATIVE USE PERMIT NO. 14-34

ADMINISTRATIVE USE PERMIT NO. 14-34

CATEGORICAL EXEMPTION

APPLICANT: Angela Meyer, Taylor Morrison of California, LLC

LOCATION: 1251 Inspiration Point

WHEREAS, there was filed with this Commission a verified application on forms prescribed by the Commission, a request for an administrative use permit to approve a maximum unit size exception, and two-story single-family house, on that certain property generally described as:

Assessor Parcel Number 8493-056-022, in the records of the Los Angeles County Assessor; and

WHEREAS, the Planning Commission, upon giving the required notice, did on the 11th day of November, 2014, conduct a duly advertised public hearing to consider the subject application for an administrative use permit; and

WHEREAS, studies and investigations made by the Planning Commission and in its behalf reveal the following facts:

1. The applicant is requesting the approval of an administrative use permit to allow a maximum unit size exception, and two-story single-family house. The subject site is located in the "R-1" (Single-Family Residential) Zone, Area District V.
2. The applicant is proposing to construct a 4,788-square foot two-story house (including a 710-square foot attached garage) located on a 24,636-square foot lot.
3. Appropriate findings for approval of an administrative use permit for a maximum unit size exception and a two-story single family house:
 - a. The lot and proposed development is consistent with the general plan, zoning, and meets all other applicable code requirements.

- b. The development utilizes building materials, color schemes and a roof style which blend with the existing structure, if any, and results in a development which is harmonious in scale and mass with the surrounding residences.
 - c. The development is sensitive and not detrimental to convenience and safety of circulation for pedestrians and vehicles.
 - d. The development can be adequately served by existing or required infrastructure and services.
 - e. The design of the structure has given consideration to the privacy of surrounding properties through the usage and placement of windows and doors, cantilevers, decks, balconies, minimal retaining walls, trees and other buffering landscaping materials.
 - f. The development is sensitive to the natural terrain, minimizes necessary grading, de-emphasizes vertical massing which could disrupt the profile of a natural slope, and does not impede any scenic vistas or views open to the public or surrounding properties.
4. The proposal is considered to be categorically exempt, pursuant to Section 15303 (Class 3, New Construction or Conversion of Small Structures) of the California Environmental Quality Act (CEQA), since the project consists of the construction of a single-family residence on an individual property.

NOW, THEREFORE, the Planning Commission of the City of West Covina does resolve as follows:

1. On the basis of the evidence presented, both oral and documentary, the Planning Commission makes the following maximum unit size exception and two-story single-family house findings:
 - a. The proposed development is consistent with the General Plan land use designation of “Very-Low Residential” (0.1 – 1.0 dwelling units per acre) and the goals and policies of the General Plan. With approval of an administrative use permit, the project will comply with the provisions of the Zoning Code. The project is required to meet all other applicable Zoning Code requirements, including height requirements.
 - b. The mass, bulk and architecture of the proposed two-story home is consistent with the other homes in the neighborhood and those proposed on nearby vacant lots concurrent with this proposal. The proposed Spanish two-story house features stucco exterior, stone veneer, decorative columns, wrought iron enhancements, decorative recessed arch windows, exposed wood rafter tails, decorative entry surrounds with decorative tile

and “Canamould” trim, wood corbels and posts. All of the homes found in this neighborhood are contemporary two-story homes. Therefore, the proposed house will not have any negative impacts to adjacent neighbors, as the proposed house is consistent in mass and bulk with other houses in the neighborhood.

- c. Access to the residential site will be gained from Inspiration Point. The subject property is developed with a front setback in compliance with requirements and has provided an adequate driveway. Therefore, the development has demonstrated sensitivity to circulation patterns and will not be detrimental to the convenience and safety of circulation for pedestrians and vehicles.
 - d. The lot is adequately served by existing infrastructure (streets, sewer, water, etc.). The proposed two-story single-family residence is not anticipated to require additional infrastructure or services beyond that provided for the existing residences nearby. Therefore the development can be adequately served by existing infrastructure and services.
 - e. The design of the structure has given consideration to the privacy of surrounding properties in that the area consists of large lots with single-family residences. The area includes hillsides and varied topography, allowing for greater visibility into neighboring yards. Most of the houses in the area are two-story. The proposed balconies are located on the front (southerly) and rear (northerly) elevations of the house in the direction of the side and rear yards. The proposed balconies will be consistent and integral to the architecture of the house. The proposed balconies will not have a direct affect on the privacy of neighboring properties.
 - f. The proposal is sensitive to the natural terrain in that there are no major terrain modifications. The property has been improved to rough grading and is currently vacant. Any necessary precise grading for construction will require that a grading permit be obtained from the Public Works Department. The project proposes construction of a two-story house that would not impede any scenic views from surrounding properties.
3. That pursuant to all of the evidence presented, both oral and documentary, and further based on the findings above, Administrative Use Permit No. 14-34 is approved subject to the provisions of the West Covina Municipal Code, provided that the physical development of the herein described property shall conform to said plan and the conditions set forth herein which, except as otherwise expressly indicated, shall be fully performed and completed or shall be secured by bank or cash deposit satisfactory to the Planning Director, before the use or occupancy of the property is commenced and before the Certificate of Occupancy is issued, and the violation of any of which shall be grounds for revocation of said administrative use permit by the Planning Director, Planning Commission, or City Council.

4. That the administrative use permit shall not be effective for any purpose until the owner of the property involved (or a duly authorized representative) has filed at the office of the Planning Director, his affidavit stating he is aware of, and accepts, all conditions of this administrative use permit as set forth below. Additionally, no permits shall be issued until the owner of the property involved (or a duly authorized representative) pays all costs associated with the processing of this application pursuant to City Council Resolution No. 8690.
5. The costs and expenses of any enforcement activities, including, but not limited to attorneys' fees, caused by the applicant's violation of any condition imposed by this approval or any provision of the West Covina Municipal Code shall be paid by the applicant.
6. That the approval of the administrative use permit is subject to the following conditions:
 - a. Comply with plans reviewed by the Planning Commission on November 11, 2014.
 - b. That the project comply with all requirements of the "Single-Family Residential" (R-1) Zone, Area District V, and all other applicable standards of the West Covina Municipal Code.
 - c. That any proposed changes to the approved site plan, floor plan or elevations be reviewed by the Planning Department, and the written authorization of the Planning Director shall be obtained prior to implementation.
 - d. This development shall conform to all applicable Municipal regulations, Fire, Building, Mechanical, Electrical, Plumbing codes and recognized, approved, standards of installation.
 - e. The approved use shall not create a public nuisance as defined in the West Covina Municipal Code Section 26-416 regarding landscape maintenance and property maintenance.
 - f. The applicant shall sign an affidavit accepting all conditions of this approval.
 - g. Any graffiti that appears on the property during construction shall be cleaned or removed on the same business day.
 - h. If proposed landscape areas exceed 2,500 square feet, then prior to final building permit approval, a detailed landscape and irrigation plan in compliance with AB 1881 shall be submitted for all planted areas to be affected by project. Plans shall include type, size and quantity of landscape materials and irrigation equipment. All vegetation areas shall be automatically irrigated and a detailed watering program and water budget

shall be provided. All damaged vegetation shall be replaced and the site shall be kept free of diseased or dead plant materials and litter at all times. Landscaping shall be installed prior to final inspection.

- i. Proposed landscape areas visible from the public right-of-way shall be in compliance with all applicable standards of the West Covina Municipal Code and shall be clearly indicated (including dimensions) on the landscape and irrigation plan. Landscaping shall be installed prior to final inspection.
- j. The applicant shall record CC&R's (covenants, codes and restrictions) to require the property owners to maintain cross lot drainage facilities, slope landscaping and shared driveways. The City and City Attorney shall review and approve the CC&R's prior to the issuance of building permits.
- k. The proposed retaining walls shall be of decorative material (slumpstone, split-faced block, stucco, or as approved by the Planning Director).
- l. A new or revised Landscape Plan shall be submitted for review and approval, prior to the issuance of a grading or building permit, indicating the planting of vines, shrubs and/or trees to screen the proposed retaining walls.
- m. This approval is effective for a period of one (1) year. All applicable building permits must be obtained within one (1) year of project approval.
- n. Fire Department Requirements:
 1. Contact Fire Department at 626-939-8824 for information on Fire standards.
- o. Engineering Requirements:
 1. Comply with all conditions contained in Planning Commission Resolution No. 567 which outlined the requirements of grading, street improvement, exterior lighting, water supply, all bonds, trees, landscaping, drainage, and building related improvements, etc.
 2. Sanitary sewers shall be provided to each "lot" in compliance with Municipal Code Chapter 23, Article 2, and to the satisfaction of the City Engineer.
 3. The required street improvements shall include those portions of Mountain Ridge Rd. Countywood Lane, Majestic Street, Rolling Hills Road, and Inspiration Point contiguous to subject properties.
 4. A Type II Emulsion Aggregate Slurry Seal must be constructed on Mountain Ridge Rd. Countywood Lane, Majestic Street, Rolling

Hills Road, and Inspiration Point contiguous and leading up to the subject properties prior to occupancy of homes.

5. All existing concrete driveway approaches and wheelchair ramps shall be removed (if required) and reconstructed to meet current ADA requirements.
6. All damaged concrete curbs, gutters, sidewalk, etc., shall be removed and reconstruct per City standard.
7. Adequate provision shall be made for acceptance and disposal of surface drainage entering the property from adjacent areas.
8. Water service facilities shall be constructed to at least meet the requirements for fire flow established by the City's Fire Department and the requirements of the subsequent water purveyor/owner of the facilities.
9. Prior to issuance of any Building Permit, all of the following requirements shall be satisfied:
 - a. A final grading and drainage plan showing existing and proposed elevations and drainage structures (and showing existing and proposed on-site and off-site improvements) shall be submitted to and approved by the Planning Department and Engineering Division.
 - b. An itemized cost estimate for all on-site and off-site improvements to be constructed (except buildings) shall be submitted to the Engineering Division for approval. Based upon the approved cost estimates, required fees shall be paid and improvement securities for all on-site and off-site improvements (except buildings) and 100% labor/material securities for all off-site improvements, shall be posted prior to final approval of the plans.
10. Comply with all regulations of the Los Angeles Regional Water Quality Control Board and Article II of Chapter 9 of the West Covina Municipal Code concerning Stormwater/Urban Run-off Pollution control.
11. A park dedication in-lieu fee shall be paid to the City of West Covina prior to issuance of any Building Permit pursuant to Section 20-40 of the Municipal Code. The estimated park fee is \$10,950 per lot for a total of \$ 87,600 for the 8 lots (Phase II) (438

(Square-feet of required land) X 8 units (Number of units/lots) X
\$25 (unit price of a square-foot of the developed lot).

12. Existing street lights adjacent to the properties must be repaired and in working condition prior to occupancy of homes
13. Storm drains, MTD 928, 954 and 962 must be transfer for maintenance to Los Angeles County prior to issuance of any occupancy certificate or any occupancy of homes.
14. Adequate provision shall be made to maintain the bench and down drains in proper working condition, including cleaning of debris.
15. Provide access agreement to the satisfaction of the City Engineer and City Attorney shall be recorded with the Los Angeles County Recorder for lot with shared access (driveways)
16. All slopes shall be irrigated and landscaped.

p. Building Requirements:

1. All Conditions of Approval as approved by the Planning Commission shall appear as notes on the plans submitted for building plan check and permits.
2. Building design shall comply with the 2013 California Building Code (CBC) and 2013 California Residential Code for single family occupancy.
3. Separate application(s), plan check(s), and permit(s) is/are required for:
 - a. Each separate structure/building
 - b. Plumbing
 - c. Mechanical
 - d. Electrical
 - e. Fire Sprinklers
 - f. Grading and retaining walls. See City Engineering Division
4. Complete structural plans with calculations will be required. Submit design for review at formal plans review.
5. Compliance to California T-24 Energy regulations will be required. Submit design for review at formal plans review.

6. A soils and geology report is required to address the potential for and the mitigation measures of any seismic induced landslide/liquefaction. Soils report shall address foundation design and site preparation requirements.
7. All new on-site utility service lines shall be placed underground. All relocated on-site utility service lines shall be underground when the cost or square footage of an addition or alteration exceeds 50% of the existing value or area. WCMC 23-273.
8. Fire Sprinklers will be required for the proposed project. Design and installation shall comply with NFPA 13D Standards and CRC § R 313.3. Submit plans to Fire Department for separate permits.
9. The final map shall be recorded prior to the issuance of any foundation or building permit.

I HEREBY CERTIFY, that the foregoing Resolution was adopted by the Planning Commission of the City of West Covina, at a regular meeting held on the 11th day of November, 2014, by the following vote:

AYES: Valles, Blackburn, Castellanos, Holtz, Menefee

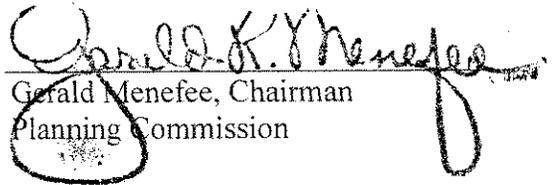
NOES: None

ABSENT: None

ABSTAIN: None

DATE: November 11, 2014

EXPIRATION: November 11, 2015
If not used.


Gerald Menefee, Chairman
Planning Commission


Jeff Anderson, AICP, Secretary
Planning Commission

**PLANNING COMMISSION
GUIDELINES
FOR
WATER EFFICIENT LANDSCAPING**

Adopted April 13, 2010

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1. Purpose and Applicability

1.1 Purpose

- (a) The primary purpose of these Guidelines is to provide procedural and design guidance for *project applicants* proposing landscape installation or rehabilitation projects that are subject to the requirements of the *West Covina Water Efficient Landscape Ordinance*. (WCMC Chapter 26, Article XIV, Division 1) This document is also intended for use and reference by City staff in reviewing and approving designs and verifying compliance with the *Water Efficient Landscape Ordinance*. The general purpose of the *Water Efficient Landscape Ordinance* is to promote the design, installation, and maintenance of landscaping in a manner that conserves regional water resources by ensuring that landscaping projects are not unduly water-needy and that irrigation systems are appropriately implemented to minimize water waste.
- (b) Other regulations affecting landscape design and maintenance practices are potentially applicable and should be consulted for additional requirements. These regulations include but may not be limited to:
 - (1) State of California Assembly Bill 1881;
 - (2) National Pollutant Discharge Elimination Permit for the Municipal Separate Storm Sewer System;
 - (3) Orange County Fire Authority Regulations for Fuel Modification in the Landscape;
 - (4) Water Conservation and Drought Response Regulations of the Local Water Purveyors;
 - (5) Regulations of the Local Water Purveyors governing use of Recycled Water;
 - (6) West Covina Municipal Code;
 - (7) Building Code;
 - (8) Specific Plans, Master Plans, General Plan, or similar land use and planning documents; and
 - (9) Conditions of approval for a specific project

1.2 Submittal Requirements for New Landscape Installations or Landscape Rehabilitation Projects

- (c) **Plan Requirements.** All drawings must be prepared as noted below and folded together to 8½” x 13” max.
 - (1) Title on plans shall include name, address, and telephone number of applicant/developer and landscape architect/designer.
 - (2) Plans shall include a north arrow and scale (drawings shall be drawn at the same scale as the approved precise plan (study plan) or as approved by the Planning Department.
- (d) All landscape projects which are subject to the requirements of the Landscape Ordinance shall submit the following information to the Planning Department.
 - (1) Landscape Documentation Package.
 - (2) Water Efficient Landscape Calculations and Alternatives
 - (3) Soil Management Report
 - (4) Landscape Design Plan
 - (5) Irrigation Design Plan
 - (6) Grading Design Plan
 - (7) Certification of Completion

1.1 Elements of the Landscape Documentation Package

- (a) *A Landscape Documentation Package* is required to be submitted by the *project applicant* for review and approval prior to the issuance of ministerial permits for landscape or water features by the City, and prior to start of construction. Unless otherwise directed by the City, the *Landscape Documentation Package* shall include the following elements either on plan sheets or supplemental pages as directed by the City:
 - (1) Project Information, including, but not limited to, the following:
 - (a) Date;
 - (b) Project name;

- (c) Project address, fully dimensioned parcel, abutting street(s), access and driveway locations, and/or lot number(s);
- (d) Physical site information such as the location and dimensions of all existing or proposed easements, all existing and proposed structures and physical features, location and approximate dimensions of walls and fences, existing landscaping to remain (specify type and size), and general layout and dimensions of parking area.
- (e) Total landscaped area (square feet) and rehabilitated landscaped area (if applicable);
- (f) Planting legend including, plant symbol(s), plant name, plant size, plant quantity, and planting details and specifications.
- (g) Project type (e.g., new, rehabilitated, public, private, cemetery, homeowner-installed);
- (h) Water supply type (e.g., potable, recycled, or well) and identification of the local retail water purveyor if the *project applicant* is not served by a private well;
- (i) Checklist or index of all documents in the *Landscape Documentation Package*;
- (j) Project contacts, including contact information for the *project applicant* and *property owner*;
- (k) A *Certification of Design* in accordance with **Appendix D** of these *Guidelines* that includes a *landscape architect's* professional stamp, as applicable, signature, contact information (including email and telephone number), license number, and date, certifying the statement that “The design of this project complies with the requirements of the City’s *Water Efficient Landscape Ordinance*” and shall bear the signature of the *landscape architect* as required by law; and
- (l) Any other information the City deems relevant for determining whether the landscape project complies with the *Water Efficient Landscape Ordinance* and these *Guidelines*.

- (2) *Maximum Applied Water Allowance (MAWA) and Estimated Applied Water Use (EAWU)* expressed as annual totals including, but not limited to, the following:
 - (a) A *Water Efficient Landscape Worksheet* (optional at discretion of the City) for the landscape project;
 - (b) *Hydrozone* information table (optional at the discretion of the City) for the landscape project; and
 - (c) Water budget calculations (optional at the discretion of the City) for the landscape project.
- (3) A soil management report or specifications, or specification provision requiring soil testing and amendment recommendations and implementation to be accomplished during construction of the landscape project.
- (4) A landscape design plan for the landscape project.
- (5) An irrigation design plan for the landscape project.
- (6) A grading design plan, unless grading information is included in the landscape design plan for the landscape project or unless the landscape project is limited to replacement planting and/or irrigation to rehabilitate an existing landscaped area.

[Note: Authority Cited: Section 65595, Government Code. Reference: Section 65596, Government Code.]

1.2 Water Efficient Landscape Calculations and Alternatives

- (a) The *project applicant* shall provide the calculated *Maximum Applied Water Allowance (MAWA)* and *Estimated Applied Water Use (EAWU)* for the *landscaped area* as part of the *Landscape Documentation Package* submittal to the City. The *MAWA* and *EAWU* shall be calculated based on completing the *Water Efficient Landscape Worksheets* (in accordance with the sample worksheets in **Appendix A**).
- (b) The *EAWU* allowable for the *landscaped area* shall not exceed the *MAWA*. The *MAWA* shall be calculated using an *evapotranspiration adjustment factor (ETAF)* of 0.7 except for the portion of the *MAWA* applicable to any *special landscaped areas* within the landscape project, which shall be calculated using an *ETAF* of 1.0. Where the design of the *landscaped area* can otherwise be shown to be equivalently water-efficient, the *project applicant* may submit alternative or abbreviated

information supporting the demonstration that the annual *EAWU* is less than the *MAWA*, at the discretion of and for the review and approval of the local agency.

- (c) Water budget calculations shall adhere to the following requirements:
- (1) The *MAWA* shall be calculated using the *Water Efficient Landscape Worksheets* and equation presented in **Appendix A** on page B-1. The example calculation on page B-1 is a hypothetical example to demonstrate proper use of the equation.
 - (2) The *EAWU* shall be calculated using the *Water Efficient Landscape Worksheets* and equation presented in Appendix B on page B-2. The example calculation on page B-2 is a hypothetical example.
 - (3) For the calculation of the *MAWA* and *EAWU*, a *project applicant* shall use the *ETo* values for Glendora (the closest location to West Covina) as listed in the Reference Evapotranspiration Table in **Appendix B**.
 - (4) For calculation of the *EAWU*, the *plant water use factor* shall be determined as appropriate to the project location from the *Water Use Efficiency of Landscape Species (WUCOLS) Species Evaluation List*. The *plant factor* is 0.1 for very low water use plants, 0.2 to 0.3 for low water use plants, 0.4 to 0.6 for moderate water use plants, and 0.7 to 1.0 for high water use plants.
 - (5) For calculating the *EAWU*, the *plant water use factor* shall be determined for each *valve hydrozone* based on the highest-water-use plant species within the zone. The *plant factor* for each *hydrozone* may be required to be further refined as a “landscape coefficient,” according to protocols defined in detail in the *WUCOLS* document, to reflect planting density and microclimate effects on water need at the option of the *project applicant* or the *City*.
 - (6) For calculation of the *EAWU*, the area of a water feature shall be defined as a high water use *hydrozone* with a *plant factor* of 1.0.
 - (7) For calculation of the *EAWU*, a temporarily irrigated *hydrozone* area, such as an area of highly drought-tolerant native plants that are not intended to be irrigated after they are fully established, shall be defined as a very low water use *hydrozone* with a *plant factor* of 0.1.
 - (8) For calculation of the *MAWA*, the *ETAF* for *special landscaped areas* shall be set at 1.0. For calculation of the *EAWU*, the *ETAF*

for *special landscaped areas* shall be calculated as the *special landscaped area (SLA) plant factor* divided by the *SLA irrigation efficiency factor*.

- (9) *Irrigation efficiency* shall be calculated using the worksheet and equation presented in **Appendix A** on page B-2.
- (d) The *Maximum Applied Water Allowance* shall adhere to the following requirements:
 - (1) The *Maximum Applied Water Allowance* shall be calculated using the equation presented in **Appendix A**. The example calculation in **Appendix A** is hypothetical to demonstrate proper use of the equation and does not represent an existing and/or planned landscape project. The *reference evapotranspiration (ET_o)* values used in this calculation are from the *Reference Evapotranspiration Table* in **Appendix B** and are for planning purposes only. For actual irrigation scheduling, automatic irrigation controllers are required and shall use current *ET_o* data, such as from the California Irrigation Management Information System (CIMIS), other equivalent data, or soil moisture sensor data.

1.3 Soil Management Report

- (a) In order to reduce *runoff* and encourage healthy plant growth, a soil management report shall be completed by the *project applicant*, or his/her designee, as follows:
 - (1) Submit soil samples to a certified agronomic soils laboratory for analysis and recommendations.
 - (a) Soil sampling shall be conducted in accordance with laboratory protocol, including protocols regarding adequate sampling depth for the intended plants.
 - (b) The soil analysis may include, but is not limited to:
 1. Soil texture;
 2. Infiltration rate determined by laboratory test or soil texture infiltration rate table;
 3. pH;
 4. Total soluble salts;
 5. Sodium;

6. Percent organic matter; and

7. Recommendations.

- (2) The *project applicant*, or his/her designee, shall comply with one of the following:
- (a) If significant mass grading is not planned, the soil analysis report shall be submitted to the local agency as part of the Landscape Documentation Package; or
 - (b) If significant mass grading is planned, the soil analysis report shall be submitted to the *City* as part of the *Certification of Completion*.
 - (c) The soil analysis report shall be made available, in a timely manner, to the professionals preparing the landscape design plans and irrigation design plans in order to make any necessary adjustments to the design plans.
 - (d) The *project applicant*, or his/her designee, shall submit documentation verifying implementation of soil analysis report recommendations to the local agency with the Certification of Completion.

[Note: Authority Cited: Section 65595, Government Code. Reference: Section 65596, Government Code.]

1.4 Landscape Design Plan

- (a) For the efficient use of water, a landscape shall be carefully designed and planned for the intended function of the project. The following design criteria shall be submitted as part of the *Landscape Documentation Package*.
 - (1) Plant Material
 - (a) Any plant may be selected for the *landscaped area* provided the *EAWU* in the *landscaped area* does not exceed the *MAWA*. To encourage the efficient use of water, the following is highly recommended:
 1. Protection and preservation of non-invasive *water-conserving plant species* and *water-conserving turf*;
 2. Selection of *water-conserving plant species* and *water-conserving turf*;

3. Selection of plants based on disease and pest resistance;
 4. Selection of trees based on applicable City and local tree ordinances or tree shading guidelines; and
 5. Selection of plants from local and regional landscape program plant lists.
- (b) Each *hydrozone* shall have plant materials with similar water use, with the exception of *hydrozones* with plants of mixed water use, as specified in Section 2.5(a)(2)(D) of these *Guidelines*.
- (c) Plants shall be selected and planted appropriately based upon their adaptability to the climatic, geologic, and topographical conditions of the project site. To encourage the efficient use of water, the following is highly recommended for inclusion in the landscape design plan:
- (1) Use the Sunset Western Climate Zone System which takes into account temperature, humidity, elevation, terrain, latitude, and varying degrees of continental and marine influence on local climate;
 - (2) Recognize the horticultural attributes of plants (i.e., mature plant size, invasive surface roots) to minimize damage to property or infrastructure (e.g., buildings, sidewalks, and power lines); and
 - (3) Consider the solar orientation for plant placement to maximize summer shade and winter solar gain.
- (d) *Turf* is discouraged on slopes greater than 25% where the toe of the slope is adjacent to an impermeable hardscape and where 25% means 1 foot of vertical elevation change for every 4 feet of horizontal length (rise divided by run x 100 = slope percent).
- (e) A landscape design plan for projects in fire-prone areas shall comply with requirements of the West Covina Fire Department, where applicable. When conflicts between water conservation and fire safety design elements exist, the fire safety requirements shall have priority.
- (f) The use of *invasive plant species* and/or *noxious plant species* is strongly discouraged.
- (g) The architectural guidelines of a *common interest development*, which include community apartment projects, condominiums, planned developments, and stock cooperatives, shall not prohibit or include conditions that have the effect of prohibiting the use of *water efficient plant species* as a group.

- (1)** Water Features
 - (a)** Recirculating water systems shall be used for water features.
 - (b)** Where available and consistent with public health guidelines, recycled water shall be used as a source for decorative water features.
 - (c)** The surface area of a water feature shall be included in the high water use *hydrozone* area of the water budget calculation.
 - (d)** Pool and spa covers are highly recommended.
- (2)** *Mulch* and Amendments
 - (a)** A minimum two inch (2") layer of *mulch* shall be applied on all exposed soil surfaces of planting areas except in turf areas, creeping or rooting groundcovers, or direct seeding applications.
 - (b)** Stabilizing mulching products shall be used on slopes.
 - (c)** The mulching portion of the seed/*mulch* slurry in hydro-seeded applications shall meet the mulching requirement.
 - (d)** Soil amendments shall be incorporated according to recommendations of the soil report and what is appropriate for the plants selected (see Section 2.3 of these *Guidelines*).
- (h)** The landscape design plan, at a minimum, shall:
 - (1)** Delineate and label each *hydrozone* by number, letter, or other method;
 - (2)** Identify each *hydrozone* as low, moderate, high water, or mixed water use. Temporarily irrigated areas of the *landscaped area* shall be included in the low water use *hydrozone* for the water budget calculation;
 - (3)** Identify recreational areas;
 - (4)** Identify areas permanently and solely dedicated to edible plants;
 - (5)** Identify areas irrigated with recycled water;
 - (6)** Identify type of *mulch* and application depth;

- (7) Identify soil amendments, type, and quantity;
- (8) Identify type and surface area of water features;
- (9) Identify *hardscapes* (*pervious* and *non-pervious*);
- (10) Identify location and installation details of any applicable storm water best management practices that encourage on-site retention and infiltration of storm water. Storm water best management practices are encouraged in the landscape design plan and examples include, but are not limited to:
 - (a) Infiltration beds, swales, and basins that allow water to collect and soak into the ground;
 - (b) Constructed wetlands and retention ponds that retain water, handle excess flow, and filter pollutants; and
 - (c) *Pervious* or porous surfaces (e.g., permeable pavers or blocks, *pervious* or porous concrete, etc.) that minimize *runoff*.
- (11) Identify any applicable rain harvesting or catchment technologies (e.g., rain gardens, cisterns, etc.);
- (12) Contain the following statement: “I have complied with the criteria of the *Water Efficient Landscape Ordinance* and applied them for the efficient use of water in the landscape design plan;” and
- (13) Bear the signature of a California-licensed *landscape architect*.

[Note: Authority Cited: Section 65595, Reference: Section 65596, Government Code and Section 1351, Civil Code.]

- (i) The landscape design plan shall consider safety elements including,
 - (1) Sight distances near intersections or drive accesses for vehicles, bicycles, and pedestrians.
 - (2) The location of overhead utilities and light fixtures.

1.5 Irrigation Design Plan

- (a) **Design Criteria.** For the efficient use of water, an irrigation system shall meet all the requirements listed in this section and the manufacturer’s recommendations. The irrigation system and its related components shall be planned and designed to allow for proper installation, management, and maintenance. An irrigation design plan complying with the following

design criteria shall be submitted as part of the *Landscape Documentation Package*.

(1) System

- (a)** Dedicated landscape water meters are highly recommended on *landscaped areas* smaller than 5,000 square feet to facilitate water management.
- (b)** Automatic irrigation controllers utilizing either evapotranspiration or soil moisture sensor data shall be required for irrigation scheduling in all irrigation systems.
- (c)** The irrigation system shall be designed to ensure that the dynamic pressure at each emission device is within the manufacturer's recommended pressure range for optimal performance.

 - 1.** If the static pressure is above or below the required dynamic pressure of the irrigation system, pressure-regulating devices such as inline pressure regulators, booster pumps, or other devices shall be installed to meet the required dynamic pressure of the irrigation system.
 - 2.** *Static water pressure, dynamic or operating pressure, and flow reading of the water supply shall be measured at the point of connection. These pressure and flow measurements shall be conducted at the design stage. If the measurements are not available at the design stage, the measurements shall be conducted at installation.*
- (d)** *Sensors* (rain, freeze, wind, etc.), either integral or auxiliary, that suspend or alter irrigation operation during unfavorable weather conditions shall be required on all irrigation systems, as appropriate for local climatic conditions. Irrigation should be avoided during windy or freezing weather or during rain.
- (e)** Manual shut-off *valves* (such as a *gate valve, ball valve, or butterfly valve*) shall be required as close as possible to the point of connection of the water supply to minimize water loss in case of an emergency (such as a *main line* break) or routine repair.
- (f)** *Backflow prevention devices* shall be required to protect the water supply from contamination by the irrigation system. The *project applicant* shall refer to the applicable City code

(i.e., public health) for additional backflow prevention requirements.

- (g) High flow sensors that detect and report high flow conditions created by system damage or malfunction are recommended.
- (h) The irrigation system shall be designed to prevent *runoff*, low head drainage, *overspray*, or other similar conditions where irrigation water flows onto non-targeted areas, such as adjacent property, non-irrigated areas, *hardscapes*, roadways, or structures.
- (i) Relevant information from the soil management plan, such as soil type and *infiltration rate*, shall be utilized when designing irrigation systems.
- (j) The design of the irrigation system shall conform to the hydrozones of the landscape design plan.
- (k) Average irrigation efficiency for the project shall be determined in accordance with the EAWU calculation sheet in **Appendix A**. Unless otherwise indicated by the irrigation equipment manufacturer's specifications or demonstrated by the *project applicant*, the *irrigation efficiency* of the irrigation heads used within each hydrozone shall be assumed to be:

Pop-up stream rotator heads = 75%

Stream rotor heads = 75%

Microspray = 75%

Bubbler = 80%

Drip emitter = 85%

Subsurface irrigation = 90%

- (l) It is highly recommended that the *project applicant* or local agency inquire with the local water purveyor about peak water operating demands (on the water supply system) or water restrictions that may impact the effectiveness of the irrigation system. In addition, it is recommended that the irrigation schedule be designed to water during times of low evapotranspiration rates.
- (m) In *mulched* planting areas, the use of *low volume irrigation* is required to maximize water infiltration into the root zone.

- (n) *Sprinkler heads* and other emission devices shall have matched *precipitation rates*, unless otherwise directed by the manufacturer's recommendations.
- (o) Head to head coverage is recommended. However, sprinkler spacing shall be designed to achieve the highest possible *distribution uniformity* using the manufacturer's recommendations.
- (p) *Swing joints* or other riser-protection components are required on all risers subject to damage that are adjacent to high traffic areas.
- (q) *Check valves* or *anti-drain valves* are required for all irrigation systems.
- (r) Narrow or irregularly shaped areas, including turf, less than eight (8) feet in width in any direction shall be irrigated with subsurface irrigation or a *low volume irrigation* system.
- (s) *Overhead* irrigation shall not be permitted within 24 inches of any non-permeable surface. Allowable irrigation within the setback from non-permeable surfaces may include drip, drip line, or other low flow non-spray technology. The setback area may be planted or unplanted. The surfacing of the setback may be *mulch*, gravel, or other porous material. These restrictions may be modified if:
 1. The *landscaped area* is adjacent to permeable surfacing and no *runoff* occurs; or
 2. The adjacent non-permeable surfaces are designed and constructed to drain entirely to landscaping; or
 3. The irrigation designer for the landscape project specifies an alternative design or technology, as part of the *Landscape Documentation Package*, and clearly demonstrates strict adherence to the irrigation system design criteria in Section 2.5 (a)(1)(H) hereof. Prevention of overspray and runoff must be confirmed during an irrigation audit.
 4. Slopes greater than 25% shall not be irrigated with an irrigation system with a *precipitation rate* exceeding 0.75 inches per hour. This restriction may be modified if the landscape designer of the landscape project specifies an alternative design or technology, as part of

the *Landscape Documentation Package*, and clearly demonstrates no *runoff* or erosion will occur. Prevention of *runoff* and erosion must be confirmed during the *irrigation audit*.

(2) Hydrozone

- (a) Each *valve* shall irrigate a *hydrozone* with similar site, slope, sun exposure, soil conditions, and plant materials with similar water use.
- (b) *Sprinkler heads* and other emission devices shall be selected based on what is appropriate for the plant type within that *hydrozone*.
- (c) Where feasible, trees shall be placed on separate valves from shrubs, groundcovers, and *turf*.
- (d) Individual *hydrozones* that mix plants of moderate and low water use or moderate and high water use may be allowed if:
 - 1. The *plant factor* calculation is based on the proportions of the respective plant water uses and their respective *plant factors*; or
 - 2. The *plant factor* of the higher water using plant is used for the calculations.
- (e) Individual *hydrozones* that mix high and low water use plants shall not be permitted.
- (f) On the landscape design plan and irrigation design plan, *hydrozone* areas shall be designated by number, letter, or other designation. On the irrigation design plan, designate the areas irrigated by each *valve* and assign a number to each *valve*.

(b.) Required Information for Irrigation Design Plans: The irrigation design plan, at a minimum, shall contain:

- 1. An irrigation legend including symbol(s), size and type of equipment (manufacturer and part number), and sprinkler information (GPM, radius, maximum spacing, etc.).
- 2. The location and size of separate water meters for landscape;

3. The location, type, and size of all components of the irrigation system, including point of connection, controllers, main and *lateral lines*, *valves*, *sprinkler heads*, *moisture sensing devices*, rain switches, quick couplers, pressure regulators, sleeves, and *backflow prevention devices*;
4. Static water pressure at the point of connection to the public water supply;
5. Flow rate (gallons per minute), application rate (inches per hour), and design operating pressure (pressure per square inch) for each station;
6. Irrigation schedule parameters necessary to program smart timers specified in the landscape design;
7. The following statement: “*I have complied with the criteria of the Water Efficient Landscape Ordinance and applied them accordingly for the efficient use of water in the irrigation design plan;*” and
8. The signature of a California-licensed *landscape architect*.

[Note: Authority Cited: Section 65595, Government Code. Reference: Section 65596, Government Code.]

1.6 Grading Design Plan

- (a) For the efficient use of water, grading of a landscape project site shall be designed to minimize soil erosion, *runoff*, and water waste. Finished grading configuration of the *landscaped area*, including pads, slopes, drainage, post-construction erosion control, and storm water control Best Management Practices, as applicable, shall be shown on the Landscape Plan unless this information is fully included in separate Grading Plans for the project, or unless the project is limited to replacement planting and/or irrigation to rehabilitate an existing *landscaped area*.
- (b) The *project applicant* shall submit a landscape grading plan that indicates finished configurations and elevations of the *landscaped area* including:
 - (1) Height of graded slopes;
 - (2) Drainage patterns;
 - (3) Pad elevations;
 - (4) Finish grade; and
 - (5) Storm water retention improvements, if applicable.

- (c) To prevent excessive erosion and *runoff*, it is highly recommended that the *project applicant*:
 - (1) Grade so that all irrigation and normal rainfall remains within property lines and does not drain on to non-permeable *hardscapes*;
 - (2) Avoid disruption of natural drainage patterns and undisturbed soil; and
 - (3) Avoid soil compaction in *landscaped areas*.
- (d) The Grading Design Plan shall contain the following statement: “I have complied with the criteria of the ordinance and applied them accordingly for the efficient use of water in the grading design plan” and shall bear the signature of the *landscape architect*, as required by law.

[Note: Authority Cited: Section 65595, Government Code. Reference: Section 65596, Government Code.]

1.7 Certification of Completion Requirements

- (a) Landscape project installation shall not proceed until the *Landscape Documentation Package* has been approved by the City and any ministerial permits required are issued.
- (b) The *project applicant* shall notify the City at the beginning of the installation work and at intervals, as necessary, for the duration of the landscape project work to schedule all required inspections.
- (c) *Certification of Completion* of the landscape project shall be obtained through a Certificate of Use and Occupancy or a *Permit Final*. The requirements for the Final Inspection and *Permit Closure* include submittal of:
 - (1) A *Landscape Installation Certificate of Completion* in the form included as **Appendix E** of these *Guidelines*, which shall include:
 - (i) Certification by a *landscape architect* that the *landscape project* has been installed per the approved *Landscape Documentation Package*; and
 - (ii) The following statement: “The landscaping has been installed in substantial conformance to the design plans, and complies with the provisions of the *Water Efficient Landscape Ordinance* for the efficient use of water in the landscape.”

- (2) Documentation of the irrigation scheduling parameters used to set the *controller(s)*;
- (3) An irrigation audit report from a certified irrigation auditor, documentation of enrollment in regional or local water purveyor's water conservation programs, and/or documentation that the MAWA and EAWU information for the *landscape project* has been submitted to the local water purveyor, may be required at the option of the City.

[Note: Authority Cited: Section 65595, Government Code. Reference: Section 65596, Government Code.]

1.8 Post-Installation Irrigation Scheduling

- (a) For the efficient use of water, all irrigation schedules shall be developed, managed, and evaluated to utilize the minimum amount of water required to maintain plant health. Irrigation schedules shall meet the following criteria:
 - (1) Irrigation scheduling shall be regulated by automatic irrigation controllers.
 - (2) *Overhead* irrigation shall be scheduled in accordance with the local water purveyor's Water Conservation Ordinance. Operation of the irrigation system outside the normal *watering window* is allowed for auditing and system maintenance.

[Note: Authority Cited: Section 65595, Government Code. Reference: Section 65596, Government Code.]

1.9 Post-Installation Landscape and Irrigation Maintenance

- (a) Landscapes shall be maintained to ensure water use efficiency in accordance with the following.
 - (1) West Covina Municipal Code, Chapter 26, Article XIV, Division 1, which establishes a Water Efficient Landscape Standards.
 - (2) Such standards as have been established by the various water purveyors with service areas in the City.

2. Provisions for Existing Landscapes

- (a) Irrigation of all *landscaped areas* shall be conducted in a manner conforming to the rules and requirements and shall be subject to penalties and incentives for water conservation and water waste prevention, as determined and implemented by the *local water purveyor* and as may be mutually agreed by the *City*.

- (b) Irrigation of all existing *landscaped areas* of one acre or less shall be conducted in a manner conforming to the rules and requirements and shall be subject to penalties and incentives for water conservation and water waste prevention, as determined and implemented by the *local water purveyor* and as may be mutually agreed by the *City*.
- (c) For all existing *landscaped areas* in the *City* over one acre in size the *City* and/or the regional or *local water purveyor* may administer programs such as irrigation water use analyses, irrigation surveys and/or irrigation audits, tiered water rate structures, water budgeting by parcel, or other approaches to achieve landscape water use efficiency community-wide to a level equivalent to or less than would be achieved by applying a *MAWA* calculated with an *ETAF* of 0.8.
- (d) The architectural guidelines of a *common interest development*, including apartments, condominiums, planned developments, and stock cooperatives, shall not prohibit or include conditions that have the effect of prohibiting the use of low-water use plants as a group.

Appendix A

EXAMPLE WATER EFFICIENT LANDSCAPE WORKSHEET

This worksheet is filled out by the *project applicant* for each Point of Connection. Please complete all sections of the worksheet.

Point of Connection # 1									
<i>Maximum Applied Water Allowance (MAWA)</i>									
Total MAWA = (ETo x 0.7 x LA in Sq. Ft. x 0.62) + (ETo x 1.0 x SLA in Sq. Ft. x 0.62) = Gallons per year for LA+SLA									
where: MAWA = <i>Maximum Applied Water Allowance</i> (gallons per year) ETo = Reference Evapotranspiration Appendix C (inches per year) 0.7 = <i>Evapotranspiration Adjustment Factor (ETAF)</i> 1.0 = ETAF for <i>Special Landscaped Area</i> LA = <i>Landscaped Area</i> (square feet) 0.62 = <i>Conversion factor</i> (to gallons per square foot) SLA = <i>Special Landscaped Area</i> (square feet)									
Example Calculation: a hypothetical landscape project in West Covina with an irrigated landscaped area of 40,000 square feet with 10,000 square feet of <i>Special Landscaped Area</i> . To calculate MAWA, the annual <i>reference evapotranspiration</i> value for West Covina is 53.1 inches as listed in the Reference Evapotranspiration Table in Appendix C .									
	ETo		ETAF		LA or SLA (ft ²)		Conversion		MAWA (Gallons Per Year)
<i>MAWA for LA =</i>	53.1	x	0.7	x	40,000	x	0.62	=	921,816
<i>MAWA for SLA =</i>	53.1	x	1.0	x	10,000	x	0.62	=	329,220
Total MAWA =					50,000				1,251,036 Gallons per year for LA+SLA

Estimated Applied Water Use

$EAWU = ETo \times K_L \times LA \times 0.62 \div IE = \text{Gallons per year}$	
<p>where:</p> <p><i>EAWU</i> = Estimated Applied Water Use (gallons per year) <i>ETo</i> = Reference Evapotranspiration Appendix C (inches per year) <i>K_L</i> = Landscape Coefficient <i>LA</i> = Landscaped Area (square feet) <i>0.62</i> = Conversion factor (to gallons per square foot) <i>IE</i> = Irrigation Efficiency = <i>IME</i> x <i>DU</i> (See definition in Appendix E for example IE percentages)</p> <p style="padding-left: 40px;"><i>IME</i> = Irrigation Management Efficiency (90%) <i>DU</i> = Distribution Uniformity of irrigation head</p>	<p>$K_L = K_s \times K_d \times K_{mc}$</p> <p><i>K_s</i> = species factor (range = 0.1-0.9) (see <i>WUCOLS</i> list for values) <i>K_d</i> = density factor (range = 0.5-1.3) (see <i>WUCOLS</i> for density value ranges) <i>K_{mc}</i> = microclimate factor (range = 0.5-1.4) (see <i>WUCOLS</i>)</p> <p>WUCOLS – www.owue.water.ca.gov/docs/wucols00.pdf</p>

Example Calculation:

	ETo		K _L		LA		Conversion		IE		EAWU (Gallons per year)	
Special Landscaped Area	53.1	x	1.00	x	10,000	x	0.62	÷	0.75	=	438,960	
Cool Season Turf	53.1	x	1.00	x	0	x	0.62	÷	0.71	=	0	
Warm Season Turf	53.1	x	0.65	x	0	x	0.62	÷	0.71	=	0	
High Water Using Shrub	53.1	x	0.70	x	0	x	0.62	÷	0.71	=	0	
Medium Water Using Shrub	53.1	x	0.50	x	15,000	x	0.62	÷	0.65	=	379,869	
Low Water Using Shrub	53.1	x	0.30	x	25,000	x	0.62	÷	0.75	=	329,220	
Very Low Water Using Shrub	53.1	x	0.20	x	0	x	0.62	÷	0.71	=	0	
Other	53.1	x	0.50	x	0	x	0.62	÷	0.71	=	0	
Other	53.1	x	0.50	x	0	x	0.62	÷	0.71	=	0	
Total EAWU =						50,000						1,148,049 Gallons per year

Compare *EAWU* with *MAWA*.

The *EAWU* (1,042,109 gallons per year) is less than *MAWA* (1,148,049 gallons per year). For this example, the water budget complies with the *MAWA*.

List *sprinkler heads*, *microspray*, and *drip emitters* here along with average *precipitation rate* and *Distribution Uniformity of Irrigation Head*.

<i>Sprinkler Head Types</i>	<i>Average Precipitation Rate</i>	<i>Distribution Uniformity of Irrigation Head</i>
Drip		
Microspray		
Bubbler		
Low precipitation rotating nozzles		
Stream rotors		

WATER EFFICIENT LANDSCAPE WORKSHEET

This worksheet is filled out by the *project applicant* for each Point of Connection. Please complete all sections of the worksheet.

Point of Connection # ___									
<i>Maximum Applied Water Allowance (MAWA)</i>									
Total MAWA = (ETo x 0.7 x LA in Sq. Ft. x 0.62) + (ETo x 1.0 x SLA in Sq. Ft. x 0.62) = Gallons per year for LA+SLA									
where:									
MAWA = <i>Maximum Applied Water Allowance</i> (gallons per year)									
ETo = <i>Reference Evapotranspiration</i> Appendix C (inches per year)									
0.7 = <i>Evapotranspiration Adjustment Factor</i> (ETAF)									
1.0 = ETAF for <i>Special Landscaped Area</i>									
LA = <i>Landscaped Area</i> (square feet)									
0.62 = <i>Conversion factor</i> (to gallons per square foot)									
SLA = <i>Special Landscaped Area</i> (square feet)									
MAWA Calculation:									
	ETo		ETAF		LA or SLA (ft ²)		Conversion		MAWA (Gallons Per Year)
MAWA for LA =	53.1	x	0.7	x		x	0.62	=	
MAWA for SLA =	53.1	x	1.0	x		x	0.62	=	
Total MAWA =									

Estimated Applied Water Use

$EAWU = ETo \times K_L \times LA \times 0.62 \div IE = \text{Gallons per year}$

where:

EAWU = Estimated Applied Water Use (gallons per year)
ETo = Reference Evapotranspiration **Appendix C** (inches per year)
K_L = Landscape Coefficient
LA = Landscaped Area (square feet)
0.62 = Conversion factor (to gallons per square foot)
IE = Irrigation Efficiency = *IME* x *DU*
 IME = Irrigation Management Efficiency (90%)
 DU = Distribution Uniformity of irrigation head

$K_L = K_s \times K_d \times K_{mc}$

K_s = species factor (range = 0.1-0.9) (see *WUCOLS* list for values)
K_d = density factor (range = 0.5-1.3) (see *WUCOLS* for density value ranges)
K_{mc} = microclimate factor (range = 0.5-1.4) (see *WUCOLS*)

WUCOLS – www.owue.water.ca.gov/docs/wucols00.pdf

EAWU Calculation:

	ETo		K _L		LA		Conversion		IE		EAWU (Gallons Per Year)
Special Landscaped Area	53.1	x		x		x	0.62	÷		=	
Cool Season Turf	53.1	x		x		x	0.62	÷		=	
Warm Season Turf	53.1	x		x		x	0.62	÷		=	
High Water Using Shrub	53.1	x		x		x	0.62	÷		=	
Medium Water Using Shrub	53.1	x		x		x	0.62	÷		=	
Low Water Using Shrub	53.1	x		x		x	0.62	÷		=	
Very Low Water Using Shrubs	53.1	x		x		x	0.62	÷		=	
		x		x		x	0.62	÷		=	
		x		x		x	0.62	÷		=	
		x		x		x	0.62	÷		=	
		x		x		x	0.62	÷		=	
		x		x		x	0.62	÷		=	
Other	53.1	x		x		x	0.62	÷		=	
Total EAWU =											

List *sprinkler heads*, *microspray*, and *drip emitters* here along with average *precipitation rate* and *Distribution Uniformity of Irrigation Head*.

<u>Sprinkler Head Types</u>	<u>Average Precipitation Rate</u>	<u>Distribution Uniformity of Irrigation Head</u>
Drip		
Microspray		
Bubbler		
Low precipitation rotating nozzles		
Stream rotors		

Reference Evapotranspiration (ET_o) Table

Appendix C - Reference Evapotranspiration (ET_o) Table*													
County and City	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual ET_o
Glendora	2.0	2.3	3.4	4.6	5.0	6.0	7.0	7.0	5.3	4.0	2.7	2.1	51.3
* The values in this table were derived from:1) California Irrigation Management Information System (CIMIS) 2) Reference EvapoTranspiration Zones Map, UC Dept. of Land, Air & Water Resources and California Dept of Water Resources 1999, 3) Reference Evapotranspiration for California, University of California, Department of Agriculture and Natural Resources (1987) Bulletin 1922 4) Determining Daily Reference Evapotranspiration, Cooperative Extension UC Division of Agriculture and Natural Resources (1987), Publication Leaflet 21426													

Definitions

The terms used in these *Guidelines* have the meaning set forth below:

“*Backflow prevention device*” means a safety device used to prevent pollution or contamination of the water supply due to the reverse flow of water from the irrigation system.

“*Conversion factor*” means the number that converts acre-inches per acre per year to gallons per square foot per year.

“*Check valve*” or “*anti-drain valve*” means a valve located under a *sprinkler head*, or other location in the irrigation system, to hold water in the system to prevent drainage from *sprinkler heads* when the sprinkler is off.

“*Certified Landscape Irrigation Auditor*” means a person certified to perform landscape irrigation audits by an accredited academic institution or professional trade organization.

“*Certification of Design*” means the certification included as Exhibit E of these Guidelines that must be included in the *Landscape Documentation Package* pursuant to Section 2.1 of these Guidelines.

“*City*” means the City of West Covina or its authorized designee.

“*Common interest developments*” means community apartment projects, condominium projects, planned developments, and stock cooperatives per Civil Code Section 1351

“*Distribution Uniformity*” or “*DU*” is a measure of how uniformly an irrigation head applies water to a specific target area and theoretically ranges from zero to 100 percent.

“*Drip irrigation*” means any non-spray *low volume irrigation* system utilizing emission devices with a *flow rate* measured in gallons per hour. *Low volume irrigation* systems are specifically designed to apply small volumes of water slowly at or near the root zone of plants.

“*Emitter*” means a *drip irrigation* emission device that delivers water slowly from the system to the soil.

“*Estimated Applied Water Use*” or “*EAWU*” means the annual total amount of water estimated to keep plants in a healthy state. It is based on factors such as reference *evapotranspiration rate*, the size of the *landscaped area*, *plant water use factors*, and the *irrigation efficiency* within each hydrozone.

“*Evapotranspiration adjustment factor*” or “*ETAF*” means “*Reference evapotranspiration*”.

“*Evapotranspiration rate*” means the quantity of water evaporated from adjacent soil and other surfaces and transpired by plants during a specified time.

“*Flow rate*” means the rate at which water flows through pipes, *valves* and emission devices, measured in gallons per minute, gallons per hour, or cubic feet per second.

“*Hardscapes*” means any durable material or feature (*pervious* and *non-pervious*) installed in or around a *landscaped area*, such as pavements or walls. Pools and other water features are considered part of the *landscaped area* and not considered *hardscapes* for purposes of these Guidelines.

“*Hydrozone*” means a portion of the *landscaped area* having plants with similar water needs and typically irrigated by one *valve/controller* station. A *hydrozone* may be irrigated or non-irrigated.

“*Infiltration rate*” means the rate of water entry into the soil expressed as a depth of water per unit of time (e.g., inches per hour).

“*Invasive plants species*” or “*noxious*” means species of plants not historically found in California that spread outside cultivated areas and can damage environmental or economic resources. *Invasive plant species* may be regulated by county agricultural agencies as *noxious species*.

“*Irrigation audit*” means an in-depth evaluation of the performance of an irrigation system conducted by a *Certified Landscape Irrigation Auditor*. An *irrigation audit* includes, but is not limited to: inspection, system tune-up, system test with *distribution uniformity* or emission uniformity, reporting *overspray* or *runoff* that causes overland flow, and preparation of an irrigation schedule.

“*Irrigation Management Efficiency*” or “*IME*” means the measurement used to calculate the *irrigation efficiency* of the irrigation system for a landscaped project. A 90% IME can be achieved by using evapotranspiration controllers, soil moisture sensors, and other methods that will adjust irrigation run times to meet plant water needs.

“*Irrigation efficiency*” or “*IE*” means the measurement of the amount of water beneficially used divided by the amount of water applied to a *landscaped area*. *Irrigation efficiency* is derived from measurements and estimates of irrigation system characteristics and management practices. The minimum average *irrigation efficiency* for purposes of these *Guidelines* is 0.71. Greater *irrigation efficiency* can be expected from well designed and maintained systems. The following irrigation efficiency may be obtained for the listed irrigation heads with an IME of 90%:

- a. Pop-up stream rotator heads = 75%
- b. Stream rotor heads = 75%
- c. Microspray = 75%
- d. Bubbler = 80%
- e. Drip emitter = 85%

f. Subsurface irrigation = 90%

“*Landscape coefficient*” (K_L) is the product of a *plant factor* multiplied by a density factor and a *microclimate* factor. The *landscape coefficient* is derived to estimate water loss from irrigated *landscaped areas* and *special landscaped areas*.

“*Landscape Documentation Package*” means the package of documents that a *project applicant* is required to submit to the *City* pursuant to Section 2.1 of these Guidelines.

“*Landscape Installation Certificate of Completion*” means the certificate included as Exhibit F of these *Guidelines* that must be submitted to the *City* pursuant to Section 2.7(a)(1) of hereof.

“*Landscape professional*” means a licensed *landscape architect*, licensed landscape contractor, or any other *person* authorized to design a landscape pursuant to Sections 5500.1, 5615, 5641, 5641.1, 5641.2, 5641.3, 5641.4, 5641.5, 5641.6, 6701, 7027.5 of the California Business and Professions Code, Section 832.27 of Title 16 of the California Code of Regulations, and Section 6721 of the California Food and Agriculture Code.

“*Landscaped area*” means all the planting areas, *turf* areas, and *water features* in a landscape design plan subject to the *Maximum Applied Water Allowance* and *Estimated Applied Water Use* calculations. The *landscaped area* does not include footprints of buildings or structures, sidewalks, driveways, parking lots, decks, patios, gravel or stone walks, other *pervious* or *non-pervious hardscapes*, and other non-irrigated areas designated for non-development (e.g., open spaces and existing native vegetation).

“*Lateral line*” means the water delivery pipeline that supplies water to the *emitters* or sprinklers from the *valve*.

“*Low volume irrigation*” means the application of irrigation water at low pressure through a system of tubing or *lateral lines* and low-volume *emitters* such as drip, drip lines, and bubblers. *Low volume irrigation* systems are specifically designed to apply small volumes of water slowly at or near the root zone of plants.

“*Main line*” means the pressurized pipeline that delivers water from the water source to the *valve* or outlet.

“*Maximum Applied Water Allowance*” or “*MAWA*” means the upper limit of annual applied water for the established *landscaped area*, as specified in Section 2.2 of these *Guidelines*. It is based upon the area’s *reference evapotranspiration*, the *ETAF*, and the size of the *landscaped area*. The *Estimated Applied Water Use* shall not exceed the *Maximum Applied Water Allowance*.

“*Microclimate*” means the climate of a small, specific area that may contrast with the climate of the overall landscaped area due to factors such as wind, sun exposure, plant density, or proximity to reflective surfaces.

“*Mulch*” means any organic material such as leaves, bark, straw or compost, or inorganic mineral materials such as rocks, gravel, or decomposed granite left loose and applied to the soil surface

for the beneficial purposes of reducing evaporation, suppressing weeds, moderating soil temperature, and preventing soil erosion.

“*Non-pervious*” means any surface or natural material that does not allow for the passage of water through the material and into the underlying soil.

“*Operating pressure*” means the pressure at which the parts of an irrigation system of sprinklers are designed to operate at by the manufacturer.

“*Overspray*” means the irrigation water which is delivered beyond the target area.

“*Person*” means any natural person, firm, joint venture, joint stock company, partnership, public or private association, club, company, corporation, business trust, organization, public or private agency, government agency or institution, school district, college, university, any other user of water provided by the *City* or the *local water purveyor*, or the manager, lessee, agent, servant, officer, or employee of any of them or any other entity which is recognized by law as the subject of rights or duties.

“*Pervious*” means any surface or material that allows the passage of water through the material and into the underlying soil.

“*Plant factor*” or “*plant water use factor*” is a factor, when multiplied by *ET_o*, that estimates the amount of water needed by plants. For purposes of this *Water Efficient Landscape Ordinance*, the *plant factor* range for low water use plants is 0 to 0.3; the *plant factor* range for moderate water use plants is 0.4 to 0.6; and the *plant factor* range for high water use plants is 0.7 to 1.0. *Plant factors* cited in these *Guidelines* are derived from the Department of Water Resources 2000 publication “Water Use Classification of Landscape Species.”

“*Precipitation rate*” means the rate of application of water measured in inches per hour.

“*Project applicant*” means the person submitting a *Landscape Documentation Package* required under Section 2.1 to request a permit, plan check, or design review from the local agency. A *project applicant* may be the property owner or his or her designee.

“*Property owner*” or “*owner*” means the record owner of real property as shown on the most recently issued equalized assessment roll.

“*Reference evapotranspiration*” or “*ET_o*” means a standard measurement of environmental parameters which affect the water use of plants. *ET_o* is given expressed in inches per day, month, or year as represented in Appendix B of these *Guidelines*, and is an estimate of the evapotranspiration of a large field of four to seven-inch tall, cool-season grass that is well watered. *Reference evapotranspiration* is used as the basis of determining the *Maximum Applied Water Allowances*.

“*Recycled water*” or “*reclaimed water*” means treated or recycled waste water of a quality suitable for non-potable uses such as landscape irrigation and *water features*. This water is not intended for human consumption.

“*Runoff*” means water which is not absorbed by the soil or landscape to which it is applied and flows from the landscaped area. For example, *runoff* may result from water that is applied at too great a rate (application rate exceeds *infiltration rate*) or when there is a slope.

“*Special Landscaped Areas*” or “*SLA*” means an area of the landscape dedicated solely to edible plants such as orchards and vegetable gardens, areas irrigated with *recycled water*, *water features* using *recycled water*, and areas dedicated to active play such as parks, sports fields, golf courses, and where *turf* provides a playing surface.

“*Sprinkler head*” means a device which delivers water through a nozzle.

“*Static water pressure*” means the pipeline or municipal water supply pressure when water is not flowing.

“*Station*” means an area served by one *valve* or by a set of *valves* that operate simultaneously.

“*Swing joint*” means an irrigation component that provides a flexible, leak-free connection between the emission device and lateral pipeline to allow movement in any direction and to prevent equipment damage.

“*Turf*” means a ground cover surface of mowed grass. Annual bluegrass, Kentucky bluegrass, Perennial ryegrass, Red fescue, and Tall fescue are cool-season grasses. Bermudagrass, Kikuyugrass, Seashore Paspalum, St. Augustinegrass, Zoysiagrass, and Buffalo grass are warm-season grasses.

“*Valve*” means a device used to control the flow of water in an irrigation system

“*Water Efficient Landscape Ordinance*” means Ordinance No. 2205, adopted by the City Council on April 6, 2010, and codified in the West Covina Municipal Code in 26-750.1000 to 26-750.1500.

“*Water Efficient Landscape Worksheets*” means the worksheets required to be completed pursuant to Section 2.2 of these *Guidelines* and which are included in Appendix B hereof.

“*Water feature*” means a design element where open water performs an aesthetic or recreational function. *Water features* include ponds, lakes, waterfalls, fountains, artificial streams, spas, and swimming pools (where water is artificially supplied). The surface area of *water features* is included in the high water use *hydrozone* of the *landscaped area*. Constructed wetlands used for on-site wastewater treatment, habitat protection, or storm water best management practices that are not irrigated and used solely for water treatment or storm water retention are not *water features* and, therefore, are not subject to the water budget calculation.

“*Watering window*” means the time of day irrigation is allowed.

“*WUCOLS*” means the Water Use Classification of Landscape published by the University of California Cooperative Extension, the Department of Water Resources, and the Bureau of Reclamation, 2000. www.owue.water.ca.gov/docs/wucols00.pdf

Appendix D

CERTIFICATION OF LANDSCAPE DESIGN

I hereby certify that:

- (1) I am a landscape architect licensed in the State of California to provide professional landscape design services.
- (2) The landscape design and water use calculations for the property located at _____ (provide street address or parcel number(s)) were prepared by me or under my supervision.
- (3) The landscape design and water use calculations for the identified property comply with the requirements of the City of West Covina Water Efficient Landscape Ordinance (Municipal Code Sections 26-750.1000 through 26-750.1500) and the Planning Commission Guidelines for Water Efficient Landscaping.
- (4) The information I have provided in this Certificate of Landscape Design is true and correct and is hereby submitted in compliance with the City of West Covina Guidelines for Water Efficient Landscaping and the Water Efficient Landscaping Ordinance.

This form shall be included with the Landscape Review Application for Landscape and Irrigation Plan Check.

Print Name

Date

Signature

License Number

Address

Telephone

E-mail Address

Landscape Design Professional's Stamp
(If applicable)

Appendix E

LANDSCAPE INSTALLATION CERTIFICATE OF COMPLETION

I hereby certify that:

(1) I am a landscape architect licensed in the State of California to provide professional landscape design services.

(2) The landscape project for the property located at _____
_____ (provide street address or parcel number(s)) was installed by me or under my supervision.

(3) The landscaping for the identified property has been installed in substantial conformance with the approved Landscape Documentation Package and complies with the requirements of the City of West Covina Water Efficient Landscape Ordinance (Municipal Code Sections 26-750.1000 through 26-750.1500) and the Planning Commission Guidelines for Water Efficient Landscaping.

(4) The information I have provided in this Landscape Installation Certificate of Completion is true and correct and is hereby submitted in compliance with the City of West Covina Guidelines for Water Efficient Landscaping and the Water Efficient Landscaping Ordinance.

Print Name

Date

Signature

License Number

Address

Telephone

E-mail Address

Landscape Design Professional's Stamp
(If Appropriate)

CITY OF WEST COVINA
PLANNING DEPARTMENT

Instructions for Filing a Landscape Review Application

The following must be submitted before the Planning Department can review the project:

1. Application, including description of proposal: 1 copy
2. Landscape Plan: 3 prints required at time application is submitted. Please fold prints to maximum size of 8½" x 13" (*additional prints, also folded, may be required at a later time.*)
3. Filing Fee: Deposit of \$650.00 (\$140.00 filing fee plus \$104.00 per hour consultant fee)

Explanation Of Items 1 Through 4

1. Application and Description Of Proposal

Fill out the enclosed form. The Description of Proposal (item III on application form) should include the objective and/or underlying theme of the proposal, the way in which the individual components of the plan achieve the stated objective/theme, and how this proposal relates to the planned and/or existing hardscape and structures on the site.

2. Landscape Plan

Landscape and irrigation plans in conformance with the Planning Commission Guidelines for Water Efficient Landscaping.

3. Filing Fee

Deposit of \$650.00 (\$140.00 filing fee plus \$104.00 per hour consultant fee)

Application

Landscape Plan No. _____

(in conjunction with case no. _____)

I. APPLICANT INFORMATION

Applicant: _____

address: _____

phone _____ fax _____ pager/cell _____

e-mail _____

Project Coordinator: _____ Title: _____

address: _____

phone _____ fax _____ pager/cell _____

e-mail _____

Landscape Architect: _____

address: _____

phone _____ fax _____ pager/cell _____

e-mail _____

Federal Express Account No.: _____ (All mailing/shipping of plans to consultant, City Hall and applicant will be billed to the above account. United States Postal Service will be used if expedited shipper is not specified)

(Alternate shipper and account number: _____)

II. PROPERTY INFORMATION

Location (address, including zip code) _____

_____ Site currently zoned as: _____

This plan does/does not include a request for a Tree Removal Permit.

III. DESCRIPTION OF PROPOSAL (type on letterhead, and attach to this form)

IV. Applicant's Signature: _____

Applicant's Printed Name: _____ Date: _____

Occupant's Permission To Enter And Investigate Site

City of West Covina
Planning Department
1444 West Garvey Avenue
West Covina, CA 91790

I, _____, as _____
(owner or lessee)

and occupant of the property located at _____

do hereby authorize representatives of the City of West Covina to enter upon the above-mentioned property for inspection purposes and to obtain photographs of the subject property to process and approve Landscape Plan application number _____. This authorization terminates upon the final decision on the case, made either by the Planning Department, Planning Commission, or City Council of the City of West Covina.

I do / do not have a dog on the premises.
(circle one)

Signature

Date

To be filled out by occupant (owner or lessee)

Deposit Agreement

Landscape Plan No. _____

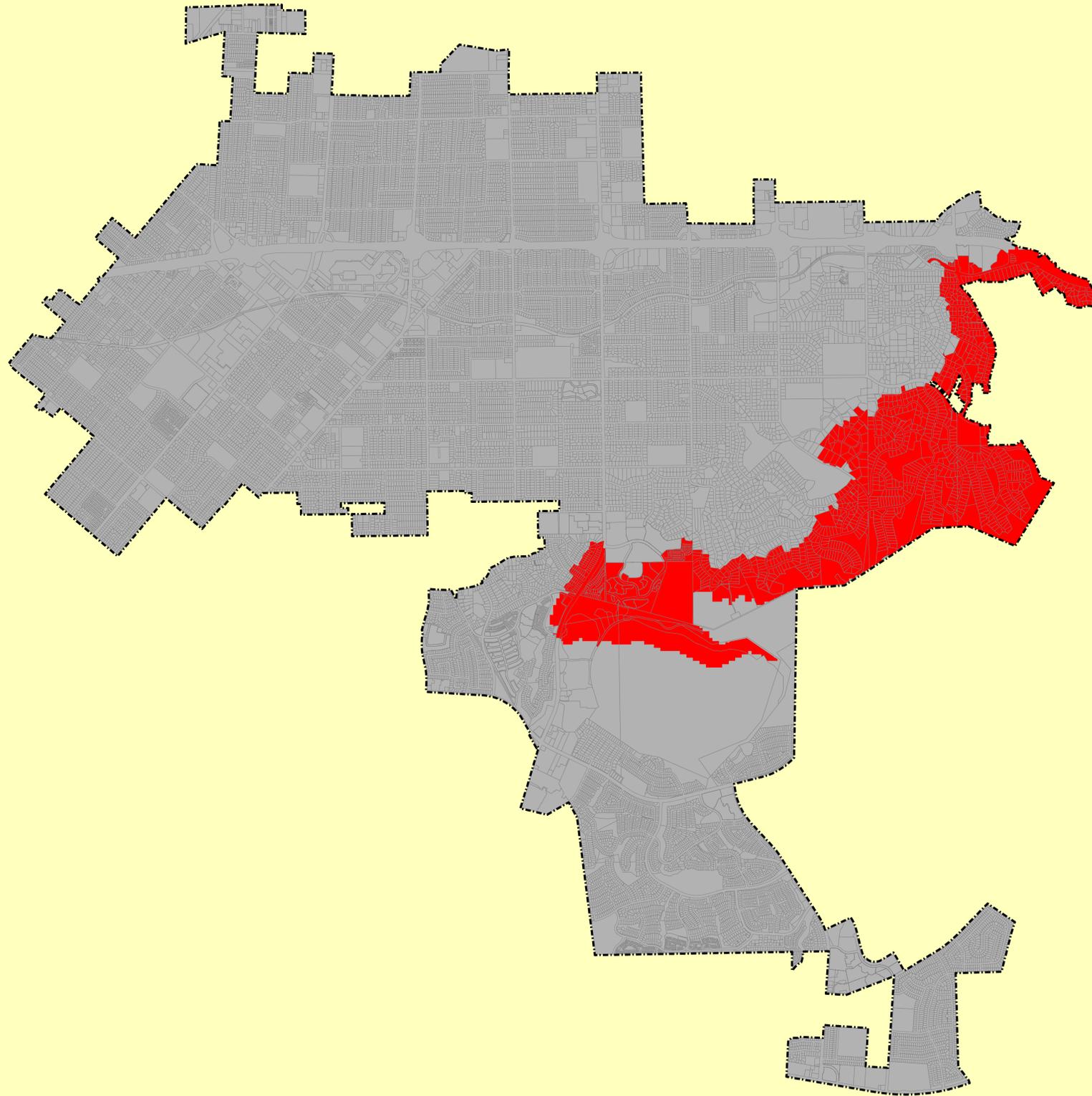
This is to certify that I, _____
(applicant)

understand that the \$650.00 deposited at the time of the filing of this application is to be used to cover the \$140.00 filing fee, additional consultant fees at the rate of \$104.00 per hour, and City Attorney time at current rates. Should my deposit be depleted at any time prior to the completion of the process, the process will be suspended until additional deposits, the amount of which shall be determined by the Planning Department, are made. Failure to provide additional funds within ten (10) days after notification of depletion shall be cause for withdrawal of this application. I also understand that prior to the issuance of any future building permit(s) associated with this application, all fees must be collected and deposit accounts settled.

Signed: _____

Date: _____

Very High Fire Hazard Severity Zones in LRA As Recommended by CAL FIRE



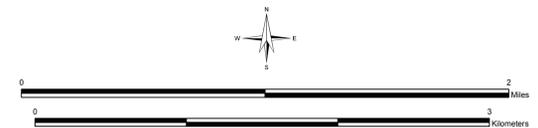
Fire Hazard Severity Zones	
Local Responsibility Area	State or Federal Responsibility Areas
VHFHSZ	VHFHSZ
Non-VHFHSZ	Non-VHFHSZ
City Boundary	
Parcels	
County Boundary	

Government Code 51175-89 directs the California Department of Forestry and Fire Protection (CAL FIRE) to identify areas of very high fire hazard severity zones within Local Responsibility Areas (LRA). Mapping of the areas, referred to as Very High Fire Hazard Severity Zones (VHFHSZ), is based on data and models of potential fuels over a 30-50 year time horizon and their associated expected fire behavior, and expected burn probabilities to quantify the likelihood and nature of vegetation fire exposure (including firebrands) to buildings. Details on the project and specific modeling methodology can be found at <http://frap.cdf.ca.gov/projects/hazard/severity>. Local Responsibility Area VHFHSZ maps were initially developed in the mid-1990s and are now being updated based on improved science, mapping techniques, and data.

In late 2005 to be effective in 2008, the California Building Commission adopted California Building Code Chapter 7A requiring new buildings in VH FHSZs to use ignition resistant construction methods and materials. These new codes include provisions to improve the ignition resistance of buildings, especially from firebrands. The updated very high fire hazard severity zones will be used by building officials for new building permits in LRA. The updated zones will also be used to identify property whose owners must comply with natural hazards disclosure requirements at time of property sale and 100 foot defensible space clearance. It is likely that the fire hazard severity zones will be used for updates to the safety element of general plans.

This specific map is based on a geographic information system dataset that depicts final CAL FIRE recommendations for Very High FHSZs within the local jurisdiction. The process of finalizing these boundaries involved an extensive local review process, the details of which are available at <http://frap.cdf.ca.gov/projects/hazard/severity> (click on "Continue as guest without logging in"). Local government has 100 days to designate, by ordinance, very high fire hazard severity zones within its jurisdiction after receiving the recommendation. Local government can add additional VHFHSZs. There is no requirement for local government to report their final action to CAL FIRE when the recommended zones are adopted. Consequently, users are directed to the appropriate local entity (county, city, fire department, or Fire Protection District) to determine the status of the local fire hazard severity zone ordinance.

This map was developed using data products such as parcel and city boundaries provided by local government agencies. In certain cases, this includes copyrighted geographic information. The maps are for display purposes only - questions and requests related to parcel or city boundary data should be directed to the appropriate local government entity.



California Teale Albers, NAD 1983
Scale 1: 18,000
at 36" x 36"
September 2011

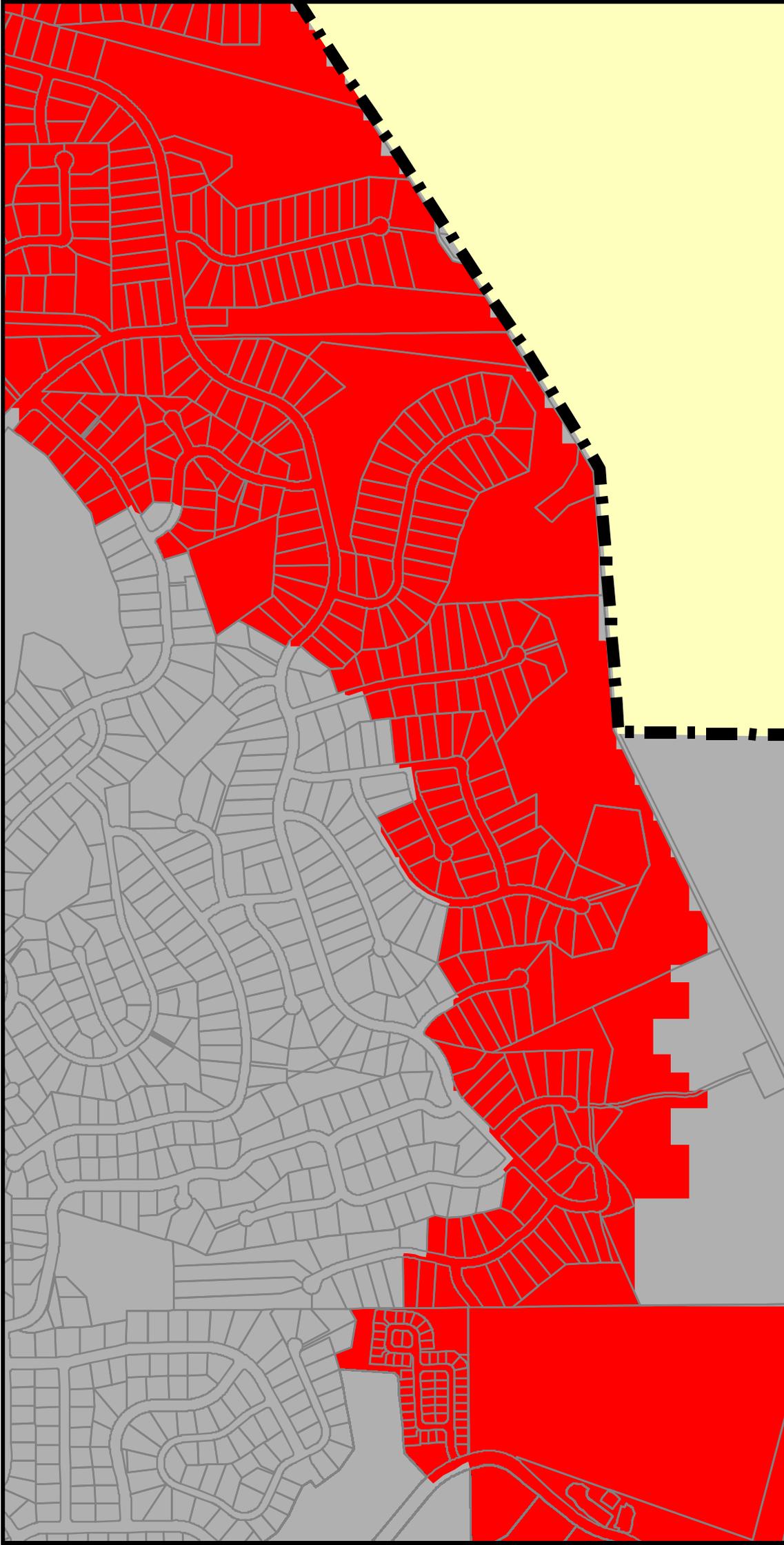
The State of California and the Department of Forestry and Fire Protection make no representations or warranties regarding the accuracy of data or maps. Neither the State nor the Department shall be liable under any circumstances for any direct, special, incidental, or consequential damages with respect to any claim by any user or third party on account of, or arising from, the use of data or maps.

Obtain FRAP maps, data, metadata and publications on the Internet at <http://frap.cdf.ca.gov>
For more information, contact CAL FIRE-FRAP, PO Box 944246, Sacramento, CA 94244-2460, (916) 327-3939.

Jerry Brown, Governor,
State of California
John Laird, Secretary for Resources,
The Natural Resources Agency
Ken Pimlott, Director,
Department of Forestry and Fire Protection

MAP ID: West_Covina

DATA SOURCES
CAL FIRE Fire Hazard Severity Zones (FHSZL06_1)
CAL FIRE Very High Fire Hazard Severity Zones in LRA - Los Angeles (c19fhsz106_5)



11-21-11

FLH-0435

IN-TRACT SLOPE LANDSCAPE & FUEL MODIFICATION PLANS

for

MAGNOLIA at SOUTH HILLS TRACTS 32324, 42169, & 47809 WEST COVINA, CALIFORNIA

TAYLOR MORRISON
8105 IRVINE CENTER DRIVE SUITE 1450
IRVINE, CALIFORNIA 92618
PH: 949-341-1200

PROJECT MANAGER: ANGELA MEYER

TITLE SHEET

IN-TRACT SLOPE AND FUEL MODIFICATION PLANS

MAGNOLIA at SOUTH HILLS
TRACTS 32324, 47809, 21425 & 33656 WEST COVINA, CALIFORNIA
TAYLOR MORRISON
8105 IRVINE CENTER DRIVE, SUITE 1450 IRVINE, CA 92618 (949) 341-1200

GENERAL NOTES

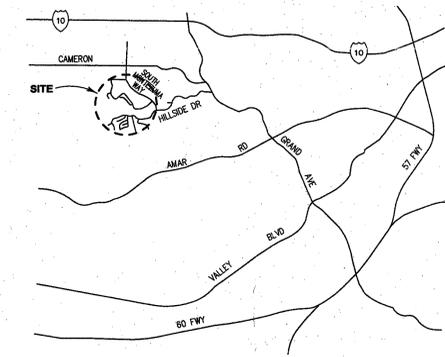
1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH CURRENT CITY OF WEST COVINA LANDSCAPE GUIDELINES AND ORDINANCES.
2. THE CONTRACTOR SHALL VERIFY LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO START OF WORK BY CALLING DIGALERT AT 1-800-227-2600.
3. ALL LANDSCAPE SHALL BE PERFORMED BY A CALIFORNIA LICENSED LANDSCAPE CONTRACTOR WITH A C-21 LICENSE OR GREATER.
4. THE CONTRACTOR / AND OR DEVELOPER SHALL CONTACT THE CITY OF WEST COVINA FOR A FINAL INSPECTION OF THE LANDSCAPE LANDSCAPE ONCE ALL WORK IS COMPLETE.
5. THE CONTRACTOR SHALL PROVIDE COPIES OF ALL SOIL AMENDMENT DELIVERY TICKETS TO THE CITY OF WEST COVINA INSPECTOR AT FINAL INSPECTION. (IF REQUIRED)
6. THE CONTRACTOR SHALL OBTAIN AND PAY FOR AN AGRONOMIC SOIL ANALYSIS REPORT AND SHALL INSTALL ALL AMENDMENTS AS PER RECOMMENDATIONS FROM THE SOILS REPORT.
7. ALL TREES IN TURF SHALL BE PLANTED WITH A MINIMUM 36" DIAMETER MULCH BASIN. INSTALL MULCH A MIN. OF 3" DEEP.
8. ALL TREES PLANTED WITHIN SIX (6) FEET OF PAVING AND/OR STRUCTURES SHALL BE PLANTED WITH AN 'APPROVED' LINEAR ROOT GUARD, 24" DEEP X 10' L.F. (MIN. .06 MM THICK) REFER TO DETAIL ON SHEET L-12.



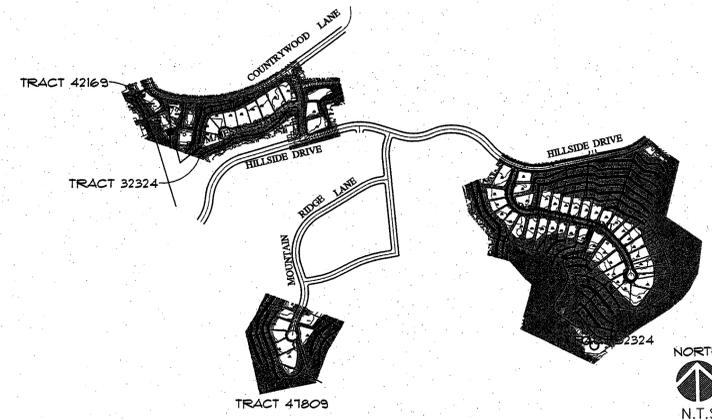
SHEET INDEX

- L-1 TITLE SHEET
- L-2 thru L-5 IRRIGATION PLANS
- L-6 thru L-9 PLANTING PLANS
- L-10 IRRIGATION DETAILS/PUMP SPECIFICATIONS
- L-11 IRRIGATION SPECIFICATIONS
- L-12 PLANTING DETAILS & SPECIFICATIONS

VICINITY MAP



LOCATION MAP



West Covina Fire Prevention Bureau
Approval (Conditional)
This certifies that these plans or specifications have been checked for substantial compliance with the applicable codes, laws, and regulations. This approval shall not be construed as granting violation of any applicable code, law, or regulation and shall not prevent the Fire Official from requiring the correction of errors in said plans or specifications thereafter.
Certified by: [Signature] Date: 12/1/14



FRANK RADMACHER ASSOCIATES, INC.
Landscape Architects
1641 York Street, Suite 204, Tustin, CA 92780
PHONE: (714) 832-1774 FAX: (714) 832-5771
EMAIL: FRANK@FRANKRADMACHER.COM

NO.	REVISIONS	BY	DATE

DRAWING SET REVISION DATE:

SCALE: NONE
DATE: 11/29/2014
JOB NO. 3096
DRAWN BY: JLF
CHECK: [Signature]

SHEET
L-1
OF 12

\\frank\3000\3096\3096 Magnolia at South Hills - Taylor Morrison\3096 Slope L-1 Title Sheet.dwg, 11/29/2014 11:48:51 AM, REC0240W 20 inch, x3, W

BOOSTER PUMP NOTE:

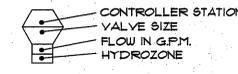
PUMP REQUIRED ON LOT 102 OF THIS SHEET.
SEE SHEET L10, DETAILS Q & R. VERIFY WITH PUMP
MANUFACTURER EQUIPMENT TYPE, SIZE AND SPECIFICATIONS.

IRRIGATION LEGEND

SYMBOL	F H T Q	MANUFACTURER/MODEL NO.	DESCRIPTION	PSI	RAD.	PRECIP IN/HR	GPM	DETAIL REF.
⊙	⊙	⊙	TORO T5-S-8.0/4.0/3.0/2.0-CK	35	36'-43"	0.49	71,355,2,61,8	L
⊙	⊙	⊙	TORO T5-HP-8.0/4.0/3.0/2.0-CK	35	36'-43"	0.49	71,355,2,61,8	K
⊙	⊙	⊙	TORO 316/308/306/304-10-15-COM	35	15'-26"	0.95	5,76,2,88,2,16,1,44	L
⊙	⊙	⊙	TORO 316/308/306/304-12-15-COM	35	15'-26"	0.95	5,76,2,88,2,16,1,44	K
⊙	⊙	⊙	TORO 570Z-12P-COM w/TORO-OT-15 12" SHRUB POP-UP	30	15'	1.00	2,31,1,16,0,77,0,58	K
⊙	⊙	⊙	TORO 570Z-12P-COM w/TORO-OT-12 12" SHRUB POP-UP	30	12'	1.00	1,48,0,74,0,49,0,37	K
⊙	⊙	⊙	TORO 570Z-12P-COM w/TORO-OT-10 12" SHRUB POP-UP	30	10'	1.00	1,03,0,51,0,34,0,23	K
⊙	⊙	⊙	TORO 570Z-12P-COM w/TORO-OT-8 12" SHRUB POP-UP	30	8'	1.00	0,66,0,33,0,22,0,17	K
⊠			BARRETT ENGINEERED IRRIGATION BOOSTER PUMP. SEE DETAIL AND SPECIFICATIONS.					Q/R
⊠			NIBCO T-580 BRASS BALL VALVE OR EQUAL - LINE SIZE, INSTALL IN ROUND BOX.					C
⊠			CHAMPION #362 ATMOSPHERIC VACUUM BREAKER. INPUT LINE SIZE. INSTALL PER CODE ON SLOPE					E
⊠			HUNTER PGV-101-GS ELECTRIC ANGLE VALVE w/FLOW CONTROL FOR USE w/ATMOSPHERIC VACUUM BREAKER ON SLOPES. INSTALL PER LOCAL CODES. SIZES NOTED.					D
⊠			HUNTER PGV-ASV-CG ELECTRIC CONTROL VALVE w/ANTI-SIPHON/FLOW CONTROL. INSTALL 4' ABOVE HIGHEST HEAD. SIZES NOTED.					D
⊠			HUNTER PRO-C w/VSS. INDOOR & OUTDOOR MODULAR CONTROLLER WALL MOUNT IN GARAGE. 6-15 STATION TYPICAL. PROGRAM AND INSTALL WITH HUNTER WIRELESS SOLAR SYNC FOR SMART CONTROLLER.					H
⊠			HUNTER WIRELESS SOLAR SYNC WEATHER SENSOR w/AUTO RAIN & FREEZE SHUT OFF. MOUNT PER INSTRUCTIONS IN FULL SUN. MOUNT RECEIVER ON OUTSIDE. PROGRAM FOR PEAK JULY. CONTACT HUNTER REP. DAN KAMENECI @ 949-525-0035 FOR MOUNTING ADVICE & QUESTIONS.					J
⊠			IRRIGATION POINT OF CONNECTION AT WATER SUPPLY LINE TO BUILDING UPSTREAM OF BUILDING BACKFLOW AND PRESSURE REGULATOR. CONTRACTOR SHALL VERIFY EXACT LOCATION ON SITE. STATIC WATER PRESSURE VARIES, VERIFY PRESSURE IN FIELD PRIOR TO START OF CONSTRUCTION. IF STATIC PRESSURE AT POINT OF CONNECTION EXCEEDS 65 PSI INSTALL WILKINS #510 PRESSURE REGULATOR. CONTACT LANDSCAPE ARCHITECT IF PRESSURE IS DIFFERENT THAN NOTED. BOOSTER PUMPS WILL BE REQUIRED ON LOTS 30 & 31, 93-102. SEE PLAN.					G
⊠			PRESSURE MAIN LINE PIPING-USE PVC SCH. 40 FOR 1.5" AND SMALLER, USE CLASS 315 FOR 2" AND LARGER. SIZES NOTED.					G
⊠			NON-PRESSURE LATERAL LINE PIPING-USE CLASS 200 BURRY MINIMUM 12" DEEP.					G
⊠			LATERAL NON-PRESSURE LINE PVC SCH 40 BROWNLINE TO BE INSTALLED ON-GRADE WITH 24" REBAR					G
⊠			1" HOOKS @ MIN. 10' O.C. MIN. SECURED INTO SLOPE. SIZES NOTED					F
⊠			SCH. 40 PVC IRRIGATION SLEEVE UNDER PAVEMENT / SIZE 2 X PIPE OR WIRE BUNDLE, BURY MIN. 24" DEEP UNDER PAVEMENT, EXTEND 12" PAST EDGE OF PAVING - TYPICAL					F
⊠			NOTE: ALSO INDICATES V-DITCH CROSSINGS. SEE PLAN - TYPICAL					F

HYDROZONE LEGEND

ZONE NO./DESCRIPTION	WUCOLS
HYDROZONE #1 TOP SLOPE/SPRAY	MEDIUM-LOW
HYDROZONE #2 MID SLOPE/SPRAY	MEDIUM-LOW
HYDROZONE #3 TOP SLOPE/ROTOR	MEDIUM-LOW
HYDROZONE #4 MID SLOPE/ROTOR	MEDIUM-LOW
HYDROZONE #5 TOE SLOPE/ROTOR	MEDIUM-LOW



HIGHEST ELEVATION

WORST CONDITION PRESSURE LOSS CALC. LOT #102 VALVE NO. C-12 @ 11.5 GPM

1" WATER METER (ELEV. 1041')	0.9
BALL VALVE	1.0
ANTI-SIPHON VALVE 1 1/4"	1.0
REMOTE CONTROL VALVE 1"	1.7
175 L.F. 1 1/4" MAINLINE	1.9
LATERAL LINE	1.5
FITTINGS (20% LOSS)	0.4
ELEVATION (HIGHEST HEAD 1095')	23.4
TOTAL SYSTEM LOSSES	31.8
PRESSURE REQUIRED @ HEAD	35.0
TOTAL PRESSURE REQUIRED	66.8

HGE 1220'
METER ELEV. 932'
EXISTING STATIC PRESS. AT P.O.C. 77.4 PSI
RESIDUAL WATER PRESSURE 10.8 PSI

LARGEST DEMAND / HIGHEST ELEVATION

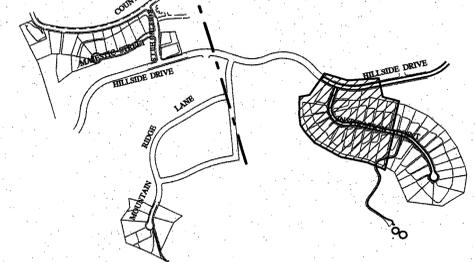
WORST CONDITION PRESSURE LOSS CALC. LOT #103 VALVE NO. C-6 @ 21.6 GPM

1" WATER METER (ELEV. 1028.4')	2.8
BALL VALVE	1.0
ANTI-SIPHON VALVE 1 1/4"	1.0
REMOTE CONTROL VALVE 1"	3.4
135 L.F. 1 1/4" MAINLINE	3.9
LATERAL LINE	1.5
FITTINGS (20% LOSS)	0.8
ELEVATION (HIGHEST HEAD 1060')	13.7
TOTAL SYSTEM LOSSES	28.1
PRESSURE REQUIRED @ HEAD	35.0
TOTAL PRESSURE REQUIRED	63.1

HGE 1220'
METER ELEV. 1028.4'
EXISTING STATIC PRESS. AT P.O.C. 82.7 PSI
RESIDUAL WATER PRESSURE 19.6 PSI

AT V-DITCH CROSSINGS
INSTALL PIPE IN GALVANIZED
STEEL SLEEVE SECURED WITH
VINYL COVERED "J" HOOKS, TYP.

AT V-DITCH CROSSINGS
INSTALL PIPE IN GALVANIZED
STEEL SLEEVE SECURED WITH
VINYL COVERED "J" HOOKS, TYP.



IRRIGATION PLAN

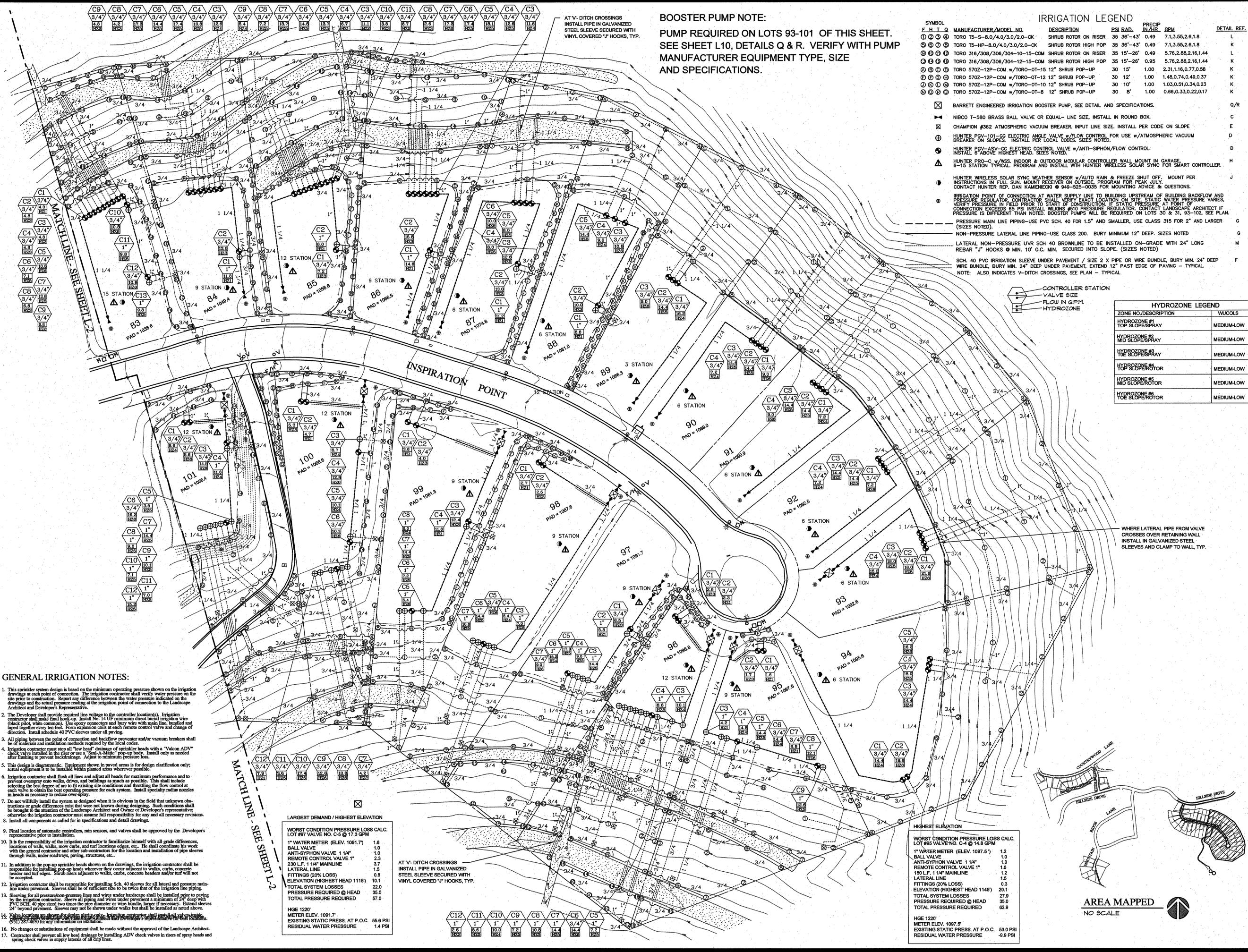
MAGNOLIA at SOUTH HILLS
TRACTS 32324, 42169, 47809 WEST COVINA, CA
TAYLOR MORRISON
8105 IRVINE CENTER DRIVE, SUITE 1450, IRVINE, CA 92618 (949) 341-1200



FRANK RADMACHER ASSOCIATES, INC.
Landscape Architects
PHONE (714) 833-1774 FAX (714) 833-2711
1481 Yorba Street, Suite 204, Tustin, CA 92780
EMAIL: FRANK@FRANKINC.NET

NO.	REVISIONS	DATE
1	SCALE: 1" = 30'	DATE: 11/9/2014
2	JOB NO. 3006	DRAWN: TK
3	CHECK: TK	

I:\vtdm\32003\3086 Magnolia at South Hills - Taylor Morrison\3086 Slope L2-L5 Irrigation plan.dwg, 11/09/2014 8:26:51 AM, RCD\CDM\30 In\p33_VV



BOOSTER PUMP NOTE:
PUMP REQUIRED ON LOTS 93-101 OF THIS SHEET.
SEE SHEET L10, DETAILS Q & R. VERIFY WITH PUMP
MANUFACTURER EQUIPMENT TYPE, SIZE
AND SPECIFICATIONS.

IRRIGATION LEGEND

SYMBOL	MANUFACTURER/MODEL NO.	DESCRIPTION	ESI RAD.	PRECIP	DETAIL REF.
⊙	TORO T5-S-8.0/4.0/3.0/2.0-CK	SHRUB ROTOR ON RISER	35' 36"-43'	0.49	L
⊙	TORO T5-HP-8.0/4.0/3.0/2.0-CK	SHRUB ROTOR HIGH POP	35' 36"-43'	0.49	L
⊙	TORO T316/308/306/304-10-15-COM	SHRUB ROTOR ON RISER	35' 15"-26'	0.49	K
⊙	TORO T316/308/306/304-12-15-COM	SHRUB ROTOR HIGH POP	35' 15"-26'	0.95	K
⊙	TORO 570Z-12P-COM w/TORO-OT-15 12"	SHRUB POP-UP	30' 15"	1.00	K
⊙	TORO 570Z-12P-COM w/TORO-OT-12 12"	SHRUB POP-UP	30' 12"	1.00	K
⊙	TORO 570Z-12P-COM w/TORO-OT-10 12"	SHRUB POP-UP	30' 10"	1.00	K
⊙	TORO 570Z-12P-COM w/TORO-OT-8 12"	SHRUB POP-UP	30' 8"	1.00	K

- ⊗ BARRETT ENGINEERED IRRIGATION BOOSTER PUMP. SEE DETAIL AND SPECIFICATIONS.
- ⊗ NIBCO T-580 BRASS BALL VALVE OR EQUAL- LINE SIZE, INSTALL IN ROUND BOX.
- ⊗ CHAMPION #362 ATMOSPHERIC VACUUM BREAKER. INPUT LINE SIZE. INSTALL PER CODE ON SLOPE.
- ⊗ HUNTER PGV-101-GG ELECTRIC ANGLE VALVE w/FLOW CONTROL FOR USE w/ATMOSPHERIC VACUUM BREAKER ON SLOPES. INSTALL PER LOCAL CODES. SIZES NOTED.
- ⊗ HUNTER PGV-ASV-CC ELECTRIC CONTROL VALVE w/ANTI-SIPHON/FLOW CONTROL. INSTALL 6" ABOVE HIGHEST HEAD. SIZES NOTED.
- ⊗ HUNTER PRO-C w/WMS. INDOOR & OUTDOOR MODULAR CONTROLLER WALL MOUNT IN GARAGE. 6-15 STATION TYPICAL. PROGRAM AND INSTALL WITH HUNTER WIRELESS SOLAR SYNC FOR SMART CONTROLLER.
- ⊗ HUNTER WIRELESS SOLAR SYNC WEATHER SENSOR w/AUTO RAIN & FREEZE SHUT OFF. MOUNT PER INSTRUCTIONS IN FULL SUN. MOUNT RECEIVER ON OUTSIDE. PROGRAM FOR PEAK JULY. CONTACT HUNTER REP. DAN KAMIECKI @ 949-525-0035 FOR MOUNTING ADVICE & QUESTIONS.
- ⊗ IRRIGATION POINT OF CONNECTION AT WATER SUPPLY LINE TO BUILDING BACKFLOW AND PRESSURE REGULATOR. CONTRACTOR SHALL VERIFY EXACT LOCATION ON SITE. STATIC PRESSURE VARIES. VERIFY PRESSURE IN FIELD PRIOR TO START OF CONSTRUCTION. IF STATIC PRESSURE AT POINT OF CONNECTION EXCEEDS 65 PSI INSTALL WILKINS #610 PRESSURE REGULATOR. CONTACT LANDSCAPE ARCHITECT IF PRESSURE IS DIFFERENT THAN NOTED. BOOSTER PUMPS WILL BE REQUIRED ON LOTS 30 & 31, 93-102. SEE PLAN.
- ⊗ PRESSURE MAIN LINE PIPING-USE PVC SCH. 40 FOR 1.5" AND SMALLER, USE CLASS 315 FOR 2" AND LARGER (SIZES NOTED).
- ⊗ NON-PRESSURE LATERAL LINE PIPING-USE CLASS 200. BURY MINIMUM 12" DEEP. SIZES NOTED.
- ⊗ LATERAL NON-PRESSURE UVR SCH 40 BROWNLINE TO BE INSTALLED ON-GRADE WITH 24" LONG REBAR "J" HOOKS @ MIN. 10' O.C. MIN. SECURED INTO SLOPE. (SIZES NOTED)
- ⊗ SCH. 40 PVC IRRIGATION SLEEVE UNDER PAVEMENT / SIZE 2 X PIPE OR WIRE BUNDLE, BURY MIN. 24" DEEP WIRE BUNDLE, BURY MIN. 24" DEEP UNDER PAVEMENT, EXTEND 12" PAST EDGE OF PAVING - TYPICAL. NOTE: ALSO INDICATES V-DITCH CROSSINGS, SEE PLAN - TYPICAL.

HYDROZONE LEGEND

ZONE NO./DESCRIPTION	WUCOLS
HYDROZONE #1 TOP SLOPES/SPRAY	MEDIUM-LOW
HYDROZONE #2 MID SLOPES/SPRAY	MEDIUM-LOW
HYDROZONE #3 SLOPES/SPRAY	MEDIUM-LOW
HYDROZONE #4 SLOPES/ROTOR	MEDIUM-LOW
HYDROZONE #5 MID SLOPES/ROTOR	MEDIUM-LOW
HYDROZONE #6 TOE SLOPES/ROTOR	MEDIUM-LOW

GENERAL IRRIGATION NOTES:

1. This sprinkler system design is based on the minimum operating pressure shown on the irrigation drawings at each point of connection. The irrigation contractor shall verify water pressure on the site prior to construction. Report any difference between the water pressure indicated on the drawings and the actual pressure reading at the irrigation point of connection to the Landscape Architect and Developer's Representative.
2. The Developer shall provide required line voltage to the controller location(s). Irrigation contractor shall make final hook-up. Install No. 14 UF minimum direct burial irrigation wire (black pilot, white common). Use epoxy connectors and bury wire with main line, bundled and taped together every ten feet. Form expansion coils at each remote control valve and change of direction. Install schedule 40 PVC sleeves under all paving.
3. All piping between the point of connection and backflow preventer and/or vacuum breakers shall be of materials and installation methods required by the local codes.
4. Irrigation contractor must stop all "low head" drainage of sprinkler heads with a "Valcon ADV" check valve installed in the riser or use a "Seal-A-Matic" pop-up body. Install only as needed after flushing to prevent backdrainage. Adjust to minimum pressure loss.
5. This design is diagrammatic. Equipment shown in paved areas is for design clarification only; actual equipment to be installed within planted areas wherever possible.
6. Irrigation contractor shall flush all lines and adjust all heads for maximum performance and to prevent overspray onto walks, drives, and buildings as much as possible. This shall include selecting the best degree of arc to fit existing site conditions and throttling the flow control at each valve to obtain the best operating pressure for each system. Install specialty radius nozzles in heads as necessary to reduce over-spray.
7. Do not willfully install the system as designed when it is obvious in the field that unknown obstructions or grade differences exist that were not known during designing. Such conditions shall be brought to the attention of the Landscape Architect and Owner or Developer's representative; otherwise the irrigation contractor must assume full responsibility for any and all necessary revisions.
8. Install all components as called for in specifications and detail drawings.
9. Final location of automatic controllers, rain sensors, and valves shall be approved by the Developer's representative prior to installation.
10. It is the responsibility of the irrigation contractor to familiarize himself with all grade differences, locations of walls, walks, mow curbs, and turf locations edges, etc. He shall coordinate his work with the general contractor and other sub-contractors for the location and installation of pipe sleeves through walls, under roadways, paving, structures, etc.
11. In addition to the pop-up sprinkler heads shown on the drawings, the irrigation contractor shall be responsible for installing pop-up heads wherever they occur adjacent to walks, curbs, concrete header and turf edges. Similar risers adjacent to walks, curbs, concrete headers and/or turf will not be accepted.
12. Irrigation contractor shall be responsible for installing Sch. 40 sleeves for all lateral and pressure main-line under pavement. Sleeves shall be of sufficient size to be twice that of the irrigation line piping.
13. Sleeving for all pressure/non-pressure lines and wires under hardwood shall be installed prior to paving by the irrigation contractor. Sleeve all piping and wires under pavement a minimum of 24" deep with PVC SCH. 40 pipe sized two times the pipe diameter or wire bundle, longer if necessary. Extended sleeves 24" beyond pavement. Sleeves may not be shown under walks but shall be installed as noted above.
14. Valve locations are shown for design clarity only. Irrigation contractor shall install all valves inside buildings. Contact the Landscape Architect and Developer's representative for exact locations. (951) 287-4290 for any information on installation.
15. No changes or substitutions of equipment shall be made without the approval of the Landscape Architect.
17. Contractor shall prevent all low head drainage by installing ADV check valves in risers of spray heads and spring check valves in supply laterals of all drip lines.

LARGEST DEMAND / HIGHEST ELEVATION

WORST CONDITION PRESSURE LOSS CALC. LOT #97 VALVE NO. C-6 @ 17.3 GPM	
1" WATER METER (ELEV. 1091.7)	1.6
BALL VALVE	1.0
ANTI-SYPHON VALVE 1 1/4"	1.0
REMOTE CONTROL VALVE 1"	2.3
230 LF. 1 1/4" MAINLINE	3.7
LATERAL LINE	1.5
FITTINGS (20% LOSS)	0.8
ELEVATION (HIGHEST HEAD 1115')	10.1
TOTAL SYSTEM LOSSES	22.0
PRESSURE REQUIRED @ HEAD	35.0
TOTAL PRESSURE REQUIRED	57.0

HIGHEST ELEVATION

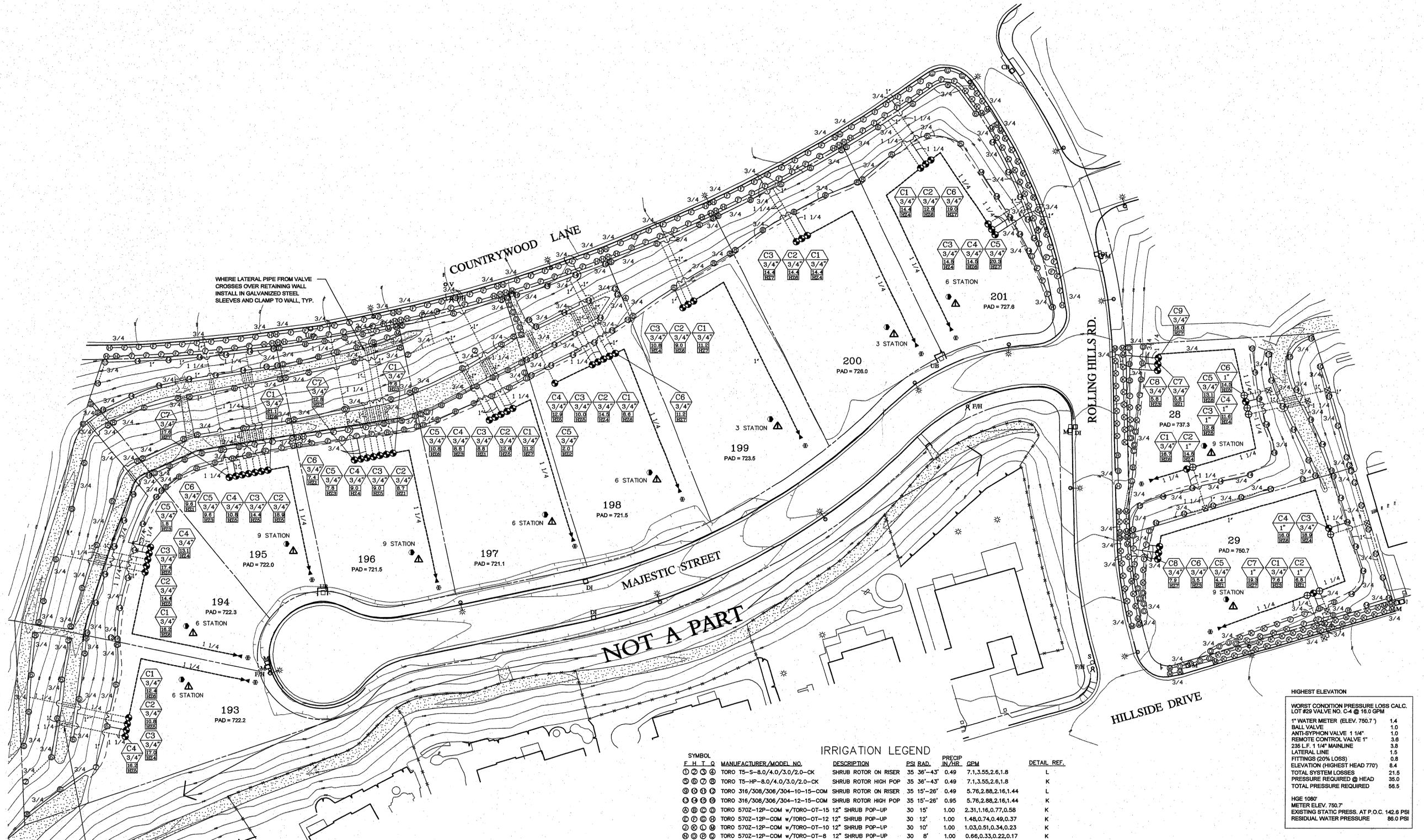
WORST CONDITION PRESSURE LOSS CALC. LOT #95 VALVE NO. C-4 @ 14.8 GPM	
1" WATER METER (ELEV. 1097.5)	1.2
BALL VALVE	1.0
ANTI-SYPHON VALVE 1 1/4"	1.0
REMOTE CONTROL VALVE 1"	1.6
150 LF. 1 1/4" MAINLINE	1.2
LATERAL LINE	1.5
FITTINGS (20% LOSS)	0.3
ELEVATION (HIGHEST HEAD 1145')	20.1
TOTAL SYSTEM LOSSES	27.9
PRESSURE REQUIRED @ HEAD	35.0
TOTAL PRESSURE REQUIRED	62.9

AREA MAPPED
NO SCALE

AT V-DITCH CROSSINGS
INSTALL PIPE IN GALVANIZED
STEEL SLEEVE SECURED WITH
VINYL COVERED "J" HOOKS, TYP.

WHERE LATERAL PIPE FROM VALVE
CROSSES OVER RETAINING WALL
INSTALL IN GALVANIZED STEEL
SLEEVES AND CLAMP TO WALL, TYP.

MAGNOLIA at SOUTH HILLS
 TRACTS 32324, 42169, 47809 WEST COVINA, CA
 TAYLOR MORRISON
 8105 IRVINE CENTER DRIVE, IRVINE, CA 92618 (949) 341-1200



WHERE LATERAL PIPE FROM VALVE
 CROSSES OVER RETAINING WALL,
 INSTALL IN GALVANIZED STEEL
 SLEEVES AND CLAMP TO WALL, TYP.

AT V-DITCH CROSSINGS
 INSTALL PIPE IN GALVANIZED
 STEEL SLEEVE SECURED WITH
 VINYL COVERED "J" HOOKS, TYP.

NOT A PART

IRRIGATION LEGEND

SYMBOL	F H T Q	MANUFACTURER/MODEL NO.	DESCRIPTION	PSI	RAD.	PRECIP IN/HR	GPM	DETAIL REF.
⊗	⊗	TORO T5-S-8.0/4.0/3.0/2.0-CK	SHRUB ROTOR ON RISER	35	36'-43"	0.49	7.1,3.55,2.6,1.8	L
⊗	⊗	TORO T5-HP-8.0/4.0/3.0/2.0-CK	SHRUB ROTOR HIGH POP	35	36'-43"	0.49	7.1,3.55,2.6,1.8	K
⊗	⊗	TORO 316/308/306/304-10-15-COM	SHRUB ROTOR ON RISER	35	15'-26"	0.49	5.76,2.88,2.16,1.44	L
⊗	⊗	TORO 316/308/306/304-12-15-COM	SHRUB ROTOR HIGH POP	35	15'-26"	0.95	5.76,2.88,2.16,1.44	K
⊗	⊗	TORO 570Z-12P-COM w/TORO-OT-15 12" SHRUB POP-UP	SHRUB POP-UP	30	15'	1.00	2.31,1.16,0.77,0.58	K
⊗	⊗	TORO 570Z-12P-COM w/TORO-OT-12 12" SHRUB POP-UP	SHRUB POP-UP	30	12'	1.00	1.48,0.74,0.49,0.37	K
⊗	⊗	TORO 570Z-12P-COM w/TORO-OT-10 12" SHRUB POP-UP	SHRUB POP-UP	30	10'	1.00	1.03,0.51,0.34,0.23	K
⊗	⊗	TORO 570Z-12P-COM w/TORO-OT-8 12" SHRUB POP-UP	SHRUB POP-UP	30	8'	1.00	0.66,0.33,0.22,0.17	K

- ⊗ BARRETT ENGINEERED IRRIGATION BOOSTER PUMP, SEE DETAIL AND SPECIFICATIONS. Q/R
 - ⊗ NIBCO T-580 BRASS BALL VALVE OR EQUAL - LINE SIZE, INSTALL IN RING BOX. C
 - ⊗ CHAMPION #382 ATMOSPHERIC VACUUM BREAKER, INPUT LINE SIZE, INSTALL PER CODE ON SLOPE. E
 - ⊗ HUNTER P0V-101-GG ELECTRIC ANGLE VALVE w/FLOW CONTROL FOR USE w/ATMOSPHERIC VACUUM BREAKER ON SLOPES. INSTALL PER LOCAL CODES, SIZES NOTED. D
 - ⊗ HUNTER P0V-ASV-CG ELECTRIC CONTROL VALVE w/ANTI-SIPHON/FLOW CONTROL. D
 - ⊗ HUNTER P0C-C w/WSS, INDOOR & OUTDOOR MODULAR CONTROLLER WALL MOUNT IN GARAGE, 6-15 STATION TYPICAL. PROGRAM AND INSTALL WITH HUNTER WIRELESS SOLAR SYNC FOR SMART CONTROLLER. H
 - ⊗ HUNTER WIRELESS SOLAR SYNC WEATHER SENSOR w/AUTO RAIN & FREEZE SHUT OFF. MOUNT PER INSTRUCTIONS IN FULL SUN. MOUNT RECEIVER ON OUTSIDE. PROGRAM FOR PEAK JULY. CONTACT HUNTER REP. DAN KAMENIECKI @ 949-525-0035 FOR MOUNTING ADVICE & QUESTIONS. J
 - ⊗ IRRIGATION POINT OF CONNECTION AT WATER SUPPLY LINE TO BUILDING UPSTREAM OF BUILDING BACKFLOW AND PRESSURE REGULATOR. CONTRACTOR SHALL VERIFY EXACT LOCATION ON SITE. STATIC WATER PRESSURE VARIES. VERIFY PRESSURE IN FIELD PRIOR TO START OF CONSTRUCTION. IF STATIC PRESSURE AT POINT OF CONNECTION EXCEEDS 65 PSI INSTALL WILKINS #510 PRESSURE REGULATOR. CONTACT LANDSCAPE ARCHITECT IF PRESSURE IS DIFFERENT THAN NOTED. BOOSTER PUMPS WILL BE REQUIRED ON LOTS 30 & 31. 03-102. SEE PLAN. G
 - PRESSURE MAIN LINE PIPING-USE PVC SCH. 40 FOR 1.5" AND SMALLER, USE CLASS 315 FOR 2" AND LARGER, SIZES NOTED. G
 - NON-PRESSURE LATERAL LINE PIPING-USE CLASS 200 BURY MINIMUM 12" DEEP. G
 - LATERAL NON-PRESSURE UVR SCH 40 BROWNLINER TO BE INSTALLED ON-GRADE WITH 24" REBAR "J" HOOKS @ MIN. 10' O.C. MIN. SECURED INTO SLOPE. SIZES NOTED. M
 - SCH. 40 PVC IRRIGATION SLEEVE UNDER PAVEMENT / SIZE 2" PIPE OR WIRE BUNDLE, BURY MIN. 24" DEEP UNDER PAVEMENT, EXTEND 12" PAST EDGE OF PAVING - TYPICAL. F
- NOTE: ALSO INDICATES V-DITCH CROSSINGS, SEE PLAN - TYPICAL

HYDROZONE LEGEND

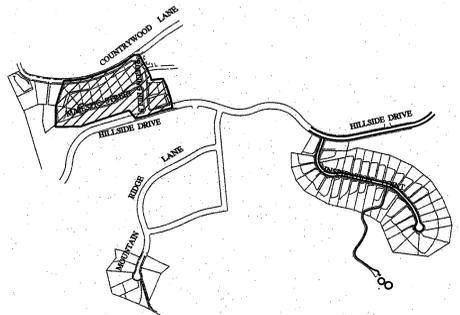
ZONE NO./DESCRIPTION	WUCOLS
HYDROZONE #1 TOP SLOPE/SPRAY	MEDIUM-LOW
HYDROZONE #2 MID SLOPE/SPRAY	MEDIUM-LOW
HYDROZONE #3 MID SLOPE/SPRAY	MEDIUM-LOW
HYDROZONE #4 TOP SLOPE/ROTOR	MEDIUM-LOW
HYDROZONE #5 MID SLOPE/ROTOR	MEDIUM-LOW
HYDROZONE #6 TOP SLOPE/ROTOR	MEDIUM-LOW
HYDROZONE #7 SHRUB/SPRAY	MEDIUM-LOW

HIGHEST ELEVATION

WORST CONDITION PRESSURE LOSS CALC.
 LOT #29 VALVE NO. C-4 @ 18.0 GPM

1" WATER METER (ELEV. 750.7')	1.4
BALL VALVE	1.0
ANTI-SIPHON VALVE 1 1/4"	1.0
REMOTE CONTROL VALVE 1"	3.8
235 L.F. 1 1/4" MAINLINE	3.8
LATERAL LINE	1.5
FITTINGS (20% LOSS)	0.8
ELEVATION (HIGHEST HEAD 770')	8.4
TOTAL SYSTEM LOSSES	21.6
PRESSURE REQUIRED @ HEAD	35.0
TOTAL PRESSURE REQUIRED	56.5

HGE 1080'
 METER ELEV. 750.7'
 EXISTING STATIC PRESS. AT P.O.C. 142.6 PSI
 RESIDUAL WATER PRESSURE 86.0 PSI



AREA MAPPED
 NO SCALE

FRANK RADMACHER ASSOCIATES, INC.
 Landscape Architects
 15841 York Street, Suite 204, Tustin, CA 92780
 EMAIL: FRANK@FRANKRADMACHER.COM

BY DATE

NO.	REVISIONS	DATE

SCALE: 1" = 30'
 DATE: 11/9/2014
 JOB NO. 3096
 DRAWN: JK
 CHECK: AC

SHEET
L-4
 OF 12

PLANT LEGEND

TREES:	BOTANICAL NAME	COMMON NAME	SIZE / SPEC.
T1	JUGLANS CALIFORNICA	CALIFORNIA BLACK WALNUT	15 GALLON STANDARD
T2	QUERCUS AGRIFOLIA	COAST LIVE OAK	15 GALLON STANDARD
T3	RHAUS LANCEA	AFRICAN SUMAC	15 GALLON STANDARD
T4	GEUERA PARVIFLORA	AUSTRALIAN WILLOW	15 GALLON STANDARD
T5	MELALEUCA LINARIFOLIA	FLAX LEAF PAPERBARK	15 GALLON STANDARD
T6	TRANSANTHIA CONFERTA	BRISBANE BOX	15 GALLON STANDARD
T7	BRACHYCHITON POPULNEUS	BOTTLE TREE	15 GALLON STANDARD
T8	QUERCUS ILEX	HOLLY OAK	15 GALLON STANDARD
T9	SCHINUS MOLLE	CALIFORNIA PEPPER	15 GALLON STANDARD
T10	LAGERSTROEMIA FAURIEI 'PINK'	JAPANESE CRAPE MYRTLE	24" BOX STANDARD
T11	CUPANOPSIS ANACARDIODES	CARROTWOOD TREE	24" BOX STANDARD
T12	CERCIS CANADENSIS	EASTERN REDBUD	15 GALLON STANDARD

SHRUBS:	BOTANICAL NAME	COMMON NAME	SIZE / SPEC.
S1	ROSMARINUS OFF. PROST. 'HUNTINGTON BLUE'	CREeping ROSEMARY	1 GAL. * 3" O.C.
S2	LONICERA JAPONICA 'HALLIANA'	HONEY SUCKLE	1 GAL. * 3" O.C.
S3	MYOPORUM 'PACIFICUM'	MYOPORUM	1 GAL. * 6" O.C.
S4	ACACIA REDOLENS 'DEBERT CARPET'	ACACIA	1 GAL. * 6" O.C.
S5	BACCHARIS 'CENTENIAL'	COYOTE BUSH	1 GAL. * 5" O.C.
S6	CISTUS SALVIFOLIUS	SAGELEAF ROCKROSE	5 GAL. * 5" O.C.
S7	CISTUS X HYBRIDUS	WHITE ROCKROSE	5 GAL. * 5" O.C.
S8	CISTUS X PURPUREUS	ORCHID ROCKROSE	5 GAL. * 5" O.C.
S9	PYRACANTHA COCCINEA 'LOUBOY'	FIRETHORN	5 GAL. * 6" O.C.
S10	GEANOTHUS GRIS 'HORIZ. 'YANKEE POINT'	CAL. ROSEHUA LILAC	5 GAL. * 6" O.C.
S11	RHAUS OVATA	SUGAR BUSH	5 GAL. * 5" O.C.
S12	HETEROMELES ARBUTIFOLIA	TOYON	5 GAL. * 12" O.C.
S13	XYLOSA CONGESTUM 'COMPACTA'	DIARF SHINY XYLOMA	5 GAL. * 5" O.C.
S14	ELEGANUS FRANGENS 'FRUITLANDII'	BILVERBERRY	5 GAL. * 6" O.C.
S15	FRAXINUS TEXANUM	WAX LEAF PRIVET	5 GAL. * 3" O.C.
S16	FRAXINUS TEXANUM	INDIAN HAWTHORN	5 GAL. * 3" O.C.
S17	FRAXINUS TEXANUM	INDIAN HAWTHORN	5 GAL. * 3" O.C.
S18	VINCA MAJOR	VINCA	1 GAL. * 3" O.C.
S19	ROSA 'PINK FLOWER CARPET'	PINK CARPET ROSES	2 GAL. * 3" O.C.

GROUND COVER:	BOTANICAL NAME	COMMON NAME	SIZE / SPEC.
GC1	MYOPORUM PARVIFOLIA 'WHITE FLOWERS', ROOTED CUTTINGS @ 18" O.C.		

SLOPE FUEL MODIFICATION NOTES:

- UNDESIRABLE PLANT REMOVAL:**
Existing vegetation, which shall be 100% removed, includes the following:

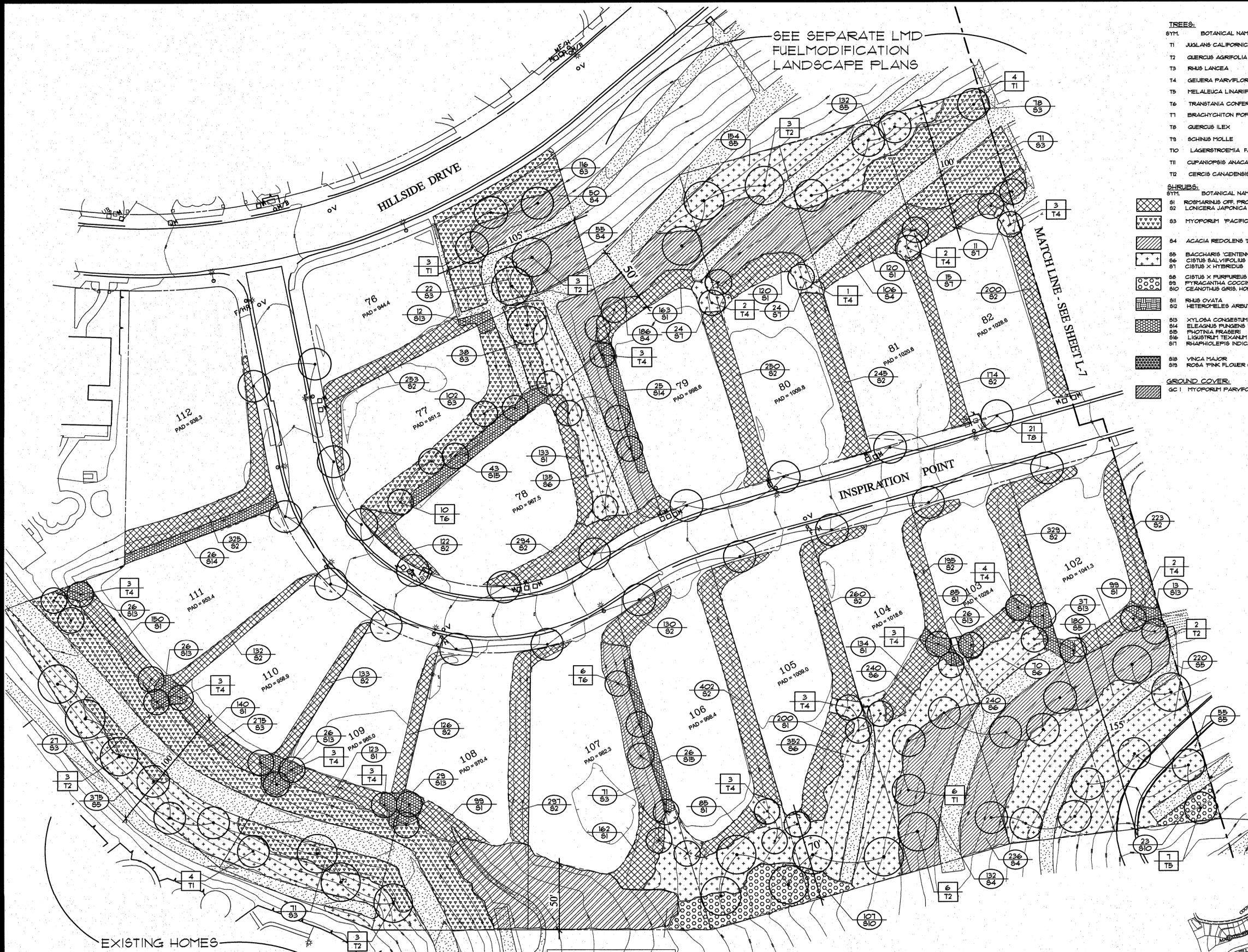
Botanical Name	Common Name
Adiantum fasciculatum	Chimney
Adiantum species	Red Shanks
Cortaderia setacea	Pampas Grass
Artemisia californica	California Sagebrush
Eriogonum fasciculatum	Common Buckwheat
Salvia mellifera	Black Sage
Artemisia vulgaris	California Mugwort
Baccharis glutinosa	Mullein
Ricinus communis	Caster Bean
Nicotiana glauca	Tree Tobacco

- PLANTS TO REMAIN IN PLACE:**
Large specimens (5" caliper or larger at base) shall remain in place unless otherwise directed by the City and/or Landscape Architect and shall be selectively pruned and thinned to reduce fire hazard.

Botanical Name	Common Name
Platanus racemosa	California Sycamore
Quercus agrifolia	Coast Live Oak
Quercus dumosa	Scrub Oak
Heteromeles arbutifolia	Toyon
Rhus Spp.	Sage
Conocarpus spp.	California Linc
Yucca spp.	Yucca
Opuntia spp.	Prickly Pear
Juglans californica	California Black Walnut

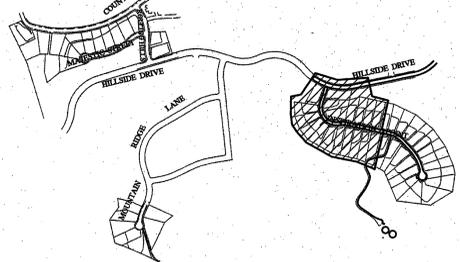
- IMPLEMENTATION REQUIREMENTS:**
 - Plant removal shall be performed by hand. No large equipment will be allowed on slope face, which could disturb remaining native vegetation or scar natural slope. No herbicides shall be used.
 - Native or introduced shrubs over 24" high shall be required to be maintained to a minimum of 10' clear of drip-line of any tree within zone one.
 - Dead wood and low branches of small snagging trees shall be removed and/or pruned in accordance with City and/or Landscape Architect recommendations.

- WEED CONTROL PROGRAM:**
Upon completion of the irrigation system installation and after all existing weeds and undesirable native plants have been removed from the planting areas, the following weed prevention program shall be implemented: apply a mixture by spray per acre as follows:
 300 lbs./acre of commercial fertilizer (16-8-8)
 100 lbs./acre Urea Formaldehyde
 Water all areas at least two times daily for 21 consecutive days until the weed seeds have germinated. Cease watering for three days. Spray per post control advisor's recommendations with a non-selective systemic herbicide to eradicate the germinating weed seeds (do not spray existing plants). Water after herbicide application per post control advisor's recommendations. Allow herbicide to kill all weeds. Continue the watering for an additional seven days to insure that most of the weeds have died. If perennial weeds or grasses still exist, re-water two times daily for an additional 14 consecutive days, until new growth appears. Re-apply a non-selective herbicide per post control advisor's recommendations. Remove weeds after herbicide has had sufficient time to kill.



SEE SEPARATE LMD
FUELMODIFICATION
LANDSCAPE PLANS

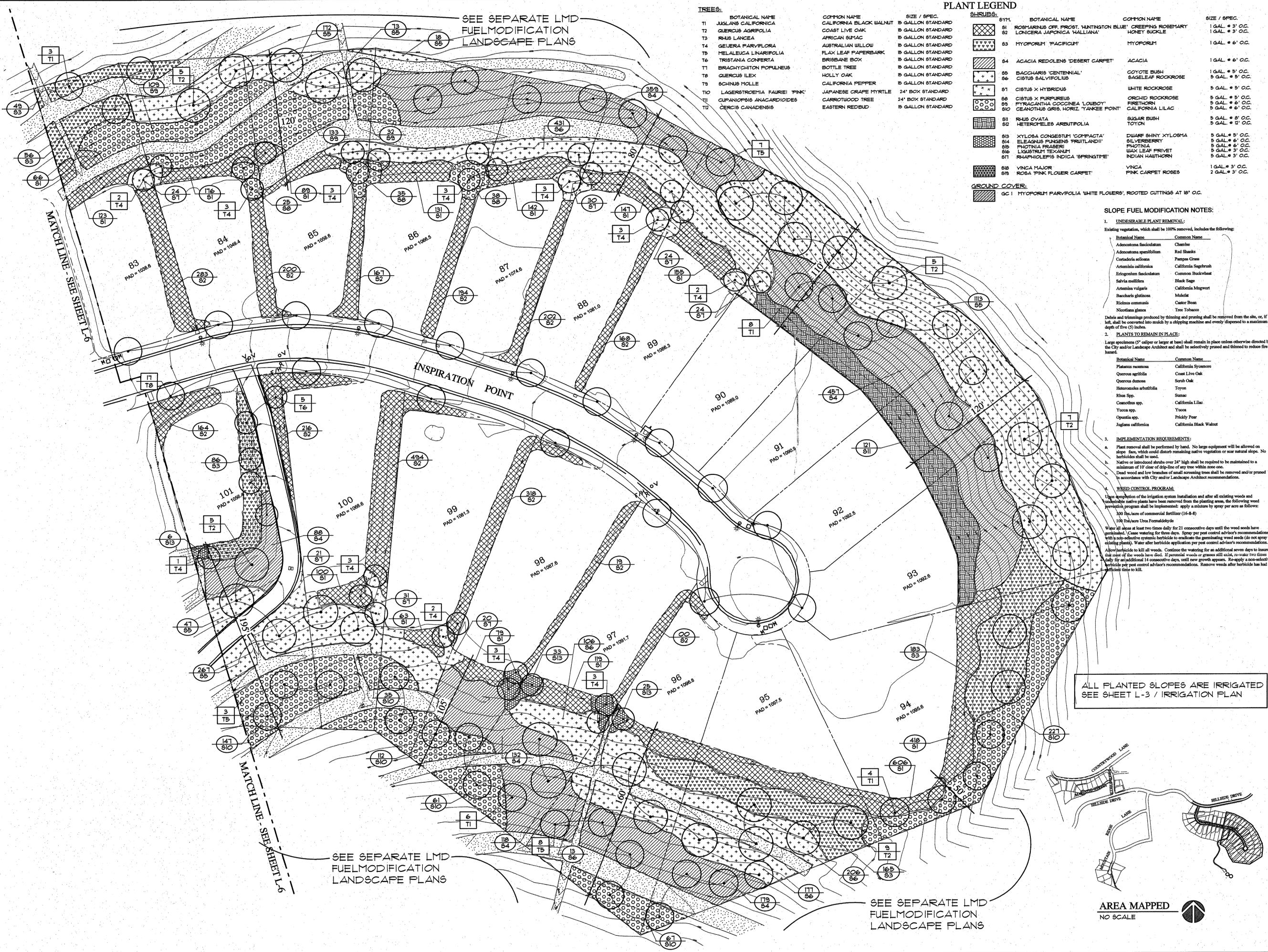
ALL PLANTED SLOPES ARE IRRIGATED
SEE SHEET L-2/IRRIGATION PLAN



AREA MAPPED
NO SCALE

V:\planning\3000\3036 Magnolia at South Hills - Taylor Morrison\3036 Slope L6-L9 planting Plan.dwg, 11/6/2014 12:57:57 PM, REC0240W 30 inchx36 inch, VV

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TREES:

TREE CODE	BOTANICAL NAME	COMMON NAME	SIZE / SPEC.
T1	JUGLANS CALIFORNICA	CALIFORNIA BLACK WALNUT	15 GALLON STANDARD
T2	QUERCUS AGRIFOLIA	COAST LIVE OAK	15 GALLON STANDARD
T3	RHUS LANCEA	AFRICAN SUMAC	15 GALLON STANDARD
T4	GELERA PARVIFLORA	AUSTRALIAN WILLOW	15 GALLON STANDARD
T5	MELALEUCA LINARIFOLIA	FLAX LEAF PAPERBARK	15 GALLON STANDARD
T6	TRISTANIA CONFERTA	BRISBANE BOX	15 GALLON STANDARD
T7	BRACHYCHITON POPULNEUS	BOTTLE TREE	15 GALLON STANDARD
T8	QUERCUS ILEX	HOLLY OAK	15 GALLON STANDARD
T9	SCHINUS MOLLE	CALIFORNIA PEPPER	15 GALLON STANDARD
T10	LAGERSTROEMIA FAURIEI 'PINK'	JAPANESE CRAPE MYRTLE	24" BOX STANDARD
T11	CUPANOPSIS ANACARDIODES	CARROTWOOD TREE	15 GALLON STANDARD
T12	CERCIS CANADENSIS	EASTERN REDBUD	15 GALLON STANDARD

PLANT LEGEND

SHRUBS:

SHRUB CODE	BOTANICAL NAME	COMMON NAME	SIZE / SPEC.
S1	ROMARNUS OFF. PROST. 'HUNTINGTON BLUE'	GREENING ROSEMARY	1 GAL. # 3' O.C.
S2	LONGICERA JAPONICA 'HALLIANA'	HONEY SUCKLE	1 GAL. # 3' O.C.
S3	MYOPORUM 'PACIFICUM'	MYOPORUM	1 GAL. # 6' O.C.
S4	ACACIA REDOLENS 'DESERT CARPET'	ACACIA	1 GAL. # 6' O.C.
S5	BACCHARIS 'CENTENNIAL'	COYOTE BUSH	1 GAL. # 5' O.C.
S6	CISTUS SALVIFOLIUS	SAGELEAF ROCKROSE	5 GAL. # 5' O.C.
S7	CISTUS X HYBRIDUS	WHITE ROCKROSE	5 GAL. # 5' O.C.
S8	CISTUS X PURPUREUS	ORCHID ROCKROSE	5 GAL. # 5' O.C.
S9	PHYRAGANTHA COCCINEA 'LOUBOY'	FIRETHORN	5 GAL. # 6' O.C.
S10	CEANOTHUS GRIS. 'HORIZ. 'YANKEE POINT'	CALIFORNIA LILAC	5 GAL. # 6' O.C.
S11	RHUS OVATA	SUGAR BUSH	5 GAL. # 8' O.C.
S12	HETEROTHELES ARBUTIFOLIA	TOYON	5 GAL. # 12' O.C.
S13	XYLOSIA CONGESTUM 'COMPACTA'	DIANE'S SHINY XYLOSIA	5 GAL. # 5' O.C.
S14	ELEAGNUS FURGENSES 'FRUITLANDII'	SILVERBERRY	5 GAL. # 6' O.C.
S15	PHOTINIA FRASERI	PHOTINIA	5 GAL. # 6' O.C.
S16	LIQUISTRUM TEXANUM	WAX LEAF PRIVET	5 GAL. # 3' O.C.
S17	RHAPHIOLEPIS INDICA 'SPRINGTIME'	INDIAN HAUHTHORN	5 GAL. # 3' O.C.
S18	VINCA MAJOR	VINCA	1 GAL. # 3' O.C.
S19	ROSA 'PINK FLOWER CARPET'	PINK CARPET ROSES	2 GAL. # 3' O.C.

GROUND COVER:

GC 1	MYOPORUM PARVIFOLIA 'WHITE FLOWERS', ROOTED CUTTINGS @ 18" O.C.
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SLOPE FUEL MODIFICATION NOTES:

- UNDESIRABLE PLANT REMOVAL:**
Existing vegetation, which shall be 100% removed, includes the following:

Botanical Name	Common Name
Adenostoma fasciculatum	Chamise
Adenostoma sparsifolium	Red Shanks
Cortaderia setacea	Pampas Grass
Artemisia californica	California Sagebrush
Eriogonum fasciculatum	Common Buckwheat
Salvia mellifera	Black Sage
Artemisia vulgaris	California Mugwort
Baccharis glutinosa	Mulefat
Rhus communis	Custar Bean
Nicotiana glauca	Tree Tobacco

 Debris and stumps produced by thinning and pruning shall be removed from the site, or, if left, shall be converted into mulch by a chipping machine and evenly dispersed to a maximum depth of five (5) inches.
- PLANTS TO REMAIN IN PLACE:**
Large specimens (5" caliper or larger at base) shall remain in place unless otherwise directed by the City and/or Landscape Architect and shall be selectively pruned and thinned to reduce fire hazard.

Botanical Name	Common Name
Platanus racemosa	California Sycamore
Quercus agrifolia	Coast Live Oak
Quercus dumosa	Scrub Oak
Heteromeles arbutifolia	Toyon
Rhus Spp.	Sumac
Ceanothus spp.	California Lilac
Yucca spp.	Yucca
Opuntia spp.	Prickly Pear
Juglans californica	California Black Walnut
- IMPLEMENTATION REQUIREMENTS:**
 - Plant removal shall be performed by hand. No large equipment will be allowed on slope face, which could disturb remaining native vegetation or near natural slope. No herbicides shall be used.
 - Native or introduced shrubs over 24" high shall be required to be maintained to a minimum of 1/4 clear of drip-line or any tree within zone one.
 - Dead wood and low branches of small screening trees shall be removed and/or pruned in accordance with City and/or Landscape Architect recommendations.
- WEED CONTROL PROGRAM:**
Upon completion of the irrigation system installation and after all existing weeds and undesirable native plants have been removed from the planting areas, the following weed prevention program shall be implemented: apply a mixture by spray per acre as follows:
 300 lbs./acre of commercial fertilizer (16-8-8)
 100 lbs./acre Urea Formaldehyde
 Water all areas at least two times daily for 21 consecutive days until the weed seeds have germinated. Cease watering for three days. Spray per pest control advisor's recommendations with a non-selective systemic herbicide to eradicate the germinating weed seeds (do not spray existing plants). Water after herbicide application per pest control advisor's recommendations. Allow herbicide to kill all weeds. Continue the watering for an additional seven days to insure that most of the weeds have died. If perennial weeds or grasses still exist, re-water two times daily for an additional 14 consecutive days, until new growth appears. Re-apply a non-selective herbicide per pest control advisor's recommendations. Remove weeds after herbicide has had sufficient time to kill.

ALL PLANTED SLOPES ARE IRRIGATED
SEE SHEET L-3 / IRRIGATION PLAN

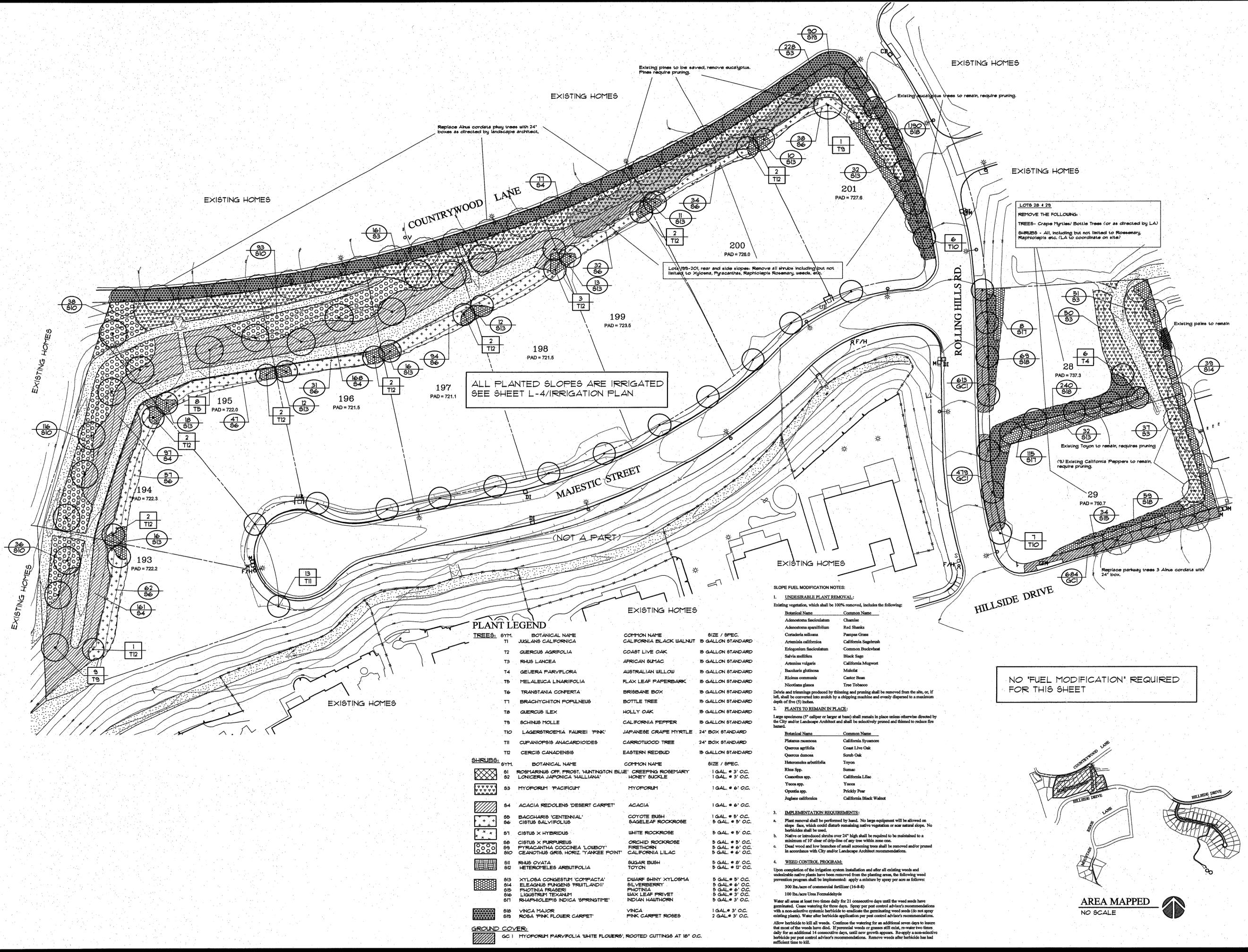
AREA MAPPED
NO SCALE

SEE SEPARATE LMD
FUELMODIFICATION
LANDSCAPE PLANS

SEE SEPARATE LMD
FUELMODIFICATION
LANDSCAPE PLANS

SEE SEPARATE LMD
FUELMODIFICATION
LANDSCAPE PLANS

V:\ddm\3000\3086 Magnolia at South Hills - Taylor Morrison\3086 Slope L6-L9 Planting Plan.dwg, 11/6/2014 15:48 PM, RCO240W 30 Inch.pct3, VW



ALL PLANTED SLOPES ARE IRRIGATED
 SEE SHEET L-4/IRRIGATION PLAN

NO "FUEL MODIFICATION" REQUIRED
 FOR THIS SHEET

PLANT LEGEND

TREES:	BOTANICAL NAME	COMMON NAME	SIZE / SPEC.
T1	JUGLANS CALIFORNICA	CALIFORNIA BLACK WALNUT	15 GALLON STANDARD
T2	QUERCUS AGRIFOLIA	COAST LIVE OAK	15 GALLON STANDARD
T3	RHUS LANCEA	AFRICAN BUMIAC	15 GALLON STANDARD
T4	GEUERA PARVIFLORA	AUSTRALIAN WILLOW	15 GALLON STANDARD
T5	MELALEUCA LINARIIFOLIA	FLAX LEAF PAPERBARK	15 GALLON STANDARD
T6	TRANSTANIA CONFERTA	BRISBANE BOX	15 GALLON STANDARD
T7	BRACHYCHITON POPULNEUS	BOTTLE TREE	15 GALLON STANDARD
T8	QUERCUS ILEX	HOLLY OAK	15 GALLON STANDARD
T9	SCHINUS MOLLE	CALIFORNIA PEPPER	15 GALLON STANDARD
T10	LAGERSTROEMIA FAUREI 'PINK'	JAPANESE CRAPE MYRTLE	24" BOX STANDARD
T11	CUPANIOPSIS ANACARDIODES	CARROTWOOD TREE	24" BOX STANDARD
T12	CERCIS CANADENSIS	EASTERN REDBUD	15 GALLON STANDARD
SHRUBS:	BOTANICAL NAME	COMMON NAME	SIZE / SPEC.
S1	ROSMARINUS OFF. FROST 'HUNTINGTON BLUE'	CREeping ROSEMARY	1 GAL. # 3' O.C.
S2	LONICERA JAPONICA 'HALLIANA'	HONEY SUCKLE	1 GAL. # 3' O.C.
S3	MYOPORUM 'PACIFICUM'	MYOPORUM	1 GAL. # 6' O.C.
S4	ACACIA REDOLENS 'DEBERT CARPET'	ACACIA	1 GAL. # 6' O.C.
S5	BACCHARIS 'CENTENNIAL'	COYOTE BUSH	1 GAL. # 5' O.C.
S6	CISTUS SALVIFOLIUS	SAGELEAF ROCKROSE	9 GAL. # 5' O.C.
S7	CISTUS X HYBRIDUS	WHITE ROCKROSE	9 GAL. # 5' O.C.
S8	CISTUS X PURPUREUS	ORCHID ROCKROSE	9 GAL. # 5' O.C.
S9	PYRACANTHA COCCINEA 'LOUROY'	FIRETHORN	9 GAL. # 6' O.C.
S10	CEANOTHUS GRIS 'HORIZ. 'YANKEE POINT'	CALIFORNIA LILAC	9 GAL. # 6' O.C.
S11	RHUS OVATA	SUGAR BUSH	9 GAL. # 8' O.C.
S12	HETEROMELES ARBUTIFOLIA	TOYON	9 GAL. # 12' O.C.
S13	XYLOSA CONGESTUM 'COMPACTA'	DWARF SHINY XYLOSLA	9 GAL. # 5' O.C.
S14	ELEAGNUS FUNGENS 'FRUITLANDII'	SILVERBERRY	9 GAL. # 6' O.C.
S15	PHOTINIA FRASERI	FRACINIA	9 GAL. # 6' O.C.
S16	LIGUSTRUM TEXANUM	WAX LEAF PRIVET	9 GAL. # 3' O.C.
S17	RHAPHIOLEPIS INDICA 'SPRINGTIME'	INDIAN HAWTHORN	9 GAL. # 3' O.C.
S18	VINCA MAJOR	VINCA	1 GAL. # 3' O.C.
S19	ROSA 'PINK FLOWER CARPET'	PINK CARPET ROSES	2 GAL. # 3' O.C.
GROUND COVER:			
GC1	MYOPORUM PARVIFOLIA 'WHITE FLOWERS'	ROOTED CUTTINGS AT 18" O.C.	

SLOPE FUEL MODIFICATION NOTES:

1. **UNDESIRABLE PLANT REMOVAL:**
 Existing vegetation, which shall be 100% removed, includes the following:

Botanical Name	Common Name
Adenostoma fasciculatum	Chamise
Adenostoma sparsifolium	Red Shanks
Cortaderia setacea	Pampas Grass
Artemisia californica	California Sagebrush
Eriogonum fasciculatum	Common Buckwheat
Salvia mellifera	Black Sage
Artemisia vulgaris	California Mugwort
Baccharis glutinosa	Mudflat
Ricinus communis	Caster Bean
Nicotiana glauca	Tree Tobacco

Debris and trimmings produced by thinning and pruning shall be removed from the site, or, if left, shall be converted into mulch by a chipping machine and evenly dispersed to a maximum depth of five (5) inches.

2. **PLANTS TO REMAIN IN PLACE:**
 Large specimens (7' caliper or larger at base) shall remain in place unless otherwise directed by the City and/or Landscape Architect and shall be selectively pruned and thinned to reduce fire hazard.

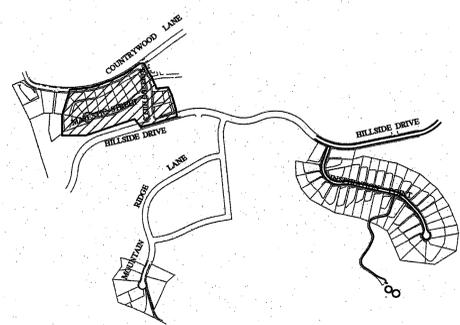
Botanical Name	Common Name
Platanus racemosa	California Sycamore
Quercus agrifolia	Coast Live Oak
Quercus dumosa	Scrub Oak
Heteromeles arbutifolia	Toyon
Rhus spp.	Sage
Quercus spp.	California Lilac
Yucca spp.	Yucca
Opuntia spp.	Prickly Pear
Juglans californica	California Black Walnut

3. **IMPLEMENTATION REQUIREMENTS:**

- Plant removal shall be performed by hand. No large equipment will be allowed on slope face, which could disturb remaining native vegetation or scar natural slope. No herbicides shall be used.
- Native or introduced shrubs over 24" high shall be required to be maintained to a minimum of 10' clear of drip-line of any tree within zone.
- Dead wood and low branches of small screening trees shall be removed and/or pruned in accordance with City and/or Landscape Architect recommendations.

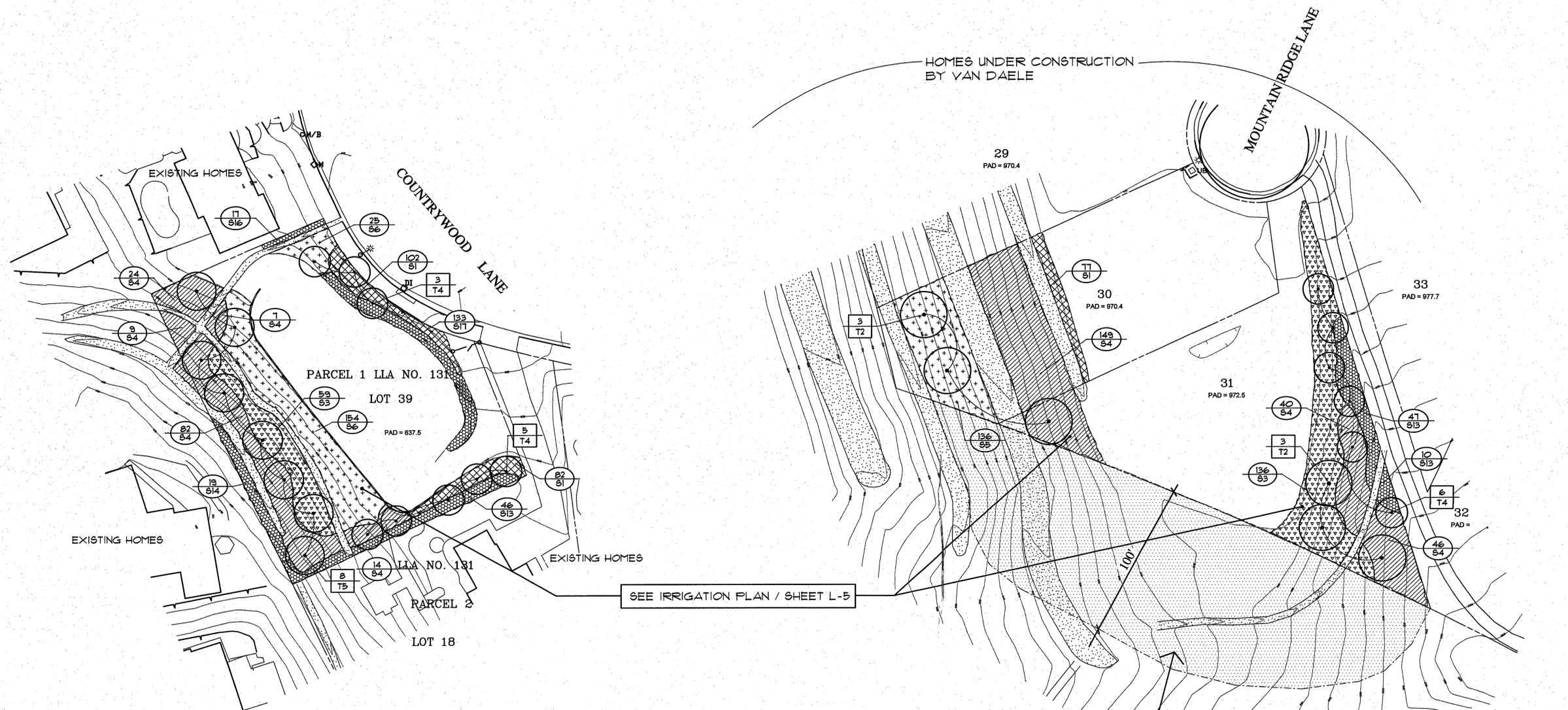
4. **WEED CONTROL PROGRAM:**
 Upon completion of the irrigation system installation and after all existing weeds and undesirable native plants have been removed from the planting areas, the following weed prevention program shall be implemented: apply a mixture by spray per acre as follows:
 300 lbs./acre of commercial fertilizer (16-8-8)
 100 lbs./acre Urea Formaldehyde

Water all areas at least two times daily for 21 consecutive days until the weed seeds have germinated. Come watering for three days. Spray per pest control advisor's recommendations with a non-selective systemic herbicide to eradicate the germinating weed seeds (do not spray existing plants). Water after herbicide application per pest control advisor's recommendations. Allow herbicide to kill all weeds. Continue the watering for an additional seven days to insure that most of the weeds have died. If perennial weeds or grasses still exist, re-water two times daily for an additional 14 consecutive days, until new growth appears. Re-apply a non-selective herbicide per pest control advisor's recommendations. Remove weeds after herbicide has had sufficient time to kill.



AREA MAPPED
 NO SCALE

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SEE IRRIGATION PLAN / SHEET L-5

100' WIDE FUEL THINNING ZONE TO SATISFY
WEST COVINA FIRE AUTHORITY

SLOPE FUEL MODIFICATION NOTES:

- UNDESIRABLE PLANT REMOVAL:**
Existing vegetation, which shall be 100% removed, includes the following:

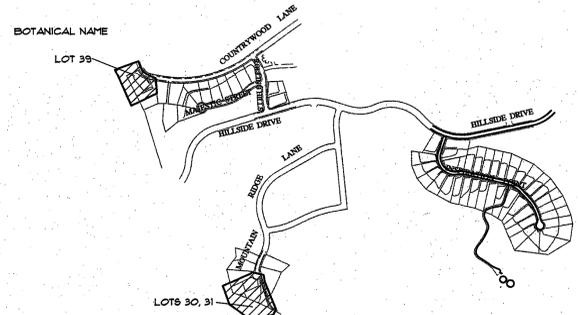
Botanical Name	Common Name
Adenostoma fasciculatum	Chamise
Adenostoma sparsifolium	Red Shanks
Cortaderia seloana	Pampas Grass
Artemisia californica	California Sagebrush
Eriogonum fasciculatum	Common Buckwheat
Salvia mellifera	Black Sage
Artemisia vulgaris	California Mugwort
Baccharis glutinosa	Mulleat
Ricinus communis	Castor Bean
Nicotiana glauca	Tree Tobacco

Debris and trimmings produced by thinning and pruning shall be removed from the site, or, if left, shall be converted into mulch by a chipping machine and evenly dispersed to a maximum depth of five (5) inches.
- PLANTS TO REMAIN IN PLACE:**
Large specimens (5" caliper or larger at base) shall remain in place unless otherwise directed by the City and/or Landscape Architect and shall be selectively pruned and thinned to reduce fire hazard.

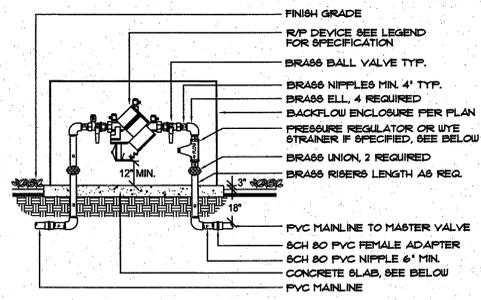
Botanical Name	Common Name
Platanus racemosa	California Sycamore
Quercus agrifolia	Coast Live Oak
Quercus dumosa	Scrub Oak
Heteromeles arbutifolia	Toyon
Rhus Spp.	Sumac
Ceanothus spp.	California Lilac
Yucca spp.	Yucca
Opuntia spp.	Prickly Pear
Juglans californica	California Black Walnut
- IMPLEMENTATION REQUIREMENTS:**
 - Plant removal shall be performed by hand. No large equipment will be allowed on slope face, which could disturb remaining native vegetation or scar natural slope. No herbicides shall be used.
 - Native or introduced shrubs over 24" high shall be required to be maintained to a minimum of 10' clear of drip-line of any tree within zone one.
 - Dead wood and low branches of small screening trees shall be removed and/or pruned in accordance with City and/or Landscape Architect recommendations.
- WEED CONTROL PROGRAM:**
Upon completion of the irrigation system installation and after all existing weeds and undesirable native plants have been removed from the planting area, the following weed prevention program shall be implemented: apply a mixture by spray per acre as follows:
300 lbs./acre of commercial fertilizer (16-8-8)
100 lbs./acre Urea Formaldehyde
Water all areas at least two times daily for 21 consecutive days until the weed seeds have germinated. Cease watering for three days. Spray per post control advisor's recommendations with a non-selective systemic herbicide to eradicate the germinating weed seeds (do not spray existing plants). Water after herbicide application per post control advisor's recommendations.
Allow herbicide to kill all weeds. Continue the watering for an additional seven days to insure that most of the weeds have died. If perennial weeds or grasses still exist, re-water two times daily for an additional 14 consecutive days, until new growth appears. Re-apply a non-selective herbicide per post control advisor's recommendations. Remove weeds after herbicide has had sufficient time to kill.

PLANT LEGEND

TREES:	BOTANICAL NAME	COMMON NAME	SIZE / SPEC.
81H	JUGLANS CALIFORNICA	CALIFORNIA BLACK WALNUT	15 GALLON STANDARD
T2	QUERCUS AGRIFOLIA	COAST LIVE OAK	15 GALLON STANDARD
T3	RHUS LANCEA	AFRICAN SUMAC	15 GALLON STANDARD
T4	GEUERA PARVIFLORA	AUSTRALIAN WILLOW	15 GALLON STANDARD
T5	MELALEUCA LINARIFOLIA	FLAX LEAF PAPERBARK	15 GALLON STANDARD
T6	TRANSTANIA CONFERTA	BRISBANE BOX	15 GALLON STANDARD
T7	BRACHYCHITON POPULNEUS	BOTTLE TREE	15 GALLON STANDARD
T8	QUERCUS ILEX	HOLLY OAK	15 GALLON STANDARD
T9	SCHINUS MOLLE	CALIFORNIA PEPPER	15 GALLON STANDARD
T10	LAGERSTROEMIA FAURIEI 'PINK'	JAPANESE CRAPE MYRTLE	24" BOX STANDARD
T11	CUPANOPSIS ANACARDIODES	CARROTTWOOD TREE	24" BOX STANDARD
T12	CERCIS CANADENSIS	EASTERN REDBUD	15 GALLON STANDARD
SHRUBS:	BOTANICAL NAME	COMMON NAME	SIZE / SPEC.
S1	ROSMARINUS OFF. FROST. 'HUNTINGTON BLUE'	CREeping ROSEMARY	1 GAL. # 3' O.C.
S2	LONGICERA JAPONICA 'HALLIANA'	HONEY SUCKLE	1 GAL. # 3' O.C.
S3	MYOPORUM 'PACIFICUM'	MYOPORUM	1 GAL. # 6' O.C.
S4	ACACIA REDOLENS 'DESERT CARPET'	ACACIA	1 GAL. # 6' O.C.
S5	BACCHARIS 'CENTENNIAL'	COYOTE BUSH	1 GAL. # 5' O.C.
S6	CISTUS SALVIFOLIUS	SAGELEAF ROCKROSE	1 GAL. # 3' O.C.
S7	CISTUS X HYBRIDUS	WHITE ROCKROSE	5 GAL. # 5' O.C.
S8	CISTUS X PURPUREUS	ORCHID ROCKROSE	5 GAL. # 5' O.C.
S9	PYRACANTHA COCCINEA 'LOUROY'	FIRETHORN	5 GAL. # 6' O.C.
S10	CEANOTHUS GRIS. HORIZ. 'TANKEE POINT'	CALIFORNIA LILAC	5 GAL. # 6' O.C.
S11	RHUS OVATA	SUGAR BUSH	5 GAL. # 5' O.C.
S12	HETEROMELES AREUTIFOLIA	TOYON	5 GAL. # 5' O.C.
S13	XYLOSIA CONGESTUM 'COMPACTA'	DWARF SHINY XYLOSIA	5 GAL. # 5' O.C.
S14	ELEAGNUS FUNGENS 'FRUITLANDII'	SILVERBERRY	5 GAL. # 6' O.C.
S15	PHOTINIA FRASERI	PHOTINIA	5 GAL. # 6' O.C.
S16	LIGUSTRUM TEXANUM	WAX LEAF PRIVET	5 GAL. # 3' O.C.
S17	RHAPHIOLEPIS INDICA 'SPRINGTIME'	INDIAN HAWTHORN	5 GAL. # 3' O.C.
S18	VINCA MAJOR	VINCA	1 GAL. # 3' O.C.
S19	ROSA 'PINK FLOWER CARPET'	PINK CARPET ROSES	2 GAL. # 3' O.C.
GROUND COVER:	BOTANICAL NAME	COMMON NAME	SIZE / SPEC.
GC 1	MYOPORUM PARVIFOLIA 'WHITE FLOWERS', ROOTED CUTTINGS	AT 18" O.C.	

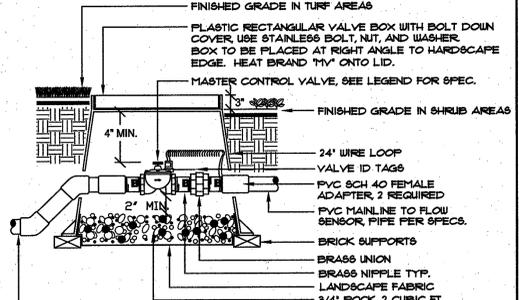


AREA MAPPED
NO SCALE



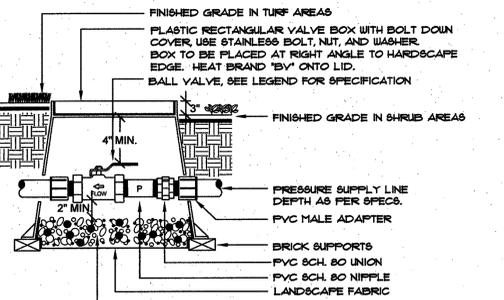
NOTE:
IF WATER STRAINER OR PRESSURE REGULATOR IS SPECIFIED, INSTALL ON EITHER THE HORIZONTAL PIPING OR ON THE DOWNSTREAM LEG AS SHOWN PERMITTED.
CONCRETE SLAB SHALL BE MINIMUM 4\"/>

(A) BACKFLOW DEVICE
N.T.S.



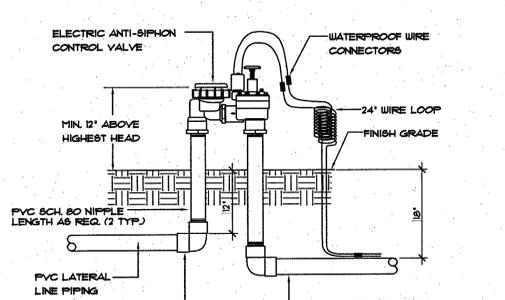
NOTE:
USE 45 DEGREE ELLS TO ACHIEVE MAINLINE DEPTH FROM UP-STREAM SIDE OF THE MASTER VALVE ASSEMBLY.

(B) REGULATING MASTER VALVE
N.T.S.



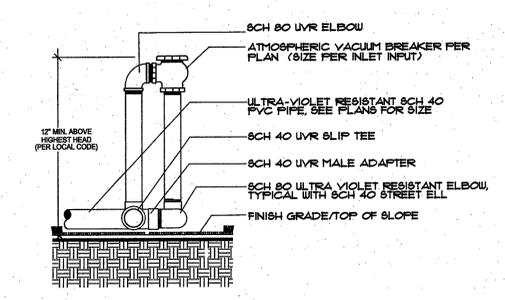
NOTE:
BOX TO BE INSTALLED AS TO ALLOW FOR PROPER OPERATION OF BALL VALVE. INSTALL AT RIGHT ANGLE TO HARDSCAPE EDGE, INSTALL VALVE OFF-CENTER IN BOX. INSTALL VALVE BOX EXTENSIONS AS REQUIRED TO ACHIEVE PROPER VALVE INSTALLATION AT MAIN LINE DEPTH.

(C) BALL VALVE
N.T.S.



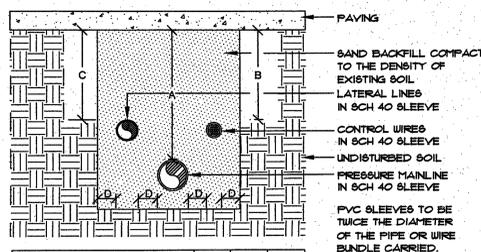
NOTE:
1. ALL PVC ABOVE GROUND SHALL BE MIN. SCH 80 OR UV-TYPICAL.
2. DO NOT SCALE DRAWINGS.

(D) ANTI-SIPHON VALVE
N.T.S.

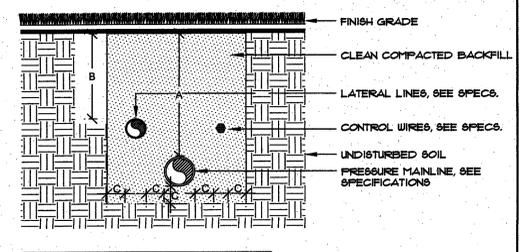


NOTE:
ALL PIPE INSTALLED ON GRADE TO BE SCH 40 ULTRA-VIOLET RESISTANT PVC. USE TEFLON TAPE ON ALL THREADED CONNECTIONS - TYPICAL. SECURE UV RESISTANT LATERAL PIPE TO SLOPE MIN. 10\"/>

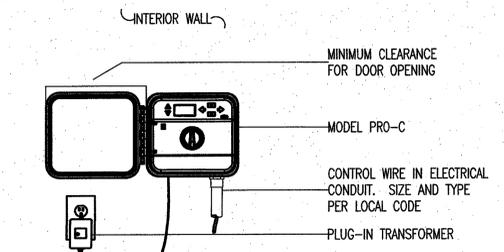
(E) ATMOSPHERIC VACUUM BREAKER
N.T.S.



DIMENSION	A	B	C	D
1/2\"/>				

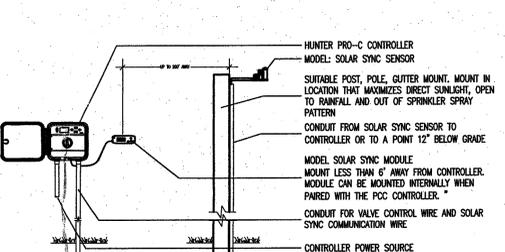


DIMENSION	A	B	C
1/2\"/>			



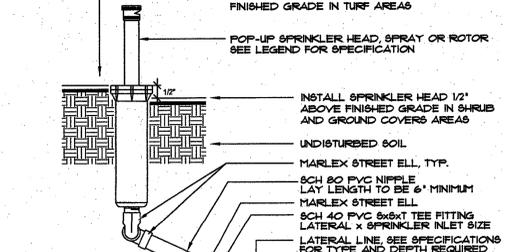
NOTE:
LOT 44 (SALES OFFICE) & 45 (PARKING LOT) REQUIRE EXTERIOR MODEL CONTROLLER HARDWIRED ON SEPARATE CIRCUIT. MOUNT CONTROLLER WITH LCD SCREEN AT EYE LEVEL. INDOOR MODELS w/PLUG-IN TRANSFORMER SHALL BE CONNECTED TO GROUND 110 VAC OUTLET INSIDE GARAGE.

(H) CONTROLLER/WALL MOUNTED
N.T.S.



NOTE:
CONTACT HUNTER SALES REPRESENTATIVE, DAN KAMENIECKI @ (949) 525-0035 FOR INSTALLATION QUESTIONS AND MANUFACTURER'S RECOMMENDATIONS.

(J) SOLAR SYNC WEATHER SENSOR
N.T.S.

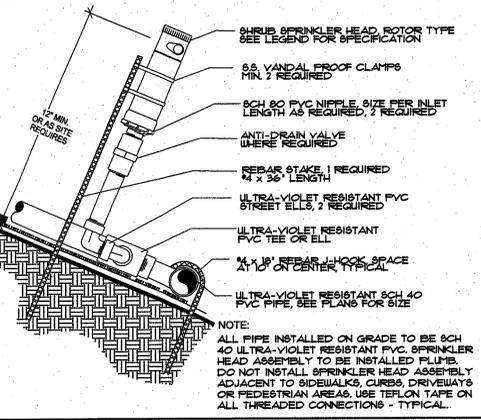


NOTE:
INSTALL SPRINKLER HEADS FLUSH. ADJUST ALL NOZZLES TO PREVENT OVERSPRAY ONTO PAVING, FENCES, WALLS OR BUILDINGS. USE TEFLON TAPE ON ALL THREADED CONNECTIONS. FOR TOP OF SLOPE ROTORS-ADJUST HEAD ANGLE OF INSTALLATION TO SPRAY UPWARD ON THE FACE OF SLOPE.

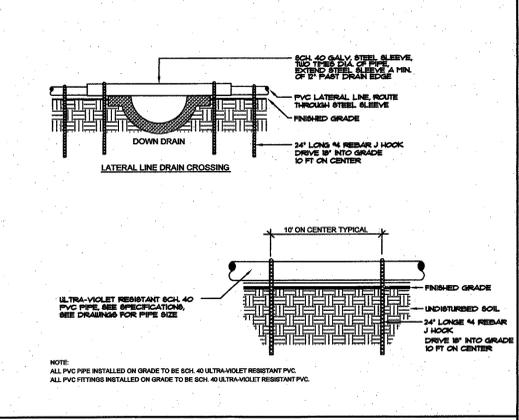
(K) POP-UP SPRINKLER
N.T.S.

(F) SLEEVE INSTALLATION
N.T.S.

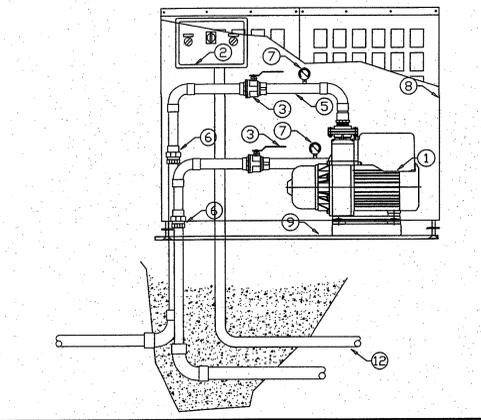
(G) PIPE INSTALLATION
N.T.S.



(L) ROTOR ON GRADE
N.T.S.



(M) ON-GRADE PIPE INSTALLATION
N.T.S.



(Q) BOOSTER PUMP
N.T.S.

BARRETT ENGINEERED PUMPS
SPECIALISTS IN PUMPS AND PUMPING SYSTEMS

PROJECT: WEST COVINA HOA PROJECT March 31, 2014

SYSTEM DESIGN PARAMETERS - 13-16 GPM SYSTEM			
IBTQ-1-2-1.25/QP	13-16 GPM	15 PSI	1.25 INCH
System Model Number	System Design Flow Rate	System Boost Pressure	System Piping Size
45 PSI	115 or 230 VAC (specify)	1 PHASE 60 HZ	
Minimum Suction Pressure	System Electrical Voltage	System Electrical Phase and Frequency	
TQ800	13-16 GPM	50 FEET	
Pump Model Number	Pump Capacity (GPM)	Pump Total Head (Feet)	
1 HP	3500 RPM		
Horsepower	Pump RPM	System Full Load Amperage	

SYSTEM DESIGN PARAMETERS - 16-22 GPM SYSTEM			
IBTQ-2-2-1.25/QP	16-22 GPM	15 PSI	1.25 INCH
System Model Number	System Design Flow Rate	System Boost Pressure	System Piping Size
45 PSI	230 VAC (specify)	1 PHASE 60 HZ	
Minimum Suction Pressure	System Electrical Voltage	System Electrical Phase and Frequency	
TQ1500	16-22 GPM	50 FEET	
Pump Model Number	Pump Capacity (GPM)	Pump Total Head (Feet)	
2 HP	3500 RPM		
Horsepower	Pump RPM	System Full Load Amperage	

BOOSTER PUMP ASSEMBLY

- Simplex water pressure booster system as designed and fabricated by Barrett Engineered Pumps. The system shall be a completely prefabricated system with pump, electrical and structural elements. The pump assembly shall be UL Listed and Approved.
- Pump shall be horizontal multi-stage centrifugal. Pump construction shall be stainless fitted with stainless steel casing, stainless steel impellers and bowls. Pump shall be equipped with mechanical seal. Pump shall be directly coupled to a C-face electric motor.
- Electric motor shall be of the squirrel cage induction type suitable for full voltage starting. Motor shall be TEFC. Electric motor shall be rated for continuous service. The motor shall conform to the latest NEMA Standards for motor design and construction.
- Pump Control shall include Hydراعon module for automatic on-off operation of pump via pressure sensing. Includes skid mounted circuit breaker disconnect for incoming power landing.
- Coil shall be 2 1/2\"/>

P.O. Box 13130 San Diego CA 92176-3130 • 1695 National Ave. San Diego CA 92113
Phone (619) 232-7867 • FAX (619) 232-3029
Represented by: Green Product Sales • (949) 584-7311 • gps10@earthlink.net

- Pump shall be mounted on a mounting pad assembly consisting of a reinforced plastic support base, a three sixteen inch thick 5052 H32 Marine Grade Aluminum mounting pad and 304 grade stainless steel fastening brackets. The support base shall be installed and compacted in earth allowing the top two inches of the support base to be exposed above the earth. The 5052 H32 Marine Grade Aluminum mounting pad shall be clamped to the support base with the stainless steel fastening brackets.
- Pump Assembly shall include the following options:
 - None
- The services of a factory representative or trained service professional shall be made available on the job site to check installation and perform the startup and instruct operating personnel.
- Four sets of operating and maintenance manuals shall be provided to the owner after startup and shall include parts manuals for major components, performance curve for pump, general sequence of operation, and electrical schematic for control panel.

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IRRIGATION DETAILS

MAGNOLIA at SOUTH HILLS
TRACTS 32324, 42169, 47809 WEST COVINA, CA

TAYLOR MORRISON
8105 IRVINE CENTER DRIVE, SUITE 1450 IRVINE, CA 92618 (949) 341-1200

FRANK RADMACHER ASSOCIATES, INC.
Landscape Architects
1641 York Street, Suite 206 • Tustin, CA 92780
PHONE (714) 832-1774 FAX (714) 832-5711
EMAIL: FRANK@FRANKRADMACHER.COM

BY DATE

REVISIONS

NO.

SCALE: NTS

DATE: 4/17/2014

JOB NO. 3096

DRAWN: TK

CHECK: [Signature]

SHEET

L-10

of 12

I:\irrigation\3000\3006 Magnolia at South Hills - Taylor Morrison\3006 Slope L-10 Irrigation Details.dwg, 11/25/2014 10:52:21 AM, RCO240W 30 inch.pcl, VV

IRRIGATION SPECIFICATIONS

I. SCOPE OF WORK

THE WORK INCLUDED IN THESE SPECIFICATIONS SHALL CONSIST OF THE FURNISHING OF ALL LABOR, TOOLS, MACHINERY, MATERIALS, APPLIANCES, AND PROCESSES REQUIRED FOR THE INSTALLATION OF A COMPLETE LANDSCAPE IRRIGATION SYSTEM HEREIN SPECIFIED AND SHOWN ON THE ACCOMPANYING DRAWING(S).

II. GENERAL REQUIREMENTS

(A) INTENT - THE INTENT OF THE DRAWINGS AND SPECIFICATIONS IS TO INDICATE AND SPECIFY A COMPLETE AND EFFICIENT SPRINKLER IRRIGATION SYSTEM READY FOR USE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS; AND, MEETING THE APPROVAL OF THE CITY INSPECTOR WITHOUT FURTHER COST OF LABOR AND MATERIAL TO THE DEVELOPER/OWNER.

(B) VERIFICATION OF DIMENSIONS - ALL PLOT DIMENSIONS ARE APPROXIMATE. BEFORE PROCEEDING WITH ANY WORK, THE CONTRACTOR SHALL CAREFULLY CHECK AND VERIFY ALL DIMENSIONS AND SHALL REPORT ANY VARIATIONS TO THE LANDSCAPE ARCHITECT.

(C) EXPLANATION OF DRAWINGS - DUE TO THE SCALE OF DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL OF THE FITTINGS, SLEEVES, ETC. WHICH MAY BE REQUIRED. THE CONTRACTOR SHALL CAREFULLY INVESTIGATE THE STRUCTURAL AND FINISHED CONDITIONS AFFECTING ALL OF HIS WORK AND PLAN HIS WORK ACCORDINGLY, FURNISHING SUCH FITTINGS, ETC. AS MAY BE REQUIRED TO MEET SUCH CONDITIONS. DRAWINGS ARE GENERALLY DIAGRAMMATIC AND INDICATIVE OF THE WORK TO BE INSTALLED. THE WORK SHALL BE INSTALLED IN SUCH A MANNER AS TO AVOID CONFLICTS BETWEEN IRRIGATION SYSTEMS, PLANTING AND ARCHITECTURAL FEATURES.

(D) SITE CONDITIONS - THE CONTRACTOR SHALL NOT WILLFULLY INSTALL THE IRRIGATION SYSTEM AS SHOWN ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT UNKNOWN OBSTRUCTIONS, GRADE DIFFERENCES OR DISCREPANCIES IN AREA DIMENSIONS EXIST THAT MIGHT NOT HAVE BEEN CONSIDERED IN ENGINEERING. SUCH OBSTRUCTIONS OR DIFFERENCES SHOULD BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT. IN THE EVENT THIS NOTIFICATION IS NOT PERFORMED, THE IRRIGATION CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY REVISION NECESSARY.

(E) PERMITS AND FEES - THE CONTRACTOR SHALL OBTAIN AND PAY FOR ANY AND ALL PERMITS AND ALL INSPECTIONS AS REQUIRED.

(F) MANUFACTURER'S DIRECTIONS - MANUFACTURER'S DIRECTIONS AND DETAILED DRAWINGS SHALL BE FOLLOWED IN ALL CASES WHERE THE MANUFACTURER'S ARTICLES USED IN THIS CONTRACT FURNISH DIRECTIONS COVERING POINTS NOT SHOWN IN THE DRAWINGS AND SPECIFICATIONS.

(G) ORDINANCES AND REGULATIONS - ALL LOCAL, MUNICIPAL AND STATE LAWS, AND RULES AND REGULATIONS GOVERNING OR RELATING TO ANY PORTION OF THIS WORK ARE HEREBY INCORPORATED INTO AND MADE A PART OF THESE SPECIFICATIONS, AND THEIR PROVISIONS SHALL BE CARRIED OUT BY THE CONTRACTOR. ANYTHING CONTAINED IN THESE SPECIFICATIONS SHALL NOT BE CONSTRUED TO CONFLICT WITH ANY OF THE ABOVE RULES AND REGULATIONS OR REQUIREMENTS OF THE SAME. HOWEVER, WHEN THESE SPECIFICATIONS AND DRAWINGS CALL FOR OR DESCRIBE MATERIALS, WORKMANSHIP, OR CONSTRUCTION OF A BETTER QUALITY, HIGHER STANDARD, OR LARGER SIZE THAN IS REQUIRED BY THE ABOVE RULES AND REGULATIONS, THE PROVISIONS OF THESE SPECIFICATIONS AND DRAWINGS SHALL TAKE PRECEDENCE.

(H) DISRUPTION OF SERVICES - PERMISSION TO SHUT OFF ANY WATER LINES MUST BE OBTAINED FROM THE OWNER/DEVELOPER, WHO WILL MAKE THE NECESSARY ARRANGEMENTS. DISRUPTION OF EXISTING SYSTEMS SHALL BE KEPT TO A MINIMUM.

(I) SOURCE OF WATER SUPPLY - THE CONTRACTOR SHALL VERIFY AND BE FAMILIAR WITH THE LOCATION, SIZE AND DETAIL OF STUBOUTS, PROVIDED AS THE SOURCE WATER SUPPLY TO THE SPRINKLER SYSTEM, AS SHOWN ON PLANS.

(J) EXISTING UTILITIES AND CONDITIONS - PRIOR TO CUTTING INTO THE SOIL, THE CONTRACTOR SHALL LOCATE ALL CABLES, CONDUITS, SEWERS, SEPTIC TANKS AND OTHER SUCH UTILITIES AS ARE COMMONLY ENCOUNTERED UNDERGROUND AND HE SHALL TAKE PROPER PRECAUTIONS NOT TO DAMAGE OR DISTURB SUCH IMPROVEMENTS. IF A CONFLICT EXISTS BETWEEN SUCH OBSTACLES AND THE PROPOSED WORK THE CONTRACTOR SHALL PROMPTLY NOTIFY THE OWNER/DEVELOPER WHO WILL ARRANGE FOR RELOCATIONS. THE CONTRACTOR WILL PROCEED IN THE SAME MANNER IF ROCK LAYER OR ANY OTHER CONDITION ENCOUNTERED UNDERGROUND MAKES CHANGES ADVISABLE.

(K) VERIFICATION OF FINISH GRADE - THE CONTRACTOR SHALL VERIFY THE CORRECTNESS OF FINISH GRADES WITHIN THE WORK AREA IN ORDER TO INSURE THE PROPER SOIL COVERAGE (AS SPECIFIED) OF THE SPRINKLER SYSTEM PIPES.

III. SUBMITTALS

(A) MATERIAL LIST:

- 1) THE CONTRACTOR SHALL FURNISH THE ARTICLES, EQUIPMENT, MATERIALS OR PROCESSES SPECIFIED BY NAME IN THE DRAWINGS AND SPECIFICATIONS. NO SUBSTITUTION WILL BE ALLOWED WITHOUT PRIOR WRITTEN APPROVAL BY THE LANDSCAPE ARCHITECT OR CITY LANDSCAPE ARCHITECT.
- 2) COMPLETE MATERIAL LIST SHALL BE SUBMITTED PRIOR TO PERFORMING ANY WORK. MATERIAL LIST SHALL INCLUDE THE MANUFACTURER, MODEL NUMBER AND DESCRIPTION OF ALL MATERIALS AND EQUIPMENT TO BE USED.
- 3) EQUIPMENT OR MATERIALS INSTALLED THAT ARE NOT PER THE APPROVED PLANS MAY BE REJECTED BY THE LANDSCAPE ARCHITECT OR CITY LANDSCAPE ARCHITECT AND THE CONTRACTOR WILL BE REQUIRED TO REMOVE SUCH MATERIALS FROM THE SITE AT HIS OWN EXPENSE.
- 4) APPROVAL OF ANY ITEM, ALTERNATE OR SUBSTITUTE INDICATED ONLY THAT THE PRODUCT OR PRODUCTS APPARENTLY MEET THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS ON THE BASIS OF THE INFORMATION OR SAMPLES SUBMITTED.
- 5) MANUFACTURER'S WARRANTIES SHALL NOT RELIEVE THE CONTRACTOR OF HIS LIABILITY UNDER THE GUARANTEE. SUCH WARRANTIES SHALL ONLY SUPPLEMENT THE GUARANTEE.

IV. INSTALLATION

(A) STANDARD OF INSTALLATION - MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH LOCAL CODES AND ORDINANCES OF LEGALLY CONSTITUTED AUTHORITIES, EXCEPT WHERE PROVISIONS OF THESE SPECIFICATIONS EXCEED SUCH REQUIREMENT, THESE SPECIFICATIONS SHALL GOVERN.

(B) EXCAVATIONS:

- 1) EXCAVATIONS SHALL BE OPEN VERTICAL CONDUCTIONS SUFFICIENTLY WIDE TO PROVIDE FREE WORKING SPACE AROUND THE WORK INSTALLED AND TO PROVIDE AMPLE SPACE FOR BACKFILLING AND TAMING.
- 2) TRENCHES FOR PIPE SHALL BE CUT TO REQUIRED GRADE LINES, AND COMPACTED TO PROVIDE AN EVEN GRADE AND UNIFORM BEARING FOR THE FULL LENGTH OF THE LINE.
- 3) WHEN TWO PIPES ARE TO BE PLACED IN THE SAME TRENCH IT IS REQUIRED TO MAINTAIN A 6-INCH SPACE BETWEEN PIPES AS A MINIMUM.
- 4) DEPTH OF TRENCHES SHALL BE SUFFICIENT TO PROVIDE A MINIMUM COVER ABOVE THE TOP OF THE PIPE AS FOLLOWS:
 - a) 24 INCH OVER MAIN LINE (2" OR LARGER)
 - b) 18 INCH OVER MAIN LINE (1 1/2" OR SMALLER)
 - c) 12 INCH OVER NON-PRESSURE LATERAL LINES
 - d) ALL SLEEVED MAINLINES AT STREET CROSSINGS SHALL BE INSTALLED WITH A MINIMUM COVER DEPTH OF 24" TO TOP OF SLEEVE.

(C) WHERE IT IS NECESSARY TO EXCAVATE ADJACENT TO EXISTING TREES, THE CONTRACTOR SHALL USE ALL POSSIBLE CARE TO AVOID INJURY TO TREES AND TREE ROOTS. EXCAVATION IN AREAS WHERE TWO (2) INCH AND LARGER ROOTS OCCUR SHALL BE DONE BY HAND. ALL ROOTS TWO (2) INCHES AND LARGER IN DIAMETER, EXCEPT DIRECTLY IN THE PATH OF PIPE OR CONDUIT, SHALL BE TUNNELED UNDER AND SHALL BE HEAVILY WRAPPED WITH RUBBER TUBING TO PREVENT SCARRING OR EXCESSIVE DRYING. WHERE A DITCHING MACHINE IS RUN CLOSE TO TREES HAVING ROOTS SMALLER THAN TWO (2) INCHES IN DIAMETER, THE WALL OF THE TRENCH ADJACENT TO THE TREE SHALL BE HAND TRIMMED, MAKING CLEAN CUTS THROUGH ROOTS ONE (1) INCH AND LARGER IN DIAMETER. CUTS SHALL BE PAINTED WITH TWO COATS OF TREE SEAL OR EQUAL. TRENCHES ADJACENT TO TREES SHOULD BE CLOSED WITHIN TWENTY-FOUR (24) HOURS. WHEN THIS IS NOT POSSIBLE THE SIDE OF THE TRENCH ADJACENT TO THE TREE SHALL BE KEPT SHADED WITH BURLAP OR CANVAS.

(D) PRESSURE MAIN SUPPLY LINES 1 1/2 INCHES OR SMALLER SHALL BE SCHEDULE 40 PVC PIPE, AND CLASS 315 PVC PIPE FOR 2 INCHES OR LARGER. ALL LATERAL LINES SHALL BE PVC PIPE AS NOTED ON PLAN.

(E) ALL IRRIGATION LINES UNDER PAVING SHALL BE SCHEDULE 40 PVC PIPE FOR 1 1/2 INCHES OR SMALLER, AND CLASS 315 PVC PIPE FOR 2 INCHES OR LARGER. SLEEVES SHALL BE AT LEAST TWICE THE DIAMETER OF THE PIPE OR WIRE BUNDLE TO BE ENCLOSED, WITH A MINIMUM TWO INCH SIZE.

(F) ALL PVC IRRIGATION LINES SHALL BE INSTALLED IN TRENCHES WITH NOMENCLATURE LETTERING FACING UP.

(5) PIPING ON SLOPES

- 1) ALL PIPING ON SLOPE FACE OR AT TOP OF SLOPE SHALL BE SCH. 40 "UV" RESISTANT AND SHALL BE SECURED ON THE SURFACE EVERY 10' O.C. MINIMUM AS INDICATED ON DETAIL.
- 2) PIPE WHICH CROSSES CONCRETE DRAIN BENCHES SHALL BE PLACED OVER THE SURFACE THRU A GALVANIZED PIPE SIZED 2 TIMES THE DIAMETER OF THE "UV" PIPE.

(D) JOINING OF PIPE - THE CONTRACTOR IS RESPONSIBLE TO BE FAMILIAR WITH ANY AND ALL METHODS OF ASSEMBLING, JOINING AND INSTALLATION OF THE VARIOUS TYPES OF PIPE TO BE USED. HE WILL ADHERE IN STRICT ACCORDANCE WITH MANUFACTURER'S RECOMMENDED GUIDE. IF DURING ANY PHASE OF THE WORK THE OWNER'S REPRESENTATIVE FINDS THAT THE CONTRACTOR OR ANY OF HIS WORKMEN ARE NOT FAMILIAR WITH THE RECOMMENDED PROCEDURES, THE CONTRACTOR SHALL ARRANGE WITH MANUFACTURER OF THE PARTICULAR PRODUCT FOR THE SERVICES OF A QUALIFIED MANUFACTURER'S REPRESENTATIVE TO INSTRUCT WORKMEN IN THE PROPER RECOMMENDED PROCEDURES.

(E) FLUSHING OF SYSTEM:

- 1) AFTER ALL NEW SPRINKLER PIPE LINES AND RISERS ARE IN PLACE AND CONNECTED, ALL NECESSARY DIVERSION WORK HAS BEEN COMPLETED, AND PRIOR TO INSTALLATION OF SPRINKLER HEADS, THE CONTROL VALVES SHALL BE OPENED AND A FULL HEAD OF WATER USED TO FLUSH OUT THE SYSTEM.
- 2) SPRINKLER HEADS SHALL BE INSTALLED ONLY AFTER FLUSHING OF THE SYSTEM HAS BEEN ACCOMPLISHED TO THE COMPLETE SATISFACTION OF THE CITY INSPECTOR.

(F) PRESSURE TEST:

- 1) ALL PRESSURE LINES SHALL BE TESTED UNDER HYDROSTATIC PRESSURE OF 150 POUNDS PER SQUARE INCH, AND ALL NON-PRESSURE LINES SHALL BE TESTED UNDER THE EXISTING STATIC PRESSURE AND BOTH BE PROVEN WATERTIGHT. CONTRACTOR SHALL PROVIDE ALL EQUIPMENT FOR HYDROSTATIC TESTS.
- NOTE: TESTING OF PRESSURE SUPPLY LINES SHALL BE DONE PRIOR TO INSTALLATION OF ELECTRIC CONTROL VALVES.
- 2) PRESSURE SHALL BE SUSTAINED IN THE LINES FOR NOT LESS THAN THREE (3) HOURS. IF LEAKS DEVELOP, THE JOINTS SHALL BE REPLACED AND THE TEST REPEATED UNTIL THE ENTIRE SYSTEM IS PROVED WATERTIGHT.
 - 3) TESTS SHALL BE OBSERVED AND APPROVED BY THE CITY LANDSCAPE INSPECTOR PRIOR TO BACKFILL.
 - 4) UPON COMPLETION OF EACH PHASE OF THE WORK, THE CONTRACTOR SHALL CHECK AND ADJUST EACH SPRINKLER HEAD TO MEET THE SITE REQUIREMENTS AND PLAN.

(G) BACKFILLING:

- 1) BACKFILL SHALL NOT BE PLACED UNTIL THE INSTALLED SPRINKLER IRRIGATION SYSTEM HAS BEEN SPECTED AND APPROVED THE CITY LANDSCAPE INSPECTOR.
- 2) BACKFILL MATERIAL SHALL BE APPROVED SOIL UNSUITABLE MATERIAL, INCLUDING CLODS AND ROCKS OVER 2 1/2 INCHES IN SIZE, SHALL BE REMOVED FROM THE PREMISES AND DISPOSED OF LEGALLY AT NO COST TO THE DEVELOPER.
- 3) ALL BACKFILLING SHALL BE DONE CAREFULLY AND SHALL BE PROPERLY TAMPED. SANDY SOIL ONLY SHALL BE TAMPED AND PUDDLED TO ELIMINATE ANY VOIDS.
- 4) SURPLUS EARTH REMAINING AFTER BACKFILLING SHALL BE DISPOSED AS DIRECTED BY THE ON-SITE SUPERINTENDANT.
- 5) WHERE EXCAVATING OR "JACKING" IS REQUIRED UNDER ASPHALT PAVEMENT, SIDEWALKS, ROADS, ETC. CARE SHALL BE TAKEN IN BACKFILLING WITH SAND, TAMPING AND INUNDATING WITH WATER.
- 6) SAND BACKFILL, WHERE REQUIRED SHALL BE PER DETAIL(S) ON PLAN.

(H) TEMPORARY REPAIRS - THE DEVELOPER RESERVES THE RIGHT TO MAKE TEMPORARY REPAIRS AS NECESSARY TO KEEP THE SPRINKLER SYSTEM EQUIPMENT IN OPERATING CONDITION. THE EXERCISE OF THIS RIGHT BY THE DEVELOPER SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITIES UNDER THE TERMS OF THE GUARANTEE AS HEREIN SPECIFIED.

(I) SPRINKLERS:

- 1) ALL NOZZLES ON SPRINKLERS SHALL BE TIGHTENED AFTER INSTALLATION. ALL SPRINKLERS HAVING AN ADJUSTMENT STEM SHALL BE ADJUSTED ON A LATERAL LINE FOR THE PROPER RADIUS, DIAMETER AND/OR GALLONAGE.
- 2) ALL SPRINKLER HEADS SHALL BE SET PERPENDICULAR TO FINISHED GRADES UNLESS OTHERWISE DESIGNATED ON PLANS.
- 3) ALL SPRINKLER RISERS SHALL BE INSTALLED AS INDICATED ON PLANS AND SHOWN ON DETAILS.

(J) VALVES:

- 1) PIPING SYSTEMS SHALL BE SUPPLIED WITH VALVES AT ALL POINTS SHOWN ON THE DRAWINGS OR SPECIFIED HEREIN, ARRANGED TO GIVE COMPLETE REGULATING CONTROL THROUGHOUT.
- 2) VALVES SHALL BE THE FULL SIZE OF THE LINE IN WHICH THEY ARE INSTALLED UNLESS OTHERWISE INDICATED.
- 3) CONTROL VALVES SHALL BE ADJUSTED SO THE MOST REMOTE SPRINKLER HEADS OPERATE AT THE PRESSURE RECOMMENDED BY THE HEAD MANUFACTURER. CONTROL VALVES SHALL BE ADJUSTED SO A UNIFORM DISTRIBUTION OF WATER IS APPLIED BY THE SPRINKLER HEADS TO THE PLANTING AREAS FOR EACH INDIVIDUAL VALVE SYSTEM.
- 4) QUICK COUPLING VALVES SO INDICATED TO BE INSTALLED ADJACENT TO WALKS, CURBS, ETC., SHALL BE WITHIN A TWELVE (12) INCH MAXIMUM OF SAME. ALL QUICK COUPLING VALVES SHALL BE INSTALLED BELOW GRADE IN ROUND PLASTIC VALVE BOX (PER DETAIL) WITH LOCKING COVER.

(K) VALVE BOXES:

- 1) PLASTIC VALVE BOXES (AMATEK OR APPROVED EQUAL) SHALL BE INSTALLED TWO (2) INCHES ABOVE FINISH GRADE. ONLY ONE (1) REMOTE CONTROL VALVE MAY BE INSTALLED IN EACH BOX.
- 2) VALVE BOXES LOCATED NEAR WALKS, CURBS AND PAVING SHALL BE INSTALLED IN SUCH A WAY AS TO ALLOW FOR VALVE BOXES TO ADJUST WITH TOP SURFACE MATCHING PLANE AS ITEMS LISTED ABOVE.
- 3) ALL VALVE BOXES WILL BE MARKED WITH TWO INCH (2") HIGH BRANDED LETTERS INDICATING THE STATION NUMBER.

(L) AUTOMATIC CONTROLLER LOCATION AND INSTALLATION:

- 1) AUTOMATIC CONTROLLERS SHALL BE INSTALLED AT LOCATIONS SHOWN ON THE PLANS. ALL PEDESTAL TYPE CONTROLLERS SHALL BE MOUNTED ON AN "APPROVED" CONCRETE BASE.
- 2) ALL CONTROLLER LOCATIONS ARE SHOWN DIAGRAMMATIC AND SHALL BE SPECIFICALLY LOCATED BY THE OWNER'S REPRESENTATIVE AND APPROVED BY THE CITY INSPECTOR.
- 3) ALL LOCAL AND APPLICABLE CODES SHALL TAKE PRECEDENCE IN THE FURNISHING AND/OR CONNECTING A 110 VOLT ELECTRICAL SERVICE TO THE CONTROLLER. THIS SERVICE WILL BE PROVIDED BY THE DEVELOPER.
- 4) PROVIDE AN ON/OFF ELECTRICAL POWER SWITCH FOR EVERY IRRIGATION CONTROLLER AT EACH CONTROLLER ENCLOSURE.

(M) CONTROLLER WIRING - ALL ELECTRICAL EQUIPMENT AND WIRING SHALL COMPLY WITH LOCAL AND STATE CODES AND BE INSTALLED BY THOSE SKILLED AND LICENSED IN THE TRADE. UNLESS THE GOVERNING CODE SPECIFIES OTHERWISE, LOW VOLTAGE (14 GAUGE MIN.) CONTROL WIRE MAY BE INSTALLED BY THE CONTRACTOR WHEN CODE ALLOWS.

- 1) PILOT WIRES (MIN. 14 GAUGE) SHALL BE A DIFFERENT COLOR FOR EACH AUTOMATIC CONTROLLER, I.E., CONTROLLER "A", BLACK, CONTROLLER "B", RED, ETC. PROVIDE TWO (2) ADDITIONAL PILOT WIRES (ORANGE COLOR) FOR EACH CONTROLLER. COMMON WIRES SHALL BE WHITE FOR EACH CONTROLLER.
- 2) AN EXPANSION CURL SHALL BE PROVIDED WITHIN THREE FEET (3') FOR EACH WIRE CONNECTION AND AT EACH CHANGE IN DIRECTION, AND PROVIDED EVERY 100 FEET ON RUNS OF MORE THAN 100 FEET IN LENGTH. EXPANSION CURLS SHALL BE FORMED BY WRAPPING AT LEAST FIVE (5) TURNS OF WIRE AROUND A ONE INCH (1") DIAMETER PIPE, THEN WITHDRAWING THE PIPE.

(N) COVERAGE TEST - WHEN THE SPRINKLER SYSTEM IS COMPLETED, THE CONTRACTOR, IN THE PRESENCE OF THE CITY INSPECTOR, SHALL PERFORM A TEST COVERAGE OF WATER AFFORDED THE PLANTING AREAS, COMPLETE AND ADEQUATE. THE CONTRACTOR SHALL FURNISH ALL MATERIALS AND PERFORM ALL WORK REQUIRED TO CORRECT ANY INADEQUACIES OF COVERAGE DISCLOSED. CONTRACTOR SHALL INFORM THE CITY INSPECTOR OF ANY DEVIATION FROM THE PLAN REQUIRED DUE TO WIND, PLANTING, SOIL OR SITE CONDITIONS, THAT BEAR ON PROPER COVERAGE.

(O) INSPECTION OF WORK:

- 1) INSTALLATION AND OPERATIONS MUST BE APPROVED APPROVED BY THE OWNER OR LANDSCAPE ARCHITECT, WITH FINAL APPROVAL BY THE CITY LANDSCAPE ARCH. CITY LANDSCAPE ARCHITECT.
- 2) PRIOR TO COMMENCING WORK THE CONTRACTOR SHALL ARRANGE A MEETING WITH THE LANDSCAPE ARCH., AT WHICH TIME THE CONTRACTOR WILL BE INFORMED OF THE SPECIFIC INSPECTIONS REQUIRED AND THE AND THE METHOD OF CALLING FOR SUCH INSPECTIONS AS THE INDIVIDUAL WORK IS COMPLETED.

(P) COMPLETION - THE WORK WILL BE ACCEPTED IN WRITING WHEN THE WHOLE CONTRACT SHALL HAVE BEEN COMPLETED SATISFACTORILY TO THE CITY INSPECTOR. IN JUDGING THE WORK, NO ALLOWANCE FOR DEVIATION FROM THE ORIGINAL PLANS AND SPECIFICATIONS WILL BE MADE UNLESS ALREADY APPROVED IN WRITING AT PROPER TIMES. SHOULD IT BECOME NECESSARY, DUE TO DEVELOPED CONDITIONS, TO OCCUPY ANY POSITION OF THE WORK BEFORE THE CONTRACT IS FULLY COMPLETED, SUCH OCCUPANCY SHALL NOT CONSTITUTE ACCEPTANCE.

(Q) INSTRUCTION - AFTER THE SYSTEM HAS BEEN COMPLETED, THE CONTRACTOR SHALL INSTRUCT THE CITY INSPECTOR IN THE OPERATION AND MAINTENANCE OF THE SYSTEM AND SHALL FURNISH A COMPLETE SET OF OPERATING INSTRUCTIONS.

(R) GENERAL INSTALLATION - ANY EQUIPMENT INSTALLED BY THE CONTRACTOR AND DEEMED TO BE FOR THE USE OF THE CITY IN VARIOUS SITUATIONS (I.E., GATE VALVES, CONTROL VALVES, ETC.) SHALL BE SO INSTALLED TO BE READILY ACCESSIBLE AND QUICKLY OPERABLE BY THE CITY. EQUIPMENT DEEMED BY THE CITY INSPECTOR TO BE INOPERABLE FOR ITS INTENDED PURPOSE SHALL BE REINSTALLED BY THE CONTRACTOR IN AN OPERABLE POSITION BEFORE APPROVAL WILL BE GIVEN.

(S) CLEAN-UP - CLEAN-UP SHALL BE MADE AS EACH PORTION OF WORK PROGRESSES. REFUSE AND EXCESS DIRT SHALL BE REMOVED FROM THE SITE, ALL WALKS AND PAVING SHALL BE BROOMED OR WASHED DOWN, AND ANY DAMAGE SUSTAINED ON THE WORK OF OTHERS SHALL BE REPAIRED TO ORIGINAL CONDITIONS.

(T) GUARANTEE - THE ENTIRE SPRINKLER SYSTEM SHALL BE GUARANTEED BY THE CONTRACTOR AS TO MATERIAL AND WORKMANSHIP, INCLUDING SETTING OF BACKFILLED AREAS BELOW GRADE FOR A PERIOD OF ONE (1) YEAR FOLLOWING THE DATE OF FINAL ACCEPTANCE OF THE WORK. IF, WITHIN ONE YEAR FROM THE DATE OF COMPLETION, SETTLEMENT OCCURS AND ADJUSTMENTS IN PIPES, VALVES AND SPRINKLER HEADS, FINISH GRADE OR PAVING IS NECESSARY TO BRING THE SYSTEM FINISH GRADE OR PAVING TO THE PROPER LEVEL, THE CONTRACTOR, AS PART OF THE WORK UNDER HIS CONTRACT, SHALL MAKE ALL ADJUSTMENTS WITHOUT EXTRA COST TO THE OWNER, INCLUDING THE COMPLETE RESTORATION OF ALL DAMAGED PLANTING, PAVING, OR OTHER IMPROVEMENTS OF ANY KIND.

SHOULD ANY OPERATIONAL DIFFICULTIES IN CONNECTION WITH THE SPRINKLER SYSTEM DEVELOP WITHIN THE SPECIFIED GUARANTEE PERIOD WHICH, IN THE OPINION OF THE OWNER, MAY BE DUE TO INFERIOR MATERIAL AND/OR WORKMANSHIP, SAID DIFFICULTIES SHALL BE IMMEDIATELY CORRECTED BY THE CONTRACTOR TO THE SATISFACTION OF THE OWNER AT NO ADDITIONAL COST TO THE OWNER INCLUDING ANY AND ALL OTHER DAMAGE CAUSED BY SUCH DEFECTS.

V. RECORD AND AS-BUILT DRAWINGS:

(A) THE CONTRACTOR SHALL PROVIDE AND KEEP UP TO DATE A COMPLETE "AS-BUILT" RECORD SET OF BLACKLINE PRINTS WHICH SHALL BE CORRECTED DAILY AND SHOW EVERY CHANGE FROM THE ORIGINAL DRAWINGS AND SPECIFICATION AND EXACT "AS-BUILT" LOCATIONS, SIZES AND KINDS OF EQUIPMENT. PRINTS FOR THIS PURPOSE MAY BE OBTAINED FROM THE OWNER AT COST. THIS SET OF DRAWINGS SHALL BE KEPT ON THE SITE AND SHALL BE USED ONLY AS A RECORD SET.

(B) THESE DRAWINGS SHALL ALSO SERVE AS WORK PROGRESS SHEETS, AND THE CONTRACTOR SHALL MAKE NEAT AND LEGIBLE ANNOTATIONS THEREON DAILY AS THE WORK PROCEEDS, SHOWING THE WORK AS ACTUALLY INSTALLED. THESE DRAWINGS SHALL BE AVAILABLE AT ALL TIMES FOR INSPECTION AND SHALL BE KEPT IN A SAFE LOCATION ON THE JOB SITE.

(C) BEFORE THE DATE OF THE FINAL INSPECTION, THE CONTRACTOR SHALL TRANSFER ALL INFORMATION FROM THE "AS-BUILT" PRINTS TO A MYLAR SET, ALL WORK SHALL BE NEAT AND LEGIBLE PREPARED IN INK.

(D) THE CONTRACTOR SHALL DIMENSION FROM TWO (2) PERMANENT POINTS OF REFERENCE, BUILDING CORNERS, SIDEWALK OR ROAD INTERSECTIONS, ETC., THE LOCATION OF THE FOLLOWING ITEMS:

- 1) CONNECTION TO EXISTING WATER LINES.
- 2) CONNECTION TO EXISTING ELECTRICAL POWER.

(E) ON OR BEFORE THE DATE OF THE FINAL 3) GATE VALVES. 4) ROUTING OF SPRINKLER PRESSURE LINES (DIMENSION MAX. 100' ALONG ROUTING). 5) SPRINKLER CONTROL VALVES. 6) ROUTING OF CONTROL WIRING.

INSPECTION, THE CONTRACTOR SHALL DELIVER THE CORRECTED AND COMPLETED MYLARS TO THE OWNER. DELIVERY OF THE MYLARS WILL NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF FURNISHING REQUIRED INFORMATION THAT MAY BE OMITTED FROM THE PRINTS.

(F) CONTROLLER CHARTS:

- 1) AS-BUILT DRAWINGS SHALL BE PREPARED BY THE LANDSCAPE CONTRACTOR BEFORE CONTROLLER CHARTS ARE PREPARED.
- 2) TWO (2) SETS OF COLOR CODED IRRIGATION CHARTS INDICATING ZONES OF COVERAGE FOR EACH STATION WILL BE REQUIRED FOR EACH CONTROLLER(S). CHARTS WILL BE SEALED IN BETWEEN 2 PLASTIC SHEETS (10 MLS. THICK)

VI. OPERATION AND MAINTENANCE MANUALS

- (A) PREPARE AND DELIVER TO THE OWNER INSPECTOR WITHIN TEN CALENDAR DAYS PRIOR TO COMPLETION OF CONSTRUCTION, TWO HARD COVER BINDERS WITH THREE RINGS CONTAINING THE FOLLOWING INFORMATION:
- 1) INDEX SHEET STATING CONTRACTOR'S ADDRESS AND TELEPHONE NUMBER, A LIST OF EQUIPMENT WITH NAMES AND ADDRESSES OF LOCAL MANUFACTURER'S REPRESENTATIVES.
 - 2) CATALOG AND PARTS SHEETS ON EVERY MATERIAL AND EQUIPMENT INSTALLED UNDER THIS CONTRACT.
 - 3) GUARANTEE STATEMENT.
 - 4) COMPLETE OPERATING AND MAINTENANCE INSTRUCTION ON ALL MAJOR EQUIPMENT.

VII. EQUIPMENT TO BE FURNISHED

DELIVER THE FOLLOWING OPERATING AND MAINTENANCE TOOLS TO THE CITY INSPECTOR WHEN WORK IS COMPLETED AND PRIOR TO FINAL ACCEPTANCE OF WORK:

- (A) ONE (1) WRENCH FOR DISASSEMBLY AND ADJUSTMENT OF EACH TYPE OF SPRINKLER HEAD SUPPLIED.
- (B) TWO (2) KEYS FOR EACH AUTOMATIC CONTROLLER AND/OR ENCLOSURE.
- (C) TWO (2) QUICK COUPLER KEYS WITH SWIVEL HOSE BIPS.
- (D) TWO (2) KEYS FOR OPENING VALVE BOXES.
- (E) TWO (2) SPECIAL WRENCHES SUITABLE FOR OPERATING EACH TYPE OF SHUTOFF VALVE INSTALLED.

VIII. GUARANTEE

(A) THE GUARANTEE FOR THE SPRINKLER IRRIGATION SYSTEM SHALL BE MADE IN ACCORDANCE WITH THE CITY. THE GENERAL CONDITIONS AND SUPPLEMENTARY CONDITIONS OF THESE SPECIFICATIONS SHALL BE FILED WITH THE CITY INSPECTOR PRIOR TO ACCEPTANCE OF THE IRRIGATION SYSTEM.

(B) A COPY OF THE GUARANTEE FORM SHALL BE INCLUDED IN THE OPERATIONS AND MAINTENANCE MANUAL.

(C) THE GUARANTEE FORM SHALL BE RETYPED ONTO THE CONTRACTOR'S LETTERHEAD AND CONTAIN THE FOLLOWING INFORMATION:

GUARANTEE FOR SPRINKLER IRRIGATION SYSTEM

"WE HEREBY GUARANTEE THAT THE SPRINKLER IRRIGATION SYSTEM WE HAVE FURNISHED AND INSTALLED IS FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP, AND THE WORK HAS BEEN COMPLETED IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS, ORDINARY WEAR AND TEAR AND UNUSUAL ABUSE, OR NEGLECT EXCEPTED. WE AGREE TO REPAIR OR REPLACE ANY DEFECTS IN MATERIAL OR WORKMANSHIP WHICH MAY DEVELOP DURING THE PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE AND ALSO TO REPAIR OR REPLACE ANY DAMAGE RESULTING FROM THE REPAIRING OR REPLACING OF SUCH DEFECTS AT NO ADDITIONAL COST TO THE DEVELOPER. WE SHALL MAKE SUCH REPAIRS OR REPLACEMENTS WITHIN A REASONABLE TIME, AS DETERMINED BY THE LANDSCAPE ARCHITECT, AFTER RECEIPT OF WRITTEN NOTICE. IN THE EVENT OF OUR FAILURE TO MAKE SUCH REPAIRS OR REPLACEMENTS WITHIN A REASONABLE TIME AFTER RECEIPT OF WRITTEN NOTICE FROM THE LANDSCAPE ARCHITECT, WE AUTHORIZE THE DEVELOPER TO PROCEED TO HAVE SAID REPAIRS OR REPLACEMENTS MADE AT OUR EXPENSE AND WE WILL PAY THE COSTS AND CHARGES THEREOF UPON DEMAND."

IRRIGATION SPECIFICATIONS

MAGNOLIA at SOUTH HILLS
TRACTS 32324, 42169, 47809 WEST COVINA, CA
TAYLOR MORRISON
8105 IRVINE CENTER DRIVE, SUITE 1450 IRVINE, CA 92618 (949) 341-1200

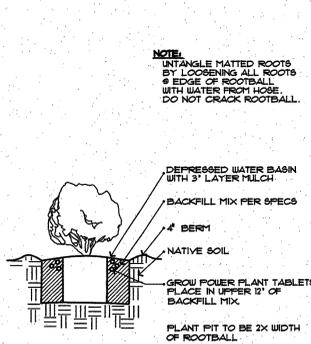


FRANK RADMACHER ASSOCIATES, INC.
Landscaping Architects
16411 York Street, Suite 204, Irvine, CA 92714
PHONE (714) 932-1774 FAX (714) 932-5721
EMAIL: FRANK@FRANKRAC.COM

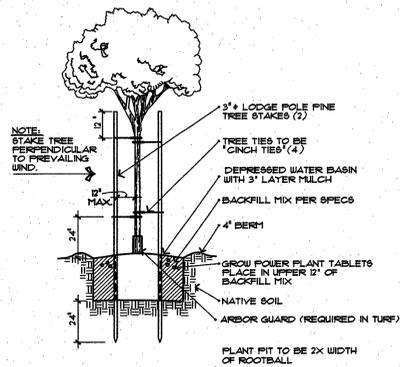
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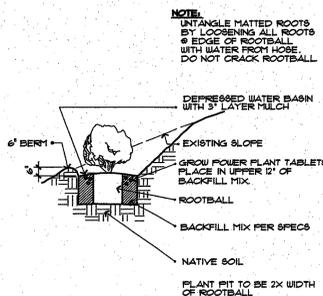
PLANTING DETAILS



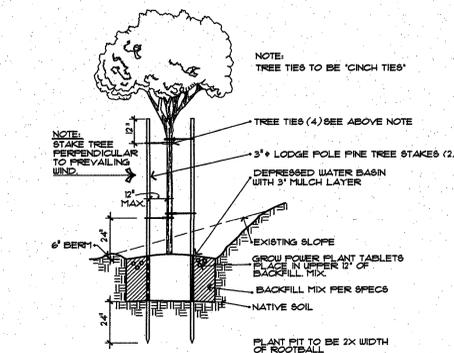
SHRUB PLANTING



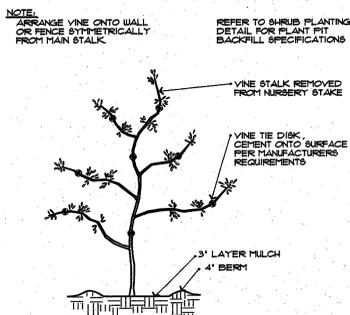
TREE PLANTING



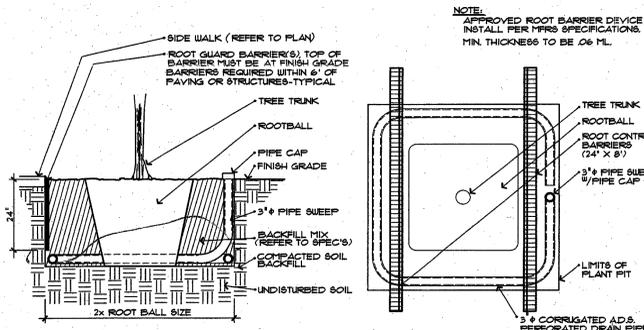
SHRUB PLANTING-SLOPE



TREE PLANTING - SLOPE



VINE DETAIL



ROOT GUARD BARRIER WITH PIPE CLEAN-OUT (REQUIRED FOR ALL TREES PLANTED WITHIN 6 FEET (6') OF PAVING OR STRUCTURES)

PLANTING SPECIFICATIONS

I. SCOPE OF WORK

FURNISH ALL LABOR AND MATERIALS TO COMPLETE THE WORK AS SHOWN ON THE DRAWINGS OR HEREIN SPECIFIED.

II. VERIFICATION OF MATERIALS
OWNER'S REPRESENTATIVE MAY REQUEST INSPECTION OF DELIVERY SLIPS FOR MATERIALS TO VERIFY SPECIFIED QUANTITIES OF BULK DELIVERIES. ON-SITE SUPERVISION OF THESE ITEMS WILL BE CLOSELY ADHERED TO.

III. MATERIALS

(A) PLANTS

- 1) IDENTIFICATION - PLANTS SHALL BE THE VARIETY AND SIZE SHOWN ON THE PLANS AND SHALL CONFORM TO THE REQUIREMENTS HEREIN. ONE OF EACH BUNDLE OR LOT SHALL BE TAGGED WITH PLANT NAME IN ACCORDANCE WITH RECOMMENDATIONS OF THE AMERICAN ASSOCIATION OF NURSERYMEN.
- 2) SUBSTITUTION - SUBSTITUTIONS FOR THE INDICATED PLANT MATERIALS WILL BE PERMITTED, PROVIDED THE SUBSTITUTE MATERIALS ARE APPROVED IN ADVANCE BY THE LANDSCAPE ARCHITECT AND THE SUBSTITUTIONS ARE MADE AT NO ADDITIONAL COST. EXCEPT FOR THE VARIATIONS SO AUTHORIZED, ALL SUBSTITUTE PLANT MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF THESE SPECIFICATIONS. IF ACCEPTED SUBSTITUTE MATERIALS ARE OF LESS VALUE THAN THOSE INDICATED OR SPECIFIED, THE CONTRACT PRICE WILL BE ADJUSTED IN ACCORDANCE WITH THE PROVISIONS OF THE CONTRACT.
- 3) QUALITY AND SIZE - ALL PLANTS SHALL HAVE A HABIT OF GROWTH THAT IS NORMAL TO THE SPECIES, BE SOUND, HEALTHY, VIGOROUS AND FREE FROM INSECT PESTS, PLANT DISEASES, SUN SCALDS, FRESH ABRASIONS OF THE BARK, EXCESSIVE ABRASIONS OR OTHER OBJECTIONABLE DISFIGUREMENTS. TREE TRUNKS SHALL BE STURDY, STRAIGHT AND WELL "HARDENED OFF". THE PLANTS SHOWN HAVE NORMALLY WELL DEVELOPED BRANCH SYSTEMS AND VIGOROUS AND FIBROUS ROOT SYSTEMS WHICH ARE NOT COILED, ROOT BOUND OR ROT BOUND. PLANTS SHALL BE GROWN IN NURSERIES WHICH HAVE BEEN INSPECTED BY THE CALIFORNIA DEPARTMENT OF AGRICULTURE AND HAVE COMPLIED WITH ITS REGULATIONS.

- 4) REJECTION - THE OWNER/AND/OR LANDSCAPE ARCHITECT SHALL HAVE THE RIGHT TO REJECT PLANTS THAT DO NOT MEET PLAN SPECIFICATIONS OR ACCEPTABLE STANDARDS OF THE TRADE.

(B) COMMERCIAL FERTILIZER

- 1) "GROW POWER" PLANT TABLETS WITH GUARANTEED ANALYSIS OF 12-8-8.
- 2) PELLETIZED FORM FOR SOIL PREPARATION SHALL BE COMMERCIAL FERTILIZER HAVING A FORMULA FERTILIZERS SHALL BE UNIFORM IN COMPOSITION, DRY AND FREE-FLOWING, DELIVERED TO THE SITE IN THE ORIGINAL UNOPENED CONTAINERS, EACH BEARING THE MANUFACTURER'S GUARANTEED ANALYSIS. ANY FERTILIZER WHICH BECOMES CLUMPY OR OTHERWISE DAMAGED, MAKING IT UNSUITABLE FOR USE, WILL NOT BE ACCEPTED.

(C) SOIL AMENDMENTS

- 1) NITROGEN-STABILIZED FIR SHAVINGS - AS COMMONLY USED FOR LANDSCAPE SOIL PREPARATION AND SHALL CONTAIN FROM .5 TO 1% ACTUAL NITROGEN.
- 2) AGRICULTURAL GYPSUM - SHALL BE APPROVED STANDARD BRAND AGRICULTURAL CALCIUM SULFATE (CA SO4) AS APPLIED TO SOILS AND SHALL CONTAIN 18% COMBINED SULFUR.
- 3) IRON SULFATE - SHALL BE AGRICULTURAL FERRIC SULFATE (FE2 SO4), GRANULAR IN COMPOSITION AND CONTAINING 20% METALLIC EQUIVALENT IRON AND 17% COMBINED SULFUR.

- 4) TREE STAKES - SHALL BE 3" DIAMETER X 10' LONG TREATED LODGEPOLE PINE STAKES POINTED ON ONE END.
- 5) TREE TIES - SHALL BE "CINCH TIE" BRAND PLASTIC TIES.
- 6) VINE TIES - SHALL BE CLEAR PLASTIC DISCS WITH EYE TO RECEIVE GREEN PLASTIC COVERED WIRE TIE. DISC SHALL BE SECURED WITH ADHESIVE.

- 7) PLASTIC HEADER BOARD - SHALL BE "BEND-A-BOARD" BRAND (BROWN) MANUFACTURED BY EPIC PLASTICS, 1880 HARDEN TERRACE RD., RICHMOND, CA 94801 (510) 235-9339.

- 8) LAWN SEED - SHALL BE THE SPECIFIC VARIETY LISTED ON THE PLANS/PLANT LEGEND.
- 9) SOD - SHALL BE THE SPECIFIC VARIETY LISTED ON THE PLANS/PLANT LEGEND.

- 10) HYDROMULCH - FIBER SHALL BE PRODUCED FROM CELLULOSE SUCH AS WOOD PULP OR SIMILAR ORGANIC MATERIAL AND SHALL BE OF SIMILAR CHARACTER THAT IT WILL DISPERSE INTO A UNIFORM SLURRY WHEN MIXED WITH WATER. THE FIBER SHALL BE OF SUCH CHARACTER WHEN USED IN THE APPLIED MIXTURE, AN ABSORBENT OR POROUS MAT, BUT NOT A MEMBRANE, WILL RESULT ON THE SURFACE OF THE GROUND. MATERIALS WHICH INHIBIT GERMINATION SHALL NOT BE PRESENT IN THE HYDROSEED MIX.

- 11) COMMERCIAL FERTILIZER - "PELLETIZED" FERTILIZER FOR HYDROMULCH SLURRY SHALL BE (SLOW RELEASE).

- 12) SOIL/MULCH BINDERS - CONWED TYPE 2000-TERRA TAG 3 "ECOLOGY CONTROL", FINN STK1000 OR APPROVED EQUAL.

- 13) CHEMICAL GERMINATING ADDITIVES - "CATALYTIC" PRE-EMERGE, FINN "HYDROMAX" OR APPROVED EQUAL.

- 14) MOISTURE RETENTION ADDITIVES - FINN "HST" OR APPROVED EQUAL.

- 15) TOPDRESSING - SHALL CONSIST OF NITROLIZED FIR OR REDWOOD SHAVINGS IN PARTICLE SIZES RANGING FROM APPROXIMATELY 1/2" TO 2" INCHES. (REFER TO PLANTING LEGEND)

- 16) SEED MIX - SLOPE AREAS. LANDSCAPE CONTRACTOR MUST FURNISH THE LANDSCAPE ARCHITECT WITH A SUPPLIER CERTIFIED COPY OF THE SEED MIX AND "PLS" (PURE LIVE SEED) RATINGS.

IV. GRADING

- (A) MOISTURE CONTENT - THE SOIL SHALL NOT BE WORKED WHEN THE MOISTURE CONTENT IS SO GREAT THAT EXCESSIVE COMPACTION WILL OCCUR NOR WHEN IT IS SO DRY A DUST WILL FORM IN THE AIR OR THAT CLOUDS WILL NOT BREAK. READY WATER SHALL BE APPLIED, IF NECESSARY TO PROVIDE IDEAL MOISTURE FOR FILLING AND FOR PLANTING AS HEREIN SPECIFIED.
- (B) ALL AREAS WILL BE RECEIVED BY CONTRACTOR AT SUBSTANTIALLY (+/-) ONE FOOT OF FINISH GRADE.
- (C) FINISH GRADING AND WEEDING - ALL AREAS SHALL BE GRADED TO A SMOOTH, EVEN AND UNIFORM PLANE WITH NO ABRUPT CHANGE OF SURFACE. ALL WEEDS SHALL BE REMOVED AND DISPOSED OF BY LANDSCAPE CONTRACTOR.
- (D) FINISHING - CONTRACTOR SHALL DISPOSE OF BURIED DEBRIS. FOUND UPON ANY EXCAVATION TO ANY CONVENIENT DUMP OR OFF-SITE LOCATION AT NO EXPENSE TO OWNER.

V. SOIL PREPARATION

- (A) CULTIVATE ALL AREAS TO BE PLANTED TO DEPTH OF AT LEAST SIX INCHES SO THE SOIL SHALL BE LOOSE AND FRABLE.
- (B) THE TOP TWO INCHES OF SOIL IN ALL CULTIVATED AREAS SHALL BE FREE OF STONES, ROOTS LARGER THAN ONE INCH IN DIAMETER AND OTHER DELETERIOUS MATTER WHICH MIGHT BE A HINDRANCE TO PLANTING AND MAINTENANCE.
- (C) PLANTING AREAS SHALL HAVE THE FOLLOWING MATERIALS TILLED INTO THE TOP FOUR (4") INCHES OF SOIL AT A RATE PER 1,000 SQUARE FEET:
 - 5 CU. YDS. NITROLIZED FIR SHAVINGS
 - 100 LBS. AGRICULTURAL GYPSUM
 - 15 LBS. 10-10-10 COMMERCIAL FERTILIZER

VI. SODDING

- (A) SOIL SHALL BE LEFT 1-1/2" BELOW FINISH GRADE AS THE SOD WILL BRING THE LEVEL UP TO THE PROPER HEIGHT.
- (B) AFTER PREPARATION OF SOIL, THE AREA MUST BE PRE-IRRIGATED TO WET IT TO A DEPTH OF FOUR INCHES (4"). IT SHALL BE DAMP BUT NOT MUDDY AND WITHOUT DEPRESSIONS.
- (C) INITIAL PLACEMENT OF SOD SHALL BE LAID ON THE SAME DAY IT IS DELIVERED. IT SHALL NOT BE LEFT IN THE HOT SUN NOR LEFT IN ROLLS OR STACKED OVER NIGHT.
- (D) PRIOR TO PLACING OF SOD, BROADCAST 16-20-0 FERTILIZER AT A RATE OF 10 POUNDS PER 1,000 SQUARE FEET OVER SURFACE.
- (E) SOD SHALL BE UNROLLED AND PLACED CAREFULLY IN A STAGGERED PATTERN. A PIECE OF 2X4 SHALL BE USED TO TAMP EACH ROLL AGAINST THE ADJACENT STRIPS TO ELIMINATE JOINTS AND EDGES.
- (F) SOD SHALL BE TRIMMED TO CONFORM TO LAWN SHAPES DESIGNED IN PLANTING PLAN.
- (G) AFTER SOD IS LAID, IT SHALL BE IRRIGATED THOROUGHLY TO PROVIDE GOOD MOISTURE PENETRATION.
- (H) ALL SOD AREAS SHALL BE ROLLED WITH A SOD ROLLER LAID TO PERIODICALLY DURING INSTALLATION. SOD SHALL CONFORM WITH FINISH GRADE AND CONTOURS. A SECOND ROLLING MAY BE REQUIRED.

- (I) ALL PERIMETER AND BORDER AREAS SHALL NOT BE LAID WITH LESS THAN FULL WIDTH SOD NOR LESS THAN ONE-HALF LENGTH SOD. (SOD WIDTH=12", SOD LENGTH=48")
- (J) ALL SOD IN SODDED AREAS SHALL BE HANDLED AND LAID IN A HIGH STANDARD WORKMANSHIP MANNER. ALL ENDS, JOINTS AND CUTS TO BE FIT AND TIGHTLY JOINED SO THERE ARE NO VOIDS AND THE FINAL APPEARANCE IS ONE OF A CONTINUOUS LAWN.

7. SEEDING - LAWN AREAS (NOT APPLICABLE)

- (A) SEED MIXTURE SHALL BE AS SPECIFIED ON PLANS.
- (B) JUST PRIOR TO SOWING SEED, THE SURFACE OF THE AREA TO BE PLANTED SHALL BE SUFFICIENTLY LOOSE AND FRABLE TO RECEIVE THE SEED. THE LAWN SHALL BE SOWN EVENLY AT THE RATE OF _____ POUNDS PER 1,000 SQ. FT. PRIOR TO SOWING, CARE SHALL BE EXERCISED TO KEEP THE SEED MIXTURE UNIFORM, AVOIDING UNEVEN DISTRIBUTION OF VARIETIES.

- (C) SEED APPLICATION:
 1. HAND BROADCAST (PUSH SPREADER OR MECHANICAL SEEDER).
 2. TRACTOR-SEEDER COMBINATION
 3. HYDROMULCH APPLICATION: USING 2000 POUNDS OF HYDROMULCH AND _____ POUNDS OF FERTILIZER PER ACRE.

- (D) FOLLOWING THE SOWING OF SEED AND APPLICATION OF MULCH, WATER SHALL BE APPLIED BY A GENTLE SPRAY, AND THE AREAS KEPT MOIST, BUT NOT GUSTENING WET, UNTIL THE FINAL INSPECTION. ALL ADJACENT AREAS AND STRUCTURES SHALL RECEIVE A THOROUGH CLEANING TO REMOVE HYDROSEED OVERSPRAY.

- (E) IF DEPRESSIONS DEVELOP IN LAWN SURFACE, THEY SHALL BE FILLED WITH APPROVED TOPSOIL, LIGHTLY COMPACTED AND BROUGHT UP TO SPECIFIED GRADE. FILLED AREAS SHALL THEN BE SEED AS PREVIOUSLY SPECIFIED.

- (F) CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING AND RESEEDING ANY LAWN AREAS DAMAGED DURING PLANTING.

VII. ROOTED CUTTINGS

- (A) ROOTED CUTTINGS SHALL BE PLANTED SUFFICIENTLY DEEP TO COVER ALL ROOTS AND SPACED AS SPECIFIED ON THE PLANS.
- (B) ROOTED CUTTINGS SHALL HAVE BEEN GROWN IN FLATS AND SHALL REMAIN IN THOSE FLATS UNTIL TIME OF TRANSPLANTING. THEN, THE FLAT SOIL SHALL CONTAIN SUFFICIENT MOISTURE SO THAT THE SOIL DOES NOT FALL APART WHEN LIFTING PLANTS FROM THE FLAT. THE PLANT SHALL HAVE SUFFICIENT SOIL AROUND THE ROOTS TO AVOID DAMAGE OR DISTURBANCE TO ROOT SYSTEM.
- (C) ROOTED CUTTINGS SHALL NOT BE ALLOWED TO DRY OUT BEFORE OR WHILE BEING PLANTED. WILTED PLANTS WILL NOT BE ACCEPTED.
- (D) AT TIME OF PLANTING ALL GROUND COVER PLANTS, THE EARTH AROUND EACH PLANT SHALL BE FIRMLY TAMPED TO SUFFICIENTLY FORCE OUT ALL AIR POCKETS.
- (E) ALL ROOTED CUTTINGS SHALL BE COVERED WITH NITROLIZED FIR OR REDWOOD SHAVINGS, REFER TO PLANTING PLAN AND/OR LEGEND FOR SPECIFIC DEPTH AND MANUFACTURER.

- (F) PENDING SOIL ANALYSIS REPORT CONTRACTOR SHALL OBTAIN PRIOR TO "PRE-LANDSCAPE" INSPECTION.

IX. TREE & SHRUB PLANTING

- (A) SCHEDULING - PLANTING SHALL NOT COMMENCE UNTIL ALL CONSTRUCTION WORK, GRADING, SOIL IMPROVEMENTS AND SPRINKLER INSTALLATION HAVE BEEN COMPLETED.
- (B) PLANT PITS - PLANT PITS SHALL BE DUG WITH LEVEL BOTTOMS, WITH THE DIAMETER OF THE ROOT BALL & THE DEPTH EQUAL TO THE ROOTBALL TO THE TOP OF THE ROOTBALL IS SLIGHTLY ABOVE FINAL GRADE.
- (C) REMOVAL FROM CANS - OPEN CANNED STOCK BY CUTTING CAN VERTICALLY ON TWO OPPOSITE SIDES OF CAN WITH APPROVED INSTRUMENT FOR THE PURPOSE. AN AXE OR SPADE WILL NOT BE PERMITTED.
- (D) SPACING - WHEN PLANT MATERIAL IS SPACED IN ROWS, THE TOTAL DIMENSION SHALL BE VERIFIED AND THE PLANTS EQUALLY SPACED WITHIN THE DESIGNATED AREA. WHERE PLANT MATERIAL IS SHOWN IN A "LOOSE" PATTERN, THE CONTRACTOR SHALL SPACE THE PLANTS EXACTLY AS SHOWN PER PLAN, MAINTAINING AN UNEQUAL SPACING.
- (E) SETTING - PLANTS SHALL BEAR SAME RELATION TO SOIL LEVEL WHEN PLANTED AS THEY DID WHEN IN CONTAINER. EACH PLANT SHALL BE PLACED IN CENTER OF PLANT PIT.
- (F) ROOT GUARD BARRIERS SHALL BE INSTALLED PER DETAIL. GUARDS ARE REQUIRED FOR ALL TREES WITHIN 5 FEET OF PAVING OR STRUCTURES.

- (G) PIT BACKFILL:
 - 1) EACH PLANT PIT SHALL BE BACKFILLED WITH THE FOLLOWING PREPARED SOIL MIX:
 - 6 PARTS BY VOLUME ON-SITE SOIL
 - 2 PARTS BY VOLUME NITROGEN STABILIZED ORGANIC AMENDMENT DERIVED FROM CEDAR OR REDWOOD (Place in upper 12" of backfill only)
 - 1 LB. 16-20-0 PER CU. YD. OF MIX
 - 2) "GROW POWER" TABLETS IN THE FOLLOWING PROPORTIONS: (Place in upper 12" of backfill)
 - 1 PER ONE GALLON PLANT
 - 3 PER FIVE GALLON PLANT
 - 5 PER FIFTEEN GALLON PLANT
 - 1 PER 1/2" OF TRUNK DIAMETER OF BOXED AND FIELD-GROWN TREES

- (H) BACKFILL PROCEDURE - BACKFILL MATERIAL IN PLANT PITS SHALL BE TAMPED FIRM AND A SHALLOW BASIN FORMED AROUND THE PLANT TO HOLD ENOUGH WATER TO SATURATE THE ROOT BALL AND BACKFILL. WATER PLANTS IMMEDIATELY AFTER PLANTING. DO NOT RAISE BASIN RIM ABOVE SURROUNDING GRADE.

- (I) HANDLING - NO MATERIAL SHALL BE PLANTED IF THE BALL IS BROKEN OR CRACKED EITHER BEFORE OR DURING THE PROCESS OF PLANTING.
- (J) STAKING OF TREES - TREES SHALL BE SET IN THE PLANT PIT, WITH STAKES TO BE PLACED INTO FIRM SOIL NEXT TO ROOT BALL, AND THE PIT BACKFILLED WITH PREPARED SOIL MIX. SECURE TREE TO STAKE WITH TIES PER DETAIL.

X. PREPARATION OF SLOPE

- (A) THE LANDSCAPE CONTRACTOR SHALL RETAIN A STATE LICENSED "TEST-CONTROL OPERATOR/ADVISOR" TO EXAMINE THE SITE AND TO SPECIFY THE TYPE AND QUANTITIES OF THE WEED CONTROL MATERIALS REQUIRED. THE RECOMMENDATIONS SHALL BE SUBMITTED TO THE LANDSCAPE ARCHITECT FOR REVIEW. THE LANDSCAPE ARCHITECT WILL THEN SUBMIT THE DATA TO THE OWNER FOR REVIEW AND APPROVAL.
- (B) NO MATERIALS OR METHOD SHALL EFFECT THE LANDSCAPE PLANTING AND MUST CONFORM TO FEDERAL, STATE AND LOCAL REGULATIONS.
- (C) THE PEST CONTROL ADVISOR SHALL DETERMINE THE REMOVAL OR NON-REMOVAL OF PERENNIAL GRASSES AND WEEDS EXISTENT IN THE PLANTING AREAS PRIOR TO THE INSTALLATION OF THE IRRIGATION SYSTEM. AFTER WHICH ALL WEEDS SHALL BE REMOVED AND CLEARED FROM THE PLANTING AREAS.
- (D) UPON COMPLETION OF THE IRRIGATION SYSTEM AND AFTER ALL EXISTING WEEDS HAVE BEEN REMOVED FROM THE PLANTING AREAS, THE FOLLOWING WEED PREVENTION SHALL BE USED:
 - APPLY A MIXTURE BY SPRAY PER ACRE AS FOLLOWS:
 - 300 LBS./ACRE OF COMMERCIAL FERTILIZER (16-8-8)
 - 100 LBS./ACRE UREA FORMALDEHYDE

- (E) WATER AREAS AT LEAST TWO TIMES DAILY FOR 21 CONSECUTIVE DAYS UNTIL THE WEED SEEDS HAVE GERMINATED. CEASE WATERING FOR THREE DAYS. SPRAY PER PEST CONTROL ADVISOR'S RECOMMENDATIONS WITH A NON-SELECTIVE SYSTEMIC HERBICIDE TO ERADICATE THE GERMINATING WEED SEEDS. DO NOT SPRAY EXISTING PLANTS. WATER AFTER HERBICIDE APPLICATION PER PEST CONTROL ADVISOR'S RECOMMENDATIONS.

- (F) ALLOW HERBICIDE TO KILL ALL WEEDS. CONTINUE THE WATERING FOR AN ADDITIONAL SEVEN DAYS TO INSURE THAT MOST OF THE WEEDS HAVE DIED. IF PERENNIAL WEEDS OR GRASSES STILL EXIST, RE-WATER TWO TIMES DAILY FOR AN ADDITIONAL 14 CONSECUTIVE DAYS, OR UNTIL NEW GROWTH APPEARS. RE-APPLY A NON-SELECTIVE HERBICIDE PER PEST CONTROL ADVISOR'S RECOMMENDATIONS REMOVE WEEDS AFTER HERBICIDE HAS HAD SUFFICIENT TIME TO KILL.

- (G) ALL SEED SHALL BE PRE-SOAKED IN "CATALYTIC PRE-MERGE" FOR THE PRESCRIBED AMOUNT OF TIME.
- (H) PRIOR TO APPLYING HYDROMULCH/SEED SLURRY, ALL SLOPE AREAS SHALL BE CLEARED OF ALL WEEDS, ROCKS LARGER THAN 2" DIAMETER AND DEBRIS. ALL AREAS SHALL BE RACKED OR "DRAGGED" TO CREATE A ROUGHENED SURFACE TO BETTER RECEIVE THE SEED APPLICATION.
- (I) THE SPECIFIED SEED MIX SHALL BE APPLIED AT THE RATE LISTED ON THE PLANS OR PLANT LEGEND.
- (J) HYDROMULCH FIBER SHALL BE APPLIED AT 2,000 POUNDS PER ACRE.
- (K) SOIL AND FIBER MULCH BINDERS (TERRA TAG 3 OR ECOLOGY CONTROL) SHALL BE APPLIED WITH THE HYDROMULCH AT 130 POUNDS PER ACRE.
- (L) FINN "HST" SHALL BE APPLIED WITH THE HYDROMULCH AT FOUR (4) GALLONS PER ACRE.
- (M) 20-4-4 OR 25-4-8 "SLOW RELEASE" FERTILIZER SHALL BE APPLIED WITH HYDROMULCH SLURRY AT 500 POUNDS PER ACRE.
- (N) ALL ADJACENT AREAS, CONCRETE SURFACES OR STRUCTURES SHALL RECEIVE A THOROUGH CLEANING TO REMOVE OVERSPRAY OF HYDROMULCH.

XII. PROTECTION

THE CONTRACTOR SHALL CAREFULLY AND CONTINUOUSLY PROTECT AND MAINTAIN ALL AREAS INCLUDED IN THE CONTRACT UNTIL FINAL ACCEPTANCE OF THE WORK BY THE CITY.

XIII. CLEAN-UP

AT THE COMPLETION OF EACH DAY'S WORK AND PRIOR TO THE CHECK INSPECTION, THE CONTRACTOR SHALL LEGALLY DISPOSE OF ALL TRASH, REFUSE, DEBRIS, CONTAINERS, ETC., OFF THE PREMISES. ALL SCARS, RUTS OR MARKS IN THE AREA CAUSED BY HIS WORK SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE.

XIV. MAINTENANCE

(A) AFTER ALL WORK INDICATED ON THE DRAWINGS OR HEREIN SPECIFIED HAS BEEN COMPLETED, INSPECTED AND APPROVED BY THE CITY, THE CONTRACTOR SHALL MAINTAIN ALL IRRIGATION SYSTEMS, AND PLANTED AREAS BY MEANS OF CONTINUOUS WATERING, WEEDING, MOWING, EDGING AND OR OTHER OPERATIONS NECESSARY FOR THE CARE AND UPRIGHT GROWING CONDITION. ALL TREES SHALL BE IN A HEALTHY, UPRIGHT GROWING CONDITION.

(B) ALL PLANTED AREAS SHALL BE KEPT FREE OF DEBRIS AND WEEDS. WEEDS MAY BE CONTROLLED AND ELIMINATED BY EITHER MANUAL OR CHEMICAL MEANS, IN NO EVENT WILL THE PROJECT RECEIVE FINAL APPROVAL AND ACCEPTANCE UNTIL IT IS FREE OF ALL WEEDS AND/OR UNSPECIFIED PLANT MATERIALS.

(C) ALL PLANTED AREAS SHALL BE FERTILIZED AS FOLLOWS: APPLY 16-20-0 COMMERCIAL FERTILIZER AT 10 LBS. PER 1,000 SQUARE FEET ON THE 28TH AND 58TH DAY.

(D) GRASS WHEN THREE INCHES (3") HIGH SHALL BE IMMEDIATELY MOWED TO TWO INCH (2") HEIGHT. AT THE END OF THE MAINTENANCE PERIOD ALL LAWN AREAS SHALL BE CUT TO SPECIFIED HEIGHT AND NEATLY TRIMMED AND EGED.

(E) HOSES, MAINTENANCE EQUIPMENT AND MATERIALS SHALL BE NEATLY STORED WHEN NOT IN USE IN AN AREA AUTHORIZED BY THE OWNER'S ON-SITE AN SUPERINTENDANT.

(F) MAINTENANCE FOREMAN ON THE JOB SHALL BE A COMPETENT ENGLISH-SPEAKING SUPERVISOR, EXPERIENCED IN LANDSCAPE MAINTENANCE AND CAPABLE OF DISCUSSING MATTERS WITH THE CITY INSPECTOR ON THE SITE.

(G) WORKMEN SHALL PRESENT A NEAT APPEARANCE AT ALL TIMES AND SHALL CONDUCT ALL WORK OPERATIONS AND DEALINGS WITH THE PUBLIC IN A DIPLOMATIC AND COURTEOUS MANNER. WORKMEN SHALL BE FULLY CLOTHED AT ALL TIMES IN DRESS SUITABLE FOR THE JOB.

(H) ALL SEEDED TURF AND/OR SLOPE AREAS MUST BE FULLY GERMINATED DISPLAYING VIGOROUS, HEALTHY COVER OF SPECIFIED SPECIES. THERE SHALL BE NO "BARE" AREAS LARGER THAN FOUR SQUARE FEET.

(I) AT THE END OF THE MAINTENANCE PERIOD ALL IRRIGATION EQUIPMENT SHALL BE IN GOOD OPERATIONAL CONDITION. THE CONTROLLER SHALL BE PROGRAMMED ACCORDING TO THE IRRIGATION PLANS. ALL "AS-BUILT" IRRIGATION DRAWINGS SHALL BE COMPLETED IN A LEGIBLE MANNER AND READY FOR TURN-OVER. ALL PLANT COUNTS SHALL BE VERIFIED FOR CONFORMANCE TO PLANTING PLANS.

XV. GUARANTEES

(A) GUARANTEES AFTER COMPLETION OF MAINTENANCE PERIOD AND FINAL ACCEPTANCE WILL BE CONTINGENT ON OWNER'S PROPER CONTINUATION OF MAINTENANCE PROGRAM.

(B) THE CONTRACTOR, IN PROTECTING HIS OWN INTERESTS, IS OBLIGATED TO PERIODICALLY CHECK WORK AREAS DURING HIS GUARANTEE PERIOD TO INSURE PROPER MAINTENANCE PROCEDURES ARE BEING IMPLEMENTED.

(C) IN CASE OF NEGLECT OR IMPROPER MAINTENANCE, THE CONTRACTOR SHALL STATE IN WRITING TO THE OWNER, HIS OBSERVATIONS AND RECOMMENDATIONS. ANY CLAIMS NOT IN WRITING WILL NOT BE CONSIDERED.

(D) TREES SHALL BE GUARANTEED BY THE CONTRACTOR TO "LIVE AND GROW" IN AN "ACCEPTABLE UPRIGHT POSITION" FOR A PERIOD OF ONE (1) YEAR AFTER COMPLETION OF THE SPECIFIED MAINTENANCE PERIOD AND/OR FINAL ACCEPTANCE. DEFINITION OF "LIVE AND GROW" AND "ACCEPTABLE UPRIGHT POSITION" SHALL MEAN THAT THE TREE MUST, DURING THE GUARANTEE PERIOD, SUSTAIN A HEALTHY, VIGOROUS APPEARANCE. IT SHALL NOT DEFOLIATE MORE THAN 30% NOR SHALL 30% OF THE FOLIAGE BE DRIED AND UNHEALTHY IN APPEARANCE. IF THE TREE, DURING THE GUARANTEE PERIOD DOES NOT SUSTAIN THIS SPECIFIED APPEARANCE, IT SHALL BE REMOVED AND REPLACED BY A TREE EQUAL TO THE ORIGINAL SPECIFICATION. ANY DAMAGE TO CONTIGUOUS PLANTING, STRUCTURES, LIGHTING OR SPRINKLERS DURING REPLACEMENT OPERATIONS SHALL BE REPLACED AND/OR REPAIRED AT THE CONTRACTOR'S EXPENSE.

(E) ALL CUTTINGS, SOD AND CONTAINER PLANTS UP TO AND INCLUDING 15 GALLON SIZE SHALL BE GUARANTEED BY THE CONTRACTOR AS TO GROWTH AND HEALTH FOR A PERIOD OF NINETY (90) DAYS AFTER COMPLETION OF MAINTENANCE PERIOD AND FINAL ACCEPTANCE.

(F) THE CONTRACTOR SHALL, WITHIN FIFTEEN (15) DAYS OF WRITTEN NOTIFICATION BY OWNER, REMOVE AND REPLACE ALL GUARANTEED PLANT MATERIALS WHICH FOR ANY REASON FAIL TO MEET THE REQUIREMENTS OF THE GUARANTEE. REPLACEMENT SHALL BE MADE WITH PLANT MATERIALS ORIGINALLY SPECIFIED AND SHALL MEET ORIGINAL GUARANTEES.

PLANTING DETAILS & SPECIFICATIONS

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NO.	REVISIONS	BY	DATE

SCALE: NOTED
DATE: 4/17/2014
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