FHR-8-300 (11-78)

United States Department of the Interior
Heritage Conservation and Recreation Service

National Register of Historic Places Inventory—Nomination Form

See instructions in *How to Complete National Register Forms*
Type all entries—complete applicable sections

1. Name

historic Colorado Street Bridge

and/or common Colorado Street Bridge

2. Location

street & number Colorado Boulevard over the Arroyo Seco ___ not for publication

city, town Pasadena ___ vicinity of congressional district 22nd

state California code 06 county Los Angeles code 037

3. Classification

Category	Ownership	Status	Present Use	
___ district	_X_ public	___ occupied	___ agriculture	___ museum
___ building(s)	___ private	_X_ unoccupied	___ commercial	___ park
_X_ structure	___ both	___ work in progress	___ educational	___ private residence
___ site	**Public Acquisition**	**Accessible**	___ entertainment	___ religious
___ object	___ in process	___ yes: restricted	___ government	___ scientific
	___ being considered	_X_ yes: unrestricted	___ industrial	_X_ transportation
		___ no	___ military	___ other:

4. Owner of Property

name City of Pasadena

street & number 100 North Garfield Avenue

city, town Pasadena ___ vicinity of 91101 state California

5. Location of Legal Description

courthouse, registry of deeds, etc. Office of County Recorder of Los Angeles, California

street & number 227 North Broadway

city, town Los Angeles state California

6. Representation in Existing Surveys

title See continuation sheet no. 1 has this property been determined elegible? ___ yes ___ no

date ___ federal ___ state ___ county ___ local

depository for survey records

city, town state

7. Description

Condition		Check one	Check one
___ excellent	___ deteriorated	___ unaltered	X original site
___ good	___ ruins	X altered	___ moved date _____
X fair	___ unexposed		

Describe the present and original (if known) physical appearance

The Colorado Street Bridge is an open spandrel arch bridge of reinforced concrete construction. The bridge consists of a series of nine large parabolic arches, six spans of 113 feet, two spans of 151.5 feet and one span of 223 feet together with six small girder spans also in the form of arches and abutments at each end, giving the structure a total length of 1,467.5 feet and a maximum height of 148-1/2 feet. Each of the longer arch spans consists of two continuous elastic arch ribs carrying spandrel columns and in part spandrel walls. Spandrel columns are emblished with embellished decorative bases and capitals.

The bridge's 28-foot roadway and 5-foot wide sidewalks are supported by a deck system of hollow spandrel construction. Each span is divided into ten panels by cross girders, supported by columns resting on arch ribs. The sidewalk's cantilever is supported by small arches located above each spandrel column and along spandrel walls and piers. A precast concrete railing and eight-foot refuge bays over each pier are provided for both sidewalks. Although the railing has lost its classical balusters, lower pilasters and moldings still remain. The bridge is lit by single spherical-shaped lights on ornate cast iron posts with finely detailed bases, two lamposts per each bay.

The bridge is currently in use, although some deterioration has been identified in studies by the California Department of Transportation from 1976 through 1978.. Two lanes wide, the bridge was considered inadequate for the traffic load as early as the 1930s. When studies concluded the bridge could not be successfully widened, the decision was made that only minimal maintenance be performed. Lack of maintenance and a high chloride content in the cement were principal factors leading to the current problem of spalling, failure of expansion joints and bearings, and some rusting of structural steel.

8. Significance

Period	Areas of Significance—Check and justify below				
___ prehistoric	___ archeology-prehistoric	___ community planning	___ landscape architecture	___ religion	
___ 1400–1499	___ archeology-historic	___ conservation	___ law	___ science	
___ 1500–1599	___ agriculture	___ economics	___ literature	___ sculpture	
___ 1600–1699	X architecture	___ education	___ military	___ social/ humanitarian	
___ 1700–1799	___ art	X engineering	___ music	___ theater	
___ 1800–1899	X commerce	___ exploration/settlement	___ philosophy	___ transportation	
X 1900–	___ communications	___ industry	___ politics/government	___ other (specify)	
		___ invention			

Specific dates 1912-13 **Builder/Architect** Waddell and Herrington, engineers

Statement of Significance (in one paragraph)

Impressive both technically and visually, the Colorado Street Bridge over the Arroyo Seco has long been a Southern California landmark. Standing some 148 feet above the canyon's riverbed, the structure was proclaimed "the highest concrete bridge in the world" at its completion in December 1913. The bridge, designed by the engineering firm Waddell and Harington of Kansas City, is a transitional structure in design, combining modern scale with period finish and detail, detailing that would be difficult or impossible to reproduce today. The impetus to build the bridge was taken by the far-thinking citizens of Pasadena in an effort to connect their growing community to Los Angeles. The bridge has contributed significantly to that city's growth and has become an object of civic pride. The bridge has been named both a Cultural Heritage Landmark by the City of Pasadena and an Historic Civic Engineering Landmark by the Los Angeles section of the American Society of Civil Engineers.

The Colorado Street Bridge is a product of necessity. In 1912, there was only a single direct crossing over the Arroyo Seco, that being an old-timber-truss bridge located about 100 feet north of the present bridge. Realizing that the rapidly growing numbers of automobiles could not negotiate its steep approaches, Edwin Sover, executive director of Pasadena's Board of Trade, predecessor of the Chamber of Commerce, consulted with highway commissioner C. D. Daggett regarding the feasibility of building a street-level bridge to replace it. Daggett estimated the cost of such a bridge to be $250,000, a prohibitive figure even for the wealthy community of Pasadena. Sover, however, realized that the west end of the bridge would touch Los Angeles and appealed to the Los Angeles City Council for financial assistance. The Los Angeles City Council agreed to allocate $98,640 towards the bridge's construction and acquired partial ownership of the future structure. In the Spring of 1912, Pasadena voters overwhelmingly approved a forty-year $100,000 bond issue to fund their portion of the construction.

Sover employed John Alexander Low Waddell of the engineering firm Waddell and Herrington as his design consultant. Waddell was renowned for his bridges and had developed several important innovations in bridge design. With twenty-five years experience in bridge construction, Waddell originated the vertical span lift and did important work in "intermittent foundations," a major problem at the Arroyo site. His vast experience included international work for which he was decorated by the Emperor of Japan and honored by the Grand Duchess of Russia. Waddell's proposal, an eleven-arch strucure laid out across the most direct east-west route, would, however, have cost $241,640, $6000 more than Sover wished to pay. Sover petitioned John Drake Mercerau, a Los Angeles Contractor who had submitted the lowest bid for construction and had been named the bridge's contractor, to devise a lower-cost alternative. After conferring with his consulting engineer, C.K. Allin, Mercereau announced that the bridge could be built for less at the desired location

9. Major Bibliographical References

See continuation sheet no. 3

UTM NOT VERIFIED

10. Geographical Data

ACREAGE NOT VERIFIED

Acreage of nominated property 1 acre (apx.)

Quadrangle name Pasadena, C.

Quadrangle scale 1:24,000

UMT References

	Zone	Easting	Northing
A	11	392710	3778610
B			
C			
D			
E			
F			
G			
H			

Verbal boundary description and justification

A 43'6" wide arc, corresponding to the width of the bridge's piers, beginning at the bridge's eastern termination, then extending 1,467' west to the bridge's western termination.

List all states and counties for properties overlapping state or county boundaries

state	code	county	code
state	code	county	code

11. Form Prepared By

name/title	Michael Zimny		
organization	Pasadena Heritage	date	June 24, 1980
street & number	54 West Colorado Boulevard	telephone	(213) 793-0617
city or town	Pasadena	state	California

12. State Historic Preservation Officer Certification

The evaluated significance of this property within the state is:

___ national _X_ state ___ local

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the Heritage Conservation and Recreation Service.

State Historic Preservation Officer signature Kenneth Owen

title _____ date 12/1/80

For HCRS use only

I hereby certify that this property is included in the National Register

Keeper of the National Register Bill Gwaltney date 2/12/81

Attest: Patrick Andrus date 2/12/81

Chief of Registration

GPO 938 835

UNITED STATES DEPARTMENT OF THE INTERIOR
HERITAGE CONSERVATION AND RECREATION SERVICE

NATIONAL REGISTER OF HISTORIC PLACES INVENTORY -- NOMINATION FORM

American Society of Civil Engineers, Los Angeles Section: Certificate of Recognition to the City of Pasadena for the Old Arroyo Seco Colorado Street Bridge in Pasadena, California as an Historic Civil Engineering Landmark. September 1975.

City of Pasadena: Designation of Colorado Street Bridge as a Cultural Heritage Landmark. April 1979.

David Gebhard and Robert Winter: A Guide to Architecture in Los Angeles and Southern California. (Santa Barbara, 1977)

Mel Green and Associates: Study of Colorado Street Bridge pursuant to its restoration and preservation. 1980

NATIONAL REGISTER OF HISTORIC PLACES INVENTORY -- NOMINATION FORM

if it were curved about fifty degrees to the south to take advantage of stronger foundations. The new bridge would be longer but less complicated and most importantly less expensive than Waddell's proposal.

Despite Waddell's protests, Merçeau's alteration to his design was accepted and work begun in July 1912. Construction took eighteen months and employed 40 to 100 men. Construction materials were brought down the gorge's steep sides by horse cart. Records show that some 10,000 barrels or 11,000 cubic yards of concrete and 600 tons of steel reinforcing went into the bridge. From the company's single cement mixer, concrete was poured, half a yard at a time, into the bridge's hundreds of wooden "false work" forms that when removed would reveal the bridge's many arches, girders, spandrels and other decorative details. Total cost of the project was about $240,000.

The engineering marvel of its day, the bridge officially opened on December 13, 1913, thousands of Pasadenans taking part in the festivities. The bridge soon became a local landmark and an object of intense pride and admiration. Two years after its opening, when the eastern access of the bridge was widened for safety reasons, wealthy Pasadenans contributed substantially to the projects $80,000 cost. In 1931, Pasadenans again came to the rescue of their beloved bridge as it was marked for demolition and replacement by a new freeway bridge. Through an intense letter-writing campaign, Pasadenans convinced the state to build the new bridge alongside the old bridge using a design that blend in with the old structure. Recently, Pasadenans have again rallied to the support of their bridge. In response to a 1977 Caltrans study that showed the aging bridge to be severely deteriorating, a Bridge Party was held on September 22, 1979, to increase public and private awareness of the condition of the Bridge. Part of the revenue from the party was used to hire a consultant to make a study of ways to preserve the bridge. His completed report is expected in the summer of 1980.

UNITED STATES DEPARTMENT OF THE INTERIOR
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NATIONAL REGISTER OF HISTORIC PLACES INVENTORY -- NOMINATION FORM

FOR HCRS USE ONLY
RECEIVED DEC 3 1 1980
DATE ENTERED FEB 1 2 198

City Facts, "Colorado Street Bridge One of City Wonders," vol. 1, no. 4, December 1923.

Hool, George A., Bridges and Culverts. New York: McGraw-Hill Book Co., 1916.

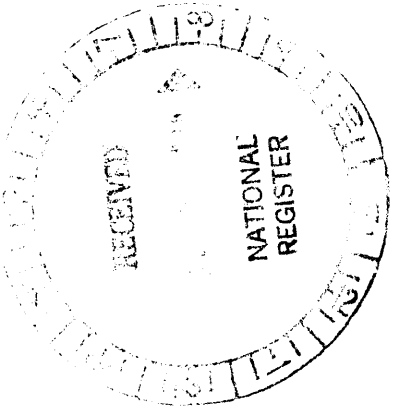
Howard, E.E. "Colorado Street Bridge Over Arroyo Seco," Engineering Record, vol. 67, no. 21, May 24, 1913.

Pasadena Star News, "Panorama Section," December 1978.

Schmidt, Richard. "Weathered Crossing," Westways, December 1978.

To assemble these assessor maps for a complete view of the Colorado Bridge:

Place #1 sheet on the bottom
Place #2 on top of #1, matching A's and B's
Place #3 on top of other two and match C's, D's and E's



714

1980

SCALE 1" = 400'

Revised
8-23-6
1-14-64
680822
700209
730312
750207
750716
760831
771130
780302
780433
790619
790706
800219

HCD ADMIN

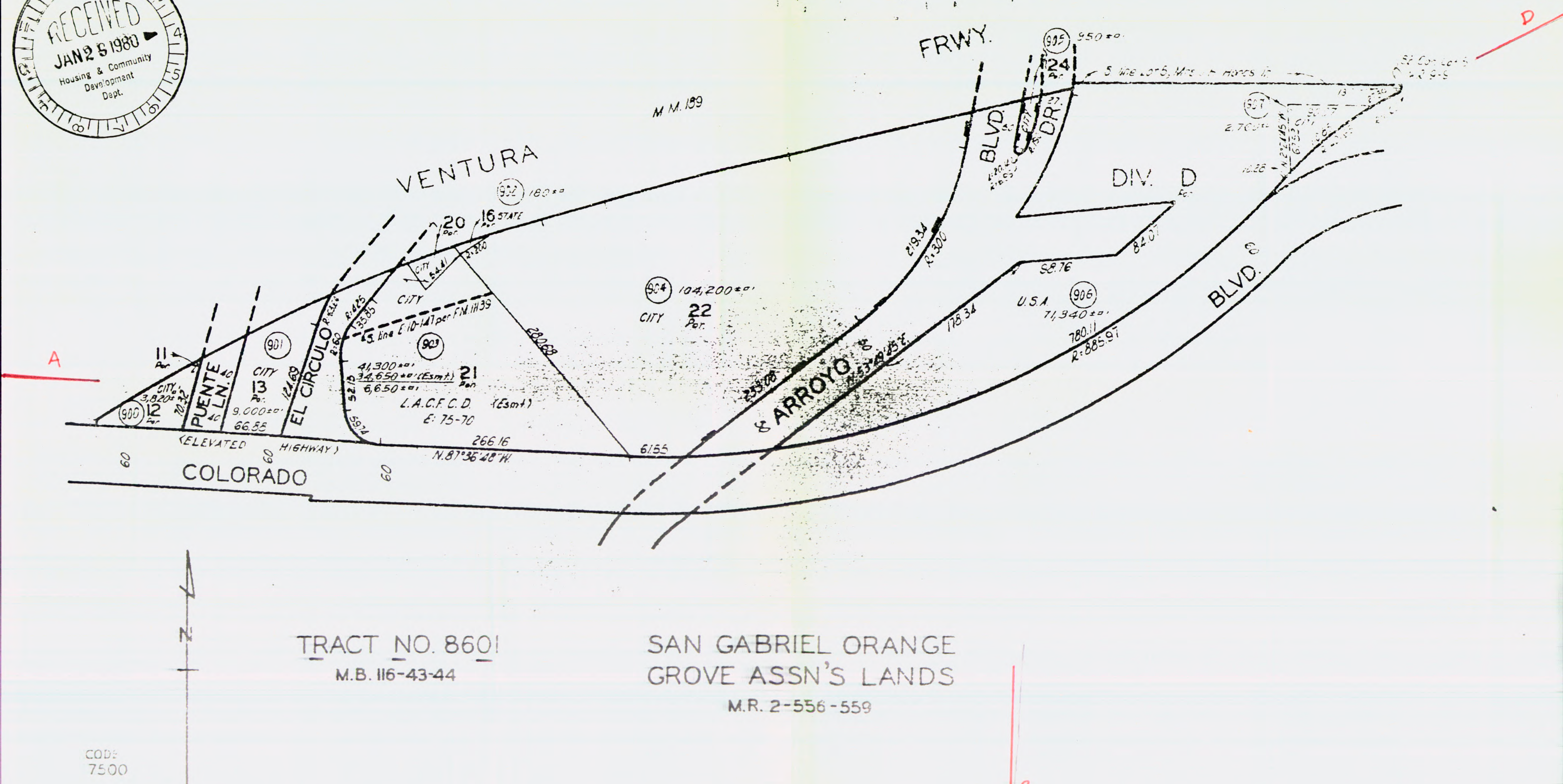
— Note outline of Colorado Bridge

Scale 1" to 400'

Pasadena Heritage
Colorado Street Bridge

5714 | 35

1980



TRACT NO. 8601
M.B. 116-43-44

SAN GABRIEL ORANGE
GROVE ASSN'S LANDS
M.R. 2-556-559

CODE
7500

5214 28

1980

(2)

JAN 2 1980

A

B

C

PUENTE LN.

EL CIRCULO

COLORADO BLVD

296.65

3

26 Por.

27 Por.

28 Por.

29 Por.

30 Por

CHANNEL

F.C.D.

L.A. Co.

ARROYO SECO

VENTURA FRWY.

M.M. 189

CITY PARK (BROOKSIDE PARK)

F.M. 10892-5

F.M. 13632

D.M. 5937-265-266

D.M. 2077-32

WESTMINSTER DR.

BLVD.

ARROYO

100

N

SAN GABRIEL ORANGE GROVE ASSN'S LANDS

M.R. 2 - 556 - 559

TRACT NO. 4116

M.B. 44 - 4 - 5

CODE 7500

PLAT OF LAND IN THE ARROYO SECO BELONGING TO THE SAN GABRIEL ORANGE GROVE ASSOCIATION

ALL PROPERTY SHOWN ON THIS PAGE ASSESSED TO CITY

14 | 16

1" – 100'

E

(3)

D

REVISED
8-10-59
1-14-60

BLVD.

R: 157.43

79.55

60 COLORADO

R: 945.97

FREEWAY APPROACHES

60 BLVD.

(901) CITY
DDS 6755-300

70 AVE.

50 ARROYO

N 6°01'15" E.

181.68

518'

488.99

DIV. "D" POR.

1030.26

A.

(900)

S.

U.

C.F. 2203

50 WESTMINSTER DR.

361.23

38.44±

CALIFORNIA TERR.

158.2

East

153.94

North

275

2

152.74

275

181.15

East

388.78

360.05

358.81

166.5

184.76

332.75

GRAND

Scale: 1" to 100'

SAN GABRIEL ORANGE GROVE ASSN'S LANDS

M. R. 2-556-559

C

SUBDIVION OF THE PROPERTY OF MRS. E. C. BANGS

IN LOT 2, DIV. D, BERRY & ELLIOTT'S TRACT

M. R. 30 – 84

CODE
7500

VISTA CREST

M.B. 5-34

FOR PREV ASSMT SEE 1345-16