APPLICATION REVIEW

Z-22-58

HEARING DATE: September 27, 2022

1. CASE # Z-22-58

Energov # SP-000026-2022

PROPERTY ADDRESS: 2314 Marketplace Drive

LEGAL DESCRIPTION: Lot 58, Block 1, Central Texas Marketplace Addition

2. APPLICANT: Will Winkelmann, on behalf of Snap Clean Car Wash

MAILING ADDRESS: 6750 Hillcrest Plaza Drive, Suite 215, Dallas, TX 75230

OWNER: Waco Commons, LP, Attn: Roger Gault, 8235 Douglas Avenue, Suite 350,

Dallas, TX 75225

BUYER: Chad West, 3606 Tyler Street, Dallas, TX 75224

Special Permit Holder: Chad West d/b/a Snap Clean Car Wash

3. REQUEST:

SPECIAL PERMIT FOR AN AUTOMOBILE CAR-WASHING ESTABLISHMENT IN A C-2 DISTRICT

PLANNING SERVICES REVIEW

NEIGHBORHOOD CHARACTER:

This vacant property is located along Marketplace Drive, east of Bagby Avenue and north of Loop 340, within the Kendrick Neighborhood and Council District III. This is within the Central Texas Marketplace Development, a mixed use, high traffic area with commercial, office, and medium to high density residential uses in the vicinity.

The proposed special permit is to allow a Snap Clean Car Wash development that will include a 100-foot express tunnel car wash, "Velocity Water Works Recycling System" to recycle 80% or more of the water used on each car, and stacking for 17 vehicles (plus cars in the tunnel). Proposed hours of operation will be Monday through Saturday, from 8 a.m. to 8 p.m., and Sunday, from 11 a.m. to 6 p.m. Further details of the proposed development are provided in the attached narrative.

PLANNING SERVICES RECOMMENDATION:

Planning Services recommends *APPROVAL* of the special permit subject to the special provisions and conditions and based on the following findings*:

- 1. That the proposed use is consistent with the comprehensive plan and the purposes and intent of Chapter 28-Zoning of the Code of Ordinances of the City of Waco.
- 2. That the proposed use is compatible with the appropriate and orderly development of the area in which it is located.
- 3. That the proposed use would not be more objectionable to neighboring properties because of traffic congestion, noise, fumes, vibrations or any other characteristics than any use permitted in the zoning district without the grant of a special exception.
- 4. That available community facilities and services, including the road system providing access to the proposed use, are adequate for the proposed use.

* These findings are required for the granting of a special permit as per Section 28-122 of the City of Waco Zoning Ordinance.

Note: This request was continued by Plan Commission at the September 27, 2022, meeting.

NOTICES: 16 mailed;

TR	AFFIC OPERATIONS REVIEW
1.	Description of the adjacent street system: Marketplace Drive
	Classification: <u>Local</u> Number of Lanes: <u>4-lane divided</u>
	Estimated Capacity (at LOSD) <u>16,000</u> vpd Avg. Daily Traffic <u>1,500</u> vpd
2.	Estimated increase in traffic on adjacent streets at full build out:
	Immediate: 574 vpd Future: N/A
3.	Will the development's impact be of sufficient magnitude to require mitigation for:
	a) Access problems: yes/no b) Increased traffic congestion: yes/no c) Pedestrian traffic: yes/no d) Visibility problems: yes/no
4.	Traffic Department comments and recommendations: Provided report considers existing properties and their peak operations data, with knowledge that proposed site will be able to accommodate customer flow and demand on-site without queueing on adjacent roadway. Access to site also limits to pass-by trips; vehicles already on roadway leaving Central Texas Marketplace. (CM)
EN	GINEERING SERVICES REVIEW
1. \$	Street condition: Good Acceptable X Needs Reconstruction
2. \$	Street width: Existing: ROW 98' Pavement 68'
	Required: ROW_50' Pavement_28'
3. (Curb and Gutter:

Curb and Gutter:
 Needs to be installed _____ Exists X Needs Reconstruction
 Offsite Drainage facilities are adequate to meet additional runoff resulting from the rezoning.
 Water is available to the property, and it will serve the heaviest uses allowed under the requested zoning.
 Sewer is available to the property, and it will serve the heaviest uses allowed under the requested zoning.
 Engineering Department comments and recommendations: Adjacent drainage system is surface via curb & gutter; 8" Water & 8" Sewer serve site. (CM)

INSPECTION SERVICES REVIEW
Comments:
The layout of the car wash cuts off the shared access from adjoining property at the rear. (GD)
UTILITY SERVICES REVIEW
Comments:
No comment received.
LEGAL SERVICES REVIEW
Comments:
No comment received.
FIRE DEPARTMENT REVIEW:
ANTICIPATED FIRE RESPONSE TIME: < 6 min IS THE FIRE RESPONSE TIME ADEQUATE?: Y (Y) YES (N) NO
Fire Department Comments and Recommendations:
No comments. (GL)
HEALTH DEPARTMENT REVIEW
INSPECTION/PERMIT REQUIRED (Y) YES (N) NO
DATE OF INSPECTION: <u>N/A</u>
Health Department Comments and Recommendations:
No objections. (DL)
POLICE DEPARTMENT REVIEW
Comments:
No comment received.

CASE #Z-22-58

PROPERTY OWNERS LIST

Applicant: Will Winkelmann, on behalf of Chad West d/b/a Snap Clean Car Wash

Owner: Waco Commons, LP

Attn: Roger Gault

Buyer: Chad West, His Successor and Assigns, an individual

Copy to: Thomas L. Kapioltas

Doing business as: Snap Clean Car Wash

SPECIAL PROVISIONS AND CONDITIONS FOR AUTOMOBILE CAR-WASHING ESTABLISHMENT IN C-2 DISTRICT

- 1. The permit here granted is to Chad West d/b/a Snap Clean Car Wash, and may not be transferred or assigned except:
 - a. for a collateral transfer in connection with financing for an automobile carwashing establishment;
 - b. for a transfer to another automobile car-washing establishment; or
 - c. for a transfer resulting from a foreclosure of any lien on the automobile carwashing establishment,

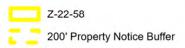
provided that the use of the property remains an automobile car-washing establishment. Except for a transfer under 1A above, written notice of such transfer must be given to the City at least 10 days prior to the effective date of the transfer.

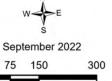
- 2. At any time if the permittee(s) ceases to use the permit for the purpose for which it has been granted, or if the permittee's license or permit from the appropriate state or federal licensing agency expires or is revoked for any reason, this permit shall become null and void, and the lawful use of the property listed as the location for the permit shall conform to the use for which it is zoned under the City of Waco's Zoning Ordinance.
- 3. This permit is for the specific location designated herein and shall not be transferred to another location.
- 4. This permit may be revoked for failure of the permittee to pay all taxes and/or fees due and owing the State or any political subdivision of the State, or for a violation of any ordinance of the City of Waco, or for violation of any of the special provisions and conditions or for good and sufficient cause, upon notice to the permittee and after a public hearing.
- 5. Permittee shall comply with all building, health and other related codes of the City of Waco.
- 6. The permit shall be amendable through the normal process of public hearings before the Plan Commission and City Council.
- 7. The structure and the grounds shall be maintained and shall be kept in good repair and condition.
- 8. The site plan must meet all development standards consistent with the site requirements of the Plan Review Committee including but not limited to the following: site grading & drainage, parking, signage, vehicle/pedestrian access & circulation, landscaping, refuse location & access, and fire protection location & access. A building permit will not be issued until full compliance with all development standards.
- 9. The facility shall be developed in accordance with the approved plans.
- 10. The driveway along Marketplace Drive shall be limited to right in, right out use. A median cut along Marketplace Drive shall not be allowed for this development.

CASE #Z-22-58

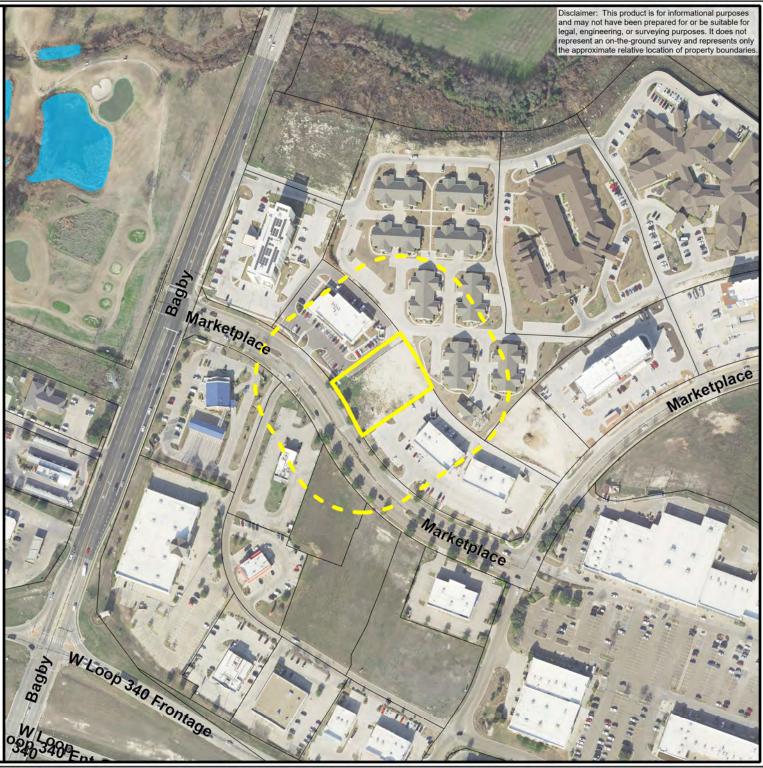
- 11. Hours of operation shall be limited to 7:00 A.M. to 9:00 P.M. The facility shall be staffed during all hours of operation.
- 12. All site lighting must be directed toward the establishment and not at adjacent properties.
- 13. An all-season landscape screen four feet in width densely planted with a combination of deciduous and evergreen trees and shrubs which have an initial height of three feet and will attain a height of six feet within 36 months after installation shall be installed along the northern property boundary with the adjacent residential property.
- 14. Signage shall be installed directing cars exiting the carwash tunnel to turn left.
- 15. Signage shall be installed prohibiting loud music on the site.

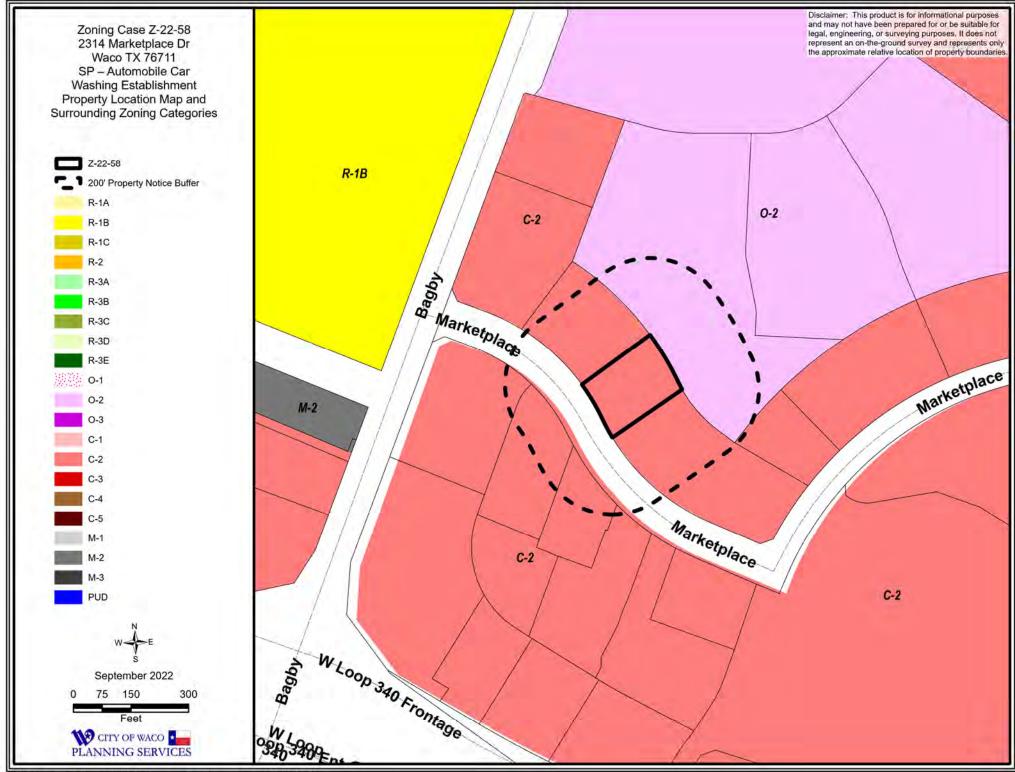
Zoning Case Z-22-58 2314 Marketplace Dr Waco TX 76711 SP – Automobile Car Washing Establishment Property Location Map













Snap Clean Car Wash Project Specifics 2314 Marketplace Drive, Waco, Texas September 2022

About Snap Clean Car Wash ("Snap Clean")

Snap Clean is a family-owned and operated express tunnel car wash with three (3) active locations in the South DFW area and three sites under development. The express tunnel car wash business is rapidly growing and being consolidated by national and foreign private equity groups.

Snap Clean is proud to stand strong as a locally- and combat veteran- owned small business that treats our employees and customers like family, while continuing to provide personal service at our fun, safe, and efficient washes.

Upon driving onto Snap Clean's site, customers are guided towards the pay kiosks and 100' tunnel entry by directional signage. Our License Plate Readers identify monthly subscription customers and rapidly usher them through the line. Non-subscription customers will be assisted, when needed, by an employee, who can answer questions and expedite their experience.





Customers will next arrive at the mouth of the tunnel, where they are greeted by an team member who preps their cars and sends them along the conveyor; thus, customers do not exit their vehicles. Upon exiting the tunnel, customers may exit the site or utilize the on-site vacuums.

Site Details

All of Snap Clean's sites follow the same guidelines:

Hours of Operation

Monday – Saturday 8:00 am – 8:00 pm Sunday 11:00 am – 6:00 pm

Employees and Management

Our sites employ 10-12 people, including a site manager, two assistant managers, and 7-9 attendants. We hire locally and promote our managers from within the company. Most of our existing Site Managers have started off as Attendants.

The site manager or an assistant manager will be on site at all times, including opening and closing hours, and our Regional Manager will make site visits 1-3 times per week. Typical staffing levels are between 2-5 employees on site at any given time, depending on need. Snap Clean has a strict uniform policy for all employees.



Site Security, Trash & Loitering Policy

When not in operation, cones or small gates will be used to prohibit vehicles from coming onsite. All of Snap Clean's sites have ample lighting and **zero tolerance** for loud music or loitering. After one warning, customers who violate our policies are asked to leave.

At all sites, we volunteered early on to become the "trash police" for neighboring businesses. We want our customers to experience a clean, tidy site from the moment they drive onto our property until the moment they leave. Thus, throughout the day, employees rotate to pick up trash around the vacuums, around the entire site, and along adjacent properties and roadways.

Traffic

This project is designed to pull from normal and existing traffic counts, not generate new traffic.

- The average time on site is under 10-minutes
- Stacking for 17 cars, plus cars in the tunnel.
- Project Usage: Based on our builder's national model of traffic count, competitors, and demographics, we expect average daily traffic counts to be approx. 350-cars Sun Fri and 450-cars Sat, with a max of 574 cars on any one day.
- Sun Fri -- Car Count: approx. 30 cars / hour
- Sat -- Car Count: approx. 37.5 cars / hour

Water Conservation

Snap Clean supports water conservation efforts and embraces new technologies that help save water, our most precious resource — with rising water prices, it makes logical sense from a business perspective, and it is also the right thing to do for the environment. At its Waco, Texas location, Snap Clean will use the Velocity Water Works Recycling System to recycle 80% or more of the water used on each car. Gallons per water used per car is expected to average 20 gallons. Contrast this usage with other types of water uses:

Express Tunnel Wash using Water Reclamation: 20 gallons/car

Washing car in driveway with hose: 100-140 gallons/car

Typical shower for an adult: 30-40 gallons

Typical load in a washing machine: 35 gallons

https://swcarwash.org/conservation-alliance/water-conservation-alliance

Project Feasibility & Site Selection

Consumer demand for express tunnel car washes is growing. Per a recent study conducted by Grand View Research, as presented in <u>Car Wash Magazine</u> in February 2022, consumer demand for wash services is predicted to rise by 4.8% from 2021 to 2028. https://www.carwash.com/7-reasons-carwash-business-growing/ The study indicated seven (7) factors that are causing this increase in demand, including customers' desire for more environmentally friendly and convenient wash options and more cars per household than in previous years.

Snap Clean's site is planned for one of the few remaining PAD sites in the Central Texas Marketplace, at 2314 Marketplace Drive, in southwest Waco, an area that is rapidly developing. Over 7.7 million customers visit this shopping center annually. The closest express tunnel competitor is over two (2) miles away.

Other industry leaders recognize that Southwest Waco is growing – Texas Health, Amazon, and Top Golf have locations less than one-half mile from the site, and we expect to serve many of those employees and their respective customers.

The financial model for this site mirrors other Snap Clean sites, which have proven themselves to be viable and sustainable locations.





Commitment to Communities

Snap Clean takes pride in our support of and involvement in our neighborhoods. In each of our partner cities, we actively participate in the chambers of commerce and support local schools in our annual Back to School Drives, along with other organizations in need. We were proud to receive the Ennis Chamber's Community Service Award in our first year of operation in the City of Ennis, where we routinely sponsor events hosted by the police, local churches, and Lion's Club.

We believe that giving back to our communities is not just the right thing to do, but also a lot of fun!





Contact Information

Primary Owner: Chad West

Website: www.snapcleancarwash.com



AP DG

A PLUS DESIGN
GROUP
ARCHITECTURE
INTERIORS
CONSTRUCTION
972-724-4440
972-691-7731 FAX
APDG.US
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GROUP 2021

Trent W. Clark Architect TX Registration # 17084

PRELIMINARY NOT FOR CONSTRUCTION

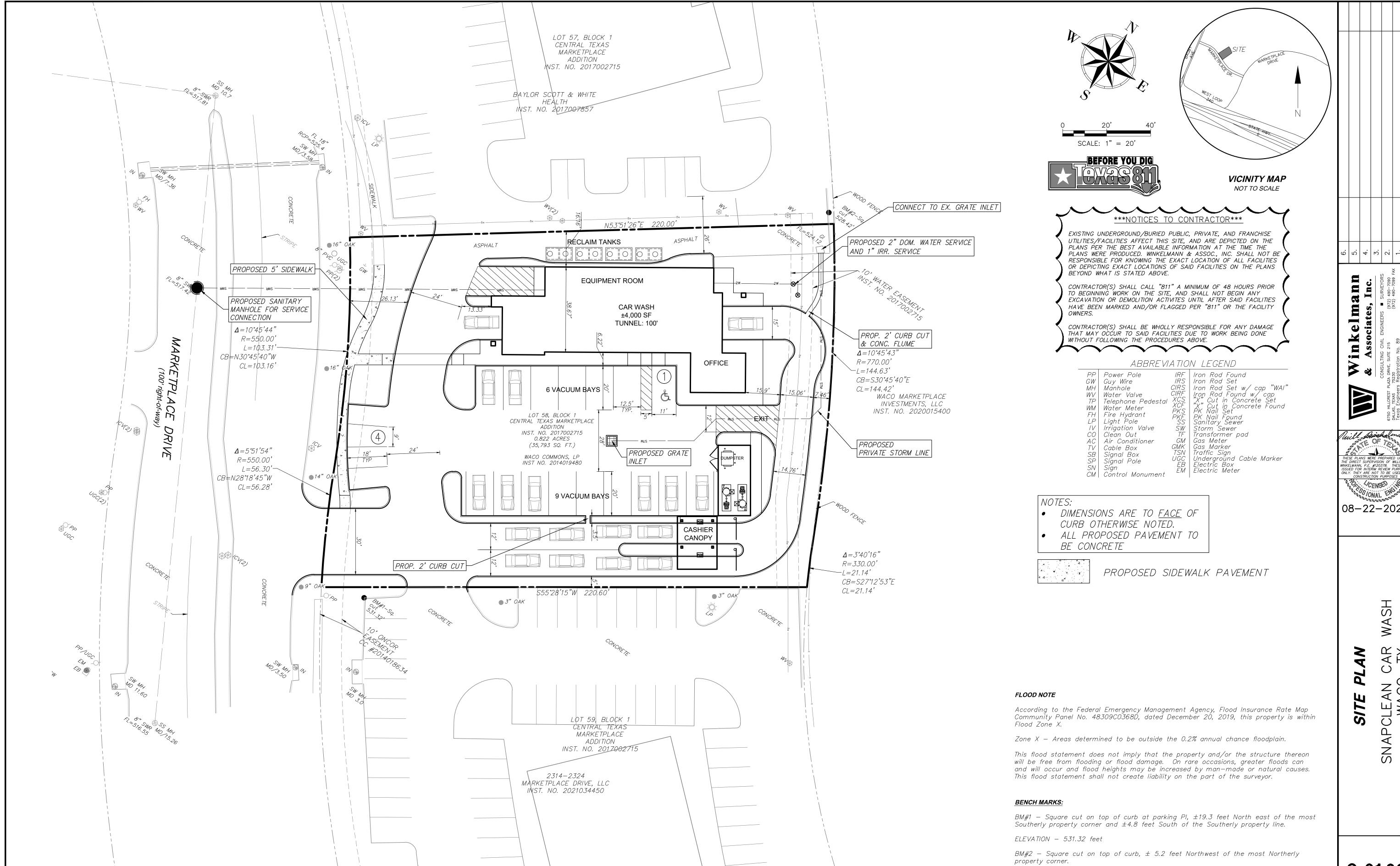
These Drawings are incomplete and may not be used for regulatory approval, permit, or construction

SNAP CLEAN

A NEW CAR WASH FOR:

> Project No. 22-0629 Date 08/23/2022

> > ELEVATIONS



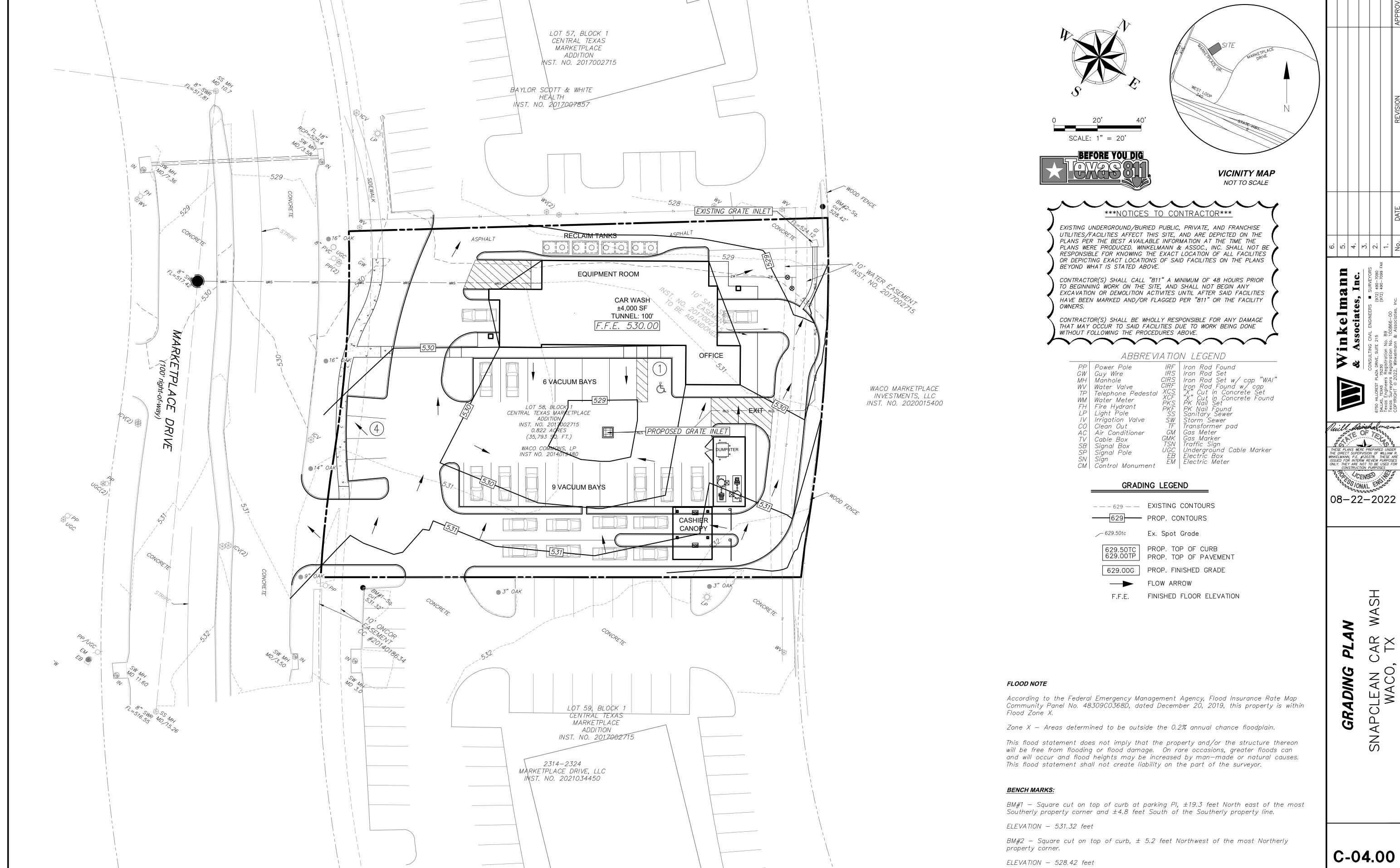
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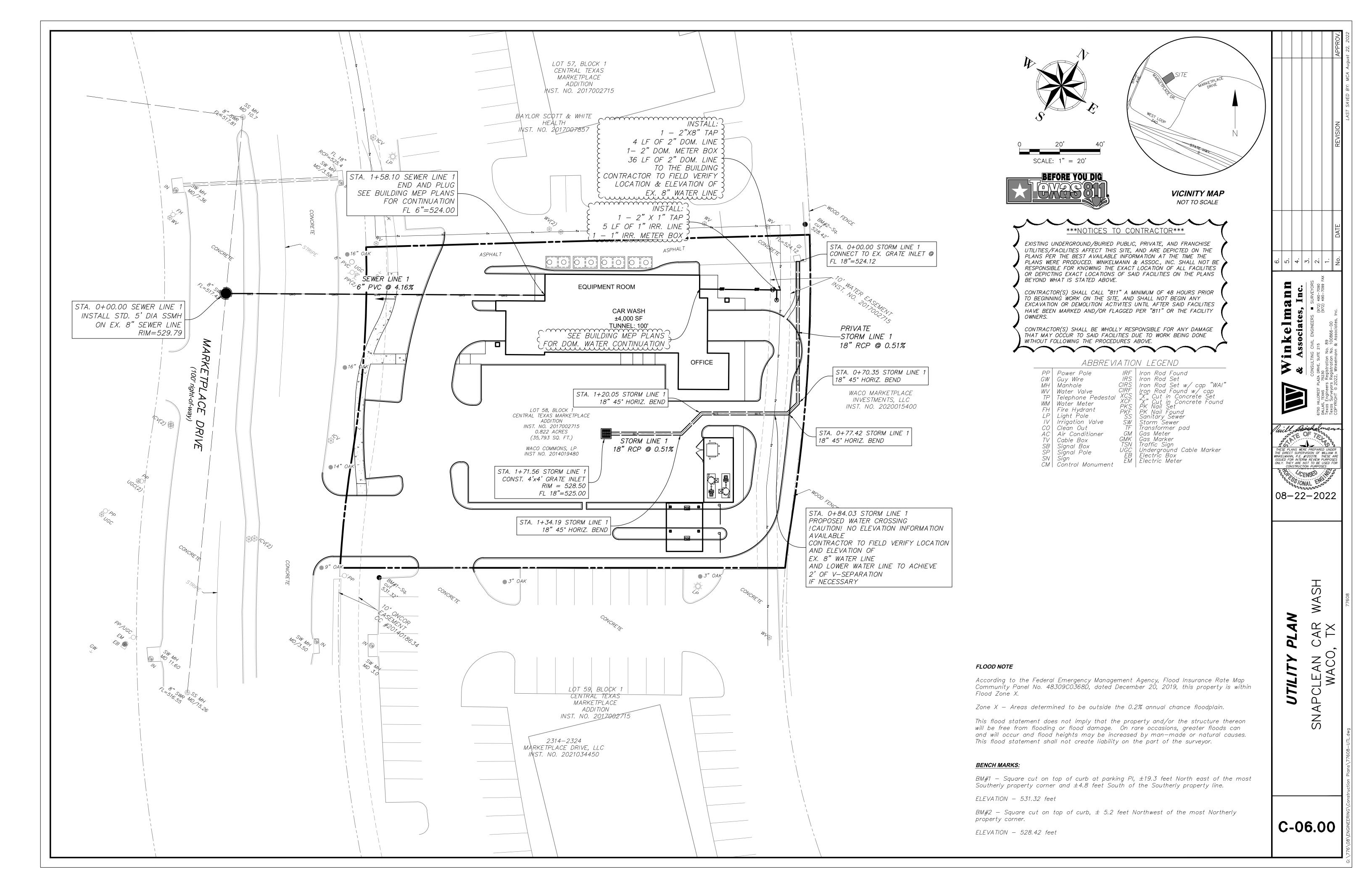
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ELEVATION - 528.42 feet





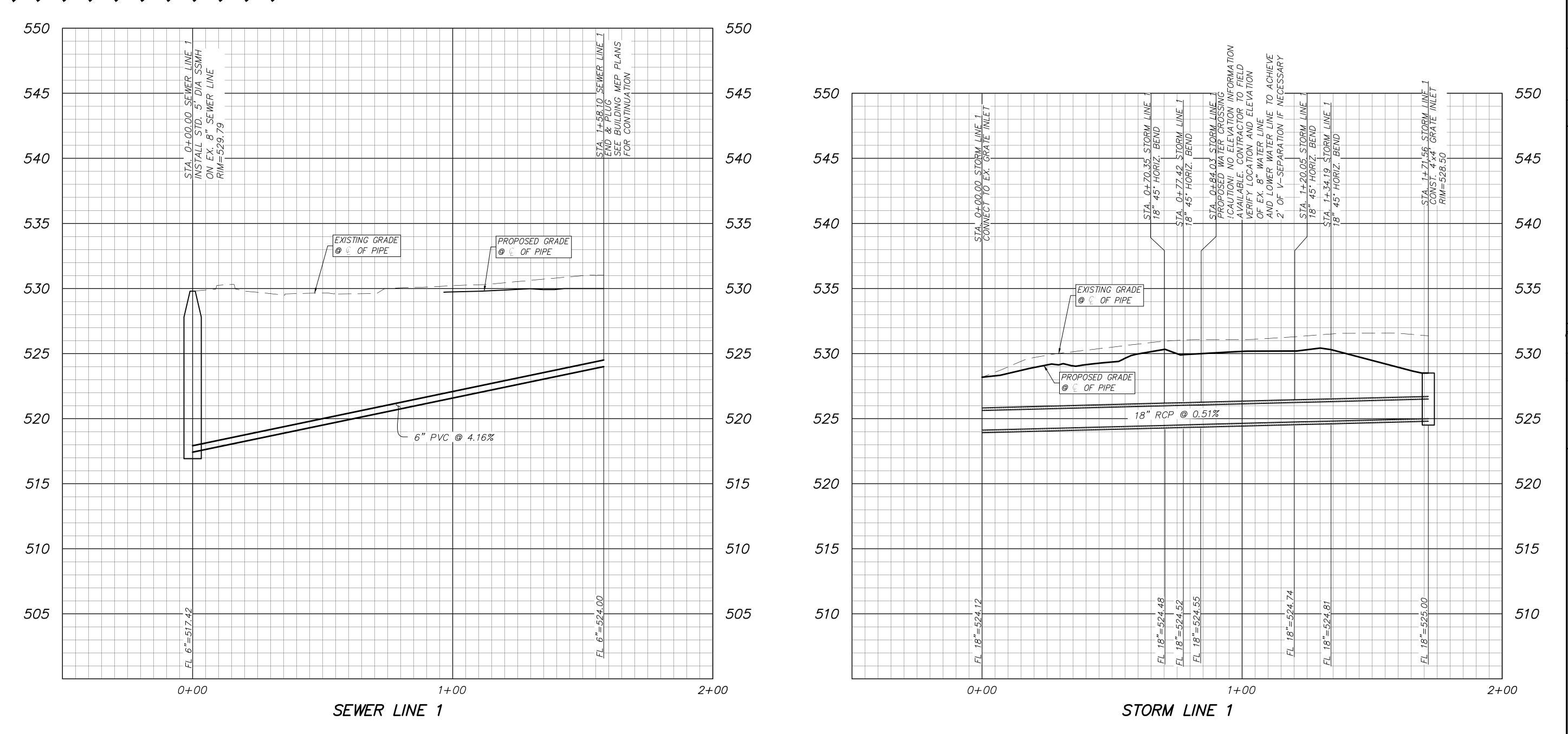
NOTICES TO CONTRACTOR

EXISTING UNDERGROUND/BURIED PUBLIC, PRIVATE, AND FRANCHISE UTILITIES/FACILITIES AFFECT THIS SITE, AND ARE DEPICTED ON THE PLANS PER THE BEST AVAILABLE INFORMATION AT THE TIME THE PLANS WERE PRODUCED. WINKELMANN & ASSOC., INC. SHALL NOT BE RESPONSIBLE FOR KNOWING THE EXACT LOCATION OF ALL FACILITIES OR DEPICTING EXACT LOCATIONS OF SAID FACILITIES ON THE PLANS BEYOND WHAT IS STATED ABOVE.

CONTRACTOR(S) SHALL CALL "811" A MINIMUM OF 48 HOURS PRIOR TO BEGINNING WORK ON THE SITE, AND SHALL NOT BEGIN ANY EXCAVATION OR DEMOLITION ACTIVITES UNTIL AFTER SAID FACILITIES HAVE BEEN MARKED AND/OR FLAGGED PER "811" OR THE FACILITY OWNERS.

CONTRACTOR(S) SHALL BE WHOLLY RESPONSIBLE FOR ANY DAMAGE THAT MAY OCCUR TO SAID FACILITIES DUE TO WORK BEING DONE WITHOUT FOLLOWING THE PROCEDURES ABOVE.





FLOOD NOTE

According to the Federal Emergency Management Agency, Flood Insurance Rate Map Community Panel No. 48309C0368D, dated December 20, 2019, this property is within Flood Zone X.

Zone X — Areas determined to be outside the 0.2% annual chance floodplain.

This flood statement does not imply that the property and/or the structure thereon will be free from flooding or flood damage. On rare occasions, greater floods can and will occur and flood heights may be increased by man—made or natural causes. This flood statement shall not create liability on the part of the surveyor.

BENCH MARKS:

BM#1 — Square cut on top of curb at parking PI, ± 19.3 feet North east of the most Southerly property corner and ± 4.8 feet South of the Southerly property line.

ELEVATION - 531.32 feet

BM#2 — Square cut on top of curb, \pm 5.2 feet Northwest of the most Northerly property corner.

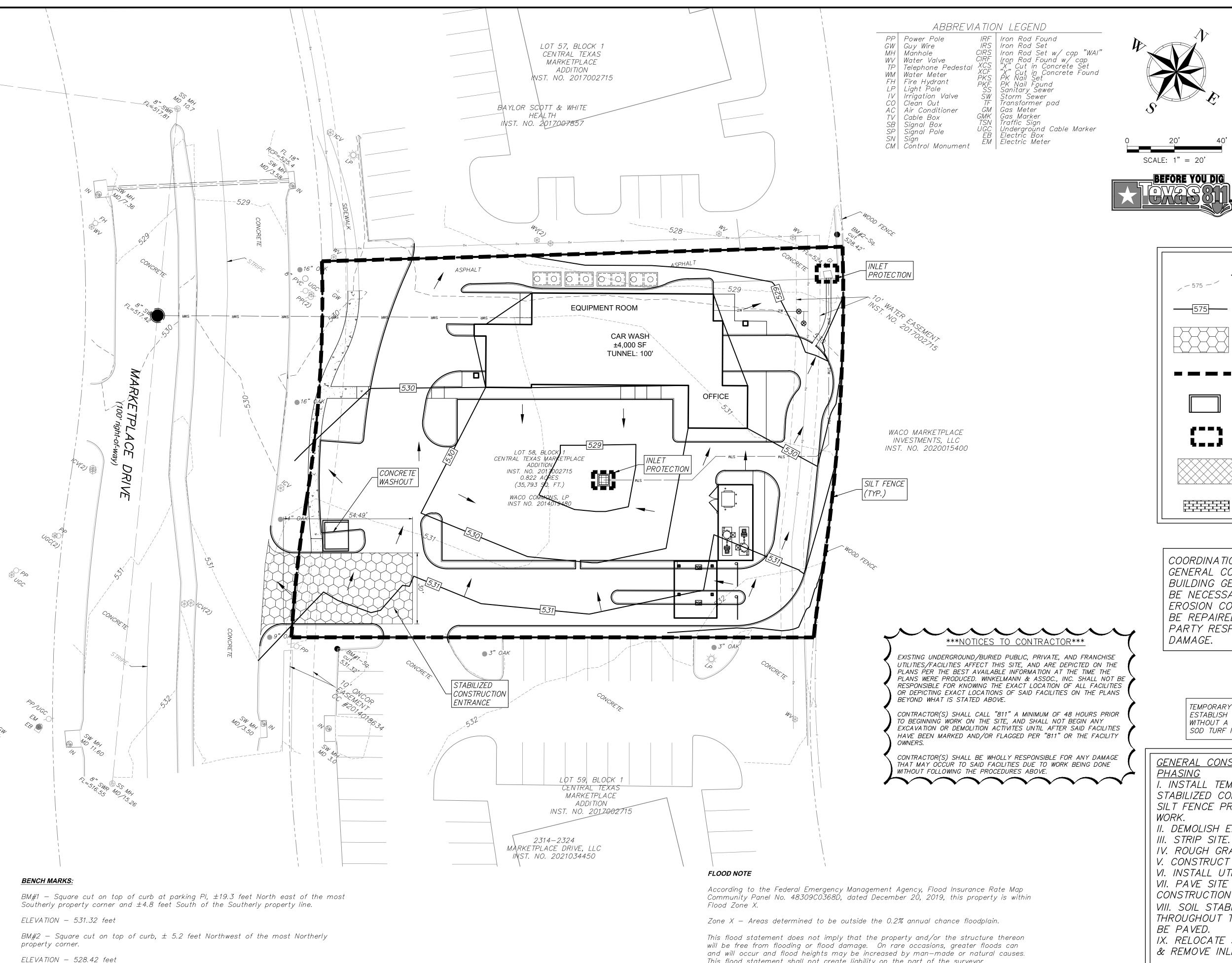
ELEVATION - 528.42 feet

THESE PLANS WERE PREPARED UNDER THE DIRECT SUPERVISION OF WILLIAM R. WINKELMANN, P.E. #120378. THESE ARE ISSUED FOR INTERIM REVIEW PURPOSES ONLY. THEY ARE NOT TO BE USED FOR CONSTRUCTION PURPOSES ONLY. THEY ARE NOT TO BE USED FOR CONSTRUCTION PURPOSES ONLY. THEY ARE NOT TO BE USED FOR CONSTRUCTION PURPOSES ONLY. THEY ARE NOT TO BE USED FOR CONSTRUCTION PURPOSES.

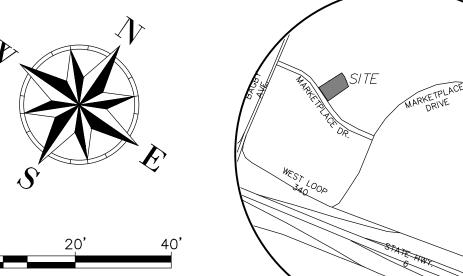
ITY PROFILES Lean car wash waco, tx

UTILITY PROF Snapclean ca

C-06.01



This flood statement shall not create liability on the part of the surveyor.



VICINITY MAP NOT TO SCALE

LEGEND EXISTING CONTOURS PROP. CONTOURS STABILIZED CONSTRUCTION ENTRANCE 8" STONES SILT FENCE CONCRETE WASHOUT AREA 10 MIL. LINER WITH BERM AROUND INLET PROTECTION PROPOSED EROSION CONTROL BLANKETS MEETING NCTCOG STANDARDS ROCK CHECK DAM

COORDINATION BETWEEN SITE GENERAL CONTRACTOR AND BUILDING GENERAL CONTRACTOR WILL BE NECESSARY. DAMAGE TO ANY EROSION CONTROL MEASURE MUST BE REPAIRED IMMEDIATELY BY THE PARTY RESPONSIBLE FOR THE

> TEMPORARY IRRIGATION WILL BE REQUIRED TO ESTABLISH TURF IN ALL DISTURBED AREAS WITHOUT A PERMANENT IRRIGATION SYSTEM. SOD TURF IN ALL DISTURBED AREAS.

GENERAL CONSTRUCTION SEQUENCING &

- I. INSTALL TEMPORARY STAGING AREAS, STABILIZED CONSTRUCTION ENTRANCE & SILT FENCE PRIOR TO COMMENCEMENT OF
- II. DEMOLISH EXISTING STRUCTURES.
- IV. ROUGH GRADE SITE.
- V. CONSTRUCT BUILDING PAD.
- VI. INSTALL UTILITIES & INLET PROTECTION.
- VII. PAVE SITE & REMOVE STABILIZED CONSTRUCTION ENTRANCE.
- VIII. SOIL STABILIZATION/SEEDING
- THROUGHOUT THE SITE EXCEPT AREAS TO
- IX. RELOCATE SILT FENCING AS NECESSARY & REMOVE INLET PROTECTION.

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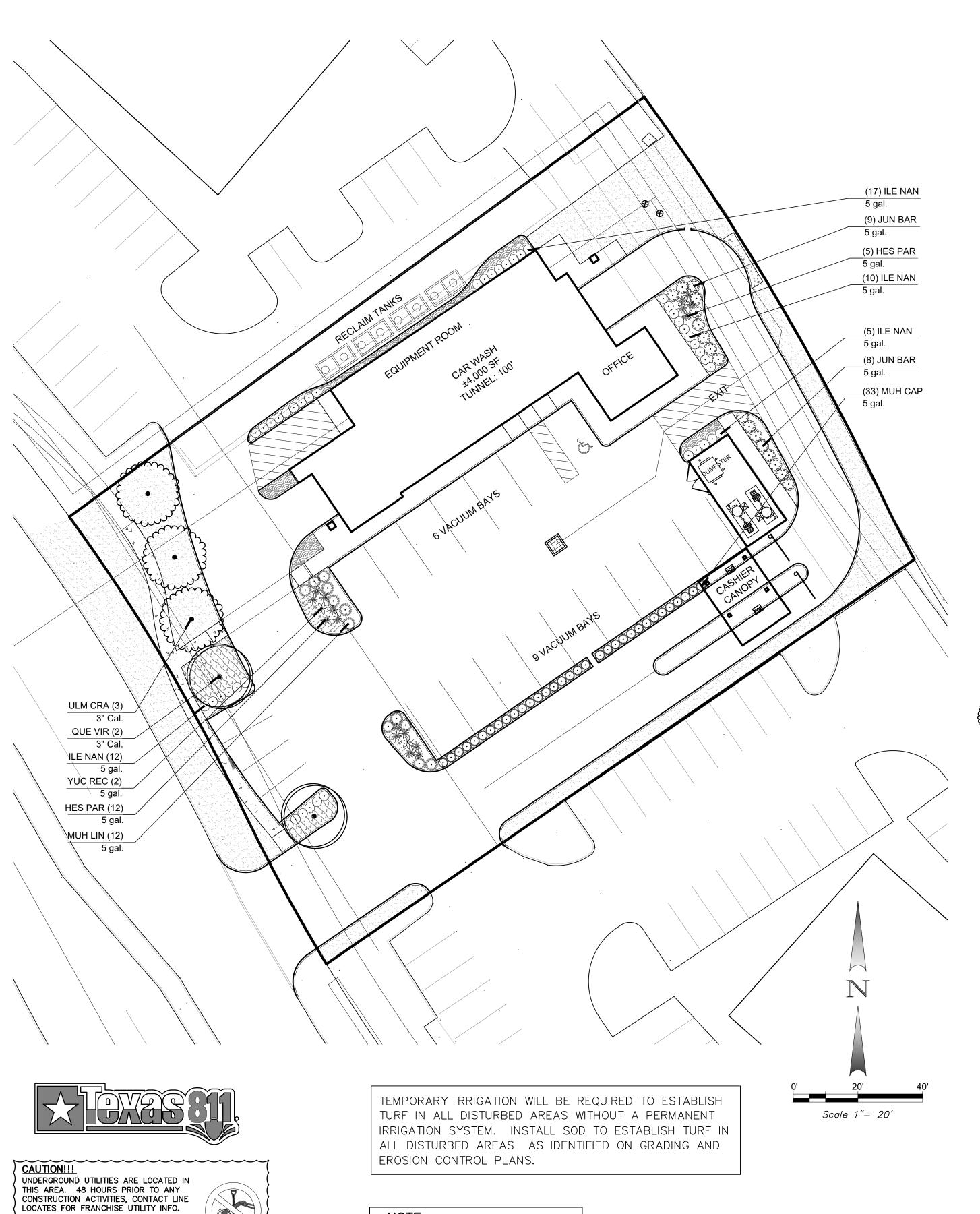
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PL

TRO

CON

EROSION



NO LANDSCAPE PLANTINGS

WITHIN 18" OF PARKING

LOT CURBS.

CALL BEFORE YOU DIG:

TEXAS ONE CALL SYSTEMS

1-800-669-8344 EXT. 5

LONE STAR NOTIFICATION CENTER

1-800-344-8377

1-800-245-4545

TEXAS EXCAVATION SAFETY SYSTEM (TESS)

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. EXISTING TREES ARE SHOWN TO REMAIN, CONTRACTOR SHALL PRUNE ONLY ON APPROVAL OF CITY ARBORIST. 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 MANUFACTURES INSTRUCTIONS
- ON ALL GROUNDCOVER/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 B&B PLANTS WHEN AVAILABLE IN CASE ACTUAL INSTALLATION OCCURS DURING THE OFF-SEASON. PURCHASE AND HOLD **B&B PLANTS FOR LATE SEASON INSTALLATION.**
- 16. BERM ALL PARKING LOT ISLANDS AS SHOWN ON ENCLOSED DETAIL SHEET. (BERMS MAY NOT BE SHOWN ON GRADING PLAN.)
- 17. PRIOR TO PLANTING, CONTRACTOR SHALL STAKE TREE LOCATIONS FOR OWNER APPROVAL.

	CITY OF WACO LANDSCAF	PE REQUIREMENTS			
TOTAL LANDSCAPE AREA	6,027 SF, 17% OF LOT				
SHRUB REQUIREMENT ON TOTAL LANDSCAPE AREA	25 PERCENT OF LANDSCAPE AREA TO CONSIST OF SHRUBS; MINIMUM (
	REQUIRED	PROVIDED			
	6,027 X .25 = 1,507 SF	1,631 SF, 5 GAL. SHRUBS			
TREE REQUIREMENT ON FRONTAGE	ONE (3" CAL./MIN. 6 FT HEIGHT) SHADE TREE REQUIRED/50' OF FRONTAGE				
THOMPAGE	REQUIRED	PROVIDED			
CHINA SPRINGS	160'/50 = 4 TREES	4 TREES			
PARKING LOT SCREENING	MINIMUM 2' TALL SCREENING; MININ	IUM (5) GAL. SHRUBS			
GONELINING	REQUIRED	PROVIDED			
	2' TALL/5 GAL. EVERGREEN SHRUBS	2' TALL/5 GAL. EVERGREEN SHRUBS			
INTERIOR PARKING LANDSCAPE	ONE TREE REQUIRED PER 15 PARKI	NG SPACES			
LINDOON E	REQUIRED	PROVIDED			

5 SPACES/15 = 1 TREES

1 TREES

- ALL OPEN SPACE ON THE SITE SHALL BE PERMANENTLY LANDSCAPED
- NO MORE THAN 50 PERCENT OF THE LANDSCAPE AREA TO BE COVERED IN GRASS
- AT LEAST 25 PERCENT OF THE LANDSCAPE AREA MUST CONSIST OF SHRUBS (MIN. 5 GAL) - ONE TREE REQUIRED FOR EVERY 50 FEET
- OF FRONTAGE (3 INCH CALIPER/MIN. 6 FT HEIGHT) - 60 PERCENT OF REQUIRED TREES MUST COME FROM
- AT LEAST 60 PERCENT OF REQUIRED TREES MUST
- CONSIST OF THE SAME SPECIES - ONE TREE SHALL BE PLANTED FOR EVERY 15 PARKING SPACES TO OCCUR ENTIRELY WITHIN PARKING LOT BOUNDARIES AS A LANDSCAPED
- MEDIAN, ISLAND, OR PENINSULA - LANDSCAPED ISLANDS TO MAINTAIN 8 FT

PREFERRED PLANT LIST

- MINIMUM WIDTH - PARKING IS TO BE SCREENED WITH MINIMUM
- 2 FT HIGH, EVERGREEN SCREENING DEVICE

PLANT SCHEDULE

<u> </u>	PLANT SCH	EDULE								_
Ţ	REES	CODE	<u>QTY</u>	BOTANICAL NAME	COMMON NAME	SIZE	<u>HEIGHT</u>	SPACING		REMARKS
٠٠٠٠٠ (\odot	QUE VIR	2	Quercus virginiana	Southern Live Oak	3" Cal.	12` Height Min	As Shown		Single Straight Trunk
£ •		ULM CRA	3	Ulmus crassifolia	Cedar Elm	3" Cal.	12` Height Min	As Shown		Single Straight Trunk
<u>s</u>	HRUBS	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	<u>HEIGHT</u>	SPACING		REMARKS
		HES PAR	17	Hesperaloe parviflora	Red Yucca	5 gal.		36" O.C.		
	\odot	ILE NAN	44	Ilex vomitoria 'Nana'	Dwarf Yaupon Holly	5 gal.	18"-24"	36" O.C.		
	20 20 20 20 20 20 20 20 20 20 20 20 20 2	JUN BAR	17	Juniperus horizontalis 'Bar Harbor'	Bar Harbor Creeping Juniper	5 gal.		48" O.C.		
	Manufacture of the state of the	MUH CAP	33	Muhlenbergia capillaris	Pink Muhly Grass	5 gal.	18"-24"	36" O.C.		
		MUH LIN	12	Muhlenbergia lindheimeri	Lindheimer's Muhly	5 gal.		48" O.C.		
		YUC REC	2	Yucca recurvifolia	Spineless Yucca	5 gal.		48" O.C.		
<u>G</u>	ROUND COVERS	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	<u>HEIGHT</u>	SPACING	<u>SPACING</u>	REMARKS
2. 2. 2.		CYN DAC	5,628 sf	Cynodon dactylon	Bermuda Grass					
	તાલાતાના તાતાતાતાતા તાતાતાતાતા તાતાતાતાતા તાતાતાતાતા	NAS PON	40	Nassella tenuissima 'Pony Tails'	Pony Tails Mexican Feather Grass	4" pots		24" O.C.	24" o.c.	
)))		SAL GRE	15	Salvia greggii	Autumn Sage	1 gal.		24" O.C.	24" o.c.	
		TRA ASI	331	Trachelospermum asiaticum	Asiatic Jasmine	4" pots		12" O.C.	12" o.c.	

REFERENCE NOTES SCHEDULE

	01 GENERAL		
SYMBOL	DESCRIPTION	<u>QTY</u>	<u>DETAIL</u>
01-01	Composite Edging	26 If	
SYMBOL	ROCK DESCRIPTION	QTY	DETAIL
K-101	Decomposed Granite	0.57 cy	

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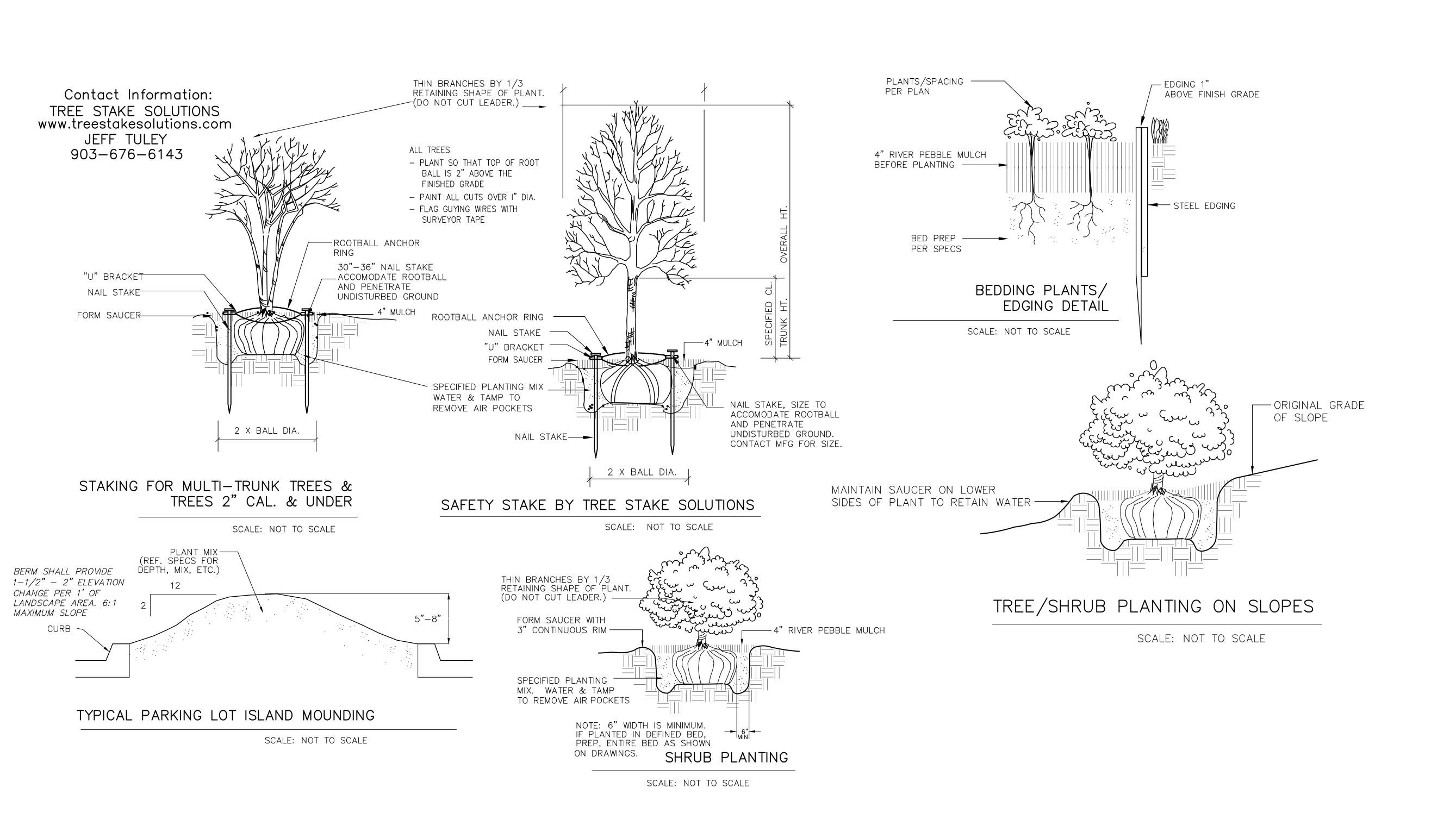


PARKS AND OPEN SPACE PLANNING - LANDSCAPE ARCHITECTURE - IRRIGATION DESIGN

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08/22/22



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WITH ROUNDERS SOCIATES, INC.

WITH ROUNDERS SURVEYORS SURVEYORS Registration No. 89 (972) 490-700 (9



PLANTING DETAILS SNAPCLEAN CAR WASH WACO, TX

L-2

TREES SHRUBS, AND GROUNDCOVERS

PART I GENERAL

1.01 DESCRIPTION OF WORK

A. Scope

Bed prep

Metal edging Topoil

Planting Mulching

Guarantee

Related Work Specified Elsewhere

General Requirements – All locations

Section 02740 - Irrigation Trenching Section 02750 - Irrigation

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:

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

The project Owner's representative reserves the right to inspect and tag plants at the place of growth with the Contractor.

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

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

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. 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.

Protect during delivery to prevent damage to root ball or desication of leaves.

Notify Owner's representative of delivery schedule in advance so plant material may be inspected upon arrival at

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. Protect from weather.

Maintain and protect plant material not to be planted immediately upon delivery.

D. Handling

1. Do not drop plants.

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 quarantee 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.

E. Ten days before end of guarantee period, notify Owner's representative in writing for year end inspection. Failure to do so, shall automatically extend guarantee until notification is received.

PART II PRODUCTS

2.01 MATERIALS

A. Plant Materials

1. Hardy under climatic conditions similar to locality of project.

True to botanical and common name variety. 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.

Single, straight trunks, unless indicated otherwise Trees with weak, thin trunks not capable of support will not be accepated.

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 yaupons to be female. Crape myrtle color selection by Landscape Architect.

Nursery grown stock only. Subject to approval of Landscape Architect.

Seasonal color

Annuals in 4" pots or as specified Perennials in 4" pots, clumps, bulbs as specified

B. Topsoil

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):

Available nitrogen Available phosphorus Available potash

Iron Ph: 5.5 to 7.0

Decomposed organic matter: 6-10%

C. Mulch

Top Dressing Mulch - Shredded cypress or hard wood

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 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

G. Sand Washed builders sand

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

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

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.

FIFLD 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.

EXCAVATION FOR PLANTING

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

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

Set plants 2" above existing grade to allow for settling. Set plants plumb and rigidly braced in position until planting mixture has been tamped solidly around ball. Apply soil in accordance with standard industry practice for the region.

Thoroughly settle by water jetting and tamping soil in 6"

Prepare 3" dish outside root ball after planting.

Thoroughly water all beds and plants. Stake trees and large shrubs as indicated on plans. 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. 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.

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 4. Backfill with planting mixture in 6" lifts.

D. Mulching

Cover planting bed evenly with 3" of mulch.

Water immediately after mulching. Where mulch has settled, add additional mulch to regain 4. Hose down planting area with fine spray to wash leaves

of plants.

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. Make cuts flush, leaving no stubs. Paint cuts over 1" diameter with approved tree wound

branches.

3.06 EDGING

A. Stake edging alignment with string line prior to installation. Use framing square to insure right angles are

4. Do not prune evergreens except to remove injured

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. Bend all corners, do not cut corners.

Interlock all pieces with pre-fabricated connectors. Install with all stakes on inside of planting bed. 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)

Watering (as required) Pruning

Spraying

Fertilizing Mulching

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.

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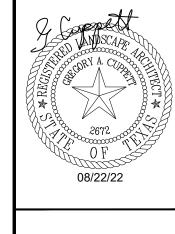
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PART I – GENERAL

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 iob 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 $1 \frac{1}{2} - 2$ 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 lespedza 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

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 hat 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 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
- 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 br 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 $1 \frac{1}{2}$ 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 payed 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

Sod bed preparation

Fertilizing Sodding

Miscellaneous management practices

Related Work Specified Elsewhere

Finish Grading, Section 02800 Lawns and Grasses, Section 02930

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
- Include labeling requirements.
- 2. Include purity and type.
- PRODUCT DELIVERY, STORAGE AND HANDLING

A Sod:

- 1. Previous season's crop with date of analysis on each
- 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:

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

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

MATERIALS 2.01

- 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
- 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:
- Uniform in composition, free flowing.
- 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.

Clear surfaces of all materials:

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

C. Prepare sod bed:

Remove soil clods larger than one inch (1").

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.

SODDING 3.02

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. Water and fertilize at 5 lbs. per 1,000 sq. ft.

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 4. The contractor shall keep all keep all sodded areas moist

and growing until Final Acceptance. All greas 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.

MAINTENANCE AND MANAGEMENT

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

B. Resodding:

corrected.

Resod damaged or unacceptable areas. Ruts, ridges, and other surface irregularities shall be

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FAIN • CUPPETT LANDSCAPE ARCHITECTS. LLC 1921 MAPLEWOOD DR WEATHERFORD, TX 76087 682-215-9151

PARKS AND OPEN SPACE PLANNING - LANDSCAPE ARCHITECTURE - IRRIGATION DESIGN

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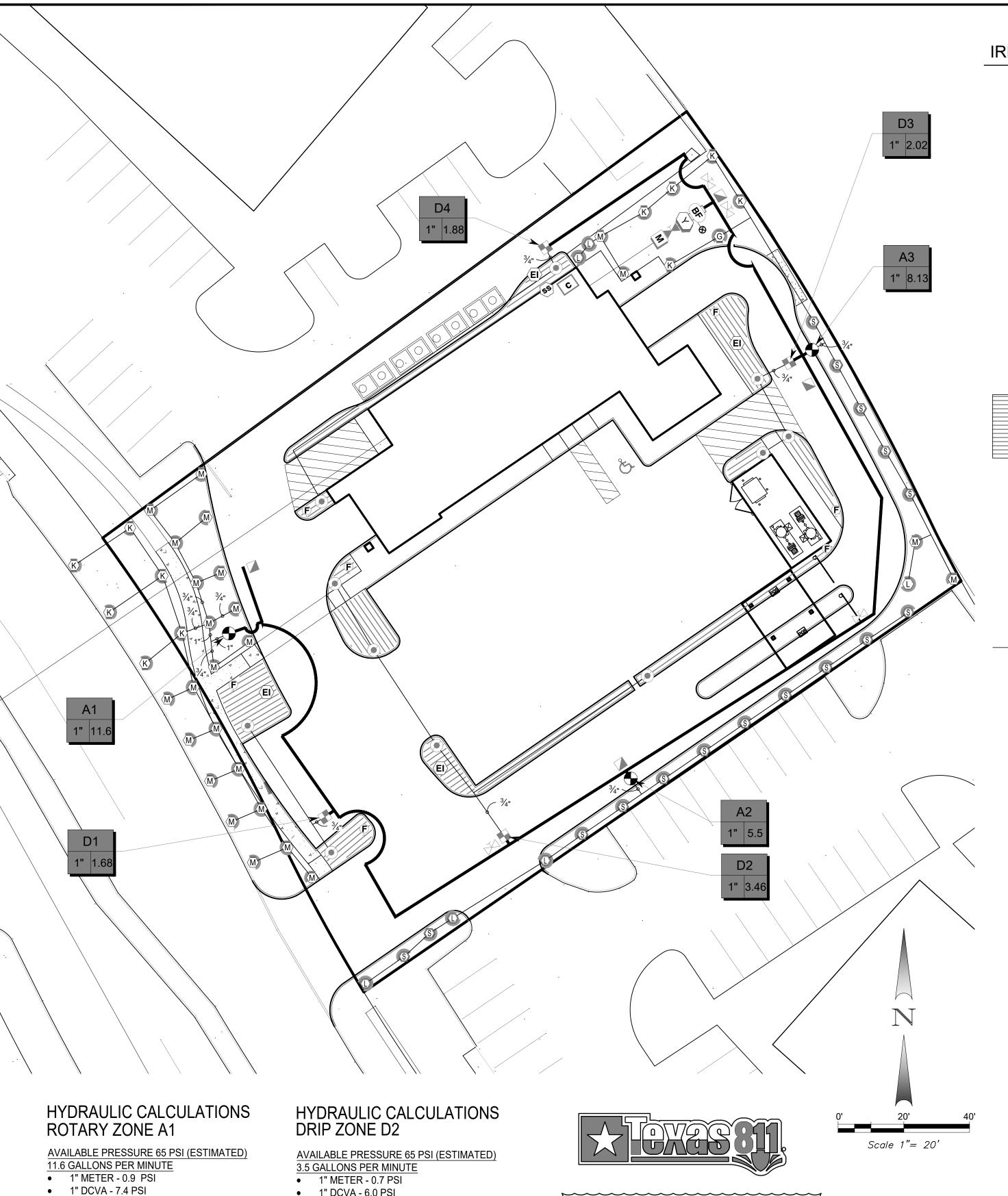
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CAUTION!!!

CALL BEFORE YOU DIG:

TEXAS ONE CALL SYSTEMS

1-800-669-8344 EXT. 5

LONE STAR NOTIFICATION CENTER

1-800-344-8377

1-800-245-4545

UNDERGROUND UTILITIES ARE LOCATED IN

THIS AREA. 48 HOURS PRIOR TO ANY

LOCATES FOR FRANCHISE UTILITY INFO.

CONSTRUCTION ACTIVITIES, CONTACT LINE

TEXAS EXCAVATION SAFETY SYSTEM (TESS)

BEFORE YOU DIG...

1" DCVA - 6.0 PSI

• 1" WYE - 0.1 PSI

• 1-1/2" MAIN LINE LOSS (460') - 0.2 PSI

OPERATING PRESSURE AT VALVE - 56.9 PSI

• IN-LINE BALL VALVE - 0.5 PSI

ELEVATION CHANGE - 0.0 PSI

FITTING ESTIMATE - 0.7 PSI

• 1" WYE - 0.2 PSI

• 1-1/2" MAIN LINE LOSS (460') - 1.4 PSI

• IN-LINE BALL VALVE - 0.5 PSI

FITTING ESTIMATE - 1.0 PSI

OPERATING PRESSURE - 53.6 PSI

ELEVATION CHANGE - 0.0 PSI

IRRIGATION SCHEDI II E

RRIGATION S	SCHEDULE		
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	<u>QTY</u>	
LST SST RST	Hunter MP Strip PROS-04-PRS40-CV-F Turf Rotator, 4" pop-up with factory installed check valve, floguard, pressure regulated to 40 psi, MP Rotator nozzle on PRS40 body. LST=Ivory left strip, SST=Brown side strip, RST=Copper right strip.	21	
$\langle \overline{\mathbf{M}} \rangle \langle \overline{\mathbf{L}} \rangle \langle \overline{\mathbf{O}} \rangle$	Hunter MP1000 PROS-04-PRS40-CV-F Turf Rotator, 4" pop-up with check valve, floguard, pressure regulated to 40 psi, MP Rotator nozzle on PRS40 body. M=Maroon adj arc 90 to 210, L=Light Blue 210 to 270 arc, O=Olive 360 arc.	26	
$\langle \overline{K} \rangle \langle \overline{G} \rangle \langle \overline{R} \rangle$	Hunter MP2000 PROS-04-PRS40-CV-F Turf Rotator, 4" pop-up with factory installed check valve, floguard, pressure regulated to 40 psi, MP Rotator nozzle on PRS40 body. K=Black adj arc 90-210, G=Green adj arc 210-270, R=Red 360 arc.	12	
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	
	Hunter ICZ-101-25 Drip Control Zone Kit. 1" ICV Globe Valve with 1" HY100 filter system. Pressure Regulation: 25psi. Flow Range: 2 GPM to 20 GPM. 150 mesh stainless steel screen.	4	
	Pipe Transition Point above grade Pipe transition point from PVC lateral to drip tubing with riser to above grade installation.	11	
	Area to Receive Dripline Hunter HDL-04-18-CV HDL-04-18-CV: Hunter Dripline w/ 0.4 GPH emitters at 18" O.C. Check valve, dark brown tubing with tan striping. Dripline laterals spaced at 18" apart, with emitters offset for triangular pattern. Install with Hunter PLD barbed or PLD-LOC fittings.	2,019 l.f.	
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	<u>QTY</u>	<u>DETAIL</u>
•	Hunter ICV-G 1", 1-1/2", 2", and 3" Plastic Electric Remote Control Valves, Globe Configuration, with NPT Threaded Inlet/Outlet, for Commercial/Municipal Use.	3	
	Hunter HQ-3RC Quick coupler valve, yellow rubber cover, red brass and stainless steel, with 3/4" NPT inlet, 1-piece body.	4	
	Landscape Products Inc. CWV Slip Socket 1/2", 3/4", 1", 1-1/4", 1-1/2",2" Slip Socket Plastic Ball Valve. Quarter-turn shutoff designed for irrigation, spas, pools and other general cold water applications. 125 psi rating. Same size as mainline.	4	
	Irrigation Lateral Line: PVC Class 200 SDR 21	1,252 l.f.	
\	/alve Callout		

IRRIGATION NOTES:

- 1. IRRIGATION LINES ARE SOMETIMES SHOWN OUTSIDE PLANTING BEDS FOR GRAPHIC CLARITY ONLY. ADJUST INSIDE BEDS ON SITE.
- 2. AVOID TRENCHING WITHIN DRIP LINE OF EXISTING TREES, WHERE NECESSARY, TRENCH
- RADIALLY, RATHER THAN ACROSS THE ROOT SYSTEM.
- MAIN LINE TO BE 1-1/2". 4. ALL SLEEVES UNDER PAVING TO EXTEND 12" PAST EDGE OF PAVING. COORDINATE WORK
- WITH GENERAL AND PAVING SUBCONTRACTOR. 5. ALL HEADS TO BE 4" POPS IN LAWNS. ALL HEADS WITH CHECK VALVES.
- 6. COORDINATE SLEEVE SIZE AND LOCATION FOR FREEZE SENSOR, RAIN GAUGE AND CONTROLLER WITH GENERAL CONTRACTOR. SEAL ALL BUILDING PENETRATIONS WATER
- 7. SEE DETAIL SHEET FOLLOWING FOR IRRIGATION DETAILS.
- AND REPORT TO LANDSCAPE ARCHITECT PRIOR TO BEGINNING ANY WORK. 9. CONTRACTOR RESPONSIBLE FOR LOCATION OF ALL UTILITIES INCLUDING BUT NOT LIMITED TO TELEPHONE, TELECABLE, ELECTRIC, GAS, WATER, AND SEWER. ANY DAMAGE TO

8. PRESSURE ESTIMATED AT 65 PSI; MINIMUM 50 GPM AS PROVIDED BY CITY. VERIFY ON SITE

- UTILITIES TO BE REPAIRED BY CONTRACTOR AT NO COST TO OWNER. REFER TO SITE/UTILITY PLANS.
- 10. FREEZE SENSOR AND RAIN GAUGE INSTALLATION PER MANUFACTURER'S INSTRUCTIONS (MINI-CLIK F-401 & 502). LOCATION/HEIGHT TO AVOID DIRECT SPRAY OF IRRIGATION HEADS. 11. VERIFY 100% COVERAGE OF SYSTEM OVER ALL PLANTING & LAWN AREAS AS SHOWN ON
- 12. IF PEDESTAL MOUNTED CONTROLLER IS SPECIFIED, MOUNT ON 4"X3'X3' CONCRETE SLAB WITH (4) #4'S EACH WAY. SLEEVE THROUGH SLAB FOR CONTROLLER WIRING AS
- 13. UNLESS NOTED OTHERWISE, THERE ARE NO EXISTING SLEEVES. IRRIGATION CONTRACTOR TO SIZE AND COORDINATE SLEEVE INSTALLATION AS NEEDED IN ALL
- LOCATIONS UNDER PAVEMENT. 14. QUANTITIES ARE PROVIDED AS A COURTESY AND ARE NOT INTENDED FOR BID PURPOSES. CONTRACTOR TO VERIFY ALL QUANTITIES PRIOR TO BIDDING.
- 15. IF DOUBLE CHECK IS PROHIBITED BY LOCAL CODE/ORDINANCE, SUBSTITUTE WITH

BE 14 GAUGE PER NATIONAL ELECTRICAL CODE. ALL SPLICES WITH APPROVED

- APPROVED BACKFLOW PREVENTION DEVICE. 16. ALL WORK IN ACCORDANCE WITH LOCAL, STATE, & NATIONAL CODES & ORDINANCES. 17. CONTRACTOR TO SIZE CONTROL SIZE WIRE AS NECESSARY. HOWEVER, MINIMUM SIZE TO
- MANUFACTURED CONNECTOR IN VALVE BOX. 18. DO NOT LOCATE VALVE BOXES IN SWALES, LOW AREAS, OR ANY OTHER LOCATIONS THAT MAY COLLECT WATER
- 19. CONTROLLER TO BE WIRED ON DEDICATED 110 VOLT CIRCUIT AND GROUNDED W/"GROUNDING SPIKE" PER MANUFACTURER'S INSTRUCTIONS.
- 20. ADJUST HEADS TO AVOID OVERSPRAY ONTO STREETS, ROADWAYS, BUILDINGS AND ELECTRICAL EQUIPMENT.
- 21. INCLUDE ONE SPARE WIRE FROM CONTROLLER TO EACH CONTROL VALVE. EACH WIRE TO BE VARYING COLOR.
- 22. CONTRACTOR IS RESPONSIBLE FOR ADJUSTING FLOW CONTROL AND/OR PRESSURE REGULATOR AT EACH CONTROL VALVE AS NECESSARY TO MAKE SYSTEM OPERATE AS
- 23. DRIP IRRIGATION IS INTENDED TO MAINTAIN ESTABLISHED PLANT MATERIAL. CONTRACTOR SHALL HAND WATER AND MAINTAIN NEW PLANTINGS AS REQUIRED UNTIL ESTABLISHMENT AND ACCEPTANCE.

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

VALVE SCHEDULE

NUMBER	MODEL	SIZE	TYPE	<u>GPM</u>	WIRE	<u>PSI</u>	PSI @ POC	PRECIP
A1	Hunter ICV-G	1"	Turf Rotary	11.64		43.77		0.36 in/h
A2	Hunter ICV-G	1"	Turf Rotary	5.5		42.84		0.53 in/h
A3	Hunter ICV-G	1"	Turf Rotary	8.13		43.7		0.34 in/h
D1	Hunter ICZ-101-25	1"	Area for Dripline	1.68		35.04		0.42 in/h
D2	Hunter ICZ-101-25	1"	Area for Dripline	3.46		35.2		0.61 in/h
D3	Hunter ICZ-101-25	1"	Area for Dripline	2.02		35.04		0.51 in/h
D4	Hunter ICZ-101-25	1"	Area for Dripline	1.88		35.02		0.68 in/h

NOTE: INCLUDE (2) TORO SB-90-PC2 STREAM BUBBLERS TO EACH NEW TREE. ATTACH EACH BUBBLER TO TORO 570-6" POPUP. LOCATE BUBBLERS INSIDE TREE WELL OF EACH TREE ON OPPOSITE SIDES OF THE ROOT BALL. ALL BUBBLERS TO BE ZONED SEPARATELY FROM OTHER HEADS. CONTRACTOR RESPONSIBLE FOR PIPE SIZING, SLEEVING, ETC. AND ALL OTHER REQUIREMENTS TO MAKE CIRCUIT(S) OPERABLE. TOTAL COUNT FOR BUBBLERS AND VALVE(S) NOT SHOWN IN IRRIGATION KEY. IF TREE IS LOCATED IN DRIP ZONE, IN LIEU OF BUBBLER USE (2) RAIN BIRD XSB-180-025 XERI-BUBBLERS W/ SXB-180-SPYK SPIKE TIED INTO EMITTER TUBING.

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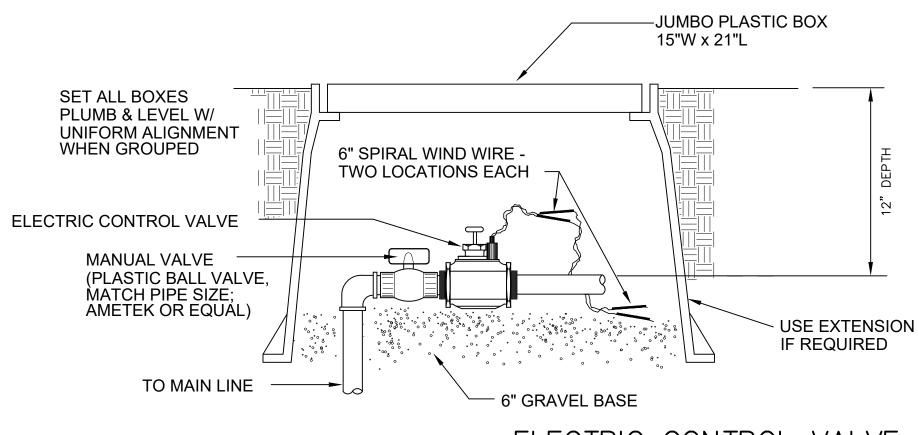
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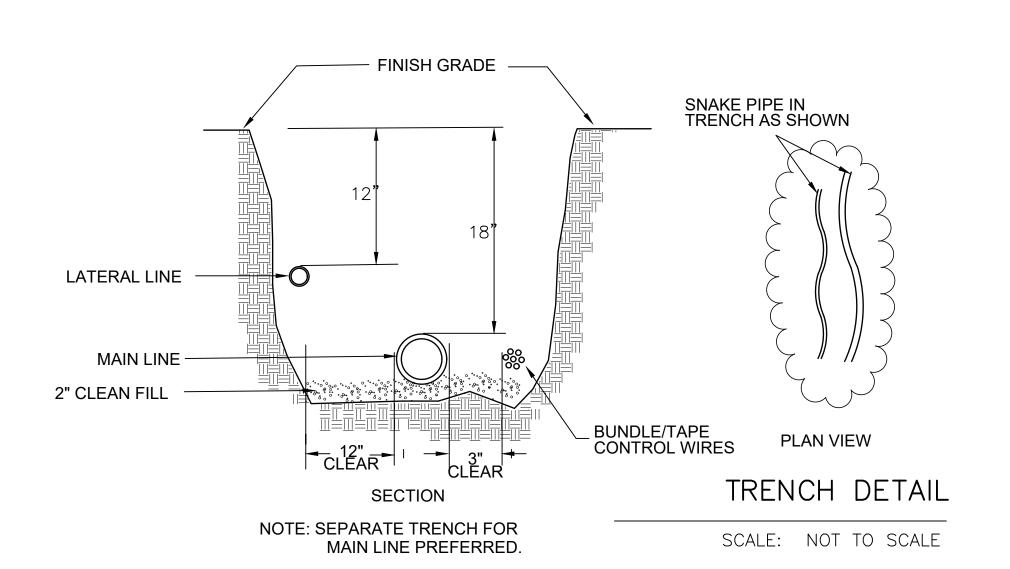
QUICK COUPLER VALVE

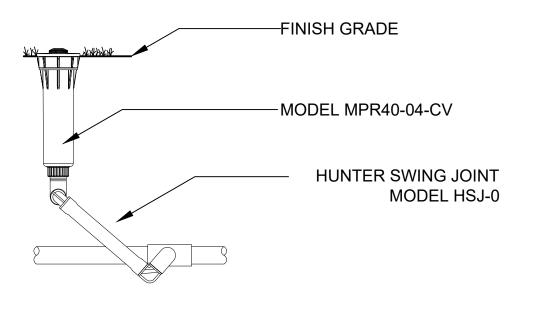
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ELECTRIC CONTROL VALVE

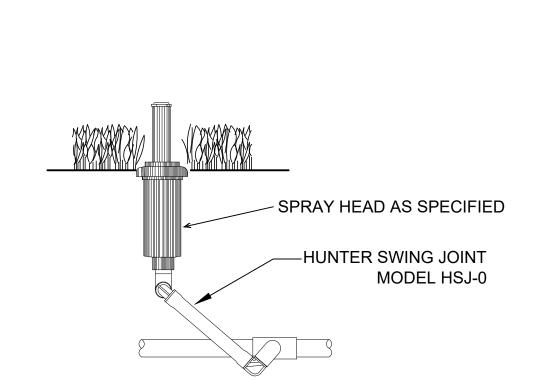
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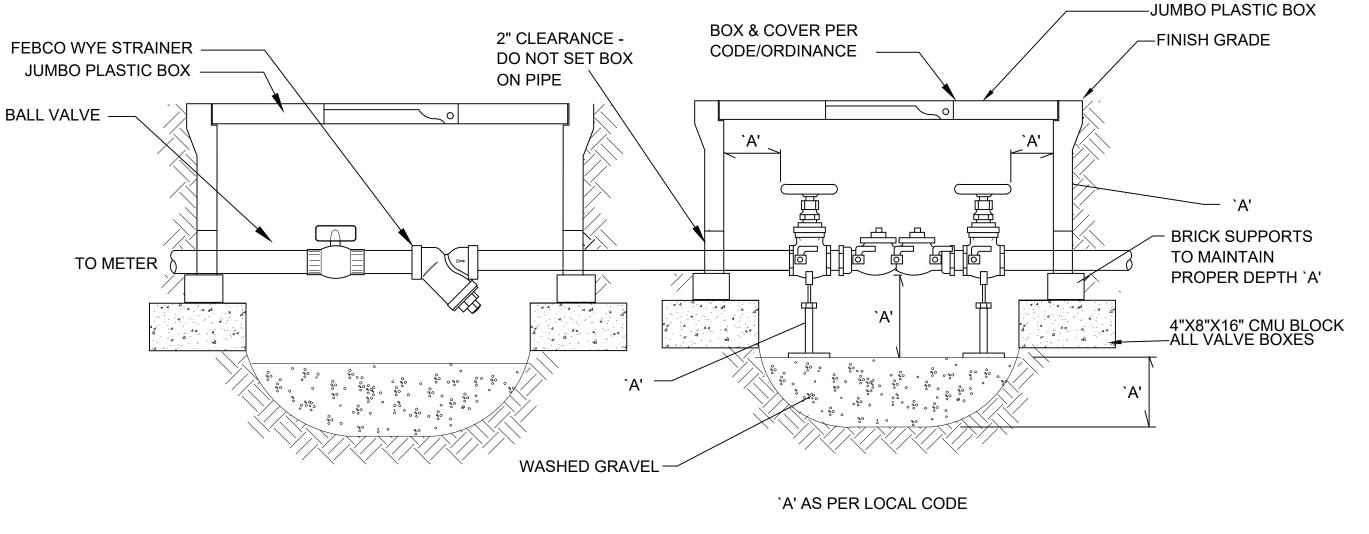
TYPICAL INSTALLATION OF MPR-40 ROTARY SPRINKLER ON SWING-JOINT RISER

SCALE: NOT TO SCALE



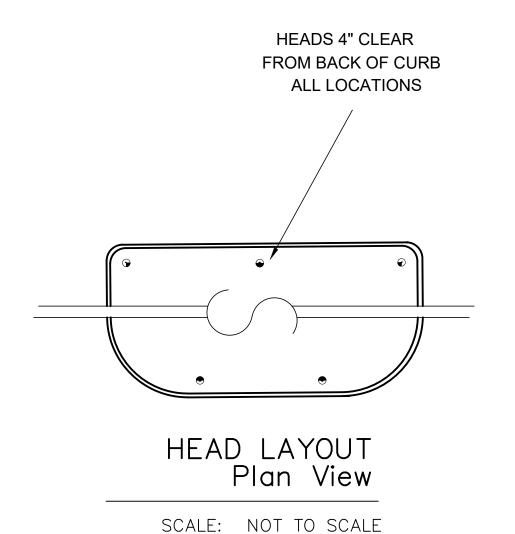
TYPICAL INSTALLATION OF BUBBLER HEAD

SCALE: NOT TO SCALE

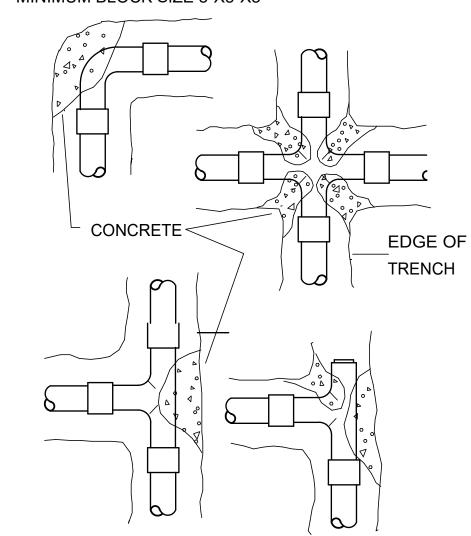


TYPICAL INSTALLATION DOUBLE CHECK VALVE/WYE STRAINER ASSEMBLY

SCALE: NOT TO SCALE



NOTE: - THRUST BLOCKS ON MAIN LINE - ALL SIZES; AND LATERALS 2" & LARGER - MINIMUM BLOCK SIZE 8"X8"X8"



THRUST BLOCKS - PLAN VIEW

SCALE: NOT TO SCALE

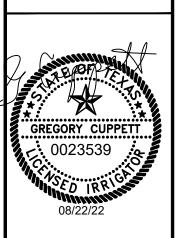
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EST PLAZA DRIVE, SUITE 215

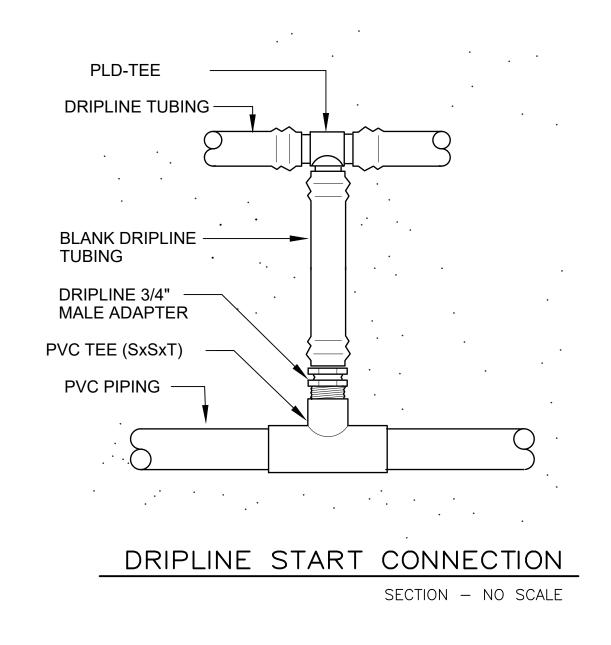
SET PLAZA DRIVE, SUITE 215

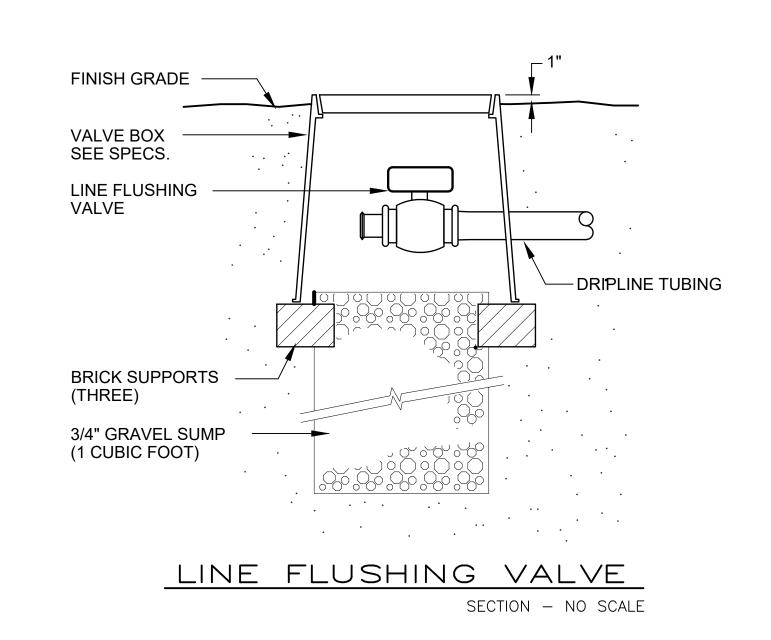
Registration No. 89

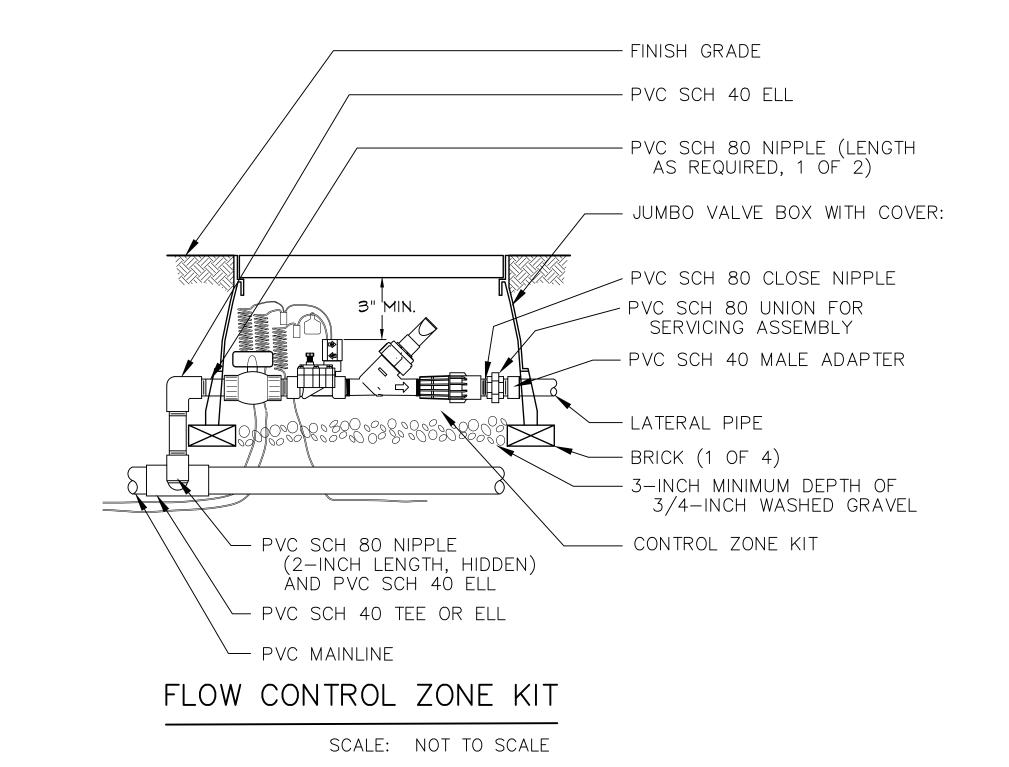


IRRIGATION DETAILS SNAPCLEAN CAR WASH WACO, TX

_-6







DRIPLINE START
CONNECTION
MALE ADAPTER
AND TEE

PROFESSIONAL LANDSCAPE
DRIPLINE
AREA PERIMETER

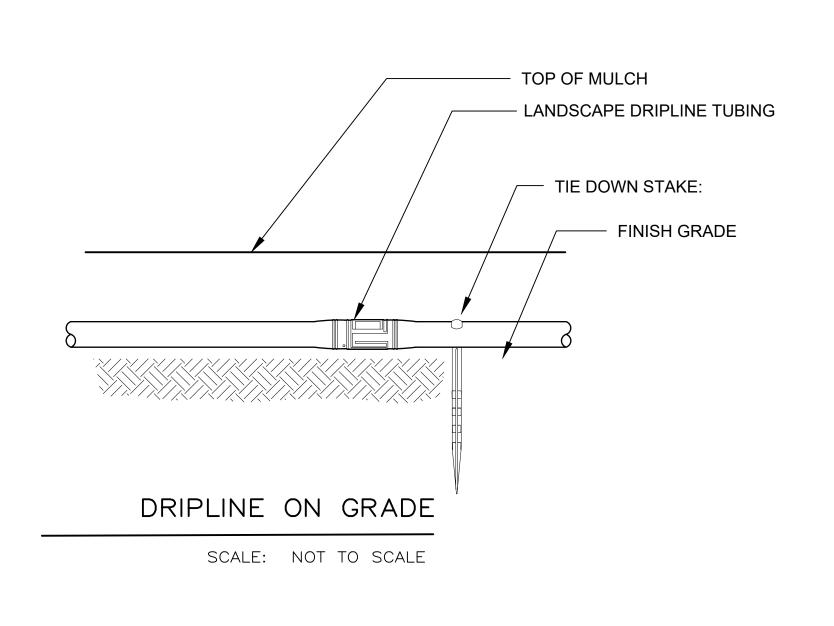
18" ROW SPACING
TYPICAL

PERIMETER LATERALS
2" TO 4" FROM EDGE

PLDBY LINE FLUSHING VALVE
PLUMBED TO DRIPLINE IN 6" BOX

Typical DRIPLINE END FEED LAYOUT

DETAIL - NO SCALE



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6. 6. 6. CONSULTING CIVIL ENGINEERS SURVEYORS
CONSULTING CIVIL ENGINEERS SURVEYORS
DALLAS, TEXAS
TEXAS TAS30
TEXAS Engistration No. 89
Texas Engistration No. 100866-00
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GREGORY CUPPETT

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DRIP DETAILS SNAPCLEAN CAR WASH

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SECTION 02750

IRRIGATION

PART I - GENERAL

1.01 DESCRIPTION

- A. Work Included
 - 1. Piping and fittings.
 - . Connection to existing water lines.
 - Valves, bubblers, and spray heads.All miscellaneous fittings and accessories required
 - to complete and operate system.

 5. Excavation and backfill.
 - Testing and adjusting.
 - Testing and adjustif
 Clean up.
- B. Related Work Specified Elsewhere

1.02 QUALITY ASSURANCE

- A. Codes and Standards:
 - All applicable local and national Plumbing Ordinances,
 - Electrical Codes, and Building Codes.
- 2. National Plumbing Code.

B. Licenses

- All work shall be performed by or under the direct supervision of an irrigator or plumber licensed to practice under the authority of the State of Texas.
- C. Reference Standards:
 - 1. ASTM D-2241-78
 - 2. CS 256-63

1.03 SUBMITTALS

- A. Maintenance Materials: At completion of the job, furnish spare parts and all special tools and equipment required to operate and maintain system.
- B. Maintenance Data: Furnish two copies of parts list and repair manuals and all special tools and equipment required to operate and maintain system.
- C. Manufacturer's Literature: Submit catalogue data indicating, performance, weight, size and function of each item of equipment and material. Also provide manufacturer's operating manual.
- D. Project Record Documents: Record on a clean set of plans in colored pencil and also a reproducible mylar:
- All piping and wiring, including control wires by dimensions.
 Locate all valves by dimension from two directions.

PART II - PRODUCTS

2.01 GENERAL

A. Equipment and Material Requirements:

- 1. Standard product of acceptable manufacturer.
- In-service performance records to verify published capabilities.
 New and unused.

2.02 MATERIALS

A. PVC Pipe and Fittings:

- Polyvinyl chloride pipe (PVC) in accordance with ASTM D-2241-78 made to SDR-PR dimensions and approved by National Sanitation
- Foundation.
 2. 2 inch pipe and smaller: Solvent weld PVC Type "Bell-End" pipe
- may be used.2 inch pipe fittings and smaller: Solvent weld type as recommended
- by pipe manufacturer.4. All pipe downstream of backflow preventer to be Class 200 PVC; all swing joints and risers to be Schedule 80.

B. Joints and Fittings:

- 1. Nipples and risers: Schedule 80 threaded PVC pipe.
- 2. Fittings: Schedule 80 PVC.

C. Valves:

- Double Check Double Gate Valve
 - a. Factory assembled and tested valve train.
- b. Two spring loaded all brass check valves with soft rubber discs.
- c. Two all brass shutoff valves.
- d. Assembled with brass nipples.e. In accordance with AWWA and ASSE specifications.
- f. Approved Product: FEBCO.

2. Manual Control Valve

- a. Straight type globe valve.
- b. Size to match upstream pipe or as shown on drawings.
- c. Cross handle control wheel.
- d. Brass or bronze body and parts, Class 150.
- e. Full floating valve disc with replaceable seat and washers.
 f. Removable bonnet and stem assembly with packing gland and nut.

3. Electric Control Valve

- a. With flow control.
- b. Globe valve.
- c. Manual bleed.
- d. 24 VAC solenoid.e. Electric control, in-line.
- f. Size to match upstream pipe or as shown on drawings.

4. Quick Coupler

- a. 1" female inlet.
- b. Brass or bronze construction.
- c. 150 psi capacity.d. Self closing cover.
- e. One piece, single lug, single key construction.
- f. Provide owner with two quick coupler keys & hose bib
- attachments.
 g. Install in "jumbo" plastic valve box, rectangular, heavy duty.
- D. Valve Boxes:

1. Box for Double check double gate valve:

a. Concrete box with cast iron cover (or per code).b. Sufficient size to house entire assembly and permit inspection, maintenance and repair.

2. Box for Electric Valves, Manual Valves, and Double Check Valves

- a. "Jumbo", rectangular
- b. Heavy duty plastic construction.
- c. With locking lid.

E. Sprinkler Heads:

- 1. Bubbler, Flood Type
 - a. Plastic construction.
 - b. 1/2" IPS female inlet.c. Adjustable flow via screen.

2. Spray Heads

- a. 4" pop/12" pop
- b. Plastic construction.c. Stainless steel retraction spring.
- c. Stainless steel retraction spring.d. Serviceable filter screen and nozzle.
- e. Stationary or gear driven.

3. Rotary Heads

- a. 12" pop/4"pop
- b. Full and part circle heads as drawings indicate.
- c. Stainless steel retraction spring.d. Serviceable filter screen and nozzle.

Controllers:

- Solid state.
- 2. Digital readout. 3. Dust Barrier.
- Pump/master valve circuit switch.
 0-60 minute timing per station or as specified.
- Up to three start times/day with manual override.
- 7. UL listed.8. Battery backup.

G. Accessories:

 Jointing Material: Teflon tape for threads on PVC pipe.
 Control Wire: Direct Burial, size for voltage drop, minimum size per National Electric Code.

PART III - EXECUTION

3.01 GENERAL

Install all equipment and products in accordance with manufacturer's recommendations.

3.02 INSTALLATION

A. PVC Pipe and Fittings:

- 1. Handle and install PVC pipe, couplings, and fittings in accordance with manufacturer's recommendations and industry standards.
- 2. All PVC fittings shall be molded of the same material as the pipe and shall be suitable for solvent weld, slip joint ring tight seal, or screwed connections.
- 3. No fittings made of other material shall be used except copper as specified in the plans and details.
- 4. Space pipe length in jointing and snake to allow for expansion and contraction.
- 5. Thoroughly clean interior of the pipe of all foreign matter before being lowered into trench. Keep clean during laying operation by means of plugs or other approved method.
- 6. Do not lay pipe in water or when trench or weather conditions are unsuitable for work. Keep water out of trench until the joints are completed.
- completed.7. When work is not in progress, securely close open ends of pipe and fittings so that no trench water, earth or other substances will enter
- pipes or fittings.

 8. Take up and relay any pipe that has the grade or joints disturbed after laying.
- 9. Fittings at bends in the pipe line and at ends of lines shall be firmly wedged against the vertical face of the trench.
- Made Joints in all screwed fittings by applying teflon tape on male
- 11. Only schedule 80 pipe may be threaded.

B. Valves:

- Install all new valves as indicated on the plans or as may be required for the proper control of the piping systems in which they are incorporated.
- 2. Bury valves deep enough so that valve box lid will not protrude above the ground.
- 3. Set valves vertically and locate 12 inches from sidewalks where
- possible.Adjust flow control to give correct pressure at sprinkler head.

3.03 FIELD QUALITY CONTROL

A. Leak Test:

- 1. When the main line or sections of the main line, e.g. loops with swing joints and valves have been installed, the system (or section) will then be pressurized to the operating pressure indicated on the drawings. The pressure will then be maintained for a twenty four
- hour leak test period.
- All leaks will be repaired and retested prior to backfilling lines.
 Any leaks developed during the first under normal operating pressures due to improper installation shall be repaired by the contractor at no expense to the owner.

B. Cleaning and Flushing System:

- After pipe, fittings, and valves have been installed and connections made to water source, flush pipe free of all rock, dirt, trash, pipe shavings, and other debris before installing heads.
- After heads have been installed, use system several times before final inspection.
- 3. Immediately before final inspection, check all heads for stoppage. Clean if necessary.
- 4. Remove nozzles of all heads and flush pipes. Clean and replace heads before final inspection.

C. Maintenance Instructions:

- School at least two of the Owner's employees that will be maintaining the irrigation system in operating and maintenance
- procedures.

 2. Include operation of controllers and valves, balancing of the system, and maintenance of all equipment including removal and replacement of valve and controller components.

Remove from site any rock or extra soil that resulted from this work and

3.04 CLEANUP

- Make final cleanup of all parts of work before final acceptance.
- B. Remove all construction materials and equipment.

restore site to its original condition.

- C. Prepare site in an orderly and finished appearance.

END OF SECTION

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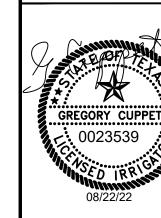
SA ASSOCIATES,

CONSULTING CIVIL ENGINEERS SURV
STATEMS TASSO

(972) 490
TEXAS TASSO

(972) 490
TEXAS Engineers Registration No. 89

TEXAS Engineers Registration No. 100866-00



IRRIGATION SPECS

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