Conformed Documents
for the

REVEGETATION OF SOUTHERN DELIVERY SYSTEM RAW WATER PIPELINE S3

VOLUME 1 OF 2

SPECIFICATIONS

MAY 2012

OWNER'S REPRESENTATIVE

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END OF SECTION

SECTION 01 11 00
SUMMARY OF WORK

PART 1 GENERAL

1.01 WORK COVERED BY CONTRACT DOCUMENTS

A. General: The Summary of Work is a brief description of the Work to be provided by the CONTRACTOR. This summary is not intended to be a complete listing of the Work required under this Contract. Work shall be completed per the Contract Documents regardless of if it is specifically listed here.

B. The completed Work will provide UTILITIES with revegetation of a pipeline easement and work limits from Station S 800+00 to Station S 1200+58.38 associated with the completion of the Southern Delivery System (SDS) Raw Water Pipeline (RWP) S3 construction activities in Pueblo County, Colorado. Major items of work are to include:

1. Surface soil preparation to suit revegetation activities.

2. Planting of specific seed mixture using seed drill, broadcast seeding followed by hydro-mulching, or alternative techniques.

3. Provision of all necessary irrigation water to establish and maintain the revegetation through the substantial completion date two (2) years or two (2) growing seasons whichever is longer.

4. Monitoring site conditions for physical changes and vitality of planting after substantial completion date with regular status reporting to UTILITIES through Final Completion, three (3) years following Notice-to-Proceed.

5. Maintenance and removal of erosion and sediment control Best Management Practices (BMPs).

6. Removal and/or replacement of Work Limit Fencing, as required by UTILITIES' REPRESENTATIVE.

7. Project management and reporting.

1.02 WORK NOT COVERED BY CONTRACT DOCUMENTS

A. Site preparation by the Pipeline Construction Contractor.

B. Landscaping of proposed recreational trail area (by others).

1.03 USE OF PIPELINE CONSTRUCTION DRAWINGS

A. Refer to the Southern Delivery System Raw Water Pipeline S3 Drawings, November 2011 for project specific details and notes related to the work. Items related to the CONTRACTOR include, but are not limited to:

1. Location of Project Permanent Easements (PE), Temporary Construction Easements (TCE) and Work Limits (WL).

2. Location of utilities within work limits.

3. Access locations and restrictions (if any).

4. Location of special property requirements (e.g., fencing, livestock access/restriction, etc.).

5. Erosion control drawings and details.

B. Site Work Limits on Drawings may be designated as either WL or TCE depending on line designation. Both WL and TCE shall be considered as extents of work limits for revegetation.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 14 13
ACCESS TO SITE

PART 1 GENERAL

1.01 GENERAL

A. UTILITIES has worked with property owners to understand the conditions of ingress and egress, security issues, and property control and protection issues regarding the property. Abide by established mutually agreeable conditions of access between UTILITIES and property owners as provided for below.

1. Personnel accessing the Site are required to sign a statement provided by the UTILITIES' REPRESENTATIVE signifying understanding of the conditions of access and that conditions will be abided.

2. Provide signs at gates and access points notifying individuals of the revegetation activities and that specific conditions of entry exist. Ensure that the temporary construction easement and work limit boundaries are clearly marked throughout revegetation and that the necessary fencing to protect pets, livestock, or children from revegetation activities remains securely in place until original property fencing has been replaced.

   a. Revegetation signage should read "Native Revegetation Efforts in Progress. Please Stay Out of the Area" or similar.

   b. Signs shall be placed at each road crossing in either direction and at other high traffic and/or access points.

3. Grant access to enter the Site only to those individuals that have a legitimate work-related need to access the property.

1.02 ACTION SUBMITTALS

A. Submit color proof sheet of sign(s) to be used at access points as described above.

1.03 ACCESS

A. Construction Access Traffic Control: CONTRACTOR shall use existing Fountain Valley Authority (FVA) maintenance road to access the southern portions of the Site onto Walker Ranch, north to Steele Hollow.

1. All vehicles and equipment crossing the centerline of the FVA pipeline must comply with American Association of State Highway Transport Officials (AASHTO) load bearing standard of H-15 which represents a 12,000 lbs. per wheel load and is a medium duty traffic road.

2. UTILITIES' REPRESENTATIVE will notify FVA Engineering Support Specialist as to station(s), as defined in Part 1, paragraph 1.01B, Section 01 11 00, Summary of Work that will be accessed and approximate time frame for

maintenance road use. CONTRACTOR shall provide a minimum of 48-hours' notice to UTILITIES' REPRESENTATIVE prior to required FVA maintenance road access.

3. UTILITIES REPRESENTATIVE shall coordinate with Private Property owner for all access to Walker Ranch.

B. Private access to Walker Ranch is off Antelope Road at the pipeline easement south to Steele Hollow. All access shall be coordinated through UTILITIES REPRESENTATIVE

C. Construction access will be off Young Hollow Road north of Antelope Road to north end of Site (El Rocio View Road at El Paso County Line).

1. Access from Young Hollow Road will require coordination with UTILITIES REPRESENTIVE and Midway Ranches Homeowners Association.

D. Haul Route Plan: Comply with the Haul Route Plan shown on the Drawings and Southern Delivery System Haul Route Plan accepted by Pueblo County, as applicable.

1. The Haul Route Plan identifies the roads to be utilized during Work activities for Construction Vehicle traffic.

a. Construction Vehicle: Vehicles requiring operators to possess a Commercial Driver's License (CDL) and/or vehicles weighing more than 10,001 pounds.

2. Roads not identified on the approved Haul Route Plan are not to be utilized during revegetation for vehicle traffic under any circumstances unless approved by UTILITIES.

3. Maintain roads used as haul roads during revegetation such that they are passable by the motoring public except when identified in an approved Traffic Control Plan.

4. Comply with the Pueblo County Roadway Design and Construction Standards for road rehabilitation and maintenance work on roads used as haul roads.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 14 19
USE OF SITE

PART 1 GENERAL

1.01 PROTECTION OF WORK AND PROPERTY

A. Inform UTILITIES' REPRESENTATIVE of any onsite accidents, incidents and related claims from property owners or the general public within the same day that the occurrence is identified.

B. If applicable, contact the Utility Notification Center of Colorado 3 business days prior to any underground work being performed.

1.02 SUBMITTALS

A. Informational:

1. Pre-vegetation and post-vegetation digital images and/or video recordings as described in Section 01 32 34, Photographic and Video Documentation.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 PROTECTION OF WORK AND PROPERTY

A. Coordinate access to the Site, haul routes, schedule and final grading with the Pipeline Construction Contractor.

B. Perform work only between the hours of 7:00 a.m. to 6:00 p.m., Monday through Friday. Work outside of these hours will be restricted to maintenance of traffic, safety, and construction controls, maintenance of construction equipment.

C. Support the UTILITIES' REPRESENTATIVE with notification of property owners prior to and on completion of the work.

D. Perform Work in a systematic manner that minimizes inconvenience to property owners and the public. Restore and clean-up the site per Section 02 42 00, Restoration and Clean-Up, not more than 60 days following completion of revegetation activities.

E. Do not cut off any residence or business from vehicular traffic for a period exceeding 4 hours unless special arrangements have been made and approved by the UTILITIES' REPRESENTATIVE. Whenever it is necessary to cross, close or obstruct roads, driveways, and walks, whether public or private, provide and maintain safe bridges, detours, or other temporary expedient access for accommodation of public and private travel.

F. Maintain in continuous service existing oil and gas pipelines, underground power, telephone or communication cable, water mains, irrigation lines, sewers, poles and overhead power, and other utilities encountered along the line of the Work, unless other arrangements satisfactory to owners of said utilities have been made. Notify UTILITIES' REPRESENTATIVE five (5) days prior to any planned utility outage.

G. Do not operate heavy equipment over any existing pipe when the earth cover is less than three (3) feet.

H. Where completion of the Work may require temporary or permanent removal or relocation of existing utility, coordinate activities with owner of said utility and perform work to their satisfaction.

I. Keep fire hydrants and water control valves free from obstruction and available for use.

J. In areas where operations are adjacent to or near a utility, such as gas, telephone, television, electric power, water, sewer, or irrigation system, and such operations may cause damage or inconvenience, suspend operations until arrangements necessary for protection have been made. Make necessary arrangements for protection.

K. Notify UTILITIES' REPRESENTATIVE and Utility Office Contact at least five (5) days in advance of affecting a known existing utility. Before exposing a utility, obtain utility owner's permission. If service of any utility is interrupted as a result of CONTRACTOR'S operation, notify proper authority immediately. Cooperate with said authority in restoring service as promptly as possible and bear any utility impacted costs incurred. Where overhead power lines are to be de-energized as part of the revegetation activities, notify the Utility and the UTILITIES' REPRESENTATIVE in writing at least three (3) weeks in advance and follow with a 5-day notice in advance of the power de-energizing requirement to complete the revegetation activity.

L. Do not impair operation of existing water or sewer system. Prevent revegetation material, pavement, concrete, earth, volatile and corrosive wastes, and other debris from entering sewers, pump stations, or other sewer structures or from damaging existing water lines.

M. Maintain or restore original Site drainage.

N. Schedule the Work so to not interfere with irrigation of cultivated lands or pasturelands. Work may proceed during irrigation season, provided temporary irrigation ditches, turnouts, and miscellaneous structures acceptable to property owners are maintained.

O. If applicable, work jointly with landowners and livestock owner to determine grazing areas, watering points and livestock pathways to food and water.

1. If required, provide continuous access for livestock through farm areas. Do not cut off ready access to portions of farmlands in which livestock are pastured, fed,

and watered. Provide alternate accessible water sources, if needed. Maintain existing fences required to restrain livestock. Keep gates closed and secure. Keep disturbance of livestock and wildlife to an absolute minimum as necessary for revegetation activities.

P. Sweep roadways, streets, and walkways affected by the work and adjacent to the work when necessary to remove revegetation-related dirt and dust.

3.02 SITE RESTORATION

A. Restore site as specified in Section 02 42 00, Restoration and Clean-Up.

B. Promptly restore damaged or injured property including fences, gates and outbuildings, to a condition similar or better to that existing before the damage or injury occurred, by repairing, replacing, rebuilding, or restoring the property.

C. On determination of acceptable re-establishment of revegetation to the project area, or approved part thereof, remove the temporary fencing; silt fencing and BMPs. Re-establishment of vegetation will be done in accordance with Section 01 31 13, Project Coordination and Section 32 92 00, Revegetation.

END OF SECTION

SECTION 01 22 13
UNIT PRICE MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.01 SUBMITTALS

A. Schedule of Estimated Progress Payments:

1. Submit initial with first Application for Payment.

2. Submit adjustments thereto with each monthly Application for Payment.

B. Application for Payment.

C. Final Application for Payment.

1.02 SCHEDULE OF ESTIMATED PROGRESS PAYMENTS

A. Show estimated payment requests throughout Contract Times aggregating to initial Contract Price.

B. Base estimated progress payments on initially acceptable progress schedule. Adjust to reflect subsequent adjustments in progress schedule and Contract Price as reflected by modifications to the Contract Documents.

1.03 APPLICATION FOR PAYMENT

A. Transmittal Summary Form: Attach one Summary Form with each detailed Application for Payment for each schedule. Execute certification by an authorized officer of CONTRACTOR.

B. Use detailed Summary Form and Application for Payment Form suitable to UTILITIES' REPRESENTATIVE.

C. Provide separate form for each schedule as applicable.

D. Include separate line item for each Change Order and Work Change Directive executed prior to date of submission. Provide further breakdown of such as requested by UTILITIES' REPRESENTATIVE.

E. Preparation:

1. Round values to nearest dollar.

2. Submit Application for Payment, including a Transmittal Summary Form and detailed Application for Payment Form(s) for each schedule as applicable, a listing of materials on hand for each schedule as applicable, and such supporting data as may be requested by UTILITIES' REPRESENTATIVE.

1.04 MEASUREMENT – GENERAL

A. If the quantity of a unit priced item varies by more than 25 percent above or below the quantity indicated in the Schedule of Unit Prices, and this variance in price causes the total Contract Price to vary by more than 2 percent of the total Contract amount, the CONTRACTOR, UTILITIES' REPRESENTATIVE, or UTILITIES may request an equitable adjustment in the unit price of the item. The requesting party shall provide documentation as to why the cost should be adjusted and by how much. If the other parties deny the adjustment, the requesting party may file a claim under the Contract Agreement as applicable.

B. Weighing, measuring, and metering devices used to measure quantity of materials for Work shall be suitable for purpose intended and conform to tolerances and specifications as specified in National Institute of Standards and Technology, Handbook 44.

C. Units of measure shown on Bid Form to be as follows, unless specified otherwise.

Item	Method of Measurement
LF	Linear Foot – Field Measure by UTILITIES' REPRESENTATIVE to the nearest whole foot or calculated from horizontal pipeline stationing shown on the Drawings.
LS	Lump Sum – Unit is one; no measurement will be made
AC	Acre – Field Measure of area by UTILITIES' REPRESENTATIVE using mean length and width or radius.
EA	Each – Field count by UTILITIES REPRESENTATIVE.
SY	Square Yard - Field Measure of area by UTILITIES' REPRESENTATIVE using mean length and width or radius.

D. Work Item Descriptions: Work item descriptions are provided below for the work items listed in Payment Schedule. The price bid for each work item shall cover costs in connection with the Work, including furnishing labor, materials, equipment, supplies, and appurtenances; providing revegetation plant equipment and tools; performing necessary labor and supervision to fully complete the Work as described and specified in the Contract Documents; and overhead and profit. Related work not specifically identified in the work item descriptions is considered incidental and a subsidiary obligation of the CONTRACTOR and costs in connection therewith shall be included in the price bid for work items. Typical incidental items may include, but are not limited to, construction administration, communications, and coordination with UTILITIES' REPRESENTATIVE, land owners, regulatory agencies, and other stakeholders, and quality control.

No.	Item	Description	Measurement and Payment
1	Pre-vegetation Services (LS)	Lump Sum Price includes pre-vegetation professional services in accordance with the Statement of Work. Services include pre-vegetation meetings, pre-mobilization walk-through, acceptance meeting(s) and activity (ies), submittal preparation, and submittal processing. Includes applying for, obtaining/ reassignment, and complying with jurisdictional permits and approvals specified in Section 01 41 26, Permits.	Payment will be made when all pre-vegetation activities are complete.
2A	Mobilization (LS)	Lump Sum Price bid includes costs for initial general condition items. These items include, but are not limited to, compliance with Section 01 71 13, Mobilization, and other required revegetation tasks as the CONTRACTOR'S onsite revegetation operations begin. Mobilization(s), up to five, is/are limited to a maximum of 5 percent of the total bid.	Payment will be made equally for each required mobilization when work area is released to the CONTRACTOR and mobilization is complete.
2B	Demobilization (LS)	Lump Sum Price bid includes project close-out, and removal of all labor, equipment and materials, punch list walk through, and final walk through. Demobilization is required to be a minimum of 5 percent of the total bid.	Payment will be made in two equal payments following initial seeding activities, complete and at final payment following Final Completion.
3	Post Revegetation Photographic/ Videographic Documentation (LS)	Lump Sum Price bid includes photographic and videographic documentation complete, following release of work area after re-establishment of vegetative cover. This activity will be in accordance with Section 01 32 34, Photographic and Video Documentation.	Payment will be made upon UTILITIES acceptance of photographic and videographic documentation.
4	Health and Safety (LS)	Lump Sum Price bid includes labor, equipment, and materials necessary to prepare, implement, and monitor the Health and Safety Plan and prepare required monitoring reports.	Lump sum payment will be distributed in equal monthly installments following Notice-to-Proceed to Substantial Completion.

No.	Item	Description	Measurement and Payment
5	Temporary Environmental Controls (LS)	Lump Sum Price bid includes costs for temporary environmental control measures, complete (excluding Dust Control; Stormwater, Sediment, and Erosion Control; and Noxious Weed Control) including implementing and monitoring specified plans, and conformance to applicable permit and Specification requirements.	Lump sum payment will be distributed in equal monthly installments following Notice-to-Proceed to Substantial Completion.
6a	Stormwater, Sediment, and Erosion Control (LS)	Lump Sum Price bid includes stormwater, sediment, and erosion control measures, complete; including installing, maintaining, and removing stormwater, sediment, and erosion control measures, implementing and monitoring the Stormwater Management Plan, and conformance to applicable permit and Specification requirements.	Lump sum payment will be distributed in equal monthly installments following Notice-to-Proceed to Substantial Completion.
6b	Bank Stabilization (SY)	Unit Price bid includes stabilization of drainage bank areas at the Steele Hollow drainage crossing and includes biodegradable erosion control netting, seeding and irrigation to establish complete. Excludes stream bank construction and hardscaping (by others).	Payment for this item will be based on the actual square yardage of bank stabilization completed, as determined by a field measurement performed by the UTILITIES' REPRESENTATIVE
6c	Supplemental Stormwater, Sediment and Erosion Control BMPs (EA)	Unit Price bid includes furnishing, installation and maintenance of weed-free straw bales for sediment barriers as required to maintain stormwater management compliance.	Payment will be based on the number of straw bales installed.

No.	Item	Description	Measurement and Payment
7	Dust Control (LS)	Lump Sum Price bid includes costs for dust control, complete; including creating, implementing, and monitoring dust control plan along pipeline alignment and haul route, implementing and maintaining dust control measures, vehicle tracking control, sweeping paved streets, and conformance to applicable permit and Specification requirements.	Lump sum payment will be distributed in equal monthly installments for a period of six (6) months following Notice-to-Proceed.
8	Irrigation System (LS)	Lump Sum Price bid includes cost for irrigation system; complete. Includes materials and equipment as required to provide the irrigation system necessary to successfully re-establish and maintain vegetation cover complete.	A portion of the lump sum payment will be distributed based on the percentage of irrigation system completion as determined and agreed upon by UTILITIES Representative.
9	Noxious Weed Control (LS)	Lump Sum Price bid includes costs for weed control measures, complete for a period of three (3) years after pipeline final completion.	Lump sum payment will be distributed in equal quarterly installments commencing three (3) months following Notice-to Proceed through Final Completion.
10	Site Security (LS)	Lump Sum Price bid includes costs for site security services, complete.	Lump sum payment will be distributed in equal monthly installments following Notice-to-Proceed to Substantial Completion.
11	Traffic Control (LS)	Lump Sum Price bid includes costs for traffic control, complete; including developing traffic control plan, furnishing materials for implementing and monitoring the traffic control plan, and conformance to applicable permit and specification requirements.	Lump sum payment will be distributed in equal monthly installments for a period of six (6) months following Notice-to-Proceed.

No.	Item	Description	Measurement and Payment
12	Stations 800+00 to Station 1200+58.38 Revegetation (AC)	Unit Price bid includes seed bed preparation, revegetation restoration of disturbed construction areas, complete; including furnishing and installing seeding using broadcast and/or mechanical methods, approved soil amendments, application of mulch, approved fertilizer and conformance to applicable permit requirements and/or access agreements. This item does not include maintenance as required to establish vegetation, maintenance during guarantee period.	Payment for this item will be based on the actual acreage of revegetation completed, as determined by a field measurement performed by the UTILITIES' REPRESENTATIVE. Payment shall be made based on the unit price bid per acre in the Bid Form.
13	Stations 800+00 to Station 1200+58.38 Maintenance and Monitoring (LS)	Lump Sum Price bid includes re-seeding (i.e., replacing non-vital seed, weather or physically damaged areas), application of mulch, dust control (including water) as required, traffic control as required, maintenance as required to establish vegetation (including irrigation system maintenance and irrigation water as required), maintenance during guarantee period and conformance to applicable permit requirements. Maintenance and monitoring is required to be a minimum of 25 percent of the total bid.	Lump sum payment will be distributed in equal quarterly installments three (3) months following Notice-to-Proceed through Substantial Completion.
14	Stations 800+00 to Station 1200+58.38 Temporary Work Limit Fence Removal (LF)	Unit price bid includes removing Pipeline Construction Contractor temporary work limit fence complete; coordinate and return same to Pipeline Construction Contractor or Subcontractor.	Payment will be based on the actual linear foot removed, as determined by a field measurement performed by the UTILITIES' REPRESENTATIVE. Payment shall be made based on the unit price bid per linear foot in the Bid Form.

No.	Item	Description	Measurement and Payment
15	Alternative Method of Vegetation (AC)	Unit Price bid includes revegetation of areas with limited access, complete; including coordination of access, furnishing and installing seed using approved alternative methods on areas not accessible using standard methods, re-seeding (i.e., replacing non-vital seed, physically damaged areas), application of mulch, irrigation water and maintenance as required to establish vegetation, during guarantee period and conformance to applicable permit requirements and/or access agreements.	Payment for this item will be based on the actual acreage of revegetation completed using alternative methods, as determined by a field measurement performed by the UTILITIES' REPRESENTATIVE.
16	Soil Amendments (LS)	This item includes a bid allowance for costs for approved amendments (e.g., fully composted material, topsoil, etc.) transport, application and incorporation into soil, complete.	Payment not to exceed the bid allowance amount provided in the Bid Form without UTILITIES' REPRESENTATIVE authorization. Payment amount will be based on the actual acreage treated, as determined by a field measurement performed by the UTILITIES' REPRESENTATIVE.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 29 73
SCHEDULE OF VALUES

PART 1 GENERAL

1.01 SCHEDULE OF VALUES

A. Schedule of values shall be based on the line items listed in the Bid Form and as indicated in Section 01 22 13, Unit Price Measurement and Payment.

B. Submit a proposed Schedule of Values for payment of lump sum pay items for UTILITIES' REPRESENTATIVE approval. This Schedule of Values shall only be for items where payment is not otherwise identified in Specification Section 01 22 13, Unit Price Measurement and Payment.

C. Submit a proposed Schedule of Values for approval by the UTILITIES' REPRESENTATIVE for Bid Adjustments contained within the bid form.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 31 13
PROJECT COORDINATION

PART 1 GENERAL

1.01 SUBMITTALS

A. Informational:

1. Source(s) of irrigation water and measurement.

1.02 RELATED WORK AT SITE

A. General:

1. Coordinate the Work of these Contract Documents with work of others as specified in General Conditions. Weekly coordination with Pipeline Construction Contractor is required from Notice to Proceed and as directed by the UTILITIES' REPRESENTATIVE.

2. Include sequencing constraints specified herein as a part of Progress Schedule.

3. Other work that is either directly or indirectly related to scheduled performance of the Work under these Contract Documents, listed henceforth, is anticipated to be performed at or near Site by others.

B. Other contractors may be in the vicinity of the Project Site. Other work in the vicinity of this Project Site includes, but is not limited to:

1. Construction of adjacent reaches of the SDS, Raw Water Pipeline.

2. Revegetation of Work Limits of adjacent reaches of the SDS, Raw Water Pipeline.

1.03 UTILITY NOTIFICATION AND COORDINATION

A. Coordinate the Work, including, but not limited to: crossing requirements, utility support during Work, and marking tape requirements with various utility owners within Project limits. Notify applicable utility owners prior to commencing Work, if damage occurs, or if conflicts or emergencies arise during Work. Contact Utility Notification Center of Colorado (Call 1-800-922-1987 or 811) three (3) business days prior to any excavation. Comply with Utility agreements and permits. The following is a listing of known utility owners and governing jurisdictions in the project area:

1. Gas Companies:

a. Colorado Natural Gas: Bert Stefanic, bstefanic@coloradonaturalgas.com, (719) 547-4377.

b. El Paso Colorado Interstate Gas (CIG): Stephen Bacon, steve.bacon@elpaso.com, (719) 520-4713.

c. Xcel Energy (Gas): Pat Chappell, Patrick.chappell@xcelenergy.com, (719) 589-1216.

2. Power Companies:

a. Black Hills Energy: Lance Peters, lance.peters@blackhillscorp.com, (719) 546-6419.

1) Notify Black Hills Energy in writing at least 30 days in advance and follow up with a 5-day written notice in advance of any crossing of their utilities. In addition, notify Black Hills Energy in accordance with Section 01 14 19, Use of Site.

b. Xcel Energy: Danny Pearson, danny.pearson@xcelenergy.com (303) 571-7090.

3. Fiber Optics/Telephone:

a. Qwest: Sally Klein, sally.klein@quest.com, (719) 636-4329.

b. Southeast Colorado Power Association (SECPA): Kevin Brandon kevinb@secpa.com, (719) 383-1323.

4. Water/Sewer:

a. Fountain Valley Authority (FVA): Mike Urban, murban@csu.org, (719) 668-9090.

b. Pueblo West Metropolitan District: Dan Higgins, dhiggins@pwmd-co.us, (719) 250-9169.

1) Notify Pueblo West Metropolitan District 10 working days prior to crossing, removing, or replacing water lines.

5. Roads:

a. Pueblo County Public Works (Pueblo County): Dave Benbow, benbow@co.pueblo.co.us, (719) 583-4753.

b. UTILITIES' REPRESENTATIVE to coordinate communication with Pueblo County.

B. Water for Revegetation and Temporary Irrigation:

1. Obtain water from one of the following:

a. Fountain Valley Authority (FVA):

1) Cost for service (as of January 1, 2011):

a) $3.49/day customer charge.

b) $4/day meter charge.

c) Water charge of $377.93/acre-foot.

2) Location of Water Source: Blowoff locations on the FVA conduit.

a) Blow off connection just north of FVA Pump Station #2

b) Blow off connection just north of the Pueblo/El Paso County line.

3) Maximum Flow Rate: 1,250 gpm (including flow rates from other SDS Work Packages).

4) CONTRACTOR is responsible for piping and appurtenances beginning at the exposed flange at FVA blowoff(s).

5) Backflow into the FVA blowoff(s) is not allowed. A backflow device, its cost, installation, and testing is the responsibility of the CONTRACTOR.

6) CONTRACTOR will be responsible for any necessary permits or approvals for the use of water, as well as development and submittal of a Statement of Work to UTILITIES. Statement of Work will include, but is not limited to, coordination with FVA on blowoff locations, connection procedures/configuration, and access to blowoffs.

7) CONTRACTOR will be responsible for damage or loss of FVA infrastructure and equipment that is caused by their use of FVA infrastructure.

8) CONTRACTOR is responsible for reporting daily meter readings to FVA staff: (719) 668-1934.

9) Water for Revegetation: Water may be obtained from FVA. Storage for revegetation water must be provided. Approval must be obtained from FVA prior to use. Notify and obtain approval and authorization for usage and storage methods from FVA two (2) weeks in advance prior to using water for revegetation activities.

10) Install security measures so that appurtenances are not vandalized.

11) Install freeze protection to the FVA water line as applicable. Disconnect any connections to the FVA water line when not in use.

12) For travel across the FVA easement, do not exceed HS-20 loading.

b. Pueblo West Metropolitan District:

1) Cost for Service (as of January 1, 2011):

a) Water charge of $3.56/1,000 gallons for 1 to 5,000 gallons volume.

b) Water charge of $4.81/1,000 gallons greater than 5,000 gallon volume.

c) $1,490 hydrant meter refundable deposit.

2) Water may be obtained from existing Pueblo West Metropolitan District hydrants. Approval must be obtained from Pueblo West Metropolitan District prior to use of hydrants. Notify and obtain approval from Pueblo West Metropolitan District two (2) weeks in advance prior to using hydrants for water for temporary irrigation activities.

3) Contact: Dan Higgins, dhiggins@pwmd-co.us, (719) 250-9169.

c. CONTRACTOR obtained source of water for irrigation: Submit source for UTILITIES' REPRESENTATIVE approval. Metering of the water source for weekly inspection by UTILITIES' REPRESENTATIVE. UTILITES is not responsible for ensuring most current pricing from water source used for bid purposes.

1.04 EMERGENCY PREPAREDNESS

A. Emergency Response Contacts:

1. First Responders: 911.

2. Responding Fire Department:

a. Pueblo West Fire Department:

1) Address: 51 East Hahns Peak Avenue, Pueblo West, CO 81007.

2) Telephone: (719) 547-7337.

3. Parkview Medical Center:

a. Address: 2525 Mountainview Drive, Pueblo, CO 81008.

b. Telephone: (719) 549-7650.

1.05 PROJECT MILESTONES

A. General: Include the Milestones for the key components of the work to allow UTILITIES, and Pipeline Construction Contractor (as necessary) to coordinate all work.

B. Project Milestones: Generally described in the Agreement Form. The following is a description of each:

1. Mobilization to include activities described in Section 01 71 13, Mobilization.

2. Substantial Completion: Complete all work in the Contract Documents with the exception of Section 01 77 00, Closeout Procedures by establishing re-establishment of vegetation to ninety-percent (90%) of original cover within two (2) years or two (2) growing seasons whichever is longer.

3. Final Completion: Complete all work in the Contract Documents including verification of revegetation coverage, maintenance actions, and noxious weed monitoring as described below for a period of three (3) years from issuance of Notice-to-Proceed.

C. Determination of Vegetative Cover:

1. UTILITIES' REPRESENTATIVE will provide copies of preconstruction photographs and video to CONTRACTOR prior to commencement of the revegetation activities.

2. Photographs and point-intercept data used to determine pre-disturbance vegetative cover will be available for use and to assist in determination of satisfactory stand by UTILITIES' REPRESENTATIVE during revegetation monitoring activities.

1.06 WORK SEQUENCING/CONSTRAINTS

A. General:

1. The revegetation constraints presented herein are intended to describe the sequence of critical events necessary to minimize disruption to the public, UTILITIES, and other agency facilities, to properly coordinate between related contracts, and to comply with permit and easement requirements. The critical events described are not all inclusive and additional items of work not described may be required to minimize disruption and ensure compliance with the Contract Documents and permit and easement requirements. Deviation from or modification of the specified sequences/constraints may be permitted if other techniques and methods will facilitate revegetation and reduce facilities disruption. Submit proposed deviations or modifications to UTILITIES' REPRESENTATIVE for review in accordance with procedures for schedule revisions procedures specified in Section 01 32 16, Progress Schedule.

2. Allow for revegetation and schedule constraints in preparing the schedules required in Section 01 32 16, Progress Schedule. Include activities necessary to satisfy the constraints and permit and easement requirements included and referenced in the Contract Documents.

1.07 COORDINATION WITH PIPELINE CONTRACTOR

A. Prior to release of the project site, or part thereof, the UTILITIES' REPRESENTATIVE will request the Pipeline Construction Contractor and CONTRACTOR conduct a walk-through of the work area. The CONTRACTOR is to accept the working condition or identify corrective areas for the Pipeline Construction Contractor to address prior to acceptance by the CONTACTOR.

B. Upon acceptance of the Site or a part thereof, CONTRACTOR will assume responsibility for Stormwater Pollution, Erosion and Sediment Control and Dust Control. Coordinate with Pipeline Construction Contractor to obtain and/or reassign applicable permits.

C. UTILITIES' REPRESENTATIVE will coordinate transfer of any site security (lock controlled access points) to CONTRACTOR.

D. Coordinate access to site by the Pipeline Construction Contractor for its punch list and warranty work.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 HOMEOWNER PROPERTY RESTORATION

A. When the CONTRACTOR notifies the UTILITIES' REPRESENTATIVE that the project has achieved Substantial Completion, the UTILITIES' REPRESENTATIVE will notify the property owners via mail (or other method deemed appropriate by the UTILITIES' REPRESENTATIVE) to submit remaining revegetation restoration items. If approved by UTILITIES' REPRESENTATIVE, these restoration items will become part of the Punch List for action and completion by the CONTRACTOR.

END OF SECTION

SECTION 01 31 19
PROJECT MEETINGS

PART 1 GENERAL

1.01 GENERAL

A. Unless otherwise noted, UTILITIES' REPRESENTATIVE will schedule meetings throughout progress of the Work, prepare meeting agenda with regular participant input and distribute with written notice of each meeting, preside at meetings, record minutes to include significant proceedings and decisions, and reproduce and distribute copies of minutes after each meeting to participants and parties affected by meeting decisions.

1.02 PRE-VEGETATION CONFERENCE

A. UTILITIES' REPRESENTATIVE will schedule and make physical arrangements for the Preconstruction Conference, prepare and distribute the agenda, preside at the conference, record minutes to include significant proceedings and decisions, and reproduce and distribute copies of minutes. Discuss the following subjects, as a minimum:

1. Coordination with Pipeline Construction Contractor.
2. Sequencing of critical path work items.
3. Status of Bonds and insurance.
4. Progress payment procedures.
5. Use of Site, access, security and temporary facilities.
6. Major product delivery and priorities.
7. CONTRACTOR'S safety plan and Representative.

B. Attendees may include:

1. UTILITIES' REPRESENTATIVES.
2. CONTRACTOR'S key staff.
3. Pipeline Construction Contractor's key staff.
4. CONSTRUCTION MANAGER Representatives.
5. Others as appropriate, including Representatives from appropriate entities.

1.03 PROGRESS MEETINGS

A. UTILITIES' REPRESENTATIVE will schedule weekly progress meetings during the initial planning and execution portions of revegetation work, and minimum monthly meetings following planting to review Work progress, Progress Schedule, Schedule of Submittals, Application for Payment, contract modifications, and other matters needing discussion and resolution.

B. Attendees may include:

1. UTILITIES' REPRESENTATIVES, as appropriate.

2. CONTRACTOR, Subcontractors, and Suppliers, as appropriate.

3. CONSTRUCTION MANAGER Representatives.

4. Pipeline Construction Contractor, as appropriate.

5. Others as appropriate.

C. UTILITIES' REPRESENTATIVE will prepare meeting agenda, related handouts, and record minutes to include significant proceedings and decisions, reproduce and distribute copies of minutes after each meeting to participants and parties affected by meeting decision. Minutes to be approved at the following progress meeting.

1.04 OTHER MEETINGS

A. In accordance with Contract Documents and as may be required by UTILITIES' REPRESENTATIVE.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 31 24
PUBLIC COMMUNICATIONS

PART 1 GENERAL

1.01 GENERAL

A. Do not issue any news releases, or make any arrangements for publicity, related to the UTILITIES' SDS contracts to any news media without prior approval of UTILITIES.

B. Support UTILITIES and CONSTRUCTION MANAGER in preparing, coordinating, and conducting Project open houses and local community meetings.

C. UTILITIES' contact for public communications is:

David Marciniak
Work: 719-668-3595
Mobile: 719-291-2481
Email: dmarciniak@csu.org

Margaret Radford
Work: (719) 668-4805
Mobile: (719) 290-0885
e-mail: MRadford@csu.org

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 GENERAL

A. The CONTRACTOR is to have limited contact and communication with the residents and general public and is expected to fulfill the public relations expectations set by the UTILITIES' REPRESENTATIVE.

B. The expectations include minimizing the disruption to residents throughout the revegetation phase by maintaining a tidy, well managed revegetation work area; safeguarding the public from revegetation activities and equipment with reasonable measures; minimizing and protecting the attractive nuisance of revegetation equipment and materials within the work area; providing notification of when the work in an area is expected to start and maintaining the restoration schedule on any residential segment; promptly closing out residential complaints identified on the punch list.

C. UTILITIES' REPRESENTATIVE will provide notification to residents by means of neighborhood meetings, website, 24/7 hotline and mailings as needed.

D. Any contact with residents and the general public is to be reported to the UTILITIES' REPRESENTATIVE contact for public communications the same working day as the

contact is made. Provide UTILITIES' contact with information regarding the nature of the contract, contact information, if provided, location, and any comments regarding the contact.

E. Any contact with the media is to be reported to the UTILITIES' REPRESENTATIVE contact for public communication immediately when contact is made.

F. In the absence of UTILITIES' public communication contact and UTILITIES' REPRESENTATIVE, the CONTRACTOR shall not communicate with the media.

G. Release to use photos and video approved by the UTILITIES' REPRESENTATIVE. The CONTRACTOR and associated Subcontractors shall give UTILITIES and the UTILITIES' REPRESENTATIVE unrestricted right and permission to copyright and use, re-use, publish, and republish photographic portraits or pictures, as well as video of the CONTRACTOR and associated Subcontractors.

END OF SECTION

SECTION 01 32 16
PROGRESS SCHEDULE

PART 1 GENERAL

1.01 DEFINITIONS

A. Baseline Schedule: The accepted baseline schedule for the revegetation contract, demonstrating the planned activities, activity costs, and activity durations as the Project was bid.

B. Progress Schedule: This schedule is an accurate depiction of events.

C. Early Finish: The earliest a schedule activity is expected to finish, based on its relationship to other activities in the project.

D. Early Start: The earliest a schedule activity is expected to start, based on its relationship to other activities in the project.

E. Late Finish: The latest a schedule activity can finish, based on its relationship to other activities on the project, and still permit the project to be completed on time.

F. Late Start: The latest a schedule activity can start, based on its relationship to other activities on the project, and still permit the project to be completed on time.

G. Original Duration: The amount of time, in calendar days, an activity was expected to take to complete at the beginning of a project.

H. Preliminary Progress Schedule: Covers revegetation related activities from Notice-to-Proceed up through Notice to Proceed plus 90 days.

I. Total Float: The number of days by which a part of the Work in the revegetation schedule may be delayed from its early start/finish dates without necessarily extending the contract completion date.

J. Work Activity: An activity which requires time and resources to complete and must be performed before the Contract is considered complete.

1.02 SUBMITTALS

A. Action Submittals:

1. Preliminary Schedule
2. Baseline Schedule
3. Progress Schedule
4. Monthly Cost and Narrative Progress Report

5. 3-Week Look-Ahead

B. Project Schedules shall be provided in Primavera (P6) or MicroSoft Project format with proposed cash flow analysis included.

1.03 QUALIFICATIONS

A. The CONTRACTOR shall employ a trained and experienced revegetation scheduling person knowledgeable in revegetation Work sequencing, productivity, scheduling, and application of the scheduling software system. This person, along with the CONTRACTOR'S management team is expected to work closely with the UTILITIES' REPRESENTATIVE to deliver acceptable products outlined in this section and comply with the reporting requirements of this section.

1.04 CRITICAL PATH NETWORK

A. The CONTRACTOR shall collect data and information from Subcontractors, Suppliers, and equipment manufacturers for incorporation into the revegetation schedule.

B. The Work activities comprising the schedule shall be of sufficient detail to assure adequate planning and execution of the Work such that, in the judgment of the UTILITIES' REPRESENTATIVE, it provides an appropriate basis for forecasting, monitoring, and evaluation of the progress of the Work. Work activities shall conform to the following requirements:

C. The revegetation schedule shall contain the following milestones:

1. Notice to Proceed.

2. Pre-vegetation Meeting.

3. Acquisition or Reassignment of Permits.

4. Start and Completion Dates of Each Phase.

5. Mobilization(s).

6. Satisfactory Stand.

7. Substantial Completion.

8. Final Completion.

9. Monitoring Frequency Dates.

D. The schedule shall indicate the sequence and interdependency of Work activities. It shall include, but not be limited to, the following items as appropriate to this Contract:

1. Mobilization.

2. Obtaining/reassigning all required permits, as specified in Section 01 41 26, Permits.

3. Specific Work activities include, but not limited to, pre-vegetation activities, site preparation, initial seeding, phases, revegetation monitoring intervals, noxious weed monitoring, and post revegetation photography and videography.

4. Submittals to include estimated dates for submission, approval, and final submission.

5. Revegetation of all facilities outlined in the Contract Documents.

6. Subcontractor's items of Work.

7. Punchlists.

8. Time allowance for evaluation(s) of re-establishment of cover.

9. Contract activity interface coordination with other CONTRACTORS, substantial completion and final completion dates, and maintaining operations of existing facilities.

10. Specific information required by the UTILITIES' REPRESENTATIVE.

11. All temporary utilities and installation.

12. Required inspections by the UTILITIES' REPRESENTATIVE.

1.05 TIME EXTENSION FOR SEVERE WEATHER

A. Upon written request from the CONTRACTOR, the UTILITIES' REPRESENTATIVE may suspend the counting of contract time, herein called time extension, for the CONTRACTOR'S convenience during unusually severe weather. The CONTRACTOR'S request for time extension due to severe weather delays shall clearly demonstrate that the weather conditions are "unusually severe," would not have been reasonably anticipated given the normal prevalent weather conditions in the locality of the work, that such conditions adversely affected fifty percent (50 %) or more of the CONTRACTOR'S workday and delayed work critical to the timely completion of the project.

B. "Unusually severe" weather conditions are defined as:

1. Sustained air temperature at the job site for more than four (4) hours during the Working Hours below freezing (32 degrees Fahrenheit).

2. Rainfall at the job site greater than one-half (0.5) inch per hour.

3. Snowfall at the job site greater than ten (10) inches in a single occurrence.

4. Sustained winds for two (2) hours or longer at the job site of greater than thirty-five (35) miles per hour.

C. The CONTRACTOR is reminded that the contract time already includes an allowance for calendar days lost to adverse weather for each month. The anticipated number of days lost is based on the current standard used by the Urban Drainage and Flood Control District (Denver, Colorado), and is listed as follows:

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
7	4	4	4	6	3	4	2	3	3	4	5

D. Only the number of days lost due to unusually severe weather as requested by the CONTRACTOR and approved by the UTILITIES' REPRESENTATIVE, that exceeds the above-anticipated number of days lost for the month, shall be considered for granting a contract time extension.

E. If, at any time during the contract time period, the CONTRACTOR fails to prosecute the work continuously and diligently as reasonably expected, and with sufficient forces and equipment to maintain satisfactory work progress, the CONTRACTOR shall forfeit the right to time extension for unusually severe weather conditions. In this case, the CONTRACTOR shall make up for the time lost through acceleration of the remaining work and without any additional costs to UTILITIES.

F. The time extension will be implemented by change order. All costs resulting from the time extension including, but not limited to, the protection and maintenance of the job site, maintaining specified insurance and bonding certificates, and traffic control for the period of time extension, shall be the responsibility of the CONTRACTOR and at no additional cost to UTILITIES. Unit price adjustments or special allowances shall not he paid by UTILITIES for escalated material, labor, equipment, or any other costs associated with the time extension.

1.06 PRELIMINARY SCHEDULE

A. The Preliminary Schedule is due no later than ten (10) business days after Notice to Proceed or five (5) days prior to the Pre-vegetation Meeting, whichever occurs sooner, and shall contain ten (10) copies of the following information:

1. All contract activities such as: submittal preparation, UTILITIES' REPRESENTATIVE review and comment, and product delivery.

2. The project's critical path.

3. Cash flow report for the total revegetation project.

4. All project procurement activities.

5. Scheduled activities for the period of Notice to Proceed up to ninety (90) days thereafter.

1.07 BASELINE SCHEDULE

A. The Baseline Schedule is due no later than thirty (30) days after Notice to Proceed and shall contain the required relationships completely identified and the durations of each activity correctly depicted:

1. The Baseline Schedule shall contain no Contract changes or delays that may have been incurred during the interim schedule development period. These changes will be entered at the first update after the Progress Schedule has been accepted.

2. The Baseline Schedule will contain all specific activities at the final level of detail.

3. If the Baseline Schedule is not accepted, the CONTRACTOR shall revise the schedule in accordance with the UTILITIES' REPRESENTATIVE'S comments and resubmit within seven (7) calendar days.

4. Once the Baseline Schedule is accepted it becomes the schedule of record and the basis for future schedule updates.

5. After the acceptance of the Baseline Schedule, no changes shall be made therein without approval of the UTILITIES' REPRESENTATIVE.

6. The CONTRACTOR shall not be entitled to any damages by reason of the failure of the UTILITIES' REPRESENTATIVE to give timely acceptance or comments on any progress schedule hereunder.

B. CONTRACTOR'S first payment request will be processed if the Baseline Schedule has been submitted by the CONTRACTOR and returned by the UTILITIES' REPRESENTATIVE with corrections noted with the understanding that the corrections will be made.

C. As a condition precedent to payment of the CONTRACTOR'S remaining payment requests thereafter for costs earned under the Contract, the Baseline Schedule must be acceptable to the UTILITIES' REPRESENTATIVE.

1.08 PROGRESS OF THE WORK

A. If at any time during the project, the CONTRACTOR fails to complete any activity by its latest completion date, he will be required, within seven (7) days, to submit to the UTILITIES' REPRESENTATIVE a written statement as to how and when he plans to reorganize his work force and re-schedule the Work and recover the potential schedule delay during the next schedule update period.

B. Monthly Schedule Updates:

1. Once the Baseline Schedule is accepted by the UTILITIES' REPRESENTATIVE, the CONTRACTOR shall be responsible for preparing

and submitting monthly update information on logic, physical percent complete, actual start and finish dates, duration changes and related reports, diagrams and schedules.

2. The Baseline Schedule and monthly updates shall be submitted as follows:

   a. One (1) electronic copy of the schedule, data date and monthly period clearly marked.

   b. One (1) electronic copy of the narrative report

   c. One (1) electronic copy of the cash flow projection by month with actual partial payment amounts.

3. Updates shall be provided monthly with the request for progress payment. The UTILITIES' REPRESENTATIVE shall have the right to withhold payment until the monthly update(s) have been received. Updates to the schedule shall begin immediately following acceptance of the Preliminary Schedule. Updates will continue during the development of the Baseline Schedule. Once the baseline schedule is found to be acceptable, it shall become the basis for succeeding schedule updates.

1.09 COST AND NARRATIVE PROGRESS REPORTS

A. Prepare and submit and summary cost activity reports each month. The sum of all monthly costs shall be equal to the contract amount plus approved change orders. The updated cost information shall be consistent with the payment amounts requested via the payment requisition.

B. The costs shall be summarized for each month and the sum of all the monthly costs shall be equal to the Contract Price.

C. The Narrative Report shall include and be in the following format:

   1. The CONTRACTOR'S transmittal letter.

   2. Current and anticipated delays.

      a. Cause of the delay.

      b. Corrective action and recovery schedule adjustments to correct the delay.

      c. Impact of the delay on other activities, milestones and completion dates.

   3. Pending issues and status of other items:

      a. Permits.

      b. Contract modifications.

c. Time extension requests.

4. Contract complete date status.

5. Ahead of schedule and number of days.

6. Behind schedule and number of days.

7. Summary of project cost data by appropriate breakdown including budget quantity, cost, percent complete, actions to date, actions this period, estimate to complete and variance.

8. Summary of project status including cumulative information to date, variance and forecast at completion.

9. Other project or scheduling concerns.

10. Safety Reports and any code violations or warnings.

1.10 SCHEDULE END FLOAT

A. Total Float is the number of days by which a part of the Work in the revegetation schedule may be delayed from its early start and finish dates without necessarily extending the contract completion date. The difference in time between the project's scheduled early completion date, as submitted, and the required contract completion date shall be considered as float. Float within the overall schedule, and total float within the overall schedule, is not for the exclusive use of either the UTILITIES or the CONTRACTOR, but is jointly owned by both parties and is a resource available to be shared by both as needed to meet Contract milestones and the contract completion dates.

B. The CONTRACTOR shall not sequester shared float though such strategies as extending activity duration estimates to consume available float, using preferential logic, using extensive crew/resource sequencing, etc. Since float time within the schedule is jointly owned, no time extensions will be granted or delay damages paid until the critical path of the CPM schedule is affected with extends the Work beyond a milestone or contract completion date.

C. Early completion schedules are generally not acceptable to the UTILITIES but may be accepted as convenience to the CONTRACTOR under the following conditions.

1. The CONTRACTOR must submit a written request outlining the specific reasons for using the early completion schedule.

2. The CONTRACTOR acknowledges and agrees in writing that the proposed reduction in time represents Project time already paid for by the UTILITIES as part of the Bid Price, and is available to both the CONTRACTOR and the UTILITIES for mitigation of impacts to the Project from any source. The CONTRACTOR shall not be entitled to any increase in Contract Price for failure

to achieve the early completion and the CONTRACTOR waives all claims to same.

3. Early completion schedule shall not be based on expedited approvals, inspection, or the relaxing of revegetation constraints by the UTILITIES or UTILITIES' REPRESENTATIVE.

4. Early completion schedules must meet all other Contract requirements.

5. Early completion schedule updates that contain activities behind schedule shall be revised when requested by the UTILITIES' REPRESENTATIVE.

1.11 THREE-WEEK LOOK AHEAD

A. The CONTRACTOR shall provide a three (3) week look-ahead schedule which shall include the week in which the schedule is presented, plus the two (2) successive weeks thereafter. The three (3) week look ahead shall be submitted to the UTILITIES' REPRESENTATIVE no later than 48 hours prior to the weekly project progress meeting.

1.12 QUARTERLY PROGRESS MEETING AND REPORTS

A. Once each quarter, or as requested, on a date established by the UTILITIES' REPRESENTATIVE, a progress meeting will be held at which time the schedule will be reviewed. The meeting shall be attended by the UTILITIES' REPRESENTATIVE, CONTRACTOR, and Subcontractor Representatives for this Contract

1. Meetings may be conducted remotely.

B. The CONTRACTOR'S Representative(s) at the meetings shall have the competence and authority to make any necessary decisions and their statement shall commit the CONTRACTOR to the agreed procedures, sequence of Work activities, operations and time schedules.

C. The updated Schedule shall be furnished to the UTILITIES' REPRESENTATIVE electronically at least 48 hours prior to the meeting and be available in hard copy at the meeting for review.

D. Failure to submit the schedule, subsequent updates, or previously requested corrections of the schedule within seven (7) calendar days of the update meeting, shall be considered cause for withholding any partial payments due or that may become due under the Contract.

E. The CONTRACTOR shall work closely with the UTILITIES' REPRESENTATIVE to produce the final reports subject to approval by the UTILITIES' REPRESENTATIVE. These reports shall be generated from the CONTRACTOR'S scheduling database and other software tools to comply with the report examples provided herein. In addition, the CONTRACTOR shall work closely with the

UTILITIES' REPRESENTATIVE to produce the final reports subject to approval by the UTILITIES' REPRESENTATIVE.

1.13 PAYMENT DEDUCTIONS

A. A permanent line-item deduction, at the pro-rata rate of two thousand dollars ($2,000) per month shall be deducted from the Contract Price if, in the judgment of the UTILITIES' REPRESENTATIVE, CONTRACTOR is deemed to be the cause for the delay in submitting any of the aforementioned submittals or subsequent monthly updates per monthly progress meetings and Reports. The CONTRACTOR shall be notified within one week of said delinquency that the permanent deduction is being assessed against the Contract.

1.14 FLOAT OWNERSHIP

A. Without obligation to extend the overall completion date or any intermediate completion dates set out in the schedule, the UTILITIES' REPRESENTATIVE may initiate changes to the Contract Work that absorb float time only. CONTRACTOR-initiated changes that encroach on the float time identified in the Schedule may be accomplished with the UTILITIES' REPRESENTATIVE'S approval.

B. UTILITIES-initiated changes that extend or shorten the Contract Times shall be the sole basis to adjust the Contract completion date. Delays in the critical path not associated with proper requests for time extensions in accordance with the General Conditions shall be deemed to be the responsibility of the CONTRACTOR.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 32 34
PHOTOGRAPHIC AND VIDEO DOCUMENTATION

PART 1 GENERAL

1.01 GENERAL

A. The CONTRACTOR shall obtain photographic and/or videographic documentation prior to initiation of revegetation activities. This record shall be made at the time of turn-over of the Site from the Pipeline Construction Contractor. Pre-vegetation photographic and/or videographic documentation shall be obtained at the CONTRACTOR'S expense.

B. The CONTRACTOR shall document post-vegetation conditions through photographic and videographic records using a qualified professional following the determination of satisfactory re-establishment of vegetative cover.

1.02 SUBMITTALS

A. Informational for Pre-vegetation:

1. Statement of Qualification (SOQ) for professional photographer or videographer (if one is retained).

2. Digital Images and/or Video Recordings: Submit five (5) compact discs within 30 days of being taken.

B. Informational for Progress and Post-Vegetation:

1. Statement of Qualification (SOQ) for professional photographer.

2. SOQ for professional videographer.

3. Digital Images: Submit five (5) compact discs for each property within 5 days of being taken.

4. Video Recordings: Submit five (5) copies for each property, including updated project video log, within 5 days of being taken.

5. Complete post-vegetation condition documentation as specified below. Such documentation will be used by UTILITIES to compare completion of the revegetation activities with the Pre-Existing Condition Assessment completed by the Pipeline Construction Contractor prior to commencement of pipeline construction activities.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 PROGRESS DOCUMENTATION

A. Photographically and/or videographically document the phases of the project including pre-turn over (site acceptance) conditions prior to start of revegetation.

B. Photography/Videography:

1. Photographer or Videographer: Experienced in shooting exterior photos/video, in daylight conditions, and in good and inclement weather.

C. Site Acceptance:

1. After the Notice to Proceed and before Work at Site is started, and again upon issuance of Substantial Completion, CONTRACTOR shall take photographs of the Site and property adjacent to the perimeter of Site to fully represent and document conditions.

2. Direct the emphasis of photographs to conditions on the Site.

3. Take a minimum of two (2) photos a minimum of every five-hundred (500) feet along the pipeline alignment to photographically document pre-planting vegetation cover. Note pipeline station and direction of photo.

D. Revegetation Progress Photos:

1. Photographically demonstrate progress of revegetation, showing Site.

2. Monthly: Minimum of two photos every three hundred (300) feet.

3. Digital Images:

a. Archive using a commercially available photo management system as approved by UTILITIES' REPRESENTATIVE.

b. CD or DVD Label:

1) COLORADO SPRINGS UTILITIES.

2) Photos.

3) CD or DVD number (numbered sequentially, beginning with WP-S3-001).

4) Project name – SDS WORK PACKAGE S3, REVEGETATION.

5) Name of street(s) or easement(s) included.

6) Applicable location by engineering stationing.

7) Date and time of coverage.

3.02 POST-VEGETATION DOCUMENTATION

A. Photography: Upon issuance of Substantial Completion, take a minimum of 2,000 photographs of the Construction Site and property adjacent to the perimeter of Construction Site to fully represent and document pre-construction and post-construction conditions.

1. Direct the emphasis of photographs to structures both inside and outside the Site.

2. Photographs of Post-construction Vegetation Cover:

a. Take a minimum of two (2) photos every 50 feet along the pipeline alignment to photographically document post-construction vegetation cover. Note parcel number, pipeline station and direction of photo.

3. Individual properties and/or parcel numbers shall be tracked, recorded and identifiable on the digital record.

4. Digital Images:

a. Archive using a commercially available photo management system as approved by UTILITIES' REPRESENTATIVE.

b. CD or DVD Label:

1) COLORADO SPRINGS UTILITIES.

2) Photos.

3) CD or DVD number (numbered sequentially, beginning with WP-S3-001).

4) Project name and Phase – SDS WORK PACKAGE S3, REVEGETATION, PHASE XX.

5) Name of street(s) or easement(s) included.

6) Applicable location by parcel number and engineering stationing.

7) Date and time of coverage.

B. Audio-Video: Within 10 days following the determination of satisfactory re-establishment of vegetative cover, videograph Site and property adjacent to the Site.

1. Video recording will be by a professional commercial videographer, experienced in shooting revegetation videos, in both good and inclement weather.

2. Individual properties and/or parcel numbers shall be tracked, recorded and identifiable on the digital record.

3. Video Format and Quality:

   a. MPEG-2 or MPEG-4 format or approved equal, with sound.

   b. Video:

      1) 1080 line High Definition Video (HDV).

      2) Electronically display the month, day, year, and time of the recording.

      3) Provide alternate format as appropriate to allow playable version on standard DVD players.

   c. Documentation:

      1) DVD Label:

      a) COLORADO SPRINGS UTILITIES.

      b) Video.

      c) DVD number (numbered sequentially, beginning with WP-S3-001).

      d) Project name and Phase – SDS WORK PACKAGE S3, REVEGETATION, PHASE XX.

      e) Name of street(s) or easement(s) included.

      f) Applicable location by engineering stationing.

      g) Date and time of coverage.

C. Project Video Log: Maintain an ongoing log that incorporates above noted label information for DVDs on Project.

END OF SECTION

SECTION 01 33 00
SUBMITTAL PROCEDURES

PART 1 GENERAL

1.01 SUMMARY

A. This Section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other submittals.

B. See Section 01 32 16, Progress Schedule, for submitting schedules and reports.

C. See Section 01 32 34, Photographic and Video Documentation, for submitting revegetation photographs and revegetation videotapes.

D. See Section 01 77 00, Closeout Procedures, for content and final submittal of Record Drawings, Record Specifications, and Record Product Data.

1.02 DEFINITIONS

A. Action Submittals: Written and graphic information that requires UTILITIES' REPRESENTATIVE'S responsive action.

B. Informational Submittals: Written information that does not require UTILITIES' REPRESENTATIVE'S responsive action. Submittals may be rejected for not complying with requirements.

1.03 SUBMITTAL PROCEDURES

A. Contract Manager System: To expedite the transmittal and review of Submittal data, the UTILITIES' REPRESENTATIVE has established a web-based "Contract Manager" System as the contract administration and document control software on the Project. Use this system to transmit documents and track the submittals, Requests for Information (RFIs) and overall Project communication. Use the "Contract Manager" System for submittal data smaller than 750 MB. For submittal data larger than 750 MB submit using requirements in section 01 33 00 Part 2 D.

B. Forms: The preferred forms for submittals are as developed by the UTILITIES' REPRESENTATIVE or resident in the "Contract Manager." Obtain consent of the UTILITIES' REPRESENTATIVE prior to using other forms. The following list of forms may be used but the list is not necessarily inclusive:

1. CM-307 Memorandum of Delay.
2. CM-1004 Request for Adjustment of Retainage.
3. CM-1005 Consent of Surety for Reduction of Partial Release of Retainage.
4. CM-1006 Consent of Surety for Final Payment.

5. CM-1007 Affidavit of Payment.

6. CM-1202 CONTRACTOR'S Certification of Completion.

7. CM-1301 Partial Waiver of Lien.

8. CM-1302 Final Waiver of Lien.

9. CM-1303 Affidavit of Release of Lien.

C. Coordination: Coordinate preparation and processing of submittals with performance of revegetation activities.

1. Coordinate each submittal and related activities that require sequential activity.

2. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.

a. UTILITIES' REPRESENTATIVE reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

D. Submittals Schedule: Comply with requirements in Section 01 32 16, Progress Schedule, for list of submittals and time requirements for scheduled performance of revegetation activities.

E. Within seven (7) days after the date of commencement as stated in the Notice to Proceed, submit the following items for review:

1. A preliminary schedule of proposed Substitutes ("Or-Equal") and submittals as required in the Contract Documents.

F. Processing Time: Allow enough time for submittal review, including time for resubmittals, as follows. Time for review commences on UTILITIES' REPRESENTATIVE'S receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.

1. Initial Review: Allow twelve (12) working days for initial review of each submittal by the UTILITIES' REPRESENTATIVE. Allow additional time if coordination with subsequent submittals is required. UTILITIES' REPRESENTATIVE will advise when a submittal being processed must be delayed for coordination. It is considered reasonable that a complete and acceptable submittal is made to the UTILITIES' REPRESENTATIVE by the first resubmittal on an item. UTILITIES reserves the right to withhold monies to cover additional costs of the UTILITIES' REPRESENTATIVE'S review beyond the first resubmittal. The UTILITIES' REPRESENTATIVE'S maximum review period for each submittal or resubmittal will be fifteen (15) working days.

2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.

3. Resubmittal Review: Allow fifteen (15) working days for review of each resubmittal.

G. Identification: Complete all submittals using Primavera Contract Management (Manager).

H. Transmittal: Package each submittal individually and appropriately for transmittal and handling. Include the UTILITIES' REPRESENTATIVE'S standard submittal transmittal form, a reproducible copy of which is available from the UTILITIES' REPRESENTATIVE, with each transmitted submittal. Submittals without the form or where applicable items on the form are not completed will be returned for resubmittal. UTILITIES' REPRESENTATIVE will discard submittals received from sources other than CONTRACTOR.

1. Organization:

a. Use a single submittal transmittal form for each technical specification section or item or class of material or equipment for which a submittal is required. A single submittal covering multiple sections will not be acceptable, unless the primary specification references other sections for components.

b. On the transmittal form, index the components of the submittal and insert tabs in the submittal to match the components. Relate the submittal components to specification paragraph and subparagraph, Drawing number, detail number, schedule title or room number as applicable.

c. Unless indicated otherwise, match terminology and equipment names and numbers used in submittals with those used in the Contract Documents.

d. Disorganized submittals will be returned without review.

I. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.

1. Note date and content of previous submittal.

2. Note date and content of revision in label or title block and clearly indicate extent of revision.

3. Resubmit submittals until they are marked "Reviewed with UTILITIES' REPRESENTATIVE and/or PROJECT MANAGER'S action stamp."

J. Distribution: Furnish copies of final submittals to subcontractors, suppliers and installers, authorities having jurisdiction, and others as necessary for performance of revegetation activities. Show distribution on transmittal forms.

1. Use for Revegetation: Use only final submittals with mark indicating "Reviewed with UTILITIES' REPRESENTATIVE and/or PROJECT MANAGER'S action stamp" taken by UTILITIES' REPRESENTATIVE.

PART 2 PRODUCTS

2.01 PRECONSTRUCTION CONFERENCE SUBMITTALS

A. At the pre-vegetation conference, submit the following items to the UTILITIES' REPRESENTATIVE for review:

1. A preliminary schedule of proposed Substitute ("Or-Equal") and submittals listed in the Bid.

2. Obtain a list of permits and licenses, indicating the agency required to grant the permit, the expected date of submittal for the permit, required date for receipt of the permit, and required date for receipt of transferred permits obtained by UTILITIES.

3. A Preliminary Baseline Schedule in accordance with Section 01 32 16, Progress Schedule.

4. The preliminary site specific safety plan.

2.02 ACTION SUBMITTALS

A. General: Prepare and submit Action Submittals required by individual Specification Sections.

1. Product labels/Cut sheets/Material Safety Data Sheets.

2. Seed: Certification of Natural Resources Conservation Service (NRCS) recommended seed analysis, germination rate, and inoculation: Seed certifications and certificates of inspection of seed by State or Federal authorities. Certify that each lot of seed has been tested by a testing laboratory certified in seed testing, within 6 months of date of delivery as specified in Section 32 92 00, Revegetation.

3. Seed Inoculant Certification: Test results or Manufacture certification bacteria and fungi prepared specifically for legume species to be inoculated.

4. Description of maintenance activities and activity frequency.

5. Manufacturer's Installation/Application Instructions: Commercial products including any fertilizer or soil amendment(s) approved for use.

6. Copies of delivery invoices or other proof of quantities of seed, mulch, and fertilizer.

7. Certification that mulch is free of noxious weed seed.

8. All permits related to work as specified in Section 01 41 26, Permits.

B. Transmittal Form: Include the UTILITIES' REPRESENTATIVE'S standard submittal transmittal form, a reproducible copy of which is available from the UTILITIES' REPRESENTATIVE, with Shop Drawing submittals. A submittal without the form or where applicable items on the form are not completed will be returned for resubmittal.

C. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8½ by 11 inches but no larger than 36 by 48 inches.

D. Number of Copies: Submit one original plus six (6) hard copies and one electronic copy ("PDF" format) of each submittal. UTILITIES' REPRESENTATIVE will return a transcribed copy in non-editable electronic format.

1. Collate and bind: Number every page in a submittal in sequence. Collate and staple or bound, as appropriate each copy of a submittal. The UTILITIES' REPRESENTATIVE will not collate sheets or copies.

E. Submittals Schedule: Comply with requirements specified in Section 01 32 16, Progress Schedule.

F. Application for Payment: Comply with requirements specified in Section 01 22 13, Unit Price Measurement and Payment.

G. Subcontractor List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design.

1. Number of Copies: Submit four (4) copies of subcontractor list, unless otherwise indicated. UTILITIES' REPRESENTATIVE will return one copy.

2.03 INFORMATIONAL SUBMITTALS

A. General: Prepare and submit Informational Submittals required by other Specification Sections.

1. Number of Copies: Three (3) copies of each submittal, unless otherwise indicated. UTILITIES' REPRESENTATIVE will not return copies.

2. Certificates and Certifications: Provide a notarized statement that includes signature of entity responsible for preparing certification. Include the signature of an officer or other individual authorized to sign documents on behalf of that entity for certificates and certifications.

3. Test and Inspection Reports: Comply with requirements specified in Section 01 32 00, Submittals and 32 92 00, Revegetation.

B. CONTRACTOR'S Revegetation Schedule: Comply with requirements specified in Section 01 32 16, Progress Schedule.

C. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, names and addresses of engineers, architects, and owners, and other information specified.

D. Insurance Certificates and Bonds: Prepare written information indicating current status of insurance or bonding coverage. Include name of entity covered by insurance or bond, limits of coverage, amounts of deductibles, and term of the coverage.

E. Revegetation Photographs and Videotapes: Comply with requirements specified in Section 01 32 34, Photographic and Video Documentation.

PART 3 EXECUTION

3.01 RECORD DRAWINGS (NOT USED)

3.02 CONTRACTOR'S REVIEW

A. Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to UTILITIES' REPRESENTATIVE.

B. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of CONTRACTOR'S approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

3.03 UTILITIES' REPRESENTATIVE'S ACTION

A. Action Submittals: UTILITIES' REPRESENTATIVE will receive each submittal and forward to appropriate entity to make marks to indicate corrections or modifications required, and return it. UTILITIES' REPRESENTATIVE will date stamp each submittal when received. Reviewing entity will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken, as follows:

1. NO EXCEPTIONS TAKEN: If a submittal is returned marked "NO EXCEPTIONS TAKEN," formal revision and resubmission will not be required.

2. MAKE CORRECTIONS NOTED: If a submittal is returned marked "MAKE CORRECTIONS NOTED," make the corrections on the submittal, but formal revision and resubmission will not be required.

3. AMEND AND RESUBMIT: If a submittal is returned marked "AMEND AND RESUBMIT," revise it and resubmit the required number of copies. Resubmittal of portions of multi-page or multi-drawing submittals will not be allowed. For example, if a Shop Drawing submittal consisting of 10 drawings contains one drawing noted as "AMEND AND RESUBMIT," the submittal as a whole is

deemed "AMEND AND RESUBMIT," and all 10 drawings are required to be resubmitted.

4. REJECTED – SEE REMARKS: If a submittal is returned marked "REJECTED – SEE REMARKS," means either that the proposed material or product does not satisfy the specification, the submittal is so incomplete that it cannot be reviewed, nor is a substitution request not submitted in accordance with the Contract Documents. Prepare a new submittal that is in conformance with the Contract Documents and submit the required number of copies for review.

B. Corrections indicated on submittals are considered as changes necessary to meet the requirements of the Contract Documents and not as changes to the contract requirements.

C. Review submittals prior to submission to the UTILITIES' REPRESENTATIVE. Sign and date each submittal as being correct and in strict conformance with the Contract Documents. In the case of Shop Drawings, date and sign each sheet. Note deviations from the Contract Documents on the transmittal sheet. The UTILITIES' REPRESENTATIVE will only receive submittals that have been so verified. Non-verified submittals will be returned without action taken.

D. Corrections or comments made on the CONTRACTOR'S Shop Drawings during review do not relieve the CONTRACTOR from compliance with Contract Drawings and Specifications. Review is for conformance to the program, design concept and general compliance with the Contract Documents only. The CONTRACTOR is responsible for confirming and correlating all dimensions and quantities, fabrication processes and techniques, coordinating the Work of all trades, satisfactory and safe performance of the Work, and the quality, means, and methods of revegetation.

E. Informational Submittals: UTILITIES' REPRESENTATIVE will review each submittal and will not return it, or will return it if it does not comply with requirements. UTILITIES' REPRESENTATIVE will forward each submittal to appropriate party.

F. Partial submittals are not acceptable, will be considered non-responsive, and will be returned without review.

G. Submittals not required by the Contract Documents may not be reviewed and may be discarded.

END OF SECTION

SECTION 01 33 29
SUSTAINABLE CONSTRUCTION

PART 1 GENERAL

1.01 GENERAL

A. To the extent practical, purchase the materials and services from Pueblo County enterprises for work that will be performed in Pueblo County. Provide a monthly report summarizing Pueblo County, El Paso County, and Fremont County purchases.

1.02 SUBMITTALS

A. Informational:

1. Materials Handling Plan as defined in Section 01 57 19, Temporary Environmental Controls.

2. Monthly purchasing reports by County.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 35 29
HEALTH AND SAFETY

PART 1 GENERAL

1.01 WORK INCLUDED

A. Accomplish work completed in accordance with the CONTRACTOR'S Site Health and Safety Plan as submitted.

1.02 SUBMITTALS

A. Action Submittals:

1. Safety Plan: Comply with Exhibit J, SDS Contractor Minimum Safety Requirements.

2. Emergency Response Plan.

3. Emergency Preparedness Plans.

B. Informational Submittals:

1. Material Safety Data Sheets (MSDS): Provide MSDS for chemicals brought to or stored on the site. Site specific MSDS is required.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 GENERAL

A. Comply with CONTRACTOR'S Site Health and Safety Plan for the health and safety of persons and property in the vicinity of the Work area. Noncompliance by CONTRACTOR or its personnel with the Site Health and Safety Plan is grounds for a stop work order.

B. UTILITIES' safety requirements are furnished for information only. CONTRACTOR shall enforce its plan for its personnel.

C. Develop and maintain, for the duration of the work, a safety program that will effectively implement required safety provisions. Appoint a Site Health and Safety Officer qualified to supervise and enforce compliance with the safety program. Maintain at the jobsite, safety equipment applicable to the Work, including articles necessary for administering first aid to the injured, and establish a procedure for the immediate removal to a hospital or a doctor's care of any person (including Non-CONTRACTOR'S personnel) who may be injured on the jobsite. Contractors are expected to maintain a job board(s) at their project site for posting safety notices and required information.

D. Inspect site safety measures each work day and document in daily report. Document inspections in next daily report. Each subcontractor shall submit a Monthly Safety Report to UTILITIES.

E. Comply with applicable codes, standards, laws and regulations relating to the safety of persons and property or to the protection of persons and property from damage, injury, or loss.

F. Bear sole responsibility for the penalties imposed for noncompliance.

G. Submit Emergency Preparedness Plans for acceptance by the UTILITIES' REPRESENTATIVE. Plans should include emergency rescue procedures and required training of revegetation personnel and rescuers. The supervisor must develop a written Job Hazard Analysis (JHA) if warranted by identified or potential hazards.

END OF SECTION

SECTION 01 35 53
SECURITY PROCEDURES

PART 1 GENERAL (NOT USED)

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 GENERAL

A. Provide security measures as necessary to protect the Work and CONTRACTOR-furnished products not yet installed.

B. During non-working hours and on non-working days, provide those security services deemed necessary for the protection of work.

C. Inspect Site security measures and document in progress reports.

D. Store revegetation equipment and supplies in a secure area. Lock or disable to prevent use by unauthorized persons during non-working hours.

E. Designate CONTRACTOR Representative to monitor the Site access control system.

3.02 ACCESS POINTS

A. As directed by the UTILITIES' REPRESENTATIVE or where appropriate:

1. Lock controlled access points, including private property gates, providing entry to Site and maintain a secure key control to prevent unauthorized access.

2. Close and secure gates and entry points by locking mechanism when not in use.

3. Specify approved access times and conditions on open gates.

3.03 ACCESS KEYS

A. When and where necessary:

1. Control access to keys to entry point locks.

2. Require recipients of keys to sign when receiving the key, and when returning the key.

3. Require recipients to advise the CONTRACTOR'S Representative when they have lost or misplaced a key.

4. Provide non-duplicating type keys.

5. Change locks and keys when a key is reported lost or misplaced.

END OF SECTION

SECTION 01 41 26
PERMITS

PART 1 GENERAL

1.01 THE REQUIREMENT

A. The intent of this Section is to provide the known list of required permits for the Work under Work Area Revegetation contract. Completeness of the list is not guaranteed by UTILITIES. The absence of information does not relieve CONTRACTOR of responsibility for determining and verifying the extent of permits required and for obtaining permits. The CONTRACTOR is responsible for ensuring all required permits are obtained for the completion of the scope of work.

B. Obtain permits required for the execution of the Work, as indicated. Furnish copies of permits obtained by CONTRACTOR to the UTILITIES' REPRESENTATIVE, in accordance with Paragraph 1.04.A of this Section.

C. Comply with conditions of the permits and with Laws and Regulations applicable to the performance of the Work, in accordance with General Conditions, Sections 6.08 Construction and Environmental Permits and 6.09 Laws and Regulations.

D. Inform UTILITIES' REPRESENTATIVE of any conflict between permit requirements and the Contract Documents. Comply with permit requirements.

E. Copies of applicable permits obtained by UTILITIES will be provided by the UTILITIES' REPRESENTATIVE or included in the Bidder's library. Maintain a notebook of applicable permits during revegetation activities.

1.02 SUMMARY OF PERMITS TO BE OBTAINED BY CONTRACTOR

A. CONTRACTOR Initiated and CONTRACTOR Obtained Permits: Apply for and obtain the permits listed in Paragraph 1.02.D of this Section.

B. UTILITIES Initiated and CONTRACTOR Obtained Permits: Some permit applications will be initiated by UTILITIES and/or the Pipeline Construction Contractor and will be provided to CONTRACTOR to assist CONTRACTOR in securing those permits. UTILITIES does not guarantee the accuracy of the permit applications, requirements, and/or fees. Apply for and obtain the permits listed in Paragraph 1.02.E of this Section.

C. Complete the permit applications or required reassignment/transfer notices, including those that have been initiated by UTILITIES, and submit to the permitting agency. Coordinate with the UTILITIES' Permit Coordinator and Pipeline Construction Contractor as necessary to clarify permit requirements. Unless the permitted activity is specifically limited, permits obtained cover the entire Work.

D. Permits to be Initiated and Obtained by CONTRACTOR:

Permitting Authority	Permit Name	Permittee
CDOT	Transport Permit (if required)	CONTRACTOR
CDPHE	Air Pollution Emission Notice (APEN) and General Construction Permit for Land Development Projects	CONTRACTOR

E. Permits Initiated by UTILITIES and to be Obtained by or Reassigned to CONTRACTOR:

Permitting Authority	Permit Name	Permittee
CDPHE	Construction Stormwater General Permit (Notice of Reassignment of Permit Coverage and General Permit Application)	CONTRACTOR (SWMP to be provided by UTILITIES for acceptance by CONTRACTOR)

1.03 SUMMARY OF PERMITS OR APPROVALS OBTAINED BY UTILITIES

A. The permits listed in Paragraphs 1.03.D of this Section have been obtained by UTILITIES.

B. Copies of the permits and their requirements, if applicable and available, will be provided by the UTILITIES' REPRESENTATIVE or included in the Bidder's library. Unless the permitted activity is specifically limited, permits obtained cover the entire work. Comply with the requirements of the permits.

C. No additional compensation or additional Contract Times will be granted to CONTRACTOR because of delays by UTILITIES in obtaining permits unless CONTRACTOR is unable to proceed and complete Work and such delays are clearly demonstrated by the CONTRACTOR'S Progress schedule. Provide UTILITIES at least thirty (30) calendar days' notice if the CONTRACTOR'S schedule will be impacted due to permits not being secured.

D. Permits and/or Agreements Obtained and Maintained by UTILITIES:

Permitting Authority	Permit Name	Permittee
Bureau of Reclamation	Record of Decision	UTILITIES
Bureau of Reclamation	Fountain Valley Authority Pipeline Easement Letter of Consent	UTILITIES
U.S. Army Corps of Engineers	Clean Water Act Section 404 Permit	UTILITIES
CDHPE	Clean Water Act Section 401 – Water Quality Certification	UTILITIES
CDOW	Fish and Wildlife Mitigation Plan	UTILITIES
Colorado Historical Society	Section 106 and Class III Cultural Resource Survey Concurrence	UTILITIES

Permitting Authority	Permit Name	Permittee
Pueblo County	1041 Permit	UTILITIES
Pueblo County	Haul Route Plan	UTILITIES
Pueblo County	Flood Hazard Area Development Permit	UTILITIES

1.04 INFORMATIONAL SUBMITTALS

A. Furnish submittals in accordance with Section 01 33 00, Submittal Procedures.

B. Submit copies of permits and approvals for revegetation as required by Laws and Regulations and governing agencies, including those to be obtained by CONTRACTOR or transferred to CONTRACTOR to the UTILITIES' REPRESENTATIVE within fourteen (14) days of approval or transfer date.

C. Submit copies of all compliance reports or other documentation whether submitted by CONTRACTOR to a regulatory agency or provided to CONTRACTOR by a regulatory agency immediately upon transmittal or receipt.

D. Upon the completion of the work, submit evidence of permit close-out for the permits held by the CONTRACTOR prior to UTILITIES issuance of Final Completion.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 42 13
STANDARDS, ABBREVIATIONS AND ACRONYMS

PART 1 GENERAL

1.01 REFERENCE TO STANDARDS AND SPECIFICATIONS OF TECHNICAL SOCIETIES

A. Reference to standards and specifications of technical societies and reporting and resolving discrepancies associated therewith shall be as provided in the General Conditions, and as may otherwise be required herein and in the individual Specification sections.

B. Work specified by reference to published standard or specification of government agency, technical association, trade association, professional society or institute, testing agency, or other organization shall meet requirements or surpass minimum standards of quality for materials and workmanship established by designated standard or specification.

C. Where so specified, products or workmanship shall also meet or exceed additional prescriptive or performance requirements included within Contract Documents to establish a higher or more stringent standard of quality than required by referenced standard.

D. Where two or more standards are specified to establish quality, product and workmanship shall meet or exceed requirements of most stringent.

E. Where both a standard and a brand name are specified for a product in Contract Documents, proprietary product named shall meet or exceed requirements of specified reference standard.

F. Copies of standards and specifications of technical societies:

1. Copies of applicable referenced standards have not been bound in these Contract Documents.

2. Where copies of standards are needed, obtain a copy or copies directly from publication source and maintain in an orderly manner at the Site as Work Site records, available to CONTRACTOR'S personnel, Subcontractors, UTILITIES and UTILITIES' REPRESENTATIVE.

1.02 ABBREVIATIONS

A. Abbreviations for trade organizations and government agencies: Following is a list of industry organizations and government agencies to which references may be made in the Contract Documents, with abbreviations used.

AA	Aluminum Association
AABC	Associated Air Balance Council

AAMA	American Architectural Manufacturers Association
AASHTO	American Association of State Highway and Transportation Officials
ABMA	American Bearing Manufacturers' Association
ACI	American Concrete Institute
AEIC	Association of Edison Illuminating Companies
AGA	American Gas Association
AGMA	American Gear Manufacturers' Association
AI	Asphalt Institute
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
ALS	American Lumber Standards
AMCA	Air Movement and Control Association
ANSI	American National Standards Institute
APA	APA – The Engineered Wood Association
API	American Petroleum Institute
APWA	American Public Works Association
ARI	Air-Conditioning and Refrigeration Institute
ASAE	American Society of Agricultural Engineers
ASCE	American Society of Civil Engineers
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.
ASME	American Society of Mechanical Engineers
ASNT	American Society for Nondestructive Testing
ASTM	ASTM International
AWI	Architectural Woodwork Institute
AWPA	American Wood Preservers' Association
AWPI	American Wood Preservers' Institute
AWS	American Welding Society
AWWA	American Water Works Association
BHMA	Builders Hardware Manufacturers' Association
CBM	Certified Ballast Manufacturer
CDA	Copper Development Association
CGA	Compressed Gas Association

CISPI	Cast Iron Soil Pipe Institute
CMAA	Crane Manufacturers' Association of America
CRSI	Concrete Reinforcing Steel Institute
CS	Commercial Standard
CSA	Canadian Standards Association
CSI	Construction Specifications Institute
DIN	Deutsches Institut für Normung e.V.
DIPRA	Ductile Iron Pipe Research Association
EIA	Electronic Industries Alliance
EJCDC	Engineers Joint Contract Documents' Committee
ETL	Electrical Test Laboratories
FAA	Federal Aviation Administration
FCC	Federal Communications Commission
FDA	Food and Drug Administration
FEMA	Federal Emergency Management Agency
FIPS	Federal Information Processing Standards
FM	Factory Mutual
Fed. Spec.	Federal Specifications (FAA Specifications)
FS	Federal Specifications and Standards (Technical Specifications)
FVA	Fountain Valley Authority
GA	Gypsum Association
GANA	Glass Association of North America
HI	Hydraulic Institute
HMI	Hoist Manufacturers' Institute
ICBO	International Conference of Building Officials
ICEA	Insulated Cable Engineers' Association
IEEE	Institute of Electrical and Electronics Engineers, Inc.
IESNA	Illuminating Engineering Society of North America
IFI	Industrial Fasteners Institute
IGMA	Insulating Glass Manufacturer's Alliance
INDA	Association of the Nonwoven Fabrics Industry
ISA	Instrumentation, Systems, and Automation Society
ISO	International Organization for Standardization

ITL	Independent Testing Laboratory
JIC	Joint Industry Conferences of Hydraulic Manufacturers
MIA	Marble Institute of America
MIL	Military Specifications
MMA	Monorail Manufacturers' Association
NAAMM	National Association of Architectural Metal Manufacturers
NACE	NACE International
NBS	National Bureau of Standards
NEBB	National Environmental Balancing Bureau
NEC	National Electrical Code
NECA	National Electrical Contractors Association
NEMA	National Electrical Manufacturers' Association
NESC	National Electrical Safety Code
NETA	International Electrical Testing Association
NFPA	National Fire Protection Association
NHLA	National Hardwood Lumber Association
NICET	National Institute for Certification in Engineering Technologies
NIST	National Institute of Standards and Technology
NRCS	National Resources Conservation Service
NSF	NSF International
NSPE	National Society of Professional Engineers
NTMA	National Terrazzo and Mosaic Association
NWWDA	National Wood Window and Door Association
OSHA	Occupational Safety and Health Act (both Federal and State)
PBWW	Pueblo Board of Water Works
PCI	Precast/Prestressed Concrete Institute
PDC	Pueblo Dam Connection
PEI	Porcelain Enamel Institute
PPI	Plastic Pipe Institute
PS	Product Standards Section-U.S. Department of Commerce
PW	Pueblo West
PWMD	Pueblo West Metropolitan District
RMA	Rubber Manufacturers' Association

RUS	Rural Utilities Service
SAE	Society of Automotive Engineers
SDI	Steel Deck Institute
SDI	Steel Door Institute
SECWCD	Southeastern Colorado Water Conservancy District
SDS	Southern Delivery System
SJI	Steel Joist Institute
SMACNA	Sheet Metal and Air Conditioning Contractors National Association
SPI	Society of the Plastics Industry
SSPC	The Society for Protective Coatings
SWI	Steel Window Institute
TEMA	Tubular Exchanger Manufacturers' Association
TCA	Tile Council of America
TIA	Telecommunications Industry Association
UBC	Uniform Building Code
UFC	Uniform Fire Code
UL	Underwriters Laboratories Inc.
UMC	Uniform Mechanical Code
USBR	U.S. Bureau of Reclamation
WCLIB	West Coast Lumber Inspection Bureau
WWPA	Western Wood Products Association

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 51 00
TEMPORARY UTILITIES

PART 1 GENERAL

1.01 POWER

A. No electric power is available at Site. Make arrangements to obtain and pay for electrical power if needed. Power facilities must be placed within the Work Limits.

1.02 LIGHTING

A. No lighting is available at Site. If needed, make arrangements to obtain and pay for lighting. Lighting equipment must be placed within the Work Limits.

1. Provide temporary lighting for the safety of persons or property, or for the protection of property from damage, injury, or loss in compliance with applicable codes, standards, laws, and regulations.

2. Design lighting to prevent spillover, nuisance, or hazard effects of light and glare on adjacent locations and uses of land. If used, position lighting, to the extent practical, away from residences and oncoming traffic. The use of cut-off type luminaries is required. Shield light bulbs and light sources so they are not visible from any adjacent lot or public roadway. Spillover of lighting to adjacent properties will not exceed 0.5 foot candle measured at any point 10 feet beyond the property line.

3. Position lighting such that it is projected away from residences and away from oncoming traffic.

4. Install baffles on construction lighting fixtures to direct light onto the revegetation activity only in locations where safety is a concern, scenic quality will be affected, or near occupied homes and businesses.

5. Provide individual light sources not exceeding 150,000 lumens per light source (typical of a 1250 W metal halide light). Do not exceed light standards of 24 feet in height. Do not exceed 70 dB at 25 feet from the source for generators used to power light sources.

1.03 WATER

A. Potable water is not available at the Site.

B. Water for dust control and irrigation purposes will be available near the Site. See Section 01 31 13, Project Coordination.

C. Keep fire hydrants and water control valves free from obstruction and available for use.

D. Provisions for irrigation of seeded areas shall be the responsibility of the CONTRACTOR.

1.04 SUBMITTALS

A. Informational Submittals:

1. Power Supply Plan (if temporary power is going to be used on Site).
2. Lighting Plan (if lighting will be used on Site)
3. Dust Control Plan
4. Irrigation Plan

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 57 17
TEMPORARY WEED CONTROL

PART 1 GENERAL

1.01 GENERAL REQUIREMENTS

A. Comply with provisions of the "Colorado Noxious Weed Act" (CNWA), Title 35, Article 5.5.

B. Field identification proceeded in advance of ground-disturbing construction activities to physically locate and map existing noxious weeds disturbed during revegetation. Known weed location information will be provided on the Environmental Constraints Map to be provided by the UTILITIES' REPRESENTATIVE.

C. UTILITIES has completed a vegetation survey within the project Work Limits and information is provided in the appropriate portions of Part 2 and Part 3 or the Bidders Library. Locations of Rocky Mountain Bladderpod have been provided on the Environmental Constraints Map to indicate sites where no chemical control will be permitted.

PART 2 PRODUCTS

2.01 HERBICIDE

A. Treatment of Salt Cedar: Garlon 4®

B. Treatment of Canada Thistle and Russian Knapweed: Milestone®

PART 3 EXECUTION

3.01 CONSTRUCTION

A. The following actions were followed to prevent spread of noxious weeds during construction and will be required by the CONTRACTOR during revegetation activities:

1. Pre-Construction Cleaning: Clean major equipment (track equipment, rubber tire loaders, and backhoes) with a high pressure air or water spray before entering the Site. UTILITIES' REPRESENTATIVE will perform and document vehicle inspections.

2. Disturbed areas will be stabilized as soon as practicable after completion of construction and managed in accordance with Section 01 57 22 (Temporary Stormwater Pollution, Erosion, and Sediment Control).

B. Adopt the following specific control methods for the following noxious weeds found within the Work Limits:

1. Use certified noxious weed-free seed, mulch, and borrow material for revegetation. Use weed-free straw bales for sediment barriers

2. Salt Cedar: Cut/Stump Method – Cut trees down as close to the ground as possible, then immediately treat with undiluted Garlon® 4 on the stump down to the soil line. Be sure to treat the entire circumference of the tree. Strictly follow the label instructions and constraints. Trees cut shall be removed from the site and disposed of properly in a landfill.

3. Canada Thistle:

   a. Plants present during Site Preparation Activities:

      1) If rosettes (vegetative stage without flowering stalk or flowers) are encountered (typically from March to the end of May and from beginning of September to end of October), carefully spray with Milestone® at a rate of 5 to 7 ounces/acre (oz/ac) and a nonionic surfactant at 0.32 oz/gallon (gal) water using a backpack sprayer. Label instructions and constraints will be strictly followed. Herbicides will be directly applied to Canada thistle. General area spraying will not be allowed. Do not use other herbicides except with the written approval of UTILITIES.

      2) If Canada thistle plants are flowering (typically between June and August), carefully cut off the flower heads, place them in a bag and dispose of properly in a landfill.

      3) No control methods are recommended during the winter months (November through February) unless the plants are observed to be actively growing.

   b. Plants present during Post-planting Period:

      1) To help prevent re-establishment of this noxious weed within the Work limits, seed with the Permanent native seed mix or with temporary seeding as soon as practicable after construction in accordance with Sections 32 91 13 Soil Preparation and Section 32 92 00 Revegetation.

      2) Carefully monitor the site for noxious weed infestations as described for the rest of the project area.

4. Russian Knapweed: Apply Milestone® in the fall/winter when dormant and in the spring/summer at the flowering and bud stage. Spray herbicide at a rate of 4 to 6 ounces/acre (oz/ac) and a nonionic surfactant at 0.32 oz/gal of water using a backpack sprayer. Strictly follow the label instructions and constraints. Apply only to Russian knapweed plants. General area spraying will not be allowed. Avoid spraying shrubs and trees, and take precautions to prevent spray from drifting into woody vegetation or into the Rocky Mountain Bladderpod zone.

5. Adopt the following specific control methods for other weeds found within the Work Limits.

   a. For weeds other than Canada thistle and Russian knapweed that are included on the Colorado A or B list of noxious species, spot application with Roundup® or other herbicides used at manufacturer's recommended rates may be approved by UTILITIES' REPRESENTATIVE.

   b. Do not spray during windy conditions.

6. Period of performance for noxious weed control shall be three (3) years commencing from Notice-to-Proceed.

END OF SECTION

SECTION 01 57 19
TEMPORARY ENVIRONMENTAL CONTROLS

PART 1 GENERAL

1.01 GENERAL REQUIREMENTS

A. Participate in an Environmental Awareness Program (EAP) for CONTRACTOR and subcontractor site personnel. UTILITIES will train the following CONTRACTOR staff: Project Manager, Environmental Representative, Superintendent and up to three others who will be responsible for training other CONTRACTOR and subcontractor site personnel. UTILITIES will provide content and training materials for the EAP. The Program will address environmental and cultural/historic resource issues associated with this project. Submit sign-in sheets as proof of participation in the Program.

B. Known environmentally sensitive sites, excluding cultural resources, will be identified by UTILITIES and shown on an Environmental Constraints Map to be provided by the UTILITIES' REPRESENTATIVE upon completion. UTILITIES will update and revise the Environmental Constraints Map as additional sites are identified. Stake, flag, place barriers, schedule construction activities, etc. as defined on the Environmental Constraints Map.

C. CONTRACTOR-initiated changes to the approved critical path schedule may require a change in the schedule of any environmental clearance operations required by UTILITIES Environmental Specialist (UES). Delays or limitations of CONTRACTOR'S work caused by CONTRACTOR initiated changes to the approved critical path schedule, and resulting changes in sequencing of environmental clearance activities, will not be considered a delay or cause for a change.

D. Comply with regulations pertaining to handling, storage, and transportation of hazardous materials as set forth in the Code of Federal Regulations (CFR) 1910.120, DOT, EPA and NRC regulations, as applicable. Compliance includes, but is not limited to, adhering to proper storage containers, secondary containment, access control, security, signage, labeling, placarding, transporting, manifesting, and disposal.

E. Implement a program to recognize suspected or unanticipated hazardous substances encountered during construction, and implement worker protection and public safety measures in the event that these substances are encountered in compliance with Federal, State and Local regulations prior to mobilizing onsite for Project construction.

F. Environmental Permitting Presentation to UTILITIES Management: Prepare and present to UTILITIES Management and Program support personnel a presentation exhibiting CONTRACTOR's understanding of the environmental and construction related permitting and compliance aspects of the Project. The presentation will be

provided by the CONTRACTOR after the completion of the Environmental Awareness Program training provided by UTILITIES and prior to mobilization of construction activities.

1.02 DEFINITIONS

A. Hazardous Substances are defined in General Conditions, Section 6.20 Hazardous Substances/Waste.

B. CONTRACTOR'S Environmental Representative (ER): shall be responsible for maintaining best management practices and ensuring compliance with environmental Laws and Regulations as well as environmental permit conditions. Provide an ER to be the primary liaison for environmental issues with the UTILITIES' REPRESENTATIVE Environmental Manager (UEM).

C. CONTRACTOR'S Safety Representative: As described in General Conditions, Section 6.13 Safety Representative, provide a Safety Representative to be responsible for the prevention of accidents and the maintenance and supervision of safety plans and programs.

D. UTILITIES' Environmental Manager (UEM): The UEM is the individual appointed by UTILITIES to work primarily with the ER, through the UTILITIES' REPRESENTATIVE, when environmental policy issues arise or when there is a need to engage the services of UTILITIES' Environmental Specialist.

E. UTILITIES' Environmental Specialist (UES): The UES is under contract to UTILITIES to provide specialized environmental consultation, at the direction of the UEM.

1.03 SUBMITTALS

A. Action Submittals:

1. Fugitive Dust Control Plan: Prepare, submit, and implement, prior to start of any construction activity, a plan that will include, as a minimum:

a. Watering construction areas and unpaved roads used in construction activities.

b. Limiting vehicle speeds to thirty (30) miles per hour onsite.

c. Covering excavated material with synthetic or natural cover or preventing sediment movement from the work areas using silt fence.

d. Installing vehicle tracking control at access points to the Site.

e. Stabilizing disturbed areas as soon as possible.

f. Sweeping roadways, streets, and walkways affected by the work and adjacent to the work when necessary to remove construction-related dirt and dust.

g. Additional controls as necessary to meet the requirements of Dust Control below.

2. Noise Control Plan: Prepare, submit and implement a plan to mitigate noise and to comply with OSHA, State of Colorado and local noise control standards, requirements, regulations and ordinances, including method of revegetation, equipment to be used, acoustical treatments, and work hour limitations as defined in General Conditions and as may be required in Specification sections. Include the following possible requirements, as a minimum:

   a. Provide acoustical barriers if necessary so noise emanating from tools or equipment will not exceed legal noise levels as defined by local noise control ordinances.

   b. Restrict access to construction areas so that the public cannot be in close proximity to loud equipment.

3. Materials Handling Plan: This plan shall identify materials expected to be encountered during site clearing, field operations, equipment maintenance, etc. In this plan, define how materials will be handled to maximize recycling and reuse opportunities and minimize permanent disposal of waste materials,

4. Spill Prevention, Control, and Countermeasures (SPCC) Plan: If required by 40 CFR Part 112 – Oil Pollution Prevention, prepare and implement a SPCC Plan that meets the requirements of 40 CFR Part 112- Oil Pollution Prevention, including procedures, instructions, and reports to be used in the event of a spill or release of oil or a hazardous or regulated substance by the CONTRACTOR

5. Spill Contingency Plan: If an SPCC Plan is not required, prepare and implement a general spill contingency and response plan, including procedures, instructions, and reports to be used in the event of a spill or release of oil or a hazardous or regulated substance by the CONTRACTOR.

6. Environmental Constraints Map: Submit a Work Area Plan. The Work Area Plan will show the proposed activities in each portion of the area, identify the areas of limited and/or prohibited use, describe the anticipated schedule for said work, and include measures for marking the construction work limits and methods for protection of features to be preserved or avoided.

7. Maintenance of Work Limits: Procedures and measures for protecting and preventing contamination of, and any physical intrusions into, areas outside of the construction work limits for the Project.

B. Informational Submittals:

1. Complete Stormwater BMP inspection form included in Stormwater Master Plan (SWMP) per Section 01 57 22 Temporary Stormwater Pollution, Erosion, and Sediment Control

2. Agency Inspection results and/or correspondence with agencies.

1.04 ENVIRONMENTAL PROTECTION REQUIREMENTS

A. Provide regulatory notification requirements in accordance with Federal, State and local regulations. In cases where UTILITIES must also provide regulatory notification, coordinate with the UEM. Submit copies of regulatory notifications to the UTILITIES' REPRESENTATIVE prior to commencement of work activities.

B. Waters of the U.S., Including Wetlands – Best Management Practices and Construction Specifications:

1. If Water of the U.S. or wetlands are shown on the Environmental Constraints Map or identified in the field, follow the requirements of the Individual 404 Permit for the project. A copy of the Individual 404 permit and the Nationwide Permit 12 fact sheets will be provided by the UTILITIES' REPRESENTATIVE.

2. Install, maintain, and remove at completion of construction silt and/or construction fencing along edges of jurisdictional wetlands and Waters of the U.S. as directed by the UEM.

3. Post signs along wetland barrier fencing at 50 foot spacing that read, "This area is environmentally sensitive; no construction or other operations may occur beyond the fencing." These signs must be readable from a minimum distance of 20 feet. Maintain for the duration of construction in that area.

C. Threatened and Endangered Species and Species of Concern:

1. Take precautions necessary and prudent to protect native threatened and endangered flora and fauna or species of concern in accordance with the Federal, State, and Local regulations and SDS Project permits.

2. Stake, flag, place barriers, schedule construction activities, etc. as defined on the Environmental Constraints Map. Areas known as habitats of endangered species or species of concern (e.g., Rocky Mountain Bladderpod) will be identified on the Environmental Constraints Map to be provided by the UTILITIES' REPRESENTATIVE.

3. Notify UTILITIES' REPRESENTATIVE of construction activities that might threaten endangered or threatened species, species of concern or their habitats that are not identified on the Environmental Constraints Map in the Drawings. Do not conduct construction activities in areas that threaten endangered or threatened species, species of concern or their habitats. Implement the notification procedures outlined in the Suspected Threatened and Endangered

Species or Species of Concern Encountered by Construction Contractor provided in Appendix A. UTILITIES' REPRESENTATIVE will coordinate with UEM to determine the appropriate mitigation, avoidance or temporary controls to be used. Implement the mitigation, avoidance or temporary controls as directed by the UTILITIES' REPRESENTATIVE prior to the continuance of construction activities in the area.

4. Delays and/or limitations of CONTRACTOR'S work and additional costs resulting from CONTRACTOR'S inability to perform construction activities due to threats to threatened and endangered species or species of concern that are not identified on the Environmental Constraints Map shall be considered a differing site condition as described in General Conditions, Section 4.03, Differing Subsurface or Physical Condition.

5. Delays and/or limitations of CONTRACTOR'S work and additional costs resulting from CONTRACTOR'S inability to perform construction activities, except the specific activities as described below, within the buffer zones shown on the Environmental Constraints Map during the allowed period will not be considered a differing site condition as described in General Conditions, Section 4.03, Differing Site Conditions.

6. Delays and/or limitations of CONTRACTOR'S work caused by CONTRACTOR-initiated changes to the approved critical path schedule will not be considered a differing site condition.

D. Cultural Resources:

1. A Class III Cultural Resource Survey has been performed by UTILITIES' and accepted by the State Historic Preservation Officer (SHPO). For work near known, protected cultural resources UTILITIES will provide a Cultural Monitor to observe construction work in the area for the duration of construction activities in this area, as necessary following an approved Treatment Plan.

2. As part of the NEPA process, UTILITIES entered into a Programmatic Agreement (PA) with Bureau of Reclamation, State Historic Preservation Officer (SHPO) and a number of tribal nations to address potential impacts to cultural resources In the event potential cultural resources are discovered at the Site, implement the procedures as contained in the Programmatic Agreement to be provided by the UTILITIES' REPRESENTATIVE and as shown on the Unanticipated Historic/Cultural Resource Encountered or Disturbed by Construction Contractor workflow attached in Appendix A.

   a. Delays to CONTRACTOR'S critical path schedule caused by encountering cultural resources that were not made known to the CONTRACTOR at time of Bid will be considered a differing site condition, as described in Section 4.03 of the General Conditions.

b. No known cultural resources have been identified in the Project Work Limits for this work package.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 ENVIRONMENTAL AWARENESS TRAINING PROGRAM

A. Conduct an Environmental Awareness Training Program for CONTRACTOR'S, subcontractors' and suppliers' site employees based on UTILITIES provided content and materials and CONTRACTOR'S policies and procedures.

B. Maintain originals of sign-in sheets of attendees as proof of participation in program.

3.02 ACCESS

A. Access and Transportation Restrictions to the Site: In accordance with Section 01 14 13, Access to Site.

B. Access and Transportation Restrictions On-Site: Restrict access within the Site within the construction work limits identified on the Pipeline Construction Drawings. Do not permit driving across or transporting equipment or materials across areas outside of the construction work limits on the Pipeline Construction Drawings. Verify proposed access routes with the UTILITIES' REPRESENTATIVE and UEM at least 30 days prior to the commencement of Work.

3.03 FENCING

A. Temporary Fence: Repair or replace in kind or as directed by the UTILITIES' REPRESENTATIVE.

B. Permanent Fence: Repair or replace in kind or as directed by the UTILITIES' REPRESENTATIVE.

3.04 DUST CONTROL

A. Obtain Colorado Department of Public Health and Environment's Air Pollution Emission Notice (APEN) and Land Development General Construction Permit.

B. Comply with dust control requirements in the Colorado Department of Public Health and Environment's APEN and the Fugitive Dust Control Plan as specified in Paragraph 1.03.A.3 of this Section.

C. Conduct operations to cause a minimum of dust. Cover loads of rock or soil to cause a minimum of dust. Give unpaved streets, roads, detours, or haul roads used in construction area a dust-preventive treatment, as site conditions allow, or periodically water to prevent dust. Strictly adhere to applicable environmental regulations for dust

prevention. Other controls may be used as necessary and approved by the UTILITIES' REPRESENTATIVE.

D. Control fugitive dust emissions resulting from work activities and/or wind using the best available control technology, as defined by the Colorado Department of Public Health and Environment, at the time of work. During grading, applying a combination of water, tackifier and silt fence to break up wind surface velocities may control dust. If wind speeds exceed the ability of BMPs to control fugitive dust, work activities must cease.

E. UTILITIES will perform particulate monitoring.

1. Particulate monitors will be real-time that are capable of monitoring particulate matter less than 10 microns (PM10).

2. Particulate levels will be monitored immediately downwind at the working site and integrated over a period not to exceed 15 minutes.

3. Monitoring will be conducted a minimum of once a day while work is in progress, with additional testing conducted if complaints are received.

4. Meet the action levels.

a. The action level is 150 micrograms per cubic meter over the integrated period not to exceed 15 minutes. If particulate levels are detected in excess of 150 micrograms per cubic meter, the upwind background level will be measured immediately using the same portable meter.

b. If the working site particulate measurement is greater than 100 micrograms per cubic meter above the background level, implement additional dust suppression techniques to reduce the generation of fugitive dust.

3.05 EROSION AND SEDIMENT CONTROL

A. Follow the requirements of Section 01 57 22, Temporary Stormwater Pollution, Erosion and Sediment Control.

3.06 RUBBISH CONTROL

A. During the progress of the work, keep the Site in a neat and clean condition and free from accumulation of rubbish. Dispose of rubbish and waste materials and establish regular intervals of collection and disposal of such materials and waste in accordance with local requirements.

A. Keep haul roads free from dirt, rubbish, and unnecessary obstructions resulting from CONTRACTOR operations. Dispose of rubbish and surplus materials off the Site in accordance with local codes and ordinances governing locations and methods of disposal and in conformance with applicable safety laws and the particular requirements of Part 1926 of the OSHA Safety and Health Standards for Construction.

3.07 CHEMICALS

A. Show approval of chemicals used on the work or furnished for the facility operation, whether defoliant, soil sterilant, herbicide, pesticide, disinfectant, polymer, reactant, or of other classification, of either the U.S. Environmental Protection Agency or the U.S. Department of Agriculture. Use of such chemicals and disposal of residues shall be in accordance with the printed instructions of the manufacturer. In addition, see the requirements set forth in General Conditions, Section 6.10, Use of Site and Other Areas.

3.08 AIR POLLUTION CONTROL

A. Minimize air pollution from construction operations.

B. Burning of waste materials, rubbish, or other debris will not be permitted on or adjacent to Site.

C. Use Best Available Control Technology on construction equipment, including a timing retardation.

3.09 NOISE CONTROL

A. Comply with the more stringent of OSHA, State of Colorado, or local noise control standards, requirements, and regulations.

B. Implement the Noise Control Plan.

C. Requirements of the Noise Control Plan shall be implemented and managed by the CONTRACTOR'S Safety Representative. Report results of required noise monitoring in the daily reports.

D. Noise Control Plan: Submit a detailed plan to mitigate construction noise and to comply with OSHA, State of Colorado and local noise control standards, requirements, regulations, and ordinances, including method of construction, equipment to be used, acoustical treatments, and work hour limitations as defined in General Conditions and as may be specified in Specification sections. Include the following requirements as a minimum:

1. As necessary, provide acoustical barriers to noise emanating from tools or equipment so that legal noise levels are not exceeded as defined by local noise control ordinances.

2. Restrict access to construction areas so that the public cannot be in close proximity to loud equipment.

3. UTILITIES will periodically monitor generated sound levels and record decibel levels. If noise levels exceed appropriate standards, cease construction operations and implement additional noise mitigation measures as required to comply with appropriate standards.

4. Perform excessively high decibel level work, characterized as a decibel scale of 100 or greater measure at 25 feet from the source, only between the hours of 9:00 a.m. and 5:00 p.m., Monday through Friday.

E. Comply with work hour restrictions as specified in Section 01 14 19, Use of Site.

3.10 SUPPLEMENTS

A. The supplements listed below, following "End of Section," are part of this Specification.

1. Appendix A, Southern Delivery System Workflows:

a. Suspected Threatened or Endangered Species or Species of Concern Encountered by Construction Contractor.

END OF SECTION

Colorado Springs Utilities
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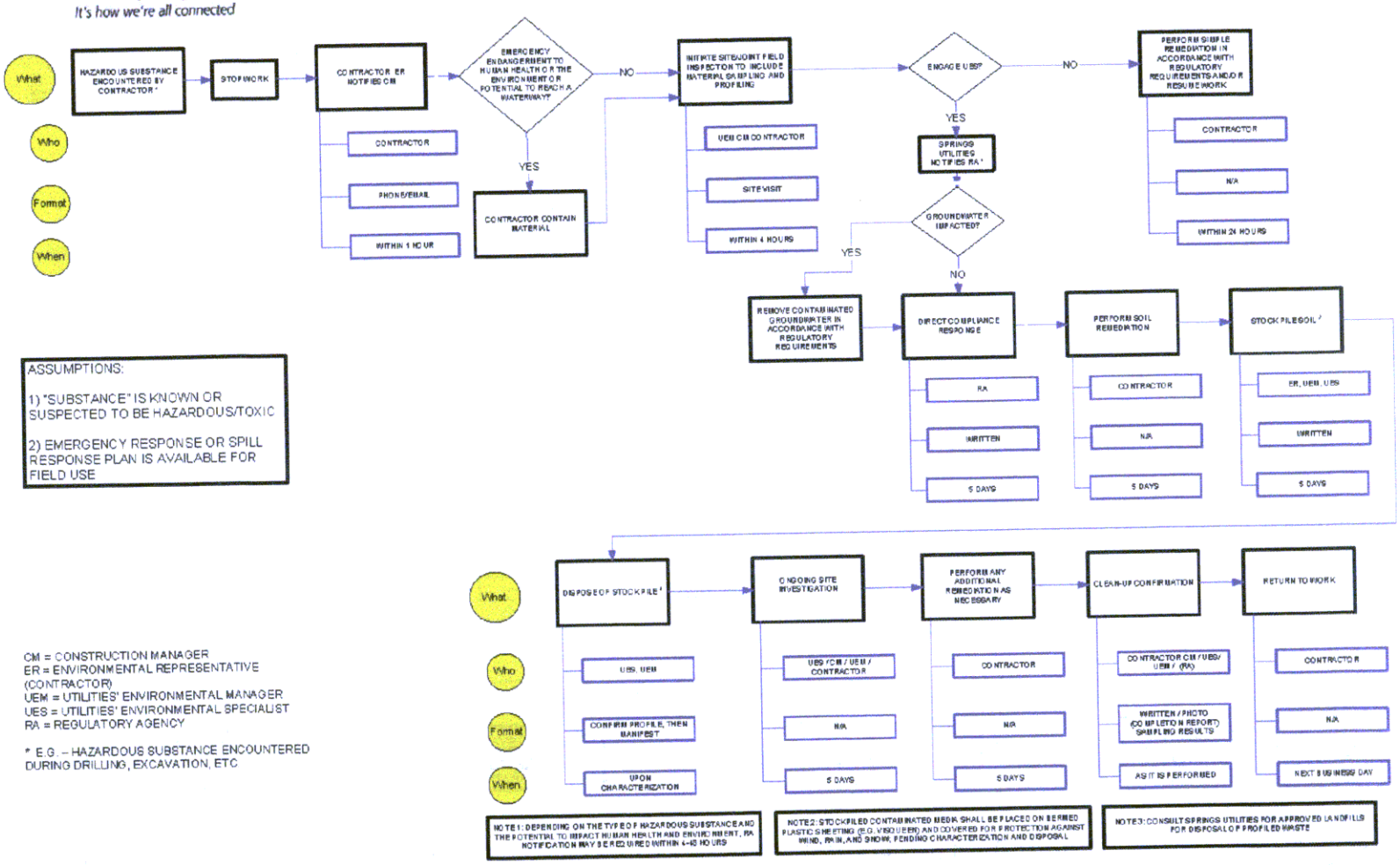
Hazardous Substance Encountered by Construction Contractor

SDS Southern Delivery System



ASSUMPTIONS:

1) "SUBSTANCE" IS KNOWN OR SUSPECTED TO BE HAZARDOUS/TOXIC

2) EMERGENCY RESPONSE OR SPILL RESPONSE PLAN IS AVAILABLE FOR FIELD USE

CM = CONSTRUCTION MANAGER
ER = ENVIRONMENTAL REPRESENTATIVE (CONTRACTOR)
UEM = UTILITIES' ENVIRONMENTAL MANAGER
UES = UTILITIES' ENVIRONMENTAL SPECIALIST
RA = REGULATORY AGENCY

* E.G. – HAZARDOUS SUBSTANCE ENCOUNTERED DURING DRILLING, EXCAVATION, ETC

NOTE 1: DEPENDING ON THE TYPE OF HAZARDOUS SUBSTANCE AND THE POTENTIAL TO IMPACT HUMAN HEALTH AND ENVIRONMENT, RA NOTIFICATION MAY BE REQUIRED WITHIN 4-48 HOURS

NOTE 2: STOCKPILED CONTAMINATED MEDIA SHALL BE PLACED ON BERMED PLASTIC SHEETING (E.G. VISQUEEN) AND COVERED FOR PROTECTION AGAINST WIND, RAIN, AND SNOW, PENDING CHARACTERIZATION AND DISPOSAL

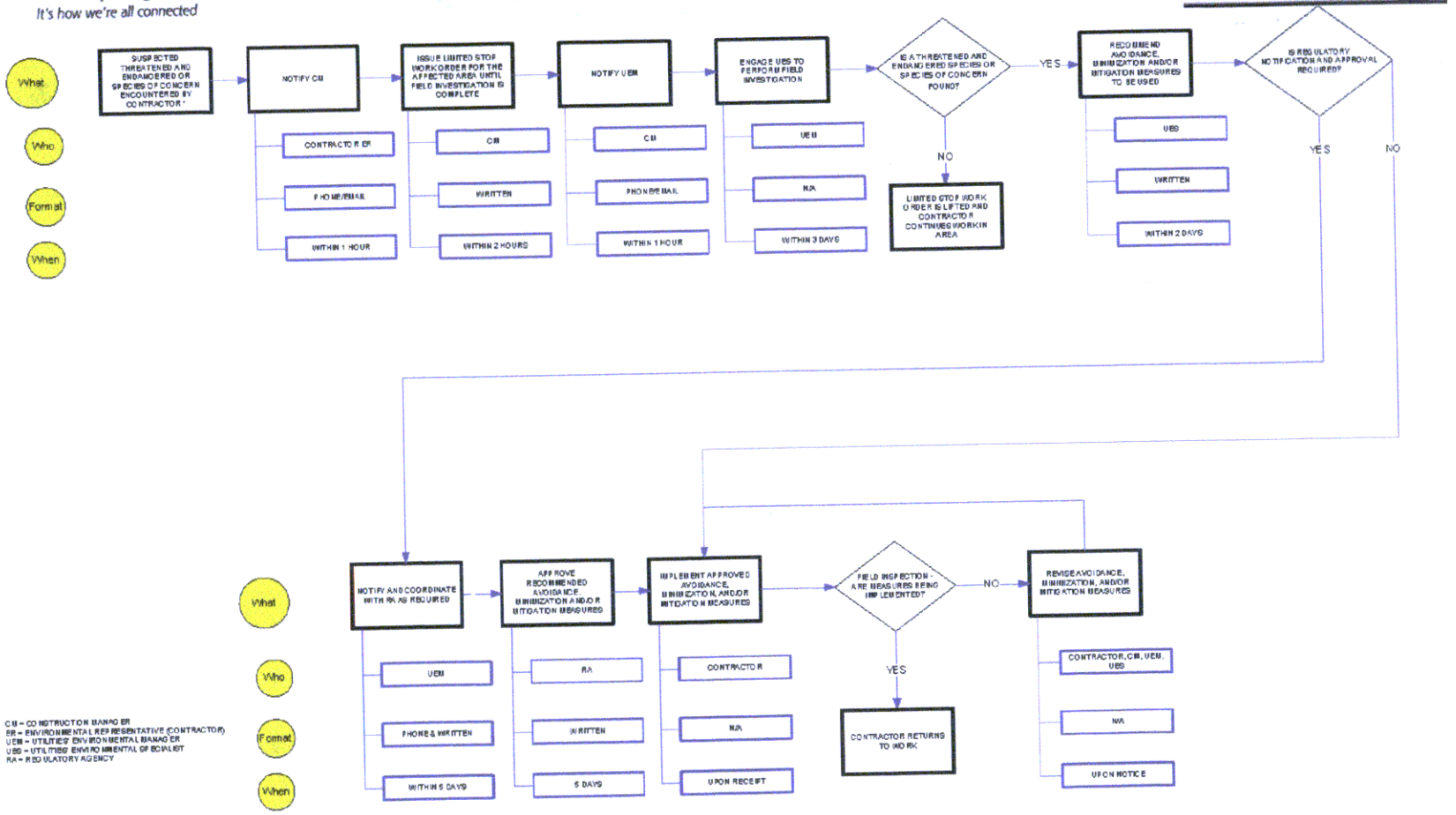
NOTE 3: CONSULT SPRINGS UTILITIES FOR APPROVED LANDFILLS FOR DISPOSAL OF PROFILED WASTE

Revised 10/7/2010

Colorado Springs Utilities
It's how we're all connected

Suspected Threatened and Endangered Species or Species of Concern Encountered by Construction Contractor

SDS
Southern Delivery System



CM – CONSTRUCTION MANAGER
ER – ENVIRONMENTAL REPRESENTATIVE (CONTRACTOR)
UEM – UTILITIES' ENVIRONMENTAL MANAGER
UBS – UTILITIES' ENVIRONMENTAL SPECIALIST
RA – REGULATORY AGENCY

Revised 10/7/2010

SECTION 01 57 22
TEMPORARY STORMWATER POLLUTION, EROSION, AND SEDIMENT CONTROL

PART 1 GENERAL

1.01 WORK OF THIS SECTION

A. This section addresses measures necessary for the control of stormwater erosion and sediment pollution due to construction and/or revegetation activities.

B. This section addresses work necessary for temporary stabilization of soil to control erosion after construction and land disturbing activities while revegetation activities are on-going. This work includes furnishing of labor, materials, tools, and equipment to perform the work and services necessary as herein specified and as indicated on the Drawings. This work includes maintenance and final removal of temporary soil erosion and sediment control measures and may include installation of Best Management Practices (BMPs) as necessary.

C. The minimum areas requiring soil erosion and sediment control measures will be indicated on the Drawings. UTILITIES' REPRESENTATIVE reserves the right to modify the use, location, and quantities of soil erosion and sediment control measures, based on activities of the CONTRACTOR and as the UTILITIES' REPRESENTATIVE considers to be in the best interest of UTILITIES.

D. See additional information noted on the Drawings and permits.

1.02 SUBMITTALS

A. Informational Submittals:

1. Certificates of noxious weed-free mulch.

2. Manufacturer's certificate of compliance attesting that erosion and sediment control products meet requirements of these Specifications.

1.03 GENERAL

A. Maintain the Stormwater Management Plan (SWMP) booklet. The SWMP booklet shall contain the following:

1. The SWMP prepared by UTILITIES (to be maintained and revised as needed by CONTRACTOR).

2. A copy of the Colorado Discharge Permit System (CDPS) Construction Stormwater Discharge permit certification obtained by CONTRACTOR.

3. Copies of inspection records.

4. Sign-in sheets for training provided.

5. Qualifications of the site inspectors.

B. Provide qualified individuals to conduct site inspections to the satisfaction of the UTILITIES' REPRESENTATIVE.

C. Provide material, labor, equipment and services required to implement, maintain and monitor erosion and sedimentation controls in compliance with the SWMP and implemented BMPs. Controls implemented shall comply with State and Local regulations. These controls shall remain in operation until project completion and permanent stabilization of the site is achieved.

D. Soil erosion stabilization and sedimentation control consist of the following elements:

1. Maintenance of existing permanent or erosion control facilities (such as silt fences, check dams, etc.), as necessary.

2. Construction of new permanent and temporary erosion control facilities, as necessary.

3. Application of mulch and approved tackifiers as necessary.

E. Phase Work, including proposed stockpile areas if needed, to restrict sediment transport. This will include installation of required temporary erosion control devices, ditches, or other facilities.

F. The areas identified for the CONTRACTOR'S use during the Project may be temporarily developed to provide staging areas. Prepare these areas in accordance with other requirements contained within these Specifications and in a manner to prevent sediment transport away from the area.

G. Prevent the transport of sediment away from any stockpile(s) by installing silt fences, erosion bales, earthen berms, or similar measures that completely surround the stockpiles and are located within ten (10) feet of the toes of the stockpile slopes. Keep these temporary facilities in operational condition by regular cleaning, regrading, and maintenance. Stockpiles remaining in place longer than fourteen (14) days will be considered permanent stockpiles for purposes of erosion and sediment control. Stabilize by mulching and when appropriate, seeding, within fourteen (14) days of the construction of the stockpile.

H. Maintain erosion and sediment control measures in functional conditions for the duration of this Project. Conduct formal inspections every two (2) weeks and immediately after a storm event to evaluate conformance to the requirements of these Specifications. Include results of these inspections, and a summary of corrective actions, in the daily reports. Additional inspections may be conducted by the UTILITIES' REPRESENTATIVE. Take measures within twenty-four (24) hours of

the inspection to repair or replace any damaged areas found during the inspection. Inspection forms shall be kept on site with the SWMP.

I. Replace or repair failed or overloaded (defined as fifty percent (50 %) of sediment capture capacity) silt fences, check dams, or other temporary erosion control devices as needed, but not later than twenty-four (24) hours after receiving written notice from the UTILITIES' REPRESENTATIVE.

J. Temporary BMPs to be removed after final soil stabilization with vegetation as approved by the UTILITIES' REPRESENTATIVE.

K. Prepare, submit, and implement a fugitive dust control plan per Section 01 57 19, Temporary Environmental Controls.

L. If compliance with any required erosion and sediment efforts to the satisfaction of the UTILITIES' REPRESENTATIVE has not occurred within twenty-four (24) hours after receiving written notification from the UTILITIES' REPRESENTATIVE, UTILITIES' REPRESENTATIVE will have the prerogative of engaging others to perform any needed maintenance or cleanup, including removal of accumulated sediment at constructed erosion control facilities, and deduct from the CONTRACTOR'S monthly partial payment the costs for such efforts plus a five-hundred dollar ($500.00) administration fee.

1.04 QUALITY ASSURANCE

A. Implement all permanent and temporary Site controls according to State and Local regulatory requirements.

B. Inspect all BMPs at regular intervals as specified in the SWMP for this project. Use standard inspection forms for each inspection. Record deficiencies of site controls, and take immediate action to correct deficiencies recorded. Keep records of inspections current and on site, available for review.

PART 2 PRODUCTS

2.01 DELIVERY, STORAGE, AND PROTECTION

A. Furnish in standard packaging.

B. Keep dry during storage.

2.02 SEED

A. In accordance with section 32 92 00 Revegetation.

2.03 MULCH – WARM SEASON TALLGRASS HAY

A. Use only one-hundred percent (100 %) certified weed free mulch.

B. Warm season tall grass hay, free from seed of noxious weeds,

C. Minimum Stem Length: six (6) inches with at least half the material being ten (10) inches or longer. Do not use fine materials.

D. Seasoned (fully dry) before baling or loading.

E. Tall grass hay mulch shall be applied as specified in section 32 92 00, Revegetation.

2.04 MULCH – WOOD FIBER

A. Use only one-hundred percent (100 %) certified noxious weed free mulch. Locally or regionally produced mulch shall be used when practicable.

B. Material:

1. Specially processed, virgin, wood fiber containing no growth or germination inhibiting factors.

2. Dyed a suitable color to facilitate inspection of material placement.

3. Manufactured such that after addition and agitation in slurry tanks with water, the material fibers will become uniformly suspended to form homogeneous slurry.

4. When hydraulically sprayed on ground, material will allow absorption and percolation of moisture.

5. Wood fiber mulch shall be applied as specified in section 32 92 00, Revegetation.

2.05 TACKIFIER

A. Guar-based tackifier containing no growth or germination-inhibiting materials.

1. Capable of hydrating in water, and to readily blend with other slurry materials.

2. Wood Cellulose Fiber: Add as tracer.

3. Manufacturers and Products: Rantec; "Super Tack" or approved equal

4. Tackifier shall be added to mulch and as specified in section 32 92 00, Revegetation or as directed by Supplier.

2.06 EROSION CONTROL BLANKET AND LOGS

A. Material:

1. Excelsior, straw or jute; anchorages as recommended by manufacturer.

2. Bio-degradable material so that it will naturally degrade and deteriorate in its entirety.

3. Pins and Staples: "U" shaped with legs 8-inches long and 1-inch crown. Pin to be made of Wire 0.162 inch in diameter minimum.

4. "T" shaped pins are not permitted.

5. Mat backing material shall be biodegradable cotton and not environmentally persistent plastic material.

B. Use Jute mat in areas where surface irregularities prevent use of other mats.

C. Turf Reinforcement Mat (TRM) may be approved for use with bio-degradable components in areas where high flow (e.g., ditches, channels, steep slopes or stream banks) where erosive forces may exceed the limits of natural, unreinforced vegetation.

1. Use of TRM shall only be incorporated after approved by UTILITIES REPRESENTATIVE.

D. Prior to final completion, the CONTRACTOR shall inspect areas in which erosion control blankets and/or logs have been used and collect for proper disposal all recoverable pins and/or staples used.

2.07 SILT FENCE

A. Woven or non-woven geotextile material in accordance with Section 31 32 19.16, Geotextiles.

2.08 STRAW BALES

A. New placement or replacement of existing shall be:

1. Machine baled clean salt hay or straw of wheat or barley free from seed of noxious weeds, using standard baling wire or string.

2. Posts for Anchoring Straw Bales: 2-inch by 2-inch untreated wood or commercially manufactured metal posts.

2.09 ROCK SOCKS

A. Furnish reinforced rock berms that consist of one continuous piece or constructed using wire wrapped joints.

B. Furnish with 1-inch chicken wire, double wrapped and made from a minimum of 10-gauge wire.

C. Use rock approximately one and one-half (1.5) inch in size with fractured faces.

D. Reinforced rock berm diameter to be minimum ten (10) inches in diameter.

2.10 ROCK CHECK DAM

A. Space dams such that toe of upstream dam is the same elevation as the top of the downstream dam.

B. Excavate below flowline and line with standard erosion control geotextile.

C. Stone will be riprap with a median stone size D_{50}=12."

PART 3 EXECUTION

3.01 GENERAL

A. Comply with the SWMP. Modify the SWMP as required to address changing site conditions during revegetation.

B. Minimize the area of disturbance to defined Work Limits and limit the time bare soil is exposed.

C. Install erosion and sediment control measures as shown on the Drawings and in conformance to permit requirements. Additional measures may be required. Maintain erosion and sediment control measures throughout duration of the Work.

D. Do not affect land outside of the work limits with sediment releases resulting from the Work.

E. In areas where work is complete and no additional construction traffic is expected, limit access to allow for vegetative establishment.

3.02 SILT FENCE

A. Install and maintain silt fence in accordance with requirements herein and as shown on the Drawings.

3.03 MULCHING

A. Temporary Erosion Control mulching alternatives include use of erosion control blankets, hydraulically applied wood fiber, or warm season grass hay. These may be used in conjunction with Temporary Seeding, as specified in Section 32 92 00, Revegetation.

B. Application: Sufficiently loose to permit penetration of sunlight and air circulation, and sufficiently dense to shade ground, reduce evaporation rate, and prevent or materially reduce erosion of underlying soil.

C. Place mulch in accordance with section 32 92 00, Revegetation.

D. Applied mulch that remains clumped or bunched after application shall be separated and re-spread at no cost to UTILITIES. Areas determined by UTILITIES' REPRESENTATIVE to have less than the specified rate of mulch application will be supplemented at no cost to UTILITIES.

E. Crimping of hay mulch shall be accomplished as follows:

1. On slopes: crimping shall follow the approximate contours of the slope.

2. On flat areas: crimping shall be performed perpendicular to the prevailing wind direction

3. Crimp mulch to a depth of three inches

3.04 TACKIFIER

A. Guar-based tackifier containing no growth or germination inhibiting materials shall be used.

B. Apply on areas mulched with warm season tall grass hay at 80 lb/ac. Include tackifier in wood fiber mulch slurry at the rate of 80 lb/ac.

C. Spray on within four (4) hours of warm season tall grass hay mulch application and per manufacturer's instructions.

3.05 EROSION CONTROL BLANKET AND LOGS

A. Use erosion control blankets on slopes equal to or steeper than 3H:1V. Add blankets after application of mulch.

B. Blankets used for temporary stormwater pollution, erosion and sediment control shall consist of a biodegradable (12 to 18 months) straw or coconut mat.

C. Erosion control blanket to be applied in strips perpendicular to prevailing wind or to water flow direction. Lapping will be at least four (4) inches on sides and six (6) inches on ends and will be configured to allow wind or water flow over (not into) lapped seams.

D. At the edge of blanket application, blanket material will be keyed into the soil surface six (6) inches deep in accordance with Standard Detail.

3.06 STRAW BALES

A. Embed minimum of four (4) inches in flat-bottomed trench.

B. Place with ends tightly abutting or overlapped a minimum of nine (9) inches. Corner abutment is not acceptable.

C. Install so that bale bindings are oriented around the sides and not over the top and bottom of the bale.

D. Use two posts for each bale. Drive posts through the bale until top of post is flush with top of bale.

E. Wedge loose straw in any gaps between bales.

3.07 EQUIPMENT REFUELING, CLEANING, MAINTENANCE

A. Take measures to prevent spills. These measures may include the placement of a temporary berm around the fueling, cleaning, and maintenance areas and placement of drip pans and/or mats under valves, tank openings, and vehicle engines undergoing maintenance. Maintain an adequate supply of absorbents during fueling and maintenance. Remove vehicles and equipment that are leaking fluids from the site. Clean up spills immediately and properly dispose of spilled materials/absorbents offsite. Notify UTILITIES' REPRESENTATIVE of spills.

3.08 TRASH DISPOSAL

A. Store trash generated onsite in covered bins or dumpsters. Dispose of trash offsite at a designated facility. Keep dumpsters at least five hundred (500) feet from waterways and outside of designated floodplain and wetland boundaries.

3.09 PORTABLE TOILETS

A. Place portable toilets throughout the work areas as needed. Empty by a waste contractor and transport and dispose of waste offsite at a designated facility. Keep toilets at least five hundred (500) feet from waterways and outside of designated floodplain and wetland boundaries.

3.10 STORAGE – GENERAL

A. Store storage containers, drums, and bags away from traffic to prevent accidental spills. Keep covers on drums to reduce build-up of precipitation. Store containers of fluids on pallets or other similar structures to prevent contact between the drum and the ground surface.

B. Appropriately label containers to show the name, type of substance, health hazards, and other appropriate information. Store in a covered structure where possible to minimize exposure to precipitation. Place signs and placards at the appropriate locations to inform construction personnel of material storage areas, other designated areas, and potential hazards.

3.11 STORAGE – CHEMICALS, HERBICIDES, FERTILIZERS

A. If chemicals, herbicides, and/or fertilizers are stored onsite, store a minimum of five hundred (500) feet away from the flow line of any channel and outside of designated

floodplain and wetland boundaries. Store these materials in a covered building or other structure, when possible, to minimize the exposure to precipitation and the potential for contamination of stormwater.

3.12 VEHICLE LOADING AND UNLOADING

A. Monitor loading and unloading of equipment and materials to ensure that spilled material is cleaned up as soon as possible to avoid transport offsite by stormwater.

3.13 EMPLOYEE TRAINING

A. Conduct periodic meetings for construction personnel to familiarize employees with the SWMP and to discuss day-to-day erosion and sediment control practices. Employees need to be aware of potential pollutant sources, BMP performance and maintenance, and spill response.

3.14 CHANGES TO SWMP

A. Changes and updates to the SWMP can be handwritten on the appropriate page(s). Include a log of updates to the SWMP quarterly and at substantial completion.

3.15 CONTROL OF SURFACE WATER

A. Control surface water in accordance with the requirements of the CDPHE Construction Stormwater permit, SWMP, Construction Dewatering Discharge permits, and grading, erosion, and sediment control permits.

B. Keep ditches, culverts, and natural drainages continuously free of unused materials and debris. Do not store equipment, materials, debris, fuel or lubricants or stockpiles in any drainage area.

3.16 WATER POLLUTION CONTROL

A. Protect the Work and temporary facilities from damage due to flooding.

B. Prevent runoff and control surface water flows until final Project closeout. Replace damage from said flows in accordance with the Contract Documents.

C. Implement Sampling programs for water discharged from the Site in accordance with any permit conditions.

END OF SECTION

SECTION 01 66 13
PRODUCT STORAGE AND HANDLING REQUIREMENTS FOR HAZARDOUS MATERIALS

PART 1 GENERAL

1.01 ACTION SUBMITTALS

A. Hazardous Materials Management Plan.

PART 2 PRODUCTS

PART 3 EXECUTION

3.01 HAZARDOUS MATERIALS MANAGEMENT

A. Comply with regulations relating to the handling, storage, transportation and spill/ release response and reporting of hazardous materials as set forth by OSHA (Emergency and Spill Response Planning), DOT (Transportation of Hazardous Materials), EPA (Management of Hazardous Materials and Waste) and NRC (Notification of Unplanned Spills and/or Releases) regulations; as applicable. Compliance includes, but is not limited to adhering to proper storage containers, secondary containment, access control, security, signage, release response and reporting, labeling, placarding, manifesting, transporting, and disposal.

B. Store materials and equipment in secure areas and arrange partitions to provide security of contents and ready access for inspection and inventory. Combustible materials (paint, solvents, and fuels) shall be stored in a well-ventilated building meeting safety standards. Hazardous materials shall be stored according to product specification, codes, and manufacturer's instructions.

C. Prepare and implement Health, Safety and Environmental Plans, including hazardous material management, in compliance with Federal, State and Local regulations prior to mobilizing onsite for Project construction. Prepare and implement a Hazardous Materials Management Plan that meets the requirements of General Conditions, Section 4.06 Hazardous Environmental Condition at Site, include procedures for the following in this Plan:

1. Hazardous materials inventory that identifies potentially hazardous substances to be used on the job site. Include copies of Material Safety Data Sheets in the Plan and make available at the job site.

2. Procedures for monitoring, identifying, and recognizing unanticipated suspect hazardous substances that may be encountered during the course of construction.

3. Procedures to address worker protection and public safety requirements as specified in Section 01 35 29, Health and Safety.

4. General process for communication with the UTILITIES' REPRESENTATIVE Environmental Manager (UEM) that shall be followed when unknown hazardous substances are encountered during construction activities.

5. Onsite management of hazardous waste and petroleum contaminated soils; if encountered.

D. The CONTRACTOR'S Safety Representative shall perform regular audits on the control and management of hazardous materials to:

1. Identify any deficiencies and establish and implement necessary corrective actions. Activities related to hazardous materials management shall be included in the daily reports.

2. Inspect the ground surface for any evidence of incidental spills or releases of petroleum and/or hazardous substances. Evidence includes, but not limited to, soil staining, unusual odors or colors. Immediately notify the UTILITIES' REPRESENTATIVE of any spill or release of hazardous materials and/or petroleum products identified.

END OF SECTION

SECTION 01 71 13
MOBILIZATION

PART 1 GENERAL

1.01 MOBILIZATION INCLUDES, BUT IS NOT LIMITED TO

A. Obtaining, transferring, and complying with required permits, as specified in Section 01 41 26, Permits.

B. Documenting pre-vegetation conditions through photographic and/or videographic records, as specified in Section 01 32 34, Photographic and Video Documentation.

C. Moving CONTRACTOR'S equipment required for operations onto Site.

1. Including CONTRACTOR'S equipment, personnel, supplies, and incidentals required for first month's operation.

D. Installing temporary construction power, wiring, and lighting facilities, as needed.

E. Providing onsite communication facilities, as needed.

F. Providing onsite sanitary facilities and potable water facilities as specified and as required by Laws and Regulations, and governing agencies.

G. Posting OSHA required notices and establishing safety programs and procedures.

H. Having CONTRACTOR'S superintendent or designee at Site while Work is on-going.

I. Initial general condition items.

2. Bonds, insurance.

3. Moving in equipment.

4. Project sign(s).

5. Preparing approved pre-activity documentation, including, but not limited to, Site Specific Safety Plan, Baseline Schedule, and CONTRACTOR'S Dust Control and Irrigation Plan(s).

6. Other required pre-activity tasks as the CONTRACTOR'S onsite construction operations begin.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 77 00
CLOSEOUT PROCEDURES

PART 1 GENERAL

1.01 SUBMITTALS

A. Informational Submittals:

1. Submit with application for final payment.

   a. Record Documents: As required in General Conditions and 01 32 34, Photographic and Video Documentation.

   b. Special bonds, Special Guarantees, and Service Agreements.

   c. Consent of Surety to Final Payment: As required in General Conditions.

   d. Releases or Waivers of Liens and Claims: As required in General Conditions.

   e. Releases from Agreements.

   f. Final Application for Payment.

1.02 RELEASES FROM AGREEMENTS

A. UTILITIES' REPRESENTATIVE will furnish CONTRACTOR written releases from property owners or public agencies where side agreements or special easements have been made, or where operations have not been kept within the UTILITIES construction right-of-way or easement.

B. In the event UTILITIES is unable to secure written releases UTILITIES' REPRESENTATIVE will:

1. Inform CONTRACTOR of the reasons.

2. UTILITIES and CONTRACTOR will examine the Site, and CONTRACTOR shall complete the Work that may be necessary to satisfy terms of the side agreement or special easement.

3. If CONTRACTOR refuses to perform this Work, UTILITIES reserves right to have it done by separate contract and deduct cost of same from Contract Price, or require CONTRACTOR to furnish a satisfactory bond in a sum to cover legal Claims for damages.

4. When UTILITIES' REPRESENTATIVE and CONSTRUCTION MANAGER are satisfied that the Work has been completed in agreement with Contract Documents and terms of side agreement or special easement, right is reserved to waive requirement for written release if: (i) CONTRACTOR'S failure to obtain

such statement is due to grantor's refusal to sign, and this refusal is not based upon any legitimate Claims that CONTRACTOR has failed to fulfill terms of side agreement or special easement, or (ii) CONTRACTOR is unable to contact or has had undue hardship in contacting grantor.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 MAINTENANCE OF RECORD DOCUMENTS

A. General:

1. Promptly following commencement of Contract Times, secure from UTILITIES' REPRESENTATIVE, one complete set of Contract Documents. Drawings will be full size.

2. Label or stamp each record document with title, "RECORD DOCUMENTS", in neat large printed letters.

3. Record information concurrently with construction progress and within twenty-four (24) hours after receipt of information that change has occurred. Do not cover or conceal Work until required information is recorded.

B. Preservation:

1. Maintain documents in a clean, dry, legible condition and in good order. Do not use record documents for construction purposes.

2. Make documents and Samples available for observation by UTILITIES' REPRESENTATIVE.

C. Making Entries on Drawings:

1. Using erasable colored pencils (not ink or indelible pencil); clearly describe changes by graphic lines and notes as required.

   a. Color Coding:

      1) Green when showing information deleted from Drawings.

      2) Red when showing information added to Drawings.

      3) Blue and circled in blue to show notes.

2. Date entries.

3. Call attention to entry by "cloud" drawn around area or areas affected.

a. Legibly mark to record actual changes made by Addenda and Field Orders, Work Change Directive, Change Order, and UTILITIES' REPRESENTATIVE'S written interpretation and clarification using consistent symbols for each and showing appropriate document tracking number.

3.02 FINAL CLEANING

A. At completion of the Work or of a part thereof and immediately prior to request for certificate of Substantial Completion; or if no certificate is issued, immediately prior to notice of completion, clean entire Site or parts thereof, as applicable.

1. Leave the Work and adjacent areas affected in a cleaned condition satisfactory to UTILITIES' REPRESENTATIVE.

2. CONTRACTOR shall inspect areas in which erosion control blankets and/or logs have been used and collect, for proper disposal, all recoverable pins and/or staples used.

3.03 DETERMINATION OF FINAL COVER

A. Percent Revegetation Requirements:

1. Ninety Percent (90 %) of pre-disturbance vegetative cover established after two (2) years or two (2) growing seasons, whichever is longer.

2. Obtain required determination following appropriate length of time through UTILITIES-contracted third party evaluation using line-intercept method and comparison to pre-disturbance vegetation evaluations.

3. Determination of need to re-seed or repair Work area will be conducted in accordance with Section 32 92 00, Revegetation.

4. Final determination of revegetative cover will be assessed by third party inspection and documentation of field conditions to recommend Substantial Completion. UTILITIES will determine re-establishment of vegetation to ninety-percent (90%) of original cover as Substantial Completion.

3.04 NOXIOUS WEED MANAGEMENT

A. Following Determination of Final Cover as described above, management of noxious weeds will be required for a period of three (3) years following issuance of Notice-to-Proceed.

1. Provide a person experienced in field identification of noxious weeds.

2. Monitor revegetated areas for occurrence of noxious weeds on a frequency and using methods approved by UTILITIES REPRESENTATIVE.

3. Remove and properly dispose noxious weeds as described in Section 01 57 17, Temporary Weed Control.

END OF SECTION

SECTION 02 42 00
RESTORATION AND CLEAN-UP

PART 1 GENERAL

1.01 SCOPE OF WORK

A. This section specifies site restoration and clean-up, which consists of work related material and debris removal, site finishing, road clean-up, and air pollution control.

1.02 EXISTING CONDITIONS

A. Existing site conditions shall be as determined in Section 01 31 13, Project Coordination, and Section 01 32 34, Photographic and Video Documentation.

1.03 REGULATORY PERMIT REQUIREMENTS

A. Dust prevention, control of water, and other requirements affecting restoration and clean-up shall be as determined in Section 01 57 19, Temporary Environmental Controls.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 SITE RESTORATION AND CLEAN-UP

A. Keep the work areas clean and orderly during revegetaton activities. On completion of the Work, repair damage caused by equipment. Leave the project site free of debris or excess material.

B. If necessary, remove excess excavated materials from the site and leave these surfaces in a condition equivalent to their original condition as documented prior to commencement of Pipeline Construction Contractor activities.

C. Reopen existing drainage ditches and culverts and restore the grade and natural drainage as soon as possible after disturbance. Restore culverts broken or damaged to their original condition and location.

D. As necessary restore existing irrigation channels and appurtenances to their original grade and condition. Restore culverts or other irrigation structures broken or damaged to their original condition and location.

E. Restore existing signs, markers, and mailboxes to their original condition and location as soon as possible after disturbance. Provide temporary until permanent replacements are made.

F. Restore fences and gates to the condition found or in accordance with UTILITIES' REPRESENTATIVE'S direction.

G. Remove temporary structures, rubbish, and waste materials upon completion of the Work.

H. Control air pollution from construction operations in accordance with Section 01 57 19, Temporary Environmental Controls.

3.02 ROAD CLEAN-UP DURING CONSTRUCTION

A. Clean all foreign material in public rights-of-way caused by the revegetation operations at the conclusion of each day's operation.

END OF SECTION

SECTION 31 32 19.16
GEOTEXTILE

PART 1 GENERAL

1.01 REFERENCES

A. The following is a list of standards that may be referenced in this section:

1. ASTM International (ASTM):

   a. D4355, Test Method for Deterioration of Geotextiles from Exposure to Ultraviolet Light and Water (Xenon-Arc Type Apparatus).

   b. D4491, Test Methods for Water Permeability of Geotextiles by Permittivity.

   c. D4533, Test Method for Trapezoid Tearing Strength of Geotextiles.

   d. D4595, Test Method for Tensile Properties of Geotextiles by the Wide-Width Strip Method.

   e. D4632, Test Method for Breaking Load and Elongation of Geotextiles.

   f. D4716, Test Method for Determining the In-Plane Flow Rate Per-Unit-Width and Hydraulic Transmissivity of a Geosynthetic Using Constant Head.

   g. D4751, Test Method for Determining Apparent Opening Size of a Geotextile.

   h. D4833, Test Method for Index Puncture Resistance of Geotextiles, Geomembranes, and Related Products.

   i. D4884, Test Method for Strength of Sewn or Thermally Bonded Seams of Geotextiles.

   j. D6193, Practice for Stitches and Seams.

1.02 DEFINITIONS

A. Fabric: Geotextile, a permeable geosynthetic comprised solely of textiles.

B. Minimum Average Roll Value (MinARV): Minimum of series of average roll values Representative of geotextile furnished.

C. Maximum Average Roll Value (MaxARV): Maximum of series of average roll values Representative of geotextile furnished.

D. Nondestructive Sample: Sample Representative of finished Work, prepared for testing without destruction of Work.

E. Overlap: Distance measured perpendicular from overlapping edge of one sheet to underlying edge of adjacent sheet.

E. Seam Efficiency: Ratio of tensile strength across seam to strength of intact geotextile, when tested according to ASTM D4884.

1.03 SUBMITTALS

A. Action Submittals (if requested):

1. Shop Drawings:

a. Manufacturer material specifications and product literature.

b. Installation drawings showing geotextile sheet layout, location of seams, direction of overlap, and sewn seams.

c. Description of proposed method of geotextile deployment, sewing equipment, sewing methods, and provisions for holding geotextile temporarily in place until permanently secured.

2. Samples:

a. Geotextile: One-piece, minimum 18 inches long, taken across full width of roll of each type and weight of geotextile furnished for Project. Label each with brand name and furnish documentation of lot and roll number from which each Sample was obtained.

b. Securing Pin and Washer: One each.

B. Informational Submittals: Certifications from each geotextile manufacturer that furnished products have specified property values. Certified property values to be either minimum or maximum average roll values, as appropriate, for geotextiles furnished.

1.04 DELIVERY, STORAGE, AND HANDLING

A. Deliver each roll with sufficient information attached to identify it for inventory and quality control.

B. Handle products in manner that maintains undamaged condition.

C. Do not store products directly on ground. Ship and store geotextile with suitable wrapping for protection against moisture and ultraviolet exposure. Store geotextile in way that protects it from elements. If stored outdoors, elevate and protect geotextile with waterproof cover.

1.05 SCHEDULING AND SEQUENCING

A. Where geotextile is to be laid directly upon ground surface, prepare grade as specified in Section 32 91 13, Soil Preparation, first.

B. Notify UTILITIES' REPRESENTATIVE whenever geotextiles are to be placed. Do not place geotextile without UTILITIES' REPRESENTATIVE'S approval of underlying materials.

PART 2 PRODUCTS

2.01 WOVEN GEOTEXTILE

A. Composed of polymeric yarn interlaced to form planar structure with uniform weave pattern.

B. Sheet Edges: Selvaged or finished to prevent outer material from separating from sheet.

C. Physical Properties: Conform to requirements in Table No. 1

Table No. 1
Physical Property Requirements for Woven Geotextile

Property	Requirement	Test Method
Apparent Opening Size (AOS)	U.S. Standard Sieve Size	ASTM D4751
Water Permittivity	2 $sec.^{-1}$, MinARV	ASTM D4491 (Falling Head)
Ultraviolet Radiation Resistance	70 percent strength retention, MinARV after 500 hours	ASTM D4355

2.02 NONWOVEN GEOTEXTILE

A. Pervious sheet of polyester, polypropylene, or polyethylene fabricated into stable network of fibers that retain their relative position with respect to each other. Nonwoven geotextile to be composed of continuous or discontinuous (staple) fibers held together through needle-punching, spun-bonding, thermal-bonding, or resin-bonding.

B. Geotextile Edges: Selvaged or otherwise finished to prevent outer material from pulling away from geotextile.

C. Unseamed Sheet Width: Minimum 12 feet.

D. Nominal Weight per Square Yard:

1. 12-ounce for trench stabilization applications.

2. 16-ounce for riprap application.

E. Physical Properties: Conform to requirements in Table No. 1 for 12-ounce and Table No. 2 for 16-ounce.

Table No. 1
Physical Property Requirements for Nonwoven Geotextile (12-ounce)

Property	Requirement	Test Method
Water Permittivity	1.0 sec.$^{-1}$, MinARV	ASTM D4491 (Falling Head)
Transmissivity, Planar Waterflow/Siphonage	0.5 ft^2/sec., MinARV	ASTM D4716
Apparent Opening Size (AOS)	100 U.S. Standard Sieve Size	ASTM D4751
Grab Tensile Strength, Machine Direction	300 lb/in, MinARV	ASTM D4632
Grab Elongation, Machine Direction	50 percent, MaxARV	ASTM D4632
Puncture Strength	175 lb, MinARV	ASTM D4833
Trapezoid Tear Strength	115 lb, MinARV	ASTM D4533
Ultraviolet Radiation Resistance	70 percent strength retention, MinARV after 500 hours	ASTM D4355

Table No. 2
Physical Property Requirements for Nonwoven Geotextile (16-ounce)

Property	Requirement	Test Method
Water Permittivity	0.7 sec.$^{-1}$, MinARV	ASTM D4491 (Falling Head)
Transmissivity, Planar Waterflow/Siphonage	0.5 ft^2/sec., MinARV	ASTM D4716
Apparent Opening Size (AOS)	100 U.S. Standard Sieve Size	ASTM D4751
Grab Tensile Strength, Machine Direction	380 lb/in, MinARV	ASTM D4632
Grab Elongation, Machine Direction	50 percent, MaxARV	ASTM D4632
Puncture Strength	240 lb, MinARV	ASTM D4833
Trapezoid Tear Strength	145 lb, MinARV	ASTM D4533
Ultraviolet Radiation Resistance	70 percent strength retention, MinARV after 500 hours	ASTM D4355

2.03 SEWING THREAD

A. Polypropylene, polyester, or Kevlar thread.

B. Durability: Equal to or greater than durability of geotextile sewn.

2.04 SECURING PINS

A. Steel Rods or Bars:

1. $^{3}/_{16}$-inch diameter.

2. Pointed at one end.

3. With head on other end sufficiently large to retain washer.

4. Minimum Length: 12 inches.

B. Steel Washers for Securing Pins:

1. Outside Diameter: Not less than 1½ inches.

2. Inside Diameter: ¼-inch.

3. Thickness: $^{1}/_{8}$ inch.

4. "T" shaped pins are not permitted.

C. Steel Wire Staples:

1. U-shaped.

2. 10 gauge.

3. Minimum Length: 6 inches.

PART 3 EXECUTION

3.01 RIPRAP APPLICATIONS

A. Overlap geotextile at each joint with upstream sheet of geotextile overlapping downstream sheet.

B. Sew joints where wave run-up may occur.

C. Limit height of riprap fall onto geotextile to prevent damage.

D. Drop Height:

1. 1 foot or less for greater than 200-pound rock.

2. 3 feet for less than 200-pound rock.

3.02 SILT FENCE APPLICATIONS

A. Install geotextile in one piece, or continuously sewn to make one piece, for full length and height of fence, including portion of geotextile buried in toe trench.

B. Install bottom edge of sheet in toe trench and backfill in a way that securely anchors geotextile in trench.

C. Securely fasten geotextile to each support post in a way that will not result in tearing of geotextile when fence is subjected to service loads.

D. Promptly repair or replace silt fence that becomes damaged.

3.03 REPAIRING GEOTEXTILE

A. Repair or replace torn, punctured, flawed, deteriorated, or otherwise damaged geotextile.

B. Repair Procedure:

1. Place patch of undamaged geotextile over damaged area and at least 18 inches in each direction beyond damaged area.

2. Remove interfering material as necessary to expose damaged geotextile for repair.

3. Sew patches or secure them with heat fusion tacking or with pins and washers, as specified above in Article Securing Geotextile, or by other means approved by UTILITIES' REPRESENTATIVE.

END OF SECTION

SECTION 32 91 13
SOIL PREPARATION

PART 1 GENERAL

1.01 SUMMARY

A. The extent of Work is to stabilize soil and prepare for soil for seeding.

B. The S3 project area consists of the seedbed preparation areas within the project work limits as shown on the Drawings.

C. The following specifications pertain to these areas, except where indicated.

1.02 SUBMITTALS

A. Action Submittals: Product labels/data sheets.

B. Informational Submittals:

1. Description of required maintenance activities and activity frequency.
2. Manufacturer's Installation Instructions: Commercial products.
3. Permits related to stormwater, erosion and sediment control.

1.03 SITE CONDITIONS

A. Environmental Requirements: No soil work shall occur when soil is in a frozen or wet condition causing it to clump and become nonfriable.

B. Sequencing: Mulching (see Sections 01 57 22, Temporary Stormwater Pollution Erosion and Sediment Control, and 32 92 00, Revegetation) shall occur within five (5) days after finish grading.

PART 2 PRODUCTS

2.01 TOPSOIL

A. Topsoil previously stripped and stockpiled by Pipeline Construction Contractor in low rows (windrows) on site.

B. Topsoil shall be free from clay subsoil, stones, concrete, asphalt, lumps, plants, or their roots, sticks, weed roots, and seeds, and other materials potentially harmful to re-establishment of desirable plant life.

2.02 SOIL AMENDMENTS

A. Soil Amendments shall not be used except if soil testing by a qualified soil laboratory indicates deficiencies detrimental to the establishment of the Native Seed Mix as

directed by UTILITIES. Soil Amendments shall not be used in Rare Plant Areas except as directed by UTILITIES.

PART 3 EXECUTION

3.01 OBSERVATION

A. CONTRACTOR shall observe with the UTILITIES' REPRESENTATIVE all areas to be prepared and verify rough grades, subsoils, drainage and compaction are in general conformance with the Drawings. Start of revegetation work constitutes acceptance of these conditions.

3.02 INSTALLATION

A. All soil preparation methods shall be done on the contour (across the slope).

B. Sub-Soil Preparation:

1. Soil: Loosen soil of all areas to a depth of six (6) to twelve (12) inches (Minimum depth shall be six (6) inches). Remove stones, sticks, roots, and debris over 2 inches. Limit sub-grade preparation.

C. Topsoil: Install as required in all locations to a depth of at least 6 inches as directed.

D. Finish Grade:

1. Add topsoil and bring to minimum depth required to meet lines, grades and elevations shown on plans, after light rolling and natural settlement.

2. Grade areas to smooth, even surface with a loose, uniformly fine texture. Roll and rake to remove ridges and fill depressions as required to meet finish grades. The upper 6 inches of the soils in areas to be seeded should not be heavily compacted and should be in a friable condition.

END OF SECTION

SECTION 32 92 00
REVEGETATION

PART 1 GENERAL

1.01 DEFINITIONS

A. Maintenance Period: Begin maintenance immediately after each area is seeded and continue for a period of two (2) years following final completion of pipeline construction.

B. Final Completion: Final completion of the Work as specified in Section 01 77 00, Close-out Procedures.

C. Seeding Area: Areas disturbed during the Pipeline Construction Work.

D. Satisfactory Stand: Revegetated areas will be considered acceptable during the first growing season after planting if an AVERAGE of four (4) seedlings of plant species that were planted (or are otherwise identified as desirable perennials by UTILITIES' REPRESENTATIVE) are observed per square foot. Determination of this average within a particular revegetation phase being evaluated will be based on counts within ten (10) square foot plots placed at even intervals along the center line or by random means as determined or approved by UTILITIES' REPRESENTATIVE. This evaluation will be conducted at no fewer than five (5) locations and no more than twenty (20) locations per revegetation phase based on size of work area, soil type(s) and field conditions at the time of evaluation as determined by UTILITIES' REPRESENTATIVE. The optimal number in the determination of a Satisfactory Stand will be the average number of desirable seedlings per square foot.

E. Final Cover: Revegetated areas will be considered acceptable at the end of the second year of responsibility if the revegetated area cover is not less than ninety-percent (90%) of the preconstruction vegetation cover as determined by UTILITIES. This determination will be conducted by UTILITIES using the Protocol established for assessment of pre-existing vegetation conditions. The pipeline access road and trail will not be included in the ninety-percent (90 %) coverage calculation. UTILITIES' REPRESENTATIVE will utilize point-intercept methodology for determining final vegetative cover; observations will be made every 3 feet along a 50-foot transect.

1.02 SUBMITTALS

A. Action Submittals:

1. Irrigation Plan with schedule to obtain and apply water for irrigation and dust control.

2. Revegetation Bond, as specified in Subsection 3.012, Special Guarantee and Bond.

3. Drainage and Erosion/Sedimentation Control Plan and Procedures and schedule of drainage, erosion, and sedimentation control.

B. Informational Submittals:

1. Product labels/Cut sheets/Material Safety Data Sheets.

2. Seed: Certification of seed quality and quantity; Seed tags from all bags of sown seed must be submitted to UTILITIES.

   a. Certify that each lot of seed has been tested by a testing laboratory certified in seed testing, within six (6) months of date of delivery. Include with certification:

      1) Name and address of laboratory.

      2) Date of test.

      3) Lot number for each seed specified.

      4) Test Results: (i) name, (ii) percentages of purity and of germination, and (iii) weed content for each kind of seed furnished.

   b. Mixtures: Proportions of each kind of seed.

3. Seed Inoculant Certification: Bacteria or fungi prepared specifically for legume species to be inoculated.

4. Description of maintenance activities and activity frequency.

5. Manufacturer's Installation/Application Instructions: Commercial products including any fertilizer or soil amendment(s) approved for use.

6. Seed certifications and certificates of inspection of seed by State or Federal authorities.

7. Copies of delivery invoices or other proof of quantities of seed, mulch, and fertilizer.

8. Certification that mulch is free of noxious weed seed.

9. All permits related to work as specified in Section 01 41 26, Permits.

1.03 TEMPORARY EROSION AND SEDIMENT CONTROL

A. Follow requirements specified in Section 01 57 22, Temporary Stormwater Pollution, Erosion, and Sediment Control.

1.04 DELIVERY, STORAGE, AND PROTECTION

A. Seed:

1. Furnish in standard containers separated by drill box destination (if applicable) and with seed name, lot number, net weight, percentages of purity, germination, and hard seed and maximum weed seed content, clearly marked for each container of seed.

2. Keep dry during storage.

B. Mulch and Tackifier: Mark package to show air dry weight.

C. Other Materials:

1. Furnish in standard packaging.

2. Keep dry during storage.

1.05 WEATHER RESTRICTIONS

A. When possible, perform Work under favorable weather and soil moisture conditions. At the discretion of UTILITIES' REPRESENTATIVE, work will be stopped while conditions deemed excessively wet, windy, or frozen prevail.

1.06 SEQUENCING AND SCHEDULING

A. Confirm Work specified in Section 32 91 13, Soil Preparation, has been completed prior to performing Work specified under this section.

B. Work schedule will be dictated by existing and subsequent access agreements. The general order of activities include:

1. Placement of fertilizer or soil amendment, if any,

2. Incorporation of fertilizer or amendment, if any,

3. Preparation of seedbed,

4. Seeding,

5. Mulching or installation of erosion control blanket.

C. Coordinate with the Pipeline Construction Contractor to complete Work specified under this section.

D. Notify UTILITIES' REPRESENTATIVE at least three (3) working days in advance of:

1. Each material delivery.

2. Start of seeding activity.

E. Temporary Seeding: At the direction of the UTILITIES' REPRESENTATIVE, conduct temporary seeding and planting of disturbed areas during the first normal period of favorable seeding and planting conditions after final preparation for seeding and planting. Unless otherwise directed by the UTILITIES' REPRESENTATIVE, acceptable periods of temporary seeding are:

1. Fall seeding, beginning September 1 until freezing conditions (or as directed by the UTILITIES' REPRESENTATIVE)

2. Spring seeding, Thaw until June 15 (or as directed by the UTILITIES' REPRESENTATIVE)

F. Permanent Seeding: Conduct permanent seeding and planting of disturbed areas during the first normal period of favorable seeding and planting conditions after final preparation for seeding and planting. Unless otherwise directed by the UTILITIES' REPRESENTATIVE, acceptable periods of permanent seeding are:

1. Fall seeding, beginning October 1 until freezing conditions are forecast (or as directed by the UTILITIES' REPRESENTATIVE)

2. Spring seeding, March 1 through May 1 (or as directed by the UTILITIES' REPRESENTATIVE)

G. Prior to the start of work activities, assess field conditions to ensure that soil and weather conditions are favorable to perform work activities. Do not seed or conduct seedbed preparation when soil surface is frozen or excessively wet.

H. Avoid and/or relieve soil compaction through use of best management practices.

I. Commence seeding within ten (10) days of completing seedbed preparation.

J. Commence mulch application and tackifying/crimping within two (2) days of completing seeding.

1.07 FALLOW

A. The UTILITIES' REPRESENTATIVE will direct the CONTRACTOR whether to fallow a site or proceed with Temporary or Permanent seeding. If area is fallowed, it should be left rough to minimize erosion. Stormwater and Erosion Control BMPs shall be left in place and maintained.

1.08 PLACE FERTILIZER OR SOIL AMENDMENTS

A. The UTILITIES' REPRESENTATIVE will direct the CONTRACTOR regarding the use of any chemical fertilizer or soil amendments that are to be incorporated in specific areas.

B. Upon approval by the UTILITIES' REPRESENTATIVE, apply chemical fertilizer at a rate in accordance with manufacturer's specifications and/or recommendations.

C. If proposed by CONTRACTOR and approved by the UTILITIES' REPRESENTATIVE, apply soil amendment at a rate per manufacturer's specifications and/or recommendations.

D. Spread the organic soil amendment evenly over the work area. Minimize rutting and compaction of the surface when applying.

1.09 INCORPORATE SOIL AMENDMENT

A. Soil amendments shall be uniformly incorporated eight (8) to twelve (12) inches into the surface of the soil on a maximum of 16-inch centers using chiseling or other methods approved by UTILITIES' REPRESENTATIVE to incorporate amendment and achieve mixing.

B. Should the tilling not penetrate the required eight (8) inches, the CONTRACTOR will be required to chisel or rip to a depth of eight (8) to ten (10) inches on maximum 16-inch centers prior to tilling.

1.10 SEEDBED PREPARATION

A. Compaction of subsoils will be relieved as necessary by use of chisels or subsoilers.

B. Soil shall be reasonably free of aggregates (including clods) exceeding two (2) inches in any dimension within two (2) inches of the top surface of the prepared soil.

C. Roll and/or harrow the area to provide a smooth, reasonably firm but friable seedbed. Disking or other practices that pulverize soil structure will be allowed only on a limited basis and as approved by the UTILITIES' REPRESENTATIVE.

D. Maintain existing drainage patterns as indicated on the Drawings.

E. Address bank stabilization requirements as necessary.

1.11 SEEDING

A. Perform Work in a systematic manner that minimizes inconvenience to property owners and the public.

B. Temporary Seeding:

1. Adhere to the Seed Timing specifications as required by Subpart 1.07 D.

2. Planting depth for Temporary Seeding will be one-half (0.5) inch, or as directed by UTILITIES' REPRESENTATIVE

3. Calibrate all seeding equipment. Drill seeding or broadcast equipment shall be calibrated and adjusted as necessary to comply with the seeding rates specified in tables of Part 2 in this Section.

4. Preserve and submit seed tags and/or other documentation to the UTILITIES' REPRESENTATIVE to verify that the proper quantities are applied to a known area to achieve the rates specified in the Tables provided in Part 2 of this Section.

5. Apply seed at rates stated in Tables provided in Part 2 of this Section. Rates are in pounds of Pure Live Seed (PLS) per acre.

6. Apply seed on the contour to protect areas from erosion.

7. Where stockpile configuration is not amenable to the use of drill seeders, broadcast seeding (followed immediately by harrowing) is permissible.

C. Permanent Seeding:

1. Implement seeding as specified in Subpart 1.07 E of this specification.

2. Seed using species and rates stated in Tables provided in Part 2 of this Section. Rates are in pounds of Pure Live Seed (PLS) per acre.

3. Depth of seeding for Permanent Seeding shall be one-quarter (0.25) to one-half (0.5) inch.

4. After completion of each acre of seeding, check drill hoppers and drop tubes for clogs and to verify even application rates.

5. Maintain precise documentation and records of all seed applied (including seed tags) to each area on a pounds PLS and bulk weight basis.

1.12 MULCHING AND ANCHORING

A. Using Alternative 1 or 2 outlined below, place mulch in a continuous cover of uniform thickness over the seeded area at rates indicated:

1. Warm Season Tall Grass Hay Mulch: 3,000 pounds (1.5 tons) per acre. Crimp using a crimper designed for the purpose. Application of eighty (80) pounds per acre guar-based tackifier may be required.

2. Wood Fiber Mulch: 3,000 pounds (1.5 tons) per acre. Eighty (80) pounds per acre of guar-based tackifier shall be added as directed by the manufacturer.

B. Applied mulch that remains clumped or bunched after application shall be separated and re-spread at no cost to UTILITIES. Areas determined by the UTILITIES' REPRESENTATIVE to have less than the specified rate of mulch applied will be supplemented at no cost to UTILITIES.

C. Crimping of hay mulch shall be accomplished as follows:

1. On slopes: crimping shall follow the approximate contours of the slope.

2. On flat areas: crimping shall be performed perpendicular to the prevailing wind direction.

3. Crimp mulch to a depth of three (3) inches.

D. Provide labels, weight slips and/or documentation to the UTILITIES' REPRESENTATIVE to verify that the quantities prescribed in this document are applied to a known area to achieve the rates specified in this document.

1.13 EROSION CONTROL BLANKET AND LOGS

A. Install Erosion Control Blanket in general accordance with Section 01 57 22, Temporary Stormwater Pollution, Erosion and Sediment Control and in such a manner that:

1. The Erosion Control Blanket is flush with soil with no visible air pockets.

2. Anchor (key) the edges of the matting at the top of the ditch by creating a small trench, burying the edges, and then backfilling the trench.

3. Seed (either by hand or mechanically) all disturbances resulting from trenching and backfilling at the top of the ditch channel.

4. Follow all other manufacturer specifications for the installation of Erosion Control Blankets.

5. Evaluate the prevailing wind direction and overlap Erosion Control Blanket sections during installation so that the edge of the top layer is facing away from the prevailing winds.

B. For areas of potential concentrated water flow, use Turf Reinforcement Mat (TRM) only as approved by UTILITIES REPRESENTATIVE with other controls as specified in Section 01 57 19, Temporary Erosion Controls.

PART 2 PRODUCTS

2.01 SEED

A. Provide the native short grass seed mix for permanent revegetation of upland areas in accordance with Table 1 below.

1. Use only one hundred percent (100 %) certified noxious weed free seed with named variety, unless otherwise approved by UTILITIES' REPRESENTATIVE.

2. Fluffy, large, smooth, and small smooth components of the seed mixes shall be obtained from suppliers separately to allow placement in the appropriate drill seed box. (Blue grama, sideoats grama, and galleta are fluffy; slender wheatgrass

and western wheatgrass are large smooth; alkali sacaton and sand dropseed are small smooth).

3. Use locally or regionally available seed when practicable.

TABLE 1

Seed Mix for Upland Areas Scientific Name	Common Name - Variety	Mix %*	Lbs Pure Live Seed (PLS)/ Acre**
Bouteloua gracilis	Blue grama – Bad River	15	0.5
Bouteloua gracilis	Blue grama – Alma	15	0.5
Bouteloua gracilis	Blue grama – Hachita	15	0.5
Bouteloua curtipendula	Sideoats grama – Vaughn	10	1.4
Elymus trachycaulus	Slender wheatgrass – San Luis	5	0.8
Hilaria (Pleuraphis) jamesii	Galleta – Viva	10	1.6
Pascopyrum smithii	Western wheatgrass – Arriba	22	5.6
Sporobolus airoides	Alkali sacaton-Salado	13	0.2
Sporobolus cryptandrus	Sand dropseed – VNS	5	0.02
TOTAL		**100**	**11.12**

*Mix percent based on seed number.
**Seeding rate is for drill seeding. If the seed is broadcast, double the rates shown.

B. Provide the native short grass seed mix for permanent revegetation of LOWLAND AREAS in accordance with Table 2 below.

1. Use only one-hundred percent (100 %) certified weed free seed with named variety, unless otherwise approved by UTILITIES' REPRESENTATIVE.

2. Use locally or regionally available seed when practicable.

TABLE 2

Seed Mix for Lowland Areas Scientific Name	Common Name - Variety	Mix %*	Lbs Pure Live Seed (PLS)/ Acre**
Bouteloua gracilis	Blue grama – Alma	20	0.6
Bouteloua gracilis	Blue grama – Lovington	20	0.6
Elymus trachycaulus	Slender wheatgrass -San Luis	10	1.6
Pascopyrum smithii	Western wheatgrass – Arriba	25	6.0
Sporobolus airoides	Alkali sacaton-Salado	25	0.4
TOTAL		**100**	**9.2**

*Mix percent based on seed number.
**Seeding rate is for drill seeding. If the seed is broadcast, double the rates shown.

2.02 TEMPORARY STABILIZATION

A. As approved by UTILITIES' REPRESENTATIVE, temporary stabilization may be accomplished via seeding using annual rye (*Lolium multiflorum*). Rate for drill seeding is eight (8) lbs PLS per acre; rate for broadcast seeding is sixteen (16) lbs PLS per acre. Approval of this alternative by UTILITIES' REPRESENTATIVE will be contingent on season, site conditions, and other variables. In consideration of these variables, UTILITIES' REPRESENTATIVE may also approve use of other species for Temporary Stabilization seedings.

2.03 BANK STABILIZATION

A. Locations along the pipeline alignment will require permanent stabilization on steep slopes (3H:1V). Use of biodegradable Erosion Control Blankets are preferred. All other material shall be approved for use by UTILITIES REPRENTATIVE.

1. Where necessary, and after approval by UTILITIES REPRESENTATIVE, Turf Reinforcement Mat (TRM) or other product composed of non-degradable synthetic fibers, filaments, netting or wire mesh may be used.

2.04 FERTILIZER

A. Only approved fertilizer shall be used. Fertilizer to be applied, if any, will be commercial, chemical type, uniform in composition, free-flowing, conforming to state and federal laws, and suitable for application with equipment designed for that purpose by trained personnel.

2.05 MULCH

A. Use only one-hundred percent (100 %) certified noxious weed free mulch.

B. Warm Season Tall grass Hay:

1. Cured hay of warm season tall grass, certified to be free from seed of noxious weeds.

2. Minimum Stem Length: Six (6) inches with at least half the material being twelve (12) inches or longer. Do not use fine materials.

3. Seasoned (fully dried) before baling or loading.

4. Applied at a rate of 3,000 pounds (1.5 tons) per acre with guar-based tackifier or as approved by the manufacturer.

C. Wood Cellulose Fiber Mulch:

1. Specially processed virgin wood fiber containing no growth or germination inhibiting factors.

2. Dyed a suitable color to facilitate inspection of material placement.

3. Manufactured such that after addition and agitation in slurry tanks with water, the material fibers will become uniformly suspended to form homogeneous slurry.

4. When hydraulically sprayed on ground, material will allow absorption and percolation of moisture.

5. Applied at a rate of 3,000 lbs. per acre with approved guar-based tackifier.

2.06 EROSION CONTROL BLANKETS

A. Erosion Control Blankets shall be composed of biodegradable fibers, filaments, nets, and/or other elements, in a semi-permanent, three-dimensional matrix of sufficient thickness to provide immediate erosion protection, enhance vegetation establishment and provide long-term (12 to 18 month) functionality by reinforcing vegetation during and after maturation.

B. Material:

1. Excelsior, straw or jute; anchorages as recommended by manufacturer. Staples used for anchoring mat shall be as specified in Section 01 57 19, Temporary Environmental Controls.

2. Bio-degradable (cotton mesh) netting for straw or excelsior mat. No plastic net will be acceptable.

   a. American Excelsior Company, AEC Premier Coconut ™ (or equivalent) shall be used.

3. For areas of concentrated water flow, use of erosion control blankets configured for semi-permanent erosion control shall be used.

   a. North American Green C350™ TRM (or equivalent) shall be used.

2.07 TACKIFIER

A. Guar-based tackifier containing no growth or germination-inhibiting materials.

1. Capable of hydrating in water, and to readily blend with other slurry materials.

2. Wood Cellulose Fiber: Add as tracer.

3. Manufacturers and Products: Rantec; "Super Tack" or approved equal

4. Apply at eighty (80) lbs/ac with wood fiber mulch or as directed by Supplier and approved by the UTILITIES' REPRESENTATIVE.

PART 3 EXECUTION

3.01 OBSERVATION

A. Soil Preparation

1. CONTRACTOR shall observe all areas to be prepared and verify rough grades, topsoil and/or subsoil compaction, and provision of positive drainage. Start of this work constitutes acceptance of these conditions. During the course of the work, protect all constructed features (e.g., monitoring stations, pipeline blow off assemblies, survey markers, drainage channels, etc.).

3.02 SURFACE PREPARATION

A. Confirm with UTILITIES' REPRESENTATIVE and site walk that soil preparation has been completed as specified in Drawings by the Pipeline Construction Contractor.

B. Prior to planting, grade areas to even surface with loose, uniform texture as specified in 1.11 B and C above.

1. Limit such Work to areas to be seeded within five (5) days.

2. During surface preparation, remove debris and stones larger than one and one-half (1.5) inches in maximum diameter and other objects that may interfere with seeding and maintenance operations.

3. Roll and rake, remove ridges, and fill depressions to meet finish grades.

C. Do not spread noxious weeds during construction.

3.03 FERTILIZER

A. When approved for use by the UTILITIES' REPRESENTATIVE, apply evenly over area to be planted in accordance with manufacturer's recommendations.

B. Do not use fertilizers in the Rocky Mountain Bladderpod (RMB) or Pueblo Goldenweed zones. RMB and/or Pueblo Goldenweed zones are indicated on the Environmental Constraints Map.

3.04 PERMANENT SEEDING

A. Do not seed when the soil surface is frozen or excessively wet.

B. Start within five (5) days of completion of the Work under Section 32 91 13, Soil Preparation.

C. For areas with slopes steeper than 3H:1V, apply seed using broadcast method.

D. Mechanical: Drill seeding on the contour.

1. Sow seed at uniform rate.

2. Use grass type seeder for drilling. Do not exceed eight (8) inches between drill rows.

E. Broadcast:

1. Broadcasting will be allowed only in areas that are inaccessible to use of a grass type drill seeder (reference C. above). Where seed is broadcast, double the seeding rates shown in the Tables. Incorporate broadcast seed into the soil either with a harrow or by hand raking.

3.05 MULCHING

A. Apply uniform cover of mulch into the soil at rates specified above.

B. Anchor mulch immediately after application.

C. For slopes at, or steeper than, 3H:1V, install erosion control blankets as specified in Sections 1.13 and 2.06 above.

D. For slopes less than 3H:1V, mulch may be anchored by applying tackifier, or crimping into the ground using a crimper, or both if required by the UTILITIES' REPRESENTATIVE. Do not sever the mulch while crimping. For low-slope areas subject to concentrated water flow, see F, below.

E. Do not mulch when wind velocities exceed fifteen (15) miles per hour or in areas with concentrated runoff flow.

F. For areas of potential concentrated surface water flow, seeding will be followed by application of erosion control blanket material with Temporary Erosion Control. This material will be anchored at intervals no less than the manufacturer's specifications.

G. Where irrigation is to be implemented, after mulching apply sufficient water using a fine spray to moisten the top four (4) inches of soil.

3.06 MECHANICALLY APPLIED MATERIALS

A. Mechanically Applied Materials: Seed, fertilizer, or mulch applied with the use of mechanical equipment.

3.07 HYDRAULICALLY APPLIED MATERIALS

A. Hydraulically Applied Materials: Mulch or tackifier applied solely or in combination with the use of hydraulic application equipment.

B. Hydraulically Applied Seed: If this technique is approved by UTILITIES REPRESENTATIVE, seed and mulch shall not be applied as a mixture. Seed shall be placed first and mulch placed on top of seeded areas. This is considered a

broadcast method requiring two times (double) the seed application rate specified in Tables 1 and 2.

3.08 ALTERNATIVE VEGETATION METHOD

A. Perform hand amendment and seeding in areas where access by mechanical equipment is limited, such as steep slopes or confined areas.

B. Loosen compaction by hand-scarifying the soil with hand rake or other appropriate implement. After hand-scarification, the seedbed shall be loose enough to achieve good seed/soil contact.

C. Broadcast and evenly spread chemical fertilizer or soil amendment prior to seedbed preparation.

D. Incorporate chemical fertilizer or soil amendment into the soil by hand tilling or other means to achieve a firm but sufficiently friable seedbed to achieve good seed/soil contact.

E. Hand broadcast specified seed mix, uniformly, at two times (double) the seed application rate specified in Tables.

F. Incorporate the seed into the soil by harrowing, raking or other means to provide good soil/seed contact.

3.09 PROTECTION OF WORK

A. Inform UTILITIES' REPRESENTATIVE of onsite accidents and related claims from property owners or the general public within the same day that the occurrence is identified.

B. Limit interaction with home/property owners (Reference Section 01 31 24, Public Communications).

C. Protect areas from excessive traffic that may cause compaction of the soil.

D. When possible, perform seeding operations only during periods when successful results can be obtained. When drought, excessive moisture, frozen soil or other unsatisfactory conditions prevail, as determined by the UTILITIES' REPRESENTATIVE, the CONTRACTOR will stop work. When special conditions warrant a variance to the operations, including a work stoppage, submit proposed variances to the UTILITIES' REPRESENTATIVE for approval.

E. Do not conduct soil amendment application, seedbed preparation, broadcast seeding, or mulch application when wind conditions cause the materials to blow from the intended target area.

F. Protect finished areas from erosion during all phases of the work described in this specification section.

G. Repair areas not accepted by the UTILITIES' REPRESENTATIVE, damaged from any cause, at CONTRACTOR'S expense.

3.010 BANK STABILIZATION

A. Stabilize banks steeper than or equal to 3H:1V in accordance with Section 2.06 above.

B. Work at the pipeline alignment crossing of Steele Hollow consists of constructing permanent installations to control erosion, enhance vegetation establishment, and survivability on slopes, channels, and includes installing rolled erosion control products.

C. For areas where natural vegetation alone will not sustain expected flow conditions and/or provide sufficient long-term erosion protection, furnish a permanent Turf Reinforcement Mat (TRM) or other rolled erosion control product with the necessary performance properties to effectively control erosion and reinforce vegetation under the expected long-term site conditions.

1. Application of TRM shall only be after written approval by UTILITIES REPRESENTATIVE and in accordance with Section 2.03 above.

3.011 QUALITY CONTROL

A. Monitoring:

1. CONTRACTOR will be expected to conduct monitoring of the results of permanent revegetation from the date of completion of initial seeding activities until the end of the second year and/or growing season

2. Monitoring frequency shall be at a minimum of quarterly or three (3) month intervals. CONTRACTOR may elect to increase monitoring frequency based on seasonal considerations.

3. Report of monitoring results shall be provided to UTILITIES at a minimum of quarterly.

B. Determination of need to re-seed or repair Work area. UTILITIES' REPRESENTATIVE will require immediate notification of revegetation efforts that appear to be failing (e.g., no visible germination, inadequate seeding density, physical wash out, other damage or impacts to successful re-establishment of vegetative cover). Re-seeding will be in accordance with Part 3.09 of this section.

C. At the end of the growing season in the first year following the date of initial seeding, and on written notice from the CONTRACTOR, the UTILITIES' REPRESENTATIVE will, within thirty (30) days of receipt, determine if a Satisfactory Stand has been established. This evaluation will be in accordance with specific County Agency requirements and conducted by a Third Party under contract

with UTILITIES. If a Satisfactory Stand has not been established, CONTRACTOR shall re-seed as necessary.

D. At the end of the growing season in the second year following the date of initial seeding, and on written notice from the CONTRACTOR, the UTILITIES' REPRESENTATIVE will, within thirty (30) days of receipt, determine if adequate Final Cover has been established. This evaluation will be in accordance with specific County Agency requirements and conducted by a Third Party under contract with UTILITIES. If a Satisfactory Stand has not been established, CONTRACTOR shall re-seed as necessary.

3.11 MAINTENANCE SERVICE

A. Inspect, repair, and replace as necessary erosion control measures during the time period from start of revegetation activities to completion of revegetation and as specified in Section 01 57 22, Temporary Stormwater Pollution, Erosion, and Sediment Control.

B. Restore and re-seed eroded areas and areas lacking a satisfactory stand of grasses as necessary but at a minimum at the end of twelve (12) months and twenty-four (24) months following the date of initial seeding as determined by the UTILITIES' REPRESENTATIVE. Re-seed and repair during the earliest seeding season.

C. Operations:

1. Perform during maintenance period to include:

a. Washouts: Repair by filling with topsoil, seeding, and mulch with erosion control matting, properly keyed in and anchored.

b. Mulch: Replace mulch that is washed or blown away. Do not mulch when wind velocities exceed fifteen (15) miles per hour.

c. Install tackifier or erosion control blankets where required. Install erosion control blankets where surfaces covered in mulch/tackifier begin to erode.

d. Reseed during next growing season if scheduled end of maintenance period falls after the seeding period.

e. Re-seed failing area if satisfactory stand does not develop.

f. Mowing: Coordinate with the UTILITIES' REPRESENTATIVE to determine if and when mowing may be required.

g. Control non-noxious weeds either by mowing or by using a Colorado Weed Management Guide approved herbicide. Control noxious weeds in accordance with Section 01 57 17, Temporary Weed Control.

h. Protect permanent seeding and planting of disturbed areas from grazing and trampling until a satisfactory stand is produced.

D. Promptly restore damaged or injured property including, but not limited to, fences, gates and outbuildings, to a condition similar or better to that existing before the damage or injury occurred, by repairing, replacing, rebuilding, or restoring the property.

E. Maintenance Service Agreement: Provide for period of two (2) years or two (2) growing seasons, whichever is longer, from completion of initial planting. UTILITIES will coordinate with landowners for access to properties after temporary construction easements have expired.

END OF SECTION