

VICINITY MAP  
N.T.S.

NOTES:

1. CM = CONTROL MONUMENT
2. IRF = IRON ROD FOUND
3. IRS = IRON ROD SET WITH YELLOW CAP STAMPED "ANA"
4. THE SUBJECT PROPERTY WAS NOT ABSTRACTED AS A PART OF THIS SURVEY.
5. BEARINGS ARE RELATIVE TO TRUE NORTH OBTAINED FROM GLOBAL POSITIONING SATELLITE SYSTEM (GPS) OBSERVATIONS, NORTH AMERICAN DATUM, 1983 (NAD '83), TEXAS NORTH CENTRAL ZONE.

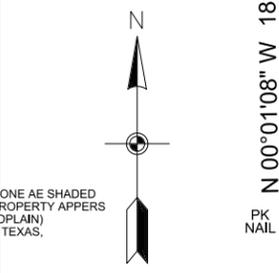
BY GRAPHIC SCALE A PORTION OF THE SUBJECT PROPERTY APPEARS TO LIE IN ZONE AE SHADED (AREA DETERMINED TO BE INSIDE THE 100-YEAR FLOODWAY) THE REST OF THE PROPERTY APPEARS TO LIE IN ZONE X, NOT SHADED, (AREA DETERMINED TO BE OUTSIDE 500-YEAR FLOODPLAIN) ACCORDING TO THE FEMA FLOOD INSURANCE RATE MAP FOR TARRANT COUNTY, TEXAS, PANEL NO. 150300, EFF SEPTEMBER 25, 2009.

PLANNED DEVELOPMENT RESTRICTIONS

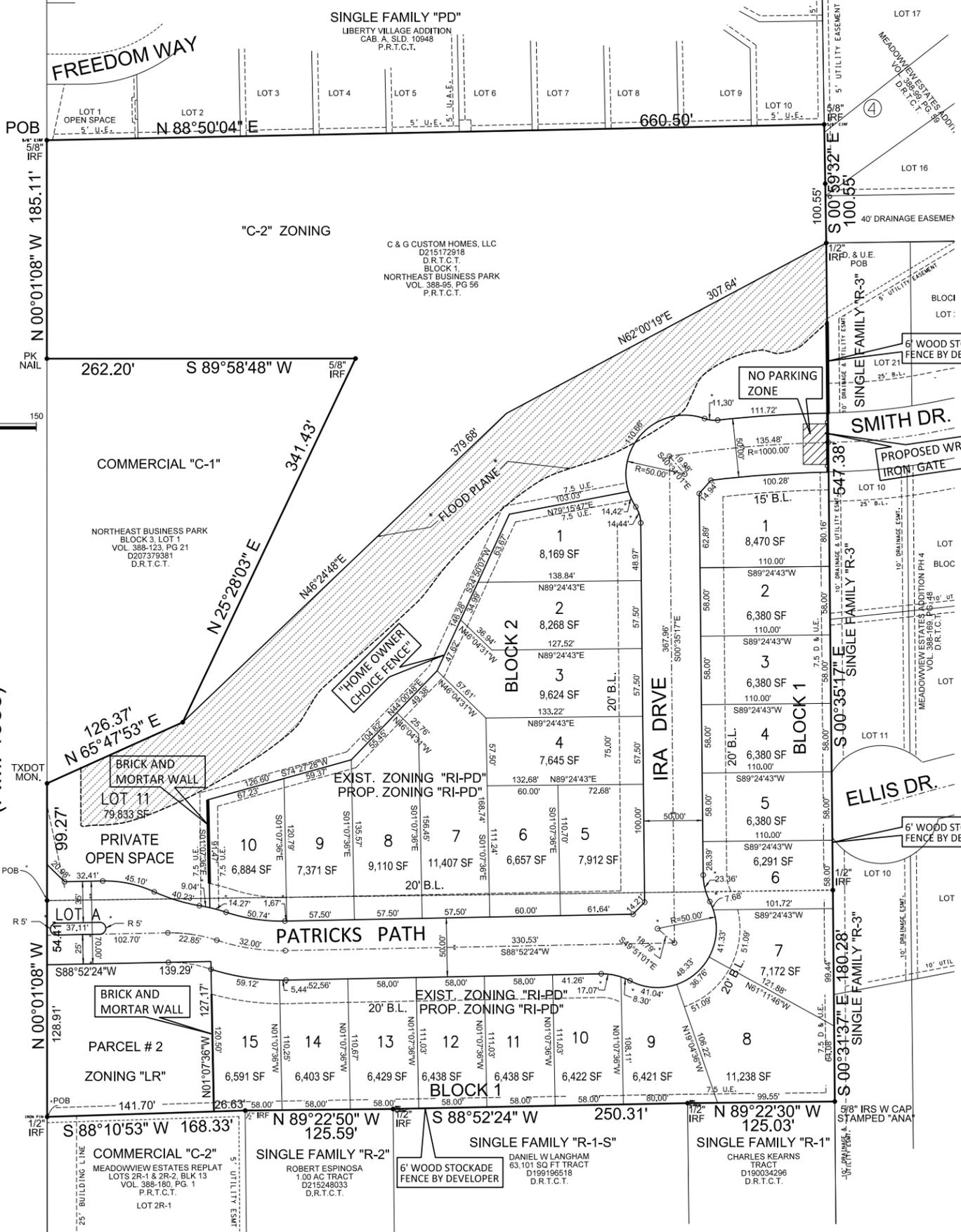
1. DWELLINGS TO BE 2,300 S.F. MINIMUM.
2. ELEVATIONS OF EACH UNIT WILL BE 85% MASONRY WITH DECORATIVE ELEMENTS AND AT LEAST 3 ARCHITECTURAL ENHANCEMENTS SUCH AS SHUTTERS, CUT BRICK "HAUNCH", LOUVERED VENTS, METAL OVERHANGS, DECORATIVE WOOD GARAGE DOORS, WINDOW AND DOOR DRESSINGS, ENHANCED DRIVEWAY PAVEMENT, ETC.
3. ROOF PITCH SHALL BE AT A MINIMUM OF 8:12 PITCH WITH A MINIMUM 35 YEAR ROOFING MATERIALS "NO 3-TAB SHINGLES".
4. ALL DRIVEWAYS TO BE SALT-FINISH, OR STAINED OR BRICK PAVERS OR BROOMED FINISHED WITH SMOOTHED BORDERS/EDGES.
5. ALL PERIMETER FENCING SHALL BE AS SHOWN ON THE PLAN. WOOD STOCKADE FENCING SHALL BE 6' TALL AND SHALL HAVE METAL POSTS. HOA SHALL BE RESPONSIBLE FOR MAINTENANCE OF WALLS WITHIN OPEN SPACE LOTS AND WITHIN DEDICATED WALL EASEMENTS.
6. SIDEWALKS SHALL BE CONSTRUCTED BY THE HOME BUILDER AND/OR THE DEVELOPER AND SHALL BE INSTALLED PER THIS PLAN AND BE FOUR FEET IN WIDTH.
7. MAILBOXES TO BE MASONARY OR ANTIQUE LOCATED AT EACH PROPERTY.
8. EACH LOT SHALL HAVE A FULL AREA IRRIGATION SPRINKLER SYSTEM WITH FREEZE AND RAIN DETECTORS.
9. ELECTRIC AND TELEPHONE SERVICE SHALL BE UNDERGROUND.
10. COMMON AMENITIES, COMMON AREAS AND ALL COMMON AREAS NOT SPECIFIED IN INDIVIDUAL LOTS WILL BE OWNED AND MAINTAINED BY THE HOME OWNERS ASSOCIATION.
11. SIDE YARD SEPARATIONS SHALL BE A MINIMUM OF 10' BETWEEN STRUCTURES (5 FT AND 5 FT).
12. PROJECT SIGNS TO BE IN ACCORDANCE WITH THE CITY OF NRH SIGN ORDINANCE.
13. EACH LOT OWNER WILL BE A MANDATORY MEMBER OF THE HOMEOWNERS ASSOCIATION (HOA) WILL PROVIDE MAINTENANCE AND LIABILITY COVERAGE FOR COMMON AREAS AND EMERGENCY ACCESS GATE.
14. ALL BUILDINGS SHALL HAVE 20 MINIMUM FEET SETBACK FROM FRONT PROPERTY LINE.
15. FRONT ENTRY GARAGES SHALL BE LIMITED TO 18 OF THE 25 LOTS. HALF (9) MUST HAVE INDIVIDUAL DOORS SEPARATED BY A MINIMUM 12" COLUMN.
16. FRONT ENTRY GARAGE DOORS MUST BE DECORATIVE WOOD. FRONT BUILDING ELEVATIONS NEXT TO GARAGE DOORS SHALL BE ENHANCED MASONRY USING A COMBINATION OF BRICK AND STONE WITH DECORATIVE ELEMENTS.
17. EACH LOT SHALL BE LANDSCAPED BY THE BUILDER WITH A MINIMUM OF FIFTEEN ONE-GALLON SHRUBS, THREE TREES (3 INCH CALIPER MEASURED 12 INCHES ABOVE THE ROOT BALL) WITH A MINIMUM OF ONE TREE IN THE FRONT YARD.
18. LOT 5, BLOCK 1 SHALL NOT HAVE REAR DRIVEWAY ACCESS FROM ELLIS DRIVE.
19. 6' WOOD FENCE TO BE PRE-STAINED CEDAR BOARD-ON-BOARD WITH TOP SIDE STRIP, TOP CAP, AND PRESSURE-TREATED KICKBOARD BASE ON METAL POLES.
20. STREET LIGHTS SHALL BE SELECTED FROM ONCOR'S "DECORATIVE STREET LIGHTING" OPTIONS, EXCLUDING THE TEXAN LUMINAIRE

GATE REQUIREMENTS

1. THE GATE WILL NEED TO HAVE AN OPTICAL SYSTEM INSTALLED WITH DUAL SENSORS. BOTH FOR INGRESS AND EGRESS. WHEN TRIGGERED BY THE OPTICAL SYSTEM THE GATE MOTOR SYSTEM WILL OPEN THE FULL APPROVED WIDTH.
2. THE GATE WILL ALSO BE REQUIRED TO HAVE A MANUAL RELEASE WITH FIRE DEPARTMENT ACCESS PROVIDED.
3. AT ANY TIME THE OPTICAL SYSTEM IS NOT FUNCTIONING, THE GATE MUST BE LEFT OPEN.
4. OPTICAL SENSORS MUST FUNCTION WITH THE INSTALLED EQUIPMENT / EMITTERS USED BY THE NRH FIRE DEPARTMENT.
5. OPTICAL SENSORS MUST BE INSTALLED AND DIRECTED TO RECEIVE THE TRANSMITTED SIGNAL FROM THE FIRE APPARATUS TO FUNCTION FOR THE DESIGNED PURPOSE. THIS IS TO BE BI-DIRECTIONAL.
6. A MANUAL SYSTEM OF OPENING THE GATES MUST BE INSTALLED AND FUNCTION-ABLE BY THE FIRE DEPARTMENT. IF LOCKS ARE INSTALLED ON THE MANUAL OPENING SYSTEM THEY SHALL BE OF THE KNOX SYSTEM.
7. NO OVERHEAD OBSTRUCTIONS ARE ALLOWED.
8. THE OPTICAL SYSTEM IS THE PRIMARY REQUIRED OPENING SYSTEM. IF THIS SYSTEM MALFUNCTIONS OR DURING LOSS OF POWER, THE GATES MUST BE LEFT IN THE OPEN POSITION.
9. IF GATES ARE NOT MAINTAINED AND OPERATING AS APPROVED, THE FIRE CHIEF SHALL HAVE THE AUTHORITY TO ORDER THE GATE TO BE REPAIRED.
10. GATE TO SWEING INTO THE ST JOSEPH ESTATES SUBDIVISION WHEN OPENED. UPON CONSTRUCTION, 15' "NO PARKING" AREA WILL BE DESIGNATED IN THE SWING ZONE OF THE GATE.



DAVIS BLVD.  
(F.M. 1938)

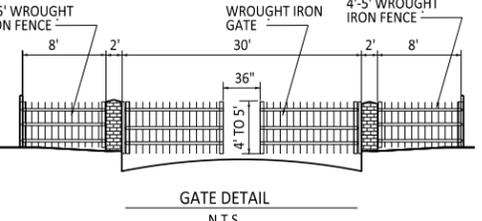


REAL PROPERTY DESCRIPTION  
BEING 7.456 ACRE PARCEL OF LAND LOCATED IN THE STEPHEN RICHARDSON SURVEY, ABSTRACT NO. 1266, TARRANT COUNTY, TEXAS, AND BEING ALL OF LOTS 1, 2, 3, 4, 5, AND PART OF LOT 6, BLOCK 2, AND A PORTION OF LOT 5, BLOCK 1, OF NORTHEAST BUSINESS PARK, AN ADDITION TO THE CITY OF NORTH RICHLAND HILLS, TARRANT COUNTY, TEXAS AS RECORDED IN VOLUME 388-95, PAGE 56, PLAT RECORDS, TARRANT COUNTY, TEXAS, AND A PART OF THAT CERTAIN TRACT OF LAND CALLED 2.775 ACRE IN DEED TO ZEON PROPERTIES, L.L.C., AS RECORDED IN INSTRUMENT NUMBER D21618843, TARRANT COUNTY, TEXAS, AND BEING MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:  
BEGINNING AT THE SOUTHWEST CORNER OF SAID BLOCK 2, AND THE NORTHWEST CORNER OF OF SAID 2.775 ACRE TRACT, IN THE EAST RIGHT-OF-WAY LINE OF DAVIS BOULEVARD F. M. 1938 (120' RIGHT-OF-WAY);  
THENCE NORTH 00 DEGREES 01 MINUTES, 08 SECONDS WEST, 99.27 FEET WITH THE WEST LINE OF SAID BLOCK 2, TO A TEXAS DEPARTMENT OF TRANSPORTATION MONUMENT FOUND FOR THE SOUTH CORNER OF LOT 1, BLOCK 3, NORTHEAST BUSINESS PARK, AS RECORDED IN VOLUME 388-123, PAGE 21, OF SAID PLAT RECORDS ;  
THENCE NORTH 65 DEGREES 47 MINUTES, 53 SECONDS EAST, 126.37 FEET WITH THE SOUTH LINE OF SAID LOT 1, BLOCK 3;  
THENCE NORTH 46 DEGREES 24 MINUTES, 48 SECONDS EAST, 379.68 FEET;  
THENCE NORTH 62 DEGREES 00 MINUTES, 19 SECONDS EAST, 307.64 FEET TO 1/2 INCH IRON ROD FOUND IN THE EAST LINE OF SAID NORTHEAST BUSINESS PARK FOR THE NORTHWEST CORNER OF LOT 21, BLOCK 4, MEADOWVIEW ESTATES ADDITION PHASE 4, AS RECORDED IN VOLUME 388-169, PAGE 48, PLAT RECORDS, TARRANT COUNTY, TEXAS;  
THENCE SOUTH 00 DEGREES 35 MINUTES, 17 SECONDS EAST, 547.38 FEET WITH THE COMMON LINE OF SAID MEADOWVIEW ESTATES NORTHEAST BUSINESS PARK AND THE NORTHEAST CORNER OF SAID 2.775 ACRE TRACT ;  
THENCE SOUTH 00 DEGREES, 31 MINUTES, 37 SECONDS EAST, 180.28 FEET WITH THE WEST LINE OF SAID MEADOWVIEW ESTATES PHASE 4 AND THE EAST LINE OF SAID 2.775 ACRE TRACT TO A 5/8 INCH IRON ROD WITH YELLOW CAP STAMPED "ANA" SET FOR THE SOUTHWEST CORNER OF HEREIN DESCRIBED TRACT AND THE NORTHEAST CORNER OF THAT CERTAIN TRACT AS DESCRIBED IN DEED TO CHARLES KEARNS AS RECORDED IN INSTRUMENT NUMBER D190034296, OF SAID DEED RECORDS, IN THE WEST LINE OF SAID MEADOWVIEW ESTATES PHASE 4;  
THENCE NORTH 89 DEGREES, 22 MINUTES, 30 SECONDS WEST, 125.03 FEET WITH THE NORTH LINE OF SAID CHARLES KEARNS TRACT AND SAID 2.775 ACRE TRACT TO A 1/2 INCH IRON ROD FOUND FOR THE NORTHWEST CORNER OF SAID CHARLES KEARNS TRACT AND THE NORTHEAST CORNER OF THAT CERTAIN TRACT AS DESCRIBED IN DEED TO DANIEL W. LANGHAM AS RECORDED IN INSTRUMENT NUMBER D199196518, OF SAID DEED RECORDS IN THE SOUTH LINE OF SAID 2.775 ACRE TRACT ;  
THENCE SOUTH 88 DEGREES, 52 MINUTES, 24 SECONDS WEST, 250.31 FEET TO A 1/2 INCH IRON ROD FOUND FOR THE NORTHWEST CORNER OF SAID DANIEL W. LANGHAM TRACT AND THE NORTHEAST CORNER OF THAT CERTAIN TRACT AS DESCRIBED IN DEED TO ROBERT ESPINOSA AS RECORDED IN INSTRUMENT NUMBER D215248033, OF SAID DEED RECORDS IN THE SOUTH LINE OF SAID 2.775 ACRE TRACT;  
THENCE NORTH 89 DEGREES, 23 MINUTES, 50 SECONDS WEST, 125.59 FEET TO A 1/2 INCH IRON ROD FOUND FOR THE NORTHWEST CORNER OF SAID ROBERT ESPINOSA TRACT AND THE NORTHEAST CORNER OF LOT 2R-1, BLOCK 13, MEADOWVIEW ESTATES AS RECORDED IN VOLUME 388-180, PAGE 1, PLAT RECORDS, TARRANT COUNTY, TEXAS IN THE SOUTH LINE OF SAID 2.775 ACRE TRACT;  
THENCE SOUTH 88 DEGREES, 10 MINUTES, 53 SECONDS WEST, 26.63 FEET WITH THE COMMON LINE OF SAID 2.775 ACRE TRACT AND SAID LOT 2R-1;  
THENCE NORTH 01 DEGREES, 07 MINUTES, 36 SECONDS WEST, 127.17 FEET;  
THENCE SOUTH 88 DEGREES, 52 MINUTES, 24 SECONDS WEST, 139.29 FEET TO THE WEST LINE OF SAID 2.775 ACRE TRACT;  
THENCE NORTH 00 DEGREES 01 MINUTES, 08 SECONDS WEST, 54.41 FEET WITH THE WEST LINE OF SAID 2.775 ACRE TRACT TO THE POINT OF BEGINNING AND CONTAINING 324,792 SQUARE FEET OR 7.456 ACRES OF LAND, MORE OR LESS.

LAND USE TABLE

ITEM	R-2	RI-PD (7.456 AC) 25 UNITS
MIN. LOT AREA	9,000 SF	6,183 SF
AVG. LOT AREA	-	6,600 SF
MIN FRONT YARD	20 FT	20 FT
MIN REAR YARD	10 FT AND 20%	10 FT
MIN. LOT WIDTH	72.5 FT	56 FT (60 FT AVG.)
MIN. SIDE YARD	10 FT & 6 FT	6 FT AND 4 FT
TOTAL OPEN SPACE	-	79,833 SF (24.58%)
USEABLE OPEN SPACE	-	31,951 SF (9.84 %)
DENSITY	4 UNITS/AC	3.35 UNITS/AC

AREA CALCULATIONS  
AREA OF DEVELOPMENT= 7.456 ACRES (324,792 SF)  
NUMBER OF UNITS = 25  
OPENSACE (79,833 S.F.) 24.6 %



ZONING EXHIBIT  
ST JOSEPH ESTATES

EXIST. ZONING "RI-PD RESIDENTIAL INFILL PLANNED DEVELOPMENT"  
PROP. ZONING "RI-PD RESIDENTIAL INFILL PLANNED DEVELOPMENT"  
LOTS 1-15 BLOCK 1, LOTS 1-11 BLOCK 2

BEING 7.456 ACRES OF LAND  
25 RESIDENTIAL LOTS &  
1 NONRESIDENTIAL LOTS  
IN THE STEPHEN RICHARDSON SURVEY  
ABSTRACT NO. 1266,  
AN ADDITION TO THE CITY OF NORTH RICHLAND HILLS,  
TARRANT COUNTY, TEXAS.

PREPARED SEPTEMBER 2016

ENGINEER / SURVEYOR  
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COLLEYVILLE, TEXAS 76034  
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FAX (817) 335-9955

OWNER / DEVELOPER  
ZEON PROPERTIES, L.L.C.  
75 MAIN STREET, STE 100  
COLLEYVILLE, TX. 76034  
TEL. (817) 300-1376

OWNER  
C & G CUSTOM HOMES  
75 MAIN STREET, STE 100  
COLLEYVILLE, TX. 76034  
TEL. (817) 300-1376

REVISIONS

DATE	BY	REVISIONS
150300	JSW	
	EKK	
09-18-2016		

ZONING EXHIBIT  
ST JOSEPH ESTATES

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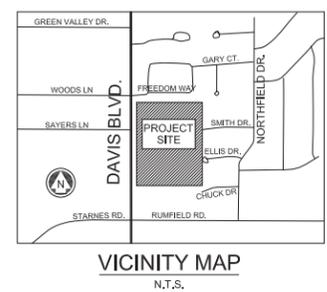
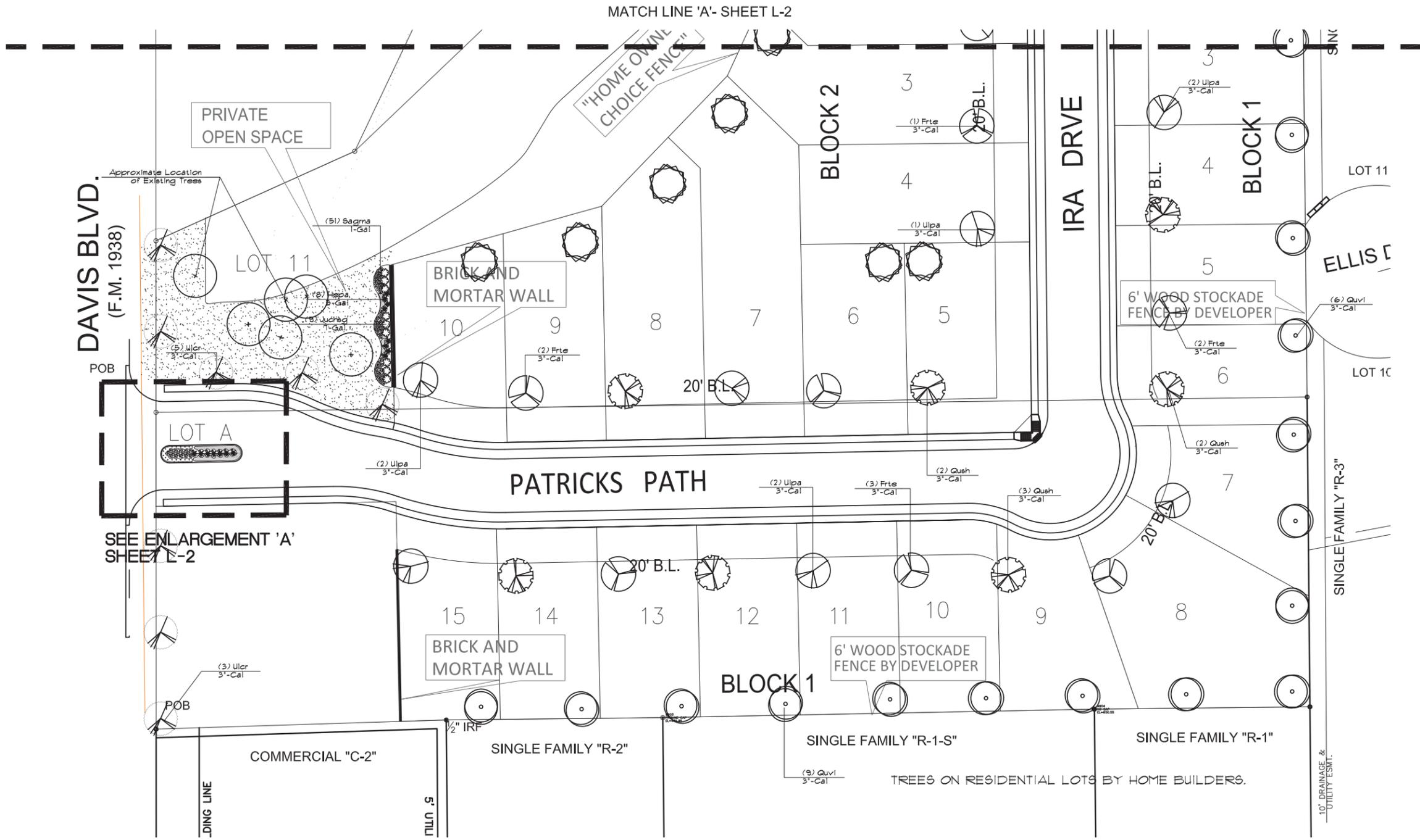
SHEET 1 OF 1

CASE ZC 2016-



THE ELECTRONIC DRAWINGS FILE RELEASED UNDER THE AUTHORITY OF GREEN CUPPETT LANDSCAPE ARCHITECTS, LLC (GCL) TO THE PUBLIC ARE THE ORIGINAL DRAWINGS AS SUBMITTED TO THE BOARD OF ARCHITECTURE AND LANDSCAPE ARCHITECTURE OF THE STATE OF TEXAS. THE ORIGINAL DRAWINGS ARE THE PROPERTY OF GCL AND ARE NOT TO BE REPRODUCED, COPIED, OR DISTRIBUTED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF GCL. ANY REVISIONS TO THESE DRAWINGS SHALL BE INDICATED BY A REVISION CIRCLE AND SHALL BE MADE TO THE ORIGINAL DRAWING FILE. THE USER OF THESE DRAWINGS SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES AND FOR OBTAINING ALL NECESSARY INSURANCE COVERAGE. THE USER OF THESE DRAWINGS SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES AND FOR OBTAINING ALL NECESSARY INSURANCE COVERAGE. THE USER OF THESE DRAWINGS SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES AND FOR OBTAINING ALL NECESSARY INSURANCE COVERAGE.

**SAINT JOSEPH ESTATES**  
 DAVIS BLVD  
 NORTH RICHLAND HILLS, TEXAS



**NOTE:**  
 NO LANDSCAPE PLANTINGS  
 WITHIN 18" OF PARKING  
 LOT CURBS.

**CAUTION!!!**  
 UNDERGROUND UTILITIES ARE LOCATED IN THIS AREA. 48 HOURS PRIOR TO ANY CONSTRUCTION ACTIVITIES, CONTACT LINE LOCATES FOR FRANCHISE UTILITY INFO. CALL BEFORE YOU DIG!  
 TEXAS EXCAVATION SAFETY SYSTEM (TESS) 1-800-344-8377  
 TEXAS ONE CALL SYSTEMS 1-800-245-4545  
 LONE STAR NOTIFICATION CENTER 1-800-669-8344 EXT. 5  
 BEFORE YOU DIG...

REF SHEET L-3 FOR PLANT LEGEND, NOTES, ETC.

DENOTES AREAS TO BE SOLID BERMUDA SOD

TEMPORARY IRRIGATION WILL BE REQUIRED TO ESTABLISH TURF IN ALL DISTURBED AREAS WITHOUT A PERMANENT IRRIGATION SYSTEM. INSTALL SOD TO ESTABLISH TURF IN ALL DISTURBED AREAS AS IDENTIFIED ON GRADING AND EROSION CONTROL PLANS.



**CONCEPTUAL LANDSCAPE PLAN  
 CASE ZC-2016-17**

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### PLANT LIST

Symbol	Quantity	Code Name	Scientific Name	Common Name	Planting Size	Comments
	8	Ulcr	Ulmus crassifolia	Cedar elm	3'-Cal	B 4 B
	11	Uipa	Ulmus parvifolia	Lacebark elm	3'-Cal	B 4 B
	15	Hepa	Heperaloe parviflora	Red yucca	5-Gal	48' O.C.
	66	Sagma	Salvia greggii 'Navajo White'	Navajo White autumn sage	1-Gal	24' O.C.
	9	Jucheg	Juniperus chinensis 'Sea Green'	Sea Green juniper	7-Gal.	60' O.C.
	18	Quvi	Quercus virginiana	Southern live oak	3'-Cal	B 4 B
	14	Quma	Quercus macrocarpa	Bur oak	3'-Cal	B 4 B
	14	Quer	Quercus	Oak	Existing	Existing
	7	Frte	Fraxinus texensis	Texas ash	3'-Cal	B 4 B
	7	Qush	Quercus shumardii	Shumard oak	3'-Cal	B 4 B
		Sste	Stipa tenuisima	Mexican feathergrass	1-Gal	18' O.C.
		Limu	Santolina chamaecyparissus	Santolina	4' pot	18' O.C.
			Cynodon dactylon	Bermuda grass	Solid Sod	

#### PLANTING NOTES:

1. PLANT SIZE, TYPE, AND CONDITION SUBJECT TO APPROVAL OF OWNER'S REPRESENTATIVE.
2. ALL PLANT MATERIAL TO BE NURSERY GROWN STOCK.
3. CONTRACTOR RESPONSIBLE FOR MAINTENANCE OF ALL PLANT MATERIAL UNTIL PROJECT ACCEPTANCE.
4. ALL CONTAINER GROWN PLANTS TO HAVE FULL, VIGOROUS ROOT SYSTEM, COMPLETELY ENCOMPASSING CONTAINER.
5. ALL PLANTS WELL ROUNDED AND FULLY BRANCHED. ALL TREES WITH SPREAD 2/3 OF HEIGHT.
6. CONTRACTOR TO PROVIDE OWNER WITH PREFERRED MAINTENANCE SCHEDULE OF ALL PLANTS AND LAWNS.
7. MAINTAIN/PROTECT VISIBILITY TRIANGLE WITH PLANT MATERIAL PER CITY STANDARDS AT ALL ENTRANCES TO SITE.
8. PREP ENTIRE WIDTH OF ALL DEFINED PLANTING BEDS WITH MIX AS OUTLINED IN SPECS. WHERE SHRUBS ARE LOCATED ALONG CURB, SET SHRUBS BACK FROM CURB 3 FT.
9. SEE DETAIL SHEET FOLLOWING FOR PLANTING DETAILS.
10. CONTRACTOR RESPONSIBLE FOR LOCATION OF ALL UTILITIES, INCLUDING BUT NOT LIMITED TO TELEPHONE, TELECABLE, ELECTRIC, GAS, WATER AND SEWER. ANY DAMAGE TO UTILITIES TO BE REPAIRED BY CONTRACTOR AT NO COST TO OWNER.
11. IF EXISTING TREES ARE SHOWN TO REMAIN, CONTRACTOR SHALL PRUNE AS DIRECTED BY OWNER'S REPRESENTATIVE. WORK TO INCLUDE REMOVAL OF ALL SUCKER GROWTH, DEAD AND DISEASED BRANCHES AND LIMBS, VINES, BRIARS AND OTHER INVASIVE GROWTH, AND ALL INTERFERING BRANCHES. MAKE ALL CUTS FLUSH TO REMAINING LIMB. RETAIN NATURAL SHAPE OF PLANT. ALL WORK SUBJECT TO APPROVAL OF OWNER'S REPRESENTATIVE.
12. QUANTITIES ARE PROVIDED AS A COURTESY AND NOT INTENDED FOR BID PURPOSES. CONTRACTOR TO VERIFY PRIOR TO PRICING.
13. INSTALL EDGING BETWEEN LAWN AND PLANTING BEDS. REFER TO SPECIFICATIONS. FILE ALL CORNERS SMOOTH.
14. INSTALL CURLEX BLANKET (OR EQUAL) PER MANUFACTURERS INSTRUCTIONS ON ALL GROUND COVER/SHRUB BEDS WITH A SLOPE OF 4:1 OR GREATER.
15. AT TIME OF PLAN PREPARATION, SEASONAL PLANT AVAILABILITY CANNOT BE DETERMINED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SECURE AND RESERVE ALL B4B PLANTS WHEN AVAILABLE IN CASE ACTUAL INSTALLATION OCCURS DURING THE OFF-SEASON. PURCHASE AND HOLD B4B PLANTS FOR LATE SEASON INSTALLATION.
16. PRIOR TO TREE PLANTING THE CONTRACTOR SHALL STAKE ALL TREE LOCATIONS FOR THE OWNERS APPROVAL.

#### NOTE:

ALL OPEN SPACE LANDSCAPING SHALL BE IRRIGATED. TREES ARE TO BE IRRIGATED BY TREE BUBBLERS AND SHRUBS BY DRIP IRRIGATION.

CITY OF NORTH RICHLAND HILLS LANDSCAPE REQUIREMENTS				
REQUIRED STREET FRONTAGE TREES	1 TREE REQUIRED PER EVERY 50 FT OF FRONTAGE			
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REQUIRED	PROVIDED			
280 LF/50 = 6 TREES	6 TREES			
REQUIRED STREET FRONTAGE SHRUBS	1 SHRUB REQUIRED PER EVERY 5 FT OF FRONTAGE			
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RESIDENTIAL LOTS	2 TREES PER LOT			
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1 FRONT YARD; 1 BACK YARD TREE	1 FRONT YARD; 1 BACK YARD TREE			

- ENTRY ISLANDS LANDSCAPED WITH SHRUBS.
- VISIBILITY TRIANGLE PROTECTED - ALL LOCATIONS.
- ALL LANDSCAPING WILL BE IRRIGATED WITH AN AUTOMATIC UNDERGROUND IRRIGATION SYSTEM EQUIPPED WITH A RAIN AND FREEZE SENSOR.

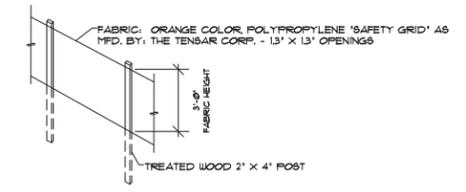
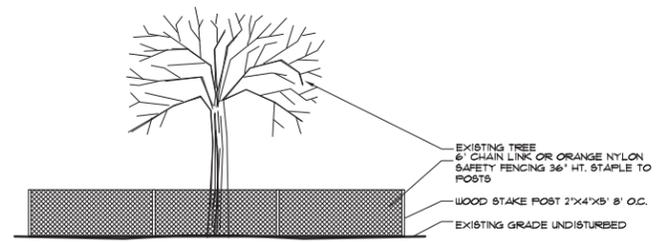
**NOTE:**  
NO LANDSCAPE PLANTINGS WITHIN 18" OF PARKING LOT CURBS.

**CAUTION!!!**  
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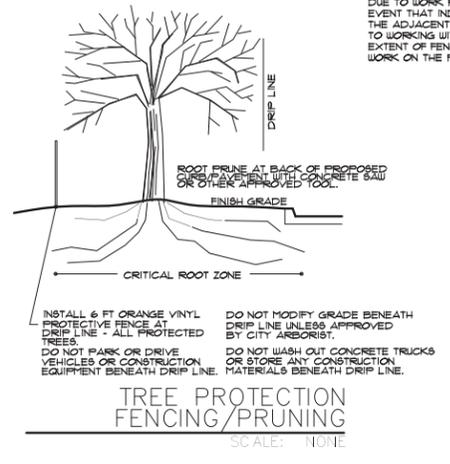
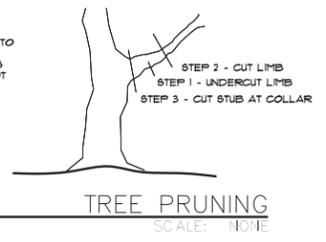
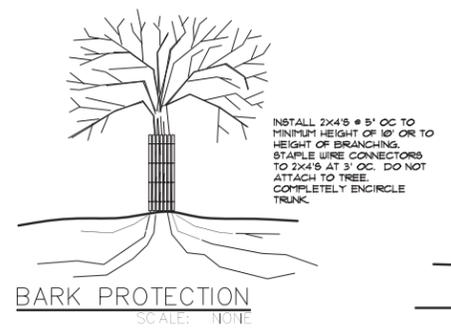


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NOTE: PROPOSED EXTENT OF TREE PROTECTION IS INDICATED ON THIS DRAWING. FENCING MAY BE ADJUSTED IF NECESSARY DUE TO WORK REQUIRED WITHIN THE ENCLOSED AREA, OR IN THE EVENT THAT INDICATED FENCING PROHIBITS REQUIRED WORK IN THE ADJACENT AREA. CONSULT LANDSCAPE ARCHITECT PRIOR TO WORKING WITHIN FENCED AREAS OR MAKING ADJUSTMENTS TO EXTENT OF FENCING. INSTALL FENCE BEFORE BEGINNING ANY WORK ON THE PROJECT SITE EXCEPT STAKING.



**FAIN • CUIPETT**  
 LANDSCAPE ARCHITECTS, LLC  
 8238 Hill Chapel Blvd., Suite B  
 North Richland Hills, TX 76184-4761 817-479-4730  
 P.O. BOX 6971, P.O. BOX 6971, FAIN • CUIPETT LANDSCAPE ARCHITECTS, LLC • 817-479-4730



THE ELECTRONIC DRAWINGS FILE RELEASED UNDER THE AUTHORITY OF GREEN CUIPETT LANDSCAPE ARCHITECT REGISTRATION NUMBER 2822 OR 11076, WHO MAINTAINS THE ORIGINAL DRAWING, SHALL BE CONSIDERED THE TRUE AND CORRECT COPY. ANY REVISIONS TO THESE DRAWINGS SHALL BE MADE TO THE ORIGINAL DRAWING FILE. THE USER SHALL BE RESPONSIBLE FOR VERIFYING THE ACCURACY OF THE INFORMATION PROVIDED IN THESE DRAWINGS. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES. THE USER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.

**SAINT JOSEPH ESTATES**  
 DAVIS BLVD  
 NORTH RICHLAND HILLS, TEXAS

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**NORTH RICHLAND HILLS, TEXAS**

SECTION 02830

TREES SHRUBS, AND GROUNDCOVERS

PART I GENERAL

1.01 DESCRIPTION OF WORK

A. Scope

1. Bed prep
2. Metal edging
3. Topsoil
4. Planting
5. Mulching
6. Guarantee

B. Related Work Specified Elsewhere

1. General Requirements – All locations
2. Section 02740 – Irrigation Trenching
3. Section 02750 – Irrigation
4. Section 02800 – Lawns

1.02 QUALITY ASSURANCE

A. Contractor Qualifications

Minimum of three (3) years experience on projects of similar characteristics and size.

B. Reference Standards:

1. American Joint Committee Of Horticultural Nomenclature: Standardized Plant Names, Second Edition, 1942;
2. American Association Of Nurserymen: American Standard For Nursery Stock, 1973

C. Substitutions

1. Substitutions accepted only upon written approval of Landscape Architect and Owner.
2. Submit substitutions possessing same characteristics as indicated on plans and specifications.

D. Inspection and Testing

1. The project Owner's representative reserves the right to inspect and tag plants at the place of growth with the Contractor.
2. Inspection at place of growth does not preclude the right of rejection due to improper digging or handling.
3. Owner's representative reserves the right to request soil samples and analysis of soil and plant mix. Remove or correct unacceptable soil. Cost of testing by Contractor.

1.03 SUBMITTALS

A. Certificates

1. Submit State and Federal certificates of inspection with invoice. (Only if required by Landscape Architect.)
2. File certificates with Owner's representative prior to material acceptance.

1.04 PRODUCT DELIVERY, STORAGE, & HANDLING

A. Preparation of Delivery

1. Balled & Burlaped (B&B) Plants

- a. Dig and prepare for shipment in manner that will not damage roots, branches, shape, and future development after replanting.
- b. Ball with firm, natural ball of soil, wrapped tightly with burlap covering entire ball.
- c. Ball size and ratios: conform to American Association of Nurserymen standards unless otherwise shown on plant list.
2. Pack plant material to protect against climatic & seasonal damage, as well as breakage injuries during transit.
3. Securely cover plant tops with ventilated tarpaulin or canvas to minimize wind-whipping and drying in transit.
4. Pack and ventilate to prevent sweating of plants during transit. Give special attention to insure prompt delivery and careful handling to point of delivery at job site.

B. Delivery

1. Deliver fertilizer, fertilizer tablets, peat, mulch, soil additives, and amendment materials to site in original, unopened containers, bearing manufacturer's guaranteed chemical analysis, name, trade name, trademark, and conformance to State law.
2. Deliver plants with legible identification and size labels on example plants.
3. Protect during delivery to prevent damage to root ball or desiccation of leaves.
4. Notify Owner's representative of delivery schedule in advance so plant material may be inspected upon arrival at job site.
5. Deliver plants to job site only when areas are prepared.

C. Storage

1. Protect roots of plant material from drying or other possible injury with wetted mulch or other acceptable material.
2. Protect from weather.
3. Maintain and protect plant material not to be planted immediately upon delivery.

D. Handling

1. Do not drop plants.
2. Do not damage ball, trunk, or crown.
3. Lift and handle plants from bottom of container or ball.

1.05 JOB CONDITIONS

- E. Planting Season Perform actual planting only when weather and soil conditions are suitable in accordance with locally acceptable practices.
- F. Protection Before excavations are made, take precautionary measures to protect areas trucked over and where soil is temporarily stacked.

1.06 GUARANTEE

- A. Guarantee new plant material for one year after acceptance of final installation (ie Final Acceptance of project).
- B. Make replacement (one per plant) during one year guarantee period at appropriate season with original plant type, size and planting mixture.
- C. Repair damage to other plants, lawns, & irrigation caused during plant replacement at no cost to Owner.
- D. Use only plant replacements of indicated size and species.

PART II PRODUCTS

2.01 MATERIALS

A. Plant Materials

1. Hardy under climatic conditions similar to locality of project.
2. True to botanical and common name variety.
3. Sound, healthy, vigorous, well branched, and densely foliated when in leaf; with healthy well-developed root system.
4. Free from disease, insects, and defects such as knots, sun-scald, windburn, injuries, disfigurement, or abrasions.
5. Conform to measurements after pruning with branches in normal positions.
6. Conform to American Association of Nurserymen standards unless shown differently on plant list.
7. Trees:
  - a. Single, straight trunks, unless indicated otherwise
  - b. Trees with weak, thin trunks not capable of support will not be accepted.
  - c. All multi-stem trees are to have a minimum of three stems, similar in size and shape, with a spread of approximately 2/3 of the height. All yauponns to be female. Crape myrtle color selection by Landscape Architect.
  8. Nursery grown stock only.
  9. Subject to approval of Landscape Architect.
  10. Seasonal color
    - a. Annuals in 4" pots or as specified
    - b. Perennials in 4" pots, clumps, bulbs as specified
- B. Topsoil
  1. Natural, fertile, friable soils having a textural classification of loam or sandy loam possessing characteristics of soils in vicinity which produce heavy growth of crops, grass, or other vegetation.
  2. Free of subsoil, brush, organic litter, objectionable weeds, clods, shale, stones 3/4" diameter or larger, stumps, roots or other material harmful to grading, planting, plant growth, or maintenance operations.
  3. Presence of vegetative parts of Bermuda grass ( Cynodon dactylon), Johnson grass, nut grass (Cyperus rotundus), and other hard to eradicate weeds or grass will be cause for rejection of topsoil.
  4. Test topsoil (cost by Contractor):
    - a. Available nitrogen
    - b. Available phosphorus
    - c. Available potash
    - d. Iron
    - e. Ph: 5.5 to 7.0
    - f. Decomposed organic matter: 6-10%
- C. Mulch
  1. Top Dressing Mulch – Shredded cypress or hard wood only
  2. Mulch for soil prep – Shredded pine bark
  3. In pre-packaged bags only; bulk shredded material is unacceptable.

D. Peat Moss Commercially available baled peat moss or approved equivalent.

E. Staking Material

1. Stakes for tree support

- a. Construction grade yellow pine, stain brown
- b. Size as noted on plans

2. Wires

- a. Padded with rubbed hose to protect tree
- b. Galvanized
- c. With galvanized turnbuckle
- d. Evenly tighten turnbuckles with plant in vertical position.

F. Water

1. Free of oils, acids, alkali, salt, and other substances harmful to plant growth
2. Location: Furnish temporary hoses and connections on site.

G. Sand Washed builders sand

H. Antidesicant – "Wilt-proof" or equal.

I. Edging – 3/16" X 4" green, new and unused; with stakes.

2.02 MIXES

A. Planting Mixture

- Existing topsoil – 50%
3. Shredded pine bark – 50%
4. Fertilizer 10:20:10 at 30 lb./1000 SF

B. Planting Mix for Annuals/Perennials

1. Prepare above mix
2. Add 2" of sand

- C. Azalea mix: solid peat moss in hole 9" wider than root ball each direction. Plant in solid peat moss and provide mound at base of plant to allow for drainage.
- D. Japanese maple, dogwood, camellias: Provide 50/50 peat moss to topsoil mix, raise for drainage.

PART III – EXECUTION

- 3.01 UTILITIES – verify location of all utilities prior to initiating construction; repair any damage caused by construction at no cost to owner.

3.02 INSPECTION

- A. Inspect plants for injury and insect infestation; prune prior to installation.
- B. Inspect site to verify suitable job conditions.

3.03 FIELD MEASUREMENTS

- A. Location of all trees and shrubs to staked in the field and approved by Owner's representative prior to installation.
- B. Location of all groundcover and seeding limits as shown on plans.

3.04 EXCAVATION FOR PLANTING

A. Pits

1. Shape – Vertical hand scarified sides and flat bottom.
2. Size for trees – 2 feet wider or twice the root ball, whichever is greater.
3. Size for shrubs – Size of planting bed as shown on drawings.
4. Rototill soil mix thoroughly, full depth.
5. NOTE: If beds are proposed beneath drip line of existing tree canopy, pocket prep plants. Do not roto-till beneath existing trees.

B. Obstructions Below Ground

1. Remove rock or underground obstructions to depth necessary to permit planting.
2. If underground obstructions cannot be removed, notify Owner's representative for instruction.

- C. Excess Soil Dispense of unacceptable or excess soil away from the project site at Contractor's expense.

3.05 PLANTING

A. General

1. Set plants 2" above existing grade to allow for settling.
2. Set plants plumb and rigidly braced in position until planting mixture has been tamped solidly around ball.
3. Apply soil in accordance with standard industry practice for the region.
4. Thoroughly settle by water jetting and tamping soil in 6" lifts.
5. Prepare 3" dish outside root ball after planting.
6. Thoroughly water all beds and plants.
7. Stake trees and large shrubs as indicated on plans.
8. Apply anti-desicant according to manufacturer's instructions.
9. Apply commercially manufactured root stimulator as directed by printed instruction.
10. Plant and fertilize bedding plants per trade standards.
11. Apply 3" mulch top dressing.

B. Balled Plants

1. Place in pit of planting mixture that has been hand tamped prior to placing plant.
2. Place with burlap intact to ground line. Top of ball to be 2" above surrounding soil to allow for settling.
3. Remove binding at top of ball and lay top of burlap back 6".
4. Do not pull wrapping from under ball, but cut all binding cord.
5. Do not plant if ball is cracked or broken before or during planting process or if stem or trunk is loose.
6. Backfill with planting mixture in 6" lifts.

C. Container Grown Plants

1. Place in pit on planting mixture that has been hand tamped prior to placing plant.
2. Cut cans on two sides with an acceptable can cutter, and remove root ball from can.

Do not injure root ball.

3. Carefully remove plants without injury or damage to root balls.
4. Backfill with planting mixture in 6" lifts.

D. Mulching

1. Cover planting bed evenly with 3" of mulch.
2. Water immediately after mulching.
3. Where mulch has settled, add additional mulch to regain 3" thickness.
4. Hose down planting area with fine spray to wash leaves of plants.

D. Pruning

1. Prune minimum necessary to remove injured twigs and branches, dead wood, and succors; remove approximately 1/3 of twig growth as directed by landscape architect; do not cut leaders or other major branches of plant unless directed by landscape architect.
2. Make cuts flush, leaving no stubs.
3. Paint cuts over 1" diameter with approved tree wound paint.
4. Do not prune evergreens except to remove injured branches.

3.06 EDGING

- A. Stake edging alignment with string line prior to installation. Use framing square to insure right angles are true.
- B. Install all edging straight and true as indicated on drawings. Where edging layout is circular in design, maintain true and constant radii as shown.
- C. When required on slopes, make vertical cuts (approximately 6" on center) on bottom of edging to allow bending without crimping edging.
- D. Install edging so that approximately 1" is exposed on lawn side. Edging should not be visible from bed side after application of mulch.
- E. Align edging with architectural features (ie pavement joints, windows, columns, wall, etc.) when drawings indicate.
- F. Bend all corners, do not cut corners.
- G. Interlock all pieces with pre-fabricated connectors.
- H. Install with all stakes on inside of planting bed.
- I. Remove, file off all sharp corners and burrs.

3.07 CLEAN-UP

A. Sweep and wash all paved surfaces.

Remove all planting and construction debris from site, including rocks, trash and all other miscellaneous materials.

3.08 MAINTENANCE

A. Contractor responsible for routine, and regular maintenance of site until Final Acceptance is awarded by Owner. Work includes:

1. Weeding (weekly)
2. Watering (as required)
3. Pruning
4. Spraying
5. Fertilizing
6. Mulching
7. Mowing (weekly)

B. Provide Owner and Landscape Architect with preferred maintenance schedule in writing. Schedule shall include the above-listed tasks and shall address all frequencies, rates, times, levels, etc.

SECTION 02800

FINISH GRADING, LAWN WORK, WILD FLOWERS

PART I - GENERAL

1.01 DESCRIPTION

- A. Work includes turf establishment (sod, hydromulch, etc.) as described on drawings.
- B. Make required analysis and material tests for topsoil, fertilizers, and other materials of similar character per current methods of the Association of Official Agricultural Chemists, when required.
- C. Grass seed shall conform to tolerances for germination and purity per applicable standards of U.S. Department of Agriculture.
- D. The turf contractor shall have a stand of grass established prior to substantial completion of the project. If this is not possible due to time of year or schedule, he shall maintain and protect the seeded areas until the grass is established.

PART II - PRODUCTS

2.01 TOPSOIL MATERIAL

- A. Topsoil material (stockpiled, as specified in Specifications) has been saved for use in finish grading. After sifting out all plant growth, rubbish, and stones, use for areas designated to receive grass. If stockpiled topsoil is not sufficient quantity to complete work, furnish acceptable topsoil from another approved source to provide four inches (4") of topsoil for grass areas unless otherwise noted on drawings. Grass areas shall be defined as the graded areas disturbed during construction not to be paved or built upon.
- B. Acceptable topsoil material shall be defined as natural, fertile, agricultural soil, capable of sustaining vigorous plant growth, uniform composition throughout admixture of subsoil, free of stones, lumps, plants, and their roots, sticks, or other extraneous matter; do not deliver while in a frozen or muddy condition.

2.02 FERTILIZER

- A. Provide a commercial balanced fertilizer delivered to the job in bags labeled with manufacturer's guaranteed analysis. Store in weatherproof storage, place in such a manner that its effectiveness will not be impaired.
- B. Fertilizer shall be a grade containing the percentages of plant food elements by weight as specified elsewhere in these specifications.
- C. Availability of various elements shall be per Standards of the Association of Official Agricultural Chemists.

2.03 GRASS SEED

- A. Grass seed shall be of the previous season's crop and the date of analysis shown on each bag shall be within nine (9) months of the time of delivery to the project. When requested by the Owner or Representative, the seeding contractor shall furnish a sample of seed from each bag for testing.
- B. The seed shall comply with all provisions of the U.S. Department of Agriculture as to labeling, purity, and germination.

2.04 MULCHING

- A. Dry straw or hay of good quality, free of seeds of competing plants and at such rate of 1 1/2 - 2 tons per acre; or,
- B. Wood cellulose or cane fiber mulch at a rate of 1,000 pounds per acre when the slope is 3/4:1 and steeper; or,
- C. A combination of good quality dry straw or hay free of seeds of competing plants at a rate of 2 1/2 tons per acre and wood cellulose or cane fiber mulch at a rate of 500 pounds per acre. This combination shall be used when the slope is flatter than 3/4:1; or,
- D. Sericea lepedeza seed bearing hay at a rate of 3 tons per acre. This mulch may be applied green or air dried, but must contain mature seed.
- E. Manufactured mulch materials, such as soil retention blankets, erosion control netting, or others that may be required on special areas of high water concentration or unstable soils. When these materials are used, follow the manufacturer's recommendations for installation.

2.05 HYDRO-MULCHING

- Wood cellulose fiber or cane fiber mulch will be applied with hydraulic seeding and fertilizing equipment. All slurry ingredients shall be mixed to form a homogeneous slurry and spray applied within one hour after the mixture is made.
- When wood cellulose or cane fiber mulch is used at the 500 pound per acre rate, straw or hay mulch with asphalt emulsion is applied over this to complete the mulch.
- Wood cellulose or cane fiber mulch at the 1,000 pound per acre rate is used alone where other mulch material will not stick.
- Wood cellulose or cane fiber mulch is self anchoring.

PART III - EXECUTION

3.01 RESPONSIBILITY

The site grading contractor will be responsible to stockpile acceptable topsoil in a sufficient quantity to provide four inches (4") minimum cover for all grass areas, including but not limited to all curbed islands, and topsoil planting mounds/berms at the appropriate height and width as defined and shown on the landscaping and/or planting drawings. The topsoil and grass areas shall be further defined as any area disturbed during the grading and construction process.

The site grading contractor, shall be responsible to spread the topsoil within all perimeter graded areas and future building areas only.

The site grading contractor shall be responsible for backfilling of all curbed islands and planting mounds/berms. They shall also be responsible for removal of all stones, roots, and raking of all topsoil areas that are to be seeded and/or planted. It will also be the site grading contractor's responsibility to provide fertilizer, grass seed, and any additional topsoil required and mulching.

3.02 GRASS SEEDING

- A. Remove stones, roots, rubbish and other deleterious materials from topsoiled areas that are to be seeded.
- B. Immediately prior to sowing seed, scarify ground as necessary; rake until surface is smooth and friable. Sow seed evenly, lightly wood rake into 02800-3
- C. ground, then roll ground with suitable roller; water thoroughly with fine spray. During any weather, keep lawn watered with sprinklers or other approved methods. Re-seed any areas not doing well or damaged. At intervals as may be required according to seasonal conditions, mow and water grass and execute necessary weeding until acceptable and full stand of grass has been obtained.
- D. Provide permanent grass seeding for lawn areas so indicated. Seed in accordance with the following schedule (unless otherwise directed by Owner or Owner's Representative:
  1. Sow areas ready for seeding between March 1 and October 1 with Hulled Common Bermuda at a rate of 85 pounds per acre.
  2. Sow areas ready for seeding between October 1 and March 1 with Unhulled Common Bermuda at a rate of 90 pounds per acre, and Annual Rye Grass at the rate of 50 pounds per acre.
  3. Apply fertilizer at a rate of 20/25 pounds per 1,000 square feet.

3.03 WILD FLOWERS

- A. Areas indicated on plans to receive wild flower coverage shall be fine graded, fertilized, and prepared in a manner similar to traditional turf establishment.
- B. Area to be hydromulched with seed mix as follows:

Tickseed	10 pounds/acre
Cosmos	15 pounds/acre
Ox-Eyed Daisy	5 pounds/acre
Side Oats Grama	4 pounds/acre
Showy Primrose	0.5 pounds/acre
Plains Coreopsis	2 pounds/acre
Black Eyed Susan	2 pounds/acre
Indian Blanket	10 pounds/acre
Texas Bluebonnet	4 pounds/acre
Little Bluestem	4 pounds/acre

3.04 MULCH

- A. All areas to be seeded shall be mulched.
- B. Mulch materials shall be applied uniformly over the seeded area. Mulch shall be straw and shall be at the rate of 1 1/2 - 2 tons per acre.
- B. Mulch shall be anchored with an emulsified asphalt binder at the rate of 10 gallons per 1,000 square feet.

3.05 PROTECTION

Provide, at no additional cost to Owner, fencing, railing, wire or other types of protection for topsoiled and seeded areas against trespassing and damage. If lawns are damaged prior to Final Acceptance, treat or replace them as directed. Remove protection when so directed.

3.06 MAINTENANCE

Provide maintenance from start of work until Final Acceptance. Maintenance includes watering of lawns, weeding, mowing, edging, repairs of wash-outs and gullies, repairs to protection, and other necessary work of maintenance. Maintain slopes against erosion.

3.07 REHYDROMULCHING

The Owner's representative will designate areas to be replanted. Areas on which a stand of growing grass is not present in a reasonable length of time, (Bermuda grass seed should be germinating in 6-8 days) shall be prepared, reseeded and remulched, as specified for original planting at no additional cost to Owner. A stand shall be defined as live plants from seed occurring at a rate of not less than 1,000 growing plants per square foot. Replanting required because of faulty operations or negligence on the part of the Contractor shall be performed without cost to Owner.

3.08 FINAL CLEAN-UP

- A. At time of final inspection of work, and before final acceptance, clean paved areas that are soiled or stained by operations of work of this section. Clean by sweeping or washing, and remove all defacements or stains.
- B. Remove construction equipment, excess material and tools. Cart away from site any debris resulting from work of this section and dispose of as directed.

SECTION 02922

SODDING

PART I - GENERAL

1.01 DESCRIPTION

A. Work Included

- 1. Sod bed preparation
- 2. Fertilizing
- 3. Sodding
- 4. Miscellaneous management practices

B. Related Work Specified Elsewhere

- 1. Finish Grading, Section 02800
- 2. Lawns and Grasses, Section 02930

1.02 REFERENCE STANDARDS

A. Standardized Plant Names

American Joint Committee of Horticultural Nomenclature, Second Edition, 1942.

B. Texas Highway Department - Standard Specifications for Construction, Item 164, Seeding for Erosion Control.

1.03 SUBMITTALS

A. Vendors Certification That Sod Meets Texas State Sod Law

- 1. Include labeling requirements.
- 2. Include purity and type.

1.04 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Sod:

- 1. Previous season's crop with date of analysis on each bag.
- 2. Furnish and deliver each variety in separate bags or containers.
- 3. Sod to be cut no more than three days before delivery.

B. Fertilizer:

- 1. Unopened bags labeled with the analysis.
- 2. Conform to Texas Fertilizer Law.

1.05 JOB CONDITIONS

- A. Planting Season:
  1. Only during suitable weather and soil conditions.
  2. As specifically authorized by the Owner's Representative.
- B. Schedule - Only after all other construction is complete.
- C. Protect and Maintain Sodded Areas
  1. From traffic and all other use.
  2. Until sodding is complete and accepted.

PART II - PRODUCTS

2.01 MATERIALS

A. Sod:

- 1. Sod: As specified on drawings, weed, insect, and disease free having a minimum of 1 inch of topsoil attached to the roots and cut no more than three days prior to installation.
- 2. The sod shall be cut in strips of at least 1/2 sq. yd. and not more than 1 sq. yd. Sod shall be cut into strips not less than 12" in width or more than 9' in length. At the time of harvest, the top growth shall not exceed 3" in length.
- 3. All sod shall conform to the laws of the State and shall be obtained from sources meeting the approval of the Department of Agriculture, Division of Entomology.
- B. Fertilizer:
  1. Uniform in composition, free flowing.
  2. Suitable for application in approved equipment.
  3. Analysis of 16-20-0, 16-8-8 or as directed.

C. Water:

- 1. Free of oil, acid, alkali, salts or other substances harmful to growth of grasses.

PART III - EXECUTION

3.01 SOD BED PREPARATION

- A. Cultivate to a depth of four (4") inches by disking and tilling with a power tiller.

B. Clear surfaces of all materials:

- 1. Stumps, stones, and other objects larger than one inch (1").
- 2. Roots, brush, wire, stakes, etc.
- 3. Any objects that may interfere with sodding or maintenance.

C. Prepare sod bed:

- 1. Remove soil clods larger than one inch (1").
- 2. Grade areas to smooth, even surface, removing ridges and filling depressions. Final grade to be below finish grade of curbing and edging as shown on details. All grades shall meet approval of Owner's Representative before sodding.

3.02 SODDING

A. Sodding:

- 1. Lightly water prepared grade, lay sod with staggered joints and with edges touching. Topdress with topsoil at edges if necessary to provide smooth surface. On slopes of 2 to 1 and greater, fasten sod in place with wood pegs (two each piece) or other approved method. Sod damaged by storage or during installation shall be rejected. Following settling, topdress with screened, approved topsoil.
- 2. Water and fertilize at 5 lbs. per 1,000 sq. ft.
- 3. Sod shall not be placed during a drought, nor during periods when sod is not normally placed in the area, and shall not be placed on frozen ground. No dry or frozen sod is acceptable.
- 4. The contractor shall keep all sodded areas moist and growing until Final Acceptance. All areas shall be maintained in an acceptable condition until acceptance by Owner.

B. Rolling:

- 1. After placing sod, roll with a hand roller, weighing not more than 100 lbs. per foot of width, in two directions.
- 2. Eliminate all air pockets; finished surface should be free of excessive undulations.

3.05 MAINTENANCE AND MANAGEMENT

A. Includes protection, replanting, maintaining grades, repair of erosion damage. Also includes weekly mowing at 1 1/2" height until final acceptance.

B. Resodding:

- 1. Resod damaged or unacceptable areas.
- 2. Ruts, ridges, and other surface irregularities shall be corrected.

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