



City Council Staff Report

DATE: March 25, 2009

PUBLIC HEARING

SUBJECT: APPROVING THE PALM SPRINGS ENERGY EFFICIENCY PROGRAM AND THE REPORT PREPARED BY THE AUTHORIZED OFFICER; AND ESTABLISHING A CONTRACTUAL ASSESSMENT PROGRAM TO FINANCE (AB811) ENERGY IMPROVEMENTS, AND CONFIRMING ASSESSMENTS TO BE LEVIED WITHIN THE PARAMETERS OF THE REPORT.

FROM: David H. Ready, City Manager

BY: Community & Economic Development Department

SUMMARY:

The City Council will consider the second step in a two step process necessary for the adoption of the Palm Springs Residential Energy Efficiency Program (REEP) that was recently authorized by the passage of Assembly Bill 811. The proposed resolution approves the report of the authorized officer in connection with the proposed establishment of a contractual assessment program pursuant to Chapter 29 of Part 3 of Division 7 of the California Streets and Highways Code, establishing a program to finance energy efficiency improvements, and confirming assessments to be levied within the parameters of the report.

RECOMMENDATION:

1. Open the public hearing and receive public testimony.
2. Adopt Resolution No. _____, "A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF PALM SPRINGS APPROVING THE REPORT OF THE AUTHORIZED OFFICER IN CONNECTION WITH THE PROPOSED ESTABLISHMENT OF A CONTRACTUAL ASSESSMENT PROGRAM PURSUANT TO CHAPTER 29 OF PART 3 OF DIVISION 7 OF THE CALIFORNIA STREETS AND HIGHWAYS CODE, ESTABLISHING A PROGRAM TO FINANCE ENERGY EFFICIENCY IMPROVEMENTS AND CONFIRMING ASSESSMENTS TO BE LEVIED WITHIN THE PARAMETERS OF THE REPORT."

ITEM NO. 1.A.

3. Authorize the City Manager or his designee to execute all the necessary documents.

BACKGROUND:

Approval of the REEP program and assessments is the second step in a two step process necessary for the adoption of the Palm Springs Residential Energy Efficiency Program (REEP) that was recently authorized by the passage of Assembly Bill 811. The program will make a significant impact toward meeting the City's energy efficiency goals.

On September 17, 2008, the City Council adopted Resolution No. 22344 authorizing the establishment of an "Energy Efficiency Loan Program Fund" and the creation of appropriate activities, cost centers, and account numbers, and amending the budget for fiscal year 2008-09 to fund the Energy Efficiency Loan Program with an initial funding in the amount of \$500,000.

On March 4, 2009, the City Council adopted Resolution No. 22444 declaring the City's intent to finance energy efficiency improvements through the use of contractual assessments pursuant to Chapter 29 of Part 3 of Division 7 of the California Streets and Highways Code. Resolution No. 22444 also set the date of March 25, 2009 for this public hearing necessary for the final adoption of this proposed program.

The Residential Energy Efficiency Program ("the Program") will assist property owners with the sometimes prohibitive up-front cost of making energy efficiency improvements that are permanently fixed to their property through an additional assessment on their property.

Summary of the Program:


1. Loans will be offered to all residents of Palm Springs for residential properties only.
2. This phase of funding is restricted to owner occupied residences—no second home or rental properties.
3. Minimum Loan amount \$5,000. Maximum Loan amount \$25,000.
4. No special priority will be given to low income households or seniors.
5. Priority will be given to older and less energy efficient homes in order to maximize on energy savings.
6. Priority will be given to efficiency rather than custom technologies such as solar, fuel cells, etc. under this phase.
7. An energy survey (audit) will be mandatory as the first step of any application. The energy survey will not only serve to educate the homeowner(s) but also help to quantify energy uses and identify most beneficial energy efficiency measures with greatest return on investment (ROI) and also will provide useful data for future phases of the program.

8. Energy efficiency measures that are not attached to the property are not eligible under the AB811 loan program. However, the energy surveys will identify the potential savings of these measures, i.e. replacement of appliances such as refrigerators, washers, dryers, etc. with energy efficient models in the anticipation that many property owners may elect to undertake these replacements on their own if the potential return on investment is attractive.

FISCAL IMPACT:

The City Council previously funded the Energy Loan Fund with \$500,000 from the Diversion Facility Fund. After the initial \$500,000 is loaned, staff can bring to the City Council additional options and/or sources to fund future REEP projects or phases which may include but are not limited to the issuance of notes, bonds, or agreements with utilities or public or private lenders or other governmental entities and quasi-governmental entities such as CalPERS or additional funding from the General Fund.

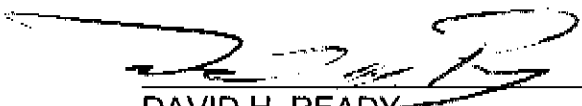
Loans will be repaid to the City through an assessment levied against the property, payable in semi-annual installments on property tax bills. Assessment installments will be subject to the same penalties, remedies (including foreclosure and sale of the property), and lien priorities as for property taxes in the event of delinquency. This lien will take precedence over all existing and future private liens against the property including mortgages, deeds of trust or other security instruments.



Diana Shay
Redevelopment Coordinator



Tom Wilson
Assistant City Manager



DAVID H. READY
City Manager

Attachments:

1. Resolution including Exhibit A (Palm Springs Residential Energy Efficiency Loan Program)

RESOLUTION NO. _____

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF PALM SPRINGS APPROVING THE REPORT OF THE AUTHORIZED OFFICER IN CONNECTION WITH THE PROPOSED ESTABLISHMENT OF A CONTRACTUAL ASSESSMENT PROGRAM PURSUANT TO CHAPTER 29 AND OF PART 3 OF DIVISION 7 OF THE CALIFORNIA STREETS AND HIGHWAYS CODE; ESTABLISHING A PROGRAM TO FINANCE ENERGY EFFICIENCY IMPROVEMENTS; CONFIRMING ASSESSMENTS TO BE LEVIED WITHIN THE PARAMETERS OF THE REPORT

RECITALS:

WHEREAS, on September 17, 2008, the City Council adopted Resolution No. 22344 authorizing the establishment of an "Energy Efficiency Loan Program Fund" and the creation of appropriate activities, cost centers, and account numbers, and amending the budget for fiscal year 2008-09 to fund the Energy Efficiency Loan Program with an initial funding in the amount of \$500,000.

WHEREAS, on March 4, 2009, the City Council adopted its Resolution No. 22444 (the "Resolution of Intention"), declaring its intention to finance energy efficiency improvements through the use of contractual assessments pursuant to Chapter 29 of Part 3 of Division 7 of the California Streets and Highways Code (the "Act"); and

WHEREAS, the Resolution of Intention ordered the City Manager or the City Manager's designee (the "Authorized Officer") to make and file with the City Clerk a report (the "Report") in accordance with Section 5898.22 of the Act and Authorized Officer has filed the Report with the City Clerk; and

WHEREAS, the Resolution of Intention set the time and place for a hearing on the proposed Residential Energy Efficiency Program (the "Program") as described in the Report; and

WHEREAS, the Resolution of Intention described the proposed arrangements for funding the Program, including certain parameters in the event that the City determines to issue improvement bonds pursuant to Streets and Highways Code Section 5898.28 to represent assessments; and

WHEREAS, on March 25, 2009, following notice duly given in accordance with law, the City Council held a full and fair public hearing at which interested persons were afforded the opportunity to object to, inquire about or provide evidence with regard to the proposed Program or any of its particulars, including the extent of the area proposed to be included within the Program, the terms and conditions of the

draft contract (described below), or the proposed financing provisions; and

WHEREAS, the Report contains (a) a map showing the boundaries of the territory within which the Program is proposed to be offered, (b) a draft application for participation in the Program (the "Application"), (c) a draft contract (the "Contract") specifying the terms and conditions that would be agreed to by a property owner and the City for participation in the Program, (d) a statement of city policies concerning contractual assessments including: (1) identification of types of facilities or energy efficiency improvements that may be financed through the use of contractual assessments (the "Authorized Equipment List"), (2) identification of a City official authorized to enter into contractual assessments on behalf of the City, (3) a maximum aggregate dollar amount of contractual assessments, (4) a method for setting requests from property owners for financing through contractual assessments in priority order in the event that requests appear likely to exceed the authorization amount, (e) a plan for raising a capital amount required to pay for work performed pursuant to contractual assessments, (f) a statement or method for determining the interest rate and time period during which contracting property owners would pay any assessment, (g) the establishment of any reserve fund or funds, (h) the apportionment of all or any portion of the costs incidental to financing, administration, and collection of the contractual assessment program among the consenting property owners and the City, and (i) a report on the results of the consultations with the County Auditor-Controller's office; and

WHEREAS, the City Council, having considered all oral and written testimony, desires to approve the Report and proceed with the establishment of the Program;

NOW, THEREFORE, BE IT RESOLVED, DETERMINED, AND ORDERED BY THE CITY COUNCIL OF THE CITY OF PALM SPRINGS AS FOLLOWS:

Section 1. The above recitals are all true and correct.

Section 2. The City Council declares that the Report, (Attached as Exhibit A), pursuant to Section 5898.22 of the California Streets and Highways Code, as filed is hereby approved.

Section 3. The City Council hereby establishes the Program to be implemented as provided in the Report.

Section 4. The City Council hereby confirms the contractual assessments to be levied within the parameters of the Report.

Section 5. The Authorized Officer is hereby directed to file with the City Treasurer and to revise as appropriate, a list of the parcels for which the City and a property owner have entered into a contractual assessment agreement (each, a "Loan Agreement") pursuant to the Program.

Section 6. The City Council hereby appoints and designates the Authorized Officer to perform the duties and functions of the City Engineer in connection with the Program.

Section 7. Upon the execution of any Loan Agreement by all parties thereto pursuant to the Program, the City Clerk is hereby directed to cause to be recorded in the office of the City Engineer and in the office of the County Recorder of the County of Riverside an assessment diagram as provided by Section 3114 of the California Streets and Highways Code.

Section 8. After recording in the office of the County Recorder of the County of Riverside an assessment diagram pursuant to Section 7 hereof, and prior to the disbursement of any loan proceeds pursuant to a Loan Agreement, the City Clerk is hereby directed to cause to be recorded in the office of the County Recorder of the County of Riverside a notice of assessment in the form and content approved by the Authorized Officer, as provided by Section 3114 of the California Streets and Highways Code.

Section 9. The City Manager or the City Manager's designee are hereby authorized and directed, jointly and severally, to do all the acts and things which may be required of them by this Resolution, or which may be necessary or desirable in carrying out the Program and all matters incidental thereto, including without limitation, to make clarifying changes to the Report and to modify as deemed necessary by the Authorized Officer or City Manager the Authorized Equipment List, the draft Application and the draft contract included therein.

PASSED, APPROVED AND ADOPTED this ____ day of _____,
2009, by the following vote:

DAVID H. READY, CITY MANAGER

ATTEST:

JAMES THOMPSON, CITY CLERK

CERTIFICATION

STATE OF CALIFORNIA)
COUNTY OF RIVERSIDE) ss.
CITY OF PALM SPRINGS)

I, JAMES THOMPSON, City Clerk of the City of Palm Springs, hereby certify that Resolution No. _____ is a full, true and correct copy, and was duly adopted at a regular meeting of the City Council of the City of Palm Springs on the 25th day of March, 2009 by the following vote:

AYES:
NOES:
ABSENT:
ABSTAIN:

James Thompson, City Clerk
City of Palm Springs, California

Palm Springs Residential Energy Efficiency Loan Program (AB 811 Program)



City of Palm Springs
Department of Community & Economic Development

March 5, 2009

PALM SPRINGS RESIDENTIAL ENERGY EFFICIENCY PROGRAM (REEP)

Single Family Home Program

The City of Palm Springs is dedicated to energy conservation as something that makes good financial sense and protects our environment for the future. The innovative Set to Save partnership is part of a longstanding commitment that is demonstrated by the City's retrofitting its facilities with energy and water efficient fixtures, the alternate fuel cars and trucks that make up a large part of Palm Springs's vehicle fleet, and in Palm Springs's forward thinking construction efficiency standards.

Conceived and designed to be a groundbreaking model for other communities to follow, the Palm Springs Residential Energy Efficiency Program teams the City of Palm Springs with its energy utilities, Southern California Edison and Southern California Gas Company, in an energy efficiency and conservation campaign.

The program is designed to empower the community to save money and energy by reducing energy consumption and peak demand within the City by 20% (adjusted for growth) within five years through education, added financial incentives, new technologies and services, and a variety of City-wide efforts to heighten awareness and participation by Palm Springs residents.

Palm Springs residents can take advantage of this program to replace old heating ventilation, air conditioning, lighting, and pool pumping equipment with new, more energy efficient models.

For program details, contact the Department of Community & Economic Development, City of Palm Springs, 3200 Tahquitz Canyon Way, Palm Springs, CA 92262 or by telephone at 760.323.8264.

Construction Standards: Recently approved construction efficiency standards are a key part of the City of Palm Springs' efforts to cut local energy consumption and demand.

The new standards apply to all new residential and commercial buildings throughout the City, requiring them to consume 10% less energy than allowed by State law with the exception of homes over 4,000 square feet, which are required to consume 15% less energy than allowed in California.

In addition, the new standards encourage the use of added insulation, high performance windows and glass doors, as well as high efficiency air conditioning and heating systems, in new buildings.

INTRODUCTION

This Report has been prepared pursuant to Section 5898.22 of the California Streets and Highways Code in connection with the establishment of the City of Palm Springs Residential Energy Efficiency Program ("REEP"). This is the guiding document for REEP and fulfills the Section 5898.22 requirements that this report contain:

1. A map showing the boundaries of the territory within which contractual assessments are proposed. (See Appendix B.)
2. A draft contract between a property owner and the City. (See Appendix D.)
3. City policies concerning contractual assessments.
4. A plan for raising a capital amount to pay for the work performed. (See Financial Strategy page 5)

The Residential Energy Efficiency Program described herein is designed to help Palm Springs property owners save energy and gain independence from the scarcity of sources of energy that are compromising the California power grid, threatening national security, and endangering the global climate.

The Residential Energy Efficiency Program helps Palm Springs property owners save energy and money while doing right for the environment.

Goals

REEP aims to provide multiple benefits. By enabling property owners to take responsible energy actions, the program seeks to cut their utility bills through time-tested conservation measures. At the same time it shores up the local economy, it makes it possible for Palm Springs to fulfill energy conservation and climate protection commitments.

The City has established a goal to reduce electric and natural gas energy consumption by 20%. The City welcomes innovative energy solutions that will contribute to this goal. The City intends to initially fund REEP with \$500,000 for energy efficiency investments that might not have otherwise been possible.

Background

Assembly Bill 811 was approved by the California Legislature signed into law by the Governor on July 21, 2008 and became immediately effective as an urgency measure. Under this bill, the California Legislature has declared that a public purpose will be served by a contractual assessment program that provides the local government with the authority to finance the installation of distributed generation renewable energy sources – such as solar – and energy efficiency improvements that are affixed to residential, commercial, industrial, or other real property (collectively known as “Energy Improvements”).

The City of Palm Springs has chosen to focus on the promotion of energy and water conservation measures. To make Energy Improvements more affordable and to promote their installation, AB 811 provides procedures for authorizing voluntary assessments to finance the cost of these improvements. The Residential Energy Efficiency Program works with the owners of the property on which the Energy Improvements are to be made.

The City will make loans (“REEP Loans”) to property owners within the City to finance the installation of Energy Improvements pursuant to contractual assessment agreements. Property owners in the City will repay REEP Loans through an assessment levied against their

property which is payable in semi-annual installments on property tax bills.

Program Benefits

From the City's perspective, the Residential Energy Efficiency Program will be a key element in achieving the City's 20% energy reduction goals. REEP provides a significant channel for funneling more resources into the shift to greater efficiency and renewable energy, while securing the energy future.

For property owners, REEP offers:

- A no-money-down means of financing Energy Improvements.
- Fixed-rate loans.
- Financing without requiring a property appraisal.
- A streamlined loan process.

Program Administration

REEP will be administered by the City's Department of Community & Economic Development. The Department's staff will be responsible for:

- Community outreach
- Coordinating Energy surveys
- Advising property owners
- Processing loan applications
- Managing and tracking funds available for REEP Loans
- Monitoring individual and collective energy conservation

The intent of these services is to provide a "turn-key" service for Palm Springs property owners who would otherwise be unable or unwilling to finance efficiency measures and renewable energy options. Their participation is critical to the City in achieving its 20% energy reduction goals and for the State to meet its greenhouse gas commitments to reduce carbon emissions to 1990 levels by 2020.

PROGRAM REQUIREMENTS

Eligible Property Owners

All owners of improved residential real property are eligible for the Residential Energy Efficiency Program. Owners may be individuals, associations, business entities, cooperatives, and virtually any owner which pays real property taxes.

A property owner needs to be current in the payment of property taxes.

Eligibility Criteria

- Owners of residential property (name must appear on title)
- Full-time Palm Springs resident (must show driver's license or other proof of full-time residency)
- No rental properties, snowbirds, or second-homes (in addition to proof of ownership, must sign affidavit of occupancy and subject to public record search)
- No mobile homes since AB 811 is a property-tax-based program, mobile home owners are excluded because they don't pay property tax (they pay a vehicle registration instead)

Eligible Properties

REEP Loans are available to all owners of improved residential real properties in the City as described above.

Eligible Equipment

REEP affords property owners in Palm Springs the opportunity to take advantage of a wide range of energy-savings measures, consistent with the following provisions:

1. REEP provides financing for Energy Improvements that are permanently affixed to property.
2. REEP Loans are specifically made available for Energy Efficiency Improvements. Property owners that elect to engage in broader retrofit projects – such as home remodeling – will only be provided REEP Loans for that portion of the costs used to retrofit existing structures with Energy Improvements.
3. REEP Loans are intended for retrofit activities to replace outdated equipment and to install new equipment that makes energy efficiency improvements as well as building envelope improvements that will reduce heat gain in the summer and heat loss in the winter. Eligible equipment and efficiency measures are discussed in greater detail in Appendix A.

Eligible Costs

Eligible costs of the Energy Improvements include the cost of equipment and installation. Installation costs may include, but are not limited to, labor, drafting and engineering, permit fees, and inspection charges.

The installation of Energy Improvements can be completed by a qualified contractor of the property owner's choice. Property owners will be required to obtain bids from three qualified contractors and select the lowest qualified bid for the work. Contractors must include copies of their state and city licenses, liability and workers compensation insurance, bonding and warranty for equipment and workmanship. Only that work carried out by a licensed contractor

will be eligible under this program. Property owners that elect to do the work themselves will not be eligible under this program.

In each case, the Department of Community & Economic Development will determine whether the estimated equipment and installation costs are reasonable. The Department will review the Contractors bids and qualifications (licenses, insurances, and warranty), evaluate market conditions and may require additional bids to determine whether costs are reasonable. While the property owner will be able to select the Contractor of his or her choice, the amount available for the REEP Loan will be limited to an amount between \$5,000 and \$25,000.

PARTICIPATION

REEP covers a wide range of energy efficiency fixtures, from windows and doors, attic insulation and reflective roofs and coatings that are Energy Star rated. Packaged and central air conditioning systems must meet the minimum efficiencies specified in the guidelines. Given Palm Springs's large number of residential swimming pools, specific efficiency requirements are presented for pool pumps and heaters.

ENERGY SURVEYS

The Department of Community & Economic Development in conjunction with Southern California Edison will conduct energy surveys at owners' properties. During these on-site surveys, a trained Program expert will review as appropriate, energy efficiency, energy management, and renewable energy opportunities and REEP financial details with the property owner. The property owner will then be advised as to the potential Energy Improvements, their estimated costs and savings through REEP participation.

The energy survey is a mandatory and integral part of this program. The energy survey will help prioritize energy efficiency measures in terms of their potential reduction in energy use, estimated cost and potential return on investment (ROI). The energy survey will ensure that if an applicant has energy efficiency opportunities that exceed \$25,000 in value, the selection of specific measures will be consistent with the goals of this program.

THE FINANCIAL STRATEGY

The City will create the Residential Energy Efficiency Program Fund which may accept funds from any available source and which may disburse such funds for the purpose of funding Energy Improvements. Loan repayments – through the property assessment mechanism – will be made to the Energy Loan Fund.

The City initially will seed the Energy Loan Fund with \$500,000 from the Diversion Facility Fund. Thereafter, the Energy Loan Fund may be funded from a number of other potential sources, and combinations of sources, which may include but are not limited to additional funding from the General Fund, the issuance of notes, bonds, or agreements with utilities or public or private lenders or other governmental entities and quasi-governmental entities such as CalPERS.

REEP Funds will then be used by the City for additional REEP Loans and/or to establish a Reserve Fund or pay administrative costs and/or to reimburse itself for advancing moneys from the General Fund to the REEP Fund.

The Department of Community & Economic Development will report on participation to the City Manager and Council on a quarterly basis at a minimum, providing Council with the information necessary to shift funds as it elects to do so at its sole discretion.

The City may also establish a REEP Reserve Fund if bonds are issued to cover REEP Loan payments in the event of assessment delinquencies prior to foreclosure and tax sale if deemed necessary by the City Manager and the City Council.

REEP Parameters

Minimum Energy Loan Amount

The minimum size for an REEP Loan is \$5,000.

Maximum Energy Loan Amount

The maximum loan amount for REEP Loans is \$25,000.

Duration

REEP Loans are made available for up to 20-year terms to accommodate a wide range of efficiency measures and renewable energy investments. The term of the loan is at the discretion of the property owner in consultation with the Department of Community & Economic Development. The City will set the interest rate for a REEP Loan at the time that the City and property owner enter into the contractual assessment agreement. The homeowner may pay off the loan early if he or she elects to do so with no penalties or fees.

Interest Rate

REEP Loans will be made for the initial \$500,000 at an annual interest rate not to exceed 7% for all loans. Thereafter, the City Council will maintain the discretion to adjust the interest rate up to an amount not to exceed 10%. The Council will determine interest rates so that the Energy Loan Fund remains financially viable up to the legal limit.

The City will set the interest rate for a REEP Loan at the time that the City and property owner enter into the contractual assessment agreement.

Administrative Fees

The City of Palm Springs will offer the Residential Energy Efficiency Program as an additional City service that will help property owners achieve their energy goals, while helping the City

achieve its energy and climate protection goals. The City of Palm Springs will be responsible for all REEP marketing and outreach, as well as the duties of the Department of Community & Economic Development.

The City may elect to cover a portion of its costs through the "spread" between its combined earnings rate, and the REEP Loan issuance rate. Similarly, it may elect to recover REEP costs through a spread between bond rates and loan rates, or the spread between interest rates of any financial vehicle. The City will not charge property owners a fixed administrative fee.

Two forms of costs will be the responsibility of the property owner:

1. Title costs – including title insurance – will be shared by the property owner and the City. This cost to the property owner will not exceed \$200 per REEP Loan.
2. Assessment collection costs will appear as a line item on property taxes not to exceed \$40 per property per year – and will be paid by property owners. This cost was determined after consultation with the County of Riverside Assessor's Office.

CHANGES TO REPORT

The Director or City Manager may make changes to this Report that the Director or City Manager reasonably determines are necessary to clarify its provisions. Any changes to this Report that materially modify the Residential Energy Efficiency Program shall only be made after approval by the City Council.

The City Manager or Director may modify from time to time the Equipment List, draft Loan Contract and draft Application attached hereto as Appendix A, Appendix D and Appendix C, respectively, as deemed necessary by the City Manager or the Director to effectuate the purposes of the Program.

Appendix A ELIGIBLE EQUIPMENT

The Residential Energy Efficiency Program offers REEP loans for a number of equipment types and energy efficiency measures.

Efficiency Measures

The Residential Energy Efficiency Program provides services and loans for a wide range of Energy Star-rated efficiency measures. Except for HVAC equipment as noted below, efficiency measures that are Energy Star rated must meet the Energy Star minimum efficiency levels.

For all packaged and central air conditioning systems funded in this loan program, the minimum efficiency levels shall be as required by the current minimum requirements set forth in Table A-1.

The City of Palm Springs anticipates that Energy Star requirements will “ratchet up” to greater efficiency levels over time. Energy Star will also become more inclusive of technologies over time. Thus the REEP will evolve with Energy Star and the market for energy-efficient technologies.

The following Energy Star measures – among others – are eligible in the program.

- Attic and wall insulation
- Light fixtures (no bulb-only retrofits)
- Reflective roofs and coatings
- Windows, doors, and skylights
- Tank-less Water Heaters

Pool Equipment

Given the large number of residential swimming pools in Palm Springs the following prescriptive standards must be upheld for Efficiency Track funding:

- Pool circulating pumps (must be Variable Flow and/or Multi-speed with controllers)
- Natural gas pool heaters (must have a thermal efficiency of 84% or greater)

Other Eligible Energy Efficiency Measures

- Caulking and weather-stripping
- Duct insulation
- Programmable thermostats
- Solar window shades and films
- Awnings, overhangs and other shade structures
- LED lighting fixtures
- Compact fluorescent lighting

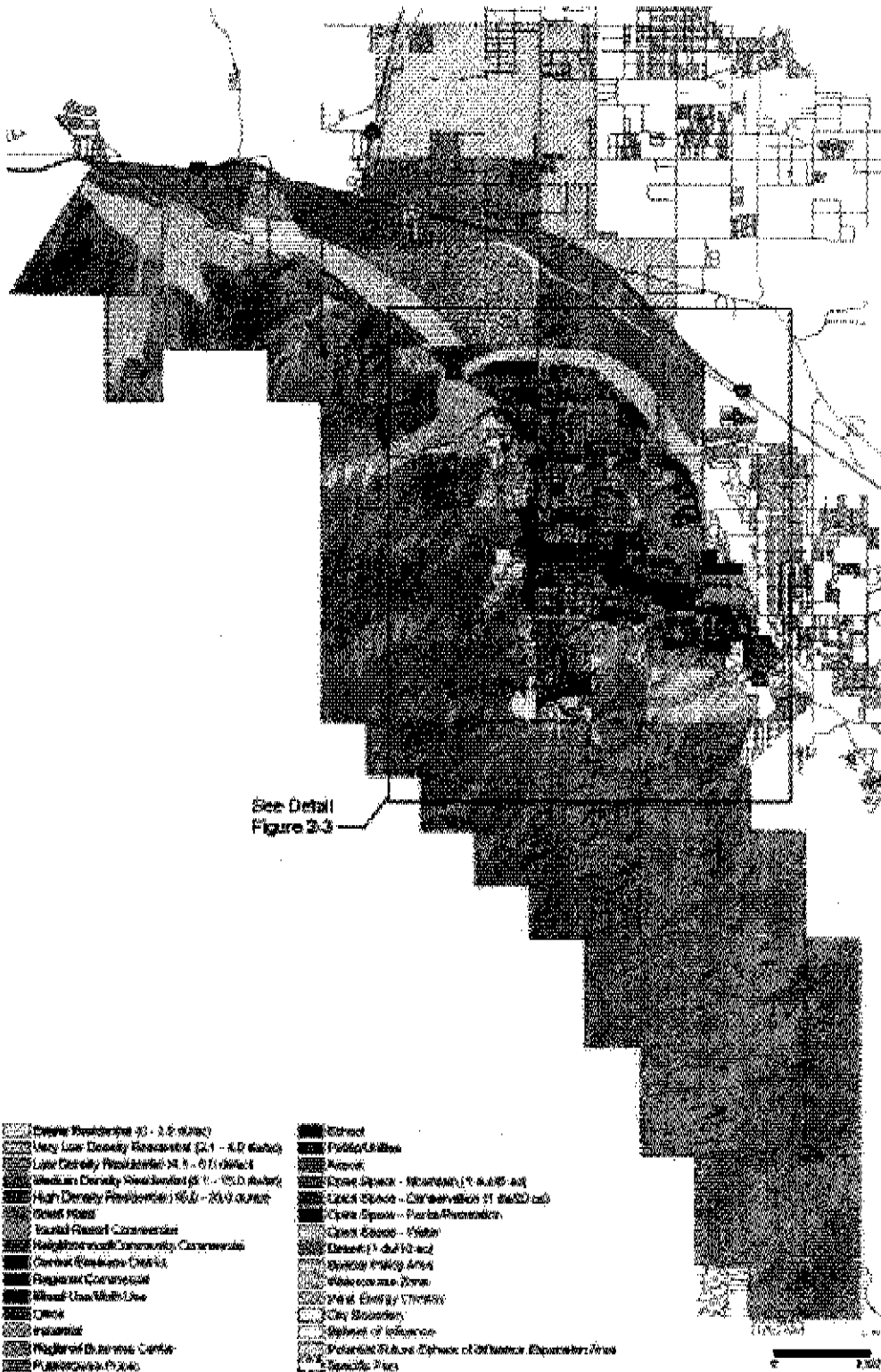
- Timers for lighting and other electrical equipment
- Sensors and/or dimmers for lighting
- Solatubes or skylights to eliminate the need for daytime lighting
- Attic ventilation/fans

TABLE A-1
City of Palm Springs
Residential Energy Efficiency Program
Eligible Equipment

Please show this list to your contractor.

Heating, Ventilating and Air Conditioning Systems (HVAC)	Minimum efficiency: Split systems – 14 SEER and 12 EER or higher; Natural Gas Furnace of 90 AFUE or higher (Energy Star Listed) Packaged systems – 14 SEER and 11 EER or higher
Evaporative Coolers	Separate ducting systems: Duct system must be independent of the air conditioning and heating duct system.
Natural gas storage water heaters	Energy Factor (EF) of 0.62 or higher (Energy Star Listed)
Tank-less water heaters	Energy Factor (EF) of 0.82 or higher (Energy Star Listed)
Thermal solar systems	Must be rated by the Solar Rating Certification Council (SRCC)
Windows and glass doors	U Value 0.40 or less Solar Heat Gain Coefficient 0.40 or less (Energy Star Listed)
Attic and Wall Insulation Light Fixtures	Energy Star Listed
Natural Gas Pool Heaters	Thermal Efficiency of 84% or greater
Pool Pumps	Variable flow and/or multi-speed with controllers, conforming to the Set to Save requirements
Reflective Roofs and Coatings	Energy Star Listed

APPENDIX B City of Palm Springs Residential Energy Efficiency Program Map of Eligible REEP Boundaries



APPENDIX C
City of Palm Springs
Residential Energy Efficiency Program
Application Form

(Part 1 Pre-Application)

The following information is needed to determine your eligibility for the City of Palm Springs-Residential Energy Efficiency Program. All information in this form is confidential. Applications will be processed on a first-come, first-served basis. Please supply all of the information requested in order to ensure prompt processing. If you need assistance in completing the form, contact the City of Palm Springs, Department of Community & Economic Development at 760.323.8264.

(Please type or print in ink)

Applicant's Name:

Property Address:

Name(s) of Title Holder(s):

Telephone Number: Home: () _____ **Work:**
 () _____

Email Address: _____

How long have you owned this property () Purchasing Now () Less than 1 Year
 () 1 to 5 Years () Over 5 Years

Family Composition: (List each person residing in your home. Use additional pages if necessary.)

Family Member Number	Name (Last, First, M.I.)	Relationship to Head of Household	Age
1.	Head of Household	Self	
2.			
3.			
4.			
5.			

Is there a mortgage or mortgages on the property? _____
 If yes, please provide the name and social security number of all borrowers on the mortgage(s):

Name of Mortgagee	Social Security Number

I hereby declare that the foregoing information is true and correct to the best of my knowledge. I authorize the City of Palm Springs to verify the information to determine my eligibility and to conduct an inspection of my property. I understand that the City is authorized to require correction of fire, life, and safety hazards.

 Applicant Date

 Applicant Date

Mail or deliver completed pre-application with copies of required documents to: City of Palm Springs, Department of Community & Economic Development, P.O. Box 2743, Palm Springs, CA 92263. City Hall is located at 3200 Tahquitz Canyon Way, Palm Springs, CA 92262.

(Part 2-To be completed after energy survey and contractor bidding)

Proposed Improvements (please describe and attach separate sheet if necessary):

Itemized Estimated Cost of Improvements:

- 1. Construction Contract (materials/labor) \$ _____
- 2. Contingency (10%) \$ _____
- 3. Drafting, Engineering, and/or Plan Preparation Fees \$ _____
- 4. Permit Fees \$ _____
- 5. Title Report \$ _____
- 6. Other (please specify on separate sheet) \$ _____

TOTAL

\$ _____

Requested Loan Amount (minimum \$5,000, maximum \$25,000): \$ _____

Loan Term: 20-years, with option to pay off at any time without penalty.

DECLARATIONS:

By signing this Application, the undersigned hereby declares under penalty of perjury under the State of California all of the following:

I/we am/are all of the current owner(s) of record of the property described herein.

I/we am/are not, and the property described herein is not, currently involved in a bankruptcy proceeding.

That (i) the information provided in this Application is true and correct as of the date set forth opposite my/our signature(s) on this Application and (ii) I/we understand that any intentional or negligent misrepresentation(s) of the information contained in this Application may result in civil liability and/or criminal penalties including, but not limited to, fine or imprisonment or both under the provisions of Title 18, United States Code, Section 1001, et. seq. and liability for monetary damages to the City of Palm Springs, its agents, successors and assigns, insurers and any other person who may suffer any loss due to reliance upon any misrepresentation which I/we have made in this Application.

I/we am/are applying for a loan pursuant to the City of Palm Springs' Residential Energy Efficiency Program (REEP). I/we understand that I/we must execute a Loan Agreement with the City of Palm Springs in order to receive a loan and I/we have the authority, without the consent of any third party which has not been previously obtained, to execute and deliver the Loan Agreement, this Application, and the various documents and instruments referenced herein.

I/we understand that the loan made pursuant to the Loan Agreement will be repayable through an assessment levied against my/our property. The assessment and the interest and any penalties thereon will constitute a lien against my/our property until they are paid, even if I/we sell the property to another person. I/we understand that assessment installments (including principal and interest) will be collected on my/our property tax bill in the same manner and at the same time as property taxes and will be subject to the same penalties, remedies, and lien priorities as for property taxes in the event of delinquency.

That executing the Loan Agreement, receiving the loan proceeds, and consenting to the assessment levied against my/our property to repay the loan will not constitute a default under any other agreement or security instrument which affects my/our property or to which I/we am/are a party.

I/we agree that the selection of product(s), equipment, and/or measures referenced in this Application (the "Equipment"), the selection of manufacturer(s), dealer(s), supplier(s), contractor(s) and/or installer(s), and the decision regarding the purchase, installation and ownership/maintenance of the Equipment is/are my/our sole responsibility and that I/we have not relied upon any representations or recommendations of the City of Palm Springs in making such selection or decision, and that my manufacturer, dealer, supplier, contractor or installer of the Equipment is not an agent or representative of the City of Palm Springs.

I/we understand that the City of Palm Springs makes no warranty, whether express or implied, without limitation, the implied warranties of merchantability and fitness for any particular purpose, use or application of the Equipment.

I/we agree that the City of Palm Springs has no liability whatsoever concerning (i) the quality or safety of the Equipment, including its fitness for any purpose, (ii) the estimated energy savings produced by the Equipment, (iii) the workmanship of any third parties, (iv) the installation or use of the Equipment including, but not limited to, any effect on indoor pollutants, or any other matter with respect to the City of Palm Springs REEP.

I/we understand that I/we is/are responsible for meeting all City of Palm Springs REEP requirements and complying with all applicable Federal/State/County/City laws and the requirements of any agreement which effects the use of the property (such as homeowner's association requirements, if any).

Signed on this _____ day of _____, 200____, in the City of Palm Springs, State of California.

Property Owner Signature: _____ Printed Name: _____

Property Owner Signature: _____ Printed Name: _____

REQUIRED ATTACHMENTS:

All applicants must provide:

- Pre-Application (Completed and Signed)
- Verification of Ownership (Title or Deed of Trust)
- Affidavit of Occupancy (Signed)
- Electric Bills (previous 12 months)
- Contractor's bid or proposal and signed contract, including contractor's name and copies of State and City licenses, insurance certificates, bonding and warranty for materials and workmanship
- Disclosure Regarding Assessment Financing (please complete and sign)
- State of California Fair Lending Notice (please complete and sign)
- Copy of Homeowner's Insurance Policy with adequate coverage for all new equipment and energy efficiency improvements

Staff will include:

- GIS printout by Residence Address
- GIS printout by Owner(s) Name(s)
- Amortization Schedule (for all projects over \$5,000)
- Application scoring sheet
- Project (Work) Description

- Project Cost Estimate
- Credit report (to show no current default on mortgage)
- Title Search

IF YOUR APPLICATION IS DENIED, YOU HAVE THE RIGHT TO A WRITTEN STATEMENT OF THE SPECIFIC REASONS FOR THE DENIAL. TO OBTAIN THE WRITTEN STATEMENT, PLEASE CONTACT THE PROGRAM ADMINISTRATOR AT THE CITY OF PALM SPRINGS, DEPARTMENT OF COMMUNITY AND ECONOMIC DEVELOPMENT AT (760) 323-8264, 3200 E. TAHQUITZ CANYON WAY, P.O. BOX 2743 PALM SPRINGS, CA 92263-2743, OR SEND AN EMAIL TO MARINA.KARAS@PALMSPRINGS-CA.GOV WITHIN 60 DAYS FROM THE DATE YOU ARE NOTIFIED OF THE DENIAL. THE PROGRAM ADMINISTRATOR WILL PROVIDE YOU A WRITTEN STATEMENT OF THE REASONS FOR THE DENIAL WITHIN 15 DAYS OF RECEIVING YOUR REQUEST FOR THE STATEMENT.

THE FEDERAL EQUAL CREDIT OPPORTUNITY ACT PROHIBITS CREDITORS FROM DISCRIMINATING AGAINST CREDIT APPLICANTS ON THE BASIS OF RACE, COLOR, RELEGION, NATIONAL ORIGIN, SEX, MARITAL STATUS, AGE (PROVIDED THE APPLICANT HAS THE CAPACITY TO ENTER INTO A BINDING CONTRACT); BECAUSE ALL OR PART OF THE APPLICANT'S INCOME DERIVES FROM ANY PUBLIC ASSISTANCE PROGRAM; OR BECAUSE THE APPLICANT HAS IN GOOD FAITH EXERCISED ANY RIGHT UNDER THE CONSUMER CREDIT PROTECTION ACT. THE FEDERAL AGENCY THAT ADMINISTERS COMPLIANCE WITH THIS LAW CONCERNING THIS CREDITOR IS THE FEDERAL TRADE COMMISSION, EQUAL CREDIT OPPORTUNITY, WASHINGTON, DC 20580.

DISCLOSURE REGARDING ASSESSMENT FINANCING

The Residential Energy Efficiency Program (REEP) establishes the manner by which the City of Palm Springs (the "City") may make loans to property owners pursuant to Chapter 29 of Part 3 of Division 7 of the California Streets and Highways Code (commencing with Section 5898.10) to finance the installation of energy efficiency improvements that are permanently fixed to the owner's real property. Each loan will be made pursuant to a loan agreement between the City and the property owner.

The loan will be secured by and repayable through an assessment levied by the City against the owner's property. Each year until the loan is repaid, assessment installments (including principal and interest) will be collected on the property tax bill for the property in the same manner and at the same time as property taxes. Assessment installments will be subject to the same penalties, remedies (including foreclosure and sale of the property), and lien priorities as for property taxes in the event of delinquency.

The assessment and each installment thereof, and any interest and penalties thereon, will constitute a lien against the property until paid even though prior to full payment the property is conveyed to another person. An assessment lien will be recorded against the owner's property in the office of the County Recorder of the County of Riverside. Such lien will be paramount to all existing and future private liens against the property, including mortgages, deeds of trust and other security instruments.

Before completing a REEP Application, a property owner should carefully review any agreement(s) or security instrument(s) which affect the property owner's property or to which the property owner is a party. **ENTERING INTO A REEP LOAN AGREEMENT WITHOUT THE CONSENT OF THE OWNER'S EXISTING LENDER(S) COULD CONSTITUTE AN EVENT OF DEFAULT UNDER SUCH AGREEMENTS OR SECURITY INSTRUMENTS. DEFAULTING UNDER AN EXISTING AGREEMENT OR SECURITY INSTRUMENT COULD HAVE SERIOUS CONSEQUENCES TO THE PROPERTY OWNER, WHICH COULD INCLUDE THE ACCELERATION OF THE REPAYMENT OBLIGATIONS DUE UNDER SUCH AGREEMENT OR SECURITY INSTRUMENT.**

A property owner must declare under penalty of perjury in the REEP Application that (i) the owner has the authority, without the consent of any third party which has not been previously obtained, to execute and deliver the loan agreement, the Application, and the various documents and instruments referenced therein; and (ii) that executing the loan agreement, receiving the loan proceeds, and consenting to the assessment levied against the property owner's property will not constitute a default under any other agreement or security instrument which effects the property owner's property or to which the property owner is a party. **If you have any questions regarding any agreements or security instruments which effect your property or to which you are a party or your authority to execute the REEP Application or enter into a loan agreement with the City without the prior consent of your existing lender(s), the City strongly encourages you to consult with your own legal counsel and/or your lender(s).** City staff will not provide property owners with advice regarding existing agreements or security instruments.

ACKNOWLEDGMENT OF RECEIPT

I have received a copy of this Notice.

I have received a copy of this Notice.

Property Owner Signature:

Property Owner Signature:

Printed Name: _____

Printed Name: _____

Date: _____

Date: _____

THE HOUSING FINANCIAL DISCRIMINATION ACT OF 1977 FAIR LENDING NOTICE

It is illegal to discriminate in the provisions of or in the availability of financial assistance because of the consideration of:

1. Trends, characteristics or conditions in the neighborhood or geographic area surrounding a housing accommodation, unless the financial institution can demonstrate in the particular case that such consideration is required to avoid an unsafe and unsound business practice; or
2. Race, color, religion, sex, marital status, national origin or ancestry.

It is illegal to consider the racial, ethnic, religious or national origin composition of a neighborhood or geographic area surrounding a housing accommodation or whether or not such composition is undergoing change, or is expected to undergo change, in appraising a housing accommodation or in determining whether or not, or under what terms and conditions, to provide financial assistance.

These provisions govern financial assistance for the purpose of the purchase, construction, rehabilitation or refinancing of a one-to-four unit family residence occupied by the owner and for the purpose of the home improvement of any one-to-four unit family residence.

I/we received a copy of this notice.

(Applicant)

(Date)

(Co-Applicant)

(Date)

APPENDIX D-LOAN AGREEMENT
City of Palm Springs
Residential Energy Efficiency Program

Loan Application Instructions

Please complete and sign the attached Application Form and include all requested attachments. Please type or print neatly in blue or black ink.

All applications are processed on a first-come, first-served basis, upon receipt, until funds are depleted. Incomplete and/or incorrect applications cannot be processed. Resubmitted applications are processed on a first-come, first-served basis upon the new receipt date.

If there are insufficient funds available, an approved applicant will be placed on a waiting list.

Keep a copy of your completed Application and all documents submitted for your records. Keep a copy of all receipts, paid invoices and home improvement contracts.

Mail or Deliver your completed Application and attachments to:

City of Palm Springs
Community and Economic Development Department
3200 E. Tahquitz Canyon Way
P. O. Box 2743
Palm Springs, CA 92263-2743

Attention: Marina Karas, REEP Program Administrator

For questions regarding the status of your Application call:

City of Palm Springs, Community and Economic Development Department
760-323-8264 or fax your request to 760-322-8325 Attention: Marina Karas

For information on home improvement contracts or the status of your contractor's license visit www.cslb.ca.gov or call the Contractor's State License Board at 1-800-321-CSLB.

LOAN AGREEMENT
CITY OF PALM SPRINGS
RESIDENTIAL ENERGY EFFICIENCY PROGRAM (REEP)

This Loan Agreement ("Agreement") is made and entered into as of this _____ day of _____, by and between the CITY OF PALM SPRINGS, a California municipal corporation ("City") and ("Borrower").

RECITALS

A. City has established the Residential Energy Efficiency Program (the "Program") pursuant to which City may extend loans to property owners to finance the acquisition and installation on their property of certain qualifying renewable energy systems and energy efficient equipment. The purpose and method of administration of the loans under the Program are described in the Residential Energy Efficiency Program Report adopted by the City Council on _____, 2009, as it may be amended from time to time (the "Report").

B. The Program is authorized by Chapter 29 of Part 3 of Division 7 of the California Streets and Highways Code (the "Act").

C. The Borrower has submitted to the City that certain Palm Springs REEP Program Loan Application dated _____, 200____, a copy of which is attached hereto as Exhibit "A" and incorporated herein by this reference (the "Application"). The Application describes, among other things, energy efficient equipment which is to be financed with the proceeds of the loan described herein, and to be constructed, on or installed in the property of Borrower described in Exhibit "B" attached hereto and incorporated herein by this reference (the "Property"); and the City has approved the Application as provided in the Report.

D. The Borrower wishes to participate in the Program by executing this Agreement with the City and using the proceeds of the loan made by the City to the Borrower hereunder to finance the acquisition and [construction] [installation] on the Property of the [energy efficiency equipment] described in the Application (the "Equipment"). The Equipment and its construction on or installation in the Property is collectively referred to herein as the "Work".

NOW, THEREFORE, in consideration of the mutual covenants contained herein and other valuable consideration, the receipt and adequacy of which is hereby acknowledged, the parties agree as follows:

AGREEMENT

1. Loan Agreement.

(a) Subject to the conditions set forth herein, City agrees to extend a loan ("Loan") to Borrower in the amount of up to _____ Dollars (\$_____) (the "Loan Amount"). Notwithstanding anything to the contrary contained herein, the Loan Amount shall not in any event exceed the actual cost of the Work. The Loan Amount shall be adjusted, if necessary, prior to the first disbursement of the Loan Amount to the Borrower and following the post-completion inspection by the City's Building Department staff as described in Section 3 below, and shall be adjusted by the City Manager or his designee (the "Director") to an amount equal to the actual cost of the Work. Any adjustment of the Loan Amount by the Director shall be made on the basis of the best available written evidence of the actual cost of the Work and in the exercise of the Director's reasonable judgment. The Borrower shall be solely responsible for the payment of all cost of the Work which exceeds the Loan Amount and Borrower agrees in any event to complete the Work and to fund all costs associated with such completion which may be in excess of the Loan Amount. This Agreement, together with the Application, the Report and the documents and instruments attached to or referenced in this Agreement and the Application are collectively referred to herein as the "Loan Documents."

(b) The term of the Loan and this Agreement shall be (_____) years from the date that the proceeds of the Loan are first disbursed to the Borrower.

(c) Interest shall accrue on the unpaid principal balance of the Loan Amount from the date first disbursed to Borrower at the simple interest rate of seven percent (7%) per annum. Interest shall be computed on the basis of a three hundred sixty (360) day year. If a law which applies to the Loan and which sets maximum interest rates or loan charges is interpreted by a court of competent jurisdiction in a manner as would cause the interest or other loan charges collected or to be collected in connection with the Loan to exceed the limits permitted by such laws, then: (i) any such interest or loan charge shall be reduced by the amount necessary to reduce the interest or charge to the permitted limit; and (ii) any sums already collected which exceed permitted limits will be refunded by the City. The City may choose to make the refund by reducing the outstanding principal amount of the Loan or by making a direct payment to the Borrower.

(d) The Borrower promises to pay to the City, without deduction or offset, the Loan Amount and the interest accrued thereon as provided herein. The repayment of the Loan Amount and interest accrued thereon shall be repaid by the Borrower to the City by the payment of an assessment levied against the Property pursuant to Section 5898.30 of the California Streets and Highway Code (the "Assessment"). In addition to the Assessment, the Borrower promises to pay to the City, without deduction or offset, an annual assessment levied against the Property to pay costs incurred by the City which result from the administration and collection of the Assessment or from the administration or registration of any associated bonds or reserve or other related funds (the "Annual Administrative Assessment"). The Annual Administrative Assessment shall not exceed Forty Dollars (\$40.00) per year.

(e) The Assessment and the Annual Administrative Assessment, and the interest and any penalties thereon shall constitute a lien on the Property until they are paid. The installments of the Assessment and the Annual Administrative Assessment (including principal and interest) shall be collected on the property tax bill pertaining to the Property, and shall be subject to the same penalties, remedies, and lien priorities as for property taxes in the event of non-payment. The Borrower hereby expressly consents to the levy of the Assessment and the Annual Administrative Assessment and the imposition of the lien on the Property as described herein and in the Act.

(f) The amount of assessment installments that will be placed on the Property each year is set forth in Exhibit "C" attached hereto and incorporated herein by this reference.

(g) The Assessment may be prepaid, in whole or in part, at any time upon the payment of a premium in an amount equal to three percent (3%) of the amount of the Assessment to be prepaid.

2. Use of Proceeds.

All proceeds of the Loan shall be used by Borrower for the sole purpose of paying for the reasonable costs and expenses of the Work on the Property, and in connection therewith the Borrower shall comply with all requirements set forth herein, in the Application and in the Report.

3. Disbursement Procedures.

(a) Notwithstanding anything to the contrary contained herein, the City shall have no obligation to disburse the Loan Amount hereunder unless and until each of the following conditions is satisfied, or any such condition is expressly waived by the Director:

(i) The receipt by the Director of a written certification from Borrower, and the contractor(s), if any, that performed the Work, stating that the Work for which disbursement is requested is complete, and the actual cost of such Work. Such certification shall be in form and substance acceptable to the Director.

(ii) An inspection of the Work by the Building Department, and a determination by the Director that the Work has been completed in full compliance with the requirements of the Loan Documents.

(iii) The receipt by the Director of such other documents and instruments as the Director may require, including but not limited to, if applicable, the sworn statements of contractor(s) and releases or waivers of lien, all in compliance with the requirements of applicable law.

(iv) Borrower has, as appropriate, executed and delivered to Director the Loan Documents and such other documents or instruments pertaining to the Loan or the Work as the Director may require.

(v) As of the date of disbursement of the Loan Amount, the Director shall have determined that the representations of the Borrower contained in the Loan Documents are true and correct, and no Default (as defined in Section 12 below) shall have occurred and be continuing.

(vi) No stop payment or mechanic's lien notice pertaining to the Work has been served upon the City and remains in effect as of the date of disbursement of the Loan Amount.

(vii) The City shall have received a title policy (the "Title Policy") in the Loan Amount and insuring the Loan and the lien of the assessments described in Section 1(d) hereof. The Title Policy shall be in form and substance acceptable to the Director.

(b) Borrower will, within _____ days of presentation by the Director, execute any and all documents or instruments required by the Loan Documents in connection with the disbursement of the Loan Amount.

4. **Reports.**

Borrower agrees, upon the request of Director, to promptly deliver to the Director, or, if appropriate, cause its contractor(s) to promptly deliver to Director, a written status report regarding the Work.

5. **Representations and Warranties of Borrower.**

Borrower promises that each representation and warranty set forth below is true, accurate and complete as of the date of this Agreement, and the date of disbursement of the Loan Amount. The disbursement of the Loan Amount shall be deemed to be a reaffirmation by the Borrower of each and every representation and warranty made by Borrower in this Agreement.

(a) **Formation Authority.** If Borrower is anything other than a natural person, it has complied with all laws and regulations concerning its organization, existence and the transaction of its business, and is in good standing in each state in which it conducts its business. Borrower is the owner of the Property and is authorized to execute, deliver and perform its obligations under the Loan Documents, and all other documents and instruments delivered by Borrower to the City in connection therewith. This Agreement and the Application have been duly executed and delivered by Borrower and are valid and binding upon and enforceable against the Borrower in accordance with their terms, and no consent or approval of any third party, which has not been previously obtained by the Borrower, is required for the Borrower's execution thereof or the performance of its obligations contained therein.

(b) **Compliance with Law.** Neither Borrower nor the Property is in violation of, and the terms and provisions of the Loan Documents do not conflict with, any regulation or ordinance, any order of any court or governmental entity, or any building restrictions or governmental requirements affecting Borrower or the Property.

(c) No Violation. The terms and provisions of the Loan Documents, the execution and delivery of the Loan Documents by Borrower, and the performance by Borrower of its obligations contained therein, will not and do not conflict with or result in a breach of or a default under any of the terms or provisions of any other agreement, contract, covenant or security instrument by which the Borrower or the Property is bound.

(d) Other Information. If Borrower is comprised of the trustees of a trust, the foregoing representations shall also pertain to the trustor(s) of the trust. All reports, documents, instruments, information and forms of evidence which have been delivered to City concerning the Loan are accurate, correct and sufficiently complete to give City true and accurate knowledge of their subject matter.

(e) Lawsuits. There are no lawsuits, tax claims; actions, proceedings, investigations or other disputes pending or threatened against Borrower which may impair Borrower's ability to perform its obligations hereunder.

(f) No Event of Default. There is no event which is, or with notice or lapse of time or both would be, a Default under this Agreement.

(g) Accuracy of Declarations. The declarations of the Borrower contained in the Application are accurate, complete and true.

6. Borrower's Covenants.

Borrower promises to keep each of the following covenants:

(a) Completion of Work and Maintenance of Equipment. Borrower shall, or shall cause its contractor to, promptly commence construction of the Work, and diligently continue such Work to completion, in a good and workmanlike manner and in accordance with sound construction and installation practices. Borrower shall maintain the Equipment in good condition and repair.

(b) Compliance with Law and Agreements. In commencing and completing the Work, Borrower shall comply with all existing and future laws, regulations, orders, building-restrictions and requirements of, and all agreements with and commitments to, all governmental, judicial and legal authorities having jurisdiction over the Property or the Work, and with all recorded instruments, agreements, and covenants and restrictions affecting the Property.

(c) Permits, Licenses and Approvals. Borrower shall properly obtain, comply with and keep in effect all-permits, licenses and approvals which are required to be obtained from any governmental authority in order to commence and complete the Work. Borrower, upon the request of the Director, shall promptly deliver copies of all such permits, licenses and approvals to the Director.

(d) Site Visits. Borrower grants City, its agents and representatives the right to enter and visit the Property at any reasonable time, after giving reasonable notice to Borrower,

for the purposes of observing the Work. City will make reasonable efforts during any site visit to avoid interfering with Borrower's use of the Property. Borrower shall also allow City to examine and copy records and other documents of Borrower which relate to the Work. City is under no duty to visit the Property, or observe any aspects of the Work, or examine any records, and City shall not incur any obligation or liability by reason of not making any such visit or examination. Any site visit, observation or examination by City shall be solely for the purposes of protecting City's rights under the Loan Documents.

(e) Protection Against Lien Claims. Borrower shall promptly pay or otherwise discharge any claims and liens for labor done and materials and services furnished to the Property in connection with the Work. Borrower shall have the right to contest in good faith any claim or lien, provided that it does so diligently and without delay in completing the Work.

(f) Insurance. Borrower shall provide, maintain and keep in force at all times until the Work is completed, builder's all risk property damage insurance on the Property, with a policy limit equal to the full replacement cost of the Work.

(h) Notices. Borrower shall promptly notify City in writing of any Default under this Agreement, or any event which, with notice or lapse of time or both, would constitute a default hereunder.

7. Completion of the Work.

Subject to Section 12(h), Borrower agrees to complete the Work on or before _____, 20_____.

8. Mechanic's Lien and Stop Notices.

In the event of the filing of a stop notice or the recording of a mechanic's lien pursuant to applicable law of the State of California and relating to the Work. Director may summarily refuse to make any disbursement of the Loan Amount, and in the event Borrower fails to furnish Director a bond causing such notice or lien to be released within ten (10) days of notice from Director to do so, such failure shall at the option of City constitute a Default under the terms of this Agreement. Borrower shall promptly deliver to Director copies of all such notices or liens.

9. Indemnification.

(a) Borrower shall indemnify, defend, protect, and hold harmless the City and any and all agents, employees, attorneys and representatives of the City (collectively, the "City Parties"), from and against all losses, liabilities, claims, damages (including consequential damages), penalties, fines, forfeitures, costs and expenses (including all reasonable out-of-pocket litigation costs and reasonable attorney's fees) and any demands of any nature whatsoever related directly or indirectly to, or arising out of or in connection with, (i) the Loan Documents, (ii) the disbursement of the Loan Amount, (iii) the Work, (iv) the Equipment, (v) any breach or Default by Borrower under the Loan Documents, (vi) the Assessment and the Annual Administrative Assessment, and (vii) any other fact, circumstance or event related to

City's extension and disbursement of the Loan to Borrower or Borrower's performance of its obligations under the Loan Documents (collectively, the "Liabilities"), regardless of whether such Liabilities shall accrue or are discovered before or after the disbursement of the Loan Amount.

(b) The indemnity obligations described in this Section 9 shall survive the disbursement of the Loan Amount, the repayment of the Loan, the transfer or sale of the Property by the Borrower, and the termination of this Agreement.

10. Waiver of Claims.

For and in consideration of the City's execution and delivery of this Agreement, Borrower, for itself and for its successors-in-interest to the Property and for any one claiming by, through, or under the Borrower, hereby waives the right to recover from and fully and irrevocably releases the City Parties from any and all claims, obligations, liabilities, causes of action, or damages, including attorneys' fees and court costs, that Borrower may now have or hereafter acquire against any of the City Parties and accruing from or related to (i) the Loan Documents, (ii) the disbursement of the Loan Amount, (iii) the performance of the Work, (iv) the Equipment, (v) any damage to or diminution in value of the Property that may result from the Work, (vi) any personal injury or death that may result from the Work, (vi) the selection of manufacturer(s), dealer(s), suppliers), contractor(s) and/or installer(s), and their action or inaction with respect to the Work or the Equipment, (vii) the merchantability- and fitness for any particular purpose, use or application of the Equipment, (vii) the amount of energy savings resulting from the Work and the Equipment, (ix) the workmanship of any third parties, and (x) any other matter with respect to the Program. This release includes claims, obligations, liabilities, causes of action, and damages of which Borrower is not presently aware or which Borrower does not suspect to exist which, if known by Borrower, would materially affect Borrower's release of the City Parties.

BORROWER HEREBY ACKNOWLEDGES THAT IT HAS READ AND IS FAMILIAR WITH THE PROVISIONS OF CALIFORNIA CIVIL CODE SECTION 1542 ("SECTION 1542"), WHICH IS SET FORTH BELOW:

"A GENERAL RELEASE DOES NOT EXTEND TO CLAIMS WHICH THE CREDITOR DOES NOT KNOW OR SUSPECT TO EXIST IN HIS OR HER FAVOR AT THE TIME OF EXECUTING THE RELEASE, WHICH IF KNOWN BY HIM OR HER MUST HAVE MATERIALLY AFFECTED HIS OR HER SETTLEMENT WITH THE DEBTOR."

BY INITIALING BELOW, BORROWER HEREBY WAIVES THE PROVISIONS OF SECTION 1542 SOLELY IN CONNECTION WITH THE MATTERS WHICH ARE THE SUBJECT OF THE FOREGOING WAIVERS AND RELEASES.

Borrowers Initials _____

The waivers and releases by Borrower contained in this Section 10 shall survive the disbursement of the Loan Amount, the repayment of the Loan, the transfer or sale of the Property by the Borrower, and the termination of this Agreement.

11. Further Assurances.

The Borrower shall execute any further documents or instruments consistent with the terms of this Agreement, including documents and instruments in recordable form, as City shall from time to time find necessary or appropriate to effectuate its purposes in entering into this Agreement and making the Loan.

12. Events of Default.

(a) Subject to the further provisions of this Section 12, the failure of any representation or warranty of the Borrower contained herein to be correct in all material respects, or the failure or delay by Borrower to perform any of its obligations under the terms or provisions of the Loan Documents, shall constitute a default hereunder ("Default"). The Borrower must immediately commence to cure, correct, or remedy such failure or delay and shall complete such cure, correction or remedy with reasonable diligence, but in any event, within the time set forth in Sections 12(c) and (d) below, as applicable.

(b) The City shall give written notice of default to Borrower, specifying the default complained of by the City. Delay in giving such notice shall not constitute a waiver of any default nor shall it change the time of default.

(c) If a monetary event of default occurs, prior to exercising any remedies under the Loan Documents or the Act, City shall give Borrower written notice of such default. Borrower shall have a period of thirty (30) days after such notice is given within which to cure the default prior to exercise of remedies by City.

(d) If a non-monetary event of default occurs, prior to exercising any remedies under the Loan Documents or the Act, City shall give Borrower notice of such default. If the default is reasonably capable of being cured within thirty (30) days, Borrower shall have such period to effect a cure prior to exercise of remedies by City under the Loan Documents or the Act. If the default is such that it is reasonably capable of being cured, but not within such thirty (30) day period, and Borrower (i) initiates corrective action within such thirty (30) day period, and (ii) diligently, continually, and in good faith works to effect a cure as soon as possible, then Borrower shall have such additional time as is reasonably necessary to cure the default prior to exercise of any remedies by City. However, in no event shall City be precluded from exercising remedies if its security becomes or is about to become materially jeopardized by any failure to cure a default, or if the default is not cured within one hundred and twenty (120)

days after the first notice of default is given.

(e) If any Default occurs, then, upon the election of City, (i) if there has been no disbursement of the Loan Amount, this Agreement shall terminate and, except as otherwise expressly provided herein, the parties have no further obligations or rights hereunder, or (ii) if the Loan Amount has been disbursed in whole or in part, City may terminate its obligations to make any further disbursement of the Loan Amount and, exercise any or all of the rights and remedies available to it under applicable law, at equity or as otherwise provided herein.

(f) Any and all costs and expenses incurred by the City in pursuing its remedies hereunder shall be additional indebtedness of the Borrower to the City hereunder, and shall be secured as provided in the Act.

(g) Except as otherwise expressly stated in this Agreement, the rights and remedies of the City are cumulative, and the exercise of one or more of such rights or remedies shall not preclude the exercise by the City, at the same time or different times, of any other rights or remedies for the same Default or any other Default. No failure or delay by City in asserting any of its rights and remedies as to any Default shall operate as a waiver of any Default or of any such rights or remedies, or deprive the City of its rights to institute and maintain any actions or proceedings which it may deem necessary to protect, assert or enforce any such rights or remedies.

(h) Performance of the covenants and conditions imposed upon Borrower hereunder with respect to the commencement and completion of the Work shall be excused while and to the extent that, Borrower is prevented from complying therewith by war, riots, strikes, lockouts, action of the elements, accidents, or acts of God beyond the reasonable control of the Borrower; provided, however, that such event is not caused by the fault, negligence or misconduct of Borrower; and provided, further, as soon as the cause or event preventing compliance is removed or ceases to exist the obligations shall be restored to full force and effect and Borrower shall immediately resume compliance therewith and performance thereof.

13. Compliance with Local, State and Federal Laws.

Borrower shall perform the Work, or cause the Work to be performed, in conformity with all applicable laws, including all applicable federal, state and local occupation, safety and health laws, rules, regulations and standards. Borrower agrees to indemnify, defend and hold the City Parties harmless from and against any cost, expense, claim, charge or liability relating to or arising directly or indirectly from any breach by or failure of Borrower or its contractor(s) or agents to comply with such laws, rules or regulations. The indemnification obligations described in this Section 13 shall survive the disbursement of the Loan Amount, the repayment of the Loan, and the termination of this Agreement.

14. Severability.

Each and every provision of this Agreement is, and shall be construed to be, a separate and independent covenant and agreement. If any term or provision of this Agreement or the application thereof shall to any extent be held to be invalid or unenforceable, the remainder of this Agreement, or the application of such term or provision to circumstances other than those to which it is invalid or unenforceable, shall not be affected thereby, and each term and provision of this Agreement shall be valid and shall be enforced to the extent permitted by law.

15. Notices.

All notices and demands shall be given in writing by certified mail, postage prepaid, and return receipt requested, or by personal delivery (by recognized courier service or otherwise). Notices shall be considered given upon the earlier of (a) personal delivery or (b) two (2) business days following deposit in the United States mail, postage prepaid, certified or registered, return receipt requested. Notices shall be addressed as provided below for the respective party; provided that if any party gives notice in writing of a change of name or address, notices to such party shall thereafter be given as demanded in that notice:

To City: City of Palm Springs
 3200 E. Tahquitz Canyon Way
 P. O. Box 2743
 Palm Springs, California 92263-2743

 Attention: Residential Energy Efficiency Program Director
 Community and Economic Development Dept.

To Borrower: _____
 Palm Springs, California 9226 _____

 Attention: _____

16. Attorneys' Fees and Costs.

In the event that any action is instituted to enforce payment or performance under this Agreement, the parties agree that the non-prevailing party shall be responsible for and shall pay all costs and all attorneys' fees incurred by the prevailing party in enforcing this Agreement.

17. No Waiver.

No disbursement of the Loan Amount shall constitute a waiver of any conditions to the City's obligation to make further disbursements nor, in the event Borrower is unable to satisfy any such conditions, shall any such waiver have the effect of precluding the City from thereafter declaring such inability to constitute a Default under this Agreement. No disbursement of the Loan Amount based upon inadequate or incorrect information shall

constitute a waiver of the right of City to receive a refund thereof from Borrower.

18. Governing Law.

This Agreement shall be governed by the laws of the State of California. Any legal action brought under this Agreement must be instituted in the Superior Court of the County of Riverside, State of California, or in an appropriate municipal court in that County or in the United States District Court for the Central District of California.

19. Amendment of Agreement.

No modification, rescission, waiver, release or amendment of any provision of this Agreement shall be made except by a written agreement executed by the Borrower and City.

20. City May Assign: Role of the City.

City, at its option, may (i) assign any or all of its rights and obligations under the Loan and this Agreement, and (ii) pledge and assign its right to receive the Assessment, the Annual Administrative Assessment, and the repayment of the Loan and any other payments due to the City hereunder, without obtaining the consent of the Borrower.

21. Borrower Assignment Prohibited.

In no event shall Borrower assign or transfer any portion of this Agreement or Borrower's rights or obligations under the Agreement without the prior express written consent of City, which consent may be granted or withheld in the sole and absolute discretion of the City.

22. Relationship of Borrower and City.

The relationship of, Borrower and City pursuant to this Agreement is that of debtor and creditor and shall not be or be construed to be a joint venture, equity venture, partnership, or other relationship.

23. General.

Time is of the essence of this Agreement and of each and every provision hereof. This Agreement, together with the other Loan Documents, constitutes the entire agreement between the parties hereto, and there shall be no other agreement regarding the subject matter thereof unless signed in writing by the part to be charged. If there is more than one "Borrower," the obligations hereunder of all Borrowers shall be joint and several.

24. Counterparts.

This Agreement may be executed in several counterparts, each of which shall be deemed an original, and all of such counterparts together shall constitute one and the same instrument.

25. Special Termination.

Notwithstanding anything to the contrary contained herein, this Agreement shall terminate and be of no further force or effect if the Borrower has submitted to the Director a notice of its decision to cancel this transaction on or prior to the date and time described in the Notice of Right to Cancel which was delivered to the Borrower upon its execution of this Agreement.

26. No Third Party Beneficiary Rights.

This Agreement is entered into for the sole benefit of Borrower and City and, subject to the provisions of Sections 9, 10 and 20, no other parties are intended to be direct or incidental beneficiaries of this Agreement and no third party shall have any right in, under or to this agreement.

IN WITNESS WHEREOF, Borrower and City have entered into this Agreement as of the date and year first above written.

Borrower:

Date of Execution by Borrower:

_____, 200__

City:

CITY OF PALM SPRINGS, a California
municipal corporation

By: _____

Name: _____

Title: _____

ATTEST:

STATE OF CALIFORNIA }ss.

COUNTY OF _____ }

On _____, before me, _____, a notary public, personally appeared who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s) or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____

STATE OF CALIFORNIA }ss.

COUNTY OF _____ }

On _____, before me, _____, a notary public, personally appeared who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s) or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____

EXHIBIT "A"
(ATTACH COPY OF EXECUTED AND APPROVED APPLICATION

EXHIBIT "B"
DESCRIPTION OF PROPERTY

EXHIBIT "C"
SCHEDULE OF ASSESSMENT INSTALLMENTS

<u>Year</u>	<u>Principal</u>	<u>Interest</u>	<u>Maximum Annual Administrative Assessment</u>	<u>Total</u>
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(To be provided)

**APPENDIX E
PALM SPRINGS
RESIDENTIAL ENERGY EFFICIENCY PROGRAM
SUMMARY OF LOAN PROGRAM PROCESS**

Project Scoping

The first step in the loan process is project scoping. Property owners can work directly with contractors to determine the scope of a project. Property owners can also schedule a meeting with Community and Economic Development staff to discuss proposed energy improvements and to get no cost and objective assistance with planning for those energy improvements.

Property owners will also receive a no-cost, on-site energy survey. The energy survey is intended to guide property owners in determining their most effective means for REEP participation.

As the project is defined, the property owner obtains bids from 3 contractors and determines the cost of improvements based on the lowest viable bid. Table E-1 illustrates the detailed steps to be taken under the program and Table E-2 illustrates the Application Scoring Sheet to be used by staff to rate each application in terms of the City's energy efficiency priorities. While applications will be processed on a first-come, first-served basis, the scoring sheet will be used in the event that there is overwhelming response to the program and a means to prioritize the applications is needed.

Program Application

The property owner calls, emails or visits staff at the City of Palm Springs, Community and Economic Development Department to request a REEP application form (the "Application"). The staff will provide an Application by hard copy, email, facsimile, or web link as requested by the property owner. Applications and instructions are available online at the City of Palm Springs web site.

The property owner submits the Application together with its required attachments to the City of Palm Springs. Program administration staff determines whether each Application is complete within 15 business days of receipt of the Application. The program administrator will notify the property owner if the Application is complete, incomplete or denied by U. S. Mail, and additionally by phone, facsimile, or email if requested by the property owner.

Applications will be processed on a first-come, first-served basis until funds are no longer available.

Title and Credit Report Check

The program administrator will verify that the applicant is the property owner through a City of Palm Springs contract with a nationally-recognized title company. This contract will provide for expedited title checks for REEP participants. The title company will provide a copy of the

vesting deed for the property prior to the administrator's approval of the Application and the administrator will also obtain a title insurance policy for the amount of the loan.

In addition, a credit check of all individuals named on the mortgage, if applicable, will be run to confirm that the mortgage is current and property is not in default or at risk of foreclosure.

Application Review

During the Application Review process, the program administrator verifies that:

1. The application is complete and accurate;
2. The property owner(s) owns the subject property;
3. The subject property is developed and located within the City of Palm Springs;
4. The subject property is not exempt from ad valorem property taxes;
5. The property owner(s) is/are current in the payment of ad valorem property taxes for the subject property;
6. The property owner(s) is/are current in the payment of any mortgages or liens on the property and are not currently in default, foreclosure or bankruptcy proceedings;
7. The proposed energy efficiency improvements and costs are eligible to be financed under the Program. If the proposed energy efficiency improvements are part of a project that includes new construction (e.g. room addition), the costs of the work have been properly allocated between retrofitting and new construction;
8. Three bids from licensed contractors have been obtained and the cost estimates are reasonable;
9. The proposed contractor(s) is/are licensed by the State of California and is/are in good standing with the Contractors State Licensing Board;
10. The requested loan amount (including contingency) is equal to or greater than \$5,000 and is less than or equal to \$25,000;
11. REEP funding is available.

Within 15 business days of receipt of an application, the program administrator (PA) notifies the property owner if the application is incomplete, approved or denied.

- a. **Incomplete.** An application shall be deemed incomplete if it is missing any information or attachments the property owner is required to provide. Incomplete applications may be resubmitted. The PA will process resubmitted applications on a first-come, first-served basis based upon the new receipt date.
- b. **Approved.** An application shall be deemed approved if the PA has verified all of the items in Steps 1 through 11.
- c. **Denied.** An application shall be deemed denied if the PA cannot verify any of the items in steps 1 through 11. A property owner may request a written statement of specific reasons for the denial within 60 business days of the date of notification of denial. In such case, the PA will provide such a statement to the property owner within 15 business days of receipt of a request for a statement. Denied applications may be resubmitted. The PA will process resubmitted applications on a first-come, first-served basis based upon the new receipt date. If an application is denied on the sole basis

that REEP funding is not available, the application does not need to be resubmitted; applicants will be placed on a waiting list based on the date of application receipt.

Loan Contract and Reservation

Within 10 business days of notification that an Application has been approved, the Program Director, on behalf of the City, will enter into a contractual assessment agreement (the "Loan Contract") with the property owner. This will assure the property owner that the REEP Loan has been approved and that funds are reserved for the property owner's approved project. Failure of the property owner to execute a Loan Contract within such 10-day period will require the Application to be resubmitted. The PA will process resubmitted applications on a first-come, first-served basis based upon the new receipt date.

Upon execution of a Loan Contract, the City records an assessment lien against the subject property in the City offices and the County Recorder's office.

A 10% contingency will be included in the Loan Contract to reserve additional funds for the property owner to draw against if needed in the case of change orders. A copy of the draft Loan Contract is included in Appendix D of this Report.

Installation of Improvements

Property owner enters into a contractual arrangement directly with a contractor for Energy Efficiency Improvements. All work is subject to the City's Building Department permitting and inspections and all other applicable federal state and local laws and regulations. All work must be completed within 180 days of execution of the Loan Contract.

Progress Payments

If the maximum loan amount is \$20,000 or greater, the property owner may request in writing that the PA make a progress payment prior to the completion of the work. The PA shall make the progress payment within 10 business days of receipt of the request provided all of the following conditions have been met:

- At least 75 percent of the required materials have been delivered to the property and have been reasonably secured. The PA has the discretion to make its own determination with respect to whether this condition has been satisfied; and
- The requested progress payment does not exceed 50 percent of the maximum loan amount.

Final Inspections

The Property owner notifies the PA that all work has been completed. The PA reserves the right to inspect the completed work within five business days of receipt of notification that the work has been completed.

Based on satisfactory project completion, the PA disburses loan funds to the property owner within 10 business days of the completion of the inspection. The total amount of funds to be disbursed shall not exceed the lesser of (i) the maximum loan amount provided in the loan agreement (less the property owner's share of the title costs if not paid in cash by the property owner) or (ii) the actual costs.

Property Tax Rolls

The City staff sends a database of assessment installments to the Riverside County Assessor for collection of the assessment on the property tax roll. The Notice of Assessment Form is shown in Exhibit E-1

**TABLE E-1
PALM SPRINGS RESIDENTIAL ENERGY EFFICIENCY PROGRAM
PROGRAM PROCESS**

Step	What the Applicant Does	Acting Parties (Staff, Energy Auditor, Contractor)	Action Done or Decision Made	Outcome/ Next Step
1	Submit REEP Application and required attachments	Community & Economic Development (CED) staff pre-screens application for proof of ownership, occupancy, signed releases	Applicant is preliminarily qualified; if not, need to resubmit required paperwork	Energy Auditor (EA) schedules appointment to conduct Energy Survey
2	Be home for detailed inspection	EA	EA to do detailed work description and cost estimate	Energy survey report completed by EA/submit to CED staff
3	Submit Energy Survey by EA	Owner, CED Staff	Staff packages loan app, work write-up, cost estimate	Staff processes its portion of the loan application
4		CED Staff	City staff completes credit check (for mortgage default) and title search	If title and credit clear, staff notifies Owner of approval
5		CED Staff	Staff notifies owner of approval of Program Application	Owner requests Contractors bids
6	Owner requests bids from 3 Contractors	Owner, Contractor, CED Staff	CED staff will review bids and work with homeowner on selection of lowest qualified bidder	Choose Contractor and execute agreement between Owner and Contractor
7	Execute Standard Work Contract	Owner, Contractor	Owner or Contractor to provide City staff with copy of signed work contract	Staff reviews contract and includes in Loan Agreement documents
8	Execute Loan Agreement	Owner, City	Loan Agreement between City and Owner/Applicant for Energy Efficiency Improvements is executed	Owner informed of approval to authorize contractor to proceed
9		City, CED staff, finance staff	City to set up fund control account	Account ready for advancing progress payments
10		Contractor	Obtains necessary permits and performs work.	Owner and contractor notify CED staff of completion of work
11	Notify CED staff of work completion	Contractor, owner	Performs final inspection and signs off on completed work	Project completed, covenants recorded, contractor paid

Step	What the Applicant Does	Acting Parties (Staff, Energy Auditor, Contractor)	Action Done or Decision Made	Outcome/ Next Step
12		Building Department, CED staff	Submit invoices to City	CED staff arrange for inspection by Building Department
13	Owner submits follow up data (energy and gas bills) for 12 months following completion of work	Owner, CED staff	CED staff records data for verification of savings by various energy efficiency measures and to help with future phases of the program	Program complete for specific application

TABLE E-2
PALM SPRINGS RESIDENTIAL ENERGY EFFICIENCY PROGRAM
Single Family Home Program
Application Scoring Sheet

Scope of Work: Based on the assessment of the Energy Auditor, does the home require improvements in any of the following?					
Air Conditioning	1 No	2	3 Some	4	5 Yes
Caulking and Weather Stripping	1 No	2	3 Some	4	5 Yes
Ducts	1 No	2	3 Some	4	5 Yes
Heating System	1 No	2	3 Some	4	5 Yes
Conservation Devices	1 No	2	3 Some	4	5 Yes
Insulation	1 No	2	3 Some	4	5 Yes
Landscaping for Energy Efficiency	1 No	2	3 Some	4	5 Yes
Lighting	1 No	2	3 Some	4	5 Yes
Ventilation	1 No	2	3 Some	4	5 Yes
Water Heating	1 No	2	3 Some	4	5 Yes
Windows	1 No	2	3 Some	4	5 Yes
Pool Equipment	1 No	2	3 Some	4	5 Yes
What is the age of the house?	0 0-10 years		3 11-20 years	4 20-30 years	5 30+ years
Does the borrower own other property(ies)?	0 Many		1 One		5 No
	Final Score				

EXHIBIT E-1

**RECORDING REQUESTED BY AND
AFTER RECORDATION RETURN TO:**

City Clerk
City of Palm Springs
3200 E. Tahquitz Canyon Way
P. O. Box 2743
Palm Springs, CA 92263-2743

No Recording Fee Required –Gov't Code Sec. 6103

**NOTICE OF ASSESSMENT
CITY OF PALM SPRINGS
RESIDENTIAL ENERGY EFFICIENCY LOAN PROGRAM**

On _____, 2009, the City Council (the "City Council") of the City of Palm Springs, State of California (the "City") adopted its Resolution No. _____ (the "Resolution") whereby the City Council approved the report (the "Report") prepared by the Director of _____ in accordance with Section 5898.22 of Chapter 29 of Part 3 of Division 7 of the California Streets and Highways Code (the "Act"), established the Residential Energy Efficiency Program ("Program") to be implemented as provided in the Report, and confirmed contractual assessments to be levied against parcels within the City within the parameters of the Report to finance certain energy efficiency improvements (the "Improvements") through the use of contractual assessments.

Pursuant to the Act, the Resolution, and the Report, the City and the record owner(s) (the "Record Owners") of the Property (defined below) have entered into a loan agreement pursuant to the Program entitled "Loan Agreement, City of Palm Springs Residential Energy Efficiency Program" and dated as of _____ (the "Loan Agreement"). Pursuant to the Loan Agreement, the City is extending a loan in the principal amount of up to \$ _____ (the "Loan") to the Record Owners of the property to finance the acquisition and installation and/or construction on such property of the Improvements. Pursuant to the Loan Agreement, the Record Owners promise to pay the City, without deduction or offset, the Loan and the interest accrued thereon as provided therein. Pursuant to the Loan Agreement, the repayment of the Loan and interest accrued thereon shall be repaid by the Record Owners to the City by the payment of an assessment levied against the Property pursuant to Section 5898.30 of the Act (the "Assessment"). In addition, so long as the Assessment is unpaid, the Record Owners promise to pay the City, without deduction or offset, an annual assessment levied against the Property to pay costs incurred by the City which result from the administration and collection of the Assessment or from the administration or registration of any associated bonds or reserve or other related funds (the "Annual Administrative Assessment"). The Annual Administrative Assessment shall not exceed Forty Dollars (\$40.00) per year.

Pursuant to the requirements of California Streets and Highways Code Section 3114, the undersigned City Clerk of the City hereby gives notice that the Loan Agreement, a diagram, the Assessment and the Annual Administrative Assessment were recorded and filed in the Office of the City Clerk, 3200 E. Tahquitz Canyon Way, P. O. Box 2743, Palm Springs, CA 92263-2743 (the "City Clerk") and relating to certain property, being the real property described on Exhibit "A" to this Notice, attached hereto and incorporated herein by reference (the "Property"). The name(s) of the Record Owners of the Property are shown on Exhibit "B" to this Notice, attached hereto and incorporated herein by reference.

Notice is further given upon recording of this Notice in the office of the County Recorder of the County of Riverside; the Assessment assessed on the Property shall become a lien upon the Property. In addition, the installments of the Assessment (including principal and interest) and the Annual Administrative Assessment shall become a lien each year and shall be collected on the property tax bill pertaining to the Property, and shall be subject to the same penalties, remedies, and lien priorities as for property taxes in the event of non-payment.

Reference is hereby made to the assessment diagram and the assessment roll recorded in the Office of the City Clerk. Reference is hereby further made to the Loan Agreement on file in the Office of the City Clerk for the terms of the Loan and Loan Agreement, including the interest rate and the prepayment penalty. Pursuant to the Loan Agreement, the principal amount of the Loan may be adjusted, but will not exceed the amount set forth above.

Dated: _____, 200_____

James Thompson
City Clerk
City of Palm Springs

Residential Energy Efficiency Guidebook



City of Palm Springs
Department of Community & Economic Development

March 5, 2009

This Guidebook is largely adapted from the Missouri Department of Natural Resources website.

Air Conditioning

The biggest sources of unwanted summer heat in homes are windows and walls (20 to 30 percent), internal gains from appliances and lights (15 to 25 percent), and through the roof (10 to 20 percent). On humid days, damp outside air leaking into the house can also increase cooling load significantly.

Efficiency

Air conditioners are rated by their efficiency levels, Seasonal Energy Efficiency Rating (SEER - commonly pronounced SEAR). Ratings are shown on a yellow tag for room air conditioners and on fact sheets for central units. The SEER is the seasonal cooling output in BTUs divided by the seasonal energy input in watt hours for an average U.S. climate. It takes into account the time the unit is not running. The higher the figure the better. A unit with a SEER of 12.0 costs half as much to operate as one with a SEER of 6.0. The higher initial cost of the higher SEER unit is normally paid back within a few years, making the more efficient equipment less expensive in the long run.

The Energy Policy Act of 1992 requires that central air conditioners manufactured after January 1994 attain at least a SEER of 10.

The ratings refer only to operating efficiency, or cost to operate, and have nothing to do with capacity, which is rated in Btus/hr. The Btus/hr figure indicates how much heat the air conditioner can remove from a room or house in an hour. Sometimes a tonnage figure is used instead of Btus/hr. One ton of air conditioning is the same as 12,000 Btus/hr.

Window Units Vs. Central Units

The buyer must make a basic decision - whether to use window units or a central system. Both have advantages.

The big plus for window units is that they allow for zoned cooling. This can save substantial amounts of electricity and money. Also, the actual purchase price of a window unit is less than that of a central unit; however, you will not have the convenience or comfort of whole-house cooling. The window units are also noisier because the compressor is in the unit within the living space. However, window units can be installed through a wall in an enclosed space and ducted to one or two rooms.

Central units provide whole-house air conditioning, which may be desirable if many rooms are used on a fairly constant basis, or it may simply be the choice of the homeowner. Central units, with their larger size and capacity, cost more to buy, install and run.

When replacing a condenser (outside unit), the evaporator coil (inside the house at the air handler) should also be replaced. If this is not done, the air conditioner will not have its high efficiency.

Sizing

If you are installing or replacing a central unit, your contractor will perform the sizing calculations based on the size of the house, window exposure and orientation, construction materials, levels of insulation, air infiltration and lifestyle. In the past, it was standard practice to oversize the air conditioner by 10 percent to 50 percent. However, some researchers now believe that air conditioning systems undersized by 10 percent are more efficient and more effective in removing humidity. It is important not to oversize because such a unit, although it will cool the air, will not run for long enough periods to reduce the indoor humidity to a comfortable level. You may feel cool and clammy rather than cool and dry, a real comfort consideration in monsoon weather. Undersized air conditioning systems will also have lower first costs and longer equipment life due to less cycling.

Dehumidification

Air conditioners remove moisture from the air by condensing water vapor as the air passes over cold coils. Water vapor condenses in the same way moisture from the air condenses on a glass of ice water on a hot, humid day.

Lowering the humidity makes you feel more comfortable, but it takes more energy, which reduces the efficiency of the air conditioner. One of the ways manufacturers have boosted air conditioner efficiency is by keeping the

condenser coils somewhat warmer, which reduces condensation. Some of the new high-efficiency air conditioners do not dehumidify as effectively. Humidity can be reduced by including variable-speed or multi-speed blowers. Although there is no industry standard for rating the effectiveness of removing moisture, most literature does list water removal in pints per hour, which will help you compare one model to another. Some models have the fan speed controlled by a humidistat.

Placement and Maintenance

If possible, locate an outside compressor unit on the north side of the house. If that is not possible, try to position the compressor where it will be shaded as much as possible. Window units may not allow you the choice.

Outside compressors should be kept clean of leaves, twigs and grass cuttings so the compressor doesn't overheat. Mow grass so that cuttings are discharged away from the compressor unit, or brush or spray the cuttings off the compressor unit with a broom or a water hose.

For general seasonal maintenance, check the instruction manual. With central and window units, change the filters as often as once a month during the summer. Filters are inexpensive for what they give you - clean air, free of dust and pollen - and for what they do for the air conditioner - removing dirt or grit that wears out the moving parts prematurely, and producing a clear air flow for more efficient operation.

Operating Hints

When setting your thermostat, don't set the temperature colder than you want in hopes it will get cooler faster - it won't.

Experiment a bit to determine the highest temperature setting at which you can be comfortable. Try 78^oF to start. Every degree higher will save about 4 percent in operating costs.

One way to be comfortable with higher settings is to run small fans that blow directly on your body.

If you have a whole-house fan (attic fan), you can save substantially on your electric bill by using the fan at night when weather conditions permit - usually when the outside temperature falls below 78^oF, and the humidity is not oppressive. But early in the morning, before the temperature begins to rise, turn off the fan and close the windows to capture the cool air. With this charge of cool air, the house can "coast" without the air conditioner until late morning or early afternoon. (The whole-house fan should be insulated over if it is not used during the air conditioning season.)

Caulking and Weatherstripping

Caulking is an easy, energy-saving project you can do yourself. It is relatively inexpensive - and very effective. In fact, it will usually pay for itself in energy savings within one year.

Caulking is a compound used for filling cracks, holes, crevices and joints on both the inside of your home. You will need only a few simple tools and a minimum of skill to caulk these areas. Start at the back of your house and work toward the front so that your skill level is improved by the time you caulk places that are visible.

Try to choose a mild day to tackle this project. The outside temperature should be above 40^oF for the caulk to be applied correctly. So, plan to caulk during the spring, summer or fall for best results. Old, cracked caulk should be removed before new is applied. Check your home repair center for a "puttying tool" that will make the job easier and provide a more professional look.

Where to Caulk

As a general rule, caulk should be applied wherever two different building materials meet on the interior or exterior of your home. Different building materials expand and contract at various rates. Through the years, with temperature extremes and caulk drying out, cracks develop between materials. Because these cracks allow air infiltration, the cracks need to be caulked.

On the interior of your home, you can check for air leakage by moving your hand around the windows and doors on a windy day. If you can feel air movement, you need to caulk and/or weatherstrip. You will probably be surprised to find how many spots are "air leakers!"

The following are areas that should be checked:

- Around door and window frames - inside and out; check window pane putty.
- Places where brick and wood siding meet.
- Joints between the chimney and siding.
- Between the foundation and walls.
- Around mail chutes.
- Around electrical and gas service entrances, cable T.V. and phone lines, and outdoor water faucets.
- Where dryer vents pass through walls.
- Cracks in bricks, siding, stucco and foundation.
- Around air conditioners.
- Around vents and fans.
- Wherever two different materials meet.

The material used in sealing air leaks depends on the size of the gaps and where they are located. Caulk is best for cracks and gaps less than 1/4" wide. Expanding foam sealant is good for sealing larger cracks and holes that are protected from sunlight and moisture. Rigid foam insulation may be used for very large openings such as plumbing chases and attic hatch covers. Fiberglass insulation can also be used for sealing large holes, but it needs to be wrapped in plastic or stuffed in plastic bags because air can leak through fiberglass.

Ducts

Ductwork can be a source of energy loss, too. Leaky ducts are a serious problem in homes that use forced-air heating and air conditioning. Distribution losses amount to 5 percent to 30 percent of the fuel consumed.

Typical systems with unsealed or uninsulated sheet metal ducts that run through attics or crawl spaces can lose up to 40% of the heating or cooling energy that passes through them. The energy can be lost by simple conduction through inadequately insulated sheet metal ducts. It can also be lost through holes or leaks in seams that have not been properly sealed.

Properly designed and installed duct systems can have efficiencies of 80% or more for little or no additional cost, potentially saving a homeowner up to \$200 or more per year in heating and cooling costs. Efficient duct system installations may also reduce equipment size, further saving money for new or replacement equipment.

Duct sealing yields the biggest savings when the ducts are located in an unconditioned area that is well connected to the outdoors. The outdoor air enters the return duct leaks, and heated or cooled air exits the supply ducts. This leakage wastes energy. It also pressurizes and depressurizes areas of the home, providing a driving force for air leakage throughout the building shell. When ducts are located in conditioned areas, duct leakage leads to some inefficiency and local temperature differences, but isn't a major energy problem. Return leaks are the trickiest to find and the most important ones to seal, especially return leaks near the furnace. It is very important for the safety of the residents to seal ducts thoroughly and to relieve pressure problems near combustion furnaces. A large return-air leak near the furnace can draw flue gases down the chimney into the living space.

Duct Sealing

Duct sealing is an extremely important and often neglected energy management measure. The force-air supply and return ducts should be an airtight, closed system joining the furnace to the building. Duct joints should be sealed with duct mastic between the furnace and ducts, between registers and floor, wall, or ceiling, and between duct sections.

Duct Insulation

Fiberglass is the most common insulation for ducts. Seams should be tight between pieces of insulation.

It is important to avoid insulation gaps and voids. The insulation should wrap all the way around the duct. Seal the seams with a high-quality tape. Metal fasteners hold insulation in place better than tape. Fiberglass duct board and insulated flexduct are duct materials with built-in insulation. They are not as durable as metal ducts but are easier to build and install. Duct board and flexduct ducts must have a larger cross-sectional area compared to metal ducts, because they are rougher inside and therefore create more air resistance. Flexducts should not be used for long runs.

Hot water or steam pipes should also be insulated.

Heating

Heating is the largest energy expense in most in most homes. Reducing the energy used for heating is the single most effective way to reduce the utility bill.

A combination of conservation efforts and a new, high-efficiency heating system can cut fuel bills in half without lowering your comfort level.

The heating system replaces heat that is lost through the envelope of the house. How much heat is needed depends on how big the house is, how cold and windy the winter is, the efficiency of the heating system and the habits of the family.

If there is a choice of heating fuels, the decision is generally based on economy of operation. The cost of operation is not only based on the fuel cost but the efficiency of the heating system. Other factors that should be considered are the system cost of fuel delivery (installing natural gas mains).

Forced-air Systems (Gas-fired)

Forced-air furnaces that deliver heated air to all parts of the home operate from a thermostat that signals burners to ignite. When the air surrounding the heat exchanger in the plenum reaches a preset level, the electric-powered blower comes on. Air from inside the house is pulled into the furnace cabinet through the return air duct. The air passes through a filter and is circulated over the outside surface of the heat exchanger. The heat is transferred to this circulated air through the heat exchanger walls and does not come in contact with the fuel or the products of combustion. A blower forces the heated air circulating around the heat exchanger out of the furnace, through the ductwork, out the registers and into the living space. Return air ducts carry the cooler room air back to the furnace where it is reheated. Both delivery and return air ducts should be well sealed and insulated where they pass through unheated areas.

When the desired room temperature is reached, the thermostat signals the burners to shut off. The blower continues to operate until the furnace cools to a preset level and then shuts off. The plenum thermostat that controls the blower can be set to come on at a lower temperature and stay on longer to move more heat into the home.

It is very important with forced-air systems to clean or change the filters monthly during the heating and cooling season. Older, natural gas forced-air systems have a continuously burning pilot to ignite the gas-air mixture. New, high-efficiency furnaces have electronic ignition devices.

It is not a good idea to spend money for repairs on an older furnace. Existing forced-air furnaces have a seasonal efficiency of about 60 percent; new systems have a seasonal efficiency of 80 percent to 95 percent. Changing an older system to a new, high-efficiency system, instead of investing in repairs, should be done; however, replacing a working furnace with a new high-efficiency model has a long pay-back time.

Hydronic Systems

Hydronic (hot water boiler) systems are less common. In this system, hot water from the boiler is circulated through pipes to radiators in each room, then back to the boiler to be reheated. There is a pump at the boiler which circulates the hot water from the boiler to the radiator. The thermostat usually controls the pump and burner and turns it on when the house needs heat. The water starts circulating and continues until the thermostat setting is reached.

This type of heating system is a radiant system and does not have fans, which eliminates the chilling factor of moving air. The system is more efficient because it does not have duct losses. For more efficient operation, a control can be added to measure outside temperature and adjust the boiler temperature hotter as the outside temperature cools. Boilers can be fueled by gas, electricity or even wood.

Combustion Air

The need for combustion air for gas-fired heating appliances must not be overlooked. Failure to provide adequate combustion air will ultimately result in the production of carbon monoxide. Overall tightening of a dwelling could make a home so tight that adequate combustion air would not be provided to the gas-fire appliance.

If your furnace draws combustion air from the crawl space, and you seal and insulate the crawl space, you need to be sure adequate combustion air is provided by running a combustion air duct from a crawl space opening to the furnace.

Replacement Systems

When your existing gas furnace or boiler fails, you will need to replace it. There are a number of replacement furnaces to choose from, including many high-efficiency models. Over the lifetime of the heating system, the pay-back in energy savings can be substantial.

How do you know which one to buy? First of all, check all the models available before you decide. We suggest getting bids from several contractors.

EnergyGuide fact sheets are available from heating contractor or dealer. These fact sheets will help you compare models. Be sure to ask the heating contractor who replaces your furnace to run a heat loss calculation on your home. This is needed to size the new unit correctly. A new furnace will probably have a lower Btu input rating.

If you replace your furnace, you will usually need a permit from the local building authority. Also, any time you have work done on your furnace by a contractor, be sure he/she is licensed and has taken out all of the necessary permits.

It is seldom cost-effective to replace a working, existing furnace. The exception is an old coal stoker that has been converted to natural gas. It should be replaced as soon as possible.

Electric Heating Systems

Electricity is a more expensive fuel than natural gas, so it is important to choose the most efficient electric heating system you can afford.

Forced-air electric furnaces, employing resistance heating coils, are sometimes used in small homes and apartments because they are less expensive up front, however, they cost more than twice as much to operate as electric heat pumps.

Baseboard resistance heaters use a metal element to convert electricity to heat. Almost all of the electricity that passes through the element is converted to heat.

The units are located in each room and usually have individual thermostats. By zone-heating, keeping only the room you are using at a higher temperature, this type of heating cost can be reasonable.

Radiant panel heating may be located in the floor, walls or ceiling and may use electric resistance heating or hot water from a central boiler. The heat is transferred by radiation and convection to the surrounding room.

If the radiant heating is located in the ceiling or floor, be sure the attic or foundation is adequately insulated. By the same token, walls should be insulated behind the radiant panels to keep the heat inside the home. Radiant panel systems can be slow to respond to temperature changes.

Heat Pumps

Electric heat pumps have been available for home heating for more than thirty years. Essentially an air conditioner running in reverse, heat pumps produce two to three units of heat energy for each unit of electrical energy consumed. A seasonal efficiency rating for heat pumps has been devised by the U.S. Department of Energy (DOE). This rating, known as the Heating Season Performance Factor (HSPF), equals the average heating capacity in Btu-per-hour divided by the power consumption in watts. The efficiency of a heat pump increases with higher outdoor temperatures, therefore, seasonal efficiencies are higher in warmer climates.

Most heat pumps employ the same basic layout and components as the equipment of 30 years ago. With the emphasis in the last decade on energy efficiency, and with the advent of solid state controls, today's heat pump offers marked improvements in efficiency and reliability. Because heat pumps also provide cooling in summer, consideration should also be given to their cooling-efficiency rating or Seasonal Energy Efficiency Ratio (SEER). New developments in heat pumps, including variable speed compressors and new compressor designs, are improving the HSPF's.

Air-to-air heat pumps are effective in winter at temperatures down to about 30°F. Supplemental heat is necessary at temperatures below that.

Ground source heat pumps are the most efficient and most expensive in initial cost of electric heating systems. These units use the ground, or ground water, as a heat source for warming, or a heat sink for cooling. Generally, ground source heat pumps are installed at the time of construction or when retrofitting an existing air-to-air system.

Living with a Heat Pump

The heat pump delivers air at temperatures closer to room temperatures than conventional gas or electric furnaces. Because a heat pump does not deliver hot blast of air, some people will feel cool until they adjust to a heat pump-conditioned environment.

The effectiveness of a heat pump is diminished by closing off unused rooms. Thus, the homeowner must heat all of the home instead of only rooms used on a constant.

Special automatic thermostats must be purchased if you want to set back temperatures at night and during periods the home is unoccupied. Without the special thermostat, the immediate several degree jump in the heating when the thermostat is turned up requires the backup heat source (usually electric resistance heating), so the heat pump savings are reduced.

If you are replacing an existing system with a heat pump, be sure to ask the contractor if your present ductwork will have to be modified or replaced. Heat pumps require large ducts, and there should be several air returns. Both ducts and returns should be insulated in all systems.

Conservation Devices

The number of "energy-conservation devices" for gas or electric heating systems on the market is growing rapidly. Many of these devices are well constructed and, if properly installed, are safe.

All of these devices (except some automatic clock thermostats) should be installed by a qualified heating contractor; they are not designed to be installed by the do-it-yourselfer.

Thermostats

Temporary day or night set-back (turning the temperature down at night or when no one is home) will save about 1 percent per degree of eight-hour set-back. Note: A thermostat should not be located by a direct source of heat (i.e. heating vent, lamp, stereo, television or sunlight), on an outside wall or under a whole-house fan opening.

Permanent set-back (setting the thermostat temperature back to a lower setting and leaving it there) will always save energy. There are some drawbacks to extreme set-back. Elderly individuals and those with poor health

should not set the thermostat down below 68°F. Hypothermia, a lowering of body temperature and slow-down of bodily functions, could result if the temperature is too low.

Set the temperature as low as you can to still be comfortable. Don't forget to add additional layers of clothing so you can be comfortable at lower temperatures.

The savings potential is very different between permanent and temporary set-back. For permanent set-back, there is a potential energy savings of about three percent per degree set-back.

Clock thermostats will save energy by automatically turning the thermostat down and up on a preset schedule. An advantage is that your home will be warm when you get up or come home. But, if you can train yourself to manually turn the thermostat down, you can save the same amount of energy.

A special type of set-back thermostat is necessary for use with heat pumps.

Vent Damper

The vent damper is a device that automatically seals the combustion flue gas vent during the off cycle of the gas furnace. This saves energy by preventing room air from going up the vent while the furnace is off.

The effectiveness of a vent damper varies greatly and should only be installed by a qualified service person. An automatic vent damper is only effective when installed on heating equipment located in a heated area, such as a utility room or heated basement. Make sure the type you use is certified and approved for installation in your area.

A vent damper is standard equipment on new furnaces. Before installing a vent damper on an existing furnace, you should evaluate replacing an older furnace.

Intermittent Ignition Devices (IID)

An intermittent ignition device eliminates the use of a constantly-burning pilot light by electrically igniting the gas pilot each time the furnace is called upon to operate. If the pilot does not ignite, the ignition control will not allow gas to flow to the main burner. IIDs are normally cost-effective on new systems. At present energy costs, however, it is not usually economical to add to an existing furnace. An IID is standard equipment on new furnaces.

Insulation

Effective insulation is one of the most important factors in the energy efficiency and comfort of any building. By air sealing your home, adding insulation or replacing old windows with Energy Star® rated windows, you create a thermal envelope that encloses heated or cooled living spaces. This not only maintains comfort, it also saves energy, and helps lower your energy bills.

To increase the energy efficiency of your home, you should insulate all exterior walls that separate conditioned spaces from unconditioned spaces, including areas like knee walls that open to attics or garages. Insulating attics closes the thermal envelope from above. To make a more "secure" envelope, make sure you fill all cracks or openings with insulation.

Fiber glass insulation products offer thermal efficiency improvements and are typically Energy Star® rated. Many brands are also an average of 25% recycled content. And of course, it promotes better indoor air quality and a healthier indoor environment when they're made without formaldehyde.

R-Value ... What is it?

R-value tells you how a material resists heat flow. The higher the R-value, the greater the resistance. R-values per inch vary with different types of materials. Therefore, how well insulation performs is more accurately measured by its total R-value than by inches of thickness.

Where to Insulate

Insulation should be between any area that separates a heated space from an unheated space. This includes all exterior walls, attics, floors over unheated areas, heated basement walls and overhangs. Other areas that should not be overlooked include exterior walls between levels in a split-level home, rim joist area, knee walls next to unheated garages, storage rooms, utility rooms, dormer and cantilever walls and ceilings, and floors over vented crawl spaces.

In other words, the insulation should completely surround your home with the only openings being doors, windows and vents.

Places to Insulate

- Ceiling joists
- Finished attic end walls
- Attic living space
- Rafters to knee wall in finished attic
- Finished attic knee wall exposed to cold
- Short exterior walls
- Finished attic collar beams
- Wall to unheated garage
- Interior wall can be insulated for sound proofing
- All exterior walls
- Cantilever area
- Sill
- Heated basement walls
- Under floor
- Open crawl space
- Under slab
- Rim joist

Safety

- Provide good lighting.
- Be careful of any protruding nails.
- Wear protective equipment.
- Provide adequate equipment.
- Keep lights and all wires off wet ground.
- Use temporary flooring to form a walkway in unfinished attics (the ceiling won't support you weight).
- Don't move wiring around. If you find brittle wiring, leave it alone and call an electrician.

Vapor Barriers

A vapor barrier should be placed on the "warm-in-winter" side of the insulation. Face the vapor barrier down when insulating between ceiling rafters, on the inner (room) side of exterior walls and up when insulating floors. Do not install a vapor barrier on top of existing attic insulation.

You might note that, although a vapor barrier will protect insulation and building materials, it will also increase the humidity level in your home. The amount of moisture or the humidity level in your home will depend on a number of factors. Such factors include the amount of air leakage that occurs in your home, the amount of insulation, whether or not you use a humidifier, the number of household members, the amount of cooking, showers, washing and drying clothes and whether you have a large number of plants. Any tears or cuts in a vapor barrier should be repaired with tape to protect the effectiveness of the barrier.

Be Careful When Installing Insulation

Excessive moisture in the home filters through insulation, causes it to become damp and matted, and makes it lose much of its effectiveness.

To prevent or reduce condensation problems, the side of the insulation exposed to high vapor pressure (warm side in winter) must be covered with material that will impede the natural drive of moisture to flow through the inside surfaces of exterior walls, toward the lower vapor pressure outside. To be effective, such a material must have a high resistance to moisture flow. The material is usually called "vapor barrier" or "vapor retarder".

If moisture problems exist, you may have to increase ventilation in your home by using such items as exhaust fans or air-to-air heat exchangers. Please note that these options use energy to operate. So, in terms of conserving energy, it is wiser to try to reduce the source of humidity by following the suggestions outlined in the section on moisture considerations and control in this book.

Preparing the Attic

- There are several things you need to do to most types of attics to prepare them for insulation:
- If your roof has leaks, fix them! Look for water stains, find the leaks, and repair them.
- Inspect for adequate ventilation (see section on Attic Ventilation for requirement).
- Cover open chases or holes in the attic as necessary to prevent insulation from falling through.
- Cover dropped soffits over kitchen or bathroom cabinets, open interior wall cavities, dropped ceilings and stair wells before insulating. Gaps in insulation may tremendously reduce the overall effectiveness of the insulation.
- Chink or stuff scraps of insulation around fireplace chimney and end walls.
- Always keep insulation at least three inches away from the sides of recessed light fixtures, fluorescent light fixtures, wiring compartments and fluorescent light ballasts. Use a fire-proof baffle to keep the insulation away from the fixture when using loose fill.
- Use a baffle to prevent insulation from blocking air flow from the eave or soffit vents into the attic.
- Be sure the insulation extends far enough to cover the top plate on outside walls.
- It is not necessary to insulate above unheated areas such as a porch or patio. It may be helpful to mark and block off these areas.

There are different methods of insulating different types of attics. Take a look at the following information to determine your attic type and the type of insulation recommended.

Attic Types	Insulation Options
Open, unfinished, unfloored, unheated	Batts, blankets, wet-blown cellulose, or loose fill can be placed between ceiling joists. Loose fill or wet-blown can be added on top of existing insulation. A second ply of batt insulation should be unfaced and laid perpendicular to the first ply.
Unfinished, floored	Loose fill can be blown under the floor between ceiling joists. If the attic will ever be heated or used as living space, insulate with batts, blanket, or wet-blown between roof rafters and on end walls.
Heated, used as living space	Use batts, blankets, or wet-blown on vertical kneewalls. Blow or pour in loose fill between ceiling joists and outer attic rafters behind kneewalls. Stuff rafter cavity above the kneewall and blow insulation down the rafter cavity.
Cathedral ceiling	The most common practice is to blow in loose fill or wet-blown insulation if you are insulating the ceiling where there is a cavity. If there is no cavity, rigid insulation may be applied on the interior surface and caulked.
Flat roof	Same as cathedral ceiling.

Crawl Space

Insulating crawl space can be done by insulating either the perimeter (foundation) wall or by insulating beneath the floor. If you choose to insulate at the floor level, you must also insulate ducts and water pipes. It generally takes less material to insulate the foundation wall instead of the floor, ducts and water pipes.

Insulating at the floor level allows for ventilation and a supply of air to the furnace if it is located within the house. Areas over unheated basements, garages, porches and crawl spaces should be insulated.

Floor Insulation

Six-inch fiberglass (R-19) is recommended in California. With the exception of garages, the floor joists are spaced every 16 inches or 24 inches. You can purchase standard width batts or blankets; otherwise, you will have to do some cutting and fitting.

If you are insulating the floor over an unheated dirt crawl space, lay six-mil plastic (polyethylene) on the ground to keep moisture from being drawn up during the winter. Extend the plastic sheet several inches up the walls and fasten in place with tape. Overlap adjoining pieces, and anchor with bricks, rocks or sand.

Landscaping for Energy Efficiency

Air Changes

Planting trees and shrubs around your home will help reduce your heating and cooling costs. How much it reduces costs depends on the choice of plants, where you locate them, the location of your home and its construction.

Trees and shrubs also reduce noise and air pollution and make your home more attractive and more valuable. Therefore, money spent on landscaping your home is a good investment.

Winter

An unprotected home loses much more heat on a cold, windy day than on an equally cold, still day. Well-located trees and shrubs can intercept the wind and cut your heat loss. Studies of wind breaks show they can reduce winter fuel consumption by 10 percent or more. Trees and shrubs planted close to a building reduce wind currents that otherwise would chill the outside surfaces. Foundation plantings create a "dead air" space which slows the escape of heat from a building.

Foundation plantings also help reduce air-infiltration losses around the foundation of the house. Closely planted evergreens are suggested for this area.

Deciduous trees lose their leaves in the fall and allow the winter sun to enter the windows and warm the inside space. In the summer, their leaf cover provides cool shade which reduces your home's need for mechanical air conditioning.

Summer

The maximum air-conditioning need in Palm Springs is usually in July through September, and most electrical power for air conditioning will be used in the late after noon hours. With this in mind, landscape plantings should include trees and tall shrubs to shade west-facing walls, windows, and the southwest corner of the home during the hottest summer afternoons. Quick-growing vines may be planted on trellises to provide summer shade screens while trees are growing. If there is no roof overhang to significantly reduce the effects of the sun on south walls, deciduous trees and shrubs should also be planted to shade south walls and windows.

When planting trees, choose the site carefully. Plant tall growing trees such as hickory, walnut, oak, pecan, sweetgum and pine well away from any power lines so branches do not tangle in the wires. Avoid planting trees over underground utility lines.

Xeriscape Gardening

Within the Xeriscape landscape, plants are zoned or grouped according to their water needs. Proper plant location is as important as plant selection. Turf is considered a plant, not a filler. Typically, there are three water use zones; low, moderate and high. This, along with mulch and plant selection, avoids the need for excessive water use.

Lighting accounts for only 5 percent to 10 percent of total energy use in most homes

Types of Lighting

Incandescent lighting is very inefficient. Much of the electricity use is changed into heat instead of light, which shortens the bulb's life. These bulbs are the most common type used in residential lighting.

Compact fluorescent lighting became available in the early 1980s. It uses just 1/3 as much electricity for the same light as incandescent bulbs and lasts 8 to 12 times longer. Compact fluorescents save money compared to incandescents, but they cost more to buy. Over the life of one compact fluorescent bulb (about 10,000 hours), you can expect a savings of \$10 to \$15.

Many incandescent bulbs can be replaced with compact fluorescent bulbs. However, because of their larger size, some fixtures cannot be retrofitted. Compact fluorescents have good color rendition and don't flicker or make noise. You may notice some do not light instantly and may be slow starting in cold temperatures. They can be used in three-way fixtures but will operate only on two of the three settings and provide one light level. Compact fluorescents cannot be dimmed.

The best use for compact fluorescents is in lights that are left burning for many hours, such as porch lights or night lights, or where the bulb is difficult to replace, such as over a stairway.

Tube fluorescent lighting has improved dramatically over the past ten years. Fluorescent tubes almost match incandescents in color rendition. Do not be satisfied with standard cool-white or warm-white tubes. Look for products with high color rendition indexes (CRI); also look for high efficiency. A standard four-foot tube can be purchased using only 32 watts instead of 40 watts. Electronic ballasts, instead of magnetic ballasts, totally eliminate hum or flicker. Some of the newest high-efficiency lamps are smaller in diameter and would require new fixtures.

Use tube fluorescents in kitchens, bathrooms, workshops, and for indirect lighting. You can buy fixtures that can be dimmed to vary the light levels.

Outdoors lighting is good insurance against vandalism and theft. Mercury vapor lights are still the most common for outdoor lighting, but they are quickly becoming obsolete because of the higher efficiency and improved color quality of high-pressure sodium and metal halide lights.

Using lighting wisely means turning off lights when not needed. Turning off incandescent or fluorescent lights will not increase usage. There are a large variety of occupancy sensors available. Other ways to control lighting are with time clocks and photovoltaic sensors.

Ventilation

Ventilation of an attic or crawl space is very important to allow warm, moist air to escape to the outdoors.

If the insulation in your attic has a vapor barrier (which should be toward the floor and not on top of the insulation where it may trap moisture), you should have at least one square foot of "free vent opening" (measurement of the opening not including the area taken up by screen or grillwork) for each 150 square feet of floor area. The net "free vent area" should be specified on the vent itself, or the information should be available from the vendor. It is preferable that the vents be located such that one-half of the vents are low and one-half are high.

Don't try to substitute a vapor barrier for ventilation. According to Department of Housing and Urban Development standards, if you have a vapor barrier you should still have one square foot of "free vent opening" for every 300 square feet of attic floor opening.

Turbine vents and attic ventilating fans are also useful for ventilation.

Note: Take care to install enough attic ventilation to meet the needs of your whole-house fan. Requirements should be listed on the instruction sheet or available from the manufacturer or vendor of the fan.

Wintertime Attic Ventilation

If the house is insulated, attic ventilation should not be covered in the winter. If warm, moist air in the attic condenses on the roof decking, it may melt and drip on attic insulation, causing the insulation to be ineffective. Warm air in the attic can also cause other roof problems.

Crawl Space

Crawl spaces should be vented to the outdoors in the summer. If the vents are located near each corner, the vents will permit good air movement through the crawl space. The total of all the vent areas where there is no vapor barrier as a ground cover should be at least one square foot for each 150 square feet of the floor area. Where such a vapor barrier is used, the vent area may be reduced to 1/1,500 of the floor area.

Crawl space vents should be closed and sealed in the winter. **Exception: When vents are used for combustion air-to-gas appliances located in the crawl space.**

Note: If your foundation walls are insulated, the vents should have insulation placed over them in winter.

Water Heating

Water heating is the third largest energy expense in the home, behind heating and air conditioning. Because a water heater is one of the large energy users, EnergyGuide labels are required. The labels are good guides for choosing the most efficient model you can afford.

The fuel you use to heat water is a big factor in water heating costs. If you have an electric water heater, the cost is probably two to three times as much.

When purchasing a new water heater, choose as small a tank as possible to meet your family's needs. In the upper right hand corner of the EnergyGuide label, you will find a listing of the First Hour Rating in gallons. This will tell you how many gallons of hot water that tank will produce in a single hour. Match that number to your needs.

Tank water heaters use either gas or electricity to heat water, then store 20 to 80 gallons in an insulated tank for use when a faucet is turned on. Heat is constantly lost through the tank walls (this is called standby heat loss which accounts for 20 percent to 60 percent of the total cost of heating water), and the gas burner has to reheat the same water even when no water is being used.

For tank-type water heaters, there are three main energy uses:

1. **Demand costs** are the initial heating costs of water. The energy usage for demand will vary from summer to winter with the temperature of the incoming water. Lowering the tank temperature, and water usage efficiency, will lower demand costs. Using less hot water is the best savings measure.
2. **Standby losses** amount to 20 percent to 60 percent of total water heating energy. Households using less hot water have higher percentage of standby losses. Lowering the tank temperature and adding extra tank insulation will cut standby losses. With an electric resistance tank, the use of an automatic timer can reduce energy used to reheat water.
3. **Distribution losses** occur in pipes when hot water flows through them. Insulating pipes and short runs to plumbing fixtures will reduce distribution losses. Install a heat trap at the water heater to stop convection of hot water into the hot and cold water pipes above the water heater. Consider installing a small water heater, or an instantaneous heater, at the point of use to decrease your distribution losses substantially.

Instantaneous water heaters heat water as it is needed, using a gas burner or an electric element. The units can serve a single EAO or as centralized heaters to replace conventional tank water heaters. Although tankless water heaters will provide an endless source of hot water, most will provide the hot water at a slow flow rate (2 to 3 gallons per minute with a temperature rise of 90°F). Whether you should replace a conventional water heater with a tankless unit depends on the size and efficiency of the tank being replaced, the cost of energy used and the frequency and amount of hot water used. A tankless water heater is probably a good idea for a vacation home; or a household with small, and easily coordinated, hot water requirements; or a remote bathroom that could be served by a small point-of-use model. These heaters are more expensive to purchase.

Heat pump water heaters are more efficient than electric resistance units. A heat pump water heater uses a third to half as much electricity as a conventional electric resistance water heater. While the efficiency is higher, so is the purchase cost.

Batch solar water heaters are a do-it-yourself project that pays. These simple heaters preheat water using the sun's heat. They are inexpensive to build, and plans are available for their construction.

Hot Water Savings

- Fix any hot water leaks promptly.
- Install high-efficiency showerheads. The Energy Policy Act of 1992 mandates that any showerhead manufactured after January 1, 1994, must not be more than a 2.25 gallon-per-minute flow (at 80 psi). Some showerheads have valves that allow water shut-off at the shower head without losing temperature mix.
- Low-flow faucet aerators for the kitchen are covered in the same legislation. They reduce flow to 2.5 gpm.
- Take short showers.
- Use your dishwasher wisely instead of washing dishes by hand.

- Set washer cycles for the lowest temperature and water amount that will get clothes clean.
- Always rinse on cold water setting.
- Set water heater temperature at 120°F - 130°F.

Water Usage

The average family's indoor water usage is about 50 gallons of water per person per day. If your family's water usage is more than that amount, you need to look at your water use habits.

Flushing the toilet accounts for about 42 percent of the total, bathing is 32 percent, and laundry is 14 percent. The amount of water that is used for drinking or cooking is probably less than 4 percent of the total.

The Energy Policy Act of 1992 has maximum water-use standards for plumbing fixtures. Toilets manufactured after January 1, 1994, have a 1.46 gallon per flush flow (as opposed to 3.5 or 5 gallons per flush for older units), and showerheads will have a maximum flow rate of 2.5 gallons per minute. Replacing a showerhead or an older-model toilet, is a good investment.

Efficiency Hints

- Fix all leaks promptly
- Don't let the water run while shaving or brushing your teeth.
- Use low-flow showerheads and faucet aerators.
- Take short showers and don't overfill the bathtub.
- Use your dishwasher wisely instead of washing dishes by hand.
- If you wash dishes by hand, don't let the water run for rinsing.

Use full loads in your dishwasher and in the washing machine.

Lawn Irrigation

An irrigation system can be the most efficient method of watering a landscape if it is correctly designed, maintained and programmed according to plant needs and weather conditions. An owner should be aware of the system's operations and be alert to signs of trouble with equipment or scheduling. It's also important to adapt the system to maturing landscape and to consider improvements that can increase efficiency.

Good water management can improve lawn quality and lower bills. The choice of species of grass will determine water needs. A lawn of Kentucky bluegrass will demand higher input of water, chemicals and labor than any other type of grass. It needs more water than other grasses (1.2 inches weekly), but many owners give bluegrass excess water. Turf-type tall fescues have greater heat and drought tolerances than bluegrass and are better adapted to partial shade; they require only .8 inch of water per week; Zoysia or Bermuda grass lawns require only .5 inch per week.

Mowing height and frequency affect water consumption. Slightly taller grass will develop deeper, more drought-hardy roots.

Efficient Irrigation

- Water your lawn only when needed.
- Water grasses heavily and deeply when they begin to wilt. Frequent, shallow sprinklings produce poor root development.
- Water during the coolest part of the day; generally early in the morning.
- Don't water during windy conditions.
- Position sprinklers so they water the lawn, not the pavement.
- Use mulch on your garden and flower beds to help keep soil moist.

Other Outdoor Water Usage Suggestions

- Use a broom, not a hose, to clean driveways and sidewalks.
- Don't run the hose while washing your car.

- Avoid letting children play in the hose or sprinkler.
- Check and repair leaks in hoses, hose couplings and outside faucets.
- Plant drought-resistant plants and trees.
- Use a water timer on hose sprinklers.

Windows

Windows are a significant source of heat loss and heat gain in the home. When building a new home, the placement of windows and the type of window used can make a dramatic affect on the energy efficiency of the house. For existing homes, replacement windows and window treatments should be considered to increase the energy efficiency of the home.

Energy-Efficient Options for New Windows

Window Ratings help simplify the purchase of energy-efficient windows. The National Fenestration Rating Council (NFRC) has developed a window rating system that considers solar heat gain in addition to R-value and air leakage. The numbers, which represent the Fenestration Heating Ratio (FHR) and Fenestration Cooling Ratio (FCR), indicate the percentage of annual household heating or cooling energy the window will save compared to a worst-case window with single glazing and aluminum frame. The higher the number, the greater the savings.

Types of Glass

Until recently, conventional, clear glass was the primary glazing material available for residential use. Now several types of special glass are available that can help control heat loss or gain, including low-emissivity glass, heat-absorbing glass and reflective glass.

Low-emissivity glass, or low-e glass, has a special coating on the surface to reduce radiant heat transfer. While the air space in normal double-paned windows reduces some of the heat loss, a significant amount of heat is transferred from the warm inner pane to the colder outer pane. The coatings used on low-e glass reduce the emissivity, thereby increasing the R-value (resistance to heat flow) of double-paned units. The incoming visible light is reflected only slightly, so low-e glass appears almost clear rather than mirror-like. Window units with low-e coatings cost about 10 percent to 15 percent more than regular units but can reduce energy flow through a window by 30 percent to 50 percent. New window units should be the low-e type with a U-value (conductance of heat) of .35 or less to control conduction losses. They should also have a shading coefficient of .5 or less to control radiant heat gain in the summer. If a large expanse of glass is used on the south side for solar heating, then a shading coefficient approaching 1.00 should be used for these windows with the radiant heat gain controlled with shades or awnings or both.

Heat absorbing glass contains special tints that allow it to absorb as much as 45 percent of the incoming solar energy, thereby reducing heat gain. Part of the absorbed heat, however, will continue to be passed to the structure. An inner layer of regular glazing reduces this transfer. Heat-absorbing glass reflects only a small percentage of visible light and, therefore, does not have the mirror-like appearance of reflective glass.

Reflective glass has been coated with a reflective film. It is useful in controlling solar heat gain during the summer, but it also reduces the passage of light all year long, and, like heat absorbing glass, reduces solar transmittance in winter. These two types of glass, therefore, are not desirable for use in passive solar heating applications.

Questions to consider before installing new windows

- What is the long term increase to the value of my home? If the home value is increased by the amount spent on windows, then all utility savings can be considered as profit on an investment.
- Will the new windows save time and money on maintenance?
- Would window treatments, such as inside or outside storm windows, window film, awnings, or interior shades, represent a viable alternative to new windows?
- What is the reputation of the windows and the installer? Improperly installed new windows can be as energy-inefficient as the original windows.

Energy-Efficient Options for Existing Windows

There are many inexpensive alternatives to installing new windows in your home that will make your windows more energy efficient.

Storm windows, for homes with single-pane windows, can be as effective, or sometimes more effective, in blocking heat transfer than double-paned units. Several kinds of storm windows are available. The least expensive is plastic sheeting that can be installed around either the outside or, preferably, the inside of windows. Glass units with wood, metal or vinyl frames can be attached to the window frame with clips or screws. The energy savings and payback periods from installing storm windows range from several months to a year for plastic sheeting and 5 to 10 years for glass.

Window treatments, such as insulating shades, shutters and drapes, provide some insulation to windows in the winter by reducing heat loss at night and allowing sunlight in during the day. Since most homeowners have some form of window treatments, the only maintenance is opening or closing the window treatments to allow sunlight in or to keep it out.

Shading devices, such as awnings, exterior shutters or screens, can be used to reduce unwanted heat gain in the summer.

Reflective films are another method of controlling the balance of heat gain and heat loss through windows. These films reflect sunlight away from the window and reflect heat back into the room.

Caulking and weatherstripping are inexpensive methods used to stop air leaks around windows and most homeowners can apply caulk and weatherstripping themselves. For additional information on caulking and weatherstripping, please see our [caulking and weatherstripping](#) web page.

Other Sources of Information

U.S. Dept. of Energy, Energy Efficiency and Renewable Energy Network

A service provided through the U.S. Dept. of Energy, the [Energy Efficiency and Renewable Energy Network](#) is a clearinghouse for energy efficiency and renewable energy information.

"[A Consumer's Guide](#)" to energy Efficiency and Renewable Energy

- [Selecting New Energy-Efficient Windows](#)
- [Advances in Glazing Materials for Windows](#)
- [Reflective Glass and Films for Windows](#)
- [Exterior Doors](#)
- [Storm Windows](#)
- [Skylights for Residences](#)

Efficient Window Collaborative

The [Efficient Window Collaborative](#) provides information on the benefits of energy-efficient windows, descriptions of how they work and recommendations for their selection and use.

EPA Energy Star Program

[Energy Star Windows](#) is part of the Environmental Protection Agency's [Energy Star Program](#) Energy Star Windows is designed to help consumers identify efficient windows, doors and skylights.

Home Energy Magazine

[Home Energy Magazine](#) is dedicated to providing energy-efficiency information. Their web site features full text articles on residential energy efficient construction and remodeling.

Lawrence Berkeley National Laboratory

The Lawrence Berkeley National Laboratory's [Windows and Daylighting Web site](#) provides both consumer and technical information on the purchase of windows and reports on research conducted by LBL into the latest technical advances in the design of windows.

Appliances

When buying an appliance, you pay more than just the selling price; you commit yourself to paying the cost of running the appliance for as long as you own it. These energy costs can add up quickly.

For example, running a refrigerator 15 to 20 years costs two to three times as much as the initial purchase price of the unit; and the 100-watt light bulb you bought for 50 cents will cost about \$6 in electricity over its short life.

Life-cycle costing

The sum of the purchase price and the energy cost of running an appliance over its lifetime is called its life-cycle cost. The life-cycle costs of energy-efficient appliances are lower than those of average models.

EnergyGuide Labels

When you shop for a major appliance, look for the yellow and black EnergyGuide labels that can help you choose the most efficient model you can afford.

Appliance labeling was mandated by Congress as part of the Energy Policy and Conservation Act of 1975. Labels must be displayed on seven types of major appliances. These seven major appliances account for about 73 percent of all energy consumed in American homes. New appliance labeling rules, passed in 1994 by the Federal Trade Commission to make energy-usage information easier to understand, began showing up on appliances on July 1, 1995.

The biggest change in the labeling of refrigerators, refrigerator/freezers, freezers, dishwashers, clothes washers and water heaters is a switch in the comparison base from an estimated annual operating cost of the appliance to its annual energy usage in kilowatt hours of electricity or therms of natural gas. Cost information will still be provided.

For California residents in 1993, the average price for electricity was 7.3 cents/kWh and for natural gas was 53.5 cents/therm.

Federal law requires that EnergyGuide labels be placed on all new refrigerators, freezers, water heaters, dishwashers, clothes washers, room and central air conditioners and heat pumps.

For additional information, you may contact the American Council for an Energy Efficient Economy or the Association of Home Appliance Manufacturers for up-to-date information on appliance efficiency.

EnergyStar Labels

ENERGY STAR-labeled products use less energy than other products, save you money on utility bills, and help protect the environment. Look for the ENERGY STAR label on quality household appliances, home electronics, office equipment, heating and cooling equipment, windows, residential light fixtures, and more.

Selecting a Refrigerator/Freezer

The energy usage by refrigerators and freezers has decreased, but they are still among the largest energy users in the home. In 1990 and 1993, National Appliance Efficiency Standards specified the maximum electricity consumption of refrigerators according to volume and features.

When shopping for a new refrigerator or freezer, shop around using the EnergyGuide labels. There is still a wide variation in energy usage, and your choice of style and features will have an effect on energy usage. Side-by-side models use more energy. Manual defrost models often use half as much energy as automatic defrost models but

are not widely available in large sizes. If you allow frost to build up, the refrigerator will rapidly lose efficiency. Features such as automatic icemakers and through-the-door ice and water dispensers can increase energy consumption. Usually, the larger the model, the greater the energy usage.

As a rule of thumb, you need eight cubic feet of refrigerator space for a family of two, plus one cubic foot for each additional person. Add two cubic feet if you entertain a great deal. Two cubic feet per person is usually required in freezer space.

Operating Hints

- If possible, locate the refrigerator and freezer away from heat sources and direct sunlight. Allow at least one inch of space on all sides of the refrigerator or freezer.
- Seriously evaluate the need for a second refrigerator. You may nearly double your electric bill.
- A refrigerator or freezer in an unheated garage will use more electricity in the summer than the winter.
- Clean around the condenser once a year, and keep the coils and grills dust-free.
- If the model has an energy-saver switch, you can reduce the usage by about 10 percent. Heaters, used in humid climates as an anti-sweat feature, are not needed most of the year or in air conditioned homes. The switch for the heaters may be labeled other than "energy -saver." If the switch has settings that say "dry/humid," make sure it is set on "dry." If it is labeled "power miser" or "energy-saver," turn the switch "on" to turn the heater off.
- Keep the door gasket clean and in good shape; replace if it is damaged.
- As a general rule, refrigerator thermostat should be set in the 32°F to 40°F temperature range. Usual temperature of the freezer area in a conventional refrigerator is 10°F to 25°F; freezer section of a refrigerator/freezer, about 5°F; and separate freezers, 0°F.
- Avoid overcrowding, which reduces airflow.
- Avoid opening the doors often by planning ahead, and do not let the refrigerator door stand open.
- Let hot dishes cool slightly before putting in the freezer or refrigerator.
- In frost-free refrigerators, it is important to cover foods before placing them in the refrigerator.
- Thaw foods in the refrigerator instead of using microwave.
- If you have a manual defrost freezer, keep the ice coating less than 1/4 inch for the most efficient operation.
- Turn off, empty, clean and leave the refrigerator door open when taking extended vacation.
- Freezers operate most efficiently when they are at least 2/3 full.

Selecting a Washing Machine and Dryer

Like dishwashers, most of the energy used by washing machines is for heating water. Water heating accounts for about 90 percent of total energy use. Most washing machines use from 30 to 40 gallons of water for a complete wash cycle. The energy savings for reducing the water temperature are significant.

Model-to-model, the operation of dryers is very similar. The big choice is which type of fuel - electric or gas. In terms of energy use, gas dryers are less expensive to operate. Electric ignition is now required for all new gas dryers.

- Shop around using the EnergyGuide labels.
- Choose controls that allow you to select various water levels and water temperatures.
- Consider a suds-saver feature (you can re-use wash water for additional loads).
- Compare models for water usage, and buy the model with the lowest water usage in your price range.
- Faster spin speeds can result in more extraction and reduce drying time.
- Front-loading (horizontal axis) machines use a third less water and have better washing performance.

Operating Hints

Washer

- The major cost of washing clothes is for heating water. Wash in cold or warm/cold cycles to save energy.
- Adjust the water level to match the size of the load.

- Always use a cold-water rinse.
- **Dryer**
- Use a clothes line when possible; after drying, tumble in the dryer on air setting, to soften towels and clothes.
- Clean the lint filter after every load.
- Use the washer's "sturdy clothes" spin cycle to remove as much water as possible before transferring clothes to the dryer.
- Avoid over-drying.
- Use a tight-sealing dryer vent hood that blocks air infiltration.

Selecting a Dishwasher

Look for these energy-saving features when buying a new dishwasher:

- An "air dry" selector. The heat is automatically shut off during the dry cycle. This can save up to 30 percent of the electricity used by your dishwasher.
- Short-cycle selectors. Use these cycles for lightly-soiled dishes as they use less hot water.
- Less hot water usage. Dishwashers vary as to the number of gallons of hot water used per cycle. Approximately 80 percent of the energy used by a dishwasher is for heating the water; therefore, look for a model that uses less water - between 8 and 14 gallons for a complete cycle.
- Look for the yellow EnergyGuide label that should be on all dishwashers. This label will tell you the estimated yearly cost of operation for the particular model.
- Built-in water heaters. Some energy-conserving models have built-in water heaters that bring the water temperature up to the recommended level of 140°F. If you have this feature, the central water heater temperature can be lowered. For each 10°F reduction in your water heater temperature setting, you cut energy consumption by 3 percent to 5 percent.

Operating Hints

- Dishwashers use an average of 5.8 fewer gallons of water per load than washing the same dishes by hand.
- Wash only full loads.
- Avoid pre-rinsing by scraping off large food particles.
- Match the cycle to the degree of soil.
- Vent the dryer to the outside.

Additional Resources

The American Council for an Energy Efficient Economy, 1001 Connecticut Ave., NW, Suite 535, Washington, D.C. 20202, Phone (202) 429-8873

Association of Home Appliance Manufacturers, 20 North Wacker Dr., Chicago, IL 60606, Phone (312) 984-5800

**CITY OF PALM SPRINGS
PUBLIC HEARING NOTIFICATION**




CITY CLERK'S DEPARTMENT
James Thompson, City Clerk

Date: March 25, 2009
Subject: Energy Efficiency Improvements

AFFIDAVIT OF PUBLICATION

I, Kathie Hart, Chief Deputy City Clerk, of the City of Palm Springs, California, do hereby certify that a copy of Resolution No. 22444 was published in the Desert Sun on March 7, 2009, and March 14, 2009.

I declare under penalty of perjury that the foregoing is true and correct.




Kathie Hart, CMC
Chief Deputy City Clerk

AFFIDAVIT OF POSTING

I, Dolores Strickstein, Secretary, of the City of Palm Springs, California, do hereby certify that a copy of the attached Notice was posted at City Hall, 3200 E. Tahquitz Canyon Drive, on the exterior legal notice posting board and in the Office of the City Clerk on March 6, 2009.

I declare under penalty of perjury that the foregoing is true and correct.



Dolores Strickstein
Secretary

RESOLUTION NO. 22444

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF PALM SPRINGS DECLARING ITS INTENTION TO FINANCE ENERGY EFFICIENCY IMPROVEMENTS THROUGH THE USE OF CONTRACTUAL ASSESSMENTS PURSUANT TO CHAPTER 29 OF PART 3 OF DIVISION 7 OF THE CALIFORNIA STREETS AND HIGHWAYS CODE AND SETTING A PUBLIC HEARING THEREON

WHEREAS, pursuant to Chapter 29 of Part 3 of Division 7 of the California Streets and Highways Code ("Chapter 29"), the City Council proposes to establish a contractual assessment program to assist property owners with the cost of making energy efficiency improvements that are permanently fixed to their property;

NOW, THEREFORE THE CITY COUNCIL OF THE CITY OF PALM SPRINGS HEREBY FINDS, DETERMINES, RESOLVES, AND ORDERS AS FOLLOWS:

Section 1. The City Council hereby finds and declares all of the following:

A. Energy conservation efforts, including the promotion of energy efficiency improvements to residential, commercial, industrial, or other real property are necessary to address the issue of global climate change.

B. The upfront cost of making residential, commercial, industrial, or other real property more energy efficient prevents many property owners from making those improvements. To make those improvements more affordable and to promote the installation of those improvements, the Legislature has authorized an alternative procedure pursuant to Chapter 29 for authorizing assessments to finance the cost of energy efficiency improvements.

C. A public purpose will be served by a contractual assessment program whereby the City Council is authorized to finance the installation of energy efficiency improvements that are permanently fixed to residential, commercial, industrial, or other real property.

D. It is convenient, advantageous, and in the public interest to designate the entire City, including any area that may be annexed to the City, as the area within which authorized City officials and property owners may enter into contractual assessments to finance the installation of energy efficiency improvements that are permanently affixed to real property

Section 2. The City Council hereby determines that it would be convenient, advantageous and in the public interest to designate the entire City as an area within which authorized City officials and property owners may enter into contractual assessments pursuant to Chapter 29 to finance the installation of distributed generation renewable energy sources or energy efficiency improvements that are permanently fixed to real property.

Section 3. The City Council hereby declares that it proposes to make contractual assessment financing available to the owners of property in the City to finance the installation of energy efficiency improvements that are permanently fixed to real property.

Section 4. The City Manager or the City Manager's designee (the "Authorized Officer") shall prepare, as part of the report required in Section 7 of this Resolution, and update, sources or energy efficiency improvements that may be financed through the City's contractual assessment financing program. The types of energy efficiency improvements eligible for financing through contractual assessments may include, but are not limited to, high efficiency air conditioning and ventilation systems, high performance windows, high efficiency pool equipment, high efficiency water heating equipment, photovoltaic and thermal solar energy systems, zoning control and energy management control systems, high efficiency irrigation pumps and controls and natural gas fuel cells, wall, ceiling, and roof insulation upgrades.

Section 5. The entire City and any area that may be annexed thereto, is designated the area within which contractual assessments may be entered into pursuant to Chapter 29.

Section 6. The proposed arrangements for financing the contractual assessment financing program may include without limitation the issuance of bonds pursuant to Chapter 29, the principal and interest of which would be repaid by contractual assessments. Alternatively, the City may advance its own funds to finance work to be repaid through contractual assessments, and may from time to time sell bonds, notes, certificates of participation, or other forms of indebtedness to reimburse itself for such advances. The proposed arrangements may also include the lease-purchase of public facilities by the City pursuant to a lease or other contractual arrangement with a public financing authority or non-profit entity or other financing elements as may be determined necessary or useful to the financing of the contractual assessment program.

Section 7. The City Council hereby directs the Authorized Officer to prepare and file with the City Council a report pursuant to Section 5898.22 of the California Streets and Highways Code at or before the time of the public hearing described in Section 8 hereof (the "Report"). The Report shall contain all of the following:

- (a) A map showing the boundaries of the territory within which contractual assessments are proposed to be offered.
- (b) A draft contract specifying the terms and conditions that would be agreed to be a property owner within the contractual assessment area and the City.

- (c) A statement of City policies concerning contractual assessments including all of the following:
 - (i) Identification of types of facilities, or energy efficiency improvements that may be financed through the use of contractual assessments;
 - (ii) Identification of a city official authorized to enter into contractual assessments on behalf of the City;
 - (iii) A maximum aggregate dollar amount of contractual assessments; and
 - (iv) A method for setting requests from property owners for financing through contractual assessments in priority order in the event that requests appear likely to exceed the authorization amount.

- (d) A plan for raising a capital amount required to pay for work performed pursuant to contractual assessments. The plan may include amounts to be advanced by the City through funds available to it from any source. The plan may include the sale of a bond or bonds or other financing relationship pursuant to Streets and Highways Code Section 5898.28. The plan shall include a statement of or method for determining the interest rate and time period during which contracting property owners would pay any assessment. The plan shall provide for any reserve fund or funds. The plan shall provide for the apportionment of all or any portion of the costs incidental to financing, administration, and collection of the contractual assessment program among the consenting property owners and the City.

Section 8. The City Council hereby calls a public hearing to be held on March 25, 2009 at 6:00 p.m., or soon thereafter as feasible, in the Council Chambers, 3200 E. Tahquitz Canyon Way, Palm Springs, California, on the proposed Report and the contractual assessment financing program. At the public hearing all interested persons may appear and hear and be heard and object to or inquire about the proposed contractual assessment financing program or any of its particulars.

Section 9. The City Clerk is hereby directed to provide notice of the public hearing by publishing this Resolution once a week for two weeks, pursuant to Section 6066 of the California Government Code, in the Desert Sun and the first publication shall not occur later than 14 days before the date of such hearing.

Section 10. The assessments levied pursuant to Chapter 29, and the interest and any penalties thereon, shall constitute a lien against the lots and parcels of land on which they are made, until they are paid. The assessments shall be collected in the same manner and at the same time as the general taxes of the City on real

property are payable and shall be subject to the same penalties, remedies and lien priorities in the event of delinquency and default.

Section 11. The City Council hereby directs the Authorized Officer to enter into consultations with the County of Riverside Auditor-Controller's office to reach agreement with the County regarding the collection of the contractual assessments by the County on the tax roll.

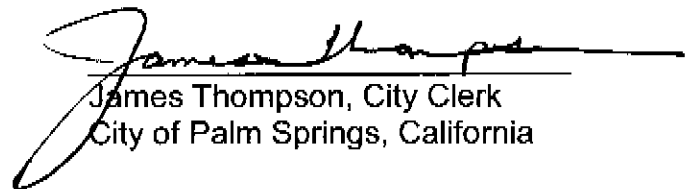
PASSED, APPROVED AND ADOPTED THIS 4TH DAY OF MARCH, 2009.

CERTIFICATION

STATE OF CALIFORNIA)
COUNTY OF RIVERSIDE) ss.
CITY OF PALM SPRINGS)

I, JAMES THOMPSON, City Clerk of the City of Palm Springs, hereby certify that Resolution No. 22444 is a full, true and correct copy, and was duly adopted at a regular meeting of the City Council of the City of Palm Springs on the 4th day of March, 2009, by the following vote:

AYES: Councilmembers Foat, Hutcheson, Weigel, and Mayor Pougnet
NOES: None
ABSENT: Mayor Pro Tem Mills
ABSTAIN: None


James Thompson, City Clerk
City of Palm Springs, California