ADDENDUM NO. 2
For

Sanitary Sewer District 529
Westwood Park Subdivision

for

CITY OF GRAND ISLAND, NEBRASKA

August 2012

TO: All Bidders on Sanitary Sewer District 529; Westwood Park Subdivision

RE: Addendum to Contractor's Bid Documents & Specifications

LETTING DATE: August 6, 2012

The purpose of this Addendum is to:

A. Correct the verbiage in Section 200.12 of the Special Provision Section – The last sentence of paragraph 2 now reads as "Repairs and replacements within the right-of-way of existing improvements shall be the responsibility of the Contractor." This is in conjunction with Bid Item No.'s C2.25 & C3.25

Keith Kurz, P.E.
Public Works Engineer

Acknowledged by _____
Signature of Bidder

SPECIAL PROVISION

Sanitary Sewer District 529

200.0 *General Requirements*

200.1 Specifications and Standard Plan Drawings. All Divisions of the City of Grand Island Specifications and Standard Plan Drawings shall be considered a part of this Contract, whether or not attached into these specifications, and it shall be the Contractor's responsibility to comply with all requirements thereof. If there is information described in any of the divisions that is in conflict with information in Special Provisions, the information in the Special Provisions shall govern the contract. No attempt has been made in these specifications to segregate work to be performed by any trade or subcontractor. Any segregation between the trades or crafts will be solely a matter for agreement between the Contractor and their employees or their subcontractors. The specifications as a whole will govern construction of the entire work. The applicable provisions whereof will govern work to be performed under each section.

200.2 Submittals. Submittals shall be provided, at the contractor's expense, when required by the plans and special provisions, or when requested by the Engineer. Materials shall neither be furnished nor fabricated, nor shall any work for which submittals are required be performed, before the required submittals have been reviewed and accepted by the Engineer. Neither review nor acceptance of submittals by the Engineer shall relieve the Contractor form responsibility for errors, omissions, or deviations from the Contract Documents, unless such deviations were specifically called to the attention of the Engineer in the letter of transmittal. The Contractor shall be responsible for the correctness of the submittal. The Contractor shall allow a minimum of 20 working days for review of submittals unless otherwise specified in agreement. Three (3) copies shall be submitted. If no revisions are required, one (1) of the copies will be returned to the Contractor. If revisions are required, the Engineer will return two (2) copies and retain one (1) copy for file.

Each submittal shall be accompanied by a letter of transmittal.

Working drawings are drawing showing details not shown on the plans which are required to be designed by the Contractor. Working drawings shall be of a size and scale to clearly show all necessary details. Three (3) copies shall be submitted. If no revisions are required, one (1) of the copies will be returned to the Contractor. If revisions are required, the Engineer will return two (2) copies and retain one (1) copy for file.

Shop drawings are drawings showing details of manufactured or assembled products proposed to be incorporated into the Work.

Supporting information is information required by the Specifications for the purposes of administration of the Contract, analysis for verification of conformance with the Specifications, the operation and maintenance of a manufactured product or system to be constructed as part of the Work, and other information as may be required by the Engineer. Three (3) copies of

the supporting information shall be Submitted to the Engineer prior to the start of the Work unless otherwise specified in the agreement or directed by the Engineer. Supporting information for systems shall be bound together and include all manufactured items for the system. If resubmittal is not required, one (1) copy will be returned to the Contractor. Supporting information shall consist of data, including, but not limited to, catalog sheets, manufacturer's brochures, technical bulletins, specifications, diagrams, product samples, and other information necessary to describe a system, product or item.

200.3 Subsurface Data. All soil and test hole data, water table elevations, and soil analyses shown on the drawings or included in the Specifications apply only at the location of the test holes and to the depths indicated. Soil test reports for test holes which have been drilled are available for inspection at the office of the Engineer. Any additional subsurface exploration shall be done by Bidders or the Contractor at their own expense. The indicated elevation of the water table is that which existed on the date when test hole data was determined. It is the Contractor's responsibility to determine and allow for the elevation of groundwater at the date of project construction. A difference in elevation between groundwater shown in soil boring logs and groundwater actually encountered during construction will not be considered as a basis for extra work.

200.4 Work To Be Done. The Contractor shall perform all work necessary to complete the Contract in a satisfactory manner. Unless otherwise provided, the Contractor shall furnish all materials, equipment, tools, labor, and incidentals necessary to complete the Work.

a) Construction of gravity sanitary sewer collection system, sized eight (8) inch diameter Polyvinyl Chloride (PVC) Pipe, Sanitary sewer lateral service connections, Precast concrete manholes, Asphalt removal, Concrete pavement, Earth excavation six (6) to sixteen (16) feet, Groundwater dewatering, and ancillary items for a complete operational gravity sanitary sewer collection system, and subdivisions arterial access pavement.

b) The project is within the dedicated road right-of-way of Sweetwood Drive, Driftwood Drive, Greenwood Drive, and utility easements of Westwood Park Subdivision located at the northwest corner of Greenwood Drive and North Road. Refer to the plans for exact location and alignment.

200.5 Right Of Way. Rights-of-way, easements, or rights-of-entry for the Work will be provided by the City. Unless otherwise provided, the Contractor shall make arrangements, pay for, and assume all responsibility for acquiring, using, and disposing of additional work areas and facilities temporarily required. The Contractor shall indemnify and hold the City harmless from all claims for damages caused by such actions.

200.6 Construction Testing. The Contractor will be responsible for cost and coordination of construction testing required by the Grand Island specifications and these special provisions. The Contractor shall provide the City with qualifications of the independent testing agency they intend on using prior to beginning construction for approval. The Contractor shall be responsible for scheduling of all services required.

Weekly reports shall be submitted to the Engineer with testing information for approval. If reports are not submitted by Monday morning, 10 am, for the priors' week construction, or a

mutually agreed upon time, the Engineer retains the right to stop all job progress until reports are presented.

The Contractor shall provide the Engineer with soil proctor information, prior to any soil density tests being conducted, for approval. The Engineer anticipates a separate proctor for each soil encountered and anticipates, at minimum, at least two different types of soil.

The Contractor shall provide subgrade density tests reports, at the frequency outlined in Section 200.45, for approval by Engineer prior to any concrete being placed. The Engineer shall be notified and allowed to witness proof rolling of subgrade and location of stringline prior to placement of concrete.

200.7 Surveying. The Contractor will perform and be responsible for the accuracy of surveying adequate for construction. The Contractor shall provide field surveying and staking services for all sanitary sewer utility, storm sewer drainage and pavement locations as identified in plan drawings and/or staking sheets. Contractor shall provide a minimum of two (2) days' notice to City and Engineer prior to construction after completion of a staking section to provide for Owner/Engineer review and compliance check.

Contractor shall provide stakes, lath, sledges, hand tools, transportation, and such other supplies, assistance, and equipment as required in staking out the work. Each staking location shall be clearly marked.

The Contractor shall preserve construction survey stakes and marks for the duration of their usefulness. Stakes, once installed, shall become the responsibility of the Contractor. Replacement, because of loss or damage, shall be done at the expense of the Contractor.

The Contractor shall dig all holes necessary for line and grade stakes. Unless otherwise specified, stakes will be set and stationed for pavement, curbs, headers, sewers, storm drains, structures, and rough grade. A corresponding cut or fill to finished grade (or flowline) will be indicated on a grade stake. All work shall conform to the lines, elevations, and grades shown on the Plans. Grades for underground conduits will be set at the surface of the ground.

200.8 Inspection. The Work is subject to inspection and approval by the Engineer. The Contractor shall notify the Engineer before noon of the working day before inspection is required. Work inspection shall be done only in the presence of the Engineer, unless otherwise authorized. Any work done without proper inspection will be subject to rejection. The Engineer and any authorized representatives shall at all times have access to the work during its construction at shops and yards as well as the project site. The Contractor shall provide every reasonable facility for ascertaining that the materials and workmanship are in accordance with these specifications. Inspection of the work shall not relieve the Contractor of the obligation to fulfill all condition of the Contract.

200.9 Sanitation. The Contractor shall provide and maintain enclosed toilets for the use of employees and public engaged in the Work Area. These accommodations shall be maintained in a neat and sanitary condition. They shall also comply with all applicable laws, ordinances, and regulations pertaining to public health and sanitation of dwellings and camps.

Wastewater shall not be interrupted. Should the Contractor disrupt existing sewer facilities, sewage shall be conveyed in closed conduits and disposed of in a sanitary sewer system. Sewage shall not be permitted to flow in trenches or be covered by backfill.

200.10 Temporary Light, Power, and Water. The Contractor shall furnish, install, maintain, and remove all temporary light, power, and water at its own expense. These include piping, wiring, lamps, and other equipment necessary for the Work. The Contractor shall not draw water from any fire hydrant, without obtaining written authorization, fee's, backflow connection devices from the water agency concerned.

200.11 Best Management Practices. The Contractor shall follow guidelines established in City of Grand Island City Code; Chapter 40, Storm Water Management. The utility construction defined in 40.11, A thru D; shall comply with guidelines listed as disturbing greater than one (1) acre. The Contractor shall exercise every reasonable precaution to protect channels, storm drains, and bodies of water from pollution. It shall conduct and schedule operations so as to minimize or avoid muddying and silting of said channels, drains, and waters. Water pollution control work shall consist of constructing those facilities which may be required to provide prevention, control, and abatement of water pollution.

The Wildwood Subdivision project will require the contractor to ensure compliance with all aspects of the National Pollutant Discharge Elimination System (NPDES) General NPDES Permit Number NER110000 for Storm Water Discharges from Construction Sites to Waters of the State of Nebraska and the City's Code Chapter 40 Storm Water Management. The contractor will provide the City of Grand Island Public Works copies of the Construction Storm Water Notice of Intent Form, Copy of the Issuance of Storm Water discharge authorization from NDEQ, Erosion and Sediment Control Plan, and Final Stabilization Plan.

The contractor will provide the City of Grand Island Public Works a copy of the Storm Water Pollution Prevention Plan (SWPPP) and copies of completed inspections which must be completed at least once every fourteen (14) calendar days, and within 24 hours of the end of a storm event of 0.5 inches or greater.

The contractor will install and maintain Best Management Practices (BMPs) to include silt fence, construction rock entrances or silt checks if needed. Any delay in the replacement or maintenance of nonfunctional BMPs beyond seven (7) calendar days shall be documented in the SWPPP with sufficient detail as to explain the reason for the delay. (See City of Grand Island's SWPPP Review Checklist). The contractor shall be responsible for ensuring that final stabilization is accomplished on all non-impervious surfaces of the authorized construction site prior to submitting form CSW-NOT. A uniform perennial vegetative cover with a minimum density of 70 percent of the native background vegetative cover.

The City may perform an occasional drive-by inspection and provide the contractor any findings but the contractor will be responsible for the routine/rain fall event inspections.

Best Management Practices shall be subsidiary to all pay items.

200.12 Protection and Restoration of Existing Improvements. Contractor shall be responsible for the protection of public and private property adjacent to the Work and shall exercise due

caution to avoid damage to such property. All property and structures shall be protected unless their removal is shown on the Contract drawings or authorized by the City.

The Contractor shall repair or replace all existing improvements within the right-of-way which are designated or not designated for removal (e.g., curbs, sidewalks, driveways, fences, walls, signs, utility installations, pavement, structures, etc.) which are damaged or removed as a result of its operations. When a portion of a sprinkler system within the right-of-way must be removed, the heads shall be salvaged to the owner and the remaining lines shall be capped such that the system can still be used. Repairs and replacements within the right-of-way of existing improvements shall be the responsibility of the Contractor.

Trees, lawns, and shrubbery that are not to be removed shall be protected from damage or injury. If damaged or removed due to Contractor's operations, they shall be restored or replaced in as nearly the original condition and location as is reasonably possible.

All costs to the Contractor for protecting, removing, and restoring existing improvements shall be included in the Bid.

200.13 Public Convenience and Safety. Public relations are a very important part of this type of work. The Contractor and his employees need to recognize the necessity to be courteous to the public and especially to landowners on whose property or near whose property they are working.

The Contractor's operations shall cause no unnecessary inconvenience. The access rights of the public shall be considered at all times.

Safe and adequate pedestrian and vehicular access shall be provided and maintained to fire hydrants. Access to these facilities shall be continuous and unobstructed unless otherwise approved by the Engineer.

The Contractor shall cooperate with the various parties involved in the delivery of mail and the collection and removal of trash and garbage to maintain existing schedules for these services.

The Contractor shall include in its Bid all costs for the above requirements.

200.14 Street Closures, Detours, Barricades. The Contractor shall comply with all applicable State, County and City requirements for closure of streets. The Contractor shall provide barriers, guards, lights, signs, temporary bridges, flag persons, and watchpersons. The Contractor shall be responsible for compliance with additional public safety requirements which may arise. The Contractor shall furnish and install signs and warning devices and promptly remove them upon completion of the Work. At least 48 hours in advance of closing, partially closing or reopening, any street, alley, or other public thoroughfare, the Contractor shall notify the Engineering Department, and comply with their requirements. **All** temporary traffic control plans must first be approved in writing by the Engineer.

All costs involved shall be included in the Bid.

200.15 Certification. The Engineer may waive materials testing requirements of the specifications and accept the manufacturer's written certification that the materials to be

supplied meet those requirements. Materials test data may be required as part of the certification.

200.16 Identification Marks. All pipe, fittings, and couplings shall be clearly marked at intervals not to exceed five (5) feet as follows:

1) Nominal pipe diameter.

2) PVC cell classification.

3) Company, plant, shift, ASTM, SDR, and date designation.

4) Service designation or legend.

200.17 Air Quality and Open Burning. The contractor must comply with the Nebraska Department of Environmental Quality Rules and Regulations for the control of Air Quality as promulgated in Title 129 of Nebraska Administrative Code. Open fires are prohibited. All solid waste generated by the project will be disposed of in accordance with Title 132, Integrated Solid Waste Management.

200.18 Utility Management. The contractor shall do a 1-call for utility locations. The contractor shall assume full responsibility for the exact location and depth measurements of all utilities prior to construction to make sure all trades are as shown on the plans.

200.19 Remove and Replace Fence or Other Items Outside of R.O.W. The Contractor shall be responsible for removal and replacement of fence or other items outside of easement or R.O.W. as subsidiary to construction. This also includes installation of temporary fencing if necessary, as subsidiary, if fencing that had been existing has to be removed.

200.20 Trees. Tree Stumps. Hedges and Bushes. Removal of trees, hedges, and bushes will be paid for on a unit price basis as listed in the bid tab. Removal shall include clearing and grubbing of all roots and stumps and disposal. Landowners will be given the opportunity to remove trees, hedges, and bushes within the construction limits.

200.21 Payment Bond. Payment bond shall be required for the contractual work.

200.22 Performance Bond. Performance bond shall be required for the contractual work.

200.23 Exempt Sales Certificate. The Contractor performing work under this contract will be issued a Purchasing Agent Appointment and Exempt Sales Certificate signed by the authorized representative of the City. This is to be used by the Contractor when purchasing tangible property to be actually incorporated into the contract work. It does not apply to either (1) the purchase of materials to be used but not incorporated into the contract work, including but not limited to form lumber, scaffolding, etc., or (2) the purchase or rental of machinery, equipment or tools owned or leased by the Contractor and used in performing the contract work. The Contractor may reproduce copies of the Purchasing Agent Appointment and Exempt Sales Certificate to furnish their suppliers on each invoice or order.

200.24 Completion. The work shall be substantially completed by December 7, 2012. Final completion shall be December 14, 2012. Or, if Alternate Bid '1' is chosen, the work shall be substantially completed one week prior to final completion date. Final completion shall be defined by Contractor on bid tab.

200.25 Property Corners. It shall be the Contractor's responsibility to protect existing property corners and government surveying monuments. If property corners are disturbed or destroyed during construction, it shall be the Contractor's obligation to employ a licensed land surveyor to replace those damaged or destroyed corners. No extra or additional payment will be made for restoration of property corners.

200.26 Explosive and Flammable Operations. During project development, the work area was determined to not be located within the immediate vicinity of hazardous industrial operations handling fuel or chemicals of an explosive or flammable nature, in accordance with regulation 24 CFR Part 51 Subpart C. Appropriate mitigation measures will be applied should any potential hazards be identified.

200.27 Property Owner Communication. The City shall not be held responsible for any delay that the Contractor may encounter by reason of the property owners involved failing to promptly respond. It shall be the Contractor's responsibility to meet with the affected property owners as soon as possible to coordinate construction activities. It shall be the Contractor's responsibility to coordinate work, identify specific site needs with the property owners to accomplish the work. Additionally, the Contractor shall provide for the continuance of service of such property owners where such service may be disrupted as a result of the Contractor's operations.

200.28 Power Lines. There are existing electric power lines in the work area for this Contract. The Contractor shall use extreme caution such that personal safety is not jeopardized and electric continuity is maintained. Due to soil conditions and proximity, all poles and underground cables shall be supported during excavation, properly backfilled and compacted to protect from damage.

The Contractor shall be required to notify the appropriate authority having jurisdiction and ownership, a minimum of seven (7) days prior to any work being performed adjacent or underneath the power line.

Southern Power District	(308) 384-2350
Nebraska Public Power District	(402) 845-5221
Grand Island Utilities Department	(308) 385-5461

Any time the Contractor, sub-contractors, or their employees are working near overhead or underground power lines, they will be required to comply with the *Grand Island Electric Department Recloser Disabling and Transmission Line Outage Policy.* The policy statement and inspection form are attached in the Appendix.

200.29 Underground Installations. Existing underground installations (such as water mains, gas mains, sewers, telephone lines, power lines, and buried structures) in the vicinity of the work are to be checked by the Contractor. The Contractor shall be solely responsible for locating all existing underground installations. The Contractor shall use their own information and shall not rely upon any information indicated on the drawings concerning existing underground installations.

The Contractor shall proceed with caution in the excavation and preparation of the trench so that the exact location of all such utilities, both known and unknown may be determined, and

the Contractor shall be held responsible for the repair of such utilities when broken or otherwise damaged. All such utilities shall be accurately located, including hand excavating by the Contractor as required, as incidental to the Contract and performed prior to machine excavation in the vicinity.

Any delay, additional work, or extra cost to the Contractor caused by existing installations shall not constitute a claim for extra work, additional payment or damages.

200.30 Liquidated Damages. It is understood and agreed that time is the essence of the contract. Should the Contractor fail to perform the work within the period of time stipulated in the Contract Agreement, the Contractor shall pay to the City, as liquidated damages and not as a penalty, $100.00 per working day of default unless extensions of time granted by the City specifically provide for the waiving of liquidated damages. The City shall have the right to deduct the liquidated damages from any moneys in its hands, otherwise due, or to become due, to the Contractor, or to sue for and recover compensation for damages for non-performance of this contract within the time stipulated.

200.31 Discharge Water. All dewatering discharge water shall be conveyed to locations to be approved by the City. It will be the Contractor's responsibility to make driveway and street crossings in such a manner as to not interfere with normal use. The Contractor will not be allowed to utilize the right-of-way ditches for open conveyance of discharge water. The Contractor is required to secure all permits, and properly fill and abandon the wells as per State Statute after use.

The project will require the contractor to ensure compliance with all aspects of the National Pollutant Discharge Elimination System (NPDES) General NPDES Permit Number NEG671000 for Dewatering Discharges. The contractor shall ensure all provisions of the permit are followed, field samples, submittals to Notice of Intent (DW-NOI), Checklists, Discharge Monitoring Report (DW-DMR), Physical Characteristic Examination Report (PCE), and any Non-Compliance Reports.

All documentation on the dewatering operations shall be recorded and archived by the contractor for the duration to the project. The acquired field grabs or composite sampling, and flow measurement of dewatering discharges shall be the responsibility of the contractor. The City shall provide the sample bottles and lab work in testing pH, Total Petroleum Hydrocarbons, and Total Suspended Solids. The contractor shall work jointly with the city's lab representative in scheduling testing at the Waste Water Treatment Plant.

The city shall be copied on all documentation and reports.

200.32 Point of Discharge. Dewatering discharge shall be directed to Moore's Creek on the east side of North Road or to the detention cell in the Westwood Park Subdivision that eventually drains to Moore's Creek. The contractor shall implement best management plan for erosion mitigation measures. Water is not to be discharged into the road ditches along North Road.

200.33 Concrete Testing. The contractor shall hire an engineering laboratory to sample, test, inspect, and document the batching, delivery, and placement of all cementitious materials.

All sampling procedures for concrete and related materials shall be performed in accordance with current ASTM standard test methods, unless otherwise approved by the Engineer. Laboratory testing, field sampling and testing, and inspection or observations, shall be performed by ACI, NICET, or ICC certified personnel only, unless otherwise approved by the Engineering Department.

Testing agency shall submit reports in accordance with work assigned, for conformance with City of Grand Island plans, specifications, Additionally conduct and interpret tests and inspections and state in each report whether; (1) test specimens and observations comply with Contract Documents, and specifically state any deviations, (2) record work required and performed, (3) record types and locations of defects found in work, (4) Bring non-conforming items to the immediate attention of the Contractor, and if uncorrected to the Engineer, (5) Submit test and/or inspection reports to the Engineer, the Contractor and other designated persons.

Delivery Tickets must have the following information at the time of delivery; Plant or manufacture name and location, Project name, and location of delivery, Material batched: Mix # (Product code), including all additives, Date and Time batched, Time of arrival at site, Weight or cubic yards of material batched into truck, Truck number or license, Driver name, Gallons of water added after leaving the batch plant, including on-site, Signature by the Contractor's representative acknowledging receipt of the product, A copy of the delivery ticket shall be given to the Engineer or their representative at the time of delivery.

The testing frequency shall at minimum establish; four (4) test cylinders per day and or every three hundred (300) lineal feet of cementitious materials placement.

200.34 Reshaping Ditch and Field. The ditch and field shall be put back to the original shape before excavation. Grades will be established by the Contractor prior to excavation.

200.35 Staging Area. The Contractor shall be responsible for obtaining and maintaining an area for material in use, all construction material, equipment, etc. shall be stored in this area and not in the public right-of-way.

Upon completion of the project, the Contractor shall restore the staging area to equal or better than original condition, including but not limited to, re-grade and reseed in compliance with the specifications.

200.36 TV Inspection. Television inspection is a separate Contract from the sewer line construction. The TV inspection will be completed after thirty (30) days has elapsed of sewer line construction completion, and discontinuance of dewatering. Final payment for sewer line construction will not be made until after completion of TV inspection and repair of any defects found.

Television inspection for the various gravity sewers will be performed by the City Wastewater Division. The City's Wastewater Division shall bill the contractor for such services based on the current fee schedule for Television inspections. The 2012 fee schedule for Television Inspection is $0.68 per linear foot with a minimum billable fee is $100.00. Re-inspections and contractor special request shall be billed accordingly.

The sanitary sewer Contractor is responsible for cleaning of all sewer lines prior to testing. No soil or debris shall be allowed to be flushed downstream.

200.37 Temporary Construction Easements. The Contractor is expected to confine all work activities to the permanent and temporary easements. Failure to do so will result in damages to private property and bad public relations. The City will stake out easement limits. Any property damage done beyond these limits will be assessed against the Contractor. The City will negotiate with the property owners who are damaged, make payment to the owner, and pass the costs to the Contractor plus $50.00 for each occurrence by deduction from monies due the Contractor. The Contractor will have no voice in damages less than $1,000. Contractor will be bound by the City's negotiated settlement. For damages greater than $1,000.00, the Contractor may participate in negotiations. The Contractor and the property owner must both approve settlement over $1,000.

200.38 Partial Payments. Partial payments will be made once a month after regularly scheduled City Council meetings, upon request from the Contractor.

200.39 Materials. No materials on hand payment will be made for any items on this project.

200.40 Fill Material. Fill material may be required when re-establishing grades in excavated areas after obtaining density. Provide imported material of equivalent quality, if required to accomplish Work. No separate or additional payment will be made for furnishing and compacting fill material.

An ***estimated*** quantity for import fill material is 3,300 C.Y. The existing, undisturbed compaction of existing soils was assumed at 85% maximum density and a desired compaction of 90% to 95% maximum density was used depending on the location. The volume of pipe was also accounted in this calculation.

200.41 Testing, Cleanup and Final Grading. The Contractor shall progress with testing; cleanup and final grading close behind laying of pipe. The Contractor may be required to cease laying pipe if satisfactory testing and cleanup progress is not being made as determined by the Engineer in charge, until after progress is satisfactory.

200.42 Manhole Steps. In lieu of Deeter No. 1603 cast iron steps, the manholes shall be furnished with Copolymer Polypropylene Plastic PSI-PF manufactured by M.S. Industries, Inc., or approved equal.

200.43 Pipe Through Manholes. Pipe shall be laid in a continuous run through manholes unless otherwise indicated by elevation on the plans.

200.44 Pipe Bedding. Pipe bedding shall be Class "C".

200.45 Compaction Testing - Pavement. Density tests will be required at a frequency of not greater than 100 lineal feet of right-of-way, per driving lane.

Density test results shall be submitted to the City before placement of concrete and final acceptance of the project.

200.46 Sewer Service Installations. Main sewer service connections and service sewer pipe shall be installed as provided for in the drawings and as may be directed by the Engineer. The

sewer service connections and pipe lines shall be installed in conformance with all applicable requirements of the main sewer installation and as more specifically provided for herein.

The Engineer, with the assistance of the Contractor, shall keep accurate records of all service installations as to type, location, elevation, point of connection and termination, etc. The service installations shall not be backfilled until all required information has been obtained and recorded. The main sewer service connection shall consist of installing a Branch Tee section in the main sewer line at designated locations or providing an insert type Saddle Tee in a pipe cutout where and as permitted or required in lieu of the built-in fitting. Orientation of service connection fitting shall be as shown in the standard drawings unless otherwise directed by the Engineer. Unless otherwise specified, service pipe shall be installed at right angles to the main sewer and at a straight line grade to the property line. Unless otherwise indicated, service pipe installation shall terminate at property line or as designated on the Plans, with a gasket plug placed in the end, at which point the Contractor shall furnish approved steel "T" post to mark the exact end of pipe. The post shall be set vertically, with the top 2 feet painted green or provide a green post.

Wherever service line connections to the main sewer are permitted or required to be made by the open cut-out method in the absence of a built-in Tee fitting, the connection shall be made by using an approved type of Saddle Tee fitting. The pipe cut-out shall be made with an approved type coring machine or by other approved methods producing a uniform, smooth circular cut-out as required for proper fit. The cut-out discs shall be retrieved and shall not be allowed to remain within the main sewer pipe. The Saddle Tee shall be securely fastened to the main sewer pipe by means of epoxy resin or other approved adhesive. The entire connection fitting shall be encased in concrete to a minimum thickness of six inches and as may be shown in the standard drawings. No part of the saddle may protrude into the main sewer. All pipe and fitting openings at temporary terminal points shall be fitted with suitable plugs or shall be bulk headed as required for the main sewer pipe.

201.0 *Surface Restoration*

201.1 General. This work shall consist of restoration from areas requiring excavations, and replacing the vegetation after construction.

1. Remove and Replace Existing. Where it is necessary in the construction of this improvement to remove or disturb existing structures, landscaping, borders, fences, or other improvements, said structures, fences, or other improvements shall be stored, and restored promptly and to as good a condition as that existing prior to being disturbed. All trees, shrubs, gardens, lawns, drives and other such surface objects shall be protected and preserved as much as possible and where disturbed shall be replaced or repaired and left in as good condition as before the work was started. The Contractor shall not request additional compensation for such work.

2. Stripping/Spreading of Topsoil. Topsoil shall be salvaged from areas requiring excavations where current vegetation exists (everywhere not paved) and it shall be stockpiled and replaced after construction. Topsoil shall consist of friable surface soil up to one foot (1') in

depth, reasonably free of grass, roots, weeds, sticks, stones, and other objects. Topsoil shall be stockpiled after areas have been cleaned and grubbed.

Topsoil shall not be spread when the ground or topsoil is frozen, excessively wet or otherwise in a condition detrimental to work. Surfaces designated to be covered shall be lightly scarified just prior to the spreading operation. Where compacted fill are designated to be covered by topsoil, the topsoil shall be placed concurrently with the fill and shall be bonded to the compacted fill with the compacting equipment.

No separate payment shall be made for salvaging and spreading topsoil. Salvaging and spreading topsoil shall be considered subsidiary to items for which separate payment is made.

3. Surface and Underground Drainage, Utilities, and Irrigation. Where it is necessary in the prosecution of the work to interrupt existing surface drainage, temporary drainage facilities shall be provided and maintained at the Contractor's expense until permanent drainage facilities are completed. The Contractor shall be responsible for, and shall take all necessary precautions to protect and preserve any and all existing subsurface drains, conduits, utilities, and other underground structures, irrigation systems or parts thereof which may be affected by the construction, and which in the opinion of the Engineer may be properly continued in use without any change. The Contractor shall, at his own expense, repair all damage to facilities or structures which results from any of his operations or his negligence.

4. Maintenance / Security During Construction. It shall be the Contractor's responsibility to ensure all roads and the roads adjacent to the construction site to provide safe conditions for the traveling public, to prevent environmental damage, to secure personal property, or to comply with local regulatory requirements. The Contractor shall maintain drainage for all temporary roadways and work sites at all times. When existing drainage facilities are severed or otherwise rendered inoperable, the Contractor shall construct as much of the designed drainage system as may be necessary to maintain adequate drainage. Temporary grading and/or ditching may also be required to maintain drainage. Any temporary grading and ditching that is required shall be completed as an incidental expense unless it is part of the designed project earthwork. All temporary drainage work shall be completed to the satisfaction of the Engineer.

5. Removal and Placement of Defective Fill. Embankment and backfill materials not conforming to the density and moisture requirements shall be reworked until the requirements are achieved or removed and replaced by acceptable fill. Cost and quantity of removal and placement of defective fill shall be Engineer reviewed on each independent case.

6. Moisture and Density Requirements – Trenches and Subgrade. Each layer of embankment and backfill material shall be compacted per Grand Island City Specifications. Water required shall be sufficient to obtain optimum moisture content plus or minus a minimum 3%. Cost of Contractor's independent field testing, compaction, rolling, and watering is incidental to the work.

7. Imported Cover Soil (Contractor Source). Topsoil to be used as cover soil shall be fertile, friable material of an organic composition and characterized as loam, sandy loam, sandy clay loam, clay loam, silty clay loam, or silt loam in accordance with the USDA Soil Conservation Service textural classification. Topsoil material shall be reasonably free of trash, rocks, hard lumps of soil, stumps, and brush. The Contractor's proposed topsoil source shall not contain any "noxious weeds". If noxious weeds are found on the topsoil source site, the topsoil will be rejected and not used on the project. Clay textured soils with more than 40% clay shall be unsuitable. Cost of imported cover soil is incidental to the seeding or sodding bid item(s) listed on the Bid Form.

201.2 Reseeding / Resoding. All costs associated with the initial seeding and sodding and any subsequent maintenance, reseeding, or resodding required, shall be the exclusive responsibility of the Contractor. If the Contractor fails to properly provide for seeding or sodding in the areas disturbed by construction activities, to the satisfaction of the Engineer, the City shall have the right to have the seeding or sodding performed in accordance with these specifications by a third party, and all associated costs shall be the exclusive responsibility of the Contractor.

1. Establishment, Acceptance, and Guarantee Period. Thirty (30) days after completion of seeding operations, the cities representative will inspect the seeded area(s) for determination of establishment and acceptability.

   The Contractor will be notified in writing when their establishment responsibilities have been accepted.

   The guarantee period for seeded areas shall begin at the date of acceptance. The Contractor shall guarantee all material to be in healthy and flourishing condition for a period of sixty (60) days from date of acceptance.

   In areas of deficiencies, a list of locations will be provided to the Contractor for reseeding. The Contractor shall reseed such areas without cost, and as soon as weather conditions permit, with materials of the same species that have been planted.

   Reseeded areas shall be subject to all requirements and specifications stated herein. The guarantee for reseeding shall be extend for a period of sixty (60) days from date of their acceptance.

2. Seed / Sod Submittal. All seed / sod shall be Nebraska origin, adjoining states, or as specified. The Contractor shall submit to the City a certification tag which shows the variety, origin, and analysis of the seed provided. Work shall not be performed when the ground is frozen, wet, or otherwise untillable or when even distribution of materials cannot be obtained.

   Seeding / sod operations shall be completed by the dates specified within the Contract, except by written permission of the City.

201.3 Application, General. No seed shall be sown in windy conditions or, in the opinion of the Engineer, when soil is either too wet or in improper condition for seeding. Seeding shall be performed within twenty-four (24) hours after soil preparation, unless, in the judgment of the Engineer, weather conditions prohibit seeding. Grass seed shall be sown by using a broadcast spreader, a drop spreader or, if the area is small enough, a handheld spreader. Seed application shall be evenly distributed throughout the area sown to provide for a uniformly textured lawn. The seeding equipment shall be so operated so as to insure a complete coverage of the entire area to be seeded. The seed shall be worked into the soil to a depth to ensure good contact between the seed and soil, but not too deep to prohibit growth. The seed shall then be rolled with a water-filled roller no more than twelve (12) hours after seeding to insure the seed is well compacted into the soil and to level the area of seed application.

201.4 Seeding; Improved Areas. Seeding shall include, but not limited to: the Contractor furnishing and supplying all labor, materials, and equipment to reseed grassed areas disturbed by the Contractor or as otherwise directed by the City. The work shall comply with the requirements of all authorities having jurisdiction.

Seeding operations shall be performed only during the periods between April 15 - May 30 or between September 1 - October 1 or approved by Engineer.

All materials furnished shall be identified and tagged to insure that species, varieties, boxes, bundles, bales, or other containers are as specified. The information on the label shall cover the botanical genus, species, and common name or variety.

1. Seed Materials. Seed shall be free of noxious weeds and relatively free from all other weeds, and comply with the applicable state and federal seed laws. Seed shall be Nebraska origin or adjoining states, and shall be from field sources grown specifically for the production of sod. The Contractor shall submit to the City a seed tag, which shows the variety, origin, and analysis of the seed.

2. Seed Type. Seed mixture shall be for acceptable use in developed residential lawn areas, and shall be comprised of versatile mix of cool season grasses for fairly low maintenance areas.

   Composition: DuraTurf® Plus 2; a mixture of tall fescues, bluegrass, and ryegrasses.

   Application: 10 to 12 lbs/1,000 sq. ft.

3. Seedbed. Areas to be seeded shall be cleared of debris and dead vegetation prior to seeding operations. All other vegetation that will interfere with the seeding operations shall be removed by the Contractor. Care shall be used to avoid injury to trees and shrubs.

All erosion shall be filled and a three (3) inch surface layer prepared with a loose, moderately course consistency, to allow satisfactory penetration of the ground with the seed drill. Grade, rake and smooth all areas for a free draining and even surface.

The seedbed adjacent to curbs, walks or other paved areas shall be finished to a grade of one-half (1/2) inch below the paved surface.

4. Seeding. The seed bed shall be prepared not more than three (3) days prior to the seeding operations by loosening the soil to a depth of two (2) to four (4) inches by disking, harrowing or tilling. Surface crusting caused by water during the interim period shall be loosened prior to the seeding operation.

   The grass mixture will be uniformly drilled where accessible by machinery. On areas not accessible to machinery, the seed may be uniformly broadcast and covered by use of a harrow or rake.

   The grass drill will be designed to handle light fluffy seeds, with double disc furrow openers spaced not more than ten (10) inches apart, and equipped with depth bands to allow placement of the seed from one-quarter (1/4) inch to one-half (1/2) inch deep.

   Work shall not be performed when the ground is frozen, wet, or when an even distribution of seed cannot be obtained.

5. Fertilizer. Starter type fertilizer shall be incorporated into the soil prior to seeding. Fertilizer shall be a commercial turf product containing nitrogen, available phosphoric acid and soluble potash as required, in a recognized plant food form. All fertilizer shall comply with the provisions of the State of Nebraska Fertilizer Act of 1955.

   The fertilizer shall be applied with approved mechanical spreaders at the rates specified and shall cover the entire area uniformly. Caution must be taken in application to insure that the rate does not exceed one pound of nitrogen (N) per 1,000 square feet.

   Generally, the fertilizer shall be applied during either the early morning hours or later in the afternoon, avoiding the daytime hours corresponding to peak sun intensity and temperature. Dry fertilizers shall not be applied until the area to be fertilized is completely watered. After fertilizer application, the area shall again be completely watered to the point of runoff.

3. Straw Erosion Control Blanket. Areas to be seeded shall use a straw erosion control blanket in lieu of mulch. The straw erosion control blanket shall be S75 as manufactured by North American Green, or equivalent. The straw erosion control blanket shall be a machine-produced mat with a one-hundred (100) percent agricultural straw matrix. The blanket shall be of consistent thickness with the straw evenly distributed over the entire area of the blanket. The blanket shall be covered on the top with polypropylene netting having an approximate 0.63 inch by 0.63 inch mesh. Breakdown of the netting within approximately

twelve (12) months, depending on geographic location and elevation. The blanket shall be sewn together on 1.50 inch centers with degradable thread. Installation staple patterns shall be clearly marked on the erosion control blanket with environmentally safe paint. The blanket shall be manufactured with a colored line or thread stitched along both outer edges (approximately two to five inches from the edge) to ensure proper material overlapping.

The erosion control blanket shall have the following properties: density of 0.50 lb/yd2; the netting, topside 1.5 lb/1000 ft2, and the thread shall also be degradable.

Installation as per manufactures printed literature.

201.5 Seeding; Unimproved Areas. Seeding work in non-crop areas or other designated grassed areas shall be seeded and erosion control blanket by the Contractor including excavations, fills, embankments, at other locations disturbed by the project, or as directed by the City.

Seeding operations shall be performed only during the periods March 1 to June 30 and August 1 to December 31.

1. Fertilizer. Fertilizers shall not be applied.

2. Seedbed. The seedbed shall be prepared with a three (3) inch surface layer that will be loose enough to allow satisfactory penetration of the mulch-anchoring machine. Disking, harrowing, and raking shall be longitudinal on all slopes.

3. Seeding. The grass mixture to be furnished will be uniformly drilled on all areas accessible to machinery. On areas not accessible to machinery, the seed may be uniformly broadcast, and will be covered by use of a harrow.

   The grass drill used to drill the seed will be of such construction that it can handle light fluffy seeds, will have double disc furrow openers spaced not more than ten (10) inches apart, and be equipped with depth bands to allow placement of the seed from 1/2" to 1" deep (Nisbet drill or equivalent). Land roller type of seeding equipment is not acceptable.

   The seed shall comply with the following amended requirements for Type "B" in accordance with the State of Nebraska Department of Roads Standard Specifications, and applied at the rates shown.

Seed Type	Min. Purity	Approved Drill, Broadcast or Hydraulic Mechanical Seeder, Application Rate
K-31 Fescue	85%	20.0 lbs., pure live seeds per acre
Western Wheatgrass – Barton	85%	8.0 lbs., pure live seeds per acre
Blue Gama -- NE, KS, CO.	35%	2.0 lbs., pure live seeds per acre

Buffalograsses — Sharp's App'd	85%	2.0 lbs., pure live seeds per acre
Upright Prairiecone Flower	85%	0.4 lbs., pure live seeds per acre
Common Oat	85%	10.0 lbs., pure live seeds per acre

4. Straw Erosion Control Blanket. Areas to be seeded shall use a straw erosion control blanket in lieu of mulch. The straw erosion control blanket shall be S75 as manufactured by North American Green, or equivalent. The straw erosion control blanket shall be a machine-produced mat with a one-hundred (100) percent agricultural straw matrix. The blanket shall be of consistent thickness with the straw evenly distributed over the entire area of the blanket. The blanket shall be covered on the top with polypropylene netting having an approximate 0.63 inch by 0.63 inch mesh. Breakdown of the netting within approximately twelve (12) months, depending on geographic location and elevation. The blanket shall be sewn together on 1.50 inch centers with degradable thread. Installation staple patterns shall be clearly marked on the erosion control blanket with environmentally safe paint. The blanket shall be manufactured with a colored line or thread stitched along both outer edges (approximately two to five inches from the edge) to ensure proper material overlapping.

   The erosion control blanket shall have the following properties: density of 0.50 lb/yd2; the netting, topside 1.5 lb/1000 ft2, and the thread shall also be degradable.

   Installation as per manufactures printed literature.

201.6 Sodding; Improved Areas. Sodding work in improved areas or other designated project areas shall be commercial sodded by the Contractor including excavations, fills, embankments, at other locations disturbed by the project, or as directed by the City.

Sodding operations shall be performed only during the periods March 1 to June 30 and August 1 to December 31 or approved by Engineer.

1. Sod Materials. Sod types shall be chosen to best match the existing lawn conditions and withstand the predominant climate conditions. Sod shall be nursery or field grown, certified, well rooted, and approved by the Engineer before application. Sod shall be cool to the touch, free of unwanted insects, disease, weeds or objectionable plants. The age of the sod shall be such that no tall grasses are matted into the rolled sod. The soil adherent to the sod shall be such that it will not break, crumble or tear during sod application. Sod shall not be matted such that penetration into the soil by water or fertilizers is inhibited. Roots shall be at least l/2 inch long and the total thickness of the sod shall be between one (1), and three (3) inches. The color of the sod shall be vibrant green. Delivered sod shall be moist, but not saturated, and kept moist until applied. Sod shall not have dried out or been cut more than forty-eight (48) hours before application. If application is delayed after delivery, the sod shall be stored in a shady place, unrolled and kept moist until application.

2. Fertilizer. Starter type fertilizer shall be incorporated into the soil prior to sodding. Fertilizer shall be a commercial turf product containing nitrogen, available phosphoric acid and soluble

potash as required, in a recognized plant food form. All fertilizer shall comply with the provisions of the State of Nebraska Fertilizer Act of 1955.

The fertilizer shall be applied with approved mechanical spreaders at the rates specified and shall cover the entire area uniformly. Caution must be taken in application to insure that the rate does not exceed one pound of nitrogen (N) per 1,000 square feet.

Generally, the fertilizer shall be applied during either the early morning hours or later in the afternoon, avoiding the daytime hours corresponding to peak sun intensity and temperature. Dry fertilizers shall not be applied until the area to be fertilized is completely watered. After fertilizer application, the area shall again be completely watered to the point of runoff.

3. Sodbed. Sodding shall be performed using a quality layer of worked topsoil of no less than six (6) inches in depth. Seedbed preparation shall not start until all stones, debris, roots, etc. larger than one (1) inch in diameter, or length, have been removed. As approved by the Engineer, the area shall be sufficiently worked to a minimum depth of three (3) inches such that the topsoil material is sufficiently aerated and loose. Equipment used to work the soil shall include a disk or other equipment approved by the Engineer. No sod shall be used on the area when the soil is crusted or caked, and has not been approved by the Engineer.

4. Application. Sod shall be placed within twenty-four (24) hours of soil preparation and fertilizing. Sod shall be placed on the prepared surface with the edges in close contact and the alternate courses staggered. The edge of the sod rolls shall be staggered upon application such that a continuous seems is not developed between two adjoining rolls.

   On slopes, the sod shall be placed with the longer dimension parallel to the ground contour. Sod shall be staked on all slopes of two (2) to one (1) or greater with four (4) stakes per square yard. Within eight (8) hours after application, the applied sod shall be watered with a fine spray such that the soil is kept moist. The soil shall be kept moist for a period of four (4) weeks after sod application with watering performed in the early morning or late afternoon. After application, any cracks or gaps between sod mats shall be filled in with quality topsoil. Within twelve (12) hours of application, the entire area of applied sod shall be leveled using a water-filled roller.

201.7 Exterior Plants. This Section includes the following: Trees, shrubs, ground cover, and plants.

A. Related Sections include the following:

   1. NDOR Standard Specifications for Highway Construction 1997, English Unit Addition, Division 200 Section "Earthwork" for protection of existing trees and planting, topsoil stripping and stockpiling, site clearing, excavation, filling, and rough grading and for placing topsoil.
   2. NDOR Supplemental Specifications for Highway Construction July 12, 2001, English Unit Addition.

1.2 DEFINITIONS

A. Balled and Burlapped Stock: Exterior plants dug with firm, natural balls of earth in which they are grown, with ball size not less than diameter and depth recommended by ANSI Z60.1 for type and size of tree or shrub required; wrapped, tied, rigidly supported, and drum-laced as recommended by ANSI Z60.1.

B. Container-Grown Stock: Healthy, vigorous, well-rooted exterior plants grown in a container with well-established root system reaching sides of container and maintaining a firm ball when removed from container. Container shall be rigid enough to hold ball shape and protect root mass during shipping and be sized according to ANSI Z60.1 for kind, type, and size of exterior plant required.

C. Finish Grade: Elevation of finished surface of planting soil.

D. Planting Soil: Native or imported topsoil, manufactured topsoil, or surface soil modified to become topsoils mixed with soil amendments.

E. Subgrade: Surface or elevation of subsoil remaining after completing excavation, or top surface of a fill or backfill, before placing planting soil.

1.3 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Planting Soil: Native or imported topsoil, manufactured topsoil, or surface soil modified to become topsoil; mixed with soil amendments.

C. Product Certificates: For each type of manufactured product, signed by product manufacturer, and complying with the following:
   1. Manufacturer's certified analysis for standard products.

D. Qualification Data: For landscape Installer.
   1. Planting Schedule: Indicating anticipated planting dates for exterior plants.

E. Maintenance Instructions: Recommended procedures to be established by Owner for maintenance of exterior plants during a calendar year. Submit before expiration of required maintenance periods.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: A qualified landscape installer whose work has resulted in successful establishment of exterior plants.

   1. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when exterior planting is in progress.

B. Provide quality, size, genus, species, and variety of exterior plants indicated, complying with applicable requirements in ANSI Z60.1, "American Standard for Nursery Stock."

C. Tree and Shrub Measurements: Measure according to ANSI Z60.1 with branches and trunks or canes in their normal position. Do not prune to obtain required sizes. Take caliper measurements 6 inches above ground for trees up to 4-inch caliper size, and 12 inches above ground for larger sizes. Measure main body of tree or shrub for height and spread; do not measure branches or roots tip-to-tip.

D. Observation: Owner may observe trees and shrubs either at place of growth or at site before planting for compliance with requirements for genus, species, variety, size, and quality. Owner has the right to observe trees and shrubs further for size and condition of balls and root systems, insects, injuries, and latent defects and to reject unsatisfactory or defective material at any time during progress of work. Remove rejected trees or shrubs immediately from Project site.

   1. Notify Owner of sources of planting materials 60 days in advance of delivery to site.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver exterior plants freshly dug.

B. Do not prune trees and shrubs before delivery, except as approved by Owner. Protect bark, branches, and root systems from sunscald, drying, sweating, whipping, and other handling and tying damage. Do not bend or bind-tie trees or shrubs in such a manner as to destroy their natural shape. Provide protective covering of exterior plants during delivery. Do not drop exterior plants during delivery.

C. Handle planting stock by root ball.

D. Deliver exterior plants after preparations for planting have been completed and install immediately. If planting is delayed more than six hours after delivery, set exterior plants trees in shade, protect from weather and mechanical damage, and keep roots moist.
   1. Set balled stock on ground and cover ball with soil, peat moss, sawdust, or other acceptable material.
   2. Do not remove container-grown stock from containers before time of planting.
   3. Water root systems of exterior plants stored on-site with a fine-mist spray. Water as often as necessary to maintain root systems in a moist condition.

1.6 COORDINATION

A. Planting Restrictions: Plant during one of the following periods. Coordinate planting periods with maintenance periods to provide required maintenance from date of Substantial Completion.

   1. Spring Planting: Deciduous: March 1- May 15
      Coniferous: March 15 - May 1

   2. Fall Planting: Deciduous: October 15-November 15
      Coniferous: August 15-September 30

B. Weather Limitations: Proceed with planting only when existing and forecasted weather conditions permit.

C. Coordination with Lawns: Plant trees and shrubs after finish grades are established and before planting lawns, unless otherwise acceptable to the Owner.

   1. When planting trees and shrubs after lawns, protect lawn areas and promptly repair damage caused by planting operations.

1.7 WARRANTY

A. Special Warranty: Warrant the following exterior plants, for the warranty period indicated, against defects including death and unsatisfactory growth, except for defects resulting from lack of adequate maintenance, neglect, or abuse by Owner, or incidents that are beyond Contractor's control.

   1. Warranty Period for Trees and Shrubs: One year from date of Substantial

Completion.

2. Warranty Period for Ground Cover and Plants: Six months from date of Substantial Completion.
3. Remove dead exterior plants immediately. Replace immediately unless required to plant in the succeeding planting season.
4. Replace each exterior plant that is more than 25 percent dead or in an unhealthy condition at end of warranty period.
5. A limit of one replacement of each exterior plant will be required, except for losses or replacements due to failure to comply with requirements.
6. Warranty period for replacement trees and shrubs: One year after the last plant to be replaced is properly planted and accepted by the Owner.

B. Upon completion of each Warranty Period, the Owner will make an inspection of the plant material for acceptability. The inspection will normally be made during the week that the warranty period terminates. The Contractor will be notified of the date of this inspection.

C. All items of maintenance shall have been performed on the plant material prior to the inspection. Any item of maintenance that has not been performed may make a plant unacceptable. Unacceptable plant material may be allowed to remain in place without payment being made therefore.

D. After the final inspection has been made, the Contractor will be notified in writing of the quantities of plant material that will remain in place without payment being made therefore, or the plant material that shall be replaced in the next planting season. Plant replacement shall be at the Contractor's expense. The Contractor will be notified in writing when his warranty responsibilities on the acceptable plant materials have been terminated.

1.8 MAINTENANCE

A. Trees and Shrubs: Maintain for the following maintenance period by pruning, cultivating, watering, weeding, fertilizing, restoring planting saucers, tightening and repairing stakes and guy supports, and resetting to proper grades or vertical position, as required to establish healthy, viable plantings. Spray as required to keep trees and shrubs free of insects and disease.

1. Maintenance Period: The greater of twelve months from the date of Substantial Completion or termination of the Warranty Period.

B. Ground Cover and Plants: Maintain for the following maintenance period by watering, weeding, fertilizing, and other operations as required to establish healthy, viable plantings:

1. Maintenance Period: The greater of six months from date of Substantial Completion or termination of the Warranty Period.

2 PRODUCT

2.1 TREE AND SHRUB MATERIAL

A. General: Furnish nursery-grown trees and shrubs complying with ANSI Z60.1, with healthy root systems developed by transplanting or root pruning. Provide well-shaped, fully branched, healthy, vigorous stock free of disease, insects, eggs, larvae, and defects such as knots, sun scald, injuries, abrasions, and disfigurement.

B. Grade: Provide trees and shrubs of sizes and grades complying with ANSI Z60.1 for type of trees and shrubs required. Trees and shrubs of a larger size may be used if acceptable to the Owner, with a proportionate increase in size of roots or balls.

C. Label each tree and shrub with securely attached, waterproof tag bearing legible designation of botanical and common name.

D. If formal arrangements or consecutive order of trees or shrubs is shown, select stock for uniform height and spread, and number label to assure symmetry in planting.

2.2 SHADE AND FLOWERING TREES

A. Shade Trees: Single-stem trees with straight trunk, well-balanced crown, and intact leader, of height and caliper indicated, complying with ANSI Z60.1 for type of trees required.

1. Provide balled and burlapped trees.
2. Branching Height: One-third to one-half of tree height.

B. Small Upright Trees: Branched or pruned naturally according to species and type, with relationship of caliper, height, and branching according to ANSI Z60.1; stem form as follows:

1. Stem Form: Single stem.
2. Provide balled and burlapped trees.

2.3 DECIDUOUS SHRUBS

A. Form and Size: Deciduous shrubs with not less than the minimum number of canes required by and measured according to ANSI Z60.1 for type, shape, and height of shrub.

1. Provide container-grown shrubs.

2.4 CONIFEROUS SHRUB

A. Form and Size: Normal-quality, well-balanced, coniferous evergreens, of type, height, spread, and shape required, complying with ANSI Z60.1.

B. Form and Size: Specimen-quality, exceptionally heavy, tightly knit, symmetrically shaped coniferous evergreens and the following grade:

1. Provide container-grown shrubs.

2.5 PLANTS

A. Perennials: Provide healthy, field-grown plants from a commercial nursery, of

species and variety shown or listed.

2.6 TOPSOIL

A. Topsoil: ASTM D 5268, pH range of 5.5 to 7, a minimum of 4 percent organic material content; free of stones 1 inch or larger in any dimension and other extraneous materials harmful to plant growth.

1. Topsoil Source: Reuse surface soil stockpiled on-site. Verify suitability of stockpiled surface soil to produce topsoil. Clean surface soil of roots, plants, sod, stones, clay lumps, and other extraneous materials harmful to plant growth.
   a. Supplement with imported or manufactured topsoil from off-site sources when quantities are insufficient. Obtain topsoil displaced from naturally well-drained construction or mining sites where topsoil occurs at least 4 inches deep; do not obtain from bogs or marshes.

2.7 ORGANIC SOIL AMENDMENTS

A. Wood Derivatives: Decomposed, nitrogen-treated sawdust, ground bark, or wood waste; of uniform texture, free of chips, stones, sticks, soil, or toxic materials.

2.8 FERTILIZER

A. Bonemeal: Commercial, raw or steamed, finely ground; a minimum of 4 percent nitrogen and 10 percent phosphoric acid.

B. Slow-Release Fertilizer: Granular or pelleted fertilizer consisting of 50 percent water-insoluble nitrogen, phosphorus, and potassium in the following composition:

1. Composition: 20 percent nitrogen, 10 percent phosphorous, and 10 percent potassium, by weight.

2.9 MULCHES

A. Organic Mulch: Free from deleterious materials and suitable as a top dressing of trees and shrubs, consisting of one of the following:

1. Type: Shredded hardwood.

B. Contractor to install. All areas not to be seeded shall be mulched.

2.10 STAKES AND GUYS

A. Upright and Guy Stakes: Rough-sawn, sound, new hardwood, redwood, or pressure-preservative-treated softwood, free of knots, holes, cross grain, and other defects, 2 by 2 inches by length indicated, pointed at one end.

B. Guy and Tie Wire: ASTM A 641/A 641M, Class 1, galvanized-steel wire, 2-strand, twisted, 0.106 inch in diameter.

C. Hose Chafing Guard: Reinforced rubber or plastic hose at least 1/2 inch in diameter, black, cut to lengths required to protect tree trunks from damage.

2.11 MISCELLANEOUS PRODUCTS

A. Antidesiccant: Water-insoluble emulsion, permeable moisture retarder, film forming, for trees and shrubs. Deliver in original, sealed, and fully labeled containers and mix according to manufacturers written instructions.

2.12 PLANTING SOIL MIX - PERENNIAL BEDS

A. Planting Soil Mix: Mix topsoil with the following soil amendments in the following quantities:

1. Ratio of Loose Wood Derivatives to Topsoil by Volume: 1:6
2. Weight of Bonemeal per 1000 Sq. Ft.: 3 lb.

3 EXECUTION

3.1 EXAMINATION

A. Examine areas to receive exterior plants for compliance with requirements and conditions affecting installation and performance. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Protect structures, utilities, sidewalks, pavements, and other facilities, and lawns and existing exterior plants from damage caused by planting operations.

B. Provide erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

C. Lay out individual tree and shrub locations and areas for multiple exterior plantings. Stake locations, outline areas, adjust locations when requested, and obtain Owner acceptance of layout before planting. Make minor adjustments as required.

D. Apply antidesiccant to trees and shrubs using power spray to provide an adequate film over trunks, branches, stems, twigs, and foliage to protect during digging, handling, and transportation.

3.3 PLANTING BED ESTABLISHMENT - PERENNIAL BEDS

A. Loosen subgrade of planting beds to a minimum depth of 4 inches. Remove stones larger than 1 inch in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.

1. Spread 6-inches of topsoil, apply soil amendments on surface, and thoroughly blend planting soil mix.
    a. Delay mixing fertilizer with planting soil if planting will not proceed within a few days.

B. Finish Grading: Grade planting beds to a smooth, uniform surface plane with loose, uniformly fine texture. Roll and rake, remove ridges, and fill depressions to meet finish grades.

C. Restore planting beds if eroded or otherwise disturbed after finish grading and before planting.

3.4 TREE AND SHRUB EXCAVATION

A. Pits and Trenches: Excavate circular pits with sides sloped inward. Trim base leaving center area raised slightly to support root ball and assist in drainage. Do not further disturb base. Scarify sides of plant pit smeared or smoothed during excavation.

1. Excavate approximately three times as wide as ball diameter for balled and burlapped and container-grown stock.
2. Excavate at least 12 inches wider than root spread and deep enough to accommodate vertical roots for bare-root stock.

B. Subsoil removed from excavations may be used as backfill.

C. Obstructions: Notify Owner if unexpected rock or obstructions detrimental to trees or shrubs are encountered in excavations.

1. Hardpan Layer: Drill 6-inch diameter holes into free-draining strata or to a depth of 10 feet, whichever is less, and backfill with free-draining material.

D. Drainage: Notify Owner if subsoil conditions evidence unexpected water seepage or retention in tree or shrub planting areas.

3.5 TREE AND SHRUB PLANTING

A. Set balled and burlapped stock plumb and in center of pit or trench with top of root ball 1 inch above adjacent finish grades.

1. Remove burlap and wire baskets from tops of root balls and partially from sides, but do not remove from under root balls. Remove pallets, if any, before setting. Do not use planting stock if root ball is cracked or broken before or during planting operation.
2. Place planting soil mix around root ball in layers, tamping to settle mix and eliminate voids and air pockets. When pit is approximately one-half backfilled, water thoroughly before placing remainder of backfill. Repeat watering until no more water is absorbed. Water again after placing and tamping final layer of planting soil mix.

B. Set container-grown stock plumb and in center of pit or trench with top of root ball 1 inch above adjacent finish grades.

1. Carefully remove root ball from container without damaging root ball or plant.
2. Place planting soil mix around root ball in layers, tamping to settle mix and eliminate voids and air pockets. When pit is approximately one-half backfilled, water thoroughly before placing remainder of backfill. Repeat watering until no

more water is absorbed. Water again after placing and tamping final layer of planting soil mix.

C. Organic Mulching: Apply 3-inch average thickness of organic mulch extending 12 inches beyond edge of planting pit or trench. Do not place mulch within 3 inches of trunks or stems.

3.6 TREE AND SHRUB PRUNING

A. Prune, thin, and shape trees and shrubs according to standard horticultural practice. Prune trees to retain required height and spread. Unless otherwise indicated by Owner, do not cut tree leaders; remove only injured or dead branches from flowering trees. Prune shrubs to retain natural character. Shrub sizes indicated are sizes after pruning.

3.7 GUYING AND STAKING

A. Upright Staking and Tying: Stake trees of 2- through 5-inch caliper. Stake trees of less than 2-inch caliper only as required to prevent wind tip-out. Use a minimum of 2 stakes of length required to penetrate at least 18 inches below bottom of backfilled excavation and to extend at least 72 inches above grade. Set vertical stakes and space to avoid penetrating root balls or root masses. Support trees with two strands of tie wire encased in hose sections at contact points with tree trunk. Allow enough slack to avoid rigid restraint of tree. Use the number of stakes as follows:

1. Use 2 stakes for trees up to 12 feet high and 2-1/2 inches or less in caliper; 3 stakes for trees less than 14 feet high and up to 4 inches in caliper. Space stakes equally around trees.

3.8 GROUND COVER AND PLANT PLANTING

A. Layout and space ground cover and plants 18 to 24 inches apart as determined by size of mature plant. Mature plant edges should slightly touch.
B. Dig holes large enough to allow spreading of roots, and backfill with planting soil.
C. Work soil around roots to eliminate air pockets and leave a slight saucer indentation around plants to hold water.
D. Water thoroughly after planting, taking care not to cover plant crowns with wet soil.
E. Protect plants from hot sun and wind; remove protection if plants show evidence of recovery from transplanting shock.

3.9 PLANTING BED MULCHING

A. Mulch backfilled surfaces of planting beds and other areas indicated.

1. Organic Mulch: Apply 3-inch average thickness of organic mulch, and finish level with adjacent finish grades. Do not place mulch against plant stems.

3.10 CLEANUP AND PROTECTION

A. During exterior planting, keep adjacent paving and construction clean and work area in an orderly condition.
B. Protect exterior plants from damage due to landscape operations, operations by other

contractors and trades, and others. Maintain protection during installation and maintenance periods. Treat, repair, or replace damaged exterior planting.

3.11 DISPOSAL

A. Disposal: Remove surplus soil and waste material, including excess subsoil, unsuitable soil, trash, and debris, and legally dispose of them off Owner's property.

3.12 METHOD OF MEASUREMENT

A. The work of exterior plants will be measured by each unit as listed in the bid proposal's Schedule of Items.

3.13 BASIS OF PAYMENT

A. The specific items measured as provided herein, shall be paid for at the contract unit price per each. This price shall be full compensation for furnishing and applying water, and for all materials, equipment, tools labor, and incidentals necessary to complete the work as specified herein.
B. Payment shall be made when all specified quantities have been furnished, delivered and planted by the contractor(s) awarded the bid and acceptance bas been done by the Owner for services provided and completed as specified herein.
C. Any plant materials not meeting specifications shall be rejected and the Owner shall not be obligated to make payment for any rejected plant materials.
D. Billing statement or invoice shall include company name, address and an itemized listing of the specified plant materials furnished, delivered and planted.
E. Any plant material which is found NOT to be true to the name or the type of species specified on the bid proposal, after being planted by the Contractor, shall either remain in place or be removed and replaced with the correct specified species. If it is to remain in place, a refund for the total cost of the specific plant shall be made immediately to the Owner or payment for such plants shall not be required by the Owner. If replacement plantings are required by the Owner, it shall be done as soon as possible and at no cost to the Owner.
F. Any payment made by the Owner for plant materials that may need to be replaced either during or at the end of the initial warranty period that is not acceptable and not replaced shall be refunded to the Owner.

202.0 *Asphalt, Cold Milling*

202.1 Cold Milling of Asphalt Pavement. Cold milling of asphalt pavement covers the requirements for the removal of the existing asphalt surface to a specified depth, including the disposal of the asphalt grindings.

Refer to NDOR Specifications Section 510.02 for material requirements. http://www.nebraskatransportation.org/ref-man/spece.htm

202.2 Equipment. The grinding equipment shall be self-propelled machine, designed and built for this type of work that can be automatically controlled for grade and slope. The machine shall be able to grind flush to all curbs and gutters, maintenance holes, catch basins, etc.

202.3 Location. The locations to be ground shall be at all limits shown on the drawings, and where directed by the Engineer.

202.4 Removal Depth. The depth of removal shall be six (6) inches. The entire depth of surfacing shall be milled to the underlying base or subgrade. Approximately 1 inch of existing surfacing may be left in place to serve as a work platform. This remaining surfacing can either be stockpiled or incorporated into the backfill operations. During the pavement removal operation, contamination of the existing granular, or other reusable materials, shall be minimized. When the roadway is to remain open to traffic, longitudinal differences in pavement elevations will be minimized as practical.

The surface remaining after the removal shall have a constant and continuous crossfall matching the final surface course crossfall. The surface remaining after removal shall have an even texture, and shall be free of significantly different grooves and ridges in all directions.

Removed asphalt material shall not remain on the roadway after completion of the day's operation.

202.5 Stockpiling. When the removed material is to remain temporarily on the site due to construction operations, The Contractor shall negotiate with property owners for placement areas of temporary stockpiling site(s). A project stockpile site has been assigned south of the intersection of Highway 30 and Talc Drive, approximately 5.75 Miles east of the project site.

Removed asphalt materials which are different, due to the removal equipment used or pavement type, shall be stockpiled in separate stockpiles.

All material not incorporated into the work upon project completion shall be location stockpiled at, and become the property of the City of Grand Island Streets Department. Contact Shannon Callahan (308-385-5322) with questions regarding location of millings.

202.6 Quantity Measurement. Measurement for the above item shall be the area, in square yards (yds^2), removed by cold grinding. If the contractor has been directed by the engineer to remove more than the depth specified, payment will be prorated based on the maximum depth specified in the item

Historic documents show a designed depth of 6" asphalt in this area. This is the assumed depth of existing pavement.

No additional payment shall be made for hand chipping where the grinder cannot reach.

203.0 *Measurement and Payment*

203.1 General. Sanitary Sewer District No. 529

1. Sanitary Sewer Main. (Item C.2.01) Sewer pipe shall be measured and paid for at the contract unit price per lineal foot for various sizes, including survey

staking, trench sloping, bracing, shoring and/or sheeting for pipe and associated appurtenances to assure safe working conditions, over-excavation to remove unsuitable foundation material and replacement with granular or other approved select materials; constructing the specified bedding including the furnishing, placing, and compaction of sand, gravel and rock as required for pipe bedding, salvaging, backfill, density, and compaction testing, Exfiltration, Air, Deflection, and TV Inspection complete in place, protection, bracing and or shoring of existing utilities, removal and replacement of existing fences.

Sewer pipe shall be measured for payment after installation of the sewer, through all line manholes, through the wall of structures and existing manholes, as main line sewer. Dewatering shall be subsidiary in other unit quantities.

2. Manholes. (Items C.2.02, C.2.03) Manholes shall be paid for at the contract unit price bid per manhole, for a depth of five feet, which payment shall include base, stub-outs, with stopper, and ring with cover. Additional payment shall be made for manholes more than five (5) feet in depth, measured from flow line to top of cover, at the contract unit price for each vertical foot or fraction thereof in excess of five (5) feet.

3. 4" PVC Sanitary Sewer Service. (Item C.2.04) Sewer service shall be measured and paid for at the contract unit price per horizontal lineal foot from center line of sanitary sewer main to the serving property line, including survey staking, excavation, backfill, density, and compaction testing. Vertical footage, and fittings is considered incidental to achieve elevation as per standard plan 132-A. Dewatering shall be subsidiary in other unit quantities.

4. 4" PVC Sanitary Sewer Service – C900. (Item C.2.05) Sewer service shall be measured and paid for at the contract unit price per horizontal lineal foot from center line of sanitary sewer main to the serving property line, including survey staking, excavation, backfill, density, and compaction testing. Vertical footage, and fittings is considered incidental to achieve elevation as per standard plan 132-A; additionally, work requires standard plan 133, and 138. Dewatering shall be subsidiary in other unit quantities.

5. Sanitary Service Tee. (Item C.2.06) Service Tee shall be measured at the contract unit price per various size tee connection, including furnishing and installing fitting, preparing and coring sewer pipe; and furnishing all skilled labor, material and equipment necessary to install.

6. 4" Service Cap. (Item C.2.07) Service Cap shall be measured at the contract unit price per connection, including furnishing and installing fitting, and T-Post marker.

7. Remove Existing 8" Sanitary Sewer Cap. (Item C.2.08) The unit payment shall be considered full compensation for removal of end cap. Removal shall include disposal at no separate or additional cost. Dewatering, Excavation, and Backfill shall be subsidiary in other unit quantities.

8. Cold Mill and Remove Asphalt Paving. (Item C.2.09) Cold Mill and Remove Asphalt shall be measured and paid for at the contract unit price per square yard, including full compensation for all safety, equipment, material, labor and supervision to cold-mill, sweep, load, and transport and stockpiling of material removed at the specified thickness. No separate payment shall be made for saw-cuts, if required.

9. Remove Concrete Paving. (Item C.2.10) Concrete Pavement removal shall be measured and paid for at the contract unit price per square yard. No separate or additional payment is made for Sawcut, and material disposal.

10. Remove Concrete Driveway. (Item C.2.11) Concrete Driveway removal shall be measured and paid for at the contract unit price per square yard. No separate or additional payment is made for Sawcut, and material disposal.

11. Remove Concrete Sidewalk. (Item C.2.12) Concrete Sidewalk removal shall be measured and paid for at the contract unit price per square foot. No separate or additional payment is made for Sawcut, and material disposal.

12. Remove Tree. (Item C.2.13) The unit price bid shall include removal of trees, clearing and grubbing of all roots and stumps and disposal. Landowners will be given the opportunity to remove trees within the limits of construction.

13. Remove and Replace Shed. (Item C.2.14) The unit price bid shall include all of the work and equipment, and all other related and necessary materials, required to professionally remove, relocate, and replace each shed within the work right-or-way. Any and all foundations, attachment methods and construction shall be equal or better than the existing, current state.

14. Remove and Replace Chainlink Fence. (Item C.2.15) The unit price bid per linear foot shall include all of the work and equipment, and all other related and necessary materials, required to professionally remove, relocate, and replace chainlink fence within the work right-or-way. Any and all fence construction shall be equal or better than the existing, current state.

15. Remove Bush. (Item C.2.16) The unit price bid shall include removal of bushes, clearing and grubbing of all roots and stumps and disposal. Landowners will be given the opportunity to remove trees within the limits of construction.

16. Remove and Replace Vinyl Fence. (Item C.2.17) The unit price bid per linear foot shall include all of the work and equipment, and all other related and necessary materials, required to professionally remove, relocate, and replace vinyl fence within the work right-or-way. Any and all fence construction shall be equal or better than the existing, current state.

17. Remove and Salvage Planter to Owner. (Item C.2.18) The lump sum bid price shall include all of the work and equipment, and all other related and necessary materials, required to professionally remove, package, and retain to property owner all of the landscape within the work right-of-way.

18. Remove and Replace Playset. (Item C.2.19) The lump sum price bid shall include all of the work and equipment, and all other related and necessary materials, required to professionally remove, relocate, and replace playset within the work right-or-way. Any and all construction shall be equal or better than the existing, current state.

19. Remove, Salvage, and Reuse Corrugated Metal Pipe. (Item C.2.20) The lump sum bid price shall include the removal, salvage, and reuse of each section of various size pipeline; including trench sloping, bracing, shoring and/or sheeting for pipe and associated appurtenances to assure safe working conditions; joints and jointing materials, including: grout, mortar, gaskets, seals, bolts, concrete collars, connecting bands, and other miscellaneous items as required to reconstruct the specific pipe joint; removal and disposal of unsuitable material prior to excavation; compaction and backfilling, grading and leveling; care and diversion of drainage courses; pumping and provision of facilities for diversion of flows.

20. Concrete Paving. (Items C.2.21, C.2.22) The measurement and payment for this item will be the actual number of square yards of concrete placed and accepted; including survey staking, concrete testing, forming, reinforcement, reinforcing chairs or supports, concrete, doweling; excavation; disposal of unsuitable material; curing compounds; contraction and expansion joints where required, including partial depth sawcuts; joint sealing compounds; concrete additives; finishing and edging; furnishing, transporting, installing, and compaction, and subgrade testing of all materials required for a stable subbase; removal and disposal of excess subgrade materials; and all other related and necessary materials, work and equipment required to construct the pavement. No measurement for payment will be made for concrete pavement outside of the dimensions as shown in the plans.

21. Concrete Sidewalk. (Item C.2.23) The measurement and payment for this item will be the actual number of square feet of concrete placed and accepted; including survey staking, forming, reinforcement, reinforcing chairs or supports, concrete, doweling; excavation; disposal of unsuitable material; curing compounds; contraction and expansion joints where required, including partial depth sawcuts; joint sealing compounds; concrete additives; finishing and edging; furnishing, transporting, installing, and compaction, and subgrade testing of all materials required for a stable subbase; removal and disposal of excess subgrade materials; and all other related and necessary materials, work and equipment required to construct the pavement. No measurement for payment will be made for concrete pavement outside of the dimensions as shown in the plans.

22. Adjust Manhole to Grade. (Item C.2.24) The unit payment shall be considered full compensation of this item, and include all; excavation; removal and disposal of excavated materials; backfill with approved materials; compaction; furnishing and transporting of all materials and equipment; cutting or adjusting of the manhole; furnishing and placement of concrete, brick, mortar, concrete

risers, concrete barrels, flat tops, cones, rings, covers, cast iron risers, plastic risers, plastic joint sealant, grout, manhole steps and all other related and necessary materials, work and equipment required to adjust manholes.

23. Repair Sprinkler System. (Item C.2.25) The unit payment shall be considered full compensation of this item, and include all; excavation; capping of systems at construction limits such that operation can remain on undisturbed property; salvaging of existing materials; removal and disposal of materials; restoration to operational state to the satisfaction of the property owner affected; furnishing and placement of all related and necessary materials, work and equipment required to repair encountered systems. Materials and parts replaced shall be replaced with like brand and dimension.

24. Seeding, Area. (Items C.2.26, C.2.27, C.2.28) Removal and salvage of topsoil, preparation of soils, ripping and tilling, fertilization, survey staking, leveling to the elevations and cleaning of the ground surface; furnishing of seed, and sod, proper placement of the seed, and sod; wetting, rolling and compaction; erosion control fabric, blankets, or protective coverings as required, clean up and disposal of unsuitable material; and all other related and necessary materials, work and equipment required to place the seeding, and sod in accordance with the plans and specifications.

25. Over-excavation. (Item C.2.29) The measurement for payment of this item will be the number of cubic yards of backfill material, placed and accepted for replacement in unsuitable materials discovered in the subgrade below a paved roadway or encountered in the excavation of material for pipe installation. The Contractor shall notify the Engineer if any questionable materials are discovered No measurement for payment will be made for materials that are placed without specific written approval of the Engineer. In addition, no payment will be made for: placement outside the specified trench width, placement due to cave-ins, and placement due to negligent or unauthorized activities by the Contractor.

    Quantities for any over-excavation shall be documented and approved by the Engineer All delivery trucks shall be plainly numbered and all records of gross, tare and net weights (determined by use of a certified scale) shall be kept in detail and furnished to the City. These records will be used for payment purposes, and may be reviewed by the Engineer at any time.

    The unit price bid per cubic yards of backfill material shall include; excavation and preparation of subgrade; removal and disposal of all unsuitable materials; furnishing of approved materials, transporting, weighing at a certified scale as required for payment placing, addition of water as necessary and compacting the backfill material; finish grading; and all other related and necessary materials, work, labor and equipment required to complete the site preparation and placement of the backfill material in accordance with the Engineer.

26. Dewatering. (Item C.2.30) Dewatering will be measured and paid for on a linear foot basis for the entire Sanitary Sewer construction. This linear foot basis payment shall be considered full compensation for installation of wells, sand

points, pumps, drainage courses, discharge, energy, furnishing and installing erosion control materials, permitting, monitoring, abandonment per State Statute, and all other related work and appurtenances for dewatering the project. The measurement shall be taken along the centerline of horizontal pipe installed in trench.

27. Plantings. (Item C.2.31, C.2.32) Plantings will be measured and paid for at the contract unit price per each. This price shall be full compensation for furnishing and applying water, and for all materials, equipment, tools labor, and incidentals necessary to complete the work as specified herein.

NOTE: Items listed in this section shall also apply to ALTERNATE BID #1 list. I.e. The description for Item C.2.01 also applies to Item C.3.01, so on and so forth.

END OF SPECIAL PROVISIONS