



CITY OF SACRAMENTO

32

CITY PLANNING DEPARTMENT

725 J STREET

SACRAMENTO, CALIF. 95814

TELEPHONE (916) 449-5604

MARTY VAN DUYN

PLANNING DIRECTOR

October 30, 1980

FILED

By the City Council
Office of the City Clerk

*Referred to Bud/Kin Comm
& Cont 40 12-2-80*

City Council
Sacramento, California

Honorable Members in Session NOV 5 1980

SUBJECT: Proposed City Energy Conservation Measures (M-451)

SUMMARY

The City Council directed staff to study possible energy conservation measures that could be implemented immediately. The staff prepared ten measures that would promote energy conservation. The City Council approved the ten measures in concept and returned the measures to the appropriate departments which would implement the measures for public hearing and recommendation.

The Planning Commission has considered seven of these measures that the Planning staff is processing. The Planning Commission and staff recommend that the City Council adopt the two ordinances and five resolutions attached that promote the increased use of effective energy conservation measures and approve a new planner to implement these measures.

BACKGROUND INFORMATION

In September, 1979, the City Council directed staff to study possible conservation measures and submit recommendations for measures which could be implemented immediately. The Planning staff identified all existing City energy conservation measures and ten additional measures that could be part of an energy conservation program for the City. The ten measures are:

1. Energy considerations as part of "R" review designation on a rezoning.
2. Fifty (50) percent shading of new parking lots.
3. Endorsement of preservation of solar access for private and public solar energy collectors.

4. Energy conservation policies added to Conservation Element of General Plan.
5. Energy conservation review checklist and guidelines for project and site plan reviews.
6. Increasing the number of north/south oriented lots within a subdivision, for increased solar access.
7. Endorsement of coordinated program to maximize use of low interest programs for persons of low and moderate income to attain energy efficient housing.
8. Energy conservation performance standards for residential construction.
9. Energy audit and correction of audit deficiencies at time of title transfer.
10. Solar water heating for new residential construction.

These ten measures were reviewed and approved in concept by the City Planning Commission on April 17, 1980 and City Council on August 19, 1980. The Council referred the first seven measures to the Planning Department and the last three measures to the City Engineering Department to be developed into implementable programs. The Planning staff has prepared and is processing the necessary ordinances and resolutions for the assigned seven measures to implement those energy conservation measures. The benefits and financial impacts of the seven measures are evaluated in the attached report to the Planning Commission. The Planning Commission made minor amendments to some of the seven ordinances and resolutions which staff supports.

The development of these seven measures has been with the knowledge of those agencies and organizations who would be effected by or have interest in these measures including the building industry, realtors, utility companies, various City, County and State agencies, the Chamber of Commerce, environmental groups, the California Energy Commission, Solarcal Council and other interested parties. The only written comment was received from the Environmental Council of Sacramento (see Exhibit A).

The two local energy utilities, SMUD and P.G.&E., are promoting energy conservation by providing free energy audits to customers upon request as a result of the State Residential Conservation Service plan pursuant to the National Energy Conservation Policy Act in 1978. The utilities are also providing other incentives such as P.G.&E.'s "Sunthern" program with direct rebates to the builder for projects using about 25 percent less energy than similar homes meeting minimum existing State, local and Federal standards.

SMUD is starting a similar passive design assistance program which would include computer analysis, design review, and marketing assistance to builders.

The seven proposed measures could assist in the implementation and would support the following existing incentives for energy conservation:

Federal Tax credits,

State Tax credits,

Low and Moderate-Income weatherization programs at the Federal and State levels,

State Residential Conservation Service plan,

State Solar Rights Act of 1978, and

SMUD and P.G.&E. credits, rebates, and assistance programs.

The proposed measures would encourage energy conservation considerations at the design stage of residential products. With the proposed energy policies and reviews, residential developers would have the option of starting to amend their existing designs or possibly be required to change designs within a few years by State and Federal Governments.

FINANCIAL DATA

These seven measures would collectively require approximately half of a planner's time to implement, and the Planning Department does not have surplus staff. Consequently, the Planning Department would request one additional planner in order not to disrupt or reprioritize the current work program. This additional planner would spend half their time implementing the proposed seven measures while spending their remaining time researching other energy conservation measures, such as solar access ordinance, and preparing an Energy Element for the General Plan update. In addition, this planner would provide expertise in community plan updates, as well as specific studies requested by the City Council and/or mandated by various other agencies. One additional planner would require the Planning Department's budget be amended for a new Assistant//Associate Planner position (\$24,823 to \$34,222 and \$1,000 for supplies) for approximately \$25,823 to \$35,222 per year.

VOTE OF COMMISSION

At its regular meeting of October 9, 1980, the Planning Commission voted (eight ayes, one vacant) to recommend approval as amended and forward the seven measures to the City Council.

RECOMMENDATION

The staff and Planning Commission recommend that the City Council adopt the attached energy conservation ordinances and resolutions and approve a new planner position.

Respectfully submitted,


Marty Van Duvn
Planning Director

FOR CITY COUNCIL INFORMATION
WALTER J. SLIPE
CITY MANAGER

MVD:PB:jm
Attachments
M-451

November 5, 1980
All Districts

ORDINANCE NO.

FOURTH SERIES

AN ORDINANCE AMENDING THE CITY OF SACRAMENTO ZONING ORDINANCE (ORDINANCE NO. 2550, FOURTH SERIES) BY ADDING SECTION 13-A-3c4 RELATING TO ENERGY CONSIDERATIONS AS PART OF "R" REVIEW DESIGNATION ON A REZONING (M-451)

BE IT ENACTED BY THE COUNCIL OF THE CITY OF SACRAMENTO:

SECTION 1.

Subsection 4 is hereby added to 13-A-3-c of the Sacramento City Zoning Ordinance to read as follows:

4) Considerations related to energy conservation, including, but not limited to, the presence and orientation of structures, vegetation and other objects, both on and off the site, to provide shading and protection from the wind on the lot and nearby sites; the presence of adequate structure orientation to maximize south wall solar access. Nothing contained in this subsection shall limit the application of other provisions of this section.

PASSED FOR PUBLICATION:

ENACTED:

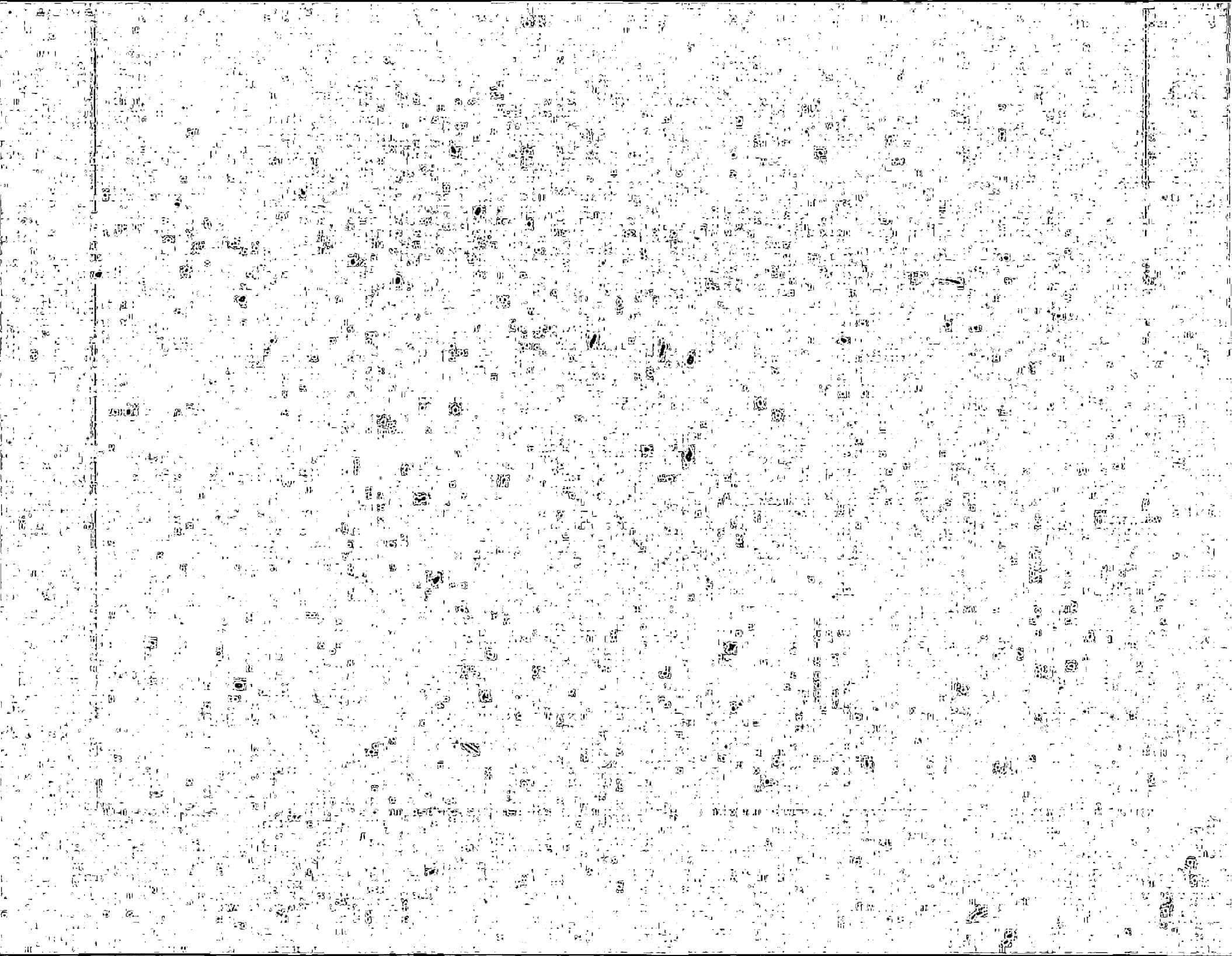
EFFECTIVE:

MAYOR

ATTEST:

CITY CLERK

M-451



ORDINANCE NO. , FOURTH SERIES

AN ORDINANCE AMENDING THE CITY OF SACRAMENTO ZONING ORDINANCE (ORDINANCE NO. 2550, FOURTH SERIES) SECTION 6-D-19 RELATING TO REQUIRED SHADING OF PARKING LOTS (M-451)

BE IT ENACTED BY THE COUNCIL OF THE CITY OF SACRAMENTO:

SECTION 1.

Section 6-D-19 is added to the Comprehensive Zoning Ordinance of the City of Sacramento, Ordinance No. 2550, Fourth Series, to read as follows:

19. Tree Shading: Trees shall be planted and maintained throughout the surface parking lot to ensure that, within fifteen years after establishment of the parking lot, at least 50 percent of the parking area will be shaded at noon on August 21. This shall be calculated by drawing on the site plan the shadows cast by trees and surrounding structures at noon, using a solar attitude of 60°.

Each planting area shall be of adequate size for the landscaping approved and shall have adequate irrigation for that landscaping. The Director of Community Services shall establish a list of species appropriate for providing shade in parking lots, and shall review site plans of each parking lot to determine whether or not the lot complies with this section. Trees planted in order to comply with the regulations of this section shall be selected from the list prepared by the Director of Community Services.

PASSED FOR PUBLICATION:

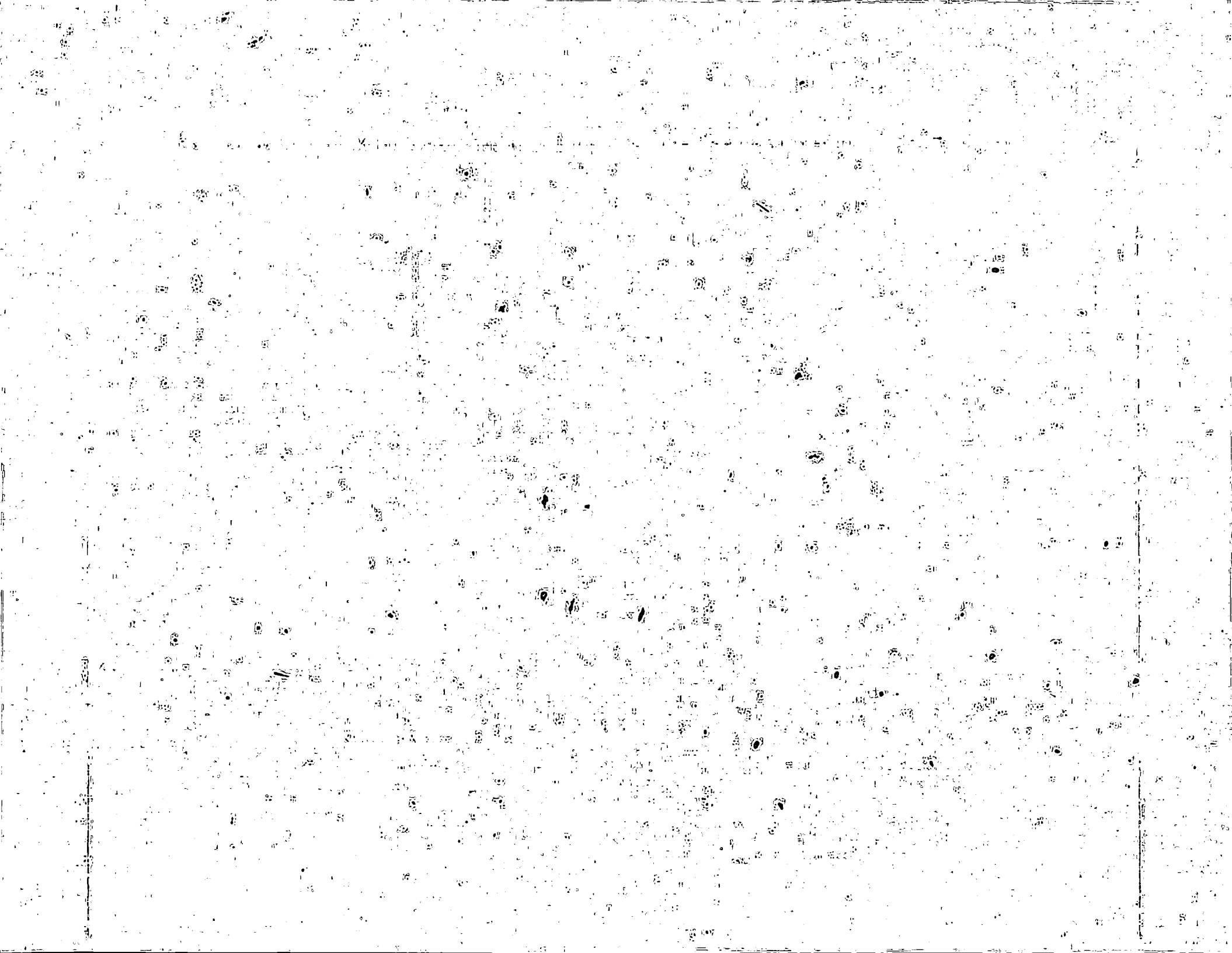
ENACTED:

EFFECTIVE:

MAYOR

ATTEST:

CITY CLERK



RESOLUTION NO.

Adopted by The Sacramento City Council on date of
OCTOBER 28, 1980

RESOLUTION ENDORSING THE PRESERVATION OF SOLAR ACCESS FOR PRIVATE AND PUBLIC SOLAR ENERGY COLLECTORS (M-451)

- WHEREAS: The people of Sacramento face an energy shortage and rapidly rising energy prices; and
- WHEREAS: The use of solar energy collectors is a technologically and economically feasible means of augmenting present and future supplies of conventional energy sources; and
- WHEREAS: The use of solar energy collectors promotes energy conservation and energy independence for the citizens of the City of Sacramento; and
- WHEREAS: The use of solar energy collectors reduces requirements for capital, land, and other resources; and
- WHEREAS: The use of solar energy collectors reduces air and water pollution and enhances the quality of the environment in the City of Sacramento; and
- WHEREAS: The use of solar energy collectors can be compatible with the operation of private and public utilities; and
- WHEREAS: The use of solar energy collectors is enhanced by the preservation of open spaces which afford access to direct sunlight for collectors;

NOW, THEREFORE, BE IT RESOLVED that the Council of the City of Sacramento declares that:

1. The use of solar energy collectors can contribute significantly to the public health, safety and welfare;
2. The preservation of unobstructed airspace for the purpose of providing access to direct sunlight for solar energy collectors can contribute significantly to the public health, safety and welfare;
3. The education of private citizens and public officials about the use of solar energy collectors and the need for unobstructed airspace is encouraged; and
4. The development of private and public land in a manner that preserves adequate open space for the encouragement of using solar energy collectors will advance the public health, safety and welfare and will promote the public interest.

AND THEREFORE, BE IT FURTHER RESOLVED, that the Council of the City of Sacramento endorses the preservation of solar access for private and public solar energy collectors.

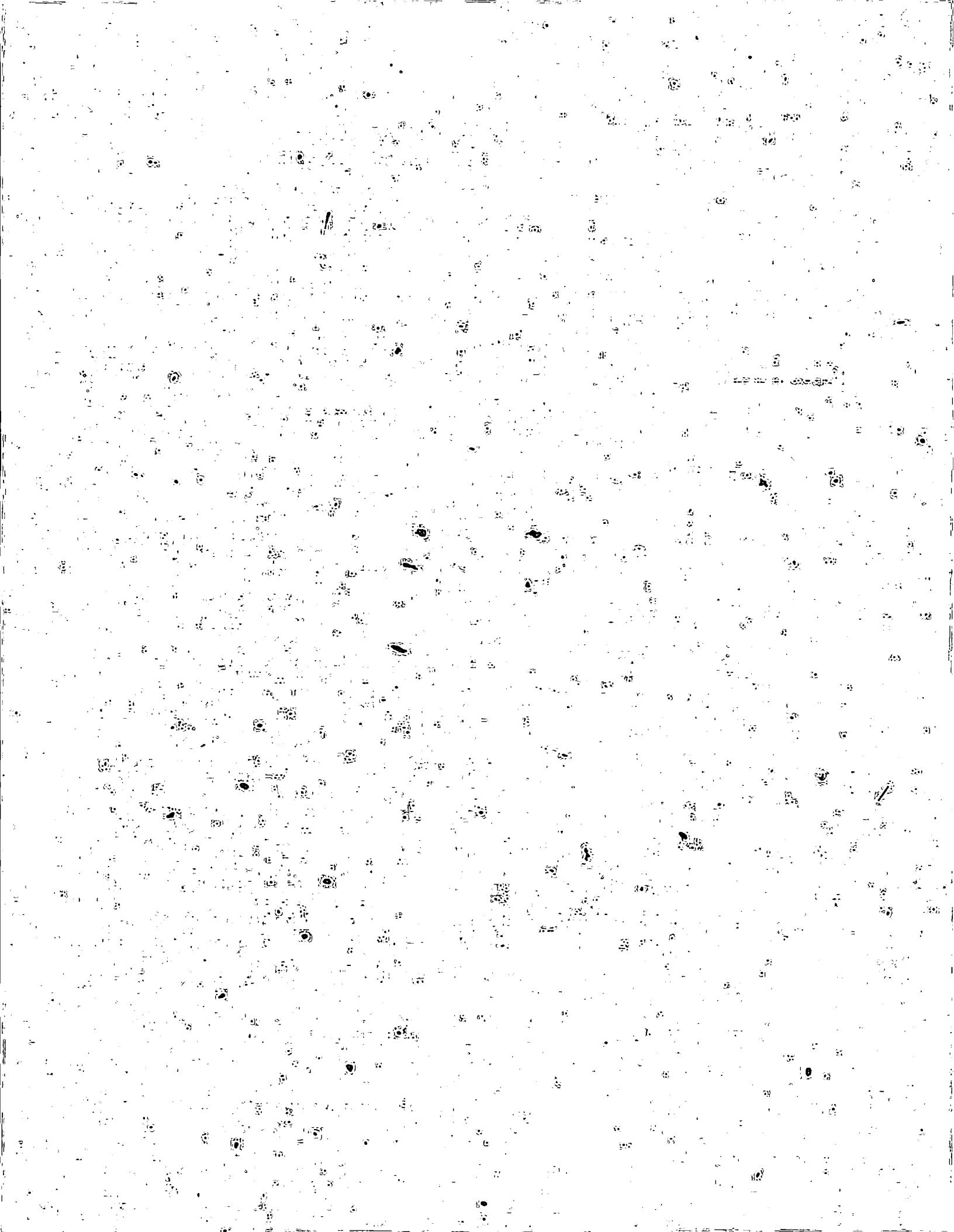
MAYOR

ATTEST:

CITY CLERK

bw

(M-451)



RESOLUTION NO.

4

Adopted by The Sacramento City Council on date of

OCTOBER 28, 1980

RESOLUTION AMENDING THE CONSERVATION ELEMENT OF THE SACRAMENTO CITY GENERAL PLAN BY ADD- ING ENERGY CONSERVATION POLICIES (M-451)

- WHEREAS: The City is growing at a rapid rate; and
- WHEREAS: The Council recognizes the importance of solar energy use and the need for solar access, protection, and
- WHEREAS: The Council recognizes the possibility of an energy shortage and the certainty of rapidly rising energy prices; and
- WHEREAS: Sunlight is a clean, abundant alternative source of energy; and
- WHEREAS: Technologies for utilizing solar energy are being refined with increasing efficiency and cost effectiveness; and
- WHEREAS: The Council has acknowledged the need to adopt energy conserving planning standards; and
- WHEREAS: The Conservation Element of the General Plan presently provides for at least 60 percent of lots to be oriented within 22 degrees of true north in subdivisions of more than 50 single family lots; and
- WHEREAS: It is in the community's best interest to encourage the use of solar energy system(s) and to protect its citizens' right to sunlight;
- WHEREAS: Shading pedestrianways, transit stops and bikeways from valley heat are amenities conducive to walking, transit and bicycle use.

NOW, THEREFORE, BE IT RESOLVED by the City Council of Sacramento that the following section shall be added to the conservation element of the General Plan relating to energy conservation.

ENERGY CONSERVATION

In order to reduce the need to travel, increase access to transit, permit building configurations which increase the efficiency of space heating in residences, and promote energy efficient landscaping, the following Energy Conservation Policies are recommended for adoption:

1. Promote complete urbanization and in-filling development, as a means of reducing the consumption of petrol fuels used in automobile travel;
2. Reduce the consumption of petrol fuels used in automobile travel by providing community plan policies which encourage the use of alternative transportation modes such as the bus and bike;
3. Promote patterns of land use which decrease consumption of fuel for transportation and space heating by:
 - a. Encouraging construction of energy efficient planned unit developments including residential, commercial, industrial and mixed use projects;

- b. Reducing energy consumed for space heating residential buildings by promoting the construction and renovation of attached single and multi-family dwelling units.
 - c. Encouraging zero lot line/common wall construction in designated residential zones.
 - d. Encouraging development of housing adjacent to employment areas.
 - e. Promoting consolidation of neighborhood retail, office and community service establishments in neighborhood service centers located on major transit and arterial streets.
4. To increase access to transit by promoting medium to high density residential, employment intensive commercial, and retail commercial development near proposed transit stations, and medium density residential development along major transit streets.
 5. Explore the possibility of amending the City's building code to more effectively promote energy conservation by regulating the orientation of the structure rather than the lot.
 6. Encourage building design which promotes energy conservation. This includes provisions for double paned windows, increased insulation, and equipment such as low volume toilets and flow restrictors.
 7. Encourage builders within new residential subdivisions to offer solar power systems as a pre-construction option.
 8. Encourage developers of new residential subdivisions to include provisions within tract restrictions for solar rights so as to provide direct sunlight on the property in the winter between the hours of 10:00 a.m. and 3:00 p.m.
 9. Encourage north/south structure orientation to help insure greater access - proper lot or street orientation does - especially when combined with adequate south wall solar access.
 10. Encourage drought tolerant landscaping that requires less water and maintenance after established; therefore, less energy for water/waste pumping.
 11. Continue to provide tree (preferably deciduous) planting program along all newly constructed streets as a means of reducing outdoor surface temperatures during summer months.
 12. Encourage landscaping, especially in new residential and commercial developments that not only provides shade during the summer months, but also act as a windbreak in the winter, thus reducing heat loss.
 13. Continue to study new methods of conserving energy, and to amend the General Plan wherever feasible to incorporate practical measures for reduced energy consumption.

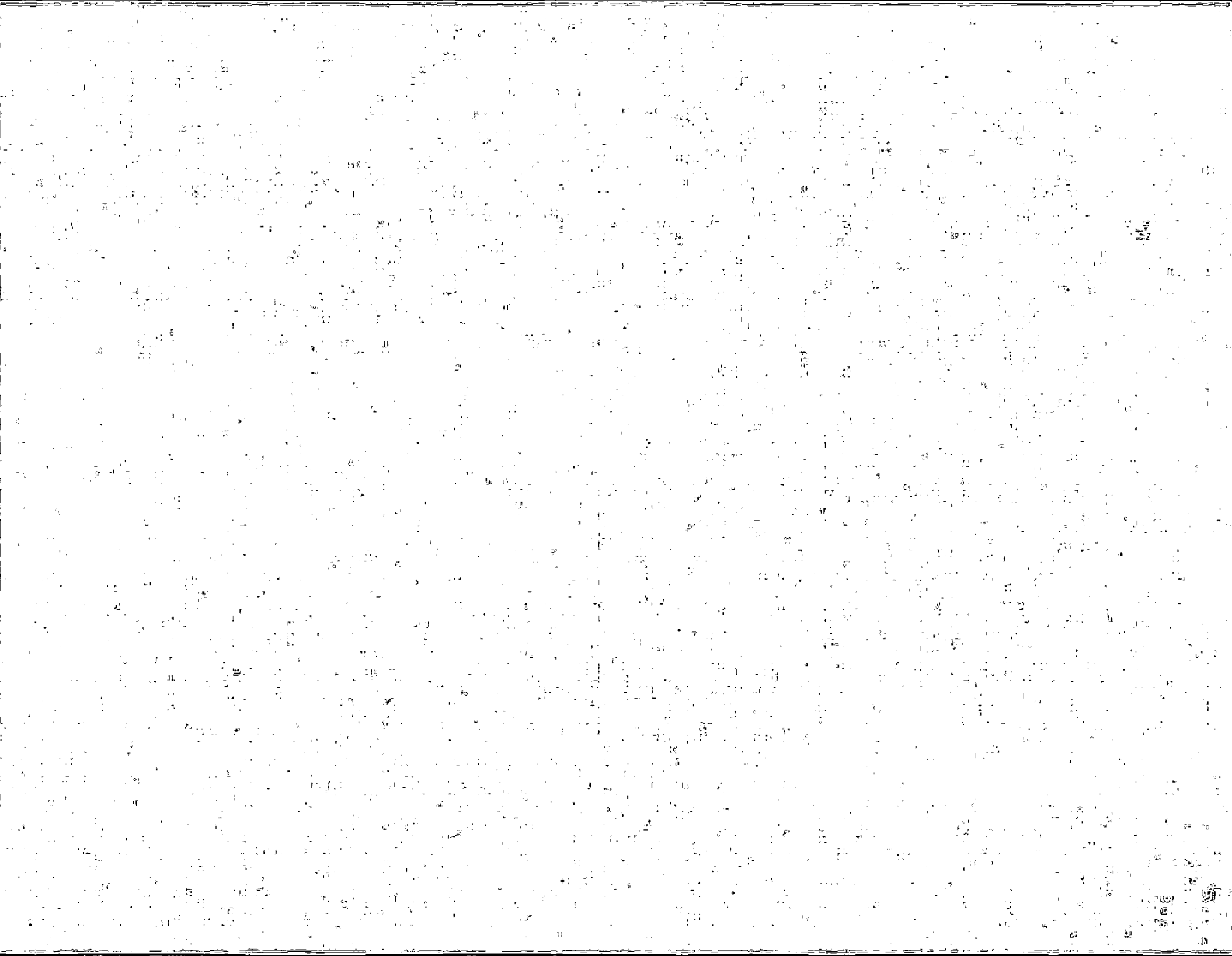
14. Encourage use of clotheslines, clothesracks or similar facilities for all residential uses, especially multi-family units, to enable residents to dry their clothes using the sun. Such clotheslines should be convenient to washing facilities and oriented to receive sufficient sun to dry clothes throughout the year.
15. Encourage increased use of narrower street widths in a manner that does not conflict with bike access, or where mass transit is not expected, in proposed subdivisions to reduce first cost and maintenance costs. This reduces heat retention of concrete/asphalt which reduces ambient temperature, especially when combined with street trees.
16. Encourage shaded pedestrian walkways and bikeways in new developments to decrease the energy used for fueled vehicles.

MAYOR

ATTEST:

CITY CLERK

M-451



RESOLUTION NO. 5

Adopted by The Sacramento City Council on date of

OCTOBER 28, 1980

RESOLUTION ADOPTING ENERGY CONSERVATION REVIEW CHECKLIST AND DEVELOPMENT GUIDELINES FOR PROJECT/SITE PLAN REVIEW (M-451)

- WHEREAS:** Availability of fossil fuels is decreasing; and
- WHEREAS:** Energy demands are increasing as the population increases; and
- WHEREAS:** Alternative sources of energy are being developed to supplement fossil fuel sources; and
- WHEREAS:** Energy planning should not continue to be the result of sporadic crisis concerns and occasional review of plans; and
- WHEREAS:** Energy conservation measures considered at the earliest possible stage of development will help decrease the amount of energy used by the final project.

NOW, THEREFORE, BE IT RESOLVED THAT: The following solar access, site analysis and project analysis checklist and solar collector guidelines shall be used by staff for evaluation of all projects.

SOLAR ACCESS:

1. How is general solar access of the site?
Which direction does site face (orientation)?
How steep is topography (slope direction and slope gradient)?
2. What is existing vegetation like and what are its shading characteristics?
Species: Deciduous? Evergreen? Size and age of trees?
Mature height and crown size of trees? Specific location?
3. What parts of site are especially good or bad for solar energy use?
Are good areas developed to highest possible densities?
Are bad areas developed to lowest possible densities or avoided?
4. How are streets oriented?
Will they promote good solar orientation of buildings?
5. Are lots oriented in a way that buildings will have good solar access?
6. Will new landscaping affect solar access of any buildings or solar collectors?
What kinds of trees to be used? What size (height and crown) at maturity? How long a shadow will they cast?
7. How tall are buildings to be? What are setbacks? Will buildings shade each other?
Will most buildings have access of sunlight to roof? To south walls?
Where are high-rise buildings sited? What shading problems will they cause?
8. Where are buildings sited? What implications does building siting have for the owners' control over shading?

Are buildings sited for best natural cooling and heating?
Are buildings sited as close to north lot line(s) as possible to increase yard space to the south for better owner control of shading?
Are zero lot line and clustering techniques used when good solar access isn't possible for single-family detached units?
Are tall buildings sited to the north of shorter ones?

9. What is the impact on solar access of buildings off the site?

SITE ANALYSIS (is mapped documentation included?)

1. Topographic and major site features.

Are slopes and flat areas noted?
Are existing trees and buildings indicated?
Are site elevations and contours included?
Are all significant natural features, such as water courses or historic sites marked?

2. Are all potential solar access obstructions (trees, buildings, etc.) marked?

(Suggest sketching of shadow patterns of major tall obstructions on plan)

3. Energy-conserving factors of the site.

Are seasonal wind directions and features that can influence wind flows indicated?
Are bodies of water noted?
Are ground surfaces, such as bare soil and pavement or grass noted?
Are reflective surfaces such as sand, water or concrete noted?

PROJECT ANALYSIS

Have the following been considered?

Convenient access to mass transit;
Walkways to reduce dependence on cars;
Increase of south oriented glazing;
Decrease in east, west, north oriented glazing;
Adequate shading of east, south, west walls to reduce summer insolation;
Light colored exterior;
Light colored roofing;
Correct orientation for maximum solar access.

SOLAR COLLECTORS

Placement of Collectors

1. Panels laid flat on the roof are usually the most compatible with the form of the building.
Is there sufficient collector area to do the heating job? Has the area of collectors needed for roof slope and roof orientation been calculated?
2. Is the collector array located so as to limit the need to remove or trim trees?
3. Are solar collectors located so as to avoid light reflection into neighboring windows? Various types of glass with low reflective qualities, such as "Water White Glass", should be used where there are potential glare problems.
4. Are solar collectors located so that future buildings constructed within maximum height limitations on adjacent lots will not obstruct sunlight falling on collectors?
5. Is collector array located so that it lies between the visually dominant lines of building and/or roof?
6. Are collectors located where they are least visible from a public street and other properties?

Panel Mounting

7. If racks are used to mount the collectors, is the smallest angle between the roof surface and the collector's surface used?
8. Are the triangular ends of thin steel rack mounts covered with the roof or siding material to make the installation look better?
9. Does installation start at the ridge line and end at the gutter?
10. Are collector panels fit snugly together rather than with spaces between them?
11. Is amount of visible piping minimized?

Color

12. Do the color of the collector frame and the color of the roof match?
13. Does the color of the piping match the surface to which it is attached?
14. Are plastic bag collectors and plastic tubing located where they are least visible? Is a screening device used to block the view of collectors and tubing?

MAYOR.

ATTEST:

CITY CLERK

bw

M-451

RESOLUTION NO. 6

Adopted by The Sacramento City Council on date of

OCTOBER 28, 1980

**RESOLUTION ADDING GENERAL POLICY 5 TO THE CONSERVATION ELEMENT
OF THE SACRAMENTO CITY GENERAL PLAN TO PROVIDE
FOR NORTH/SOUTH LOT ORIENTATION FOR INCREASED SOLAR ACCESS
(M-451)**

- WHEREAS:** The City is growing at a rapid rate; and
- WHEREAS:** The Council recognizes the importance of solar energy use and the need for solar access protection; and
- WHEREAS:** The Council recognizes the possibility of an energy shortage and the certainty of rapidly rising energy prices; and
- WHEREAS:** Sunlight is a clean, abundant alternative source of energy; and
- WHEREAS:** Technologies for utilizing solar energy are being refined with increasing efficiency and cost effectiveness; and
- WHEREAS:** The Council has acknowledged the need to adopt energy conserving planning standards; and
- WHEREAS:** The Conservation Element of the General Plan presently provides for at least 60 percent of lots to be oriented within 22 1/2 degrees of true north in subdivisions of more than 50 single family lots; and
- WHEREAS:** It is in the community's best interest to encourage the use of solar energy system(s) and to protect its citizens' right to sunlight;

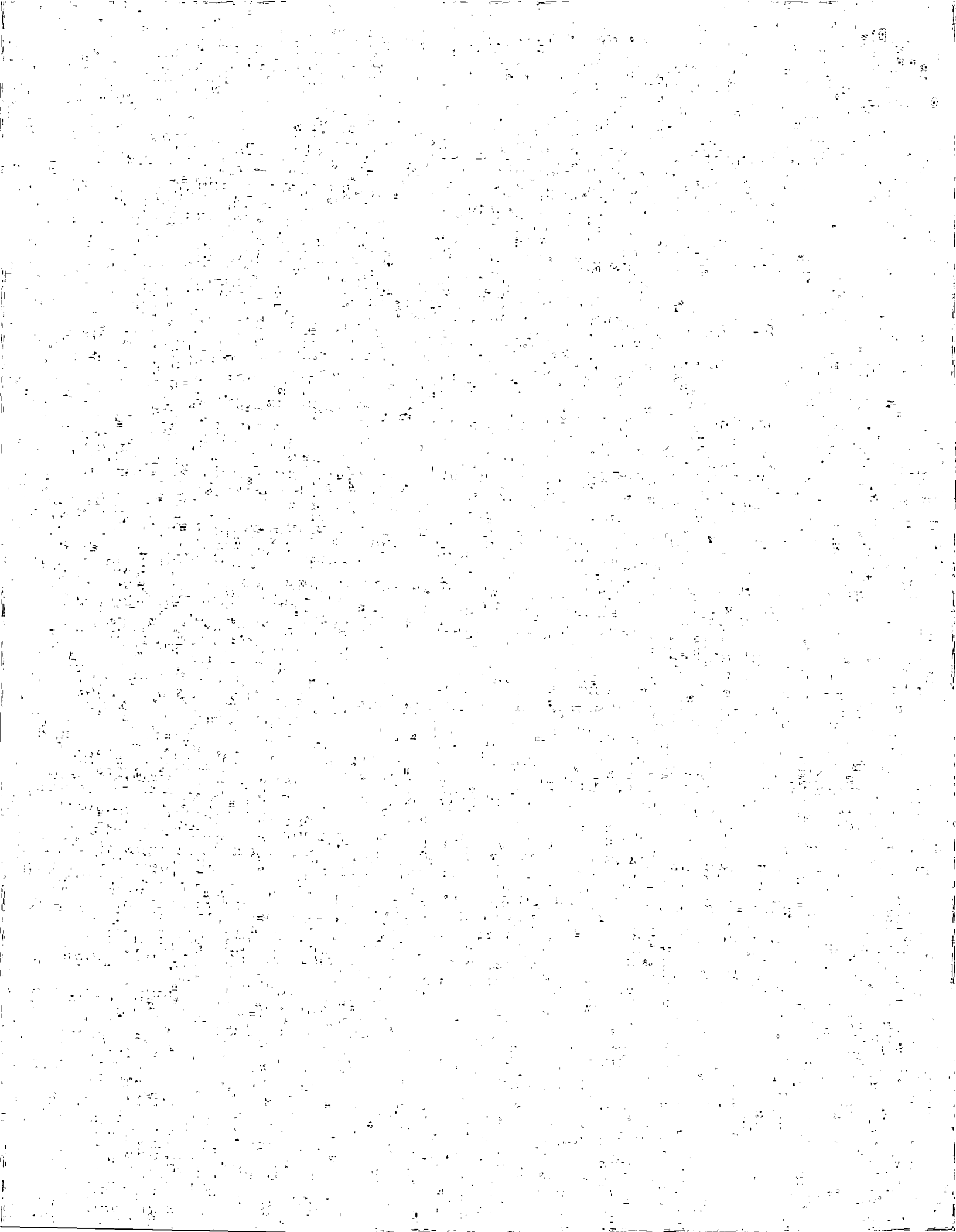
NOW, THEREFORE, BE IT RESOLVED by the City Council of Sacramento that the following energy policy shall be added to the General Policies of the Conservation Element of the General Plan:

- 5 - In order to help assure maximum solar access, subdivisions with more than 20 single family lots must have 80 percent or more of all lots with side lot lines oriented within 22 1/2 degrees of true north unless findings are made that such design is infeasible due to configuration or orientation of the property, or an in lieu program to insure 80 percent structure orientation within 22 1/2 degrees of true north.

MAYOR

ATTEST:

CITY CLERK



RESOLUTION NO. 7

Adopted by The Sacramento City Council on date of
OCTOBER 28, 1980

RESOLUTION ENDORSING THE DEVELOPMENT OF A COORDINATED PROGRAM TO MAXIMIZE THE USE OF PROGRAMS AVAILABLE TO ASSIST LOW-TO-MODERATE-INCOME PERSONS ATTAIN ENERGY EFFICIENT HOUSING (M-451)

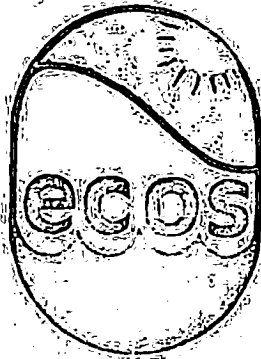
BE IT RESOLVED BY THE COUNCIL OF THE CITY OF SACRAMENTO:

The City of Sacramento endorses the development of a coordinated program with the County of Sacramento, the State of California, and the United States Government to the fullest extent feasible, in order to maximize the use of programs which are available to assist persons of low and moderate income attain energy efficient housing through utilization of available energy conservation programs.

MAYOR

ATTEST:

CITY CLERK



OCT - 7 1980

ENVIRONMENTAL COUNCIL OF SACRAMENTO RECEIVED
909 12th Street
Sacramento, California 95814

October 3, 1980

TO THE MEMBERS OF THE CITY PLANNING COMMISSION:

The Environmental Council of Sacramento in general supports the energy program being considered by the City of Sacramento and commends those involved for their efforts on behalf of energy conservation.

Measures to be addressed include two ordinances; one an ordinance to require fifty percent shading of new parking lots and secondly an ordinance requiring energy consideration as part of "R" review designation on a rezoning.

The energy measures also include the following resolutions: (1) endorsement of preservation of solar access for private and public solar energy collectors; (2) addition of energy conservation policies to the Conservation Element of the General Plan; (3) adoption of energy conservation review checklist and guidelines for project and site plan reviews; (4) amendment of the Conservation Element to increase the number of north/south oriented lots within a subdivision for increased solar access; and (5) endorsement of coordinated programs to maximize use of low interest programs for persons of low and moderate income to attain energy efficient housing.

Certain of the above require special comment. The ordinance requiring 50 percent shading for new parking lots must include an adequate planting area and adequate irrigation for each tree. Also, parking lot structures should be excluded from the ordinance.

Regarding the resolution endorsing preservation of solar access, ECOS recommends that the City Planning Commission ask the City Council to direct staff to start working on a solar access ordinance. The County is working on a solar access ordinance via its Argonne Grant project. I would be desirable for City and County staff to work together, however, it should be recognized that the City may have special problems not found in the County. It should also be stated that ECOS recognizes that in Sacramento solar access must be balanced against the desirability of having trees for shade.

Regarding adding energy conservation policies to the Conservation Element, ECOS would particularly like to address the issue of backyard clotheslines, which for some reason evoke screams of outrage. If the objections are merely visual, this will in most cases be overcome when

Member Organizations

- Audubon Society
- Bikeways Action Committee
- California Park & Recreation Society, Dist. III
- Ecology Information Center
- League of Women Voters
- Lung Association
- Planned Parenthood

- L. E. A. F.
- Modern Transit
- Sacramento Old City Association
- Sacramento-Woodland School
- Sac. Farm Bureau
- Save the American River Association
- Sierra Club
- Zero Population Growth

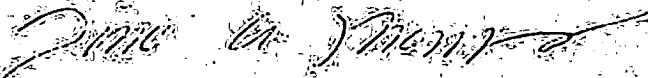
City Planning Commission

October 3, 1980

Page 2

trees and shrubbery grow. If objections are that they are inconvenient to use, having one in no way mandates that the householder use it but merely provides that option. (This option will get more and more appealing as utility rates go up.) As a matter of fact, clothes driers use a great deal of energy. An electric clothes drier uses about the same amount of energy as a 3 ton air conditioner and is the second most energy consuming home appliance in the SMUD service area. Solar clothes driers (clotheslines) can make a significant contribution to conservation and should be made available to the householder.

Sincerely,



Tina A. Thomas
President - ECOS

SACRAMENTO CITY PLANNING COMMISSION

MEETING DATE October 9, 1980

ITEM NO. 7 FILE NO. P- M-454

- GENERAL PLAN AMENDMENT
- COMMUNITY PLAN AMENDMENT
- REZONING
- SPECIAL PERMIT
- VARIANCE

- TENTATIVE MAP
- SUBDIVISION MODIFICATION
- EIR DETERMINATION
- OTHER Associated Sacramento Energy Conservation Measure

Recommendation:

LOCATION: _____

- Favorable
- Unfavorable
- Petition
- Correspondence

PROponents

<u>NAME</u>	<u>ADDRESS</u>
<u>Mike Garfield (Chairman Sacramento Planning & Energy Conservation Council)</u>	
<u>John Stafford</u>	

OPponents

<u>NAME</u>	<u>ADDRESS</u>
<u>Art</u>	

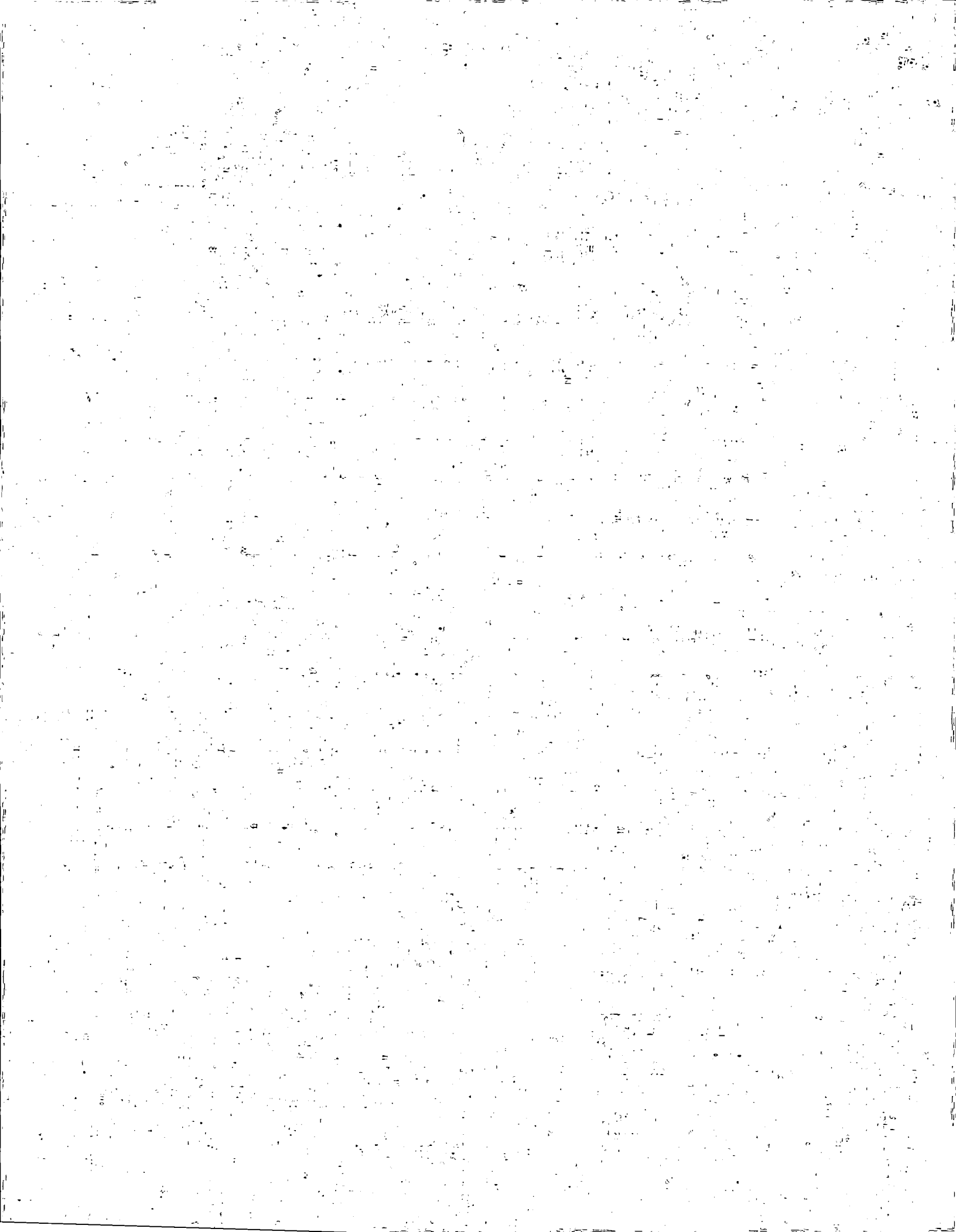
MOTION NO. _____

MOTION:

	YES	NO	MOTION	2ND
Augusta	✓			
Goodin	✓			
Hunter	✓			✓
Larson	✓			
Muraki	✓			
Simpson	✓			
Silva	✓		✓	
ong	✓			

- TO APPROVE
- TO DENY
- TO APPROVE SUBJECT TO COND. & BASED ON FINDINGS OF FACT IN STAFF REPORT
- INTENT TO APPROVE SUBJ. TO COND. & BASED ON FINDINGS OF FACT DUE
- TO RECOMMEND APPROVAL As Amended & FORWARD TO CITY COUNCIL
- TO RATIFY NEGATIVE DECLARATION
- TO CONTINUE TO _____ MEETING
- OTHER _____

- EXHIBITS:
- A. Site Plan
 - B. Floor Plan
 - C. Elevation
 - D. Land Use



City Planning Commission
Sacramento, California

Members in Session:

Subject: Proposed Sacramento City Energy Conservation Measures (M-451)

SUMMARY

The City Council directed staff to study possible energy conservation measures that could be implemented immediately. The staff prepared ten measures that would promote energy conservation. The City Council approved the ten measures in concept and returned them to the departments which would implement them for public hearing and recommendation. Staff recommends that the Planning Commission approve the seven proposed energy conservation measures (attached) and forward them, along with any comments, to the City Council.

BACKGROUND

In September 1979, the City Council directed staff to study possible conservation measures and submit recommendations for measures which could be implemented immediately. The Planning staff identified all existing energy conservation measures of the City. (These are provided as Appendix A.) Subsequently, staff proposed ten measures that would provide an energy conservation program for the City. The ten measures are:

Energy considerations as part of "R" review designation on a rezoning.

Fifty (50) percent shading of parking lots.

Endorsement of preservation of solar access for private and public solar energy collectors.

Energy conservation policies added to Conservation Element of General Plan.

Energy conservation review checklist and guidelines for project and site plan reviews.

Increasing the number of north/south oriented lots within a subdivision, for increased solar access.

Endorsement of coordinated program to maximize use of low interest programs for persons of low and moderate income to attain energy efficient housing.

Energy conservation performance standards for residential construction.

Energy audit and correction of audit deficiencies at time of title transfer.

Solar water heating for new residential construction.

The Planning Commission, on April 17, 1980, reviewed and approved in concept the ten measures. The City Council subsequently reviewed, and approved in concept, the same measures on August 19, 1980. At that time, Council referred the first seven measures to the Planning Department and the last three measures to the City Engineer for hearings.

The full text of the measures being heard by the Planning Commission follow as Appendix B.

EVALUATION

Most of the proposed measures primarily affect new development, as it is easiest to save energy by designing properly at the beginning. It is equally, if not more important, to redesign existing neighborhoods for energy conservation. Many of the planning measures and design concepts included in this report may also be applied for improving existing neighborhoods. Some of the measures are tied into land use. Land use determines density, which in turn has a very important effect on whether or not mass transit will be effective. Land use policies influence energy use through site requirements. Certain landscaping, street width, building orientation and auxiliary requirements (height limits for structural additions) have a significant impact on total energy use. The measures would, when combined as a program, save a significant amount of energy for the residential consumer.

Mandating energy conservation measures assists utilities by reducing the need to import additional natural gas and build costly new generating plants, as well as creating jobs in the solar and related industries.

A brief description of each measure is provided along with the benefits, disadvantages and financial impacts.

1. Ordinance amending the City of Sacramento Zoning Ordinance (Ordinance #2550-4th Series) by adding Section 13-A-3-c-4, relating to energy considerations as part of "R" review designation on a rezoning.

Benefits: Aid to consumer for best use of property for solar energy.

Energy conservation measure taken at earliest possible stage of development will help decrease amount of energy utilized by final project.

Disadvantages: Added staff and City Planning Commission time to review applications.

Financial Impact: Additional staff time for project review. This measure would contribute to need for additional staff, unless other existing work programs are modified.

2. Ordinance amending the City of Sacramento Zoning Ordinance (Ordinance #2550-4th Series) by adding Section 6-D-19, relating to required shading of parking lots.

Benefits: Reduce cooling needs of motorists and adjacent buildings.

Reduce ambient temperatures 10°± with tree shade and evaporative cooling from leaves.

Improves scenic values.

Creates more livable environment.

Trees have aesthetic value.

A vegetation list has been prepared by Sacramento County that includes "50%" figure for mature plants appropriate for parking lots.

Disadvantages: Additional first cost to developer.
Slight increased maintenance cost.

Financial Impact: Additional staff time in the Planning and Community Services Departments for evaluation would be necessary for site plan review.

Community Services would have a one-time preparation of a vegetation list which could be used by developers and staff.

- 3. Resolution endorsing the preservation of solar access for private and public solar energy collectors.

Benefits: Encourage solar rights in residential development to encourage use of solar energy for domestic hot water and space heating.

Financial Impact: No direct fiscal impact.

- 4. Resolution amending the Conservation Element of the Sacramento City General Plan by adding energy conservation policies:

Increased Pedestrian Walkways in new developments

Benefits: Encourage walking to decrease energy used for travel.

Disadvantages: Possible increased security/vandal problems for adjacent property.

Narrower Street Width

Policy - to encourage projects designed to minimize the need for wide streets.

Benefits: Reduced first costs and maintenance costs. With street trees, livability of neighborhood is improved.

Reduces heat retention of concrete/asphalt, which reduces ambient temperature.

Disadvantages: Narrower streets not designed to carry large amount of traffic.

Could restrain access for emergency vehicles.

Encourage Drought Tolerant Landscaping

Benefits: Requires less water and maintenance after established; therefore, less energy for water pumping.

Disadvantages: Limits types of plants usable.

Encouraging Planting of Deciduous Trees over Evergreens

Benefits: Shade in summer, therefore cooler; greater solar access in winter.

Disadvantages: Time needed for growth of trees.
Limits types of plants usable.

Policy of North/South Structure Orientation

Benefits: Structure orientation helps ensure greater access than proper lot or street orientation - especially when combined with adequate south wall solar access.

Disadvantages: Greatest southern exposure may not be front or back of structure.
Increased staff time for site-by-site review.

Clothesline

Encourage for all residential uses, especially multi-family.

Benefits: Reduced energy used for clothes drying (clothes dryer one of most energy consuming home appliances - equals three-ton air conditioner).

Uses "free" energy.

Disadvantages: Possible visual clutter problem.
Clotheslines not always popular.

Energy Conservation Measures presently listed only in the South Natomas Community Plan would help assure their consideration on all projects within the City.

Financial Impact: This measure would require additional staff evaluation time, and when added to other energy evaluations, could require additional staff. Upon implementation the review time will increase as staff and developers learn to work with additional requirements. In time, the majority of projects should be received for evaluation with increased energy conservation "built in", therefore possibly reducing evaluation time.

5. Resolution adopting energy conservation review checklist and guidelines for project and site plan review.

Benefits: The various standards and guidelines included in this resolution would give both developers and staff a basis from which to evaluate and incorporate energy planning into a project at its earliest stages. This in turn could result in energy saving for the complete project.

Disadvantages: Would increase staff review time.

Financial Impact: This resolution would require increased staff evaluation time. When included with other energy evaluations it would require additional staff. It could also require a fee increase to cover the additional staff evaluation time.

6. Resolution amending the Conservation Element of the Sacramento City General Plan to provide for north/south lot orientation for increased solar access.

This measure would change the current requirement from 60 percent north/south oriented lots in 50 or more lots to 80 percent north/south lots in 20 or more lots unless specific findings are made or provide for an in-lieu program to issue 80% structure orientation.

Benefits: It would increase the number of lots correctly oriented from 60-70% to 70-85%.

Financial Impact: There would be no new or additional evaluation. Council recently passed a resolution specifying a percentage of lots within subdivisions having properly oriented lots. This measure increases the number of lots correctly oriented, or provides for 80% structure orientation, which is preferable.

7. See page 6

FINANCIAL DATA

These seven measures would collectively require a half a planner's time to implement. The Planning Department would request one planner in order not to disrupt or reprioritize the current work program. This additional planner would spend half their time implementing the proposed seven measures while spending their remaining time researching other energy conservation measures, such as solar access ordinance, and preparing an Energy Element for the General Plan update.

This planner would provide expertise in community plan updates, as well as specific studies requested by the City Council and/or mandated by various other agencies. One additional planner would require the Planning Department's budget be amended for a new Assistant/Associate position (\$24,823 to \$34,222 and \$1,000 for supplies) for approximately \$25,823 to \$35,222 per year.


ENVIRONMENTAL ASSESSMENT

The Environmental Coordinator determined that the seven resolutions and ordinances which promote conserving energy would not have a significant adverse environmental effect and filed a Negative Declaration.

** RECOMMENDATION

The staff recommends that the Commission recommend approval of the proposed ordinances and resolutions by the City Council.

Respectfully submitted,



Tokuo Masuda,
Principal Planner

TM:PB:sg

7. *Resolution endorsing development of a coordinated program to maximize the use of programs available to assist low-to moderate-income persons attain energy efficient housing.*

Benefits: No direct benefits until staff is directed to set up a coordination program.

Financial Impact: Additional staff time if Council determines the need for a coordination program.

**RECOMMENDATION

Staff recommends that the Commission 1) ratify the Negative Declaration; and 2) recommend approval of the proposed ordinances and resolutions by the City Council.

Existing Measures

I --State

Solar Rights Act 1978 Purpose: To promote and encourage the wide-spread use of solar energy systems and to protect and facilitate adequate access to sunlight which is necessary to operate solar energy systems (Amend Govt. Code: Sec. 65850.5; 66473.1; 66473.3).

Shade Control Act (1978) Purpose: To promote all feasible means of energy conservation and all feasible uses of alternative energy supply sources. (add Ch. 12 Commencing with Sec. 25980 to Div. 15 of Pub. Res. Code relating to Solar Energy). The City of Sacramento has exempted itself. (See Art III, Sec. 45.200 of City Code Site Shade Control, Ord. 820252).

II -- City of Sacramento

Street Trees

The Park Superintendent shall give consideration to the provision of solar access, to the extent feasible, to residential dwellings at the time of selecting and planting of street trees (Amend Sec. 40.811(i), Ord. 4284-4th. City Code).

Maximum Solar Access

In order to help assure maximum solar access, subdivisions with more than 50 single family lots must have 60 percent or more of all lots with side lot lines oriented within 22½ degrees of true north unless findings are made that such design is infeasible due to configuration or orientation of the property. (Add^d policy to Conservation Element of the General Plan Resolution 79-815, 27 Nov. '79).

Solar South Wall Access

Assure that new residential developments have adequate south wall solar access, thereby allowing solar heating of buildings. (Goal added to Conservation Element of the General Plan Res: 79-815, 27 Nov. '79).

Subdivision Design Finding

The design of the proposed subdivision provides to the extent feasible, for future passive or natural heating or cooling opportunities in the proposed subdivision. taking into consideration the local climate, the contour and configuration of the parcel to be divided, and such other design and improvement requirements applicable to the proposed subdivision, (Required finding for request for tentative map, required by Solar Rights Act.)

-- City of Sacramento (continued)

Variance Powers

Planning Director has authority to vary the setback, lot size, lot coverage or height regulations up to 50% of their original requirement.
(City Zone Code - Section 14).

Height Variation - roof structures "...solar collectors and equipment for the mounting and operation of solar collectors or necessary mechanical appurtenances may be erected on top of a building to a greater height than the limit herein established for the district in which the building or structure is located. In no case shall variation exceed twenty percent of that which is allowed in a zone. (Amendment to Zoning Ord. 2550-4th Series, Sec. 3-E-7. adopted 4 March 1980).

Projections - "... and apparatus needed for the operation of active or passive solar energy system may project into any required front yard, rear yard, or side yard adjoining a street side lot line, a distance not exceeding four feet." (Amendment to Zoning Ord. 2550-4th Series, Sec. 3-E-15; adopted 4 March 1980).

Pool Heating

Ordinance amending Chapter 9 of the Sacramento City Code adopting requirements for active solar heating systems for outside swimming pools. (Effective 1 Feb 1981)
(Ord. 4341 Adopted 8 April 1980).

SOUTH NATOMAS COMMUNITY PLAN

Landscaping

Maximum landscaping with vegetation is highly desirable as a means of increasing visual amenities, softening hard surfaces, providing a cooler microclimate during warm weather months and reducing air pollution (last pp. 27-28).

Within the interior hard-surfaces area of lots containing over 30 automobile parking spaces, one tree should be planted for every five spaces. (p. 28, No. 4).

SOUTH NATOMAS COMMUNITY PLAN (continued)

Residential Policy

Explore possibility of amending City's building code to require that structures rather than lots be oriented for energy conservation purposes, with a front to back orientation of 22½ degrees of true north (p. 31 No. 10).

Encourage the implementation of a comprehensive bikeways system (in South Natomas) to link residential areas with major activity centers and downtown Sacramento. Encourage the increased use of capital outlay commitment for bikeways (p. 56 No. 7).

Other Open Space

5. Continue the long standing street-tree program (City Code Section 40.811) because trees along all streets provide aesthetic benefits.
7. Continue to require larger parking areas associated with any land use having major portions planted with trees and other forms of attractive vegetation. Continue to encourage the same for smaller projects undergoing design review (p. 63).

ENERGY CONSERVATION

1. Promote complete urbanization and in-filling development of this close-in community as a means of reducing the consumption of petrol fuels used in automobile travel.
2. Reduce the consumption of petrol fuels used in automobile travel by providing community plan policies which encourage the use of alternative transportation modes such as the bus and bike.
3. Explore the possibility of amending the City's building code to more effectively promote energy conservation by regulating the orientation of the structure rather than the lot.
4. Encourage building design which promotes energy conservation. This includes provisions for double-paned windows, increased insulation, and equipment such as low volume toilets and flow restrictors.
5. Encourage builders within new residential subdivisions to offer solar power systems as a pre-construction option.
6. Encourage developers of new residential subdivisions to include provisions within tract restrictions for solar rights so as to provide direct sunlight on the property between the winter hours of 10 a.m. and 3 p.m.

7. Continue to provide a deciduous tree planting program along all newly constructed streets as a means of reducing outdoor surface temperatures during summer months.
8. Continue to study new methods of conserving energy, and to amend the South Natomas Community Plan wherever feasible to incorporate practical measures for reduced energy consumption.
9. Encourage landscaping especially in new residential and commercial developments that not only provide shade during the summer months but also act as a windbreak in the winter, thus reducing heat loss.

(Env. Policies p. 10)



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LORRAINE MAGANA
CITY CLERK

MEMORANDUM

TO: BUDGET AND FINANCE COMMITTEE

FROM: LORRAINE MAGANA, CITY CLERK *LM*

SUBJECT: REFERRAL OF ITEM NUMBER 32, COUNCIL
AGENDA OF NOVEMBER 5, 1980

DATE: NOVEMBER 7, 1980

Pursuant to Council action, the following item is referred to your committee for hearing, report and recommendation:

SACRAMENTO CITY ENERGY PROGRAM (M-451)

- A. Ord amending the City of Sacramento Zoning Ordinance by adding Section 13-A-3-c-4 relating to energy consideration as part of "R" Review designation on a rezoning.
- B. Ord amending the City of Sacramento Zoning Ordinance by adding Section 6-D-19 relating to required shading of parking lots.
- C. Res endorsing the preservation of solar access for private and public solar energy collectors.
- D. Res amending Conservation Element of Sacramento City General Plan by adding Energy Conservation Policies.
- E. Res amending the Energy Conservation Review checklist and guidelines for project/site plan review.
- F. Res amending the Conservation Element of the Sacramento City General Plan to provide for north/south lot orientation for increased solar access.
- G. Res endorsing the development of a coordinated program to maximize the use of programs available to assist low-to-moderate-income persons attain energy efficient housing.
- H. Approve new planner position.