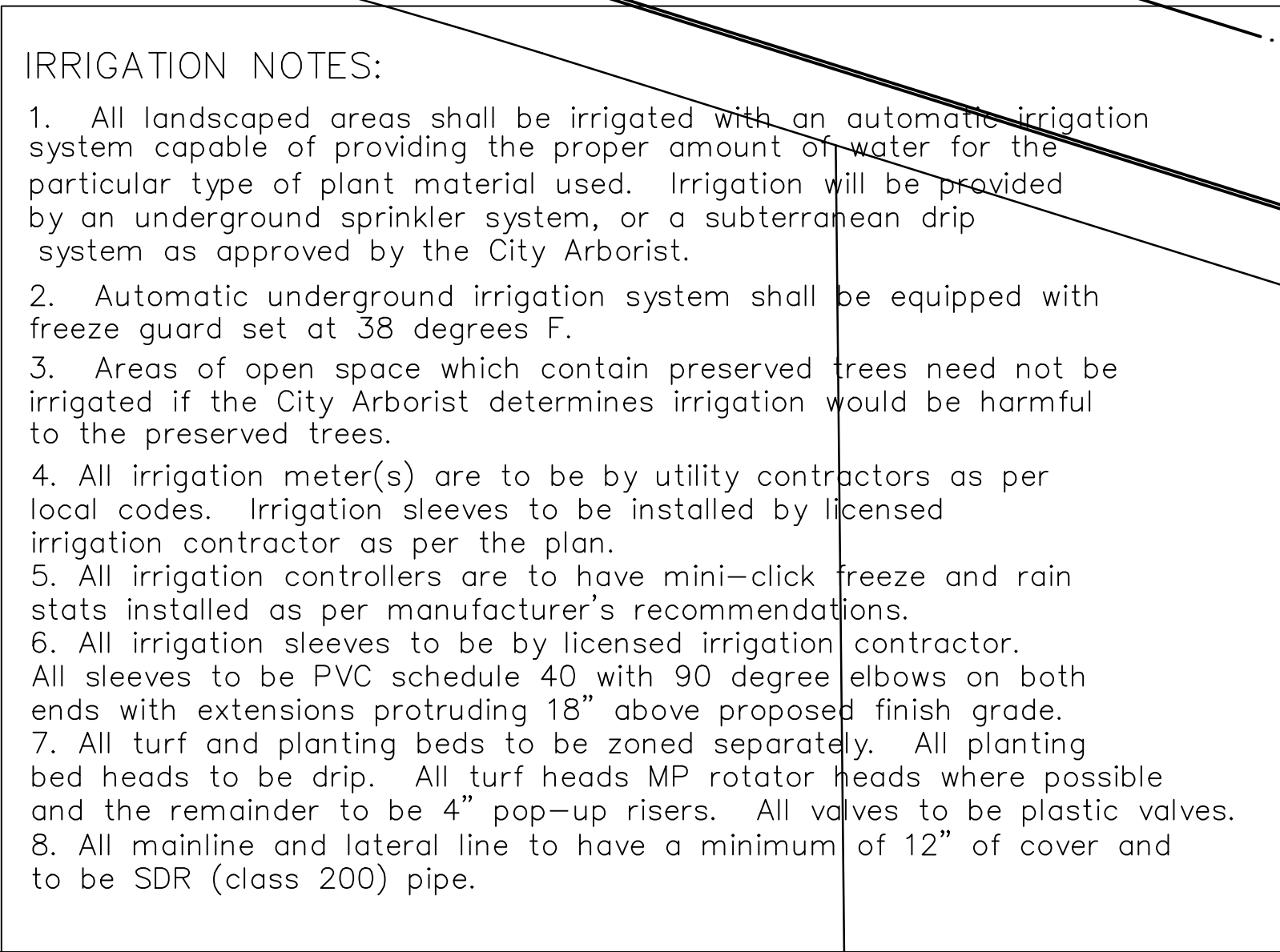
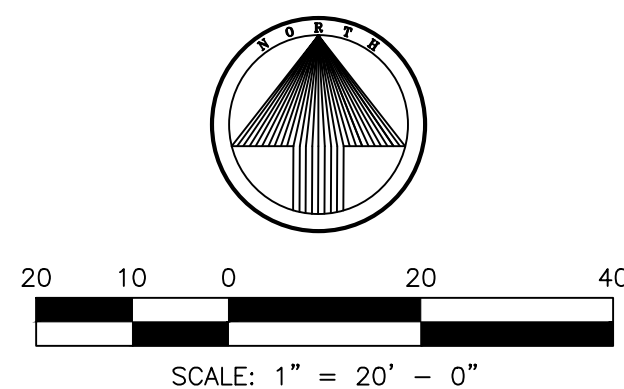




PLANT TABULATION					
QUANTITY	COMMON NAME	SPECIFIC NAME	SIZE	NOTES	
11	LIVE OAK	QUERCUS VIRGINIANA	4" CAL.	10' MIN HT, 5' MIN. SPR, 4' CT, NURSERY GROWN B&B OR CONT.	
6	TEXAS RED OAK	QUERCUS BUCKLEYI	4" CAL.	10' MIN HT, 5' MIN. SPR, 4' CT, NURSERY GROWN B&B OR CONT.	
2	TEXAS ASH	FRAXINUS TEXENSIS	4" CAL.	10' MIN HT, 5' MIN. SPR, 4' CT, NURSERY GROWN B&B OR CONT.	
3	'SARAH'S FAVORITE' CRAPE MYRTLE	LAGERSTROEMIA INDICA 'SARAH'S FAVORITE'	15 GAL.	6' MIN HT, 3' MIN. SPR, 3 OR 5 CANES, NURSERY GROWN	
68	'NELLIE R. STEVENS' HOLLY	ILEX X 'NELLIE R. STEVENS'	5 GAL.	30" MIN HT, 15" MIN. SPR, NURSERY GROWN CONT.	
43	'DWARF' BURFORD' HOLLY	ILEX CHINENSIS 'DWARF BURFORDII'	5 GAL.	30" MIN HT, 15" MIN. SPR, NURSERY GROWN CONT.	
24	'SHERWOOD' ABELIA	ABELIA GRANDIFLORA 'SHERWOOD'	3 GAL.	10' MIN HT, 12" MIN. SPR, NURSERY GROWN CONT.	
10	PURPLE DIAMOND LOROPETALUM	LOROPETALUM CHINENSIS 'PURPLE DIAMOND'	3 GAL.	10' MIN HT, 12" MIN. SPR, NURSERY GROWN CONT.	
13	MUHLY GRASS	MUHLENBERGIA CAPILLARIS	3 GAL.	ROOTED, HEALTHY, NURSERY GROWN CONT.	
1,143	BIG BLUE LIRIOPE	LIRIOPE MUSCARI 'BIG BLUE'	4" POTS	ROOTED, HEALTHY, NURSERY GROWN CONT.	
13,651	COMMON BERMUDA	CYNODON DACTYLON	SF	HYDROMULCH (APRIL 15-SEPT 1 ONLY, SOD OTHERWISE)	

ALL QUANTITIES ARE ESTIMATED AND ARE TO BE VERIFIED BY THE CONTRACTOR

ALL QUANTITIES ARE ESTIMATED AND ARE TO BE VERIFIED BY THE CONTRACTOR



LANDSCAPE PLAN

LANDSCAPE SPECIFICATIONS

Section One – General

A. Requirements

1. All work to be performed in accordance with all applicable laws, codes and regulations by authorities having jurisdiction over such work. Landscape contractor to provide all required permits and inspections as required under the scope of this work.
2. Landscape Contractor is responsible for contacting all utility companies or other such agencies for the location and type of underground utility which may be within the scope of work to be performed by the contractor.
3. Damage to any or all underground utilities is the responsibility of the Landscape Contractor.

B. Quality Assurance

1. Provide plant materials in compliance with applicable State and Federal laws relating to inspection for diseases and insect infestation at growing rate.
2. Plants are subject to inspection and approval by the Landscape Architect. Plants required for the work may be inspected and tagged at the growing site before being dug.
3. Observation at growing site does not preclude right of rejection at job site. Plants damaged in transit or at job site may be rejected.
4. Employ only qualified personnel familiar with required work.
5. Off-site topsoil and topsoil on-site testing (paid by Landscape Contractor):
 - a. Provide source of off-site soil to the Landscape Architect for purposes of soil investigation.
 - b. Take random representative soil samples from areas to be planted.
 - c. Test soil samples from both sources for pH, alkalinity, total soluble salts, porosity, sodium content, and organic matter.

C. Referenced Standards

1. American Standard for Nursery Stock, approved 1986 by American National Standards Institute, Inc. – Plant materials.
2. Hortus Third, 1976 – Cornell University – Plant nomenclature.
3. ASTM – American Standard Testing Method – Sharp sand.

D. Submittals

1. Samples: Submit for approval sufficient representative quantities of soil mix, mulch, and peat moss.
2. Submit one sample of each specified tree and three samples of each specified shrub and groundcover plants for Landscape Architect's approval. When approved tag, install, and maintain as representative samples for final installed plant materials.
3. File certificate of inspection of plant materials by State and Federal authorities with Landscape Architect, if required by state.

E. Product delivery, storage, and handling

1. Preparation for delivery:
 - a. Balled and Burlapped (B&B) Plants: Dig and prepare shipment in a manner that will not damage roots, branches, shape, and future development.
 - b. Container Grown Plants: Deliver plants in containers sufficiently rigid to hold ball shape and protect root mass during shipment.
2. Delivery:
 - a. Deliver packaged materials in sealed containers showing weight, analysis, and name of manufacturer. Protect materials from deterioration during delivery and while stored at site.
 - b. Do not deliver more plant materials than can be planted in one day unless adequate storage and watering facilities are available on job site. Storage of materials and equipment at the job site will be at the risk of the landscape contractor, the owner will not be held responsible for theft or damage.
 - c. If balled plants cannot be planted within 24 hours after delivery to site, protect root balls by heeling in with saw dust or other approved material.
 - d. Protect during delivery to prevent damage to root ball or desiccation of leaves.
 - e. Notify Landscape Architect of delivery schedule 48 hours in advance so plant material may be observed upon arrival at job site.

H. Job conditions:

1. Planting restrictions:
 - a. Perform actual planting only when weather and soil conditions are suitable in accordance with locally accepted practice.
2. Protections:
 - a. Do not move equipment over existing or newly placed structures without approval of Landscape Architect and General Contractor.
 - b. Provide board-rodding and sheeting as required to protect paving and other improvements from damage.
 - c. In no way shall any trees, plants, ground cover or seasonal color obstruct drainage or block a 2% minimum positive slope away from buildings.

I. Utilities:

- a. Determine location of underground utilities and perform work in a manner which will avoid possible damage. Hand excavate, if required, to minimize possibility of damage to underground utilities.

H. Warranty:

1. Warrant plants and trees for one year after final acceptance. Replace dead materials and materials not in vigorous, thriving condition as soon as weather permits and on notification by Landscape Architect. Replace plants, including trees, which in opinion of Landscape Architect have partially died thereby damaging shape, size, or symmetry.
2. Replace plants and trees with same kind and size as originally planted, at no cost to Owner. Provide one-year warranty on replacement plants. These should be replaced at start of next planting or digging season. In such cases remove dead trees immediately. Protect irrigation system and other piping conduit or other work during replacement. Repair any damage immediately.
3. Warranty excludes replacement of plants after final acceptance because of injury by storm, drought, drowning, hail, freeze, insects, diseases, owner negligence or acts of God.
4. At the end of the warranty period, staking, and guying material shall be removed from the site.

L. Maintenance:

1. Water will be available on-site. Provide necessary hoses and other watering equipment required to complete work.
2. Until final acceptance, maintain plantings and trees by watering, cultivating, mowing, weeding, spraying, clearing, and replacing as necessary to keep landscape in a vigorous, healthy condition and rake bed areas as required.
3. A written notice requesting final inspection and acceptance should be submitted to Landscape Architect seven (7) days prior to completion. At that time Owner and Landscape Architect will prepare a final punch list to be reviewed with Landscape Contractor. When such project is deemed complete by Landscape Architect, an on-site inspection by Owner, Landscape Contractor, and Landscape Architect will be completed prior to written acceptance.
4. Following that acceptance, maintenance of plant material will become the Owner's responsibility. The Contractor shall provide Owner with a recommended maintenance program.

Section Two – Products

A. Plants:

1. Quantities: The drawings and specifications are complimentary, anything called for on one and not the other is as binding as if shown and called for on both. The plant schedule is an aid to bidders only. Confirm all quantities on plan.
 2. Plants shall be equal to well formed No. 1 grade or better, symmetrical, heavily branched with an even branch distribution, densely foliated and/or budded, and a strong, straight, distinct leader where this is characteristic of the species. Plants shall possess a normal balance between height and spread. The Landscape Architect will be the final arbiter of acceptability of plant form, either before or after lanting and shall be removed at the expense of the Landscape Contractor and replaced with acceptable plants as specified.
 3. Plants shall be healthy and vigorous, free of disease, insect pests and their eggs, and larvae.
 4. Plants shall have a well-developed fibrous root system.
 5. Plants shall be free of physical damage such as scrapes, broken or split branches, scars, bark abrasions, sun scalds, fresh limb cuts, disfiguring knots, or other defects.
 6. Pruning of all trees and shrubs, as directed by Landscape Architect, shall be executed by Landscape Contractor at no additional cost to the owner.
 7. Plants shall meet the sizes indicated on the Plant List, where a size or caliper range is stated, at least 50% of the material shall be closer in size to the top of the range stated.
 8. Plants indicated "B&B" shall be balled and burlapped. Plants shall be nursery grown unless otherwise specified in plant list. Balls shall be firm, neat, slightly tapered and well burlapped. Non-biodegradable ball wrapping material will not be accepted. Any tree loose in the ball or with broken ball at time of planting will be rejected. Balls shall be ten (10) inches in diameter for each one (1") inch of trunk diameter, measured six (6") inches above ball.
 9. Container grown plants shall be well rooted and established in the container in which they are growing. They shall have grown in the container for a sufficient length of time for the root system to hold the planting medium when taken from the container, but not long enough to become root bound.
- B. Soil Preparation Materials:
1. Peat Moss: Commercial sphagnum moss or hyphum peat, or decomposed gin trash with pH between 5 and 7. The gin trash shall be sterilized to eliminate all active residuals, i.e., insecticides, pesticides, herbicides, fungus, virus and defoliant chemicals.
 2. Pre mixed soils will be considered as "approved equals" when samples are submitted with manufacturer's data and laboratory test reports. Approved suppliers include Vital Earth Complete Mix by Vital Earth Resources, Glendevor, Texas and Acid Gro Complete Mix by Soil Building Systems, Inc., Dallas, Texas.
 3. Sandy Loam:
 - a. Friable, fertile, dark, loamy, free of clay lumps, subsoil, stones, and other extraneous material and reasonably free of weeds and foreign grasses. Soil containing Dallisgrass or Nutgrass shall be rejected.
 - b. Physical properties as follows:
 - Clay – between 7–27 percent
 - Silt – between 28–50 percent
 - Sand – less than 52 percent
 4. Sharp sand: Clean, washed sand, (fine aggregate) ASTM C–33

C. Commercial Fertilizers:

1. Fertilizer shall be delivered in manufacturer's standard container printer with manufacturer's name, material weight, and guaranteed analysis. Fertilizers with N–P–K analysis other than that specified may be used provided that the application rate per square foot of nitrogen, phosphorus, and potassium is equal to that specified.
 2. Commercial fertilizer for planting beds: Complete fertilizer 5–10–5 element ratio with maximum 8% sulfur and 4% iron plus micro-nutrients.
 3. Controlled-Release fertilizer planting tablets for tree planting pits, shall be equal to Agriform 20–20–20 planting tablets as manufactured by Siera Chemical Co., Milpitas, California 95035 or approved equal.
- D. Mulch:
1. Bark mulch shall be shredded hardwood mulch, medium fine texture.
- E. Water:
1. Water shall be suitable for irrigation and shall be free from ingredients harmful to plant life.

F. Miscellaneous Materials:

1. Steel edging: 1/8" x 4" painted green
2. Jute mesh: Ludlow smolder resistant.
3. Filter Fabric: Marofi 140 N nn woven fabric (Mirafi, Inc., Charlotte, NC 28224), or equal.
4. Tree Wrapping Paper: Waterproof 6" wide crepe.
5. Staking or Guying Materials:
 - a. Wood Stakes: 2" x 4" x 30" dense pine, untreated.
 - b. T-Shaped Metal Posts: Point flat block, 8 feet long.
 - c. Turn Buckles: Galvanized steel, 3/8 inch eye, 6-inch opening.
 - d. Tie Wire: 12 gauge galvanized wire.
 - e. Black Hose: 2 ply, fiber reinforced hose, minimum 1/2 inch inside diameter.

6. Tree Point: Asphaltic base paint with antiseptic properties, manufactured for use on tree wounds.
7. Pea Gravel: Washed 2/8–inch diameter native pea gravel.
8. Crushed Stone: 1" diameter crushed limestone.
9. Antidescant: Wiltpruf (Nursery Specialty Products, Inc., Stubbs Road, Grotton Falls, N.Y.) or equal.
10. Fungicide: Zinc ethylene bisdithiocarbonate (Zineb) or equal.
11. Plastic Sheet: 4 mil black polyethylene, perforated at twenty four inches on center.

Section Three – Execution

A. Condition of Surfaces:

1. New bed areas will be left within one tenth of a foot of finish grade by other trades. Contractor will be responsible for raking and smoothing of grade.
2. Examine subgrade upon which work is to be performed. Notify the Landscape Architect of unsatisfactory conditions.

B. Tree Planting:

1. Stake tree locations for Landscape Architect's approval prior to digging.
2. Plant ornamental trees in pits 12-inches larger than root ball. Plant shade trees in pits two feet greater in diameter than root ball and equal to depth of root ball.
3. After excavation of tree pits, review water percolation with Landscape Architect.
4. If tree pit does not drain adequately prepare hole for use with a tree sump. Point PVC stand pipe and cover dark green. After tree is installed, pump water out on a daily basis.
5. In the event rock or underground construction work or obstructions are encountered in any plant pit excavation work to be done under this section, alternate locations may be selected by the Landscape Architect. Where locations cannot be changed the obstructions shall be removed to a depth of not less than six (6) inches below bottom of ball when plant is properly set at the required grade. The work of this section shall include the removal of the site of such rock or underground obstructions encountered at the cost of the Landscape Contractor.
6. Prepare soil for planting by thoroughly mixing two parts sandy loam and one part peat moss or other approved organic matter. If planting soil does not fall within the pH range of 5.5 to 7.0 add limestone or aluminum sulphate to bring soil into the specified pH range.
7. Backfill tree pits with a mixture of 1/2 prepared soil and 1/2 existing site soil. Lightly tamp every 6-inches to fill all voids and pockets. When pit is 2/3 full, water thoroughly and leave water to soak in. Place fertilizer lanting tablets per manufacturers recommendations. Complete backfilling and form a saucer around the tree. Fill saucer with water and leave to soak in. Fill saucer wit water.
8. Completely fill each tree sauce with mulch to a depth of two inches.
9. Contractor shall keep trees plumb until established. Guying and/or staking to maintain that plumb condition shall be at the Contractor's discretion. However, if trees are not plumb, the Contractor will be required to guy and/or stake those trees in a method acceptable to the Landscape Architect at no additional cost to the Owner.
10. Pruning: Prune trees to preserve the natural character of the plant in a manner appropriate to its particular requirements in the landscape design as directed by the Landscape Architect. In general, remove at least one-third of wood by thinning and pruning. DO NOT cut back terminal branches. Thin native grown plants heavier than nursery grown plants. Remove sucker growth and broken or badly bruised branches.
11. After planting has been completed and approved by Landscape Architect, mulch bed areas 2 inches deep.

C. Shrub Planting:

1. Layout planting beds for Landscape Architect's approval prior to digging.
2. All shrubs to be pocket planted. Excavate planting hole 1–1/2 times the width and height of the root ball. Backfill with 1/3 compost, 1/3 native soil and 1/3 sandy loam.
3. Place plants in position on bed areas before cans have been removed. Obtain approval from Landscape Architect. Do not remove burtop from B&B plants. Landscape Architect reserves right to interchange or shift plant prior to plant.
4. Plant where located, setting plants with tops of balls even with tops of beds, and compact soil carefully around each plant ball.
5. Water each plant thoroughly with hoses to eliminate air pockets.
6. Carefully prune plants to remove dead or broken branches and hand rake bed areas to smooth even surfaces.
7. After planting has been completed and approved by Landscape Architect, mulch bed areas 2 inches deep.

D. Groundcover Planting:

1. Lay out planting beds for the Landscape Architect's approval prior to digging.
2. Till 2 inches minimum of thoroughly mixed prepared soil in all planting bed areas as follows:
 - a. 1 part sandy loam
 - b. 1 part peat moss or approved organic matter
 - c. 1 part sharp sand
 - d. Add 4 pounds commercial fertilizer per 100 SF of bed area and mix thoroughly.
3. Place plants in position on bed areas before cans have been removed. Obtain approval from Landscape Architect. Landscape Architect reserves right to interchange or shift plants prior to planting.
4. Plant where located, setting plants with tops of balls even with tops of beds, and compact soil carefully around each plant ball.
5. Water each plant thoroughly with hoses to eliminate air pockets.
6. Carefully prune plants to remove dead or broken branches and hand-rake bed areas to smooth even surfaces.
7. After planting has been completed and approved by Landscape Architect, mulch bed areas 2 inches deep.

E. Seasonal Color Planting:

1. Lay out planting beds for the Landscape Architect's approval prior to digging.
2. Beds shall be excavated to a depth of 4 inches. Soil shall be replaced with 100% Living Earth Technology Complete Mix.
3. Place plants in position on bed area before cans have been removed. Obtain approval from the Landscape Architect. The Landscape Architect reserves the right to interchange or shift plants prior to planting.

4. Plant where located, setting plants with tops of balls even with tops of beds, and compact soil carefully around each plant ball.
5. Water each plant thoroughly with hoses to eliminate air pockets.
6. Carefully prune plants to remove dead or broken branches and hand-rake bed areas to smooth even surfaces.
7. After planting has been completed and approved by the Landscape Architect, mulch bed areas 2 inches deep.

Part Two

Section One – General

The contractor is to render the following Landscape Maintenance Services during the term of the initial construction contract. In addition, the Contractor is to indicate a price for a one year extended maintenance contract to begin after the construction project is complete and accepted. This price is to be submitted on a separate line item.

A. Scope:

1. Work included in Base Bid. Perform all work necessary utilizing acceptable horticultural practices fro the exterior landscape maintenance of the project as required herein. Such work includes, but is not limited to the following:
 - a. Monitoring adjustment and minor repair of the landscape irrigation system.
 - b. Protection of vacuum breakers against freeze damage.
 - c. Mowing, edging and trimming of trees and shrubs.
 - d. Pruning and trimming of trees and shrubs.
 - e. Resealing and adjustment of stakes and guying if required.
 - f. Approval, by Owner, of material substitutions prior to use.
 - g. Application of fertilizers, insecticides and herbicides
 - h. Replacement of plant material (extra service)
 - i. General site clean up and removal of trash and product of maintenance.

B. Extra Services:

- The intent of the contract is to provide a comprehensive maintenance program to include all required services, except these services specifically excluded, to perform the work for the state time period.
1. All services not included in the base bid shall be considered "extra services" and will be charged for separately according to the nature of the item of work. The written consent and authorization of the Owner of their authorized representative must be obtained prior to the performance or installation of such "extra services" items and prior to purchase of any chargeable materials.
 2. Such work may include replacement of dead plant material or major repairs of irrigation system created by acts of vandalism or other contractors or other site related work.
 3. Authorized extra services work must be summarized weekly and submitted with receipts to the Owner.
 4. The Owner is not bound by the specifications or contract to utilize the landscape maintenance contractor in the performance of "extra service work."
 5. The landscape maintenance contractor shall coordinate his activities with other contractors on the site so as to not hinder the performance of any work.
 6. Authorized charges for extra work will be paid monthly.

C. Substitutions:

1. Specific reference to manufacturer's names and products specified in the Section are used as standards, but this implies the right to substitute other material or methods without the written approval of the Owner. Such permission must be secured without additional cost to Owner.
2. Installation of any approved substitutions Contractor's responsibility. Any changes required for installation of any approved substitution must be made to the satisfaction of any without additional cost to Owner.

D. Schedule:

1. All work under this Contractor shall be performed in accordance with the Schedule submitted by the landscape maintenance Contractor and approved by Owner and/or his representative.

E. Contractor's Performance:

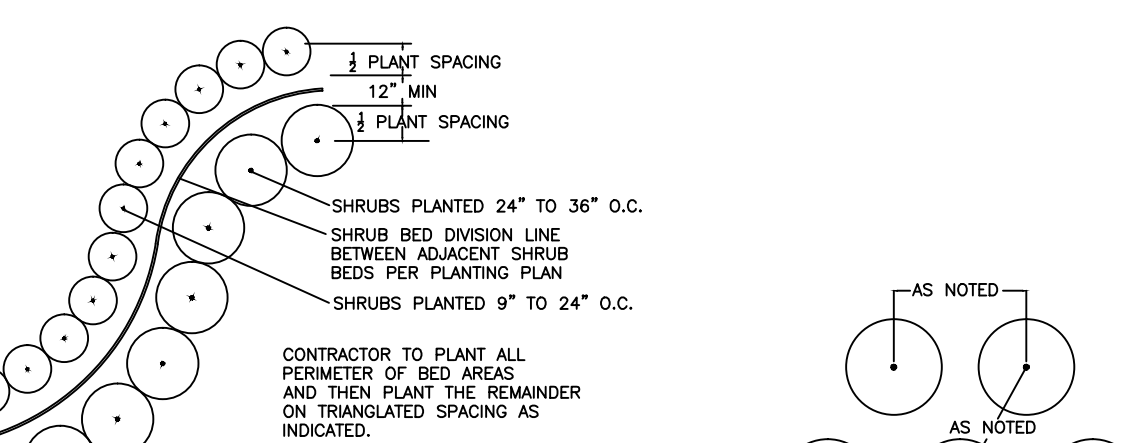
1. The Contractor's workmen shall be neat in appearance, perform their work in a professional manner, keep noise to a minimum and stage their work from a location on the site out of the way of the mainstream of the uses. In general, the Contractor's presence on the site shall be as inconspicuous as possible.
2. The intent and spirit of this project manual is to provide a guideline for the contractor to follow in order to provide ownerwith landscape maintenance services of the highest quality. Where the manual refers to "as-needed" or "as-required" the intent if for the contractor to perform the services necessary to maintain the property at the highest possible quality level. Nothing contained within this project manual shall be interpreted as relieving the contractor or his responsibility to perform with work in a professional manner and to the complete satisfaction of the Owner.
3. If disputes arise as to the quality fo teh services performed the Owner or Owner's designated representative shall make the final determination of responsibilities.

F. Neglect and Vandalism:

1. Turf, trees or plants that are damaged or killed due to Contractor's operations, negligence or chemicals shall be replaced at no expense to the Owner. If plant damage or death is caused by conditions beyond the Contractor's control, replacement shall be at the Owner's expense.
2. Sprinklers or structures that are damaged due to the Contractor's operations must be replaced by the Contractor promptly. Likewise, damage to the irrigation system by others shall be corrected immediately by the Contractor, at the Owner's expense.
3. All water damage, either natural or man-made, resulting from Contractor's neglect shall be corrected at the Contractor's expense.
4. All damage to or thefts of landscaping and irrigation installations not caused or allowed by the Contractor shall be corrected by the Contractor at the Owner's expense upon receipt of written authorization to proceed.

G. Job Conditions:

1. Contractor shall acquaint himself with all site conditions. Should excavation be required, the Contractor shall promptly notify the utility coordination committee for utility locations. Failure to do so will make Contractor liable for any and all damage thereto arising from his operations.
 2. Contractor shall take necessary precautions to protect site conditions, irrigation and plants. Should damage be incurred, this Contractor shall repair damage to its original condition or furnish and install equal replacement at this expense.
- H. Emergencies:
1. The Contractor shall answer emergency or complaint calls within twelve (12) hours and corrective action shall be complete within 24 hours.
 2. The Contractor shall answer emergency calls regarding the landscape irrigation system failure or need of repair and take corrective action within eight (8) hours. Such work, unless caused due to neglect on the part of the Landscape

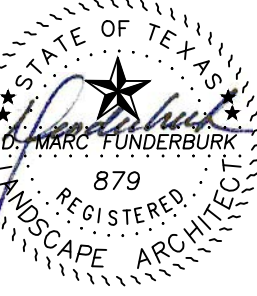


Date: 01–15–2014

Job: D–14002–CALVARY

Revisions

Date	Description
02–10–2014	CITY_REVISIONS
02–25–2014	CITY_REVISIONS



Coppell, TX

CAVALRY CONSTRUCTION

Howell Drive @ Southwestern Blvd.

A Landscape Development Plan For

Date Completed: 1/15/14

Designed by: R. Reed

Checked by: DMF

Phase: Preliminary

LANDPATTERNS, INC.

Landscape Architecture
Landscape Construction

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Sheet

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LANDSCAPE PLAN