CONSERVATION MANAGEMENT PLAN
RAFTER SEVEN RANCH

In Cooperation With
MASON VALLEY SOIL CONSERVATION DISTRICT
CONSERVATION MANAGEMENT PLAN

RAFTER SEVEN RANCH

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CONSERVATION MANAGEMENT PLAN

RAFTER SEVEN RANCH

ABSTRACT

The plan was developed to meet the conservation needs of the Rafter 7 Ranch and the allotted Federal range. This plan was developed with the operator, in cooperation with the Mason Valley Soil Conservation District, by the Soil Conservation Service and the Bureau of Land Management. The Table of Contents includes the component parts that constitute the Conservation Management Plan.

The Rafter 7 Ranch is located along the East Walker River twenty miles southeast of Yerigton, Nevada. This is a beef producing unit managed as a cow and calf operation with the major income from the sale of weaner calves each October. Arabian horse breeding is incidental to the cattle operation.

At the present time, the Rafter 7 Ranch does not have a balanced yearlong operation for the 650 head cattle herd. The ranch is now producing about 3100 AUMs of forage. Supplemental pasture and hay of about 1500 AUMs is purchased annually to maintain this herd. The private land is predominantly cultivated for pasture production. However, some hay is produced from the grass-hay meadows. Due to machinery costs and labor problems, the desire is to convert entirely to grass-legume pasture.

Sufficient winter forage is available on the allotted Federal range. Additional use is currently available by increasing the numbers or the period of time. However, summer pasture is the limiting factor on the private land. The objective of this plan is to: (1) increase the forage production on the private land so as to balance the yearlong operation; and, (2) improve the range and watershed condition on the Federal range.

These objectives can be attained through improved and additional watershed conservation measures applied to the private land. About 175 acres of land can be put into crop production, which is additional to improved cultivation on the present cultivable land. These practices are outlined in the Cooper- tor's Decision on the Privately Owned Land and are described in detail in this part of the Conservation Management Plan.

The Federal range condition can be improved and forage production increased merely by gaining better livestock distribution and range utilization. A rest-rotation grazing system will be initiated to accomplish this goal. This can be done with a minimum of mechanically constructed range improvements (fence and pipelines). The improved range conditions will enhance the wildlife and other multiple uses. These procedures are outlined in the Range Management part of the Conservation Management Plan.

Through the implementation of the Conservation Management Plan the forage production on the private land can be increased to about 5000 AUMs of feed. This in conjunction with the Federal range use would allow for a conservative increase in the operation of 800 head of cattle.
CONSERVATION MANAGEMENT PLAN
RAFTER 7 RANCH

THE PRIVATE LAND

The following, together with the attached conservation plan map, constitute the portion of the plan developed by the owner to meet his desires and the conservation needs of the private lands.

PASTURE: Includes all of the irrigated fields 484 acres

LAND LEVELING: Fields 1, 2, 9, 11, 12, 14, 17, 19, 20, 24, 33, 44, 45, 46 175 acres

The surface of these fields will be re-shaped to a designed grade and then planned to remove minor irregularities. Layout of the fields is shown on the conservation plan map.

NEW IRRIGATION DITCHES: Fields 1, 2, 9, 14, 17, 19, 20, 44, 45, 46 8000 L. F.

New irrigation ditches will be constructed to a designed grade and cross-section at the time the leveling is done. Approximate locations are shown on the map.

WATER CONTROL STRUCTURES: Fields 19, 20, 35, 41, 46 5 No.

A new point of river diversion will be constructed at the southeast corner of field #46 providing a permit can be secured from the Nevada State Engineer's Office. It is believed that there would be no difficulty in obtaining such a permit. A control structure will also be installed at this site. Reinforced concrete headgates and division boxes will be constructed at needed locations.

TAILWATER RECOVERY SYSTEM: Fields 17, 18

A sump will be constructed in the southeast corner of Field #17 to collect tailwater from the irrigation system. A pump and pipeline will be installed to carry the water to the upper ditch in field #18.

2/15/67
IRRIGATION WATER MANAGEMENT: All irrigated fields 484 acres

Water will be applied at a rate and manner that will not cause erosion nor losses from excessive runoff. Sizes of irrigating streams will be adjusted for the slope, the kind of soil, method of irrigation, and for the particular crop being grown. Intervals between irrigations will be adjusted to meet the moisture requirements of the crop.

DIKE CONSTRUCTION: Field 2 600 L. F.

An earth fill embankment will be constructed along the river to protect this field. This job will be done at time of leveling the field or soon thereafter.

STREAM BANK PROTECTION: Fields 21, 30 400 L. F.

Loose rock rip-rap will be used to protect eroding sections of the stream banks. Additional priority as to sections protected will be made as the needs become evident.

PASTURE PLANTING: Fields 1, 2, 9, 11, 12, 14, 17, 19, 20, 24, 33, 44, 45, 46 175 acres

These fields will be seeded to a grass-legume mixture as follows:

- Lahontan alfalfa 2 lbs. per acre
- Akaroa orchard grass 5 lbs. per acre

As the present alfalfa stands thin out they also will be seeded.

PROPER PASTURE USE: All irrigated fields 484 acres

Stocking will be at a rate that will maintain a good stand of forage. A rotation system of grazing will be followed that will allow for a re-growth period between grazing periods. Any weeds or unpalatable growth will be mowed following each grazing period as needed.

WILDLIFE

WILDLIFE HABITAT PRESERVATION: Miscellaneous fields 20 acres

These areas will be used for wildlife cover and nesting areas. They will be protected from grazing by livestock.
PRIVATE RANGE

RANGE PROPER USE: Fields 4, 5, 26, 40, 42, 43 1654 acres

The plan for this private range is included in the Bureau of Land Management's "Allotment Management Plan" for the public range.

MISCELLANEOUS

Corrals, houses, roads, river channel and ditch banks 42 acres

SEQUENCE OF PRACTICE APPLICATION

1. Land leveling fields #44 and #45 to begin possibly in the spring of 1967. The other fields for leveling will begin at the north part of the ranch and then move progressively southward.

2. Tailwater recovery system to be constructed soon after leveling begins.

3. New point of diversion to be constructed when ready to level field #46.

CONSERVATION AGREEMENT:

These improvements will be completed by the Rafter 7 Ranch subject to the conservation agreement with the Mason Valley Soil Conservation District.

2/15/67
THE FEDERAL RANGE

GRAZING SYSTEM

A rest-rotation grazing system will be used on the Gray Hills and Summit Spring allotments of the Rafter 7 Ranch. These are both individual allotments.

Past use has been continuous grazing for approximately six (6) months starting in late fall and ending March 31. Indian ricegrass is the key species and continuous use beyond this date enters into the critical growing season. With the adoption of a rest-rotation grazing system, use can be extended to May 15 without detrimental effects.

CLASS OF LIVESTOCK, STOCKING RATE:

All use planned for this grazing system will be made by cattle. Adjustments in numbers and/or time within the limits of the periods of use will be made by the range user as needed during the authorized grazing season.

The current range survey forage inventory shows a grazing capacity within the allotments of 7400 AUMs. Approximately 600 AUMs of this forage are presently unavailable due to lack of access and waters on the mountain tops and the steep pinyon-juniper slopes. This leaves approximately 6800 AUMs for initial utilization. The plan calls for an initial stocking rate of 550 cattle. As the plan and grazing system are completed, this number can be increased if forage is available. The major limiting factor will be the condition of the livestock as determined by the range user. The range user will be responsible to keep actual use records for each pasture on a grazing license year which starts March 1 and ends February 28.

PERIODS AND ROTATION OF USE:

The overall period of use will be August 1 through May 15. All pastures will receive all treatments as set forth in the following table.

<table>
<thead>
<tr>
<th>Year</th>
<th>Pasture 1</th>
<th>Pasture 2</th>
<th>Pasture 3</th>
<th>Pasture 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GL</td>
<td>RV</td>
<td>RS</td>
<td>RR</td>
</tr>
<tr>
<td>2</td>
<td>RV</td>
<td>RS</td>
<td>RR</td>
<td>GL</td>
</tr>
<tr>
<td>3</td>
<td>RS</td>
<td>RR</td>
<td>GL</td>
<td>RV</td>
</tr>
<tr>
<td>4</td>
<td>RR</td>
<td>GL</td>
<td>RV</td>
<td>RS</td>
</tr>
</tbody>
</table>

3/10/67
MANAGEMENT PRACTICES:

During the periods when the pasture is excluded from use, the range user will be responsible for keeping his livestock off the area. The range user is responsible for the proper care of the livestock. This shall include the herding required to control the livestock; proper salting to aid in livestock distribution and range utilization; and, maintenance of the water supply. The amount and place of salting will be at the discretion of the range user.

RANGE DEVELOPMENT AND PRIORITY OF WORK:

The full implementation of this grazing system is dependent upon the development and construction of the following range improvements with the corresponding proposed construction date:

<table>
<thead>
<tr>
<th>Project</th>
<th>Distance</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tank Spring Pipeline</td>
<td>5 miles</td>
<td>FY 1967</td>
</tr>
<tr>
<td>Twilight Spr. Pipeline Extension</td>
<td>2 miles</td>
<td>FY 1967</td>
</tr>
<tr>
<td>Gray Hills Fence</td>
<td>10 miles</td>
<td>FY 1967</td>
</tr>
<tr>
<td>Butler Mountain Spr. Pipeline</td>
<td>3 miles</td>
<td>FY 1968</td>
</tr>
<tr>
<td>Chipmunk Spring Pipeline</td>
<td>4 miles</td>
<td>FY 1968</td>
</tr>
<tr>
<td>Summit Spr. Pipeline Extension</td>
<td>2 miles</td>
<td>FY 1968</td>
</tr>
</tbody>
</table>

RANGE USER COOPERATION:

The range user will be responsible for the maintenance of projects as set forth in the cooperative agreements for construction of range improvements and Section 4 permits. The range user will also cooperate in the collection and recording of range study information and actual use records as required by the Bureau of Land Management. Studies on utilization, range condition and trend, and other data will be conducted by Bureau personnel as deemed necessary. The range user is encouraged to participate in these studies when possible.

The allotment will be inspected with the range user at least once each year during the grazing season, or as often as necessary.

CORRELATION WITH OTHER USES:

This plan does not restrict use of the public lands for any lawful purpose. At the present time, limited hunting, access across public land for fishing on the East Walker River and mining are the main uses of the Federal range other than grazing. Other limited recreation uses are anticipated and can be expected to increase.

The livestock grazing of the allotment is harmonious with multiple use management of resources. Wildlife will benefit from the establishment of a grazing system, in that additional water, habitat and forage will be made available.

3/10/67
FLEXIBLE MANAGEMENT CONSIDERATIONS AND GRAZING LICENSES:

The annual application by the range user for grazing use will set forth the tentative number of livestock use and pastures to be used. The license will be issued to reflect only the numbers of AUMs at the end of the grazing season. The actual use record by pastures maintained by the range user will be made available to the Bureau and reconciled with the AUMs shown on the grazing license. Any difference will be adjusted by the use of a supplemental license and billing or credit/refund as the case may require.

RANGE IMPROVEMENTS:

EXISTING RANGE IMPROVEMENT PRACTICES:

The following range improvement projects have been constructed under cooperative agreement between the Rafter 7 Ranch and the Bureau of Land Management:

Summit Spring Pipeline
Buckrush Spring Pipeline
Twilight Spring Pipeline
Webster Pipeline
Wheeler Flat Dam
Pine Grove Cattleguard
Webster Summit Cattleguard
Deadman Drift Fence
Four Mile Drift Fence
Pine Grove Fence
Webster Summit Drift Fence
E. Walker-Butler Mountain Fence
Pear Tree Fence
Pike Peak Fence
Wheeler Flat Fence Extension

The following major roads currently exist within the allotment and are maintained as designated:

East Walker River Road (County)
Pine Grove Flat Road (County)
Reese River-Deadman Point Road (County-BLM)
Gray Hills Road (BLM)
Twilight Spring Road (BLM)
Pole Line Road (Power Company)
PROPOSED RANGE IMPROVEMENT PRACTICES:

The following range improvement projects are planned for construction in the Gray Hills Allotment:

<table>
<thead>
<tr>
<th>Project</th>
<th>Length</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tank Spring Pipeline</td>
<td>5 miles</td>
<td>FY 1967</td>
</tr>
<tr>
<td>Twilight Spr. Pipeline Extension</td>
<td>2 miles</td>
<td>FY 1967</td>
</tr>
<tr>
<td>Gray Hills Fence</td>
<td>10 miles</td>
<td>FY 1967</td>
</tr>
<tr>
<td>Red Rock Fence</td>
<td>1 mile</td>
<td>FY 1967</td>
</tr>
<tr>
<td>Abraham Spring Pipeline</td>
<td>1 mile</td>
<td>FY 1968</td>
</tr>
<tr>
<td>Butler Mtn. Spring Pipeline</td>
<td>3 miles</td>
<td>FY 1968</td>
</tr>
<tr>
<td>Chipmunk Spring Pipeline</td>
<td>4 miles</td>
<td>FY 1968</td>
</tr>
<tr>
<td>Summit Spr. Pipeline Extension</td>
<td>2 miles</td>
<td>FY 1968</td>
</tr>
<tr>
<td>Pole Line Spring Development</td>
<td>1 each</td>
<td>FY 1968</td>
</tr>
<tr>
<td>Gray Hills Reaper</td>
<td>1 each</td>
<td>FY 1969</td>
</tr>
<tr>
<td>Pine Grove Spring Pipeline</td>
<td>4 miles</td>
<td>FY 1969</td>
</tr>
<tr>
<td>Chain Hills Fence</td>
<td>11 miles</td>
<td>FY 1969</td>
</tr>
<tr>
<td>E. Walker-Butler Mtn. Fence Extension</td>
<td>2 miles</td>
<td>FY 1969</td>
</tr>
<tr>
<td>Gray Hills Road</td>
<td>10 miles</td>
<td>FY 1969</td>
</tr>
</tbody>
</table>

These will be cooperative projects between the Rafter 7 Ranch and the Bureau of Land Management. A cooperative agreement will be entered into with the Rafter 7 Ranch sharing in the cost of the construction and providing the maintenance of the improvement. These projects will be planned for construction subject to the availability of funds.

The cost of fencing the water sources and providing water for wildlife will be the responsibility of the Bureau of Land Management.

The Pole Line Spring Development is a project to be developed entirely for wildlife habitat improvement. The Bureau of Land Management may bear this total cost.

Road maintenance and construction is planned for the future to improve public access via the Gray Hills Road. The other major roads are included in the present county maintenance programs.

At the present time there are no mechanical rehabilitation projects planned. However, in the event such practices are implemented in the future, protection will be afforded in the rest period of the rotation grazing system.
Although there is not an immediate need, it is conceivable that some areas would respond favorably to a brush control practice. Also, considerable acreage, mostly the east and south area, would benefit from contouring, check dams, undesirable brush control and revegetation. The erosion control structure work will need to be coordinated with construction work in the adjoining allotment and higher watershed to the east.

WILDLIFE CONSIDERATIONS:

The Gray Hills area is an important "chukar" partridge habitat. Waterfowl, ducks and geese abound and fishing is available along the East Walker River even though access to the river is limited. The area is not densely populated with deer. Most of the deer habitat is provided along the East Walker River and is on private lands. Some migration exists onto the higher range lands, but the herd is generally considered resident on the private lands.

The high mountains of the Wassuk Range show evidence and have a history as past habitat for Desert Bighorn sheep. In the event of re-introduction of this big game. There is no conflict with the cattle use since this area is not usable by cattle.

Livestock predators have been a serious problem resulting in considerable loss to cattlemen as well as sheepmen. Through coordination with the Bureau of Sports Fisheries and Wildlife an effective predator control program is in effect in the Gray Hills allotment.

PRESENT HABITAT DEVELOPMENTS:

Extensive coordination has been done with the Nevada Fish and Game Commission for the development and improvement of the chukar habitat. Enclosures have been constructed to provide cover on Buckbrush and Summit Springs. Water has been provided to flow open and freely on all spring and pipeline developments. Bird ladders are installed on all livestock watering troughs to allow for the escape of any birds falling into the troughs.

PROPOSED HABITAT DEVELOPMENTS:

The competition for available forage between livestock and wildlife is decreased as the range condition improves through better livestock distribution. The habitat will improve for wildlife concurrently with the improvement in range conditions for livestock.

Spring sources will be fenced to provide cover and open free flowing water will be made available for wildlife. One deteriorated spring (Pole Line Spring) is planned for development of water and cover for
the exclusive use of wildlife. As water is extended through the construction of pipelines, facilities will be available for wildlife use. Provisions will be made at each new watering facility for an adequate amount of year-round water to maintain newly dependent wildlife populations. Bird ladders or other escape facilities will be installed on all livestock watering troughs.

RECREATION CONSIDERATIONS:

The recreational activity within the area is quite varied but the impact is not of an intensive scale. A partial list of activities are bird and game hunting, fishing, rock hounding, bottle collecting, old mine site scavenging, spelunking, sightseeing, mustanging and "hollering" space.

PRESENT FACILITIES:

Roads are the only facilities present in the area other than the native range or inherent features of history. Two major all-weather gravel roads are the only major thoroughfares north and south through the area. One of these is the East Walker River Road which is adjacent to the river. Most of the river frontage is private property and public access is limited to short distances. Cooperation between the public and the Rafter 7 Ranch for access to the river is favorable at this time. Generally, all is needed is to request permission prior to entering onto the private property. Access across the other private properties is questionable.

East-west travel is limited to truck trails of various types. The Reese River Road is the major road transecting the north end of the area and maintained cooperatively between the counties, the telephone company and the Bureau of Land Management. The power company maintains a truck trail across the center of the area to the top of the mountains for servicing a transmission line. The other roads have been constructed by various interests as needed for the specific purpose at the time and thereafter not maintained.

PROPOSED FACILITIES:

Improved access through improved road construction and maintenance are the major considerations for future facilities. Some maintenance is planned in the next two years.

Limited sites are available for development of picnic areas and campsites along the East Walker River. There are no recreation developments planned at the present time.

3/10/67
AGREEMENT TO THE CONSERVATION MANAGEMENT PLAN

The Federal range use is authorized upon approved application to the full extent of the grazing capacity that is currently available or may be developed. The use above the base property qualifications of 4620 AUMs will be allowed on a temporary basis until recognized as Class II qualifications in accordance with Bureau of Land Management Regulations 43 CFR 4111.4-2.

Rafter Seven Ranch is allowed to adjust numbers of livestock and periods of use within the framework of the management plan for efficient and proper management of the ranch and the allotment. Actual use records of grazing use and records of practice and project completion will be maintained by the operator and provided to the respective agency as requested.

This plan is subject to modification in the event that studies, investigation, experience or new technology reveal changes are needed; that, a change in operation develops; that, drought or other natural causes result in range depletions; or that, funding for projects is not available and the full plan cannot be implemented in the schedule proposed.

We, the undersigned, having participated in the development of this management plan, agree to apply the listed conservation practices and projects and the grazing plan.

[Signature]
Rafter Seven Ranch

3/16/67
Date

[Signature]
Mason Valley Soil Conservation District

3/16/67
Date

[Signature]
Bureau of Land Management - District Manager

March 16, 1967
Date

3/15/67
<table>
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<th>Practice or Project Name</th>
<th>Units</th>
<th>Date Completed</th>
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ACTUAL USE RECORD

<table>
<thead>
<tr>
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<th>Pasture</th>
<th>Number</th>
<th>Period</th>
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<th>Capability Unit</th>
<th>Soil Symbol</th>
<th>Depth</th>
<th>Texture Surface</th>
<th>Texture Subsoil</th>
<th>Permeability Inches/Hour Surface</th>
<th>Permeability Inches/Hour Subsoil</th>
<th>Depth of Water Table</th>
<th>Salinity</th>
<th>Alkali</th>
<th>Remarks</th>
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</thead>
<tbody>
<tr>
<td>IIw2</td>
<td>1L46_A-1p-wl</td>
<td>60&quot;</td>
<td>Light Medium</td>
<td>Medium</td>
<td>Rapid Moderate</td>
<td>Moderate</td>
<td>36-60&quot;</td>
<td>--</td>
<td>--</td>
<td>Slight wind erosion</td>
</tr>
<tr>
<td>IIw2</td>
<td>2M47_A-1-wl</td>
<td>36-60&quot;</td>
<td>Medium Medium</td>
<td>Medium</td>
<td>Moderate Moderate</td>
<td>Moderate</td>
<td>36-60&quot;</td>
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<td>--</td>
<td>Underlain by sand</td>
</tr>
<tr>
<td>IIw2</td>
<td>2M67_A-1-wl</td>
<td>36-60&quot;</td>
<td>Medium Light</td>
<td>Medium</td>
<td>Moderate Rapid</td>
<td>Moderate</td>
<td>36-60&quot;</td>
<td>--</td>
<td>--</td>
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<tr>
<td>IIw6</td>
<td>1N42_A-1-wla1</td>
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<td>Moderate Moderate</td>
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<td>36-60&quot;</td>
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<td>Moderate Moderate</td>
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<td>36-60&quot;</td>
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<td>1L46_A-2r</td>
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<td>Light Medium</td>
<td>Medium</td>
<td>Rapid Moderate</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>Moderate wind erosion</td>
</tr>
<tr>
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<td>Light</td>
<td>Rapid Rapid</td>
<td>20-36&quot;</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>Poorly drained, Underlain by slowly permeable material</td>
</tr>
<tr>
<td>IIw2</td>
<td>1M6_A-1-w2</td>
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<td>Medium Light</td>
<td>Medium</td>
<td>Moderate Rapid</td>
<td>20-36&quot;</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>Poorly drained</td>
</tr>
<tr>
<td>Land Capability Unit</td>
<td>Soil Symbol</td>
<td>Depth</td>
<td>Texture</td>
<td>Permeability Inches/Hour</td>
<td>Depth of Water Table</td>
<td>Salinity</td>
<td>Alkali</td>
<td>Remarks</td>
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<td>IIIw4</td>
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<td>Rapid</td>
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<td>Slight wind erosion, Underlain by sand</td>
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<td>Light</td>
<td>Rapid</td>
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<td>Slight</td>
<td>Poorly drained</td>
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<td>20-36&quot;</td>
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<td>Light</td>
<td>Rapid to very rapid</td>
<td>20-36&quot;</td>
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<td>IIIw6P</td>
<td>1M46</td>
<td>60&quot;</td>
<td>Medium</td>
<td>Medium</td>
<td>Moderate</td>
<td>Moderate</td>
<td>--</td>
<td>Slight Poorly drained</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IIIw4</td>
<td>1L6</td>
<td>60&quot;</td>
<td>Light</td>
<td>Light</td>
<td>Rapid</td>
<td>--</td>
<td>--</td>
<td>Moderate water erosion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IIIw4</td>
<td>3M47</td>
<td>20-36&quot;</td>
<td>Medium</td>
<td>Medium</td>
<td>Moderate</td>
<td>Moderate</td>
<td>--</td>
<td>Underlain by sand</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IVw2</td>
<td>4L7X</td>
<td>10-20&quot;</td>
<td>Light</td>
<td>Very Light</td>
<td>Rapid</td>
<td>Very Rapid</td>
<td>Slight</td>
<td>Poorly drained Recent alluvium</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IVw2</td>
<td>4L7X</td>
<td>10-20&quot;</td>
<td>Light</td>
<td>Very Light</td>
<td>Rapid</td>
<td>Very Rapid</td>
<td>Slight</td>
<td>Poorly drained Recent alluvium</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Land Capability Unit</td>
<td>Soil Symbol</td>
<td>Depth</td>
<td>Texture</td>
<td>Permeability Inches/Hour</td>
<td>Depth of Water Table</td>
<td>Salinity</td>
<td>Alkali</td>
<td>Remarks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------------</td>
<td>-------------</td>
<td>-------</td>
<td>---------</td>
<td>--------------------------</td>
<td>----------------------</td>
<td>----------</td>
<td>--------</td>
<td>---------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IVw36P</td>
<td>1M62</td>
<td>60&quot;</td>
<td>Medium</td>
<td>Light</td>
<td>Moderate Rapid</td>
<td>20-36&quot;</td>
<td>Slight</td>
<td>Slight</td>
<td>Poorly drained, underlain by slowly permeable material</td>
<td></td>
</tr>
<tr>
<td>IVw36P</td>
<td>2M61</td>
<td>36-60&quot;</td>
<td>Medium</td>
<td>Light</td>
<td>Moderate Rapid</td>
<td>20-36&quot;</td>
<td>--</td>
<td>Slight</td>
<td>Poorly drained, underlain by slowly permeable material</td>
<td></td>
</tr>
<tr>
<td>IVs4</td>
<td>4L7X</td>
<td>10-20&quot;</td>
<td>Light</td>
<td>Very Light</td>
<td>Rapid</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>Recent alluvium</td>
<td></td>
</tr>
<tr>
<td>IVs4</td>
<td>4M7X</td>
<td>10-20&quot;</td>
<td>Medium</td>
<td>Very Light</td>
<td>Moderate Rapid</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>Recent alluvium</td>
<td></td>
</tr>
<tr>
<td>VIIe</td>
<td>3L67</td>
<td>20-36&quot;</td>
<td>Light</td>
<td>Light</td>
<td>Rapid</td>
<td>--</td>
<td>Slight</td>
<td>Moderate</td>
<td>4 - 8% slopes</td>
<td></td>
</tr>
<tr>
<td>VIIe</td>
<td>C-2-a2s1</td>
<td></td>
<td>Light</td>
<td>Light</td>
<td>Rapid</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VIIIs</td>
<td>2L27</td>
<td>36-60&quot;</td>
<td>Light</td>
<td>Heavy</td>
<td>Rapid</td>
<td>--</td>
<td>Slight</td>
<td>Slight</td>
<td>Above the irrigation water</td>
<td></td>
</tr>
<tr>
<td>VIIIs</td>
<td>C-2</td>
<td></td>
<td>Light</td>
<td>Heavy</td>
<td>Rapid</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VIIIs</td>
<td>4L1T-2</td>
<td>10-20&quot;</td>
<td>Light</td>
<td>Heavy</td>
<td>Rapid</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>4 - 8% slopes above water</td>
<td></td>
</tr>
<tr>
<td>VIIIs</td>
<td>C-2</td>
<td></td>
<td>Light</td>
<td>Heavy</td>
<td>Rapid</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VIIIs</td>
<td>5CA</td>
<td>&gt;10&quot;</td>
<td>Very Light</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td></td>
<td></td>
<td>Rocky, over 30% slopes</td>
<td></td>
</tr>
<tr>
<td>VIIIs</td>
<td>F-2</td>
<td></td>
<td>Medium</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td></td>
<td></td>
<td>Very steep, over 30% slopes</td>
<td></td>
</tr>
<tr>
<td>VIIIs</td>
<td>5HB</td>
<td>&gt;10&quot;</td>
<td>Medium</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
ALLOTMENT INFORMATION - CURRENT CONDITIONS AND ULTIMATE OBJECTIVES:

LOCATION AND AREA:

The Gray Hills and Summit Spring Allotments are located in the East Walker River watershed twenty (20) miles southeast of Yerington, Nevada, in Lyon and Mineral Counties. The Rafter 7 Ranch lies along the East Walker River in the south center part of the allotments, being bounded on the east and west by the Gray Hills Allotment. With the exception of the ranch land along the East Walker River, the area is entirely in public ownership.

The Federal range acreage of the allotments is as follows:

<table>
<thead>
<tr>
<th>Allotment</th>
<th>Acreage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cole Valley Unit, Gray Hills Allotment</td>
<td>14,372 acres</td>
</tr>
<tr>
<td>Pine Grove Unit, Gray Hills Allotment</td>
<td>16,258 acres</td>
</tr>
<tr>
<td>Walker Unit, Gray Hills Allotment</td>
<td>43,721 acres</td>
</tr>
<tr>
<td>Walker Unit, Summit Spring Allotment</td>
<td>31,668 acres</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>106,019 acres</strong></td>
</tr>
</tbody>
</table>

RESOURCE DATA:

The Federal range acreage of 106,019 acres is comprised as follows:

<table>
<thead>
<tr>
<th>Usable</th>
<th>Nonusable</th>
<th>Total</th>
<th>AUMs</th>
</tr>
</thead>
<tbody>
<tr>
<td>93167</td>
<td>12852</td>
<td>106019</td>
<td>7470</td>
</tr>
</tbody>
</table>
The majority of the forage in the Summit Spring Allotment falls into an *Artemisia arbuscula* (low sagebrush) type. Various portions of this particular type vary only slightly according to the percent of the shrub composition that the *Artemisia arbuscula* makes up. Grasses: *Oryzopsis hymenoides*, *Hilaria jamesii*, and *Sitanion hystrix*, comprise about twenty-five percent of the forage with the remainder in shrubs. Ninety percent of the forage is derived from range rated nine acres or more per AUM. **Acreage considered unusable in the** Summit Spring Allotment forms a single large block on the east side of the Wassuk Range overlooking Walker Lake. The area has been rated unusable because of one or a combination of the following:

Precipitous slopes  
Lack of water  
Lack of forage  
Distance to water from good forage

Most of the forage in the Gray Hills Allotment falls into the *Sarcobatus baleyi*, desert or dryland greasewood type or the *Artemisia arbuscula* type. Shrubs make up the major portion of the composition with grasses, *Oryzopsis hymenoides*, *Sitanion hystrix* and *Hilaria jamesii* making up from 15 to 35 percent of the composition depending upon the specific type. In most instances the less desirable *Hilaria jamesii*, galleta grass, makes up the major portion of the grass composition. Fifty percent of the forage in the Gray Hills Allotment is derived from range rated at nine acres or more per AUM. Considering forage derived from slightly poorer range, it can then be said that almost 80 percent of the forage comes from 16 acres or more per AUM. The stocking rate varies from 7 - 62 acres per AUM with the average stocking rate for the usable portion of the allotment being 12.5 acres per AUM. Approximately 60,000 acres, that in the north two pastures and the west pasture, are in good to excellent condition. These areas are near climax, having a high composition grasses: *Oryzopsis hymenoides*, *Sitanion hystrix* and *Hilaria jamesii*, along with the desirable shrubs, *Artemisia arbuscula* and *Atriplex confertifolia*. The remaining 46,000 acres is comprised of the poorer stocking rates and unusable areas. There is considerable potential for improvement mainly through grazing management and watershed control structures. The principal area for improvement is in the south portion of the allotment east of the river and the areas immediately adjacent to the river. The vegetal cover is very sparse, being comprised predominately of shrubs, *Sarcobatus baleyi*, *Sarcobatus vermiculatus*, *Chrysothamnus spp.* and *Atriplex confertifolia*.

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The average precipitation for the area is 5 to 8 inches in the desert shrub type. Most of the precipitation occurs during short durations of high intensity summer rainstorms and as snow during the winter. Precipitation varies from 5 to 12 inches through the Pinyon-Juniper type and 20 inches occurs at the mountain tops.

The soils vary from sandy to silt loams, with varying amounts of intermixed gravel and rocks. These soils are highly susceptible to wind and water erosion. The area, historically, receives short durations of high intensity summer rainstorms which result in much gully washing and cutting.

EXISTING LAND TREATMENT PROJECTS:

Summit Spring Pipeline
Buckbrush Spring Pipeline
Twilight Spring Pipeline
Webster Pipeline
Wheeler Flat Dam
Pine Grove Cattleguard
Webster Summer Cattleguard
Deadman Drift Fence
Four Mile Drift Fence
Pine Grove Fence
Webster Summit Drift Fence
E. Walker-Butler Mountain Fence
Pear Tree Fence
Pike Peak Fence
Wheeler Flat Fence Extension
East Walker River Road
Pine Grove Flat Road
Reese River-Deadman Point Road
Gray Hills Road
Twilight Spring Road
Pole Line Road

QUALIFICATION OF OPERATORS:

The Rafter 7 Ranch has the following Class I grazing qualifications for use by cattle:

<table>
<thead>
<tr>
<th>Allotment</th>
<th>AUMs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gray Hills Allotment</td>
<td>3300</td>
</tr>
<tr>
<td>Summit Spring Allotment</td>
<td>1320</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>4620</strong></td>
</tr>
</tbody>
</table>

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This is presently recognized as total available active use. The Allocation of Grazing Privileges and Allotment was completed by decision in 1960 and 1961. The Summit Spring use was acquired by transfer in 1965.

The property known as the Rafter 7 Ranch is the base property for all of the Class I privileges. Dependent Property Record, dated December 22, 1966 indicated 2,199 acres of base property producing 3100 AUMs of forage. Over the years Rafter 7 Ranch has been making active use of the majority of its grazing privileges.

CURRENT ISSUES AND PROBLEMS:

According to the 1960 range survey there is available 7470 AUMs of forage for cattle. The area of use was defined as the Gray Hills and Summit Spring Allotments during the adjudication decisions in 1960 and 1961. The grazing privileges were established at 4620 AUMs.

Even though there shows an excess of 2850 AUMs available forage, range distribution was the major problem in maintaining proper forage utilization. Much has been done to improve this situation through extensive water developments. However, much range improvement is yet needed to attain the best utilization and management. Much fencing and more water developments are needed and presently under construction and planning. The major water sources are at higher elevations and to some extent on another allotment. Problems are inherent in working out satisfactory agreement for the construction of improvements when there is overlapping use.

Grazing use beyond March 31 is very critical due to the key management species Oryzopsis hymenoides, rice grass (sandgrass), entering into the critical growing period. This is also the beginning of the critical season on the private meadow land. Through the establishment of a rest-rotation grazing system and the continued light stocking rate, it is planned to extend the grazing season six weeks, which would be up to May 15.

CORRELATION WITH OTHER USES:

The Federal range in these allotments is subjected to multiple use - recreation, wildlife, mineral activity, utility sites and rights-of-way, watershed conservation and livestock grazing. The impact of these uses will undoubtedly increase in the future. Very little of the area should be needed for rural or community development. The

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recreational activity is quite complex. A partial list of activities are bird and game hunting, fishing, rock hounding, bottle collecting, old mine site scavenging, spelunking, sightseeing, mustanging and "hollering" space. Sites are available for the development of camp and picnic areas. Access would need to be improved, since the present accesses are about washed out.

The livestock grazing in the area is harmonious with the other multiple uses. Wildlife will benefit from the establishment of a grazing system, in that additional water, habitat and forage will be made available. At the present time there is ample forage and area available that is non-competitive between wildlife and cattle. Wildlife abounds in the area and consists of mule deer, pronghorned antelope, mustangs, chukar partridge, doves, valley quail, sage hens, ducks, geese, and rabbits. The high mountains of the Wassuk Range show evidence and past history as habitat for the Desert Bighorn sheep. Water and habitat improvement projects for wildlife use have been coordinated with the range improvements. Coordination with the Nevada Fish and Game Commission has resulted in numerous habitat developments for the chukar partridge.

Old mineral activity is prevalent throughout the area. The current activity is minimal, but may increase at any time, since the entire area is mineralized.

The Wassuk Mountain range has several telephone utility sites used as television and radio repeaters. Electric and telephone lines right-of-way cross the area.

Since the area is characterized by unstable soils of granitic origin much mechanical work needs to be done to improve the watershed through erosion control. Contouring, waterspreading and check dams are needed to hold the soil and water. Deferred grazing management will be used in conjunction with these projects to improve the vegetative cover.

STATEMENT OF OBJECTIVES:

The objective of this plan is to provide for the maximum multiple use of the natural resources on a sustained yield basis. The implementation of this plan will improve the watershed health, range condition and esthetic values. Soil erosion will be minimized. Soil and water conservation will be enhanced.

Through the improved range health vegetative cover will be increased for watershed protection and forage value for livestock and wildlife.
Through the implementation of the management plan the rancher would be allowed more flexibility in adjusting numbers and periods of use. Grazing application and licensing procedures would be facilitated and simplified.

The coordinated Conservation Management Allotment Plan will provide the detail and guidance for development of a balanced ranch-range operation. The potential for both ranch and range would be defined. The steps necessary to attain the potential will be defined.

THE ALTERNATIVES:

Past grazing use has been a system of yearlong or season long continuous grazing. Unrestricted access was made to any part of the range year after year. As a result certain areas have been overused and other areas underused.

A deferred continuous grazing system was placed into effect following the adjudication. This action limited the area to winter grazing for the period October through March. No grazing was allowed during the critical growing period after March 31. Certain areas continued to receive excess pressure due to access to water.

Rest-rotation grazing or rotation grazing would allow for the grazing period to be extended into the growing period. In order to implement a rotation grazing system distribution controls will be necessary. Water developments are needed along with considerable fencing to insure proper distribution and range utilization. The initial steps to develop additional water improved distribution slightly. However, it is deemed necessary to construct several fences to attain the best distribution and then rotate the grazing use between areas.

A rotation grazing system will be best suited for the multiple use management of the natural resources. Therefore, initially a rest-rotation grazing system will be established. However, this may be a modified system since the process of seed trampling is delayed too long after seed maturity.

GRAZING SYSTEM:

A rest-rotation grazing system is initially planned for use on the Gray Hills and Summit Spring Allotments. These allotments are used solely by the Rafter 7 Ranch in their cattle operation.
Past use has been a system of continuous grazing for a six (6) months period ending March 31. Use beyond this date enters into the critical growing season for the key species, Indian ricegrass. With the adoption of the rotation grazing system, it is planned to extend the period of use to May 15.

STOCKING RATE AND CLASS OF LIVESTOCK:

The available grazing capacity of the allotments is 7400 AUMs of forage for cattle. However, only 6800 AUMs are usable within the design of the grazing system. This use is that available on the lower, more accessible slopes and rolling foothills.

The intermediate areas of the allotments are characterized by steep slopes, barren of understory cover and densely laden with Pinyon-juniper. The upper mountain tops are not usable at the present time due to lack of water and inaccessibility. These areas are presently restricted to watershed values and wildlife use. Initially, the stocking is planned at a maximum number of 550 head of cattle. As the plan develops this number may be increased substantially. Even at the present range condition, there is available forage for an increased number of livestock.

PERIODS OF USE:

The overall period of use is planned for August 1 through May 15. This period of use extends six weeks beyond the recognized winter use period of March 31. However, since the stocking is moderate and with the adoption of a grazing system, this extension of time is justifiable.

The extension of the season of use is mainly to accommodate the development of the native and improved pastures on the private land. Further, early death loss due to poisoning has been a problem on the meadow pastures during the early growth period. A later use period on the native range resulting in a corresponding later use period on the meadow lands may be the solution to the death loss.

A four-year cycle of use is planned using four pastures. This sequence of use is:

1. Graze the range for maximum livestock production (GL)
2. Rest the range until plant vigor is restored (RV)
3. Rest the range until seed ripens, then graze for maximum livestock production (RS)
4. Rest the range until reproduction becomes firmly established (RR)
The distribution of treatments among the pastures for the four unit plan is as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Pasture 1</th>
<th>Pasture 2</th>
<th>Pasture 3</th>
<th>Pasture 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>GL</td>
<td>RV</td>
<td>RS</td>
<td>RR</td>
</tr>
<tr>
<td>2</td>
<td>RV</td>
<td>RS</td>
<td>RR</td>
<td>GL</td>
</tr>
<tr>
<td>3</td>
<td>RS</td>
<td>RR</td>
<td>GL</td>
<td>RV</td>
</tr>
<tr>
<td>4</td>
<td>RR</td>
<td>GL</td>
<td>RV</td>
<td>RS</td>
</tr>
</tbody>
</table>

MANAGEMENT PRACTICES:

The range user is responsible for the proper care of the livestock. This shall include the herding required to control the livestock; proper salting to aid in livestock distribution and range utilization; and, maintenance of the water supply.

At the present time, the above practices will be used to implement the grazing system. Manipulation of the water supply will be the main control feature for distribution of the livestock. The present water supply is furnished through a system of pipelines which deliver the water to a series of troughs well-scattered over the area. In the event this does not function adequately, fencing will be constructed as needed.

A management check will be accomplished jointly with the operator to ascertain and evaluate the effectiveness of the grazing plan. The operator will be encouraged to participate in the range studies and utilization checks.

FLEXIBLE MANAGEMENT CONSIDERATIONS:

Rafter 7 Ranch may adjust its use of the Federal Range within the framework of the season of use. Numbers may be varied depending on the need and discretion by Rafter 7 Ranch. The Bureau of Land Management will be duly notified as to these adjustments. Actual use records will be maintained by Rafter 7 Ranch and made available to the Bureau of Land Management upon the close of the grazing season. As the range condition warrants, additional use may be allowed beyond the current license.

OTHER REQUIREMENTS:

RANGE STUDIES:

Range studies on utilization, range condition and trend and other data will be conducted by the Bureau of Land Management personnel as required under 4412.22. The range user shall be encouraged to parti-
cipate in these studies. Actual use records will be maintained by the range user and supplied to the Bureau of Land Management when requested. Parker transects, with photo stations, have been established since 1963. In 1966 these photo stations were re-evaluated in an effort to correlate these transects with future studies. The Ocular Estimate by Plot Method, 4414.22B2, has been selected for use in evaluating utilization, range condition and trend in the Gray Hills allotment. Permanent photo plots are established in conjunction with these transects.

RANGE READINESS AND UTILIZATION SPECIFICATIONS:

The range is considered ready for grazing anytime after seed maturity since the range use is considered predominately winter grazing. The grazing season begins October 1 and ends May 15. Since the grazing season is being extended beyond March 31 to May 15, the critical grazing period is during April and May. During this period of early and rapid growth the principals of the rest-rotation grazing system are most important.

Proper utilization will be based upon sandgrass (Indian ricegrass) as the key species. The proper use factor for sandgrass is 50 percent for spring, summer and fall use and 60% for winter use.

Numerous plant communities are identified in the Gray Hills allotment. It is not intended that there will be a drastic change in communities. Most attention is being directed at the sandgrass-desert greasewood community for improvement in condition since it is the principal forage producing community for livestock.

PROPOSED RANGE IMPROVEMENT PRACTICES:

At the present time there are no mechanical rehabilitation projects planned. The Pumpkin Hollow P. L. 566 Program area is in the northeast portion of the Gray Hills Allotment. In the event this program becomes operational much structural and mechanical rehabilitation work will be necessary. None of the costs inherent to this program will be borne by the range user. However, in the event such practices are implemented in the future, protection will be afforded in the rest period of the rotation grazing system.

Although there is not an immediate need, it is conceivable that some areas would respond favorably to a brush control practice. Also, considerable acreage, mostly the east and south area, would benefit from contouring, check dams, undesirable brush control and revegetation.
The erosion control structure work will need to be coordinated with construction work in the adjoining allotments and higher watershed to the east. Road access through the area is good. However, much of the access into the area is limited to truck trails.

The projects planned for the near future are as follows:

<table>
<thead>
<tr>
<th>Project</th>
<th>Length</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tank Spring Pipeline</td>
<td>5 miles</td>
<td>FY 1967</td>
</tr>
<tr>
<td>Twilight Spr. Pipeline Extension</td>
<td>2 miles</td>
<td>FY 1967</td>
</tr>
<tr>
<td>Gray Hills Fence</td>
<td>10 miles</td>
<td>FY 1967</td>
</tr>
<tr>
<td>Red Rock Fence</td>
<td>1 mile</td>
<td>FY 1967</td>
</tr>
<tr>
<td>Abraham Spring Pipeline</td>
<td>.1 mile</td>
<td>FY 1968</td>
</tr>
<tr>
<td>Butler Mtn. Spring Pipeline</td>
<td>3 miles</td>
<td>FY 1968</td>
</tr>
<tr>
<td>Chipmunk Spring Pipeline</td>
<td>4 miles</td>
<td>FY 1968</td>
</tr>
<tr>
<td>Summit Spr. Pipeline Extension</td>
<td>2 miles</td>
<td>FY 1968</td>
</tr>
<tr>
<td>Pole Line Spring Development</td>
<td>1 each</td>
<td>FY 1968</td>
</tr>
<tr>
<td>Chain Hills Fence</td>
<td>11 miles</td>
<td>FY 1969</td>
</tr>
<tr>
<td>E. Walker-Butler Mtn. Fence Ext.</td>
<td>2 miles</td>
<td>FY 1969</td>
</tr>
<tr>
<td>Pine Grove Spring Pipeline</td>
<td>4 miles</td>
<td>FY 1969</td>
</tr>
<tr>
<td>Gray Hills Reaper</td>
<td>1 each</td>
<td>FY 1969</td>
</tr>
<tr>
<td>Gray Hills Road</td>
<td>10 miles</td>
<td>FY 1969</td>
</tr>
</tbody>
</table>

These will be cooperative projects between the Rafter 7 Ranch and the Bureau of Land Management. A cooperative agreement will be entered into with the Rafter 7 Ranch providing the maintenance.

All the pipeline water developments benefit wildlife since the spring source shall be fenced and water made available. The Bureau of Land Management may bear this cost entirely. The Pole Line Spring Development is a project developed entirely for wildlife habitat.

COMPLIANCE AND SUPERVISION:

The Gray Hills Allotment will be checked at least once a year by the Bureau of Land Management personnel together with representatives of the Rafter 7 Ranch. Initial allotment plan supervision will require frequent inspections made jointly with the operator to determine key areas and develop the rotation grazing system.

SPECIAL INSTRUCTIONS:

At the present time there are no special instructions needed or desired. It is understood that the provisions of the "Grazing Regulations for the Public Lands" apply and may be invoked at any time if circumstances warrant.

3/10/67