

APPENDIX B.6

AGRICULTURAL MITIGATION PLAN

GILL RANCH STORAGE
AGRICULTURAL IMPACT MITIGATION PLAN
for
GRS GAS STORAGE PROJECT

July 2008

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Definitions

Agricultural Land	That land which is used in agricultural production, including all the land devoted to the enterprise, such as, the farmstead, roadways, drainage and irrigation ditches, farm ponds, water supply, cropland and grazing land. Cropland in the project area includes annually cultivated or rotated crops, perennial crops, orchards, vineyards and pasture.
Annual Crop	A crop that is planted and harvested within one year. These crops are usually cultivated annually in rotation with other annual and perennial field and row crops, and the rotation usually includes fallow periods.
Easement Area	The combination of the permanent easement and adjacent temporary construction easement. The normal width of the easement area is 85-feet.
Irrigation System	The system of wells, buried pipelines and surface facilities used to provide and apply irrigation water. Irrigation systems in the project area include gravity (flood and furrow), sprinkler and drip technologies. Additional facilities (canals and pipelines) are used by farmers and districts to convey and distribute irrigation water to individual farms and parcels.
Land Holder	The person(s) or entity that has direct control of the land either through ownership, designation by the owner or court, or lease agreement.
Land Owner	Any person(s), private entity, or public entity that holds legal title to property on the Pipeline route from whom the GRS is seeking or has obtained temporary and/or permanent easements.
Land Owner Representative	Any person(s) legally authorized by a landowner or court of law to make decisions regarding mitigation or restoration of any agricultural impacts to such landowner's property. Any landowner's representative shall provide the GRS with a written document signed by the landowner or a court with jurisdiction authorizing the representative to discuss, negotiate and reach agreement with the GRS.

Non-agricultural Land	Any land that is not “Agricultural Land” as defined above.
Permanent Easement	The area that contains the GRS pipeline. The permanent easement is described in a recorded easement deed, which also contains the terms and conditions for the use of the permanent easement area. The permanent easement is a vested right to use the land other than as a tenant. This vested right allows the GRS to construct operate and maintain the pipeline in accordance with the easement deed terms and conditions. The normal width of the permanent easement is 50-feet.
Perennial Crop	A crop that is planted and remains in production for three years or longer. Perennial crops in the project area include alfalfa, improved pasture, vineyards and orchards.
Pipeline	Includes the natural gas pipeline and its related appurtenances as described in the GRS project application to the CPUC.
Project	The sum of activities associated with environmental compliance, planning, permitting, design, and construction of the GRS Gas Storage Project.
Subsoil	That part of the soil profile that lies immediately below the plow zone or “A” horizon.
Subsurface Drainage System	A system of buried lateral perforated pipes installed below the crop root zone to artificially drain shallow groundwater from the subsurface. These systems are usually constructed from perforated flexible plastic pipe and are often contained in a gravel envelop or wrapped in a fabric filter material. Pipe collection systems are used to convey subsurface drainage water to sumps where it’s usually discharged for disposal.
Temporary Easement	The work area immediately adjacent to the permanent easement where the GRS has paid for and acquired the right of temporary use solely for the construction of the pipeline and appurtenances. The temporary easement and the right of use expire upon completion

of construction. The normal width of the temporary easement is 35-feet.

Tenant

Any person or entity lawfully residing on or in the possession of property, and who is the farm operator and has a lease or pays rent on the property that the GRS is seeking or has obtained a temporary and/or permanent easement from the landowner.

Topsoil

A general term applied to the surface portion of the soil, including the average plow depth or the "A" horizon where this depth is deeper than the plow depth. The "A" horizons would include other "A" horizons, such as the "A1", "A2", etc., but would not include transitional "A" horizons. The topsoil is the surface layer of the soil, which usually has the darkest color and the highest content of organic matter.

1.0 Introduction

The mitigation measures described in this Agricultural Impact Mitigation Plan (Plan) are intended to provide relief and/or compensation for agricultural impacts that may result from construction of the Gill Ranch Storage, LLC (GRS) natural gas storage project. A number of different activities and parties are involved in the planning, permitting, construction and mitigation activities associated with the Pipeline and compressor facility collectively; this in combination is referred to as the Project in this Plan. This Plan provides the basis for discussion between the GRS project team and GRS authorized agents, and property owners and tenants who own and/or farm agricultural parcels where the Pipeline and related storage facilities will be constructed. The mitigation measures described herein have been conceived to supplement the information included in the Project Application to the California Public Utilities Commission (PUC). This Plan does not, nor shall it be construed, as establishing any contractual representation, obligation or agreement between GRS and any party, and shall not create any third party beneficiary rights between GRS and any other party. GRS will acquire temporary and permanent easements, the Easement Area, for the Pipeline. Temporary easements will retire after completion of construction, while permanent easements will remain in effect during the life of the Project. GRS has retained a land agent to negotiate the terms and conditions of these easements. The easement language will be conceived to acquire sufficient area for construction and to provide for future maintenance, operation and protection of GRS facilities. The easement agreements will contain general terms and conditions, which may be revised as negotiations with property owner's progress. The specific general terms and conditions in the easement agreements were not available for development of this Plan. General terms and conditions contained in easement deeds used in other similar projects were assumed to be relevant for development of this Plan. The Plan may be revised in the future to reflect any substantive differences between the assumed and actual easement deed terms and conditions. To the extent that there may be conflicts between the general terms and conditions set forth in the easement agreements negotiated with the property owners and the contents of this Plan, the easement agreements shall be controlling. Several different parties, described below, may be involved during various Project phases. These parties will be referred to collectively as the Land Holder for purposes of this Plan unless otherwise noted.

- **Land Owner:** The individual, group of individuals, private entity (i.e., corporation, partnership, LLC, etc.), or public entity that holds title to the property.
- **Land Owner Designee:** The party designated by the Land Owner to act in the Land Owners behalf. GRS will require written notice from the Land Owner authorizing the Land Owner Designee to act in the Land Owners behalf.

- **Tenant:** The individual or entity that leases the land from the Land Owner for agricultural purposes and has control of the property. The Tenant may also be referred to as the farmer or grower.

2.0 Plan Conditions

GRS will implement the mitigation measures described in this Plan, unless the terms and conditions contained in an easement agreement(s) specifically provide for other mitigation measures. Plan conditions are summarized below:

- 2.1 The mitigation measures and conditions described herein solely apply to GRS facilities constructed partially or wholly on agricultural land in private or public ownership. They do not apply to land that is not used for agricultural crop production, except to the extent that agricultural infrastructure, such as irrigation systems and subsurface drainage systems, may extend into these non-agricultural areas. These mitigation measures and conditions do not apply to construction activities on public rights-of-way, railroad rights-of-way, publicly owned land and privately owned land that are not used for agricultural crop production.
- 2.2 GRS will provide a copy of this Plan to all property owners, their designee, and tenant during the easement negotiation process prior to acquisition of the easement.
- 2.3 GRS may elect, at its sole discretion, to negotiate with property owners, their designee and/or tenant to provide for mitigation. This approach will in some cases facilitate the implementation and completion of various mitigation measures that may be better accomplished by the Land Holder. Based on past experience, the Land Holder is often better equipped to provide various mitigation activities.
- 2.4 GRS will implement the mitigation actions contained in this Plan to the extent that they do not conflict with the requirements of any applicable federal, state and local rules and regulations, and other permits and approvals that are obtained by GRS for the Project.
- 2.5 GRS will implement the mitigation actions contained in this Plan to the extent that they are consistent with the mitigation actions approved by, or other requirements of, the California PUC Site Certification for the Project. This Plan shall impose requirements upon GRS only to the extent that such requirements are imposed as conditions of the PUC site certificate.
- 2.6 Certain provisions of the Plan require that GRS consult with and/or obtain agreement with the Land Owner and Tenant. GRS will make a good faith effort to secure the agreement of both parties in such cases. In the event

- of a disagreement between the Land Owner and Tenant, GRS will secure the Land Owner's agreement unless the Tenant can demonstrate a superior legal right in the matter at issue.
- 2.7 Nothing in this document is intended to grant or suggest PUC jurisdiction over remedies for property compensation resolved in accordance with California law.

3.0 Mitigation Measures

3.1 Agricultural Specialist

GRS will retain the services of qualified Agricultural Specialists to provide agricultural consulting services related to construction planning, pipeline construction, right-of-way restoration, post construction monitoring, and mitigation of post construction agricultural impacts. During construction and initial restoration, GRS will designate a Project Inspector to serve as an Agricultural Inspector. An important role of the Agricultural Inspector will be to provide technical assistance to the Construction Manager, other Project Inspectors and GRS Land Representatives to facilitate the effective implementation of agricultural mitigation measures.

3.2 Liaison Activities

The GRS Gas Storage Project can be separated into three distinct phases: 1) planning, design and construction; 2) post construction monitoring; and 3) facility operation. During planning and design, and prior to Pipeline and related facility construction, GRS will provide each landowner, landowner's designate and /or tenant with the name, telephone numbers and mailing address of each GRS representative or authorized agent responsible for liaison activities on behalf of GRS. It's anticipated that different parties may be responsible for liaison activities during the various Project phases, and should the GRS representative and/or agent change, new contact information will be provided. GRS will respond promptly to all Land Holder issues or concerns that arise during all phases of the Project.

3.3 Determining Construction Related Damage and Compensation

During the design of Project facilities and prior to any construction, GRS or their authorized agent together with Land Holder will examine each affected property to inventory crops, livestock, fences, irrigation systems, subsurface drainage systems, and other related agricultural assets. Land Holder will be fully compensated for damage to crops and facilities,

including lost agricultural production, resulting from construction of Project facilities.

Once construction commences and the Easement Area is defined by surveying and construction staking, the Agricultural Specialist will measure the area impacted by construction to determine the affected acreage. The damages will be assessed by the GRS Agricultural Specialist.

Farm improvements such as fences, irrigation systems, subsurface drainage facilities and related farm infrastructure that are damaged as a result of construction activities will be replaced or repaired/restored to their near original condition. In some cases, where GRS and Land Holder agree, GRS may provide compensation for construction related damage to farm improvements in lieu of repair or restoration, with Land Holder then assuming responsibility for such repair/replacement.

Agricultural production will resume within the Easement Area, including the permanent easement immediately following completion of construction. The establishment of crops that can cause damage to the buried pipeline, such as orchards, vineyards and other deep rooted crops may be restricted within a 20-foot wide area directly over the installed pipeline (10-feet each direction from pipe centerline). The potential impacts to future land use from construction of GRS facilities are normally compensated during the easement acquisition process.

Claims for compensation related to crop loss will be prepared by GRS Agricultural Specialist. These claims are usually related to three types of losses:

- 1) Damage to agricultural and other facilities that are repaired by the Land Holder where a claim is submitted for repayment of incurred labor and material costs.
- 2) Loss of costs incurred to establish agricultural plantings to the date GRS contractor takes control of the Easement Area, including fixed costs.
- 3) Lost net revenue from agricultural crop production.

Normally, these claims are related to losses that occur within the Easement Area, but in some instances construction related damage can occur outside the Easement Area, and those additional damages also would be reimbursed to Land Holder. The procedure that GRS will employ will be to use the actual records provided by Land Holder to determine the crop loss payment amount. Based on those records, GRS Agricultural Specialist will prepare a formal crop loss claim for Land Holder approval/signature. The executed claim document will then be submitted

to GRS for payment. All information provided by Land Holder for purposes of preparing the claim will be held in confidence by GRS.

GRS and Land Holder will work to develop a mutual agreement concerning post-construction claims for facility damage and crop losses. In the event GRS and Land Holder are unable to reach a mutually satisfactory agreement, such claims will be assessed on an individual basis by a qualified outside agricultural consultant. This outside qualified agricultural consultant will be selected on a claim-by-claim basis by mutual agreement by GRS and the county Farm Bureau or Land Holder, at the election of Land Holder. GRS will pay the cost of retaining the outside agricultural consultant, who will review and evaluate the disputed claim for damages. Both parties will agree on the findings made by the outside agricultural consultant regarding approval and payment of the claim amount. When the outside agricultural consultant approves the claim, GRS will pay compensation for the claim in the amount determined by the outside agricultural consultant. Claims will be promptly evaluated following notification of such damages or deficiencies from Land Holder. GRS will adopt a proactive approach in identifying and paying facility damage and crop loss claims.

3.4 Ingress and Egress

The easement deed language will address ingress and egress associated with use of the Easement Area. Normally, the easement language provides for ingress and egress to, from, over and along the Easement Area. This would include the use of public roads and rights-of-way, and existing field roads with approval of Land Holder. Prior to Pipeline construction, GRS will seek a mutually acceptable agreement with Land Holder on the route that will be used for entering and leaving the construction easement, should access to the construction easement not be practical or feasible from adjacent segments of the construction easement or from public rights-of-way.

Construction access roads will be identified before project activities commence. Vehicles will access construction sites from existing roadways and move equipment and materials within the construction easement. Construction easements will be accessed using the shortest possible route from existing roadways taking into consideration safety and other relevant factors.

The contractor will only be allowed to use approved access roads and public roads to access Easement Areas. Approved non-public roads will be marked with signs labeled "Approved Project Access". Use of roadways and farm land outside the approved easement for equipment

and material storage will be prohibited unless otherwise approved by GRS in consultation with the appropriate regulatory agency and Land Holder.

Where access ramps or pads are required from a road or highway to the Easement Area in agricultural fields, an underlayment of durable, geotextile matting will be placed over the soil surface prior to the installation of temporary rock fill material. The geotextile matting will be sufficiently strong to prevent rock from becoming embedded in the soil and to withstand removal of the rock without tearing. Rock and geotextile matting will be completely removed upon completion of the project.

3.5 Temporary Roads

GRS will use public rights-of-way where ever possible for ingress and egress to and from the Easement Area. In some instances, it may be necessary to use other routes over private land, and in such cases the GRS will attempt to identify existing farm roads as preferred temporary access roads for construction. The right to use these existing farm roads, including the terms and conditions for such use, will be negotiated with Land Holder. Upon completion of construction, these existing farms roads will be restored to their original condition, as required.

GRS also may need to construct temporary access roads should public rights-of-way and existing farm roads not provide adequate access to the Easement Area. The design and location of these temporary roads, to be used solely for construction purposes, will be negotiated with Land Holder.

Temporary access roads will be designed to maintain surface drainage and prevent erosion. Existing on-farm irrigation systems will be modified, as needed, to maintain the integrity of irrigation on the parcel. Upon abandonment, temporary access roads may be left in service through mutual agreement between Land Holder and GRS, unless otherwise restricted by federal, state or local regulations. If temporary access roads are removed, the land upon which the roads were constructed will be returned to the previous use and restored to the condition that existed prior to construction.

3.6 Landowner and Tenant Access

Pipeline construction has the potential to impede access across agricultural parcels. The Pipeline construction corridor also will be designated with temporary fencing to ensure that the contractor confines his activities to the Easement Area. Where necessary, GRS will coordinate with Land Holder to provide alternative access routes to fields isolated by Pipeline construction activities. The temporary Easement Area fencing also may create crop losses adjacent to but outside the Easement

Area. GRS will coordinate with Land Holder to avoid these additional agricultural impacts and crop losses to the extent possible. If these types of crop losses and claims can not be avoided, GRS will fully compensate Land Holder for construction related crop losses that occur outside the Easement Area.

The Pipeline route crosses pastures used for livestock grazing. GRS will coordinate with Land Holder and will work to identify other grazing areas removed from the Pipeline route, to the extent possible, for use during construction. GRS will provide temporary fencing adequate to keep grazing animals out of the Easement Area including temporary fencing and gates, as necessary, to avoid impacts to the grazing operation.

3.7 Pipeline Cover Depth

The Pipeline will be buried with a minimum top cover of 5-feet where it crosses agricultural land, except as otherwise stated in this Plan. Pipeline appurtenant facilities, such as mainline block valves, tap valves, meter stations, and other related appurtenances, will extend to the surface and will be protected by bollards or other structures to provide for security and to prevent damage.

GRS will usually construct the Pipeline under existing and planned irrigation and subsurface drainage systems, and will maintain a minimum vertical separation of 12-inches. The Pipeline may be constructed above subsurface drainage systems if these lines are located deep enough to achieve at least 5-feet of top cover while maintaining the 12-inch minimum separation between the drain line and the Pipeline.

3.8 Dust Control

GRS understands that dust damages crops and will control dust during construction to ensure that visible dust does not leave the Easement Area. GRS also will be responsible for paying damages resulting from the contractors construction of the Pipeline should crop damage from dust occur.

The contractor will be required to implement a dust control program. Dust control measures will include, but not be limited to, the following:

- Vehicle speeds will be limited to 15 mph on unpaved roads.
- Storage areas, staging areas, access roads and the Easement Area will be kept damp enough to prevent visible dust from leaving these areas.
- Water will be applied a minimum of 3 times daily to all unpaved roads, parking areas, staging areas, and the Easement Area.

- Construction will be stopped when wind conditions are such that dust control measures are ineffective.
- Following any clearing, grading, earth moving or excavation, the disturbed area will be wetted or other dust control measure will be employed to control dust.
- Gravel aprons installed at all access points to paved roads will help to prevent soil and mud from being deposited on paved roads and the contractor will be required to sweep paved roads, as necessary, if visible soil material is carried onto paved roads from the construction site.
- GRS construction manager also may impose additional dust control measure as appropriate to control visible dust.

3.9 Pumping from Open Trenches

Much of the Easement Area is underlain by shallow groundwater and it may become necessary to pump groundwater during construction to dewater the trench. GRS will obtain any necessary permits to dewater trenches and will dispose pumped groundwater in accordance with those permit requirements. It's anticipated that any water pumped from trenches will be piped to energy dissipating/disposal facilities/structures inside the Easement Area; however, tanking the water to other disposal sites also may be an option. Regardless of the disposal method employed, GRS will comply with all Project permits, existing drainage laws, local ordinances, and applicable provisions of the Clean Water Act.

GRS will retain groundwater pumped from trenches within the Easement Area to prevent damage to adjacent soil and agricultural crops, unless other agreement that provides for disposal outside the Easement Area is made with Land Holder. Should damage occur, GRS will fully compensate Land Holder in accordance with the approach described above in Section 3.3.

3.10 Construction During Wet Conditions

GRS anticipates constructing the Pipeline during the dry season to avoid the months of greatest precipitation. GRS will coordinate construction activities with Land Holder and remove the Easement Area from crop production with the intent to eliminate irrigation applications prior to construction activities. This approach will avoid construction activities on wet soils and wetting soils from irrigation during construction. GRS will not allow construction or soil restoration during wet conditions to protect the quality of the soil resource.

3.11 Soil Erosion Control and Prevention

GRS will implement erosion prevention and sediment control measures during construction in accordance with the requirements of the applicable permits. GRS will coordinate with Land Holder to ensure the integrity and function of existing drainage channels that may cross or run parallel to the Easement Area. These drainage channels convey surface runoff from precipitation and irrigation from upland areas toward the Fresno Slough and San Joaquin River drainages, and irrigation tail water retention/return facilities.

GRS will coordinate with Land Holder to relinquish control of the Easement Area as soon after construction as practical to re-establish agricultural production. The land will be returned to the grade that existed prior to construction. The agricultural land used for cultivated crop production will be replanted by Land Holder. Land Holder will establish any previously existing infrastructure used for drainage/erosion control, and irrigation tail water retention/return.

GRS will work with Land Holder to reseed and mulch irrigated pasture areas and native vegetation on grazing land. GRS will make the arrangements and hire independent contractors in consultation with Land Holder to perform the work, or will compensate Land Holder to directly perform the work. GRS also will reseed and mulch non-agricultural areas associated with the Pipeline construction in consultation with Land Owner.

Following completion of construction, GRS will work with Land Holder to mitigate erosion on cultivated agricultural land disturbed by construction. This may involve planting cover crops and/or mulching and GRS will work with Land Holder, as required, to mitigate post-construction erosion.

3.12 Topsoil Protection

GRS will preserve agricultural productivity by implementing measures to protect topsoil and restore agricultural land to preconstruction conditions. Topsoil will be protected by preventing erosion and soil loss from the Project work area in order to minimize degradation of water quality and preserve soil for restoration purposes

The contractor retained by GRS to construct the Pipeline will be required to implement a topsoil handling plan that describes how topsoil will be stripped, stored and replaced. Topsoil will only be stripped immediately above the Pipeline trench. Generally, 18-inches of topsoil will be stripped, however, the GRS Agricultural Specialist will review the soil conditions along the pipeline route and provide specific recommendation for topsoil stripping depths based on prevailing soil conditions, generally associated

with the depth of the “A” horizon. Different types of soil may require different handling methods to ensure topsoil is preserved. The topsoil handling plan will include the following considerations:

- Ensure that soil material does not leave the work area by either active or inactive means.
- Segregate salvaged topsoil separately from subsoil. Separate topsoil from other excavated and imported material in such a manner that the topsoil is not damaged, mixed or covered by subsoil or surface rock and so that it is not continually disturbed.
- Stockpile topsoil on the same property from which it was stripped.
- Return topsoil to the same property from which it was stripped.
- Protect topsoil storage areas from loss through wind and/or water erosion and ensure that that stored topsoil does not block or enter flowing streams.
- Keep topsoil separate from cut vegetation, trash and imported material and protect topsoil from contamination, erosion, desiccation, and excessive moisture.
- Restore disturbed areas to original contours/grades, except where directed otherwise by GRS or Land Holder. Do not lose excess backfill/subsoil material from below the topsoil layer on the easement or spread over any areas of existing topsoil.
- Take steps to ensure that topsoil is free of subsoil and other debris at final grades. Leave topsoil in a condition that allows re-establishment of cultivated agricultural crops, pasture and native vegetation.

The GRS Agricultural Specialist will consult with Land Holder and the “A” horizon will be stripped and stored unless otherwise stipulated by Land Holder. The topsoil will be stored separately from subsoil and other construction materials usually on the working side of the easement area unless topography is such that grading of the working side is necessary for the safe movement of vehicles and equipment.

Where imported materials are stockpiled over topsoil in agricultural areas, GRS will remove 100 percent of the imported material. Where imported materials are stockpiled, the contractor will use the following procedures to prevent topsoil contamination:

- Use a geotextile to separate imported materials from underlying topsoil. The geotextile will be of sufficient strength to remain intact under equipment loads and will be completely removed upon cleanup of the site.
- Stockpile imported materials directly on native topsoil and implement a thorough cleanup of imported materials after

construction using specialized rock removal equipment and/or removing by hand.

- Strip, salvage and replace topsoil from the stockpile area as required for the trench area.

Where subsoil is stockpiled in agricultural areas, stripping, salvaging and replacing underlying topsoil is not required. In these areas, the pre-construction grade will be re-established by using subsoil for pipe zone trench backfill and/or removing and disposing excess subsoil not used for trench backfill off-site.

GRS will leave gaps in topsoil stockpiles where drainages occur and where livestock and farm machinery crossings are necessary to provide for Land Holder access.

Topsoil will not be stripped during excessively wet conditions, when soil moisture is high enough to foul blades, rut deeply or conglomerate mud on vehicle/equipment tires. Stripping also will not be allowed during windy conditions, as evidences by visible dust moving during operations. Topsoil will not be used for trench backfill or for padding the pipeline.

3.13 Soil Restoration

GRS will return control of the Easement Area to Land Holder as soon after construction is completed as practical. Land Holder will usually have the equipment necessary to restore topsoil to preconstruction conditions and it's the intention of GRS to compensate Land Holder for such restoration. In the event that Land Holder is not capable of assisting with soil restoration, GRS will contract with a local operator to provide the soil restoration tillage services. Since soil conditions vary along the proposed Pipeline alignment, soil restoration alternatives and requirements will likely vary. Given that condition, the GRS Agricultural Specialist will consult with each Land Holder and develop a mutually agreeable restoration procedure that best fits the prevailing soil conditions and available equipment.

GRS will backfill and compact the pipe zone with subsoil material stockpiled and stored separately from the stripped topsoil. Normally, the subsoil will be compacted to near preconstruction conditions. Since imported backfill material will not be used, it's anticipated that excess subsoil material will not be hauled off-site for disposal. The surface soil will be replaced after the subsoil has been used for pipe zone backfill.

GRS will replace the topsoil on each parcel within 2 weeks of completing backfill operations on the parcel with the exception of areas associated with pipeline appurtenances scheduled for later completion. The topsoil will be slightly mounded above the pipe zone to allow for future settlement

and grading. GRS also will make every reasonable effort to complete restoration of surface soils within 30 days of backfilling the trench on each parcel. The restoration will leave the soil in a condition ready for planting.

After topsoil has been replaced, GRS will re-establish preconstruction grades, surface drainage and irrigation configurations, which will restore the field grade (end-fall and side-fall) to near preconstruction conditions. This will occur before soil restoration activities commence.

After all topsoil has been replaced and preconstruction grades reestablished, the following soil restoration methods will be employed, as required.

- **Deep tillage:** Land compacted by construction activities will be ripped using deep tillage equipment. Subsoil tillage equipment will not be allowed to till deeper than 4-feet over the pipe zone.
- **Seedbed Preparation:** Discing, chiseling and harrowing will be employed to mitigate shallow compaction and for seedbed preparation.
- **Grading:** It's anticipated that future grading normally performed by Land Holder will touch up any grade irregularities. These operations normally include land planeing and laser leveling. The GRS Agricultural Specialist will monitor these future activities as part of the post-construction monitoring effort and GRS will compensate Land Holder should construction result in additional grading requirements.

GRS will endeavor to restore topsoil under soil moisture conditions that promote effective tillage. Soil tillage will not be permitted under wet conditions where additional compaction and/or soil structural damage is likely to result. If the soil is too dry, GRS will coordinated irrigation water applications with Land Holder to return soil moisture to acceptable levels prior to any tillage. GRS will compensate Land Holder for the costs of any such irrigation water application.

Soil restoration activities will be performed within the Easement Area including any other area where the contractor has operated any equipment related to the construction process. If subsequent construction and cleanup activities result in compaction of topsoil, additional tillage will be performed, as required, to restore topsoil to near preconstruction conditions.

3.14 Excess Rock Removal

The GRS Pipeline alignment crosses existing productive agricultural land. The soils associated with the proposed alignment were formed in basins

and alluvium deposited by the Coastal Mountain Range on the west side of the San Joaquin Valley and the Sierra Nevada Mountains to the east. Given the landscape position of these soils on the alluvial fans and basins, and based on experience and visual observations, rocks are not expected to be an issue with Pipeline construction, topsoil protection or soil restoration.

There is always the potential for soil variability and it's possible that some soil types could include inclusions containing rock material. Some San Joaquin Valley soils also are underlain by hardpan, which could create rocky material as a result of previous soil reclamation activities or the Pipeline trenching operation. However, construction of the Pipeline will not change the rock content and issues associated with excess rock removal are not expected. Any rock or hardpan encountered in the subsoil during trenching would be returned to the subsoil during backfill of the pipe zone.

The HDD crossings may encounter gravel and/or rock considering the depth of these crossings. Excess material generated by the HDD crossings, including any gravel or rocks, will be disposed off-site in accordance with the permit requirements.

3.15 Irrigation Systems

During design, GRS will meet with Land Holder to identify the location of on-farm irrigation systems and agricultural wells. Information also will be gathered regarding the size, depth of cover and pipeline material to the extent this information is available. The on-farm irrigation system information will be included on the design drawings when ever possible. GRS will stake the location of these on-farm irrigation facilities just prior to construction to alert the contractor's construction crews. However, it's likely that all irrigations systems will not be identified and some facility locations may not be known. This situation increases the probability of damaging these buried systems/facilities during construction.

GRS will make every reasonable effort to protect these on-farm irrigation facilities during construction. The contractor may decide to pothole these facilities prior to trenching to confirm location and depth.

GRS will keep irrigation systems in operation during construction and will coordinate with Land Holder to ensure that crops receive adequate irrigation water supplies. Construction may damage irrigation facilities and GRS will ensure that these damages are promptly repaired and that any disruption in irrigation does not exceed 4-hours. The contractor will be required to keep irrigation system repair supplies on-hand during

construction, or will contract with a local irrigation company who can perform the work in a timely manner.

Under some circumstances, it may be necessary to remove and replace irrigation facilities during construction. If necessary, GRS will work with Land Holder to schedule a planned shut down of certain irrigation facilities. As an alternative, GRS may also provide temporary irrigation piping needed to bypass segments of the on-farm irrigation system that needs to be removed during construction. All of these activities, if required, will be coordinated with Land Holder and the cost will be paid by GRS. Upon completion of construction, the on-farm irrigation system will be restored to its original preconstruction condition.

It's the intent of GRS to prevent crop losses associated with irrigation interruptions. However, should Land Holder incur crop production losses outside the Easement Area from irrigation interruptions caused by Pipeline construction, GRS will fully compensate Land Holder for such losses.

Westlands Water District (WWD) has irrigation water distribution pipelines and appurtenances along the proposed Pipeline route. The GRS engineer will coordinate with WWD to locate these facilities and will comply with WWD requirements for vertical and horizontal separation. The GRS Pipeline will be constructed below the WWD system. The contractor will pothole all WWD facility crossings. It's the intent of GRS to keep the WWD facilities in operation during construction, however, should a planned service interruption be necessary, such interruption will be coordinated with WWD.

3.16 Subsurface Drainage System Repair

It's the intention of GRS to construct the Pipeline above existing subsurface drain lines while maintaining a minimum separation of 12-inches. However, this may not be possible in all instances since GRS wants to maintain a minimum of 5-feet of cover over the Pipeline. It may be necessary to construct the pipeline under some subsurface drain lines depending on their depth. Given this circumstance and the difficulty in locating all subsurface drainage line laterals, there is a significant chance that these facilities may be damaged during construction.

During design, GRS will meet with Land Holder to identify the location of on-farm subsurface drainage systems. Information will be gathered regarding the size, depth of cover and drain line material to the extent this information is available. The drainage system information may be included on the design drawings depending on the reliability of the information collected. GRS may decide to pothole or stake the location of subsurface drainage lines just prior to construction. However, it's likely

that drainage system laterals will not be precisely located and it may be difficult to include this information on the design drawings. This situation increases the probability of damaging these buried systems/facilities during construction.

It's the intention of GRS to keep drain lines functional during construction including those that cross the Easement Area. GRS will make every reasonable effort to protect these subsurface drainage facilities during construction. If subsurface drainage facilities are damaged during construction, they will be properly repaired to ensure that the facilities will operate at their preconstruction condition.

GRS will contract with a local company that specializes in the installation and repair of subsurface drainage systems. If subsurface drain lines that parallel or cross the Easement Area are damaged during construction or by the Pipeline, GRS will initiate the necessary action to restore these damaged facilities to their preconstruction operating condition. Such action could include the repair, relocation, reconfiguration or replacement of existing drain lines.

GRS may decide to negotiate the repair, reconfiguration and/or replacement of damaged drainage facilities with Land Holder solely at the election of Land Holder. Should Land Holder decide to negotiate and accept fair settlement for repair, reconfiguration and/or replacement, GRS will not assume responsibility nor will GRS be liable for the proper function of the subsurface drainage system.

GRS will repair damaged subsurface drainage systems using the following standards:

- GRS will consult with affected Land Holders to locate subsurface drain lines prior to pipeline construction. Identified subsurface drain lines will be flagged prior to construction to identify the location for the contractor. Any subsurface drain line damaged, cut or removed during construction will be marked and the marker will be maintained until the line has been permanently repaired.
- If drainage water is flowing through a damaged subsurface drain line, it will be immediately repaired to keep it in service until permanent repairs can be made. The exposed opening of cut or damaged subsurface drain lines where drainage water is not flowing will be covered with fabric filter material to prevent the entry of soil or other foreign material.
- Permanent subsurface drain line repairs will be made within 15 days following completion of construction, weather and soil conditions permitting. It's the intent of GRS to employ a local

contractor skilled in subsurface drainage system repair to make permanent repairs to damaged subsurface drain lines.

GRS will provide permanent repairs where subsurface drain lines are severed by the Pipeline trench using the following standards

- The damaged section of subsurface drain lines will be replaced with the same material (type and diameter) used in the initial installation. The replacement section will be installed in such manner to be of sufficient strength to withstand typical point loads from construction and farming equipment on the soil surface above the repair, and a support member may be installed to ensure this standard.
- The support member will be installed to support the repaired subsurface drain line where directed by the Project Inspector. The support member will be of sufficient strength to support the subsurface drain line and to withstand typical point loads from construction and farming equipment on the soil surface above the repaired subsurface drain line. Support member material, where necessary, may include plastic half pipe, non-metallic 90-degree angle support, steel channel iron, steel angle iron, or other suitable materials as approved by the Construction Manager.
- The subsurface drain line replacement section, and support member, where required, will extend a minimum of 2-feet (as measured perpendicular to the trench wall) into previously undisturbed soil on both sides of the trench. The subsurface drain line replacement section will extend to undamaged subsurface drain line, and an appropriate connector will be installed between the replacement section and the existing subsurface drain line. Should the existing subsurface drain line be installed in a gravel envelop or a fabric filter material. The existing material will be replaced in kind. Support members, where used, will be installed in a manner that will prevent overturning.
- Where subsurface drain line repairs involve concrete or other gasketed pipe materials, the repair sections will extend to existing pipe joints. Support members, if required, will extend beyond the joint to provide for proper support and stability.
- The Pipeline trench will be backfilled under each subsurface drain line replacement section to obtain positive support that is not prone to settling. Clean sand will be used for backfill under sections of repaired subsurface drain line, as necessary.
- The span of the subsurface drain line replacement section over the trench will not exceed 12-feet. If the span of the subsurface drain line replacement section over the trench would exceed 12-feet, the replacement section will be relocated as feasible into undisturbed soil so the subsequent span over the trench is less than 12-feet.

- The existing grade of the subsurface drain lines will be maintained.

Before completing permanent repairs, the subsurface drain lines will be examined by suitable means on both sides of the trench over the entire length of the work area to check for lines that may have been damaged by construction equipment. If damaged subsurface drain lines are found, they will be repaired to their original condition and function. Subsurface drain lines will be repaired with the identical material used for the original installation. If the original material is not available, material of equal or better quality will be substituted with approval of the Construction Manager.

Following the completion of Pipeline construction, GRS will correct subsurface drain line repairs that have failed due to Pipeline construction, provided that those repairs were made by GRS. Subsurface drain line breaks or other damages to subsurface drainage systems that occur within the Easement Area will be corrected to the extent that such breaks/damage are the result of Pipeline construction. GRS will not be responsible for subsurface drain line repairs that GRS paid Land Holder to perform.

3.17 Installation of Additional Drainage Measures

Additional subsurface drainage facilities, well points or other drainage measures will be installed to properly drain wet areas caused by construction activities or existence of the Pipeline. These additional drainage measures will be installed within the Easement Area, as required, to restore affected agricultural land to near preconstruction conditions.

3.18 Weed Control

GRS will require that the contractor thoroughly clean all construction equipment prior to moving that equipment to the Project site. Cleaning will be by high pressure washing with the construction equipment subject to inspection to ensure its cleanliness.

The permanent easement will include some above ground appurtenances and those easement areas will remain under GRS control/management. GRS will implement and maintain a weed control program that keeps these areas weed free and does not allow the spread of weeds to adjacent land. GRS will contract with a local pest control applicator, licensed by the State of California, to provide that service.

The GRS Agricultural Specialist will coordinate with the University of California Agricultural Extension Offices for Fresno and Madera Counties

to determine if noxious weeds are located along the proposed Pipeline route. GRS will implement the appropriate actions, as required, to mitigate any potential spreading of noxious weeds if they are found to exist along the proposed Pipeline route.

Straw bales or wattles for erosion control, and straw mulch may be used during construction. GRS will make all reasonable efforts to obtain materials that are free of noxious and nuisance weed contaminants. Certified weed free seed will be used for revegetation, to the extent such seed is available.

3.19 Post Construction Monitoring and Mitigation

GRS will actively monitor soil restoration, crop production, and the function and condition of irrigation and subsurface drainage systems for 2-years following the completion of Pipeline construction and Easement Area restoration. During the monitoring period, GRS will identify remaining soil and agricultural impacts associated with construction that require mitigation and will implement follow-up restoration or appropriate mitigation measures. Follow-up repairs and restoration of damages that are the result of Pipeline construction will not be limited to the 2-year period.

- **Trench Settlement:** GRS will correct trench settlement, as necessary, to maintain pre-construction grades. In agricultural land where trench settling is excessive and cannot be restored by touch-up surface grading, GRS will import topsoil. The imported topsoil will be similar in texture and quality to the existing soil, and GRS will make every reasonable effort to ensure that it's free of noxious weed seed.
- **Excess Rock:** GRS will require the contractor to remove all imported rock material during Easement Area restoration activities. Where cultivation or soil settlement results in excessive surface rock compared to adjacent areas not disturbed by construction, GRS will remove and dispose the excess rock from the Easement Area.
- **Irrigation Systems:** GRS will correct irrigation system deficiencies/problems resulting from Pipeline construction. GRS will not be responsible for irrigation system repairs that GRS, at the election of Land Holder, paid Land Holder to perform.
- **Subsurface Drainage Systems:** GRS will correct subsurface drainage systems repairs that fail due to Pipeline construction, provided those repairs were made by GRS. Subsurface drain line breaks or other damages to subsurface drainage systems that occur within the Easement Area will be corrected to the extent that such breaks are the result of Pipeline construction. GRS will not

be responsible for subsurface drainage system repairs that GRS, at the election of Land Holder, paid Land Holder to perform. If wet areas caused by construction of the Pipeline develop within the Easement Area, additional subsurface drainage facilities or other measures will be installed to restore these affected areas to pre-construction conditions.

- **Crop Production:** GRS will conduct on-site monitoring two times during the growing season to evaluate crop production within the Easement Area. Monitoring will occur during each growing season of the two year monitoring period. Crop growth within the Easement Area will be compared to crop production in adjacent areas outside the easement not disturbed by construction. Visual observations of crop plant vigor, stand density, height, color, and uniformity will be made. If significant visual crop differences are noted between the two areas, the Project Agronomist will consult with the Land Holder and determine the requirements for additional restoration or compensation. It's the intention of GRS to implement and pay the cost for additional restoration/mitigation, or pay additional compensation for crop loss, as required, in cooperation with the affected Land Holder.
- **Noxious Weeds:** GRS will monitor the Easement Area for noxious weed infestations in conjunction with the Crop Production monitoring described above. GRS will take the appropriate measures to control any new noxious weed infestations that were not occurring within the Easement Area prior to Pipeline construction. Weed control will be provided in concert with the appropriate local agency requirements. Pesticides will be applied by Land Holder or a custom applicator with the cost paid by GRS.

GILL RANCH STORAGE
POST-CONSTRUCTION MONITORING PLAN
for
GRS GAS STORAGE PROJECT

Draft
July 2008

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Definitions

Agricultural Land	That land which is used in agricultural production, including all the land devoted to the enterprise, such as, the farmstead, roadways, drainage and irrigation ditches, farm ponds, water supply, cropland and grazing land. Cropland in the project area includes annually cultivated or rotated crops, perennial crops, orchards, vineyards and pasture.
Easement Area	The combination of the permanent easement and adjacent temporary construction easement. The normal width of the easement area is 85-feet.
Irrigation System	The system of wells, buried pipelines and surface facilities used to provide and apply irrigation water. Irrigation systems in the project area include gravity (flood and furrow), sprinkler and drip technologies. Additional facilities (canals and pipelines) are used by farmers and districts to convey and distribute irrigation water to individual farms and parcels.
Land Holder	The person(s) or entity that has direct control of the land either through ownership, designation by the owner or court, or lease agreement.
Non-agricultural Land	Any land that is not “Agricultural Land” as defined above.
Subsurface Drainage System	A system of buried lateral perforated pipes installed below the crop root zone to artificially drain shallow groundwater from the subsurface. These systems are usually constructed from perforated flexible plastic pipe and are often contained in a gravel envelop or wrapped in a fabric filter material. Pipe collection systems are used to convey subsurface drainage water to sumps where it’s usually discharged for disposal.

Executive Summary

Gill Ranch Storage, LLC (GRS) will implement a proactive post-construction monitoring plan to identify remaining soil and agricultural impacts associated with construction that may require additional restoration, mitigation and/or compensation. Where visual deficiencies in crop growth are observed within the Easement Area, follow-up evaluation will be conducted and restoration, mitigation and/or compensation will be provided, as necessary. Successful soil restoration will be demonstrated by normal crop production within the Easement Area compared to adjacent areas in the field that were not disturbed during construction. On-farm infrastructure removed or damaged during construction will be repaired and post-construction monitoring will provide an opportunity to evaluate the success of these repairs and correct any deficiencies that may occur. Construction related impacts may not be found until after completion of construction and post-construction monitoring will provide an opportunity to correct these issues. Post-construction monitoring of the re-vegetation on non-agricultural areas will document the success of re-vegetation work and will identify areas that may need additional restoration or mitigation.

The Plan elements are briefly summarized below. Refer to the Plan document for detailed descriptions of the various Plan elements.

- **Agricultural Monitoring Plan:** The GRS Agricultural Specialist will be responsible for execution of the monitoring plan, including the preparation of claims for post-construction crop loss and infrastructure damage. Land Holders will be encouraged to become involved in the crop monitoring effort to discuss field observations and identify specific areas of concern. GRS and Land Holder will work to develop a mutual agreement concerning post-construction claims for on-farm infrastructure damage and crop loss. Claims will be promptly evaluated and GRS will adopt a proactive approach in identifying and paying post-construction related on-farm infrastructure damage and crop loss claims. GRS will rely on a dispute resolution approach to settle any issues regarding determination of the claim. Crop monitoring will consist of visual observations of plant and soil conditions that may indicate a potential reduction in soil productivity and reduced crop yield. These visual observations of plant and soil conditions may indicate excess soil compaction, restricted soil drainage, nutrient deficiencies, and water stress. Where significant visual crop deficiencies indicate reduced productivity within the Easement Area, GRS will determine the need for additional restoration, mitigation and/or compensation. In association with post-construction crop monitoring, GRS also will monitor on-farm physical assets within the Easement Area, and other agriculture-related structures that were repaired by GRS. It's the intent of GRS to employ local contractors skilled in the repair of the various on-farm infrastructure elements. However, where GRS and Land Holder agree, GRS may provide compensation for post-construction repair to farm infrastructure to Land Holder, with Land Holder then assuming

responsibility for such repair. On-farm infrastructure that requires post-construction repair will be replaced or repaired/restored to its near original condition.

- **Monitoring Non-Agricultural Areas:** Monitoring non-agricultural areas will commence immediately following completion of GRS facility construction encompassing a two-year monitoring term and be conducted in concert with crop and infrastructure monitoring efforts. Where monitoring identifies issues with re-vegetation and/or weed control, the GRS Agricultural Specialist will develop appropriate remedies by conducting field evaluations and other investigations. The re-vegetation of non-agricultural segments of the Easement Area will be considered successful when the density or cover of herbaceous, non-nuisance vegetation within the Easement Area is similar to adjacent areas not disturbed by construction. The presence of noxious weeds will be evaluated in conjunction with re-vegetation monitoring and appropriate measures, as determined by the GRS Agricultural Specialist, will be taken as necessary to control noxious weed infestations resulting from construction activities. Non-agricultural land within the Easement Area will likely be restored by GRS under contract with local operators skilled in the restoration of such areas under the terms of a fixed fee/purchase order agreement to be paid for by GRS.
- **Documentation:** GRS will prepare a Crop Monitoring and Infrastructure Monitoring Form for each separate field on each parcel for each crop monitoring inspection. GRS will document visual observations of crop growth and on-farm infrastructure conditions within the Easement Area compared to an adjacent area of the field outside of the Easement Area. GRS also will prepare a Vegetation Monitoring Form for each parcel for each area of non-agricultural land that was restored and/or seeded by GRS to document the success of re-vegetation following the initial seeding, and to identify the need for additional restoration and/or reseeding.

1.0 Introduction

Gill Ranch Storage, LLC (GRS) described the approach to mitigate and compensate for construction related agricultural impacts in the Agricultural Impact Mitigation Plan. Post-construction crop monitoring will identify remaining soil and agricultural impacts associated with construction that may require additional restoration, mitigation and/or compensation. Where visual deficiencies in crop growth are observed within the Easement Area, follow-up evaluation will be conducted and restoration, mitigation and/or compensation will be provided, as necessary.

Post-construction crop monitoring will also document the agricultural areas where soil restoration and the repair of on-farm infrastructure have been successful. Successful soil restoration will be demonstrated by normal crop production within the Easement Area compared to adjacent areas in the field that were not

disturbed during construction. Post-construction monitoring of the re-vegetation on non-agricultural areas will document the success of re-vegetation work and will identify areas that may need additional restoration or mitigation.

GRS anticipates making repairs to on-farm infrastructure removed or damaged during construction of GRS facilities. The post-construction monitoring effort will provide an opportunity to evaluate the success of these repairs and correct any deficiencies that may occur. Further, in some instances construction related impacts may not be found until after completion of construction and post-construction monitoring will provide an opportunity to correct these issues.

Post-construction monitoring will be accomplished by periodic reviews of crop production and farm infrastructure conducted by GRS representatives. The Land Holder also will be involved in the post-construction monitoring effort through coordination and contact with GRS representatives. The GRS will involve the Land Holder in identifying and mitigating post-construction related issues, and will take a proactive approach in providing resolution and compensation.

2.0 Objectives

The objectives of post-construction monitoring plan are summarized below:

- Adopt a proactive approach to resolve, correct, and compensate for any post-construction issues associated with GRS use of the Easement Area.
- Provide continuity between GRS and Land Holders after the Easement Area is restored immediately after construction through the post-construction monitoring time-frame.
- Insure that agricultural land and on-farm infrastructure are restored to their original productive state/condition and provide for additional mitigation, restoration and compensation, as required.
- Insure that non-agricultural land is properly restored and re-vegetation is successful, and provide for additional restoration and reseedling, as required.
- Document the success of Easement Area restoration, the results of the post-construction monitoring program, and actions taken to insure that GRS has met its obligation to fully restore the Easement Area to its original pre-construction condition.

3.0 Agricultural Monitoring Plan

3.1 General Approach

Crop monitoring will be conducted for two consecutive cropping seasons following the completion of GRS facility construction and restoration of the

Easement Area. The monitoring effort directed toward Land Holder on-farm infrastructure will commence immediately following completion of GRS facility construction encompassing a two-year monitoring term.

Even though the GRS formal monitoring period will end after two cropping seasons for crop production and two-years for on-farm infrastructure, the GRS will provide contact information for GRS representatives should the Land Holder allege additional crop damages or impacts to infrastructure. Further, the GRS may elect, at its sole discretion, to extend the monitoring term for selected parcels should ongoing crop production/infrastructure damage issues not reach resolution during the initial monitoring period.

GRS Agricultural Specialists involved in field evaluations of crops and soils during crop monitoring will be certified by ARCPACS as a professional agronomist, crop scientist, or soil scientist; or will be certified as a professional crop consultant recognized by the National Alliance of Independent Crop Consultants; or will have at least a bachelor's degree in agriculture, crop science, soil science, horticulture or a related field and will have appropriate experience in the evaluation of soils and crops. The selection of qualified Agricultural Specialists will be at the sole discretion of GRS.

Crop and on-farm infrastructure monitoring activities will be performed by the GRS Agricultural Specialists and/or by GRS representatives (Monitors) with appropriate agricultural experience. GRS Agricultural Specialists will provide training, direction, and support to other GRS representatives, as necessary. GRS Monitors will generally conduct periodic visual evaluations to monitor crop growth and soil conditions for purposes of identifying readily apparent problems and developing remedies. Where the cause or remedy for crop or soil deficiencies are not readily apparent, the GRS Agricultural Specialist will assess probable causes to develop appropriate remedies by conducting field evaluations and other investigations. The GRS Agricultural Specialists also may employ the assistance of others with specific agricultural expertise, if required.

3.2 Crop Monitoring

During the two-season crop monitoring period, on-site monitoring of growing crops will be conducted at least two times during each growing season. The specific monitoring times during the growing season will vary depending on the type of crop, and field and weather conditions. Soil conditions will be evaluated in fields where subsurface drain system repairs were made at least once in the spring with additional evaluations performed, as required. The final monitoring for each growing season will be just prior to harvest to facilitate visual observations of crop growth response and yield.

GRS will endeavor to notify Land Holders 3 days in advance of crop monitoring evaluations. Land Holders will be encouraged to become involved in the crop

monitoring effort to discuss field observations and identify specific areas of concern.

Crop growth response and yield within the Easement Area will be visually compared with adjacent areas not disturbed by construction. If the cropped area immediately adjacent to the Easement Area does not provide a valid or suitable comparison because of significantly different conditions, another suitable area of the field away from the Easement Area will be selected for comparison. Should this condition occur, the area used for comparison purposes will be selected with input from the Land Holder.

Perennial crops, such as alfalfa, may require one or more crop seasons to attain plant size and crop yield comparable to adjacent areas. GRS will use reasonable judgment when comparing newly re-established perennial plants in the Easement Area to well established plants in the adjacent area not disturbed by construction. Crop loss claims paid after construction should address many of the issues and costs associated with expended costs and lost production. However, it's likely that additional costs and crop production issues will emerge during post-construction monitoring and these issues will be resolved during that effort.

Crop monitoring will consist of visual observations of plant and soil conditions that may indicate a potential reduction in soil productivity and reduced crop yield. GRS will make visual observations of plant and soil conditions that may indicate excess soil compaction, restricted soil drainage, nutrient deficiencies, and water stress. Crop monitoring will include visual observations and comparisons of the following conditions, as applicable:

- Crop stand density.
- Crop stand uniformity.
- Crop height and size.
- Crop color.
- Crop growth uniformity.
- Evidence of wilting.
- Weed population.
- Crop yield.
- Crop maturity.
- Other site specific crop and/or soil conditions.

Where visual crop deficiencies or soil conditions indicate the possibility of excess soil compaction, the GRS Agricultural Specialist may dig test holes to identify compacted soil layers or areas of restricted root growth.

Where significant visual crop deficiencies indicate reduced productivity within the Easement Area compared to the adjacent area or to a comparable area not disturbed by construction, GRS will determine the need for additional restoration, mitigation and/or compensation. Should it be determined that additional

restoration is necessary, restoration measures will be developed and implemented in cooperation with the affected Land Holder.

3.3 On-Farm Infrastructure Monitoring

In association with post-construction crop monitoring, GRS also will monitor the Easement Area for soil drainage; irrigation system condition, fences, erosion control structures, and other agriculture-related structures that were repaired by GRS. It's the intent of GRS to employ local contractors skilled in the repair of the various on-farm infrastructure elements. However, where GRS and Land Holder agree, GRS may provide compensation for post-construction repair to farm infrastructure to Land Holder, with Land Holder then assuming responsibility for such repair.

Subsurface drainage system drain line repairs made during construction that fail will be corrected, provided those repairs were made by GRS. Subsurface drain line breaks or other damages to subsurface drainage systems that occur within the Easement Area will be corrected to the extent that such damage is the result of GRS facility construction. GRS will not be responsible for repairing damage that the GRS, at election of the Land Holder, paid the Land Holder to perform. It may be necessary to provide additional drainage measures to drain wet areas in agricultural land caused by construction or existence of the GRS pipeline. Additional subsurface drain lines or other drainage measures will be installed within the Easement Area, as necessary, to restore these areas to their near pre-construction condition.

Should cultivation or soil settling result in excess surface rock compared to adjacent areas not disturbed by construction, GRS will remove the excess rock from the Easement Area.

Trench settlement will be corrected, as necessary. In agricultural land where trench settling is excessive and cannot be correct with minor surface grading, topsoil will be imported. Imported topsoil will be consistent in texture and quality with the existing topsoil of the affected area. GRS will make every reasonable effort to import topsoil that is free of noxious weeds.

GRS will correct any problems with irrigation systems resulting from pipeline construction. GRS will not be responsible for irrigation system repairs that the GRS, at the election of the Land Holder, paid the Land Holder to perform.

3.4 Landowner Coordination

Even though GRS will periodically monitor crop production and on-farm infrastructure, it's also the responsibility of the Land Holder to observe and report crop deficiencies and on-farm infrastructure problems to GRS. The Land Holder will be responsible for promptly contacting the GRS representative if they

observe such deficiencies/problems. GRS will respond to Land Holder identified issues as soon as practical, but within 10 working days. Claims will be promptly evaluated following notification of such damages or deficiencies from Land Holder. GRS will adopt a proactive approach in identifying and paying post-construction related on-farm infrastructure damage and crop loss claims.

3.5 Compensation

Claims for compensation related to post-construction crop loss and on-farm infrastructure damage will be prepared by the GRS Agricultural Specialist. These claims are usually related to two types of losses:

1. Post-construction repair of damaged on-farm infrastructure that is repaired by the Land Holder where a claim is submitted for repayment of incurred labor and material costs.
2. Lost net revenue from agricultural crop production resulting from reduced crop yield within the Easement Area.

The GRS Agricultural Specialist will measure the affected acreage and determine the crop loss yield difference by evaluating harvest records provided by the Land Holder, or by collecting field samples from the affected area and adjacent area for purposes of estimating the incremental yield difference. The procedure that GRS will employ will be to use the actual financial records provided by Land Holder to determine the crop loss payment amount. Based on those records, GRS Agricultural Specialist will prepare a formal crop loss claim for Land Holder approval/signature. The executed claim document will then be submitted to GRS for payment. All information provided by Land Holder for purposes of preparing the claim will be held in confidence by GRS.

On-farm infrastructure that requires post-construction repair will be replaced or repaired/restored to its near original condition. Generally, GRS will employ local contractors for post-construction repair on-farm infrastructure. In some cases, where GRS and Land Holder agree, GRS may provide compensation for post-construction repair to on-farm infrastructure to Land Holder, with Land Holder then assuming responsibility for such repair.

GRS and Land Holder will work to develop a mutual agreement concerning post-construction claims for on-farm infrastructure damage and crop loss. In the event GRS and Land Holder are unable to reach a mutually satisfactory agreement, such claims will be assessed on an individual basis by a qualified outside agricultural consultant. This outside qualified agricultural consultant will be selected on a claim-by-claim basis by mutual agreement by GRS and the county Farm Bureau or Land Holder, at the election of Land Holder. GRS will pay the cost of retaining the outside agricultural consultant, who will review and evaluate the disputed claim for damages. Both parties will agree on the findings made by the outside agricultural consultant regarding approval and payment of the claim

amount. When the outside agricultural consultant approves the claim, GRS will pay compensation for the claim in the amount determined by the outside agricultural consultant.

4.0 Monitoring Non-Agricultural Areas

4.1 General Approach

Monitoring non-agricultural areas will commence immediately following completion of GRS facility construction encompassing a two-year monitoring term. Even though the GRS formal monitoring period will end after two-years, GRS may elect, at its sole discretion, to extend the monitoring term for selected areas should the GRS determine that such monitoring is necessary.

Activities associated with monitoring non-agricultural areas will be performed by GRS Monitors. GRS Monitors will generally conduct this monitoring in concert with crop and infrastructure monitoring efforts described above. Where monitoring identifies issues with re-vegetation and/or weed control, the GRS Agricultural Specialist will develop appropriate remedies by conducting field evaluations and other investigations. The GRS Agricultural Specialists also may employ the assistance of others with specific expertise, if required.

4.2 Re-vegetation

The re-vegetation of non-agricultural segments of the Easement Area will be considered successful when, based on visual observation, the density or cover of herbaceous, non-nuisance vegetation within the Easement Area is similar to the density or cover in adjacent areas not disturbed by construction. Where seedling establishment has failed or where GRS determines, at its sole discretion, that reseeded is necessary, non-agricultural areas will be reseeded during the next appropriate seeding period.

If the cover or density of non-nuisance herbaceous vegetation within the Easement Area is not similar to the cover or density in adjacent areas not disturbed by construction after two full growing seasons, the GRS Agricultural Specialist will determine the need for reseeded or other additional restoration measures. Reseeded or other additional restoration or mitigation measures will be implemented, as necessary.

GRS will not be responsible for the success of vegetation establishment that the GRS, at the election of the Land Holder, paid the Land Holder to perform.

4.3 Noxious Weeds

The presence of noxious weeds will be evaluated in conjunction with re-vegetation monitoring. Appropriate measures, as determined by the GRS Agricultural Specialist, will be taken as necessary to control noxious weed infestations resulting from construction activities. Weed control will be conducted in cooperation with appropriate agencies and the Land Holder.

4.4 Compensation

Non-agricultural land within the Easement Area will likely be restored by GRS under contract with local operators skilled in the restoration of such areas. This is anticipated because Land Holders will generally not have the expertise or equipment needed for such restoration. Should post-construction monitoring identify the need for additional mitigation or restoration, the GRS will negotiate a contract for such services. That does not preclude the Land Holder from performing these services, and any additional mitigation or restoration work will be performed in concert with the Land Holder. However, whether performed by a local contractor or the Land Holder, GRS anticipates negotiating the services to be provided and fee for such services under the terms of a fixed fee/purchase order agreement to be paid for by GRS.

5.0 Documentation

5.1 Agricultural Land

GRS will prepare a Crop Monitoring and Infrastructure Monitoring Form for each separate field on each parcel for each crop monitoring inspection. GRS will document visual observations of crop growth within the Easement Area compared to an adjacent area of the field outside of the Easement Area. The form will document visual observations of soil condition, drainage, surface rock, trench settlement, soil erosion, excess weeds, irrigation systems, fence repairs, repairs of other agriculture-related structures, and other appropriate conditions, as observed.

5.2 Non-Agricultural Land

GRS will prepare a Vegetation Monitoring Form for each parcel for each area of non-agricultural land that was restored and/or seeded by GRS. The form will document the success of re-vegetation following the initial seeding, and identify the need for additional restoration and/or reseeding.