

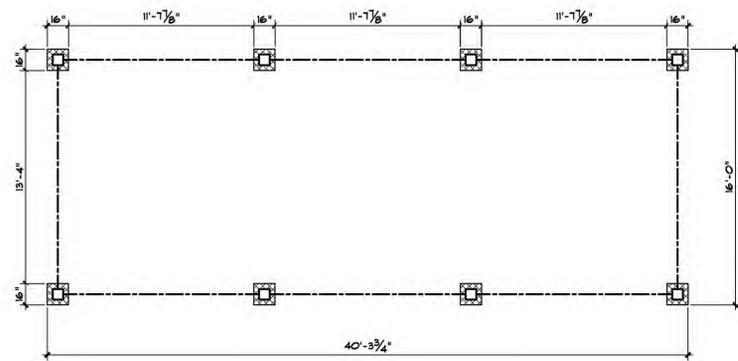
# City of Rockwall

Planning & Zoning Department  
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 Rockwall, Texas 75032  
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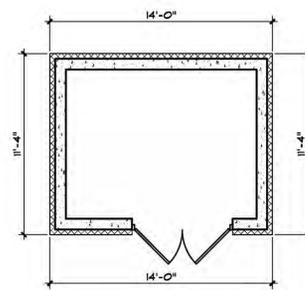
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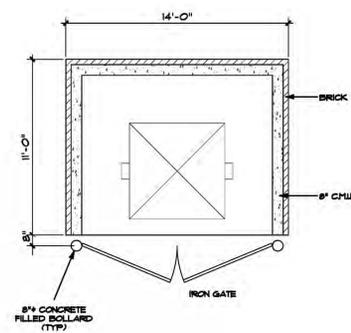




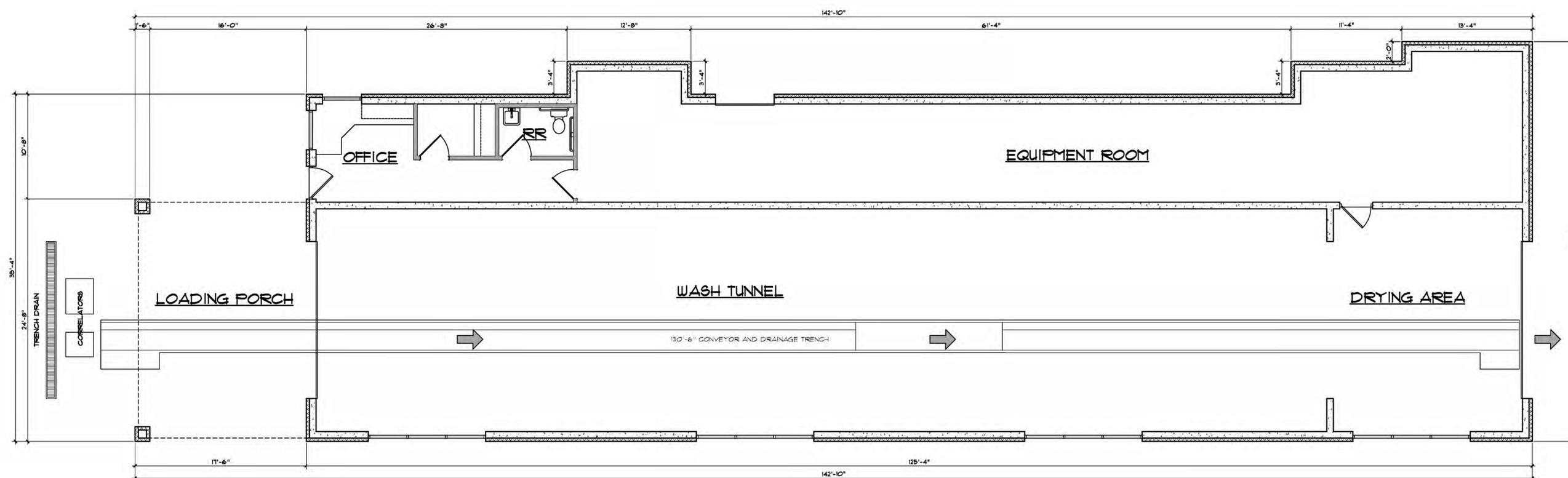
PAY STATION



VACUUM ENCLOSURE

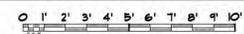


DUMPSTER ENCLOSURE



FLOOR PLAN

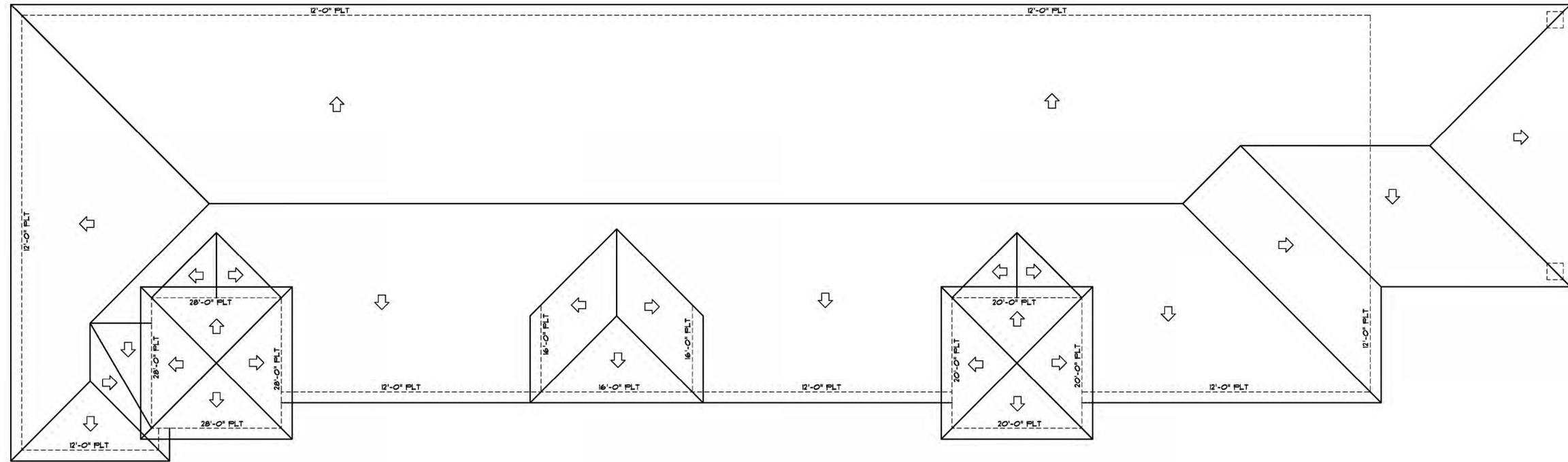
SCALE 3/16" = 1'-0"



	- CMU
	- BRICK OR STONE PER PLAN
	- METAL STUD FRAME

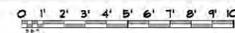
COVERED AREAS	
PAY STATION	645 S.F.
CAR WASH	5011 S.F.
VACUUM STATION BUILDING	3870 S.F.
<b>TOTAL COVERED</b>	<b>9226 S.F.</b>





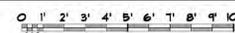
ROOF PLAN

SCALE 3/16" = 1'-0"

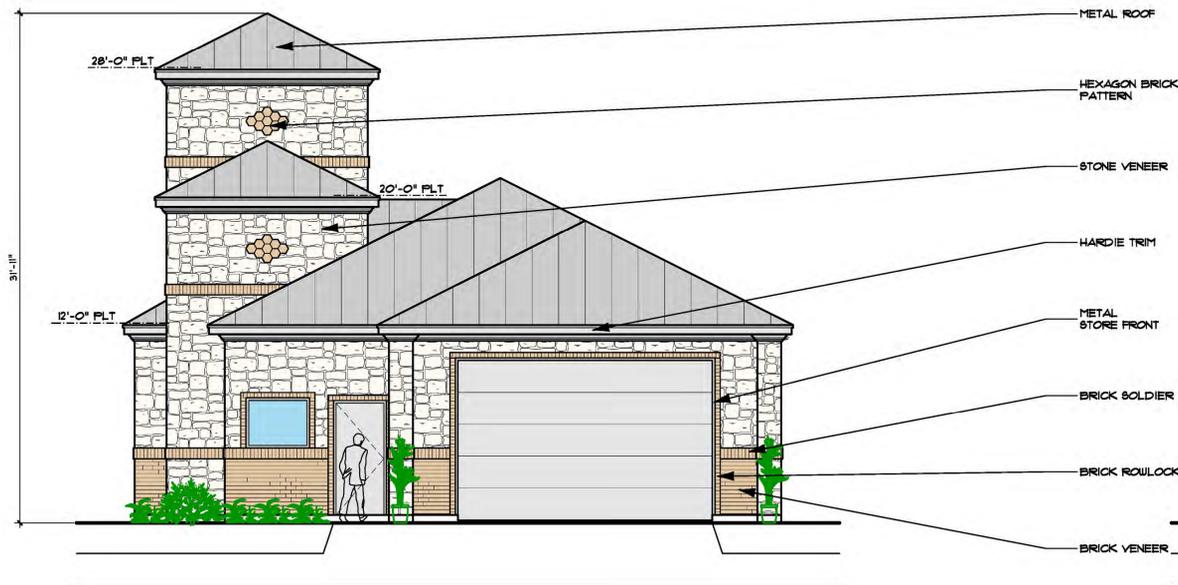


WEST ELEVATION

SCALE 3/16" = 1'-0"



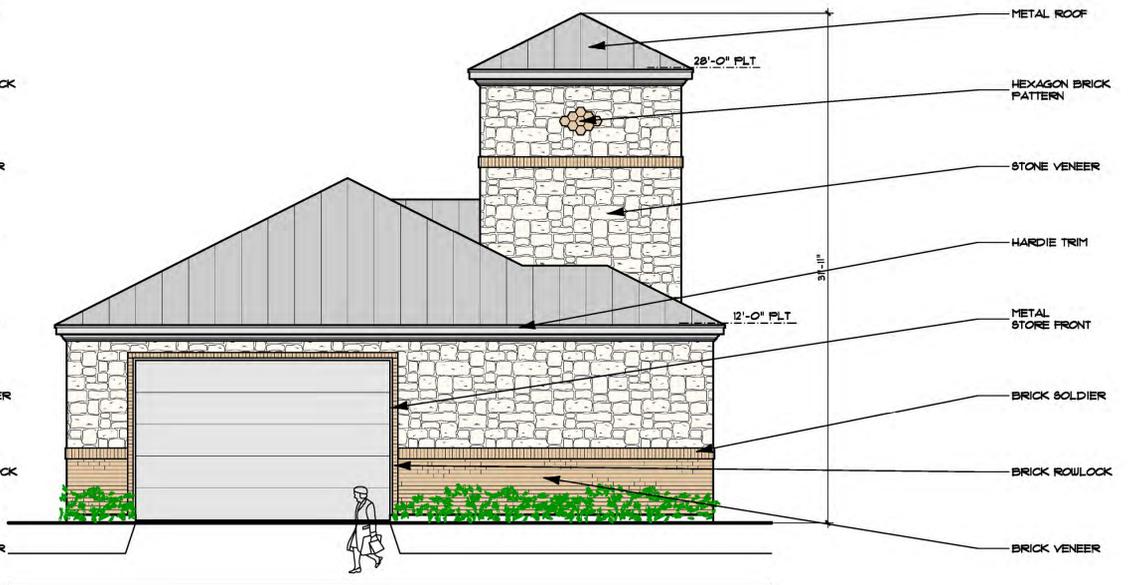
BRICK	914 SF	22%
STONE	1115 SF	78%
TOTAL	1429 SF	100%



**SOUTH ELEVATION**

SCALE 3/16" = 1'-0"

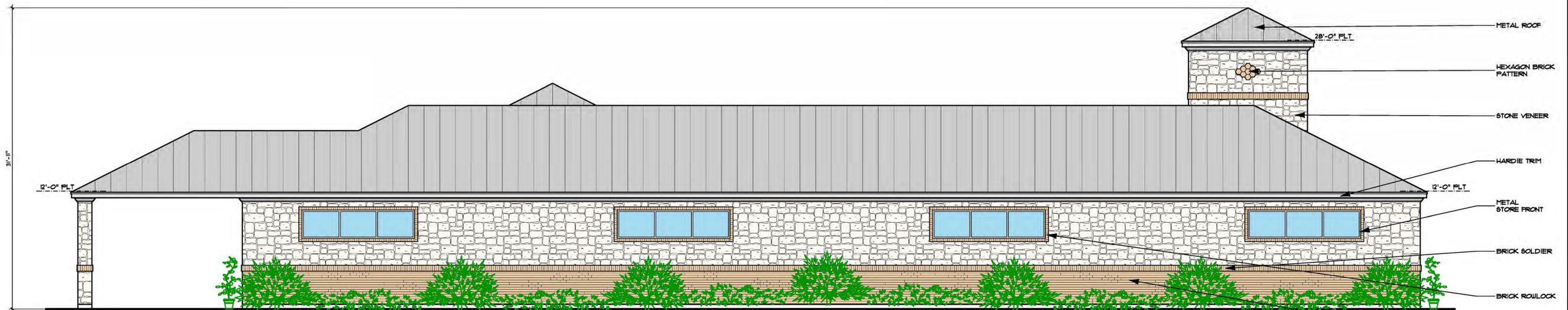
BRICK	85 SF	23%
STONE	280 SF	77%
TOTAL	365 SF	100%



**NORTH ELEVATION**

SCALE 3/16" = 1'-0"

BRICK	122 SF	29%
STONE	306 SF	71%
TOTAL	428 SF	100%



**EAST ELEVATION**

SCALE 3/16" = 1'-0"

BRICK	575 SF	44%
STONE	726 SF	56%
TOTAL	1301 SF	100%



**SECTION 32 9300 - LANDSCAPE**

**PART 1 - GENERAL**

**1.1 REFERENCED DOCUMENTS**

- A. Refer to Landscape Plans, notes, details, bidding requirements, special provisions, and schedules for additional requirements.

**1.2 DESCRIPTION OF WORK**

- A. Work included: Furnish all supervision, labor, materials, services, equipment and appliances required to complete the work covered in conjunction with the landscaping covered in these specifications and landscaping plans, including:
  1. Planting (trees, shrubs and grasses)
  2. Bed preparation and fertilization
  3. Notification of sources
  4. Water and maintenance until final acceptance
  5. Guarantee

**1.3 REFERENCE STANDARDS**

- A. American Standard for Nursery Stock published by American Association of Nurserymen 27 October 1980, Edition; by American National Standards Institute, Inc. (Z60.1) - plant material
- B. American Joint Committee on Horticultural Nomenclature: 1942 Edition of Standardized Plant Names.
- C. Texas Association of Nurserymen, Grades and Standards
- D. Hortis Third, 1976 - Cornell University

**1.4 NOTIFICATION OF SOURCES AND SUBMITTALS**

- A. Samples: Provide representative quantities of sandy loam soil, mulch, bed mix material, gravel and crushed stone. Samples shall be approved by Owner's Authorized Representative before use on the project.
- B. American Joint Committee on Horticultural Nomenclature: 1942 Edition of Standardized Plant Names.
- C. Texas Association of Nurserymen, Grades and Standards
- D. Hortis Third, 1976 - Cornell University

**1.5 JOB CONDITIONS**

- A. General Contractor to complete the following punch list: Prior to Landscape Contractor initiating any portion of landscape installation, General Contractor shall leave planting bed areas three (3") inches below final finish grade of sidewalks, drives and curbs as shown on the drawings. All lawn areas to receive solid sod shall be left one (1") inch below the final finish grade of sidewalks, drives and curbs. All construction debris shall be removed prior to Landscape Contractor beginning any work.
- B. Storage of materials and equipment at the job site will be at the risk of the Landscape Contractor. The Owner cannot be held responsible for theft or damage.

**1.6 MAINTENANCE AND GUARANTEE**

- A. Maintenance:
  1. The Landscape Contractor shall be held responsible for the maintenance of all work from the time of planting until final acceptance by the Owner. No trees, shrubs, groundcover or grass will be accepted unless they show healthy growth and satisfactory foliage conditions.
  2. Maintenance shall include watering of trees and plants, cultivation, weeding spraying, edging, pruning of trees, mowing of grass, cleaning up and all other work necessary of maintenance.
  3. A written notice requesting final inspection and acceptance should be submitted to the Owner at least seven (7) days prior to completion. An on-site inspection by the Owner's Authorized Representative will be completed prior to written acceptance.
- B. Guarantee:

- 1. Trees, shrubs and groundcover shall be guaranteed for a twelve (12) month period after final acceptance. The Contractor shall replace all dead materials as soon as weather permits and upon notification of the Owner. Plants, including trees, which have partially died so that shape, size, or symmetry have been damaged, shall be considered subject to replacement. In such cases, the opinion of the Owner shall be final.
  - a. Plants used for replacement shall be of the same size and kind as those originally planted and shall be planted as originally specified. All work, including materials, labor and equipment used in replacements, shall carry a twelve (12) month guarantee. Any damage, including ruts in lawn or bed areas, incurred as a result of making replacements shall be immediately repaired.
  - b. At the direction of the Owner, plants may be replaced at the start of the next year's planting season. In such cases, dead plants shall be removed from the premises immediately.
  - c. When plant replacements are made, plants, soil mix, fertilizer and mulch are to be utilized as originally specified and re-inspected for full compliance with the contract requirements. All replacements are to be included under "Work" of this section.

**1.7 QUALITY ASSURANCE**

- A. General: Comply with applicable federal, state, county and local regulations governing landscape materials and work.
- B. Personnel: Employ only experienced personnel who are familiar with the required work. Provide full time supervision by a qualified foreman acceptable to Landscape Architect.
- C. Selection of Plant Material:
  1. Make contact with suppliers immediately upon obtaining notice of contract acceptance to select and book materials. Develop a program of maintenance (pruning and fertilization) which will ensure the purchased materials will meet and / or exceed project specifications.
  2. Substitutions: Do not make plant material substitutions. If the specified landscape material is not obtainable, submit proof of non-availability to Landscape Architect, together with proposal for use of equivalent material. At the time bids are submitted, the Contractor is assumed to have located the materials necessary to complete the job as specified.
  3. Landscape Architect will provide a key identifying each tree location on site. Written verification will be required to document material selection, source and delivery schedules to site.
  4. Measurements: Measure trees with branches and trunks or canes in their normal position. Do not prune to obtain required sizes. Take caliper measurements six inches above ground for trees up to and including 4" caliper size, and twelve inches above ground for larger sizes. Measure main body of all plant material of height and spread dimensions,

**1.8 PRODUCT DELIVERY, STORAGE AND HANDLING**

- A. Preparation:
  1. Balled and Burlapped (B&B) Plants: Dig and prepare specified and re-inspected for full compliance with the contract requirements. All replacements are to be included under "Work" of this section.
  2. The Owner agrees that for the guarantee to be effective, he will water plants at least twice a week during dry periods and cultivate beds once a month after final acceptance.
  3. The above guarantee shall not apply where plants die after acceptance because of injury from storms, hail, freeze, insects, diseases, injury by humans, machines or theft.
  4. Acceptance for all landscape work shall be given after final inspection by the Owner provided the job is in a complete, undamaged condition and there is a stand of grass in all lawn areas. At that time, the Owner will assume maintenance on the accepted work.

**1.9 REPAIRS**

- C. Repairs: Any necessary repairs under the Guarantee must be made within ten (10) days after receipt of written notice permitting. In the event the Landscape Contractor does not make repairs accordingly, the Owner, without further notice to Contractor, may provide materials and men to make such repairs at the expense to the Landscape Contractor.

do not measure from branch or root tip-to-tip.

- 5. Owner's Authorized Representative shall inspect all plant material with requirements for genus, species, cultivar / variety size and quality.
- 6. Owner's Authorized Representative retains the right to further inspect all plant material upon arrival to the site and during installation for size and condition of root balls and root systems, limbs, branching habit, insects, injuries and latent defects.
- 7. Owner's Authorized Representative may reject unsatisfactory or defective material at any time during the process work. Remove rejected materials immediately from the site and replace with acceptable material at no additional cost to the Owner. Plants damaged in transit or at job site shall be rejected.

**2.1 PLANTS**

- A. General: Well-formed No. 1 grade or better nursery grown stock. Listed plant heights are from tops of root balls to nominal tops of plants. Plant spread refers to nominal outer width of the plant, not to the outer leaf tips. Plants will be individually approved by the Owner's Authorized Representative and his decision as to their acceptability shall be final.
- B. 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.
- C. Quality and size: Plant materials shall conform to the size given on the plan, and shall be healthy, symmetrical, well-shaped, full branched and well rooted. The plants shall be free from injurious insects, diseases, injuries to the bark or roots, broken branches, objectionable disfigurements, insect eggs and larvae, and are to be of specimen quality.
- D. Approval: All plants which are found unsuitable in growth, or are in any unhealthy, badly shaped or oversized condition will be rejected by the Owner's Authorized Representative either before or after planting and shall be removed at the expense of the Landscape Contractor and replaced with acceptable plant as

**2.2 MISCELLANEOUS MATERIALS**

- A. Steel Edging: All steel edging shall be 3/16" thick x 4" deep x 16' long with 6 stakes per section, painted black at the factory as manufactured by The J.D. Russell Company and under its trade name DURAEDEGE Heavy Duty Steel.
- B. Staking Material for Shade Trees: refer to details.
- C. Gravel: Washed native pea gravel, graded 1 inch to 1-1/2 inch.
- D. Filter Fabric: 'Mirafi Mirascape' by Mirafi Construction Products available at Lone Star Products, Inc., (469) 523-0444 or approved equal.
- E. River Rock: 'Colorado' or native river rock, 2" - 4" dia.

**2.3 SOIL PREPARATION MATERIALS**

- A. Sandy Loam:
  1. Friable, fertile, dark, loamy soil, free of clay lumps, subsoil, stones and other extraneous material and reasonably free of weeds and foreign grasses. Loam containing Dallasgrass or Nutgrass shall be rejected.
  2. Physical properties as follows:
    - a. Clay - between 7-27 percent
    - b. Silt - between 15-25 percent
    - c. Sand - less than 52 percent
  3. Organic matter shall be 3%-10% of total dry weight.
  4. If requested, Landscape Contractor shall provide a certified soil analysis conducted by an approved soil testing laboratory verifying that sandy loam meets the above requirements.
- B. Organic Material: Compost with a mixture of 80% vegetative matter and 20% animal waste. Ingredients should be a mix of course and fine textured material.
- C. Premixed Bedding Soil as supplied by Vital Earth Resources, Gladewater, Texas; Professional Bedding Soil as supplied by Living Earth Technology, Dallas, Texas or Acid Gro Municipal Mix as supplied by Soil Building Systems, Dallas, Texas or approved equal.
- D. Sharp Sand: Sharp sand must be free of seeds, soil particles and weeds.
- E. Mulch: Double Shredded Hardwood Mulch, partially decomposed, dark brown. Living Earth Technologies or approved equal.
- F. Organic Fertilizer: Fertilaid, Sustane, or Green Sense or equal as recommended for required applications. Fertilizer shall be delivered to the site in original unopened containers, each bearing the manufacturer's guaranteed statement of analysis.
- G. Commercial Fertilizer: 10-20-10 or similar analysis. Nitrogen source to be a minimum 50% slow release organic Nitrogen (SCU or UF) with a minimum 8% sulfur and 4% iron, plus micronutrients.
- H. Peat: Commercial sphagnum peat moss or partially decomposed shredded pine bark or other approved organic material.

**2.4 SOIL PREPARATION MATERIALS**

- A. Sandy Loam:
  1. Friable, fertile, dark, loamy soil, free of clay lumps, subsoil, stones and other extraneous material and reasonably free of weeds and foreign grasses. Loam containing Dallasgrass or Nutgrass shall be rejected.
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- C. Premixed Bedding Soil as supplied by Vital Earth Resources, Gladewater, Texas; Professional Bedding Soil as supplied by Living Earth Technology, Dallas, Texas or Acid Gro Municipal Mix as supplied by Soil Building Systems, Dallas, Texas or approved equal.
- D. Sharp Sand: Sharp sand must be free of seeds, soil particles and weeds.
- E. Mulch: Double Shredded Hardwood Mulch, partially decomposed, dark brown. Living Earth Technologies or approved equal.
- F. Organic Fertilizer: Fertilaid, Sustane, or Green Sense or equal as recommended for required applications. Fertilizer shall be delivered to the site in original unopened containers, each bearing the manufacturer's guaranteed statement of analysis.
- G. Commercial Fertilizer: 10-20-10 or similar analysis. Nitrogen source to be a minimum 50% slow release organic Nitrogen (SCU or UF) with a minimum 8% sulfur and 4% iron, plus micronutrients.
- H. Peat: Commercial sphagnum peat moss or partially decomposed shredded pine bark or other approved organic material.

**2.5 MISCELLANEOUS MATERIALS**

- A. Steel Edging: All steel edging shall be 3/16" thick x 4" deep x 16' long with 6 stakes per section, painted black at the factory as manufactured by The J.D. Russell Company and under its trade name DURAEDEGE Heavy Duty Steel.
- B. Staking Material for Shade Trees: refer to details.
- C. Gravel: Washed native pea gravel, graded 1 inch to 1-1/2 inch.
- D. Filter Fabric: 'Mirafi Mirascape' by Mirafi Construction Products available at Lone Star Products, Inc., (469) 523-0444 or approved equal.
- E. River Rock: 'Colorado' or native river rock, 2" - 4" dia.

specified at no additional cost to the Owner.

- E. Trees shall be healthy, full-branched, well-shaped, and shall meet the minimum trunk and diameter requirements of the plant schedule. Balls shall be firm, neat, slightly tapered and well wrapped in burlap. Any tree loose in the ball or with a broken root 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. (Nomenclature confirms to the customary nursery usage. For clarification, the term "multi-trunk" defines a plant having three (3) or more trunks of nearly equal diameter.)
- F. Pruning: All pruning of trees and shrubs, as directed by the Landscape Architect prior to final acceptance, shall be executed by the Landscape Contractor at no additional cost to the Owner.

**2.6 SOIL PREPARATION MATERIALS**

- A. Sandy Loam:
  1. Friable, fertile, dark, loamy soil, free of clay lumps, subsoil, stones and other extraneous material and reasonably free of weeds and foreign grasses. Loam containing Dallasgrass or Nutgrass shall be rejected.
  2. Physical properties as follows:
    - a. Clay - between 7-27 percent
    - b. Silt - between 15-25 percent
    - c. Sand - less than 52 percent
  3. Organic matter shall be 3%-10% of total dry weight.
  4. If requested, Landscape Contractor shall provide a certified soil analysis conducted by an approved soil testing laboratory verifying that sandy loam meets the above requirements.
- B. Organic Material: Compost with a mixture of 80% vegetative matter and 20% animal waste. Ingredients should be a mix of course and fine textured material.
- C. Premixed Bedding Soil as supplied by Vital Earth Resources, Gladewater, Texas; Professional Bedding Soil as supplied by Living Earth Technology, Dallas, Texas or Acid Gro Municipal Mix as supplied by Soil Building Systems, Dallas, Texas or approved equal.
- D. Sharp Sand: Sharp sand must be free of seeds, soil particles and weeds.
- E. Mulch: Double Shredded Hardwood Mulch, partially decomposed, dark brown. Living Earth Technologies or approved equal.
- F. Organic Fertilizer: Fertilaid, Sustane, or Green Sense or equal as recommended for required applications. Fertilizer shall be delivered to the site in original unopened containers, each bearing the manufacturer's guaranteed statement of analysis.
- G. Commercial Fertilizer: 10-20-10 or similar analysis. Nitrogen source to be a minimum 50% slow release organic Nitrogen (SCU or UF) with a minimum 8% sulfur and 4% iron, plus micronutrients.
- H. Peat: Commercial sphagnum peat moss or partially decomposed shredded pine bark or other approved organic material.

**2.7 MISCELLANEOUS MATERIALS**

- A. Steel Edging: All steel edging shall be 3/16" thick x 4" deep x 16' long with 6 stakes per section, painted black at the factory as manufactured by The J.D. Russell Company and under its trade name DURAEDEGE Heavy Duty Steel.
- B. Staking Material for Shade Trees: refer to details.
- C. Gravel: Washed native pea gravel, graded 1 inch to 1-1/2 inch.
- D. Filter Fabric: 'Mirafi Mirascape' by Mirafi Construction Products available at Lone Star Products, Inc., (469) 523-0444 or approved equal.
- E. River Rock: 'Colorado' or native river rock, 2" - 4" dia.

Decomposed Granite: Base material shall consist of a natural material mix of granite aggregate not to exceed 1/8" diameter in size and shall be composed of various stages of decomposed earth base.

- F. Decomposed Granite: Base material shall consist of a natural material mix of granite aggregate not to exceed 1/8" diameter in size and shall be composed of various stages of decomposed earth base.

**3.1 BED PREPARATION & FERTILIZATION**

- A. Landscape Contractor to inspect all existing conditions and report any deficiencies to the Owner.
- B. All planting areas shall be conditioned as follows:
  1. Prepare new planting beds by scraping away existing grass and weeds as necessary. Till existing soil to a depth of six (6") inches prior to placing compost and fertilizer. Apply fertilizer as per Manufacturer's recommendations. Add six (6") inches of compost and till into a depth of six (6") inches of the topsoil. Apply organic fertilizer such as Sustane or Green Sense at the rate of twenty (20) pounds per one thousand (1,000) square feet.
  2. All planting areas shall receive a two (2") inch layer of specified mulch.
  3. Backfill for tree pits shall be as follows: Use existing top soil on site (use imported topsoil as needed) free from large clumps, rocks, debris, catclaw, subsoils, etc., placed in nine (9") inch layers and watered in thoroughly.
- C. Grass Areas:
  1. Blocks of sod should be laid joint to joint (staggered joints) after fertilizing the ground first. Roll grass areas to achieve a smooth, even surface. The joints between the blocks of sod should be filled with topsoil where they are evidently gaped open, then watered thoroughly.

**3.2 INSTALLATION**

- A. Maintenance of plant materials shall begin immediately after each plant is delivered to the site and shall continue until all construction has been satisfactorily accomplished.
- B. Plant materials shall be delivered to the site only after the beds are prepared and areas are ready for planting. All shipments of nursery materials shall be thoroughly protected from the drying winds during transit. All plants which cannot be planted at once, after delivery to the site, shall be well protected against the possibility of drying by wind and Balls of earth of B & B plants shall be kept covered with soil or other acceptable material. All plants remain the property of the Contractor until final acceptance.
- C. Position the trees and shrubs in their intended location as per plan.
- D. Notify the Owner's Authorized Representative for inspection and approval of all positioning of plant materials.
- E. Excavate pits with vertical sides and horizontal bottom. Tree pits shall be large enough to permit handling and planting without injury to balls of earth or roots and shall be of such depth that, when planted and settled, the crown of the plant shall bear the same relationship to the finish grade as it did to soil surface in original place of growth.
- F. Shrub and tree pits shall be no less than twenty-four (24") inches wider than the lateral dimension of the earth ball and six (6") inches deeper than its vertical dimension. Remove and haul from site all rocks and stones over three-quarter (3/4") inch in diameter. Plants should be thoroughly moist before removing containers.
- G. Dig a wide, rough sided hole exactly the same depth as the height of the ball, especially at the surface of the ground. The sides of the hole should be rough and jagged, never slick or glazed.
- H. Percolation Test: Fill the hole with water. If the water level does not percolate within 24 hours, the tree needs to move to another location or have drainage added. Install a PVC stand pipe per

**3.3 CLEANUP AND ACCEPTANCE**

- A. Cleanup: During the work, the premises shall be kept neat and orderly at all times. Storage areas for all materials shall be so organized so that they, too, are neat and orderly. All trash and debris shall be removed from the site as work progresses. Keep paved areas clean by sweeping or hosing them at end of each work day.

**END OF SECTION**

- I. Backfill only with 5 parts existing soil or sandy loam and 1 part bed preparation. When the hole is dug in solid rock, topsoil from the same area should not be used. Carefully settle by watering to prevent air pockets. Remove the burlap from the top 1/2 of the ball, as well as all nylon, plastic string and wire. Container trees will usually be root bound, if so follow standard nursery practice of "root scoring".
- J. Do not wrap trees.
- K. Do not over prune.
- L. Mulch the top of the ball. Do not plant grass all the way to the trunk of the tree. Leave the area above the top of the ball and mulch with at least two (2") inches of specified mulch.
- M. All plant beds and trees to be mulched with a minimum settled thickness of two (2") inches over the entire bed or pit.
- N. Obstruction below ground: In the event that 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 Owner. Where locations cannot be changed, the obstructions shall be removed to a depth of not less than three (3') feet below grade and no less than six (6") inches below the bottom of ball when plant is properly set at the required grade. The work of this section shall include the removal from the site of such rock or underground obstructions encountered at the cost of the Landscape Contractor.
- O. Trees and large shrubs shall be staked as site conditions require. Position stakes to secure trees against seasonal prevailing winds.
- P. Pruning and Mulching: Pruning shall be directed by the Landscape Architect and shall be pruned in accordance with standard horticultural practice following Fine Pruning, Class I pruning standards provided by the National Arborist Association.
  1. Dead wood, suckers, broken and badly bruised branches shall be removed. General tipping of the branches is not permitted. Do not cut terminal branches.
  2. Pruning shall be done with clean, sharp tools.
  3. Immediately after planting operations are completed, all tree pits shall be covered with a layer of organic material two (2") inches in depth. This limit of the organic material for trees shall be the diameter of the plant pit.
- Q. Steel Curbing Installation:
  1. Curbing shall be aligned as indicated on plans. Stake out limits of steel curbing and obtain Owners approval prior to installation.
  2. All steel curbing shall be free of kinks and abrupt bends.
  3. Top of curbing shall be 1/2" maximum height above final finished grade.
  4. Stakes are to be installed on the planting bed side of the curbing, as opposed to the grass side.
  5. Do not install steel edging along sidewalks or curbs.
  6. Cut steel edging at 45 degree angle where edging meets sidewalks or curbs.

**END OF SECTION**

- I. Backfill only with 5 parts existing soil or sandy loam and 1 part bed preparation. When the hole is dug in solid rock, topsoil from the same area should not be used. Carefully settle by watering to prevent air pockets. Remove the burlap from the top 1/2 of the ball, as well as all nylon, plastic string and wire. Container trees will usually be root bound, if so follow standard nursery practice of "root scoring".
- J. Do not wrap trees.
- K. Do not over prune.
- L. Mulch the top of the ball. Do not plant grass all the way to the trunk of the tree. Leave the area above the top of the ball and mulch with at least two (2") inches of specified mulch.
- M. All plant beds and trees to be mulched with a minimum settled thickness of two (2") inches over the entire bed or pit.
- N. Obstruction below ground: In the event that 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 Owner. Where locations cannot be changed, the obstructions shall be removed to a depth of not less than three (3') feet below grade and no less than six (6") inches below the bottom of ball when plant is properly set at the required grade. The work of this section shall include the removal from the site of such rock or underground obstructions encountered at the cost of the Landscape Contractor.
- O. Trees and large shrubs shall be staked as site conditions require. Position stakes to secure trees against seasonal prevailing winds.
- P. Pruning and Mulching: Pruning shall be directed by the Landscape Architect and shall be pruned in accordance with standard horticultural practice following Fine Pruning, Class I pruning standards provided by the National Arborist Association.
  1. Dead wood, suckers, broken and badly bruised branches shall be removed. General tipping of the branches is not permitted. Do not cut terminal branches.
  2. Pruning shall be done with clean, sharp tools.
  3. Immediately after planting operations are completed, all tree pits shall be covered with a layer of organic material two (2") inches in depth. This limit of the organic material for trees shall be the diameter of the plant pit.
- Q. Steel Curbing Installation:
  1. Curbing shall be aligned as indicated on plans. Stake out limits of steel curbing and obtain Owners approval prior to installation.
  2. All steel curbing shall be free of kinks and abrupt bends.
  3. Top of curbing shall be 1/2" maximum height above final finished grade.
  4. Stakes are to be installed on the planting bed side of the curbing, as opposed to the grass side.
  5. Do not install steel edging along sidewalks or curbs.
  6. Cut steel edging at 45 degree angle where edging meets sidewalks or curbs.

**END OF SECTION**

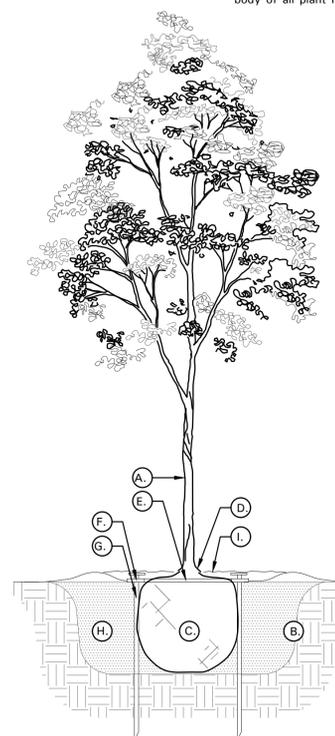
- I. Backfill only with 5 parts existing soil or sandy loam and 1 part bed preparation. When the hole is dug in solid rock, topsoil from the same area should not be used. Carefully settle by watering to prevent air pockets. Remove the burlap from the top 1/2 of the ball, as well as all nylon, plastic string and wire. Container trees will usually be root bound, if so follow standard nursery practice of "root scoring".
- J. Do not wrap trees.
- K. Do not over prune.
- L. Mulch the top of the ball. Do not plant grass all the way to the trunk of the tree. Leave the area above the top of the ball and mulch with at least two (2") inches of specified mulch.
- M. All plant beds and trees to be mulched with a minimum settled thickness of two (2") inches over the entire bed or pit.
- N. Obstruction below ground: In the event that 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 Owner. Where locations cannot be changed, the obstructions shall be removed to a depth of not less than three (3') feet below grade and no less than six (6") inches below the bottom of ball when plant is properly set at the required grade. The work of this section shall include the removal from the site of such rock or underground obstructions encountered at the cost of the Landscape Contractor.
- O. Trees and large shrubs shall be staked as site conditions require. Position stakes to secure trees against seasonal prevailing winds.
- P. Pruning and Mulching: Pruning shall be directed by the Landscape Architect and shall be pruned in accordance with standard horticultural practice following Fine Pruning, Class I pruning standards provided by the National Arborist Association.
  1. Dead wood, suckers, broken and badly bruised branches shall be removed. General tipping of the branches is not permitted. Do not cut terminal branches.
  2. Pruning shall be done with clean, sharp tools.
  3. Immediately after planting operations are completed, all tree pits shall be covered with a layer of organic material two (2") inches in depth. This limit of the organic material for trees shall be the diameter of the plant pit.
- Q. Steel Curbing Installation:
  1. Curbing shall be aligned as indicated on plans. Stake out limits of steel curbing and obtain Owners approval prior to installation.
  2. All steel curbing shall be free of kinks and abrupt bends.
  3. Top of curbing shall be 1/2" maximum height above final finished grade.
  4. Stakes are to be installed on the planting bed side of the curbing, as opposed to the grass side.
  5. Do not install steel edging along sidewalks or curbs.
  6. Cut steel edging at 45 degree angle where edging meets sidewalks or curbs.

**END OF SECTION**

- I. Backfill only with 5 parts existing soil or sandy loam and 1 part bed preparation. When the hole is dug in solid rock, topsoil from the same area should not be used. Carefully settle by watering to prevent air pockets. Remove the burlap from the top 1/2 of the ball, as well as all nylon, plastic string and wire. Container trees will usually be root bound, if so follow standard nursery practice of "root scoring".
- J. Do not wrap trees.
- K. Do not over prune.
- L. Mulch the top of the ball. Do not plant grass all the way to the trunk of the tree. Leave the area above the top of the ball and mulch with at least two (2") inches of specified mulch.
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**01 TREE PLANTING DETAIL**  
NOT TO SCALE

**TREE PLANTING DETAIL LEGEND AND NOTES**

- A. TREE: TREES SHALL CONFORM WITH LATEST AMERICAN STANDARD FOR NURSERY STOCK. www.anla.org
- B. TREE PIT: WIDTH TO BE AT LEAST TWO (2) TIMES THE DIAMETER OF THE ROOT BALL CENTER TREE IN HOLE & REST ROOT BALL ON UNDISTURBED NATIVE SOIL.
- C. ROOT BALL: REMOVE TOP 1/2 BURLAP AND ANY OTHER FOREIGN OBJECT; CONTAINER GROWN STOCK TO BE INSPECTED FOR GIRDLING ROOTS.
- D. ROOT FLARE: ENSURE THAT ROOT FLARE IS EXPOSED, FREE FROM MULCH, AND AT LEAST TWO INCHES ABOVE GRADE. TREES SHALL BE REJECTED WHEN GIRDLING ROOTS ARE PRESENT & ROOT FLARE IS NOT APPARENT.
- E. ROOTBALL ANCHOR RING: REFER TO MANUFACTURER'S GUIDELINES FOR SIZING. PLACE ROOTBALL ANCHOR RING ON BASE OF ROOTBALL, TRUNK SHOULD BE IN THE CENTER OF THE RING.
- F. 'U' BRACKET.
- G. NAIL STAKE: REFER TO MANUFACTURER'S GUIDELINES FOR SIZING. INSTALL NAIL STAKES WITH HAMMER OR Mallet FIRMLY INTO UNDISTURBED GROUND. DRIVE NAIL STAKES FLUSH WITH BRACKET ADJACENT TO ROOTBALL (DO NOT DISTURB ROOTBALL).
- H. BACKFILL: USE EXISTING NATIVE SOIL (no amendments) WATER THOROUGHLY TO ELIMINATE AIR POCKETS.
- I. MULCH: DOUBLE SHREDDED HARDWOOD MULCH 2" INCH SETTLED THICKNESS, WITH 2" HT. WATERING RING. ENSURE THAT ROOT FLARE IS EXPOSED. BELOW GROUND STAKE SHOULD NOT BE VISIBLE.
- J. TREE STAKES: TREE STAKE SOLUTIONS 'SAFETY STAKE' BELOW GROUND MODEL AVAILABLE FROM: Tree Stake Solutions ATTN: Jeff Tuley (903) 676-6143 jeff@treestakesolutions.com www.treestakesolutions.com
- K. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN A COPY OF THE MANUFACTURER'S SPECIFICATIONS PRIOR TO INSTALLATION OF TREE STAKES. CONTRACTOR SHALL ADHERE TO MANUFACTURER'S INSTALLATION GUIDELINES, SPECIFICATIONS, AND OTHER REQUIREMENTS FOR TREE STAKE INSTALLATION.

LOT 4, BLOCK A  
TRAVEL CENTERS OF  
AMERICA ADDITION  
(CAB. G. SLIDE 137)

STATE HIGHWAY NO. 205  
(S. GOLIAH STREET)  
(VARIABLE WIDTH R.O.W.)

SL-1600 SMARTLINE CONTROLLER  
UPGRADED TO 16 STATIONS WITH  
ON SITE WEATHER MONITOR  
(WITH BUILT-IN RAIN AND FREEZE SENSORS)  
VERIFY LOCATION AND POWER SUPPLY

LOT 6 BUSINESS  
PARK EAST SUBDIVISION  
(CAB. G. SLIDE 231)

LOT 7 BUSINESS  
PARK EAST SUBDIVISION  
(CAB. G. SLIDE 231)

LOT 8 BUSINESS  
PARK EAST SUBDIVISION  
(CAB. G. SLIDE 231)

1" WATER METER (IRRIGATION ONLY) BY G.C.  
VERIFY SIZE AND LOCATION  
1" BACKFLOW PREVENTER PER CITY CODE BY L.I.C.  
1" BALL VALVE  
1" Y STRAINER  
1" MASTER VALVE

**SLEEVING NOTES**

- SLEEVES SHALL BE FURNISHED AND INSTALLED BY GENERAL CONTRACTOR.
- SLEEVE MATERIAL SHALL BE SCHEDULE 40 PIPE, SIZE AS INDICATED ON PLAN.
- CONTRACTOR SHALL LAY SLEEVES AND CONDUITS AT TWENTY-FOUR (24") INCHES BELOW FINISH GRADE OF THE TOP OF PAVEMENT.
- CONTRACTOR SHALL EXTEND SLEEVES ONE (1') FOOT BEYOND EDGE OF ALL PAVEMENT.
- CONTRACTOR SHALL CAP PIPE ENDS USING PVC CAPS.
- CONTRACTOR SHALL FURNISH OWNER AND IRRIGATION CONTRACTOR WITH AN 'AS-BUILT' DRAWING SHOWING ALL SLEEVE LOCATIONS.

**IRRIGATION NOTES**

- THE IRRIGATION CONTRACTOR SHALL COORDINATE INSTALLATION OF THE IRRIGATION SYSTEM WITH THE LANDSCAPE CONTRACTOR SO THAT ALL PLANT MATERIAL WILL BE WATERED IN ACCORDANCE WITH THE INTENT OF THE PLANS AND SPECIFICATIONS.
- ALL SPRINKLER EQUIPMENT NUMBERS REFERENCE THE WEATHERMATIC EQUIPMENT CATALOG UNLESS OTHERWISE INDICATED.
- TEN DAYS PRIOR TO START OF CONSTRUCTION, IRRIGATION CONTRACTOR SHALL VERIFY STATIC WATER PRESSURE. IF STATIC PRESSURE IS LESS THAN 65 P.S.I., NOTIFY THE LANDSCAPE ARCHITECT IMMEDIATELY. DO NOT WORK UNTIL NOTIFIED TO DO SO BY OWNER.
- SLEEVES SHALL BE FURNISHED AND INSTALLED BY GENERAL CONTRACTOR. SLEEVE MATERIAL SHALL BE SCHEDULE 40, SIZE AS INDICATED ON PLAN. REFER TO SLEEVING NOTES.
- ALL MAIN LINE AND LATERAL LINE PIPING IN PLANTING AND LAWN AREAS SHALL HAVE A MINIMUM OF 12 INCHES OF COVER. ALL PIPING UNDER PAVING SHALL HAVE A MINIMUM OF 18 INCHES OF COVER. CONTRACTOR TO VERIFY LOCAL FREEZE DEPTHS AND ADJUST DEPTH OF COVER ACCORDINGLY.
- LAWN SPRAY HEADS SHALL BE WEATHERMATIC LX-4 INSTALLED PER DETAIL SHOWN.
- ROTOR HEADS SHALL BE WEATHERMATIC TURBO INSTALLED PER DETAIL SHOWN. (WITH BUILT-IN CHECK VALVE)
- NOZZLES SHALL BE WEATHERMATIC 5500 SERIES, UNLESS OTHERWISE NOTED. IRRIGATION CONTRACTOR SHALL SELECT THE PROPER ARC AND RADIUS FOR EACH NOZZLE TO ENSURE 100% AND PROPER COVERAGE OF ALL LAWN AREAS AND PLANT MATERIAL. NO WATER SHALL SPRAY ON BUILDING.
- ALL NOZZLES IN PARKING LOT ISLANDS AND PLANTING BEDS SHALL BE LOW ANGLE NOZZLES TO MINIMIZE OVER SPRAY ON PAVEMENT SURFACES.
- ELECTRIC CONTROL VALVES SHALL BE WEATHERMATIC 11000 SERIES INSTALLED PER DETAIL SHOWN. SIZE OF VALVES AS SHOWN ON PLAN. VALVES SHALL BE INSTALLED IN VALVE BOXES LARGE ENOUGH TO PERMIT MANUAL OPERATION. REMOVAL OF SOLENOID AND / OR VALVE COVER WITHOUT ANY EARTH EXCAVATION.
- QUICK COUPLING VALVES SHALL BE WEATHERMATIC QV75 INSTALLED PER DETAIL SHOWN. SWING JOINTS SHALL BE CONSTRUCTED USING 3/4" SCHEDULE 80 ELBOWS. CONTRACTOR SHALL SUPPLY OWNER WITH THREE (3) CH75 COUPLERS AND THREE (3) #10HSL SWIVEL HOSE ELLS AS PART OF THIS CONTRACT.
- ALL 24 VOLT VALVE WIRING TO BE UF 14 GAUGE SINGLE CONDUCTOR. ALL WIRE SPLICES ARE TO BE PERMANENT AND WATERPROOF.
- AUTOMATIC CONTROLLER SHALL BE INSTALLED AT LOCATION SHOWN. POWER (120V) SHALL BE LOCATED IN A JUNCTION BOX WITHIN FIVE (5') FEET OF CONTROLLER, LOCATION BY OTHER TRADES. RAIN AND FREEZE SENSORS SHALL BE INSTALLED WITH EACH CONTROLLER.
- THE DESIGN PRESSURE IS 65 PSI.
- ELECTRICAL SPLICES AT EACH VALVE AND CONTROLLER ONLY.
- IRRIGATION IN TEXAS IS REGULATED BY: THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ)  
MC-178 / PO BOX 13087  
AUSTIN, TEXAS 78711-3087
- TCEQ'S WEBSITE IS WWW.TCEQ.STATE.TX.US.

**IRRIGATION LEGEND**

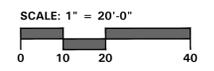
- WEATHERMATIC LX-4 POP-UP LAWN HEAD
- MP HUNTER MP ROTATOR NOZZLE
- WEATHERMATIC TURBO ROTARY FC
- WEATHERMATIC TURBO ROTARY PC
- ⊗ WEATHERMATIC 106.5 BUBBLER (2 PER TREE, TYP.)
- ⊕ WEATHERMATIC 11000 SERIES ELECTRIC VALVE
- ▲ WEATHERMATIC QV75 QUICK COUPLER
- CONTROLLER, SIZE AS INDICATED
- ⊖ WATER METER, SIZE AS INDICATED WITH D.C.A., SIZE AS INDICATED
- PVC SCHEDULE 40 SLEEVING
- - - PVC CLASS 200 MAINLINE
- - - PVC CLASS 200 LATERAL LINE
- (XXX) VALVE SIZE
- (XXX) GPM
- ▨ NETAFIM TECHLINE#TDL6-1210 (18" LATERAL SPACING, 12" EMITTER SPACING) PVC LATERAL PIPING SIZED AS REQUIRED INSTALL ALL EQUIPMENT ACCORDING TO MANUFACTURERS SPECIFICATIONS
- ▨ NETAFIM TECHLINE#TDL6-1210 (18" LATERAL SPACING, 12" EMITTER SPACING) PVC LATERAL PIPING SIZED AS REQUIRED INSTALL ALL EQUIPMENT ACCORDING TO MANUFACTURERS SPECIFICATIONS
- ⊕ (XXX) NETAFIM DISC FILTER #DF100-080 NETAFIM PRESSURE REGULATOR #PRV15025 INSTALL ALL EQUIPMENT ACCORDING TO MANUFACTURERS SPECIFICATIONS

**BUBBLER PIPING CHART**

NUMBER OF BUBBLERS	SIZE OF PIPE
1 - 5	1/2"
6 - 10	3/4"
11 - 20	1"
21 - 30	1 1/4"
31 - 40	1 1/2"

**SMARTLINE CERTIFIED DESIGN**

- THIS IRRIGATION DESIGN FEATURES SMARTLINE CONTROLLER AND WEATHER MONITOR TECHNOLOGY AND UTILIZES 'ET' BASED WATER CONSERVATION AUTO ADJUSTING SCHEDULING.
- THE IRRIGATION CONTRACTOR MUST PROGRAM THE CONTROLLER BY SELECTING THE PROPER SPRINKLER TYPE, PLANT TYPE, SOIL TYPE, SLOPE AND SUN / SHADE EXPOSURE FOR EACH ZONE.
- THE IRRIGATION CONTRACTOR MUST CONTACT THE IRRIGATION DESIGNER FOR APPROVAL OF CONTROLLER SETTINGS.
- THE IRRIGATION DESIGNER IS JOHN WINGFIELD (972) 513-3859.
- ALL EQUIPMENT MUST BE INSTALLED AS SPECIFIED. NO EQUIPMENT SUBSTITUTIONS WILL BE PERMITTED.

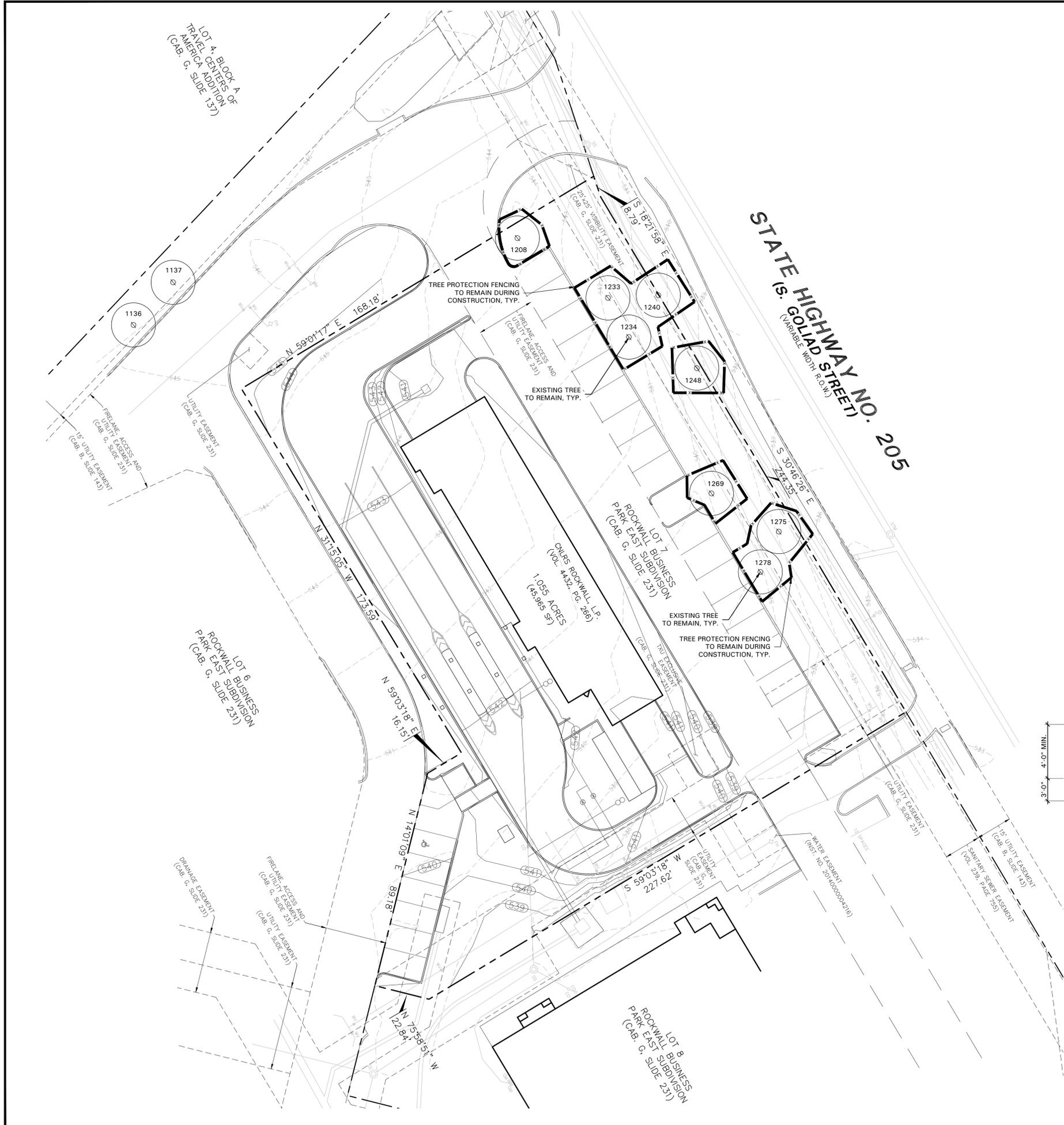


4245 North Central Expy  
Suite 501  
Dallas, Texas 75205  
214.865.7192 office

NO.	DATE	REVISION
7557 RAMBLER ROAD, SUITE 1400 DALLAS, TX 75231 972.235.3031 TX REG. ENGINEERING FIRM F-14439 TX REG. SURVEYING FIRM LS-10193805		
<b>IRRIGATION PLAN</b>		
<b>ROCKWALL CAR WASH</b>		
<b>LOT 7</b>		
<b>ROCKWALL BUSINESS PARK EAST</b>		
<b>CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS</b>		
DESIGN	DRAWN	DATE
JJW	JJW	11/12/15
SCALE	NOTES	FILE
1" = 20'-0"		
NO.	NO.	
<b>L3.01</b>		

ROCKWALL CAR WASH

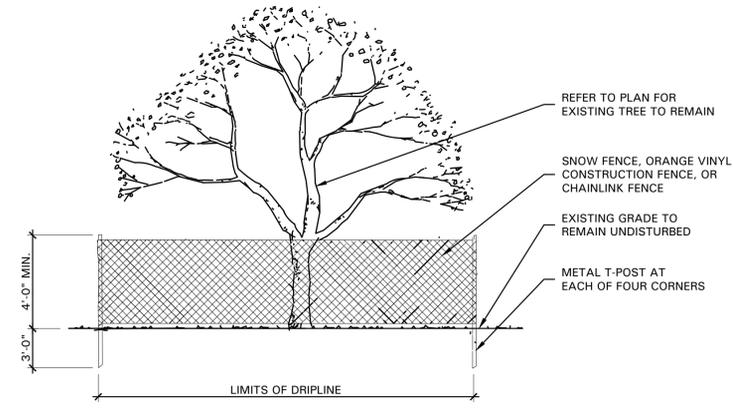
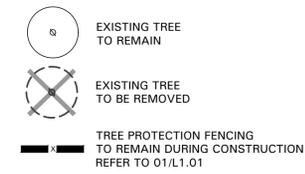




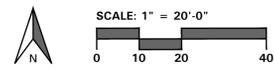
TREE SURVEY FIELD DATA				
No.	Dia. (inches)	Species (common name)	Status	Remarks
1136	6	CYPRESS	TO REMAIN	OFFSITE
1137	6	CYPRESS	TO REMAIN	OFFSITE
1208	10	ASH	TO REMAIN	
1233	8	ASH	TO REMAIN	
1234	8	ASH	TO REMAIN	
1240	10	ASH	TO REMAIN	
1248	6	ASH	TO REMAIN	
1269	6	ASH	TO REMAIN	
1275	6	CEDAR	TO REMAIN	
1278	8	ASH	TO REMAIN	
<b>Total Caliper Inches on Site</b>				<b>62</b>
<b>Total Caliper Inches Removed</b>				<b>0</b>
<b>Total Mitigation Inches Required</b>				<b>0</b>
<b>Total Mitigation Inches Provided</b>				<b>0</b>

- TREE PRESERVATION NOTES**
- EXISTING TREES TO REMAIN SHALL BE PROTECTED DURING CONSTRUCTION FROM TREE STRUCTURE DAMAGE AND COMPACTION OF SOIL UNDER AND AROUND DRIP LINE (CANOPY) OF TREE.
  - IF ANY ROOT STRUCTURE IS DAMAGED DURING ADJACENT EXCAVATION / CONSTRUCTION, NOTIFY OWNER'S AUTHORIZED REPRESENTATIVE IMMEDIATELY. IT IS RECOMMENDED THAT A LICENSED ARBORIST BE SECURED FOR THE TREATMENT OF ANY POSSIBLE TREE WOUNDS.
  - NO DISTURBANCE OF THE SOIL GREATER THAN 4" SHALL BE LOCATED CLOSER TO THE TREE TRUNK THAN 1/2 THE DISTANCE OF THE DRIP LINE TO THE TREE TRUNK. A MINIMUM OF 75% OF THE DRIP LINE AND ROOT ZONE SHALL BE PRESERVED AT NATURAL GRADE.
  - ANY FINE GRADING DONE WITHIN THE CRITICAL ROOT ZONES OF THE PROTECTED TREES MUST BE DONE WITH LIGHT MACHINERY SUCH AS A BOBCAT OR LIGHT TRACTOR. NO EARTH MOVING EQUIPMENT WITH TRACKS IS ALLOWED WITHIN THE CRITICAL ROOT ZONE OF THE TREES.
  - NO MATERIALS INTENDED FOR USE IN CONSTRUCTION OR WASTE MATERIALS ACCUMULATED DUE TO EXCAVATION OR DEMOLITION SHALL BE PLACED WITHIN THE LIMITS OF THE DRIP LINE OF ANY TREE.
  - NO EQUIPMENT MAY BE CLEANED OR TOXIC SOLUTIONS, OR OTHER LIQUID CHEMICALS, SHALL BE DEPOSITED WITHIN THE LIMITS OF THE DRIP LINE OF A TREE. INCLUDES BUT NOT LIMITED TO: PAINT, OIL, SOLVENTS, ASPHALT, CONCRETE, MORTAR, PRIMERS, ETC.
  - NO SIGNS, WIRES OR OTHER ATTACHMENTS, OTHER THAN THOSE OF A PROTECTIVE NATURE, SHALL BE ATTACHED TO ANY TREE.
  - NO VEHICULAR / CONSTRUCTION EQUIPMENT TRAFFIC OR PARKING IS ALLOWED WITHIN THE LIMITS OF THE DRIP LINE OF TREES.
  - BORING OF UTILITIES MAY BE PERMITTED UNDER PROTECTED TREES IN CERTAIN CIRCUMSTANCES. THE MINIMUM LENGTH OF THE BORE SHALL BE THE WIDTH OF THE TREE'S CANOPY AND SHALL BE A MINIMUM DEPTH OF FORTY-EIGHT (48") INCHES.
  - IRRIGATION TRENCHING WHICH MUST BE DONE WITHIN THE CRITICAL ROOT ZONE OF A TREE SHALL BE DUG BY HAND AND ENTER THE AREA IN A RADIAL MANNER.
  - ALL TREES TO BE REMOVED FROM THE SITE SHALL BE FLAGGED BY THE CONTRACTOR WITH BRIGHT RED VINYL TAPE (3" WIDTH) WRAPPED AROUND THE MAIN TRUNK AT A HEIGHT OF FOUR (4') FEET ABOVE GRADE. FLAGGING SHALL BE APPROVED BY OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO ANY TREE REMOVAL. CONTRACTOR SHALL CONTACT OWNER'S AUTHORIZED REPRESENTATIVE WITH 72 HOURS NOTICE TO SCHEDULE ON-SITE MEETING.
  - ALL TREES TO REMAIN, AS NOTED ON DRAWINGS, SHALL HAVE PROTECTIVE FENCING LOCATED AT THE TREE'S DRIP LINE. THE PROTECTIVE FENCING MAY BE COMPRISED OF SNOW FENCING, ORANGE VINYL CONSTRUCTION FENCING, CHAIN LINK FENCE OR OTHER SIMILAR FENCING WITH A FOUR (4') FOOT APPROXIMATE HEIGHT. THE PROTECTIVE FENCING SHALL BE LOCATED AS INDICATED ON THE TREE PROTECTION DETAIL.
  - WHEN A LOW HANGING LIMB IS BROKEN DURING THE COURSE OF CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE OWNER'S AUTHORIZED REPRESENTATIVE IMMEDIATELY. UNDER NO CIRCUMSTANCE SHALL THE CONTRACTOR PRUNE ANY PORTION OF THE DAMAGED TREE WITHOUT THE PRIOR APPROVAL BY THE OWNER'S AUTHORIZED REPRESENTATIVE.

**EXISTING TREE LEGEND**



**01 TREE PROTECTIVE FENCING**  
NOT TO SCALE



11/12/15

NO.	DATE	REVISION				
<b>Pacheco Koch</b> 7557 RAMBLER ROAD, SUITE 1400 DALLAS, TX 75231 972.235.3031 TX REG. ENGINEERING FIRM F-14439 TX REG. SURVEYING FIRM LS-10193805						
<b>TREE PRESERVATION PLAN</b>						
<b>ROCKWALL CAR WASH</b>						
<b>LOT 7</b>						
<b>ROCKWALL BUSINESS PARK EAST</b>						
<b>CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS</b>						
DESIGN	DRAWN	DATE	SCALE	NOTES	FILE	NO.
KAH	MUA	11/12/15	1" = 20'-0"			<b>L1.01</b>



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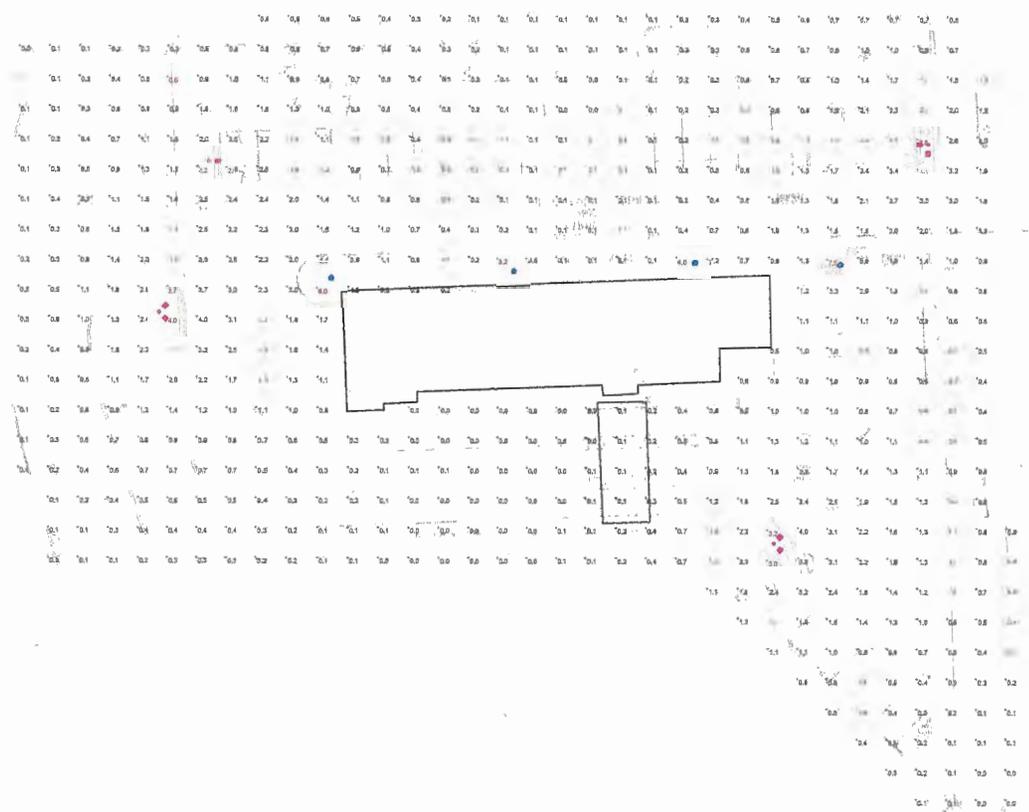
ROCKWALL CAR WASH

STATISTICS						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Calc Area #1	1	0.8 fc	7.5 fc	0.0 fc	N/A	N/A

**NOTES**

- POLE FIXTURES MOUNTED ON 20' WITH 2.0' BASE
- CANOPY FIXTURES MOUNTED AT 10'

LUMINAIRE SCHEDULE						
Symbol	Label	Qty	Catalog Number	Description	Lamp	Lumens LLF Watts
■	P1	1	DSX0 LED 400 T00 DSX0 LED WITH (2) 20 40K TPTM MVCLT LED LIGHT ENGINES, TYPE TPTM OPTIC, 4000K @ 700mA	LED	Absolute	0.95 91.22
■	P2	3	DSX0 LED 400 T00 DSX0 LED WITH (2) 20 40K TPTM MVCLT LED LIGHT ENGINES, TYPE TPTM OPTIC, 4000K @ 700mA	LED	Absolute	0.95 182.44
●	C	4	AF 142TRT BAR	AF 14" APERTURE OPEN DOWNLIGHT 142TRT	ONE 40WATT TRIPLE TUBE COMPACT FLUORESCENT, HORIZONTAL POSITION	3300 0.75 48



Plan View  
Scale 1" = 20'



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  - Security Lighting
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  - Indoor HID
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**Quantum ELM/ELM2**  
Click here for Quantum ELM/ELM2 Recall Information

ABL Wiring and Controls

- RELOC Wiring Solutions
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Additional ABL Companies

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- Specification Sheets
- Photometrics
- Building Information Models
- PSG Catalog
- Acrylic/Polycarb Compatibility Table
- Warranty Information
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Did you find what you need?

Feedback

# D-Series Area Size 0

## LED Area Luminaire



### Intended Use

Single-piece die-cast aluminum housing has integral heat sink fins to optimize thermal management through conductive and convective cooling. Modular design allows for ease of maintenance and future light engine upgrades. The LED driver is mounted in direct contact with the casting to promote low operating temperature and long life. Housing is completely sealed against moisture and environmental contaminants (IP65). Low EPA (0.8 ft2) for optimized pole wind loading.

### Construction

Single-piece die-cast aluminum housing has integral heat sink fins to optimize thermal management through conductive and convective cooling. Modular design allows for ease of maintenance and future light engine upgrades. The LED driver is mounted in direct contact with the casting to promote low operating temperature and long life. Low EPA (0.9 ft2) for optimized pole wind loading.

### Finish

Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering. A tightly controlled multi-stage process ensures a minimum 3 mils thickness for a finish that can withstand extreme climate changes without cracking or peeling. Available in both textured and non-textured finishes.

### Optics

Precision-molded proprietary acrylic lenses are engineered for superior area lighting distribution, uniformity, and pole spacing. Light engines are available in standard 4000K (70 minimum CRI) or optional 3000K (80 minimum CRI) or 5000K (67 CRI) configurations. The D-Series Size 0 has zero uplight and qualifies as a Nighttime Friendly™ product, meaning it is consistent with the LEED® and Green Globes™ criteria for eliminating wasteful uplight.

### Electrical

Light engine(s) configurations consist of high-efficacy LEDs mounted to metal-core circuit boards to maximize heat dissipation and promote long life (up to L96/100,000 hours at 25°C). Class 1 electronic drivers are designed to have a power factor >90%, THD <20%, and an expected life of 100,000 hours with <1% failure rate. Easily serviceable 10kV or 6kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).

### Installation

Included mounting block and integral arm facilitate quick and easy installation. Stainless steel bolts fasten the mounting block securely to poles and walls, enabling the D-Series Size 1 to withstand up to a 3.0 G vibration load rating per ANSI C136.31. The D-Series Size 0 utilizes the AERISTM series pole drilling pattern. Optional terminal block, tool-less entry, and NEMA photocontrol receptacle are also available.

### Listings

CSA certified to U.S. and Canadian standards. Light engines are IP66 rated; luminaire is IP65 rated. Rated for -40°C minimum ambient. U.S. Patent No. D672,492 S. International patent pending.

SHARE



Product Overview

Specification Sheets

Photometric Data

Building Information Models

Installation Instructions

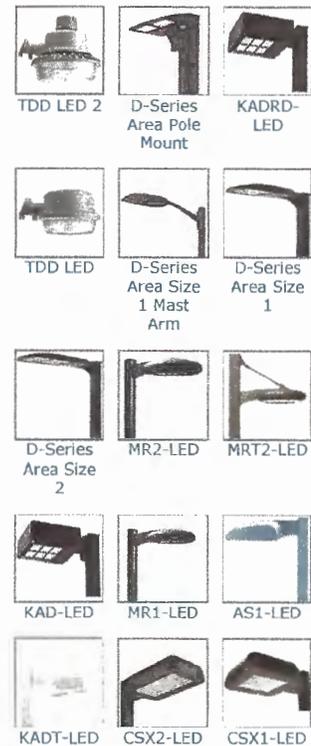
Sell Sheets

FAQs

Additional Images

Questions about this product?

### Related Products



**Warranty**

Five year limited warranty. Full warranty terms located at [www.AcuityBrands.com/CustomerResources/Terms\\_and\\_conditions.aspx](http://www.AcuityBrands.com/CustomerResources/Terms_and_conditions.aspx).

**Note:** Specifications subject to change without notice.

[Link to Mounting Bracket video.](#)



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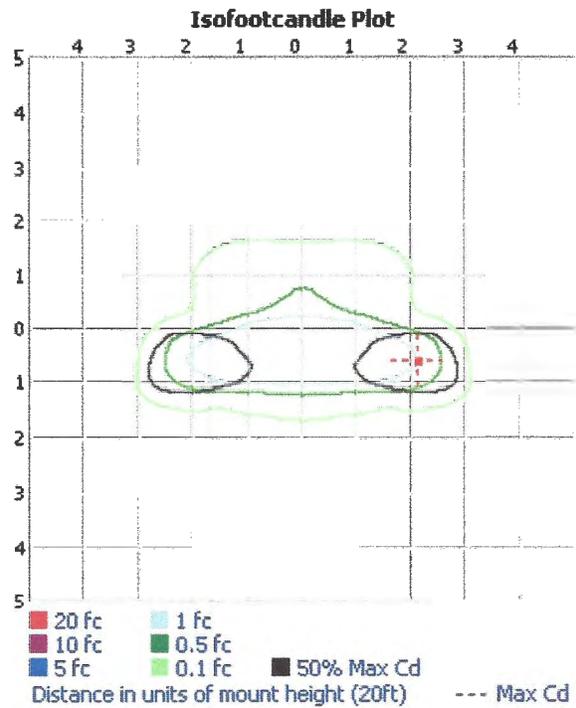
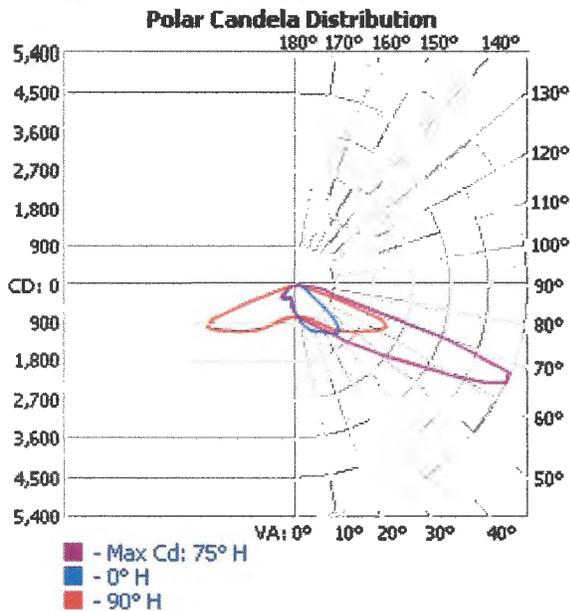
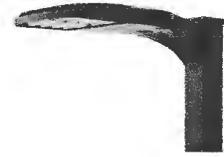


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**OUTDOOR PHOTOMETRIC REPORT**

CATALOG: DSX0 LED 40C 530 AMBPC T1S MVOLT

TEST #: LTL23422P7  
 TEST LAB: SCALED PHOTOMETRY  
 TEST DATE: 4/23/2013  
 CATALOG: DSX0 LED 40C 530 AMBPC T1S MVOLT  
 DESCRIPTION: DSX0 LED WITH (2) 20 LED LIGHT ENGINES, TYPE T1S OPTIC, AMBER PC, @ 530MA  
 Series: D-SERIES AREA SIZE 0  
 LAMP CAT #: NICHIA 219B  
 LAMP: LED  
 LAMP OUTPUT: TOTAL LUMINAIRE LUMENS: 4878, **ABSOLUTE PHOTOMETRY \***  
 BALLAST / DRIVER: LED DRIVER  
 INPUT WATTAGE: 68.04  
 LUMINOUS OPENING: RECTANGLE (L: 6.24", W: 5.28")  
 Max Cd: 5,371.2 AT HORIZONTAL: 75°, VERTICAL: 65°  
 Roadway Class: SHORT, TYPE II



\*TEST BASED ON ABSOLUTE PHOTOMETRY WHERE LAMP LUMENS=LUMENS TOTAL.  
 \*CUTOFF CLASSIFICATION AND EFFICIENCY CANNOT BE PROPERLY CALCULATED FOR ABSOLUTE PHOTOMETRY.

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**OUTDOOR PHOTOMETRIC REPORT**

CATALOG: DSX0 LED 40C 530 AMBPC T1S MVOLT



**ZONAL LUMEN SUMMARY**

Zone	Lumens	% Luminaire
0-30	668.8	13.7%
0-40	1,267.3	26%
0-60	3,245.2	66.5%
60-90	1,632.8	33.5%
70-100	540.8	11.1%
90-120	0	0%
0-90	4,878.0	100%
90-180	0	0%
0-180	4,878.0	100%

**LUMENS PER ZONE**

Zone	Lumens	% Total	Zone	Lumens	% Total
0-10	71.2	1.5%	90-100	0	0%
10-20	218.8	4.5%	100-110	0	0%
20-30	378.8	7.8%	110-120	0	0%
30-40	598.5	12.3%	120-130	0	0%
40-50	894.9	18.3%	130-140	0	0%
50-60	1,083.1	22.2%	140-150	0	0%
60-70	1,092.0	22.4%	150-160	0	0%
70-80	412.0	8.4%	160-170	0	0%
80-90	128.8	2.6%	170-180	0	0%

**ROADWAY SUMMARY**

Distribution:	TYPE II, SHORT	
Max Cd, 90 Deg Vert:	0	
Max Cd, 80 to <90 Deg:	655.6	
	Lumens	% Lamp
Downward Street Side:	3,556.2	72.9%
Downward House Side:	1,321.6	27.1%
Downward Total:	4,877.8	100%
Upward Street Side:	0	0%
Upward House Side:	0	0%
Upward Total:	0	0%
Total Lumens:	4,877.8	100%

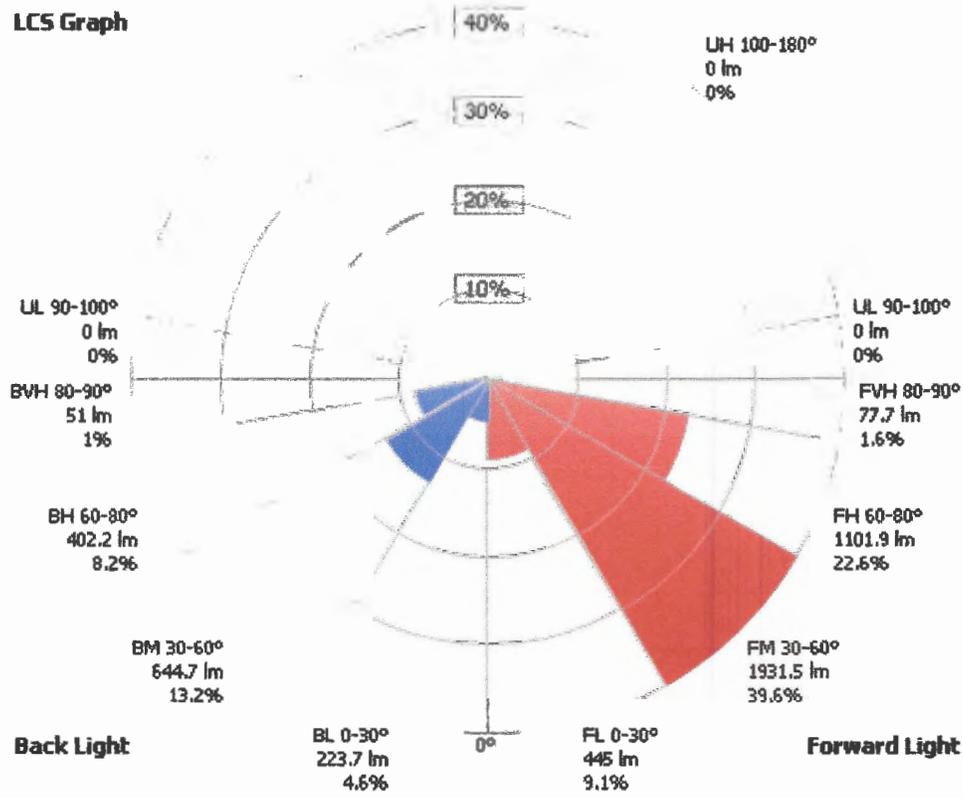
**LCS TABLE**

<b>BUG RATING</b>	<b>B1 - U0 - G1</b>	
<b>FORWARD LIGHT</b>	LUMENS	LUMENS %
Low(0-30):	445.0	9.1%
Medium(30-60):	1,931.5	39.6%
High(60-80):	1,101.9	22.6%
Very High(80-90):	77.7	1.6%
<b>BACK LIGHT</b>		
Low(0-30):	223.7	4.6%
Medium(30-60):	644.7	13.2%
High(60-80):	402.2	8.2%
Very High(80-90):	51.0	1%
<b>UPLIGHT</b>		
Low(90-100):	0	0%
High(100-180):	0	0%
<b>TRAPPED LIGHT:</b>	0.2	0%

**OUTDOOR PHOTOMETRIC REPORT**  
CATALOG: DSX0 LED 40C 530 AMBPC T1S MVOLT



**LCS Graph**



**Back Light**

**Forward Light**

Scale = Max LCS %

Trapped Light: 0.2lm, 0%

**OUTDOOR PHOTOMETRIC REPORT**  
 CATALOG: DSX0 LED 40C 530 AMBPC T1S MVOLT



**CANDELA TABLE - TYPE C**

	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150	160	170	180
0	739	739	739	739	739	739	739	739	739	739	739	739	739	739	739	739	739	739	739
5	843	854	849	846	840	841	841	841	841	837	840	836	832	831	830	832	829	825	822
10	954	965	959	956	950	949	948	949	948	944	943	939	934	929	927	924	920	913	908
15	1071	1077	1071	1067	1060	1061	1060	1058	1056	1053	1050	1045	1038	1034	1031	1027	1019	1012	1005
20	1137	1141	1134	1133	1124	1129	1127	1126	1127	1121	1119	1116	1113	1112	1111	1111	1108	1102	1099
25	1195	1197	1192	1192	1182	1187	1187	1185	1187	1184	1182	1179	1174	1174	1178	1178	1178	1175	1177
30	1272	1277	1277	1273	1262	1269	1269	1269	1273	1267	1265	1259	1253	1251	1250	1255	1258	1259	1264
35	1369	1381	1380	1374	1365	1374	1377	1380	1387	1385	1385	1383	1380	1377	1377	1380	1382	1389	1399
40	1461	1461	1461	1457	1454	1468	1479	1488	1500	1503	1506	1512	1516	1520	1527	1547	1569	1593	1624
45	1337	1275	1278	1283	1297	1325	1358	1397	1439	1479	1519	1556	1590	1624	1662	1706	1756	1814	1892
50	794	689	695	714	742	780	840	907	983	1060	1151	1242	1338	1442	1553	1668	1797	1932	2091
55	380	360	351	349	352	361	374	390	415	446	495	561	662	781	931	1108	1305	1536	1821
60	289	270	262	265	270	278	287	294	300	307	316	333	362	398	434	485	558	670	847
65	230	214	209	213	220	231	241	252	261	266	276	289	302	316	336	365	394	404	418
70	170	167	169	174	181	190	199	208	215	222	231	241	253	264	277	290	303	317	347
75	124	119	123	127	132	135	141	150	160	171	185	197	206	214	220	223	230	247	270
80	97	91	93	96	99	105	112	118	126	135	145	158	167	169	169	171	175	182	193
85	56	44	44	49	51	53	57	63	71	76	82	88	92	94	95	96	97	105	114
90	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
95	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
105	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
110	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
125	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
130	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
160	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
170	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
180	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0