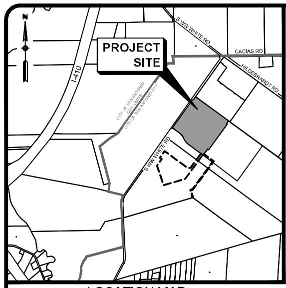


LOCATION MAP
N.T.S.

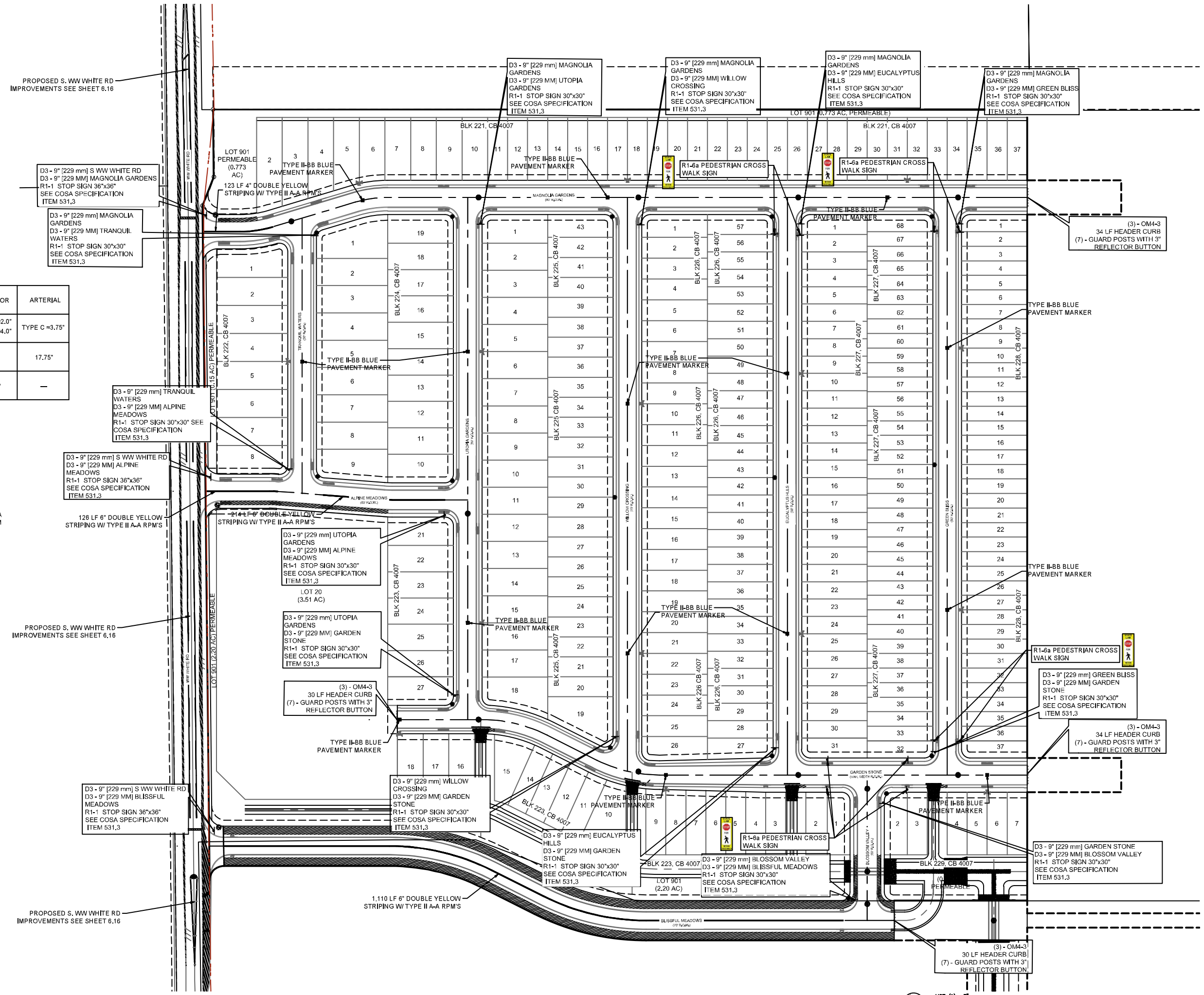
PAVEMENT SECTION TABLE CBR ≈ 3.0%	LOCAL A (NO BUS)	LOCAL B	COLLECTOR	ARTERIAL
HOT MIX ASPHALT CONCRETE (TYPE "C" or TYPE "D") DEPTH:	TYPE D ≈ 2.0"	TYPE D ≈1.5" TYPE C ≈3.0"	TYPE D ≈2.0" TYPE C ≈4.0"	TYPE C ≈3.75"
TYPE A, GRADE 1-2 GRANULAR BASE COURSE:	12.0"	17.5"	14.5"	17.75"
LIME TREATED SUBGRADE (SEE GENERAL NOTE 4):	6.00"	6.00"	6.00"	—

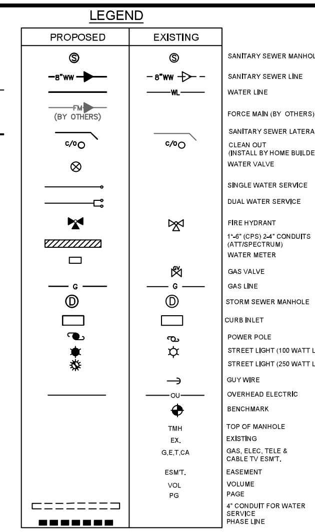
CONTRACTOR TO REFER TO GEOTECHNICAL ENGINEERING BY TTL, INC. DATED NOVEMBER 17, 2023 FOR PAVEMENT DESIGN SPECIFICATIONS, TTL, INC. PROJECT NO. 00230902952.00

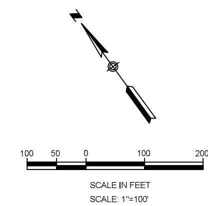
1. MINIMUM OF 4" FLEXIBLE BASE OR 2" OF ASPHALT TREATED BASE IS REQUIRED UNDERNEATH THE CURB (REFER TO PAVEMENT & CURB DETAILS).
2. LIME TREATMENT SHALL BE PERFORMED ONLY ON THE DARK BROWN CLAY SUBGRADE. THE SUBGRADE SHALL BE TREATED WITH HYDRATED LIME IN ACCORDANCE WITH TXDOT ITEM 260. WE ANTICIPATE THAT APPROXIMATELY 6% HYDRATED LIME WILL BE REQUIRED (APPROXIMATELY 35 LBS/SY). THE OPTIMUM HYDRATED LIME CONTENT SHOULD RESULT IN A SOIL-LIME MIXTURE WITH A PH OF AT LEAST 12.4 WHEN TESTED IN ACCORDANCE WITH ASTM C 977, APPENDIX XI. THE HYDRATED LIME SHOULD INITIALLY BE BLENDED WITH A MIXING DEVICE SUCH AS A PULVERMIXER. AFTER SUFFICIENT MOISTURE CONDITIONING, THE TREATED SOIL MIXTURE SHALL BE COMPACTED TO AT LEAST 95 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED IN ACCORDANCE WITH THE STANDARD EFFORT (ASTM D 698) AT MOISTURE CONTENTS FROM OPTIMUM TO +4 PERCENTAGE POINTS OF THE OPTIMUM CONTENT. IF THE IN-PLACE GRADATION REQUIREMENTS CAN BE ACHIEVED DURING INITIAL MIXING, THE REMIXING AFTER THE CURING PERIOD CAN BE ELIMINATED.
3. GEOTECHNICAL ENGINEER TO BE ON SITE TO MAKE FINAL SUBGRADE DETERMINATION. CHANGES TO THIS PAVEMENT DESIGN SHALL BE SUBMITTED TO COSA-DSD & BEXAR COUNTY PRIOR TO PLACEMENT OF BASE MATERIAL.

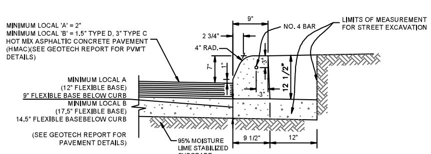
PAVEMENT NOTE:
GEOTECHNICAL ENGINEER TO BE ON SITE TO MAKE FINAL SUBGRADE DETERMINATION. CHANGES TO THIS PAVEMENT DESIGN SHALL BE SUBMITTED TO COSA-DSD & BEXAR COUNTY PRIOR TO PLACEMENT OF BASE MATERIAL.

GENERAL NOTES
- 1. INPUT PARAMETERS USED IN PAVEMENT SECTION CALCULATIONS ARE SHOWN IN TABLE NO. 5.3.1. (TTL) & PAGE 7 OF FSG PROJECT NO: FGS-G20017 (FROST SCIENCES, INC.). PLEASE CALL TTL, INC. AND FROST SCIENCES TO PROVIDE PAVEMENT RECOMMENDATIONS, IF NEEDED, FOR DIFFERENT INPUT VALUES.
- 2. IF REPETITIVE TRUCK OR HEAVY TRUCK TRAFFIC IS ANTICIPATED, PLEASE CONTACT US FOR REVISED PAVEMENT RECOMMENDATIONS.
- 3. PAVEMENT SECTION RECOMMENDATIONS ARE BASED ON A SUBGRADE CBR VALUE OF 3.0. THE PAVEMENT RECOMMENDATIONS ARE NOT BASED ON THE SHRINK/ SWELL CHARACTERISTICS OF THE UNDERLYING SOILS. THE PAVEMENT CAN EXPERIENCE CRACKING AND DEFORMATION DUE TO SHRINKAGE AND SWELLING CHARACTERISTICS OF THE SOILS AS DESCRIBED IN THE VERTICAL MOVEMENTS SECTION OF THIS REPORT. USE OF GEOGRID HELPS REDUCE THE SHRINK/ SWELL RELATED CRACKING.
- 4. THE SUBGRADE SHOULD BE TREATED TO A DEPTH OF 8 INCHES USING 8% LIME CONTENT, APPROX. 43 LBS PER SQ YARD.
- 5. THE SUBGRADE MAY ALSO BE STABILIZED WITH CEMENT IN LIEU OF LIME. CEMENT APPLICATION RATES SHOULD BE DETERMINED AT THE TIME OF CONSTRUCTION.
- 6. IF WATER IS ALLOWED TO GET UNDERNEATH THE ASPHALT, OR IF MOISTURE CONTENT OF THE BASE OR SUBGRADE CHANGES SIGNIFICANTLY, THEN PAVEMENT DISTRESS WILL OCCUR. MOISTURE PENETRATION UNDERNEATH THE ASPHALT PAVEMENT SURFACE MAY BE REDUCED BY INSTALLING A VERTICAL MOISTURE BARRIER, SUCH AS DEEPER CURBS; CURBS EXTENDING A MINIMUM OF 6 INCHES INTO SUBGRADE.
- 7. TTL RECOMMENDS THAT A CBR VALUE OF 3.0 PERCENT BE USED TO REPRESENT THE PAVEMENT SUBGRADE CONDITIONS AT THIS SITE.

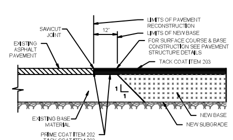




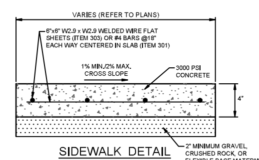




7" MACHINE LAID CURB DETAIL
N.T.S.



PAVEMENT TIE-IN DETAIL
N.T.S.



SIDEWALK DETAIL
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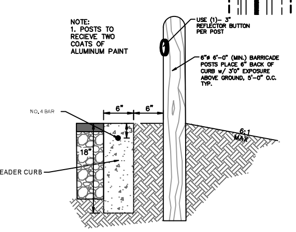

HEADER CURB & BARRICADE POST DETAIL
N.T.S.

GRACE GARDENS SUBDIVISION UNIT 1
LAND-PLAT-23-11800410
SIGNAGE PLAN

REVISIONS			
NO.	DESCRIPTION	BY	DATE

DATE: 9/8/2023
DESIGNED BY:
DRAWN BY:
CHECKED BY: RG
DRAWING NAME: sh_Signage.dwg

STATE OF TEXAS
RICHARD W. GRAY III
75617
REGISTERED PROFESSIONAL ENGINEER
06/10/2024

LJA Engineering, Inc.
9830 Colonnade Blvd
Suite 300
San Antonio, Texas 78230
Phone 210.503.2700
LJA.COM
TBPE No. F-1386

JOB NUMBER: SA202-0401B-426

SHEET NO. 6.18
OF - SHEETS