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File 1994-0097 Name: La Roche Condos – Site Plan Review - 406 Ridges Boulevard

Present	Scanned	
		A few items are denoted with an asterisk (*), which means they are to be scanned for permanent record on the ISYS retrieval system. In some instances, items are found on the list but are not present in the scanned electronic development file because they are already scanned elsewhere on the system. These scanned documents are denoted with (**) and will be found on the ISYS query system in their designated categories. Documents specific to certain files, not found in the standard checklist materials, are listed at the bottom of the page. Remaining items, (not selected for scanning), will be listed and marked present. This index can serve as a quick guide for the contents of each file.
X	X	**Table of Contents**
		***Review Sheet Summary**
		***Application form**
X		Review Sheets
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X	X	***Submittal checklist**
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X	X	Reduction of assessor's map.
		Evidence of title, deeds, easements
		***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	X	***Final reports for drainage and soils (geotechnical reports)**
		Other bound or non-bound reports
		Traffic studies
		***Review Comments**
		***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**

DOCUMENT DESCRIPTION:

X	X	Correspondence			
X	X	Gamma Radiation Survey – Report from Records			
X	X	Planning Clearance – issued 5/12/94 - **			
X	X	Landscape Pictures			
X	X	Front Elevation			
X	X	Foundation Plan			
X	X	Amended Condominium Map of La Roche condominiums – GIS Historical Maps - **			
X	X	Approval Building Permit – Ridges Architectural Control Committee (ACCO)			
X	X	Soil Boring Locations			

SUBMITTAL CHECKLIST

SITE PLAN REVIEW

Location: Ridges Filing #2 Project Name: La Roche Condos

C 13-81 (Mesa Co. file)

ITEMS	SSID REFERENCE	● City Community Development	● City Dev. Eng.	● City Utility Eng.	● ~~City Property Agent~~	● ~~City Parks/Recreation~~	● City Fire Department	● City Attorney	○ City Downtown Dev. Auth.	○ County Planning	○ County Bldg. Dept	● Irrigation District	○ Drainage District	○ Water District	○ Sewer District	○ U.S. West	○ Public Service	○ GVRP	○ CDOT	○ Corps of Engineers	○ Walker Field	● City Police Dept.	TOTAL REQD.
receipt #1273 DESCRIPTION #97 94 Original Do NOT Remove From Office * Planning Clearance fee will be paid with each clearance																							
● Application Fee $175.00 *	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	
● Planning Clearance*	VII-3	1																					
● 11"x17" Reduction of Assessor's Map	VII-1	1	1	1	1	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															
○ Appraisal of Raw Land	VII-1	1			1	1																	
○ Deeds	VII-1	1			1			1															
○ Easements	VII-2	1	1	1	1			1															
○ Avigation Easement	VII-1	1			1			1															
○ ROW	VII-3	1	1	1	1			1															
○ Improvements Agreement/Guarantee	VII-2	1	1	1				1															
○ CDOT Access Permit	VII-3	1	1																				
○ Industrial Pretreatment Sign-off	VII-4	1		1																			
● General Project Report	X-7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
● Elevation Drawing	IX-13	1	1																				
● Site Plan	IX-29	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
○ 11"x17" Reduction of Site Plan	IX-29					1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
● Grading and Drainage Plan	IX-16	1	2										1						1				
○ Storm Drainage Plan and Profile	IX-30	1	2										1			1	1	1					
○ Water and Sewer Plan and Profile	IX-34	1	2	1			1							1	1	1	1	1					
○ Roadway Plan and Profile	IX-28	1	2										1										
○ Road Cross-Sections	IX-27	1	2																				
○ Detail Sheet	IX-12	1	2																				
● Landscape Plan - if any - shown on Site Plan	IX-20	2	1	1																			
● Geotechnical Report	X-8	1	1							1													
○ Final Drainage Report	X-5,6	1	2										1										
○ Stormwater Management Plan	X-14	1	2										1							1			
○ Phase I and II Environmental Report	X-10,11	1	1																				
○ Traffic Impact Study	X-15	1	2																1				

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.

PRE-APPLICATION CONFERENCE

Date: 5/6/94
Conference Attendance: Kathy P., Jody K., Linda Afman
Proposal: Condo Units
Location: Ridges Filing #2
Tax Parcel Number: 2945-163-26-032
Review Fee: _____
(Fee is due at the time of submittal. Make check payable to the City of Grand Junction.)

Additional ROW required? —
Adjacent road improvements required? ?
Area identified as a need in the Master Plan of Parks and Recreation? no
Parks and Open Space fees required? no Estimated Amount: _____
Recording fees required? yes - final plan Estimated Amount: _____
Half street improvement fees required? ? Estimated Amount: _____
Revocable Permit required? no
State Highway Access Permit required? no
Applicable Plans, Policies and Guidelines Ridges
Located in identified floodplain? FIRM panel # —
Located in other geohazard area? ?
Located in established Airport Zone? Clear Zone, Critical Zone, Area of Influence? no
Avigation Easement required? _____

While all factors in a development proposal require careful thought, preparation and design, the following "checked" items are brought to the petitioner's attention as needing special attention or consideration. Other items of special concern may be identified during the review process.

○ Access/Parking	○ Screening/Buffering	● Land Use Compatibility
● Drainage	○ Landscaping	○ Traffic Generation
○ Floodplain/Wetlands Mitigation	○ Availability of Utilities	● Geologic Hazards/Soils

○ Other _____
Related Files: _____

It is recommended that the applicant inform the neighboring property owners and tenants of the proposal prior to the public hearing and preferably prior to submittal to the City.

PRE-APPLICATION CONFERENCE

WE RECOGNIZE that we, ourselves, or our representative(s) must be present at all hearings relative to this proposal and it is our responsibility to know when and where those hearings are.

In the event that the petitioner is not represented, the proposed item will be dropped from the agenda, and an additional fee shall be charged to cover rescheduling expenses. Such fee must be paid before the proposed item can again be placed on the agenda. Any changes to the approved plan will require a re-review and approval by the Community Development Department prior to those changes being accepted.

WE UNDERSTAND that incomplete submittals will not be accepted and submittals with insufficient information, identified in the review process, which has not been addressed by the applicant, may be withdrawn from the agenda.

WE FURTHER UNDERSTAND that failure to meet any deadlines as identified by the Community Development Department for the review process may result in the project not being scheduled for hearing or being pulled from the agenda.

X _____ X _____
Signature(s) of Petitioner(s) Signature(s) of Representative(s)

There was discussion from Staff and the Commission relative to the earlier item, C9-81, and the motion for approval of the rezone was amended to reflect the need for the Outline Development Plan submittal.

Minutes of 2/19/81

C13-81 LA ROCHE SUBDIVISION - REPLAT OF LOT 1, BLOCK 6, RIDGES FILING #2 - FINAL PLAN AND PLAT

Petitioner: Lee Courtney.
Location: East of Ridges Boulevard, approximately 576 feet North of North Dale Court.

Contains 4.5 acres designed for 42 units in a planned residential zone. = 9.3/acre

a. Consideration of final plan.
b. Consideration of final plat.

LLOYD SOMMERVILLE read the request and opened the public hearing.

KENT HARBERT, of Western Engineering, appeared for the Petitioner and outlined the proposed La Roche Subdivision, Replat of Lot 1, Block 6, Ridges Filing #2, Final Plan and Plat.

JEFF OLLINGER outlined the Review Sheet Comments and gave the Staff Recommendations.

STEVE SEBEFF appeared as a Member of the Architectural Review Committee for the Ridges, stating they had worked closely with the developer on the project and they feel it will be a good development.

LLOYD SOMMERVILLE: Did you see any problem with the compatibility with the single family units?

STEVE SEBEFF: No. That was of a main concern to us, and we kept that in mind through the full process.

LEE COURTNEY appeared as the petitioner and developer and described the step type buildings that would be built on the lots.

LLOYD SOMMERVILLE closed the public hearing.

TALBOTT/BEVAN PASSED 4-0 A MOTION TO RECOMMEND APPROVAL TO THE COUNTY COMMISSIONERS OF C13-81 LA ROCHE SUBDIVISION, REPLAT OF LOT 1, BLOCK 6, RIDGES FILING #2, FINAL PLAN & PLAT; THAT PETITIONER WORK WITH THE STAFF ON THE PROBLEM OF PEDESTRIANS HAVING TO WALK BEHIND PARKED CARS TO GET TO THEIR UNITS.

Lincoln DeVore

1000 West Fillmore St.
Colorado Springs, Colorado 80907
(303) 632-3593
Home Office

July 17, 1981

La Roche Enterprises
2412½ Hidden Valley Dr.
Grand Junction, CO 81501

#97 94

Attn: Lee Courtney

Original
Do NOT Remove
From Office

RE: SUBSURFACE SOILS INVESTIGATION

PROPOSED RESIDENTIAL DEVELOPMENT

LOT 1, BLK 6, FIL 2

THE RIDGES

GRAND JUNCTION, COLORADO

Gentlemen:

Transmitted herein are the results of a Subsurface Soils Investigation and Foundation Recommendations for the proposed multi-family residential development in The Ridges Subdivision, Grand Junction, Colorado.

Respectfully submitted,

LINCOLN-DeVORE TESTING LABORATORY, INC.

By: Gary M. Krzisnik
Gary M. Krzisnik, P.E.
Grand Junction Office

Reviewed by: George D. Morris

GEORGE D. MORRIS
REGISTERED
PROFESSIONAL
ENGINEER
STATE OF COLORADO

GMK/jb

LDTL Job No. 39963J

602 East 8th Street
Pueblo, Colo 81001
(303) 546-1150

P.O. Box 1427
Glenwood Springs, Colo 81601
(303) 945-6020

86 Rosemont Plaza
Montrose, Colo 81401
(303) 249-7838

P.O. Box 1882
Grand Junction, Colo 81501
(303) 242-8968

P.O. Box 1643
Rock Springs, Wyo 82901
(307) 382-2649

ABSTRACT:

The contents of this report are a Subsurface Soils Investigation and Foundation Recommendations for the proposed multi-family residential development in The Ridges, Grand Junction, Colorado.

Topographically, the site is a complex of moderate to steep hillsides and less steep lower levels, partially excavated to accommodate the buildings. Surface drainage is generally good,but subsurface drainage in the bedrock material is poor.

The foundation soils encountered during drilling were noted to consist of sandstone and claystone of the Dakota and Burro Canyon Formation, interspersed with areas of residually weathered silty clay and of man-made fills. A shallow foundation system would be most appropriate for use on this site. Shallow foundations designed on the basis of a maximum bearing capacity of 5000 psf would be appropriate. In some areas where the formational material is potentially expansive, a minimum pressure (of footings in contact with bearing material) of 1500 psf will be required.

All foundations must be well balanced and heavily reinforced to minimize differential movement.

Surface and subsurface drainage must be carefully designed and controlled. A perimeter drain would be recommended around the building exterior.

A Type II Cement would be recommended in all concrete in contact with the soil on this site.

More detailed recommendations can be found within the body of this report. All recommendations will be subject to the limitations set forth herein.

This laboratory has been informed that the soils information developed in this report is to be used for design and construction of foundations for several multiple family residential structures. The information may, or may not be valid for other purposes. If the proposed use is changed or types of construction proposed other than noted herein, the laboratory must be contacted to determine if the information in this report can be used for the new construction without further investigation being required.

GENERAL:

The purpose of this investigation was to determine the general suitability of the site for construction of multi-family residential structures at Lot 1, Block 6, Filing 2 of The Ridges Subdivision, Grand Junction, Colorado. Characteristics of the individual soils found within the test borings were examined for use in designing foundations on this site.

We understand the proposed structures will consist of multiple (usually four) story, wood-framed buildings. No basement construction is planned. Floor slabs will be built over crawl spaces. For such structures, typical wall loads are on the order of 1½ to 3½ kips per linear foot. Some isolated pads may be required where concentrated (column-type) loads could range from 5 to 25 kips.

The topography of the site is that of a complex of hillside around a ravine or gully. Building locations are generally leveled by cutting into the surrounding hillsides. Backfill retention will generally not exceed 5 feet, although some isolated cuts, permanently open and unretained, could be as much as 10 feet high. Surface runoff will be controlled by final construction grades and will eventually channel runoff to the drainage course along

Ridges Boulevard, located at the edge of the site. Eventually, such runoff will enter the Colorado River, located 1 to 1½ miles to the north.

Small isolated areas of residually weathered soils also occur on this site. These native deposits can claim both the Dakota and Burro Canyon formational bedrocks as source material in various areas, and their expansive characteristics,in particular, must be carefully examined on a site-by-site basis where they occur.

The formational bedrock at the site included both the Dakota and Burro Canyon Formation. Some isolated quantities of lignite were associated with the middle and upper levels of the Dakota Formation in the site area. At the site, however, lignite appears to have been removed by recent excavation activity to sufficient extent so as to present no serious problem. Amounts of this lignite are present within sand (Dakota sandstone) fills in formerly low areas. The claystone of the Burro Canyon Formation generally is intact, free of lignite and moderately expansive. Both the Dakota (sandstone) and Burro Canyon (claystone and shale) Formations are sedimentary rocks of the Cretaceous Age.

BORINGS, LABORATORY TESTS AND RESULTS:

Twenty-five test borings were drilled across the eleven building locations and are located approximately as shown on the attached Test Boring Location Diagram. The test borings were placed in such a manner as to obtain a reasonably good profile of the subsurface soils. All test borings were drilled with a power-driven, continuous auger drill. Samples were taken with a standard split-spoon sampler and by bulk methods.

The precise gradational and plasticity characteristics associated with the soils encountered during drilling can be found on the attached summary sheets. The representative number for each soil group is indicated in a small circle immediately below the sampling point on the Drilling Logs. The following discussion of the soil groups will be general in nature.

The soil profile varies considerably but consists basically of man-made fill, residually weathered silts and sands (both at isolated locations) over bedrock of the two formations previously mentioned. Geologically, the Dakota sandstones overlie the finer grained bedrock of the Burro Canyon Formation.

Soil Type No. 1 classified as silty sand (SM) and represents the Dakota Formation sandstone.

This fine to medium grain size material is nonplastic and of very high density. Generally, such granular materials are not subject to expansion or long-term consolidation. As formational rock, short-term settlements would be of very small magnitudes for the relatively lightweight structures anticipated. A maximum bearing pressure of 5000 psf is recommended at shallow foundation depths across the site.

Soil Type No. 2 classified as silty clay (CL) and is typical of the formational claystones and shales of the Burro Canyon Formation. This soil type is of moderate plasticity and very high density. The claystones and shales are moderately expansive, with a typical swell pressure of 1345 psf. Due to their high density, these formational bedrocks have no tendency to either short or long-term consolidation of any significant magnitude. At shallow foundation depths, maximum and minimum allowable pressures for design purposes are 5000 and 1500 psf, respectively.

No free water was encountered during drilling on this site. True free water should be fairly deep in this area, and hence, should not affect construction assuming that surface drainage is properly controlled.

CONCLUSIONS AND RECOMMENDATIONS:

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.

In general, the soils found across the development area will form a reasonably good base for the proposed residential structures. Sandstones of the Dakota Formation were encountered at or near the present ground surface in the region of the majority of the test borings drilled. For these non-expansive (or low expansive) areas, spread footings of various widths, in conjunction with a reinforced concrete grade beam stem wall, will probably be the most suitable foundation type.

For those areas of the subdivision where the claystone and shale are encountered, foundations must be designed with the expansive potential of the fine-grained formational bedrock in mind. The foundation configuration which can be used on the expansive bedrock will

depend upon the magnitude of foundation loads exerted by the residential units as well as the exact degree of expansion anticipated from the bedrock. Several foundation types are acceptable for use on this bedrock. These foundation configurations would include, but are not limited to:

1) The first option would consist of the engineered no footing design, with the stem wall resting directly on the ground surface. The judicious use of voids would be employed to balance the structure and to increase the contact stresses beneath any very light walls. For most moderately loaded foundation systems, this voided stem wall design would probably prove satisfactory considering the magnitude of expansion pressures encountered across the subdivision, and the anticipated foundation loads for these single family dwelling units. We would anticipate that the majority of the foundation systems used on the clays across the subdivision will fall into this category.

2) A balanced pad and grade beam type of foundation system would form the second general foundation option. This alternative would involve the use of small bearing pads beneath a reinforced concrete grade beam. The grade beam would be continually voided between pads with the foundation loads being transferred by the pads only, and not the grade beam between pads. This foundation alternative will probably be suitable for very light structural loads on claystones and shales of high expansion potential. This configuration generally allows the designer to maintain a fairly high minimum dead load pressure.

In addition, at some locations, portions of buildings may have to be located on new fill or on residually weathered soils of lower density than the undis-

turbed bedrock. At such areas, the condition and characteristics of such lower density material should be examined to verify uniformity and suitability of the material in-place.

In order to minimize the possible differential effects due to bearing structural components on both bedrock and lower density fill, we would recommend the use of a lower bearing pressure than that previously provided for the bedrock. The exact magnitude of such a reduced maximum pressure would depend on site specific examination. Usually, such examination could consist of an open excavation observation and some bulk sampling for any tests that may be appropriate. We believe that maximum allowable pressures of 2500 to 3500 psf will prove appropriate in such cases.

New fill placed to support foundations should be engineered granular fill. Borrow material could be pitrun sand and gravel or excavated material generally similar to Soil Type No. 1. Since excavated sandstone gradations will vary considerably, including varying pieces of sandstone and ground-up sandstone components (silt and fine to medium sand), an acceptable fill from this source would include at least 30 percent by weight of finer sized (ground-up sandstone) and maximum size pieces not over 2

inches in diameter. All such fill should be placed in 6 inch (compacted) thickness layers under appropriate moisture control. Fill under footings should not be less than one foot in depth and should extend laterally beyond the edges of footings a distance equal to the fill depth below them, unless a rigid bank is encountered within that distance. All such fill should be compacted to at least 97% of the maximum Proctor dry density, (ASTM D-698).

Regardless of the foundation type used, it is recommended that the foundation components be balanced to lower the possibility of differential movement. This balancing will help the buildings move more or less as single units, rather than in a differential manner. The foundation system should be proportioned such that the pressure on the soil is approximately the same throughout the building. The judicious use of voids beneath very light walls will help balance the structure, as well as to develop the minimum design pressures dictated by the expansive claystones. Using the criterion of dead load plus approximately one-half the live load, the contact pressures should be balanced to within $\pm$350 psf beneath all load bearing walls throughout the residential units. For the sandier fills and residually weathered soils, isolated

interior column pads should be designed for pressures of slightly less than the average selected for the bearing walls. On the more claylike residual soils, isolated pads should be designed for pressures of slightly more than the exterior wall average. Using whichever criterion is applicable, we would recommend balancing these internal pads on pressures of approximately 150 psf more or less than the average of the exterior walls.

To help ensure that the structure moves more or less as a single unit rather than in a differential manner, we would recommend that all stem walls be supported by a grade beam capable of spanning at least 15 feet. This grade beam would apply to both interior and exterior load bearing walls. Such a grade beam should be horizontally reinforced continuously around the structure with no gaps or breaks in reinforcing steel unless they are specially designed. Beams should be reinforced at both the top and the bottom with the major reinforcement being at the bottom if on sandier soils, the top on expansive soils and bedrocks. This reinforcing may be equally distributed (top and bottom) in grade beams on sandstones. All interior bearing walls should rest on a grade beam and foundation system of their own and should not be allowed to rest on a thickened slab section or "shovel" footing.

Where the stem walls are relatively shallow, vertical reinforcing will probably not be necessary. However, where the walls retain soil in excess of about 5 feet in height, vertical reinforcing may be necessary to resist the active pressure of the soils along the wall exterior. To aid in designing such vertical reinforcing, the following equivalent fluid pressures can be utilized:

50 pcf for well-drained backfill of pitrun sand and gravel or soil of Type No. 1

It should be noted that the above values should be modified to take into account any surcharge loads applied at the top of the walls as a result of stored goods, live loads on the floor, machinery, or any other externally applied forces. The above equivalent fluid pressures should also be modified for the effects of any free water table.

The bottom of all foundation components should rest a minimum of 2 feet below finished grade or as required by the local building codes. Foundation components must not be placed on frozen soils.

Where floor slabs are used, they may be placed directly on grade or over a compacted gravel blanket of 4 to 6 inches in thickness. Under no circumstances should this gravel pad be allowed to act as a water trap beneath the floor slab. A vapor barrier is recommended

beneath any and all floor slabs on grade which will lie below the finished exterior ground surface. All fill placed beneath the interior floor slabs must be compacted to at least 90% of its maximum Proctor dry density, ASTM D-698.

Any interior, non-load bearing partition which will be constructed to rest on slabs built on grades consisting of expansive soils should be constructed with a minimum space of 1½ inches at either the top or the bottom of the wall. The bottom of the wall would be the preferred location for this space. This space will allow for any future potential expansion of the subgrade soils and will prevent damage to the wall and/or roof section above which could be caused by this movement.

Adequate drainage must be provided in the foundation area both during and after construction to prevent the ponding of water. The ground surface around the building should be graded so that surface water will be carried quickly away from the structure. The minimum gradient within 10 feet of the building will depend upon surface landscaping. Bare or paved areas should maintain a minimum gradient of 2%, while landscaped areas should maintain a minimum gradient of 5%. Roof drains must be carried across all backfilled areas and discharged well away from the structure.

If adequate surface drainage cannot be maintained or if any subsurface seepage is encountered during excavation for foundation construction, then a perimeter drain must be recommended for these buildings. This drain would consist of a perforated drain pipe, gravel collector and sand filter (or acceptable filter fabric layer). If sufficient topographic fall does not exist on the site to allow daylighting of the drain pipe, then a sealed sump and pump arrangement would be required to remove the collected moisture. Dry wells should not be used on this site.

Where foundations are excavated into formational soils, a possibility exists for the formation of a closed depression. When foundations are "socketed" into these high density formational materials, they have a tendency to form a water trap since no free drainage outlet is available. If this situation arises during construction, then a subsurface peripheral drain is recommended around the exterior of the structure where it is located within bedrock. Such a drain is also recommended wherever foundations are extended into expansive soils. This drain will prevent the buildup of water around the buildings as a result of normal surface rainfall or moisture as a result of lawn and garden irrigation. This subsurface peripheral

drain is also recommended around the exterior of the structure when the expansive clays are encountered during foundation construction.

To give the building extra lateral stability and to aid in the rapidity of runoff, all backfill around the building and in utility trenches in the vicinity of the structure should be compacted to at least 90% of its maximum Proctor dry density, ASTM D-698. The native materials encountered on this site may be used for backfilling purposes, if so desired. All backfill must be compacted to the required density by mechanical means. No water flooding techniques of any type should be used in the placement of fill on this site.

The act of notching structures into hillsides in some of these areas will create free standing cuts varying from 2 to 10 feet high, although generally not over 6 feet high. The formational sandstones and claystones appear to be generally stable in cuts of these magnitudes, based on cuts in the general area that were open to similar heights for several years.

Generally, formational bedrock on the site appear to be "rippable" for excavation although some locations would present difficulty in ripping operations due

to the very high density of claystone and shales. Due to the proximity of occupied residences to the site, blasting operations should be prohibited.

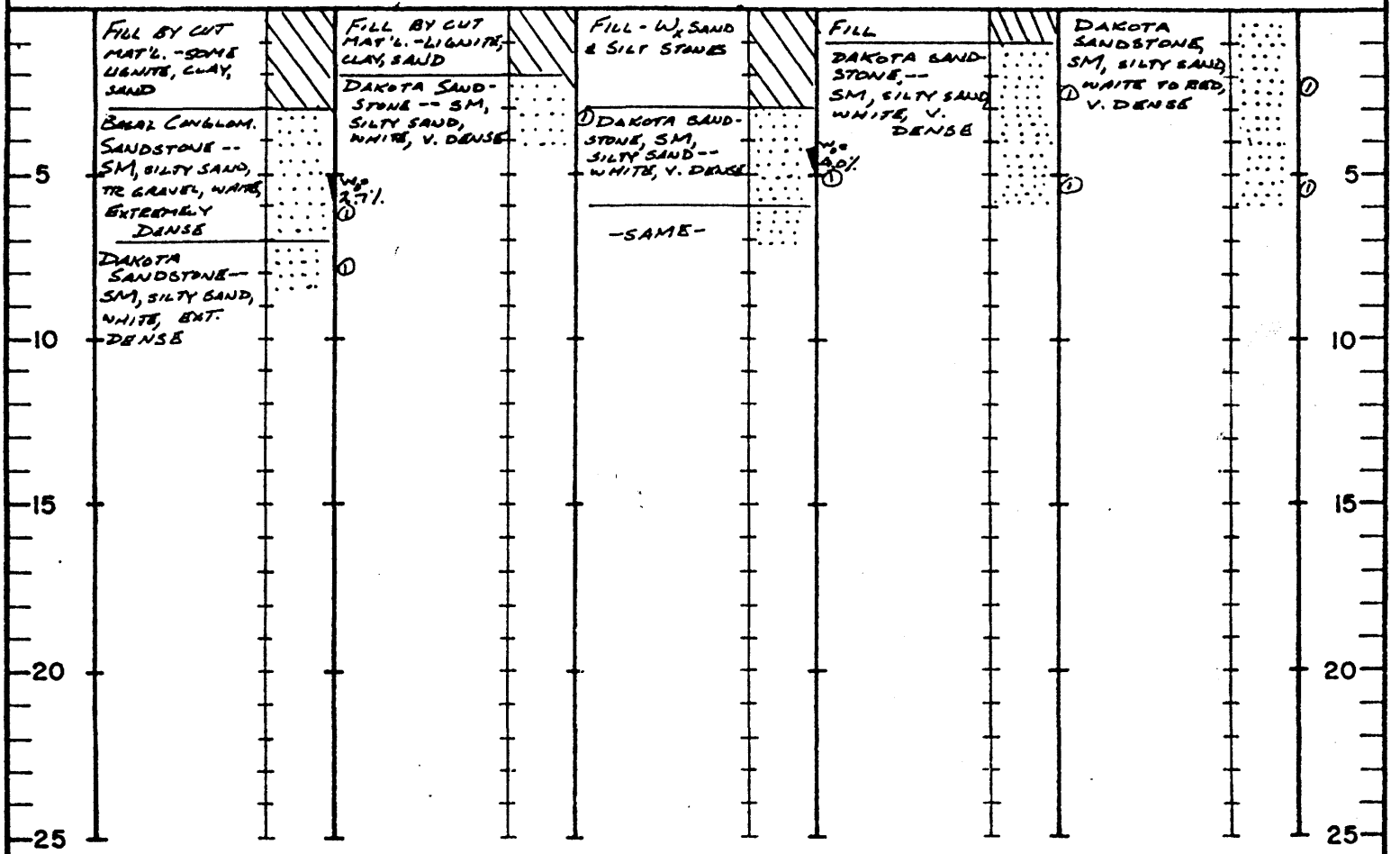
The soils on this site were found to contain sulfates in detrimental quantities. Therefore, a Type II Cement would be recommended in all concrete in contact with the soil. Under no circumstances should calcium chloride ever be added to a Type II Cement. In the event that Type II Cement is difficult to obtain, a Type I Cement may be used, but only if it is protected from the soils by an impermeable membrane.

The open foundation excavation must be inspected prior to the placing of forms and pouring of concrete to establish that adequate design bearing materials have been reached and that no debris, soft spots or areas of unusually low density are located within the foundation region. All fill placed below the foundations must be fully controlled and tested to ensure that adequate densification has occurred.

It is extremely important due to the nature of data obtained by the random sampling of such a heterogeneous material as soil that we be informed of any changes in the subsurface conditions observed during con-

struction from those outlined in the body of this report. Construction personnel should be made familiar with the contents of this report and instructed to relate any differences immediately if encountered.

It is believed that all pertinent points concerning the subsurface soils on this site have been covered in this report. If questions arise or further information is required, please feel free to contact Lincoln-DeVore at any time.



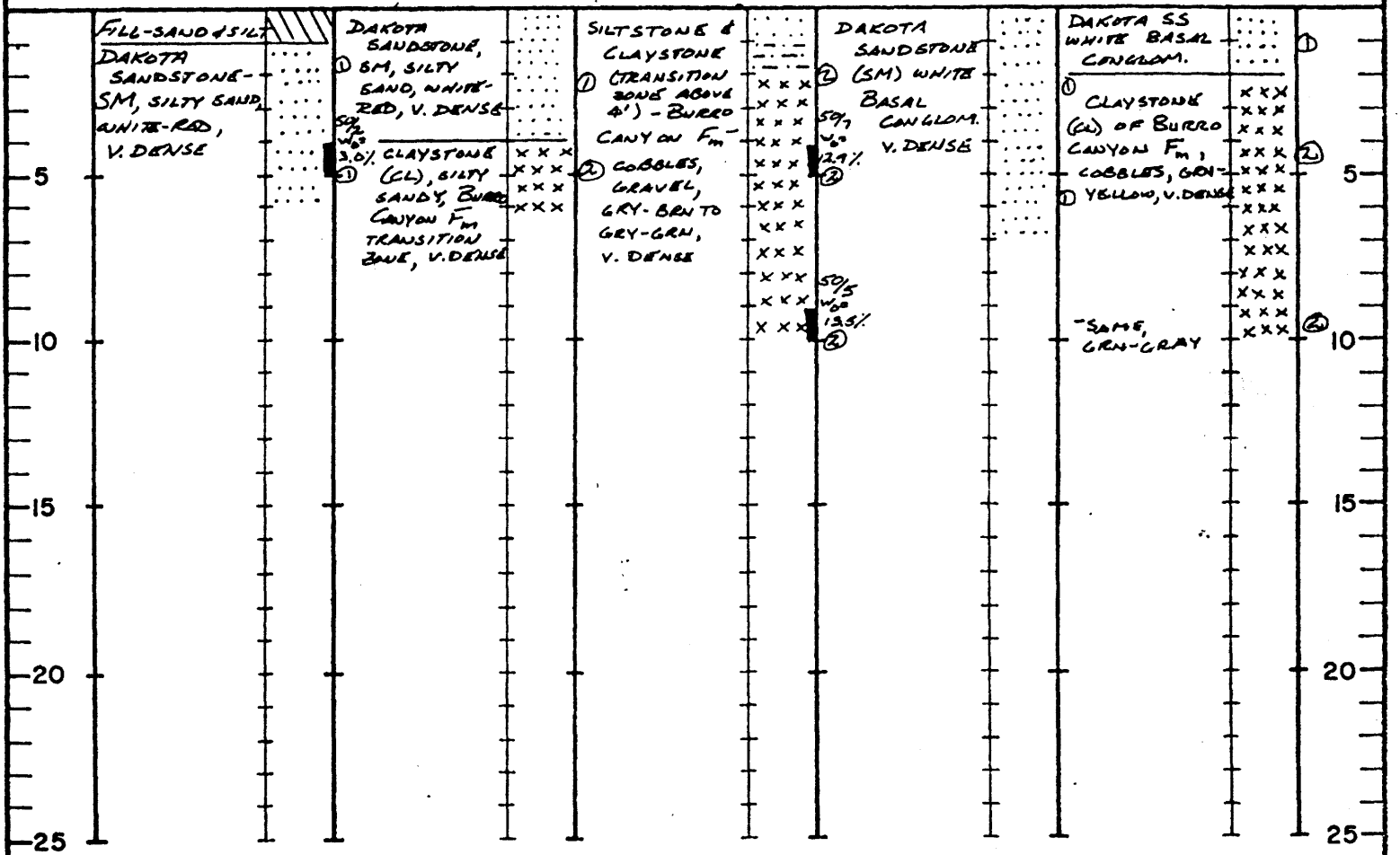
#97 94

Boring Logs - La Roche Construction
Lot 1, Blk 6, Fil 2, The Ridges
Grand Junction, Colorado

LINCOLN DeVORE ENGINEERS · GEOLOGISTS

COLORADO: COLORADO SPRINGS, PUEBLO, GLENWOOD SPRINGS, GRAND JUNCTION, MONTROSE, WYOMING: ROCK SPRINGS

TEST HOLE NO. 6 7 8 9 10
TOP ELEVATION



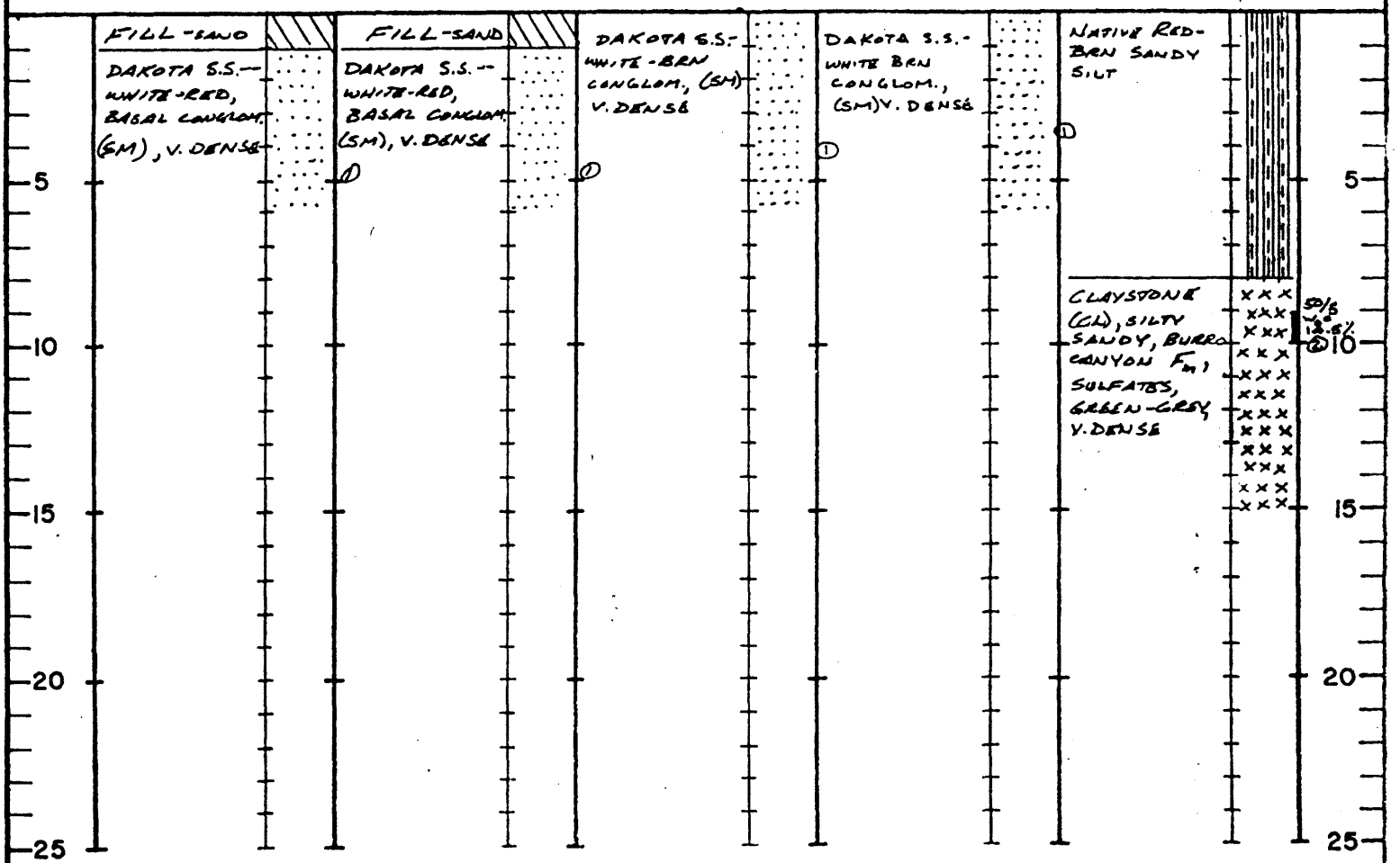
#97 94

Boring Logs - La Roche Construction
Lot 1, Blk 6, Fil 2, The Ridges
Grand Junction, Colorado

LINCOLN DeVORE ENGINEERS · GEOLOGISTS

COLORADO: COLORADO SPRINGS, PUEBLO, GLENWOOD SPRINGS, GRAND JUNCTION, MONTROSE, WYOMING: ROCK SPRINGS

TEST HOLE NO. 11 12 13 14 15
TOP ELEVATION



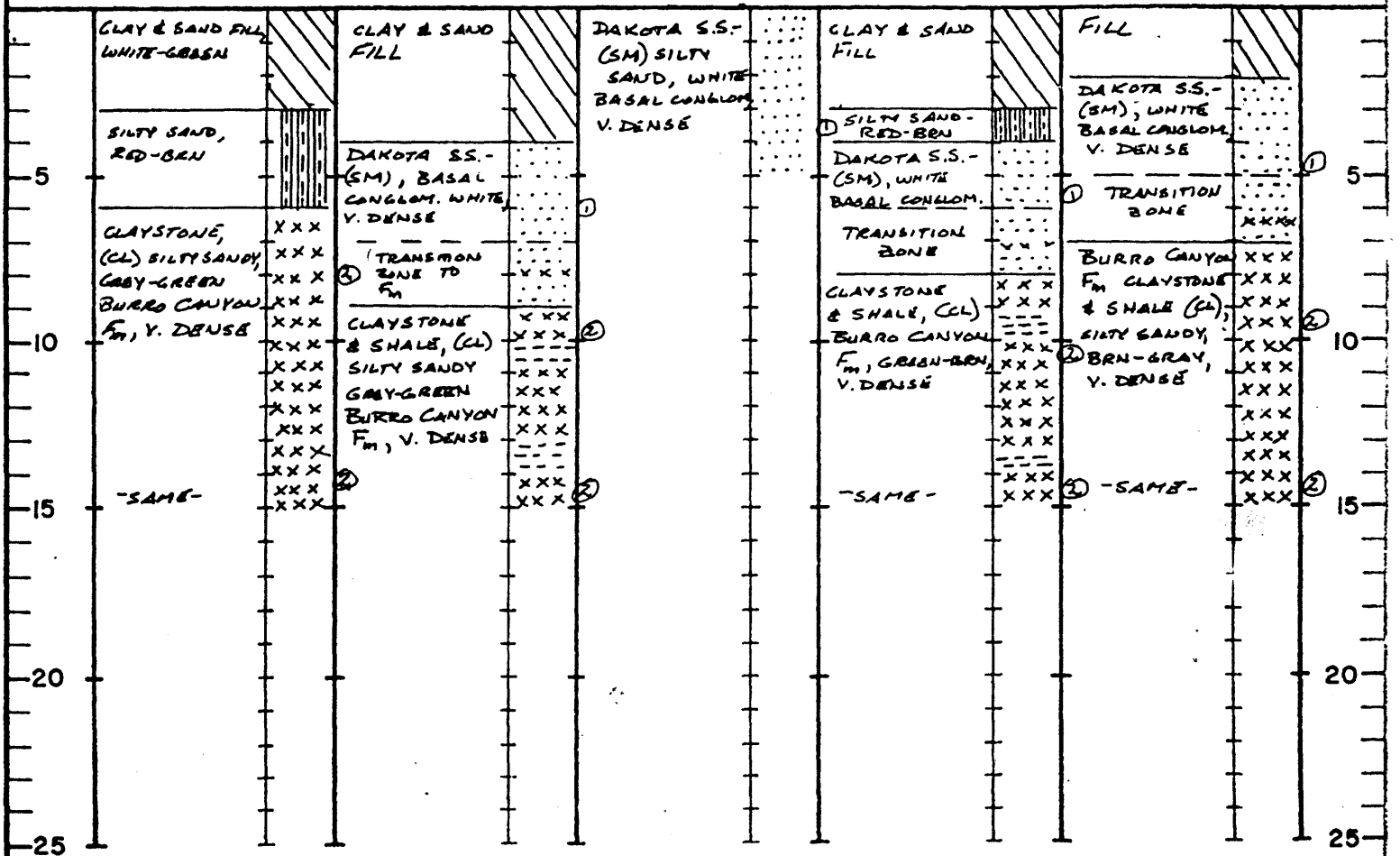
#97 94

Boring Logs - La Roche Construction
Lot 1, Blk 6, Fil 2, The Ridges
Grand Junction, Colorado

LINCOLN DeVORE ENGINEERS · GEOLOGISTS

COLORADO: COLORADO SPRINGS, PUEBLO, GLENWOOD SPRINGS, GRAND JUNCTION, MONTROSE, WYOMING: ROCK SPRINGS

TEST HOLE NO. 16 17 18 19 20
TOP ELEVATION



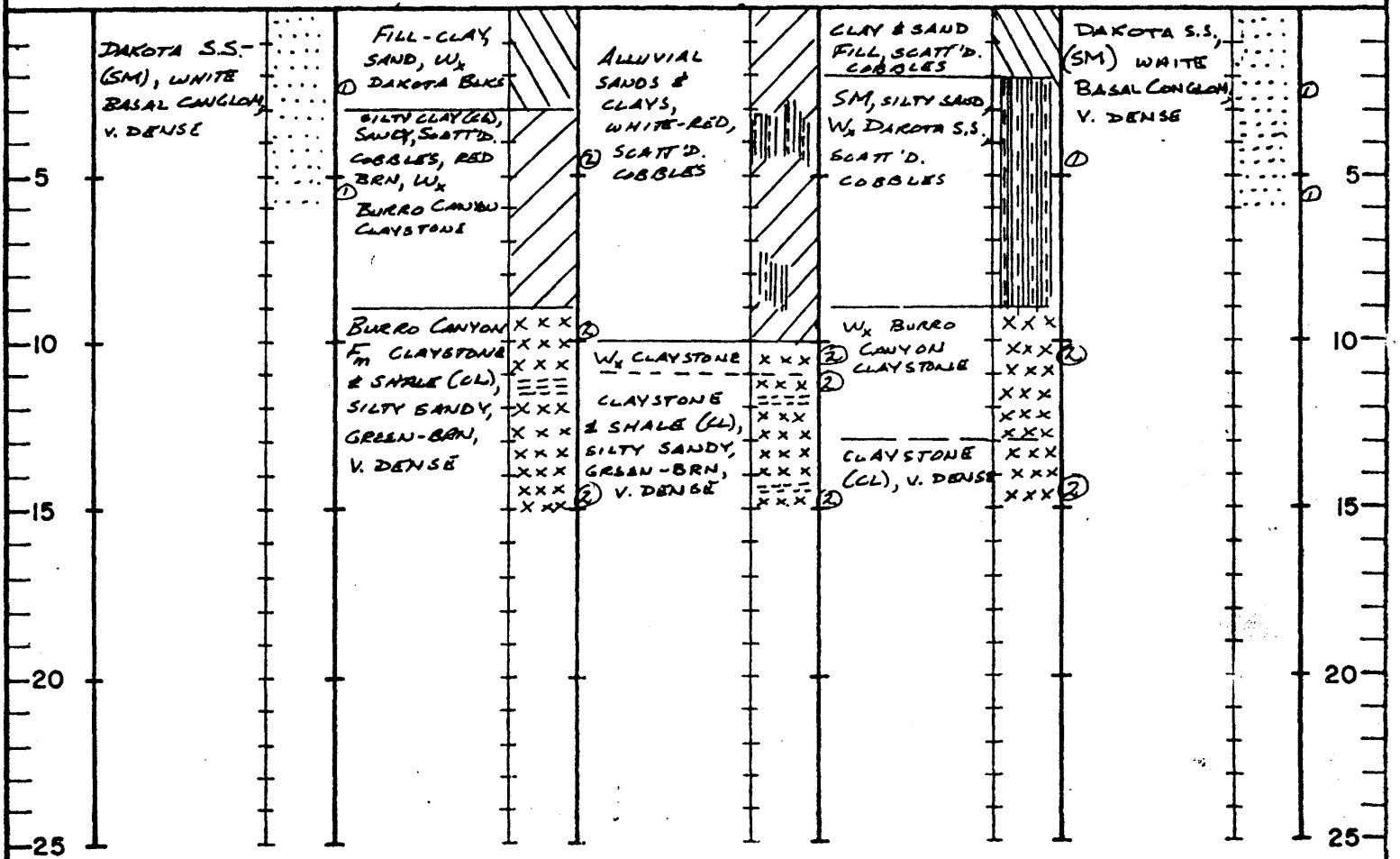
#97 94

Boring Logs - La Roche Construction
Lot 1, Blk 6, Fil 2, The Ridges
Grand Junction, Colorado

LINCOLN DeVORE ENGINEERS · GEOLOGISTS

COLORADO: COLORADO SPRINGS, PUEBLO, GLENWOOD SPRINGS, GRAND JUNCTION, MONTROSE, WYOMING: ROCK SPRINGS

TEST HOLE NO.	21	22	23	24	25
TOP ELEVATION					



B97 24

Boring Logs - La Roche Construction
Lot 1, Blk 6, Fil 2, The Ridges
Grand Junction, Colorado

LINCOLN DeVORE ENGINEERS · GEOLOGISTS

COLORADO: COLORADO SPRINGS, PUEBLO, GLENWOOD SPRINGS, GRAND JUNCTION, MONTROSE,
WYOMING: ROCK SPRINGS

SUMMARY SHEET

Soil Sample SM

Test No. 39963 J

Location Lot 1, Blk 6, Fil. 2 - The Ridges - Gd. Jct., CO

Date 7-10-81

Boring No. _____ Depth _____

Sample No. 1

Test by SJB

Natural Water Content (w) _____ %

Specific Gravity (Gs) _____

In Place Density (γ_o) _____ pcf

SIEVE ANALYSIS:

Sieve No.	% Passing
1 1/2"	
1"	
3/4"	
1/2"	100.0
4	95.9
10	85.7
20	77.5
40	65.0
100	21.2
200	15.8

HYDROMETER ANALYSIS:

Grain size (mm)	%
0.02	13.0
0.005	10.4

Plastic Limit P.L. _____ %

Liquid Limit L. L. _____ %

Plasticity Index P.I. N/P %

Shrinkage Limit _____ %

Flow Index _____

Shrinkage Ratio _____ %

Volumetric Change _____ %

Lineal Shrinkage _____ %

MOISTURE DENSITY: ASTM METHOD

Optimum Moisture Content _____ %

Maximum Dry Density - γ_d _____ pcf

California Bearing Ratio (av) _____ %

Swell: _____ Days _____ %

Swell against _____ psf Wo gain: _____ %

BEARING:

Housel Penetrometer (av) _____ psf

Unconfined Compression (qu) _____ psf

Plate Bearing: _____ psf

Inches Settlement _____

Consolidation % under psf

PERMEABILITY:

K (at 20°C) _____

Void Ratio _____

Sulfates ppm.

#97 94

SOIL ANALYSIS

LINCOLN-DeVORE TESTING LABORATORY
COLORADO SPRINGS, COLORADO

SUMMARY SHEET

Soil Sample CL

Test No. 39963J

Location Lot 1, Blk 6, Fil. 2, The Ridges - Gd. Jct., CO

Date 7-10-81

Boring No. _____ Depth _____

Sample No. 2

Test by SJB

Natural Water Content (w) _____ %

Specific Gravity (Gs) _____

In Place Density (γ_o) _____ pcf

SIEVE ANALYSIS:

Sieve No.	% Passing
1 1/2"	
1"	
3/4"	
1/2"	100.0
4	98.7
10	91.2
20	82.5
40	75.9
100	68.3
200	65.3

HYDROMETER ANALYSIS:

Grain size (mm)	%
0.02	47.4
0.005	34.1

Plastic Limit P.L. 23.1 %

Liquid Limit L. L. 36.0 %

Plasticity Index P.I. 12.9 %

Shrinkage Limit 10.0 %

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 1345 psf Wo gain 10.6 %

BEARING:

Housel Penetrometer (av) _____ psf

Unconfined Compression (qu) _____ psf

Plate Bearing: _____ psf

Inches Settlement _____

Consolidation % under psf

PERMEABILITY:

K (at 20°C) _____

Void Ratio _____

Sulfates ppm.

#97 94

SOIL ANALYSIS

LINCOLN-DeVORE TESTING LABORATORY
COLORADO SPRINGS, COLORADO

C

COLORADO DEPARTMENT OF HEALTH
222 S. 6TH ST., RM 232, GRAND JUNCTION CO 81501 Tel. 248-7164

GAMMA RADIATION SURVEY - REPORT FROM RECORDS

DATE: 04/06/94

CITY	COUNTY	STATE	N/R
0433	077	05	N

LOCATION NO.: 48396

ADDRESS: 00406 RIDGES BLVD

OWNER: LAROCHE ENTERPRISE

OCCUPANT: BLDG SITE

COMMENT: BPR 3 DUPLEXES, BLDGS E,F+G

CLASS	GAMMA SCREEN	TAILINGS USE	GAMMA MAP
0	0	8	0

TAX SCHEDULE:

SURVEY REQUESTED BY: COURTNEY LEE

DATE: 04/06/94

CODE (Circle One):

3 (9) 10 11

PERMIT TYPE: DUPLEXES

☒ No field survey required based on record review of the vicinity of the building site. No tailings deposits were identified from available records that would affect the construction site.

#97 94 Original
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From Office

Prepared by: R. Eckart

☐ Office Correction: _____

☐ Address Correction per: _____

THOMPSON-LANGFORD CORPORATION

Engineering & Land Surveying
529 25 1/2 Road, Suite B 210
Grand Junction, Colorado 81505
Phone: 303-243-6067

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May 24, 1994

#97 94

Ms. Linda Afman
Bray & Company Realtors
1015 N. 7th Street
Grand Junction, CO 81501

Dear Linda:

I walked the site of the LaRoche Condominiums this morning to get a feel for the significance of the drainage problems associated with completing the project. As you are aware, there are only three remaining sites within the project on which condominiums are to be constructed. Of the remaining three, the one presently under construction is probably the most at risk from area drainage.

The project has been constructed in a bowl surrounded by rather steep hillsides with moderate to high runoff potential. Single family homes with mature landscaping occupy the tops of the surrounding ridges. The area between these private homes and Mr. Cortney's condominiums has been platted as common open space and should remain forever as it presently exists.

Though the two drainages coming into the property from the east look significant, they end at the other side of the common open area at the backs of developed homesites. The drainage near the northeast corner or the site flows to the circle drive, is kept on the outside of the circle drive by pavement that pitches out and does not threaten the condominiums in the center of the project. Runoff from this drainage follows the pavement edge and exits the project at Ridges Boulevard.

Runoff from the drainage near the southeast corner of the property, even though relatively small, does threaten the building presently under construction. Grading needs to be planned around the structure to ensure that runoff from the hillside to the east is routed north around the building, and runoff accumulating in the drainage entering from the southeast is routed west and north around the structure until it can be released to the existing drainage course along the outside edge of the pavement.

Runoff from the open space areas and the condominium sites drains directly to the outside edge of the pavement on the circle loop serving the development. All the runoff comes together near the entrance to the project on the north side of the entry roadway. From this point to Ridges Boulevard there is evidence of a cobble rock swale lining placed to protect the roadside swale from erosion. Given the moderate amount of erosion which can be seen here, I would suggest that some regrading of the ditch and additional cobble rock would be warranted.

In general, the site is presently working and appears to have worked reasonably well from a drainage point since it was first paved. On-site detention of site runoff is not presently being done, nor is there evidence of this practice on any sites nearby. Since the existing stormwater routing within the streets seems to be working, I would not recommend any changes other than those mentioned above. To restate them, it would be my recommendation that the entry roadside swale be regraded and lined with cobble rock, and that a Landscape Architect or Civil Engineer prepare a site grading plan for the area around the building which is presently under construction and for the area around the two remaining building sites. Drainage calculations at this late date would be little more than a mathematical exercise and in my opinion would be of little value since all street and utility improvements are already in place.

I will be out of the office on Wednesday, but in Thursday and Friday. If you would like to arrange a conference call either of those days with the City's representative, I would be available.

Sincerely,

James E. Langford

JEL/iml

STAFF REVIEW

FILE: #97-94

DATE: June 17, 1994

REQUEST: Site Plan Review

LOCATION: Ridges Subdivision, Filing #2

APPLICANT: Lee Courtney, DBA: La Roche Enterprises

STAFF ANALYSIS: The Ridges development plan preserved this site for higher density multi-family or condominium residential density. Although a density allotment was granted for 43 units, the actual site layout and development is no longer conducive to this level of density. The additional units being proposed, four separate buildings with two units each, are essentially a full build-out of the site. A condition of approval will reflect this.

Three of the structures are proposed to be located on the southeast portion of the site and the fourth would be situated on the northwest corner of the improved portion. There is adequate site area to place the three structures on the southeast corner. In fact, the frames for the foundations are already in place for one of these. However, there does not appear to be sufficient space on the property for the fourth structure. The reason for this is that previous location of buildings may not been located where they were originally approved. As subsequent development has occurred, it is uncertain that available space to fit in this fourth unit has been fully considered. The only way to ascertain the location of the fourth unit would be to have the site surveyed for as-built location of structures. This will be required for future development of building #1 as part of a separate Site Plan Review.

STAFF RECOMMENDATION: Approval of three proposed two-unit residential structures, all of which are to be located on the southeast portion of the site, subject to the following conditions:

1) Prior to gaining planning clearance for proposed building #1, a separate site plan review is required. A site survey shall be submitted with that review so City agencies can evaluate the built portion of the site. This survey shall indicate the exact location of all site improvements, including the exact location of proposed building #1 and its distance from existing building #2.

2) The maximum density of this site becomes 33 units with this approval. All previous approved densities, including the 43 units approved by Mesa County, are no longer valid and effective.

LANDSCAPING IMPROVEMENTS

406 Ridges Blvd.

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#97 94

**Due to the extensive natural terrain surrounding all units, landscaping improvements will be minimal, as shown in accompanying pictures.

406 Ridges Blvd.

406 Ridges Blvd.

Original
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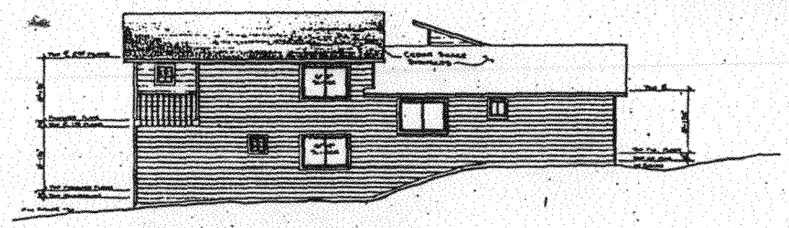
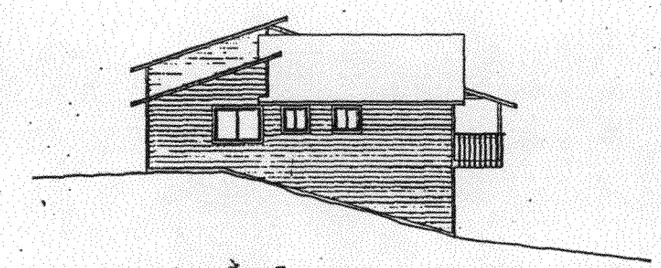
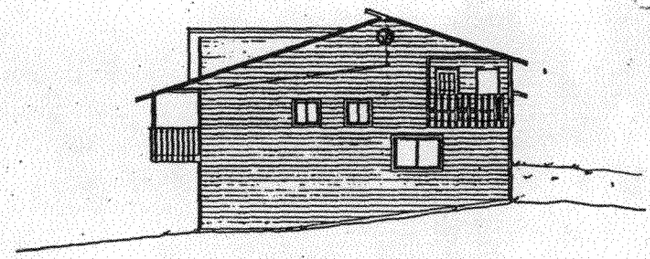
#97 94



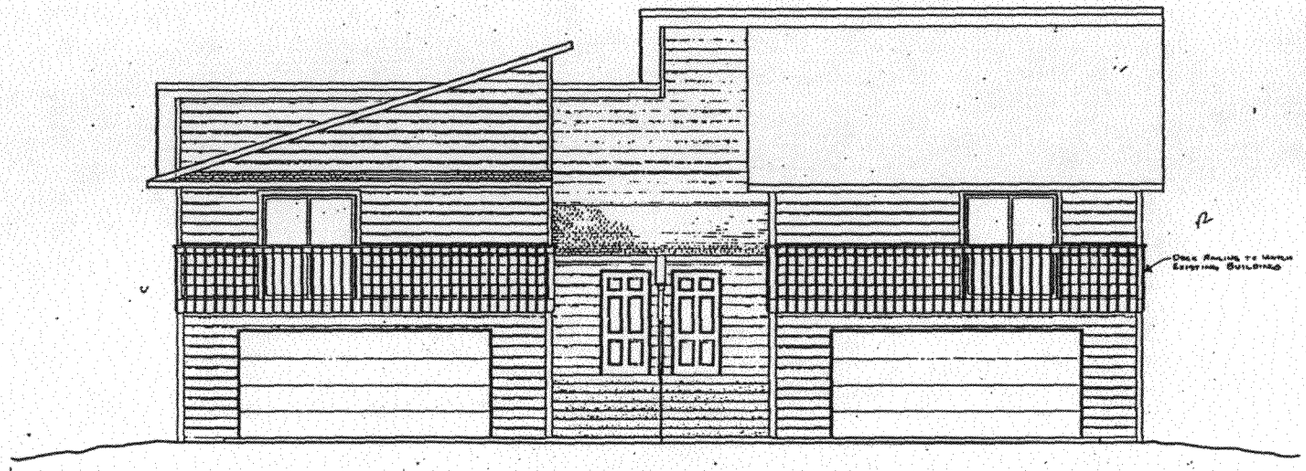
REAR ELEVATION
SCALE: 1/8"=1'-0"



LEFT SIDE ELEVATION
SCALE: 1/8"=1'-0"



RIGHT SIDE ELEVATION
SCALE: 1/8"=1'-0"



FRONT ELEVATION
SCALE: 1/4"=1'-0"

#97 94

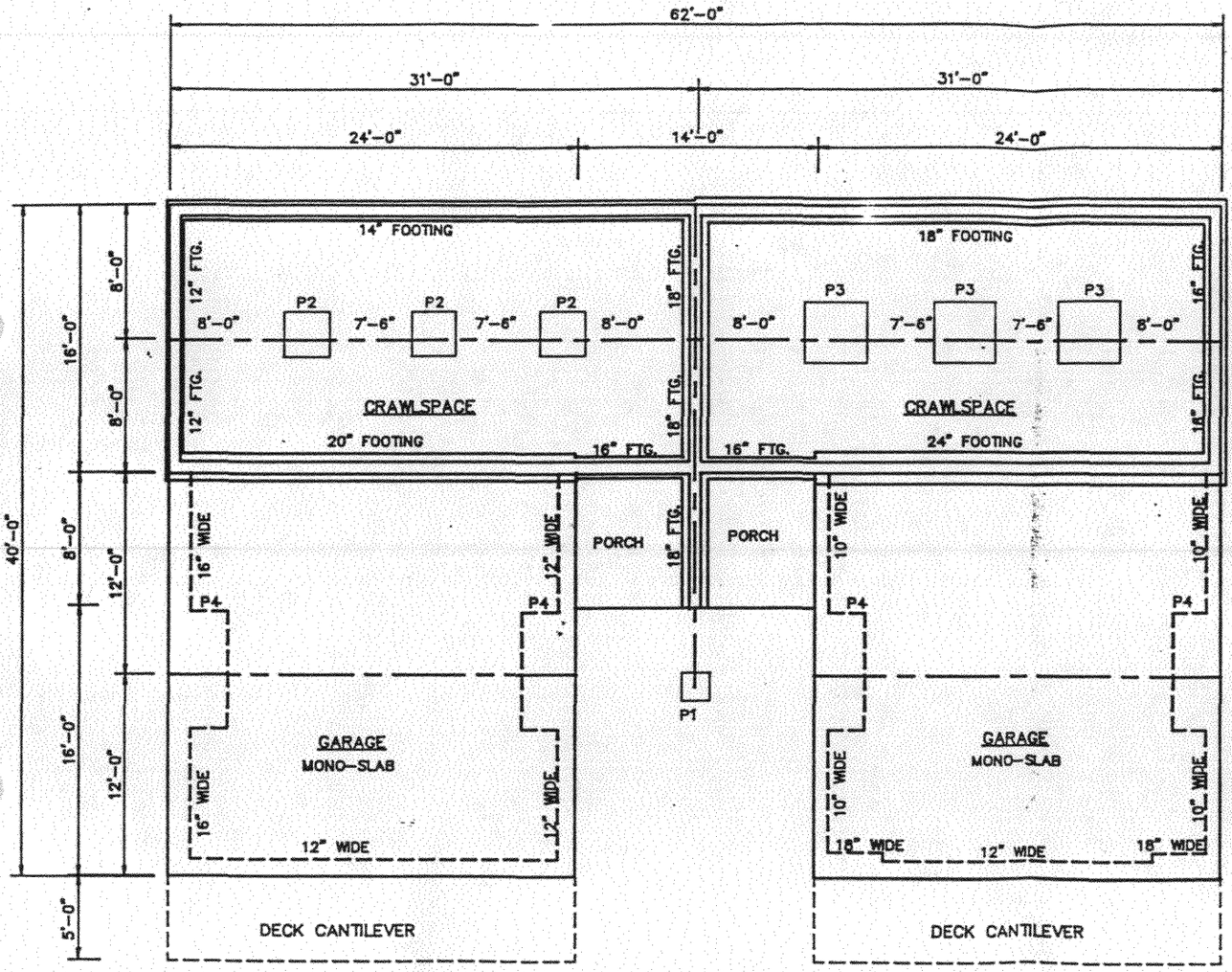
Original
Do NOT Remove
From Office

DRAWN BY:
DAVID R. HUFF

DATE:
NOVEMBER, 1, 1993

SCALE:
AS SHOWN

SHEET:
4

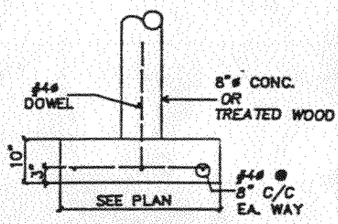


FOUNDATION PLAN

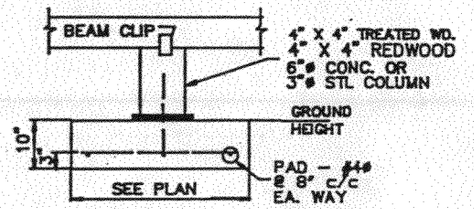
PAD SCHEDULE
P1 = 20" X 20" X 10"
P2 = 32" X 32" X 10"
P3 = 44" X 44" X 10"
P4 = 24" X 84" X 16"
SEE DETAIL A-A

#97 94

Original Do NOT Remove From Office



DECK PAD



CRAWLSPACE PAD

LINCOLN-DeVORE, INC.

By:

State of Colorado

Designed by: EDWARD M. MORRIS EIT

Soil Type: SANDSTONES, SILTSTONES AND THIN SHALES OF THE DAKOTA FORMATION

LEE COURTNEY
406 RIDGES BLVD. - UNITS E, F & G
THE ROSE CONDOS - GRAND JUNCTION, CO

LINCOLN DeVORE ENGINEERS · GEOLOGISTS

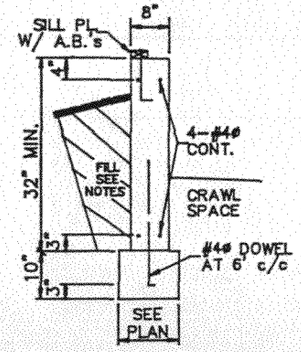
1441 MOTOR STREET
GRAND JCT., COLORADO
COLO. SPRINGS-PUEBLO

DRAWN BY: J.L. SPARKS	JOB #: 80187-J	SHEET: 1 OF 2
CHECKED BY: E.M. MORRIS	SCALE: 1/8" = 1'-0"	DATE: 10-12-1993
	CONT. SHT.	REV. 3-14-1994

NOTES FOR NON-EXPANSIVE SOILS

Notes:

*Dimensions should be taken from architectural plan except for foundation components.
*Reinforcing to be continuous around the building as shown. Minimum lap of reinforcing at splices - 15". No gaps in the reinforcing will be permitted. Use Grade 60 steel.
*Bends in reinforcing bars shall not be smaller than 6 bar diam. on the inside radius.
*Separate floor slab from all structural portions of building with expansion joint or folded polyethylene film.
*Surface drainage should be positive and rapid in directions away from the building at all points. The yard within 10' of the structure and all backfill to be sloped away from the structure at a minimum gradient of 2%.
*Roof drains should be carried away from the building at least 5' past any backfill. Water shall not be allowed to stand or pond near the building during or after construction. Backfill shall not be flooded during or after construction.
*All backfill shall be compacted to a minimum of 85% of the maximum Proctor density, ASTM D-1557. The only exception to this will be components of any peripheral drain.
*Excavation should be observed to determine if soils over the building area are the same as those for which the building was designed.
*Structural Fill placed beneath the slab or load-bearing members must be mechanically compacted to a minimum of 90% of its maximum Modified Density ASTM D-1557. These soils must be placed at Proctor optimum moisture content± 2%.
*Gravel pad used beneath slab must be well drained.
*Do not use dry wells on site, unless sited and approved by Geotechnical Engineer.
*Foundation concrete shall have a minimum strength of 3000 psi placed with a maximum slump of 5". It shall be made using "Modified" Type II Cement or equal protection, with no Calcium Chloride added.
*Planters, if any, should be well sealed and drained.
*Reinforcing shall be observed by engineer prior to placing concrete. Structure will be reinforced as shown on plans. No changes in building loads, reinforcing or design shall be made after final inspection.
*Refer to the soils letter for peripheral drain recommendations.
*Prior to backfilling procedures, foundation walls should be allowed to cure a minimum of 7 days and be adequately supported by floor systems or other bracing.



FTG AT CRAWL SPACE

#97 94

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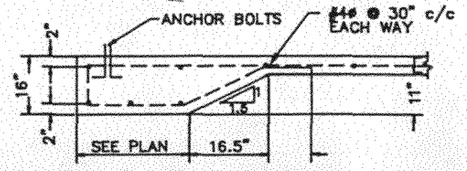
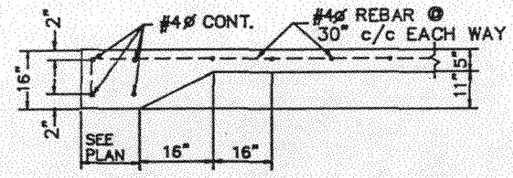


MONLITHIC SLAB
END WALL SECTION
DETAIL A-A



MONOLITHIC SLAB
END WALL SECTION

LINCOLN-DeVORE, INC.

By:

State of Colorado

Designed by: EDWARD M. MORRIS EIT

Soil Type: SANDSTONES, SILTSTONES AND THIN SHALES OF THE DAKOTA FORMATION

LEE COURTNEY
406 RIDGES BLVD. - UNITS E, F & G
THE ROSE CONDOS - GRAND JUNCTION, CO

LINCOLN DeVORE ENGINEERS · GEOLOGISTS

1441 MOTOR STREET
GRAND JCT., COLORADO
COLO. SPRINGS-PUEBLO

		JOB # 80187-J	SHEET 2 OF 2
DRAWN BY J.L. SPARKS	SCALE NO SCALE		DATE 10-12-1993
CHECKED BY E.M. MORRIS	CONT. SHT.		REV. 3-14-1994

►APPROVAL FOR BUILDING PERMIT◄
Ridges Architectural Control Committee (ACCO)

Job No 94-14
Builder or Homeowner Lee Courtney
Ridges Filing No. _____
Block _____ Lot _____
Pages Submitted 4
Date Submitted 5-4-94

#97 94

A - Approved
NA - Not Approved

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SITE PLAN

A	NA	
☑	☐	Front setback (20'-0" minimum)
☑	☐	Rear setback (10'-0" minimum)
☑	☐	Side setbacks (10'-0" minimum "B" and "C" lots)
☑	☐	Square Footage
☑	☐	Sidewalks
☑	☐	Driveway (asphalt or concrete)
☑	☐	Drainage
☑	☐	Landscaping

NOTE: Driveway shall be constructed of asphalt or concrete and shall extend to street paving with a 12" minimum drainage pipe extended 2'-0" minimum each side of driveway.

NOTE: All drainage shall be directed away from the foundation and disposed of without flowing onto adjacent lots.

NOTE: Water meter and irrigation riser must not be disturbed without permission of Ridges Metropolitan District.

EXTERIOR ELEVATIONS

☐	☑	Height (25'0" maximum)
☑	☐	Roof - Material _____ Color _____
☑	☐	Trim - Color
☑	☐	Siding - Material _____ Color _____
		Material _____ Color _____
☐	☐	Brick - Color
☐	☐	Stone - Color
☑	☐	Balcony
☑	☐	Porches or patios
☐	☐	Other

NOTE: All exposed flashing and metal shall be painted so as to blend into adjacent material.

APPROVED SUBJECT TO:

Town Homes to replicate existing structures within the present complex.

APPROVED Ridges Architectural Control Comittee

NOTE: Architectural Control Committee assumes no responsibility for the design, construction, or conformance to all applicable codes.

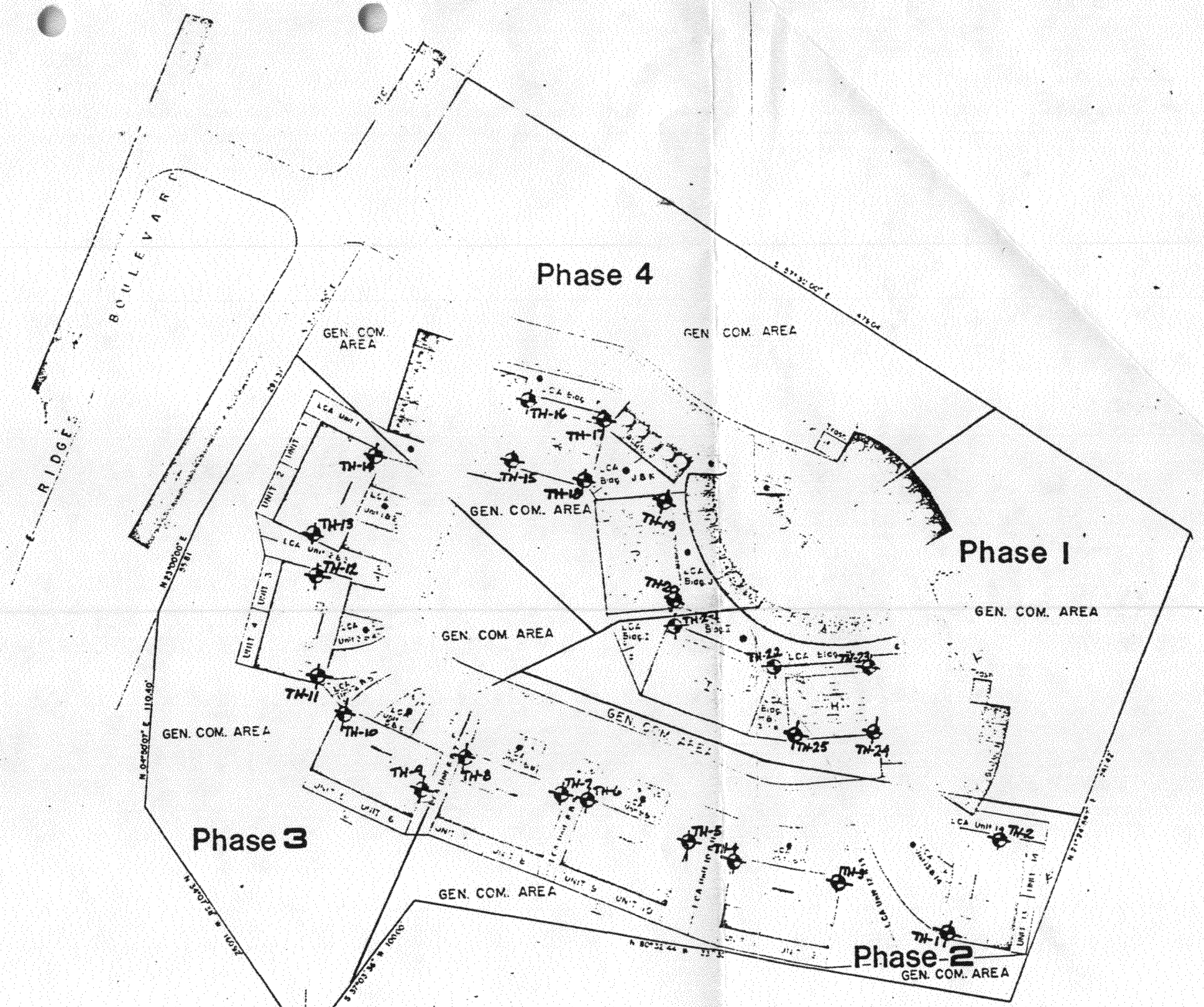
NOTE: Sewer, radon, and water permits must be obtained prior to issuance of building permit.

NOTE: ACCO makes no judgement for foundation design.

By signature below, builder or owner guarantees that improvements will be constructed as shown on this form and on building plans that were submitted, including plot plan, landscaping, and drainage plan.

RIDGES Architectural Control Committee
By _____
By _____

Builder/Realtor/Homeowner
By _____
Date _____



SOIL BORING LOCATIONS
RESIDENTIAL MULTI FAMILY DEVELOPMENT
LOT 1, BLK 6, FIL 2, THE RIDGES
LA ROCHE CONSTRUCTION

THE LINCOLN-DEVORE LABORATORY
GRAND JUNCTION, COLORADO

Lindsay's, Inc.
DRAFTING SERVICE

DEVELOPMENT PLAN
SHEET 1 OF 1
La Roche Enterprises

#97 94

Amended Condominium Map of
LA ROCHE CONDOMINIUMS
Building ~~A~~ 9 Lot 1 Filing 2 Block 6
406 Ridges Blvd.

#97 94

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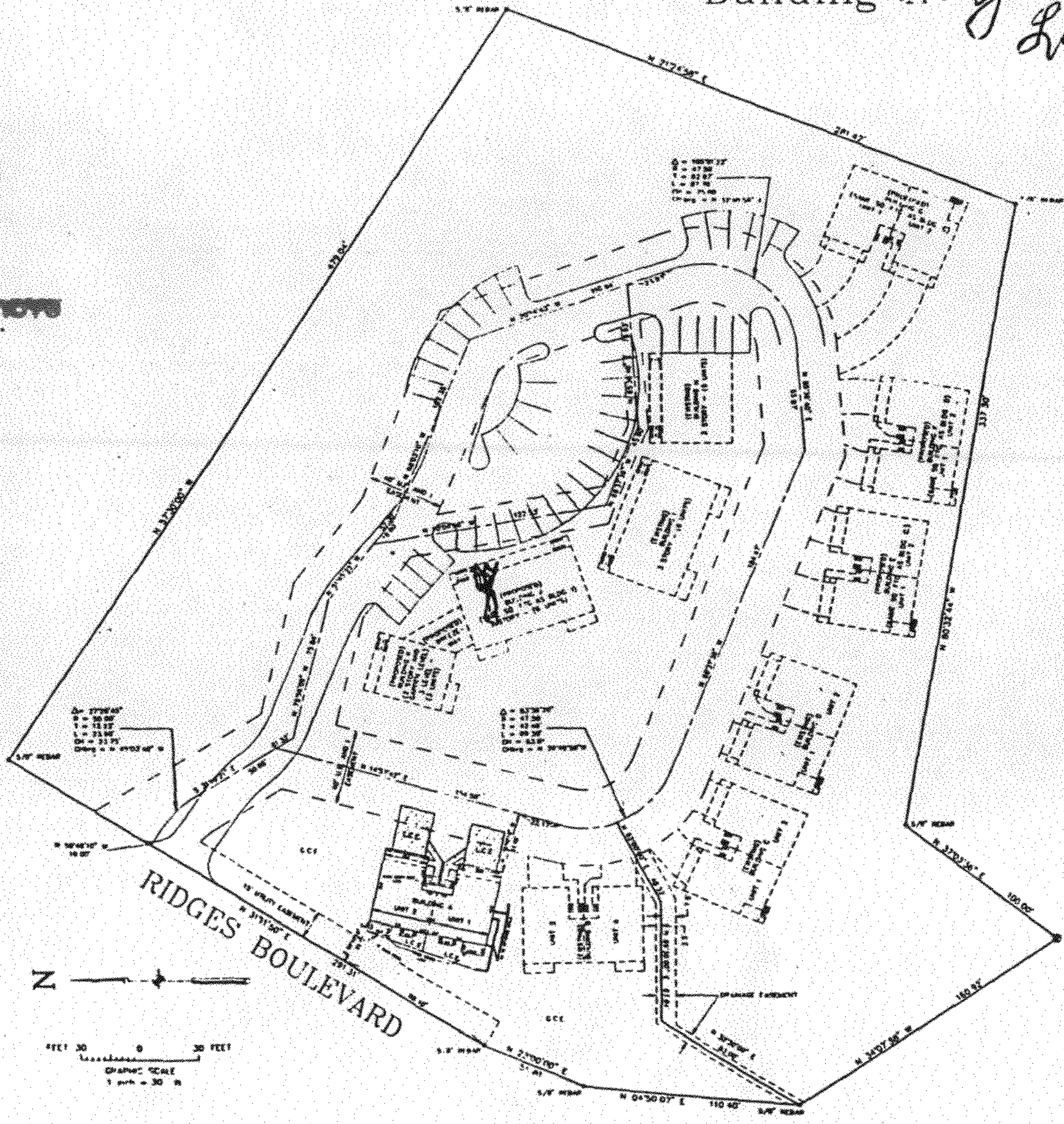

OWNER'S CERTIFICATE

Lee D. Courtney, a general partner of La Roche Enterprises, Ltd., a Colorado limited partnership, the owner of the herein described real property, certifies that this Amended Condominium Map of LA ROCHE CONDOMINIUMS, Building A has been prepared pursuant to the purposes stated in the Condominium Declaration for LA ROCHE CONDOMINIUMS as recorded in Book ____ at Page ____ in the Clerk and Recorder's Office, County of Mesa, State of Colorado

LA ROCHE ENTERPRISES, LTD., a Colorado limited partnership

____
Lee D. Courtney, general partner

STATE OF COLORADO }
} ss
COUNTY OF MESA }

The foregoing owner's certificate was acknowledged before me this ____ day of ________ A.D., 19 ____ by Lee D. Courtney as a general partner of La Roche Enterprises, Ltd., a Colorado limited partnership.

My commission expires ____________
Witness my hand and official seal

____
Notary Public

SURVEYOR'S CERTIFICATE

I, Kenneth Scott Thompson, a Professional Land Surveyor registered by the State of Colorado, do hereby state that this map consisting of two sheets was prepared under my direct supervision, that it depicts the vertical and horizontal locations of Units 1 and 2 of Building A hereon, and that it was made from measurements upon and within the existing structure of Building A only.

Kenneth Scott Thompson 8-18-92
Kenneth Scott Thompson, PLS 18480

CLERK AND RECORDER'S CERTIFICATE

I hereby certify that this instrument was filed in my office at ____ O'clock __.m. this ____ day of ____________ 1992, bearing Reception No. __________

____
Clerk and Recorder of
Mesa County, Colorado

____
Deputy

NOTICE: According to Colorado law you must commence any legal action based upon any defect in this survey within three years after you first discover such defect. In no event may any action based upon any defect in this survey be commenced more than ten years from the date of the certification shown hereon.

NOTE

This plat is an amendment to the plat "A Condominium Map of LA ROCHE CONDOMINIUMS First, Second, and Third Phases" filed by Colorado West Associates Inc. in 1983 in the Mesa County Clerk and Recorders Office (reception no. 1326191). All existing data was taken from the record map of that plat except the location and measurements of Building A.

Amended Condominium Map of
LA ROCHE CONDOMINIUMS
Building A

THOMPSON-LANGFORD CORPORATION
529 25 1/2 Road - Suite B210
Grand Junction CO 81505 (303) 243-8087

SCALE	JOB NO	DATE	SHEET NO
1" = 30'	049-004	AUG 92	1 of 2


MESA
THE RIDGES
BOULEVARD
SANDRIDGE COURT
BRANDY'S FILING COURT
STONERIDGE COURT
RIDGEWAY
FILING NO. TWO
FILING NO. ONE
RIDGES METROPOLITAN DISTRICT
OPEN SPACE
PRIVATE ROAD
LOT ONE
AMENDED CONDO MAP
LA ROCHE CONDOMINIUM
BUILDING A
LA ROCHE CONDOS.
FIRST, SECOND & THIRD PHASE
LA ROCHE CONDOS
FIRST PHASE
LA ROCHE
ENTERPRISE
LA ROCHE CONDOS
FIRST & SECOND PHASE
Adjoining
T.1S. R.1W.
2945-174
Adjoining
T.1S. R.1W.
2945-212C
Original
Do Not Remove
From Office
97 94
T.1S. R.1W. SEC. 16 SW
2945-163