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e PP-1995-029

Date 7/12/99

Present	Scanned	A few items are denoted with a (*) are to be scanned for permanent record on the ISYS retrieval system. In some instances, not all entries designated to be scanned, are present in the file. There are also documents specific to certain files, not found on the standard list. For this reason, a checklist has been included. Remaining items, (not selected for scanning), will be marked present on the checklist. This index can serve as a quick guide for the contents of each file. Files denoted with (**) are to be located using the ISYS Query System. Planning Clearance will need to be typed in full, as well as other entries such as Ordinances, Resolutions, Board of Appeals, and etc.
X	X	***Summary Sheet – Table of Contents**
X	X	Application form
		Receipts for fees paid for anything
X	X	***Submittal checklist**
X	X	***General project report**
		Reduced copy of final plans or drawings
		Reduction of assessor's map
		Evidence of title, deeds
X	X	***Mailing list to adjacent property owners**
		Public notice cards
		Record of certified mail
		Legal description
		Appraisal of raw land
		Reduction of any maps – final copy
	X	***Final reports for drainage and soils (geotechnical reports)**
		Other bound or nonbound reports
		Traffic studies
		Individual review comments from agencies
X	X	***Consolidated review comments list**
		***Petitioner's response to comments**
X	X	***Staff Reports**
		***Planning Commission staff report and exhibits**
		***City Council staff report and exhibits**
		***Summary sheet of final conditions**
		***Letters and correspondence dated after the date of final approval (pertaining to change in conditions or expiration date)**

DOCUMENTS SPECIFIC TO THIS DEVELOPMENT FILE:

X		E-mail to Dan Wilson, Jim Shanks, Tom Dixon from Jody Kliska – 3/13/95	X		Preliminary Drainage Report for Willow Ridge Sub.
X		Letter from Kenneth L. Schmohe to Tom Dixon - 3/27/95	X		CDOT State Hwy Access Permit
X		Letter to Vera L. Creagar from John Shaver – 4/14/95	X		Preliminary Stormwater Management Plan
X		E-mail to Jody Kliska from Dan Wilson – 3/14/95	X	X	Preliminary Plan Willow Ridge Sub.
X		Letter to Kenneth L. Schmohe to Tom Dixon – 3/3/95	X	X	Subsurface Soils Exploration – 8/29/94
X		E-mail to Tom Dixon from John Shaver – 2/2/95			
X		Letter to Oliver Frascona from Tom Dixon – 2/23/95			
X	X	City Council Minutes – 4/5/95 - **			
X		Letter from Bob Strobl & Carole Strobl to City Council			
X	X	Signed Petition sent to Planning Commission – 12/12/94			
		Letter to James Nall from Jody Kliska – 11/4/94			
		Resolution No. 127-94 - **			
X		Assessor's map			
X		Resolution No. MCM 88-84 **			
X		Warranty Deed – Dale Cole to Oliver E. Frascona			
X		Design Guidelines of Willow Ridge Sub. For ACC			

SUBMITTAL CHECKLIST

MAJOR SUBDIVISION: PRELIMINARY

Location: ____________________ Project Name: Original Do NOT Remove from Office

ITEMS | DISTRIBUTION

Date Received 2/2/95

Receipt # 1969

File # PP-95-29

DESCRIPTION	SSID REFERENCE	● City Community Development	● City Dev. Eng.	● City Utility Eng.	● City Property Agent	○ City Parks/Recreation	● City Fire Department	● City Attorney	● City G.J.P.C. (8 sets)	○ City Downtown Dev. Auth.	● City Police	● County Planning	○ Walker Field	● School Dist. #51	● Irrigation District	○ Drainage District	○ Water District	○ Sewer District	● U.S. West	● Public Service	○ GVRP	● CDOT	○ Corps of Engineers	○ Colorado Geological Survey	○ US Postal Service	○ Persigo WWTF	TOTAL REQ'D.
● Application Fee	VII-1	1																									
● Submittal Checklist*	VII-3	1																									
● Review Agency Cover Sheet*	VII-3	1	1	1	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
● Application Form*	VII-1	1	1	1	1	1	1	1	8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
● 11"x17" Reduction of Assessor's Map	VII-1	1	1	1	1	1	1	1	8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
● Evidence of Title	VII-2	1			1			1																			
● Names and Addresses	VII-2	1																									
● Legal Description	VII-2	1			1																						
● General Project Report	X-7	1	1	1	1	1	1	1	8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
● Location Map	IX-21	1																									
● Preliminary Plan	IX-26	1	2	1	1																						
● 11"x17" Reduction of Prelim. Plan	IX-26	1				1	1	1	8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
● Preliminary Drainage Report	X-12	1	2																								

NOTES:
1) An asterisk in the item description column indicates that a form is supplied by the City.
2) Required submittal items and distribution are indicated by filled in circles, some of which may be filled in during the pre-application conference. Additional items or copies may be subsequently requested in the review process.
3) Each submitted item must be labeled, named, or otherwise identified as described above in the description column.

DEVELOPMENT APPLICATION

Community Development Department
250 North 5th Street Grand Junction, CO 81501
(303) 244-1430

Original
Do NOT Remove
From Office

Receipt 1969
Date 2/2
Rec'd By DSL
File No. PP-95-29

We, the undersigned, being the owners of property situated in Mesa County, State of Colorado, as described herein do hereby petition this:

PETITION	PHASE	SIZE	LOCATION	ZONE	LAND USE
[X] Subdivision Plat/Plan	[ ] Minor [X] Major [ ] Resub		Hwy 340 & Redlands Canal	Mesa Co. PR-4	Residential
[ ] Rezone				From: To:	
[ ] Planned Development	[ ] ODP [ ] Prelim [ ] Final				
[ ] Conditional Use					
[ ] Zone of Annex					
[ ] Text Amendment					
[ ] Special Use					
[ ] Vacation					[ ] Right-of-Way [ ] Easement

[ ] PROPERTY OWNER [ ] DEVELOPER [ ] REPRESENTATIVE

Oliver E. Frascona	Kenneth L. Schmohe	Kenneth L. Schmohe
Name	Name	Name
1910 Stony Hill Rd.	c/o Design Affiliates, LLC 2690 Regis Dr.	c/o Design Affiliates, LLC 2690 Regis Dr.
Address	Address	Address
Boulder, CO 80303	Boulder, CO 80303	Boulder, CO 80303
City/State/Zip	City/State/Zip	City/State/Zip
303-494-3000	303-494-1721	303-494-1721
Business Phone No.	Business Phone No.	Business Phone No.

NOTE: Legal property owner is owner of record on date of submittal.

We hereby acknowledge that we have familiarized ourselves with the rules and regulations with respect to the preparation of this submittal, that th foregoing information is true and complete to the best of our knowledge, and that we assume the responsibility to monitor the status of the applicatic and the review comments. We recognize that we or our representative(s) must be present at all hearings. In the event that the petitioner is n represented, the item will be dropped from the agenda, and an additional fee charged to cover rescheduling expenses before it can again be place on the agenda.

Signature of Person Completing Application — Date 31 Jan 95

Oliver E. Frascona Owner — 1/30/95

Signature of Property Owner(s) - Attach Additional Sheets if Necessary

Willow Ridge
Preliminary Subdivision Submittal

Project Narrative

PROPERTY LOCATION

The parcel is located immediately north of Highway 340, and east of the Mayfield Drive on a bluff above the Redlands Power canal. This lot lies in the southeast quarter of the southeast quarter of Section 16, Township 1 South, Range 1 West, of the Ute Principal Meridian.

EXISTING SITUATION

The existing zoning is Mesa County zone PR-4. The parcel is 4.65 acres. The request coincides with a petition of annexation with the zoning to remain PR-4. The actual density is 3.44 units per acre which by the RSF-4 definition is low density.

THE PROPOSED DEVELOPMENT

The owner proposes a community for 15 single family detached lots with access from (Broadway) Highway 340. The project includes open space, a surface drainage system and detention pond, streets, sidewalks, major utilities and other infrastructure requirements.

Willow Ridge will be a covenant controlled community. Its restrictive covenants will provide for an Architectural Control Committee and Architectural Control Guidelines. The architecture of Willow Ridge will have its own distinctive and harmonious identity to add to a sense of community.

The lots are designed as zero lot lines with a 10' side yard setback on the opposite side. This configuration increases the privacy, both visual and audible, and usable yard space for each homeowner. The defined side yard areas have been oriented toward the south and east, a desirable orientation for sun in the winter and shade in the summer. With the obvious side yard space available, the space can be addressed architecturally to provide usable outdoor living space. The privacy will also be addressed on the north side by limiting windows to glass block lights or clerestory lights, providing natural light without visual intrusion from the neighboring unit. Each unit will have a maintenance easement similar to other common ownership communities. The neighboring unit is not restricted by the lot line from accessing this space, nor is it feasible to restrict access for safety reasons.

Effects on Public Facilities - In general, the development of this site will incrementally increase the use of roads, fire protection, police protection, schools, sanitation facilities, and parks. In some cases, the expanded use is planned for and will increase the efficiency of existing facilities, such as sanitation (plant was designed for population of the 201 District), and fire protection (within the existing district service area). In other cases, the developer is paying for the proposed improvements such as the acceleration and deceleration lanes and dedication of open space. The remaining services, schools and police protection, are property tax funded.

The site is within 1-½ miles of Scenic Elementary School, 3 miles from Redlands Middle School, and within 2 miles of Grand Junction High School. With 15 lots being developed, any additional burden to the schools from this development will be minimal.

Fire protection in this area is served by the Grand Junction Fire Protection District. Initial response to this site would be served from Station #1, located at Pitkin and 6th.

Redlands Water & Power has expressed concern with the effect of drainage into the Redlands canal. The drainage study indicates the ability to control the developed flows created by this development and not adversely affect the canal. Additional concerns with trash, pumping, yard clippings have been addressed by holding lot lines back from the canal where access from a home site is practical. Safety concerns will be addressed with fencing.

Site Soils and Geology - See enclosed Geology Report.

IN SUMMARY

This proposal meets the intent of the policies established by The City of Grand Junction, the desires of the landowner, and the home buyer market with we believe this project addresses.

2945-164-08-022
Russell D. & Agnes F. Wiseman
403 Mayfield Drive
Grand Junction, CO 81503-1521

2945-164-08-026
Ann P. Jacobs
405 W. Mayfield Drive
Grand Junction, CO 81503-1521

2945-164-05-008
Robert L. & Karen K. Haggerty
413 E. Mayfield Dr.
Grand Junction, CO 81503-1519

2945-164-0-234
William R. & Betty Lou Jarvis
2491 S. Broadway
Grand Junction, CO 81503-2782

2945-164-00-946
Redlands Water & Power
1043 North Avenue
Grand Junction, CO 81501-3141

2945-164-05-001
C. Leonard & E. Kay Russell
423 E. Mayfield Dr.
Grand Junction, CO 81501-1519

2945-164-05-004
Wyenona L. Hawkes
419 E. Mayfield Dr.
Grand Junction, CO 81503-1519

2945-164-05-005
Steve & Thea R. Morrison
415 E. Mayfield Dr.
Grand Junction, CO 81503-1519

2945-153-00-018
Pioneer Park Partnership
444 E. Scenic Dr.
Grand Junction, CO 81503

2945-153-01-001
Sharon L. Edris
2503 Broadway
Grand Junction, CO 81503

2945-164-00-146
Scott P. Smith
1591 N. Sheridan Rd.
Lake Forest, IL 60045-1350

2945-164-00-289
Pioneer Park Partnership
444 E. Scenic Dr.
Grand Junction, CO 81503

2945-164-08-002
Harold P. & Shirley G. Stocker
408 E. Mayfield Dr.
Grand Junction, CO 81503

2945-164-08-009
Michael J. & Karen L. Bales
426 Bayfield Dr.
Grand Junction, CO 81503

2945-164-08-003
Lloyd R. & Susan M. Mabrey
412 E. Mayfield Dr.
Grand Junction, CO 81503

2945-164-08-004
James E. & Catherine D. Nasalroad
416 E. Mayfield Dr.
Grand Junction, CO 81503

2945-164-08-005
Everett E. Reece
418 E. Mayfield Dr.
Grand Junction, CO 81503

2945-164-08-006
Larry S. & Nancy J. Mason
420 E. Mayfield Dr.
Grand Junction, CO 81503

2945-164-08-007
John W. & Vera L. Creagar
422 E. Mayfield Dr.
Grand Junction, CO 81503

2945-164-08-008
Howard & B.R. Hottes
424 E. Mayfield Dr.
Grand Junction, CO 81503

PP-95-29
Willow Ridge
Job file copy

PP-95-29

SUBSURFACE SOILS EXPLORATION

Willow Ridge Subdivision

Grand Junction, CO

Prepared For:

Design Affiliates, LCC
2960 Regis Drive
Boulder, CO 80303

Prepared By:

LINCOLN-DeVORE, INC.
1441 Motor Street
Grand Junction, CO 81505

August 29,1994

PP-95-29

Lincoln DeVore, Inc.
Geotechnical Consultants
1441 Motor St.
Grand Junction, CO 81505

TEL: (303) 242-8968
FAX: (303) 242-1561

August 29, 1994

Design Affiliates, LCC
2690 Regis Drive
Boulder, CO 80303

Re: SUBSURFACE SOILS EXPLORATION

Willow Ridge Subdivision

Fruita, CO

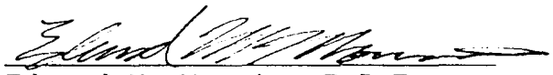
Dear Sir:

Transmitted herein are the results of a Subsurface Soils Exploration for the proposed Old Villas West Residential Subdivision, located in the Redlands area of Grand Junction, CO.

If you have any questions after reviewing this report, please feel free to contact this office at any time. This opportunity to provide Geotechnical Engineering services is sincerely appreciated.

Respectfully submitted,

LINCOLN-DeVORE, INC.

By: 

Edward M. Morris, E.I.T.
Western Slope Branch Manager
Grand Junction, Office

Reviewed by: _____

George D. Morris, P.E.
Colorado Springs Office

LDTL Job No. 81352-J

EMM/bh

PP-95-29

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INTRODUCTION

PROJECT DESCRIPTION

This report presents the results of our geotechnical evaluation performed to determine the general subsurface conditions of the site applicable to construction of approximately 19 single family residences. A vicinity map is included in the Appendix of this report.

This report is the result of a field investigation and laboratory testing conducted in August of 1994 to supplement an original Subsurface Soils Investigation for the Villas West Subdivision, originally accomplished for Robert P. Gerlofs, dated March 23, 1977, Lincoln DeVore job #15268-GS.

To assist in our exploration, we were provided with a site schematic plan of the Willow Ridge Subdivision, prepared by Ciavonne and Associates of Grand Junction. The Boring Location Plan attached to this report is based on that plan provided to us.

We understand that the proposed structure will probably consist of one and two story, wood framed structures with the possibility of a full basement and concrete floor slab on grade. Lincoln DeVore has not seen a full set of building plans, but structures of this type typically develop wall loads on the order of 700-1900 plf and column loads on the order of 6-18 kips.

The characteristics of the subsurface materials encountered were evaluated with regard to the type of construction described above. Recommendations are included herein to match the described construction to the soil character-

istics found. The information contained herein may or may not be valid for other purposes. If the proposed site use is changed or types of construction proposed, other than noted herein, Lincoln DeVore should be contacted to determine if the information in this report can be used for the new construction without further field evaluations.

PROJECT SCOPE

The purpose of our exploration was to evaluate the surface and subsurface soil and geologic conditions of the site and, based on the conditions encountered, to provide recommendations pertaining to the geotechnical aspects of the site development as previously described. The conclusions and recommendations included herein are based on an analysis of the data obtained from our field explorations, laboratory testing program, and on our experience with similar soil and geologic conditions in the area.

The exploration borings accomplished in August of 1994 are to supplement the original exploration borings accomplished in 1977. The 1977 report was originally accomplished over 17 years ago, under the Geo-technical standards applicable at that time. The purpose of the 1994 borings was to determine if substantial changes in the subsurface soils or ground water conditions had occurred since the original report. In addition, laboratory testing for the possible presence of metastable soils was conducted. The original field and laboratory investigation results were utilized to produce this report, which contains recommendations appropriate to the present Geo-

technical standards, the broadening of knowledge and from recent legislation.

This report provides site specific information for the construction of a single family residential subdivision. Included in this report are recommendations regarding general site development and foundation design criteria.

The scope of our geotechnical exploration consisted of a surface reconnaissance, a geophoto study, subsurface exploration, obtaining representative samples, laboratory testing, analysis of field and laboratory data, and a review of geologic literature.

Specifically, the intent of this study is to:

1. Explore the subsurface conditions to the depth expected to be influenced by the proposed construction.
2. Evaluate by laboratory and field tests the general engineering properties of the various strata which could influence the development.
3. Define the general geology of the site including likely geologic hazards which could have an effect on site development.
4. Develop geotechnical criteria for site grading and earthwork.
5. Identify potential construction difficulties and provide recommendations concerning these problems.
6. Recommend an appropriate foundation system for the anticipated structure and develop criteria for foundation design.

FIELD EXPLORATION AND LABORATORY TESTING

A field evaluation was performed on 8-1-94 ,and consisted of a site reconnaissance by our geotechnical personnel and the drilling of 2 exploration borings. These

were considered to be very Sandy Silts with many sand strata. This soil type is designated Soil Type I for purposes of this report.

This Soil Type is classified as a very Sandy Silt (ML) of fine grain size under the Unified Classification System. This soil type is very low to non plastic and of low to medium density. This soil will have virtually no tendency to expand upon the addition of moisture. Settlement will be minimal under the recommended foundation loads. This soil will undergo elastic settlement upon application of static foundation pressures. Such settlement is characteristically rapid and should be virtually complete by the end of construction. The soils were carefully sampled and tested to determine if any metastable or collapsible properties were evident. No metastable or collapsible properties were observed in the laboratory testing. If the recommended allowable bearing values are not exceeded, and if all other recommendations are followed, differential movement will be within tolerable limits. At shallow foundation depths this soil was found to have an average allowable bearing capacity of 2200 psf.

A thick sequence of coarse grained gravels and cobbles, of the Ancient Colorado River terrace was encountered on this site. The actual contact between the upper fine grained Alluvial soils and these gravels can be difficult to determine due to inter-bedding between the finer grained soils of Soil Type I and these coarse grained soils, which are designated Soil Type II for this report.

This Soil Type is classified as a poorly graded Silty, Sandy gravel and cobble (GP/GM) of coarse grain size under the Unified Classification System. This soil type is non plastic and of medium density. This soil will have virtually no tendency to expand upon the addition of moisture. Settlement will be minimal under the recommended foundation loads. This soil will undergo elastic settlement upon application of static foundation pressures. Such settlement is characteristically rapid and should be virtually complete by the end of construction. If the recommended allowable bearing values are not exceeded, and if all other recommendations are followed, differential movement will be within tolerable limits. At shallow foundation depths this soil was found to have an average allowable bearing capacity of 4500 psf.

The surface soils are deposited over the dense formational material of the Dakota Formation. The Dakota Formation was not encountered during this exploration program and, based upon previous drilling on this site, believe to be 13 to in excess of 15 feet below the present ground surface across the flatter portion of this site. The Dakota Formation is out cropping along the Redlands Power Canal. The Dakota Formation can broadly be described as a series of thin to thick bedded Sand Stones with beds of Silt Stone, Mud Stone, Clay Stone, Shale and occasional Lignite and Coal. The Dakota Formation does contain significant amounts of expansive clays. The majority of the Dakota Formation, however, exhibits only a moderate expansion potential. It is anticipated that the expansive clay within the Dakota Formation will not effect the construction and the per-

formance of the foundations on this site.

The lines defining the change between soil types or rock materials on the attached boring logs and soil profiles are determined by interpolation and therefore are approximations. The transition between soil types may be abrupt or may be gradual.

The boring logs and related information show subsurface conditions at the date and location of this exploration. Soil conditions may differ at locations other than those of the exploratory borings. If the structure is moved any appreciable distance from the locations of the borings, the soil conditions may not be the same as those reported here. The passage of time may also result in a change in the soil conditions at the boring locations.

GROUND WATER:

No free water was encountered during drilling on this site. In our opinion the true free water surface is fairly deep in this area, and hence, should not affect construction. Seepage moisture may affect construction if surface drainage is not properly controlled.

Due to the proximity of the Dakota Formation, there exists a possibility of a perched water table developing in the alluvial soils which overlie the Dakota Formation. This perched water would probably be the result of increased irrigation due to the presence of lawns and landscaping and roof runoff. The exploration holes and surface out crops in-

dicate that the weathered upper surface of the Dakota Formation is relatively flat and that subsurface drainage would probably be quite slow. While it is believed that under the existing conditions at the time of this exploration the construction process would not be effected by any free-flow waters, it is very possible that several years after development is initiated, a troublesome perched water condition may develop which will provide construction difficulties. In addition, this potential perched water could create some problems for existing or future foundations on this tract. Therefore it is recommended that the future presence of a perched water table be considered in all design and construction of both the proposed residential structures and any subdivision improvements.

CONCLUSIONS AND RECOMMENDATIONS

GENERAL DISCUSSION

No geologic conditions were apparent during our reconnaissance which would preclude the site development as planned, provided the recommendations contained herein are fully complied with. Based on our investigation to date and the knowledge of the proposed construction, the site condition which would have the greatest effect on the planned development is the possibility of isolated perched water tables developing in the vicinity of some of the basements.

Since the exact magnitude and nature of the foundation loads are not precisely known at the present time, the following recommendations must be somewhat general in nature. Any special loads or unusual design conditions should be reported to Lincoln DeVore so that changes in these recommendations may be made, if necessary. However, based upon our analysis of the soil conditions and project characteristics previously outlined, the following recommendations are made.

OPEN FOUNDATION OBSERVATION

Since the recommendations in this report are based on information obtained through random borings, it is possible that the subsurface materials between the boring points could vary. Therefore, prior to placing forms or pouring concrete, an open excavation observation should be performed by representatives of Lincoln DeVore. The purpose of this observa-

tion is to determine if the subsurface soils directly below the proposed foundations are similar to those encountered in our exploration borings. If the materials below the proposed foundations differ from those encountered, or in our opinion, are not capable of supporting the applied loads, additional recommendations could be provided at that time.

EXCAVATION & STRUCTURAL FILL:

Subgrade Site preparation in all areas to receive structural fill should begin with the removal of all topsoil, vegetation, and other deleterious materials. Prior to placing any fill, the subgrade should be observed by representatives of Lincoln DeVore to determine if the existing vegetation has been adequately removed and that the subgrade is capable of supporting the proposed fills. The subgrade should then be scarified to a depth of 10 inches, brought to near optimum moisture conditions and compacted to at least 90% of its maximum modified Proctor dry density [ASTM D-1557]. The moisture content of this material should be within + or - 2% of optimum moisture, as determined by ASTM D-1557.

Structural Fill In general, we recommend all structural fill in the area beneath any proposed structure or roadway be compacted to a minimum of 90% of its maximum modified Proctor dry density (ASTM D1557). We recommend that fill be placed and compacted at approximately its optimum moisture content (+/-2%) as determined by ASTM D 1557. Structural fill should be a granular, coarse grained, non-free draining, non-expansive soil. This

structural fill should be placed in the overexcavated portion of this site in lifts not to exceed 6 inches after compaction. This Structural Fill must be brought to the required density by mechanical means. No soaking, jetting or puddling techniques of any type should be used in placement of fill on this site.

Non-Structural Fill We recommend that all backfill placed around the exterior of the building, and in utility trenches which are outside the perimeter of the building and not located beneath roadways or parking lots, be compacted to a minimum of 80% of its maximum modified Proctor dry density (ASTM D-1557).

Fill Limits To provide adequate lateral support, we recommend that the zone of overexcavation extend at least 3 feet beyond the perimeter of the building on all sides.

Field Observation & Testing: During the placement of any structural fill, it is recommended that a sufficient amount of field tests and observation be performed under the direction of the geotechnical engineer. The geotechnical engineer should determine the amount of observation time and field density tests required to determine substantial conformance with these recommendations. It is recommended that surface density tests be taken at maximum 2 foot vertical interval.

The opinions and conclusions of a geotechnical report are based on the interpretation of information obtained by random borings. Therefore the actual site conditions

may vary somewhat from those indicated in this report. It is our opinion that field observations by the geotechnical engineer who has prepared this report are critical to the continuity of the project.

Slope Angles Allowable slope angle for cuts in the native soils is dependent on soil conditions, slope geometry, the moisture content and other factors. Should deep cuts be planned for this site, we recommend that a slope stability analysis be performed when the location and depth of the cut is known.

No major difficulties are anticipated in the course of excavating into the surficial soils on the site. It is probable that safety provisions such as sloping or bracing the sides of excavations over 4 feet deep will be necessary. Any such safety provisions shall conform to reasonable industry safety practices and to applicable OSHA regulations. The OSHA Classification for excavation purposes on this site is Soil Class B.

DRAINAGE AND GRADIENT:

Adequate site drainage should be provided in the foundation area both during and after construction to prevent the ponding of water and the saturation of the subsurface soils. We recommend that the ground surface around the structure be graded so that surface water will be carried quickly away from the building. The minimum gradient within 10 feet of the building will depend on surface landscaping. We recommend

PP-95-29

that paved areas maintain a minimum gradient of 2%, and that landscaped areas maintain a minimum gradient of 8%. It is further recommended that roof drain downspouts be carried across all backfilled areas and discharged at least 10 feet away from the structure. Proper discharge of roof drain downspouts may require the use subsurface piping in some areas. Planters, if any, should be so constructed that moisture is not allowed to seep into foundation areas or beneath slabs or pavements.

If adequate surface drainage cannot be maintained, or if subsurface seepage is encountered during excavation for foundation construction, a full perimeter drain is recommended for this building. It is recommended that this drain consist of a perforated drain pipe and a gravel collector, the whole being fully wrapped in a geotextile filter fabric. We recommend that this drain be constructed with a gravity outlet. If sufficient grade does not exist on the site for a gravity outlet, then a sealed sump and pump is recommended. Under no circumstances should a dry well be used on this site.

Should an automatic lawn irrigation system be used on this site, we recommend that the sprinkler heads be installed no less than 5 feet from the building. In addition, these heads should be adjusted so that spray from the system does not fall onto the walls of the building and that such water does not excessively wet the backfill soils.

It is recommended that lawn and landscaping irrigation be reasonably limited, so as to prevent complete saturation of subsurface soils. Several methods of irrigation water control are possible, to include, but not limited to:

FOUNDATIONS

We recommend the use of a conventional shallow foundation system consisting of continuous spread footings beneath all bearing walls and isolated spread footings beneath all columns and other points of concentrated load. Such a shallow foundation system, resting on the Alluvial Sandy Silts or Sandy Gravels, may be designed on the basis of an allowable bearing capacity of 2200 psf maximum for soil type I and 4500 psf maximum for soil type II.

Contact stresses beneath all continuous walls should be balanced to within + or - 200 psf at all points. Isolated interior column footings should be designed for contact stresses of about 150 psf less than the average used to balance the continuous walls. The criterion for balancing will depend somewhat upon the nature of the structure. Single-story, slab on grade structures may be balanced on the basis of dead load only. Multi-story structures may be balanced on the basis of dead load plus 1/2 live load, for up to 3 stories.

* Metering the Irrigation water.
* Sizing the irrigation distribution service piping to limit on-site water usage.
* Encourage efficient landscaping practices.
* Enforcing reasonable limits on the size of high water usage landscaping for each lot and any park areas.

It should be noted that the term "footings" as used above includes the wall on grade or "no footing" type of foundation system. On this particular site, the use of a more conventional footing, the use of a "no footing", or the use of voids will depend entirely upon the foundation loads exerted

by the structure. We would anticipate the use of on this site. Stem walls for a shallow foundation system should be designed as grade beams capable of spanning at least 10 feet. These "grade beams" should be horizontally reinforced both near the top and near the bottom. The horizontal reinforcement required should be placed continuously around the structure with no gaps or breaks. A foundation system designed in this manner should provide a rather rigid system and, therefore, be better able to tolerate differential movements associated with minor differential settlement due to variations in the natural soil density.

If the design of the upper structure is such that loads can be balanced reasonably well, a floating structural slab type of foundation could be used on this site. Such a slab would require heavy reinforcing to resist differential bending along the rim wall. It is possible to design such a slab either as a thickened edge only, a solid or a ribbed slab. A rim wall must be used for confinement purposes. Any such slab must be specifically designed for the anticipated loading.

Such a foundation system may settle to some degree however, the use of a structural fill beneath the slab and rim wall will help reduce settlement and hold differential movement to a minimum. Relatively large slabs will tend to experience minor cracking and heave of lightly loaded interior portions, unless the slabs are specifically designed with this movement in mind.

Any existing low density, soils should

be removed from the proposed bottom footing or rimwall elevation. Once it is felt that adequate soil removal has been achieved, it is recommended that the excavation be closely examined by a representative of Lincoln-DeVore to ensure that an adequate overexcavation depth has indeed occurred and that the exposed soils are suitable to support the proposed structural man-made fill.

Once this examination has been completed, it is recommended that a coarse-grained, non-expansive, non-free draining man-made structural fill be imported to the site. The native soils may be utilized as structural fill, if specifically approved by the Geotechnical Engineer. This imported fill should be placed in the overexcavated portion of this site in lifts not to exceed 6 inches after compaction. A minimum of 90% of the soils maximum Modified Proctor dry density (ASTM D-1557) must be maintained during the soil placement. These soils should be placed at a moisture content conducive to the required compaction (usually Proctor optimum moisture content $\pm$ 2%). The granular material must be brought to the required density by mechanical means. No soaking, jetting or puddling techniques of any type should be used in placement of fill on this site. To ensure adequate lateral support, we must recommend that the zone of overexcavation extend at least 2 feet around the perimeter of the proposed footing. To confirm the quality of the compacted fill product, it is recommended that surface density tests be taken at maximum 2 foot vertical intervals.

When The structural fill is completed,

an allowable bearing capacity of 2200 psf maximum may be assumed for proportioning the footings.

The placement of the structural fill a minimum of two feet beyond the edge of the structural slab should provide additional support for the eccentrically placed wall loads on the slab edges.

SETTLEMENT:

We anticipate that total and/or differential settlements for the proposed structures may be considered to be within tolerable limits, provided the recommendations presented in this report are fully complied with. In general, we expect total settlements for the proposed structure to be less than 1 inch.

FROST PROTECTION

We recommend that the bottom of all foundation components rest a minimum of 1-1 1/2 feet below finished grade or as required by the local building codes. Foundation components must not be placed on frozen soils.

Monolithic slab-on-grade foundation systems typically have an effective soil cover of less than 12 inches. Under normal use, the building and foundation system radiates sufficient heat that frost heave from the underlying soils is not normally a problem. However, additional protection can be provided by applying an insulation board to the exterior of the foundation and extending this board to approximately 18

inches below the final ground surface grade. This board may be applied either prior to or after the concrete is cast and it is very important that all areas of soil backfill be compacted. Local building officials should be consulted for regulatory frost protection depths.

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CONCRETE SLABS ON GRADE

Slabs could be placed directly on the natural soils or on a structural fill. We recommend that all non structural slabs on grade be constructed to act independently of the other structural portions of the building. One method of allowing the slabs to float freely is to use expansion material at the slab- structure interface.

It is recommended that floor slabs on grade be constructed with control joints placed to divide the floor into sections not exceeding 360 square feet, maximum. Also, additional control joints are recommended at all inside corners and at all columns to control cracking in these areas.

Problems associated with slab 'curling' are usually minimized by proper curing of the placed concrete slab. This period of curing usually is most critical within the first 5 days after placement. Proper curing can be accomplished by continuous water application to the concrete surface or by the placement of a 'heavy' curing compound, formulated to minimize water evaporation from the concrete. Curing by continuous water application must be carefully undertaken to prevent the wetting or saturation of the subgrade soils.

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EARTH RETAINING STRUCTURES

The active soil pressure for the design of earth retaining structures may be based on an equivalent fluid pressure of 42 pounds per cubic foot. The active pressure should be used for retaining structures which are free to move at the top (unrestrained walls). For earth retaining structures which are fixed at the top, such as basement walls, an equivalent fluid pressure of 54 pounds per cubic foot may be used. It should be noted that the above values should be modified to take into account any surcharge loads, sloping backfill or other externally applied forces. The above equivalent fluid pressures should also be modified for the effect of free water, if any.

The passive pressure for resistance to lateral movement may be considered to be 318 pcf per foot of depth. The coefficient of friction for concrete to soil may be assumed to be 0.35 for resistance to lateral movement. When combining frictional and passive resistance, the latter must be reduced by approximately 1/3.

We recommend that the backfill behind any retaining wall be compacted to a minimum of 85% of its maximum modified Proctor dry density, ASTM D-1557. The backfill material should be approved by the Soils Engineer prior to placing and a sufficient amount of field observation and density tests should be performed during placement. Placing backfill behind retaining walls before the wall has gained sufficient

PP-95-29

strength to resist the applied lateral earth pressures is not recommended.

Drainage behind retaining walls is considered critical. If the backfill behind the wall is not well drained, hydrostatic pressures are allowed to build up and lateral earth pressures will be considerably increased. Therefore, we recommend a vertical drain be installed behind any impermeable retaining walls. Because of the difficulty in placement of a gravel drain, we recommend the use of a composite drainage mat similar to Exxon Battledrain or Tensar MD Series NS-1100. An outfall must be provided for this drain.

REACTIVE SOILS

Since groundwater in the Grand Junction area typically contains sulfates in quantities detrimental to a Type I cement, a Type II or Type I-II or Type II-V cement is recommended for all concrete which is in contact with the subsurface soils and bedrock. Calcium chloride should not be added to a Type II, Type I-II or Type II-V cement under any circumstances.

PAVEMENTS

Samples of the surficial native soils at this property that may be required to support pavements have been evaluated using the Hveem-Carmany method (ASTM D-2844) to determine their support characteristics. The results of the laboratory testing are as follows:

AASHTO Classification - A-4(6) Unified Classification - ML

R =	22
Expansion @ 300 psi =	0.0
Displacement @ 300 psi =	3.61

No estimates of traffic volumes have been provided to Lincoln DeVore. However, we assume that the roads will be classified as residential. The design procedures utilized are those recognized by the Colorado Department of Highways and the 1986 AASHTO design procedure.

Based upon the existing topography, the anticipated final road grades and the anticipated future irrigation practices in the local area, a Drainage Factor of 0.8 (1986 AASHTO procedure) has been utilized for the section analysis.

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PROPOSED PAVEMENT SECTIONS

Based on the soil support characteristics outlined above, the following pavement sections are recommended:

Residential Roadway, 18k EAL = 5 :

The terminal Serviceability Index of 2.0, a Reliability of 70 and a design life of 20 years have been utilized, based on recommendations by the Highway Department. An 18 kip EAL of 5, also recommended by the Highway Department, was used for the analysis.

Asphalt-Base Coarse

3 inches of asphaltic concrete pavement
on 6 inches of aggregate base coarse
on 8 inches of recompacted native material

Full Depth Asphalt:

5 inches of asphaltic concrete pavement
on 12 inches of recompacted native material

Rigid Concrete:

Doweled, not tied to shoulder slabs or curbing

5 inches of portland cement pavement
on 4 inches of aggregate base coarse
on 8 inches of recompacted native material

PAVEMENT SECTION CONSTRUCTION

We recommend that any asphaltic concrete pavement meet the State of Colorado requirements for a Grade C mix. In addition, the asphaltic concrete pavement should be compacted to a minimum of 95% of its maximum Hveem density. The aggregate base coarse should meet the requirements of State of Colorado Class 5 or Class 6 material, and have a minimum R value of 78. We recommend that the base coarse be compacted to a minimum of 95% of its maximum Modified Proctor dry density (ASTM D-

1557), at a moisture content within + or -2% of optimum moisture. The native subgrade shall be scarified and recompacted to a minimum of 90% of their maximum Modified Proctor day density (ASTM D-1557) at a moisture content within + or -2% of optimum moisture.

All pavement should be protected from moisture migrating beneath the pavement structure. If surface drainage is allowed to pond behind curbs, islands or other areas of the site and allowed to seep beneath pavement, premature deterioration or possibly pavement failure could result.

Concrete Pavement

We recommend that any rigid concrete pavement have a minimum flexural strength (F_t) of 650 psi at 28 days. This strength requirement can be met using Class P or AX or A or B Concrete as defined in Section 600 of the Standard Specifications for Road and Bridge Construction, Colorado DOT. It is recommended that field control of the concrete mix be made utilizing compressive strength criteria.

Flexural Strength should only be used for the design process. Concrete with a lower flexural strength may be allowed by the agency having jurisdiction however, the design section thicknesses should be confirmed. In addition, the final durability of the pavement should be carefully considered.

Control joints should be placed at a minimum distance of 12 feet in all directions. If it is desired to increase the spacing of control joints, then 66-66 welded wire

fabric should be placed in the mid-point of the slab. If the welded wire fabric is used, the control joint spacing can be increased to 40 feet. Construction joints designed so that positive joint transfer is maintained by the use of dowels is recommended.

The concrete should be placed at the lowest slump practical for the method of placement. In all circumstances, the maximum slump should be limited to 4 inches. Proper consolidation of the plastic concrete is important. The placed concrete must be properly protected and cured.

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LIMITATIONS

This report is issued with the understanding that it is the responsibility of the owner, or his representative to ensure that the information and recommendations contained herein are brought to the attention of the individual lot purchasers for the subdivision. In addition, it is the responsibility of the individual lot owners that the information and recommendations contained herein are brought to the attention of the architect and engineer for the individual projects and the necessary steps are taken to see that the contractor and his subcontractors carry out the appropriate recommendations during construction.

The findings of this report are valid as of the present date. However, changes in the conditions of a property can occur with the passage of time, whether they be due to natural processes or the works of man on this or adjacent properties. In addition, changes in acceptable or appropriate standards may occur or may result from legislation or the broadening of engineering knowledge. Accordingly, the findings of this report may be invalid, wholly or partially, by changes outside our control. Therefore, this report is subject to review and should not be relied upon after a period of 3 years.

The recommendations of this report pertain only to the site investigated and are based on the assumption that the soil conditions do not deviate from those described in this report. If any variations or undesirable

conditions are encountered during construction or the proposed construction will differ from that planned on the day of this report, Lincoln DeVore should be notified so that supplemental recommendations can be provided, if appropriate.

Lincoln DeVore makes no warranty, either expressed or implied, as to the findings, recommendations, specifications or professional advice, except that they were prepared in accordance with generally accepted professional engineering practice in the field of geotechnical engineering.

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SOILS DESCRIPTIONS:

SYMBOL	USCS	DESCRIPTION
		Topsoil
		Man-made Fill
	GW	Well-graded Gravel
	GP	Poorly-graded Gravel
	GM	Silty Gravel
	GC	Clayey Gravel
	SW	Well-graded Sand
	SP	Poorly-graded Sand
	SM	Silty Sand
	SC	Clayey Sand
	ML	Low-plasticity Silt
	CL	Low-plasticity Clay
	OL	Low-plasticity Organic Silt and Clay
	MH	High-plasticity Silt
	CH	High-plasticity Clay
	OH	High-plasticity Organic Clay
	Pt	Peat
	GW/GM	Well-graded Gravel, Silty
	GW/GC	Well-graded Gravel, Clayey
	GP/GM	Poorly-graded Gravel, Silty
	GP/GC	Poorly-graded Gravel, Clayey
	GM/GC	Silty Gravel, Clayey
	GC/GM	Clayey Gravel, Silty
	SW/SM	Well-graded Sand, Silty
	SW/SC	Well-graded Sand, Clayey
	SP/SM	Poorly-graded Sand, Silty
	SP/SC	Poorly-graded Sand, Clayey
	SM/SC	Silty Sand, Clayey
	SC/SM	Clayey Sand, Silty
	CL/ML	Silty Clay

ROCK DESCRIPTIONS:

SYMBOL	DESCRIPTION
	SEDIMENTARY ROCKS
	CONGLOMERATE
	SANDSTONE
	SILTSTONE
	SHALE
	CLAYSTONE
	COAL
	LIMESTONE
	DOLOMITE
	MARLSTONE
	GYPSUM
	Other Sedimentary Rocks
	IGNEOUS ROCKS
	GRANITIC ROCKS
	DIORITIC ROCKS
	GABBRO
	RHYOLITE
	ANDESITE
	BASALT
	TUFF & ASH FLOWS
	BRECCIA & Other Volcanics
	Other Igneous Rocks
	METAMORPHIC ROCKS
	GNEISS
	SCHIST
	PHYLLITE
	SLATE
	METAQUARTZITE
	MARBLE
	HORNFELS
	SERPENTINE
	Other Metamorphic Rocks

SYMBOLS & NOTES:

SYMBOL	DESCRIPTION
	9/12 Standard penetration drive. Numbers indicate 9 blows to drive the spoon 12" into ground.
	ST 2-1/2" Shelby thin wall sample
W_0	Natural Moisture Content
W_x	Weathered Material
Free water	Free water table
γ^c	Natural dry density
T.B.	Disturbed Bulk Sample
②	Soil type related to samples in report
15' W_x Form.	Top of formation
	Test Boring Location
	Test Pit Location
	Seismic or Resistivity Station. Lineation indicates approx. length & orientation of spread (S = Seismic, R = Resistivity)

Standard Penetration Drives are made by driving a standard 1.4" split spoon sampler into the ground by dropping a 140 lb. weight 30". ASTM test des. D-1586.

Samples may be bulk, standard split spoon (both disturbed) or 2-1/2" I.D. thin wall ("undisturbed") Shelby tube samples. See log for type.

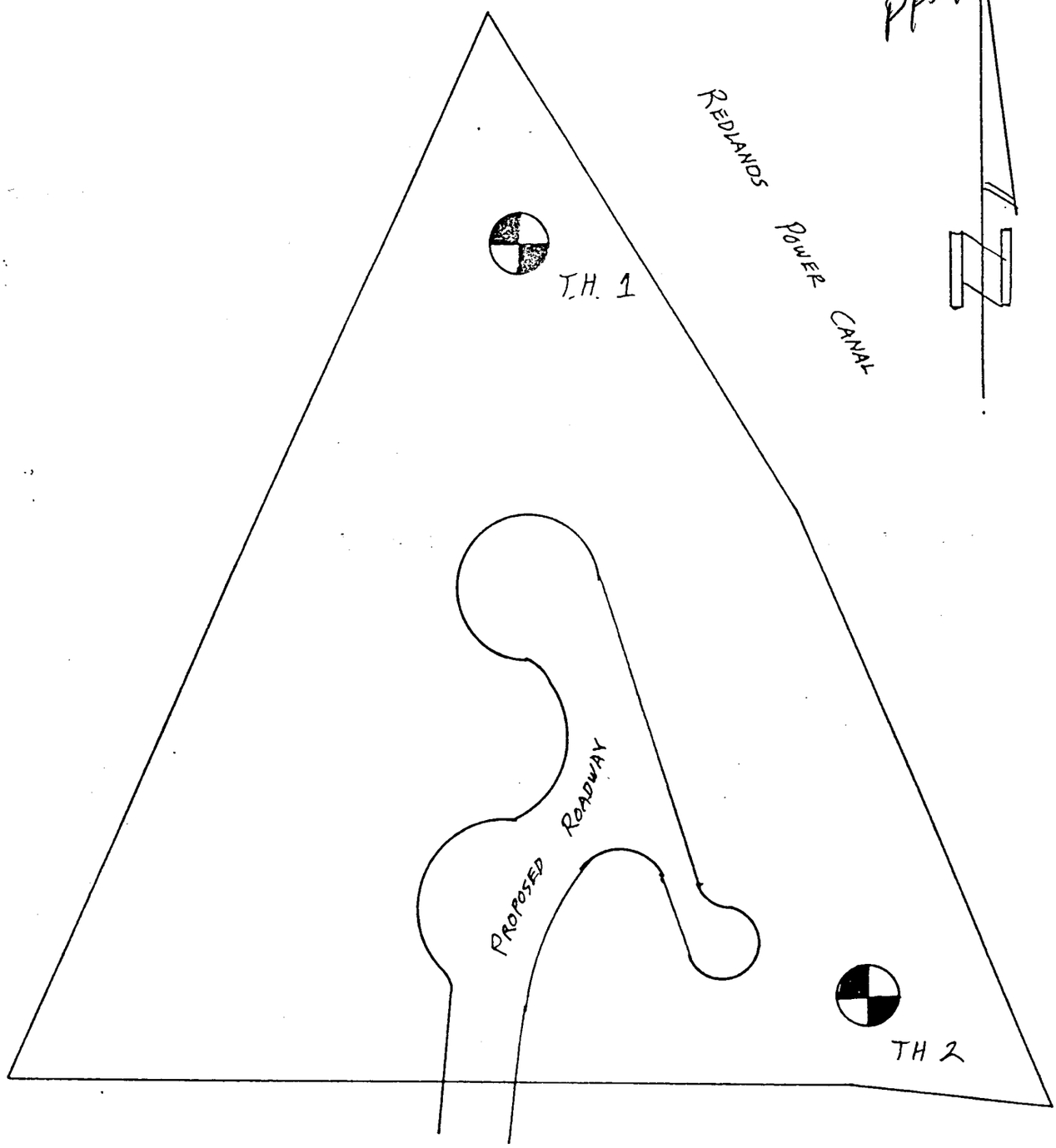
The boring logs show subsurface conditions at the dates and locations shown, and it is not warranted that they are representative of subsurface conditions at other locations and times.

LINCOLN DeVORE TESTING LABORATORY

COLORADO: Colorado Springs, Pueblo, Glenwood Springs, Montrose, Gunnison, Grand Junction. – WYO. – Rock Springs

EXPLANATION OF BOREHOLE LOGS AND LOCATION DIAGRAMS

PP-95-29



Lincoln DeVore, Inc.
Geotechnical Consultants

WILLOW RIDGE SUB. REDLANDS, C.J.

		DATE 8-26-94
JOB NO. 81357-J	DRAWN EMM	

PP-95-29

BORING NO. 1

BORING ELEVATION:

DEPTH (FT.)	SOIL LOG	DESCRIPTION				BLOW COUNT	SOIL DENSITY pcf	WATER %
		Scattered Gravels with Sandy Silts						
		Low Density	Sl. Moist	Sulfates				
		ML Sandy silt	Non-plastic	Red - pink	8T		99.3	7.2%
		GM Sandy, Silty Gravel	Alluvial					
5		River Terrace Deposit		Sulfates	5			
			Medium Density					
		Large Cobbles and Gravels		Non-Expansive				
		GM Sandy, Silty Gravel			BULK			2.5%
		River Terrace Deposit		Slightly Moist				
10					10			
		T.D. @ 8'						
15					15			
20					20			
25					25			
30					30			

Blow Counts are cumulative for each 6 inches of sampler penetration.

NO Free Water During Drilling 8-1-94

LOG OF SUBSURFACE EXPLORATION

LINCOLN - DeVORE, Inc.

Grand Junction, Colorado

Willow Ridge Subdivision
Grand Junction, Colorado

Design Affiliates, LCC

Clavonne & Associates

Date 8-26-94

Job No. 81352-J

Drawn EMM

PP-95-29

Original Do NOT Remove From Office

BORING NO. 2

BORING ELEVATION:

DEPTH (FT.)	SOIL LOG	DESCRIPTION				BLOW COUNT	SOIL DENSITY pcf	WATER %
		Scattered Gravels with Sandy Silts						
		Medium Density	Sl. Moist	Alluvial	Sulfates			
		ML Sandy silt	Non-plastic			ST	110.0	7.1%
		GM Sandy, Silty Gravel	Red - pink	Sulfates				
5		River Terrace Deposit		Very Sandy Strata		5		
			Medium Density					
		Large Cobbles and Gravels		Non-Expansive				
		GM Sandy, Silty Gravel		Slightly Moist		BULK		1.4%
		River Terrace Deposit						
10						10		
		T.D. @ 8'						
15						15		
						20		
25						25		
30						30		

Blow Counts are cumulative for each 6 inches of sampler penetration.

NO Free Water During Drilling 8-1-94

LOG OF SUBSURFACE EXPLORATION

LINCOLN - DeVORE, Inc.

Grand Junction, Colorado

Willow Ridge Subdivision
Grand Junction, Colorado

Design Affiliates, LCC

Clavonne & Associates

Date 8-26-94

Job No. 81352-J

Drawn EMM

PP95-29 Original Do NOT Remove From Office

SUMMARY SHEET

Soil Sample SANDY SILT (ML) Test No. 81352-J

Location WILLOW RIDGE SUB. REDLANDS G.J. Date 8-1-94

Boring No. 1 Depth 3

Sample No. I Test by RL

Natural Water Content (w) 7.2 %

Specific Gravity (Gs) 2.66 In Place Density (γ_o) 99.3 pcf

SIEVE ANALYSIS:

Sieve No.	% Passing
1 1/2"	
1"	
3/4"	
1/2"	100
4	97
10	95
20	94
40	93
100	85
200	72.1

HYDROMETER ANALYSIS:

Grain size (mm)	%
.02	48
.005	30

Plastic Limit P.L. N.P. %

Liquid Limit L. L. 18.3 %

Plasticity Index P.I. -0- NP %

Shrinkage Limit ____ %

Flow Index ____

Shrinkage Ratio ____ %

Volumetric Change ____ %

Lineal Shrinkage ____ %

MOISTURE DENSITY: ASTM METHOD

Optimum Moisture Content - w_o ____ %

Maximum Dry Density - γ_d ____ pcf

California Bearing Ratio (av) ____ %

Swell: ____ Days ____ %

Swell against ____ psf Wo gain ____ %

BEARING:

Housel Penetrometer (av) 2200+ psf

Unconfined Compression (qu) ____ psf

Plate Bearing: ____ psf

Inches Settlement ____

Consolidation 1.2 % under 2042 psf

PERMEABILITY:

K (at 20°C) ____

Void Ratio ____

Sulfates 1000 ppm.

SOIL ANALYSIS

LINCOLN-DeVORE TESTING LABORATORY
COLORADO SPRINGS, COLORADO

PP-95-29

Original
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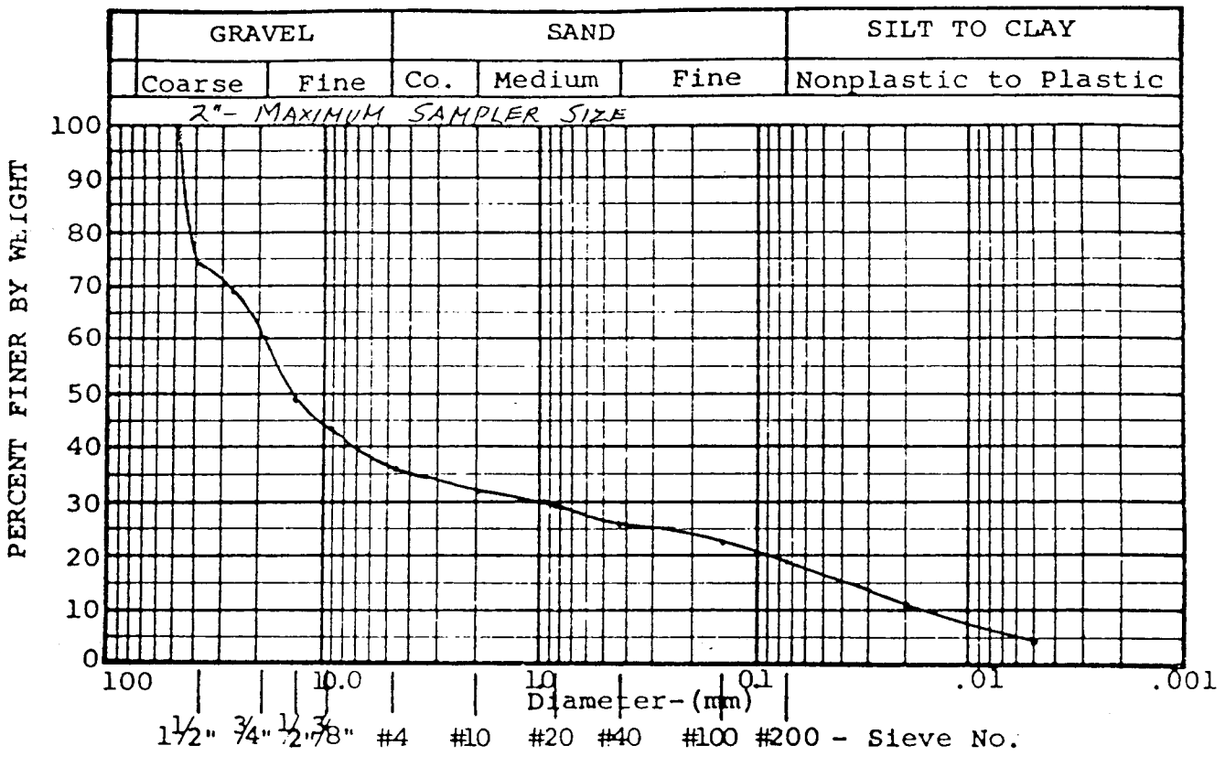

Soil Sample GP/GM Silty GRAVEL Sample Location TH 1 @ 7'

Sample No. II

Specific Gravity 2.66

Moisture Content 2.5

Effective Size .016 mm

Cu 1125.0

Cc 3.5

Fineness Modulus

L.L. % P.I. NP %

Bearing 4500 psf

Sulfates 250 ppm

Sieve Size -2" material only	% Passing
1-1/2"	74
1"	69
3/4"	60
1/2"	49
3/8"	43
#4	36
#10	32
#20	29
#40	26
#100	22
#200	18.7
0.0200	10.4
0.0050	4.1

Lincoln DeVore, Inc.
Geotechnical Consultants

WILLOW RIDGE SUB. REDLANDS, C.J.

DATE

JOB NO. DRAWN

PP-95-29

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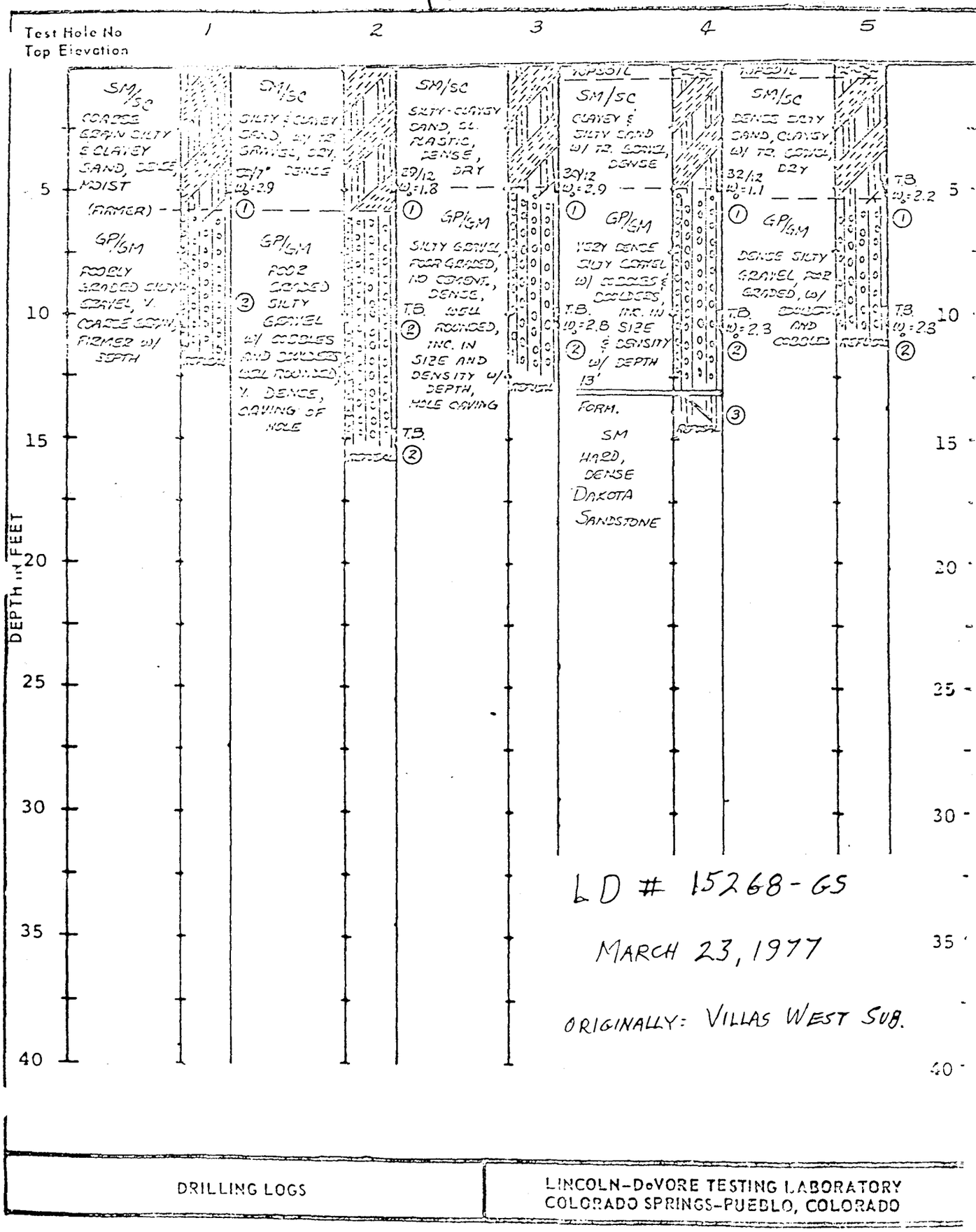
From Office



LD # 15268-GS

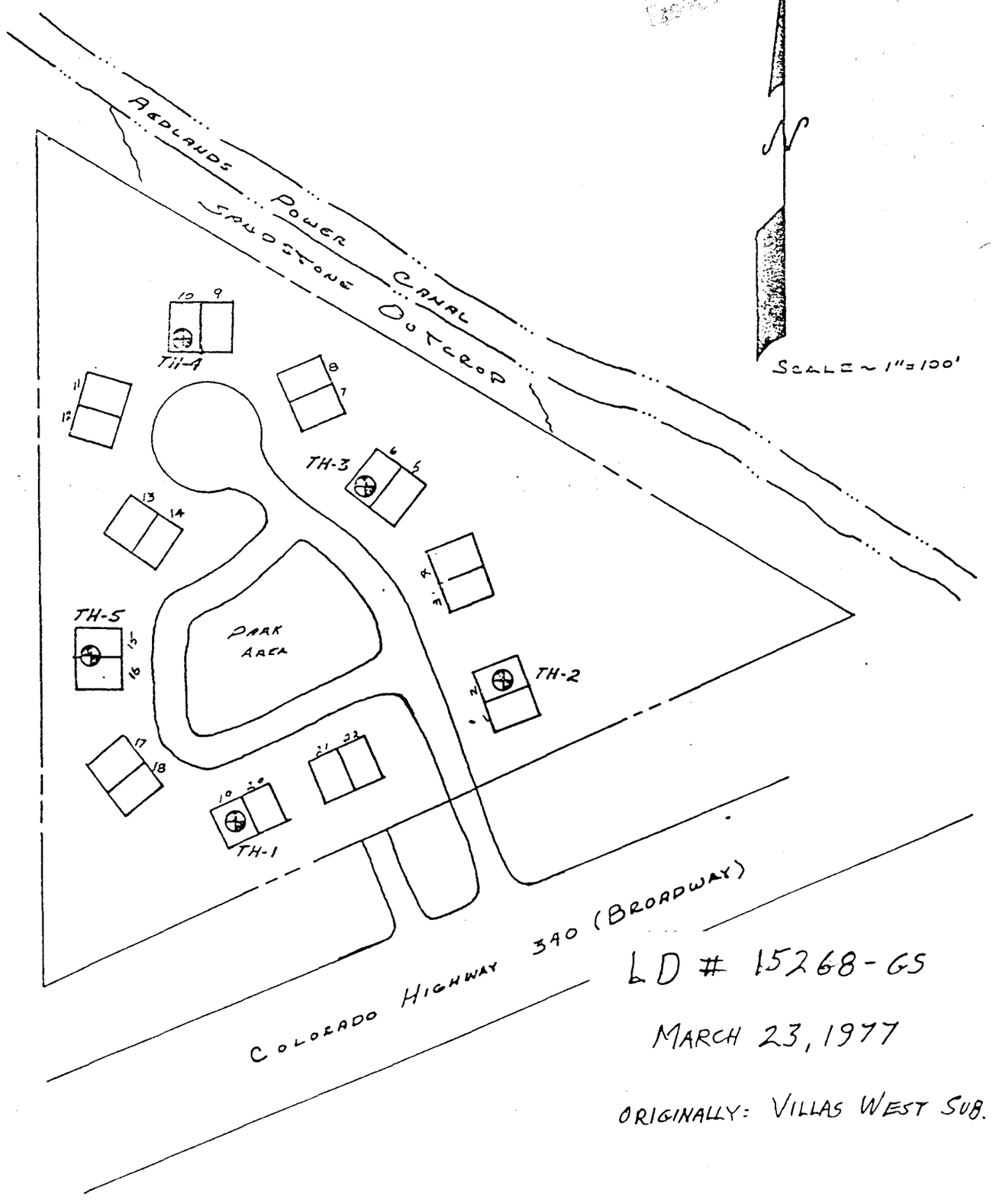
MARCH 23, 1977

ORIGINALLY: VILLAS WEST SUB.

DRILLING LOGS

LINCOLN-DeVORE TESTING LABORATORY
COLORADO SPRINGS-PUEBLO, COLORADO

PP-95-29



LD # 15268-GS

MARCH 23, 1977

ORIGINALLY: VILLAS WEST SUB.

TEST BORING LOCATION DIAGRAM
VILLAS WEST
GRAND JUNCTION ~ COLORADO

THE LINCOLN-DeVORE TESTING LABORATORY
COLORADO: Colorado Springs, Pueblo, Glenwood Springs, Montrose, Gunnison. WYOMING: Rock Spring

REVIEW COMMENTS

FILE # **PP-95-29**

TITLE HEADING: Major Subdivision-Preliminary Plan-Willowridge Subdivision

LOCATION: NW corner Hwy 340 and Redlands Power Canal

PETITIONER: Oliver E. Frascona

PETITIONER'S ADDRESS/TELEPHONE: 1910 Stony Hill Road
Boulder, CO 80303
303-494-3000

PETITIONER'S REPRESENTATIVE: Kenneth Schmohe/Design Affiliates, LLC

STAFF REPRESENTATIVE: Tom Dixon

NOTE: THE PETITIONER IS REQUIRED TO SUBMIT FOUR (4) COPIES OF WRITTEN RESPONSE AND REVISED DRAWINGS ADDRESSING ALL REVIEW COMMENTS ON OR BEFORE 5:00 P.M., FEBRUARY 24, 1995.

PUBLIC SERVICE **02/03/95**
Dale Clawson **244-2695**

Electric and Gas: Require 14' front lot line utility easement on all lots plus the Common Open Space at the northwesterly corner of the Subdivision.

MESA COUNTY PLANNING DEPARTMENT **02/03/95**
Linda Dannenberger **244-1771**

Will fencing be limited to outside the maintenance easement? No other comments.

GRAND JUNCTION FIRE DEPARTMENT **02/07/95**
Hank Masterson **244-1414**

The Fire Department has no problems with this proposal.

SCHOOL DISTRICT #51 **02/14/95**
Lou Grasso **242-8500**

See Previous Comments. Change Enrollment Impact to: 4 @ Elementary, 2 @ Middle School, 2 @ High School.

REDLANDS WATER AND POWER **02/09/95**
Gregg Strong **243-2173**

1. The drainage plans with retention pond and controlled drain are acceptable to Redlands Water & Power Company. IF ANY CHANGES ARE MADE REDLANDS RESERVES THE RIGHT TO REVIEW AND APPROVE THE CHANGES.
2. A hold harmless clause from any contaminants in the water or drainage that flows into Redlands Power Canal MUST BE INCLUDED IN THE Covenants. REDLANDS RESERVES THE RIGHT TO APPROVE THE LANGUAGE PERTAINING TO THIS SECTION OF THE COVENANTS. A Final and approved copy of the Covenants will be provided to Redlands.
3. A set of plans or drawings are to be presented to Redlands for approval prior to installation of a domestic water line attached to the bridge that crosses over Redlands Power Canal on Hwy 340.
4. A copy of the soils report shall be provided to Redlands.
5. A fence on the outside perimeter toward Redlands Power Canal is encourages and recommended to discourage homeowners from throwing debris into Redlands Power Canal.

CITY DEVELOPMENT ENGINEER **02/16/95**
Jody Kliska **244-1591**

A right-turn deceleration lane is required on Highway 340 in addition to the CDOT required left-turn acceleration lane for improved safety and to decrease conflicts with cyclists/pedestrians on the existing bike path. Widened street is not allowed. A detail for the entry island will be required at final design. Any landscaping in the island will be required to be maintained by the Homeowner's Association.

GRAND JUNCTION POLICE DEPARTMENT **02/14/95**
Dave Stassen **244-3587**

I'm very wary of the "elongated bulb" at the entrance. To intentionally make an area of a street for children to play is a significant safety hazard. Other than this concern, the proposal does not cause any special needs or problems for the police department.

CITY UTILITY ENGINEER **02/15/95**
Bill Cheney **244-1590**

1. The proposed water line in Broadway appears to be located too close to the sewer line that extends west of the last manhole shown east of Mayfield Drive. Show existing sewer line to the west.
2. Sewer design requires adequate depth to insure service to Mays Subdivision at some future date.
3. There may be additional comments after submittal of final drawings.

COMMUNITY DEVELOPMENT DEPARTMENT **02/16/95**
Tom Dixon **244-1447**

See attached comments.

REVIEW COMMENTS

FILE #PP-95-29 **TITLE HEADING:** Major Subdivision-Preliminary Plan-Willowridge Subdivision

LOCATION: NW corner Hwy 340 and Redlands Power Canal

PETITIONER: Oliver E. Frascona

PETITIONER'S ADDRESS/TELEPHONE: 1910 Stony Hill Road
Boulder, CO 80303
303-494-3000

PETITIONER'S REPRESENTATIVE: Kenneth Schmohe/Design Affiliates, LLC

STAFF REPRESENTATIVE: Tom Dixon

NOTE: THE PETITIONER IS REQUIRED TO SUBMIT FOUR (4) COPIES OF WRITTEN RESPONSE AND REVISED DRAWINGS ADDRESSING ALL REVIEW COMMENTS ON OR BEFORE 5:00 P.M., MARCH ~~24~~ 27, 1995.

COMMUNITY DEVELOPMENT DEPARTMENT **3/15/95**
Tom Dixon **244-1447**

See attached comments.

CITY UTILITY ENGINEER **3/13/95**
Jody Kliska **244-1591**

Objections by the Public Works Department to the enlarged bulb pavement section proposed behind the entry island for the Willow Ridge Subdivision include the following:

1. Excess pavement for the City to maintain. Most developers are opposed to providing any additional pavement, and we changed our cul-de-sac standard last year to provide less pavement area on short cul-de-sacs.
2. The extra pavement will encourage more u-turn traffic and at the same time will encourage children to play in the street. There is a potential for conflict between vehicles and children.
3. The aesthetics of the elongated bulb, especially since the street is relatively short and ends in a cul-de-sac, are not pleasing.

In conversation with the petitioner's representative several submittals ago, I suggested a widened entry to accommodate the proposed landscaped island would be acceptable, and probably necessary to maintain lane widths through the island section. This did not include widening the pavement in a bulb behind the island.

STAFF REVIEW (Preliminary comments)

FILE: #PP-95-29

DATE: March 15, 1995

STAFF: Tom Dixon, AICP

REQUEST: Preliminary plat and plan review for 14-lot subdivision

LOCATION: North side of Highway 340 between East Mayfield Drive and the Redlands Canal

APPLICANTS: Oliver Frascona and Kenneth L. Schmohe

EXISTING LAND USE: Undeveloped

PROPOSED LAND USE: Single-family Residential

EXISTING ZONING: PR-4 (Mesa County)

PROPOSED ZONING: PR-3.1 (Planned Residential, 3.1 units per acre)

PROPOSAL: This proposal is for a 14-lot subdivision on a 4.64-acre parcel. The proposed lots vary in size from 6,333 square feet to 13,779 square feet. These lots are intended for single-family residential development with a zero side yard setback on one side of most lots with a corresponding 10-foot side yard setback on the opposite side. Many of the proposed lots also include an attached, one room guest house or "casita" on the front or side portions of the lots. The site was annexed to the City in January, 1995 and is in the process of having a zone of annexation applied to it. The zoning designation of PR-4 under Mesa County is being proposed as a City zone of annexation of PR-3.1.

STAFF ANALYSIS: Staff comments with this proposal are as follows:

1) The direction given by the City Council when they unanimously voted to deny the previous 16-lot subdivision proposal (#190-94) was to reduce the density on this site. The staff position has been that 12 to 13 lots were probably the maximum desirable density unless greater density could be illustrated. The issue of a density limitation was based on constraints of topography, access, and compatible development with Mays' Subdivision. As proposed, the 14 lots exceeds the discussed density but staff feels the 14 proposed lots demonstrates a workable project.

2) The proposal includes a number of attached "casitas" or guest accommodations. Uses will be restricted to temporary living quarters for guests. Limitations on use and length of stays will need to be specified in the Covenants, Conditions and Restrictions (CC&Rs).

3) The proposed street, Willow Ridge Court, is a cul-de-sac with an entry feature and a flared opening of some 85 feet in width that tapers to a standard 44 feet in width prior to its terminus. As a street to be dedicated to the public, this flared portion could result in higher maintenance responsibilities for the City.

4) A homeowners' association is required with any final approval. The homeowners' association will be responsible for the maintenance of all open space areas, the retention area, and the entry feature in the middle of the proposed Willow Ridge Court. The entry feature will have to be identified as a tract at final review since its maintenance will be the responsibility of the homeowners' association and not the City.

5) The petitioner has indicated support for a rezone from Mesa County PR-4 to City zoning of PR-3.1. Under a PR-3.1 zone, a maximum of 14 units would be allowed on the site. The zone of annexation is presently being considered by the City Council.

6) The zero lot line setback remains a desired feature of the petitioner's design for this project. This manner of development must be accompanied by a corresponding 10-foot setback on the opposite side of the zero lot line boundary. In order for this development to both appear and function cohesively, the zero lot line development pattern needs to be applied on all lots that are identified as such.

7) In order to make the access to the site work, both exceleration and deceleration lanes will be required on Highway 340 (Broadway). These lanes must be shown on the plat when the final plan is proposed.

CONCLUSION: Staff finds the proposed 14-lot project substantially addresses many of the issues previously discussed in the review and hearings process. The current proposal can be supported by staff.

STAFF REVIEW (Preliminary comments)

FILE: #PP-95-29

DATE: February 16, 1995

STAFF: Tom Dixon, AICP

REQUEST: Preliminary plat and plan review for 15-lot subdivision and a Zone of Annexation of PR-3.5

LOCATION: North side of Highway 340 between East Mayfield Drive and the Redlands Canal

APPLICANTS: Oliver Frascona and Kenneth L. Schmohe

EXISTING LAND USE: Undeveloped

PROPOSED LAND USE: Single-family Residential

EXISTING ZONING: PR-4 (Mesa County)

PROPOSED ZONING: PR-3.5 (Planned Residential, 3.5 units per acre)

PROPOSAL: This proposal is for a 15-lot subdivision on a 4.64-acre parcel. The proposed lots vary in size from approximately 6,500 square feet to approximately 8,500 square feet and are intended for single-family residential development with a zero side yard setback on one side of most lots. Many of the proposed lots also propose a detached, one room guest house or "casita" in the front portions of the lots. The site has recently been annexed to the City but needs to have a Zone of Annexation applied to it. It currently has a zoning designation of PR-4 under Mesa County . The petitioner is proposing a City zone of annexation of PR-3.5.

SITE HISTORY: This site is being reviewed for the third time in six months as a residential development. Willow Ridge Subdivision was first reviewed before the Grand Junction Planning Commission in October, 1994 as item #146-94. The proposal was a 19-lot detached, single-family residential subdivision. The staff recommendation was for denial. The Planning Commission voted to deny the proposal by a vote of 5-0. The basis for denial were concerns over drainage, traffic safety onto and off of Highway 340, the proposed density, lot configurations, proposed setbacks (0 side yard on one side of each lot), the carrying capacity of the site, street circulation, and neighborhood compatibility with the May's Subdivision to the west.

A second proposal for Willow Ridge Subdivision was reviewed by the Planning Commission as item #190-94 at its December, 1994 meeting. This proposal was for a 16-lot subdivision with both attached and detached, single-family residential development. Four of

the proposed lots would have been designated for townhome development in structures containing no more than two units each. The staff recommendation was again for denial. The Planning Commission vote was 3-3, which made the staff recommendation of denial stand. The basis for the second denial were continuing concerns over traffic safety onto and off of Highway 340 and the need for a deceleration lane, the proposed density, lot configurations that had disproportionate length to width ratios, and the carrying capacity of the site. #190-94 was appealed to the City Council and was heard January 4, 1995. The City Council denied the appeal by a vote of 6-0.

STAFF ANALYSIS: Staff concerns with this proposal are as follows:

1) The direction given by the City Council when they unanimously voted to deny the previous 16-lot subdivision proposal (#190-94) was to reduce the density on this site. The staff position has been that 12 to 13 lots are the maximum desirable density. This density limitation is due to constraints of topography, access, and compatible development. As proposed, the 15 lots exceeds this desired density.

2) The proposal includes a number of detached "casitas", most of which are located in the front yards of the residences. These multiple, detached units, even if restricted to temporary living quarters for guests, are not allowed in the City's straight residential zones. The inclusion of these casitas in any development proposal raises concerns about the true or potential density of the site. There is also concerns that allowing such units would become an enforcement problem for the City, even if restrictions of their use is included in the subdivision's covenants, conditions, and restrictions. The concept of creating casita units cannot be supported for this project.

3) The submitted site plan illustrates a streetscape that is going to be dominated by driveways and garages. Staff suggested in previous reviews (both #146-94 and #190-94) that the houses only be setback from the right-of-way 15 feet with garage setbacks of 20 feet. In fact, these setbacks are noted on the submitted preliminary plan. The site design is completely contrary to this with all garages fronting the residences. Ironically, most of the proposed casitas would be placed in a manner similar to that recommended by staff for the main residences. A design that orients houses toward the street in place of garages would be more compatible with the style of development at Mays' Subdivision.

4) The submitted plans showing residential profiles and prototypes is somewhat misleading. These plans do not show the proposed casitas, how they will look from a vertical perspective, and what materials they will be composed of.

5) The proposed street is a cul-de-sac with an entry feature and a flared opening of some 85 feet in width that tapers to a standard 44 feet in width prior to its terminus. As a street to be dedicated to the public, this flared portion would result in higher maintenance responsibilities for the City. Therefore, it should be deleted from consideration for any development proposal on the site.

6) The petitioner proposes a rezone from Mesa County PR-4 to City zoning of PR-3.5.

Staff will support a rezone no higher than PR-3. Under a PR-3 zone, a maximum density of 13 units would be allowed on the site. A separate recommendation for a zone of annexation will occur since it requires a hearing before the City Council.

CONCLUSIONS: Petitioner should re-submit a modified proposal with a design which reduces the number of lots for residences on individual lots to 12 or 13. This is consistent with the direction given by the City Council when the previous appeal was denied (File # 190-94). The new proposal should also eliminate the proposed casitas and should modify the floor plans of the residences so that the front doors are placed closer to the street than the garage doors for all the proposed residences. This would allow greater backyard areas for many of the lots. The proposed street should be altered so that it has a uniform width.

STAFF REVIEW

FILE: #ANX-94-149

DATE: February 23, 1995

STAFF: Tom Dixon, AICP

PROPOSAL: Zone of Annexation of PR-3

LOCATION: North side of Highway 340 between East Mayfield Drive and the Redlands Canal

APPLICANTS: Oliver Frascona and Kenneth L. Schmohe

EXISTING LAND USE: Undeveloped

PROPOSED LAND USE: Single-family Residential

EXISTING ZONING: PR-4 (Mesa County)

PROPOSED ZONING: PR-3 (Planned Residential, 3 units per acre)

STAFF ANALYSIS: The Willow Ridge Subdivision proposed a Zone of Annexation of PR-3.5 based on the proposed 15 lots in #PP-95-29, an item originally scheduled for the March 7th hearing but re-scheduled for April 4th. Staff feels that clear direction was provided by the City Council, when the previously proposed 16-lot Willow Ridge Subdivision was appealed (#190-94), regarding density on this site. Based on issues such as traffic concerns on Highway 340, carrying capacity of the site, and compatibility with nearby residential developments, the City Council denied petitioners' appeal and gave direction that 12 lots would be more suitable on this site. The PR-3 zone, as recommended by staff, would allow up to 13 lots which is much more consistent with City Council direction than the proposed 15 lots under the current proposal.

STAFF RECOMMENDATION: A Zone of Annexation of PR-3.

SUGGESTED PLANNING COMMISSION MOTION: Mr. Chairman, on item #ANX-94-149, I move that we recommend to the City Council a Zone of Annexation of PR-3.

STAFF REVIEW (Final)

FILE: #PP-95-29

DATE: March 29, 1995

STAFF: Tom Dixon, AICP

REQUEST: Preliminary plan and plat review for Willow Ridge, a 14-lot subdivision

LOCATION: North side of Highway 340 between East Mayfield Drive and the Redlands Canal

APPLICANTS: Oliver Frascona and Kenneth L. Schmohe

EXISTING LAND USE: Undeveloped

PROPOSED LAND USE: Single-family Residential

SURROUNDING LAND USE (AND APPROXIMATE DENSITY):
NORTH: Single-family Residential (4 units per acre)
SOUTH: Single-family Residential (5 units per acre)
EAST: Undeveloped
WEST: Single-family Residential (5 units per acre)

EXISTING ZONING: PR-4 (Mesa County)

PROPOSED ZONING: PR-3.1 (Planned Residential, 3.5 units per acre)

SURROUNDING ZONING:
NORTH: R-2, Single-family Residential (Mesa County)
SOUTH: R-2, Single-family Residential (Mesa County)
EAST: C-1, Light Commercial
WEST: R-2, Single-family Residential (Mesa County)

RELATIONSHIP TO COMPREHENSIVE PLAN/POLICIES/GUIDELINES: This site is subject to the adopted Redlands Goals and Policies. This document encourages developments on visually prominent areas, such as bluffs and hilltops, to be designed with colors, textures, and architecture which blends in with the surrounding landscape.

SITE DESCRIPTION: The site is a portion of a small bluff overlooking the Redlands Canal. The top of the bluff is relatively flat but has steep slopes on the northern and northeastern sides. There is also a steep drainage channel or gully on the upper southwest portion of the site leading down to the canal. This gully contains heavy vegetative growth, has been a repository for tree and yard trimmings, and has been used as a dumping area for excess construction materials.

PROPOSAL: This proposal is for a 14-lot subdivision on a 4.64-acre parcel. The proposed lots vary in size from 6,333 square feet to 13,779 square feet and are intended for single-family residential development with a zero side yard setback on one side of most lots. The site has recently been annexed to the City but needs to have a Zone of Annexation applied to it. It currently has a zoning designation of PR-4 under Mesa County. The petitioner supports a City zone of annexation of PR-3.1.

SITE HISTORY: This site is being reviewed for the third time in seven months as a residential development. Willow Ridge Subdivision was first reviewed before the Grand Junction Planning Commission in October, 1994 as item #146-94. The proposal was a 19-lot detached, single-family residential subdivision. The staff recommendation was for denial. The Planning Commission voted to deny the proposal by a vote of 5-0. The basis for denial were concerns over drainage, traffic safety onto and off of Highway 340, the proposed density, lot configurations, proposed setbacks (0 side yard on one side of each lot), the carrying capacity of the site, street circulation, and neighborhood compatibility with the May's Subdivision to the west.

A second proposal for Willow Ridge Subdivision was reviewed by the Planning Commission as item #190-94 at its December, 1994 meeting. This proposal was for a 16-lot subdivision with both attached and detached, single-family residential development. Four of the proposed lots would have been designated for townhome development in structures containing no more than two units each. The staff recommendation was again for denial. The Planning Commission vote was 3-3, which made the staff recommendation of denial stand. The basis for the second denial were continuing concerns over traffic safety onto and off of Highway 340 and the need for a deceleration lane, the proposed density, lot configurations that had disproportionate length to width ratios, and the carrying capacity of the site. #190-94 was appealed to the City Council and was heard January 4, 1995. The City Council denied the appeal by a vote of 6-0.

STAFF ANALYSIS: Staff comments with this proposed 14-lot subdivision are as follows:

1) The direction given by the City Council when they unanimously voted to deny the previous 16-lot subdivision proposal (#190-94) was to reduce the density on this site. The staff position has been that 12 to 13 lots were probably the maximum desirable density on this site unless greater density could be illustrated. The issue of a density limitation was based on constraints of topography, access, and compatible development with Mays' Subdivision. As proposed, the 14 lots exceeds the discussed density but staff feels the 14 proposed lots demonstrates a workable project.

2) The proposal includes a number of attached "casitas" or guest accommodations. Uses will be restricted to temporary living quarters for guests. Limitations on use and length of stays will need to be specified in the Covenants, Conditions and Restrictions (CC&Rs).

3) The proposed street, Willow Ridge Court, is a cul-de-sac with an entry feature and a flared opening of some 85 feet in width that tapers to a standard 44 feet in width prior to its terminus as a cul-de-sac. As a street to be dedicated to the public, this flared portion

could result in higher maintenance responsibilities for the City. The petitioner desires this feature as part of the project and as a defining element of the site's design. If the intent of this feature is aesthetical, a less wide flare (say, 76 feet) would equally provide the visual effect of this feature while reducing the City's maintenance liability.

4) A homeowners' association is required with any final approval. The homeowners' association will be responsible for the maintenance of all open space areas, the drainage detention area, and the entry feature in the middle of the proposed Willow Ridge Court. The entry feature will have to be identified as a tract at final platting since its maintenance will be the responsibility of the homeowners' association and not the City.

5) The petitioner supports a rezone from Mesa County PR-4 to City zoning of PR-3.1. Under a PR-3.1 zone, a maximum of 14 units would be allowed on the site. The zone of annexation is presently being considered by the City Council and second reading for a PR-3.1 zone is scheduled for the April 5th City Council meeting.

6) The zero lot line setback remains a desired feature of the petitioner's design for this project. This manner of development must be accompanied by a corresponding 10-foot setback on the opposite side of the zero lot line boundary. In order for this development to both appear and function cohesively, the zero lot line development pattern needs to be applied on all lots that are identified as such. A maintenance easement for all residences constructed with a zero lot line shall be required with the final platting.

7) In order to make the access to the site work, both acceleration and deceleration lanes will be required on Highway 340 (Broadway). These lanes must be shown on the plat when the final plan is proposed.

8) The setbacks and height limits recommended for any structures in this project are as follows:

front yard setback:	15 feet
rear yard setback:	25 feet
side yard setback:	0 feet (north side of all lots except Lot 8),
	10 feet (south side of all lots except Lot 8)
garage setback:	20 feet
building height:	32 feet

9) All structures developed on the site shall be required to maintain a 25-foot setback from the bluff line. The bluff line shall be identified on the final plat.

STAFF RECOMMENDATION: Staff recommends approval of the proposed 14-lot Willow Ridge Subdivision subject to inclusion and/or resolution of items 1 through 9, above.

RECOMMENDED PLANNING COMMISSION MOTION: Mr. Chairman, on item #PP-95-29, a preliminary plan/plat for the 14-lot Willow Ridge Subdivision, I move that we approve the proposal as recommended by staff.

Code Amendment

FILE: #1-94(X)

DATE: January 16, 1995

STAFF: Tom Dixon, AICP

OVERVIEW: In many communities, both in the United States and in countries with similar approaches to residential design such as Canada and Australia, private street standards serving a limited number of residential units are allowed in certain instances. Two cities, Portland, Oregon and Boulder, Colorado, have gone so far as to develop "skinny street" standards that reduce street widths according to function and traffic usage.

The City of Grand Junction is evaluating the feasibility of creating alternative street standards in certain instances. This reflects changes in how streets serving a limited number of residences are viewed. Private streets could be allowed in certain circumstances where the scale and character of a project might be enhanced. Short, dead-end streets serving a limited number of lots without a cul-de-sac turnaround are sometimes referred to as "auto courts". The proposed use of "auto courts" as an alternative to standard cul-de-sac requirements has been proposed in several recent subdivision proposals within the City. A variation to the "auto court" concept is a looped private street, essentially a pair of "auto courts" that link together with each end connecting to a public right-of-way. Looped private streets have also been proposed for some recent development projects.

Presently, the Zoning and Development Code is silent on this issue and there is no provision for allowing private streets. The adoption of minimum standard for "auto courts" looped private streets, or similar variations is needed.

The proposed code amendment is intended to allow "auto courts" and looped private streets as a development alternative for residential development. This provision will support an infill development strategy and is capable of promoting high-quality development patterns in situations when it is not feasible to require or develop full widths streets which serve a limited area and/or number of dwelling units.

The proposed code language is as follows:

1) PURPOSE: The intent of the private street standard is to allow two types of alternative street designs which serve a limited purpose. One is an auto court, a short and narrow private street that serves up to six residential dwelling units, extends for no more than 150 feet from a public street, and terminates in a dead-end. The second type is a looped private street which connects on both ends to public streets, serves no more than 12 residential units, and has a total length no greater than 300 feet from the edge of pavement with a public street.

The two types of private streets are intended to create alternatives to the current public street standards which are designed to allow two-way traffic flows at moderate speeds and parking on both sides of the street. These private streets can: 1) permit greater flexibility in residential street access, 2) encourage more creative design and clustering in residential development, 3) decrease development infrastructure costs, 4) provide a public benefit by reducing public street maintenance costs, 5) provide safe residential environments, and 6) promote attractive streetscapes that give neighborhoods character and identity by allowing alternative streets surfaces, finishes and designs.

2) STANDARDS: The following standards shall apply to auto courts.

a) An auto court shall serve no more than six (6) residential dwellings units if it deadends and no more than twelve (12) dwelling units if it is a looped drive. For private looped streets, additional off-street parking shall be required at the rate of one space per two units and shall be located in one or more parking pods within 200 feet of any unit the street serves. These parking areas are reserved for guest parking and shall not be used for the parking of residents vehicles and/or recreation vehicles for more than a 24-hour period.

b) The maximum length of a private street shall not exceed 150 feet if it deadends and shall not exceed 300 feet if it is looped. These lengths are measured along property lines from the public street.

c) A community mail box and a common trash/garbage collection area shall be located on or near the public right-of-way. Such installations shall be sited so that mail delivery and recycling/garbage pick-up can be accomplished without entering onto or through the private street.

d) Fire hydrants to serve the dwelling units shall be located as required by the Uniform Fire Code.

e) An auto court or private street shall be constructed to the "private street section" standard within the City's adopted street standards. Finished surface may be composed of other variable hard surfaces such as brick, interlocking pavers, cobblestones, or similar finishes, designed by a professional Engineer and as approved by the City Engineer. Asphalt pavement will not be allowed.

f) The width of the auto court shall not be less than 20 feet. The pavement width shall be widened through horizontal curves as required to accommodate the movement of a WB-40 truck. Parking of automobiles shall be limited to the front of garages or in designated parking pods and shall not be permitted along the sides of the auto courts unless adequate width provision is made, as approved by the City Engineer.

g) All entrances to garages shall have at least a 20-foot depth separated from the common maneuvering area of the auto court in order to accommodate additional parking.

h) Each driveway shall have a minimum 15-foot turning radius into the maneuvering portion of the auto court unless otherwise approved by the City Engineer.

i) A utility easement shall be required for a portion of or the full width of the private street when necessary for service delivery.

j) The use of auto courts or private streets shall be confined to residential development in Planned Residential zones as approved through a Minor or Major Subdivision.

k) A common maintenance agreement shall be required for all dwelling units that access the auto court or private street segment. Such agreements shall be recorded with a final plat and shall go with each dwelling unit. This agreement shall not be terminated except by written consent by the Director of Public Works of the City of Grand Junction.

l) Each residential structure accessed from the private street shall have a landscaped area of at least five (5) feet deep between the street and the structure except for the driveway to the garage.

DRAFT

Minor Street Plan
Hermosa Avenue Extension
15th Street to 27 1/2 Road

Area Description

The area covered by this Minor Street Plan lies north of Patterson Road approximately one-quarter mile, and east of 15th Street to 27 1/2 Road. There are several large, undeveloped parcels of land within this area abutting the two north-south collector streets.

Purpose

This plan identifies the need for an east-west residential collector street to serve the area by providing a transportation link between neighborhoods. This link is important to automobile traffic, bicycle traffic, pedestrian traffic and emergency vehicle access, delivery and sanitation access.

The City of Grand Junction Comprehensive Plan identifies the following goal for transportation:

> Achieve a well-balanced transportation system including automobiles, bus, railroad, air, pedestrian and bicycle.

The following objectives set forth under this goal apply to this plan:

> Encourage the provision of efficient circulation routes connecting all areas of Mesa County with important social, economic, and educational functions.
>
> Encourage the orderly and economic development of transportation systems necessitated by existing and future land uses. Road and street systems should aid in the logical development of Grand Junction and Mesa County.
>
> Achieve convenient, safe and economical highway and street systems through proper functional classification, design, improvements and maintenance.
>
> Protect residential, commercial, industrial and public areas from undesirable and unnecessary traffic while at the same time providing proper access to these areas without hampering traffic flow and accessibility of emergency services.
>
> Encourage a compact development pattern which will promote better use of existing routes, optimize the future demand for public transit and minimize pollution by reducing the need for auto travel.

Circulation Needs

Provide a transportation link between neighborhoods which does not force every trip to use Patterson Road. Protection of the operating capacity of Patterson Road is very important.

Allow pedestrians and bicyclists an east-west connection other than Patterson Road.

Allow emergency vehicles, delivery vehicles, and sanitation vehicles to move efficiently in the area.

Traffic Projections

Traffic counts conducted in 1992 indicated an average 1178 vehicles per day used 15th Street north of Patterson Road. Projections for the year 2015 indicate the volumes will be 4000 vehicles per day. A traffic signal is scheduled for installation at the intersection with Patterson Road in 1995.

Traffic counts conducted in 1992 indicated an average 5604 vehicles per day used 27 1/2 Road, and projections for the year 2015 indicate the volumes will approach 9000 vehicles per day. The intersection with Patterson Road is currently signalized.

Current zoning for the 15 acre parcel affected by this minor street plan is RSF-4. If developed under this zoning, 60 single family residences could be constructed, adding 600 trips per day to the street network. Interest in upzoning this parcel to construct 170 apartment units has been shown recently and this would produce an additional 1100 trips per day. The 2 acre parcel to the south is zoned RSF-8 and has the potential for producing 160 new trips per day. The 4 acre parcel to the south is zoned PR-10 and could potentially increase trips by 400 vehicles per day.

Proposed Street Section

These traffic projections indicate a residential collector street section is appropriate. The proposed street standard is designed for 1000-3000 vehicles per day. The pavement is 36' wide with 7' of vertical curb, gutter, and sidewalk on each side in a 52' right-of-way width. This design allows public access by vehicle, pedestrian and bicycle traffic.

DRAFT

Design Criteria

Both 15th Street and 27 1/2 Road are identified as collector streets, and the minimum intersection spacing allowed on a collector street is 300'. Hermosa Avenue must align across 15th Street. As it is extended east, the horizontal alignment must vary from a straight line to meet the minimum intersection spacing criteria on 27 1/2 Road. This means it may align with Spring Valley Circle, or be located north of the Spring Valley Circle at least 300' and must be south of Hawthorne Avenue by 300'.

A residential street connection to the south will be required for development of the adjacent property.

Affected Parcels

The following parcels would be required to access the Hermosa Avenue extension and share in the cost of construction for their proportionate share based on frontage.

2945-013-00-016
2945-013-00-018
2945-013-00-020
2945-013-00-037

Issues and Concerns

The following issues and concerns were expressed to staff by residents of the area and by potential developers. The issue or concern is highlighted with the staff response following.

Cut through traffic will be increased if a street connenction is made by extending Hermosa Avenue, resulting in a majority of the traffic using 15th Street.

In 1995 the intersection of 15th Street and Patterson Road will be signalized, making both the 15th Street and 27 1/2 Road intersections with Patterson Road equally attractive. The attraction of the mall and downtown to draw traffic west and south will be offset by the attraction to the Horizon Drive area and the tendency by drivers to seek the path of least resistance. This path is usually the one with the fewest stops, delays and left turns.

How much additional traffic will use Hermosa Avenue to 12th Street to turn left and can the street handle it? Similarly, what effects will the increased traffic have on F 1/2 Road and Ridge Drive with a future connection from 12th to 15th Street?

The focus of this plan is primarily on the parcels directly affected by the extension of Hermosa Avenue. However, it is important to consider the effects of development on adjacent neighborhoods. Development of the approximately 21 acres affected

by this plan is estimated to generate between 1100 and 1600 trips per day.

24 hour counts were taken in December, 1994 to establish a benchmark of existing traffic conditions. A summary of those counts is presented.

F 1/2 Road east of 12th St.
Hermosa Avenue between 12th and 15th Street
Ridge Drive east of 15th Street

High development costs will be a result of requiring the extension of Hermosa Avenue.

PETITION TO:

PLANNING COMMISSION
COMMUNITY DEVELOPMENT DEPARTMENT
CITY OF GRAND JUNCTION

DECEMBER 12, 1994

Dear Commissioners:

This petition categorically opposes the planned development of #190-94 Willow Ridge Subdivision as proposed.

The opposition is based on the Multi-Facet impact of this development on the present established neighborhood and the surrounding areas in the Redlands. To wit:

A. Traffic and pedestrian safety is a major concern. A decel and excel lane is drastically needed in both directions to insure safety for the residents in the area as well as usera of the bike and walk path.

B. Retention pond safety and sanatation problems resulting in odors and annoying insects, (as mosquitos).

C. The previous soil report is not valid as stated within the report itself because the plans have been changed. The Redlands Power Company also requested the new and updated soil report to satisfy their concerns.

D. We would like the commission to protect our area for annexation purposes and property. The developer should be required to complete all the improvements including the highway, streets, curbs, sidewalks, sewer and site drainage before any construction begins.

E. We believe the proposed developement is incompatible with the present neighborhood standards. If you remove the common space from the proposed plan you only have approx. 3.2 acres to build homes and streets. This lot size is not compatible with those in the surrounding areas. We are concerned about the Real Estate slow down and the over developement of the Grand Jct. area.

F. Safety concerns of children pertaining to the Redlands Canal.

G. We are also disapointed that no one from the developers staff nor the developer made any attempt to contact the residents as reccomended at tha last hearing. By working together with the planning department and surrounding neighbors an appropriate planned developement could have been established. This we believe shows lack of respect for our neighborhood as well as the PLANNING COMMISION and its STAFF.

Therefore, we the undersigned property owners, whose property is within an influenceable distance of the aforementioned tract of land, do hereby formally affix our signatures in protest of the proposed development.

This petition is tendered for your conscientious consideration.

NAME	ADDRESS	PHONE
Floyd Mabry	412 E. Mayfield	241-8619
Susan Mabry	412 E. Mayfield	241-5619
Everett Reece	418 E. Mayfield	245-6072
Sharon A. Reece	418 E. Mayfield	245-6072
[illegible]	422 E Mayfield	242-4288
Leonard Russell	423 E. Mayfield Dr.	242-3148
[illegible]	416 E Mayfield Dr.	242-3075
Jan Russell	423 E Mayfield Dr.	242-3148
Bob Strobl	421 W. Mayfield Dr.	243-6624
Carole A Strobl	421 W. Mayfield Dr	243-6624
Catherine Hasselwood	416 E. Mayfield Dr	242-3075
Robert L. Huggins	413 E. Mayfield Dr.	245-1637
Karen K. Huggins	413 E Mayfield Dr	245-1637
Harold [illegible] Stocker	408 E Mayfield Dr	243-6609
Shirley J Stocker	408 E Mayfield Dr	243-6608

(OVER)

Bobbe Morrison 415 E. Mayfield Dr. Grand Jc 243-4288

Nancy Mason 420 E. Mayfield

Beatrice P. Holte 424 E. Mayfield 242-8099

Marie M. Moore 422 W. Mayfield Dr 242-8754

Rachel Strobel 425 W Mayfield Dr 243-7333

Kenneth R Wiesler 423 West Mayfield Dr. 243-

242 2621

R. Sandor LeBaron 416 West Mayfield Dr 245-2621

Adele LeBaron 416 West Mayfield Dr 245-262

Edward F. Roskowski 414 W. Mayfield Dr 243-718

[illegible] 405 W. Mayfield

Susan M [illegible] 405 W Mayfield Dr 245~~8~~-5164

[illegible] 411 W. Mayfield Dr 245-6680

Ann Gibson 409 W. Mayfield Dr. 242-8916

Russell D. Wiseman 403 W. Mayfield Dr 243-2021

Agnes Wiseman 403 W. Mayfield Dr. 243-2021

J Neil Bratton 415 W. Mayfield dr. 242-4834

Mary Lou Bratton 415 W. Mayfield Dr 242-4834

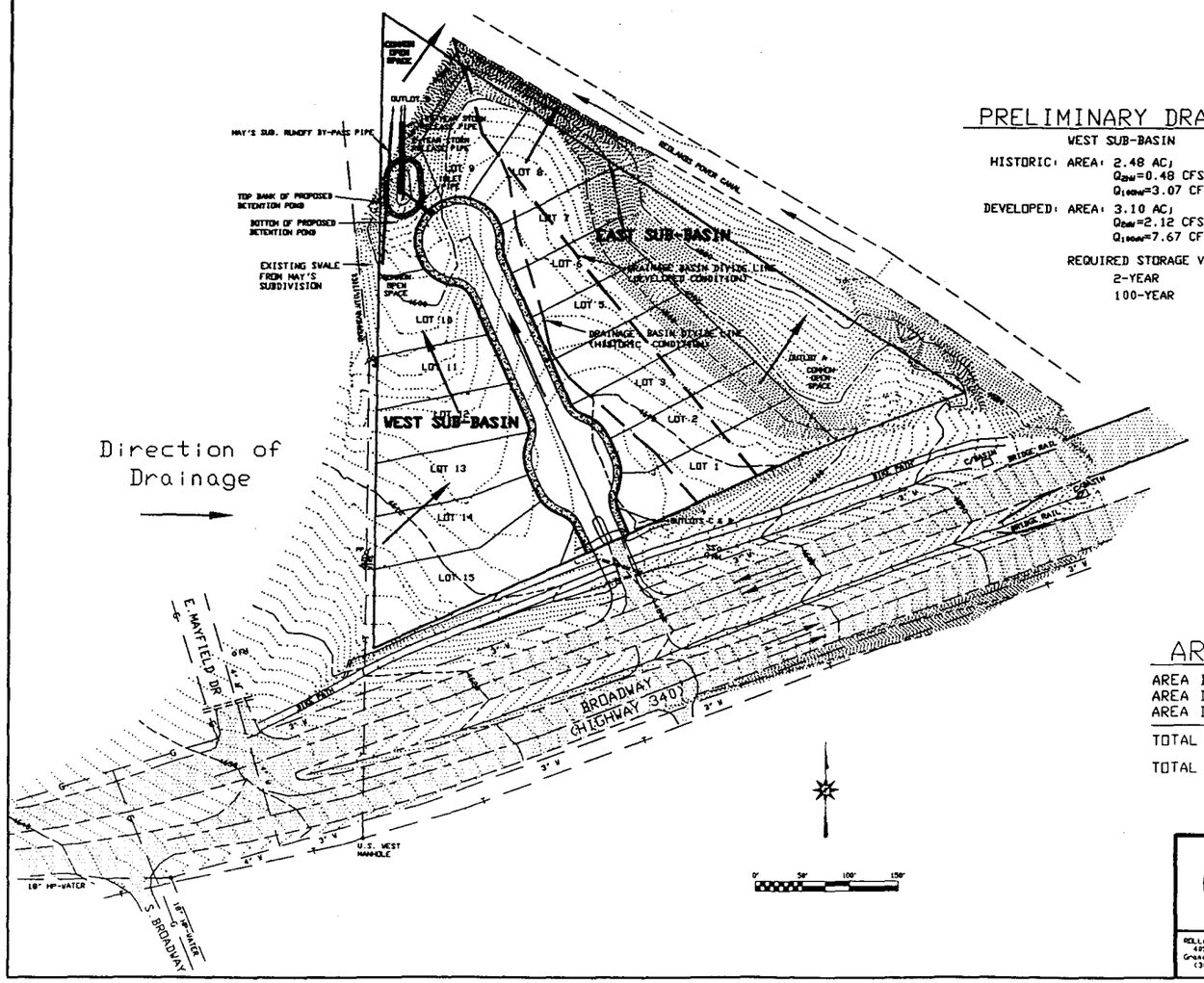
[illegible] 417 W. Mayfield Dr 256-1212

Ralph Erskine 419 W Mayfield Dr 241-5434

[illegible] 418 W. Mayfield Dr. ~~243-4~~ 242-8758

[illegible] 418 W. Mayfield Dr. 242-8758

WILLOW RIDGE SUBDIVISION



PRELIMINARY DRAINAGE SUMMARY

	WEST SUB-BASIN	EAST SUB-BASIN
HISTORIC: AREA:	2.48 AC;	2.12 AC
	Q_{2yrW}=0.48 CFS	Q_{2yrE}=0.41 CFS
	Q_{100yrW}=3.07 CFS	Q_{100yrE}=2.62 CFS
DEVELOPED: AREA:	3.10 AC;	1.50 AC
	Q_{2yrW}=2.12 CFS	Q_{2yrE}=0.61 CFS
	Q_{100yrW}=7.67 CFS	Q_{100yrE}=2.67 CFS

REQUIRED STORAGE VOLUME:

2-YEAR	V=1011 C.F.
100-YEAR	V=2170 C.F.

AREA SUMMARY

AREA IN LOTS	- 2.81 AC
AREA IN OPEN SPACE	- 1.20 AC
AREA IN R.O.W.	- 0.59 AC
TOTAL AREA	- 4.60 AC
TOTAL NUMBER OF LOTS	- 15

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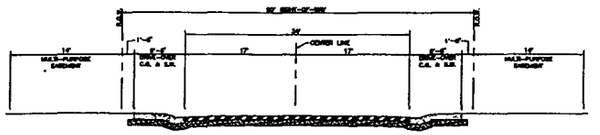
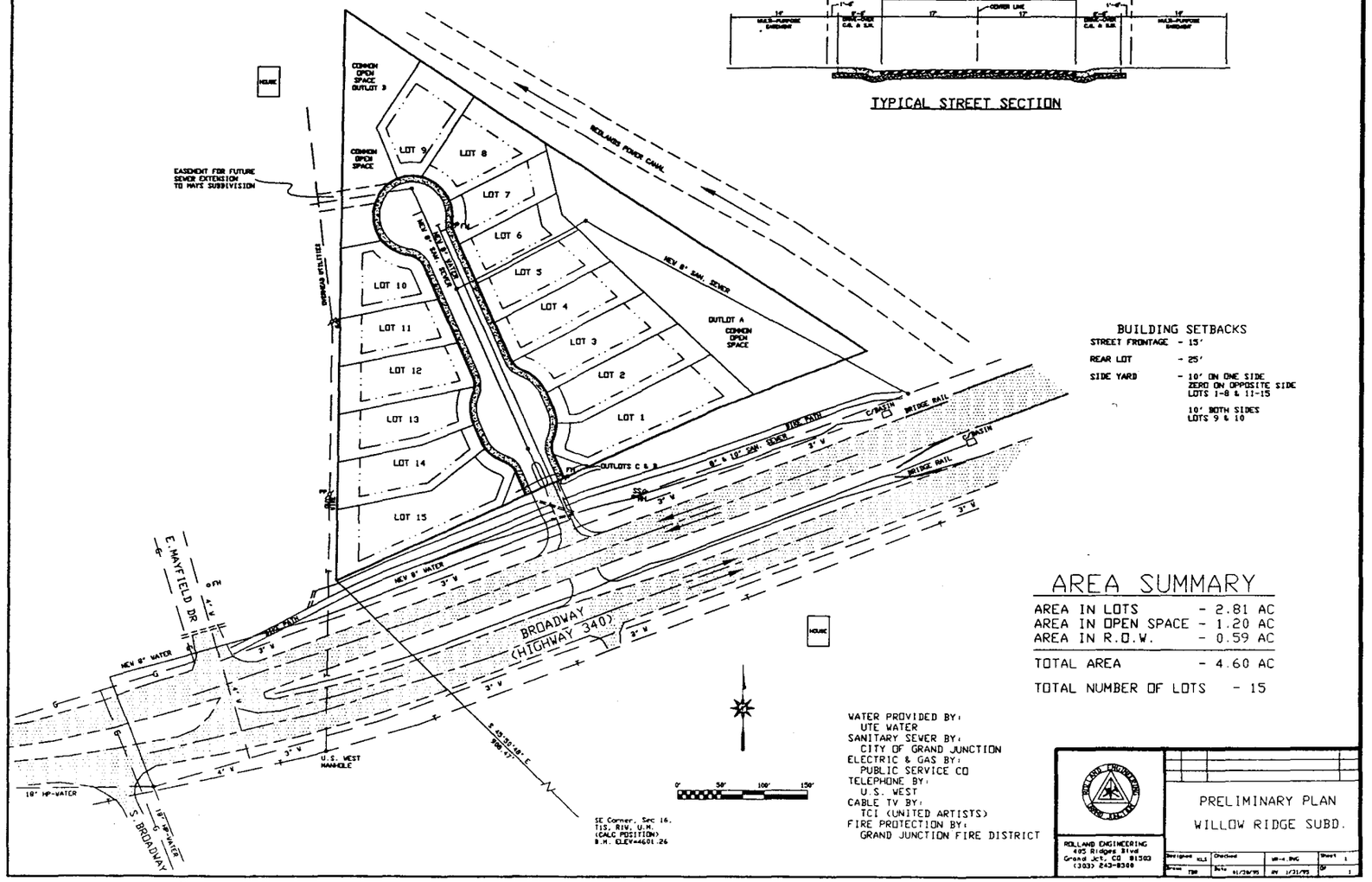
PRELIMINARY STORMWATER MANAGEMENT PLAN & SHEET 2 PRELIMINARY PLAN

Designed	WL	Checked		Sheet #
Drawn	CTD	Date	11/1/94	BY 1/31/95	2

WILLOW RIDGE SUBDIVISION



TYPICAL STREET SECTION



BUILDING SETBACKS

STREET FRONTAGE - 15'

REAR LOT - 25'

SIDE YARD - 10' ON ONE SIDE ZERO ON OPPOSITE SIDE LOTS 1-8 & 11-15

10' BOTH SIDES LOTS 9 & 10

AREA SUMMARY

AREA IN LOTS	- 2.81 AC
AREA IN OPEN SPACE	- 1.20 AC
AREA IN R.O.W.	- 0.59 AC
TOTAL AREA	- 4.60 AC
TOTAL NUMBER OF LOTS	- 15

WATER PROVIDED BY:
UTE WATER
SANITARY SEWER BY:
CITY OF GRAND JUNCTION
ELECTRIC & GAS BY:
PUBLIC SERVICE CO
TELEPHONE BY:
U.S. WEST
CABLE TV BY:
TCI (UNITED ARTISTS)
FIRE PROTECTION BY:
GRAND JUNCTION FIRE DISTRICT

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PRELIMINARY PLAN
WILLOW RIDGE SUBD.

Designed: KLS | Checked: | WR-4.DWG | Sheet 1
Drawn: TSH | Date: 11/28/95 | REV 1/31/95 | of 1

PP-95-29

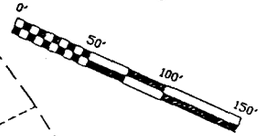
WILLOW RIDGE

The Sycamore
Plan 331AC
3 Bedrooms, 2 Baths
Liveable Area: 1569 sq. ft.

The Laurel
Plan 372AC
4 Bedrooms, 2 1/2 Baths
Liveable Area: 1946 sq. ft.

The Balboa
3 Bedrooms, 2 1/2 Baths
Liveable Area: 1502 sq. ft.

The Ashton
Plan 305AC
3 Bedrooms, 2 Baths
Liveable Area: 1264 sq. ft.



0' 50' 100' 150'

OVERHEAD UTILITIES

REDLANDS POWER CANAL

E. MAYFIELD DR.

BIKE PATH

BIKE PATH

1600

1500

PP-95-29