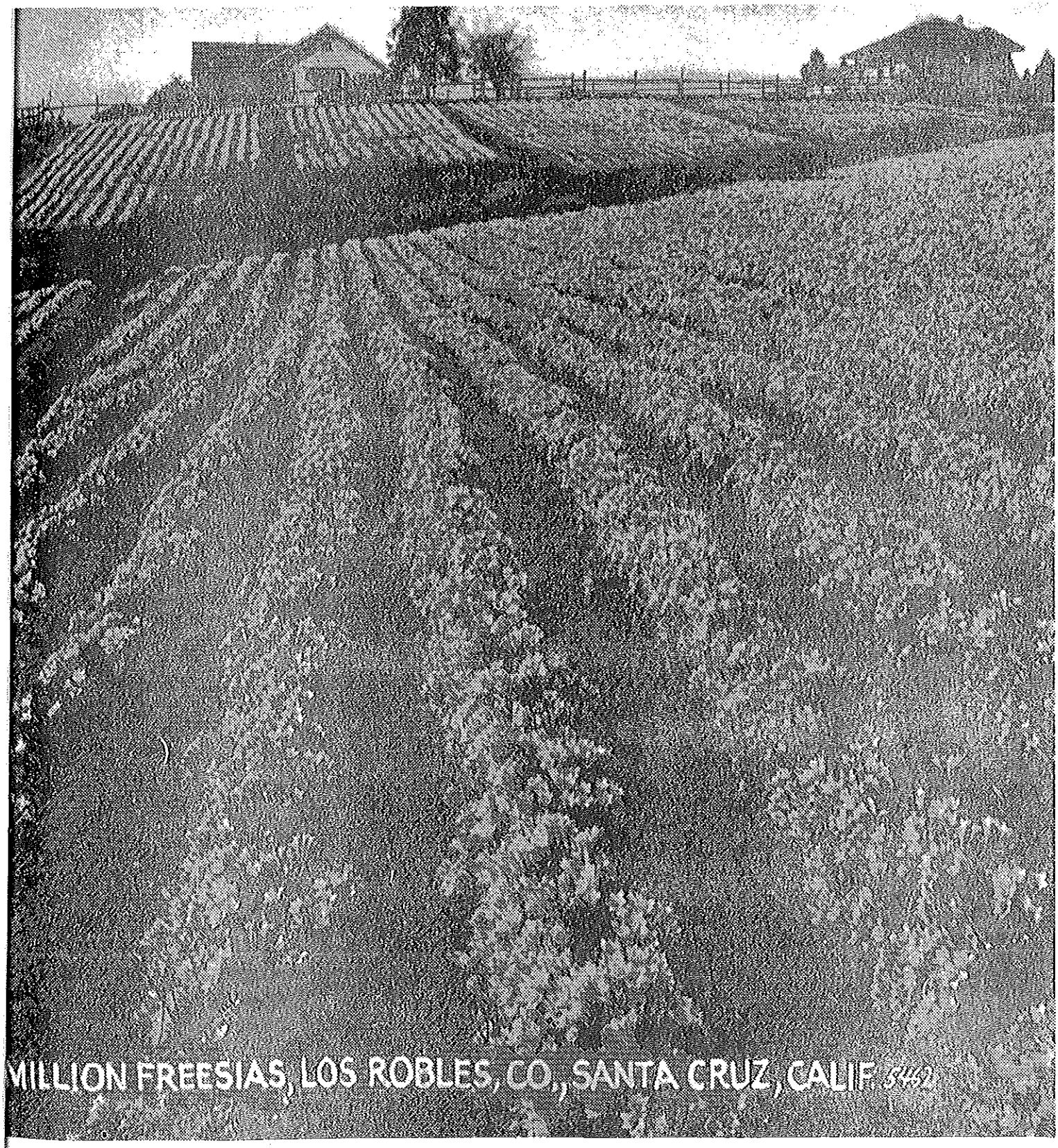
WESTERN DRIVE MASTER PLAN

CITY OF SANTA CRUZ, CALIFORNIA

TABLE OF CONTENTS

LIST OF ILLUSTRATIONS



Los Robles Bulb Ranch, Western Drive, 1928

BACKGROUND

HISTORY

For many Santa Cruzans, Western Drive, as both a street and a residential area, represents change and the passing of time. As recently as the 1930's, before Natural Bridges State Park and Highway #1 were established, when West Cliff Drive ran along the Coast and all the way up to Mission Street, Western Drive was called Cliff Way. And Cliff Way was, as everyone knew, within the City limits, but in fact "out of town." The street was marked by a handful of wood frame houses. Commercial flower fields and bulb ranches were found north of Meder Street. Truck gardens grew on the flat parts of the terrace, and the canyons were used for grazing. E. L. Pracht's Sunset Dairy, the California Dairy, the Miller Dairy, and the Robinson Dairy, were all located on or close to the terrace, and their herds roamed the canyon slopes.

The name of the street changed to Western Drive sometime in the 1940's, but the area remained rural, the road unimproved. It was hard, often impossible, to drive downhill in winter, and the milk delivery routes to the Circles went east first, along Meder Street.

In the 1950's, the small lots between Yosemite and Flower Streets started to develop, with simple, small single-family dwellings. It was at this time too that Western Drive was given its first quick "paving," a rough overlay that for a brief time filled in the ruts. Residential development accelerated in the 1960's, and existing dwellings were expanded to add new rooms, second stories, and accessory buildings.

The 1964 General Plan brought attention to the area as well as new concepts. Based on assumptions which included a rise in City population to 140,000 persons, a burgeoning industrial area south of Highway #1, a University of California Campus with an enrollment of 27,000 persons, and urban development west of Western Drive as far as Lombard Creek, the General Plan designated the Western Drive area as an appropriate location for a mix of urban residential uses, including high-density development.

In 1973, the first high-density complex was constructed in the area. Outlook Apartments, a complex of 168 rental units located close to Highway #1, is, to date, the only high-density use in the area. The processing of this development application marked a noticeable rise in active neighborhood involvement in the planning process for the Western Drive area. A major issue raised at this time was the configuration of the Western Drive right-of-way. Along the apartment development frontage, Western Drive was a two-lane street, framed by mature trees. In order to accommodate the width of the required right-of-way, removal of the trees, massive grading of the bank, and installation of retaining walls was required. Citizen protests centered on the alteration of the aesthetic character of the neighborhood resulting from the expansion of the right-of-way.

In 1974 attention again focused on Western Drive as a proposal to develop 65 condominium units on a 7.85 acre site under an R-L designation was heard and subsequently denied. Opponents of the project expressed concern regarding the potential damage to the Moore Creek riparian habitat due to siltation and increased amounts of runoff, and expected reduction in water quality. Questions were also raised regarding the holding capacity of the land and the proposed density of the project.

In 1977 with the passage of the Coastal Act, the coastal zone line was moved inland, running north-south at the easterly edge of the Western Drive right-of-way, hence placing the street and the lands west of the street under Coastal Commission jurisdiction. The basis given for the Coastal designation was that Moore Creek Canyon, at the time of the designation, presented an urban limit. The lands bordering Moore Creek were largely undeveloped and , therefore, were critical in forming a transitional area between urban and rural uses. It was felt that development on this land could have potential for adversely impacting the viewshed of the north coast public recreation area, and could disturb Moore Creek, its wildlife and riparian habitat, and downstream ponds and waters. At the same time, Moore Creek Canyon appeared to provide an attractive inland link to coastal recreational resources at Natural Bridges State Park. Since 1977, City plans and programs and private development proposals for the lands west of Western Drive have been required to acknowledge and address these coastal issues.

The extensive process undertaken to develop the 1990 General Plan* provided a unique opportunity to look closely at the Western Drive Area, as the General Plan revision occurred more or less simultaneously with the development of the Western Drive Master Plan. Adopted General Plan policies support retention of lands between the western branch of Moore Creek Canyon and the Wilder Ranch and Beaches State Park in open space uses through 1990, and expectations regarding expansion of both the westside industrial sector and the University of California have been much reduced. In contrast to the 1964 General Plan, the prevailing single-family and low-rise residential character has been chosen as more appropriate for the Western Drive area than high-density uses, and policies and programs have been developed to enhance and protect matural areas and unique neighborhood characteristics.

The Western Drive Master Plan was developed to address, to the greatest extent possible, a wide range of concerns; the concern of the citizens that criteria and standards for development be provided that respond to their values and reflect the unique characteristics of their neighborhood; the concern of the City of Santa Cruz that adequate housing opportunities and urban services be provided to its citizens; the concern of the Coastal Commission that coastal resources be preserved and enhanced for the community at large.

* Adopted on January 8, 1980

CITIZEN PARTICIPATION AND THE PREPARATION OF THE MASTER PLAN

On May 10, 1977, the City Council received a letter from the Western Limits Neighborhood Association requesting that the Council authorize the Planning Department to employ a design professional to work with neighborhood residents to develop a street plan for Western Drive. The letter explained that the neighborhood association was concerned that the continuation of the type of street improvements that had been occurring in the neighborhood in conjunction with minor land divisions and single-family unit construction posed a threat to the unique character of the area. The citizens pointed to the scenic character of Western Drive and explained that:

> "If Western Drive were developed as a straight forty-foot street with curbs, gutters and sidewalks on both sides, as currently planned, the quality of life in many existing homes would be severely damaged and the street would become a dangerous speedway."

They requested the assistance of a design professional to develop a plan to mitigate the problems and create a "functional, attractive, safe, scenic roadway." They also requested the Council to require bonding in lieu of street improvements until the completion and adoption of the plan. The Council referred the matter to Staff to develop a proposal and scope of work.

On June 28, 1977, a program was submitted to Council for the development of a preliminary master plan for the design of Western Drive from Highway #1 to High Street. It provided for the services of a design professional, for meetings with owners of property and residents in the Western Drive area, for meetings with City staff, and for Planning Commission and City Council hearings on the resultant area plan. The City Council approved the program and allocated funds to secure the services of a design professional.

On July 26, the City Council adopted a resolution authorizing a contract with the firm of Royston, Hanamoto, Beck and Abey for the following services in the development of a preliminary master plan for the design of Western Drive.

1. Initial meeting with staff to review the scope of work, a site visit and meeting with citizens commmittee to discuss the intent and program.

2. Develop an analysis of the site, constraints, problems, and areas of opportunity.

3. Develop a preliminary plan, testing program and possibly one or two alternative schemes. Preliminary, defines type of area, circulation, kinds of paving and tree masses--with probable overall costs.

4. Meeting with staff to review preliminary plan, alternatives, and a review meeting with citizens committee.

5. From input of Item Four, finalize a Master Plan and provide preliminary cost estimate for landscape development.

Following the adopted work program, staff met with area residents and property owners on August 31, 1977. At this initial meeting, attended by nearly 30 citizens, an exchange of ideas between neighborhood residents resulted in the development of a list of concerns to be addressed in the plan. On September 8, 1977, Robert Royston, a design professional, met with citizens and staff to discuss the goals and objectives of the study and to examine some preliminary design concepts. On November 7, 1977, having identified the opportunities and constraints in the project area, and having prepared a preliminary plan, Mr. Royston met again with staff and citizens. The consensus at this meeting was that the preliminary plan did reflect the concerns and desires of area residents; therefore, Mr. Royston was advised to proceed with the preparation of the final master plan.

The draft Master Plan was then reviewed at public hearings by the City Planning Commission and City Council. On December 12, 1978, the Council adopted the draft Master Plan "in concept" with direction to staff to prepare a precise street plan and return same to Council for review and approval.

The precise street plan was prepared, reviewed and approved in two segments: Highway 1 to Western Court approved by the Council on September 11, 1979; and Western Court to High Street approved on June 10, 1980.

It should be noted that, throughout the planning process, Planning Department staff were available to meet with concerned citizens, both individually and at neighborhood gatherings. It was staff's function to help articulate concepts and concerns and to act to facilitate the exchange of information between the consultant, city staff and the citizens group. The plan presented in this document is a result of this process.

RESOLUTION NO. NS-12,543

RESOLUTION OF THE CITY COUNCIL OF THE CITY OF SANTA CRUZ AUTHORIZING AND DIRECTING THE CITY MANAGER TO EXECUTE AGREEMENT BETWEEN CITY AND ROYSTON, HANAMOTO, BECK & ABEY, LANDSCAPE ARCHITECTS -- Western Drive

BE IT RESOLVED by the City Council of the City of Santa Cruz as follows:

That the proposal of Royston, Hanamoto, Beck & Abey, Landscape Architect is hereby accepted; and

That the City Manager of the City of Santa Cruz be, and he is hereby authorized and directed to execute that certain Agreement between City of Santa Cruz and Royston, Hanamoto, Beck & Abey, a copy of which is attached hereto as Exhibit "A", for landscape architect services for a Preliminary Master Plan for design of Western Drive, upon the terms and conditions as set forth in said Agreement.

PASSED AND ADOPTED this 26th day of July, 1977, by the following vote:

AYES: Councilmen - Muhly, Melville, De Palma, Mahaney, Edler; Mayor Ghio

NOES: Councilmen - None

ABSENT: Councilmen - Hammond

APPROVED Joseph J. Ghio
MAYOR

Attest Angèle Mellon
City Clerk

ADOPTED PROGRAM FOR THE DEVELOPMENT OF A
PRELIMINARY PLAN FOR THE DESIGN OF WESTERN DRIVE
FROM HIGHWAY #1 TO HIGH STREET

	Program Implementation Schedule
1) Planning Department staff meets with neighbors in the Western Drive area to describe the process for the development of the preliminary plan and to set out the agenda for that process. Neighbors are to include owners of frontage along Western Drive and owners of land on adjoining feeder streets. Meeting will be noticed by the Planning Department with written notice to such property owners. Meeting will be held in a nearby facility such as Westlake Elementary School.	August 31, 1977 7:30 P.M. Civic Auditorium
2) Planning and Engineering Staff of City will meet with landscape architect to review the scope of work, visit the site and to discuss the needs relating to utilities, traffic, etc.	September 8, 1977 2:00 P.M. City Hall
3) Landscape architect meets in the evening with neighbors in the area to secure their ideas and input.	September 8, 1977 7:30 P.M. Westlake School
4) Landscape architect develops alternative preliminary plans.	September - October
5) Landscape architect meets with City staff to review preliminary plan and alternates.	November 7, 1977 City Hall
6) Landscape architect meets with citizens in the evening displaying preliminary alternatives.	November 7, 1977 7:30 P.M. Council Chambers

7)	City staff continues to meet once or twice more with neighbors in the area to review preliminary alternative plans, and staff communicates ideas therefrom to landscape architect.	January 28, 1978 Western Limits Association --- February 16, 1978 Civic Auditorium
8)	Landscape architect prepares preliminary plan as a master plan providing cost estimates for landscape development and establishing a preliminary right-of-way suitable for measuring building setbacks.	November 1977- February 1978
9)	City staff prepares alternative financing plans for plan implementation.	November 1977- February 1978
10)	Landscape architect meets with staff and neighbors to review the master plan.	Staff Only May 11, 1978
11)	Planning Commission and City Council hold public hearing on and adopt the master plan in concept.	
	City Planning Commission Presentation of Plan Site Tour and Work Session Public Hearing Recommendation for Adoption	 June 1, 1978 June 14, 1978 June 29, 1978
	City Council Public Hearing Further Consideration Adoption in concept	July 25, 1978 September 12, 1978 October 13, 1978 December 12, 1978
12)	Consideration of precise street plan segment from Highway 1 to Western Court City Planning Commission Recommendation for approval	June 21, 1979 July 5, 1979 July 9, 1979
	City Council Approval	August 14, 1979 September 11, 1979
13)	Consideration of precise street plan segment from Western Court to High Street.	
	City Planning Commission Recommendation for approval	May 15, 1980
	City Council - Approval	June 10, 1980

Western Drive, North of Western Court, 1978

WESTERN DRIVE MASTER PLAN

SUMMARY

As a specific area plan, the Western Drive Master Plan works together with the General Plan for the City of Santa Cruz. An area plan, prepared in conformance with General Plan recommendations, provides as opportunity to develop policies and programs on a greater level of specificity than can be accommodated in the General Plan itself.

The recommendations in the Western Drive Master Plan fall into three major categories: improving the Western Drive right-of-way; retaining the rural character of the area; and, protecting Moore Creek and Arroyo Seco Canyons and providing public access to them. In order to implement plan recommendations, action is necessary in both the public and the private domain.

The major recommendations in the public domain center on the improvement of the Western Drive right-of-way. The plan suggests maintaining the street width at two travel lanes, except where Western Drive intersects Highway One, Meder and High Streets. At these points, a 32-40' width appears necessary to accommodate turning movements. The plan recommends the use of attractively designed exposed aggregate faced curbs and gutters to compliment existing improvements. Instead of the standard sidewalk, a multi-purpose asphalt-surfaced path is recommended on one side of the right-of-way through 1990. The street design serves to retain the rural character of the area, preserve existing trees, and minimize impact to existing development.

In the private domain, the plan emphasizes minimizing streets and driveways leading into Western Drive, placing large lots adjacent to the right-of-way, and using landscape to reduce the impact of development. Sketches are provided to assist in the preparation of specific street plans; design guidelines and a plant materials list are provided to encourage the integration of new development with the existing area.

The Master Plan recommends that the Canyons be maintained as public resources, available to citizens for wildlife study, vista appreciation or similar recreational activities. Indications of lands recommended to be placed in the public domain, as well as public access points, are made on the Master Plan Map. Protection of Moore Creek is addressed by drainage planning guidelines, as well as recommendations to retain landscape, to restrict building on slopes in accordance with Conservation regulations, and to site and design structures so as to protect the viewshed.

The Western Drive Master Plan Study is divided into three sections. The first, Background, provides information on existing conditions. The second section details the Master Plan Recommendations. Two maps are included in this section: Map A shows the Opportunities and constraints present in the area: and Map B illustrates the design concepts of the Master Plan.

Street sections are also included to further define street design recommendations. The final section, implementation, describes the means by which the Master Plan can be realized through policies, programs and projects.

Western Drive, North of Mountain Street, 1978

EXISTING CONDITIONS

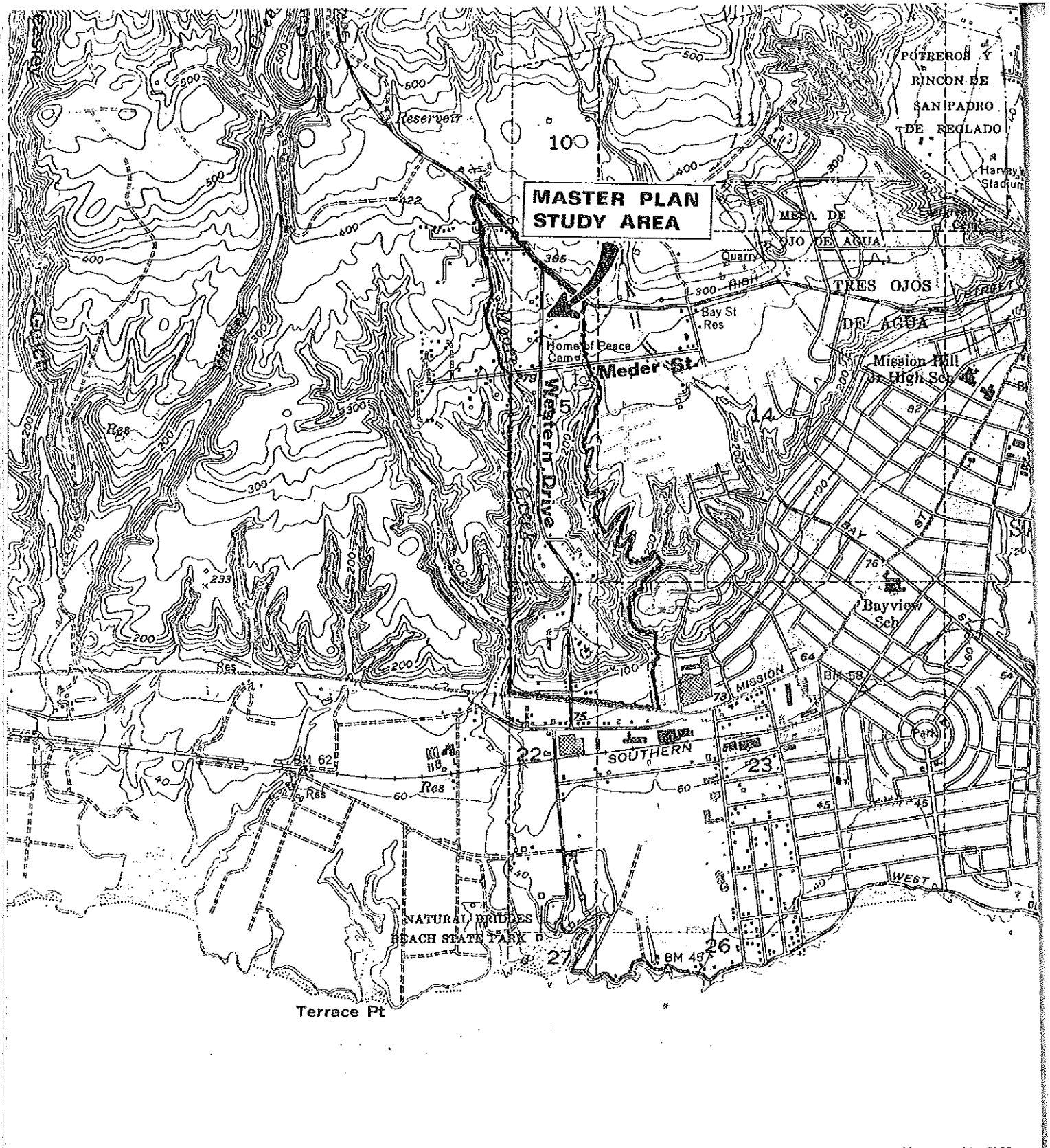
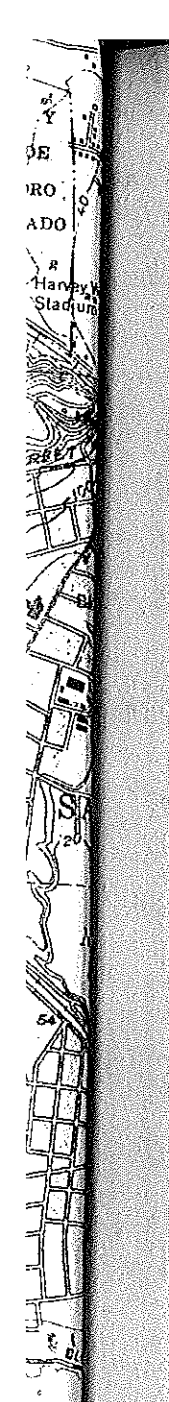


FIGURE 1: WESTERN DRIVE PLAN AREA



The first step in any comprehensive process of evaluation and recommendation is to take a close look at existing conditions. This section is an attempt to do this for the Western Drive Master Plan Area. Attention is given to geo-physical information, land use, population and household information, zoning, traffic and circulation, and significant environmental constraints.

PLANNING AREA

The subject area of this Plan is a small finger-shaped marine terrace, approximately 6,500 feet long. As illustrated in Figure 1, the terrace is bounded by deep, steep-sided canyons and ravines. The relatively flat portions of the terrace vary from 250 to 1,200 feet in width. The westerly canyon holds a waterway, Moore Creek, which is incised approximately 150 feet below the terrace surface.

The terrace is composed of layered strata, running east-west, parallel to the Coast. On the surface sits a thin layer of soil and marine deposits which is then underlain by Santa Cruz Mudstone and Santa Margarita Sandstone. At numerous locations in the area, there are surface water seeps, several of which are true springs.

The vegetation consists of a mixture of native and introduced plants, trees and grasses. Highly visible specimens of Blue Gum Eucalyptus, Coastal Redwood, Cypress and California Myrtle dominate the viewshed.

Rainfall in the area averages 30 to 40 inches per year. Moore Creek Canyon, and secondarily, Arroyo Seco Canyon, are the principal natural drainageways.

Running north/south, at approximately the center of the terrace, is a street right-of-way named Western Drive. Extending from Highway #1 to High Street, the street is approximately 7,300 feet in length. There is considerable variation in its present width. Near the Flower Street intersection, where improvements have been made to the right-of-way in conjunction with recent development, the travelway measures 40 feet curb to curb. Close to the Meder Street intersection, where residential development preceded the requirements for street improvements, the surfaced right-of-way measures approximately 24 feet in width. Street improvements are sporadic and various; in some sections which have been improved, sidewalks are provided, while in others one finds only curbs and gutters. The condition of the roadway is poor, yet the street accommodates from 800 to 2,700 trips each day. These trips are generated primarily by the properties on the terrace ridge.

It is the relationship between the right-of-way and its adjacent properties that is the subject of this plan.

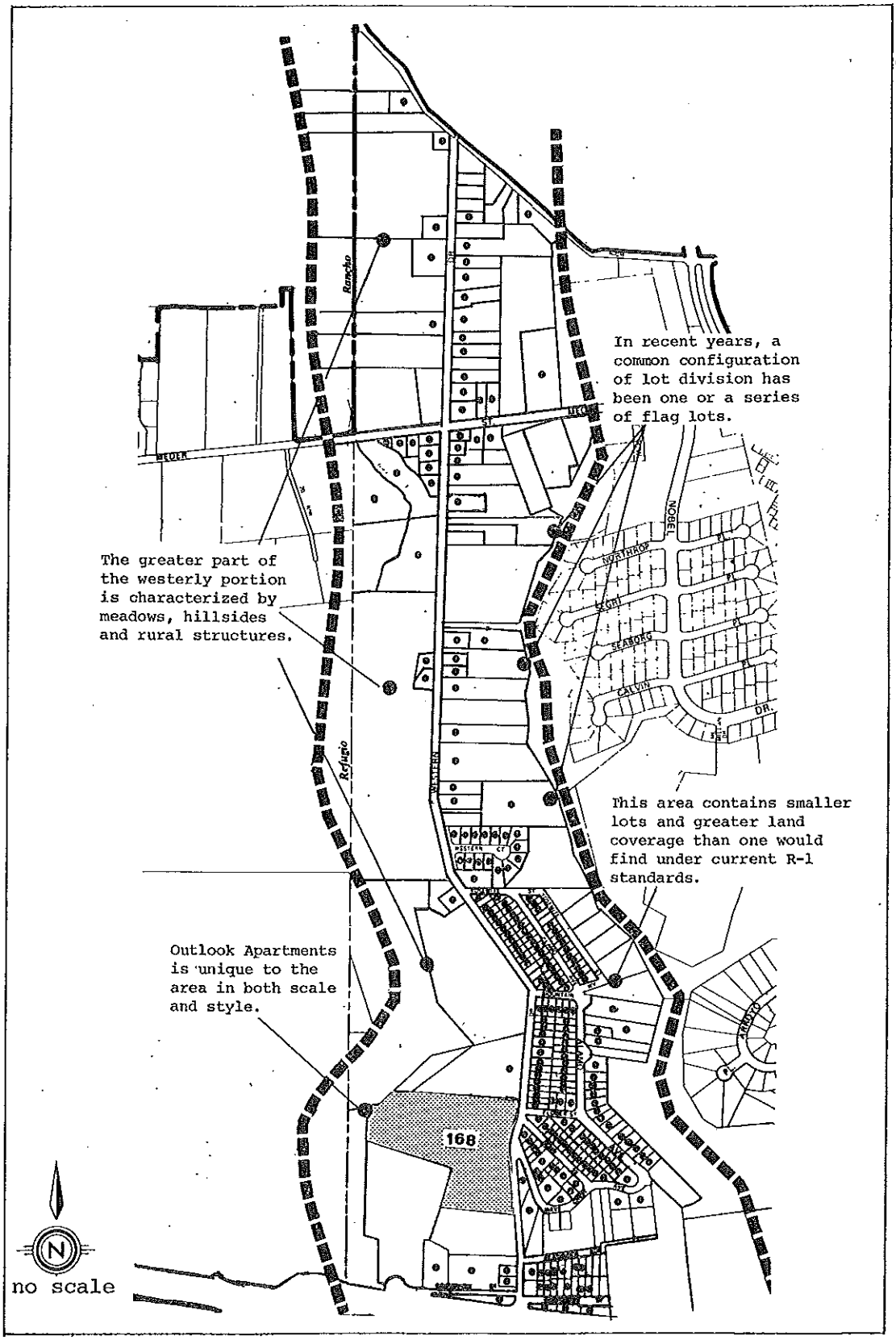


FIGURE 2: LAND USE

• Single-Family Dwellings
▒ Multiple Units

note: land-use data recorded 12/78

LAND USE

The Western Drive area is characterized primarily by single-family homes, especially to the east of the right-of-way. Although the major portion of this easterly side is developed, there is some distinction in development pattern between the areas north and south of Yosemite Street. The area immediately south of Yosemite Street was subdivided around 1900; the lots are small, averaging 40' x 80'. Consequently, the area contains a greater number of family units than one would find in a single-family subdivision of the same size developed according to current R-1 standards. In addition to this, lot coverage is high, and there is insufficient provision for off-street parking. North of Yosemite Street, in contrast, single-family dwellings have been constructed on lots that are generally larger than required under existing zoning. This is clearly illustrated in Figure 2.

In both cases, the pattern of development has resulted in certain impacts on the visual and functional continuity of the area. The older subdivision carries a strong urban influence, especially, as a result of the parked and stored automobiles which are a major visual element of the pedestrian space. In addition, the larger residential parcels to the north have been undergoing a series of small land divisions in recent years, one lot into two, one lot into three. Although each division is of minor consequence, they produce a cumulative effect on the area, especially so because a common configuration of these new divisions has been the creation of one or more flag lots. Contiguous flat lots result in a continuous series of curb cuts at the edge of the street.

Unique in both scale and style, the Outlook Apartment complex, a group of 168 units located on the southwestern edge of the terrace overlooking Moore Creek Canyon, adds diversity to the area in terms of housing opportunities. This complex, in its massing of buildings, land coverage and placement of off-street parking facilities, brings an intensity of use and a visual impact that stands in stark contrast to the older established uses as well as the natural setting of the Far West Side.

The balance of the plan area, which includes the greater part of the lands west of Western Drive, is characterized by undeveloped parcels--meadows, hillsides; and structures that testify to the agricultural/rural uses of the land in the recent past. Several parcels of land are still used to support grazing.

The major challenge addressed by this plan is the retention of the desirable characteristics of the Western Drive Area and the successful integration of existing and future land uses.

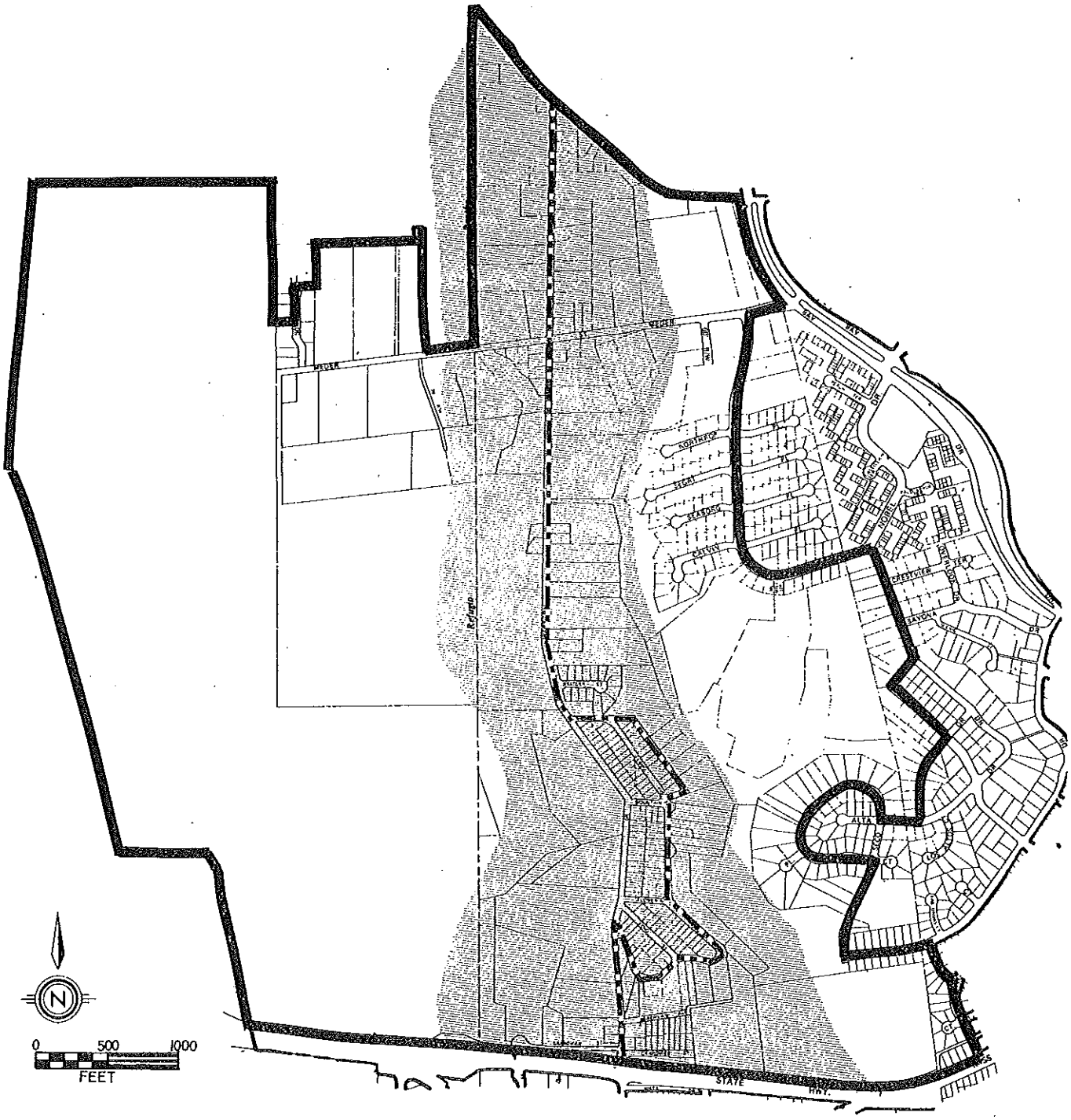


FIGURE 3: CENSUS TRACT 55 *

Census Tract Boundary
Western Drive Planning Area
Census Area Boundary

*1976 Special Census

PEOPLE AND HOUSING

Based on the preceding land use data, we can determine that there are 220 single-family and 168 multiple units in the Western Drive Master Plan Area. Unfortunately, information in regard to population and household formation, generally available from materials compiled by the U. S. Bureau of the Census, is not as specific to the area under study. This is because the boundaries of the tracts and areas used to frame data groups for the 1976 Special Census were not based on topographical lines. As illustrated in Figure 3, the census boundaries include the lands west of Western Drive to the City limits and a portion of University Terrace and Westlake east of Arroyo Seco Canyon. Nevertheless, since 36% of the single-family units, and 51% of the multiple units, (91% of units 5+) are found in the Western Drive Plan area, it may be appropriate to look briefly at the tract data to gain a very broad indication of existing conditions.

Comparable with the rest of the City, slightly over one-third of the primary wage earners in the tract are professional, technical, or managerial workers. However, fewer primary wage earners work in the City or County, 64.0% as compared to 89.0% City-wide. There are slightly fewer students in the area, 5.1% as compared to 9.0% City-wide.

Approximately one-third of the residents of the area lived there before 1970, and another one-quarter moved to the area from other areas in the City.

Of the units in the census area, 50.7% are three- and four-bedroom units. This compares to an 18.7% proportion City-wide. Therefore, it is not surprising that the household population per unit is higher than the City average, 3.2 persons as compared to 2.3. The multiple units in the Western Drive area, looked at separately, accommodate smaller households, 1.7 persons per unit.

The households in the area are composed of a mix of families and young adults. Approximately 34.14% of the residents fall into the 19-34 age group, with another 27.33% 18 and under. There are fewer persons over 65 than are found in the City as a whole, 8.01% as compared to City average of 16%.

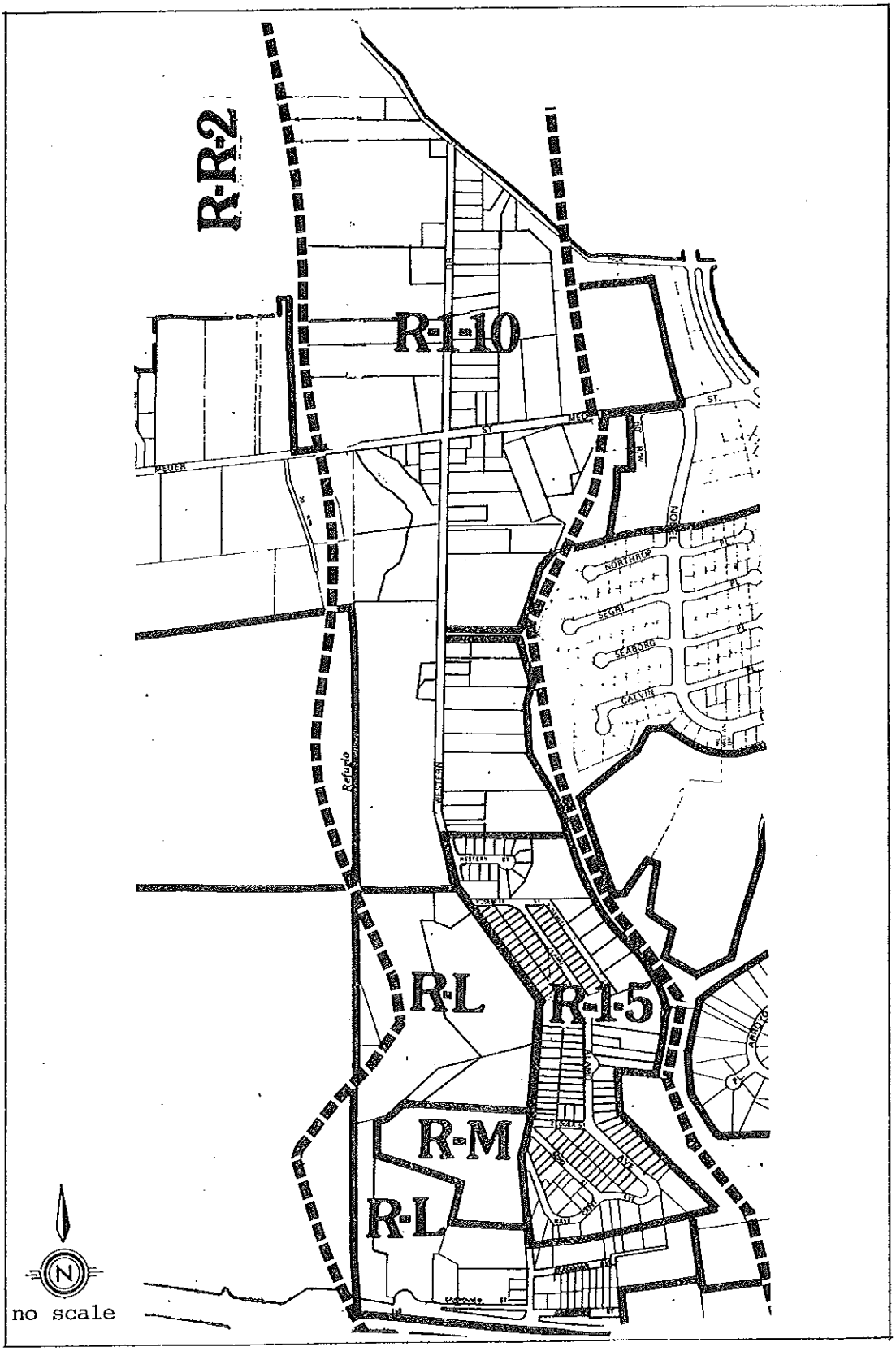


FIGURE 4: CURRENT ZONING

ZONING

Figure 4 illustrates Zoning in the Western Drive Master Plan Area as of October 1980. There were no zoning changes initiated during the plan preparation period beyond the annexation of the rear portions of those parcels bordering Moore Creek north of Meder Street, which then changed zone from the County designation of R-R-2 to the R-1-10 prevailing designation on the balance of these parcels.

The design concepts developed in this Master Plan were done under the umbrella of existing zoning, based on land use designation in the approved General Plan (See figure12- p80) the appropriate vehicle for decisions regarding density, significant alterations in density are not to be expected in this area through 1990.

ZONING DISTRICTS IN THE MASTER PLAN AREA

R-1-5 Single-family Resodential District
min. lot size, 5,000 sq. ft.

R-1-10 Single-family Residential District
min. lot size, 10,000 sq. ft.

R-L Multiple Residential-Low Rise District
min. lot area per dwelling unit 3,000 sq. ft.

R-M Multiple Residential-Medium Rise District
min. lot area per dwelling unit 1,600 sq. ft.

R-R-2 County designation: Rural-Residential District min. lot size, two acres

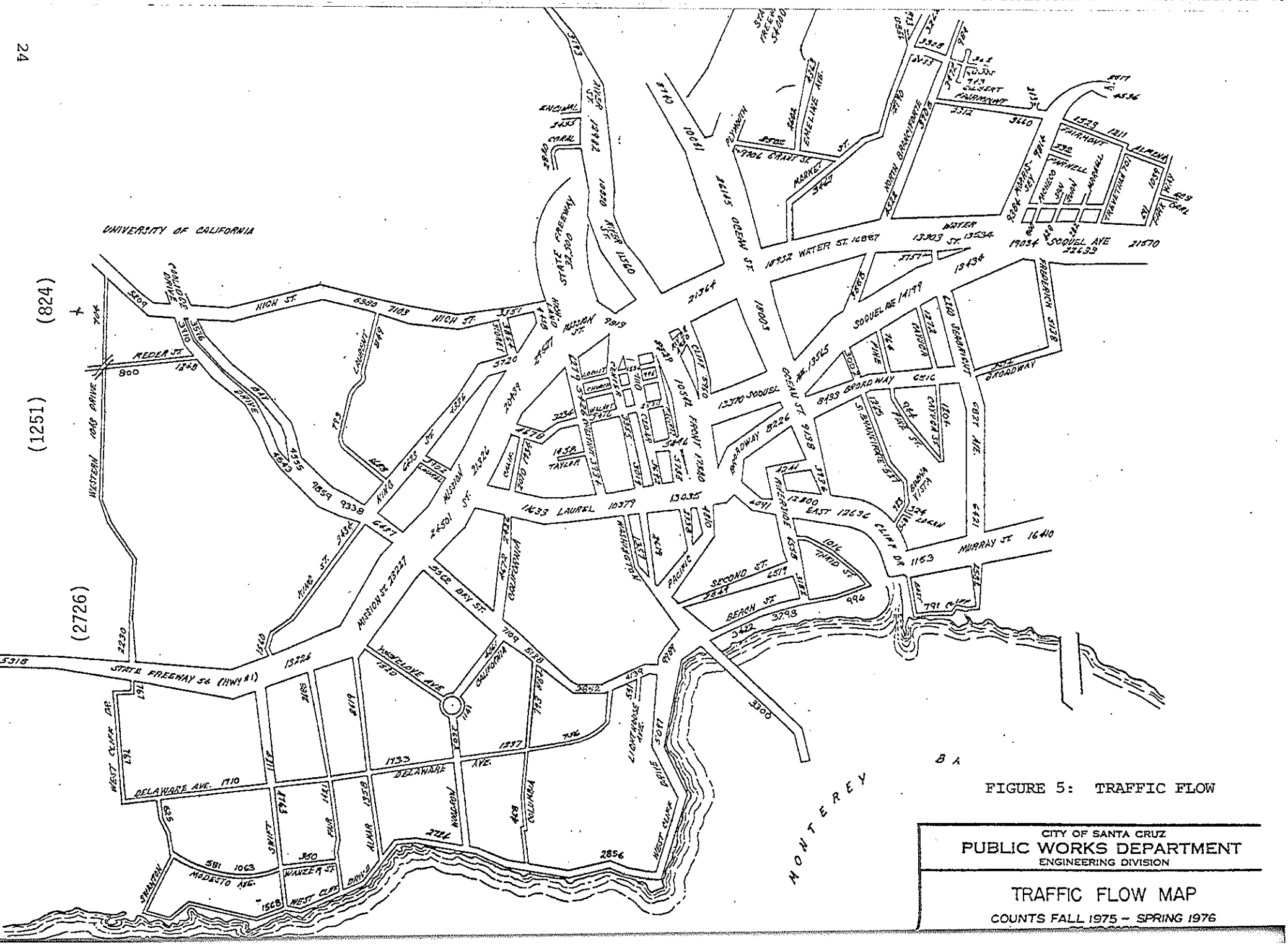


FIGURE 5: TRAFFIC FLOW

CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

TRAFFIC FLOW MAP

COUNTS FALL 1975 – SPRING 1976

CIRCULATION

Central to the development of a design concept for the Western Drive area is an understanding of the standards that have been applied to the street in recent years and an updated evaluation of the function of the right-of-way itself.

As pointed out in a previous section, the 1964 General Plan, which was designed to accommodate a City population of 125,000 to 140,000 persons, indicated that Western Drive was to be a thoroughfare, linked to new major roadways to the north and, across Moore Creek Canyon to the west. The 1964 General Plan also provided for high density housing along Western Drive, both north of Meder Street and south of Yosemite. Western Drive was to provide access to a University of California campus with an enrollment of 27,000 students. And, both an elementary and a high school site were planned for the immediate area.

In 1966 special building setback lines were established on selected streets throughout the City (Ordinance NS 643). This action was in large part a response to the circulation system called for in the 1964 General Plan. And, as Western Drive was intended to function as a major carrier in the 1964 Plan, it was one of the streets listed in this Ordinance. Designated a "Major Street," Western Drive was one of the right-of-ways where the baseline for measuring building setbacks was set at 42' from the centerline of the street. The application of this special setback served to reserve land for an 84' right-of-way.

In 1974 several streets were deleted from the list of major streets. Among these was Western Drive (Ordinance 74-29). The staff analysis that accompanied the ordinance revision cited the number of variances granted along Western Drive as evidence of the need to review existing policy. With the special setback removed, the standards in force for the improvement of Western Drive became those included in the City's Subdivision Ordinance, Chapter 23.030.060, "Basic Street Standards - Collector Street." The illustration for this Section details 40 feet of roadway curb to curb, a 5-6 foot sidewalk at each side of the roadway, and a planting parkway. The planting parkway has not been required in recent years. It is this collector street standard that has been implemented in conjunction with recent construction in the area. And, it is this standard that is referred to by the citizens in their request for design assistance.

The City of Santa Cruz now holds a portion of the land required to implement the current collector street standard. As part of the early subdivision of lands in the area, the land dedicated to the City for street purposes, now called Western Drive, is 40 feet in width. To develop improvements beyond that 40 feet, the City has required the dedication of land by individual property owners.

In light of the above information, the development of a Master Plan for Western Drive has taken place at an opportune time. The recommendations in the 1990 General Plan Revision, as pointed out in a previous Chapter, significantly modify those made in 1964. There will be new traffic demand generated on Western Drive, but it is substantially less than what was expected based on the land uses in the 1964 General Plan. Therefore, a new look at the projected demand on the right-of-way is both timely and appropriate.

Figure 5 illustrates City-wide traffic flow based on 24-hour counts taken between 1974 and 1976. By comparing the counts recorded on Western Drive with those of other residential streets in the City, it is apparent that Western Drive was lightly traveled, and that High Street, Meder Street, and Bay Drive served as the most direct links between the neighborhood, the University and the Central City. There also appears to be a direct relationship between the users of the Western Drive right-of-way and the density of residential development adjacent to it. The highest count was recorded near the Western Drive-Highway #1 intersection, the point closest to a 168-unit apartment complex and several single-family subdivisions.

Unfortunately, updated traffic flow information for the Western Drive Master Plan area and its immediate vicinity is not presently available. However, one recent count, taken in March 1978, near the Western Drive/Highway #1 intersection, does indicate an increase in usage of approximately 20% from the previous count. Accordingly, the base figures on Western Drive used in developing the information in this section, have been increased by 20%. This is indicated on Figure 5 by those numbers placed in parenthesis.

To determine future demand on the right-of-way generated by development in the Master Plan Area, it was necessary to determine the holding capacity of the land. Assuming a maximum average density of 6 units an acre for the lands west of Western Drive which are not in great part developed, assuming further minor land divisions at existing zoning for the developed parcels to the east, and adding the number of units that would be produced through infill of remaining lots of record, it was determined that 241 new units may be expected in the Master Plan Area. It is emphasized that this is a maximum number. Of these new units, 215 either front on Western Drive or depend on Western Drive to some extent for access. The remaining units front directly on High or Meder or have other means of access.

In order to estimate the number of trips on Western Drive that would be produced by these units, several assumptions were made. It is apparent from the traffic count information in Figure 5 that not all trips generated within the Master Plan Area transverse the entire length of Western Drive. This is clearly illustrated by the count taken between High and Meder, which represents only 31% of the activity recorded near the Western Drive/Highway #1 intersection.

Therefore Meder Street, which serves as a cross-town carrier, was used as a divider to separate north-south trips produced by new units. Assuming an average of 8 trips per day per unit, the total new trips were added to the adjusted counts taken from Figure 5. It was also assumed that, of the trips generated by parcels in the Master Plan Area which are dependent upon Western Drive for access, 50% would take place on Western Drive and the balance would proceed crosstown on other streets. The total number of trips generated by uses within the Master Plan Area is illustrated in Table I, Column B.

Western Drive also carries "through" trips generated outside of the Master Plan Area. To project the amount of this demand, it was necessary to turn to recommendations in the 1978 General Plan Revision. The recommendations forwarded to the City Council in April, 1978 included recommendations for the surrounding areas: rural-residential density in the Highview Street Area and, beyond Moore Creek, urban reserve uses including agriculture. In addition, in marked contrast to its earlier projections of 27,000 students, the University of California forecasts a maximum student enrollment of 7,500 students, a slight increase from the current level of 6,000.

Based on the above information, it does not appear that there will be a significant increase in demand placed on the Western Drive right-of-way by uses in the vicinity of the plan area. Therefore, to conservatively estimate "through" traffic demand, 5% has been added to the figures in Table I, Column B, to estimate a maximum number of trips per day (Table I, Column C).

TABLE I

	A. Adjusted 24-hr Counts (1978)	B. Projected Trips Per Day, Generated by Uses w/in Plan Area	C. Maximum Projected Trips Per Day
High to Meder	824	1812	1902
Meder to Yosemite	1251	2515	2640
Yosemite to Hwy #1	2726	3990	4189

The measure of capacity normally used to establish street standards at a comfortable level of service is 2,000 cars per lane per day. Of course, this is dependent upon the number and type of control devices, street access points and the design of the street. However, based on the design of Western Drive and the above analysis, a two-lane street would be sufficient to accommodate the maximum number of trips projected for the Western Drive right-of-way.

Capacity is not the only element to be considered in developing a street standard. One must also consider the function of a right-of-way. Western Drive, in the 1990 General Plan revision, is classified as a collector street. A collector street is one that distributes trips from arterial streets to various destinations, including local streets. For example, a resident of the Master Plan Area coming from the downtown may take Mission Street (a major arterial) to Western Drive (a collector) in order to reach his home on Alamo (a local street). The same resident may use Western Drive to reach the University or Westlake School. In these cases, Western Drive functions as a collector street. The function of the street stands independent of its capacity. Some collector streets accommodate very few trips, others are heavily traveled. Western Drive, although functioning as a collector street, also serves local uses, providing direct access to abutting properties.

Throughout the preparation of this plan, citizen concern in regard to the right-of-way has centered on two factors: the appearance of the street, and hence its contribution to the quality of life in the plan area; and specific safety problems resulting from the existing configuration of the right-of-way. This study was undertaken to examine alternative street designs, ones which would accommodate the capacity and function of Western Drive, yet acknowledge the unique character of the right-of-way.

The study also examines the right-of-way with an eye towards improving safety. Western Drive, from Highway #1 to High Street, is over one mile long. It is broken by only one through intersection, at Meder Street. Compared to other streets lined by residential uses, where drivers can expect to slow or stop at an intersection approximately every 600 feet, this is a long unbroken travelway with a severe change in grade. Traffic problems, therefore, have resulted not from the number of users of the right-of-way but from driving behavior that is inappropriate to a residential area. Therefore, plan recommendations are included for street modifications to effect reduction of speed, to increase safety at intersections and to reduce the number of local streets feeding into Western Drive.

ENVIRONMENTAL CONSTRAINTS

A plan for the Western Drive area must consider several significant environmental constraints. The Open Space and Conservation Element of the General Plan identifies the area as containing steeply sloping terrain. Particularly along the Moore Creek Canyon, landforms drop sharply, often close to the Western Drive right-of-way. Development on sloping terrain is always a sensitive matter. However, when other hazards are present in an area, the slope conditions act to increase their magnitude. And, as identified in the Open Space and Conservation Element, there are several hazards present in the Western Drive planning area. First, the soils are highly susceptable to erosion. In addition to this, the danger of fire along the canyons, especially Arroyo Seco, is extreme. Further, the lower Moore Creek area has a moderately high potential for liquifaction during seismic events.

Given steep slopes and sensitive soils, construction of streets and dwellings can be a major factor in increasing potential landslide and soil erosion problems. Grading, removal of vegetation, and alteration of natural drainage patterns can act to create unstable slopes from stable ones. Grading and removal of vegetation is noted here because vegetation plays an important role in stabilizing hillslopes, especially large shrubs and trees with deep root systems which bind slope deposits, help prevent sliding and absorb run-off. The impervious surfaces created by the construction of streets, driveways and roofs tend to concentrate run-off and cause sheet wash and drainage channel gulleying on unprotected slopes.

Steep slopes also have an important effect on fire behavior; they tend to increase the rate of fire spread while being fairly inaccessible to fire-fighting men and equipment. High winds, such as those that sweep the Moore Creek and Arroyo Seco canyons, contribute to the hazard. In late August and September, when local vegetation is extremely dry, the combination of slope, dry vegetation and winds can create a serious hazard area. The removal of vegetation in order to reduce fire hazard can only result in accelerating problems of soil erosion and landslide.

Removal of vegetation can also result in the impairment of wildlife habitat. The Open Space and Conservation Element designates the Western Drive area as one of the areas in the City where significant wildlife habitat exists. The Element also notes that the Moore Creek watershed, of the six watersheds patterning the City, is the least impacted by erosion because it has been the least impacted by urban development.

In 1975 Conservation Regulations were adopted by the City in part to minimize soil erosion and fire hazards and to encourage developments which utilize the desirable, existing features of the landscape. In addition to restricting development on slopes 30% or greater, the ordinance reads:

> "A building on land with slopes less than 30 percent shall not be permitted within 20 feet of the top edge of slopes 30 percent or greater in fire hazard areas as designated in the Open Space and Conservation Element."

On Maps A and B, a heavy interrupted line is used to illustrate this setback. The land lying between the setback on the Moore Creek Canyon side and on the Arroyo Seco side to the east, is designated as the buildable zone. According to existing ordinance, this is the land upon which structures may be placed.

The Conservation Regulations also require that natural vegetation be retained and protected to the maximum extent possible. Map A illustrates the major landscape both within and outside of the buildable zone.

A constructive approach to planning with the environmental constraints in the Western Drive area leads one to the fact that these constraints provide a unique set of opportunities. Because of the steepness of the slopes, drivers and pedestrians are able to benefit from scenic views of the canyons and are able to obtain glimpses of the ocean. Because of the relatively undisturbed state of the vegetation, impressive groves of eucalyptus and cypress frame the canyons and line the roadway. It is for these reasons that Western Drive is designated a scenic roadway in both the Scenic Highways and the Open Space and Conservation Elements. Map A illustrates existing and potential view corridors from the Western Drive right-of-way.

Within this planning area, a constructive approach to the siting and design of urban elements not only addresses the environmental constraints, but acts to secure the scenic resources of the area for the community at large. An emphasis on preserving the viewshed, on a minimal disturbance to the landform and vegetation, and a minimal addition of impervious surface, are all basic and necessary to this constructive approach. The Master Plan illustrates several approaches to a creative interaction between development and the natural environment. In addition, the Master Plan points to recreational opportunities present in the Moore Creek and Arroyo Seco canyons, opportunities for hiking, wildlife study, and vista appreciation. Map A designates the canyon areas as "greenbelts" and points to potential public access points.

The Western Drive Plan recommendations serve a two-fold purpose in that they address the overall goals and objectives of the Plan and also act to mitigate the environmental constraints described in this section.

For example, to ensure that erosion and landslides do not plague future residents of the Western Drive area, the potentially destructive movement of surface drainage water must be controlled. Plan recommendations that address this solution are:

-- Maintain the street width at two (2) travel lanes,

-- Establish drainage systems to return water to the soils and/or the natural drainageways, the canyons.

-- Retain existing trees and significant landscape.

-- Rehabilitate disturbed areas by planting trees, shrubs, groundcover and natural grasses.

-- Develop standards for maximum lot coverage.

In the public domain, the plan recommends a measured approach to the introduction of impervious ground surface. Turning to the properties adjoining the right-of-way, the plan recommends a combination of controlled lot coverage and on-site drainage planning to act to protect against the creation of hazard areas both on and off the development site. The study shows that in the Western Drive area, it is not generally appropriate for developers to direct drainage onto the City right-of-way where it then becomes a municipal concern.

The Western Drive Plan also recommends a strict interpretation of the existing Conservation regulations. For example, to protect against landslide and seismic hazard, it is recommended that no structures be constructed on steep slopes. This is especially important in regard to fire hazard. Structures constructed in the area between the 30% slopeline and the 20-foot setback designated in the Conservation Regulations could serve as conductors, carrying brush fires from the canyonsides to adjacent dwellings.

New development that respects and works constructively with environmental factors, not only functions to ensure the safety of current and future residents, but also serves to retain the desirable characteristics of the area. For example, the retention of existing trees on canyon slopes and the restriction on the placement of structures near the slopeline are two recommendations intended to protect residents against fire and landslide. Yet these recommendations also serve to assure that the view of the canyon secured by an individual property owner does not impair the views from the canyon, a community resource.

MASTER PLAN RECOMMENDATIONS

Western Drive, North of Meder Street, 1978

GOALS AND OBJECTIVES

After a review of City policies and programs relating to the plan area, and a survey of existing conditions, the consultant and staff met with the citizens group. Using a process of developing consensus through open-ended discussions, augmented by the use of slides and photographs of the plan area, the citizens group identified the following goals and objectives for the Master Plan.

1. Preserve the rural character of the area where it now exists.
2. Establish criteria to continue the rural character as the area develops.
3. Preserve the existing trees.
4. Protect the quality of the adjacent canyons.
5. Provide access to the canyon areas.
6. Maintain safety for motorists, pedestrians, and cyclists with minimum impact to development and landscaping.
7. Rehabilitate disturbed areas.

The consultant then prepared a map illustrating the opportunities and constraints present in the Master Plan Area. On Map A, page 37, the 30% slope limit line and the slope setback line established by Conservation Regulations are clearly indicated. These lines delineate the land upon which structures may be placed, a "buildable zone." In addition, the map illustrates several additional elements, such as the major landscape to be preserved both on and outside of the buildable zone, the existing and potential view corridors, and the potential public access points to the canyons.

Through analysis of these opportunities and constraints, it became clear that the rural or scenic character of the area was only partially dependent on the design and width of the right-of-way. The scenic character of Western Drive derives, in great part, from the properties adjacent to the street. This can be illustrated by comparing the section southeast of Yosemite Street with the sections north of Meder. The existing right-of-way is at present the same width at both points; in both cases, the adjacent properties are developed with single-family residences, yet the overall ambience differs significantly.

Therefore, the Master Plan for the Western Drive area addresses the inter-relationship between the street right-of-way and its adjacent properties. It makes recommendations for a right-of-way design that preserves and enhances the special characteristics of the adjacent properties. It also provides a framework for the

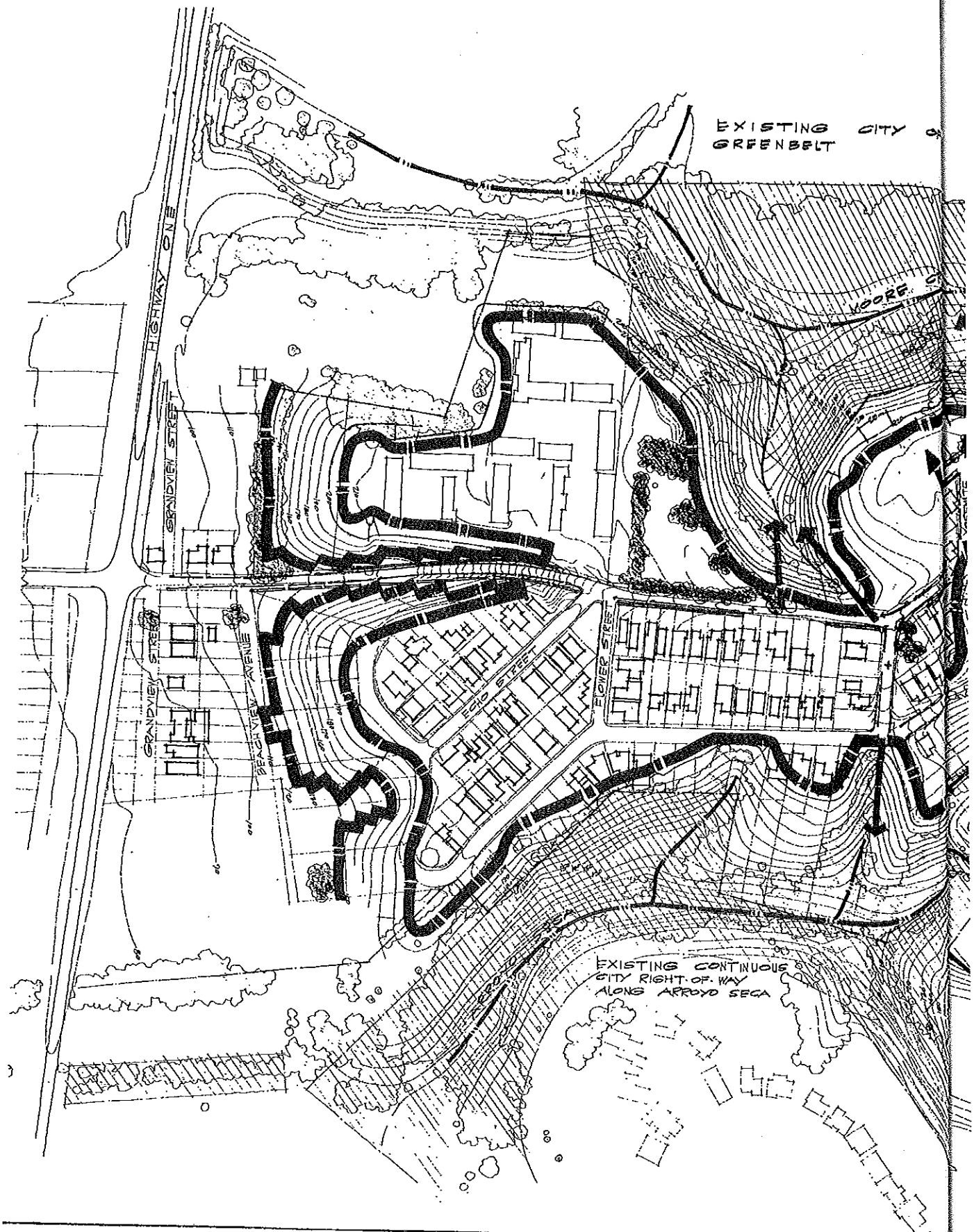
development of these properties, so that they can continue to contribute to the scenic character of the area.

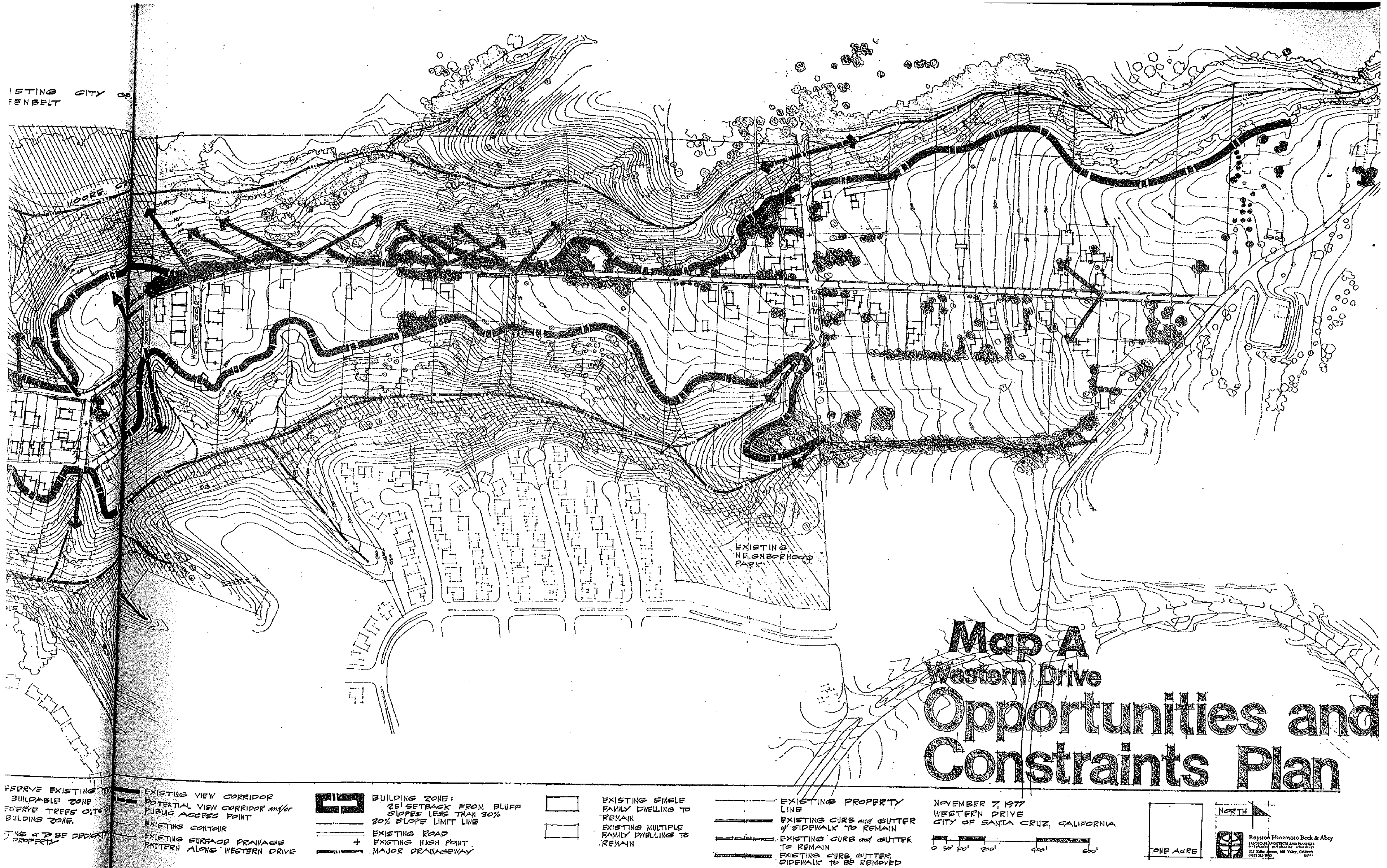
THE MASTER PLAN

A series of recommendations was then developed. Each recommendation, by itself, is designed to contribute towards the achievement of the goals and objectives of the Master Plan; at the same time, each recommendation is designed to be a part of a comprehensive program.

On the following pages, the Master Plan recommendations are presented in written form and cross-referenced to illustrations or further explanation. Map B, the Western Drive Master Plan, presents a comprehensive picture of how recommendations interrelate in both the public and private domain. Map B illustrates the Plan recommendations for landscape, such as hedgerow screening, retention of existing trees, and the variable roadside scenic corridor. Also shown are the portions of the roadway that may be realigned in order to secure a safer, more scenic drive; those areas for which specific street plans should be prepared; drainage patterns; right-of-way acquisition; and proposed public easements.

Following the Master Plan Map, typical street sections illustrate plan recommendations in greater detail.


EXISTING CITY OF GREENBELT
HIGHWAY ONE
GRANDVIEW STREET
BEACH VIEW AVENUE
ECHO STREET
FLOWER STREET
EXISTING CONTINUOUS CITY RIGHT-OF-WAY ALONG ARROYO SECA
PRESERVE EXISTING TR
ON BUILDABLE ZONE
PRESERVE TREES OUTSID
OF BUILDING ZONE.
EXISTING & TO BE DEDICATED
CITY PROPERTY


ISTING CITY OF
FENBELT
MOORE CR
WESTERN COURT
MEDER STREET
HIGH STREET
EXISTING NEIGHBORHOOD PARK
Map A
Western Drive
Opportunities and
Constraints Plan
ESERVE EXISTING TR
BUILDABLE ZONE
ESERVE TREES OUTSID
BUILDING ZONE.
TING or TO BE DEDICATI
PROPERTY
EXISTING VIEW CORRIDOR
POTENTIAL VIEW CORRIDOR and/or PUBLIC ACCESS POINT
EXISTING CONTOUR
EXISTING SURFACE DRAINAGE PATTERN ALONG WESTERN DRIVE
BUILDING ZONE: 25' SETBACK FROM BLUFF SLOPES LESS THAN 30%
30% SLOPE LIMIT LINE
EXISTING ROAD
EXISTING HIGH POINT
MAJOR DRAINAGEWAY
EXISTING SINGLE FAMILY DWELLING TO REMAIN
EXISTING MULTIPLE FAMILY DWELLING TO REMAIN
EXISTING PROPERTY LINE
EXISTING CURB and GUTTER w/ SIDEWALK TO REMAIN
EXISTING CURB and GUTTER TO REMAIN
EXISTING CURB, GUTTER, SIDEWALK TO BE REMOVED
NOVEMBER 7, 1977
WESTERN DRIVE
CITY OF SANTA CRUZ, CALIFORNIA
0 50' 100' 200' 400' 600'
ONE ACRE
NORTH
Royston Hanamoto Beck & Abey

RECOMMENDATIONS IN THE WESTERN DRIVE MASTER PLAN

The recommendations in the Master Plan can be placed in three major categories:

1) the improvement of the right-of-way;
2) retaining the rural character of the area; and
3) protecting and providing access to the canyons.

In this section, plan recommendations are listed by category, a cross-reference is given to illustrations in the text, and an indication is given regarding the application of the recommendation to the public or private domain.

A. IMPROVE THE EXISTING RIGHT-OF-WAY

Improve Western Drive as a "county road" to maintain a rural character while improving safety for motorists, pedestrains and cyclists.

Illustration			Public Domain	Private Domain
pp. 47-55	1.	Maintain the street width at two (2) travel lanes, 24-28' maximum width varying to accommodate terrain and landscape. Parking shall be accommodated in occasional bays north of Western Court. For the more southerly section of the street, one parking lane shall be provided, with bays where feasible, creating a maximum street width of 32' for all newly developed street sections. At the intersection with High Street and at the intersection of Highway #1, as far as Beachview Avenue, the street shall be 40' in width to accommodate turning movements. At the Meder Street intersection, the street shall be 32' within 100 feet of the intersection.	X	
pp. 47-55	2.	Improve Western Drive by repaving as a modified ruralized roadway, with an attractively designed exposed aggregate curb and gutter.	x	
pp. 47-55	3.	Establish a local drainage system which returns water into the soil and/or canyons.	X	

ILLUSTRATION			Public Domain	Private Domain
pp. 47-55	4.	Establish a pedistrian path, preferably along the westerly side of the street , surfaced with asphalt, to provide for pedestrian circulation and to accommodate occasional cycyists. The path should be designed to incorporate curvature and vary in its distance from the curb as is appropriate to specific locations.	X	
Map B, p.45	5.	Realign the road, where possible, as indicated on the Master Plan Map to gain a more open, scenic corridor, to reduce speed and to provide a safer intersection at High Street. At designed intersections, provide lighting and install stop signs for safety.	X	
Map B, p.45	6.	Improve the Western Drive/Highway #1 intersection and cul-de-sac the western end of Grandview Street.	X	
pp. 47-55	7.	Underground the overhead utilities.	X	
Map A, p.45	8.	Retain the landscape quality of Western Drive by preserving trees in the public domain.	X	

B. RETAIN THE RURAL QUALITY OF THE WESTERN DRIVE AREA

Preserve the existing trees and rural character in areas where it now exists and establish criteria to continue this character as new areas develop. Rehabilitate disturbed areas.

Illustrations			Public Domain	Private Domain
Map B, p.45	9.	Minimize the number of driveways and streets along Western Drive.	X	X
pp. 69-77	9A.	In areas designated on the Master Plan Map, require multiple owners to participate in the development of a specific plan, so that subdivided properties will be served by cul-de-sac or loop roads.		X
	9B.	In other areas, minimize entrances by maintaining one driveway for each existing lot and allowing only one additional entrance for an number of newly created parcels.		X

Illustrations			Public Domain	Private Domain
	10.	Streets and driveways, including cul-de-sac and loop roads shall be designed so as to maintain a rural character.	X	X
Map A, p.37	11.	Preserve existing and establish additional view corridors.	X	X
Map B, p.45 pp. 69-77	12.	Establish relatively large lots adjacent to Western Drive in future subdivisions.		X
Map B. p.45	13.	Establish a varied building set-back line for all properties adjacent to Western Drive.		X
Map B, p.45	14.	At the rear property lines and/ or at the varied setback lines, plant naturalized hedges or trees to screen and reduce the impact of subdivided areas. The location and variety of trees should respect the spatial framework and character established by the canyons.		X
Map B, p.45	15.	Establish hedge and tree rows along selected segments of Western Drive to reduce the impact of existing sub-divided areas.	X	X
Map A, p.37 Map B, p.45 p. 51	16.	Preserve existing trees and prune selected groves to create distant views. Retain the integrity of the landscape in all areas.	X	X
Map B, p.45	17.	Rehabilitate disturbed areas by planting trees, shrubs, groundcover and natural grasses to reduce the visual impact of road widths and cut banks.		X
pp. 89-91	18.	Employ and monitor design criteria to continue the rural character in newly developed and existing areas.	X	X
pp.92-93	19.	Refer to a plant materials list to develop landscape plans that maintain the existing spatial framework established by the canyons.	X	X

Illustration			Public Domain	Private Domain
p. 94	20.	Designate appropriate bus stop locations, and design shelters, benches, path and street sections, street signs, lighting and fencing that retain the rural character of the area.	X	X
pp. 83-87	21.	Initiate on-site drainage planning to return water to the soil and/or into the canyons away from Western Drive in newly subdivided areas.		X
	22.	Develop standard for maximum lot standard coverage, including, driveway and on-site parking area.		

C. PROTECT THE QUALITY OF THE ADJACENT CANYONS AND PROVIDE ACCESS TO CANYON AREAS

Illustrations			Public Domain	Private Domain
Map A, p.37 Map B, p.45	23.	Prserve existing trees and groves that demarcate adjacent canyons.	X	X
	24.	Require a varied building setback from steep slopes for new development.		X
Map A, p.37	25.	No structures shall be constructed on the steep slopes in accordance with Conservation Regulations.		X
Map B, p.45	26.	Provide public access to Moore Creek Canyon and Arroyo Seco greenbelts.	X	
Map B, p.45	27.	Establish trails to the canyons as part of the City's greenbelt system connecting to the Natural Bridges Coastal Trail.	X	
	28.	Establish relatively large lots adjacent to the Moore Creek Corridor in future subdivisions.		X


CITY OF SANTA
TRAIL SYSTEM TO CONNECTION TO NATURAL BRIDGES COASTAL TRAIL
EXISTING CITY PROPER ALONG THIS SEGMENT OF CANYON
MOORE CREEK
ECHO STREET
GRANDVIEW STREET
GRANDVIEW AVENUE
HIGHWAY ONE
EXISTING CONTOUR
EXISTING ROAD
EXISTING PROPERTY
POSSIBLE PROPERTY
EXISTING PLANTING
PROPOSED PLANTING
TYP.
40' c/c

OF SANTA

EXISTING CITY PROPERTY ALONG THIS SEGMENT OF CANYON

WESTERN COURT

ARROYO SECO

ARROYO SECO

ARROYO SECO

Map B
Western Drive
Master Plan

NOVEMBER 7, 1977

CITY OF SANTA CRUZ, CALIFORNIA

0 50' 100' 200' 400' 600'

ONE ACRE

NORTH

Royston Hanamoto Beck & Abey

EXISTING CONTOUR
EXISTING ROAD
EXISTING PROPERTY LINE
POSSIBLE PROPERTY LINE
EXISTING PLANTING
PROPOSED PLANTING

40' c/c

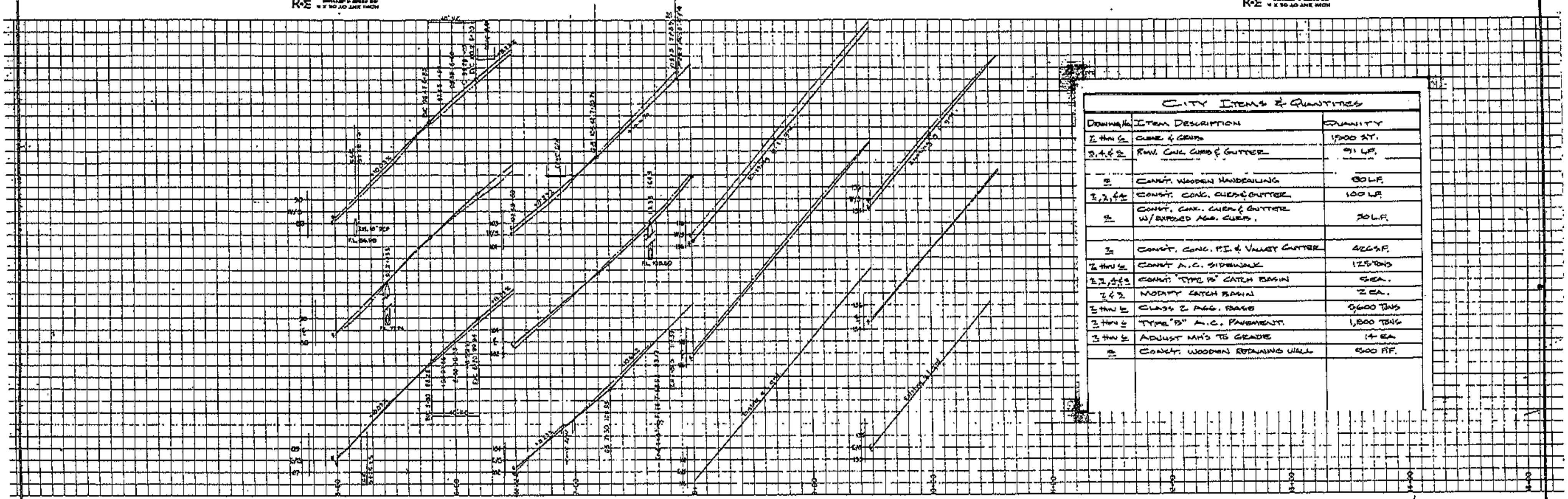
ROAD WITH EXISTING CURB and GUTTER or CURB, GUTTER and SIDEWALK
PROPOSED STEP, SIGN
EXISTING BUILDING
POSSIBLE BUILDING LOCATION
PROPOSED PUBLIC EASEMENT
EXISTING or TO BE DEDICATED CITY PROPERTY

Possible roadside scenic corridor

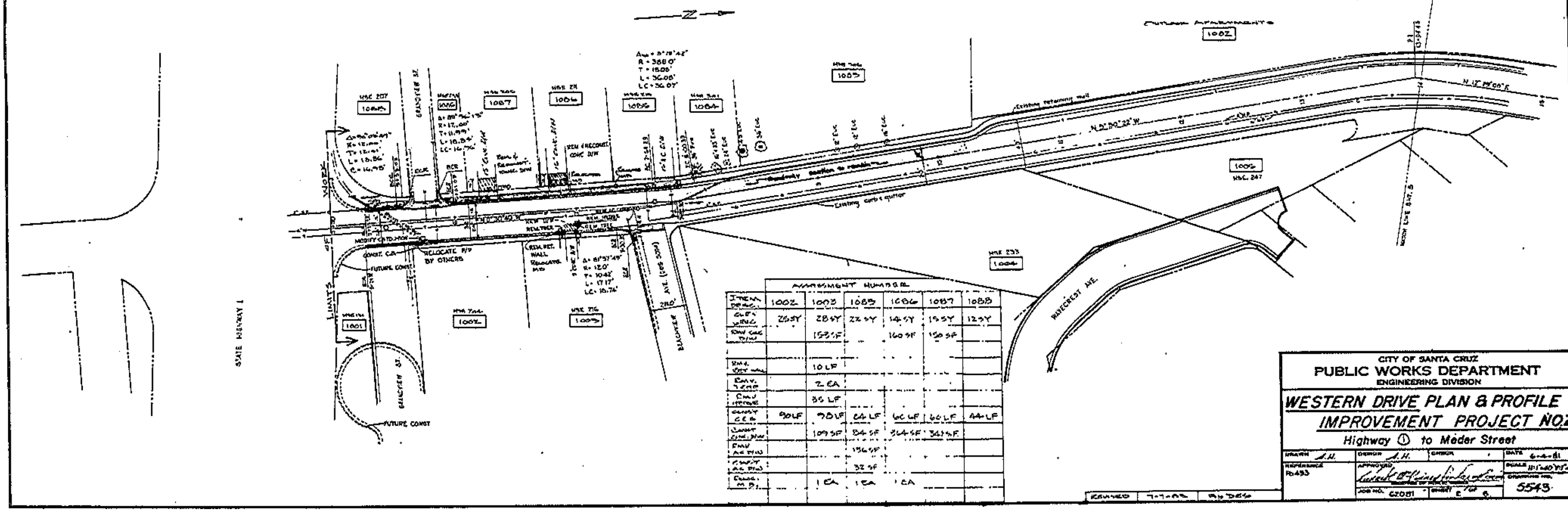
(B) SECTION LOCATION and IDENTIFICATION
PEDESTRIAN TRAIL/WALK
PEDESTRIAN/EQUESTRIAN TRAIL
BUILDABLE ZONE LIMIT LINE
RIGHT-OF-WAY ACQUISITION

MAJOR DRAINAGE CHANNEL
BUILDING SETBACK LINE
LIGHTED ZONE
BRIDGE
BUS STOP

SURFACE GRAVEL DRAINAGE INTENT
PIPED GRAVEL DRAINAGE CHANNEL
DAYLIGHTING OF DRAINAGE CHANNEL
(S) SPECIFIC AREA PLAN



CITY ITEMS & QUANTITIES		
Drawing No.	Item Description	Quantity
2 thru 6	Clear & Grub	1500 SY.
3,4 & 5	Rmv. Conc. Curb & Gutter	91 LF.
5	Const. Wooden Handrailing	80 LF.
2,3,4 & 6	Const. Conc. Curb & Gutter	100 LF.
5	Const. Conc. Curb & Gutter w/Exposed Agg. Curb.	70 LF.
3	Const. Conc. P.I. & Valley Gutter	426 SF.
2 thru 6	Const. A.C. Sidewalk	125 Tons
2,3,4 & 5	Const. "Type B" Catch Basin	5 EA.
2 & 3	Modify Catch Basin	2 EA.
2 thru 6	Class 2 Agg. Base	5,600 Tons
2 thru 6	"Type B" A.C. Pavement	1,800 Tons
2 thru 6	Adjust MH's to Grade	14 EA.
5	Const. Wooden Retaining Wall	500 FF.



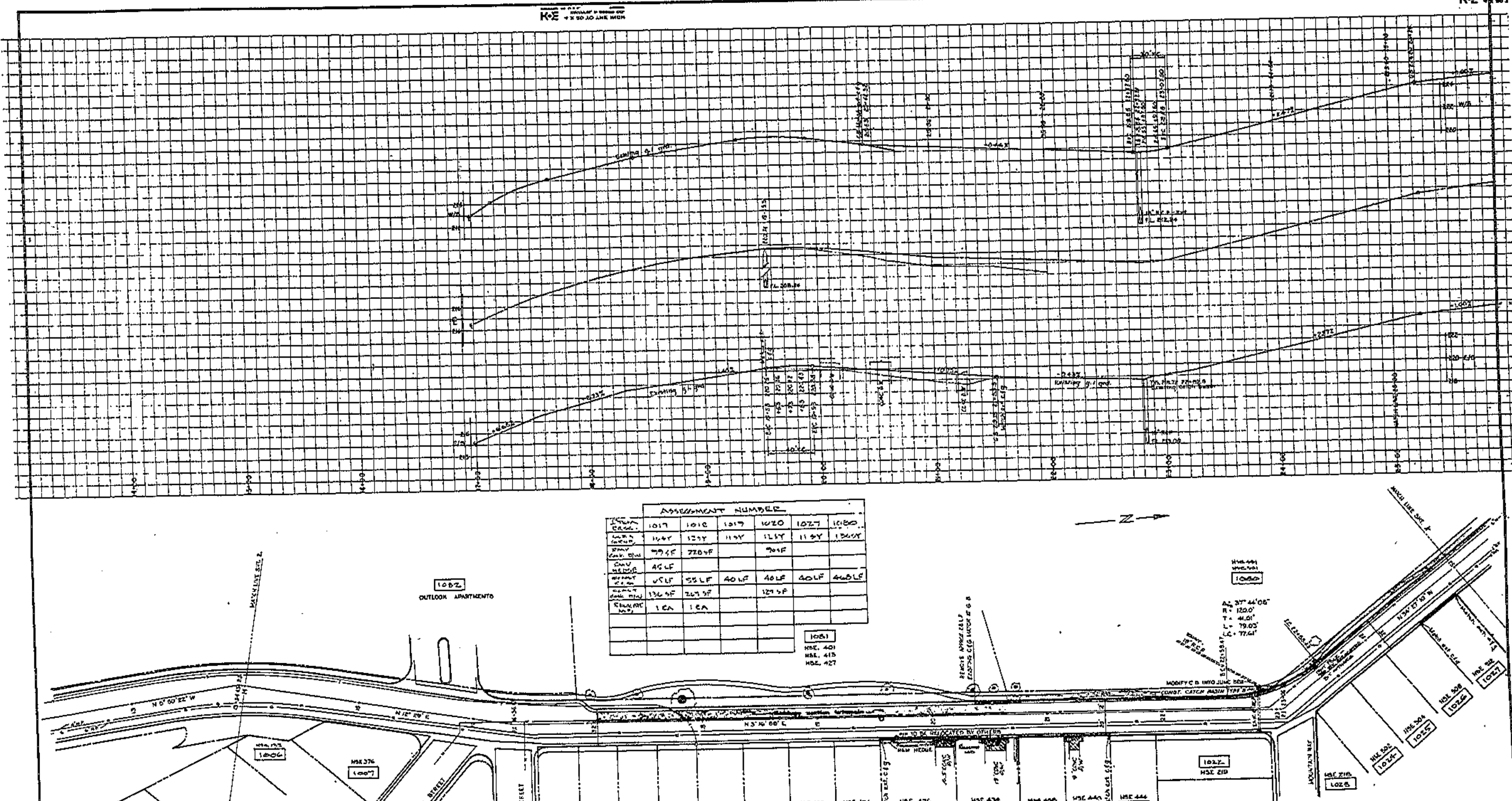
Item Desc.	Assessment Number 1002	1003	1085	1086	1087	1088
Clr. & Grub.	25 SY	28 SY	22 SY	14 SY	15 SY	12 SY
Rmv. Conc. Trtmt.		153 SF		160 SF	150 SF	
Rmv. Ret. Wall		10 LF				
Rmv. Temp.		2 EA				
Conc. Remove		35 LF				
Const. C & G	90 LF	70 LF	64 LF	60 LF	60 LF	44 LF
Const. Conc. D/W		109 SF	84 SF	364 SF	347 SF	
Rmv. AC Pvmt.			156 SF			
Const. AC Pvmt.			32 SF			
Const. M.B.		1 EA	1 EA	1 EA		

CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

WESTERN DRIVE PLAN & PROFILE
IMPROVEMENT PROJECT NO.2
Highway ① to Meder Street

Drawn A.H.	Design A.H.	Check	Date 6-4-81	Scale 1"=40' V.1"=4'
Reference FB 433	Approved			Drawing No. 5543
	Job No. 62081	Sheet 2 of 6		

Revised 7-7-83 By DEG



	ASSESSMENT NUMBER					
ITEM DESC.	1017	1016	1019	1020	1027	1080
[illegible]	11.4 Y	12.5 Y	11.5 Y	12.5 Y	11.5 Y	136.5 Y
[illegible]	774 SF	728 SF		70 SF		
[illegible]	45 LF					
[illegible]	45 LF	55 LF	40 LF	40 LF	40 LF	466 LF
[illegible]	136 SF	269 SF		129 SF		
[illegible]	1 EA	1 EA				

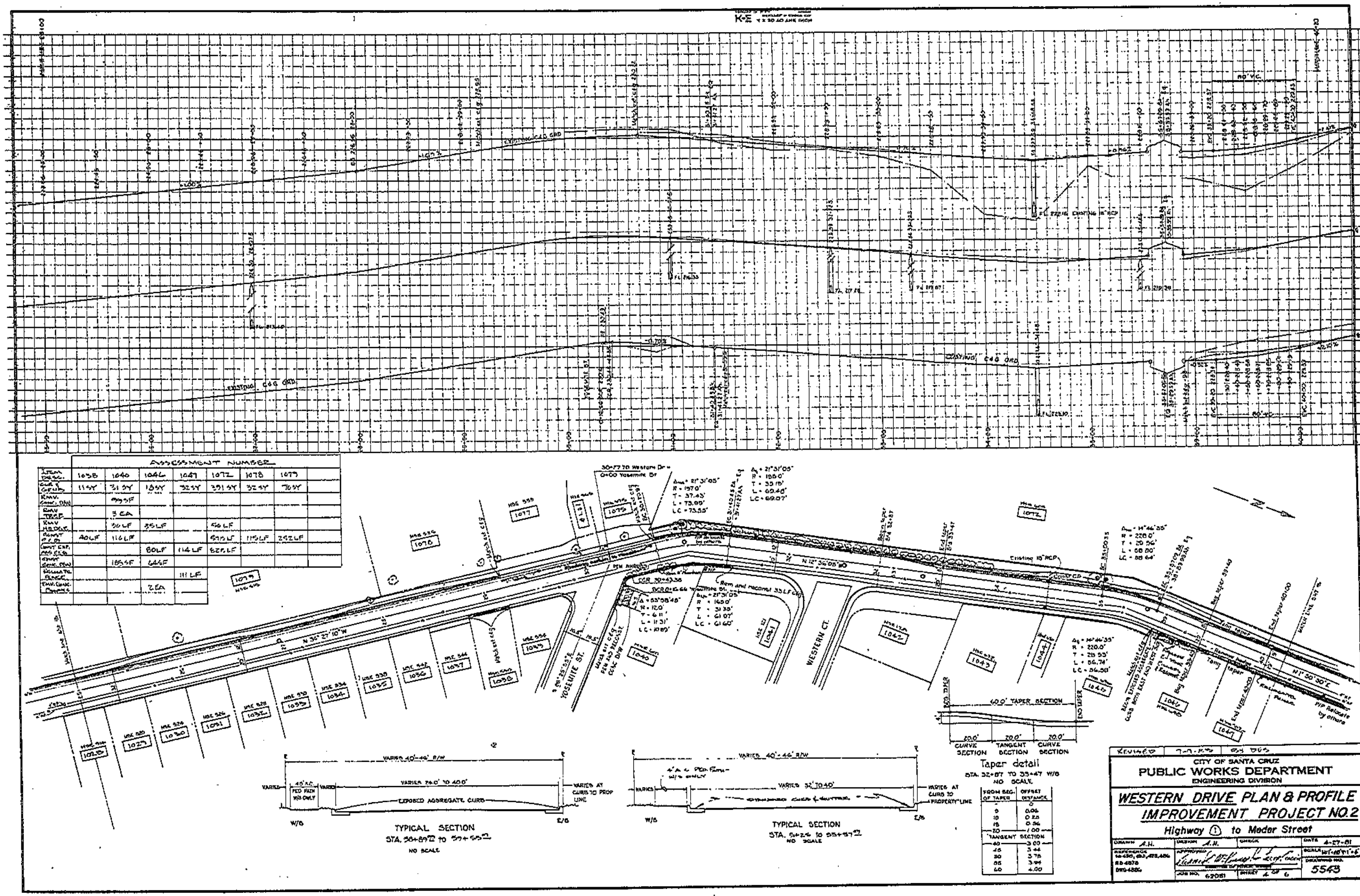
CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

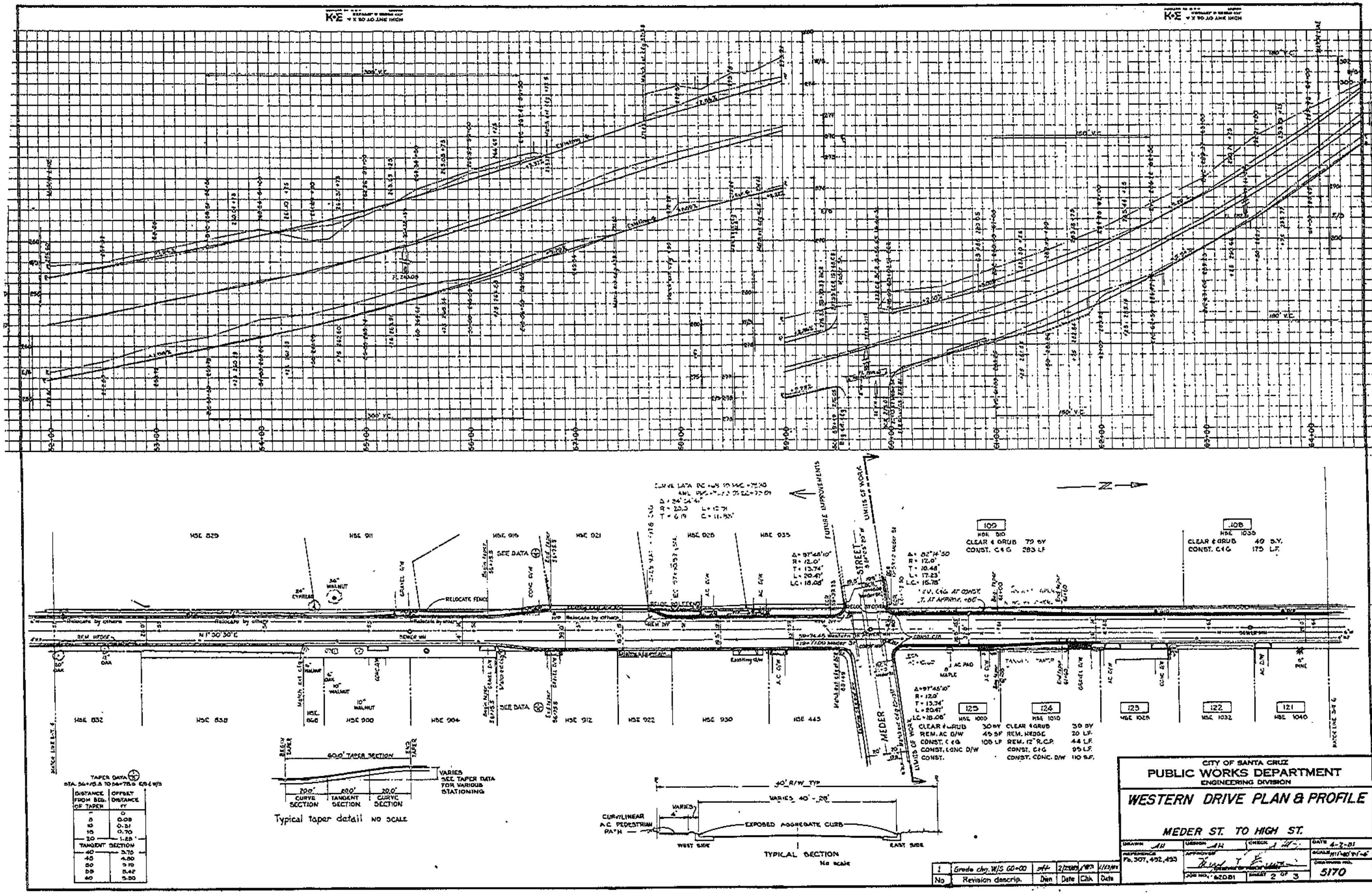
WESTERN DRIVE PLAN & PROFILE IMPROVEMENT PROJECT NO.2

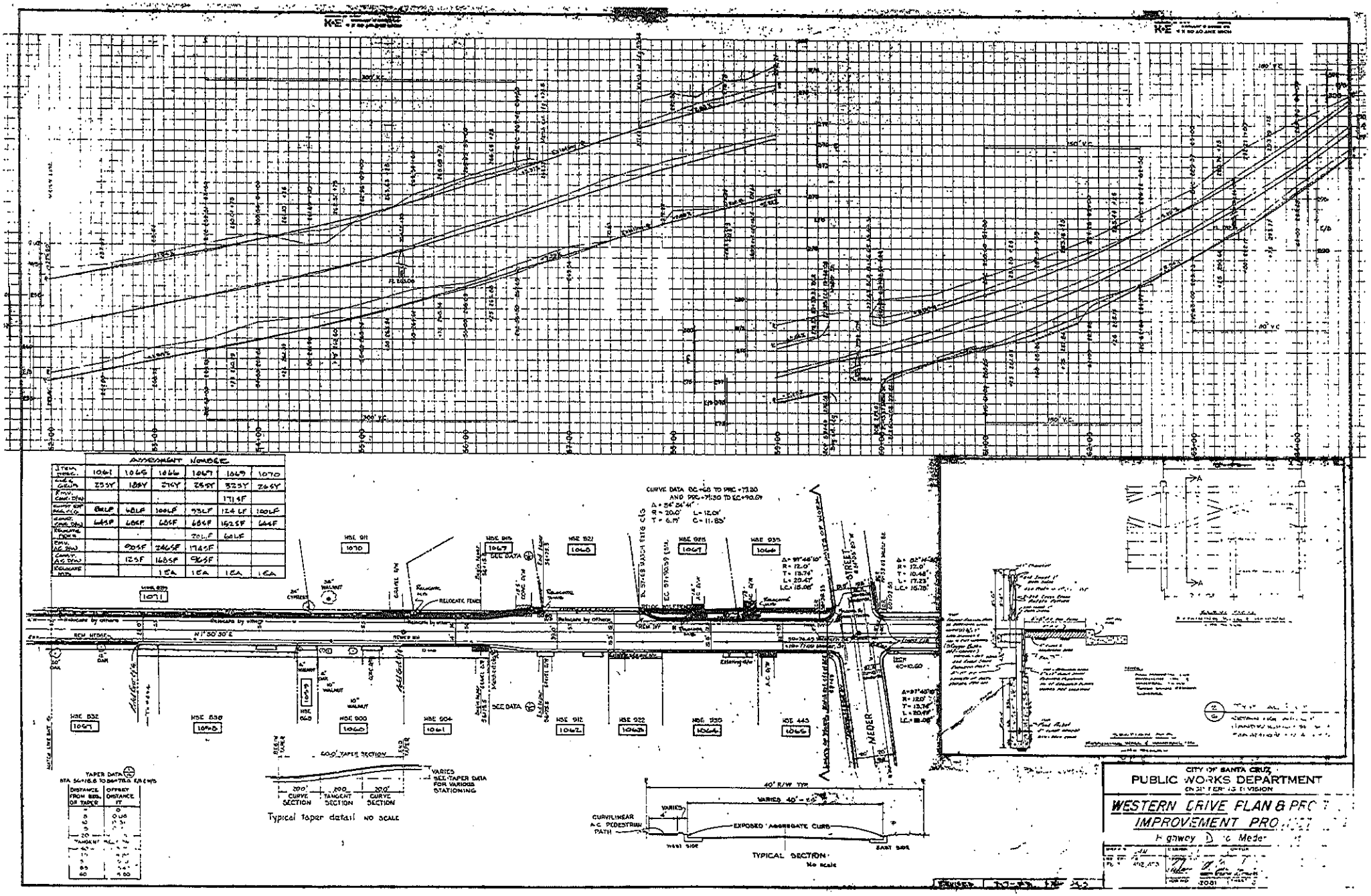
Highway ① to Meder Street

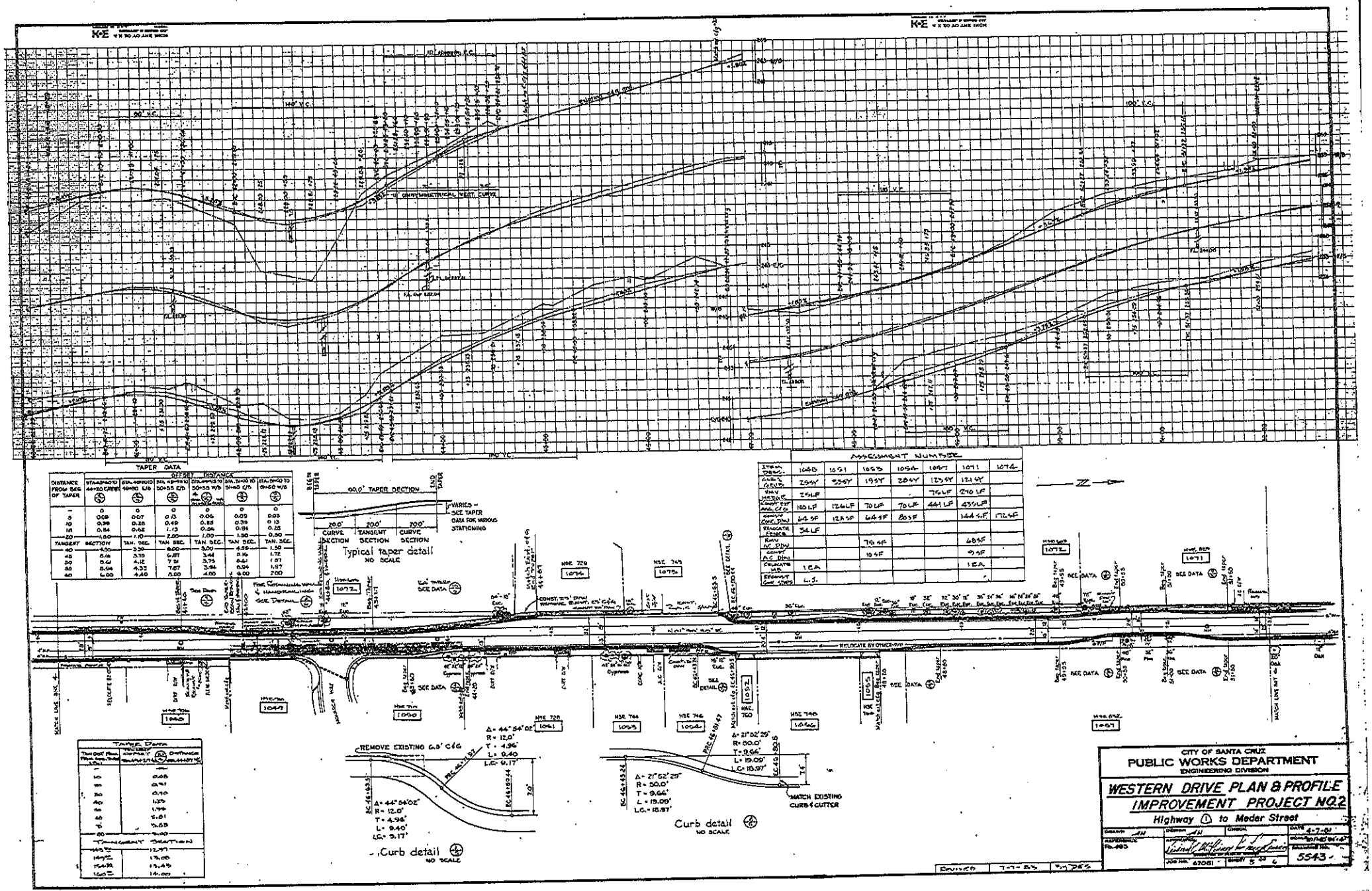
DRAWN A.H.	DESIGN A.H.	CHECKED	DATE 5-13-81
REFERENCE	APPROVED		SCALE [illegible]
	JOB NO. 62081	SHEET 3 OF 6	DRAWING NO. 5543

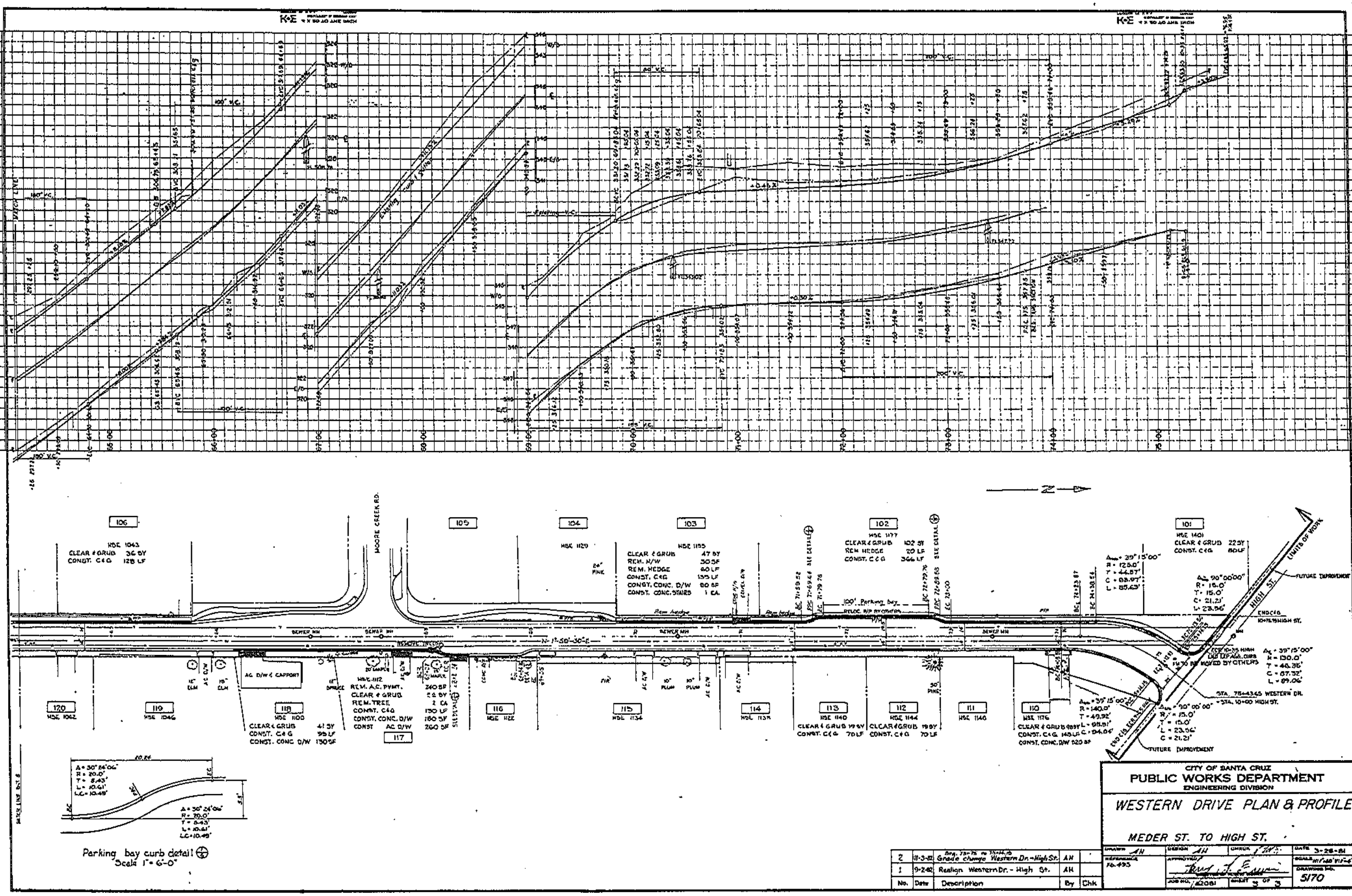
REVISED 7-7-81 TH DES


CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
WESTERN DRIVE PLAN & PROFILE
IMPROVEMENT PROJECT NO.2
Highway ① to Meder Street
DRAWN A.H.
DATE 4-27-81
JOB NO. 62081
SHEET 4 OF 6
5543
ASSESSMENT NUMBER
TYPICAL SECTION
STA. 50+89± to 57+55±
NO SCALE
TYPICAL SECTION
STA. 51+25 to 55+57±
NO SCALE
Taper detail
STA. 32+87 TO 35+47 W/S
NO SCALE
60.0' TAPER SECTION
CURVE SECTION
TANGENT SECTION
WESTERN CT.
YOSEMITE ST.
EXISTING C&G GRD
K+E


CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
WESTERN DRIVE PLAN & PROFILE
MEDER ST. TO HIGH ST.
DRAWN AH
DESIGN AH
DATE 4-2-81
REFERENCE Fb. 307, 452, 493
JOB NO. 62081
SHEET 2 OF 3
5170
1 Grade chg. W/S 60+00
No Revision descrip. Dsn Date Chk Date
MEDER STREET
LIMITS OF WORK
FUTURE IMPROVEMENTS
CLEAR & GRUB 79 SY
CONST. C&G 283 LF
CLEAR & GRUB 49 S.Y.
CONST. C&G 175 L.F.
CLEAR & GRUB
REM. AC D/W
CONST. C&G
CONST. CONC D/W
CONST.
CLEAR & GRUB
REM. HEDGE
REM. 12" R.C.P.
CONST. C&G
CONST. CONC. D/W
TAPER DATA
DISTANCE FROM BEG. OF TAPER
OFFSET DISTANCE FT
TANGENT SECTION
60.0' TAPER SECTION
CURVE SECTION
TANGENT SECTION
CURVE SECTION
VARIES SEE TAPER DATA FOR VARIOUS STATIONING
Typical taper detail NO SCALE
40' R/W TYP
VARIES 40'-20'
EXPOSED AGGREGATE CURB
CURVILINEAR A.C. PEDESTRIAN PATH
WEST SIDE
EAST SIDE
TYPICAL SECTION
No scale


ASSIGNMENT NUMBER
ITEM NUMBER
1061
1065
1066
1067
1069
1070
CURVE DATA EC+68 TO PRC+73.20
AND PRC+73.20 TO EC+90.09
Typical taper detail NO SCALE
TYPICAL SECTION
No scale
CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
WESTERN DRIVE PLAN & PROFILE
IMPROVEMENT PROJECT
Highway 1 to Meder


TAPER DATA
OFFSET DISTANCE
Typical taper detail
NO SCALE
ASSESSMENT NUMBER
REMOVE EXISTING 6.0' C&G
Curb detail
NO SCALE
Curb detail
NO SCALE
MATCH EXISTING CURB & GUTTER
RELOCATE BY OTHER R/W
CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
WESTERN DRIVE PLAN & PROFILE
IMPROVEMENT PROJECT NO.2
Highway 1 to Mader Street
5543


CITY OF SANTA CRUZ
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION
WESTERN DRIVE PLAN & PROFILE
MEDER ST. TO HIGH ST.
MOORE CREEK RD.
HIGH ST.
LIMITS OF WORK
FUTURE IMPROVEMENT
Parking bay curb detail
Scale 1" = 6'-0"
2 | 11-3-81 | Grade change Western Dr.-High St. | AH
1 | 9-2-81 | Realign Western Dr.-High St. | AH
No. | Date | Description | By | Chk.
5170

STREET SECTIONS

The following street sections illustrate how the Master Plan recommendations can be applied to typical conditions along the right-of-way. The sections are keyed by letter to areas designated on the Master Plan Map.

The City Department of Public Works will develop working drawings for the improvement of the street based on more detailed and accurate information than is available at the time of the preparation of this plan. Such drawings will be consistent with the recommendations set forth in this Master Plan.

Section A

This typical street section illustrates conditions at a point south of the intersection of mountain Street and Western Drive. At this point the easterly side of the street has existing curb and gutter and sidewalk. The westerly side has a large group of trees that form an effective screen for visual impacts from the adjacent developable parcel.

SECTION A ILLUSTRATES THE FOLLOWING PLAN RECOMMENDATIONS:

... Maintain the street width at two travel lanes and one parking lane, a maximum street width of 32'.

The right-of-way accommodates two travel lanes and parking is provided parallel to the existing sidewalk.

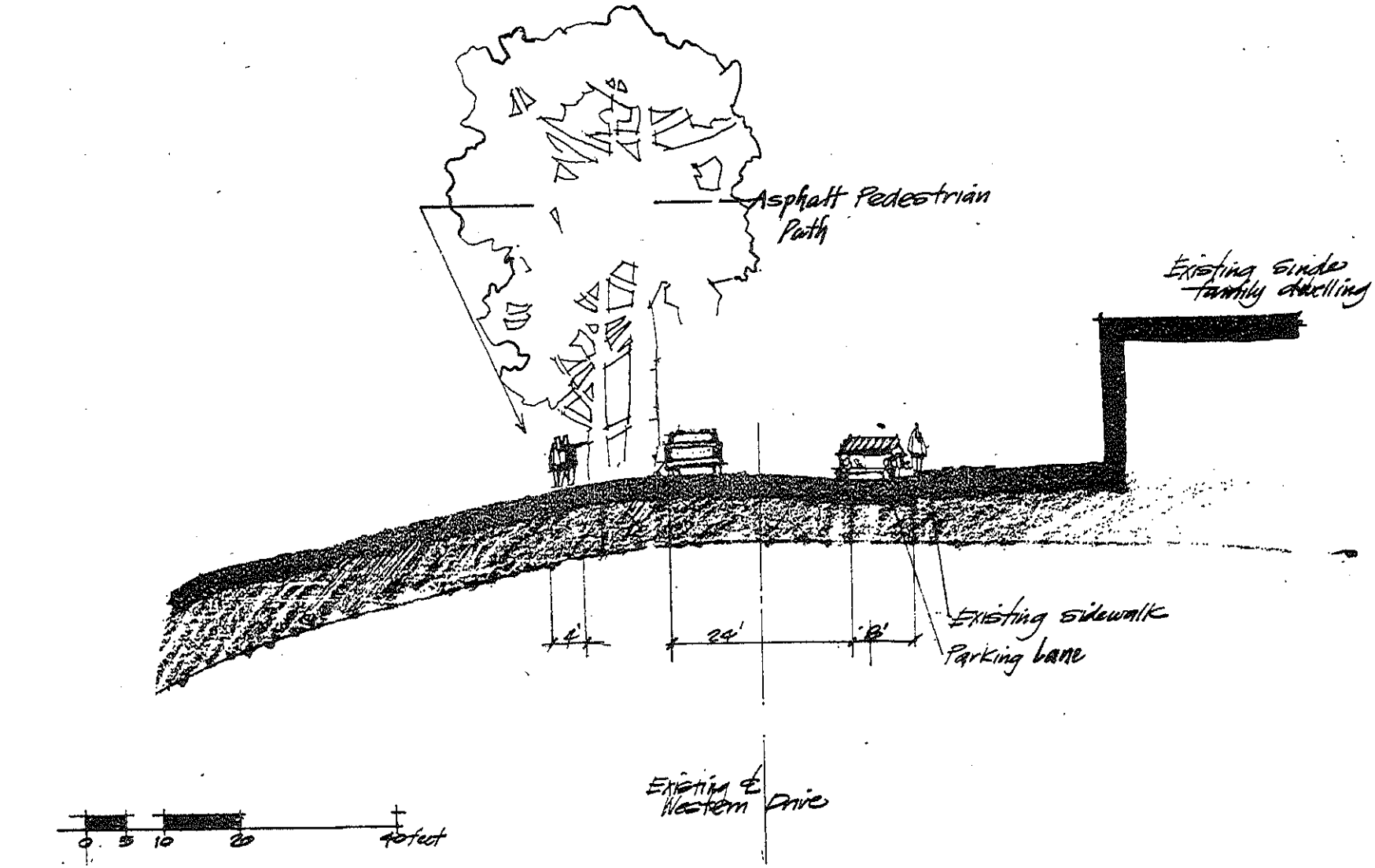
... Improve Western Drive by repaving as a modified ruralized roadway, with an attractively designed exposed aggregate curb and gutter.

... Establish a pedestrian path ... surfaced with asphalt, to provide for pedestrians and occasional cyclists adjacent to Western Drive. The path should vary in its distance from the curb, as appropriate to the specific location.

... Retain the landscape quality of Western Drive by preserving existing trees.

In order to preserve the hedge, the pedestrian path meanders behind the landscaped area and then returns closer to the roadway.

... Underground overhead utilities.



SECTION "A"
Western Drive, Santa Cruz
LANDSCAPE TREATMENT
ALONG GREENBELT

Section B

This is a typical street section, illustrating conditions at a point north of Western Court. At this point the westerly side of the right-of-way holds a grove of mature trees which serve to frame important view corridors.

SECTION B ILLUSTRATES THE FOLLOWING PLAN RECOMMENDATIONS:

... Maintain the street width at two travel lanes, 24-28" maximum width.

In order to preserve the landscape, there is no provision for on-street parking at this point. Further north parking bays are provided.

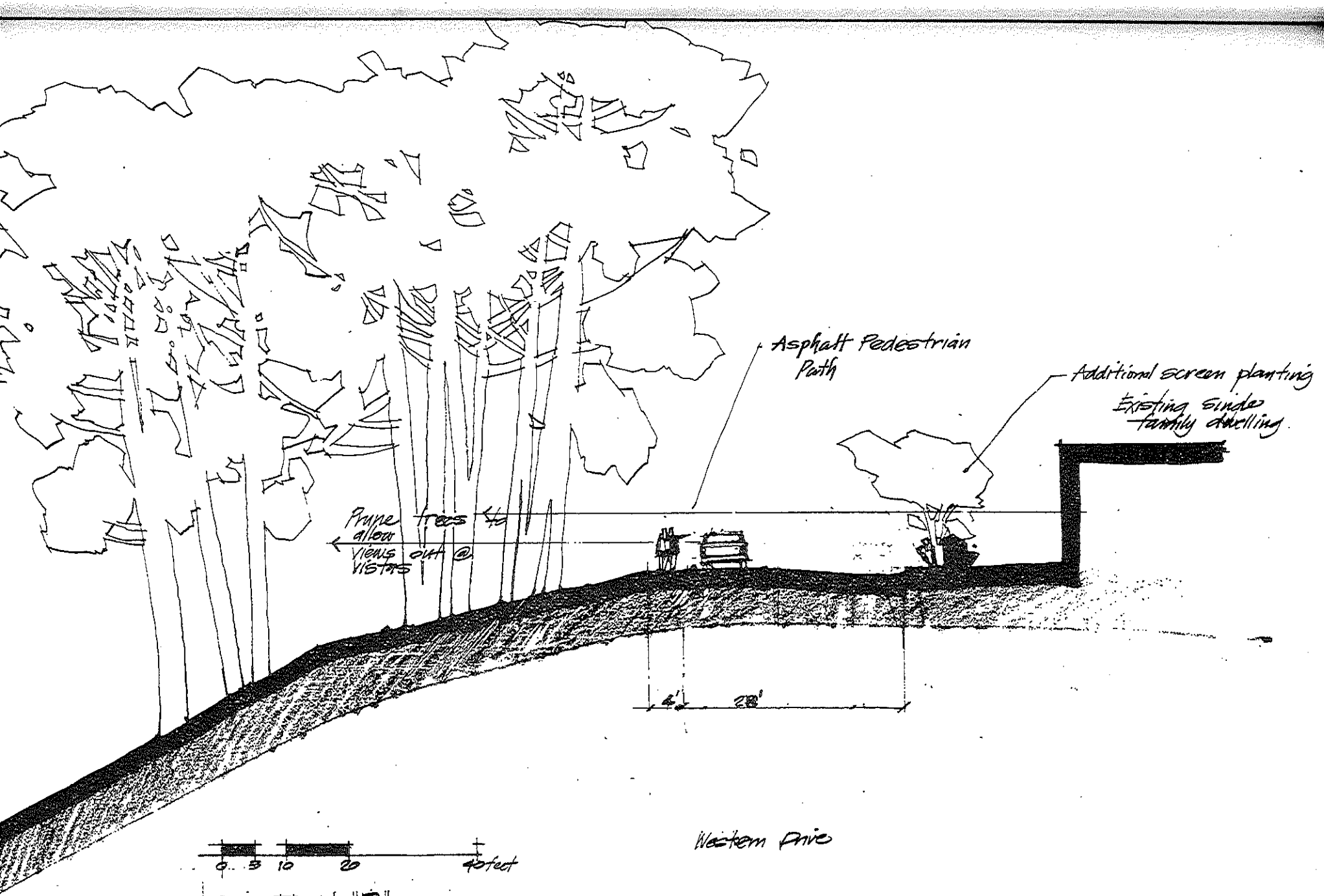
... Establish a pedestrian path ... surfaced with asphalt, to provide for pedestrians and occasional cyclists adjacent to Western Drive. The path should vary in its distance from the curb, as appropriate to the specific loction.

The illustration for this section shows the pedestrian path adjacent to the curb. At points further north and south, the path will vary in its distance from the curb meandering behind the grove of trees.

... Retain the landscape quality of Western Drive by preserving existing trees in the public domain.

On-street parking is not provided here, and the trees are pruned to facilitate enjoyment of the scenic vistas to the west.

... Underground overhead utilities.



SECTION "B"
Western Drive, Santa Cruz
LANDSCAPE TREATMENT ALONG GREENBELT

Section C: This section illustrates a right-of-way design for the area immediately north of the Flower Street intersection. The properties to the east of the right-of-way are developed in single-family units. Although there are sidewalks at the frontage of one or two lots, the great majority of the existing improvements simply consist of curb and gutter.

SECTION C ILLUSTRATES THE FOLLOWING PLAN RECOMMENDATIONS:

... Maintain the street width at two travel lanes and one parking lane, a maximum width of 32'.

... Improve Western Drive by repaving with certain existing exceptions as a modified rurlized roadway with an attractively designed exposed aggregate curb and gutter.

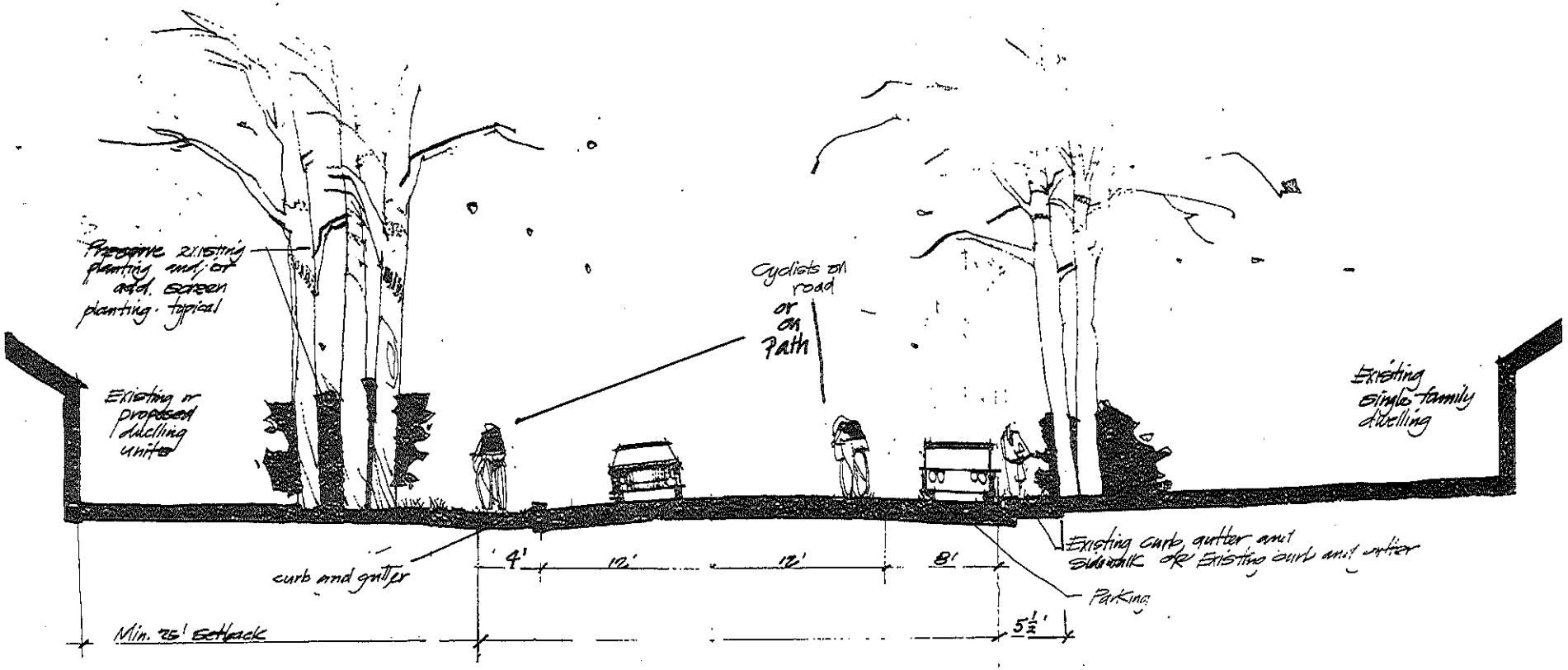
... Establish a pedistrian path ... surfaced with asphalt, to provide for pedestrians and occasional cyclists adjacent to Western Drive. The path should vary in its distance from the curb, as appropriate to the specific location.

As in Section A, on-street parking is provided in a parking lane adjacent to the existing street improvements. A pedestrian path is placed to the opposite side of the right-of-way.

This section also illustrates the concept of cyclists having the option ot using the two travel lanes or the asphalt path.

...Establish a drainage system which returns water into the soil and/or the canyons.

...Underground overhead utilities.



SECTION "C"
LANDSCAPE TREATMENT ALONG
HIGH DEVELOPMENT ZONES
Western Drive, Santa Cruz

0 1 2 4 8 16 feet

Section D:

This section is typical of the area south of the High Street intersection, where street improvements have not been constructed.

SECTION D ILLUSTRATES THE FOLLOWING PLAN RECOMMENDATIONS:

... Maintain the street width at two travel lanes, 24-28'. with parking bays where feasible along the newly developed street.

... Improve Western Drive by repaving as a modified ruralized roadway with an attractively designed exposed aggregate curb and gutter.

... Establish a pedestrian path, preferabley on the westerly side of the street, surfaced with asphalt to provide for pedestrian circulation and to accommodate occasional cyclists.

... Establish a drainage system which returns water into the soil and/or the canyons.

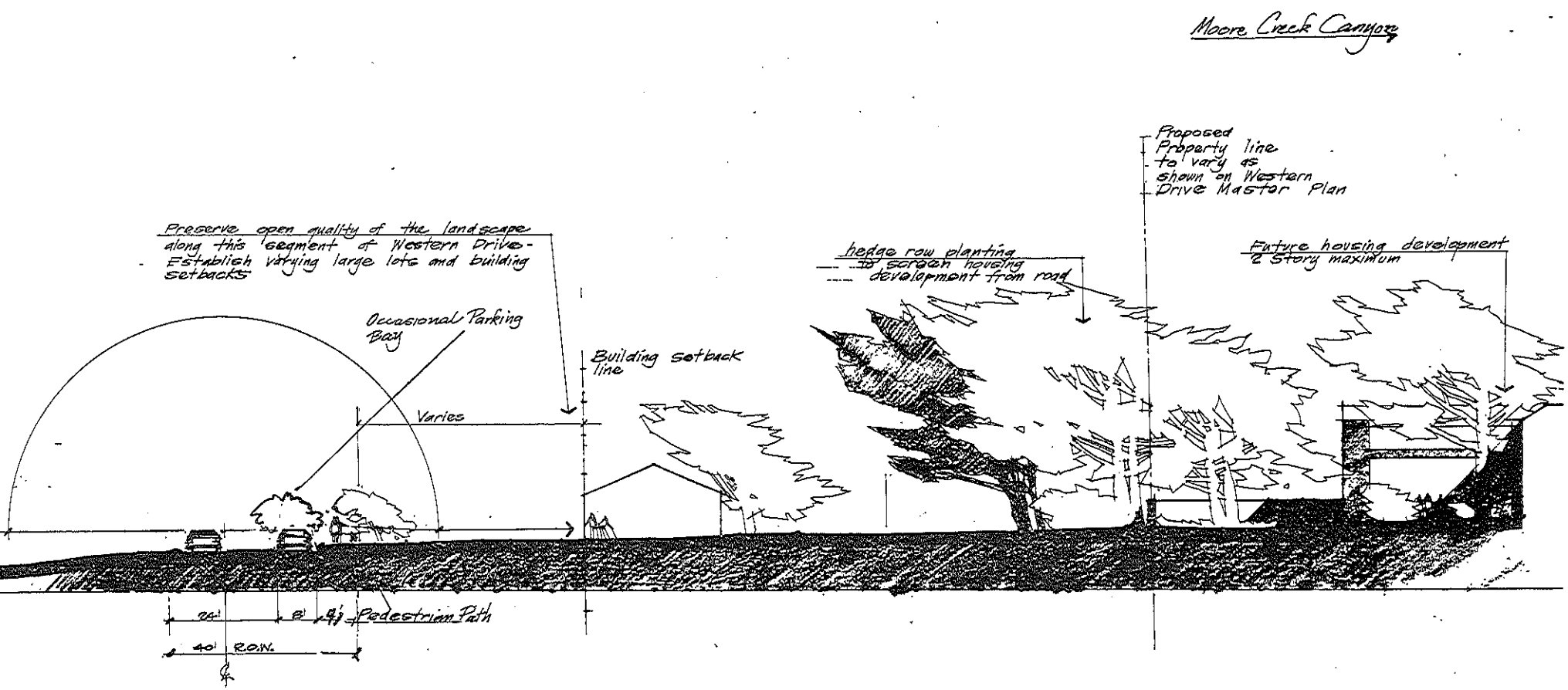
This section illustrates a section of Western Drive where it is possible to treat both edges of the roadway in a modified ruralized manner. The design accommodates two travel lanes, and a multi-purpose pedestrian path. Occasionally where it is feasible to provide landscaped parking bays without impacting existing development, a small number of bays can be included.

... Establish large lots adjacent to Western Drive in future subdivisions.

... Establish a varied building setback line for all properties adjacent to Western Drive.

... At the rear property lines, plant naturalized hedges and trees to screen and reduce the impact of subdivided areas.

Section D also illustrates the design concepts recommended for the properties adjacent to the right-of-way: large lots with varying building setbacks and hedge row planting designed to screen additional development potentially higher density development, from view from the roadway.



SECTION "D"
Western Drive, Santa Cruz
LANDSCAPE TREATMENT ADJACENT TO OPEN AREAS

Western Drive, South of High Street, 1978

IMPLEMENTATION

PROGRAMS FOR IMPLEMENTATION OF MASTER PLAN

The implementation of the Western Drive Master Plan will require a series of interlocking and interdependent activities and will involve many actors. Current residents, developers, representing future residents, City Departments and citizen Commissioners all have roles to play. Each action taken, incrementally and over time, if done in consistence with the Master Plan, will contribute to the final attainment of the goals and objectives for this area.

In this section, implementation techniques are discussed insome detail. The plan recommendations are placed in two groups, those in the public domain and those in the private domain. This division is intended to help clarify the dynamics of transforming plan recommendations into tangible projects.

RECOMMENDATIONS IN THE PUBLIC DOMAIN

-- *Maintain the street width at two (2) travel lanes , 24-28' maximum width varing to accommodate terrain and lanscape. Parking shall be accommodated in occasional bays north of Western Court. For the more southerly section of the street, one parking lane shall be provided, with bays where feasible, creating a maximum street width of 32' for all newly developed street sections.*

-- *Establish a pedestrian path, preferably along the westerly side of the street, surface with asphalt, to provide for pedestrian circulation and to accommodate occasional cycyists. The path should be designed to incorporate curvature and vary in its distance from the curb as is appropriate to specific locations.*

Street improvements in the City of Santa Cruz are obtained basically in two ways. Developers of vacant parcels are required to construct street improvements along each parcel frontage. The type of improvement required is specified by the Department of Public Works in accordance with subdivision standards or applicable area and/or specific plans. Such improvements can include sidewalk, curbs and gutters or an equivalent, such as rolled curbs and pedestrian paths. Developers are also required to improve the street itself to the centerline of the right-of-way. In an area where a great deal of developement is taking place, the improvements made by developers can result in a continuous set of street improvements. On the Moore Creek side of Western Drive, this approach can supply over 80% of the street improvements. But, since the easterly side is in great part developed, this approach would not be appropriate.

Another alternative is to form as assessment district for all or part of the project area. In this case, property owners are assessed per frontage foot for the desired improvements. The City can contribute to an assessment district and therefore reduce assessments to the individual owners, or can work in conjunction with an assessment

district and therefore reduce assessments to the individual owners, or can work in conjunction with an assessment district. For example, the City can assume responsibility for improving the roadway while the property owners pay for the curbing and pedestrian system. In order to form an assessment district, owners of 60% of the land in the project area must petition for the district and public hearings are required.

-- *Establish a local drainage system which returns water into the soil and/or the canyons.*

In urban areas of Santa Cruz, the most common system of accommodating drainage water has been through the use of curbs and gutters to channel storm water into storm drain receptacles. The construction of curbs and gutters, as noted above, is the responsibility of a developer or of an individual property owner. The storm drain system, on the other hand, is usually constructed with bond or General Fund monies. It is also possible to use grant funds to provide storm drains such as EDA or revenue sharing funds or to establish an assessment district for this purpose. In this case, assessments would be based on a benefit formula, depending on the amount of acreage served.

In the Western Drive area, it may be necessary to obtain several easements to accommodate drainage from low points at the roadway to the major natural channel in the canyon. Staff believes it is possible to require these easements as a condition of development.

-- *Realign the road, where possible, as indicated on the Master Plan Map, to gain a more open, scenic corridor, to reduce speed and provide a safer intersection at High Street. At designated intersections, provide lighting and install stop signs for safety.*

-- *Retain the lanscape quality of Western Drive by preserving trees in the public domain.*

-- *Improve the Western Drive/Highway #1 intersection and cul-de-sac the western end of Grandview Street.*

The Master Plan recommends realigning the road at several points. Where the frontage is contiguous with vacant property, the dedication necessary for the realignment can be requested at the time a development proposal is reviewed. At the intersection of Western Drive and High Street, the developer can dedicate the right-of-way necessary to increase safety at that intersection or the City may determine that it is necessary to use its power of iminent domain to acquire a portion of the property.

Discussion should be held with the State Highway Department to determine appropriate methods of providing safer access from Western Drive onto Highway #1 by appropriate signing and lighting devices or other means.

-- *Underground the overhead utilities.*

The undergrounding of utilities on Western Drive should be listed when the City revises its schedule of undergrounding programs.

RECOMMENDATIONS IN THE PRIVATE DOMAIN

-- *Minimize the number of driveways and streets along Western Drive.*

-- *In areas designated on the Master Plan Map, require multiple owners to participate in the development of a specific plan, so that subdivided properties will be served by cul-de-sac or loop roads.*

-- *In other other areas, minimize entrances by maintaining one driveway for each existing lot and allowing only one additional entrance for any number of newly created parcels.*

-- *Preserve existing and establish additional view corridors.*

-- *Establish large lots adjacent to Western Drive in future subdivisions.*

-- *Establish a varied building setback line for all properties adjacent to Western Drive.*

-- *At the rear property lines and/or at the varied setback lines, plant naturalized hedges or trees to screen and reduce the impact of subdivided areas. The location and variety of trees should respect the spatial framework and character established by the canyons.*

-- *Preserve existing trees and prune selected groves to create distant views.*

-- *Initiate on-site drainage planning to return water to the soil and/or into the canyons away from Western Drive in newly subdivided areas.*

-- *Develop standards for maximum lot coverage, including driveways and on-site parking areas.*

The major portions of the recommendations in the private domain can be achieved by the use of procedures already established in the Municipal Code. Use permits, design permits, minor land divisions and subdivisions can be required to conform to the policies of the Master Plan, once it is adopted as a part of the General Plan by the City Council.

A very significant recommendation is the development of specific street plans for the areas indicated on the Master Plan Map. This procedure has been successfully implemented at Bay-High-Cardiff, and with Council direction, Staff can proceed to work with property owners in the specified areas.

The Consultant's suggestions for specific plan designs for two of these special areas follows this section. These plan sketches are intended to provide guidance in the application of the Master Plan recommendations to specific street plans.

The recommendation to minimize entrances by maintaining one entrance for each existing lot and adding only one additional entrance for any number of newly created parcels, is designed to address the impacts caused by the subdivision of one parcel into a number of flag lots. Flag lots are generally not considered a desirable solution to the division of small parcels. First, a considerable portion of the property must be dedicated to driveways; second, site design becomes awkward, with one property owners' front yard abutting another's backyard, and third, especially important in regard to the design of Western Drive, the street front becomes marked with curb cuts. Unfortunately, given the provisions in the current Zoning Ordinance, flag lots may be the only method of subdividing some parcels. According to Section 24.50.090, a structure may be constructed on a site only when the lot has frontage "upon an accepted public or private street improved to the standards of the City of Santa Cruz; ... ." That is to say that for multiple developments, placed on one parcel which has frontage on an improved street, a system of shared driveways may be designed. For a subdivision of sufficient size, a street system is generally incorporated, designed to City standards. But for a small lot division, one lot into two, one lot into three, where sufficient frontage is not available to create the frontage required by Code for each parcel, a flag lot design is the only alternative.

The Western Drive Master Plan recommends that the City investigate alternatives, such as shared driveways held in common ownership, so as to satisfy the requirements of the Code yet at the same time allow greater flexibility in site design and avoid the undesirable effects of flag lot development.

-- *Employ and monitor design criteria to continue the rural character in newly developed and existing areas.*

-- *Refer to a plant materials list to develop landscape plans that maintain the existing spatial framework established by the canyons.*

-- *Designate appropriate bus stop locations, and design shelters, benches, path and street sections, street signs, lighting and fencing that retain the rural character of the area.*

-- *Preserve existing trees and groves that demarcate adjacent canyons.*

-- *Require a varied building setback from steep slopes for new development.*

It will be necessary to provide a considerable amount of design guidance in the development of this area. In order to ensure that the scenic quality of the roadway is preserved, as well as the scenic quality of the canyons, considerable care must be taken with the siting of buildings, as well as building styles and materials. Accessory structures, such as fences, bus stops, etc., must also be designed in an appropriate manner. Therefore, it is recommended that both design criteria and a planting list be used to assist both developers and residents in meeting the overall goals of the Master Plan. Design guidelines and a plant list follow this section.

-- *Rehabilitate disturbed areas by planting trees, shrubs and groundcover to reduce the visual impact of road widths and cut banks.*

On the southerly end of Western Drive there have been some adverse consequences, both actual and visual, resulting from the steep cut of the banks. Erosion has occurred and retaining walls have begun to proliferate. It is important that the City assume a leadership role in encouraging private parties to rehabilitate the area. Perhaps the use of grant funds in a matching program might be successful.

RECOMMENDATIONS IN REGARD TO THE CANYONS

-- *Provide public access to Moore Creek Canyon and Arroyo Seco greenbelts.*

-- *Establish trails to the canyons as part of the City's greenbelt system connecting to the Natural Bridges Coastal Trail.*

The Master Plan recommends that the Canyons be maintained as public resources, both to protect the natural environment and wildlife habitat, and to provide recreational opportunities for the public at large. The City has taken a leadership role in assuring public access to Arroyo Seco Canyon by placing Canyon lands in the public domain. In great part, this has been achieved through the dedication of land in conjunction with residential development. The Master Plan recommends that the same course of action be pursued for Moore Creek Canyon, including both canyonlands and public access points. As part of the City's park planning process, an overall plan for the development of improvements in Moore Creek and Arroyo Seco canyons should be prepared. The improvements themselves should contribute towards the protection of vegetation, wildlife and riparian habitat and, therefore, may include restrictions on types of recreational uses. For example, it may be appropriate to restrict access to pedestrians and prohibit motorcycles and off-the-road vehicles.

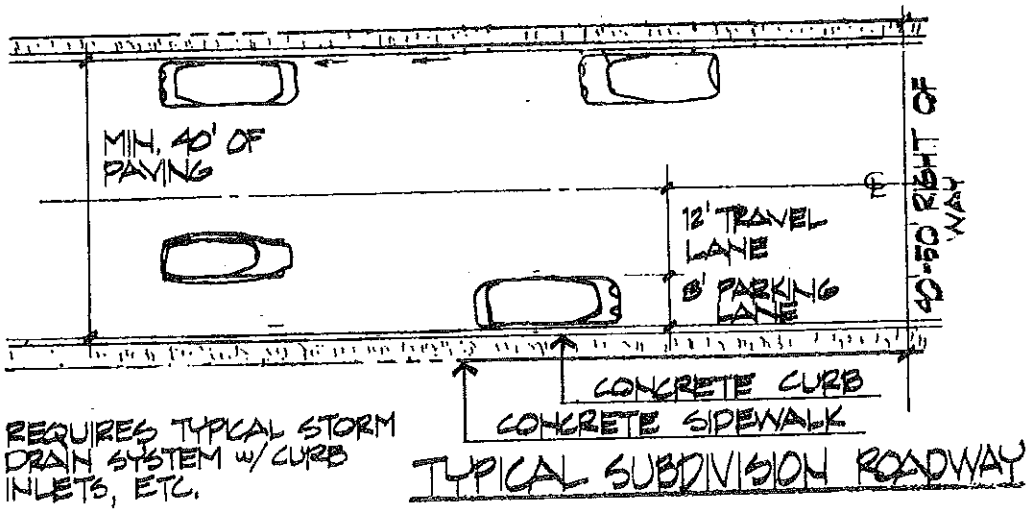
-- *Preserve existing trees and groves that demarcate adjacent canyons.*

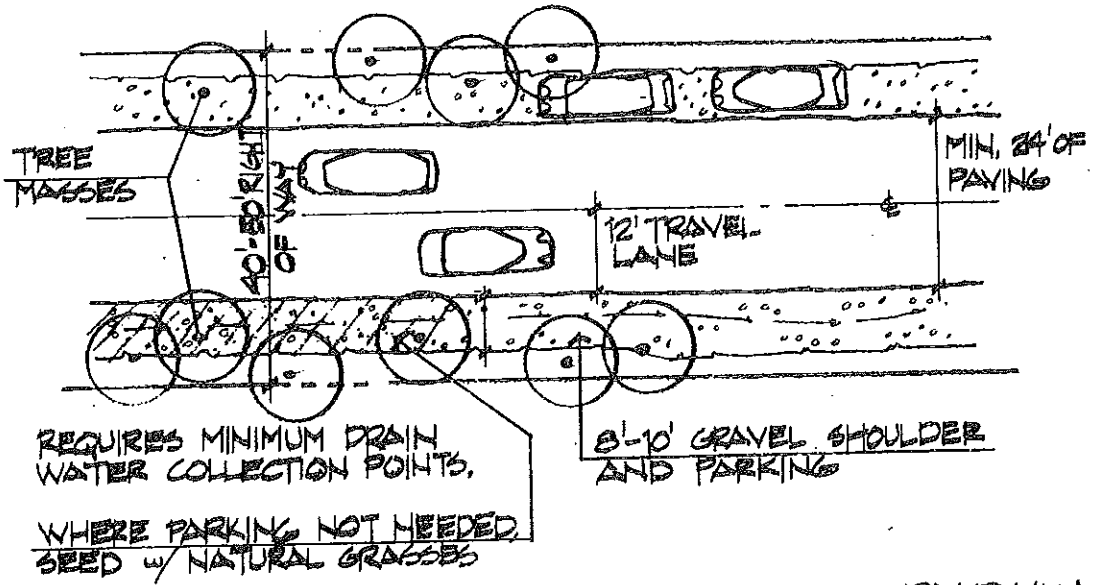
-- *Establish relatively large lots adjacent to the Moore Creek corridor in future subdivisions.*

-- *Require a varied building setback from steep slopes for new development.*

-- *No structures shall be constructed on the steep slopes in accordance with Conservation Regulations.*

The Master Plan emphasizes the protection of the quality of both Moore Creek and Arroyo Seco Canyons. In fact, the Moore Creek riparian corridor is listed in the Open Space and Conservation Element as the highest priority area for the preservation of natural resources. As pointed out earlier in this Plan, the retention of vegetation and the control of erosion are especially important in protecting the riparian habitat. The implementation of the policies adopted by the City of Santa Cruz in the Open Space and Conservation Element, observance of the provisions of the Conservation District, existing Grading Regulations, as well as the Heritage Tree Ordinance, all serve to contribute towards the protection of the Canyon lands. The drainage planning guidelines and design guidelines present in this Plan are also directed towards this end.





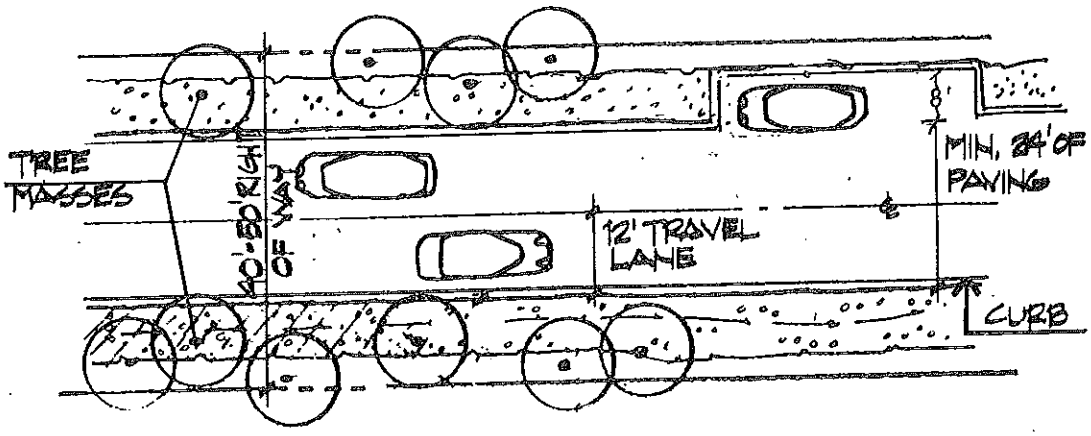


FIGURE 6: PLAN FOR TYPICAL ROADWAY DEVELOPMENT

RIGHT-OF-WAY STANDARDS

Figure 6 illustrates the difference between a typical "ruralized" roadway, a typical subdivision roadway, and a modified ruralized roadway.

In terms of visual impact, a ruralized roadway produces less of an open expanse and, at the same time, retains the landscaping features that give a rural area its unique ambience, such as major trees and shrubs lining the way, and "soft edges" produced by groundcovers and native meadow plants and grasses. The landscaping serves to narrow sighliness along the roadway and to produce pleasant variations in color, light and shadow. Nevertheless, the design accommodates the same functions as a typical subdivision roadway. The shoulders can provide occasional opportunity for parking as well as turn-outs for mass transit vehicles. The major objection raised to this roadway design is the likelihood of high maintenance -- the probability of the breakdown of pavement at the edge of the roadway, accelerated by vehicle cross-over and undirected surface water. To answer this objection, it is recommended that the ruralized roadway concept be modified to incorporate a curb and gutter, designed to minimize visual impact on the right-of-way, and occasional parking bays.

The recommended roadway design serves to reduce the amount of impervious surface produced through roadway improvements. Table 4 illustrates the amount of reduction in impervious surface that could be produced through the implementation of a modified ruralized roadway concept for the total length of the Western Drive right-of-way.

Currently, the existing right-of-way width for Western Drive is 40 feet. The dedication normally required by the City of Santa Cruz for street purposes results in a 52-foot set of improvements, accommodating two lanes of moving traffic, two lanes of parking and two sidewalks. When constructed to City standards, the entire 52-foot section is composed of impervious materials.

The modified ruralized roadway reduces the width required for improvements, and restricts the amount of impervious treatment to 24 feet, plus a small amount for parking bay surface. A pedestrian path with an asphalt surface does, however, contribute to some extent to the impaction caused by impervious surfaces.

TABLE 2: COMPARISON OF IMPERVIOUS ROADWAY SURFACE

52-foot surface	379,000 sq. ft.	100%
24-foot surface	175,200 sq. ft.	reduced to 46%

Staff has analyzed comparative costs for roadway development. Table 3 illustrates the development costs for both ruralized roadway standards as well as the standard subdivision roadway.

TABLE 3: COMPARISON OF DEVELOPMENT COSTS

Typical Subdivision Roadway		
40' wide AC pacing	.95/ft	$ 38.00
5' s/w each other	2.00/ft	20.00
Curb and gutter	10.00/ft	20.00
		$ 78.00/lin. ft.
Typical Ruralized Roadway		
24' wide AC paving	.95/ft	$ 22.80
16' rock base	.60/ft	9.60
4' D.G. pedestrian path	.60/ft	2.40
		$ 34.80/lin.ft.
Modified Ruralized Roadway		
24'wide AC paving	.95/ft	$ 22.80
Curb and gutter	10.00/ft	20.00
4' asphalt path	1.60/ft	2.40
		$ 45.20/lin ft.
Parking Bay -	+3.20 lin/ft.	

SPECIFIC PLANS

In order to assist in the application of master plan recommendations to development projects in key areas which are designated on the Master Plan Map as requiring specific plans, the consultant has provided the following sketches. It must be emphasized that these are not subdivision plans, but conceptual drawings intended to be used as a point of departure for project planning and evaluation.

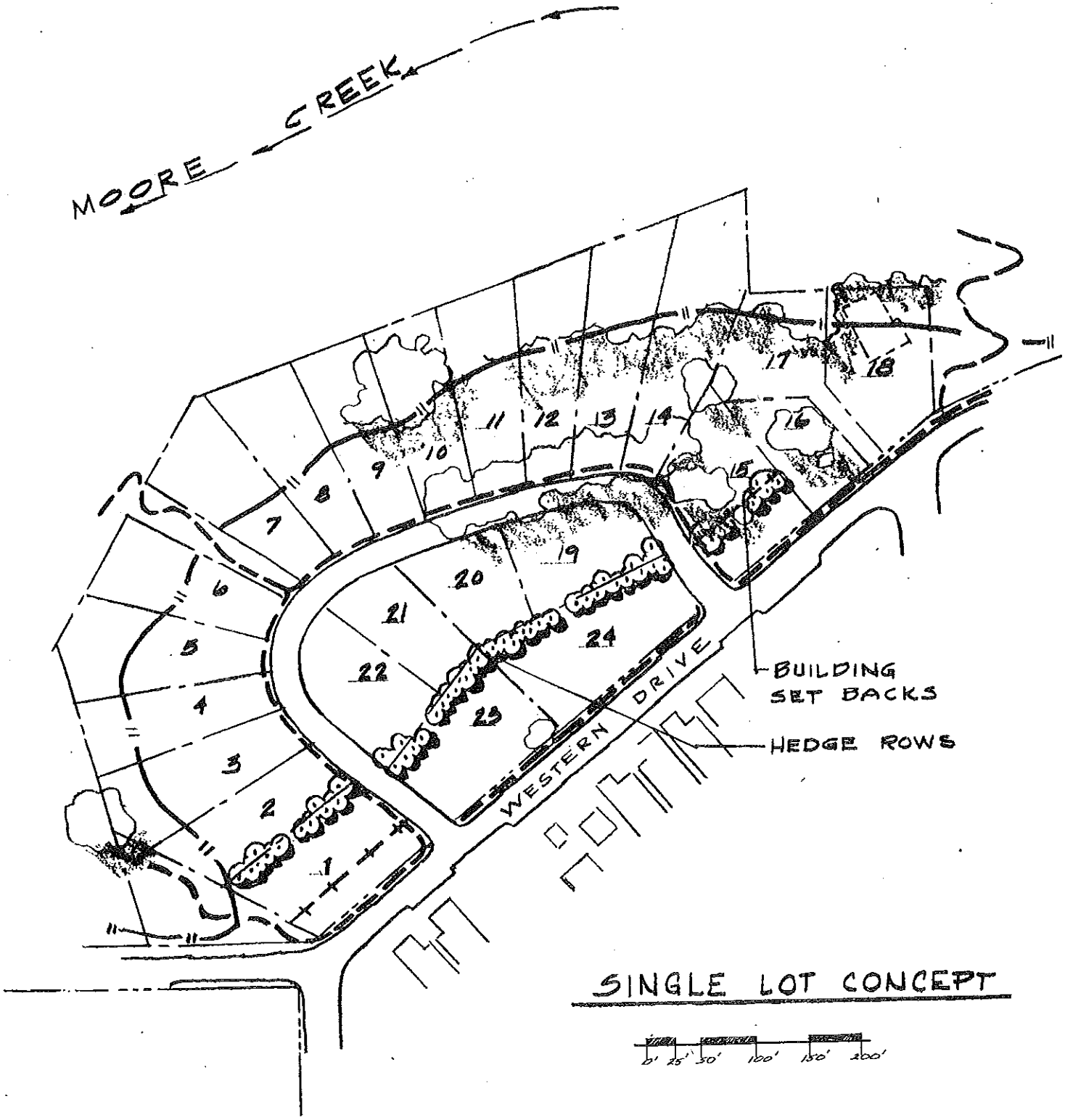


FIGURE 7: AREA A: SINGLE-LOT CONCEPT

Figures 7, 8, & 9 illustrate alternate development concepts for those parcels indicated benefiting by the development of a specific plan, Map B.

Figure 7 illustrates a single-lot concept. This type of development would be most in keeping with the existing development across the street. The lots in this development concept are served by a loop road, thus reducing the number of curb cuts or entrances onto Western Drive. Large parcels face Western Drive with varying setbacks. Hedgerows provide screening so that the parcels further off the roadway are screened from view. Access to the Moore Creek corridor is provided.

This concept does not retain the meadow, or view corridor, at the center of the site.

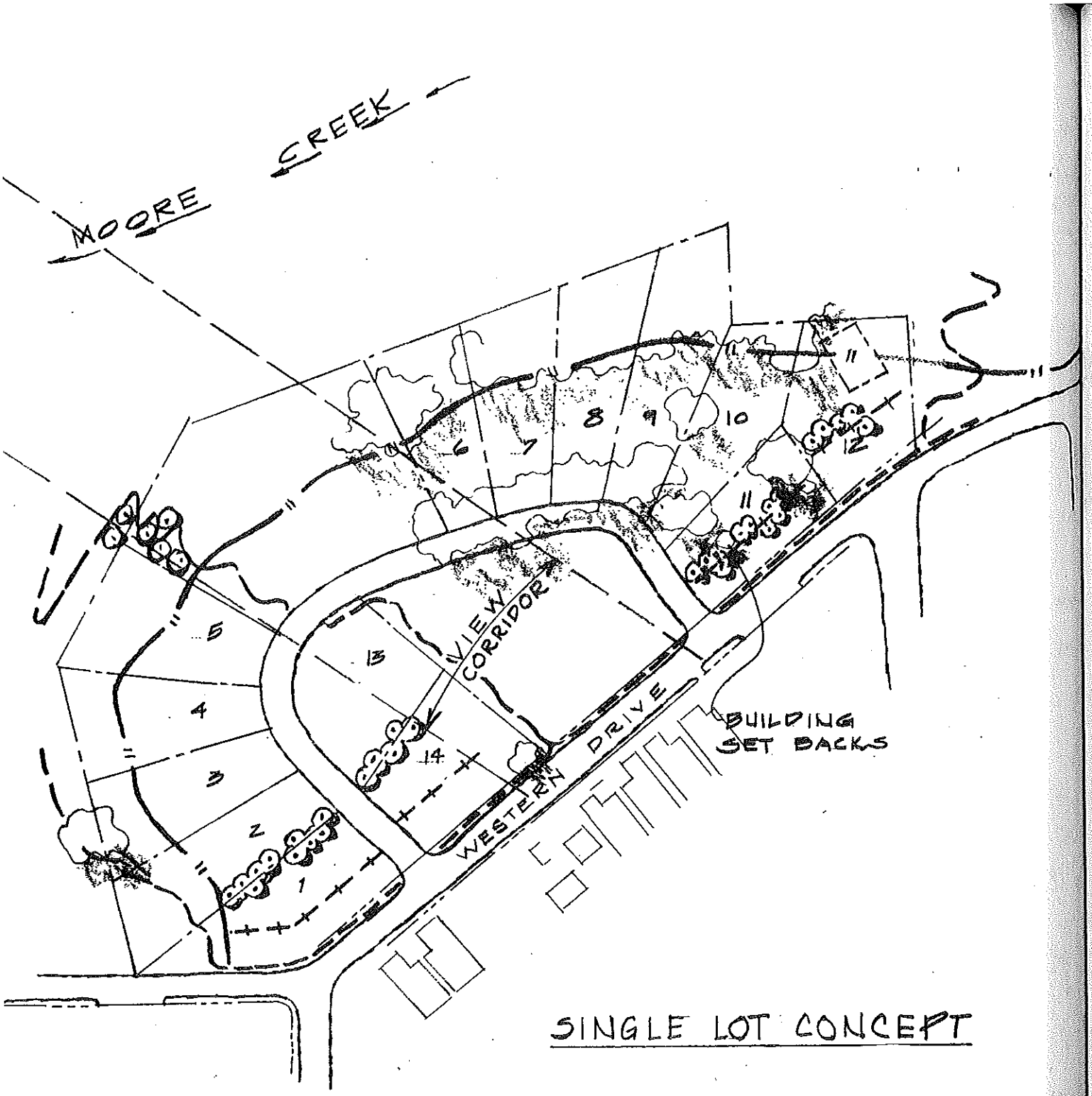


FIGURE 8: AREA A: SINGLE-LOT CONCEPT WITH VIEW CORRIDOR

Figure 8 illustrates a single-lot concept with the view corridor retained through the center of the site. It is clear from this illustration that very few single lots can be developed under this alternative.

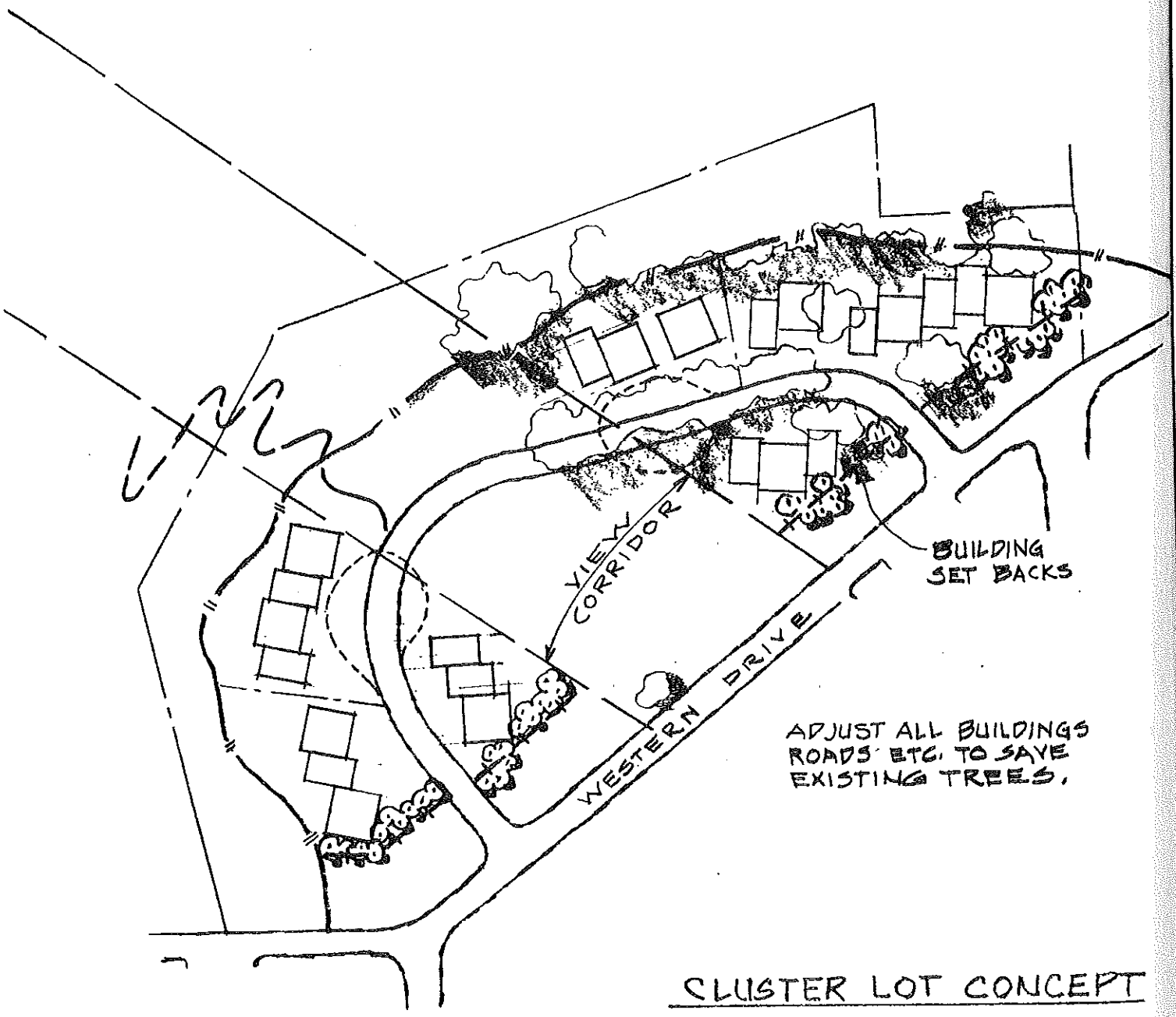


FIGURE 9: AREA A: CLUSTER CONCEPT

Figure 9 illustrates a cluster concept for the site. Buildings are set back and entirely screened from Western Drive. A view corridor is retained through the center of the site. The cluster group placed on the northwesterly side would have the least impact on the Moore Creek corridor if sited so as to retain the existing trees. The impact of the units on the southwesterly side of the parcel could be mitigated by additional landscaping treatment. Access to the Moore Creek corridor is provided. Cul-de-sac streets are presented as an option to the loop road in order to keep the view corridor in a natural state, but the cul-de-sacs may result in parking congestion if sufficient people drive to the end of the street to use the access to Moore Creek.

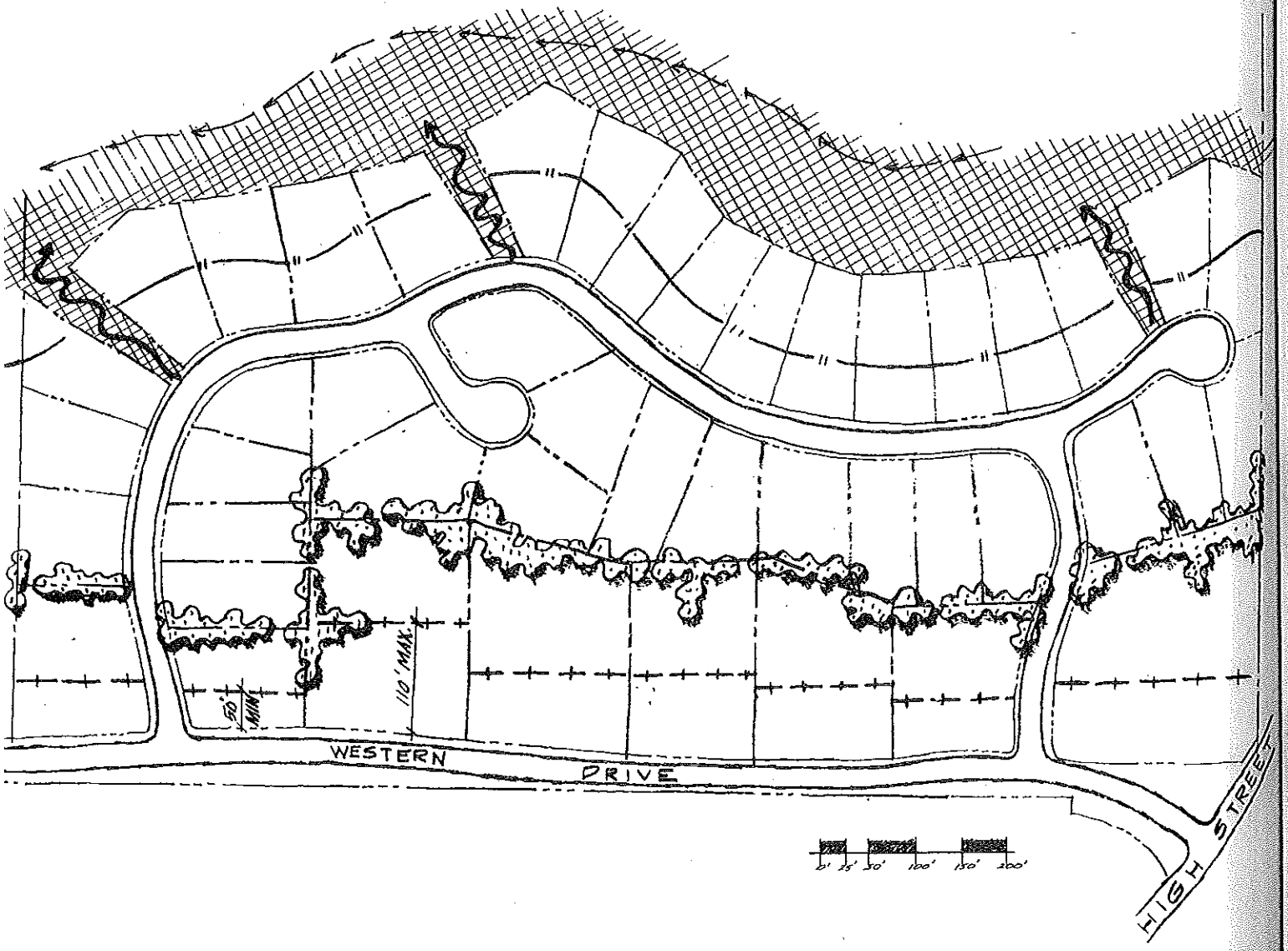


FIGURE 10: AREA B: SINGLE-LOT CONCEPT

Figure 10 illustrates a single-lot development concept for a second area. a specific plan area combining several large parcels. The entire development is served by a loop road, thus avoiding the impact of several major entrances on Western Drive. The loop road is designed with a considerable amount of curvature, so that direct sight-lines from Western Drive are blocked, thus screening parked and moving automobiles from view from the right-of-way. Large lots face on Western Drive with varying setbacks. Access is provided to Moore Creek Canyon at several points. It is also recommended that Western Drive itself be given some curvature here in order to block direct sightlines down the street and thus reduce the visual impact produced by the steep grade.

In designing a specific plan for this area, attention should be given to reducing impacts on Moore Creek by placing larger lots along the Moore Creek corridor.

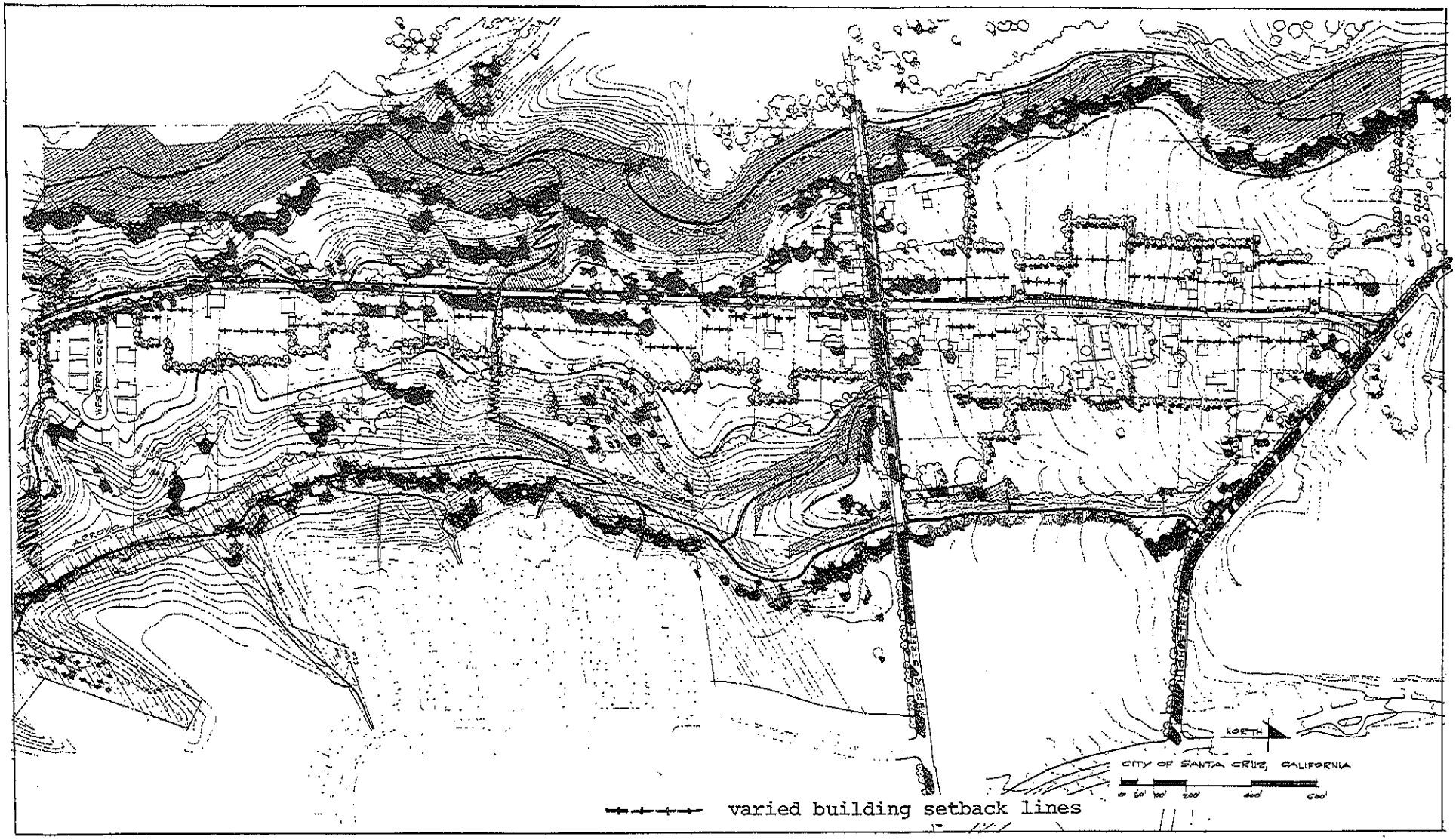


FIGURE 11: TYPICAL VARIED BUILDING SETBACK LINES

VARIABLE ROADSIDE SCENIC CORRIDOR

One of the major objectives of the Western Drive Master Plan is the retention of the rural character of the area. This character is a result, to a great extent, of the scenic corridor that frames the roadway. In some areas this corridor is marked by open meadows; in others, there are small orchards or large specimen trees. The problem of retaining the design characteristics of this corridor while at the same time providing for residential development is addressed by the following Plan recommendation:

-- *Establish a varied building setback line for all properties adjacent to Western Drive.*

Figure 11 illustrates the concept of a varied setback line. The minimum setback is 50' from the edge of the right-of-way. Residential development would occur behind the setback line, thus leaving a variable scenic corridor adjacent to the right-of-way. Landscape materials appropriate to this corridor are listed on page 93. The design concept is further illustrated in Street Section D, page 55.

The varied setback line would not only retain the scenic corridor, but would also encourage design concepts that reflect the variety of placement and the cluster of structures commonly associated with rural areas. In conjunction with recommendations in regard to lot coverage and minimizing entrances, the variable setback and resultant scenic corridor would contribute toward the mitigation of the environmental constraints present in the Master Plan Area.

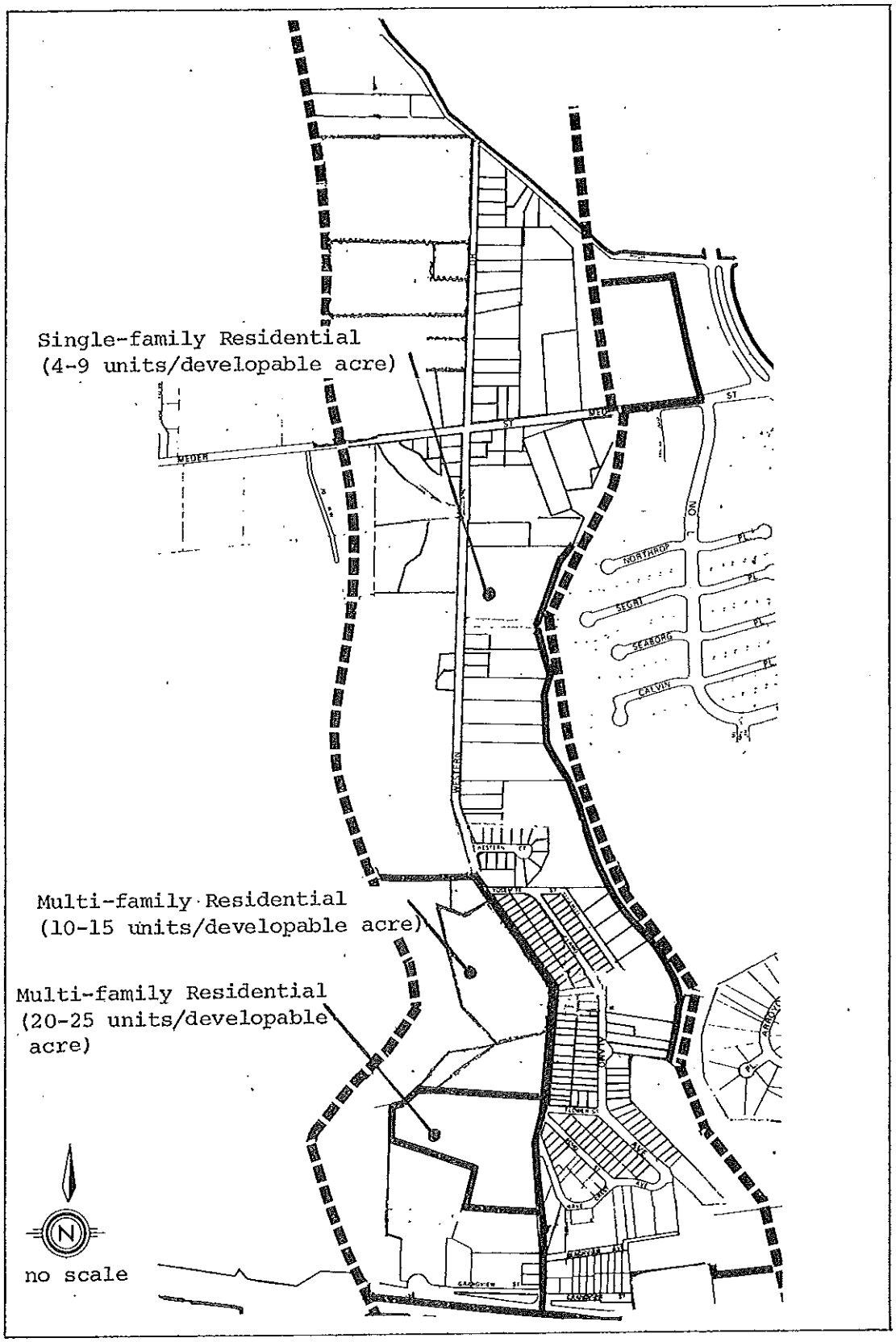


FIGURE 12: CITY OF SANTA CRUZ
1990 GENERAL PLAN
LAND USE DESIGNATIONS

LAND USE DESIGNATION

As pointed out on page 23, the Western Drive Master Plan was developed concurrently with the 1990 General Plan. The partisipants in the Planning process had to consider existing zoning as well as the proposed General Plan land use densities. The formulation of the design concepts was done in such a way as to leave flexibility in their application to a range of land use designations.

Figure 11 illustrates the adopted General Plan land use designations within the Master Plan area. It is preferable to relate the Master Plan design concepts to these designations rather than specific Zoning districts because the latter encompasses regulations in regard to lot size and configuration. A general land use density, on the other hand, provides a framework within which a variety of lot sizes and a diversity in housing opportunities can be developed. In the case of Western Drive, a developer would be encouraged to place larger parcels along the Moore Creek side of the terrace in order to minimize the impact on the Moore Creek corridor, it would allow large parcels along Western Drive in order to retain the rural character of the neighborhood; and it would provide for the development of smaller parcels and/or more modest types of housing in the interior of the property where density would have the least impact. This concept is illustrated in figure 12.

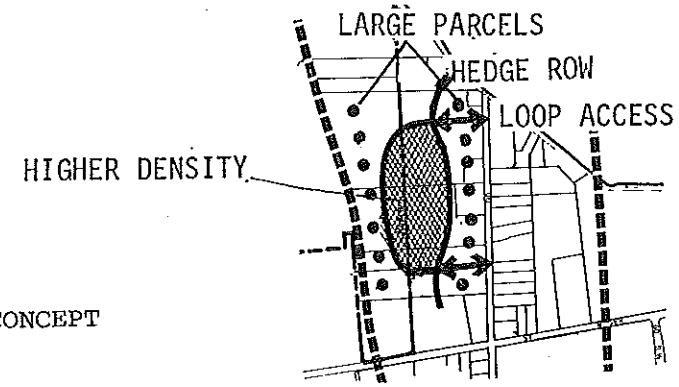


FIGURE 13: DEVELOPMENT CONCEPT

In accordance with General Plan policies encouraging the development of low and moderate income housing, new development should attempt to include a mix of housing types and unit sizes in order to provide a range of housing opportunities.

DRAINAGE

Recommendations in the Master Plan emphasize that drainage in the Plan area must be accommodated by programs in both the public and the private domain. The focal point in the public domain is, of course, Western Drive and in the private domain, the Moore Creek and Arroyo Seco Canyons.

At the present time, following the topography of the natural terrain, some surface water is accommodated on Western Drive and the rest is handled by draining into the natural channels, the canyons. To date, the City of Santa Cruz has not moved to provide an alternative system.

According to a report prepared by the Director of Public Works, the City's drainage plan, which was prepared in 1960 by the firm of Clair A. Hill and Associates, does not recommend an extensive underground storm drain system upstream from Highway #1. As an alternative to storm drains, a "Blue-Green" system of open channels and storm water holding basins is proposed. That system is considered preferable in that it preserves, to the greatest extent possible, the natural environmental and the natural drainage patterns of the area.

In the same report, the Director of Public Works explains that:

> *"Any storm drain constructed in Western Drive would receive very little of the area's storm flow because most of the adjacent property slopes away from Western Drive. A storm drain, to be useful, would have to be constructed down the side of the hill or in the bottom of Moore Creek Canyon. Such an installation would destroy the Canyon."*[2]

He also points out that:

> *"Western Drive cannot handle more flow as there is no underground system and all runoff must be contained within the gutters. These gutters are loaded to capacity now."*

The Master Plan responds to these concerns by recommending that increased surface water not be directed towards Western Drive, but be returned to the soil and/or the canyons in newly subdivided areas. The Master Plan also recommends an attempt to retain existing drainage conditions on Western Drive through the use of pervious materials coupled with a minimum number of drain water collection points.

Citizens groups have expressed concern that plans to direct drainage to the canyons should take into consideration the issues of slope

stability and the protection of Moore Creek from damage due to siltation, erosion and pollution. It was in response to these concerns that prompted the citizens groups to recommend larger lots and hence less land coverage, along Moore Creek Canyon as well as along Western Drive.

Damage due to siltation occurs in great measure during construction, resulting from earth-moving activities coupled with the removal of existing vegetation. This type of damage can be avoided by the use of good management and construction practices. Activities impacting soil stability may be required to take place during the dry season. A protective drainage system can be required for installation prior to any construction activity. Sediment basins and water bars may be required. These and other measures can be affected under existing Conservation and Grading Regulations.

Siltation due to erosion and the polluting nutrients carried on particulate matter, are more difficult to control. At this point in time, more is known about the problem than about simple and effective solutions. However, studies by the EPA and recent work done by AMBAG in their evaluation of non-point pollution problems[2], point to constructive land management practices and programs for the control of sedimentation and pollution. For example, AMBAG suggests the use of pervious pavement, clustering development, reducing roadway widths, onsite retention of stormwater, and the use of sediment traps as possible solutions, depending upon site specific conditions. The AMBAG study also notes that by instituting a program of vacuum street sweeping, up to 95% of the sediment, and hence polluting nutrients, can be removed from urban streets.

In order to facilitate effective drainage planning, the following drainage guidelines have been compiled which represent, to some extent, a synthesis of recommendations from current sources.

---

[1] Memo to the City Manager from the Director of Public Works, Drainage from Schaulis Project on Western Drive, November 22, 1974.

[2] AMBAG, Issue Paper No. 10, Water Quality Case Studies Non-Point Pollution Control Alternatives, June 1977.

DRAINAGE PLANNING GUIDELINES

The steep slopes and sensitive soils within the Western Drive Plan area, and the existence of the Moore Creek waterway and riparian habitat, place distinctive constraints upon development in the Master Plan Area. Plan recommendations designed to deal constructive with these constraints include the following:

In the public domain:

"Establish a drainage system which returns water to the soil and/or into the canyons away from Western Drive."

In the private domain:

"Require on-site drainage planning to return water to the soil and/or into the canyons away from Western Drive."

Since the amount of surface water runoff will doubtlessly increase as the number of roads and dwellings in the area increase, attention should be given to (1) minimizing the amount of impervious surface to the greatest extent possible; and (2) developing methods of slowing down and controlling the flow of increased surface water.

Since each individual property will require drainage planning in response to its unique typography and hydrologic regime, general guidelines have been prepared to act as a point of departure for dealing with on-site surface water; the guidelines should all be considered; some may be more applicable to a specific project design than others. In sum the goals of drainage planning are to assure that to the greatest extent possible:

(a) Surface water produced by rainfall falling on a site follows the same natural drainage pattern after construction as it did before construction; and

(b) Impacts due to increased amounts and concentrations of surface water runoff are to be mitigated against to protect against soil erosion and to maintain acceptable water quality levels in Moore Creek.

In other words, if a natural drainage pattern is working successfully, and it is possible to develop a site and continue to use that pattern, that is an optimum solution, additionally efficient in terms of development and maintenance costs. Where that cannot be achieved a well-designed and integrated system of mitigating measures should be instituted.

General Guidelines

1. To the greatest degree possible, roads, driveways and structures should be constructed in such a manner so as to maintain the existing surface water runoff pattern. The existing topography of developable properties will have to be studied closely, as well as the existing hydrologic regime.

2. Attempts should be made to reduce the amount of impervious surface produced through the development of streets and driveways by narrowing street widths and substituting pervious materials where possible. Reducing the amount of asphalt by utilizing a system of one-way driveways, or utilizing diagonal parking may be appropriate in certain instances. Common driveways should be utilized whenever possible.

3. Clustering dwelling units to the same density as that permitted under single-family subdivision standards, but on a smaller land area results in a significant reduction in land coverage. Not only do the dwellings themselves cover less of the landform, but fewer residential streets and driveways are generally required.

4. Parking should be covered. This reduces the amount of exposed contaminants that would be gathered by moving surface water. Vacuum street sweeping of streets and exposed parking areas produces a significant reduction in sediment.

5. Retain existing vegetation on slopes adjacent to Moore Creek.

6. Extensively revegetate slopes adjacent to Moore Creek that will be receiving increased amounts of runoff.

7. Landscape design for this area should avoid the use of plant materials that require extensive irrigation. This is especially important in areas that approach the slopeline.

8. Dense planting should be encouraged. A relatively dense planting retains rainwater, holds it and allows it to evaporate, rather than flow across the land surface. This process also results in a reduction in the amount of sediment, and hence the amount of pollutants, carried to the Canyon.

9. Landscaped buffer areas between roads, parking areas and homes should be utilized to slow down storm water runoff.

10. In cases where rainfall concentrating on roofs would cause sheetwash, raingutters should be installed to channel the runoff. The force of the water coming from the gutters should be dissipated.

11. The use of dry wells and seepage pits should be investigated. In the Western Drive area, a large-scale use of this type of mitigating measure does not seem feasible, due to the type of soils in the area.

12. The use of storm water retention ponds or basins may be appropriate in certain instances. Storm water retention ponds hold the drainage from a heavy storm and allow it to feed into a creek at a controlled rate. This reduces the possibility of streambed erosion during high water flows.

13. When a mitigating measure concentrates runoff in sufficient amounts to require sedimentation control, devices, such as sand and gravel filters, should be designed so as to minimize the possibility of clogging through siltation. The amount of maintenance required to keep such systems functioning should be carefully evaluated.

14. Grading should not take place during the wet season. All grading should be done in conformance with ordinance provisions for grading and Conservation Regulations.

DESIGN GUIDELINES

The following draft design guidelines have been prepared to assist architects, developers and homeowners in planning for new development and for improvements to existing development in the Western Drive Master Plan are. The guidelines function to clarify existing relationships and to sensitize designers to the existing character of the area. The guidelines suggest design methods that can result in a successful integration of development and natural environment, and create a transitional area between urban and rural uses.

General Guidelines

(1) New development should be designed to be consistent with the natural landforms and major vegetation of the area and to take advantage of existing landscape.

(2) New development should be designed so that, to the greatest extent possible, public view corridors are preserved and additional view corridors created.

(3) In standard subdivision developments, units should be designed and sited so as to avoid repetitive elements and to vary sizes of lots and sizes of units within a subdivision. Units should be placed at varying setbacks.

(4) In cluster development, including community housing projects, units should be designed and sited so as to avoid repetitive elements. A cluster combination may include structures of varying sizes. "Farm-complex" cluster may be appropriate for small scale developments.

(5) In all developments, placement of structures and building heights should be modulated so that view corridors within the development are enhanced and, if possible, new view corridors created.

(6) Streets and driveways should be designed to incorporate curves or other such modulations. A curvature in a street design serves to block direct sightlines, and hence reduces the visual impact of moving and parking automobiles. Driveway widths should be narrow and common driveways used wherever possible.

(7) Unit design should result in removing the automobile, garages and open carports from view from both the Western Drive right-of-way and the Moore Creek Canyon corridor.

(8) In general, small structures may be shaped in an austere manner. Larger structures need modulations and a site with considerable surrounding open space. Building height and bulk should relate directly to the amount of open space and not overhwhelm the site.

(9) Exterior materials should reflect rural building concepts. Materials such as shingles or horizontal siding may be appropriate, while prestressed concrete would normally not be associated with a rural character.

(10) Roof materials and shapes are extremely important to the character of the area. Characteristic of rural architecture are hip roofs, salt-box shapes, gables with dormers, and gambrels. Common materials include shakes and shingles, both wood and composition.

(11) New development should avoid the use of elements that are associated with urban uses, such as large expanses of plate glass and other refelctive materials, such as plastic and aluminum. This is especially important for elevations facing the Western Drive right-of-way.

(12) Colors should be chosen from a series of muted earth-tones, reflecting a natural or weathered feeling. In conjunction with specific designs, white or barn-red may be appropriate.

(13) Materials should be those normally associated with a specific building style.

(14) Fencing should follow a rural pattern using an open post construction. In certain instances, it may be appropriate to reconstruct some of the unique designs existing in the area, including stone posts and hinged gates.

(15) Units constructed along Western Drive should be placed on large lots and sited away from the street at varying setbacks.

(16) For units facing Western Drive, urban elements such as balconies and open decks should be avoided. Design modifications that reflect rural design characteristics, for example the use of porches, should be attempted. For example, it may be appropriate to reflect the spatial feeling of a porch by designing a deck with a trellis canopy.

(17) Units developed along Moore Creek Canyon should be sited and designed to minimize the visual impact on the canyon area.

(18) Units developed along Moore Creek Canyon should be placed at varying setbacks from the slope setback line.

(19) Accessory structures on properties adjacent to the Canyon should be minimized and substitutes developed consistent with the natural environment. For example, landscaping, rather than fences, may be used to delineate private yard areas.

(20) Where lots abut public access points to the canyon corridors, dwelling units should be sited at a distance from the accessway to enhance the feeling of open space. Proposed fences near public access points must be sensitively placed and designed so as not to disturb the visual continuity of the open area.

PLANT MATERIAL

Hedge Rows: (4' - 12' on center, staggered, uneven planting)

E	**	Eucalyptus lehmannii	Bushy Yate	Dense small tree	20' - 30'
"	**	Eucalyptus leucoxylon	White Iron Bak	Upright, open	20' - 80'
"	**	Eucalyptus globulus	Blue Gum	Tall, massive	100' -150'
"	**	Eucalyptus globulus Compacta	Dwarf Blue Gum	Dwarf Blue Gum	60' - 70'
"	*	Cupressus macrocarpa	Monterey Cypress	Dark, green pyrimidal	40' - 60'
"		Cupressocyparis leylandii	Leland Cypress	Upright, fast growing	40' - 50'
"	*	Rhamnus californica	California Coffee-berry	Shrubby	6' - 10'
"		Rhamnus alaternus	Italian buckthorn	Shrubby	8' - 12'
D	*	Platanus racemosa	California Sycamore	Tall, spreading	50' -100'
D	*	Aesculus californiaca	California buckeye	Shrubby	10' - 20'
E	*	Fremontodendron mexicanum	Southern Flannel Bush	Bushy, yellow	8' - 15'
E	*	Pinus radiata	Monterey Pine	Open tree	60' -100'
E	*	Sequoia sampervirens	Coast redwood	Fast growing	100' -300'

Trees Adjacent to Street Areas: (tree groves and masses -8' -15' spacing staggered, uneven planting)

	Eucalyptus leucoxylon	White Iron Bark		
*	Cupressus macrocarpa	Monterey Cypress		
	Cupressocyparis leylandii	Leland Cypress		
	Acacia melenoxylon	Black Wood Acacia	Round form, fast growing	30' - 40'
*	Pinus radiata	Monterey Pine		
*	Umbellularia california	California Bay	Large, round tree	25' - 75'
*	Sequoia sempervirens	Coast redwood		

E = Evergreen
D = Deciduous
* = California Native
** = Quasi-native

NOTE: Deciduous trees shall be used where they are not screening a structure.

MEADOWS AND AREAS BETWEEN SETBACK LINE AND WESTERN DRIVE:

1. Seed with Native grasses and wildflowers:

   80-100 lbs. per acre
   - 40% Alta Fescue
   - 30% Perennial Rye
   - 10% California Poppy
   - 10% Alyssum
   - 5% Lupine (Drawf and Bush)
   - 5% Mustard

2. Plant as orchards in grasses or as a tilled area.

3. Plant as vegetable gardens or flower gardens, pine tree farms, grazing areas, nursery stock, pumpkin fields, native plant growing areas or berry planting.

FENCE MATERIALS: (no paint)

1. Rough cut posts with three strands of wire.

2. Rough cut posts with two to three horizontal rough wood members.

3. Rough cut post with rough weathered verticals (grape stake), minimum 3'-0" high. Sheep type fence.

4. Rough cut posts with 2" x 2" to 4" x 4" square wire mesh.

5. Fences at buildings for patios, service yards, etc., shall be an integral part of the structure.

BUS STOPS, SIGNS, LIGHT POSTS AND OTHER ACCESSORIES:

1. Rough wood posts or poles minimal 6 x 6 dimension, pressure treated.

2. Seal all wood with transparent weathering stain or wood seal with pentasceal or equal.

3. Bus stop roofs shall be shed roof, wood or shingle or a non-reflecting material.

4. Street light fixtures shall be shielded from glare into residences and shall be at maximum height of 20'. Install at intersections material.

5. Signs: Except for required traffic signs, all signs shall be wood with routed and patined letters or of an approved non-reflective material.

6. Mail Boxes and Newspaper boxes shall be wood or a standard utilitarian box, non-reflective. Banks of mail boxes shall be set on one platform and shall be plub. Plastic shall be discouraged.

ENVIRONMENTAL REVIEW: NEGATIVE DECLARATION

The recommendations in the Western Drive Master Plan fall into three major categories: the improvement of the right-of-way; retaining the rural character of the area; and protecting and providing access to the canyons. The individual recommendations are listed and numbered sequentially under these categories on pages 29-31 of the plan.

In order to prepare a complete environmental assessment for the Master Plan, each plan recommendation was evaluated against a series of environmental factors. The environmental assessment indicates that the Master Plan for Western Drive represents no significant adverse impact to the Master Plan Area or the community of Santa Cruz. For a detailed discussion of the environmental constraints in the Master Plan Area, see pages 29-31, "Environmental Constraints."

A. MASTER PLAN RECOMMENDATIONS FOR THE IMPROVEMENT OF THE RIGHT-OF-WAY

Recommendations to maintain the surfaced street width at 24-28', provide pedestrian trails, return drainage to the natural channels, and retain existing landscaping, are designed to maintain existing conditions; they serve to mitigate against the increase and concentration of storm-water runoff, and thus protect against soil erosion and landslide.

	Recommendations							
	1	2	3	4	5	6	7	8
SITE/STRUCTURE: DESIGN SUITABILITY								
slope stability	A	A	A	A	A	A	A	A
terrain	A	A	A	A	A	A	A	A
soil permeability	A	A	A	A	A	A	A	A
ground water	A	A	A	A	A	A	A	A
natural hazards	A	A	A	A	A	A	A	A
compatibility in use and scale	A	A	A	A	A	A	A	A
neighborhood character	A	A	A	A	A	A	A	A
SERVICE DELIVERY FACTORS								
schools/employment/shopping*	NA*	NA	NA	NA	NA	NA	NA	NA
park, playground, open space	A	A	A	A	A	A	A	A
police and fire*	A	A	A	A	A	A	A	A
transportation*	A	A	A	A	A	A	A	A
water/sewer*	NA	NA	NA	NA	NA	NA	NA	NA
storm water system	A	A	A	A	A	A	A	A
other utilities	A	A	A	A	A	A	A	A
access to site	A	A	A	A	A	A	A	A
IMPACTS ON SURROUNDING ENVIRONMENT								
unique geological features	A	A	A	A	A	A	A	A
rock and soil stability	A	A	A	A	A	A	A	A
soil erodibility	A	A	A	A	A	A	A	A
ground water	A	A	A	A	A	A	A	A
streams and lakes	A	A	A	A	A	A	A	A
plant and animal life	A	A	A	A	A	A	A	A
aesthetics and urban design	A	A	A	A	A	A	A	A
historic properties	A	A	A	A	A	A	A	A
housing opportunities	A	A	A	A	A	A	A	A

B. MASTER PLAN RECOMMENDATIONS FOR RETAINING THE RURAL CHARACTER OF THE AREA

Recommendations designed to minimize the number of driveways and streets along Western Drive, and to retain and add to the landscape character of the area are designed to prevent or reduce significant adverse impact resulting from residential development of the area. This is also the case for recommendations to initiate on-site drainage planning and develop standards for maximum lot coverage. The recommendations to establish large lots adjacent to Western Drive and to establish varied setback lines would result in an alteration of localized land use patterns. The change, however, is in itself a mitigating measure, as it does not reduce the amount of housing to be provided, but encourages development patterns that result in less adverse physical environmental damage impact than might be expected under standard subdivision design.

	Recommendations							
	9	10	11	12	13	14	15	16
SITE/STRUCTURE: DESIGN SUITABILITY								
slope stability	A	A	A	A	A	A	A	A
terrain	A	A	A	A	A	A	A	A
soil permeability	A	A	A	A	A	A	A	A
ground water	A	A	A	A	A	A	A	A
natural hazards	A	A	A	A	A	A	A	A
compatibility in use and scale	A	A	A	A	A	A	A	A
neighborhood character	A	A	A	A	A	A	A	A
SERVICE DELIVERY FACTORS								
schools/employment/shopping*	NA*	NA	NA	NA	NA	NA	NA	NA
park, playground, open space	A	A	A	A	A	A	A	A
police and fire*	A	A	A	A	A	A	A	A
transportation*	A	A	A	A	A	A	A	A
water/sewer*	NA	NA	NA	NA	NA	NA	NA	NA
storm water system	A	A	A	A	A	A	A	A
other utilities	A	A	A	A	A	A	A	A
access to site	A	A	A	A	A	A	A	A
IMPACTS ON SURROUNDING ENVIRONMENT								
unique geological features	A	A	A	A	A	A	A	A
rock and soil stability	A	A	A	A	A	A	A	A
soil erodibility	A	A	A	A	A	A	A	A
ground water	A	A	A	A	A	A	A	A
streams and lakes	A	A	A	A	A	A	A	A
plant and animal life	A	A	A	A	A	A	A	A
aesthetics and urban design	A	A	A	A	A	A	A	A
historic properties	A	A	A	A	A	A	A	A
housing opportunities	A	A	A	A	A	A	A	A

	Recommendations					
	17	18	19	20	21	22
SITE/STRUCTURE: DESIGN SUITABILITY						
slope stability	A	A	A	A	A	A
terrain	A	A	A	A	A	A
soil permeability	A	A	A	A	A	A
ground water	A	A	A	A	A	A
natural hazards	A	A	A	A	A	A
compatibility in use and scale	A	A	A	A	A	A
neighborhood character	A	A	A	A	A	A
SERVICE DELIVERY FACTORS						
schools/employment/shopping*	NA	NA	NA	NA	NA	NA
park, playground, open space	A	A	A	A	A	A
police and fire*	A	A	A	A	A	A
transportation*	A	A	A	A	A	A
water/sewer*	NA	NA	NA	NA	NA	NA
storm water system	A	A	A	A	A	A
other utilities	A	A	A	A	A	A
access to site	A	A	A	A	A	A
IMPACTS ON SURROUNDING ENVIRONMENT						
unique geological features	A	A	A	A	A	A
rock and soil stability	A	A	A	A	A	A
soil erodibility	A	A	A	A	A	A
ground water	A	A	A	A	A	A
streams and lakes	A	A	A	A	A	A
plant and animal life	A	A	A	A	A	A
aesthetics and urban design	A	A	A	A	A	A
historic properties	A	A	A	A	A	A
housing opportunities	A	A	A	A	A	A

C. MASTER PLAN RECOMMENDATIONS TO PROVIDE ACCESS TO AND PROTECT THE QUALITY OF THE CANYONS

The recommendations in this section are addressed directly towards mitigating the impacts of urban development on the canyons, providing recreational opportunities, and protecting the environment of the canyon areas. This does not decrease housing opportunities, but only acts to ensure the protection of the natural environment in the area.

	Recommendations					
	23	24	25	26	27	28
SITE/STRUCTURE: DESIGN SUITABILITY						
slope stability	A	A	A	A	A	A
terrain	A	A	A	A	A	A
soil permeability	A	A	A	A	A	A
ground water	A	A	A	A	A	A
natural hazards	A	A	A	A	A	A
compatibility in use and scale	A	A	A	A	A	A
neighborhood character	A	A	A	A	A	A
SERVICE DELIVERY FACTORS						
schools/employment/shopping*	NA	NA	NA	NA	NA	NA
park, playground, open space	A	A	A	A	A	A
police and fire*	A	A	A	A	A	A
transportation*	A	A	A	A	A	A
water/sewer*	NA	NA	NA	NA	NA	NA
storm water system	A	A	A	A	A	A
other utilities	A	A	A	A	A	A
access to site	A	A	A	A	A	A
IMPACTS ON SURROUNDING ENVIRONMENT						
unique geological features	A	A	A	A	A	A
rock and soil stability	A	A	A	A	A	A
soil erodibility	A	A	A	A	A	A
ground water	A	A	A	A	A	A
streams and lakes	A	A	A	A	A	A
plant and animal life	A	A	A	A	A	A
aesthetics and urban design	A	A	A	A	A	A
historic properties	A	A	A	A	A	A
housing opportunities	A	A	A	A	A	A

A: The factor is acceptable. Adverse impacts are negligible; other effects are neutral or beneficial.

B: The factor is questionable. Discretion is needed in granting environmental approval. Ameliorative measures should be pursued.

C: The factor is undesirable or unacceptable. Approval should be allowed only upon specific conditions and safeguards.

NA: The factor is not applicable.

* : This is a City-wide factor addressed by the General Plan.