Kaalo Studio

7901 RM 2222
Austin, Texas 78730

SUBMITTAL DATE
DATE: MAY 20, 2021

MAPSCO GRID #493U COA GRID # MF31

OWNER:
RAJIB & AMRITA ADHIKARY
13821 FLAT TOP RANCH RD,
AUSTIN, TX 78732
CONTACT:
RAJIB ADHIKARY
805-630-8267

LANDSCAPE ARCHITECT:
MWM DESIGN GROUP, INC.
305 E HUNTLAND DR, STE #200
AUSTIN, TEXAS 78752
CONTACT:
DAVID CAZARES, ASLA, LEED AP
(512) 453-0767

CIVIL ENGINEER / AGENT:
MWM DESIGN GROUP, INC.
305 E HUNTLAND DR, STE #200
AUSTIN, TEXAS 78752
CONTACT:
BRIAN LEE WELLS, P.E.
(512) 809-0558

ARCHITECT:
DENCITYWORKS | ARCHITECTURE
55 WASHINGTON STREET #713
BROOKLYN NY 11201
CONTACT:
BHASKAR SRIVASTAVA, AIA LEED NCARB
(646) 690-0333

PROTECTED STREETS

THE ENGINEER OF RECORD ACKNOWLEDGES AND CONFIRMS THE PROTECTED STREETS STATUS AS DETERMINED BY THE STREET AND BRIDGE DIVISION AS OF THE DATE OF THE ENGINEER'S SIGNATURE. PROTECTED STREET STATUS IS SUBJECT TO CHANGE OVER TIME. IT IS THE OWNER'S/ENGINEER OF RECORD'S RESPONSIBILITY TO CONFIRM THE STREET STATUS PRIOR TO CONSTRUCTION AS PROTECTED STREET STATUS WILL DIRECTLY IMPACT HE CONSTRUCTION COSTS. IF PROTECTED STREETS ARE PROPOSED TO BE DISTURBED, APPROVAL BY THE STREET AND BRIDGE DIVISION IS REQUIRED.

Watershed Protection and Development Review Department
Land Status Determination
Legal Tract Platting Exception Certification

12/16/2003

File Number: C8i-03-0314

Address:7901 F. M. 2222

Tax Parcel I.D. #:0142180705 Tax Map Date:06/21/2002

The Watershed Protection and Development Review Department has determined that the property described below and **as shown on the attached tax map:**

is a **Legal Tract** consisting of **5.593 acres** out of the William Swain Survey in Travis County, Texas, according to the deed recorded in Volume 7630, Page 498, of the Travis County Deed Records on 11/23/1981, Save and Except 0.865 acres taken for R.O.W. by the State of Texas and **is eligible to receive utility service.** The cost of water and/or wastewater service improvements, including easements, tap and impact fees, are the landowner's responsibility and expense, and must be accomplished according to the City of Austin Utility Design Criteria, Specifications and Procedures.

This determination of the status of the property is based on the five-acre subdivision exception provided in Texas Local Government Code, Section 212.004(a). Recognition hereby does not imply approval of any other portion of the Austin City Code or any other regulation.

By: _____
Hector Avila, Representative of the Director
Watershed Protection and Development Review Department

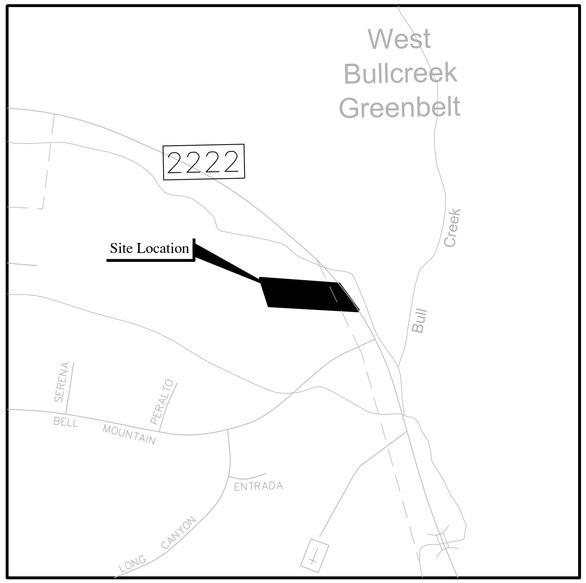
Map Attachment

NOTES:

1. NO PORTION OF THIS SITE IS WITHIN THE 100 YEAR FLOODPLAIN AS PER FEMA FIRM PANEL #48453C0245J, DATED JANUARY 06, 2016. HOWEVER, A PORTION OF THIS SITE IS WITHIN THE CITY OF AUSTIN 100-YEAR FLOODPLAIN AS ESTABLISHED BY CITY OF AUSTIN ORDINANCE NO. 20191114-064.
2. PORTIONS OF THIS SITE DO LIE WITHIN A CRITICAL WATER QUALITY ZONE (CWQZ) OR A WATER QUALITY TRANSITION ZONE (WQTZ). PORTIONS OF THE SITE HAVE SLOPES GREATER THAN 15%. EROSION HAZARD ZONES DO EXIST WITHIN 150' OF THE PROJECT SITE.
3. NO KNOWN CRITICAL ENVIRONMENTAL FEATURE (CEF) IS LOCATED ON THIS SITE.
4. THIS SITE IS NOT LOCATED OVER THE EDWARD'S AQUIFER RECHARGE OR CONTRIBUTING ZONES.
5. THIS SITE IS SUBJECT TO SUBCHAPTER E OF THE LAND DEVELOPMENT CODE (COMMERCIAL DESIGN STANDARDS). THE REQUIREMENTS OF SUBCHAPTER E PERTINENT TO THE SITE ARE DEPENDENT UPON THE SITE'S PRINCIPAL ROADWAY; FM 2222 IS THE PRINCIPAL ROADWAY AND IS CLASSIFIED AS A SUBURBAN ROADWAY.
6. TREES GREATER THAN 8" IN DIAMETER ARE KNOWN TO EXIST ON THIS SITE.
7. AS PART OF THE SITE PLAN, THE STORM WATER POLLUTION PREVENTION PLAN (SWIPPP) IS REQUIRED TO BE ON SITE AT ALL TIMES
8. THIS PROJECT IS LOCATED IN THE WEST BULL CREEK WATERSHED, WHICH IS CLASSIFIED AS A WATER SUPPLY SUBURBAN WATERSHED.
9. THIS SITE IS NOT OVER THE EDWARDS AQUIFER RECHARGE ZONE.
10. IF AT ANY TIME DURING CONSTRUCTION OF THIS PROJECT AN UNDERGROUND STORAGE TANK (UST) IS FOUND, CONSTRUCTION IN THAT AREA MUST STOP UNTIL A CITY OF AUSTIN UST CONSTRUCTION PERMIT IS APPLIED FOR AND APPROVED. ANY UST REMOVAL WORK MUST BE CONDUCTED BY A UST CONTRACTOR THAT IS REGISTERED WITH THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ). CONTACT ELIZABETH SIMMONS AT ELIZABETH.SIMMONS@AUSTINTEXAS.GOV IF YOU HAVE ANY QUESTIONS. [COA TITLE 6]
11. ALL BUILDINGS PROPOSED ON THIS SITE MUST BE BUILT TO THE 2021 IFC WITH AMENDMENTS AND RELATED STANDARDS.
12. PRIOR TO OBTAINING A BUILDING PERMIT A LANDFILL CERTIFICATION TCEQ SOIL TEST 2 SHALL BE PERFORMED TO CONFIRM THE ABSENCE OF LANDFILL MATERIAL.
13. A SEPARATE BUILDING PERMIT WILL BE REQUIRED FOR ALL RETAINING WALLS 4 FT HIGH FROM TOP OF WALL TO BOTTOM OF FOOTING.
14. A FEE-IN-LIEU OF PARKLAND DEDICATION AND PARK DEVELOPMENT HAS BEEN PAID FOR 1 RESIDENTIAL UNITS.
15. FOR INTEGRATED PEST MANAGEMENT PLAN, SEE AGREEMENT FILED IN DOCUMENT NO. _____, OFFICIAL PUBLIC RECORDS, TRAVIS COUNTY, TEXAS.
16. APPROVAL OF THESE PLANS BY THE CITY OF AUSTIN INDICATES COMPLIANCE WITH APPLICABLE CITY REGULATIONS ONLY. APPROVAL BY OTHER GOVERNMENTAL ENTITIES MAY BE REQUIRED PRIOR TO THE START OF CONSTRUCTION. THE APPLICANT IS RESPONSIBLE FOR DETERMINING WHAT ADDITIONAL APPROVALS MAY BE NECESSARY.
17. ALL WATER QUALITY AND STORM WATER PONDS ARE TO BE PRIVATELY MAINTAINED. A RESTRICTIVE COVENANT (No. _____) HAS BEEN RECORDED DESCRIBING THESE TERMS.
18. PRIOR TO CERTIFICATE OF OCCUPANCY, THE INFORMATION DESCRIBED IN TCM 9.7.2.D.1 MUST BE PROVIDED.

CITY OF AUSTIN REVISION BLOCK

No.	DESCRIPTION	REVISE (R) ADD (A) VOID (V) SHEET No.'s	TOTAL # SHEETS IN PLAN SET	NET CHANGE IMP. COVER (SQ. FT.)	TOTAL SITE IMP. COVER (SQ. FT.)/%	CITY OF AUSTIN APPROVAL DATE	DATE IMAGED



LOCATION MAP

LEGAL DESCRIPTION: ABS 727 SUR 810 SWAIN W L ACR 4.7240

WATERSHED: WEST BULL CREEK CLASSIFICATION: WATER SUPPLY SUBURBAN
PRINCIPAL STREET: RM222 STREET TYPE: HIGHWAY

RELATED CASES:

1. C14-02-0128 (ZONING)
2. SP-05-1219B
3. C14-03-0128
4. C14-2016-0096

Austin Fire Department- Project Information Table	
Fire Design Codes	2015 International Fire Code with City of Austin Local Amendments
Fire Flow Demand @ 20 psi (GPM)	9,063 GPM
Intended Use	BUSINESS OFFICE / RESIDENTIAL
Construction Classification	II-B
Building Fire Area (SF)	28,925
Automatic Fire Sprinkler System Type (if applicable)	NFPA 13
Reduced Fire Flow Demand in GPM @ 20 psi if an automatic fire sprinkler system is to be provided	1500 GPM
AFD Fire Hydrant Flow Test Date	5/15/2021
AFD Fire Hydrant Flow Test Location	FM 2222 RD
Building Height and No. Stories	28 feet and 2 stories
Alternative Method of Compliance AMOC	

SHEET INDEX

INDEX NUMBER	SHEET NUMBER	SHEET TITLE
1	C000	COVER
2	C001	GENERAL NOTES
3	C100	EXISTING CONDITIONS
4	C101	TREE LIST
5	C102	SLOPE MAP
6	C110	LAND USE SITE PLAN
7	C200	EROSION AND SEDIMENTATION CONTROL AND TREE PROTECTION PLAN
8	C205	DEMOLITION PLAN
9	C210	EROSION AND SEDIMENTATION CONTROL DETAILS
10	C300	SITE PLAN
11	C301	CUT AND FILL MAP
12	C302	GRADING PLAN
13	C303	PAVING PLAN
14	C305	SITE SECTIONS
15	C320	GEOMETRY PLAN
16	C321	DRIVEWAY PLAN & PROFILE
17	C330	OFFSITE DETAILS
18	C331	ONSITE DETAILS
19	C400	AUSTIN WATER NOTES
20	C401	OFFSITE WATER PLAN & PROFILE
21	C402	OFFSITE WASTEWATER PLAN & PROFILE
22	C403	OFFSITE WATER AND WASTEWATER DETAILS
23	C404	OFFSITE WATER AND WASTEWATER DETAILS CONT.
24	C410	ONSITE WATER & WASTEWATER PLAN
25	C411	ONSITE WASTEWATER PROFILE
26	C412	ONSITE WATER PROFILE
27	C413	ONSITE WATER PROFILE
28	C414	ONSITE WATER AND WASTEWATER DETAILS
29	C500	EXISTING CONDITIONS DRAINAGE AREA MAP
30	C501	EXISTING DRAINAGE CALCULATIONS
31	C502	PROPOSED CONDITIONS DRAINAGE AREA MAP
32	C503	PROPOSED DRAINAGE CALCULATIONS
33	C522	STORM DRAIN PLAN
34	C523	STORM DRAIN PROFILES
35	C524	STORM DRAIN PROFILES
36	C525	STORM DRAIN PROFILES
37	C526	STORM DRAIN PROFILES
38	C527	STORM DRAIN DETAILS
39	C530	WATER QUALITY DRAINAGE AREA MAP
40	C531	WQ SECTIONS / DETAILS RAIN GARDEN #1
41	C532	WQ SECTIONS / DETAILS RAIN GARDEN #2
42	C533	WQ SECTIONS / DETAILS RAIN GARDEN #3
43	C534	WQ SECTIONS / DETAILS RAIN GARDEN #4
44	C540	DETENTION POND SECTIONS
45	C541	POND DETAILS
46	C542	POND DETAILS
47	C543	POND DETAILS
48	C544	POND DETAILS
49	C550	CULVERT DRAINAGE AREA MAP
50	C551	CULVERT PLAN & PROFILE
51	C552	CULVERT DETAILS
52	C600	FIRE ACCESS PLAN
53	L700	LANDSCAPE NOTES
54	L701	LANDSCAPE PLAN
55	L791	LANDSCAPE DETAILS
56	A-100	BUILDING STORY & GRADE DETERMINATION
57	A-101	GRADE ELEVATION DIAGRAM
58	A-310	EAST ELEVATION
59	A-311	WEST ELEVATION
60	A-312	SOUTH ELEVATION
61	A-313	NORTH ELEVATION
62	E101	ELECTRICAL SITE PLAN
63	E102	OVERHEAD LINE RELOCATION

I CERTIFY THAT THESE ENGINEERING DOCUMENTS ARE COMPLETE, ACCURATE AND IN COMPLIANCE WITH THE REQUIREMENTS OF CHAPTER 25-8 SUBCHAPTER-A OF THE LAND DEVELOPMENT CODE.

RELEASE OF THIS APPLICATION DOES NOT CONSTITUTE A VERIFICATION OF ALL DATA, INFORMATION AND CALCULATIONS SUPPLIED BY THE APPLICANT. THE ENGINEER OF RECORD IS SOLELY RESPONSIBLE FOR THE COMPLETENESS, ACCURACY AND ADEQUACY OF HIS/HER SUBMITTAL, WHETHER OR NOT THE APPLICATION IS REVIEWED FOR CODE COMPLIANCE BY CITY ENGINEERS.

SUBMITTED BY: _____ MAY 20, 2021
BRIAN LEE WELLS, P.E. DATE
MWM DESIGNGROUP
305 E HUNTLAND DRIVE, SUITE 200
AUSTIN, TX. 78752
(512)809-0558

APPROVED BY: _____
DIRECTOR, DEVELOPMENT SERVICES DEPARTMENT DATE

SITE DEVELOPMENT PERMIT NUMBER

APPROVED BY: _____
AUSTIN WATER UTILITY DATE

APPROVED BY: _____
CITY OF AUSTIN FIRE DEPARTMENT DATE

APPROVED BY: _____
INDUSTRIAL WASTE DATE

I CERTIFY THAT THESE ENGINEERING DOCUMENTS ARE COMPLETE, ACCURATE AND ADEQUATE FOR THEIR INTENDED PURPOSES, INCLUDING CONSTRUCTION, BUT ARE NOT AUTHORIZED FOR CONSTRUCTION PRIOR TO FORMAL CITY APPROVAL.

SITE PLAN APPROVAL SHEET 1 OF 63
FILE NUMBER: SPC-2021-0195C APPLICATION DATE: 05/20/2021
APPROVED BY COMMISSION ON _____ UNDER SECTION 112 OF CHAPTER 25-5 OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE(25-5-81, LDC)_____ CASE MANAGER R. AVILA
PROJECT EXPIRATION DATE (ORD. #970905-A)_____DMPZ_____DDZ__X___

Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE:_____ZONING LO-MU-CO
Rev. 1 _____Correction 1 _____
Rev. 2 _____Correction 2 _____
Rev. 3 _____Correction 3 _____
Final Plat must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction (if a building permit is not required), must also be approved prior to the Project Expiration Date.

ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN REVIEWING THESE PLANS, THE CITY OF AUSTIN MUST RELY UPON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.

dwA

23 DEC 2022
STATE OF TEXAS
BRIAN LEE WELLS
89517
LICENSED
PROFESSIONAL ENGINEER

mwm DesignGroup
305 East Huntland Drive
Suite 200
Austin, Texas 78752
p: 512.453.0767
f: 512.453.1734

TBAE FIRM REGISTRATION NO.: 1452
TBPE FIRM REGISTRATION NO.: F-1416
TBPLS FIRM REGISTRATION NO.: 10065600

NO.	DATE	DESCRIPTION	BY

0 1"
The bar above measures one inch on the original drawing. Adjust scales accordingly.

COVER SHEET

KAALO STUDIO
7901 RM 2222
Austin, Texas 78730

PLOTTED: 12/23/2022
JOB NO: 864-01

C000

1 OF 63

SPC-2021-0195C

File: Y:\864-01_Kaalo_Studio\CAD\Sheets\C000-COVER.dwg 24x36

CONTRACTOR NOTES:

1. THE INFORMATION SHOWN ON THESE DRAWINGS INDICATING TYPE AND LOCATION OF UNDERGROUND, SURFACE, AND AERIAL UTILITIES IS NOT GUARANTEED TO BE EXACT OR COMPLETE. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE EXACT TYPE AND LOCATION OF ALL UTILITIES AFFECTED BY CONSTRUCTION FOR THIS PROJECT IN ORDER TO AVOID DAMAGING THOSE UTILITIES. THE CONTRACTOR SHALL A) IMMEDIATELY ARRANGE FOR REPAIR AND RESTORATION OF CONTRACTOR-DAMAGED UTILITIES, AND B) PAY FOR SAME AT NO EXTRA COST TO THE OWNER.

2. THE BIDDER (CONTRACTOR AFTER AWARD) SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY UNREPORTED OBSTACLES OR DISCREPANCIES THAT MAY IMPEDE OR PREVENT THE PROPER CONSTRUCTION OF THIS PROJECT.

3. WHERE REMOVAL OF BASE AND PAVEMENT IS NECESSARY FOR THIS PROJECT ALL BASE AND PAVEMENT SHALL BE REPLACED IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AND COA STANDARD SPECIFICATIONS. ALL PAVEMENT CUTS SHALL BE SAW CUT PRIOR TO PLACEMENT OF H.M.A.C. AND COORDINATED WITH COA AND CITY INSPECTORS.

4. SLOPES OF ROADWAY CUTS AND EMBANKMENTS DAMAGED BY ANY OPERATION OF THE CONTRACTOR DURING THE EXECUTION OF THIS PROJECT SHALL BE REPAIRED AND RESTORED TO THE ORIGINAL PRE-CONSTRUCTION CONDITION IN ACCORDANCE WITH ALL APPLICABLE PROVISIONS OF THE STANDARD SPECIFICATIONS. BACK FILL AND FILL PLACED DURING REMEDIAL GRADING SHALL BE COMPACTED TO A DENSITY EQUAL TO OR GREATER THAN THAT OF THE ORIGINAL CONDITIONS AND TO THE SATISFACTION OF THE ENGINEER AND GOVERNING AUTHORITIES.

5. BEFORE DISCONNECTING ANY WATER LINE OR GAS LINE, CONTRACTOR MUST PROVIDE FORTY-EIGHT (48) HOUR NOTICE TO THE OWNER EXCEPT IN THE CASE OF A BONA FIDE EMERGENCY.

6. CONTRACTOR SHALL COMPLY WITH CONSTRUCTION SEQUENCING WHICH IS SPECIFIED ON THIS SHEET.

7. ALL CONSTRUCTION SHALL FOLLOW THE LATEST VERSIONS OF THE CITY OF AUSTIN STANDARD DETAILS AND SPECIFICATIONS, UNLESS NOTED OTHERWISE.

8. UPON REQUEST, COMPUTER AIDED DESIGN (CAD) FILES CAN BE MADE AVAILABLE TO THE CONTRACTOR FOR THE PURPOSES OF CONSTRUCTION STAKING.

9. CONTRACTOR TO PROVIDE A 24-HOUR (MINIMUM) NOTICE TO ENGINEER PRIOR TO ALL UTILITY INSTALLATION TO ALLOW FOR VISUAL OBSERVATION OF TRENCH EXCAVATION, BEDDING, PIPE MATERIAL, AND BACKFILL.

PAVEMENT:

1. HOT MIX ASPHALTIC CONCRETE (H.M.A.C.), WHEN REQUIRED, SHALL BE FURNISHED AND PLACED IN ACCORDANCE WITH ITEM 340 OF THE STANDARD SPECIFICATIONS. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE PROVISIONS OF THE CITY OF AUSTIN STANDARD SPECIFICATIONS FOR CUTS IN PUBLIC RIGHT OF WAY.

2. FLEXIBLE BASE SHALL BE FURNISHED AND INSTALLED IN COMPLIANCE WITH ITEM 210 OF THE STANDARD SPECIFICATIONS AND IN COMPLIANCE WITH THE CITY OF AUSTIN STANDARDS AND STANDARD SPECIFICATIONS FOR CUTS IN PUBLIC RIGHT OF WAY.

3. CONCRETE PAVEMENT SHALL BE FURNISHED AND INSTALLED IN COMPLIANCE WITH ITEM 360 OF THE CITY OF AUSTIN STANDARD SPECIFICATIONS.

4. PAVEMENT DESIGN BASED ON RECOMMENDATIONS OUTLINED IN THE GEOTECHNICAL ENGINEERING REPORT (NO. _____), PREPARED BY _____, DATED _____.

5. CONTRACTOR SHALL PROVIDE A 24-HOUR (MINIMUM) NOTICE TO ENGINEER PRIOR TO ALL CONCRETE POURS TO ALLOW FOR VISUAL OBSERVATION OF FORMWORK AND REBAR PLACEMENT.

EXCAVATION AND BACKFILL:

1. ALL EXCAVATION FOR THIS PROJECT SHALL BE UNCLASSIFIED.

2. CONTRACTOR/REPAIR CREW MUST NOTIFY INSPECTOR AT LEAST TWENTY FOUR (24) HOURS PRIOR TO BEGINNING PERMANENT BACK FILL OPERATIONS.

3. BACKFILL DENSITY SHALL BE AS SPECIFIED IN ITEM 510 OF THE COA STANDARD SPECIFICATIONS. TEST METHODS SHALL BE AS SPECIFIED IN THE CITY STANDARD SPECIFICATIONS UNLESS INDICATED OTHERWISE IN WRITING BY THE ENGINEER.

4. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS, INCLUDING THOSE THAT ARE REQUIRED TO COMPLY WITH SECTIONS 15-12-161 AND 15-12-181 OF THE CITY CODE REGARDING EXCAVATION IN PUBLIC RIGHT OF WAY.

HANDICAP ACCESSIBILITY:

1. ACCESSIBLE ROUTES MUST HAVE A RUNNING-SLOPE NO GREATER THAN 5% UNLESS DESIGNED AS A RAMP.

2. ACCESSIBLE ROUTES MUST HAVE A CROSS-SLOPE NO GREATER THAN 2%.

3. THE MAXIMUM RUNNING SLOPE OF A RAMP IN NEW CONSTRUCTION IS 8.33%.

4. TAS AND ADA CRITERIA SHALL GOVERN.

SAFETY:

1. CONTRACTOR SHALL MAINTAIN THE JOB SITE IN A SAFE, NEAT AND WORKMANLIKE MANNER AT ALL TIMES. JOB SITE SAFETY SHALL NOT BE COMPROMISED. ANY UNATTRACTIVE NUISANCE SHALL BE REMOVED OR CAMOUFLAGED BY CONTRACTOR WHEN DIRECTED BY THE OWNER OR ENGINEER.

2. ALL HOLES, TRENCHES, AND OTHER HAZARDOUS AREAS SHALL BE ADEQUATELY PROTECTED BY BARRICADES, FENCING, LIGHTS, AND/OR OTHER PROTECTIVE DEVICES AT ALL TIMES.

3. REMOVAL OF EXCAVATED MATERIALS AND DAILY CLEANUP OPERATIONS SHALL BE PERFORMED TO THE SPECIFICATIONS AND TO THE SATISFACTION OF THE OWNER AND ENGINEER.

4. CONTRACTOR SHALL MAINTAIN A SUPERINTENDENT UPON THE PROJECT AT ALL TIMES WORK IS IN PROGRESS.

TRAFFIC CONTROL NOTES:

1. THE CONTRACTOR SHALL MAINTAIN CLEAR PASSAGE FOR LOCAL TRAFFIC AT ALL TIMES DURING THE CONSTRUCTION OF THIS PROJECT.

2. ALL TRAFFIC CONTROL DEVICES, SIGNS, BARRICADES, WARNING SIGNS, AND FLAG MEN OPERATIONS SHALL BE PLACED, CONSTRUCTED, EXECUTED AND MAINTAINED IN ACCORDANCE WITH THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD).

3. WHERE PORTABLE SIGNS REQUIRE THE USE OF WEIGHTS, SANDBAGS SHALL BE USED. THE USE OF SOLID OBJECTS SUCH AS CONCRETE, ROCKS, IRON, ETC. SHALL NOT BE PERMITTED.

4. INSTALLATION OF CONSTRUCTION BARRICADING AND SIGNING SHALL BE COORDINATED THROUGH THE CITY OF AUSTIN RIGHT OF WAY MANAGEMENT AT (512) 974-1150 (OR APPLICABLE REGULATORY ENTITY).

5. ALL TRAFFIC CONTROL SIGNS SHALL REMAIN IN PLACE UNLESS OTHERWISE SHOWN ON THE PLANS. IF SIGNS REQUIRE RELOCATION, CONTRACTOR SHALL CONTACT THE CITY OF AUSTIN RIGHT OF WAY MANAGEMENT AT (512) 974-1150 (OR APPLICABLE REGULATORY ENTITY).

6. CONTRACTOR MUST RESTORE ALL PAVEMENT MARKINGS DISTURBED DURING CONSTRUCTION. CONTRACTOR SHALL OBSERVE ALL APPLICABLE MATERIALS, SPECIFICATIONS, AND INSTALLATION REQUIREMENTS INCLUDING SPECIAL ATTENTION TO MAINTAINING PROPER DIMENSIONS AND ALIGNMENT.

TRENCH SAFETY:

1. IN ACCORDANCE WITH THE LAWS OF THE STATE OF TEXAS AND THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REGULATIONS, ALL TRENCHES OVER 5 FEET IN DEPTH IN EITHER HARD AND COMPACT OR SOFT AND UNSTABLE SOIL SHALL BE SLOPED, SHORED, SHEETED, BRACED OR OTHERWISE SUPPORTED. FURTHERMORE, ALL TRENCHES LESS THAN 5 FEET IN DEPTH SHALL ALSO BE EFFECTIVELY PROTECTED WHEN HAZARDOUS GROUND MOVEMENT MAY BE EXPECTED.

2. IN ACCORDANCE WITH THE U.S. OSHA REGULATIONS, WHEN EMPLOYEES ARE REQUIRED TO BE IN TRENCHES 4 FOOT DEEP OR MORE, ADEQUATE MEANS OF EXIT, SUCH AS A LADDER OR STEPS, MUST BE PROVIDED AND LOCATED SO AS TO REQUIRE NO MORE THAN 25 FEET OF LATERAL TRAVEL.

MAINTENANCE OF BELOW GRADE POND/CISTERN:

SEE SPECIFICATION FOR ALL PRODUCTS. VISUAL INSPECTION REQUIRED FOR CISTERN, POND AND PRETREATMENT (CDS3030) AT INTERVALS OF TWO TIMES PER YEAR. REQUIRES TWO INDIVIDUALS FOR INTERIOR INSPECTION.
REMOVE ALL TRASH AT INSPECTION. WHEN SILT/DIBRIS REACH AVERAGE 1" IN DEPTH OR 6" DEPTH FOR MORE THAN 10' IN ANY AREA MATERIAL SHALL BE REMOVED VIA VACUUM. DEBRIS MAY BE REMOVED WITH SHOVEL.

AUSTIN ENERGY:

1. AUSTIN ENERGY HAS THE RIGHT TO PRUNE AND/OR REMOVE TREES, SHRUBBERY AND OTHER OBSTRUCTIONS TO THE EXTENT NECESSARY TO KEEP THE EASEMENTS CLEAR. AUSTIN ENERGY WILL PERFORM ALL TREE WORK IN COMPLIANCE WITH CHAPTER 25-8, SUBCHAPTER B OF THE CITY OF AUSTIN LAND DEVELOPMENT CODE.

2. THE OWNER/DEVELOPER OF THIS SUBDIVISION/LOT SHALL PROVIDE AUSTIN ENERGY WITH ANY EASEMENT AND/OR ACCESS REQUIRED, IN ADDITION TO THOSE INDICATED, FOR THE INSTALLATION AND ONGOING MAINTENANCE OF OVERHEAD AND UNDERGROUND ELECTRIC FACILITIES. THESE EASEMENTS AND/OR ACCESS ARE REQUIRED TO PROVIDE ELECTRIC SERVICE TO THE BUILDING(S) AND WILL NOT BE LOCATED SO AS TO CAUSE THE SITE TO BE OUT OFF COMPLIANCE WITH CHAPTER 25-8 OF THE CITY OF AUSTIN LAND DEVELOPMENT CODE.

3. THE OWNER SHALL BE RESPONSIBLE FOR INSTALLATION OF TEMPORARY EROSION CONTROL, REVEGETATION AND TREE PROTECTION. IN ADDITION, THE OWNER SHALL BE RESPONSIBLE FOR ANY INITIAL TREE PRUNING AND TREE REMOVAL THAT IS WITHIN TEN FEET OF THE CENTER LINE OF THE PROPOSED OVERHEAD ELECTRICAL FACILITIES DESIGNED TO PROVIDE ELECTRIC SERVICE TO THIS PROJECT. THE OWNER SHALL INCLUDE AUSTIN ENERGY'S WORK WITHIN THE LIMITS OF CONSTRUCTION FOR THIS PROJECT.

4. THE OWNER OF THE PROPERTY IS RESPONSIBLE FOR MAINTAINING CLEARANCE REQUIRED BY THE NATIONAL ELECTRIC SAFETY CODE, OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REGULATIONS, CITY OF AUSTIN RULES AND REGULATIONS AND TEXAS STATE LAWS PERTAINING TO CLEARANCES WHEN WORKING IN CLOSE PROXIMITY TO OVERHEAD POWER LINES AND EQUIPMENT. AUSTIN ENERGY WILL NOT RENDER ELECTRIC SERVICE UNLESS REQUIRED CLEARANCES ARE MAINTAINED. ALL COSTS INCURRED BECAUSE OF FAILURE TO COMPLY WITH THE REQUIRED CLEARANCES WILL BE CHARGED TO THE OWNER.

5. AUSTIN ENERGY MUST REVIEW ANY CHANGES TO THIS PLAN THAT MAY AFFECT ELECTRIC REQUIREMENTS. THESE CHANGES INCLUDE, BUT ARE NOT LIMITED TO, CHANGES IN BUILDING SQUARE FOOTAGE, BUILDING LOCATION, DETENTION FACILITIES' LOCATION, GRADING, SPOIL SITE LOCATIONS, ETC.

ORDINANCE REQUIREMENTS

1. ALL IMPROVEMENTS SHALL BE MADE IN ACCORDANCE WITH THE RELEASED SITE PLAN. ANY ADDITIONAL IMPROVEMENTS WILL REQUIRE A SITE PLAN AMENDMENT AND APPROVAL FROM THE DEVELOPMENT SERVICES DEPARTMENT.
2. APPROVAL OF THIS SITE PLAN DOES NOT INCLUDE BUILDING CODE APPROVAL; FIRE CODE APPROVAL; OR
BUILDING, DEMOLITION, OR RELOCATION PERMITS APPROVAL. A CITY DEMOLITION OR RELOCATION PERMIT CAN ONLY BE ISSUED ONCE THE HISTORIC REVIEW PROCESS IS COMPLETED.
3. ALL SIGNS MUST COMPLY WITH THE REQUIREMENTS OF THE CITY OF AUSTIN LAND DEVELOPMENT CODE.
4. THE OWNER IS RESPONSIBLE FOR ALL COSTS OF RELOCATION OF, OR DAMAGE TO, UTILITIES.
5. ADDITIONAL ELECTRIC EASEMENTS MAY BE REQUIRED AT A LATER DATE.
6. A SITE DEVELOPMENT PERMIT MUST BE ISSUED PRIOR TO AN APPLICATION FOR BUILDING PERMIT FOR NONCONDITIONED OR LAND USE COMMISSION APPROVED SITE PLANS.
7. WATER AND WASTEWATER SERVICE WILL BE PROVIDED BY THE CITY OF AUSTIN.
8. NO CERTIFICATE OF OCCUPANCY MAY BE ISSUED FOR THE PROPOSED RESIDENTIAL CONDOMINIUM PROJECT UNTIL THE OWNERS OF THE PROPERTY HAVE COMPLIED WITH CHAPTER 81 AND 82 OF THE PROPERTY CODE OF THE STATE OF TEXAS OR ANY OTHER STATUTES ENACTED BY THE STATE CONCERNING
CONDOMINIUMS.
9. FOR CONSTRUCTION WITHIN THE RIGHT-OF-WAY, A R.O.W. EXCAVATION PERMIT IS REQUIRED.

COMPATIBILITY

1. HIGHLY REFLECTIVE MATERIALS WILL NOT BE USED. MATERIALS MAY NOT EXCEED 20% REFLECTIVITY. THIS
REQUIREMENT SHALL NOT APPLY TO SOLAR PANELS OR TO COPPER OR PAINTED METAL ROOFS.
2. THE NOISE LEVEL OF MECHANICAL EQUIPMENT WILL NOT EXCEED 70 D.B.A. AT THE PROPERTY LINE ADJACENT TO RESIDENTIAL USES.
3. ALL EXTERIOR LIGHTING SHALL BE HOODED OR SHIELDED FROM THE VIEW OF ADJACENT RESIDENTIAL USES, OR
PROPERTY ZONED RESIDENTIAL.
4. EXTERIOR LIGHTING ABOVE THE SECOND FLOOR IS PROHIBITED WHEN ADJACENT TO RESIDENTIAL PROPERTY.
5. ALL DUMPSTERS AND ANY PERMANENTLY PLACED REFUSE RECEPTACLES WILL BE LOCATED AT A MINIMUM OF
TWENTY (20) FEET FROM A PROPERTY USED OR ZONED AS SF-5 OR MORE RESTRICTIVE.

FIRE DEPARTMENT

1. THE AUSTIN FIRE DEPARTMENT REQUIRES ASPHALT OR CONCRETE PAVEMENT PRIOR TO CONSTRUCTION AS AN
"ALL-WEATHER DRIVING SURFACE."
2. HYDRANTS MUST BE INSTALLED WITH THE CENTER OF THE FOUR-INCH OPENING AT LEAST 18 INCHES ABOVE
FINISHED GRADE. THE FOUR-INCH OPENING MUST FACE THE DRIVEWAY OR STREET WITH THREE- TO SIX-FOOT
SETBACKS FROM THE CURBLINE(S). NO OBSTRUCTION IS ALLOWED WITHIN THREE FEET OF ANY HYDRANT AND
THE FOUR-INCH OPENING MUST BE TOTALLY UNOBSTRUCTED FROM THE STREET.
3. TIMING OF INSTALLATION: WHEN FIRE PROTECTION FACILITIES ARE INSTALLED BY THE DEVELOPER, SUCH FACILITIES SHALL INCLUDE ALL SURFACE ACCESS ROADS WHICH SHALL BE INSTALLED AND MADE SERVICEABLE PRIOR TO AND DURING THE TIME OF CONSTRUCTION. WHERE ALTERNATIVE METHODS OF PROTECTION, AS APPROVED BY THE FIRE CHIEF, ARE PROVIDED, THE ABOVE MAY BE MODIFIED OR WAIVED.
4. ALL PERVIOUS/DECORATIVE PAVING SHALL BE ENGINEERED AND INSTALLED FOR 80,000 LB. LIVE-VEHICLE LOADS. ANY PERVIOUS/DECORATIVE PAVING WITHIN 100 FEET OF ANY BUILDING MUST BE APPROVED BY THE
FIRE DEPARTMENT.
5. COMMERCIAL DUMPSTERS AND CONTAINERS WITH AN INDIVIDUAL CAPACITY OF 1.5 CUBIC YARDS OR GREATER SHALL NOT BE STORED OR PLACED WITHIN TEN FEET OF OPENINGS, COMBUSTIBLE WALLS, OR COMBUSTIBLE EAVE LINES.
CITY OF AUSTIN | CONSOLIDATED SITE PLAN APPLICATION INSTRUCTIONS REV 7/19/2016 | PAGE 30 OF 38
6. FIRE LANES DESIGNATED ON SITE PLAN SHALL BE REGISTERED WITH CITY OF AUSTIN FIRE MARSHAL'S OFFICE
AND INSPECTED FOR FINAL APPROVAL.
7. VERTICAL CLEARANCE REQUIRED FOR FIRE APPARATUS IS 14 FEET FOR FULL WIDTH OF ACCESS DRIVE.

GENERAL CONSTRUCTION NOTES:

1. ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN REVIEWING THESE PLANS, THE CITY OF AUSTIN MUST RELY ON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.

2. CONTRACTOR SHALL CALL TEXAS 811 (811 OR 1-800-344-8377) FOR UTILITY LOCATIONS PRIOR TO ANY WORK IN CITY EASEMENTS OR STREET R.O.W.

3. CONTRACTOR SHALL NOTIFY THE CITY OF AUSTIN - SITE & SUBDIVISION DIVISION TO SUBMIT REQUIRED DOCUMENTATION, PAY CONSTRUCTION INSPECTION FEES, AND TO SCHEDULE THE REQUIRED SITE AND SUBDIVISION PRE-CONSTRUCTION MEETING. THIS MEETING MUST BE HELD PRIOR TO ANY CONSTRUCTION ACTIVITIES WITHIN THE R.O.W. OR PUBLIC EASEMENTS. PLEASE VISIT
HTTP://AUSTINTEXAS.GOV/PAGE/COMMERCIAL-SITE-AND-SUBDIVISION-INSPECTIONS FOR A LIST OF SUBMITTAL REQUIREMENTS, INFORMATION CONCERNING FEES, AND CONTACT INFORMATION.

4. FOR SLOPES OR TRENCHES GREATER THAN FIVE FEET IN DEPTH, A NOTE MUST BE ADDED STATING: "ALL CONSTRUCTION OPERATIONS SHALL BE ACCOMPLISHED IN ACCORDANCE WITH APPLICABLE REGULATIONS OF THE U.S. OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION." (OSHA STANDARDS MAY BE PURCHASED FROM THE GOVERNMENT PRINTING OFFICE; INFORMATION AND RELATED REFERENCE MATERIALS MAY BE PURCHASED FROM OSHA, 611 EAST 6TH STREET, AUSTIN TEXAS.)

5. ALL SITE WORK MUST ALSO COMPLY WITH ENVIRONMENTAL REQUIREMENTS.

6. UPON COMPLETION OF THE PROPOSED SITE IMPROVEMENTS AND PRIOR TO THE FOLLOWING, THE ENGINEER SHALL CERTIFY IN WRITING THAT THE PROPOSED DRAINAGE, FILTRATION AND DETENTION FACILITIES WERE CONSTRUCTED IN CONFORMANCE WITH THE APPROVED PLANS:
RELEASE OF THE CERTIFICATE OF OCCUPANCY BY THE DEVELOPMENT SERVICES DEPARTMENT (INSIDE THE CITY LIMITS); OR INSTALLATION OF AN ELECTRIC OR WATER METER (IN THE FIVE-MILE ETJ)

DEVELOPER INFORMATION

_____
OWNER PHONE #

_____
OWNER ADDRESS

_____
OWNER'S REPRESENTATIVE RESPONSIBLE FOR PLAN ALTERATIONS PHONE #

_____
PERSON OR FIRM RESPONSIBLE FOR
EROSION/SEDIMENTATION CONTROL MAINTENANCE PHONE #

_____
PERSON OR FIRM RESPONSIBLE FOR
TREE/NATURAL AREA PROTECTION MAINTENANCE PHONE #

AMERICANS WITH DISABILITIES ACT

THE CITY OF AUSTIN HAS REVIEWED THIS PLAN FOR COMPLIANCE WITH CITY DEVELOPMENT REGULATIONS ONLY. THE APPLICANT, PROPERTY OWNER, AND OCCUPANT OF THE PREMISES ARE RESPONSIBLE FOR DETERMINING WHETHER THE PLAN COMPLIES WITH ALL OTHER LAWS, REGULATIONS, AND RESTRICTIONS WHICH MAY BE APPLICABLE TO THE PROPERTY AND ITS USE.

APPENDIX P-1 – EROSION CONTROL NOTES (CITY OF AUSTIN)

1. THE CONTRACTOR SHALL INSTALL EROSION/SEDIMENTATION CONTROLS, TREE/NATURAL AREA PROTECTIVE FENCING, AND CONDUCT "PRE-CONSTRUCTION" TREE FERTILIZATION (IF APPLICABLE) PRIOR TO ANY SITE PREPARATION WORK (CLEARING, GRUBBING OR EXCAVATION).

2. THE PLACEMENT OF EROSION/SEDIMENTATION CONTROLS SHALL BE IN ACCORDANCE WITH THE ENVIRONMENTAL CRITERIA MANUAL AND THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN. THE COA ESC PLAN SHALL BE CONSULTED AND USED AS THE BASIS FOR A TPDES REQUIRED SWPPP. IF A SWPPP IS REQUIRED, IT SHALL BE AVAILABLE FOR REVIEW BY THE CITY OF AUSTIN ENVIRONMENTAL INSPECTOR AT ALL TIMES DURING CONSTRUCTION, INCLUDING AT THE PRE-CONSTRUCTION MEETING.

3. THE PLACEMENT OF TREE/NATURAL AREA PROTECTIVE FENCING SHALL BE IN ACCORDANCE WITH THE CITY OF AUSTIN STANDARD NOTES FOR TREE AND NATURAL AREA PROTECTION AND THE APPROVED GRADING/TREE AND NATURAL AREA PLAN.

4. A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD ON-SITE WITH THE CONTRACTOR, DESIGN ENGINEER/PERMIT APPLICANT AND ENVIRONMENTAL INSPECTOR AFTER INSTALLATION OF THE EROSION/SEDIMENTATION CONTROLS, TREE/NATURAL AREA PROTECTION MEASURES AND "PRE-CONSTRUCTION" TREE FERTILIZATION (IF APPLICABLE) PRIOR TO BEGINNING ANY SITE PREPARATION WORK. THE OWNER OR OWNER'S REPRESENTATIVE SHALL NOTIFY THE DEVELOPMENT SERVICES DEPARTMENT, 512-974-2278 OR BY EMAIL AT ENVIRONMENTAL.INSPECTIONS@AUSTINTEXAS.GOV, AT LEAST THREE DAYS PRIOR TO THE MEETING DATE. COA APPROVED ESC PLAN AND TPDES SWPPP (IF REQUIRED) SHOULD BE REVIEWED BY COA EV INSPECTOR AT THIS TIME.

5. ANY MAJOR VARIATION IN MATERIALS OR LOCATIONS OF CONTROLS OR FENCES FROM THOSE SHOWN ON THE APPROVED PLANS WILL REQUIRE A REVISION AND MUST BE APPROVED BY THE REVIEWING ENGINEER, ENVIRONMENTAL SPECIALIST OR CITY ARBORIST AS APPROPRIATE. MAJOR REVISIONS MUST BE APPROVED BY AUTHORIZED COA STAFF. MINOR CHANGES TO BE MADE AS FIELD REVISIONS TO THE EROSION AND SEDIMENTATION CONTROL PLAN MAY BE REQUIRED BY THE ENVIRONMENTAL INSPECTOR DURING THE COURSE OF CONSTRUCTION TO CORRECT CONTROL INADEQUACIES.

6. THE CONTRACTOR IS REQUIRED TO PROVIDE A CERTIFIED INSPECTOR THAT IS EITHER A LICENSED ENGINEER (OR PERSON DIRECTLY SUPERVISED BY THE LICENSED ENGINEER) OR CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (CPESC OR CPESC – IT), CERTIFIED EROSION, SEDIMENT AND STORMWATER – INSPECTOR (CESSWI OR CESSWI – IT) OR CERTIFIED INSPECTOR OF SEDIMENTATION AND EROSION CONTROLS (CISEC OR CISEC – IT) CERTIFICATION TO INSPECT THE CONTROLS AND FENCES AT WEEKLY OR BI-WEEKLY INTERVALS AND AFTER ONE-HALF (½) INCH OR GREATER RAINFALL EVENTS TO INSURE THAT THEY ARE FUNCTIONING PROPERLY. THE PERSON(S) RESPONSIBLE FOR MAINTENANCE OF CONTROLS AND FENCES SHALL IMMEDIATELY MAKE ANY NECESSARY REPAIRS TO DAMAGED AREAS. SILT ACCUMULATION AT CONTROLS MUST BE REMOVED WHEN THE DEPTH REACHES SIX (6) INCHES OR ONE-THIRD (⅓) OF THE INSTALLED HEIGHT OF THE CONTROL WHICHEVER IS LESS.

7. PRIOR TO FINAL ACCEPTANCE BY THE CITY, HAUL ROADS AND WATERWAY CROSSINGS CONSTRUCTED FOR TEMPORARY CONSTRUCTION ACCESS MUST BE REMOVED, ACCUMULATED SEDIMENT REMOVED FROM THE WATERWAY AND THE AREA RESTORED TO THE ORIGINAL GRADE AND REVEGETATED. ALL LAND CLEARING DEBRIS SHALL BE DISPOSED OF IN APPROVED SPOIL DISPOSAL SITES.

8. ALL WORK MUST STOP IF A VOID IN THE ROCK SUBSTRATE IS DISCOVERED WHICH IS; ONE SQUARE FOOT IN TOTAL AREA; BLOWS AIR FROM WITHIN THE SUBSTRATE AND/OR CONSISTENTLY RECEIVES WATER DURING ANY RAIN EVENT. AT THIS TIME IT IS THE RESPONSIBILITY OF THE PROJECT MANAGER TO IMMEDIATELY CONTACT A CITY OF AUSTIN ENVIRONMENTAL INSPECTOR FOR FURTHER INVESTIGATION.

9. TEMPORARY AND PERMANENT EROSION CONTROL: ALL DISTURBED AREAS SHALL BE RESTORED AS NOTED BELOW:

A. ALL DISTURBED AREAS TO BE REVEGETATED ARE REQUIRED TO PLACE A MINIMUM OF SIX (6) INCHES OF TOPSOIL [SEE STANDARD SPECIFICATION ITEM NO. 601S.3(A)]. DO NOT ADD TOPSOIL WITHIN THE CRITICAL ROOT ZONE OF EXISTING TREES.

- TOPSOIL SALVAGED FROM THE EXISTING SITE IS ENCOURAGED FOR USE, BUT IT SHOULD MEET THE STANDARDS SET FORTH IN 601S.

  AN OWNER/ENGINEER MAY PROPOSE USE OF ONSITE SALVAGED TOPSOIL WHICH DOES NOT MEET THE CRITERIA OF STANDARD SPECIFICATION 601S BY PROVIDING A SOIL ANALYSIS AND A WRITTEN STATEMENT FROM A QUALIFIED PROFESSIONAL IN SOILS, LANDSCAPE ARCHITECTURE, OR AGRONOMY INDICATING THE ONSITE TOPSOIL WILL PROVIDE AN EQUIVALENT GROWTH MEDIA AND SPECIFYING WHAT, IF ANY, SOIL AMENDMENTS ARE REQUIRED.

- SOIL AMENDMENTS SHALL BE WORKED INTO THE EXISTING ONSITE TOPSOIL WITH A DISC OR TILLER TO CREATE A WELL-BLENDED MATERIAL.

THE VEGETATIVE STABILIZATION OF AREAS DISTURBED BY CONSTRUCTION SHALL BE AS FOLLOWS:

TEMPORARY VEGETATIVE STABILIZATION:

1. FROM SEPTEMBER 15 TO MARCH 1, SEEDING SHALL BE WITH OR INCLUDE A COOL SEASON COVER CROP: (WESTERN WHEATGRASS (PASCOPYRUM SMITHII) AT 5.6 POUNDS PER ACRE, OATS (AVENA SATIVA) AT 4.0 POUNDS PER ACRE, CEREAL RYE GRAIN (SECALE CEREALE) AT 45 POUNDS PER ACRE. CONTRACTOR MUST ENSURE THAT ANY SEED APPLICATION REQUIRING A COOL SEASON COVER CROP DOES NOT UTILIZE ANNUAL RYEGRASS (LOLIUM MULTIFLORUM) OR PERENNIAL RYEGRASS (LOLIUM PERENNE). COOL SEASON COVER CROPS ARE NOT PERMANENT EROSION CONTROL.

2. FROM MARCH 2 TO SEPTEMBER 14, SEEDING SHALL BE WITH HULLED BERMUDA AT A RATE OF 45 POUNDS PER ACRE OR A NATIVE PLANT SEED MIX CONFORMING TO ITEM 604S OR 609S.

A. FERTILIZER SHALL BE APPLIED ONLY IF WARRANTED BY A SOIL TEST AND SHALL CONFORM TO ITEM NO. 606S, FERTILIZER. FERTILIZATION SHOULD NOT OCCUR WHEN RAINFALL IS EXPECTED OR DURING SLOW PLANT GROWTH OR DORMANCY. CHEMICAL FERTILIZER MAY NOT BE APPLIED IN THE CRITICAL WATER QUALITY ZONE.

B. HYDROMULCH SHALL COMPLY WITH TABLE 1, BELOW.

C. TEMPORARY EROSION CONTROL SHALL BE ACCEPTABLE WHEN THE GRASS HAS GROWN AT LEAST 1½ INCHES HIGH WITH A MINIMUM OF 95% TOTAL COVERAGE SO THAT ALL AREAS OF A SITE THAT RELY ON VEGETATION FOR TEMPORARY STABILIZATION ARE UNIFORMLY VEGETATED, AND PROVIDED THERE ARE NO BARE SPOTS LARGER THAN 10 SQUARE FEET.

D. WHEN REQUIRED, NATIVE PLANT SEEDING SHALL COMPLY WITH REQUIREMENTS OF THE CITY OF AUSTIN ENVIRONMENTAL CRITERIA MANUAL, AND STANDARD SPECIFICATION 604S OR 609S.

TABLE 1: HYDROMULCHING FOR TEMPORARY VEGETATIVE STABILIZATION

MATERIAL	DESCRIPTION	LONGETIVITY	TYPICAL APPLICATIONS	APPLICATION RATES
100% OR ANY BLEND OF WOOD, CELLULOSE, STRAW, AND/OR COTTON PLANT MATERIAL (EXCEPT NO MULCH SHALL EXCEED 30% PAPER)	70% OR GREATER WOOD/STRAW 30% OR LESS PAPER OR NATURAL FIBERS	0-3 MONTHS	MODERATE SLOPES; FROM FLAT TO 3:1	1500 TO 2000 LBS PER ACRE

APPENDIX P-1 – EROSION CONTROL NOTES CONTINUED (CITY OF AUSTIN)

PERMANENT VEGETATIVE STABILIZATION:

7. FROM SEPTEMBER 15 TO MARCH 1, SEEDING IS CONSIDERED TO BE TEMPORARY STABILIZATION ONLY. IF COOL SEASON COVER CROPS EXIST WHERE PERMANENT VEGETATIVE STABILIZATION IS DESIRED, THE GRASSES SHALL BE MOWED TO A HEIGHT OF LESS THAN ONE-HALF (½) INCH AND THE AREA SHALL BE RE-SEEDED IN ACCORDANCE WITH TABLE 2 BELOW. ALTERNATIVELY, THE COOL SEASON COVER CROP CAN BE MIXED WITH BERMUDAGRASS OR NATIVE SEED AND INSTALLED TOGETHER, UNDERSTANDING THAT GERMINATION OF WARM-SEASON SEED TYPICALLY REQUIRES SOIL TEMPERATURES OF 60 TO 70 DEGREES.

8. FROM MARCH 2 TO SEPTEMBER 14, SEEDING SHALL BE WITH HULLED BERMUDA AT A RATE OF 45 POUNDS PER ACRE WITH A PURITY OF 95% AND A MINIMUM PURE LIVE SEED (PLS) OF 0.83. BERMUDA GRASS IS A WARM SEASON GRASS AND IS CONSIDERED PERMANENT EROSION CONTROL. PERMANENT VEGETATIVE STABILIZATION CAN ALSO BE ACCOMPLISHED WITH A NATIVE PLANT SEED MIX CONFORMING TO ITEM 604S OR 609S.

A. FERTILIZER USE SHALL FOLLOW THE RECOMMENDATION OF A SOIL TEST. SEE ITEM 606S, FERTILIZER. APPLICATIONS OF FERTILIZER (AND PESTICIDE) ON CITY-OWNED AND MANAGED PROPERTY REQUIRES THE YEARLY SUBMITTAL OF A PESTICIDE AND FERTILIZER APPLICATION RECORD, ALONG WITH A CURRENT COPY OF THE APPLICATOR'S LICENSE. FOR CURRENT COPY OF THE RECORD TEMPLATE CONTACT THE CITY OF AUSTIN'S IPM COORDINATOR.

B. HYDROMULCH SHALL COMPLY WITH TABLE 2, BELOW.

C. WATER THE SEEDED AREAS IMMEDIATELY AFTER INSTALLATION TO ACHIEVE GERMINATION AND A HEALTHY STAND OF PLANTS THAT CAN ULTIMATELY SURVIVE WITHOUT SUPPLEMENTAL WATER. APPLY THE WATER UNIFORMLY TO THE PLANTED AREAS WITHOUT CAUSING DISPLACEMENT OR EROSION OF THE MATERIALS OR SOIL. MAINTAIN THE SEEDBED IN A MOIST CONDITION FAVORABLE FOR PLANT GROWTH. ALL WATERING SHALL COMPLY WITH CITY CODE CHAPTER 6-4 (WATER CONSERVATION). AT RATES AND FREQUENCIES DETERMINED BY A LICENSED IRRIGATOR OR OTHER QUALIFIED PROFESSIONAL, AND AS ALLOWED BY THE AUSTIN WATER UTILITY AND CURRENT WATER RESTRICTIONS AND W

0 25' 50' 100'

Scale: 1" = 50'

EXISTING CONDITIONS LEGEND

CWQZ	CRITICAL WATER QUALITY ZONE
WQTZ	WATER QUALITY TRANSITION ZONE
PL	SETBACK BOUNDARY
	CONCRETE
	EXIST. GRAVEL
	EXIST. FENCE
0000	EXIST. TREE

EXISTING CONDITIONS NOTES:

1. REFERENCE SHEET C101 FOR EXISTING TREE LIST
2. THE TOPOGRAPHIC SURVEY WAS PERFORMED BY SURVEY WORKS FIRM# 10194157 ON JULY 18 2019.

I CERTIFY THAT THESE ENGINEERING DOCUMENTS ARE COMPLETE, ACCURATE AND ADEQUATE FOR THEIR INTENDED PURPOSES, INCLUDING CONSTRUCTION, BUT ARE NOT AUTHORIZED FOR CONSTRUCTION PRIOR TO FORMAL CITY APPROVAL.

SITE PLAN APPROVAL SHEET 3 OF 63
FILE NUMBER: SPC-2021-0195C APPLICATION DATE: 05/20/2021
APPROVED BY COMMISSION ON _____ UNDER SECTION 112 OF CHAPTER 25-5 OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE(25-5-81, LDC)_____ CASE MANAGER R. AVILA
PROJECT EXPIRATION DATE (ORD. #970905-A)_____DMPZ_____DDZ__X__

Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE:_____ZONING LO-MU-CO
Rev. 1 _____Correction 1 _____
Rev. 2 _____Correction 2 _____
Rev. 3 _____Correction 3 _____

Final Plat must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction (if a building permit is not required), must also be approved prior to the Project Expiration Date.

ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN REVIEWING THESE PLANS, THE CITY OF AUSTIN MUST RELY UPON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.

dwA

23 DEC 2022

STATE OF TEXAS
BRIAN LEE WELLS
89517
LICENSED
PROFESSIONAL ENGINEER

mwm Design Group
305 East Huntland Drive
Suite 200
Austin, Texas 78752
p: 512.453.0767
f: 512.453.1734
TBAE FIRM REGISTRATION NO.: 1452
TBPE FIRM REGISTRATION NO.: F-1416
TBPLS FIRM REGISTRATION NO.: 10065600

NO.	DATE	DESCRIPTION	BY

0 1"

The bar above measures one inch on the original drawing. Adjust scales accordingly.

EXISTING CONDITIONS

KAALO STUDIO
7901 RM 2222
Austin, Texas 78730

PLOTTED: 12/23/2022
JOB NO: 864-01

C100

3 OF 63

SPC-2021-0195C

File: Y:_864-01_kaalo_Studio\CAD\Sheets\C100-EX_COND.dwg 24x36

TREE TABLE	
TREE #	DESCRIPTION
3000	7" LIVE OAK
3001	14" HACKBERRY 10 8
3002	11" CEDAR ELM
3003	16" LIVE OAK 11 10
3004	11" CEDAR ELM
3005	9" LIVE OAK
3006	9" LIVE OAK
3007	9" LIVE OAK
3008	10" LIVE OAK 7 6
3009	11" LIVE OAK 8 6
3010	23.5" JUNIPER
3011	8" LIVE OAK
C2	CLUSTER/4LO 5-11
3013	11" LIVE OAK
3014	8" LIVE OAK
3015	8" LIVE OAK
3016	7" CEDAR ELM
3017	8" LIVE OAK
3018	10" CEDAR ELM
3019	9" CEDAR ELM
3020	15" LIVE OAK
3021	11" LIVE OAK
C1	CLUSTER/4CE3-4
3023	8" CEDAR ELM
3024	16" CEDAR
3025	12" LIVE OAK
3026	15" CEDAR 10 10
*3027	10" CEDAR 7 6
*3028	8" CEDAR
3029	13" CEDAR 7 6 6
3030	22" JUNIPER 9 9 9 8
3031	16" CEDAR 9 8 5
3032	10" CEDAR ELM
3033	7" CEDAR
3034	13" CEDAR 9 7
3035	7" CEDAR
3036	9" CEDAR 6 6
3037	10" CEDAR 7 5
*3038	9" CEDAR 6 5
*3039	19" CEDAR 7 6 5 5 4 4
*3040	11" CEDAR 8 6
*3041	10" CEDAR 7 6
3042	16" CEDAR 11 9
3043	9" CEDAR
3044	13" LIVE OAK
3045	7" LIVE OAK
3046	8" LIVE OAK
3047	8" LIVE OAK
*3048	14" CEDAR 10 7
*3049	11" CEDAR 7 7
*3050	10" CEDAR
*3051	8" CEDAR
*3052	8" CEDAR
*3053	16" LIVE OAK
*3054	11" CEDAR

TREE TABLE	
TREE #	DESCRIPTION
*3055	13" CEDAR 8 5 4
*3056	9" CEDAR
*3057	9" LIVE OAK
*3058	9" LIVE OAK
*3059	8" LIVE OAK
*3060	9" LIVE OAK
*3061	12" CEDAR
*3062	12" CEDAR
*3063	10" LIVE OAK
*3064	8" LIVE OAK
*3065	7" LIVE OAK
*3066	6" LIVE OAK
*3067	12" CEDAR
*3068	17" CEDAR
*3069	11" CEDAR
*3070	6" CEDAR
*3071	14" CEDAR 10 8
*3072	7" CEDAR
*3073	9" CEDAR
*3074	10" CEDAR
*3075	13" LIVE OAK
*3076	13" CEDAR
*3077	13" LIVE OAK 9 8
*3078	16" CEDAR
3079	11" LIVE OAK
3080	16" LIVE OAK 11 9
3081	15" RED OAK 10 10
3082-H	24" LIVE OAK
*3083	22" LIVE OAK 15 12
*3084	21" LIVE OAK 16 13
*3085	8" LIVE OAK
*3086	13" LIVE OAK 9 7
*3087	11" LIVE OAK
*3088	8" LIVE OAK
*3089	13" CEDAR
*3090	11" CEDAR
*3091	9" CEDAR
*3092	8" CEDAR
*3093	9" CEDAR
*3094	9" CEDAR
*3095	9" LIVE OAK
*3096	13" LIVE OAK 10 6
*3097	12" LIVE OAK 8 7
*3098	9" LIVE OAK
*3099	10" CEDAR
*3100	9" CEDAR
*3101	12" CEDAR
*3102	13" CEDAR
*3103	12" CEDAR
*3104	9" CEDAR
*3105	10" CEDAR
*3106	9" CEDAR
3107	17" LIVE OAK 11 11
3108	22" LIVE OAK 15 14
3109	7" LIVE OAK

TREE TABLE	
TREE #	DESCRIPTION
3110	12" CEDAR
3111	8" CEDAR
3112	11" CEDAR
3113	10" CEDAR
3114	18" LIVE OAK
3115	15" LIVE OAK
3116	9" LIVE OAK
3117	9" CEDAR NOS
3118	15" LIVE OAK
3119	10" CEDAR
3120	9" CEDAR
3121	9" CEDAR
3122	10" LIVE OAK 7 5
3123	16" CEDAR 11 9
3124	8" CEDAR
3125	11" CEDAR
3126	10" CEDAR
3127	18" CEDAR 14 8
3128	13" CEDAR 9 8
3129	8" CEDAR
3130	8" LIVE OAK
3131	9" CEDAR
3135	12" CEDAR NOS
3136	6" LIVE OAK
3137	12" LIVE OAK 8 7
3138	14" LIVE OAK
3139	7" LIVE OAK
3140	9" CEDAR
3141	11" CEDAR
3142	6" LIVE OAK
3143	14" CEDAR
3144	13" CEDAR
*3145	27" JUNIPER
3146	10" CEDAR
3147	12" CEDAR
3148	10" CEDAR
3149	16" LIVE OAK
3150	19" LIVE OAK 13 11
3151	11" CEDAR
3152	17" LIVE OAK
3153	10" CEDAR
3154	9" CEDAR
3155	8" CEDAR
3156	9" CEDAR
3157	10" CEDAR
3158	9" CEDAR
3159	8" LIVE OAK
3160	12" LIVE OAK
3161	8" CEDAR
3162	9" CEDAR
3163	9" CEDAR
3164	9" CEDAR
3165	10" CEDAR
3166	9" LIVE OAK 7 4
3167	8" CEDAR

TREE TABLE	
TREE #	DESCRIPTION
3168	6" LIVE OAK
3169	9" LIVE OAK
3170	7" LIVE OAK
3171	10" CEDAR
3172	11" CEDAR
3173	14" LIVE OAK 10 8
3174	8" LIVE OAK
3175	6" LIVE OAK NOS
3176	8" LIVE OAK NOS
3177	6" LIVE OAK
3178	10" LIVE OAK 7 6
3179	11" CEDAR
3180	13" RED OAK
3181	14" LIVE OAK
3182	9" CEDAR
3183	11" CEDAR
3184	8" CEDAR
3185	9" RED OAK
3186	17" RED OAK 9 8 7 NOS
3187	6" LIVE OAK
3188	10" CEDAR
3189	10" CEDAR
3190	9" CEDAR NOS
3191	10" CEDAR
3192	10" CEDAR
3193	8" CEDAR
3194	14" LIVE OAK
3195	9" CEDAR
3196	10" LIVE OAK
3197	9" CEDAR
3198	11" CEDAR
3199	10" CEDAR
3200	10" CEDAR
3201	15" CEDAR 11 7
3202	12" CEDAR
3203	11" CEDAR
3204	12" LIVE OAK 8 7
3205	15" CEDAR 11 9
3206	10" CEDAR
3207	9" CEDAR
3208	7" LIVE OAK
3209	8" LIVE OAK 6 4
3210	12" LIVE OAK
3211	9" CEDAR
3212	8" CEDAR
3213	8" CEDAR
3214	11" CEDAR
3215	10" CEDAR
3216	8" CEDAR
3217	10" CEDAR
3218	10" CEDAR
3219	13" LIVE OAK 7 6 5
3220	9" CEDAR
3221	9" CEDAR NOS
3222	8" CEDAR

TREE TABLE	
TREE #	DESCRIPTION
3223	11" CEDAR
3224	17" CEDAR
3225	10" CEDAR
3226	11" CEDAR
3227	12" CEDAR
3228	7" LIVE OAK
3229	15" CEDAR 10 9
3230	8" CEDAR
3231	8" CEDAR
3232	10" CEDAR
3233	11" LIVE OAK 8 5
3234	7" LIVE OAK
3235	7" LIVE OAK
3236	10" CEDAR
3237	11" CEDAR
3238	9" CEDAR
3239	12" CEDAR 9 6
3240	9" CEDAR 6 5
C4	CLUSTER /LO X5 AT 2-5 IN
3242	6" LIVE OAK
3243	8" CEDAR
3244	8" CEDAR
3245	10" CEDAR
3246	8" CEDAR
3247	6" LIVE OAK
3248	6" LIVE OAK
C3	CLUSTER/ 5 LO 4-5 IN
3250	8" CEDAR MULTI
3251	10" LIVE OAK
3252	11" CEDAR
3253	8" LIVE OAK
3254	16" CEDAR
3255	12" CEDAR
3256	18" LIVE OAK 14 7
3257	11" LIVE OAK
3258	10" LIVE OAK
3259	8" CEDAR
3260	11" CEDAR
3261	11" CEDAR
3262	8" LIVE OAK
3263	11" LIVE OAK
3264	9" CEDAR MULTI
3265	9" CEDAR
3266	8" LIVE OAK
3267	10" LIVE OAK
3268	9" LIVE OAK
3269	13" LIVE OAK
3270	11" LIVE OAK
3271	8" SPANISH OAK
3272	9" CEDAR
3273	9" LIVE OAK
3274	12" CEDAR
3275	7" LIVE OAK
3276	6" LIVE OAK
3277	10" CEDAR

TREE TABLE	
TREE #	DESCRIPTION
3278	9" CEDAR
C5	CLUSTER/3 LO 2-3 IN
3280	10" CEDAR
3281	11" CEDAR
3282	6" LIVE OAK
3283	13" CEDAR 8
3284	9" LIVE OAK
3285	9" CEDAR
3286	7" LIVE OAK
3287	9" CEDAR
3288	8" CEDAR NOS
3289	11" CEDAR
3290	12" CEDAR
3291	11" LIVE OAK
3292	9" LIVE OAK
3293	9" CEDAR
3294	19" CEDAR 10 9 8
3295	9" LIVE OAK 6 5
3296	7" LIVE OAK
3297	19.5" JUNIPER
3298	16" CEDAR
3299	10" CEDAR
3300	8" LIVE OAK
3301	10" CEDAR
C7	CLUSTER/X5 LO 3-7 IN
3303	8" CEDAR
3304	7" LIVE OAK
3305	8" LIVE OAK
3306	6" LIVE OAK
3307	7" LIVE OAK
C6	CLUSTER/X6 LO 4-7 IN
3309	12" LIVE OAK
3310	12" LIVE OAK
3311	13" CEDAR
3312	7" LIVE OAK
3313	9" CEDAR
3314	10" CEDAR
3315	10" CEDAR
3316	8" CEDAR
3317	9" CEDAR
3318	10" LIVE OAK
3319	10" CEDAR
3320	9" CEDAR
3321	8" CEDAR
3322	12" CEDAR
3323	14" CEDAR 9 9
3324	10" CEDAR
3325	6" LIVE OAK
3326	8" CEDAR
3327	9" CEDAR
3328	9" CEDAR
3329	9" CEDAR
3330	6" LIVE OAK
3331	9" LIVE OAK
3332	16" CEDAR 11 9

TREE TABLE	
TREE #	DESCRIPTION
3333	8" CEDAR
3334	12" CEDAR 8 8
3335	9" CEDAR
3336	18" CEDAR 10 8 8
3337	10" CEDAR
3338	8" CEDAR
3339	7" LIVE OAK
3340	8" CEDAR
3341	9" CEDAR
3342	8" CEDAR
3343	12" CEDAR 8 8
3344	11" CEDAR
3345	8" CEDAR
3346	10" CEDAR
3347	10" CEDAR
3348	8" CEDAR
3349	7" LIVE OAK
3350	8" CEDAR
3351	10" LIVE OAK
3352	7" LIVE OAK
3353	9" LIVE OAK
3354	10" LIVE OAK
3355	9" LIVE OAK
3356	8" CEDAR
3357	14" CEDAR
3358	11" CEDAR
3359	8" CEDAR
3360	11" CEDAR
3361	8" CEDAR
3362	8" CEDAR
*3363	8" CEDAR

-H DESIGNATES HERITAGE TREE
* DESIGNATES TREES TO BE REMOVED

TREE LIST NOTES:
1. THE TREE SURVEY WAS PERFORMED BY SURVEY WORKS FIRM# 10194157 ON JULY 18 2019.
2. SEE LANDSCAPE PLAN FOR TREE REMOVAL AND MITIGATION.

I CERTIFY THAT THESE ENGINEERING DOCUMENTS ARE COMPLETE, ACCURATE AND ADEQUATE FOR THEIR INTENDED PURPOSES, INCLUDING CONSTRUCTION, BUT ARE NOT AUTHORIZED FOR CONSTRUCTION PRIOR TO FORMAL CITY APPROVAL.

SITE PLAN APPROVAL SHEET 4 OF 63
FILE NUMBER: SPC-2021-0195C APPLICATION DATE: 05/20/2021
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PROJECT EXPIRATION DATE (ORD. #970905-A)_____DMPZ_____DDZ__X___

Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE:_____ZONING LO-MU-CO
Rev. 1 _____Correction 1 _____
Rev. 2 _____Correction 2 _____
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dwA

23 DEC 2022
STATE OF TEXAS
BRIAN LEE WELLS
89517
LICENSED
PROFESSIONAL ENGINEER

mwm Design Group
305 East Huntland Drive
Suite 200
Austin, Texas 78752
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f: 512.453.1734

TBAE FIRM REGISTRATION NO.: 1452
TBPE FIRM REGISTRATION NO.: F-1416
TBPLS FIRM REGISTRATION NO.: 10065600

NO.	DATE	DESCRIPTION	BY

0 1"
The bar above measures one inch on the original drawing. Adjust scales accordingly.

TREE LIST

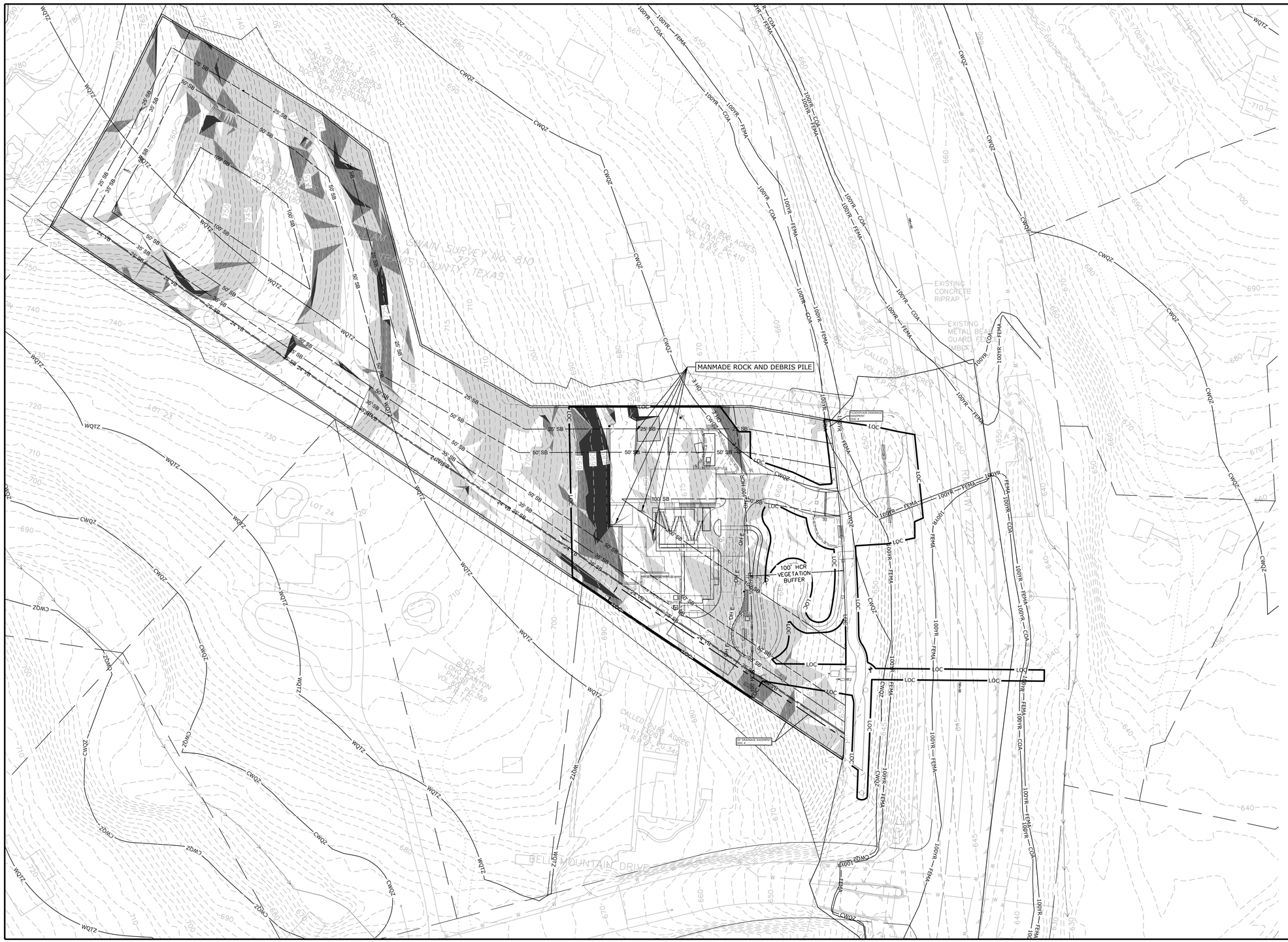
KAALO STUDIO
7901 RM 2222
Austin, Texas 78730

PLOTTED: 12/23/2022
JOB NO: 864-01

C101
4 OF 63

SPC-2021-0195C

File: Y:_864-01_kaalo_Studio\CAD\Sheets\C100-EX_COND.dwg 24x36



0 25' 50' 100'

Scale: 1" = 50'

SLOPE TABLE

RANGE	MINIMUM SLOPE	MAXIMUM SLOPE	AREA (SF)	COLOR
1	0.00%	15.00%	109449.10	
2	15.00%	25.00%	73094.94	
3	25.00%	35.00%	16793.55	
4	35.00%		6446.15	

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SLOPE MAP

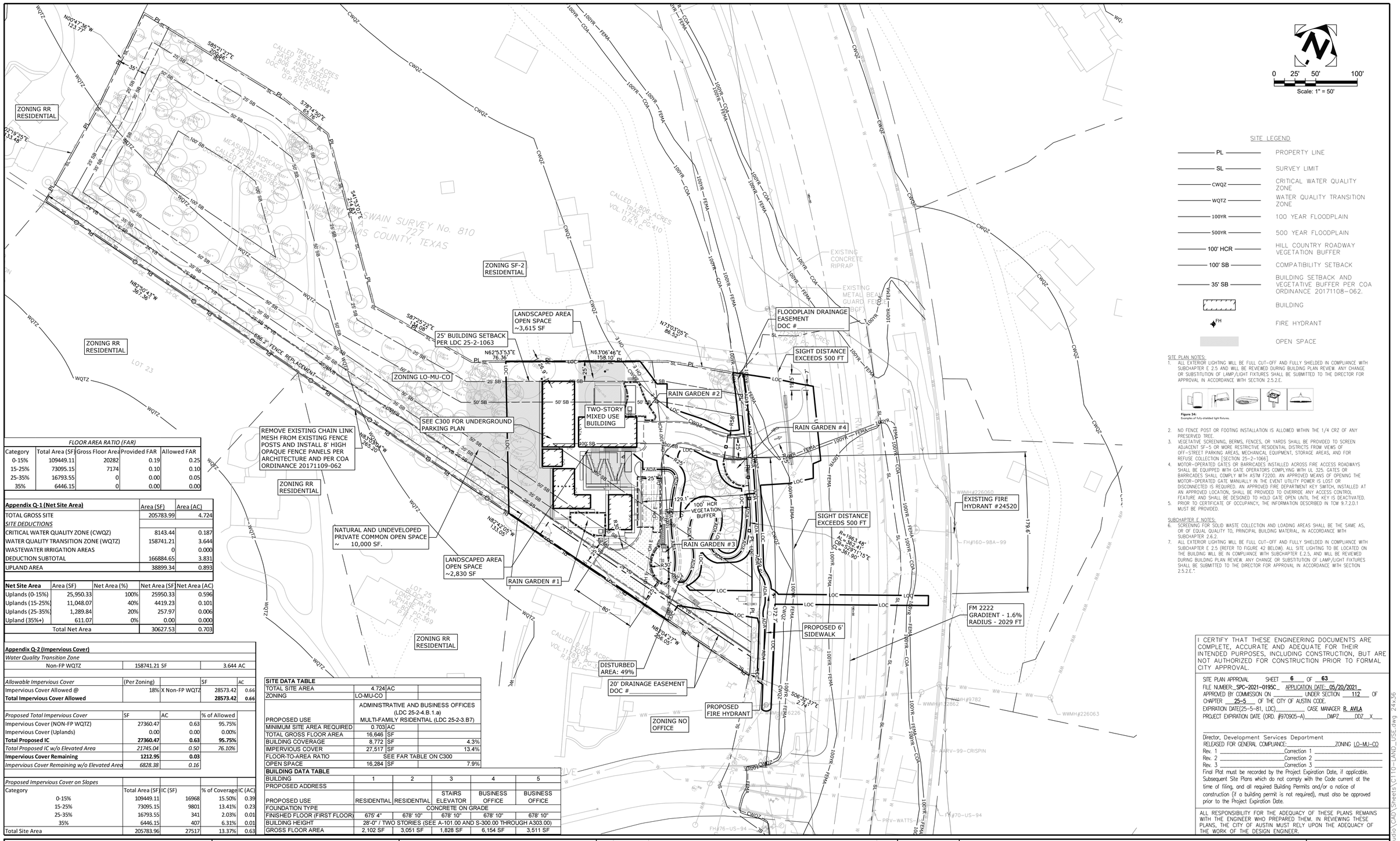
KAALO STUDIO
7901 RM 2222
Austin, Texas 78730

PLOTTED: 12/23/2022
JOB NO: 864-01

C102
5 OF 63

SPC-2021-0195C

File: Y:_864-01_kaalo_Studio\CAD\Sheets\C102-SLOPE_MAP.dwg 24x36



SITE LEGEND

PL	PROPERTY LINE
SL	SURVEY LIMIT
CWQZ	CRITICAL WATER QUALITY ZONE
WQTZ	WATER QUALITY TRANSITION ZONE
100YR	100 YEAR FLOODPLAIN
500YR	500 YEAR FLOODPLAIN
100' HCR	HILL COUNTRY ROADWAY VEGETATION BUFFER
100' SB	COMPATIBILITY SETBACK
35' SB	BUILDING SETBACK AND VEGETATIVE BUFFER PER COA ORDINANCE 20171108-062.
	BUILDING
FH	FIRE HYDRANT
	OPEN SPACE

SITE PLAN NOTES:

1. ALL EXTERIOR LIGHTING WILL BE FULL CUT-OFF AND FULLY SHIELDED IN COMPLIANCE WITH SUBCHAPTER E 2.5 AND WILL BE REVIEWED DURING BUILDING PLAN REVIEW. ANY CHANGE OR SUBSTITUTION OF LAMP/LIGHT FIXTURES SHALL BE SUBMITTED TO THE DIRECTOR FOR APPROVAL IN ACCORDANCE WITH SECTION 2.5.2.E.

Figure 34: Examples of fully-shielded light fixtures.

2. NO FENCE POST OR FOOTING INSTALLATION IS ALLOWED WITHIN THE 1/4 CRZ OF ANY PRESERVED TREE.
3. VEGETATIVE SCREENING, BERMS, FENCES, OR YARDS SHALL BE PROVIDED TO SCREEN ADJACENT SF-5 OR MORE RESTRICTIVE RESIDENTIAL DISTRICTS FROM VIEWS OF OFF-STREET PARKING AREAS, MECHANICAL EQUIPMENT, STORAGE AREAS, AND FOR REFUSE COLLECTION [SECTION 25-2-1066].
4. MOTOR-OPERATED GATES OR BARRICADES INSTALLED ACROSS FIRE ACCESS ROADWAYS SHALL BE EQUIPPED WITH GATE OPERATORS COMPLYING WITH UL 325. GATES OR BARRICADES SHALL COMPLY WITH ASTM F2200. AN APPROVED MEANS OF OPENING THE MOTOR-OPERATED GATE MANUALLY IN THE EVENT UTILITY POWER IS LOST OR DISCONNECTED IS REQUIRED. AN APPROVED FIRE DEPARTMENT KEY SWITCH, INSTALLED AT AN APPROVED LOCATION, SHALL BE PROVIDED TO OVERRIDE ANY ACCESS CONTROL FEATURE AND SHALL BE DESIGNED TO HOLD GATE OPEN UNTIL THE KEY IS DEACTIVATED.
5. PRIOR TO CERTIFICATE OF OCCUPANCY, THE INFORMATION DESCRIBED IN TCM 9.7.2.D.1 MUST BE PROVIDED.

SUBCHAPTER E NOTES:

6. SCREENING FOR SOLID WASTE COLLECTION AND LOADING AREAS SHALL BE THE SAME AS, OR OF EQUAL QUALITY TO, PRINCIPAL BUILDING MATERIAL, IN ACCORDANCE WITH SUBCHAPTER 2.6.2.
7. ALL EXTERIOR LIGHTING WILL BE FULL CUT-OFF AND FULLY SHIELDED IN COMPLIANCE WITH SUBCHAPTER E 2.5 (REFER TO FIGURE 42 BELOW). ALL SITE LIGHTING TO BE LOCATED ON THE BUILDING WILL BE IN COMPLIANCE WITH SUBCHAPTER E.2.5, AND WILL BE REVIEWED DURING BUILDING PLAN REVIEW. ANY CHANGE OR SUBSTITUTION OF LAMP/LIGHT FIXTURES SHALL BE SUBMITTED TO THE DIRECTOR FOR APPROVAL IN ACCORDANCE WITH SECTION 2.5.2.E.*.

FLOOR AREA RATIO (FAR)

Category	Total Area (SF)	Gross Floor Area	Provided FAR	Allowed FAR
0-15%	109449.11	20282	0.19	0.25
15-25%	73095.15	7174	0.10	0.10
25-35%	16793.55	0	0.00	0.05
35%	6446.15	0	0.00	0.00

Appendix Q-1 (Net Site Area)	Area (SF)	Area (AC)
TOTAL GROSS SITE	205783.99	4.724
SITE DEDUCTIONS		
CRITICAL WATER QUALITY ZONE (CWQZ)	8143.44	0.187
WATER QUALITY TRANSITION ZONE (WQTZ)	158741.21	3.644
WASTEWATER IRRIGATION AREAS	0	0.000
DEDUCTION SUBTOTAL	166884.65	3.831
UPLAND AREA	38899.34	0.893

Net Site Area	Area (SF)	Net Area (%)	Net Area (SF)	Net Area (AC)
Uplands (0-15%)	25,950.33	100%	25950.33	0.596
Uplands (15-25%)	11,048.07	40%	4419.23	0.101
Uplands (25-35%)	1,289.84	20%	257.97	0.006
Upland (35%+)	611.07	0%	0.00	0.000
Total Net Area			30627.53	0.703

Appendix Q-2 (Impervious Cover)				
Water Quality Transition Zone				
Non-FP WQTZ	158741.21 SF			3.644 AC
Allowable Impervious Cover	(Per Zoning)		SF	AC
Impervious Cover Allowed @	18%	X Non-FP WQTZ	28573.42	0.66
Total Impervious Cover Allowed			**28573.42**	**0.66**

Proposed Total Impervious Cover	SF	AC	% of Allowed
Impervious Cover (NON-FP WQTZ)	27360.47	0.63	95.75%
Impervious Cover (Uplands)	0.00	0.00	0.00%
Total Proposed IC	**27360.47**	**0.63**	**95.75%**
Total Proposed IC w/o Elevated Area	*21745.04*	*0.50*	*76.10%*
Impervious Cover Remaining	**1212.95**	**0.03**	
Impervious Cover Remaining w/o Elevated Area	*6828.38*	*0.16*	

Proposed Impervious Cover on Slopes				
Category	Total Area (SF)	IC (SF)	% of Coverage	IC (AC)
0-15%	109449.11	16968	15.50%	0.39
15-25%	73095.15	9801	13.41%	0.23
25-35%	16793.55	341	2.03%	0.01
35%	6446.15	407	6.31%	0.01
Total Site Area	205783.96	27517	13.37%	0.63

SITE DATA TABLE			
TOTAL SITE AREA	4.724	AC	
ZONING	LO-MU-CO		
PROPOSED USE	ADMINISTRATIVE AND BUSINESS OFFICES (LDC 25-2-4.B.1.a) MULTI-FAMILY RSIDENTIAL (LDC 25-2-3.B7)		
MINIMUM SITE AREA REQUIRED	0.703	AC	
TOTAL GROSS FLOOR AREA	16,646	SF	
BUILDING COVERAGE	8,772	SF	4.3%
IMPERVIOUS COVER	27,517	SF	13.4%
FLOOR-TO-AREA RATIO	SEE FAR TABLE ON C300		
OPEN SPACE	16,284	SF	7.9%

BUILDING DATA TABLE	1	2	3	4	5
BUILDING					
PROPOSED ADDRESS					
PROPOSED USE	RESIDENTIAL	RESIDENTIAL	STAIRS ELEVATOR	BUSINESS OFFICE	BUSINESS OFFICE
FOUNDATION TYPE	CONCRETE ON GRADE				
FINISHED FLOOR (FIRST FLOOR)	675' 4"	678' 10"	678' 10"	678' 10"	678' 10"
BUILDING HEIGHT	28'-0" / TWO STORIES (SEE A-101.00 AND S-300.00 THROUGH A303.00)				
GROSS FLOOR AREA	2,102 SF	3,051 SF	1,828 SF	6,154 SF	3,511 SF

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23 JAN 2023

STATE OF TEXAS — BRIAN LEE WELLS — 89517 — LICENSED PROFESSIONAL ENGINEER

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f: 512.453.1734

TBAE FIRM REGISTRATION NO.: 1452
TBPE FIRM REGISTRATION NO.: F-1416
TBPLS FIRM REGISTRATION NO.: 10065600

NO.	DATE	DESCRIPTION	BY

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LAND USE SITE PLAN

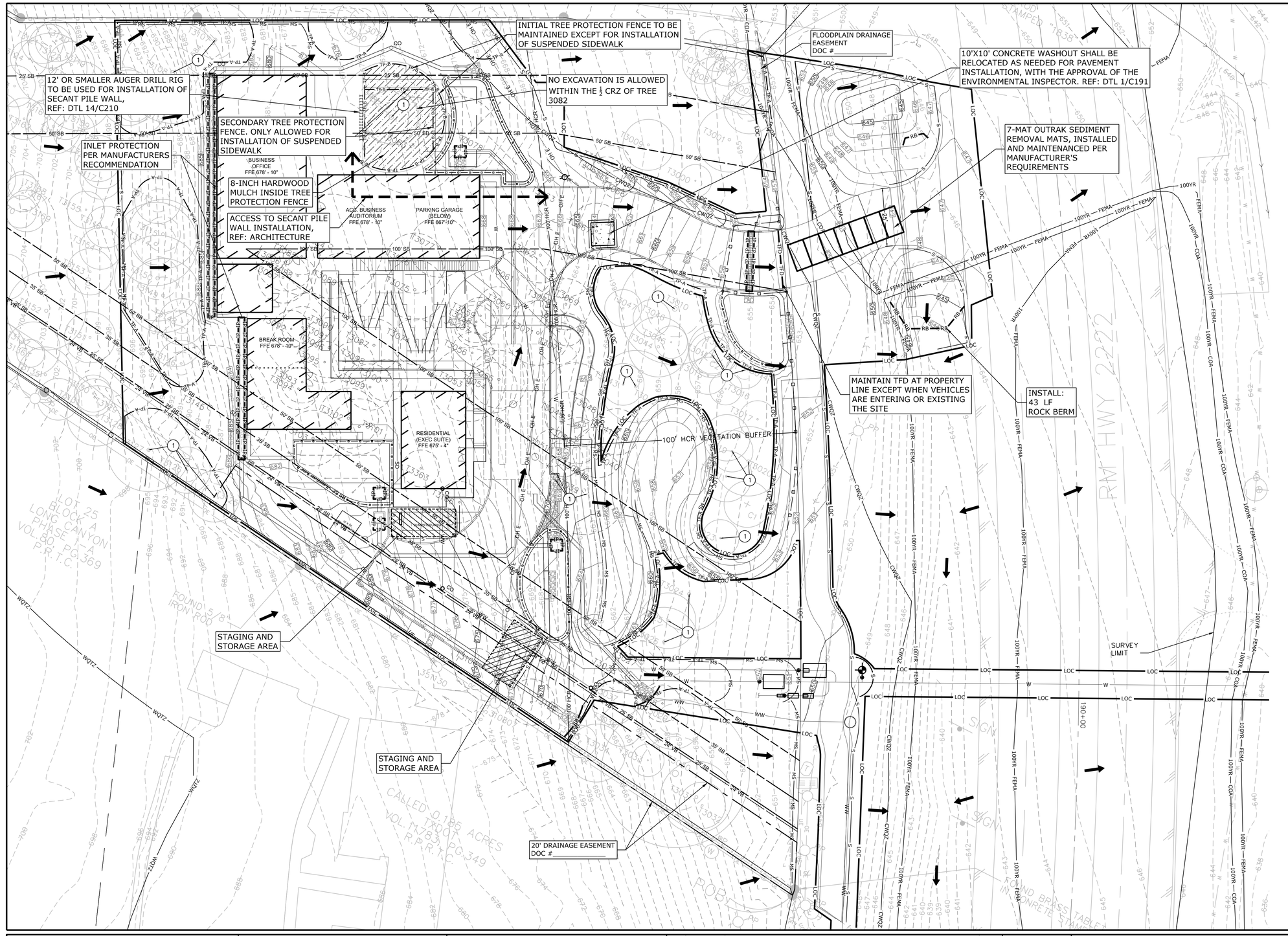
KAALO STUDIO
7901 RM 2222
Austin, Texas 78730

PLOTTED: 1/23/2023
JOB NO: 864-01

C110
6 OF 63

SPC-2021-0195C

File: X:\864-01_kaalo_Studio\C4D\Sheets\C110_LAND_USE.dwg 24x36



EROSION/SEDIMENTATION LEGEND

- SILT FENCE
- MULCH SOCK
- TREE PROTECTION FENCE – TYPE A
- TREE PROTECTION FENCE MODIFIED – TYPE B
- TRIANGULAR FILTER DIKE
- REINFORCED ROCK BERM
- STABILIZED CONSTRUCTION ENTRANCE

NOTES:

1. CONTRACTOR TO ADJUST EROSION CONTROL AS REQUIRED FOR FIELD CONDITIONS TO MEET THE INTENT OF THE CONSTRUCTION DOCUMENTS AND SWPPP.
2. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY BY THE CONTRACTOR.
3. THE STABILIZED CONSTRUCTION ENTRANCES SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAY.
4. ENVIRONMENTAL INSPECTOR HAS THE AUTHORITY TO ADD AND/OR MODIFY EROSION/SEDIMENTATION CONTROLS ON SITE TO KEEP PROJECT IN COMPLIANCE WITH THE CITY OF AUSTIN RULES AND REGULATIONS.
5. CONTRACTOR SHALL UTILIZE DUST CONTROL MEASURES (PER ECM 1.4.8.C.) DURING SITE CONSTRUCTION SUCH AS IRRIGATION TRUCKS AND MULCHING OR AS DIRECTED BY THE ENVIRONMENTAL INSPECTOR.
6. IF DISTURBED AREA IS NOT TO BE WORKED ON FOR MORE THAN 14 DAYS, DISTURBED AREA NEEDS TO BE STABILIZED BY REVEGETATION, MULCH, TARP OR REVEGETATION.
7. PRIOR TO EXCAVATION WITHIN TREE DRIP LINES, OR THE REMOVAL OF OTHER TREES THAT ARE TO REMAIN, MAKE A CLEAN CUT BETWEEN THE DISTURBED AND UNDISTURBED ROOT ZONES WITH A ROCK SAW OR SIMILAR EQUIPMENT TO MINIMIZE ROOT DAMAGE.
   A) IN CRITICAL ROOT ZONE AREAS THAT CANNOT BE PROTECTED DURING CONSTRUCTION WITH FENCING, AND WHERE HEAVY VEHICULAR TRAFFIC IS ANTICIPATED, COVER THOSE AREAS WITH FOUR (4) INCHES OF ORGANIC MULCH TO BE PRODUCED ON SITE, TO MINIMIZE SOIL COMPACTION.
   B) PERFORM ALL GRADING WITHIN CRITICAL ROOT ZONE AREAS WITH SMALL EQUIPMENT TO MINIMIZE ROOT DAMAGE.
   C) WATER ALL TREES MOST HEAVILY IMPACTED BY CONSTRUCTION ACTIVITIES DEEPLY AS NECESSARY DURING PERIOD OF HOT, DRY WEATHER. SPRAY TREE CROWNS WITH WATER PERIODICALLY TO REDUCE DUST ACCUMULATION ON THE LEAVES.
   D) WHEN INSTALLING CONCRETE ADJACENT TO THE ROOT ZONE OF A TREE, USE A PLASTIC VAPOR BARRIER BEHIND THE CONCRETE TO PROHIBIT LEACHING OF LIME INTO THE SOIL.
8. THE STAGING AND SPOILS AREA SHALL ONLY BE ALLOWED DURING THE CONSTRUCTION PERIOD. NO SPOILS SHALL REMAIN STAGED AFTER COMPLETION OF THE PROJECT.
9. ALL DISTURBED AREAS SHALL BE REVEGETATED WITH NATIVE GRASSES (REFER TO NOTE SHEET FOR SPECS). ALL DISTURBED AREAS WITH SLOPES 5:1 OR STEEPER, WHICH ARE NOT ARMORED OTHERWISE, SHALL HAVE A SOIL RETENTION BLANKET (CURLEX II OR APPROVED EQUAL) INSTALLED TO ASSIST WITH REVEGETATION.
10. CONCRETE REMOVAL SHALL OCCUR AT NEAREST JOINT.
11. ONLY RUBBER-TIRED EQUIPMENT IS ALLOWED WITHIN THE CWQZ AND FLOODPLAIN. NO TRACK EQUIPMENT IS ALLOWED.
12. ALL EQUIPMENT AND SPOILS ARE TO BE REMOVED FROM THE CREEK, THE CWQZ, AND 100-YEAR FLOODPLAIN NIGHTLY.

KEY NOTES:

(1) ADD 2x4x6 OR GREATER SIZE LUMBER TO TREE TRUNKS PER COA DET 610S-1, 610S-4. COVER TREE DRIPLINE AREA WITH FOUR (4) INCHES OF ORGANIC MULCH PER NOTE 7(A).

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EROSION AND SEDIMENTATION CONTROL AND TREE PROTECTION PLAN

KAALO STUDIO
7901 RM 2222
Austin, Texas 78730

PLOTTED: 1/23/2023
JOB NO: 864-01

C200
7 OF 63

SPC-2021-0195C

File: J:\864-01_Kaalo_Studio\CAD\Sheets\C200-EROS.dwg 24x36

0 25' 50' 100'

Scale: 1" = 50'

DEMO LEGEND

- EXIST. FENCE (TO BE REMOVED)
- EXIST. PAVEMENT (TO BE REMOVED)
- EXIST. BUILDING (TO BE REMOVED)
- EXIST. GRAVEL (TO BE REMOVED)
- EXIST. TREE (TO BE REMOVED)

NOTES:

1. ALL EXISTING SITE IMPROVEMENTS WITHIN PROPOSED BUILDING FOOTPRINT ARE SCHEDULED FOR DEMOLITION OR SALVAGE.
2. CONTRACTOR TO VERIFY CLEARANCE OF OVERHEAD LINES. MINIMUM MUST BE 14 FEET. IF NOT, CONTRACTOR TO CONTACT UTILITY TO HAVE RAISED.
3. UTILITIES – COORDINATE WITH _____.
4. DEMOLITION WASTE – COORDINATE WITH _____.
5. SALVAGE – COORDINATE WITH _____.
6. ALL TREES WITHIN THE LIMITS OF CONSTRUCTION ARE TO BE PROTECTED UNLESS OTHERWISE NOTED.
7. ALL SIDEWALKS, CURBS, DRIVEWAYS, UTILITY APPURTENANCES, ETC. SHALL BE PROTECTED FROM DAMAGE OR RESTORED TO ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE UNLESS SPECIFICALLY INDICATED TO BE REMOVED.
8. ALL DEMOLISHED MATERIALS (CURBS, ASPHALT, ETC.) SHALL BE REMOVED AND STOCKPILED ON-SITE FOR POTENTIAL RE-USE.
9. A PRECONSTRUCTION MEETING WITH THE ENVIRONMENTAL INSPECTOR IS REQUIRED PRIOR TO ANY SITE DISTURBANCE.

I CERTIFY THAT THESE ENGINEERING DOCUMENTS ARE COMPLETE, ACCURATE AND ADEQUATE FOR THEIR INTENDED PURPOSES, INCLUDING CONSTRUCTION, BUT ARE NOT AUTHORIZED FOR CONSTRUCTION PRIOR TO FORMAL CITY APPROVAL.

SITE PLAN APPROVAL SHEET 8 OF 63
FILE NUMBER: SPC-2021-0195C APPLICATION DATE: 05/20/2021
APPROVED BY COMMISSION ON _____ UNDER SECTION 112 OF CHAPTER 25-5 OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE(25-5-81, LDC)_____ CASE MANAGER R. AVILA
PROJECT EXPIRATION DATE (ORD. #970905-A)_____ DMPZ____ DDZ__X__

Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE:_____ ZONING LO-MU-CO
Rev. 1 _____ Correction 1 _____
Rev. 2 _____ Correction 2 _____
Rev. 3 _____ Correction 3 _____

Final Plat must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction (if a building permit is not required), must also be approved prior to the Project Expiration Date.

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dwA

23 DEC 2022

STATE OF TEXAS
BRIAN LEE WELLS
89517
LICENSED PROFESSIONAL ENGINEER

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TBAE FIRM REGISTRATION NO.: 1452
TBPE FIRM REGISTRATION NO.: F-1416
TBPLS FIRM REGISTRATION NO.: 10065600

NO.	DATE	DESCRIPTION	BY

0 1"

The bar above measures one inch on the original drawing. Adjust scales accordingly.

DEMOLITION PLAN

KAALO STUDIO
7901 RM 2222
Austin, Texas 78730

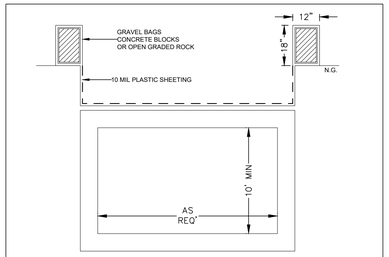
PLOTTED: 12/23/2022
JOB NO: 864-01

C205

8 OF 63

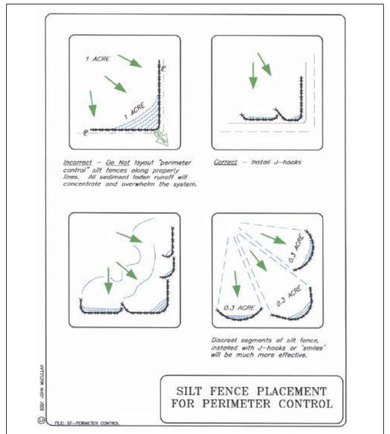
SPC-2021-0195C

File: Y:_864-01_Kaalo_Studio\CAD\Sheets\C205-DEMO.dwg 24x36

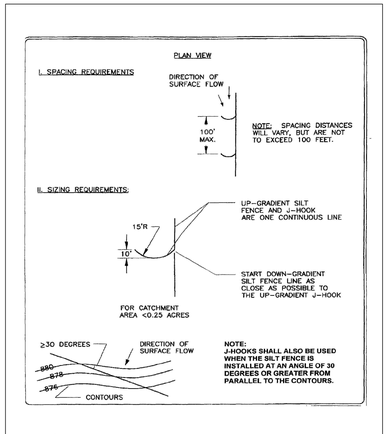


1. THE EXCAVATION FOR THE CONCRETE TRUCK WASHOUT SHALL BE A MINIMUM OF 10 FEET WIDE AND OF SUFFICIENT LENGTH AND DEPTH TO ACCOMODATE 7 GALLONS OF WASHOUT WATER AND CONCRETE PER CUBIC YARD PER DAY AND/OR 50 GALLONS OF WASHOUT WATER AND CONCRETE PER PUMP TRUCK PER DAY.
2. IN THE EVENT THAT THE CONCRETE TRUCK WASHOUT IS CONSTRUCTED ABOVE GROUND, IT SHALL BE, 10 FEET WIDE AND 10 FEET LONG WITH THE SAME REQUIREMENTS FOR CONTAINMENT AS DESCRIBED IN ITEM 1.
3. THE CONTAINMENT AREA SHALL BE LINED WITH 10 MIL PLASTIC SHEETING WITHOUT HOLES OR TEARS. IF SEAMS ARE NEEDED, THESE SHALL BE SECURED ACCORDING TO MANUFACTURERS DIRECTIONS.
4. THE BERM CONSISTING OF GRAVEL BAGS, CONCRETE BLOCKS OR OPEN GRADED ROCK SHALL BE NO LESS THAN 18 INCHES HIGH AND NO LESS THAN 12 INCHES WIDE.
5. THE PLASTIC SHEETING SHALL BE OF SUFFICIENT SIZE SO THAT IT WILL OVERLAP THE TOP OF THE CONTAINMENT AREA AND BE WRAPPED AROUND THE GRAVEL BAGS, CONCRETE BLOCKS OR OPEN GRADED ROCK AT LEAST 2 TIMES.
6. THE GRAVEL BAGS OR CONCRETE BLOCKS SHALL BE PLACED ABUTTING EACH OTHER TO FORM A CONTINUOUS BERM AROUND THE OUTER PERIMETER OF THE CONTAINMENT AREA.
7. THE WASHOUT MATERIAL IN TEH CONTAINMENT AREA SHALL NOT EXCEED 50% OF CAPACITY AT ANY ONE TIME.
8. SOLIDS SHALL BE REMOVED FROM CONTAINMENT AREA AND DISPOSED OF PROPERLY. ANY DAMAGE TO THE PLASTIC SHEETING SHALL BE REPAIRED OR SHEETING REPLACED BEFORE THE NEXT USE.

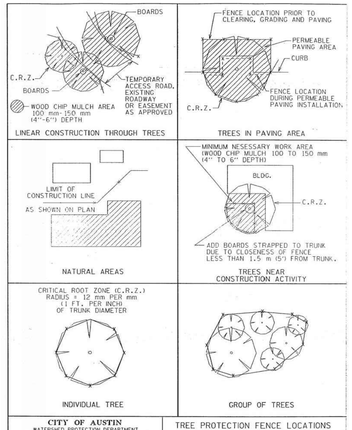
1	10' x 10' CONCRETE WASHOUT
C210	SCALE: NTS



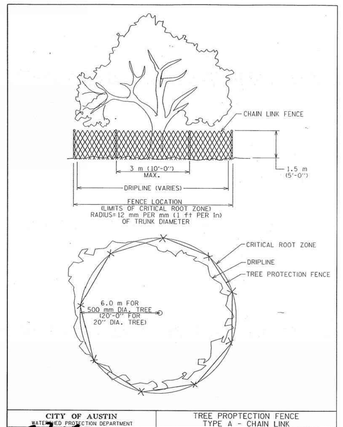
2	ECM FIGURE 1.4.5.G.3
C210	SCALE: NTS



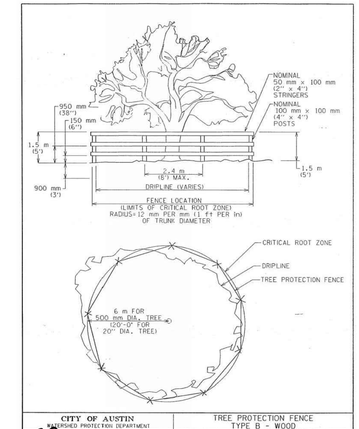
3	ECM FIGURE 1.4.5.G.4
C210	SCALE: NTS



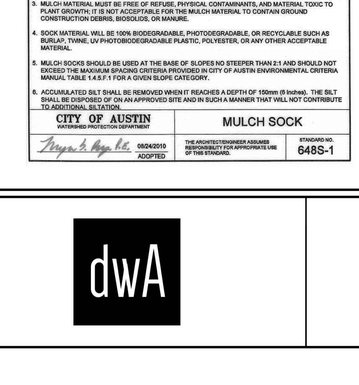
CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	TREE PROTECTION FENCE LOCATIONS
11/16/10 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. STANDARD NO. 610S-1



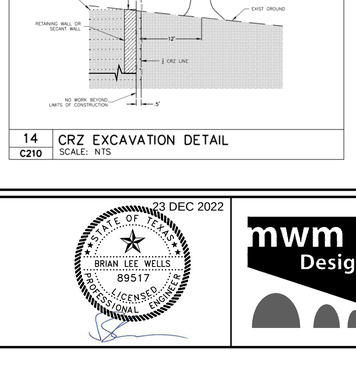
CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	TREE PROPTECTION FENCE TYPE A – CHAIN LINK
11/16/10 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. STANDARD NO. 610S-2



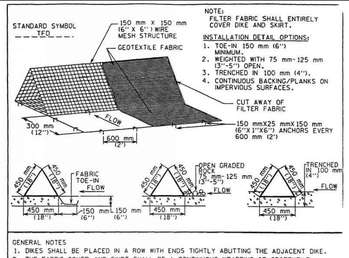
CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	TREE PROTECTION FENCE TYPE B – WOOD
11/16/10 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. STANDARD NO. 610S-3



CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	TREE PROTECTION FENCE MODIFIED TYPE A – CHAIN LINK
11/16/10 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. STANDARD NO. 610S-4

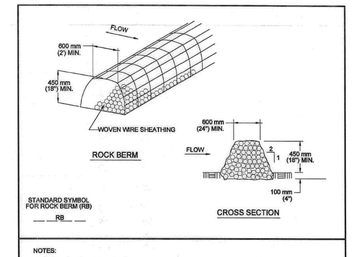


CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	TREE PROTECTION FENCE MODIFIED TYPE B – WOOD
11/16/10 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. STANDARD NO. 610S-5



GENERAL NOTES
1. DIKES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT DIKE.
2. THE FABRIC COVER AND SKIRT SHALL BE A CONTINUOUS WRAPPING OF GEOTEXTILE. THE SKIRT SHALL BE A CONTINUOUS EXTENSION OF THE FABRIC ON THE UPSTREAM FACE.
3. THE SKIRT SHALL BE WEIGHTED WITH A CONTINUOUS LAYER OF 75-125 mm (3-5") OPEN GRADED ROCK OR TOED-IN 150 mm (6") WITH MECHANICALLY COMPACTED MATERIAL. OTHERWISE, THE ENTIRE STRUCTURE SHALL BE TRENCHED IN 100 mm (4").
4. DIKES AND SKIRT SHALL BE SECURELY ANCHORED IN PLACE USING 150 mm (6") WIRE STAPLES ON 600 mm (2') CENTERS ON BOTH EDGES AND SKIRT, OR STAKE USING 10M 19x19 DIAMETER WOOD WITH TIE ENDS.
5. FILTER MATERIAL SHALL BE LAPPED OVER ENDS 150 mm (6") TO COVER DIKE TO DIKE JOINTS. JOINTS SHALL BE FASTENED WITH GALVANIZED SHOAT RINGS.
6. THE DIKE STRUCTURE SHALL BE MM40-150 mmX150 mm (6 GA. 6"X6") WIRE MESH, 450 mm (18") ON A SIDE.
7. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED BY THE CONTRACTOR.
8. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 150 mm (6") AND DISPOSED OF IN A MANNER WHICH WILL NOT CAUSE ADDITIONAL SILTATION.
9. AFTER THE DEVELOPMENT SITE IS COMPLETELY STABILIZED, THE DIKES AND ANY REMAINING SILT SHALL BE REMOVED. SILT SHALL BE DISPOSED OF AS INDICATED IN GENERAL NOTE 8 ABOVE.

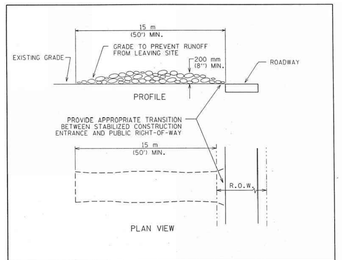
CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	TRIANGULAR SEDIMENT FILTER DIKE
8.27.09 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. STANDARD NO. 628S



STANDARD SYMBOL FOR ROCK BERM (RB)
RB

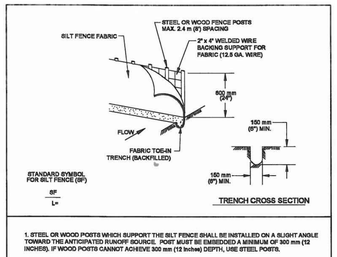
NOTES:
1. USE ONLY OPEN GRADED ROCK 75 to 125 mm (3 to 5") DIAMETER FOR ALL CONDITIONS.
2. THE ROCK BERM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM 25 mm (1") OPENING AND MINIMUM WIRE DIAMETER OF 12.9 mm (20 GAUGE).
3. THE ROCK BERM SHALL BE INSPECTED DAILY OR AFTER EACH RAIN, AND THE STONE AND/OR FABRIC CORE-WOVEN SHEATHING SHALL BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED, DUE TO SEDIMENT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
4. IF SEDIMENT REACHES A DEPTH EQUAL TO ONE-THIRD THE HEIGHT OF THE BERM OR 150 mm (6"), WHICHEVER IS LESS, THE SEDIMENT SHALL BE REMOVED AND DISPOSED OF ON AN APPROVED SITE AND IN A MANNER THAT WILL NOT CREATE A SEDIMENTION PROBLEM.
5. WHEN THE SITE IS COMPLETELY STABILIZED,THE BERM AND ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	ROCK BERM
Mary S. Myer P.E. 8/24/2010 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. STANDARD NO. 639S-1



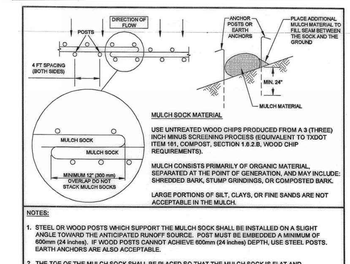
NOTES:
1. STONE SIZE: 75-125 mm (3-5") OPEN GRADED ROCK.
2. LENGTH AS EFFECTIVE BUT NOT LESS THAN 15 m (50').
3. THICKNESS: NOT LESS THAN 200 mm (8").
4. WIDTH: NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS/EGRESS.
5. WASHING: WHEN NECESSARY, VEHICLE WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE AND DRAINS INTO AN APPROVED TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE USING APPROVED METHODS.
6. MAINTENANCE: THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AS WELL AS REPAIR AND CLEAN OUT OF ANY MEASURE DEVICES USED TO TRAP SEDIMENT. ALL SEDIMENTS THAT IS SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY.
7. DRAINAGE:ENTRANCE MUST BE PROPERLY GRADED OR INCORPORATE A DRAINAGE SWALE TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	STABILIZED CONSTRUCTION ENTRANCE
5/23/06 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. STANDARD NO. 641S-1



1. STEEL OR WOOD POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF 300 mm (12 INCHES). IF WOOD POSTS CANNOT ACHIEVE 300 mm (12 Inches) DEPTH, USE STEEL POSTS.
2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MIDCHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW.
3. THE TRENCH MURT BE A MINIMUM OF 150 mm (6 Inches) DEEP AND 150 mm (6 Inches) WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
4. SILT FENCE FABRIC SHOULD BE SECURELY FASTENED TO EACH STEEL OR WOOD SUPPORT POST OR TO WOVEN WIRE , WHICH IS IN TURN ATTACHED TO THE STEEL OR WOOD FENCE POST.
5. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTY AS NEEDED.
6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 150 mm (6 Inches). THE SILT SHALL BE DISPOSED OF ON AN APPROVED SITE AND IN SUCH A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	SILT FENCE
9/1/2010 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THE STANDARD. STANDARD NO. 642S-1



MULCH SOCK MATERIAL

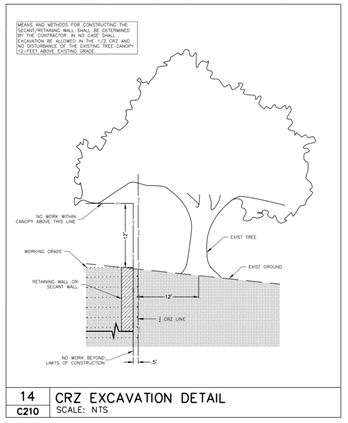
USE UNTREATED WOOD CHIPS PRODUCED FROM A 3 (THREE) INCH MINUS SCREENING PROCESS (EQUIVALENT TO TXDOT ITEM 161, COMPOST, SECTION 1.6.2.B, WOOD CHIP REQUIREMENTS).

MULCH CONSISTS PRIMARILY OF ORGANIC MATERIAL, SEPARATED AT THE POINT OF GENERATION, AND MAY INCLUDE: SHREDDED BARK, STUMP GRINDINGS, OR COMPOSTED BARK.

LARGE PORTIONS OF SILT, CLAYS, OR FINE SANDS ARE NOT ACCEPTABLE IN THE MULCH.

NOTES:
1. STEEL OR WOOD POSTS WHICH SUPPORT THE MULCH SOCK SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF 600mm (24 inches). IF WOOD POSTS CANNOT ACHIEVE 600mm (24 inches) DEPTH, USE STEEL POSTS. EARTH ANCHORS ARE ALSO ACCEPTABLE.
2. THE TOE OF THE MULCH SOCK SHALL BE PLACED SO THAT THE MULCH SOCK IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. IN ORDER TO PREVENT WATER FROM FLOWING BETWEEN THE JOINTS OF ADJACENT ENDS OFMULCH SOCKS, LAP THE ENDS OF ADJACENT MULCH SOCKS A MINIMUM OF 300mm (12 Inches).
3. MULCH MATERIAL MUST BE FREE OF REFUSE, PHYSICAL CONTAMINANTS, AND MATERIAL TOXIC TO PLANT GROWTH; IT IS NOT ACCEPTABLE FOR THE MULCH MATERIAL TO CONTAIN GROUND CONSTRUCTION DEBRIS, BIOSOLIDS, OR MANURE.
4. SOCK MATERIAL WILL BE 100% BIODEGRADABLE, PHOTODEGRADABLE, OR RECYCLABLE SUCH AS BURLAP, TWINE, UV PHOTOBIODEGRADABLE PLASTIC, POLYESTER, OR ANY OTHER ACCEPTABLE MATERIAL.
5. MULCH SOCKS SHOULD BE USED AT THE BASE OF SLOPES NO STEEPER THAN 2:1 AND SHOULD NOT EXCEED THE MAXIMUM SPACING CRITERIA PROVIDED IN CITY OF AUSTIN ENVIRONMENTAL CRITERIA MANUAL TABLE 1.4.5.F.1 FOR A GIVEN SLOPE CATEGORY.
6. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 150mm (6 Inches). THE SILT SHALL BE DISPOSED OF ON AN APPROVED SITE AND IN SUCH A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	MULCH SOCK
08/24/2010 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. STANDARD NO. 648S-1



14	CRZ EXCAVATION DETAIL
C210	SCALE: NTS

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SITE PLAN APPROVAL SHEET 9 OF 63
FILE NUMBER: SPC-2021-0195C APPLICATION DATE: 05/20/2021
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PROJECT EXPIRATION DATE (ORD. #970905-A)_____DWPZ_____DDZ__X__

_____
Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE:_____ZONING LO-MU-CO
Rev. 1 _____ Correction 1 _____
Rev. 2 _____ Correction 2 _____
Rev. 3 _____ Correction 3 _____
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dwA

23 DEC 2022
STATE OF TEXAS
BRIAN LEE WELLS
89517
LICENSED PROFESSIONAL ENGINEER

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p: 512.453.0767
f: 512.453.1734
TBAE FIRM REGISTRATION NO.: 1452
TBPE FIRM REGISTRATION NO.: F-1416
TBPLS FIRM REGISTRATION NO.: 10065600

NO.	DATE	DESCRIPTION	BY

0 1"
The bar above measures one inch on the original drawing. Adjust scales accordingly.

EROSION AND SEDIMENTATION CONTROL DETAILS

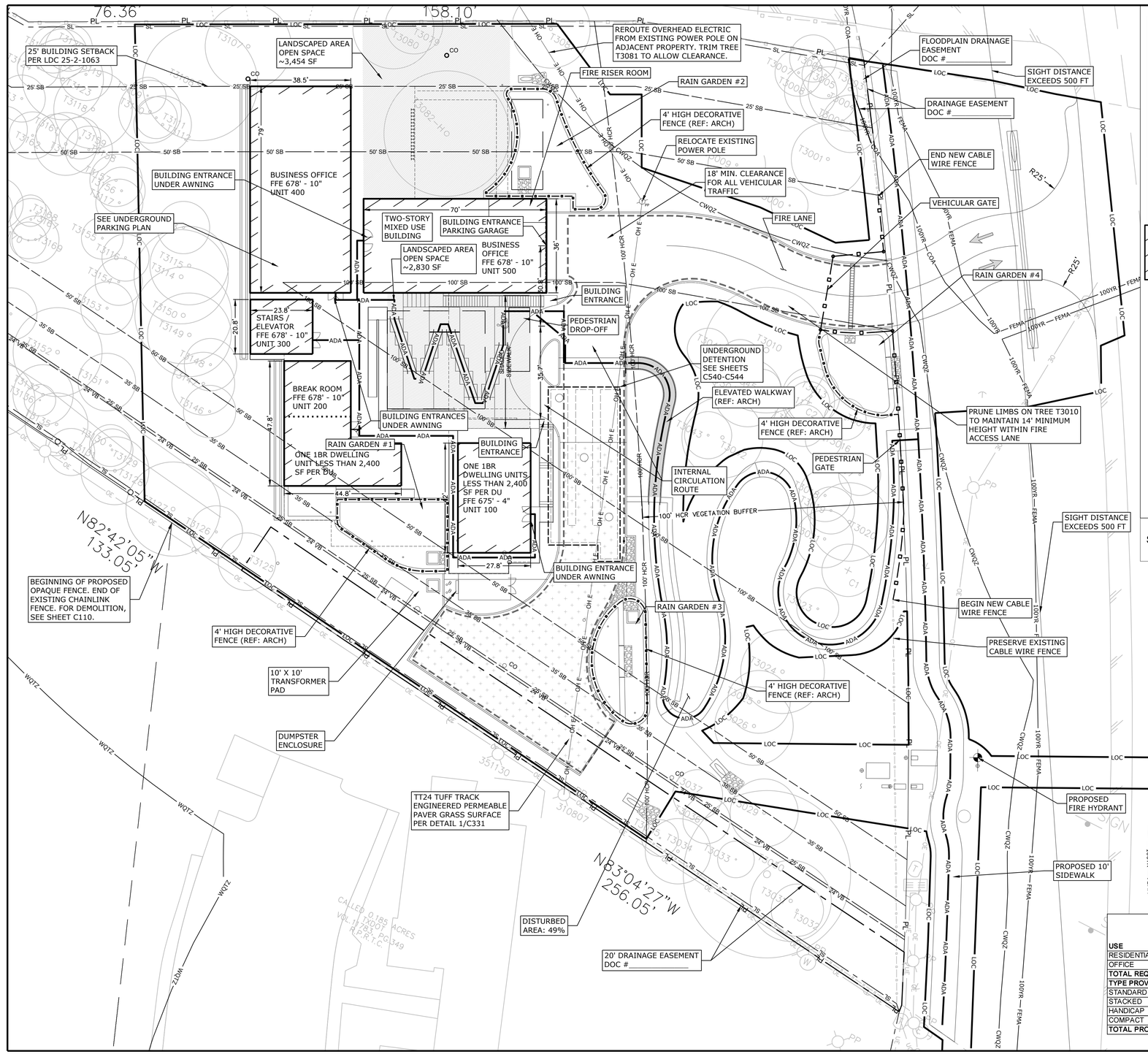
KAALO STUDIO
7901 RM 2222
Austin, Texas 78730

PLOTTED: 12/23/2022
JOB NO: 864-01

C210
9 OF 63

SPC-2021-0195C

File: Y:\864-01_kaalo_Studio\CAD\Sheets\C210-EROS_DTLS.dwg 24x36



0 10' 20' 40'

Scale: 1" = 20'

SITE LEGEND

PL	PROPERTY LINE
SL	SURVEY LIMIT
CWQZ	CRITICAL WATER QUALITY ZONE
WQTZ	WATER QUALITY TRANSITION ZONE
100YR	100 YEAR FLOODPLAIN
500YR	500 YEAR FLOODPLAIN
100' HCR	HILL COUNTRY ROADWAY VEGETATION BUFFER
100' SB	COMPATIBILITY SETBACK
35' SB	BUILDING SETBACK AND VEGETATIVE BUFFER PER COA ORDINANCE 20171108-062.
	BUILDING
FH	FIRE HYDRANT
	OPEN SPACE

SITE PLAN NOTES:

1. ALL EXTERIOR LIGHTING WILL BE FULL CUT-OFF AND FULLY SHIELDED IN COMPLIANCE WITH SUBCHAPTER E 2.5 AND WILL BE REVIEWED DURING BUILDING PLAN REVIEW. ANY CHANGE OR SUBSTITUTION OF LAMP/LIGHT FIXTURES SHALL BE SUBMITTED TO THE DIRECTOR FOR APPROVAL IN ACCORDANCE WITH SECTION 2.5.2.E.

Figure 34:
Examples of fully-shielded light fixtures.

2. NO FENCE POST OR FOOTING INSTALLATION IS ALLOWED WITHIN THE 1/4 CRZ OF ANY PRESERVED TREE.
3. VEGETATIVE SCREENING, BERMS, FENCES, OR YARDS SHALL BE PROVIDED TO SCREEN ADJACENT SF-5 OR MORE RESTRICTIVE RESIDENTIAL DISTRICTS FROM VIEWS OF OFF-STREET PARKING AREAS, MECHANICAL EQUIPMENT, STORAGE AREAS, AND FOR REFUSE COLLECTION [SECTION 25-2-1066].
4. MOTOR-OPERATED GATES OR BARRICADES INSTALLED ACROSS FIRE ACCESS ROADWAYS SHALL BE EQUIPPED WITH GATE OPERATORS COMPLYING WITH UL 325. GATES OR BARRICADES SHALL COMPLY WITH ASTM F2200. AN APPROVED MEANS OF OPENING THE MOTOR-OPERATED GATE MANUALLY IN THE EVENT UTILITY POWER IS LOST OR DISCONNECTED IS REQUIRED. AN APPROVED FIRE DEPARTMENT KEY SWITCH, INSTALLED AT AN APPROVED LOCATION, SHALL BE PROVIDED TO OVERRIDE ANY ACCESS CONTROL FEATURE AND SHALL BE DESIGNED TO HOLD GATE OPEN UNTIL THE KEY IS DEACTIVATED.
5. PRIOR TO CERTIFICATE OF OCCUPANCY, THE INFORMATION DESCRIBED IN TCM 9.7.2.D.1 MUST BE PROVIDED.

SUBCHAPTER E NOTES:

6. SCREENING FOR SOLID WASTE COLLECTION AND LOADING AREAS SHALL BE THE SAME AS, OR OF EQUAL QUALITY TO, PRINCIPAL BUILDING MATERIAL, IN ACCORDANCE WITH SUBCHAPTER 2.6.2.
7. ALL EXTERIOR LIGHTING WILL BE FULL CUT-OFF AND FULLY SHIELDED IN COMPLIANCE WITH SUBCHAPTER E 2.5 (REFER TO FIGURE 42 BELOW). ALL SITE LIGHTING TO BE LOCATED ON THE BUILDING WILL BE IN COMPLIANCE WITH SUBCHAPTER E.2.5, AND WILL BE REVIEWED DURING BUILDING PLAN REVIEW. ANY CHANGE OR SUBSTITUTION OF LAMP/LIGHT FIXTURES SHALL BE SUBMITTED TO THE DIRECTOR FOR APPROVAL IN ACCORDANCE WITH SECTION 2.5.2.E."

USE		VEHICLE SPACES RATIO	VEHICLE SPACES REQUIRED	BICYCLE SPACES RATIO	BICYCLE SPACES REQUIRED (5 MIN)
RESIDENTIAL	2 1-BR APT	1.5 SPACES / UNIT	3	5% OF TOTAL	0
OFFICE	9,665	275 SF / SPACE	35	5% OF TOTAL	2
TOTAL REQUIRED			**38**		**5**
TYPE PROVIDED					
STANDARD			30		
STACKED			14		
HANDICAP			1		
COMPACT			0		
TOTAL PROVIDED			**45**		**6**

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SITE PLAN APPROVAL SHEET 10 OF 63
FILE NUMBER: SPC-2021-0195C APPLICATION DATE: 05/20/2021
APPROVED BY COMMISSION ON _____ UNDER SECTION 112 OF CHAPTER 25-5 OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE(25-5-81, LDC)_____ CASE MANAGER R. AVILA
PROJECT EXPIRATION DATE (ORD. #970905-A)_____ DMPZ_____ DDZ__X__

_____
Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE:_____ZONING LO-MU-CO
Rev. 1 _____ Correction 1 _____
Rev. 2 _____ Correction 2 _____
Rev. 3 _____ Correction 3 _____

Final Plat must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction (if a building permit is not required), must also be approved prior to the Project Expiration Date.

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dwA

23 JAN 2023

STATE OF TEXAS
BRIAN LEE WELLS
89517
LICENSED
PROFESSIONAL ENGINEER

mwm Design Group

305 East Huntland Drive
Suite 200
Austin, Texas 78752
p: 512.453.0767
f: 512.453.1734

TBAE FIRM REGISTRATION NO.: 1452
TBPE FIRM REGISTRATION NO.: F-1416
TBPLS FIRM REGISTRATION NO.: 10065600

NO.	DATE	DESCRIPTION	BY

0 1"

The bar above measures one inch on the original drawing. Adjust scales accordingly.

SITE PLAN

KAALO STUDIO
7901 RM 2222
Austin, Texas 78730

PLOTTED: 1/23/2023
JOB NO: 864-01

C300
10 OF 63

SPC-2021-0195C

File: Y:_864-01_Kaalo_Studio\CAD\Sheets\C300-SITE_PLAN.dwg 24x36

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SITE PLAN APPROVAL SHEET 11 OF 63
FILE NUMBER: SPC-2021-0195C APPLICATION DATE: 05/20/2021
APPROVED BY COMMISSION ON _____ UNDER SECTION 112 OF CHAPTER 25-5 OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE(25-5-81, LDC)_____ CASE MANAGER R. AVILA
PROJECT EXPIRATION DATE (ORD. #970905-A)_____DMPZ_____DDZ__X__

Director, Development Services Department
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23 DEC 2022

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CUT AND FILL MAP

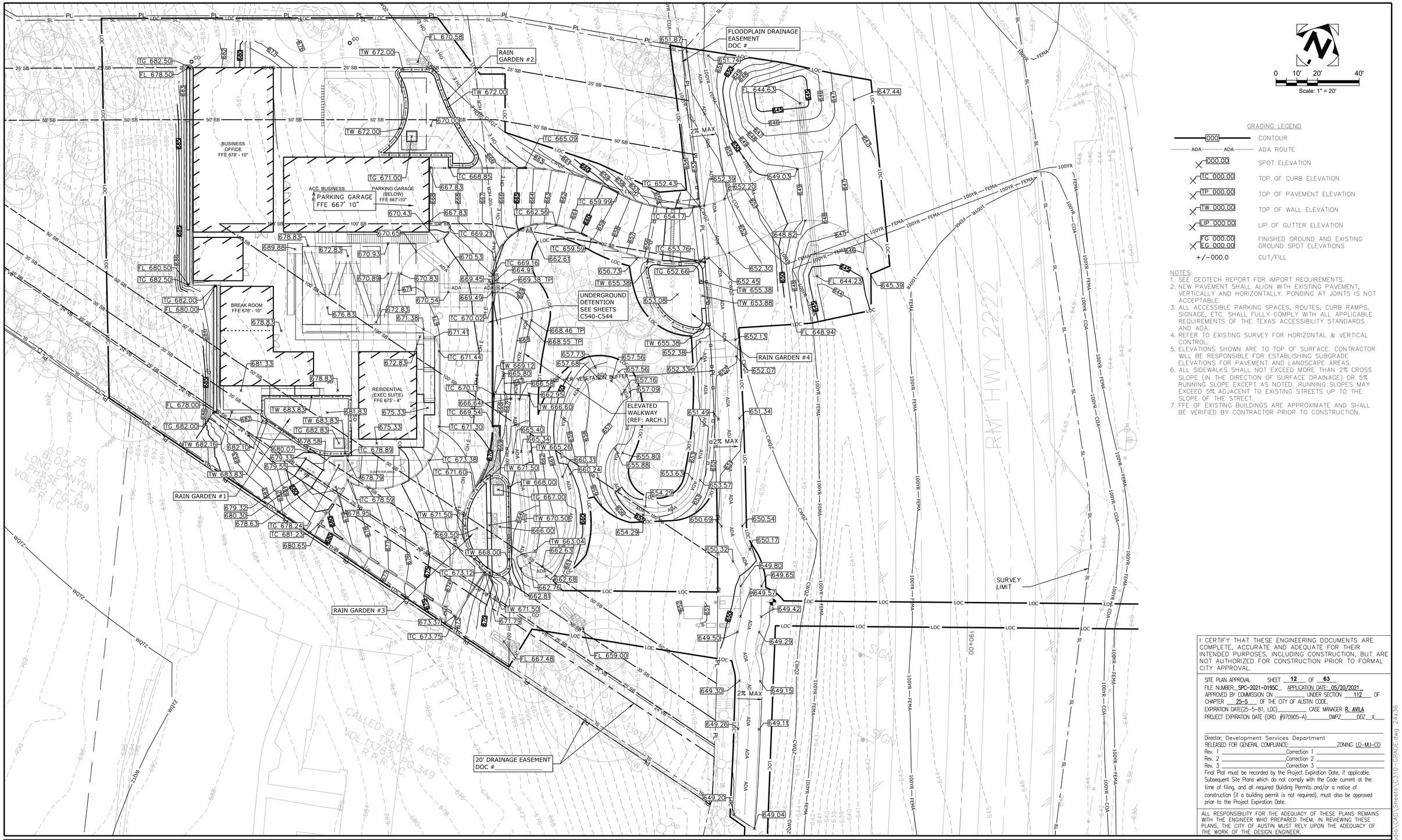
KAALO STUDIO
7901 RM 2222
Austin, Texas 78730

PLOTTED: 12/23/2022
JOB NO: 864-01

C301
11 OF 63

SPC-2021-0195C

File: X:\864-01_Kaalo_Studio\CAD\Sheets\C302-CUT_FILL.dwg 24x36



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SITE PLAN APPROVAL SHEET 12 OF 63
FILE NUMBER: SPC-2021-0195C APPLICATION DATE: 05/20/2021
APPROVED BY COMMISSION ON _____ UNDER SECTION 112 OF CHAPTER 25-5 OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE(25-5-81, LDC)_____ CASE MANAGER R. AVILA
PROJECT EXPIRATION DATE (ORD. #970905-A)_____ DMPZ_____ DDZ__X___

Director, Development Services Department
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GRADING PLAN

KAALO STUDIO
7901 RM 2222
Austin, Texas 78730

PLOTTED: 12/23/2022
JOB NO: 864-01

C302
12 OF 63

SPC-2021-0195C

File: J:\864-01_Kaalo_Studio\CAD\Sheets\C310-GRADE.dwg 24x36

NOTES:
1. CONTRACTOR SHALL NOT ALLOW TRAFFIC ON NEWLY PLACED CONCRETE FOR AT LEAST 14 DAYS UNLESS OTHERWISE APPROVED IN ADVANCE BY THE DESIGN ENGINEER.
2. ROADWAY BASE SHALL EXTEND AT LEAST THREE FEET BEYOND THE CURB OR SIDEWALK, WHICHEVER IS GREATER.
3. WHEN USING FLEXIBLE PAVEMENT, CURB SHALL FULLY PENETRATE INTO BASE MATERIAL.
4. SEE SHEET _____ FOR ADDITIONAL PAVING NOTES.

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SITE PLAN APPROVAL SHEET 13 OF 63
FILE NUMBER: SPC-2021-0195C APPLICATION DATE: 05/20/2021
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PAVING PLAN

KAALO STUDIO
7901 RM 2222
Austin, Texas 78730

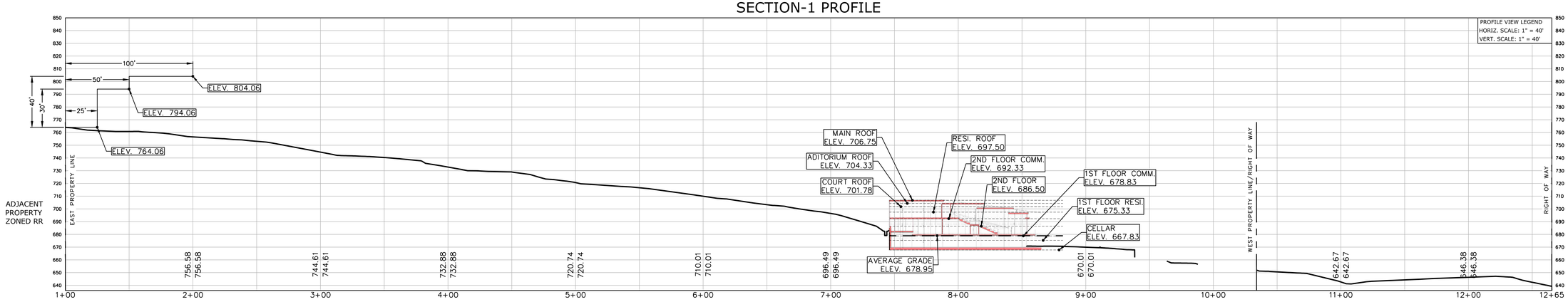
PLOTTED: 12/23/2022
JOB NO: 864-01

C303
13 OF 63

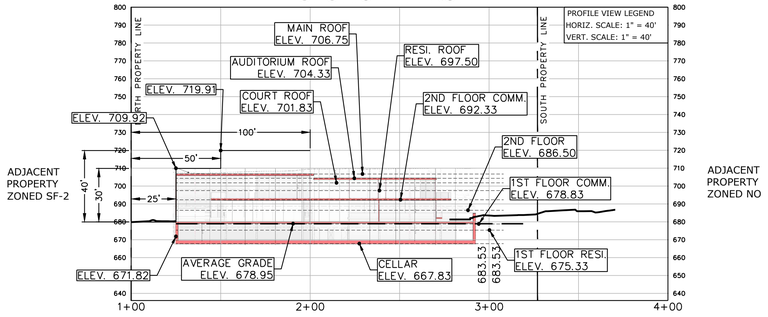
SPC-2021-0195C

File: X:\864-01_Kaalo_Studio\CAD\Sheets\C303-PAVE.dwg 24x36

SECTION-1 PROFILE



SECTION-2 PROFILE



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SITE PLAN APPROVAL SHEET 14 OF 63
FILE NUMBER: SPC-2021-0195C APPLICATION DATE: 05/20/2021
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PROJECT EXPIRATION DATE (ORD. #970905-A)_____DMPZ_____DDZ__X___

Director, Development Services Department
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TBAE FIRM REGISTRATION NO.: 1452
TBPE FIRM REGISTRATION NO.: F-1416
TBPLS FIRM REGISTRATION NO.: 10065600

NO.	DATE	DESCRIPTION	BY

0 1"
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SITE SECTIONS

KAALO STUDIO
7901 RM 2222
Austin, Texas 78730

PLOTTED: 12/23/2022
JOB NO: 864-01

C305
14 OF 63

SPC-2021-0195C

File: Y:\864-01_Kaalo_Studio\CAD\Sheets\C305-SITE_SECTIONS.dwg 24x36

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SITE PLAN APPROVAL SHEET 15 OF 63
FILE NUMBER: SPC-2021-0195C_ APPLICATION DATE: 05/20/2021_
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TBPLS FIRM REGISTRATION NO.: 10065600

NO.	DATE	DESCRIPTION	BY

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GEOMETRY PLAN

KAALO STUDIO
7901 RM 2222
Austin, Texas 78730

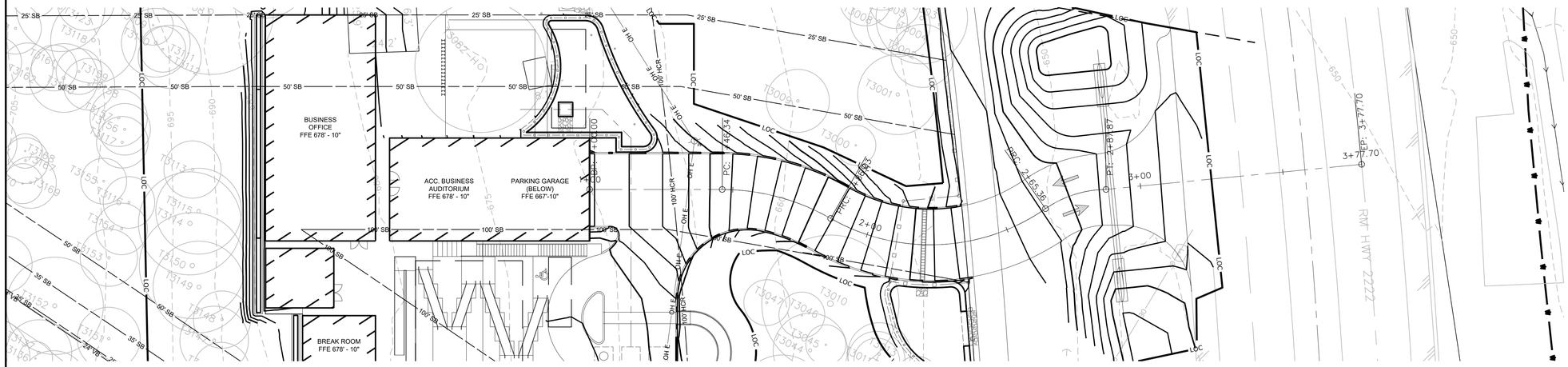
PLOTTED: 12/23/2022
JOB NO: 864-01

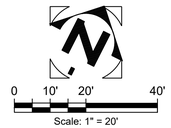
C320

15 OF 63

SPC-2021-0195C

File: Y:\864-01_Kaalo_Studio\CAD\Sheets\C320-GEOM.dwg 24x36





PAVEMENT LEGEND

- CONCRETE VEHICULAR PAVEMENT
- HMAC VEHICULAR PAVEMENT
- POROUS VEHICULAR PAVEMENT
- CONCRETE SIDEWALK
- ELEVATED WALKWAY (REF: ARCH)

NOTES:

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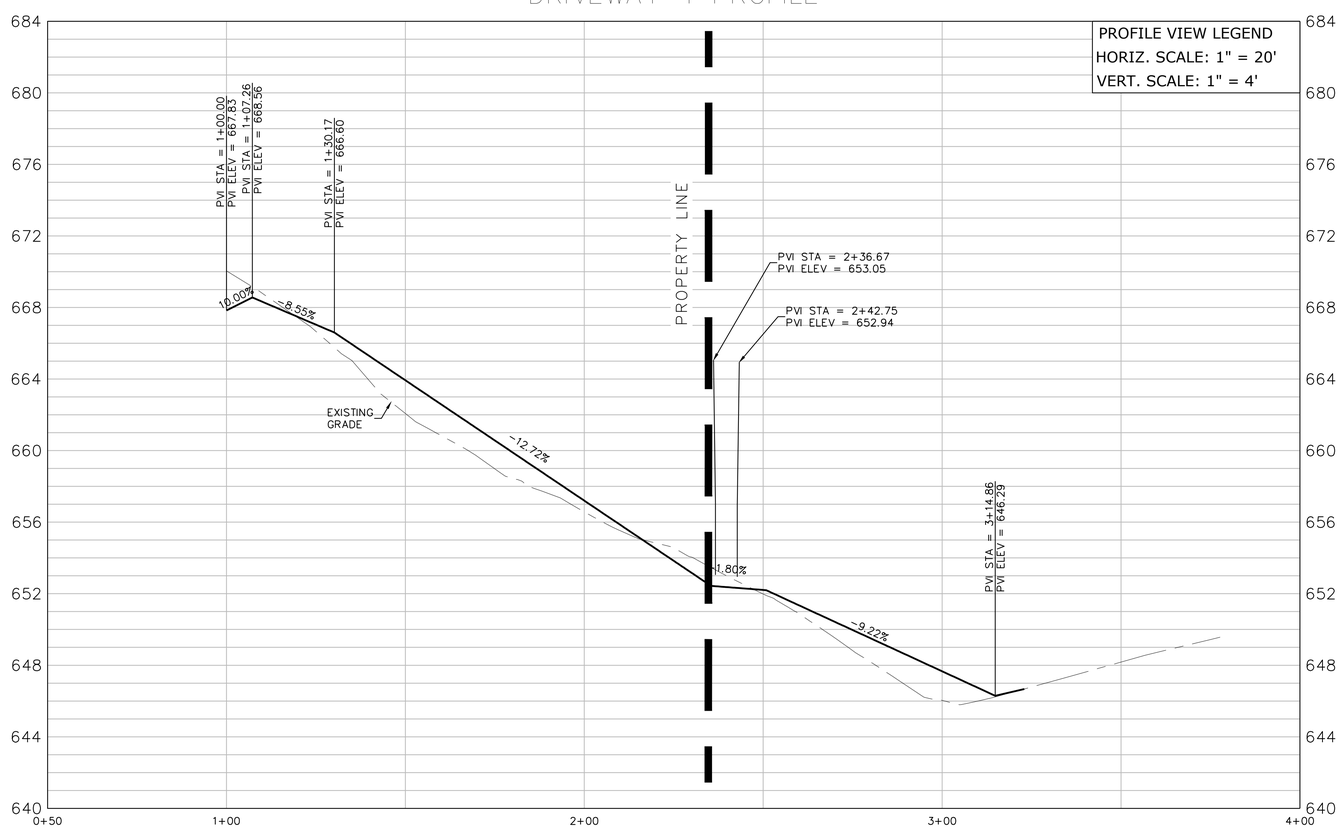
2. ROADWAY BASE SHALL EXTEND AT LEAST THREE FEET BEYOND THE CURB OR SIDEWALK, WHICHEVER IS GREATER.
3. WHEN USING FLEXIBLE PAVEMENT, CURB SHALL FULLY PENETRATE INTO BASE MATERIAL.
4. SEE SHEET _____ FOR ADDITIONAL PAVING NOTES.

DRIVEWAY–1 PROFILE



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SITE PLAN APPROVAL SHEET 16 OF 63
FILE NUMBER: SPC-2021-0195C APPLICATION DATE: 05/20/2021
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23 DEC 2022

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TBPE FIRM REGISTRATION NO.: F-1416
TBPLS FIRM REGISTRATION NO.: 10065600

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DRIVEWAY PLAN & PROFILE

KAALO STUDIO
7901 RM 2222
Austin, Texas 78730

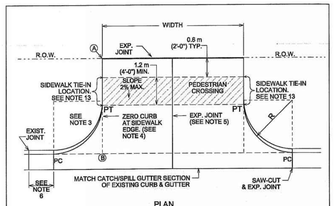
PLOTTED: 12/23/2022
JOB NO: 864-01

C321

16 OF 63

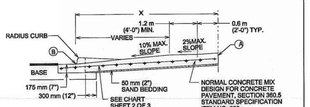
SPC-2021-0195C

File: Y:\864-01_Kaalo_Studio\CAD\Sheets\C321 - DRIVEWAY_PROFILE.dwg 24x36



PLAN

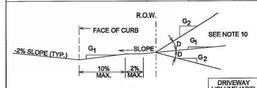
NOTE: ALL DRIVEWAYS SHALL BE SLOPED TOWARDS THE STREET FROM THE R.O.W. LINE. ELEVATION OF POINT (A) ABOVE POINT (B), TYPICALLY A MINIMUM OF 150 mm (6") PLUS 20 mm/m (¼" RISE/FOOT) OVER DISTANCE "X" IN METERS (FEET).



CROSS SECTION

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	TYPE II DRIVEWAY	
2/09/16 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 433S-2 1 OF 2

USE	THICKNESS	REINFORCEMENT
DRIVEWAYS FOR PASSENGER VEHICLE PARKING LOTS	150 mm (6") MIN.	125 mm (5") MIN. CONCRETE WITH ONE LAYER OF13M (#4) BARS PLACED ON CHAIRS AT MIDDEPTH OF SLAB AT NO MORE THAN 450 mm (18") O.C. BOTH DIRECTIONS
ALL OTHERS	175 mm (7") MIN.	125 mm (5") MIN. CONCRETE WITH ONE LAYER OF13M (#4) BARS PLACED ON CHAIRS AT MIDDEPTH OF SLAB AT NO MORE THAN 450 mm (18") O.C. BOTH DIRECTIONS

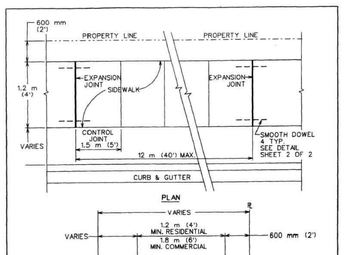


ALLOWABLE GRADES

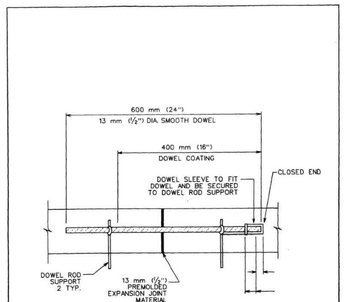
DRIVEWAY VOLUME (ADT)	D=GRADE CHANGE STD.	MAX
>1500	0%	3%
500-1500	3%	6%
<500	6%	15%

NOTES:
1. ALL TYPE II DRIVEWAYS SHALL HAVE RADIUS ENDS.
2. DRIVEWAY WIDTHS AND RADII DIMENSIONS, ONE/TWO WAY TRAVEL REQUIREMENTS, AND GEOMETRIC LAY-OUT ARE HIGHLY VARIABLE, AND MUST TO BITE SPECIFIC CONDITIONS AND REQUIREMENTS. SEE TRANSPORTATION CRITERIA MANUAL, SECTION 9 "DRIVEWAYS".
3. THE DRIVEWAY EDGE SHALL BE SMOOTHLY TRANSITIONED INTO THE SIDEWALK TIE-IN LOCATION BEGINNING AT THE RADIUS PC LINE.
4. "ZERO" CURB AT PT OR BIDEWALK EDGE, WHICHEVER IS ENCOUNTERED FIRST.
5. PLACE AN EXPANSION JOINT DOWN THE CENTER OF DRIVEWAY ALL DRIVEWAYS.
6. IF DIMENSION (B) LESS THAN 1.5 METERS (5 FEET), REMOVE CURB AND GUTTER TO EXISTING JOINT AND POUR MONOLITHICALLY WITH DRIVEWAY.
7. IF THE BASE IS OVER-EXCAVATED WHERE THE CURB AND GUTTER WERE REMOVED, BACKFILL WITH CONCRETE MONOLITHICALLY WITH THE DRIVEWAY.
8. TYPE II DRIVEWAYS ARE TO BE LOCATED NO CLOSER TO THE CORNER OF INTERSECTING RIGHT OF WAY THAN 60% OF PARCEL FRONTAGE AT 30 METERS (100 FEET) WHICHEVER IS LESS.
9. DRIVEWAY SHALL NOT BE CONSTRUCTED WITHIN THE CURB RETURN OF A STREET INTERSECTION.
10. WHILE THE PROPERTY OWNER REMAINS RESPONSIBLE FOR GRADE BREAKS WITHIN PRIVATE PROPERTY, THE FIRE DEPARTMENT SHALL BE CONSULTED WHERE THE DRIVEWAY IS ESSENTIAL TO EMERGENCY VEHICLE ACCESS AND *02 IS GREATER THAN 15%.
11. USE 12 MM (1/2") ASPHALT BOARD ON OTHER APPROVED MATERIAL FOR CURB AND GUTTER EXPANSION JOINTS. BIDEWALK, AT THE R.O.W. LINE AND AT MIDWIDTH, SEE NOTE 6.
12. SEE TRANSPORTATION CRITERIA MANUAL, SECTION 9 FOR OTHER DRIVEWAY REQUIREMENTS.
13. THE BIDEWALK, REGARDLESS OF ITS LOCATION WITH RESPECT TO THE CURB OR PROPERTY LINE, SHALL BE CONNECTED TO THE DRIVEWAY AT THESE LOCATIONS.
14. WATER METER BOXES AND WASTEWATER CLEAN OUTS ARE PROHIBITED FROM BEING LOCATED IN DRIVEWAY AREAS.

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	TYPE II DRIVEWAY	
2/09/16 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 433S-2 2 OF 2

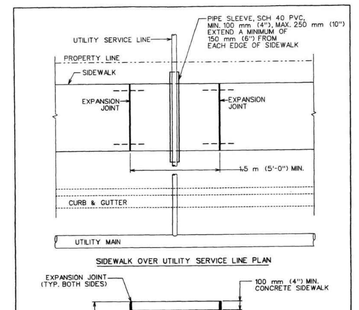


CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	SIDEWALK	
Bill Hardin 3/26/08 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 432S-1 1 OF 3



DOWEL DETAIL

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	SIDEWALK	
Bill Hardin 3/26/08 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 432S-1 2 OF 3



NOTES:
1. THIS STANDARD APPLIES TO THE INSTALLATION OF NEW UTILITIES OR UTILITIES BEING REPLACED BY A NEW LINE.
2. NO JOINTS IN UTILITY SERVICE PIPE TO BE LOCATED INSIDE PVC PIPE SLEEVE.

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	SIDEWALK	
Bill Hardin 3/26/08 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 432S-1 3 OF 3

I CERTIFY THAT THESE ENGINEERING DOCUMENTS ARE COMPLETE, ACCURATE AND ADEQUATE FOR THEIR INTENDED PURPOSES, INCLUDING CONSTRUCTION, BUT ARE NOT AUTHORIZED FOR CONSTRUCTION PRIOR TO FORMAL CITY APPROVAL.

SITE PLAN APPROVAL SHEET 17 OF 63
FILE NUMBER: SPC-2021-0195C APPLICATION DATE: 05/20/2021
APPROVED BY COMMISSION ON _____ UNDER SECTION 112 OF CHAPTER 25-5 OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE(25-5-81, LDC)_____ CASE MANAGER R. AVILA
PROJECT EXPIRATION DATE (ORD. #970905-A)_____DMPZ_____DDZ__X___

Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE: _____ ZONING LO-MU-CO
Rev. 1 _____ Correction 1 _____
Rev. 2 _____ Correction 2 _____
Rev. 3 _____ Correction 3 _____
Final Plat must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction (if a building permit is not required), must also be approved prior to the Project Expiration Date.

ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN REVIEWING THESE PLANS, THE CITY OF AUSTIN MUST RELY UPON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.

dwA

23 DEC 2022
STATE OF TEXAS
BRIAN LEE WELLS
89517
LICENSED
PROFESSIONAL ENGINEER

mwm Design Group
305 East Huntland Drive
Suite 200
Austin, Texas 78752
p: 512.453.0767
f: 512.453.1734
TBAE FIRM REGISTRATION NO.: 1452
TBPE FIRM REGISTRATION NO.: F-1416
TBPLS FIRM REGISTRATION NO.: 10065600

NO.	DATE	DESCRIPTION	BY

0 1"
The bar above measures one inch on the original drawing. Adjust scales accordingly.

OFFSITE DETAILS

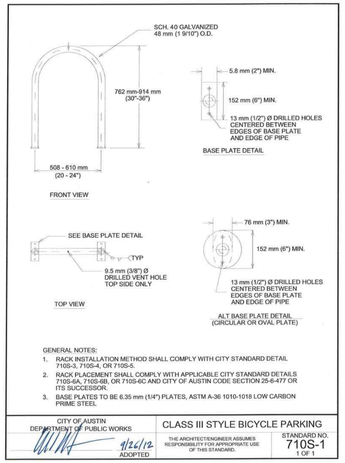
KAALO STUDIO
7901 RM 2222
Austin, Texas 78730

PLOTTED: 12/23/2022
JOB NO: 864-01

C330
17 OF 63

SPC-2021-0195C

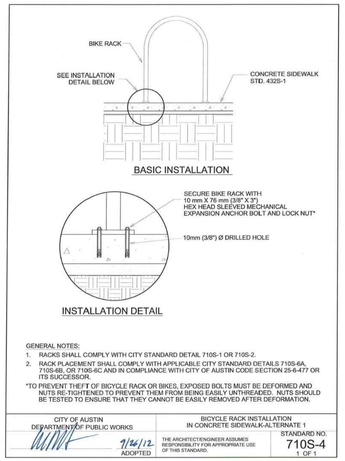
File: T:\864-01_Kaalo_Studio\CAD\Sheets\C330-OFFSITE_DTLS.dwg 24x36



GENERAL NOTES:

1. RACK INSTALLATION METHOD SHALL COMPLY WITH CITY STANDARD DETAIL 710S-3, 710S-4, OR 710S-5.
2. RACK PLACEMENT SHALL COMPLY WITH APPLICABLE CITY STANDARD DETAILS 710S-6A, 710S-6B, OR 710S-6C AND CITY OF AUSTIN CODE SECTION 25-6-477 OR ITS SUCCESSOR.
3. BASE PLATES TO BE 6.35 mm (1/4") PLATES, ASTM A-36 1010-1018 LOW CARBON PRIME STEEL

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	CLASS III STYLE BICYCLE PARKING	
7/12/12 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 710S-1 1 OF 1

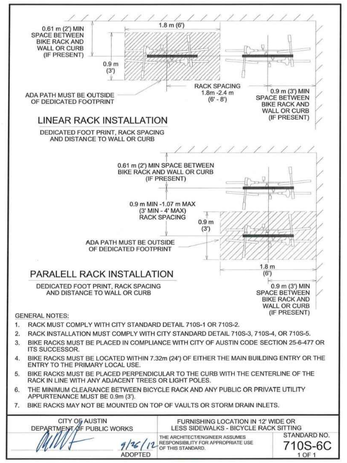


GENERAL NOTES:

1. RACKS SHALL COMPLY WITH CITY STANDARD DETAIL 710S-1 OR 710S-2.
2. RACK PLACEMENT SHALL COMPLY WITH APPLICABLE CITY STANDARD DETAILS 710S-6A, 710S-6B, OR 710S-6C AND IN COMPLIANCE WITH CITY OF AUSTIN CODE SECTION 25-6-477 OR ITS SUCCESSOR.

*TO PREVENT THEFT OF BICYCLE RACK OR BIKES, EXPOSED BOLTS MUST BE DEFORMED AND NUTS RE-TIGHTENED TO PREVENT THEM FROM BEING EASILY UNTHREADED. NUTS SHOULD BE TESTED TO ENSURE THAT THEY CANNOT BE EASILY REMOVED AFTER DEFORMATION.

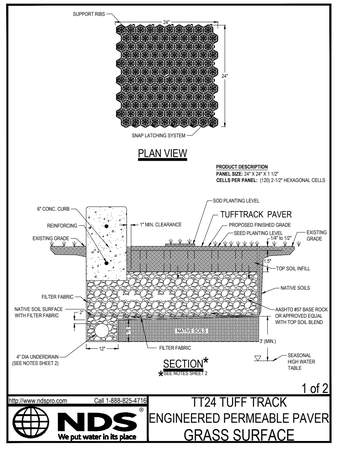
CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	BICYCLE RACK INSTALLATION IN CONCRETE SIDEWALK-ALTERNATE 1	
7/12/12 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 710S-4 1 OF 1



GENERAL NOTES:

1. RACK MUST COMPLY WITH CITY STANDARD DETAIL 710S-1 OR 710S-2.
2. RACK INSTALLATION MUST COMPLY WITH CITY STANDARD DETAIL 710S-3, 710S-4, OR 710S-5.
3. BIKE RACKS MUST BE PLACED IN COMPLIANCE WITH CITY OF AUSTIN CODE SECTION 25-6-477 OR ITS SUCCESSOR.
4. BIKE RACKS MUST BE LOCATED WITHIN 7.32m (24') OF EITHER THE MAIN BUILDING ENTRY OR THE ENTRY TO THE PRIMARY LOCAL USE.
5. BIKE RACKS MUST BE PLACED PERPENDICULAR TO THE CURB WITH THE CENTERLINE OF THE RACK IN LINE WITH ANY ADJACENT TREES OR LIGHT POLES.
6. THE MINIMUM CLEARANCE BETWEEN BICYCLE RACK AND ANY PUBLIC OR PRIVATE UTILITY APPURTENANCE MUST BE 0.9m (3').
7. BIKE RACKS MAY NOT BE MOUNTED ON TOP OF VAULTS OR STORM DRAIN INLETS.

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	FURNISHING LOCATION IN 12' WIDE OR LESS SIDEWALKS - BICYCLE RACK SITTING	
7/12/12 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 710S-6C 1 OF 1



1 of 2

http://www.ndspro.com Call 1-888-825-4716

NDS® We put water in its place

TT24 TUFF TRACK ENGINEERED PERMEABLE PAVER GRASS SURFACE

NOTES:

ENGINEERING PROPERTIES:

1. COMPRESSIVE STRENGTH OF TT24 PAVER:
   EXCEEDS HS-20 LOADING
   FILLED PAVER: ULTIMATE LOAD = 400,000 LBS
2. POROSITY OF AASHTO #57 AGGREGATE = 0.4

TOP SOIL FILL:

3. NATIVE TOP SOIL SHALL BE USED FOR BACKFILL INSIDE THE PAVERS.
4. EXTEND TOP SOIL INSIDE PAVER AN ADDITIONAL ½ TO ¾ INCH ABOVE PAVER SURFACE AND MATCH SURROUNDING GRADE. PROPOSED FINISHED GRADE SLOPE PER PROJECT GRADING PLAN. PROTECT PAVER AREA UNTIL GRASS IS SUFFICIENTLY ESTABLISHED TO HANDLE TRAFFIC. PROVIDE 1" (MIN.) CLEARANCE BETWEEN ANY CONCRETE EDGE AND PAVER.

AASHTO #57 BASE ROCK:

5. GRADATION OF AASHTO #57 COARSE BASE ROCK: 100% PASSING 1 ½" SCREEN, 95-100% PASSING 1", 25-60% PASSING ½", AND 0-10% PASSING #8 SCREEN.
6. THICKNESS OF AGGREGATE LAYER IS AS FOLLOWS: 8 INCHES FOR HEAVY LOADS (FIRE TRUCKS).
7. COMPACT WITH THREE PASSES OF 5-TON STEEL WHEEL ROLLER.

FILTER FABRIC:

8. NON-WOVEN NEEDLE-PUNCHED GEOTEXTILE SHALL BE USED. WOVEN GEOTEXTILES SHOULD NOT BE USED.
9. USE FILTER FABRIC WITH AOS =0.60 MM FOR NATIVE SOILS WITH 50% OR LESS PARTICLES BY WEIGHT PASSING NO.200 SIEVE. USE FILTER FABRIC WITH AOS =0.30MM FOR NATIVE SOILS WITH 50% OR GREATER PARTICLES BY WEIGHT PASSING THE NO.200 SIEVE.

UNDERDRAIN:

10. USE MINIMUM 4-INCH DIA PERFORATED PVC OR POLYETHYLENE PIPE AT 250-FT CENTERS, MINIMUM ONE PIPE. PIPE TO BE INSTALLED AT MINIMUM 0.5% SLOPE, 2 SQ. INCHES OF OPENING / LINEAR FOOT.
11. UNDERDRAIN TO DAYLIGHT INTO PROJECT STORMWATER FACILITY (CATCH BASIN / OPEN CHANNEL / BASIN).
12. INVERT OF PIPE SHALL BE ABOVE PROJECT HIGH WATER LEVEL TO PREVENT BACKING UP OF WATER INTO PAVER SYSTEM.
13. UNDERDRAIN TO BE SURROUNDED BY 4" OF AASHTO #57 COARSE AGGREGATE, WITH MIN. 2" BEDDING.

SUBGRADE NATIVE SOIL:

14. COMPACT SUBGRADE NATIVE SOILS 90 TO 95% STANDARD PROCTOR DENSITY PER ASTM D698 FOR SOILS WITH CALIFORNIA BEARING RATIO >20%, R VALUE >30, AASHTO A-1, A-2, AND A-3 SOILS.

2 of 2

http://www.ndspro.com Call 1-888-825-4716

NDS® We put water in its place

TT24 TUFF TRACK ENGINEERED PERMEABLE PAVER GRASS SURFACE

SPEC SHEET — PARKPLUS DP003 DOUBLE STACKER

Clearance
S = Standard/SUV
C = Compact/Van

MODEL	HEIGHT
C/C	10'-6"
C/S	12'-0"
S/S	14'-0"
S/S*	14'-6"

*LA City requirement

Width

MODEL	WIDTH
W05	7'-11"
W02	8'-3"
W03	8'-6"
W04	9'-0"
W05	Custom

WIDTH = Center of Leg to Center of Leg

The **PARK**PLUS **DP003** Double Stacker is a hydraulic 2-post, 2-level cantilevered vehicle lift for parking cars one above another. The **DP003** raises and locks a platform in place so that a second vehicle can be parked at grade.

Entire assembly comes pre-welded and is assembled in the field. Stackers may be installed as single units or in arrays with shared common legs. Stacker is designed to be mounted on grade, however, depending on soil conditions, reinforced foundation system may be required for installation of stackers.

The **PARK**PLUS **DP003** Double Stacker is designed to be installed indoors and outdoors. Platform height is field adjustable in 1½" increments. Each city may have minimum height requirements and different clear requirements for code required parking. Owner/Architect should review with local planning and building departments. **MEP coordination with project team must meet code requirements and satisfy equipment clearances.**

Suitable for

- Standard passenger vehicles
- SUVs

Specifications

Load per Platform:	**6,000 lbs.**
Weight of Unit:	**+/- 3,050 lbs.**
Length of Platform:	**17'-0"**
Length incl. Overhang:	**18'-6"**
Width of Unit:	**8'-3" to 9'-0"**
Height of Unit:	**5'-6" to 9'-10"**
Operation:	**Hydraulic**
Control:	**Push Button Pendant**

Custom Height and Width Available

Power Pack

Hydraulic Power System (HPS)

HPS1:	**1-2 units** (208-230V / 1 PH / 60 HZ / 2-3 HP / 18 FLA)
HPS-1P3S:	**1-30 units** (208-230V / 1 PH / 60 HZ / 10 HP / 40 FLA)
HPS-3P3S:	**1-30 units** (208-230V / 3 PH / 60 HZ / 10 HP / 28.4 FLA)

Electrical

1 Disconnect required per HPS
3 PH 208-230V / 40Amp
1 PH 208-230V / 60Amp
All control wiring is a Class 2 Circuit 24V

Applications

DP003 Double Stacker can be installed in attended/valet and self park applications:

- **Single & Multi-Family Residential Buildings**
- **Indoor & Outdoor Installations**
- **Low & High Rise Buildings**
- **Commercial Buildings**
- **Surface Lots**

PARKPLUS HIGH DENSITY PARKING SYSTEMS

8-444-PARKPLUS

1	LIMESTONE LANDSCAPE WALL
C501	n.t.s.

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SITE PLAN APPROVAL SHEET 18 OF 63
FILE NUMBER: SPC-2021-0195C APPLICATION DATE: 05/20/2021
APPROVED BY COMMISSION ON _____ UNDER SECTION 112 OF CHAPTER 25-5 OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE(25-5-81, LDC)_____ CASE MANAGER R. AVILA
PROJECT EXPIRATION DATE (ORD. #970905-A)_____DMPZ_____DDZ__X___

Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE:_____ZONING LO-MU-CO
Rev. 1 _____Correction 1 _____
Rev. 2 _____Correction 2 _____
Rev. 3 _____Correction 3 _____
Final Plat must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction (if a building permit is not required), must also be approved prior to the Project Expiration Date.

ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN REVIEWING THESE PLANS, THE CITY OF AUSTIN MUST RELY UPON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.

dwA

23 DEC 2022
STATE OF TEXAS
BRIAN LEE WELLS
89517
LICENSED
PROFESSIONAL ENGINEER

mwm Design Group
305 East Huntland Drive
Suite 200
Austin, Texas 78752
p: 512.453.0767
f: 512.453.1734
TBAE FIRM REGISTRATION NO.: 1452
TBPE FIRM REGISTRATION NO.: F-1416
TBPLS FIRM REGISTRATION NO.: 10065600

NO.	DATE	DESCRIPTION	BY

0 1"
The bar above measures one inch on the original drawing. Adjust scales accordingly.

ONSITE DETAILS

KAALO STUDIO
7901 RM 2222
Austin, Texas 78730

PLOTTED: 12/23/2022
JOB NO: 864-01

C331
18 OF 63

SPC-2021-0195C

File: J:\864-01_Kaalo_Studio\CAD\Sheets\C330-OFFSITE_DTLS.dwg 24x36

GENERAL NOTES

ALL RESPONSIBILITY FOR THE ADEQUECY OF THESE PLANS REMAINS WITH THE ENGINEER. APPROVAL OF THESE PLANS BY THE CITY OF AUSTIN DOES NOT REMOVE THESE RESPONSIBILITIES.

"REVIEWED BY AUSTIN WATER" APPLIES ONLY TO AW PUBLIC FACILITIES. ALL OTHER WATER AND WASTEWATER FACILITIES INSIDE PRIVATE PROPERTY ARE UNDER THE JURISDICATION OF BUILDING INSPECTIONS.

Use of Electronic Files General Disclaimer: Use of the attached files in any manner indicates your acceptance of terms and conditions as set forth below. If you do not agree to all of the terms and conditions, please contact Austin Water Pipeline Engineering, project coordinator prior to use of the referenced information. Please be advised that the attached files are in a format that can be altered by the user. Due to this fact, any reuse of the data will be at the user's sole risk without liability or legal exposure to the City of Austin and user shall indemnify and hold harmless The City of Austin from all claims, damages, losses and expenses including attorney's fees arising out of or resulting from using the digital file. In addition, it is the responsibility of the user to compare all data with the PDF version of this drawing. In the event there is a conflict between the PDF version drawing and the electronic file, the PDF version drawing shall prevail.

Automated Metering Infrastructure: Effective March 2022, new water meters installed shall be in conformance with AW's automated metering infrastructure technology, and with the applicable standard product list. Applicants filing a site plan or subdivision plan will be required to coordinate with the Austin Water Plan Reviewer for details on approval and installation.

Prior to the handling and disposal of Asbestos Pipe, the Contractor's work plans will be reviewed and coordinated through Austin Water's Asbestos Program Manager who can be reached at 512-972-0915. It is the Contractor's responsibility to utilize a trained, certified and licensed Asbestos Abatement Contractor in accordance with the Federal, State and Local regulations.

Modifications to Austin Water signed and stamped sheets are not permitted. All design modifications will need to be submitted via the ABC portal for a Plan Correction or Revision. All unethical engineering practices, including modifying City Stamped plan sheets, shall be reported to the Texas Board of Professional Engineers and Land Surveyors (PELS).
Reference: Texas Engineering Practice Act and Rules, Subchapter C: Professional Conduct and Ethics

FIRE FLOW TEST DATA

FIRE FLOW TEST DATA

AUSTIN FIRE DEPARTMENT
FIRE PREVENTION DIVISION
4310 Wilbarnes Drive Ste., Austin, Texas 78752
afd.hydrants@austintexas.gov

Hydrant Flow Test Report

TEST DATE	05/15/2021	TIME BEGIN	1302	COMPANY	PREVENTION
TIME	1330 min	MAP GRID ID	P31	AFD STAFF	HALOGH, RANDY

RESIDUAL HYDRANT

RESIDUAL HYDRANT #	794105		MAIN SIZE (in.)	16
M & S	DIRECTION	STREET NAME		TYPE
7900		FM 2222		RD
STATIC PRESSURE (PSI)	143	RESIDUAL PRESSURE (PSI)		136

FLOW HYDRANT

FLOW HYDRANT #	764778		MAIN SIZE (in.)	16
M & S	DIRECTION	STREET NAME		TYPE
7900		FM 2222		RD
STATIC PRESSURE (PSI)	145	RESIDUAL PRESSURE (PSI)		132

Comments

$d = \dfrac{\text{discharge coefficient} \times \text{gauge } 2.0'' \text{ hole}^2 \times 29.83}{\text{a } 30^{th} \text{ of flow}^{.54} \times 0.9} =$	0.9
FLOW RATE (GPM) =	1928

NOTE: This information represents the water supply characteristics in the immediate area on the date and time tested. Water flow characteristics may change over time due to new construction, development, or changes in the water system in the future. It is the requesting party's responsibility to ensure that this test information is appropriate to the location of the project in question and that any differences in elevation between the test location and project are accounted for and included in the hydraulic calculations.

HFTR #2302037

AW INFRASTRUCTURE INFORMATION

PROPOSED PRODUCT TYPE (TO BE INSTALLED)	LENGTH OF PIPE (L.F.)	SIZE OF PIPE (INCH)	NO. OF SERVICES
WATER MAIN			NA
WASTEWATER MAIN			NA
RECLAIMED WATER MAIN			NA
FIRE SERVICE	192	8"	1
WATER SERVICE	35	2"	2 (Dom & Irr.)
WASTEWATER SERVICE	129	8"	1
RECLAIMED WATER SERVICE	NA	NA	

EXPAND OR REDUCE TABLE AS NEEDED*
THE INFORMATION INCLUDED IN THIS TABLE ARE APPROXIMATE VALUES ESTIMATED BASED ON GENERAL ENGINEERING GUIDELINES

PROJECT INFORMATION[1]

FIRE, DOMESTIC AND IRRIGATION DEMAND DATA	
GRID NUMBER:	K31
MAPSCO NUMBER:	493U
AW INTERSECTION NUMBER:	24520
BUILDING SIZE IN SQUARE FEET:	28,925
BUILDING TYPE PER IFC:	IIB
BUILDING HEIGHT:	34 Ft
AVAILABLE FIRE FLOW CALCS AT 20 PSI:	9,063 GPM
REQUIRED BUILDING FIRE FLOW PER IFC TABLE B105.1(2):	3,500 GPM
REDUCED FIRE FLOW PER ___% FIRE SPRINKLER REDUCTION PER IFC TABLE B105.2:	75%**
MINIMUM FIRE FLOW (SEE NOTE #2 BELOW):	1,500 GPM
DOMESTIC WATER DEMAND IN GPM:	79 GPM
WATER SUPPLY FIXTURE UNITS (WSFU) FLUSH TANKS OR FLUSHOMETERS (CIRCLE APPLICABLE ITEM):	142.5 WSFU
AUSTIN WATER PRESSURE ZONE:	NORTHWEST A
STATIC WATER PRESSURE IN PSI:	145 PSI
STATIC PRESSURE AT THE HIGHEST LOT SERVED IN PSI:	NA
STATIC PRESSURE AT THE LOWEST LOT SERVED IN PSI:	NA
MAXIMUM IRRIGATION DEMAND:	65 GPM
FIRE LINE VELOCITY: 8" FIRE LINE	9.6 FPS
DOMESTIC LINE VELOCITY: 2.5" DOMESTIC LINE	6.4 FPS
LIVING UNIT EQUIVALENTS (LUEs)	4.7 LUEs

NOTE: LOTS WITH 65 PSI OR GREATER REQUIRE A PRV TO BE INSTALLED ON THE PROPERTY OWNERS SIDE OF THE DOMESTIC WATER METER.

1. WITH THE EXCEPTION OF PROVIDING THE REQUIRED INFORMATION, DO NOT REVISE THESE TABLES IN ANYWAY.

2. MIN FIRE FLOW: DESIGN ENGINEER MUST INDICATE VALUES WHICH COMPLY WITH IFC TABLES B105.1(2) OR B105.2 (REQUIRED OR REDUCED FIRE FLOWS). MIN FIRE FLOW VALUE SHALL BE NO LESS THAN 1000 GPM FOR NFPA 13 SYSTEMS OR 1500 GPM FOR NFPA 13R SYSTEMS (FOOTNOTES a and b FOR TABLE B105.2).

3. IF DEMAND, OTHER THAN MINIMUM FIRE FLOW, IS UTILIZED IN FIRE LINE VELOCITY DETERMINATION, ENGINEERING JUSTIFICATION SHALL BE SHOWN ON THIS SHEET WITH APPLICABLE DATA AND CALCULATIONS.

Meter Notice:
Meter 1.5 inches and larger must be purchased and ordered 90 days in advance of installation.

Meter(s) Requirement for Project:
Address: 7901 RM 2222
Proposed Use: DOMESTIC
Type: DISPLACEMENT
Size: 2" GPM RANGE:
Service Units:

Meter(s) Requirement for Project:
Address: 7901 RM 2222
Proposed Use: IRRIGATION
Type: TURBINE
Size: 1-1/2" GPM RANGE:
Service Units:

Reclaimed Meter(s) Requirement for Project:
Address:
Proposed Use:
Type:
Size: GPM RANGE:

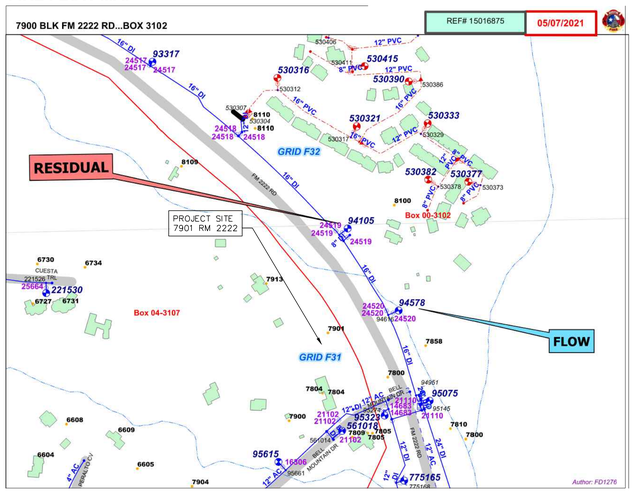
INSPECTION NOTES

Please contact Development Services Department, Site and Subdivision Inspection at sitesubintake@austintexas.gov for arrangements for payment of Inspection fees and job assignment for Inspection of the public utilities to this site. Inspection fees must be paid before any Pre-construction meeting can be held.

STANDARD CONSTRUCTION NOTES October 1, 2021

1. THE CITY STANDARD CONSTRUCTION SPECIFICATIONS CURRENT AT THE TIME OF BIDDING SHALL COVER MATERIALS AND METHODS USED TO DO THIS WORK.
2. CONTRACTOR MUST OBTAIN A ROW PERMIT FROM AUSTIN TRANSPORTATION DEPT, RIGHT OF WAY MANAGEMENT DIVISION BEFORE BEGINNING CONSTRUCTION WITHIN THE RIGHT-OF-WAY OF A PUBLIC STREET OR ALLEY. ACTIVITY WITHIN RIGHT-OF-WAY SHALL COMPLY WITH APPROVED TCP.
3. AT LEAST 48 HOURS PRIOR TO BEGINNING ANY UTILITY CONSTRUCTION ACTIVITY IN PUBLIC ROW OR PUBLIC EASEMENT, THE CONTRACTOR SHALL NOTIFY THE APPLICABLE CITY OF AUSTIN INSPECTION GROUP (AUSTIN TRANSPORTATION, DEVELOPMENT SERVICES, OR PUBLIC WORKS). SEE CURRENT NOTIFICATION REQUIREMENTS AT WWW.AUSTINTEXAS.GOV.
4. THE CONTRACTOR SHALL CONTACT THE AUSTIN AREA "ONE CALL" SYSTEM AT 1-800-344-8377 FOR EXISTING UTILITY LOCATIONS PRIOR TO ANY EXCAVATION IN ADVANCE OF CONSTRUCTION. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES TO BE EXTENDED, TIED TO, OR ALTERED, OR SUBJECT TO DAMAGE/INCONVENIENCE BY THE CONSTRUCTION OPERATIONS. THE CITY OF AUSTIN WATER AND WASTEWATER MAINTENANCE RESPONSIBILITY ENDS AT R.O.W./EASEMENT LINES.
5. NO OTHER UTILITY SERVICE/APPURTENANCES SHALL BE PLACED NEAR THE PROPERTY LINE, OR OTHER ASSIGNED LOCATION DESIGNATED FOR WATER AND WASTEWATER UTILITY SERVICE THAT WOULD INTERFERE WITH THE WATER AND WASTEWATER SERVICES.
6. MINIMUM TRENCH SAFETY MEASURES SHALL BE PROVIDED, AS REQUIRED BY OSHA, CITY SPECIFICATION 509S, AND CITY/COUNTY CONSTRUCTION INSPECTORS.
7. ALL MATERIALS TESTS ORDERED BY THE OWNER FOR QUALITY ASSURANCE PURPOSES, SHALL BE CONDUCTED BY AN INDEPENDENT LABORATORY AND FUNDED BY THE OWNER IN ACCORDANCE WITH CITY STANDARD SPECIFICATION ITEM 1804S.04.
8. PRESSURE TAPS SHALL BE ALLOWED ON A CASE BY CASE BASIS, AS DETERMINED BY THE DIRECTOR'S DESIGNEE. NORMALLY PRESSURE TAPS 4 INCHES AND LARGER SHALL BE ALLOWED IN THE FOLLOWING CASES: A) A TEST SHUT OUT INDICATES AN ADEQUATE SHUT OUT TO PERFORM THE WORK IS NOT FEASIBLE B) MORE THAN 30 CUSTOMERS OR A SINGLE CRITICAL CUSTOMER (AS DEFINED BY AUSTIN WATER) WOULD BE IMPACTED BY THE SHUT OUT OR C) THE EXISTING WATER LINE WARRANTS IT.
9. WATER LINE TESTING AND STERILIZATION SHALL BE PERFORMED IN ACCORDANCE WITH CITY STANDARD SPECIFICATION ITEMS 510.3 (27)-(29). FORCE MAIN PRESSURE TESTING SHALL BE CONDUCTED AND FALL UNDER THE SPECIFICATIONS AS WATER LINES (PRESSURE PIPE) OR AT THE PRESSURES SHOWN ON THE APPROVED PLANS.
10. ALL MATERIAL USED ON THIS PROJECT MUST BE LISTED ON THE STANDARD PRODUCTS LISTING. ANY MATERIAL NOT LISTED HAS TO GO THROUGH THE REVIEW OF THE STANDARDS COMMITTEE FOR REVIEW AND APPROVAL PRIOR TO START OF PROJECT. TESTING AND EVALUATION OF PRODUCTS ARE REQUIRED BEFORE APPROVAL WILL BE GIVEN ANY CONSIDERATION.
11. WHEN WATER SERVICES ARE DAMAGED AND THE SERVICE MATERIAL IS POLYETHYLENE (PE), THE LINE SHALL BE REPAIRED ONLY BY HEAT FUSION WELD, AT BRASS FITTINGS, OR THE FULL LENGTH SHALL BE REPLACED PER CURRENT STANDARD DETAIL(S). WHEN POLYBUTYLENE (PB) TUBING IS DAMAGED OR TAMPERED WITH IN ANY WAY, THE FULL LENGTH OF SERVICE LINE SHALL BE REPLACED. (NOTE: FULL LENGTH IS FROM THE CORPORATION STOP TO THE METER.) REPAIR COUPLINGS ARE NOT ALLOWED FOR ANY WATER OR WASTEWATER SERVICE LINE REPAIR, RECONNECT, OR REPLACEMENT.
12. WHEN AN EXISTING WATERLINE SHUT OUT IS NECESSARY AND POSSIBLE, THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION INSPECTOR WHO WILL THEN NOTIFY AUSTIN WATER DISPATCH AND THE AFFECTED CUSTOMERS A MINIMUM OF FORTY-EIGHT (48) HOURS IN ADVANCE.
13. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION INSPECTOR SO THAT HE CAN NOTIFY THE AUSTIN WATER AT 972-0000 AT A MINIMUM OF 72 HOURS PRIOR TO RELOCATING ANY DOMESTIC OR FIRE DEMAND WATER METERS. THE CONTRACTOR SHALL CAREFULLY REMOVE ALL METERS AND METERS BOXES THAT ARE INDICATED TO BE RELOCATED OR SALVAGED. THE CONTRACTOR SHALL INSTALL THE REMOVED METER OR CITY PROVIDED METER AT THE NEW LOCATION INDICATED ON THE CONSTRUCTION PLANS.
14. THE CONTRACTOR SHALL VERIFY ALL VERTICAL AND HORIZONTAL LOCATIONS OF EXISTING UTILITIES, BELOW GROUND AND OVERHEAD, PRIOR TO STARTING ONSITE UTILITY WORK.
15. ALL WATER, WASTEWATER, AND RECLAIMED MAINS SHALL BE INSTALLED IN ACCORDANCE WITH THE SEPARATION DISTANCES INDICATED ON THE PLANS, PER UTILITY CRITERIA MANUAL AND TCEQ CHAPTERS 210, 217, AND 290.
16. PROJECT-SPECIFIC SHOP DRAWINGS SHALL BE SUBMITTED FOR AW APPROVAL FOR PRE-CAST CIRCULAR VERTICAL MANHOLE SECTIONS LARGER THAN 48" DIAMETER. THE SHOP DRAWINGS SHALL INCLUDE THE FLOWLINE ELEVATION OF ALL CONNECTING PIPES; ELEVATIONS OF TRANSITIONS FROM LARGE DIAMETER SECTIONS TO 48" DIAMETER SECTIONS; TOP OF MANHOLE AND SURROUNDING GROUND ELEVATIONS; AND DETAILS OF SPECIAL CONSTRUCTION CONSIDERATIONS SPECIFIED IN THE CONTRACT DOCUMENTS.
17. WHEN CONCRETE MANHOLES LARGER THAN 48 INCH DIAMETER ARE USED, DRAWINGS THAT ARE SEALED BY A PROFESSIONAL ENGINEER SHALL BE SUBMITTED FOR BASE SLABS, FLAT TOP LIDS (IF USED), AND FLAT TYPE CONCRETE PIECES USED TO TRANSITION FROM LARGER TO SMALLER DIAMETER MANHOLE SECTIONS.
18. ALL FIRE HYDRANTS AND VALVES THAT ARE TO BE ABANDONED SHALL BE REMOVED, SALVAGED AND RETURNED TO AUSTIN WATER. NOTICE SHOULD BE GIVEN 48 HOURS PRIOR, TO PIPELINE OPERATIONS DISTRIBUTION SYSTEM -VALVES AND HYDRANT SERVICES SUPERVISOR AT 512-972-1280.
19. ALL EXISTING WATER METERS IDENTIFIED TO BE RELOCATED OR ABANDONED AT THE DEVELOPMENT SHALL BE REMOVED FROM THE METER BOX PRIOR TO CONSTRUCTION AND GIVEN IMMEDIATELY TO THE CITY OF AUSTIN INSPECTOR.
20. THE ENGINEER SHALL CALL OUT THE SIZE, TYPE AND USE (DOMESTIC OR IRRIGATION) OF ALL EXISTING WATER METERS TO BE RELOCATED OR REPURPOSED. WATER METER NUMBERS WILL NOT BE REQUIRED TO BE PLACED ON THE PLAN SHEET. A SEPARATE AUSTIN WATER TAPS OFFICE FORM WILL BE USED TO PROVIDE RELEVANT DATA FOR THE EXISTING INFORMATION ON EXISTING METERS TO RECEIVE APPROPRIATE CREDITS. THIS FORM SHALL BE DIRECTLY SUBMITTED TO AUSTIN WATER TAPS OFFICE FOR REVIEW AND PROCESSING.
21. NO CONNECTON MAY BE MADE BETWEEN THE PRIVATE PLUMBING AND AUSTIN WATER INFRASTRUCTURE UNTIL A CITY APPROVED WATER METER HAS BEEN INSTALLED.
22. METER BOXES AND CLEAN OUTS SHALL NOT BE LOCATED WITHIN PAVED AREAS SUCH AS DRIVEWAYS AND SIDEWALKS.

FIRE FLOW MAP



Additional Review Acknowledgement

Onsite Water Reuse & AW Reclaimed Information

Does this development have a total gross floor building area of 250,000 square feet or more?
☐YES
☒NO

Distance to nearest existing AW reclaimed main?
☐250' or less
☐251' to 500'
☒Greater than 500'

Automated Metering Information

Is this project within the current service area of AW's Data Collection Units (DCUs)?
☐YES
☒NO

Does this project require a dedicated easement for DCU infrastructure?
☐YES
☒NO

AULCC Requirement

Does this project require an AULCC review?
☐YES
☒NO

IF YES, PLEASE PROVIDE UCC#_____

AUSTIN WATER REVIEW BLOCK

AW EXPIRATION STAMP
THREE YEARS FROM THE DATE OF SIGN-OFF

NOTE:DO NOT REMOVE THE TITLE BLOCK

AUSTIN WATER GENERAL INFORMATION AND CONSTRUCTION NOTES FOR COMMERCIAL SITES AND SUBDIVISION PLANS

CITY OF AUSTIN
AUSTIN WATER
October 2021
VERSION 2.0
STANDARD NO.
1 OF 1

I CERTIFY THAT THESE ENGINEERING DOCUMENTS ARE COMPLETE, ACCURATE AND ADEQUATE FOR THEIR INTENDED PURPOSES, INCLUDING CONSTRUCTION, BUT ARE NOT AUTHORIZED FOR CONSTRUCTION PRIOR TO FORMAL CITY APPROVAL.

SITE PLAN APPROVAL SHEET 19 OF 63
FILE NUMBER: SPC-2021-0195C APPLICATION DATE: 05/20/2021
APPROVED BY COMMISSION ON _____ UNDER SECTION 112 OF CHAPTER 25-5 OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE(25-5-81, LDC)_____ CASE MANAGER R. AVILA
PROJECT EXPIRATION DATE (ORD. #970905-A)_____DMPZ_____DDZ__X___

_____
Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE:_____ZONING LO-MU-CO
Rev. 1 _____Correction 1 _____
Rev. 2 _____Correction 2 _____
Rev. 3 _____Correction 3 _____
Final Plat must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction (if a building permit is not required), must also be approved prior to the Project Expiration Date.

ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN REVIEWING THESE PLANS, THE CITY OF AUSTIN MUST RELY UPON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.

dwA

23 DEC 2022
STATE OF TEXAS
BRIAN LEE WELLS
89517
LICENSED
PROFESSIONAL ENGINEER

mwm Design Group
305 East Huntland Drive
Suite 200
Austin, Texas 78752
p: 512.453.0767
f: 512.453.1734
TBAE FIRM REGISTRATION NO.: 1452
TBPE FIRM REGISTRATION NO.: F-1416
TBPLS FIRM REGISTRATION NO.: 10065600

NO.	DATE	DESCRIPTION	BY

0 1"
The bar above measures one inch on the original drawing. Adjust scales accordingly.

GENERAL NOTES

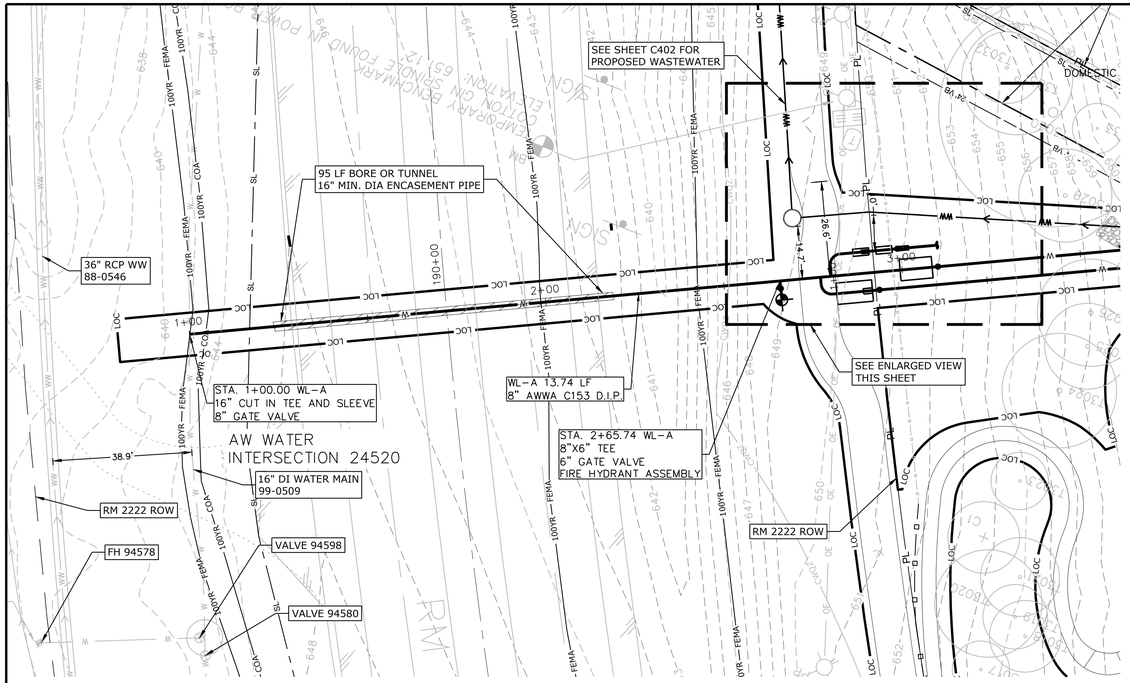
KAALO STUDIO
7901 RM 2222
Austin, Texas 78730

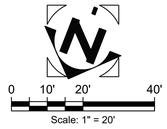
PLOTTED: 12/23/2022
JOB NO: 864-01

C400
19 OF 63

SPC-2021-0195C

File: X:_864-01_kaalo_Studio\CAD\Sheets\C400-AW_NOTES.dwg 24x36



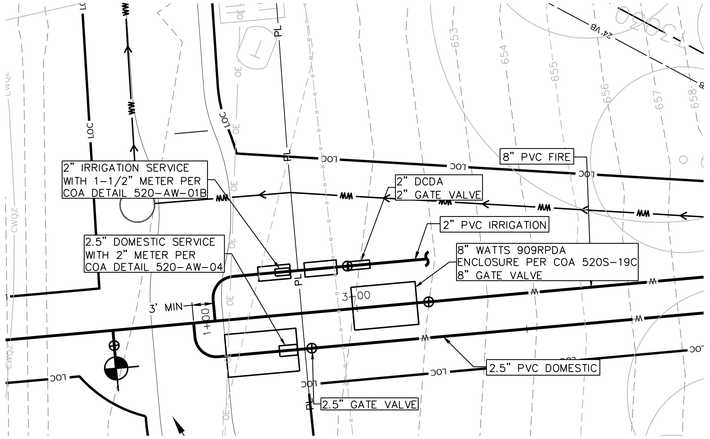


OFFSITE WATER LEGEND

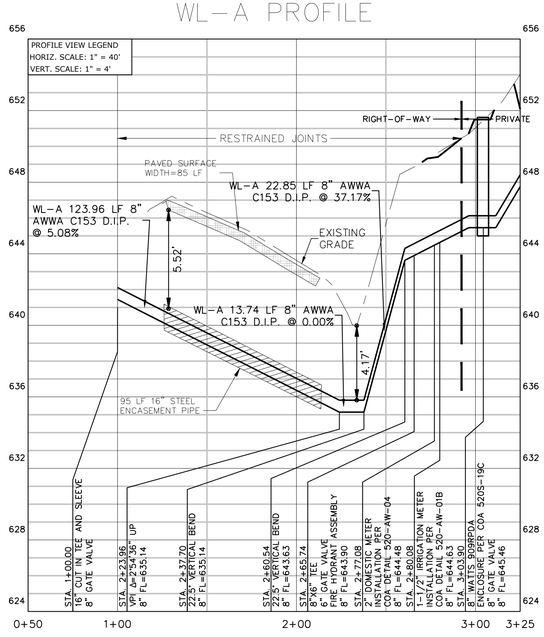
W	WATER LINE
WV	WATER VALVE
WM	RESIDENTIAL METER AND BOX
FDC	COMMERCIAL WATER METER AND VAULT
FH	FIRE HYDRANT
BFP	BACKFLOW PREVENTER DEVICE AND VAULT
	WATER LINE REDUCER

NOTES:

1. AWU WATER DISTRIBUTION SYSTEM MAP SHEET# K31.
2. CONTRACTOR TO VERIFY ALL UTILITY LOCATIONS AND/OR CROSSINGS TWO WEEKS PRIOR TO CONSTRUCTION.
3. SEE SHEET C400 FOR ADDITIONAL UTILITY NOTES.
4. ALL WATER LINES SHALL BE INSTALLED IN ACCORDANCE WITH CITY OF AUSTIN CRITERIA AND CHAPTER 290 OF THE TEXAS ADMINISTRATIVE CODE.
5. ALL EXISTING PUBLIC UNDERGROUND WATER UTILITIES ARE APPROXIMATE AND SHOWN PER COA RECORDS.
6. ALL VALVES WITHIN PAVED AREAS SHALL HAVE HEAVY-DUTY TRAFFIC BEARING CASTINGS AND COVERS.
7. ALL POTABLE AND FIRE LINE DUCTILE IRON PIPE SHALL BE AWWA C-151 PRESSURE CLASS 350 UNLESS NOTED OTHERWISE.
8. UNDERGROUND MAINS FEEDING NFPA 13 SPRINKLER SYSTEMS MUST BE INSTALLED AND TESTED IN ACCORDANCE WITH NFPA 13, NFPA 24 AND THE FIRE CODE, BY A LICENSED SPRINKLER CONTRACTOR WITH A CITY OF AUSTIN PLUMBING PERMIT FOR THE INSTALLATION. THE ENTIRE MAIN MUST BE HYDROSTATICALLY TESTED AT ONE TIME, UNLESS ISOLATION VALVES ARE PROVIDED BETWEEN TESTED SECTIONS.
9. UNDERGROUND MAINS FEEDING PRIVATE FIRE HYDRANTS MUST BE INSTALLED AND TESTED IN ACCORDANCE WITH NFPA 24 AND THE FIRE CODE BY A STATE LICENSED CONTRACTOR WITH A PLUMBING PERMIT FOR THE PROPOSED WORK. THE ENTIRE MAIN MUST BE HYDROSTATICALLY TESTED AT ONE TIME, UNLESS ISOLATION VALVES ARE PROVIDED BETWEEN TESTED SECTIONS.
10. STEEL ENCASEMENT PIPE SHALL BE ASTM A134 WITH A MINIMUM THICKNESS OF 3/8".



WL-A PROFILE



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SITE PLAN APPROVAL SHEET 20 OF 63
FILE NUMBER: SPC-2021-0195C APPLICATION DATE: 05/20/2021
APPROVED BY COMMISSION ON _____ UNDER SECTION 112 OF CHAPTER 25-5 OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE(25-5-81, LDC)_____ CASE MANAGER R. AVILA
PROJECT EXPIRATION DATE (ORD. #970905-A)_____DMPZ_____DDZ__X___

_____
Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE:_____ZONING LO-MU-CO
Rev. 1 _____Correction 1 _____
Rev. 2 _____Correction 2 _____
Rev. 3 _____Correction 3 _____

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dwA

23 DEC 2022
STATE OF TEXAS
BRIAN LEE WELLS
89517
LICENSED
PROFESSIONAL ENGINEER

mwm Design Group
305 East Huntland Drive
Suite 200
Austin, Texas 78752
p: 512.453.0767
f: 512.453.1734
TBAE FIRM REGISTRATION NO.: 1452
TBPE FIRM REGISTRATION NO.: F-1416
TBPLS FIRM REGISTRATION NO.: 10065600

NO.	DATE	DESCRIPTION	BY

0 1"
The bar above measures one inch on the original drawing. Adjust scales accordingly.

OFFSITE WATER PLAN & PROFILE

KAALO STUDIO
7901 RM 2222
Austin, Texas 78730

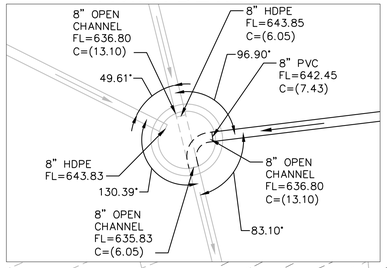
PLOTTED: 12/23/2022
JOB NO: 864-01

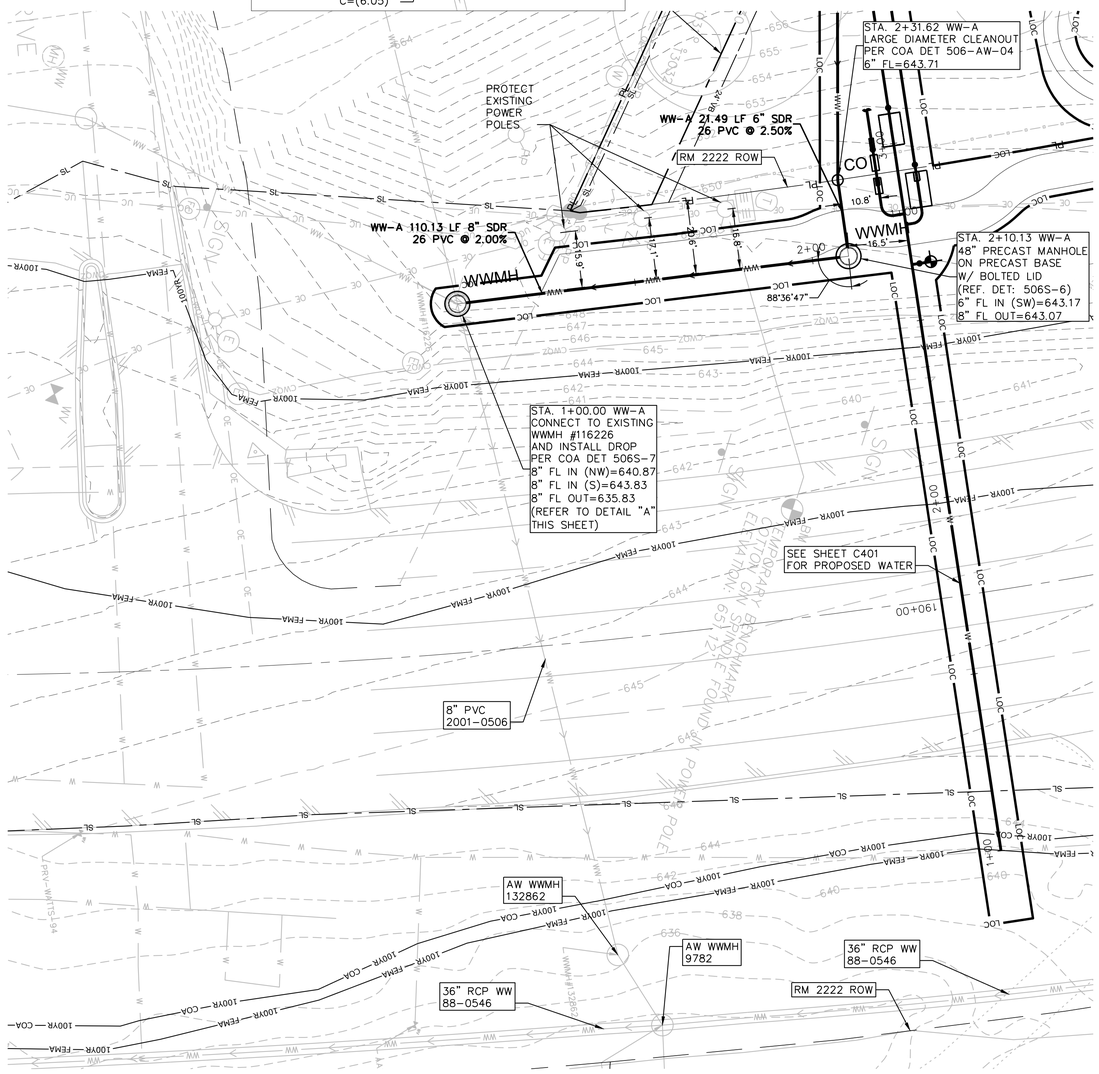
C401
20 OF 63

SPC-2021-0195C

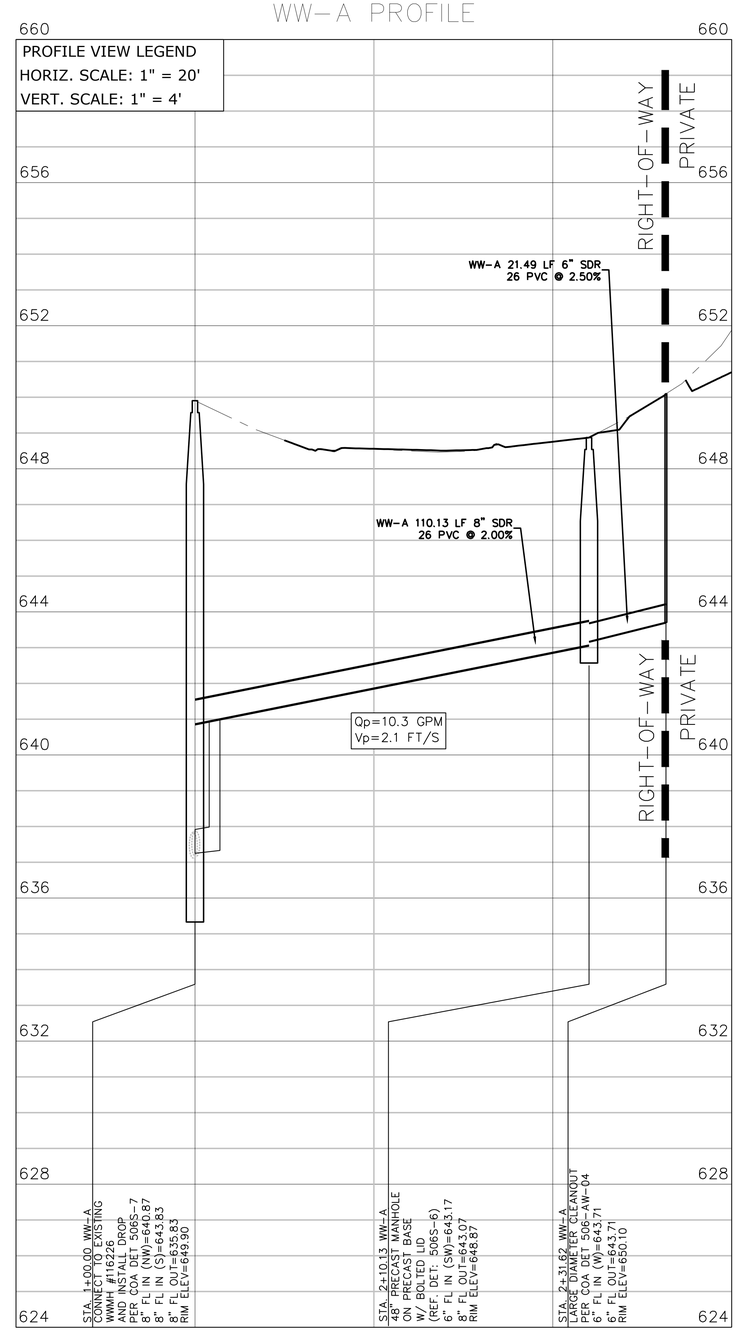
File: Y:_864-01_kaalo_Studio\CAD\Sheets\C401-OFFSITE_WATER.dwg 24x36

WWMH DETAIL "A"





WW-A PROFILE



OFFSITE WASTEWATER LEGEND

- WW — WASTEWATER LINE
- WWMH — WASTEWATER MANHOLE
- CO — WASTEWATER CLEANOUT
- DCO — WASTEWATER DOUBLE CLEANOUT

NOTES:
1. AWU WASTEWATER COLLECTION SYSTEM MAP SHEET# F31.
2. CONTRACTOR TO VERIFY ALL UTILITY LOCATIONS AND/OR CROSSINGS TWO WEEKS PRIOR TO CONSTRUCTION.
3. SEE SHEET C400 FOR ADDITIONAL UTILITY NOTES.
4. ALL WASTEWATER LINES SHALL BE INSTALLED IN ACCORDANCE WITH CITY OF AUSTIN CRITERIA AND CHAPTER 217 OF THE TEXAS ADMINISTRATIVE CODE.
5. ALL EXISTING PUBLIC UNDERGROUND WASTEWATER UTILITIES ARE APPROXIMATE AND SHOWN PER COA RECORDS.
6. UNLESS ALTERNATIVE METHODS ARE APPROVED BY ENGINEER, MAINTAIN 10' OF SEPARATION BETWEEN ALL POTABLE WATER LINES AND WASTEWATER LINES.
7. ALL CLEANOUTS AND MANHOLES WITHIN PAVED AREAS SHALL HAVE HEAVY-DUTY TRAFFIC BEARING CASTINGS AND COVERS.
8. ALL PVC WASTEWATER PIPE SHALL BE ASTM D3034 SDR 26, UNLESS NOTED OTHERWISE.

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SITE PLAN APPROVAL SHEET 21 OF 63
FILE NUMBER: SPC-2021-0195C APPLICATION DATE: 05/20/2021
APPROVED BY COMMISSION ON ____ UNDER SECTION 112 OF CHAPTER 25-5 OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE(25-5-81, LDC)____ CASE MANAGER R. AVILA
PROJECT EXPIRATION DATE (ORD. #970905-A)____DMPZ____DDZ__X__

Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE:____ZONING LO-MU-CO
Rev. 1 ____Correction 1 ____
Rev. 2 ____Correction 2 ____
Rev. 3 ____Correction 3 ____

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dwA

23 DEC 2022

STATE OF TEXAS
BRIAN LEE WELLS
89517
LICENSED PROFESSIONAL ENGINEER

mwm DesignGroup
305 East Huntland Drive
Suite 200
Austin, Texas 78752
p: 512.453.0767
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TBAE FIRM REGISTRATION NO.: 1452
TBPE FIRM REGISTRATION NO.: F-1416
TBPLS FIRM REGISTRATION NO.: 10065600

NO.	DATE	DESCRIPTION	BY

0 1"
The bar above measures one inch on the original drawing. Adjust scales accordingly.

OFFSITE WASTEWATER PLAN & PROFILE

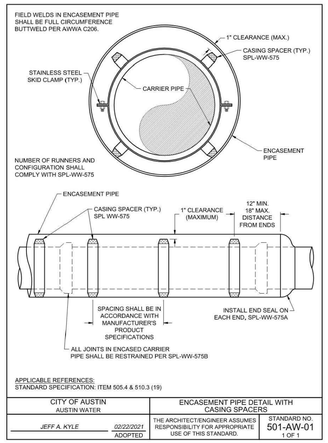
KAALO STUDIO
7901 RM 2222
Austin, Texas 78730

PLOTTED: 12/23/2022
JOB NO: 864-01

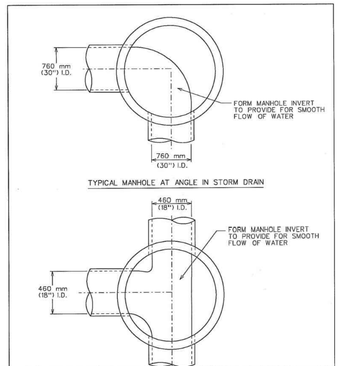
C402
21 OF 63

SPC-2021-0195C

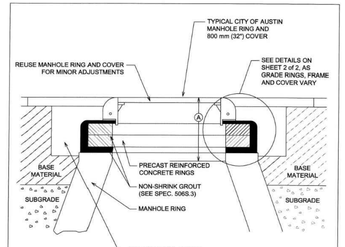
File: Y:\864-01_Kaalo_Studio\CAD\Sheets\C402-OFFSITE_WW.dwg 24x36



CITY OF AUSTIN AUSTIN WATER	ENCASEMENT PIPE DETAIL WITH CASING SPACERS	
JEFF A. KYLE 02/22/2021 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 501-AW-01 1 OF 1



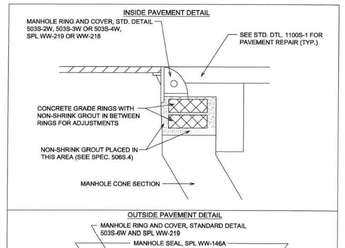
CITY OF AUSTIN DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW	MANHOLE INVERT PLAN	
George E. Lowell 2/14/02 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 506S-1



Ⓐ VERTICAL FACE = ALLOWABLE THROAT OR CHIMNEY HEIGHT
= NEW CONSTRUCTION = 525mm = (21") Max.
= EXISTING CONSTRUCTION = 675mm (27") Max.

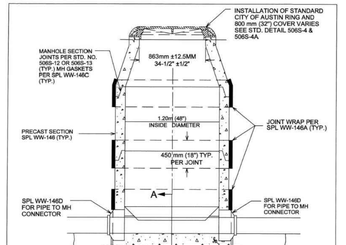
NOTES:
1. NON-SHRINK GROUT SHALL NOT EXCEED 25 mm (1") IN ANY DIMENSION.
2. SUB-GRADE AND BASE MATERIALS SHALL BE COMPACTED ACCORDING TO ITEMS 201S AND 210S, RESPECTIVELY, OF THE CITY OF AUSTIN STANDARD SPECIFICATIONS.
3. REFER TO STANDARD 1100S-1 FOR REPAIRS AROUND MANHOLES.
4. SEE STANDARD 506S-4 FOR HDPE RING INSTALLATION (FOR USE IN PAVED AREAS ONLY).

CITY OF AUSTIN AUSTIN WATER UTILITY	MINOR MANHOLE ADJUSTMENT & NEW MANHOLE CONSTRUCTION	
Kathi K Flowers 8/31/2021	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 506S-4 1 OF 2



NOTES:
1. FOR USE IN UNPAVED AREAS ONLY.
2. WHEN USED WITHIN 100-YEAR FLOODPLAIN, SEE DTL. 506S-6 FOR ADDITIONAL M.H. REQUIREMENTS.
3. DIMENSION B=150-300 mm (6"-12") FOR M.H. LOCATED IN 100-YR FLOOD PLAIN. =50-300 mm (2"-12") FOR M.H. OUTSIDE 100-YR FLOOD PLAIN.

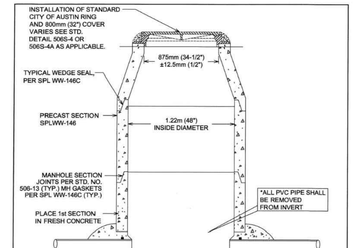
CITY OF AUSTIN AUSTIN WATER UTILITY	MINOR MANHOLE ADJUSTMENT & NEW MANHOLE CONSTRUCTION	
Kathi K Flowers 8/31/2021	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 506S-4 2 OF 2



TYPICAL PRECAST BASE

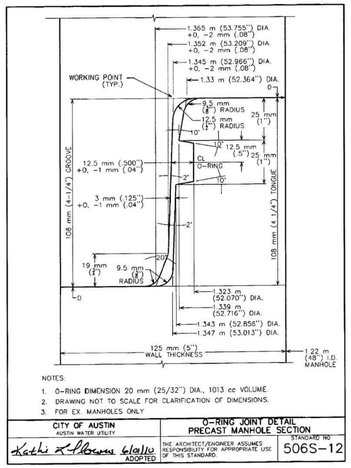
NOTE:
1. THE MANHOLE BASE SHALL BE BEDDED ON 150 mm (6") COARSE AGGREGATE. THE CONTRACTOR SHALL LEVEL AND PLUMB THE BASE PRIOR TO SETTING THE PRECAST MANHOLE RISER SECTIONS ON THE PRECAST CONCRETE BASE.
2. MANHOLE FOUNDATION SHALL MEET OR EXCEED SPEC. 506.6B.

CITY OF AUSTIN AUSTIN WATER UTILITY	WATER TIGHT WASTEWATER MANHOLE ON PRECAST BASE	
Kathi K Flowers 8/31/2021	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 506S-6



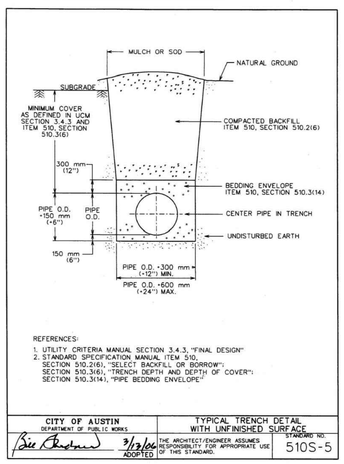
NOTES:
1. FOR EXISTING WW LINES ONLY.
2. MANHOLE FOUNDATION SHALL MEET OR EXCEED STD. SPEC 506.5B
3. FIRST RISER SECTION SHALL BE PLACED PLUMB & LEVEL PRIOR TO SETTING ANY ADDITIONAL SECTIONS.

CITY OF AUSTIN AUSTIN WATER UTILITY	PRECAST MANHOLE ON CAST IN PLACE BASE	
Kathi K Flowers 8/31/2021	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 506S-9



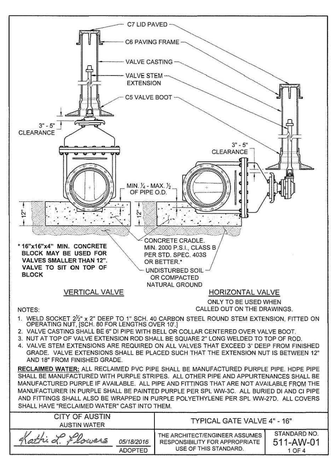
NOTES:
1. O-RING DIMENSION 20 mm (25/32") DIA., 1013 cc VOLUME.
2. DRAWING NOT TO SCALE FOR CLARIFICATION OF DIMENSIONS.
3. FOR EX. MANHOLES ONLY

CITY OF AUSTIN AUSTIN WATER UTILITY	O-RING JOINT DETAIL PRECAST MANHOLE SECTION	
Kathi K Flowers 6/30/10 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 506S-12



REFERENCES:
1. UTILITY CRITERIA MANUAL SECTION 3.4.3, "FINAL DESIGN"
2. STANDARD SPECIFICATION MANUAL ITEM 510,
   SECTION 510.2(6), "SELECT BACKFILL, BORROW";
   SECTION 510.3(6), "TRENCH DEPTH AND DEPTH OF COVER";
   SECTION 510.3(14), "PIPE BEDDING ENVELOPE"

CITY OF AUSTIN DEPARTMENT OF PUBLIC WORKS	TYPICAL TRENCH DETAIL WITH UNFINISHED SURFACE	
Bie Andrews 3/16/06 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 510S-5



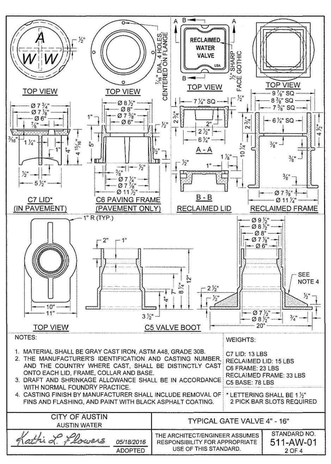
VERTICAL VALVE

HORIZONTAL VALVE
ONLY TO BE USED WHEN CALLED OUT ON THE DRAWINGS.

NOTES:
1. WELD SOCKET 2½" x 2" DEEP TO 1" SCH. 40 CARBON STEEL ROUND STEM EXTENSION, FITTED ON OPERATING NUT, (SCH. 80 FOR LENGTHS OVER 12').
2. VALVE CASTING SHALL BE 6" D PIPE WITH BELL OR COLLAR CENTERED OVER VALVE BOOT.
3. NUT AT TOP OF VALVE EXTENSION ROD SHALL BE SQUARE 2" LONG WELDED TO TOP OF ROD.
4. VALVE STEM EXTENSIONS ARE REQUIRED ON ALL VALVES THAT EXCEED 3' DEEP FROM FINISHED GRADE. VALVE EXTENSIONS SHALL BE PLACED SUCH THAT THE EXTENSION NUT IS BETWEEN 12" AND 18" FROM FINISHED GRADE.

RECLAIMED WATER: ALL RECLAIMED PVC PIPE SHALL BE MANUFACTURED PURPLE PIPE. HDPE PIPE SHALL BE MANUFACTURED WITH PURPLE STRIPES. ALL OTHER PIPE AND APPURTENANCES SHALL BE MANUFACTURED PURPLE IF AVAILABLE. ALL PIPE AND FITTINGS THAT ARE NOT AVAILABLE FROM THE MANUFACTURER IN PURPLE SHALL BE PAINTED PURPLE PER SPL WW-3C. ALL BURIED DI AND CI PIPE AND FITTINGS SHALL ALSO BE WRAPPED IN PURPLE POLYETHYLENE PER SPL WW-27D. ALL COVERS SHALL HAVE "RECLAIMED WATER" CAST INTO THEM.

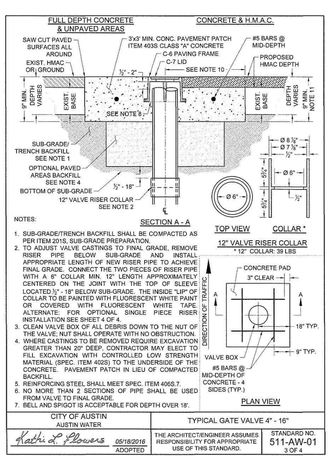
CITY OF AUSTIN AUSTIN WATER	TYPICAL GATE VALVE 4" - 16"	
Kathi K Flowers 05/18/2016 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 511-AW-01 1 OF 4



NOTES:
1. MATERIAL SHALL BE GRAY CAST IRON, ASTM A48, GRADE 30B.
2. THE MANUFACTURER'S IDENTIFICATION AND CASTING NUMBER, AND THE COUNTRY WHERE CAST, SHALL BE DISTINCTLY CAST ONTO EACH LID, FRAME, COLLAR AND BASE.
3. DRAFT AND SHRINKAGE ALLOWANCE SHALL BE IN ACCORDANCE WITH NORMAL FOUNDRY PRACTICE.
4. CASTING FINISH BY MANUFACTURER SHALL INCLUDE REMOVAL OF FINS AND FLASHING, AND PAINT WITH BLACK ASPHALT COATING.

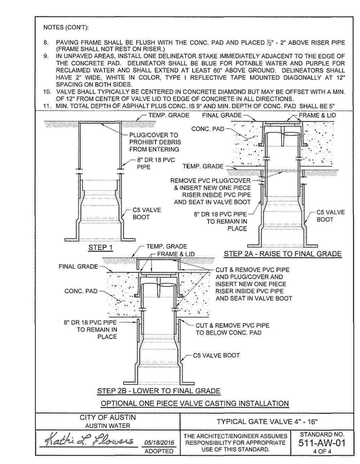
WEIGHTS:
C7 LID: 13 LBS
RECLAIMED LID: 15 LBS
C6 FRAME: 23 LBS
RECLAIMED FRAME: 33 LBS
C5 BASE: 78 LBS
* LETTERING SHALL BE 1 ½" 2 PICK BAR SLOTS REQUIRED

CITY OF AUSTIN AUSTIN WATER	TYPICAL GATE VALVE 4" - 16"	
Kathi K Flowers 05/18/2016 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 511-AW-01 2 OF 4

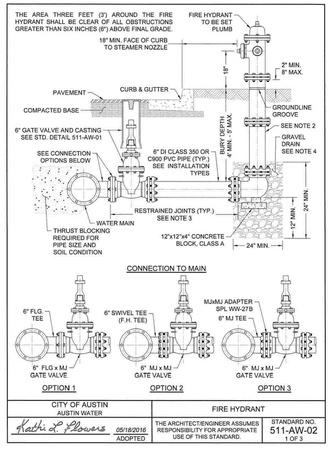


NOTES:
1. SUB-GRADE/TRENCH BACKFILL SHALL BE COMPACTED AS PER ITEM 201S, SUB-GRADE PREPARATION.
2. TO ADJUST VALVE CASTINGS TO FINAL GRADE, REMOVE RISER PIPE BELOW SUB-GRADE AND INSTALL APPROPRIATE LENGTH OF NEW RISER PIPE TO ACHIEVE FINAL GRADE. CONNECT THE TWO PIECES OF RISER PIPE WITH A 6" COLLAR MIN. 12" LENGTH APPROXIMATELY CENTERED ON THE JOINT WITH THE TOP OF SLEEVE LOCATED ½" - 18" BELOW SUB-GRADE. THE INSIDE "LIP" OF COLLAR TO BE PAINTED WITH FLUORESCENT WHITE PAINT OR COVERED WITH FLUORESCENT WHITE TAPE. ALTERNATE: FOR OPTIONAL SINGLE PIECE RISER INSTALLATION SEE SHEET 4 OF 4.
3. CLEAN VALVE BOX OF ALL DEBRIS DOWN TO THE NUT OF THE VALVE; NUT SHALL OPERATE WITH NO OBSTRUCTION.
4. WHERE CASTINGS TO BE REMOVED REQUIRE EXCAVATION GREATER THAN 20" DEEP, CONTRACTOR MAY ELECT TO FILL EXCAVATION WITH CONTROLLED LOW STRENGTH MATERIAL (SPEC. ITEM 402S) TO THE UNDERSIDE OF THE CONCRETE. PAVEMENT PATCH IN LIEU OF COMPACTED BACKFILL.
5. REINFORCING STEEL SHALL MEET SPEC. ITEM 406S.7.
6. NO MORE THAN 2 SECTIONS OF PIPE SHALL BE USED FROM VALVE TO FINAL GRADE.
7. BELL AND SPIGOT IS ACCEPTABLE FOR DEPTH OVER 18'.

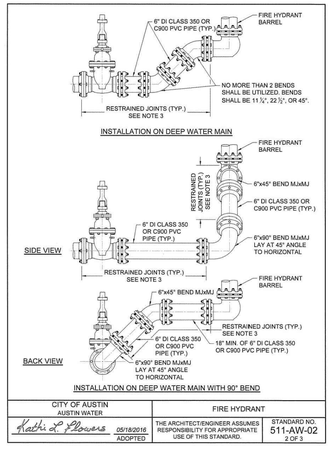
CITY OF AUSTIN AUSTIN WATER	TYPICAL GATE VALVE 4" - 16"	
Kathi K Flowers 05/18/2016 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 511-AW-01 3 OF 4



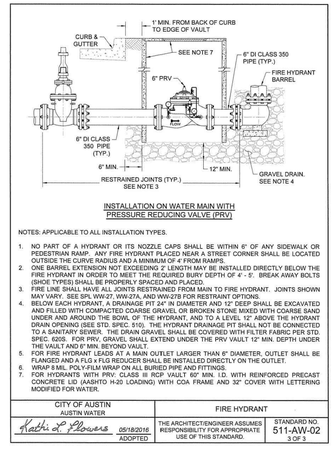
CITY OF AUSTIN AUSTIN WATER	TYPICAL GATE VALVE 4" - 16"	
Kathi K Flowers 05/18/2016 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 511-AW-01 4 OF 4



CITY OF AUSTIN AUSTIN WATER	FIRE HYDRANT	
Kathi K Flowers 05/18/2016 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 511-AW-02 1 OF 3

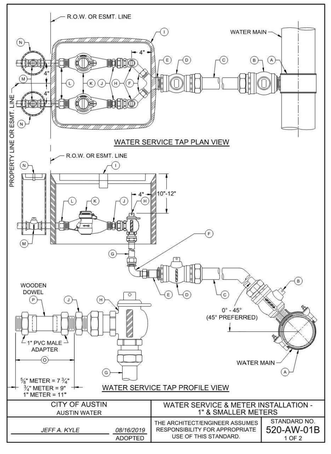


CITY OF AUSTIN AUSTIN WATER	FIRE HYDRANT	
Kathi K Flowers 05/18/2016 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 511-AW-02 2 OF 3



NOTES: APPLICABLE TO ALL INSTALLATION TYPES.
1. NO PART OF A HYDRANT OR ITS NOZZLE CAPS SHALL BE WITHIN 6" OF ANY SIDEWALK OR PEDESTRIAN RAMP. ANY FIRE HYDRANT PLACED NEAR A STREET CORNER SHALL BE LOCATED OUTSIDE THE CURVE RADIUS AND A MINIMUM OF 4' FROM RAMPS.
2. ONE BARREL EXTENSION NOT EXCEEDING 2' LENGTH MAY BE INSTALLED DIRECTLY BELOW THE FIRE HYDRANT IN ORDER TO MEET THE REQUIRED BURY DEPTH OF 4' - 5'. BREAK AWAY BOLTS (SHOE TYPES) SHALL BE PROPERLY SPACED AND PLACED.
3. FIRE LINE SHALL HAVE ALL JOINTS RESTRAINED FROM MAIN TO FIRE HYDRANT. JOINTS SHOWN MAY VARY. SEE SPL WW-27, WW-27A, AND WW-27B FOR RESTRAINT OPTIONS.
4. BELOW EACH HYDRANT, A DRAINAGE PIT 24" IN DIAMETER AND 12" DEEP SHALL BE EXCAVATED AND FILLED WITH COMPACTED COARSE GRAVEL OR BROKEN STONE MIXED WITH COARSE SAND UNDER AND AROUND THE BOWL OF THE HYDRANT, AND TO A LEVEL 12" ABOVE THE HYDRANT DRAIN OPENING (SEE STD. SPEC. 510). THE HYDRANT DRAINAGE PIT SHALL NOT BE CONNECTED TO A SANITARY SEWER. THE DRAIN GRAVEL SHALL BE COVERED WITH FILTER FABRIC PER STD. SPEC. 620S. FOR PRV, GRAVEL SHALL EXTEND UNDER THE PRV VAULT 12" MIN. DEPTH UNDER THE VAULT AND 6" MIN. BEYOND VAULT.
5. FOR FIRE HYDRANT LEADS AT A MAIN OUTLET LARGER THAN 6" DIAMETER, OUTLET SHALL BE FLANGED AND A FLG x FLG REDUCER SHALL BE INSTALLED DIRECTLY ON THE OUTLET.
6. WRAP 8 MIL. POLY-FILM WRAP ON ALL BURIED PIPE AND FITTINGS.
7. FOR HYDRANTS WITH PRV: CLASS III RCP VAULT 60" MIN. I.D. WITH REINFORCED PRECAST CONCRETE LID (AASHTO H-20 LOADING) WITH COA FRAME AND 32" COVER WITH LETTERING MODIFIED FOR WATER.

CITY OF AUSTIN AUSTIN WATER	FIRE HYDRANT	
Kathi K Flowers 05/18/2016 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 511-AW-02 3 OF 3



CITY OF AUSTIN AUSTIN WATER	WATER SERVICE & METER INSTALLATION - 1" & SMALLER METERS	
JEFF A. KYLE 08/16/2019 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 520-AW-01B 1 OF 2

MATERIALS LIST:
A. 2" SERVICE CLAMP, SPL WW-264
B. 2" CORPORATION STOP, SPL WW-68
C. 2" HDPE WATER SERVICE TUBING, SPL WW-65
D. 2" BALL VALVE, SPL WW-68
E. SINGLE SERVICE: 2" MIP X 1" COPPER FLARE FITTING, SPL WW-68 OR DOUBLE SERVICE: 2" MIP X 1" COPPER FLARE WYE, SPL WW-68
F. 1" SWIVEL NUT x 1" COMPRESSION 90° BEND, SPL WW-68
G. 1" HDPE WATER SERVICE TUBING, SPL WW-65
H. 1" ANGLE METER STOP, SPL WW-68
I. METER BOX AND LID, SPL WW-145A. FOR DUAL 1" METERS: USE TWO SINGLE METER BOXES

MATERIALS TO BE INSTALLED BY PLUMBER:
J. BRASS METER BUSHING - SIZE AS NEEDED TO CONNECT ANGLE METER STOP TO METER
K. WATER METER PURCHASED FROM AUSTIN WATER
L. BRASS WATER METER COUPLING MALE IPT x SWIVEL COUPLING NUT: ⅝" AND ¾" METERS: 8 ½" LONG x ¾" DIA. 1" METERS: 8 ½" LONG x 1" DIA.
M. PROPERTY OWNER'S CUT OFF VALVE, SPL WW-276
N. PROPERTY OWNER'S CUT OFF VALVE BOX AND LID
O. TEMPORARY METER SPACER (REQUIRED TO ASSURE METER WILL FIT APPROPRIATELY)
P. 1" WOODEN DOWEL (SHOW ADDRESS ON DOWEL USING WATERPROOF MARKER)

NOTES:
1. SERVICE CLAMP SHALL BE WRAPPED COMPLETELY WITH 8 MIL. POLYETHYLENE FILM, SPL WW-27D.
2. BRANCH CONNECTIONS AND ALL ANGLE METER STOPS MUST BE INSTALLED PRIOR TO ANY METER INSTALLATION.
3. TOP OF METER BOXES SHOULD BE 4" ABOVE GROUND.
4. PIPING AND TUBING IN STREET RIGHT-OF-WAY SHALL BE BEDDED IN GRANULAR MATERIALS AS REQUIRED BY SECTION 510.3 (14) OF THE CITY OF AUSTIN STANDARD SPECIFICATIONS; BACKFILL ABOVE GRANULAR BEDDING AS REQUIRED BY SECTION 510.3 (25).
5. METER BOX MUST BE BEHIND CURB NEXT TO PROPERTY LINE OR EASEMENT AND OUT OF VEHICULAR TRAFFIC AREA AND SIDEWALK.
6. BALL VALVE "D" SHALL NOT BE LOCATED UNDER SIDEWALK, CURB, OR PAVEMENT, AND NOT BE LOCATED MORE THAN 36" BELOW FINAL GRADE.
7. METER SIZES TO BE SHOWN ON PLANS.
8. METER BOX CUT OUTS SHALL NOT EXCEED TWO TIMES THE PIPE DIAMETER.
9. INSTALL METALLIC TRACER TAPE, SPL WW-997, MINIMUM 1" ABOVE TUBING FROM SERVICE CLAMP "A" TO BALL VALVE "D".
10. TUBING TO BE PLACED IN A STRAIGHT ALIGNMENT AND ALLOWED TO RELAX AND "SNAKE" LOOSELY IN THE TRENCH. TUBING BEHIND CURB AND GUTTER SHALL BE INSTALLED WITH A MINIMUM OF DEPTH OF COVER.
11. 1" TUBING, WHEN BENT, SHALL HAVE A RADIUS NO SMALLER THAN 3'. 2" TUBING, WHEN BENT, SHALL HAVE A RADIUS NO SMALLER THAN 5'. BRASS FITTINGS SHALL NOT BE CONNECTED TO A BENT SECTION OF TUBING.
12. SOLID, TUBULAR STAINLESS STEEL INSERT STIFFENERS FOR HDPE TUBING SHALL BE USED AT ALL COMPRESSION FITTINGS. INSERT STIFFENERS SHALL BE FROM THE SAME MANUFACTURER AS THE COMPRESSION FITTING USED.
13. FOR RECLAIMED WATER SERVICES AND METERS, ALL RECLAIMED TUBING SHALL BE MANUFACTURED SOLID PURPLE, SPL WW-65A. ALL APPURTENANCES SHALL BE MANUFACTURED PURPLE IF AVAILABLE. ALL FITTINGS THAT ARE NOT AVAILABLE FROM THE MANUFACTURER IN PURPLE SHALL BE PAINTED PURPLE PER SPL WW-3C. ALL METER BOX LIDS SHALL BE PURPLE AND HAVE **"RECLAIMED WATER"** CAST INTO THEM, SPL WW-145A.

CITY OF AUSTIN AUSTIN WATER	WATER SERVICE & METER INSTALLATION - 1" & SMALLER METERS	
JEFF A. KYLE 08/16/2019 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 520-AW-01B 2 OF 2

I CERTIFY THAT THESE ENGINEERING DOCUMENTS ARE COMPLETE, ACCURATE AND ADEQUATE FOR THEIR INTENDED PURPOSES, INCLUDING CONSTRUCTION, BUT ARE NOT AUTHORIZED FOR CONSTRUCTION PRIOR TO FORMAL CITY APPROVAL.

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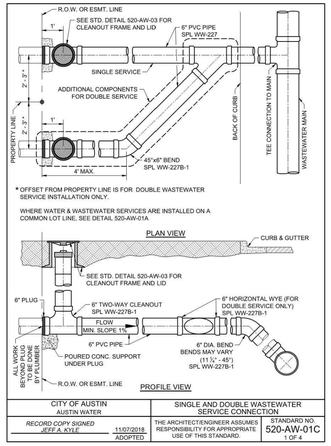
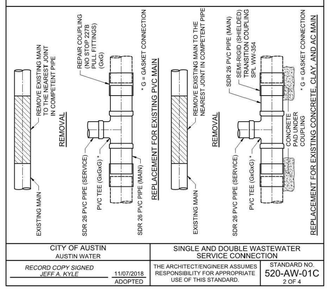


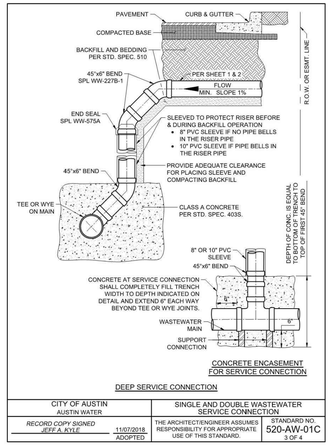
CITY OF AUSTIN AUSTIN WATER		SINGLE AND DOUBLE WASTEWATER SERVICE CONNECTION	
RECORD COPY SIGNED *JEFF A. KYLE*	11/07/2018 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 520-AW-01C 1 OF 4

NOTES:

1. DURING SUBDIVISION CONSTRUCTION, UTILITY CONTRACTOR INSTALLS WASTEWATER TEE CONNECTION TO MAIN, 6" STUB, HORIZONTAL WYE FOR DOUBLE SERVICES, 6" SERVICE BRANCH WITH TWO-WAY CLEANOUT(S) AND RISER, FRAME, AND COVER. CLEANOUT(S) TO BE PLUGGED AT PROPERTY LINE OR EASEMENT LINE END. ALL WASTEWATER PIPING SHALL HAVE ELASTOMERIC GASKET TYPE JOINTS AND SLOPE DOWNWARD TO MAIN 1% MIN. TO 45° MAX. DEPTH OF SERVICE AT PROPERTY LINE WILL BE SHOWN ON PLANS BY ENGINEER IF GREATER THAN 4', OTHERWISE THE INSTALLED DEPTH WILL BE 4' MIN. AND 6' MAX. AT PROPERTY LINE. IF WASTEWATER SERVICE LINE TO MAIN REQUIRES DEFLECTION EXCEEDING 45°, SEE SHEET 3 OF 4.
2. PIPING IN STREET RIGHT-OF-WAY AND IN EASEMENT AREA SHALL BE BEDDED IN GRANULAR MATERIALS AS REQUIRED BY CITY OF AUSTIN STANDARD SPECIFICATION 510.3 (14). MATERIALS SHALL BE AS SPECIFIED IN 510.2 (2)(A) AND (3)(B). BACKFILL ABOVE THE GRANULAR BEDDING SHALL BE AS REQUIRED BY SECTION 510.3 (25). SERVICE LINES IN THESE AREAS SHALL HAVE A MIN. COVER BELOW FINAL STREET GRADE OF 42".
3. PLUMBER SHALL REMOVE PLUG AND CONNECT TO TWO-WAY CLEANOUT. NO CONNECTION TO CLEANOUT STACK IS ALLOWED.

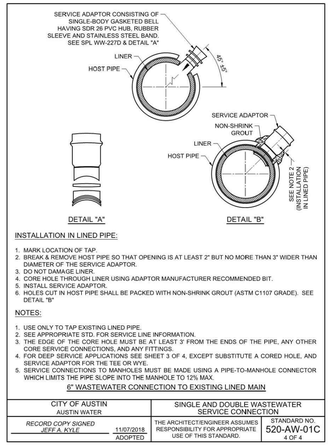


CITY OF AUSTIN AUSTIN WATER		SINGLE AND DOUBLE WASTEWATER SERVICE CONNECTION	
RECORD COPY SIGNED *JEFF A. KYLE*	11/07/2018 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 520-AW-01C 2 OF 4



DEEP SERVICE CONNECTION

CITY OF AUSTIN AUSTIN WATER		SINGLE AND DOUBLE WASTEWATER SERVICE CONNECTION	
RECORD COPY SIGNED *JEFF A. KYLE*	11/07/2018 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 520-AW-01C 3 OF 4



INSTALLATION IN LINED PIPE:

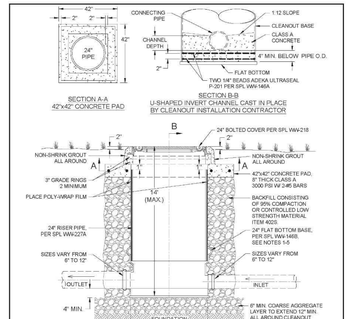
1. MARK LOCATION OF TAP.
2. BREAK & REMOVE HOST PIPE SO THAT OPENING IS AT LEAST 2" BUT NO MORE THAN 3" WIDER THAN DIAMETER OF THE SERVICE ADAPTOR.
3. DO NOT DAMAGE LINER.
4. CORE HOLE THROUGH LINER USING ADAPTOR MANUFACTURER RECOMMENDED BIT.
5. INSTALL SERVICE ADAPTOR.
6. HOLES CUT IN HOST PIPE SHALL BE PACKED WITH NON-SHRINK GROUT (ASTM C1107 GRADE). SEE DETAIL "B"

NOTES:

1. USE ONLY TO TAP EXISTING LINED PIPE.
2. SEE APPROPRIATE STD. FOR SERVICE LINE INFORMATION.
3. THE EDGE OF THE CORE HOLE MUST BE AT LEAST 3" FROM THE ENDS OF THE PIPE, ANY OTHER CORE SERVICE CONNECTIONS, AND ANY FITTINGS.
4. FOR DEEP SERVICE APPLICATIONS SEE SHEET 3 OF 4, EXCEPT SUBSTITUTE A CORED HOLE, AND SERVICE ADAPTOR FOR THE TEE OR WYE.
5. SERVICE CONNECTIONS TO MANHOLES MUST BE MADE USING A PIPE-TO-MANHOLE CONNECTOR WHICH LIMITS THE PIPE SLOPE INTO THE MANHOLE TO 12% MAX.

6" WASTEWATER CONNECTION TO EXISTING LINED MAIN

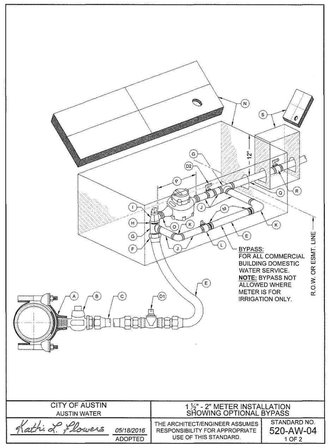
CITY OF AUSTIN AUSTIN WATER		SINGLE AND DOUBLE WASTEWATER SERVICE CONNECTION	
RECORD COPY SIGNED *JEFF A. KYLE*	11/07/2018 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 520-AW-01C 4 OF 4



NOTES:

1. THE CLEANOUT BASE SECTION SHALL BE SUPPLIED WITH A FLAT BOTTOM WITHOUT A FABRICATOR-INSTALLED INVERT.
2. A U-SHAPED INVERT CHANNEL CONNECTING THE FLOWLINES OF THE INLET AND OUTLET PIPES SHALL BE CAST IN PLACE BY THE CLEANOUT INSTALLATION CONTRACTOR.
3. THE CHANNEL DEPTH SHALL BE 3/4 OF THE DIAMETER OF THE LARGEST PIPE CONNECTING TO THE CLEANOUT.
4. USE CLASS A CONCRETE FOR THE CAST IN PLACE INVERT AND COAT IT WITH AN ORGANIC SPRAY LINER LISTED ON SPL WW-511.
5. THE CLEANOUT FOUNDATION SHALL MEET OR EXCEED STANDARD SPECIFICATION ITEM 506.5B.
6. IN CASES WHERE THE WASTEWATER SERVICE LINE IS LARGER THAN 12" DIAMETER, THE CONTRACTOR MUST INSTALL A MINIMUM 48" DIAMETER MANHOLE IN LIEU OF THE LARGE DIAMETER CLEANOUT. THE ENGINEER MUST PROVIDE AN ACCEPTABLE SAMPLE PORT AND RECEIVE APPROVAL IN WRITING FROM THE INDUSTRIAL WASTE REVIEWER BEFORE INSTALLATION. THE 48" DIA. MANHOLE SHALL CONFORM TO STD. 506S-10 AND INCLUDE A SAMPLE PORT.

CITY OF AUSTIN AUSTIN WATER		LARGE DIAMETER CLEANOUT	
JEFF A. KYLE	08/14/2020 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD DETAIL 506-AW-04 1 OF 1



CITY OF AUSTIN AUSTIN WATER		1½" - 2" METER INSTALLATION SHOWING OPTIONAL BYPASS	
Kathi A. Flowers	05/18/2016 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 520-AW-04 1 OF 2

MATERIALS LIST:

A. 2" SERVICE CLAMP.
B. 2" CORPORATION STOP MALE THREAD INLET BY COMPRESSION OUTLET
C. 2" COPPER WATER SERVICE TUBING EXTENDED BEYOND PAVEMENT
D1. 2" BALL VALVE, SPL WW-275
D2. 2" BALL VALVE, SPL WW-275
E. 2" COPPER SERVICE TUBING
F. 2" BRASS COUPLING - COMPRESSION TO MALE IPT
G. 2" BRASS TEE
H. 2" BRASS CLOSE-NIPPLE
I. 2" ANGLE METER STOP, SERVICE TUBING INLET x FLANGED OUTLET
J. 2" BRASS NIPPLE
K. 2" BRASS ELBOW
L. 2" LOCKABLE CURB STOP - FEMALE IPT INLET BY COMPRESSION OUTLET
M. 2" BRASS COUPLING - SERVICE TUBING TO MALE IPT
N. RECTANGULAR METER BOX AND COVER, SPL WW-145A
O. BRASS ADAPTER (2" x 1") FOR 1½" METER ONLY
P. WATER METER, LENGTH 13". (PURCHASED FROM AUSTIN WATER)
Q. 2" COPPER SERVICE TUBING (PRIVATE PLUMBING PER CODE)
R. CUSTOMER CUT-OFF VALVE
S. CUSTOMER VALVE BOX AND LID

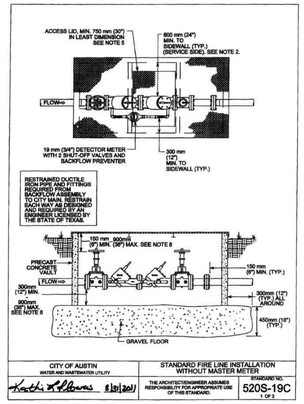
NOTES:

1. SERVICE CLAMP SHALL BE WRAPPED COMPLETELY WITH 8 MIL. POLYETHYLENE FILM.
2. BRANCH CONNECTIONS AND ALL ANGLE METER STOPS MUST BE INSTALLED PRIOR TO ANY METER INSTALLATION.
3. TOP OF BOXES SHOULD BE 1" ABOVE GROUND.
4. PIPING AND TUBING IN STREET RIGHT-OF-WAY SHALL BE BEDDED IN GRANULAR MATERIALS AS REQUIRED BY SECTION 510.3 (14) OF THE CITY OF AUSTIN STANDARD SPECIFICATIONS; BACKFILL ABOVE GRANULAR BEDDING AS REQUIRED BY SECTION 510.3 (25).
5. BOX MUST BE BEHIND CURB NEXT TO PROPERTY LINE OR EASEMENT AND OUT OF VEHICULAR TRAFFIC AREA AND SIDEWALK.
6. BALL VALVE "D1" SHALL NOT BE LOCATED UNDER SIDEWALK, CURB, OR PAVEMENT, AND NOT BE LOCATED MORE THAN 24" HORIZONTALLY FROM METER BOX OR 36" BELOW FINAL GRADE.
7. COPPER SERVICE SHALL BE COPPER TUBING SIZE ANNEALED SEAMLESS TYPE "K" MEETING ASTM B88 WITH NO SWEAT OR SOLDERED JOINTS.

RECLAIMED WATER:

FOR RECLAIMED WATER SERVICES AND METERS, ALL RECLAIMED TUBING SHALL BE MANUFACTURED PURPLE TUBING. ALL OTHER TUBING AND APPURTENANCES SHALL BE MANUFACTURED PURPLE IF AVAILABLE. ALL TUBING AND FITTINGS THAT ARE NOT AVAILABLE FROM THE MANUFACTURER IN PURPLE SHALL BE PAINTED PURPLE PER SPL WW-3C. ALL BURIED DI AND CI PIPE AND FITTINGS SHALL ALSO BE WRAPPED IN PURPLE POLYETHYLENE PER SPL WW-27D. ALL COVERS SHALL HAVE "RECLAIMED WATER" CAST INTO THEM.

CITY OF AUSTIN AUSTIN WATER		1½" - 2" METER INSTALLATION SHOWING OPTIONAL BYPASS	
Kathi A. Flowers	05/18/2016 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 520-AW-04 2 OF 2



CITY OF AUSTIN WATER AND WASTEWATER UTILITY		STANDARD FIRE LINE INSTALLATION WITHOUT MASTER METER	
Kathi A. Flowers	8/31/2021	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 520S-19C 1 OF 2

NOTES:

1. **ALL BACKFLOW PREVENTION ASSEMBLIES SHALL HAVE LAB AND FIELD APPROVAL FROM THE UNIVERSITY OF SOUTHERN CALIFORNIA FOUNDATION FOR CROSS CONNECTION CONTROL AND HYDRAULIC RESEARCH.**
2. **ALL TEST PORTS SHALL BE DIRECTED UPWARD AND PLUGGED. TEST PORTS ARE LOCATED ON SERVICE SIDE. PLUGS SHALL BE NON-FERROUS.**
3. **BACKFLOW PREVENTION ASSEMBLIES SHALL BE INSTALLED IN THE UPRIGHT HORIZONTAL POSITION, UNLESS OTHERWISE APPROVED. BACKFLOW PREVENTION ASSEMBLIES SHALL NOT BE ROTATED ON THEIR AXIS.**
4. **CLEARANCE SHALL BE AS INDICATED,AND IN THE STANDARD CROSS CONNECTION ORDINANCES AND UCM.**
5. **ACCESS OPENING MUST BE LARGE ENOUGH TO REMOVE LARGEST PORTION OF BACKFLOW PREVENTER, BUT NOT LESS THAN 750 mm (30") IN LEAST DIMENSION.**
6. **TEST AND MAINTENANCE REPORT SHALL BE RECEIVED BY AUSTIN WATER UTILITY'S SPECIAL SERVICE DIVISION WITHIN 5 DAYS AFTER BEING INSTALLED.**
7. **VAULT SHALL NOT BE INSTALLED IN TRAFFIC AREA.**
8. **VAULT DEPTH MAY NOT EXCEED 1.8m (72"), BOTTOM OF LID TO TOP OF FLOOR.**
9. **HAND WHEEL IS SHALL BE HORIZONTALLY LOCATED WITHIN 300mm (12") OF ACCESS OPENING.**
10. **FOR ACCESS DOORS SEE SPL WW-614 OR APPROVED EQUAL (H20 LOADING REQUIRED).**
11. **FOR VAULT SEE SPL WW-29B OR APPROVED EQUAL (H20 LOADING REQUIRED).**
12. **VAULT PIPE WALL VOIDS SHALL BE SEALED WITH NON-SHRINK GROUT OR SEALANT PER SPL WW-146A OR APPROVED EQUAL.**
13. **THE TOP OF THE METER VAULT SHALL BE AT AN ELEVATION SUCH THAT THE SURROUNDING GROUND SLOPES AWAY FROM THE VAULT. ADDITIONAL DRAINAGE CONSIDERATION SUCH AS CONNECTION OF VAULT TO STORM SEWER, LATERAL DRAIN LINES FROM GRAVEL BED OR OTHER MEANS SHALL BE REQUIRED IF CONDITIONS CAUSE WATER TO COLLECT IN VAULT.**

CITY OF AUSTIN WATER AND WASTEWATER UTILITY		STANDARD FIRE LINE INSTALLATION WITHOUT MASTER METER	
Kathi A. Flowers	8/31/2021	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 520S-19C 2 OF 2

I CERTIFY THAT THESE ENGINEERING DOCUMENTS ARE COMPLETE, ACCURATE AND ADEQUATE FOR THEIR INTENDED PURPOSES, INCLUDING CONSTRUCTION, BUT ARE NOT AUTHORIZED FOR CONSTRUCTION PRIOR TO FORMAL CITY APPROVAL.

SITE PLAN APPROVAL SHEET 23 OF 63
FILE NUMBER: SPC-2021-0195C APPLICATION DATE: 05/20/2021
APPROVED BY COMMISSION ON _____ UNDER SECTION 112 OF CHAPTER 25-5 OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE(25-5-81, LDC)_____ CASE MANAGER R. AVILA
PROJECT EXPIRATION DATE (ORD. #970905-A)_____DMPZ_____DDZ__X___

Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE:_____ZONING LO-MU-CO
Rev. 1 _____Correction 1 _____
Rev. 2 _____Correction 2 _____
Rev. 3 _____Correction 3 _____
Final Plat must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction (if a building permit is not required), must also be approved prior to the Project Expiration Date.

ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN REVIEWING THESE PLANS, THE CITY OF AUSTIN MUST RELY UPON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.

dwA

23 DEC 2022
STATE OF TEXAS
BRIAN LEE WELLS
89517
LICENSED PROFESSIONAL ENGINEER

mwm Design Group
305 East Huntland Drive
Suite 200
Austin, Texas 78752
p: 512.453.0767
f: 512.453.1734
TBAE FIRM REGISTRATION NO.: 1452
TBPE FIRM REGISTRATION NO.: F-1416
TBPLS FIRM REGISTRATION NO.: 10065600

NO.	DATE	DESCRIPTION	BY

0 1"
The bar above measures one inch on the original drawing. Adjust scales accordingly.

OFFSITE WATER AND WASTEWATER DETAILS CONT.

KAALO STUDIO
7901 RM 2222
Austin, Texas 78730

PLOTTED: 12/23/2022
JOB NO: 864-01

C404
23 OF 63

SPC-2021-0195C

File: X:\864-01_Kaalo_Studio\CAD\Sheets\C403-OFFSITE_DETAILS.dwg 24x36

ONSITE WATER & WASTEWATER LEGEND

- W — WATER LINE
- WW — WASTEWATER LINE
- WWMH — WASTEWATER MANHOLE
- CO — WASTEWATER CLEANOUT
- DCO — WASTEWATER DOUBLE CLEANOUT
- WV — WATER VALVE
- FH — FIRE HYDRANT
- FDC — FIRE DEPARTMENT CONNECTION

NOTES:

1. ALL ON-SITE UTILITIES SHALL BE LOCATED UNDERGROUND UNLESS REQUIRED BY THE UTILITY TO BE OTHERWISE LOCATED. [25-2-1125]
2. AWU WASTEWATER COLLECTION SYSTEM MAP SHEET# F31.
3. CONTRACTOR TO VERIFY ALL UTILITY LOCATIONS AND/OR CROSSINGS TWO WEEKS PRIOR TO CONSTRUCTION.
4. SEE SHEET C400 FOR ADDITIONAL UTILITY NOTES.
5. ALL ONSITE WATER AND WASEWATER LINES SHALL BE INSTALLED PER THE 2015 UPC.
6. ALL VALVES, CLEANOUTS, AND MANHOLES WITHIN PAVED AREAS SHALL HAVE HEAVY-DUTY TRAFFIC BEARING CASTINGS AND COVERS.
7. ALL PVC WASTEWATER PIPE SHALL BE ASTM D3034 SDR 26, UNLESS NOTED OTHERWISE.
8. ALL PE WATER PIPE SHALL BE AWWA C901 OR AWWA C906, SDR-9.
9. THIS PROJECT HAS 0 PRIVATE HYDRANTS WITHIN THE PROPERTY. THE PROPERTY OWNER IS REQUIRED TO COMPLY WITH THE AUSTIN FIRE CODE. FAILURE TO COMPLY MAY RESULT IN CIVIL AND/OR CRIMINAL REMEDIES AVAILABLE TO THE CITY. THE PERFORMANCE OF THIS OBLIGATION SHALL ALWAYS REST WITH THE OWNER OF RECORD. FIRE HYDRANTS ON PRIVATE PROPERTY ARE REQUIRED TO BE SERVICED,MAINTAINED AND FLOWED ANNUALLY, USING A CONTRACTOR REGISTERED WITH THE CITY TO PROVIDE THE SERVICE.
10. ALL POTABLE AND FIRE LINE PVC WATER PIPING SHALL BE AWWA C900 UNLESS NOTED OTHERWISE.
11. UNDERGROUND MAINS FEEDING NFPA 13 SPRINKLER SYSTEMS MUST BE INSTALLED AND TESTED IN ACCORDANCE WITH NFPA 13, NFPA 24 AND THE FIRE CODE, BY A LICENSED SPRINKLER CONTRACTOR WITH A CITY OF AUSTIN PLUMBING PERMIT FOR THE INSTALLATION. THE ENTIRE MAIN MUST BE HYDROSTATICALLY TESTED AT ONE TIME, UNLESS ISOLATION VALVES ARE PROVIDED BETWEEN TESTED SECTIONS.
12. UNDERGROUND MAINS FEEDING PRIVATE FIRE HYDRANTS MUST BE INSTALLED AND TESTED IN ACCORDANCE WITH NFPA 24 AND THE FIRE CODE BY A STATE LICENSED CONTRACTOR WITH A PLUMBING PERMIT FOR THE PROPOSED WORK. THE ENTIRE MAIN MUST BE HYDROSTATICALLY TESTED AT ONE TIME, UNLESS ISOLATION VALVES ARE PROVIDED BETWEEN TESTED SECTIONS.

I CERTIFY THAT THESE ENGINEERING DOCUMENTS ARE COMPLETE, ACCURATE AND ADEQUATE FOR THEIR INTENDED PURPOSES, INCLUDING CONSTRUCTION, BUT ARE NOT AUTHORIZED FOR CONSTRUCTION PRIOR TO FORMAL CITY APPROVAL.

SITE PLAN APPROVAL SHEET 24 OF 63
FILE NUMBER: SPC-2021-0195C APPLICATION DATE: 05/20/2021
APPROVED BY COMMISSION ON _____ UNDER SECTION 112 OF CHAPTER 25-5 OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE(25-5-81, LDC)_____ CASE MANAGER R. AVILA
PROJECT EXPIRATION DATE (ORD. #970905-A)_____DMPZ____DDZ__X__

Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE:_____ZONING LO-MU-CO
Rev. 1 _____Correction 1 _____
Rev. 2 _____Correction 2 _____
Rev. 3 _____Correction 3 _____
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ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN REVIEWING THESE PLANS, THE CITY OF AUSTIN MUST RELY UPON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.

dwA

23 DEC 2022
STATE OF TEXAS
BRIAN LEE WELLS
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TBPE FIRM REGISTRATION NO.: F-1416
TBPLS FIRM REGISTRATION NO.: 10065600

NO.	DATE	DESCRIPTION	BY

0 1"
The bar above measures one inch on the original drawing. Adjust scales accordingly.

ONSITE WATER & WASTEWATER PLAN

KAALO STUDIO
7901 RM 2222
Austin, Texas 78730

PLOTTED: 12/23/2022
JOB NO: 864-01

C410
24 OF 63

SPC-2021-0195C

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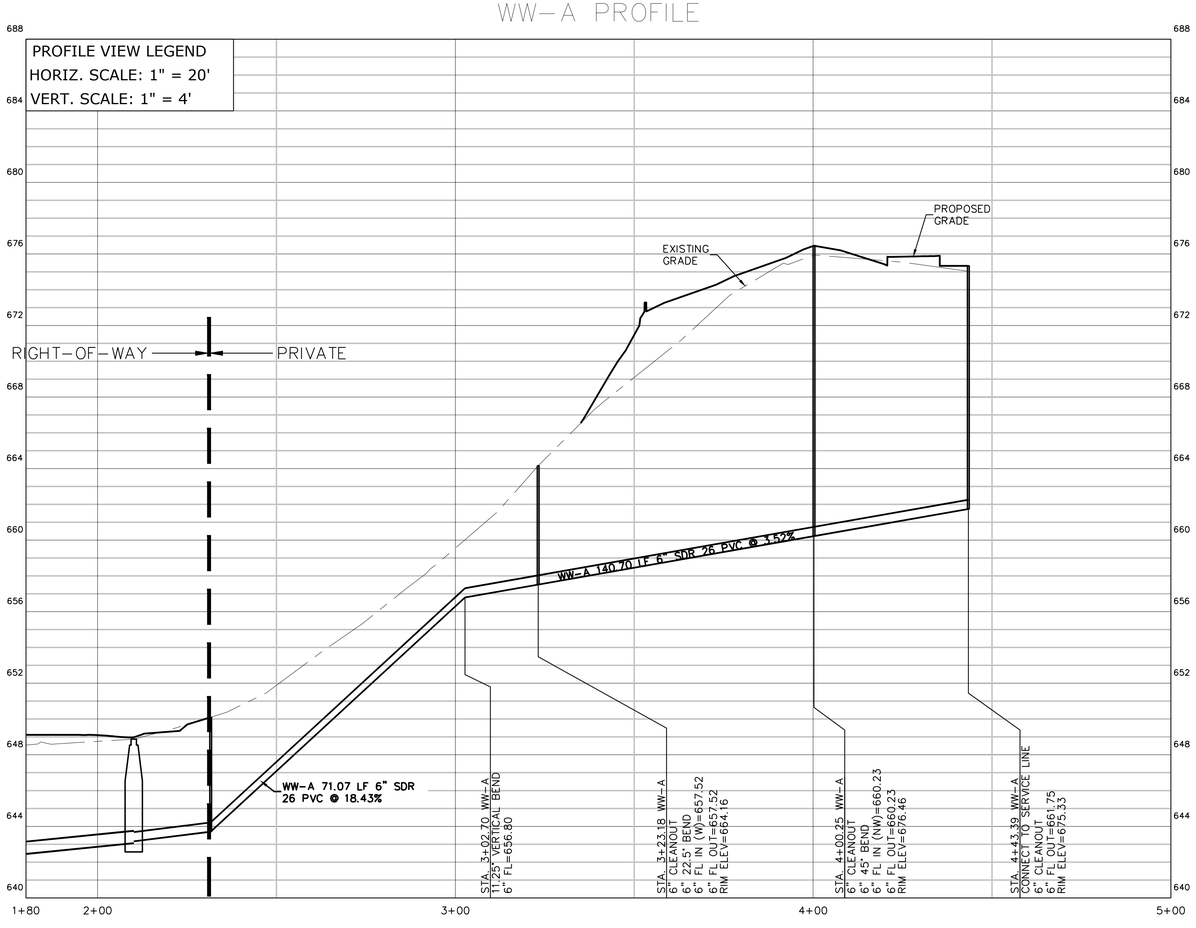
WW–A PROFILE



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SITE PLAN APPROVAL SHEET 25 OF 63
FILE NUMBER: SPC-2021-0195C APPLICATION DATE: 05/20/2021
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EXPIRATION DATE(25-5-81, LDC)_____ CASE MANAGER R. AVILA
PROJECT EXPIRATION DATE (ORD. #970905-A)_____DMPZ_____DDZ__X___

Director, Development Services Department
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ONSITE WASTEWATER PROFILE

KAALO STUDIO
7901 RM 2222
Austin, Texas 78730

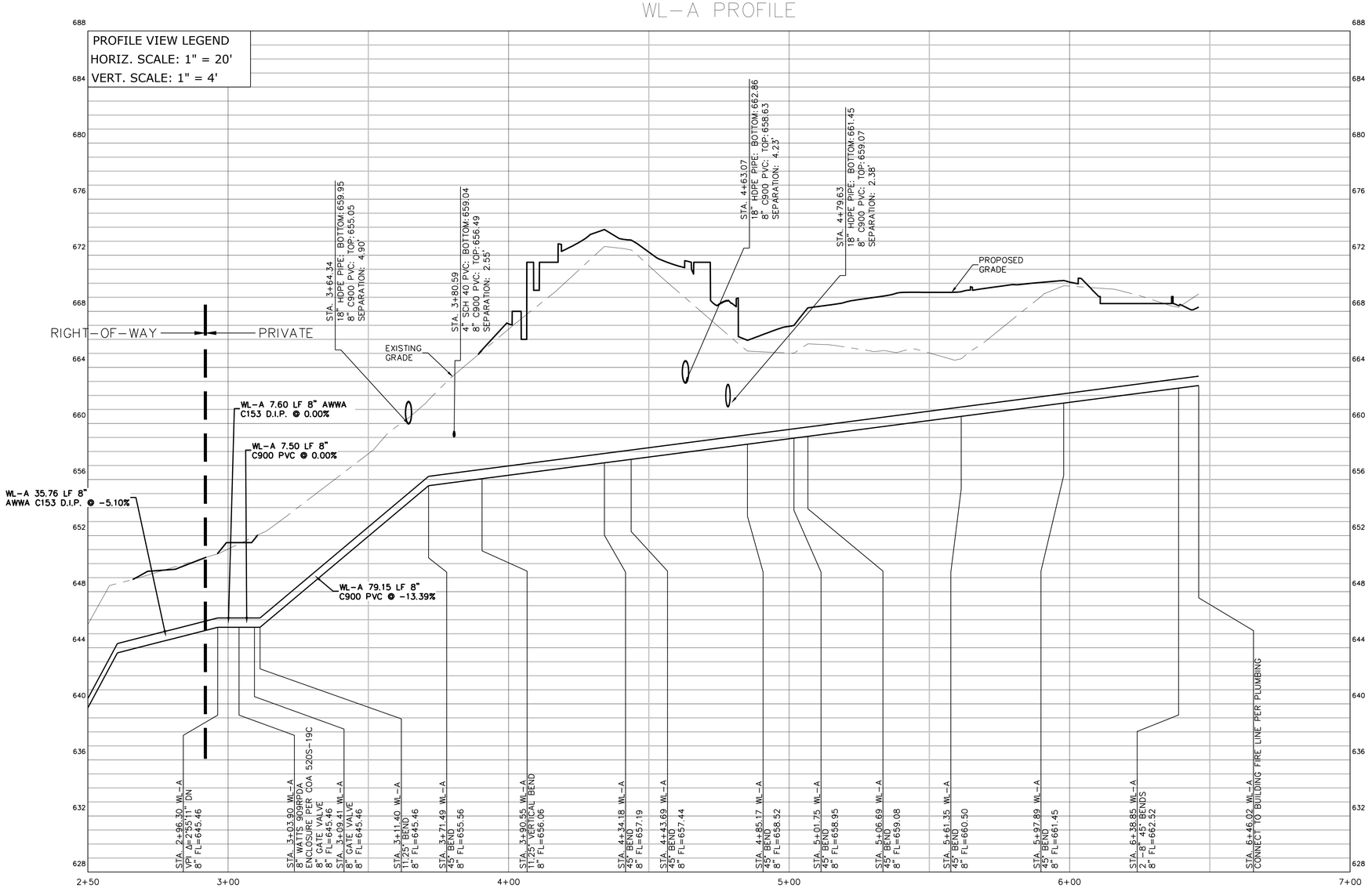
PLOTTED: 12/23/2022
JOB NO: 864-01

C411
25 OF 63

SPC-2021-0195C

File: Y:\864-01_Kaalo_Studio\CAD\Sheets\C410-WWW_PLAN.dwg 24x36

WL–A PROFILE



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SITE PLAN APPROVAL SHEET 26 OF 63
FILE NUMBER: SPC-2021-0195C APPLICATION DATE: 05/20/2021
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ONSITE WATER PROFILE

KAALO STUDIO
7901 RM 2222
Austin, Texas 78730

PLOTTED: 12/23/2022
JOB NO: 864-01

C412
26 OF 63

SPC-2021-0195C

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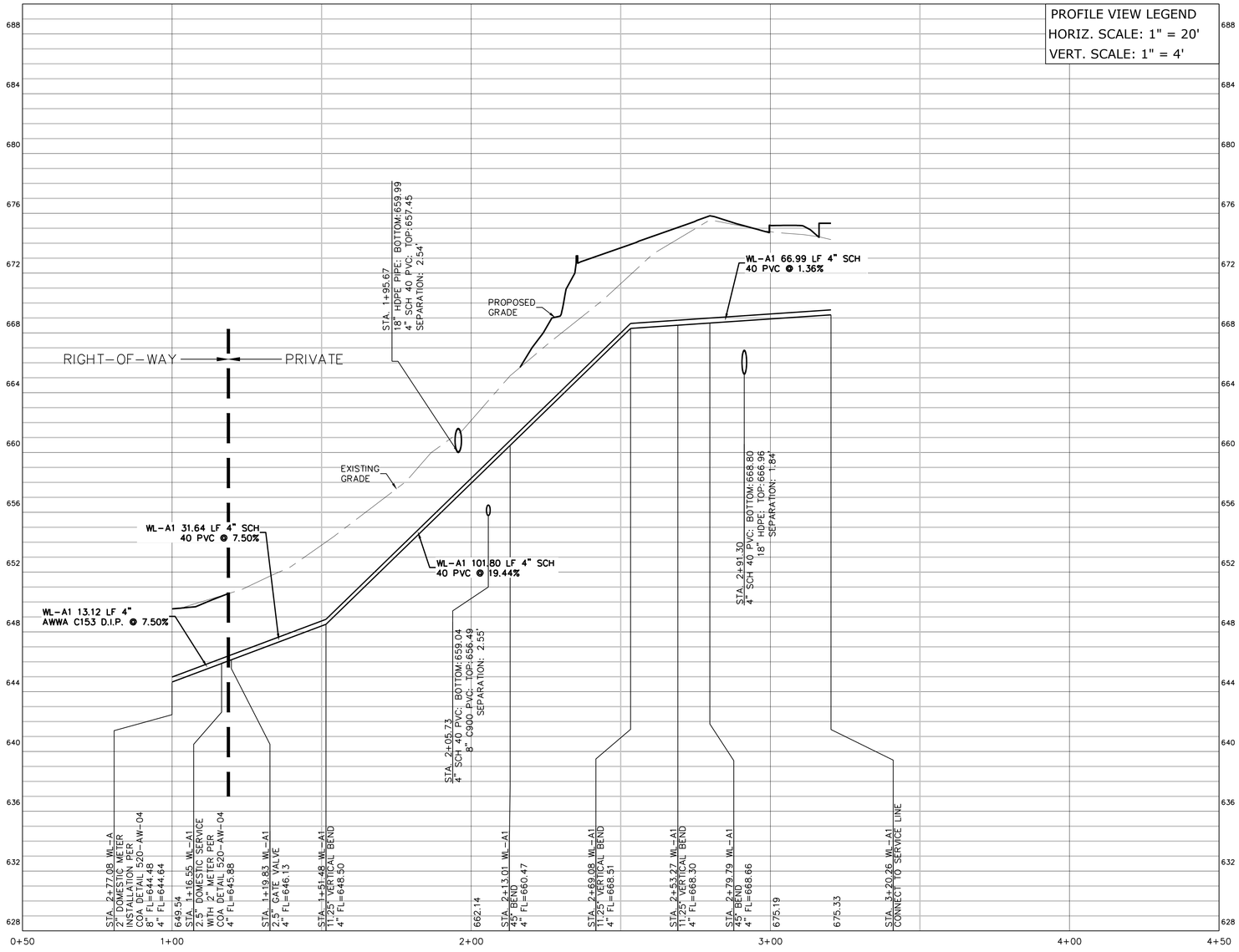
WL–A1 PROFILE



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SITE PLAN APPROVAL SHEET 27 OF 63
FILE NUMBER: SPC–2021–0195C APPLICATION DATE: 05/20/2021
APPROVED BY COMMISSION ON _____ UNDER SECTION 112 OF CHAPTER 25–5 OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE(25–5–81, LDC)_____ CASE MANAGER R. AVILA
PROJECT EXPIRATION DATE (ORD. #970905–A)_____DMPZ_____DDZ__X___

Director, Development Services Department
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Rev. 1 _____Correction 1 _____
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NO.	DATE	DESCRIPTION	BY

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ONSITE WATER PROFILE

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7901 RM 2222
Austin, Texas 78730

PLOTTED: 12/23/2022
JOB NO: 864-01

C413
27 OF 63

SPC-2021-0195C

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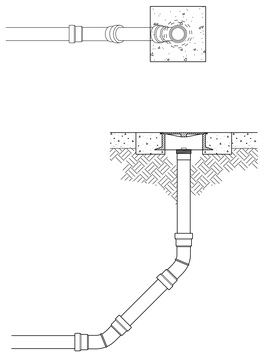
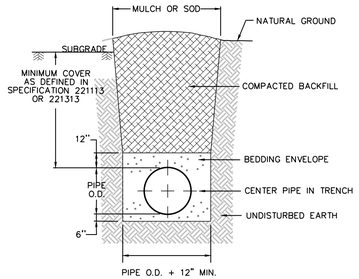
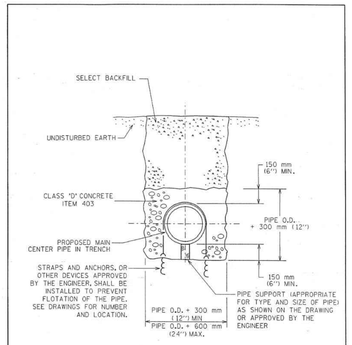


2 C414 **WW CLEANOUT IN PAVED AREAS** n.t.s.



3 C414 **PIPE TRENCH DETAIL** n.t.s.



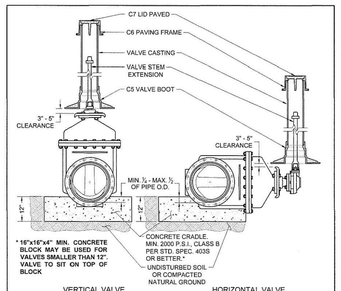
CITY OF AUSTIN — WATER AND WASTEWATER UTILITY

CONCRETE ENCASEMENT

Kathi L Flowers 01/18/10 ADOPTED

THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.

STANDARD NO. 505S-1



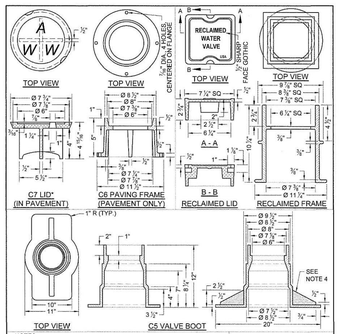
VERTICAL VALVE — HORIZONTAL VALVE ONLY TO BE USED WHEN CALLED OUT ON THE DRAWINGS.

NOTES:
1. WELD SOCKET 2½" x 2" DEEP TO 1" SCH. 40 CARBON STEEL ROUND STEM EXTENSION, FITTED ON OPERATING NUT. (SCH. 80 FOR LENGTHS OVER 10').
2. VALVE CASTING SHALL BE 6" DI PIPE WITH BELL OR COLLAR CENTERED OVER VALVE BOOT.
3. NUT AT TOP OF VALVE EXTENSION ROD SHALL BE SQUARE 2" LONG WELDED TO TOP OF ROD.
4. VALVE STEM EXTENSIONS ARE REQUIRED ON ALL VALVES THAT EXCEED 3' DEEP FROM FINISHED GRADE. VALVE EXTENSIONS SHALL BE PLACED SUCH THAT THE EXTENSION NUT IS BETWEEN 12" AND 18" FROM FINISHED GRADE.

RECLAIMED WATER: ALL RECLAIMED PVC PIPE SHALL BE MANUFACTURED PURPLE PIPE. HDPE PIPE SHALL BE MANUFACTURED WITH PURPLE STRIPES. ALL OTHER PIPE AND APPURTENANCES SHALL BE MANUFACTURED PURPLE IF AVAILABLE. ALL PIPE AND FITTINGS THAT ARE NOT AVAILABLE FROM THE MANUFACTURER IN PURPLE SHALL BE PAINTED PURPLE PER SPL WW-3C. ALL BURIED DI AND CI PIPE AND FITTINGS SHALL ALSO BE WRAPPED IN PURPLE POLYETHYLENE PER SPL WW-27D. ALL COVERS SHALL HAVE "RECLAIMED WATER" CAST INTO THEM.

CITY OF AUSTIN — AUSTIN WATER | TYPICAL GATE VALVE 4" - 16"

Kathi L Flowers 05/18/2016 ADOPTED — THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. — STANDARD NO. 511-AW-01 — 1 OF 4



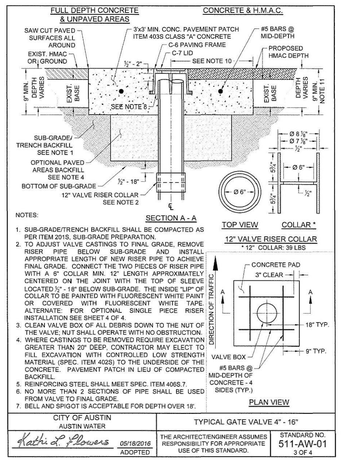
NOTES:
1. MATERIAL SHALL BE GRAY CAST IRON, ASTM A48, GRADE 30B.
2. THE MANUFACTURER'S IDENTIFICATION AND CASTING NUMBER, AND THE COUNTRY WHERE CAST, SHALL BE DISTINCTLY CAST ONTO EACH LID, FRAME, COLLAR AND BASE.
3. DRAFT AND SHRINKAGE ALLOWANCE SHALL BE IN ACCORDANCE WITH NORMAL FOUNDRY PRACTICE.
4. CASTING FINISH BY MANUFACTURER SHALL INCLUDE REMOVAL OF FINS AND FLASHING, AND PAINT WITH BLACK ASPHALT COATING.

WEIGHTS:
C7 LID: 13 LBS
RECLAIMED LID: 15 LBS
C6 FRAME: 23 LBS
RECLAIMED FRAME: 33 LBS
C5 BASE: 78 LBS

* LETTERING SHALL BE 1 ½" 2 PICK BAR SLOTS REQUIRED

CITY OF AUSTIN — AUSTIN WATER | TYPICAL GATE VALVE 4" - 16"

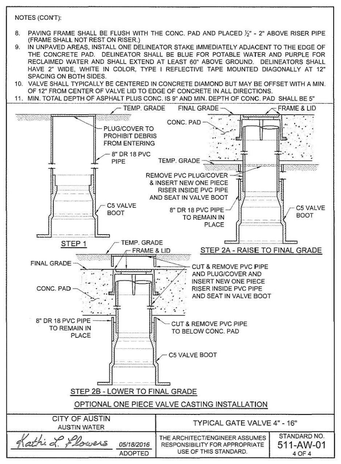
Kathi L Flowers 05/18/2016 ADOPTED — THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. — STANDARD NO. 511-AW-01 — 2 OF 4



NOTES:
1. SUB-GRADE/TRENCH BACKFILL SHALL BE COMPACTED AS PER ITEM 2015, SUB-GRADE PREPARATION.
2. TO ADJUST VALVE CASTINGS TO FINAL GRADE, REMOVE RISER PIPE BELOW SUB-GRADE AND INSTALL APPROPRIATE LENGTH OF NEW RISER PIPE TO ACHIEVE FINAL GRADE. CONNECT THE TWO PIECES OF RISER PIPE WITH A 6" COLLAR MIN. 12" LENGTH APPROXIMATELY CENTERED ON THE JOINT WITH THE TOP OF SLEEVE LOCATED ¾" - 18" BELOW SUB-GRADE. THE INSIDE "LIP" OF COLLAR TO BE PAINTED WITH FLUORESCENT WHITE PAINT OR COVERED WITH FLUORESCENT WHITE TAPE. ALTERNATE FOR OPTIONAL SINGLE PIECE RISER INSTALLATION SEE SHEET 4 OF 4.
3. CLEAN VALVE BOX OF ALL DEBRIS DOWN TO THE NUT OF THE VALVE; NUT SHALL OPERATE WITH NO OBSTRUCTION.
4. WHERE CASTINGS TO BE REMOVED REQUIRE EXCAVATION GREATER THAN 20" DEEP, CONTRACTOR MAY ELECT TO FILL EXCAVATION WITH CONTROLLED LOW STRENGTH MATERIAL (SPEC. ITEM 402S) TO THE UNDERSIDE OF THE CONCRETE. PAVEMENT PATCH IN LIEU OF COMPACTED BACKFILL.
5. REINFORCING STEEL SHALL MEET SPEC. ITEM 440S.7.
6. NO MORE THAN 2 SECTIONS OF PIPE SHALL BE USED FROM VALVE TO FINAL GRADE.
7. BELL AND SPIGOT IS ACCEPTABLE FOR DEPTH OVER 18'.

CITY OF AUSTIN — AUSTIN WATER | TYPICAL GATE VALVE 4" - 16"

Kathi L Flowers 05/18/2016 ADOPTED — THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. — STANDARD NO. 511-AW-01 — 3 OF 4



CITY OF AUSTIN — AUSTIN WATER | TYPICAL GATE VALVE 4" - 16"

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SITE PLAN APPROVAL SHEET 28 OF 63
FILE NUMBER: SPC-2021-0195C APPLICATION DATE: 05/20/2021
APPROVED BY COMMISSION ON _____ UNDER SECTION 112 OF CHAPTER 25-5 OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE(25-5-81, LDC)_____ CASE MANAGER R. AVILA
PROJECT EXPIRATION DATE (ORD. #970905-A)_____DMPZ_____DDZ__X___

Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE: _____ ZONING LO-MU-CO
Rev. 1 _____ Correction 1 _____
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dwA

23 DEC 2022

STATE OF TEXAS — BRIAN LEE WELLS — 89517 — LICENSED PROFESSIONAL ENGINEER

mwm Design Group
305 East Huntland Drive
Suite 200
Austin, Texas 78752
p: 512.453.0767
f: 512.453.1734

TBAE FIRM REGISTRATION NO.: 1452
TBPE FIRM REGISTRATION NO.: F-1416
TBPLS FIRM REGISTRATION NO.: 10065600

NO.	DATE	DESCRIPTION	BY

0 — 1"
The bar above measures one inch on the original drawing. Adjust scales accordingly.

ONSITE WATER AND WASTEWATER DETAILS

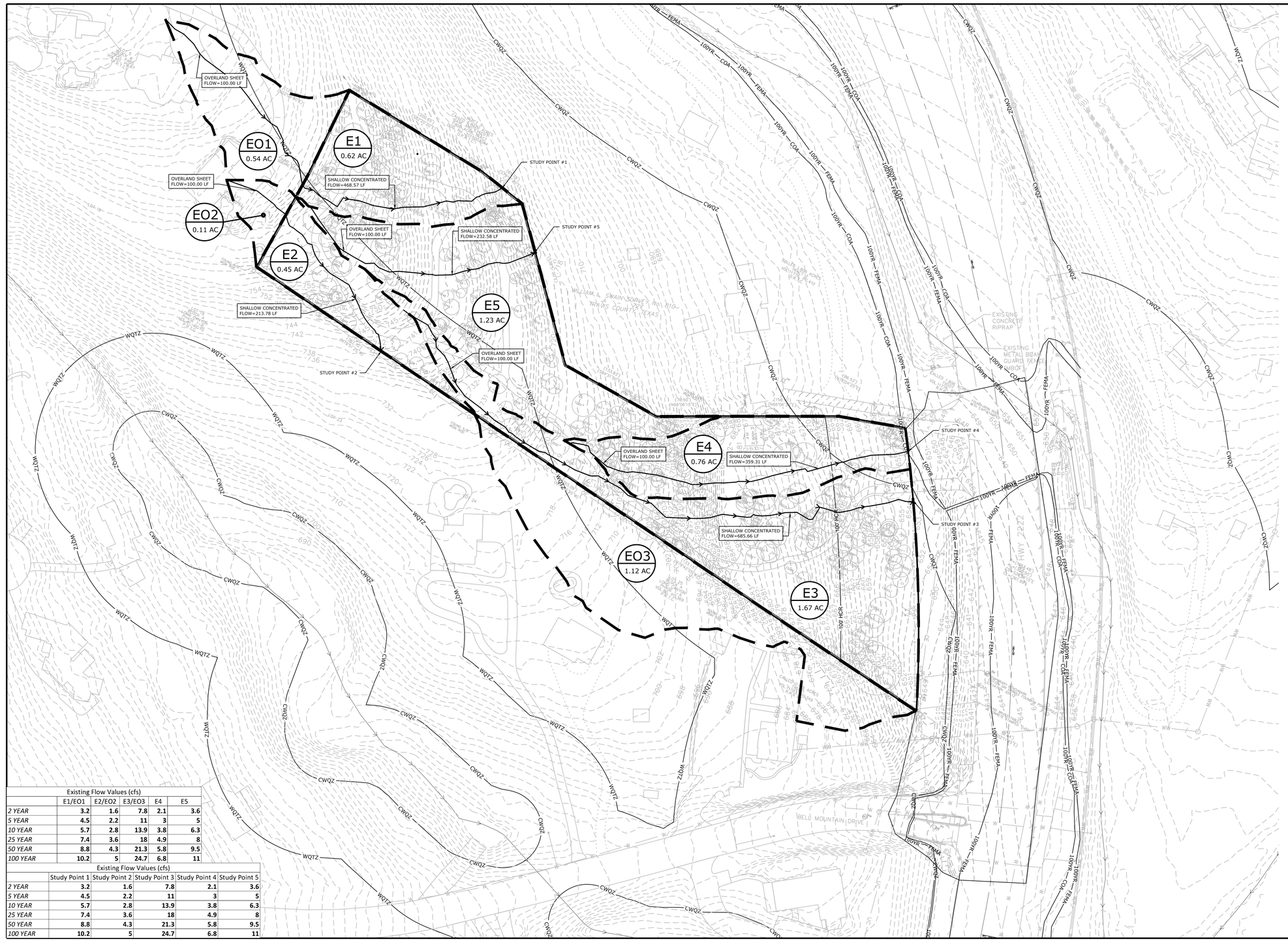
KAALO STUDIO
7901 RM 2222
Austin, Texas 78730

PLOTTED: 12/23/2022
JOB NO: 864-01

C414
28 OF 63

SPC-2021-0195C

File: T:\864-01_Kaalo_Studio\CAD\Sheets\C414-ONSITE_DETAILS.dwg 24x36



0 30' 60' 120'

Scale: 1" = 60'

DRAINAGE AREA MAP LEGEND

- EXISTING WATERSHED BOUNDARY
- DRAINAGE AREA BOUNDARY
- TIME OF CONCENTRATION PATH
- (E1) DRAINAGE AREA DESIGNATION
- LOC — LIMITS OF CONSTRUCTION
- FLOW PATTERNS

Existing Flow Values (cfs)					
	E1/EO1	E2/EO2	E3/EO3	E4	E5
2 YEAR	**3.2**	**1.6**	**7.8**	**2.1**	**3.6**
5 YEAR	**4.5**	**2.2**	**11**	**3**	**5**
10 YEAR	**5.7**	**2.8**	**13.9**	**3.8**	**6.3**
25 YEAR	**7.4**	**3.6**	**18**	**4.9**	**8**
50 YEAR	**8.8**	**4.3**	**21.3**	**5.8**	**9.5**
100 YEAR	**10.2**	**5**	**24.7**	**6.8**	**11**

Existing Flow Values (cfs)					
	Study Point 1	Study Point 2	Study Point 3	Study Point 4	Study Point 5
2 YEAR	**3.2**	**1.6**	**7.8**	**2.1**	**3.6**
5 YEAR	**4.5**	**2.2**	**11**	**3**	**5**
10 YEAR	**5.7**	**2.8**	**13.9**	**3.8**	**6.3**
25 YEAR	**7.4**	**3.6**	**18**	**4.9**	**8**
50 YEAR	**8.8**	**4.3**	**21.3**	**5.8**	**9.5**
100 YEAR	**10.2**	**5**	**24.7**	**6.8**	**11**

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SITE PLAN APPROVAL SHEET 29 OF 63
FILE NUMBER: SPC-2021-0195C APPLICATION DATE: 05/20/2021
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NO.	DATE	DESCRIPTION	BY

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EXISTING CONDITIONS DRAINAGE AREA MAP

KAALO STUDIO
7901 RM 2222
Austin, Texas 78730

PLOTTED: 12/23/2022
JOB NO: 864-01

C500
29 OF 63

SPC-2021-0195C

File: Y:\864-01_Kaalo_Studio\CAD\Sheets\C500-EX_DAM.dwg 24x36

COVER TYPE	HYDROLOGIC CONDITION	CURVE NUMBERS FOR HYDROLOGIC SOIL GROUP A	B	C	D	DRAINAGE AREA E1/E01	E2/EO2	E3/EO3	E4	E5	COMPOSITE CURVE NUMBER E1/E01	E2/EO2	E3/EO3	E4	E5
Fully developed urban areas (vegetation established)											0	0	0	0	0
Open space (lawns, parks, golf courses, cemeteries, etc.)											0	0	0	0	0
Poor condition (grass cover 50%)		68	79	86	89						0	0	0	0	0
Fair condition (grass cover 50% to 75%)		49	69	79	84						0	0	0	0	0
Good condition (grass cover 75%)		39	61	74	80						0	0	0	0	0
Impervious areas:											0	0	0	0	0
Paved parking lots, roofs, driveways, etc. (excluding right of way)		98	98	98	98			595.28	712.31		0	0	58337.44	69806.38	0
Streets and roads:											0	0	0	0	0
Paved; curbs and storm drains (excluding right of way)		98	98	98	98						0	0	0	0	0
Paved; open ditches (including right of way)		83	89	92	93						0	0	0	0	0
Gravel (including right of way)		76	85	89	91	3139.51	2640.47	4840.95	211.54	5297.90	285695.41	240282.77	440526.45	19250.14	482108.9
Dirt (including right of way)		72	82	87	89						0	0	0	0	0
Developing urban area											0	0	0	0	0
Newly graded areas (pervious areas only, no vegetation)		77	86	91	94						0	0	0	0	0
Agricultural lands											0	0	0	0	0
Grassland, or range-continuous forage for grazing	Poor	68	79	86	89										
	Fair	49	69	79	84	47385.62	21557.99	115900.50	32345.84	48236.14	3980392.08	1810871.16	9735642	2717050.56	4051835.76
	Good	39	61	74	80						0	0	0	0	0
Meadow-continuous grass, protected from grazing and generally mowed for hay		30	58	71	78						0	0	0	0	0
Brush - brush-weed-grass mixture with brush the major element	Poor	48	67	77	83						0	0	0	0	0
	Fair	35	56	70	77						0	0	0	0	0
	Good	30	48	65	73						0	0	0	0	0
Woods - grass combination (orchard or tree farm)	Poor	57	73	82	86						0	0	0	0	0
	Fair	43	65	76	79						0	0	0	0	0
	Good	32	58	72	79						0	0	0	0	0
Woods - grass combination (orchard or tree farm)	Poor	45	66	77	83						0	0	0	0	0
	Fair	36	60	73	79						0	0	0	0	0
	Good	30	55	70	77						0	0	0	0	0
Farmstead - buildings, lanes, driveways and surrounding lots		59	74	82	86						0	0	0	0	0
					SF	50525.13	24198.46	121336.73	33269.69	53534.04	84	85	84	84	85
					AC	1.16	0.56	2.79	0.76	1.23					
					Acimp	0.00	0.00	0.01	0.02	0.00					
					% Imp	0%	0%	0%	2%	0%					

E1/EO1

Sheet Flow	Start Station	0.00	ft
	End Station	100.00	ft
	Length (L)	100	ft
	Manning's n	0.40	
	2-year 24-hour rain	4.06	inches
	Start Elev	800.07	ft
	End Elev	793.29	ft
	Slope (S)	0.068	ft/ft
	T_t	12	minutes
Shallow Concentrated Flow	Start Station	100.00	ft
	End Station	568.57	ft
	Length	469	ft
	Start Elev	793.29	ft
	End Elev	723.30	ft
	Slope (S)	0.149	ft/ft
	Surface	UNPAVED	
	T_t	1	minutes
Channel or Storm Drain Flow	Cross Sectional Area (A)	0.00	sf
	Wetted Perimeter (P)	0.00	ft
	Hydraulic Radius (r)	0	ft
	Start Elev	0.00	ft
	End Elev	0.00	ft
	Slope (S)	0.00	ft/ft
	Manning's n	0.013	
	Velocity (V)	0.00	fps
	Start Station		ft
	End Station		ft
	Length (L)	0.00	ft
	T_t	0.00	minutes

Time of Concentration	13
Lag Time	8

E2/EO2

Sheet Flow	Start Station	0.00	ft
	End Station	100.00	ft
	Length (L)	100	ft
	Manning's n	0.40	
	2-year 24-hour rain	4.06	inches
	Start Elev	775.99	ft
	End Elev	763.21	ft
	Slope (S)	0.128	ft/ft
	T_t	9	minutes
Shallow Concentrated Flow	Start Station	100.00	ft
	End Station	313.78	ft
	Length	214	ft
	Start Elev	763.21	ft
	End Elev	740.61	ft
	Slope (S)	0.106	ft/ft
	Surface	UNPAVED	
	T_t	1	minutes
Channel or Storm Drain Flow	Cross Sectional Area (A)	0.00	sf
	Wetted Perimeter (P)	0.00	ft
	Hydraulic Radius (r)	0	ft
	Start Elev	0.00	ft
	End Elev	0.00	ft
	Slope (S)	0.00	ft/ft
	Manning's n	0.013	
	Velocity (V)	0.00	fps
	Start Station		ft
	End Station		ft
	Length (L)	0.00	ft
	T_t	0.00	minutes

Time of Concentration	10
Lag Time	6

E3/EO3

Sheet Flow	Start Station	0.00	ft
	End Station	100.00	ft
	Length (L)	100	ft
	Manning's n	0.40	
	2-year 24-hour rain	4.06	inches
	Start Elev	730.18	ft
	End Elev	719.97	ft
	Slope (S)	0.102	ft/ft
	T_t	10	minutes
Shallow Concentrated Flow	Start Station	100.00	ft
	End Station	756.27	ft
	Length	656	ft
	Start Elev	719.97	ft
	End Elev	649.73	ft
	Slope (S)	0.107	ft/ft
	Surface	UNPAVED	
	T_t	2	minutes
Channel or Storm Drain Flow	Cross Sectional Area (A)	0.00	sf
	Wetted Perimeter (P)	0.00	ft
	Hydraulic Radius (r)	0	ft
	Start Elev	0.00	ft
	End Elev	0.00	ft
	Slope (S)	0.00	ft/ft
	Manning's n	0.013	
	Velocity (V)	0.00	fps
	Start Station		ft
	End Station		ft
	Length (L)	0.00	ft
	T_t	0.00	minutes

Time of Concentration	12
Lag Time	7

E4

Sheet Flow	Start Station	0.00	ft
	End Station	100.00	ft
	Length (L)	100	ft
	Manning's n	0.40	
	2-year 24-hour rain	4.06	inches
	Start Elev	718.48	ft
	End Elev	707.47	ft
	Slope (S)	0.110	ft/ft
	T_t	10	minutes
Shallow Concentrated Flow	Start Station	100.00	ft
	End Station	459.31	ft
	Length	359	ft
	Start Elev	707.47	ft
	End Elev	653.45	ft
	Slope (S)	0.150	ft/ft
	Surface	UNPAVED	
	T_t	1	minutes
Channel or Storm Drain Flow	Cross Sectional Area (A)	0.00	sf
	Wetted Perimeter (P)	0.00	ft
	Hydraulic Radius (r)	0	ft
	Start Elev	0.00	ft
	End Elev	0.00	ft
	Slope (S)	0.00	ft/ft
	Manning's n	0.013	
	Velocity (V)	0.00	fps
	Start Station		ft
	End Station		ft
	Length (L)	0.00	ft
	T_t	0.00	minutes

Time of Concentration	11
Lag Time	6

E5

Sheet Flow	Start Station	0.00	ft
	End Station	100.00	ft
	Length (L)	100	ft
	Manning's n	0.40	
	2-year 24-hour rain	4.06	inches
	Start Elev	762.28	ft
	End Elev	755.64	ft
	Slope (S)	0.066	ft/ft
	T_t	12	minutes
Shallow Concentrated Flow	Start Station	100.00	ft
	End Station	332.58	ft
	Length	233	ft
	Start Elev	755.64	ft
	End Elev	719.96	ft
	Slope (S)	0.153	ft/ft
	Surface	UNPAVED	
	T_t	1	minutes
Channel or Storm Drain Flow	Cross Sectional Area (A)	0.00	sf
	Wetted Perimeter (P)	0.00	ft
	Hydraulic Radius (r)	0	ft
	Start Elev	0.00	ft
	End Elev	0.00	ft
	Slope (S)	0.00	ft/ft
	Manning's n	0.013	
	Velocity (V)	0.00	fps
	Start Station		ft
	End Station		ft
	Length (L)	0.00	ft
	T_t	0.00	minutes

Time of Concentration	12
Lag Time	7

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SITE PLAN APPROVAL SHEET 30 OF 63
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NO.	DATE	DESCRIPTION	BY

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EXISTING DRAINAGE CALCULATIONS

KAALO STUDIO
7901 RM 2222
Austin, Texas 78730

PLOTTED: 12/23/2022
JOB NO: 864-01

C501
30 OF 63

SPC-2021-0195C

File: Y:_864-01_Kaalo_Studio\CAD\Sheets\C500-EX_DAM.dwg 24x36

0 30' 60' 120'

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DRAINAGE AREA MAP LEGEND

- EXISTING WATERSHED BOUNDARY
- DRAINAGE AREA BOUNDARY
- TIME OF CONCENTRATION PATH
- (E1) DRAINAGE AREA DESIGNATION
- LOC — LIMITS OF CONSTRUCTION
- FLOW PATTERNS

Proposed w/o Detention Flow Values (cfs)						
	P1/PO1	P2/PO2	P3	P4	P5	P6/PO6
2 YEAR	3.2	1.6	2.7	1.8	3.6	5.6
5 YEAR	4.5	2.2	3.4	2.6	5.0	8.2
10 YEAR	5.7	2.8	4.1	3.3	6.3	10.6
25 YEAR	7.4	3.6	5.0	4.2	8.0	13.9
50 YEAR	8.8	4.3	5.7	5.0	9.5	16.7
100 YEAR	10.2	5.0	6.5	5.8	11.0	19.5

Proposed w/o Detention Flow Values (cfs)					
	Study Point 1	Study Point 2	Study Point 3	Study Point 4	Study Point 5
2 YEAR	3.2	1.6	8.0	1.8	3.6
5 YEAR	4.5	2.2	11.1	2.6	5.0
10 YEAR	5.7	2.8	14.1	3.3	6.3
25 YEAR	7.4	3.6	18.2	4.2	8.0
50 YEAR	8.8	4.3	21.6	5.0	9.5
100 YEAR	10.2	5.0	25.1	5.8	11.0

Proposed w Detention Flow Values (cfs)						
	P1/PO1	P2/PO2	P3	P4	P5	P6/PO6
2 YEAR	3.2	1.6	2.5	1.8	3.6	5.6
5 YEAR	4.5	2.2	3.1	2.6	5.0	8.2
10 YEAR	5.7	2.8	3.7	3.3	6.3	10.6
25 YEAR	7.4	3.6	4.5	4.2	8.0	13.9
50 YEAR	8.8	4.3	5.2	5.0	9.5	16.7
100 YEAR	10.2	5.0	5.9	5.8	11.0	19.5

Proposed w Detention Flow Values (cfs)					
	Study Point 1	Study Point 2	Study Point 3	Study Point 4	Study Point 5
2 YEAR	3.2	1.6	7.3	1.8	3.6
5 YEAR	4.5	2.2	10.1	2.6	5.0
10 YEAR	5.7	2.8	12.7	3.3	6.3
25 YEAR	7.4	3.6	16.3	4.2	8.0
50 YEAR	8.8	4.3	19.3	5.0	9.5
100 YEAR	10.2	5.0	22.4	5.8	11.0

Net Runoff Flow Rates w/ Detention (cfs)					
	Study Point 1	Study Point 2	Study Point 3	Study Point 4	Study Point 5
2 YEAR	0.0	0.0	-0.5	-0.3	0.0
5 YEAR	0.0	0.0	-0.9	-0.4	0.0
10 YEAR	0.0	0.0	-1.2	-0.6	0.0
25 YEAR	0.0	0.0	-1.7	-0.7	0.0
50 YEAR	0.0	0.0	-2.0	-0.8	0.0
100 YEAR	0.0	0.0	-2.3	-1.0	0.0

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NO.	DATE	DESCRIPTION	BY

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PROPOSED CONDITIONS DRAINAGE AREA MAP

KAALO STUDIO
7901 RM 2222
Austin, Texas 78730

PLOTTED: 12/23/2022
JOB NO: 864-01

C502

31 OF 63

SPC-2021-0195C

File: J:\864-01_Kaalo_Studio\CAD\Sheets\C502-PROP_DAM.dwg 24x36

COVER TYPE	HYDROLOGIC CONDITION	CURVE NUMBERS FOR HYDROLOGIC SOIL GROUP				DRAINAGE AREA						COMPOSITE CURVE NUMBER					
		A	B	C	D	P1/PO1	P2/PO2	P3	P4	P5	P6/PO6	P1/P01	P2/PO2	P3	P4	P5	P6/PO6
Fully developed urban areas (vegetation established)												0	0	0	0	0	0
Open space (lawns, parks, golf courses, cemeteries, etc.)												0	0	0	0	0	0
Poor condition (grass cover 50%)		68	79	86	89							0	0	0	0	0	0
Fair condition (grass cover 50% to 75%)		49	69	79	84							0	0	0	0	0	0
Good condition (grass cover 75%)		39	61	74	80			3445.27			44068.43	0	0	275621.6	0	0	3525474.4
Impervious areas:												0	0	0	0	0	0
Paved parking lots, roofs, driveways, etc. (excluding right of way)		98	98	98	98			23016.36			2806.21	0	0	2255603.28	0	0	0
Streets and roads:												0	0	0	0	0	0
Paved; curbs and storm drains (excluding right of way)		98	98	98	98							0	0	0	0	0	
Paved; open ditches (including right of way)		83	89	92	93							0	0	0	0	0	0
Gravel (including right of way)		76	85	89	91	3139.51	2640.47	1466.20	211.54	5297.90	3414.63	285695.41	240282.77	133424.2	19250.14	482108.9	310731.33
Dirt (including right of way)		72	82	87	89							0	0	0	0	0	0
Developing urban area												0	0	0	0	0	0
Newly graded areas (pervious areas only, no vegetation)		77	86	91	94							0	0	0	0	0	0
Agricultural lands												0	0	0	0	0	0
Grassland, or range-continuous forage for grazing	Poor	68	79	86	89							0	0	0	0	0	0
	Fair	49	69	79	84	47385.62	21557.99		27544.69	48236.14	48633.07	3980392.08	1810871.16	0	2313753.96	4051835.76	4085177.88
	Good	39	61	74	80							0	0	0	0		0
Meadow-continuous grass, protected from grazing and generally mowed for hay		30	58	71	78							0	0	0	0	0	0
Brush - brush-weed-grass mixture with brush the major element	Poor	48	67	77	83							0	0	0	0	0	0
	Fair	35	56	70	77							0	0	0	0	0	0
	Good	30	48	65	73							0	0	0	0	0	0
Woods - grass combination (orchard or tree farm)	Poor	57	73	82	86							0	0	0	0	0	0
	Fair	43	65	76	79							0	0	0	0	0	0
	Good	32	58	72	79							0	0	0	0	0	0
Woods - grass combination (orchard or tree farm)	Poor	45	66	77	83							0	0	0	0	0	0
	Fair	36	60	73	79							0	0	0	0	0	0
	Good	30	55	70	77							0	0	0	0	0	0
Farmstead - buildings, lanes, driveways and surrounding lots		59	74	82	86							0	0	0	0	0	0
					SF	50525.13	24198.46	27927.83	27756.23	53534.04	98922.34	84	85	95	84	85	80
					AC	1.16	0.56	0.64	0.64	1.23	2.27						
					Acimp	0.00	0.00	0.53	0.00	0.00	0.06						
					% Imp	0%	0%	82%	0%	0%	3%						

P1/PO1

Sheet Flow	Start Station	0.00	ft
	End Station	100.00	ft
	Length (L)	100	ft
	Manning's n	0.40	
	2-year 24-hour rain	4.06	inches
	Start Elev	800.07	ft
	End Elev	793.29	ft
	Slope (S)	0.068	ft/ft
	T_t	12	minutes
Shallow Concentrated Flow	Start Station	100.00	ft
	End Station	568.57	ft
	Length	469	ft
	Start Elev	793.29	ft
	End Elev	723.30	ft
	Slope (S)	0.149	ft/ft
	Surface	UNPAVED	
	T_t	1	minutes
Channel or Storm Drain Flow	Cross Sectional Area (A)	0.00	sf
	Wetted Perimeter (P)	0.00	ft
	Hydraulic Radius (r)	0	ft
	Start Elev	0.00	ft
	End Elev	0.00	ft
	Slope (S)	0.00	ft/ft
	Manning's n	0.013	
	Velocity (V)	0.00	fps
	Start Station		ft
	End Station		ft
	Length (L)	0.00	ft
	T_t	0.00	minutes

Time of Concentration	13
Lag Time	8

P2/PO2

Sheet Flow	Start Station	0.00	ft
	End Station	100.00	ft
	Length (L)	100	ft
	Manning's n	0.40	
	2-year 24-hour rain	4.06	inches
	Start Elev	775.99	ft
	End Elev	763.21	ft
	Slope (S)	0.128	ft/ft
	T_t	9	minutes
Shallow Concentrated Flow	Start Station	100.00	ft
	End Station	313.78	ft
	Length	214	ft
	Start Elev	763.21	ft
	End Elev	740.61	ft
	Slope (S)	0.106	ft/ft
	Surface	UNPAVED	
	T_t	1	minutes
Channel or Storm Drain Flow	Cross Sectional Area (A)	0.00	sf
	Wetted Perimeter (P)	0.00	ft
	Hydraulic Radius (r)	0	ft
	Start Elev	0.00	ft
	End Elev	0.00	ft
	Slope (S)	0.00	ft/ft
	Manning's n	0.013	
	Velocity (V)	0.00	fps
	Start Station		ft
	End Station		ft
	Length (L)	0.00	ft
	T_t	0.00	minutes

Time of Concentration	10
Lag Time	6

P3

Sheet Flow	Start Station	0.00	ft
	End Station	79.85	ft
	Length (L)	79.85	ft
	Manning's n	0.015	
	2-year 24-hour rain	4.06	inches
	Start Elev	680.61	ft
	End Elev	670.85	ft
	Slope (S)	0.122	ft/ft
	T_t	1	minutes
Shallow Concentrated Flow	Start Station	79.85	ft
	End Station	135.58	ft
	Length	56	ft
	Start Elev	670.85	ft
	End Elev	668.00	ft
	Slope (S)	0.051	ft/ft
	Surface	PAVED	
	T_t	0	minutes
Channel or Storm Drain Flow	Cross Sectional Area (A)	0.20	sf
	Wetted Perimeter (P)	1.57	ft
	Hydraulic Radius (r)	0.25	ft
	Start Elev	664.00	ft
	End Elev	663.50	ft
	Slope (S)	0.006	ft/ft
	Manning's n	0.015	
	Velocity (V)	2.99	fps
	Start Station	135.58	ft
	End Station	222.47	ft
	Length (L)	86.89	ft
	T_t	0.48	minutes
Shallow Concentrated Flow	Start Station	222.47	ft
	End Station	319.20	ft
	Length	97	ft
	Start Elev	663.50	ft
	End Elev	649.69	ft
	Slope (S)	0.143	ft/ft
	Surface	UNPAVED	
	T_t	0	minutes

Time of Concentration	5
Lag Time	3

P4

Sheet Flow	Start Station	0.00	ft
	End Station	100.00	ft
	Length (L)	100	ft
	Manning's n	0.40	
	2-year 24-hour rain	4.06	inches
	Start Elev	719	ft
	End Elev	708.57	ft
	Slope (S)	0.104	ft/ft
	T_t	10	minutes
Shallow Concentrated Flow	Start Station	100.00	ft
	End Station	218.93	ft
	Length	119	ft
	Start Elev	708.57	ft
	End Elev	682.50	ft
	Slope (S)	0.219	ft/ft
	Surface	UNPAVED	
	T_t	0	minutes
Channel or Storm Drain Flow	Cross Sectional Area (A)	4.50	sf
	Wetted Perimeter (P)	3.50	ft
	Hydraulic Radius (r)	1	ft
	Start Elev	679.67	ft
	End Elev	670.03	ft
	Slope (S)	0.05	ft/ft
	Manning's n	0.015	
	Velocity (V)	23.07	fps
	Start Station	218.93	ft
	End Station	397.65	ft
	Length (L)	178.72	ft
	T_t	0.13	minutes
Shallow Concentrated Flow	Start Station	397.65	ft
	End Station	518.49	ft
	Length	121	ft
	Start Elev	670.03	ft
	End Elev	653.16	ft
	Slope (S)	0.140	ft/ft
	Surface	UNPAVED	
	T_t	0	minutes

Time of Concentration	10
Lag Time	6

P5

Sheet Flow	Start Station	0.00	ft
	End Station	100.00	ft
	Length (L)	100	ft
	Manning's n	0.40	
	2-year 24-hour rain	4.06	inches
	Start Elev	762.28	ft
	End Elev	755.64	ft
	Slope (S)	0.066	ft/ft
	T_t	12	minutes
Shallow Concentrated Flow	Start Station	100.00	ft
	End Station	332.58	ft
	Length	233	ft
	Start Elev	755.64	ft
	End Elev	719.96	ft
	Slope (S)	0.153	ft/ft
	Surface	UNPAVED	
	T_t	1	minutes
Channel or Storm Drain Flow	Cross Sectional Area (A)	0.00	sf
	Wetted Perimeter (P)	0.00	ft
	Hydraulic Radius (r)	0	ft
	Start Elev	0.00	ft
	End Elev	0.00	ft
	Slope (S)	0.00	ft/ft
	Manning's n	0.015	
	Velocity (V)	0.00	fps
	Start Station		ft
	End Station		ft
	Length (L)	0.00	ft
	T_t	0.00	minutes

Time of Concentration	12
Lag Time	7

P6/PO6

Sheet Flow	Start Station	0.00	ft
	End Station	100.00	ft
	Length (L)	100	ft
	Manning's n	0.40	
	2-year 24-hour rain	4.06	inches
	Start Elev	754.38	ft
	End Elev	741.91	ft
	Slope (S)	0.125	ft/ft
	T_t	9	minutes
Shallow Concentrated Flow	Start Station	100.00	ft
	End Station	627.41	ft
	Length	527	ft
	Start Elev	741.91	ft
	End Elev	682.10	ft
	Slope (S)	0.113	ft/ft
	Surface	UNPAVED	
	T_t	2	minutes
Channel or Storm Drain Flow	Cross Sectional Area (A)	4.50	sf
	Wetted Perimeter (P)	3.50	ft
	Hydraulic Radius (r)	1	ft
	Start Elev	679.90	ft
	End Elev	665.94	ft
	Slope (S)	0.06	ft/ft
	Manning's n	0.015	
	Velocity (V)	23.47	fps
	Start Station	627.41	ft
	End Station	877.52	ft
	Length (L)	250.11	ft
	T_t	0.18	minutes
Shallow Concentrated Flow	Start Station	877.52	ft
	End Station	974.25	ft
	Length	97	ft
	Start Elev	663.50	ft
	End Elev	649.69	ft
	Slope (S)	0.143	ft/ft
	Surface	UNPAVED	
	T_t	0	minutes

Time of Concentration	11
Lag Time	7

I CERTIFY THAT THESE ENGINEERING DOCUMENTS ARE COMPLETE, ACCURATE AND ADEQUATE FOR THEIR INTENDED PURPOSES, INCLUDING CONSTRUCTION, BUT ARE NOT AUTHORIZED FOR CONSTRUCTION PRIOR TO FORMAL CITY APPROVAL.

SITE PLAN APPROVAL SHEET 32 OF 63
FILE NUMBER: SPC-2021-0195C APPLICATION DATE: 05/20/2021
APPROVED BY COMMISSION ON _____ UNDER SECTION 112 OF CHAPTER 25-5 OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE(25-5-81, LDC)_____ CASE MANAGER R. AVILA
PROJECT EXPIRATION DATE (ORD. #970905-A)_____DMPZ_____DDZ__X__

_____
Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE:_____ZONING LO-MU-CO
Rev. 1 _____Correction 1 _____
Rev. 2 _____Correction 2 _____
Rev. 3 _____Correction 3 _____
Final Plat must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction (if a building permit is not required), must also be approved prior to the Project Expiration Date.

ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN REVIEWING THESE PLANS, THE CITY OF AUSTIN MUST RELY UPON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.

dwA

23 DEC 2022
STATE OF TEXAS
BRIAN LEE WELLS
89517
LICENSED
PROFESSIONAL ENGINEER

mwm Design Group
305 East Huntland Drive
Suite 200
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TBAE FIRM REGISTRATION NO.: 1452
TBPE FIRM REGISTRATION NO.: F-1416
TBPLS FIRM REGISTRATION NO.: 10065600

NO.	DATE	DESCRIPTION	BY

0 1"
The bar above measures one inch on the original drawing. Adjust scales accordingly.

PROPOSED DRAINAGE CALCULATIONS

KAALO STUDIO
7901 RM 2222
Austin, Texas 78730

PLOTTED: 12/23/2022
JOB NO: 864-01

C503
32 OF 63

SPC-2021-0195C

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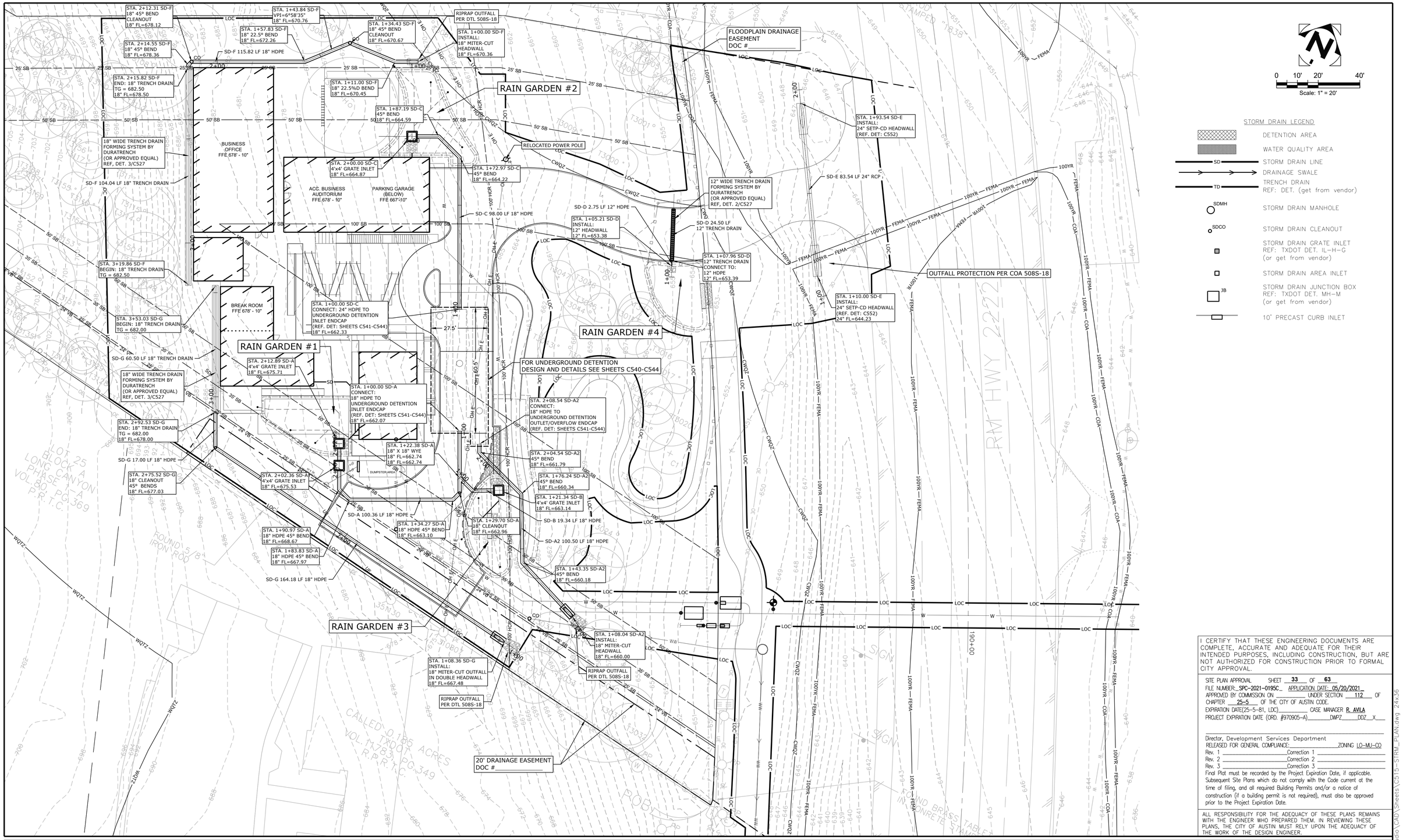

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SITE PLAN APPROVAL SHEET 33 OF 63
FILE NUMBER: SPC-2021-0195C APPLICATION DATE: 05/20/2021
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Rev. 3 _____Correction 3 _____
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TBAE FIRM REGISTRATION NO.: 1452
TBPE FIRM REGISTRATION NO.: F-1416
TBPLS FIRM REGISTRATION NO.: 10065600

NO.	DATE	DESCRIPTION	BY

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STORM DRAIN PLAN

KAALO STUDIO
7901 RM 2222
Austin, Texas 78730

PLOTTED: 12/23/2022
JOB NO: 864-01

C522
33 OF 63

SPC-2021-0195C

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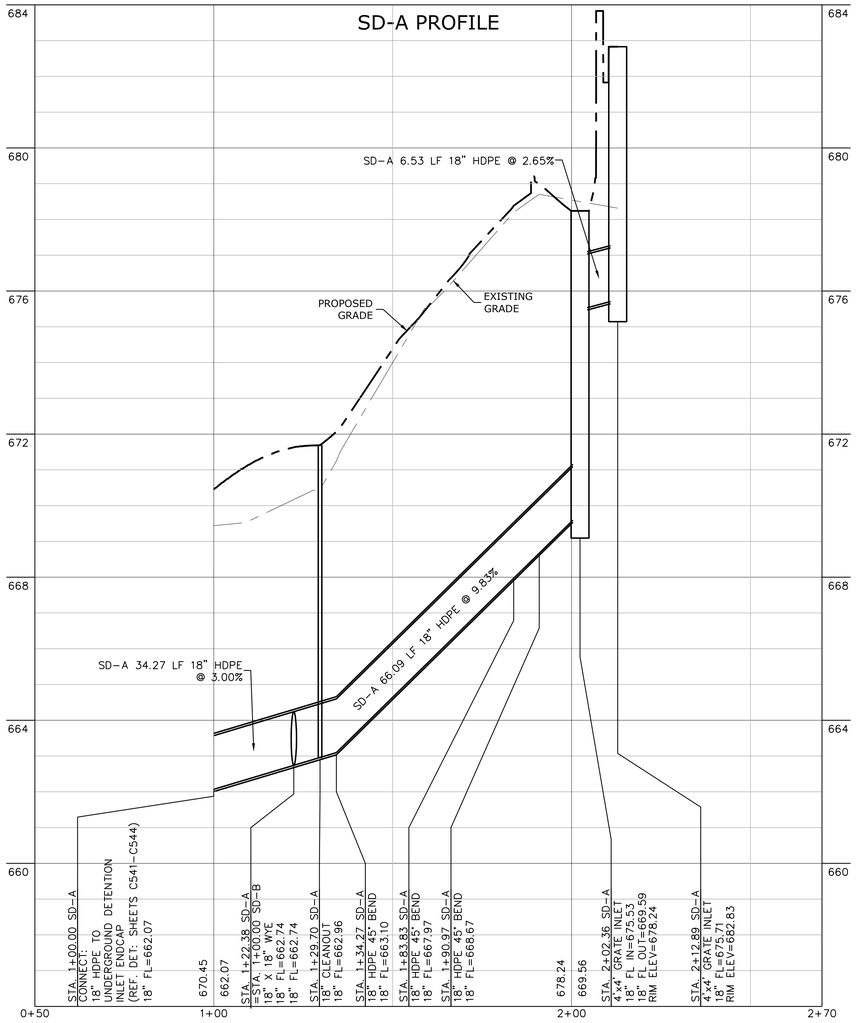

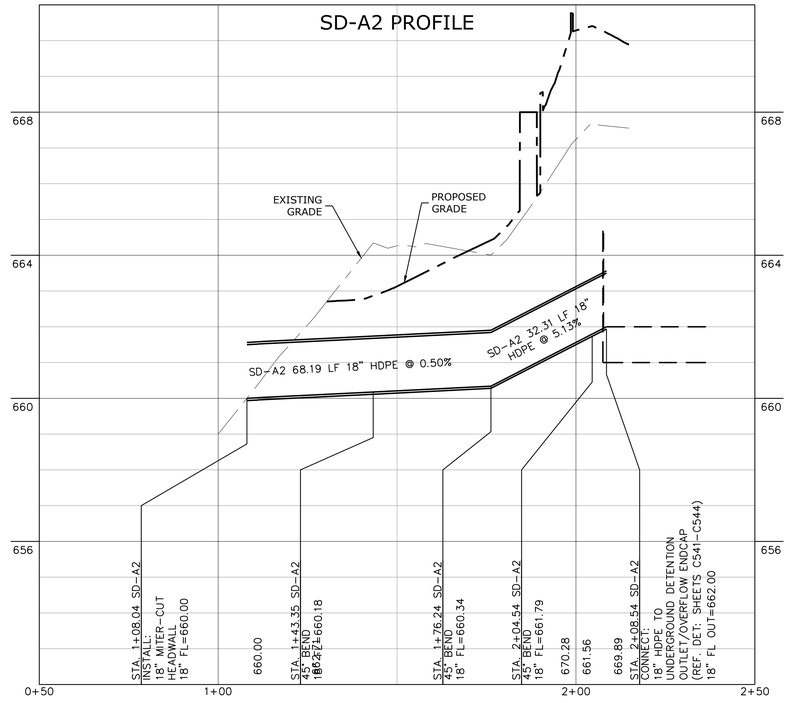

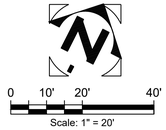

STORM DRAIN LEGEND

- DETENTION AREA
- WATER QUALITY AREA
- SD — STORM DRAIN LINE
- DRAINAGE SWALE
- TD — TRENCH DRAIN REF: DET. (get from vendor)
- SDMH — STORM DRAIN MANHOLE
- SDCO — STORM DRAIN CLEANOUT
- STORM DRAIN GRATE INLET REF: TXDOT DET. IL-H-G (or get from vendor)
- STORM DRAIN AREA INLET
- JB — STORM DRAIN JUNCTION BOX REF: TXDOT DET. MH-M (or get from vendor)
- 10' PRECAST CURB INLET

I CERTIFY THAT THESE ENGINEERING DOCUMENTS ARE COMPLETE, ACCURATE AND ADEQUATE FOR THEIR INTENDED PURPOSES, INCLUDING CONSTRUCTION, BUT ARE NOT AUTHORIZED FOR CONSTRUCTION PRIOR TO FORMAL CITY APPROVAL.

SITE PLAN APPROVAL SHEET 34 OF 63
FILE NUMBER: SPC-2021-0195C APPLICATION DATE: 05/20/2021
APPROVED BY COMMISSION ON ____ UNDER SECTION 112 OF CHAPTER 25-5 OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE(25-5-81, LDC)_____ CASE MANAGER R. AVILA
PROJECT EXPIRATION DATE (ORD. #970905-A)_____DMPZ_____DDZ__X___

Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE:_____ZONING LO-MU-CO
Rev. 1 _____Correction 1 _____
Rev. 2 _____Correction 2 _____
Rev. 3 _____Correction 3 _____
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dwA

23 DEC 2022
STATE OF TEXAS
BRIAN LEE WELLS
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TBAE FIRM REGISTRATION NO.: 1452
TBPE FIRM REGISTRATION NO.: F-1416
TBPLS FIRM REGISTRATION NO.: 10065600

NO.	DATE	DESCRIPTION	BY

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STORM DRAIN PROFILES

KAALO STUDIO
7901 RM 2222
Austin, Texas 78730

PLOTTED: 12/23/2022
JOB NO: 864-01

C523
34 OF 63

SPC-2021-0195C

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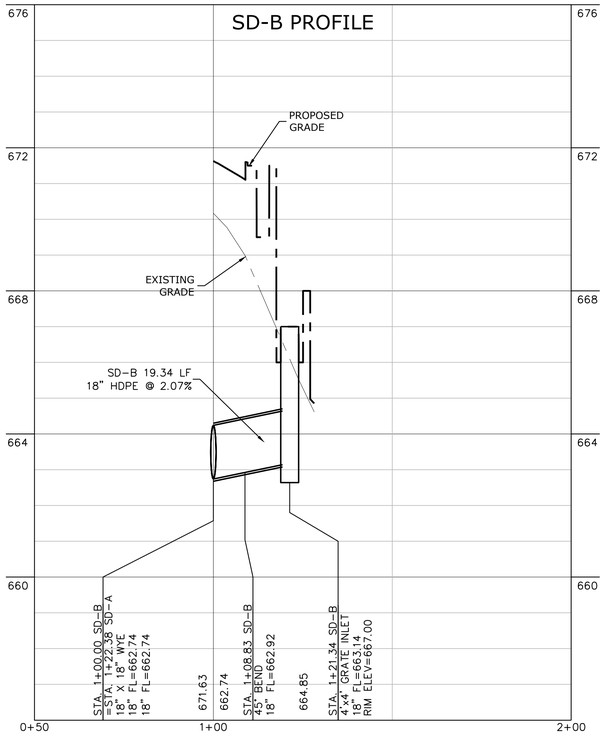

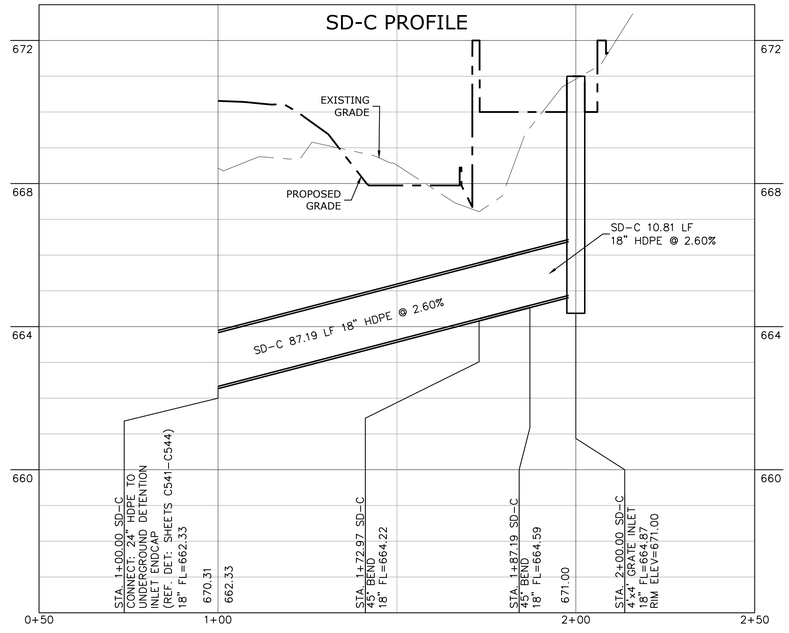

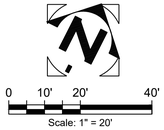

STORM DRAIN LEGEND

- DETENTION AREA
- WATER QUALITY AREA
- SD — STORM DRAIN LINE
- DRAINAGE SWALE
- TD — TRENCH DRAIN REF: DET. (get from vendor)
- SDMH — STORM DRAIN MANHOLE
- SDCO — STORM DRAIN CLEANOUT
- STORM DRAIN GRATE INLET REF: TXDOT DET. IL-H-G (or get from vendor)
- STORM DRAIN AREA INLET
- JB — STORM DRAIN JUNCTION BOX REF: TXDOT DET. MH-M (or get from vendor)
- 10' PRECAST CURB INLET

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SITE PLAN APPROVAL SHEET 35 OF 63
FILE NUMBER: SPC-2021-0195C APPLICATION DATE: 05/20/2021
APPROVED BY COMMISSION ON _____ UNDER SECTION 112 OF CHAPTER 25-5 OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE(25-5-81, LDC)_____ CASE MANAGER R. AVILA
PROJECT EXPIRATION DATE (ORD. #970905-A)_____DMPZ_____DDZ__X___

Director, Development Services Department
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dwA

23 DEC 2022

STATE OF TEXAS
BRIAN LEE WELLS
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TBAE FIRM REGISTRATION NO.: 1452
TBPE FIRM REGISTRATION NO.: F-1416
TBPLS FIRM REGISTRATION NO.: 10065600

NO.	DATE	DESCRIPTION	BY

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STORM DRAIN PROFILES

KAALO STUDIO
7901 RM 2222
Austin, Texas 78730

PLOTTED: 12/23/2022
JOB NO: 864-01

C524
35 OF 63

SPC-2021-0195C

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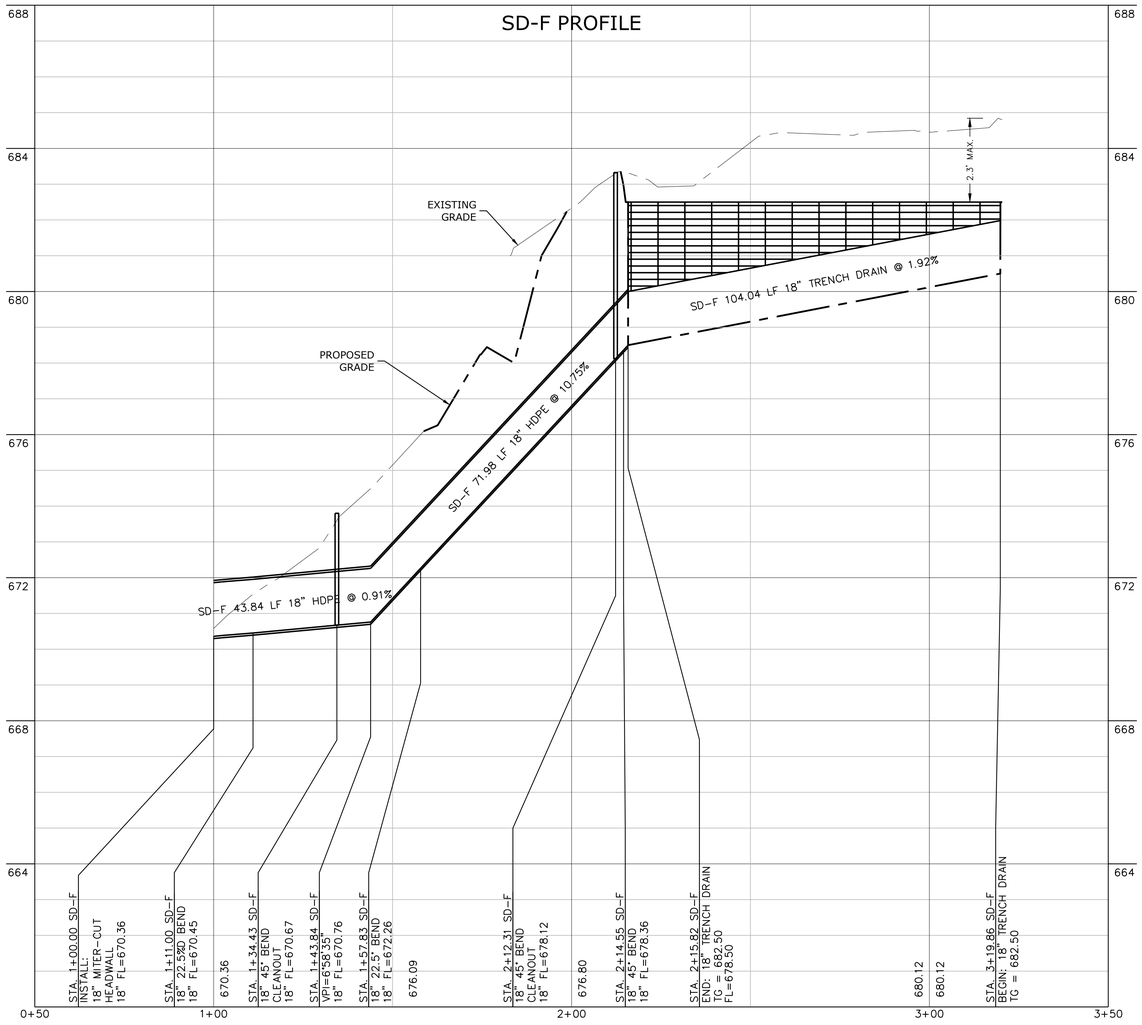

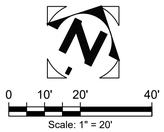

STORM DRAIN LEGEND

- DETENTION AREA
- WATER QUALITY AREA
- SD — STORM DRAIN LINE
- DRAINAGE SWALE
- TD — TRENCH DRAIN REF: DET. (get from vendor)
- SDMH — STORM DRAIN MANHOLE
- SDCO — STORM DRAIN CLEANOUT
- STORM DRAIN GRATE INLET REF: TXDOT DET. IL-H-G (or get from vendor)
- STORM DRAIN AREA INLET
- JB — STORM DRAIN JUNCTION BOX REF: TXDOT DET. MH-M (or get from vendor)
- 10' PRECAST CURB INLET

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SITE PLAN APPROVAL SHEET 36 OF 63
FILE NUMBER: SPC-2021-0195C APPLICATION DATE: 05/20/2021
APPROVED BY COMMISSION ON _____ UNDER SECTION 112 OF CHAPTER 25-5 OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE(25-5-81, LDC)_____ CASE MANAGER R. AVILA
PROJECT EXPIRATION DATE (ORD. #970905-A)_____DMPZ_____DDZ__X___

Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE:_____ZONING LO-MU-CO
Rev. 1 _____Correction 1 _____
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dwA

23 DEC 2022

STATE OF TEXAS
BRIAN LEE WELLS
89517
LICENSED
PROFESSIONAL ENGINEER

mwm DesignGroup
305 East Huntland Drive
Suite 200
Austin, Texas 78752
p: 512.453.0767
f: 512.453.1734

TBAE FIRM REGISTRATION NO.: 1452
TBPE FIRM REGISTRATION NO.: F-1416
TBPLS FIRM REGISTRATION NO.: 10065600

NO.	DATE	DESCRIPTION	BY

0 1"
The bar above measures one inch on the original drawing. Adjust scales accordingly.

STORM DRAIN PROFILES

KAALO STUDIO
7901 RM 2222
Austin, Texas 78730

PLOTTED: 12/23/2022
JOB NO: 864-01

C525
36 OF 63

SPC-2021-0195C

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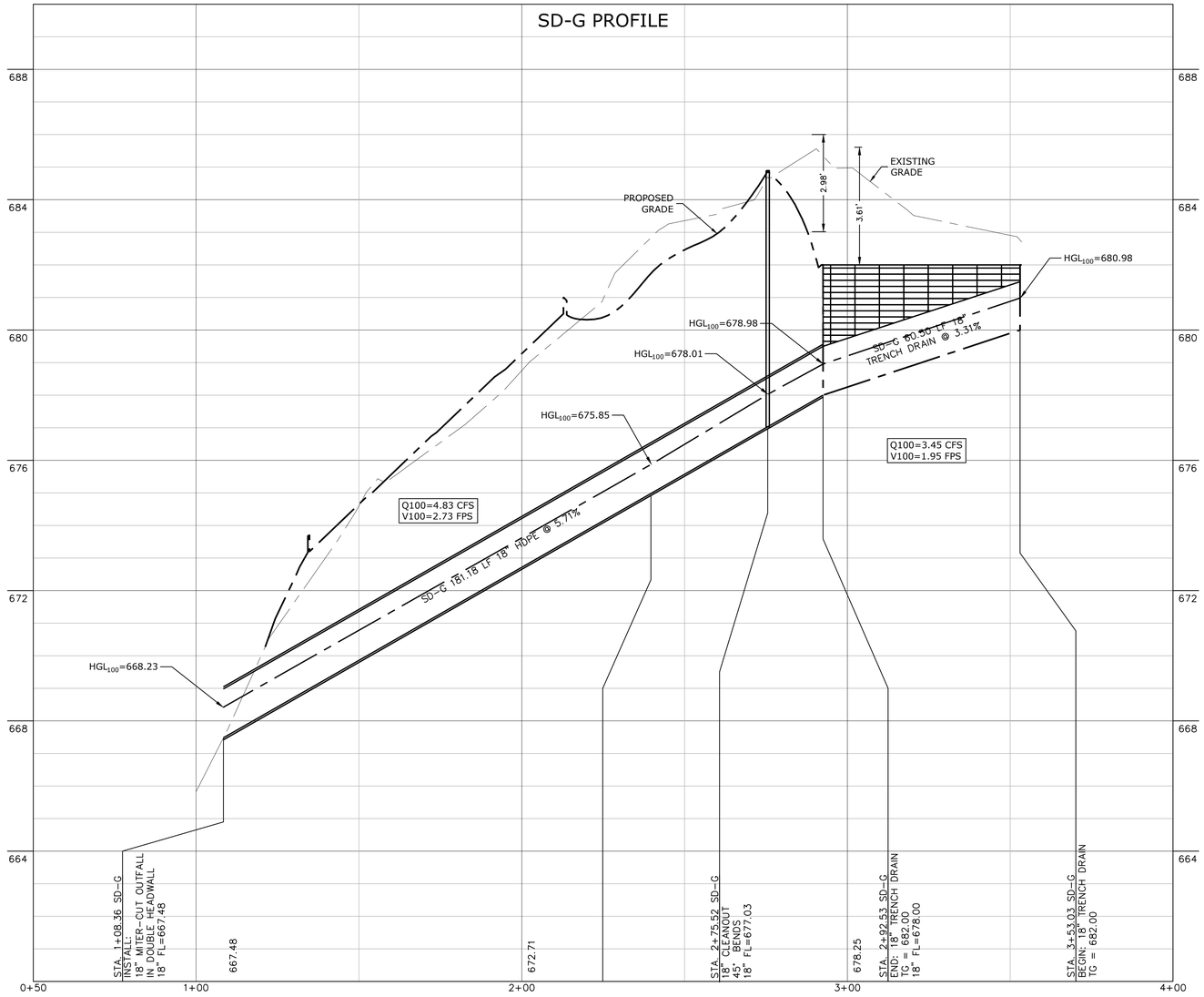

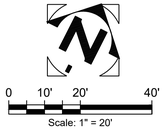

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C526
37 OF 63

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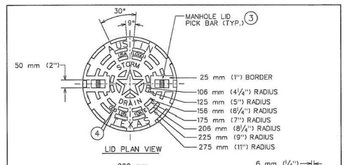
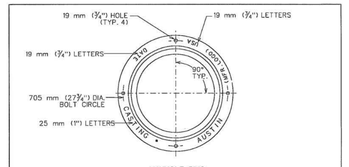


CITY OF AUSTIN DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW	STORM DRAIN MANHOLE RING AND 610 mm (24") COVER
George E. Ruwell 2/14/06 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. STANDARD NO. 503S-2S 1 OF 3



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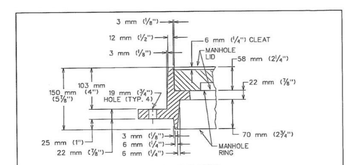
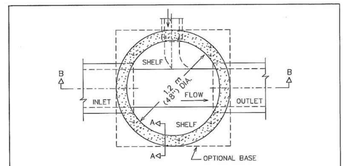
George E. Ruwell 2/14/06 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. STANDARD NO. 503S-2S 2 OF 3



NOTES:
1. 19 mm (¾") R. + 6 mm (¼") CLEAT PER CITY SPECIFICATION, OR 25 mm (1") R. + 6 mm (¼") CLEAT IN STATE MAINTAINED R.O.W.
2. BREAK ALL SHARP CORNERS 1.5 mm (.06") x 45° MIN.
3. LID IS CAST WITH TWO 25 mm x 88 mm (1" x 3½") STEEL PICK BARS.
4. LID WEIGHT 667 OR 778 N (150 OR 175 LBS) CAST TOP & BOTTOM.

TYP. WEIGHT	LID	RING	SET
CITY/STATE	667/778 N (150/175 LBS)	667 N (150 LBS	1335/1445 N (300/325 LBS)

CITY OF AUSTIN DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW	STORM DRAIN MANHOLE RING AND 610 mm (24") COVER
George E. Ruwell 2/14/06 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. STANDARD NO. 503S-2S 3 OF 3

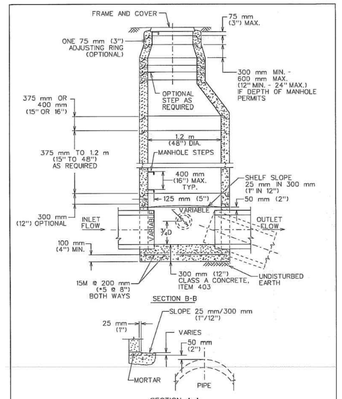


NOTE:
USE 800 mm (32") FRAME AND COVER.

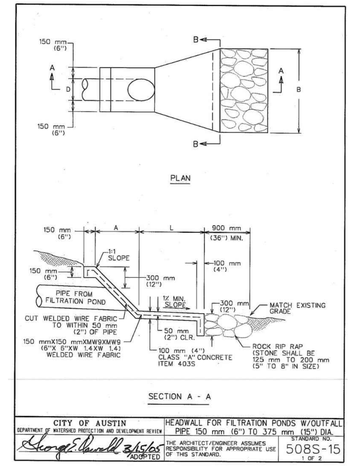
MINIMUM MANHOLE DIA.	MINIMUM PIPE SIZE
1.2 m (4') 1.5 m (5') 1.8 m (6') 2.1 m (7')	450 TO 600 mm (18 TO 24") 750 mm TO 1.1 m (30 TO 42") 1.2 TO 1.4 m (48 TO 54") 1.5 TO 1.7 m (60 TO 66")

SIZE TO BE USED IS DEPENDENT ON DRAIN ANGLES.

CITY OF AUSTIN DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW	PRE-CAST CONCRETE STORM DRAIN MANHOLE
George E. Ruwell 2/14/06 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. STANDARD NO. 506S-3 1 OF 2



CITY OF AUSTIN DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW	PRE-CAST CONCRETE STORM DRAIN MANHOLE
George E. Ruwell 2/14/06 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. STANDARD NO. 506S-3 2 OF 2



CITY OF AUSTIN DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW	HEADWALL FOR FILTRATION PONDS W/OUTFALL PIPE 150 mm (6") TO 375 mm (15") DIA.
George E. Ruwell 2/15/06 ACCEPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. STANDARD NO. 508S-15 1 OF 2

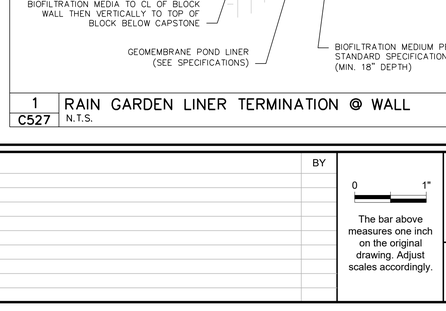
A	450 mm (18")	500 mm (20")	550 mm (22")	600 mm (24")	675 mm (27")
B	750 mm (30")	800 mm (32")	850 mm (34")	1.05 m (42")	1.27 m (51")
D	150 mm (6")	200 mm (8")	250 mm (10")	300 mm (12")	375 mm (15")
L	600 mm (24")	600 mm (24")	750 mm (30")	900 mm (36")	1.2 m (48")

CITY OF AUSTIN DEPARTMENT OF WATERSHED PROTECTION AND DEVELOPMENT REVIEW	HEADWALL FOR FILTRATION PONDS W/OUTFALL PIPE 150 mm (6") TO 375 mm (15") DIA.
George E. Ruwell 2/15/06 ACCEPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. STANDARD NO. 508S-15 2 OF 2

NOTE:
1. ROCK RIPRAP SHALL BE SOUND MATERIAL AND GRADED PER REQUIREMENTS SPECIFIED IN STANDARD SPECIFICATION ITEM NO. 501S.
2. ROCK SIZE D_{50} AND GRADATION SHALL BE STABLE FOR THE DESIGN HYDRAULIC CONDITIONS AND IN ACCORDANCE WITH THE ECM 1.4.6.D PERMANENT STRUCTURAL PRACTICES. STONE RIPRAP OR OTHER ENGINEERING STANDARD OF PRACTICE FOR SIZING ROCK RIPRAP. ROCK RIPRAP D_{50} AND FILTER TYPE SHALL BE NOTED ON PLANS.
3. GEOTEXTILE FILTER FABRIC SHALL MEET THE REQUIREMENTS SPECIFIED IN STANDARD SPECIFICATION ITEM NO. 502S.
4. AGGREGATE FOR GRANULAR FILTER SHALL MEET THE REQUIREMENTS SPECIFIED IN STANDARD SPECIFICATION ITEM NO. 402S. AGGREGATE SIZE CLASSIFICATION/WIDTH, NUMBER OF LAYERS AND LAYER THICKNESS SHOULD BE NOTED ON THE PLANS.

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	STORMDRAIN OUTFALL PROTECTION PIPE ON SIDE SLOPE – HIGH BANK
ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. STANDARD NO. 508S-18

CITY OF AUSTIN WATERSHED PROTECTION DEPARTMENT	BIOFILTRATION BED CONFIGURATIONS USING GEOMEMBRANE/CLAY LINER
12/30/14 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. STANDARD NO. 661-3



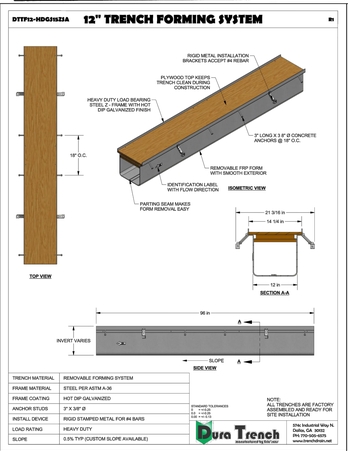
1	RAIN GARDEN LINER TERMINATION @ WALL
C527	N.T.S.

POND LINER SPECIFICATIONS

1. THE POND LINER SHALL BE A GEOMEMBRANE LINER CONSISTING OF EPDM MEETING THE MATERIAL AND MANUFACTURER'S SPECIFICATIONS AND REQUIREMENTS. THE LINER SHALL HAVE A MINIMUM THICKNESS OF 30 MILS AND BE ULTRAVIOLET RESISTANT.
2. THE GEOMEMBRANE LINER SHALL BE UNDERLAIN AND OVERLAIN BY A LAYER OF GEOTEXTILE FABRIC, WITH THE FOLLOWING PROPERTIES, TO PROTECT THE LINER FROM PUNCTURE DUE TO ROCKS OR OTHER SUBSTANCES WITHIN THE SOILS.

GEOTEXTILE FABRIC MATERIAL CHARACTERISTIC	SPECIFICATION
UNIT WEIGHT (OUNCE / SQUARE YARD)	≥ 8
PUNCTURE STRENGTH (POUNDS)	≥ 125
MULLEN BURST STRENGTH (PSI)	≥ 400
TENSILE STRENGTH (POUNDS)	≥ 200
UNIT WEIGHT (OUNCE / SQUARE YARD)	≥ 8

3. PRIOR TO FABRIC AND LINER PLACEMENT, THE SUBGRADE SHALL BE EXCAVATED AND REMOVED TO THE ELEVATIONS ESTABLISHED ON THE PLANS. LOOSE SOILS/ROCKS SHALL BE REMOVED FROM THE EXCAVATION. IF SOIL, THE SUBGRADE SHALL BE SCARIFIED TO A DEPTH OF 6 INCHES, MOISTURE CONDITIONED AND RECOMPACTED. IF THE POND IS OVEREXCAVATED, THE OVEREXCAVATED AREAS MAY BE FILLED WITH ON-SITE SOILS COMPACTED SIMILARLY TO THE SUBGRADE SOILS UP TO THE BOTTOM ELEVATION OF THE LINER. NO SHARP ROCKS OR OTHER SIMILAR SUBSTANCES SHALL BE PRESENT WITHIN THE TOP ONE INCH OF THE SUBGRADE TO BE COVERED BY THE LINER.
4. THE SUBGRADE SHALL BE COMPACTED TO AT LEAST 95 PERCENT OF THE MAXIMUM DRY DENSITY DETERMINED BY THE STANDARD PROCTOR TEST, ASTM D 698. IF THE MATERIAL CLASSIFIES AS A CH OR CL IN ACCORDANCE WITH USCS WITH PI>20, THE MOISTURE CONTENT AT THE TIME OF COMPACTION SHALL BE BETWEEN OPTIMUM AND +4 PERCENTAGE POINTS ABOVE THE OPTIMUM MOISTURE CONTENT. FOR ALL OTHER SOIL MATERIALS, THE MOISTURE CONTENT AT THE TIME OF COMPACTION SHALL BE BETWEEN −3 AND +3 PERCENTAGE POINTS ABOVE THE OPTIMUM MOISTURE CONTENT. IF SUBGRADE CONSISTS OF LIMESTONE BEDROCK, MOISTURE/DENSITY CONTROL IS NOT NECESSARY.
5. GROUNDWATER CONTROL MUST BE PROVIDED SUCH THAT IT RESULTS IN A STABLE AND DRY SUBGRADE THAT IS CONDUCIVE TO PROPER LINER COMPACTION. LINERS CONSTRUCTED BELOW GROUNDWATER WILL REQUIRE DEWATERING AS NECESSARY TO ALLOW CONSTRUCTION OF THE LINER. TO PREVENT DAMAGE TO THE LINER DUE TO UPLIFT PRESSURES AFTER TERMINATION OF DEWATERING OR DURING FUTURE MAINTENANCE, THE LINER MUST INCLUDE PLACEMENT OF SUFFICIENT SOIL BALLAST OR ADDITIONAL THICKNESS OF LINER TO RESIST ANY UPLIFT PRESSURES.
6. THE GEOTEXTILE FABRIC SHALL BE PLACED ON TOP OF THE SUBGRADE (BELOW THE LINER) IN ACCORDANCE WITH ALL MANUFACTURER'S SPECIFICATIONS AND REQUIREMENTS.
7. THE GEOMEMBRANE LINER SHALL BE PLACED IN ACCORDANCE WITH ALL MANUFACTURER'S SPECIFICATIONS AND REQUIREMENTS. ALL SEAMS SHALL BE OVERLAPPED AT LEAST 4 INCHES, PREPARED AND SEALED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION GUIDELINES. ALL AREAS TO BE SEAMED SHALL BE CLEAN AND FREE OF MOISTURE, DUST, DIRT, AND OTHER FOREIGN MATERIALS.
8. A SECOND LAYER OF GEOTEXTILE FABRIC SHALL BE PLACED ON TOP OF THE LINER IN ACCORDANCE WITH ALL MANUFACTURER'S SPECIFICATIONS AND REQUIREMENTS.
9. AFTER COMPLETION OF GEOMEMBRANE/GEOTEXTILE PLACEMENT, A PROTECTIVE SOIL COVER WITH A MINIMUM THICKNESS OF 12 INCHES SHALL BE PLACED OVER ALL PORTIONS OF THE LINER SYSTEM TO REDUCE POSSIBLE DAMAGE TO THE LINER FROM CONSTRUCTION ACTIVITIES AND FUTURE MAINTENANCE OPERATIONS. THE PROTECTIVE SOIL COVER SHALL NOT INCLUDE ANY ROCKS LARGER THAN 3/8 INCH IN SIZE. COMPACTION EQUIPMENT SHALL NOT BE USED FOR THE PROTECTIVE SOIL COVER. A PROTECTIVE SOIL COVER IS NOT REQUIRED IN AREAS WHERE A GEOMEMBRANE LINER IS PLACED DIRECTLY AGAINST A VERTICAL CONCRETE ELEMENT.

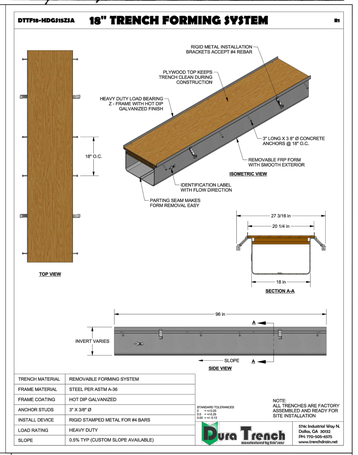


TRENCH MATERIAL	REMOVABLE FORMING SYSTEM
FRAME MATERIAL	STEEL PER ASTM A-36
FRAME COATING	HOT DIP GALVANIZED
ANCHOR STUDS	3" X 3.90" Ø
INSTALL DEVICE	RIGID STAMPED METAL FOR #4 BARS
LOAD RATING	HEAVY DUTY
SLOPE	0.5% TYP (CUSTOM SLOPE AVAILABLE)

NOTE:
ALL TRENCHES ARE FACTORY ASSEMBLED AND READY FOR SITE INSTALLATION

Dura Trench
Manufactured by RAM Tool
STN Industrial Way N.
Dallas, GA 30132
PH: 770-505-4375
www.trenchdrain.net

2	12" TRENCH DRAIN (N.T.S.)
C527	n.t.s.



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3	18" TRENCH DRAIN (N.T.S.)
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Director, Development Services Department
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Rev. 1 ____ Correction 1 ____
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STORM DRAIN DETAILS

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Austin, Texas 78730

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C527
38 OF 63

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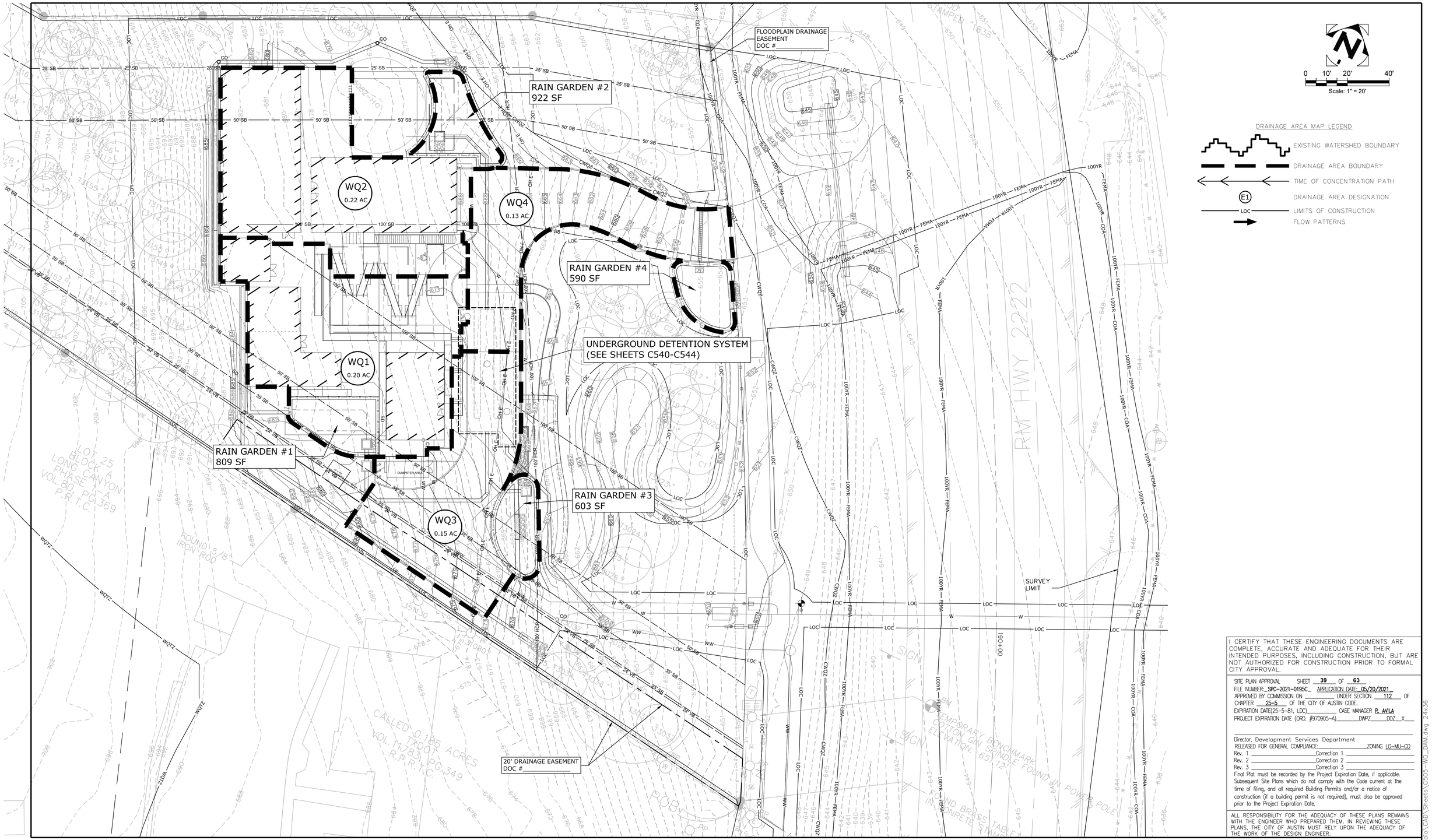

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ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN REVIEWING THESE PLANS, THE CITY OF AUSTIN MUST RELY UPON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.

dwA

23 DEC 2022
STATE OF TEXAS
BRIAN LEE WELLS
89517
LICENSED PROFESSIONAL ENGINEER

mwm Design Group
305 East Huntland Drive
Suite 200
Austin, Texas 78752
p: 512.453.0767
f: 512.453.1734
TBAE FIRM REGISTRATION NO.: 1452
TBPE FIRM REGISTRATION NO.: F-1416
TBPLS FIRM REGISTRATION NO.: 10065600

NO.	DATE	DESCRIPTION	BY

0 1"
The bar above measures one inch on the original drawing. Adjust scales accordingly.

WATER QUALITY DRAINAGE AREA MAP

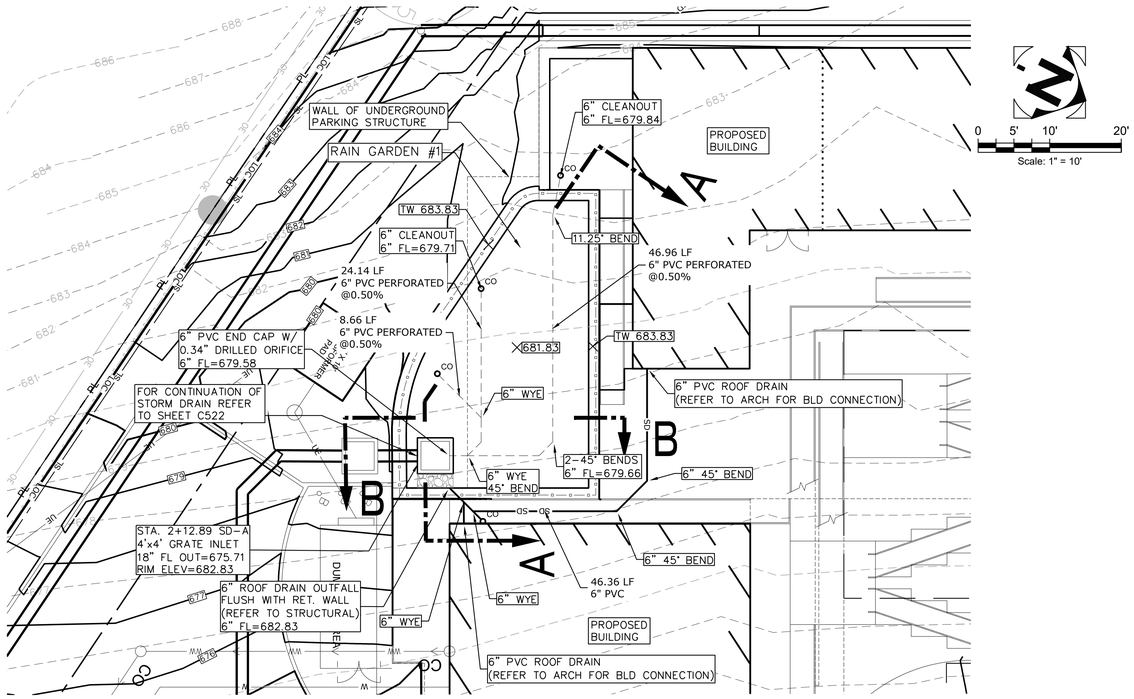
KAALO STUDIO
7901 RM 2222
Austin, Texas 78730

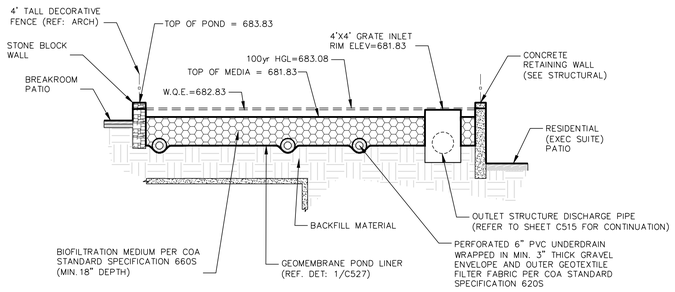
PLOTTED: 12/23/2022
JOB NO: 864-01

C530
39 OF 63

SPC-2021-0195C

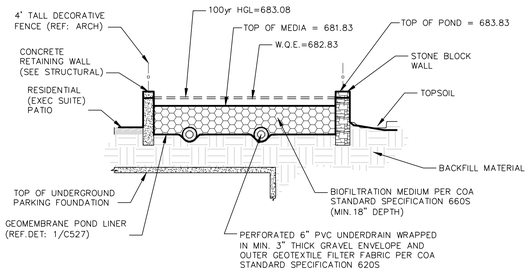
File: Y:_864-01_Kaalo_Studio\CAD\Sheets\C505-WQ_DAM.dwg 24x36





A RG1 - SECTION A

SCALE: 1" = 10'



B RG1 - SECTION B

SCALE: 1" = 10'

APPENDIX R-11

RAIN GARDEN CALCULATIONS

FOR DEVELOPMENT PERMITS

Kaalo Studios, R864-01

Legend
Not In Compliance
Do Not Modify Values

RainGarden - 1 (Southwest Building)

		Required		Provided	
DRAINAGE AREA DATA:					
Drainage area to control (DA < 2 acre)	≤	2.00	ac.	0.20	ac.
Drainage Area Impervious Cover				88%	
Capture Depth (CD) = (0.5+(IC-20)/100)		1.182	in		
WATER QUALITY CONTROL CALCULATIONS					
Water Qualtiy Volume	≥	856	cf	1,198	cf
The Water Quality Control is to be RAIN GARDEN					
100-year peak flow rate to control (Q100)		6.7	cfs		
Filtration Pond Area (Af or Ai)	≥	809	sf	809	sf
Depth of Ponding (D) (maximum 1.0 foot)	≤	1.00	ft	1.00	ft
Depth of Filtration Media (L) (minimum 1.5 foot)	≥	1.50	ft	2.00	ft
Effective Porosity Water Quality Volume (WQV_{ep} = 0.24 * Af * L)				389	cf
Provided Water Quality Volume ($WQV_{provided}$ = Af*D + WQV_{ep})				1198	cf
		Total WQV		1198	cf
Water Quality Elevation (WQE)				682.83	ft msl
Elevation of Splitter/Overflow Weir (min. WQE)	≥	682.83	ft msl	682.8	ft msl
Length of Splitter Weir				16	ft
Required Head to Pass Q100	≤	0.50	ft	0.250	ft
Pond Freeboard Provided to Pass Q100	≥	0.25	ft	0.750	ft
FOR FILTRATION RAIN GARDENS					
Rain Garden Pond Drawdown Time (max 48 hours)	≤	48.00	hr	48.00	hr
Underdrain Orifice Size (diameter)				0.34	in
Underdrain Orifice Size (area)				0.09	sq. in

Rain Garden 1 - Solving for orifice size for drawdown

Q = WQV / 48 hr / 60 min / 60 sec	0.006927 cfs
WQV	1197 cf
A	809 sf
a = [Pi*(d^2)]/4	0.000618 sf
d (ft) = d (in) / 12	0.028053 ft
d (in)	0.336635 in
C = Cd	0.6
g = 32.2 ft/(s^2)	32.2
H initial (ft) to center of discharge orifice (pond full)	3 ft
H final (ft) to center of discharge orifice	2 ft
Time to Discharge (t)	172799.9 Sec
	2879.998 Min
	48 Hr

SCM MAINTENANCE NOTES (ECM 1.6.3)

1. THE FOLLOWING MAINTENANCE ACTIVITIES SHALL BE PERFORMED ON ALL SCMs, IN ADDITION TO THE REQUIREMENTS LISTED FOR THE INDIVIDUAL SCM TYPES, TO ENSURE PROPER FUNCTION:
   - A. ACCUMULATED PAPER, TRASH AND DEBRIS SHALL BE REMOVED EVERY SIX (6) MONTHS OR AS NECESSARY TO MAINTAIN PROPER OPERATION.
   - B. STRUCTURAL INTEGRITY SHALL BE MAINTAINED AT ALL TIMES. BASINS AND ALL APPURTENANCES SHALL BE INSPECTED ANNUALLY, OR MORE FREQUENTLY IF SPECIFIED, AND REPAIRS SHALL BE MADE IF NECESSARY. WHEN MAINTENANCE OR REPAIRS ARE PERFORMED, THE SCM SHALL BE RESTORED TO THE ORIGINAL LINES AND GRADES.
   - C. CORRECTIVE MAINTENANCE SHALL OCCUR:
     - a. ANY TIME DRAWDOWN OF THE WATER QUALITY VOLUME DOES NOT OCCUR WITHIN NINETY-SIX (96) HOURS (I.E., NO STANDING WATER IS ALLOWED), UNLESS A GREATER MAXIMUM DRAWDOWN TIME IS SPECIFIED IN THE PLANS.
     - b. FOR DETENTION PONDS ONLY, ANY TIME DRAWDOWN DOES NOT OCCUR WITHIN TWENTY-FOUR (24) HOURS.
   - D. THE INLET AND OUTLET OF SCMS SHALL BE MAINTAINED UNIMPEDED IN ORDER TO CONVEY FLOW AT ALL TIMES. OBSERVED BLOCKAGES TO THE INLET AND OUTLET, DUE TO VEGETATION, SEDIMENT, DEBRIS, OR ANY OTHER CAUSE, SHALL BE REMOVED.
   - E. NO UNVEGETATED AREA SHALL EXCEED TEN (10) SQUARE FEET. THIS PERFORMANCE REQUIREMENT APPLIES TO THE ENTIRE POND INCLUDING THE POND BOTTOM, SIDE SLOPES, AND AREAS ADJACENT TO THE POND, AND IS INTENDED TO LIMIT EROSION.
   - F. INTEGRATED PEST MANAGEMENT SHALL BE PERFORMED AND SHALL ADHERE TO SECTION 1.6.2.F, INTEGRATED PEST MANAGEMENT GUIDELINES.
   - G. THE MINIMUM VEGETATION HEIGHT SHALL BE FOUR (4) INCHES IN THE SCM AND ALL APPURTENANCES, INCLUDING THE TOE OF THE BERM OR WALL OUTSIDE THE SCM, WHERE APPLICABLE.
   - H. SEDIMENT BUILD-UP SHALL BE REMOVED.
     - a. WHEN THE ACCUMULATION EXCEEDS SIX (6) INCHES IN SPLITTER BOXES, WET WELLS AND BASINS.
     - b. WHEN SEDIMENT TRAPS ARE FULL.
     - c. WHEN SEDIMENT, OF ANY AMOUNT, CAUSES STANDING WATER CONDITIONS OR REDUCES BASIN STORAGE BY MORE THAN 10%.
   - I. WHEN SEDIMENT IS REMOVED, THE FOLLOWING REQUIREMENTS APPLY:
     - a. IRRIGATION SHALL BE PROVIDED, AS NEEDED, UNTIL VEGETATION IS ESTABLISHED (WELL ROOTED). SEE SECTION 1.6.3.D, IRRIGATION GUIDELINES.
     - b. THE DESIGN DEPTH OF THE FILTRATION MEDIA SHALL BE VERIFIED. SEE SECTION 1.6.3.B.5.
     - c. TILLING OF THE FILTRATION MEDIUM IS NOT ALLOWED.
2. BIOFILTRATION BASINS (SECTION 1.6.7.C)
   - B. ROUTINE MAINTENANCE
     ONCE VEGETATION IS ESTABLISHED, BIOFILTRATION SYSTEMS SHOULD REQUIRE LESS MAINTENANCE THAN SAND FILTRATION SYSTEMS BECAUSE THE VEGETATION PROTECTS THE FILTRATION MEDIA FROM SURFACE CRUSTING AND SEDIMENT CLOGGING. PLANT ROOTS ALSO PROVIDE A PATHWAY FOR WATER TO PERMEATE DOWN INTO THE MEDIA, THUS FURTHER ENHANCING THE HYDRAULIC PERFORMANCE OF THE SYSTEM. UNLESS DAMAGED BY UNUSUAL SEDIMENT LOADS, HIGH FLOWS, OR VANDALISM, THE BIOFILTRATION MEDIA SHOULD BE LEFT UNDISTURBED AND ALLOWED TO AGE NATURALLY, AND BIOFILTRATION POND VEGETATION SHALL BE MANAGED SO THAT A DENSE, HEALTHY VEGETATIVE COVER IS PRESERVED. THE FOLLOWING MAINTENANCE ITEMS SHOULD BE PERFORMED DEPENDING ON FREQUENCY AND TIME OF YEAR:

     BIWEEKLY DURING FIRST GROWING SEASON:
     INSPECT VEGETATION UNTIL 95% VEGETATIVE COVER IS ESTABLISHED.

     MONTHLY:
     CHECK FOR ACCUMULATED SEDIMENTS, REMOVE AS NEEDED.

     QUARTERLY:
     REMOVE DEBRIS AND ACCUMULATED SEDIMENT; REPLACE SOIL MEDIA IN VOID AREAS CAUSED BY SETTLEMENT; REPAIR ERODED AREAS; REMULCH BY HAND ANY VOID AREAS.

     SEMI-ANNUALLY:
     REMOVE AND REPLACE DEAD OR DISEASED VEGETATION THAT IS CONSIDERED BEYOND TREATMENT (SEE PLANTING SPECIFICATIONS); TREAT ALL DISEASED TREES AND SHRUBS MECHANICALLY OR BY HAND DEPENDING ON THE INSECT OR DISEASE INFESTATION. IF DRAWDOWN EXCEEDS THE DRAWDOWN TIME ACCORDING TO SECTION 1.6.3.C.1, LIGHTLY SCARIFY SOIL WITH HAND CULTIVATOR; IF STANDING WATER REMAINS FOR GREATER THAN 96 HOURS, REMOVE TOP LAYER OF SEDIMENT, MULCH, AND POTENTIALLY VEGETATION; DE-COMPACT SOIL BY SCARIFICATION, AND REPLACE MULCH AND DISTURBED VEGETATION.

     LATE WINTER:
     TRIM BUNCH GRASSES; MOW TURF GRASSES; HARVEST OTHER TYPES OF VEGETATION ACCORDING TO RECOMMENDATIONS IN THE PLANTING SPECIFICATIONS. ADHERE TO SECTION 1.6.2.F.

     SPRING:
     REMOVE PREVIOUS MULCH LAYER AND APPLY NEW MULCH LAYER BY HAND (OPTION) ONCE EVERY TWO TO THREE YEARS.
   - C. OTHER ITEMS
     SIGNAGE SHALL BE USED TO DELINEATE THE BOUNDARIES OF THE BIOFILTRATION AREA THAT ARE MAINTAINED WITH MINIMAL MOWING, NO FERTILIZERS, AND LIMITED USE OF ORGANIC HERBICIDES

POND LEGEND

000	CONTOUR
000.00	SPOT ELEVATION
TW 000.00	TOP OF WALL ELEVATION
SDCO	STORM DRAIN CLEANOUT
SD	STORM DRAIN LINE
	BIOFILTRATION MEDIA
	UNDISTURBED/BACKFILLED SOILS

NOTES:
1. BIOFILTRATION MEDIUM SHALL COMPLY WITH ECM 1.6.7.C.4(A).
2. POND MAINTENANCE SHALL COMPLY WITH ECM 1.6.3.7.B

I CERTIFY THAT THESE ENGINEERING DOCUMENTS ARE COMPLETE, ACCURATE AND ADEQUATE FOR THEIR INTENDED PURPOSES, INCLUDING CONSTRUCTION, BUT ARE NOT AUTHORIZED FOR CONSTRUCTION PRIOR TO FORMAL CITY APPROVAL.

SITE PLAN APPROVAL SHEET 40 OF 63
FILE NUMBER: SPC-2021-0195C APPLICATION DATE: 05/20/2021
APPROVED BY COMMISSION ON _____ UNDER SECTION 112 OF CHAPTER 25-5 OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE(25-5-81, LDC)_____ CASE MANAGER R. AVILA
PROJECT EXPIRATION DATE (ORD. #970905-A)_____DMP2_____DD2__X__

Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE:_____ZONING LO-MU-CO
Rev. 1 _____Correction 1 _____
Rev. 2 _____Correction 2 _____
Rev. 3 _____Correction 3 _____

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23 DEC 2022

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LICENSED PROFESSIONAL ENGINEER

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TBAE FIRM REGISTRATION NO.: 1452
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TBPLS FIRM REGISTRATION NO.: 10065600

NO.	DATE	DESCRIPTION	BY

0 1"

The bar above measures one inch on the original drawing. Adjust scales accordingly.

WQ SECTIONS / DETAILS
RAIN GARDEN #1

KAALO STUDIO
7901 RM 2222
Austin, Texas 78730

PLOTTED: 12/23/2022
JOB NO: 864-01

C531

40 OF 63

SPC-2021-0195C

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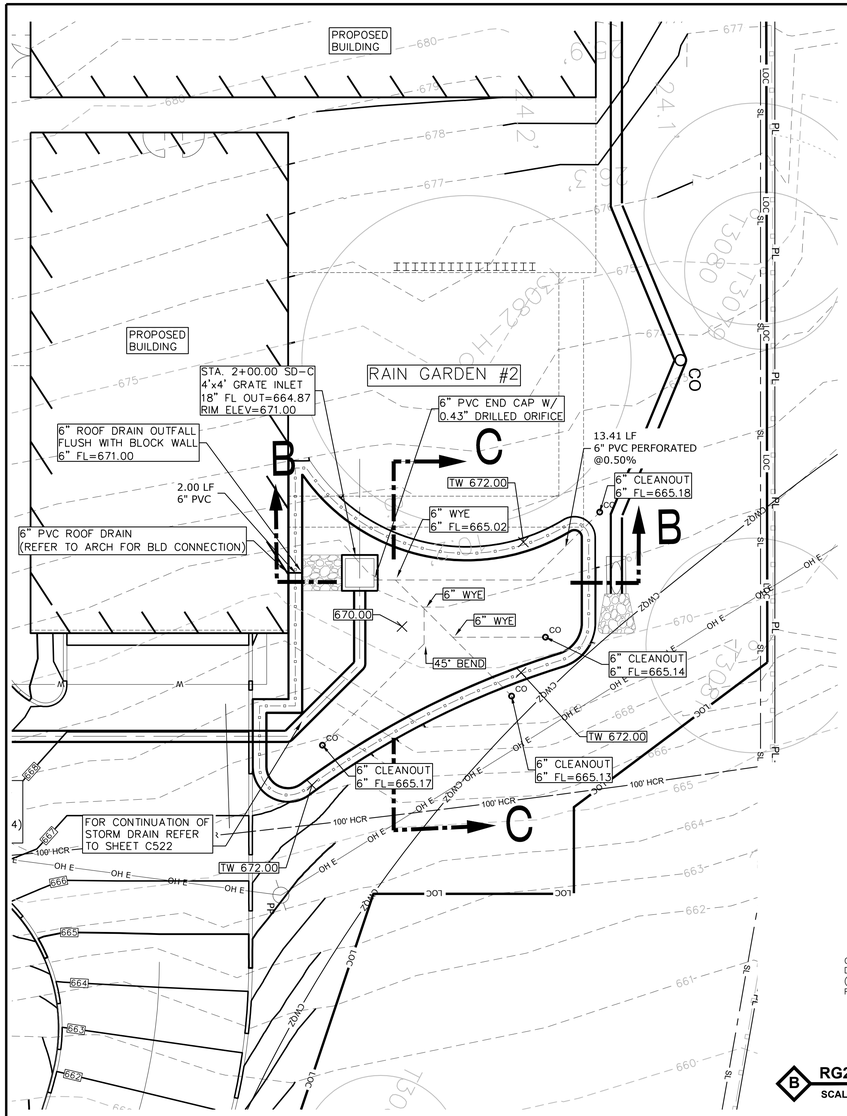

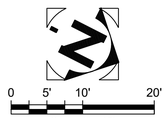

POND LEGEND

- 000 — CONTOUR
- 000.00 — SPOT ELEVATION
- TW 000.00 — TOP OF WALL ELEVATION
- SDCO — STORM DRAIN CLEANOUT
- SD — STORM DRAIN LINE
- BIOFILTRATION MEDIA
- UNDISTURBED/BACKFILLED SOILS

NOTES:
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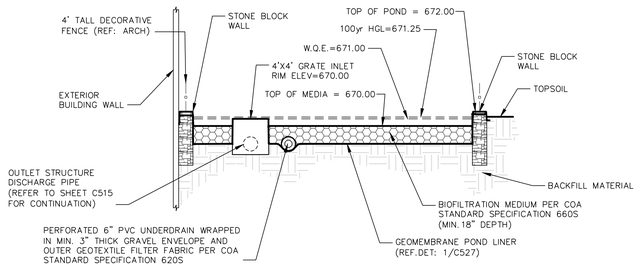
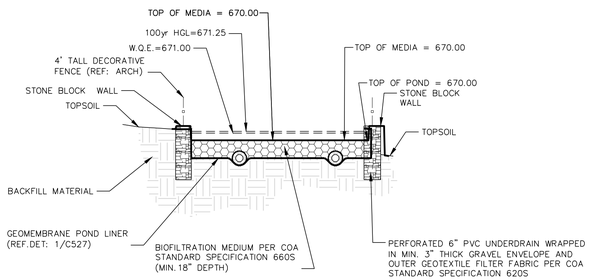


B RG2 - SECTION B
SCALE: 1" = 10'



C RG2 - SECTION C
SCALE: 1" = 10'

APPENDIX R-11
RAIN GARDEN CALCULATIONS
FOR DEVELOPMENT PERMITS
Kaalo Studios, R864-01

Legend
Not In Compliance
Do Not Modify Values

RainGarden - 2 (Northwest Building)

DRAINAGE AREA DATA:		Required		Provided	
Drainage area to control (DA < 2 acre)	≤	2.00	ac.	0.22	ac.
Drainage Area Impervious Cover				89%	
Capture Depth (CD) = (0.5+(IC-20)/100)		1.189	in		
WATER QUALITY CONTROL CALCULATIONS					
Water Qualtiy Volume	≥	957	cf	1,242	cf
The Water Quality Control is to be RAIN GARDEN					
100-year peak flow rate to control (Q100)		6.7	cfs		
Filtration Pond Area (Af or Ai)	≥	905	sf	913.0	sf
Depth of Ponding (D) (maximum 1.0 foot)	≤	1.00	ft	1.00	ft
Depth of Filtration Media (L) (minimum 1.5 foot)	≥	1.50	ft	1.50	ft
Effective Porosity Water Quality Volume (WQV_{ep} = 0.24 * Af * L)				329	cf
Provided Water Quality Volume ($WQV_{provided}$ = Af*D + WQV_{ep})				1242	cf
		Total WQV		1242	cf
Water Quality Elevation (WQE)				669	ft ms
Elevation of Splitter/Overflow Weir (min. WQE)	≥	669.00	ft msl	669.0	ft ms
Length of Splitter Weir				16	ft
Required Head to Pass Q100	≤	0.50	ft	0.250	ft
Pond Freeboard Provided to Pass Q100	≥	0.25	ft	0.750	ft
FOR FILTRATION RAIN GARDENS					
Rain Garden Pond Drawdown Time (max 48 hours)	≤	48.00	hr	48.00	hr
Underdrain Orifice Size (diameter)				0.43	in
Underdrain Orifice Size (area)				0.14	sq. in

Rain Garden 2 - Solving for orifice size for drawdown

Q = WQV / 48 hr / 60 min / 60 sec	0.009097 cfs
WQV	1572 cf
A	1156 sf
a = [Pi*(d^2)]/4	0.000985 sf
d (ft) = d (in) / 12	0.035417 ft
d (in)	0.425 in
C = Cd	0.6
g = 32.2 ft/(s^2)	32.2
H initial (ft) to center of discharge orifice (pond full)	2.5 ft
H final (ft) to center of discharge orifice	1.5 ft
Time to Discharge (t)	173707.6 Sec
	2895.126 Min
	48 Hr

SCM MAINTENANCE NOTES (ECM 1.6.3)

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   - C. CORRECTIVE MAINTENANCE SHALL OCCUR:
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     - b. FOR DETENTION PONDS ONLY, ANY TIME DRAWDOWN DOES NOT OCCUR WITHIN TWENTY-FOUR (24) HOURS.
   - D. THE INLET AND OUTLET OF SCMS SHALL BE MAINTAINED UNIMPEDED IN ORDER TO CONVEY FLOW AT ALL TIMES. OBSERVED BLOCKAGES TO THE INLET AND OUTLET, DUE TO VEGETATION, SEDIMENT, DEBRIS, OR ANY OTHER CAUSE, SHALL BE REMOVED.
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     BIWEEKLY DURING FIRST GROWING SEASON:
     INSPECT VEGETATION UNTIL 95% VEGETATIVE COVER IS ESTABLISHED.

     MONTHLY:
     CHECK FOR ACCUMULATED SEDIMENTS, REMOVE AS NEEDED.

     QUARTERLY:
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     LATE WINTER:
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     SPRING:
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SITE PLAN APPROVAL SHEET 41 OF 63
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EXPIRATION DATE(25-5-81, LDC)_____ CASE MANAGER R. AVILA
PROJECT EXPIRATION DATE (ORD. #970905-A)_____DMPZ_____DDZ__X___

_____
Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE:_____ZONING LO-MU-CO
Rev. 1 _____Correction 1 _____
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RAIN GARDEN #2

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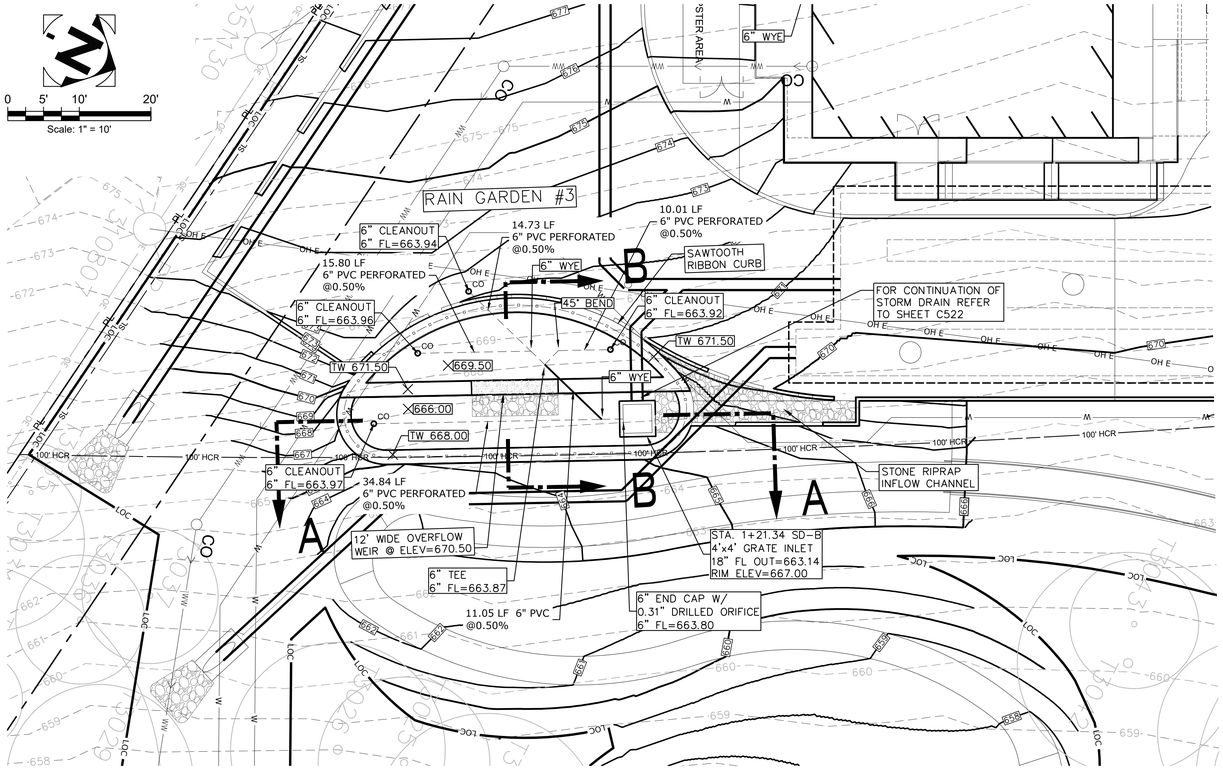
7901 RM 2222
Austin, Texas 78730

PLOTTED: 12/23/2022
JOB NO: 864-01

C532
41 OF 63

SPC-2021-0195C

File: X:_864-01_Kaalo_Studio\CAD\Sheets\C530-POND_SECT.dwg 24x36



APPENDIX R-11
RAIN GARDEN CALCULATIONS
FOR DEVELOPMENT PERMITS
Kaalo Studios, R864-01

Legend
Not In Compliance
Do Not Modify Values

RainGarden - 3 (Southeast Building)

DRAINAGE AREA DATA:		Required		Provided	
Drainage area to control (DA < 2 acre)	≤	2.00	ac.	0.15	ac.
Drainage Area Impervious Cover				86%	
Capture Depth (CD) = (0.5+(IC-20)/100)		1.160	in		
WATER QUALITY CONTROL CALCULATIONS					
Water Qualtiy Volume	≥	632	cf	820	cf
The Water Quality Control is to be RAIN GARDEN					
100-year peak flow rate to control (Q100)		6.7	cfs		
Filtration Pond Area (Af or Ai)	≥	598	sf	603.0	sf
Depth of Ponding (D) (maximum 1.0 foot)	≤	1.00	ft	1.00	ft
Depth of Filtration Media (L) (minimum 1.5 foot)	≥	1.50	ft	1.50	ft
Effective Porosity Water Quality Volume (WQV_{ep} = 0.24 * Af * L)				217	cf
Provided Water Quality Volume ($WQV_{provided}$ = Af*D + WQV_{ep})				820	cf
			Total WQV	820	cf
Water Quality Elevation (WQE)				667	ft msl
Elevation of Splitter/Overflow Weir (min. WQE)	≥	667.00	ft msl	667.0	ft msl
Length of Splitter Weir				16	ft
Required Head to Pass Q100	≤	0.50	ft	0.250	ft
Pond Freeboard Provided to Pass Q100	≥	0.25	ft	0.750	ft
FOR FILTRATION RAIN GARDENS					
Rain Garden Pond Drawdown Time (max 48 hours)	≤	48.00	hr	48.00	hr
Underdrain Orifice Size (diameter)				0.31	in
Underdrain Orifice Size (area)				0.07	sq. in

Rain Garden 3 - Solving for orifice size for drawdown

Q = WQV / 48 hr / 60 min / 60 sec	0.004745 cfs
WQV	820 cf
A	603 sf
a = [PI*(d^2)]/4	0.000516 sf
d (ft) = d (in) / 12	0.025625 ft
d (in)	0.3075 in
C = Cd	0.6
g = 32.2 ft/(s^2)	32.2
H initial (ft) to center of discharge orifice (pond full)	2.5 ft
H final (ft) to center of discharge orifice	1.5 ft
Time to Discharge (t)	173087.5 Sec
	2884.792 Min
	48 Hr

SCM MAINTENANCE NOTES (ECM 1.6.3)

1. THE FOLLOWING MAINTENANCE ACTIVITIES SHALL BE PERFORMED ON ALL SCMs, IN ADDITION TO THE REQUIREMENTS LISTED FOR THE INDIVIDUAL SCM TYPES, TO ENSURE PROPER FUNCTION:
   - A. ACCUMULATED PAPER, TRASH AND DEBRIS SHALL BE REMOVED EVERY SIX (6) MONTHS OR AS NECESSARY TO MAINTAIN PROPER OPERATION.
   - B. STRUCTURAL INTEGRITY SHALL BE MAINTAINED AT ALL TIMES. BASINS AND ALL APPURTENANCES SHALL BE INSPECTED ANNUALLY, OR MORE FREQUENTLY IF SPECIFIED, AND REPAIRS SHALL BE MADE IF NECESSARY. WHEN MAINTENANCE OR REPAIRS ARE PERFORMED, THE SCM SHALL BE RESTORED TO THE ORIGINAL LINES AND GRADES.
   - C. CORRECTIVE MAINTENANCE SHALL OCCUR:
     - a. ANY TIME DRAWDOWN OF THE WATER QUALITY VOLUME DOES NOT OCCUR WITHIN NINETY-SIX (96) HOURS (I.E., NO STANDING WATER IS ALLOWED), UNLESS A GREATER MAXIMUM DRAWDOWN TIME IS SPECIFIED IN THE PLANS.
     - b. FOR DETENTION PONDS ONLY, ANY TIME DRAWDOWN DOES NOT OCCUR WITHIN TWENTY-FOUR (24) HOURS.
   - D. THE INLET AND OUTLET OF SCMS SHALL BE MAINTAINED UNIMPEDED IN ORDER TO CONVEY FLOW AT ALL TIMES. OBSERVED BLOCKAGES TO THE INLET AND OUTLET, DUE TO VEGETATION, SEDIMENT, DEBRIS, OR ANY OTHER CAUSE, SHALL BE REMOVED.
   - E. NO UNVEGETATED AREA SHALL EXCEED TEN (10) SQUARE FEET. THIS PERFORMANCE REQUIREMENT APPLIES TO THE ENTIRE POND INCLUDING THE POND BOTTOM, SIDE SLOPES, AND AREAS ADJACENT TO THE POND, AND IS INTENDED TO LIMIT EROSION.
   - F. INTEGRATED PEST MANAGEMENT SHALL BE PERFORMED AND SHALL ADHERE TO SECTION 1.6.2.F, INTEGRATED PEST MANAGEMENT GUIDELINES.
   - G. THE MINIMUM VEGETATION HEIGHT SHALL BE FOUR (4) INCHES IN THE SCM AND ALL APPURTENANCES, INCLUDING THE TOE OF THE BERM OR WALL OUTSIDE THE SCM, WHERE APPLICABLE.
   - H. SEDIMENT BUILD-UP SHALL BE REMOVED.
     - a. WHEN THE ACCUMULATION EXCEEDS SIX (6) INCHES IN SPLITTER BOXES, WET WELLS AND BASINS.
     - b. WHEN SEDIMENT TRAPS ARE FULL.
     - c. WHEN SEDIMENT, OF ANY AMOUNT, CAUSES STANDING WATER CONDITIONS OR REDUCES BASIN STORAGE BY MORE THAN 10%.
   - I. WHEN SEDIMENT IS REMOVED, THE FOLLOWING REQUIREMENTS APPLY:
     - a. IRRIGATION SHALL BE PROVIDED, AS NEEDED, UNTIL VEGETATION IS ESTABLISHED (WELL ROOTED). SEE SECTION 1.6.3.D, IRRIGATION GUIDELINES.
     - b. THE DESIGN DEPTH OF THE FILTRATION MEDIA SHALL BE VERIFIED. SEE SECTION 1.6.3.B.5.
     - c. TILLING OF THE FILTRATION MEDIUM IS NOT ALLOWED.
2. BIOFILTRATION BASINS (SECTION 1.6.7.C)
   - B. ROUTINE MAINTENANCE
     ONCE VEGETATION IS ESTABLISHED, BIOFILTRATION SYSTEMS SHOULD REQUIRE LESS MAINTENANCE THAN SAND FILTRATION SYSTEMS BECAUSE THE VEGETATION PROTECTS THE FILTRATION MEDIA FROM SURFACE CRUSTING AND SEDIMENT CLOGGING. PLANT ROOTS ALSO PROVIDE A PATHWAY FOR WATER TO PERMEATE DOWN INTO THE MEDIA, THUS FURTHER ENHANCING THE HYDRAULIC PERFORMANCE OF THE SYSTEM. UNLESS DAMAGED BY UNUSUAL SEDIMENT LOADS, HIGH FLOWS, OR VANDALISM, THE BIOFILTRATION MEDIA SHOULD BE LEFT UNDISTURBED AND ALLOWED TO AGE NATURALLY, AND BIOFILTRATION POND VEGETATION SHALL BE MANAGED SO THAT A DENSE, HEALTHY VEGETATIVE COVER IS PRESERVED. THE FOLLOWING MAINTENANCE ITEMS SHOULD BE PERFORMED DEPENDING ON FREQUENCY AND TIME OF YEAR:

     BIWEEKLY DURING FIRST GROWING SEASON:
     INSPECT VEGETATION UNTIL 95% VEGETATIVE COVER IS ESTABLISHED.

     MONTHLY:
     CHECK FOR ACCUMULATED SEDIMENTS, REMOVE AS NEEDED.

     QUARTERLY:
     REMOVE DEBRIS AND ACCUMULATED SEDIMENT; REPLACE SOIL MEDIA IN VOID AREAS CAUSED BY SETTLEMENT; REPAIR ERODED AREAS; REMULCH BY HAND ANY VOID AREAS.

     SEMI-ANNUALLY:
     REMOVE AND REPLACE DEAD OR DISEASED VEGETATION THAT IS CONSIDERED BEYOND TREATMENT (SEE PLANTING SPECIFICATIONS); TREAT ALL DISEASED TREES AND SHRUBS MECHANICALLY OR BY HAND DEPENDING ON THE INSECT OR DISEASE INFESTATION. IF DRAWDOWN EXCEEDS THE DRAWDOWN TIME ACCORDING TO SECTION 1.6.3.C.1, LIGHTLY SCARIFY SOIL WITH HAND CULTIVATOR; IF STANDING WATER REMAINS FOR GREATER THAN 96 HOURS, REMOVE TOP LAYER OF SEDIMENT, MULCH, AND POTENTIALLY VEGETATION; DE-COMPACT SOIL BY SCARIFICATION, AND REPLACE MULCH AND DISTURBED VEGETATION.

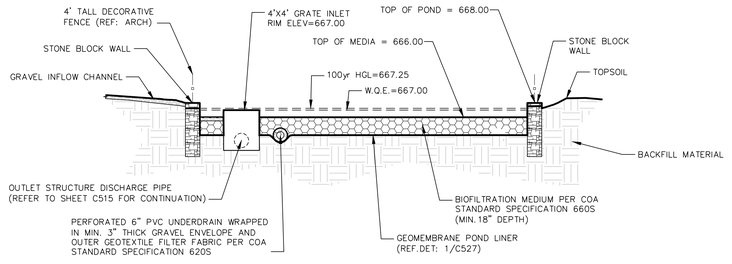
     LATE WINTER:
     TRIM BUNCH GRASSES; MOW TURF GRASSES; HARVEST OTHER TYPES OF VEGETATION ACCORDING TO RECOMMENDATIONS IN THE PLANTING SPECIFICATIONS. ADHERE TO SECTION 1.6.2.F.

     SPRING:
     REMOVE PREVIOUS MULCH LAYER AND APPLY NEW MULCH LAYER BY HAND (OPTION) ONCE EVERY TWO TO THREE YEARS.
   - C. OTHER ITEMS
     SIGNAGE SHALL BE USED TO DELINEATE THE BOUNDARIES OF THE BIOFILTRATION AREA THAT ARE MAINTAINED WITH MINIMAL MOWING, NO FERTILIZERS, AND LIMITED USE OF ORGANIC HERBICIDES

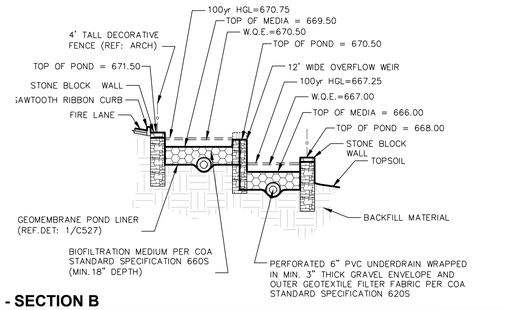
POND LEGEND

- 000 — CONTOUR
- 000.00 — SPOT ELEVATION
- TW 000.00 — TOP OF WALL ELEVATION
- SDCO — STORM DRAIN CLEANOUT
- SD — STORM DRAIN LINE
- BIOFILTRATION MEDIA
- UNDISTURBED/BACKFILLED SOILS

NOTES:
1. BIOFILTRATION MEDIUM SHALL COMPLY WITH ECM 1.6.7.C.4(A).
2. POND MAINTENANCE SHALL COMPLY WITH ECM 1.6.3.7.B



A **RG3 - SECTION A**
SCALE: 1" = 10'



B **RG3 - SECTION B**
SCALE: 1" = 10'

I CERTIFY THAT THESE ENGINEERING DOCUMENTS ARE COMPLETE, ACCURATE AND ADEQUATE FOR THEIR INTENDED PURPOSES, INCLUDING CONSTRUCTION, BUT ARE NOT AUTHORIZED FOR CONSTRUCTION PRIOR TO FORMAL CITY APPROVAL.

SITE PLAN APPROVAL SHEET 42 OF 63
FILE NUMBER: SPC-2021-0195C APPLICATION DATE: 05/20/2021
APPROVED BY COMMISSION ON _____ UNDER SECTION 112 OF CHAPTER 25-5 OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE(25-5-81, LDC)_____ CASE MANAGER R. AVILA
PROJECT EXPIRATION DATE (ORD. #970905-A)_____DMPZ_____DDZ__X__

Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE:_____ZONING LO-MU-CO
Rev. 1 _____Correction 1 _____
Rev. 2 _____Correction 2 _____
Rev. 3 _____Correction 3 _____

Final Plat must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction (if a building permit is not required), must also be approved prior to the Project Expiration Date.

ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN REVIEWING THESE PLANS, THE CITY OF AUSTIN MUST RELY UPON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.

dwA

23 DEC 2022
STATE OF TEXAS
BRIAN LEE WELLS
89517
LICENSED
PROFESSIONAL ENGINEER

mwm DesignGroup
305 East Huntland Drive
Suite 200
Austin, Texas 78752
p: 512.453.0767
f: 512.453.1734

TBAE FIRM REGISTRATION NO.: 1452
TBPE FIRM REGISTRATION NO.: F-1416
TBPLS FIRM REGISTRATION NO.: 10065600

NO.	DATE	DESCRIPTION	BY

0 1"
The bar above measures one inch on the original drawing. Adjust scales accordingly.

WQ SECTIONS / DETAILS
RAIN GARDEN #3

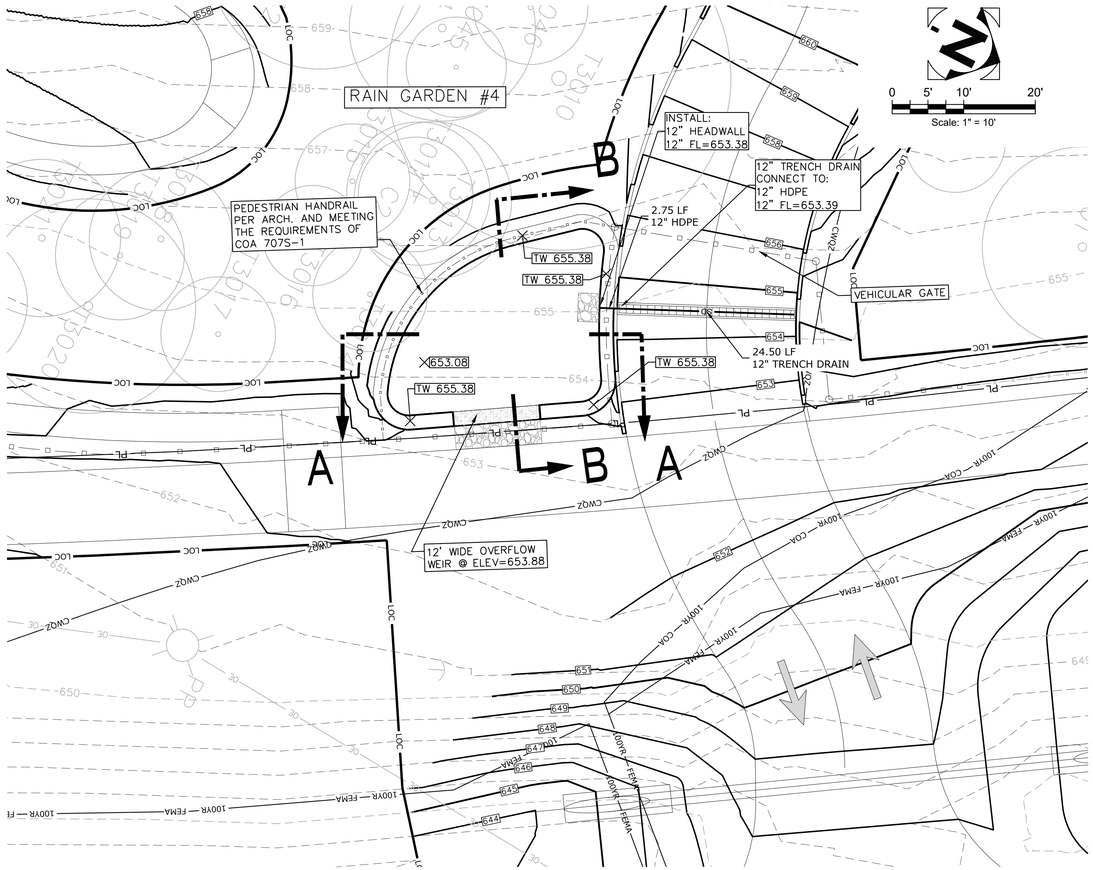
KAALO STUDIO
7901 RM 2222
Austin, Texas 78730

PLOTTED: 12/23/2022
JOB NO: 864-01

C533
42 OF 63

SPC-2021-0195C

File: Y:\864-01_Kaalo_studio\CAD\Sheets\C530-POND_SECT.dwg 24x36



APPENDIX R-11
RAIN GARDEN CALCULATIONS
FOR DEVELOPMENT PERMITS
Kaalo Studios, R864-01

Legend
Not In Compliance
Do Not Modify Values

RainGarden - 4 (Driveway)

DRAINAGE AREA DATA:		Required		Provided	
Drainage area to control (DA < 2 acre)	≤	2.00	ac.	0.13	ac.
Drainage Area Impervious Cover				86%	
Capture Depth (CD) = (0.5+(IC-20)/100)		1.160	in		
WATER QUALITY CONTROL CALCULATIONS					
Water Qualtiy Volume	≥	476	cf	684	cf
The Water Quality Control is to be RAIN GARDEN					
100-year peak flow rate to control (Q100)		6.7	cfs		
Filtration Pond Area (Af or Ai)	≥	450	sf	590.0	sf
Depth of Ponding (D) (maximum 1.0 foot)	≤	1.00	ft	0.80	ft
Depth of Filtration Media (L) (minimum 1.5 foot)	≥	1.50	ft	1.50	ft
Effective Porosity Water Quality Volume (WQV_{ep} = 0.24 * Af * L)				212	cf
Provided Water Quality Volume ($WQV_{provided}$ = Af*D + WQV_{ep})				684	cf
		Total WQV		684	cf
Water Quality Elevation (WQE)				653.88	ft msl
Elevation of Splitter/Overflow Weir (min. WQE)	≥	653.88	ft msl	653.88	ft msl
Length of Splitter Weir				12	ft
Required Head to Pass Q100	≤	0.50	ft	0.302	ft
Pond Freeboard Provided to Pass Q100	≥	0.25	ft	0.318	ft
FOR INFILTRATION RAIN GARDENS					
Infiltration Rate (in/hr.)		0.2	in/hr.	0.2	in/hr.
Infiltration Rate (in/hr.) OVERRIDE		48	hrs.	48	hrs.
Ai ≥ 0.87*WQV/(H +0.24*L) See ECM 1.6.7.5 (H)		590	sq. ft.	590	sq. ft.

SCM MAINTENANCE NOTES (ECM 1.6.3)

1. THE FOLLOWING MAINTENANCE ACTIVITIES SHALL BE PERFORMED ON ALL SCMs, IN ADDITION TO THE REQUIREMENTS LISTED FOR THE INDIVIDUAL SCM TYPES, TO ENSURE PROPER FUNCTION:
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     - a. WHEN THE ACCUMULATION EXCEEDS SIX (6) INCHES IN SPLITTER BOXES, WET WELLS AND BASINS.
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     - b. THE DESIGN DEPTH OF THE FILTRATION MEDIA SHALL BE VERIFIED. SEE SECTION 1.6.3.B.5.
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     INSPECT VEGETATION UNTIL 95% VEGETATIVE COVER IS ESTABLISHED.

     MONTHLY:
     CHECK FOR ACCUMULATED SEDIMENTS, REMOVE AS NEEDED.

     QUARTERLY:
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     SEMI-ANNUALLY:
     REMOVE AND REPLACE DEAD OR DISEASED VEGETATION THAT IS CONSIDERED BEYOND TREATMENT (SEE PLANTING SPECIFICATIONS); TREAT ALL DISEASED TREES AND SHRUBS MECHANICALLY OR BY HAND DEPENDING ON THE INSECT OR DISEASE INFESTATION. IF DRAWDOWN EXCEEDS THE DRAWDOWN TIME ACCORDING TO SECTION 1.6.3.C.1, LIGHTLY SCARIFY SOIL WITH HAND CULTIVATOR; IF STANDING WATER REMAINS FOR GREATER THAN 96 HOURS, REMOVE TOP LAYER OF SEDIMENT, MULCH, AND POTENTIALLY VEGETATION; DE-COMPACT SOIL BY SCARIFICATION, AND REPLACE MULCH AND DISTURBED VEGETATION.

     LATE WINTER:
     TRIM BUNCH GRASSES; MOW TURF GRASSES; HARVEST OTHER TYPES OF VEGETATION ACCORDING TO RECOMMENDATIONS IN THE PLANTING SPECIFICATIONS. ADHERE TO SECTION 1.6.2.F.

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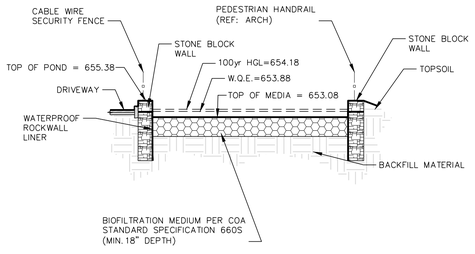
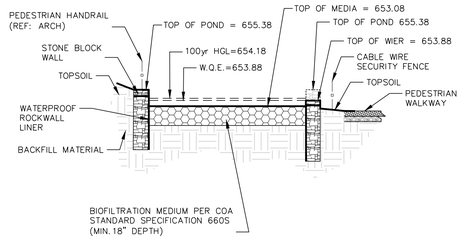


A RG4 - SECTION A
SCALE: 1" = 10'



B RG4 - SECTION B
SCALE: 1" = 10'

POND LEGEND

- 000 — CONTOUR
- 000.00 — SPOT ELEVATION
- TW 000.00 — TOP OF WALL ELEVATION
- SDCO — STORM DRAIN CLEANOUT
- SD — STORM DRAIN LINE
- BIOFILTRATION MEDIA
- UNDISTURBED/BACKFILLED SOILS

NOTES:
1. BIOFILTRATION MEDIUM SHALL COMPLY WITH ECM 1.6.7.C.4(A).
2. POND MAINTENANCE SHALL COMPLY WITH ECM 1.6.3.7.B

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SITE PLAN APPROVAL SHEET 43 OF 63
FILE NUMBER: SPC-2021-0195C APPLICATION DATE: 05/20/2021
APPROVED BY COMMISSION ON _____ UNDER SECTION 112 OF CHAPTER 25-5 OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE(25-5-81, LDC)_____ CASE MANAGER R. AVILA
PROJECT EXPIRATION DATE (ORD. #970905-A)_____DMP2_____DD2__X___

Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE:_____ZONING LO-MU-CO
Rev. 1 _____Correction 1 _____
Rev. 2 _____Correction 2 _____
Rev. 3 _____Correction 3 _____

Final Plat must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction (if a building permit is not required), must also be approved prior to the Project Expiration Date.

ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN REVIEWING THESE PLANS, THE CITY OF AUSTIN MUST RELY UPON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.

dwA

23 DEC 2022
STATE OF TEXAS
BRIAN LEE WELLS
89517
LICENSED
PROFESSIONAL ENGINEER

mwm DesignGroup
305 East Huntland Drive
Suite 200
Austin, Texas 78752
p: 512.453.0767
f: 512.453.1734
TBAE FIRM REGISTRATION NO.: 1452
TBPE FIRM REGISTRATION NO.: F-1416
TBPLS FIRM REGISTRATION NO.: 10065600

NO.	DATE	DESCRIPTION	BY

0 1"
The bar above measures one inch on the original drawing. Adjust scales accordingly.

WQ SECTIONS / DETAILS
RAIN GARDEN #4

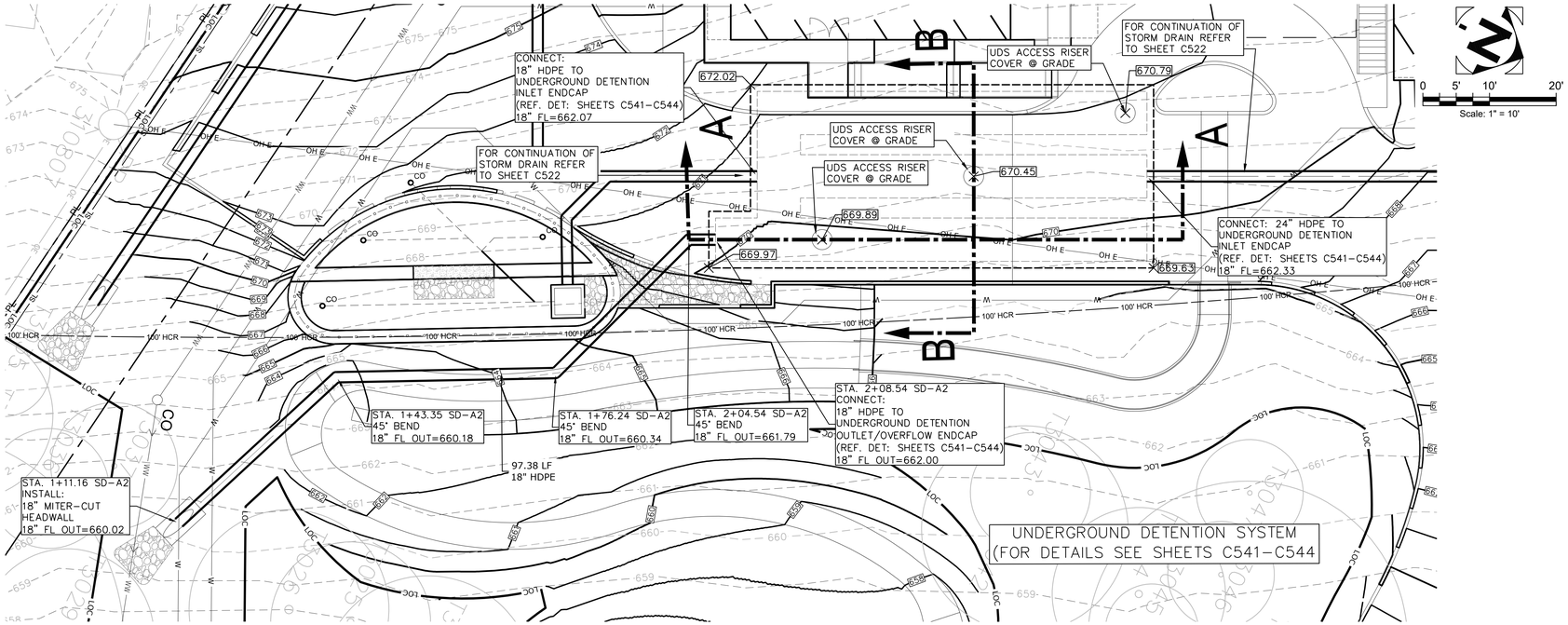
KAALO STUDIO
7901 RM 2222
Austin, Texas 78730

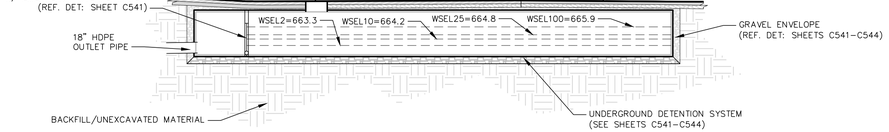
PLOTTED: 12/23/2022
JOB NO: 864-01

C534
43 OF 63

SPC-2021-0195C

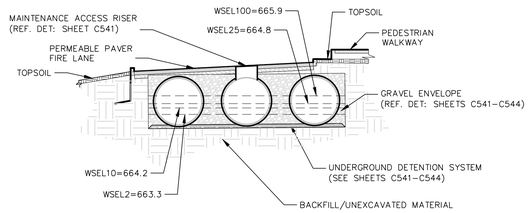
File: Y:_864-01_Kaalo_studio\CAD\Sheets\C534-POND_SECT.dwg 24x36





A UNDERGROUND DETENTION - SECTION A

SCALE: 1" = 10'



B UNDERGROUND DETENTION - SECTION B

SCALE: 1" = 10'

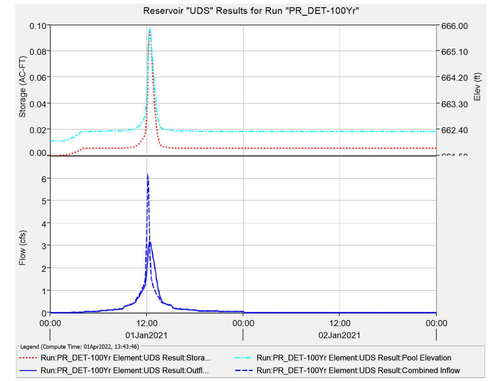
CONTECH CMP DETENTION O&M NOTES

MAINTENANCE
- UNDERGROUND STORM WATER DETENTION AND RETENTION SYSTEMS SHOULD BE INSPECTED AT REGULAR INTERVALS AND MAINTAINED WHEN NECESSARY TO ENSURE OPTIMUM PERFORMANCE.
- THE RATE AT WHICH THE SYSTEM COLLECTS POLLUTANTS WILL DEPEND MORE HEAVILY ON SITE ACTIVITIES THAN THE SIZE OR CONFIGURATION OF THE SYSTEM.

INSPECTION
- INSPECTION IS THE KEY TO EFFECTIVE MAINTENANCE AND IS EASILY PERFORMED. CONTECH RECOMMENDS ONGOING QUARTERLY INSPECTIONS OF THE ACCUMULATED SEDIMENT. SEDIMENT DEPOSITION AND TRANSPORT MAY VARY FROM YEAR TO YEAR AND QUARTERLY INSPECTIONS WILL HELP INSURE THAT SYSTEMS ARE CLEANED OUT AT THE APPROPRIATE TIME.
- INSPECTIONS SHOULD BE PERFORMED MORE OFTEN IN THE WINTER MONTHS IN CLIMATES WHERE SANDING OPERATIONS MAY LEAD TO RAPID ACCUMULATIONS, OR IN EQUIPMENT WASHDOWN AREAS.
- IT IS VERY USEFUL TO KEEP A RECORD OF EACH INSPECTION. A SAMPLE INSPECTION LOG IS INCLUDED IN THE O&M PLAN FOR YOUR USE.
- SYSTEMS SHOULD BE CLEANED WHEN INSPECTION REVEALS THAT ACCUMULATED SEDIMENT OR TRASH IS CLOGGING THE DISCHARGE ORIFICE.
- CONTECH SUGGESTS THAT ALL SYSTEMS BE DESIGNED WITH AN ACCESS/INSPECTION MANHOLE SITUATED AT OR NEAR THE INLET AND THE OUTLET ORIFICE. SHOULD IT BE NECESSARY TO GET INSIDE THE SYSTEM TO PERFORM MAINTENANCE ACTIVITIES, ALL APPROPRIATE PRECAUTIONS REGARDING CONFINED SPACE ENTRY AND OSHA REGULATIONS SHOULD BE FOLLOWED.

CLEANING
- MAINTAINING AN UNDERGROUND DETENTION OR RETENTION SYSTEM IS EASIEST WHEN THERE IS NO FLOW ENTERING THE SYSTEM. FOR THIS REASON, IT IS A GOOD IDEA TO SCHEDULE THE CLEANOUT DURING DRY WEATHER.
- ACCUMULATED SEDIMENT AND TRASH CAN TYPICALLY BE EVACUATED THROUGH THE MANHOLE OVER THE OUTLET ORIFICE.
- IF MAINTENANCE IS NOT PERFORMED AS RECOMMENDED, SEDIMENT AND TRASH MAY ACCUMULATE IN FRONT OF THE OUTLET ORIFICE.
- MANHOLE COVERS SHOULD BE SECURELY SEATED FOLLOWING CLEANING ACTIVITIES.

UDS DRAWDOWN HYDRGRAPH



STAGE STORAGE CALCULATIONS

Pipe Information:		
Diameter	78	inches
Out-to-out length	53.5	feet
Out-to-out width	25.5	feet
Pipe Spacing	36	feet
Number of Manifolds	1	each
Number of Barrels	3	each

Stone Information:		
	Voids (porosity)	0.30
Stone storage:	Depth above pipe	6 inches
	Depth below pipe	0 inches
	Width around pipe	1 feet

Depth (ft)	Elevation (ft)	Cumulative Storage (cf)	Average Surface Area (sf)	Outflow (CFS)
0.00	662.00	0.0	457.9	0
0.50	662.50	365.7	861.6	0.8
1.00	663.00	835.2	1004.5	1.4
1.50	663.50	1362.0	1096.2	1.8
2.00	664.00	1926.4	1157.2	2.175
2.50	664.50	2515.3	1195.0	2.5
3.00	665.00	3118.2	1213.2	2.75
3.50	665.50	3725.5	1213.2	2.98
4.00	666.00	4328.3	1195.0	3.2 @ 665.9'
4.50	666.50	4917.3	1157.2	N/A
5.00	667.00	5481.7	1096.2	N/A
5.50	667.50	6008.4	1004.5	N/A
6.00	668.00	6477.9	861.6	N/A
6.50	668.50	6843.7	457.9	N/A
7.00	669.00	7072.6	457.9	N/A

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SITE PLAN APPROVAL SHEET 44 OF 63
FILE NUMBER: SPC-2021-0195C APPLICATION DATE: 05/20/2021
APPROVED BY COMMISSION ON _____ UNDER SECTION 112 OF CHAPTER 25-5 OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE(25-5-81, LDC)_____ CASE MANAGER R. AVILA
PROJECT EXPIRATION DATE (ORD. #970905-A)_____DMP?_____DDZ?__X__

_____
Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE:_____ZONING LO-MU-CO
Rev. 1 _____Correction 1 _____
Rev. 2 _____Correction 2 _____
Rev. 3 _____Correction 3 _____
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dwA

23 DEC 2022
STATE OF TEXAS
BRIAN LEE WELLS
89517
LICENSED PROFESSIONAL ENGINEER

mwm Design Group
305 East Huntland Drive
Suite 200
Austin, Texas 78752
p: 512.453.0767
f: 512.453.1734
TBAE FIRM REGISTRATION NO.: 1452
TBPE FIRM REGISTRATION NO.: F-1416
TBPLS FIRM REGISTRATION NO.: 10065600

NO.	DATE	DESCRIPTION	BY

0 1"
The bar above measures one inch on the original drawing. Adjust scales accordingly.

DETENTION POND SECTIONS

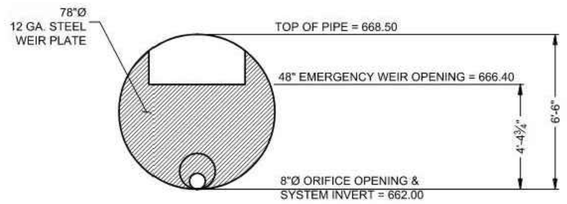
KAALO STUDIO
7901 RM 2222
Austin, Texas 78730

PLOTTED: 12/23/2022
JOB NO: 864-01

C540
44 OF 63

SPC-2021-0195C

File: Y:_864-01_Kaalo_Studio\CAD\Sheets\C530-POND_SECT.dwg 24x36

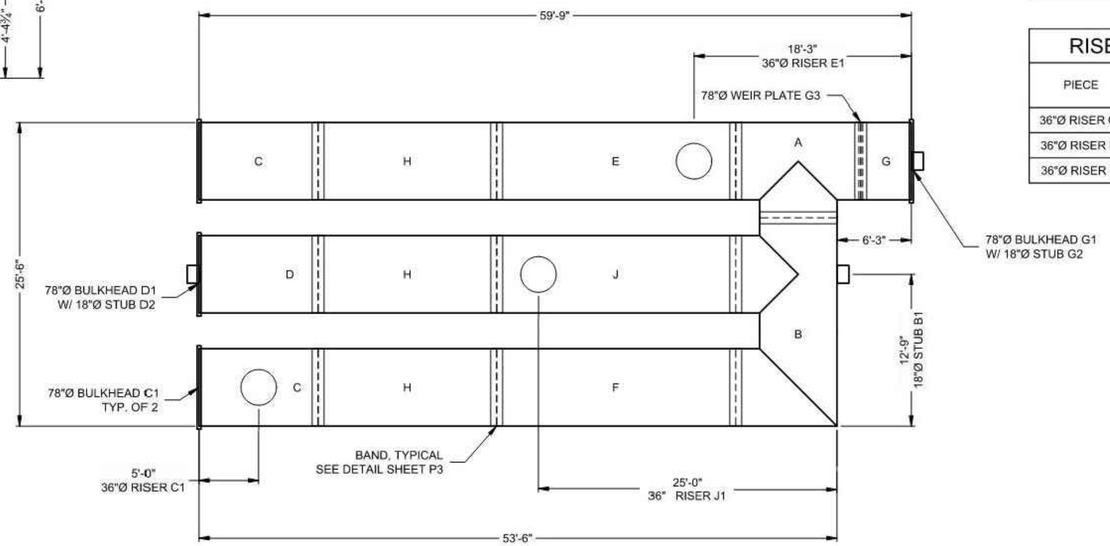


END VIEW

WEIR PLATE DETAIL

PART G3

NOT TO SCALE



STUB INFORMATION		
PIECE	STUB INVERT	SYSTEM INVERT
18"Ø STUB B1	662.07	662.07
18"Ø STUB D2	662.33	662.33
18"Ø STUB G2	662.00	662.00

RISER INFORMATION		
PIECE	RIM ELEV.	SYSTEM INVERT
36"Ø RISER C1	670.96	662.35
36"Ø RISER E1	669.89	662.10
36"Ø RISER J1	670.45	662.20

THE UNDERSIGNED HEREBY APPROVES THE ATTACHED (4) PAGES INCLUDING THE FOLLOWING:

- **PIPE STORAGE = 5,733 CF**
- **MAINLINE PIPE GAGE = 16**
- **WALL TYPE = PERFORATED**
- **DIAMETER = 78"**
- **FINISH = ALT2**
- **CORRUGATION = 5x1**

CUSTOMER _____ DATE _____

ASSEMBLY

SCALE: 1" = 10'

PIPE STORAGE: 5,733 CF

STRUCTURAL BACKFILL STORAGE: 1,393 CF

TOTAL STORAGE PROVIDED: 7,126 CF

LOADING: H20

PIPE INV. = 662.00+0.55%'±

NOTES

- ALL RISER AND STUB DIMENSIONS ARE TO CENTERLINE.
- ALL ELEVATIONS, DIMENSIONS, AND LOCATIONS OF RISERS AND INLETS, SHALL BE VERIFIED BY THE ENGINEER OF RECORD (EOR) PRIOR TO RELEASING FOR FABRICATION.
- ALL FITTINGS AND REINFORCEMENT COMPLY WITH ASTM A998.
- ALL RISERS AND STUBS ARE 2⅔" x ½" CORRUGATION AND 16 GAGE UNLESS OTHERWISE NOTED.
- RISERS TO BE FIELD TRIMMED TO GRADE AS REQUIRED, BY CONTRACTOR.
- QUANTITY OF PIPE SHOWN DOES NOT PROVIDE EXTRA PIPE FOR CONNECTING THE SYSTEM TO EXISTING PIPE OR DRAINAGE STRUCTURES. OUR SYSTEM AS DETAILED PROVIDES NOMINAL INLET AND/OR OUTLET PIPE STUB FOR CONNECTION TO EXISTING DRAINAGE FACILITIES. IF ADDITIONAL PIPE IS NEEDED IT IS THE RESPONSIBILITY OF THE CONTRACTOR.
- ALL ACCESS CASTINGS ARE THE RESPONSIBILITY OF THE CONTRACTOR AND ARE NOT SUPPLIED BY CONTECH.

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9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONTECH CMP DETENTION SYSTEMS

CONTECH PROPOSAL DRAWING

78"Ø PERFORATED UNDERGROUND RETENTION SYSTEM - 675331-010
KAALO STUDIOS AUSTIN
AUSTIN, TX
SITE DESIGNATION: UNDERGROUND DETENTION

PROJECT No.:	SEQ. No.:	DATE:
675331	010	4/4/2022
DESIGNED: MJK	DRAWN: MJK	
CHECKED: MJK	APPROVED: MJK	
SHEET NO.: P1 OF 4		

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SITE PLAN APPROVAL SHEET 45 OF 63
FILE NUMBER: SPC-2021-0195C APPLICATION DATE: 05/20/2021
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PROJECT EXPIRATION DATE (ORD. #970905-A)_____DMPZ_____DDZ__X___

_____
Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE:_____ZONING LO-MU-CO
Rev. 1 _____Correction 1 _____
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NO.	DATE	DESCRIPTION	BY

0 1"
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POND DETAILS

KAALO STUDIO
7901 RM 2222
Austin, Texas 78730

PLOTTED: 12/23/2022
JOB NO: 864-01

C541
45 OF 63

SPC-2021-0195C

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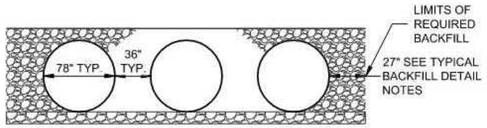
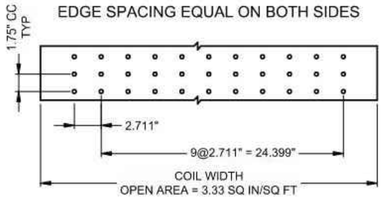


TYPICAL SECTION VIEW
NOT TO SCALE



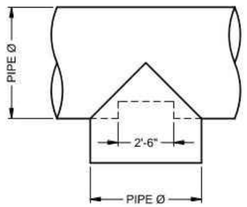
NOTES:
1. PERFORATIONS MEET AASHTO AND ASTM SPECIFICATIONS.
2. PERFORATION OPEN AREA PER SQUARE FOOT OF PIPE IS BASED ON THE NOMINAL DIAMETER AND LENGTH OF PIPE.
3. DIMENSIONS SUBJECT TO MANUFACTURER'S TOLERANCES.
4. ALL HOLES 3/8"Ø.

EXFILTRATION AREA
STANDARD PERFORATION PATTERNS

APPROXIMATE AREA PER LINEAR FOOT OF PIPE				
PIPE	CORRUGATION PATTERN			
	2 2/3" x 1/2"	3" x 1"	5" x 1"	ULTRA FLO
78"Ø	79.4 SQ. IN.	83.9 SQ. IN.	81.6 SQ. IN.	

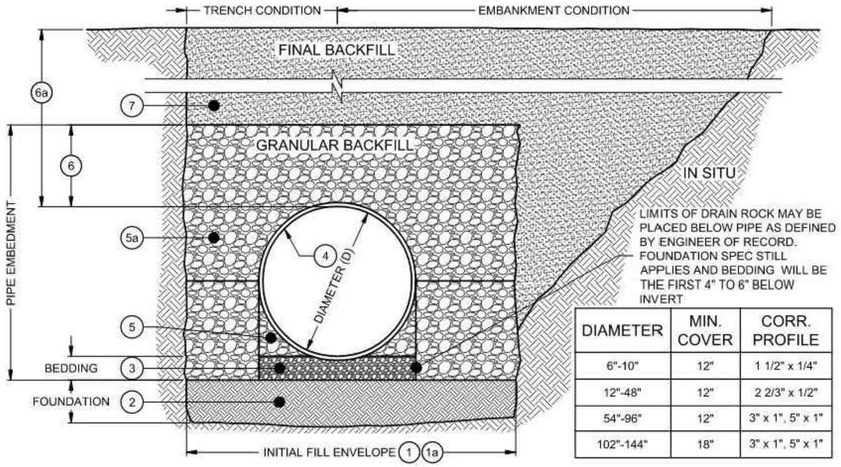
NOTES:
- GAGE AND COATING LIMITATIONS APPLY. 5" x 1" IS NOT AVAILABLE IN ALUMINUM.
- DIMENSIONS SUBJECT TO MANUFACTURER'S TOLERANCES.

TYPICAL PERFORATION DETAIL
NOT TO SCALE



48"Ø to 90"Ø FITTING REINFORCEMENT MAY BE REQUIRED BASED ON HEIGHT OF COVER AND LIVE LOAD CONDITION

TYPICAL MANWAY DETAIL
NOT TO SCALE



DIAMETER	MIN. COVER	CORR. PROFILE
6"-10"	12"	1 1/2" x 1/4"
12"-48"	12"	2 2/3" x 1/2"
54"-96"	12"	3" x 1", 5" x 1"
102"-144"	18"	3" x 1", 5" x 1"

1 MINIMUM TRENCH WIDTH MUST ALLOW ROOM FOR PROPER COMPACTION OF HAUNCH MATERIALS UNDER THE PIPE. THE TRENCH WIDTH IS THE MINIMUM AMOUNT REQUIRED FOR PROPER INSTALLATION AND TO SUPPORT HORIZONTAL PRESSURE FROM THE PIPE. THE MANUFACTURER'S SUGGESTED MINIMUM VALUE IS: 1.5D + 12".

1a MINIMUM EMBANKMENT WIDTH (IN FEET) FOR INITIAL FILL ENVELOPE: 3.0D BUT NO LESS THAN D + 4'0".

2 FOUNDATION SHALL BE WELL CONSOLIDATED & STABLE, CAPABLE OF SUPPORTING FILL MATERIAL LOAD.

3 OPEN-GRADED GRANULAR BEDDING MATERIAL SHALL BE A RELATIVELY LOOSE MATERIAL THAT IS ROUGHLY SHAPED TO FIT THE BOTTOM OF THE PIPE, 4" TO 6" IN DEPTH. SUGGESTED PARTICLE SIZE OF 1/2 CORRUGATION DEPTH.

4 CORRUGATED STEEL PIPE (CSP / HEL-COR).

5 HAUNCH ZONE MATERIAL SHALL BE HAND SHOVELED OR SHOVEL SLICED INTO PLACE TO ALLOW FOR PROPER COMPACTION.

5a THE BACKFILL MATERIAL SHALL BE A FREE-DRAINING, ANGULAR, WASHED-STONE PER AASHTO M 43 SIZE #3 WITH A ½" - 2" PARTICLE SIZE OR APPROVED EQUAL. MATERIAL SHALL BE PLACED IN 12" MAXIMUM LIFTS AND SHALL BE WORKED INTO THE PIPE HAUNCHES BY MEANS OF SHOVEL-SLICING, RODDING, AIR-TAMPER, VIBRATORY PLATE OR OTHER EFFECTIVE METHODS. COMPACTION IS CONSIDERED ADEQUATE WHEN A DENSITY EQUIVALENT TO 90% STANDARD PROCTOR IS ACHIEVED OR WHEN NO FURTHER YIELDING OF THE MATERIAL IS OBSERVED UNDER THE COMPACTOR OR UNDER FOOT. THE PROJECT ENGINEER OR HIS REPRESENTATIVE MUST BE SATISFIED WITH THE LEVEL OF COMPACTION. INADEQUATE COMPACTION CAN LEAD TO EXCESSIVE PIPE DEFLECTIONS AND SETTLEMENT OF THE SOILS OVER THE SYSTEM. BACKFILL SHALL BE PLACED SUCH THAT THERE IS NO MORE THAN A TWO-LIFT DIFFERENTIAL BETWEEN THE SIDES OF ANY PIPE IN THE SYSTEM AT ALL TIMES DURING THE BACKFILL PROCESS. BACKFILL SHALL BE ADVANCED ALONG THE LENGTH OF THE SYSTEM AT THE SAME RATE TO AVOID DIFFERENTIAL LOADING ON ANY PIPES IN THE SYSTEM.

6 INITIAL OPEN GRADED GRANULAR BACKFILL ABOVE PIPE MAY INCLUDE ROAD BASE MATERIAL (AND RIGID PAVEMENT IF APPLICABLE). SEE TABLE ABOVE.

6a TOTAL HEIGHT OF COMPACTED COVER FOR CONVENTIONAL HIGHWAY LOADS IS MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TOP OF RIGID PAVEMENT.

7 FINAL BACKFILL MATERIAL SELECTION AND COMPACTION REQUIREMENTS SHALL FOLLOW THE PROJECT PLANS AND SPECIFICATIONS PER THE ENGINEER OF RECORD.

NOTES:
- GEOTEXTILE SHOULD BE USED TO PREVENT SOIL MIGRATION INTO VARYING SOIL TYPES (PROJECT ENGINEER).
- FOR MULTIPLE BARREL INSTALLATIONS THE RECOMMENDED STANDARD SPACING BETWEEN PARALLEL PIPE RUNS SHALL BE PIPE DIA. / 2 BUT NO LESS THAN 12", OR 36" FOR PIPE DIAMETERS 72" AND LARGER.
- CONTACT YOUR CONTECH REPRESENTATIVE FOR NONSTANDARD SPACING (TABLE C12.6.7-1).

TYPICAL BACKFILL DETAIL
NOT TO SCALE

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CONTECH CMP DETENTION SYSTEMS
CONTECH PROPOSAL DRAWING

78"Ø PERFORATED UNDERGROUND RETENTION SYSTEM - 675331-010
KAALO STUDIOS AUSTIN
AUSTIN, TX
SITE DESIGNATION: UNDERGROUND DETENTION

PROJECT No.:	SEQ. No.:	DATE:
675331	010	4/4/2022
DESIGNED: MJK	DRAWN: MJK	
CHECKED: MJK	APPROVED: MJK	
SHEET NO.: P2 OF 4		

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PROJECT EXPIRATION DATE (ORD. #970905-A) ____ DMPZ ____ DOZ ____ X ____

Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE: ____ ZONING LO-MU-CO
Rev. 1 ____ Correction 1 ____
Rev. 2 ____ Correction 2 ____
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POND DETAILS

KAALO STUDIO
7901 RM 2222
Austin, Texas 78730

PLOTTED: 12/23/2022
JOB NO: 864-01

C542
46 OF 63

SPC-2021-0195C

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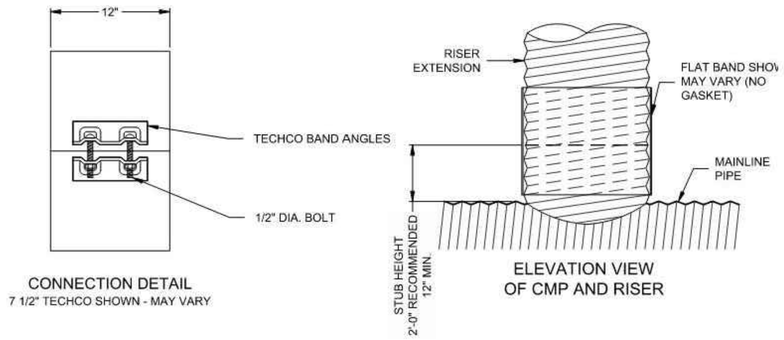
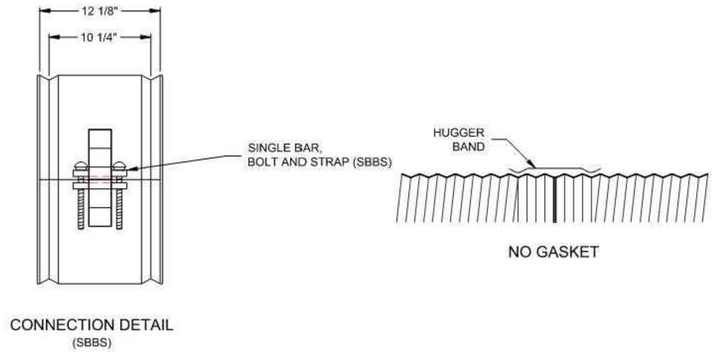


PLAIN END CMP RISER PIPE

GENERAL NOTES:

1. **DELIVERED BAND STYLE AND FASTENER TYPE MAY VARY BY FABRICATION PLANT.**
2. JOINT IS TO BE ASSEMBLED PER AASHTO BRIDGE CONSTRUCTION SPECIFICATION SEC 26.4.2.4.
3. BAND MATERIAL AND GAGE TO BE SAME AS RISER MATERIAL.
4. IF RISER HAS A HEIGHT OF COVER OF 10' OR MORE, USE A SLIP JOINT.
5. BANDS ARE NORMALLY FURNISHED AS FOLLOWS:
   - 12" THRU 48" 1-PIECE
   - 54" 2-PIECES
6. ALL RISER JOINT COMPONENTS WILL BE FIELD ASSEMBLED.
7. MANHOLE RISERS IN APPLICATIONS WHERE TRAFFIC LOADS ARE IMPOSED REQUIRE SPECIAL DESIGN CONSIDERATIONS.
8. DIMENSIONS SUBJECT TO MANUFACTURING TOLERANCES.

12" RISER BAND DETAIL
NOT TO SCALE



2 2/3"x1/2" RE-ROLLED END HEL-COR PIPE

GENERAL NOTES:

1. JOINT IS TO BE ASSEMBLED PER AASHTO BRIDGE CONSTRUCTION SPECIFICATION SEC 26.4.2.4.
2. BAND MATERIALS AND/OR COATING CAN VARY BY LOCATION. CONTACT YOUR CONTECH REPRESENTATIVE FOR AVAILABILITY.
3. BANDS ARE SHAPED TO MATCH THE PIPE-ARCH WHEN APPLICABLE.
4. BANDS ARE NORMALLY FURNISHED AS FOLLOWS:
   - 12" THRU 48" 1-PIECE
   - 54" THRU 96" 2-PIECES
   - 102" THRU 144" 3-PIECES
5. BAND FASTENERS ARE ATTACHED WITH SPOT WELDS, RIVETS OR HAND WELDS.
6. ALL CMP IS REROLLED TO HAVE ANNULAR END CORRUGATIONS OF 2 2/3"x1/2"
7. DIMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES.
8. ORDER SHALL DESIGNATE GASKET OPTION, IF REQUIRED (SEE DETAILS ABOVE).

H-12 HUGGER BAND DETAIL
NOT TO SCALE

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CONTECH CMP DETENTION SYSTEMS
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78"Ø PERFORATED UNDERGROUND RETENTION SYSTEM - 675331-010
KAALO STUDIOS AUSTIN
AUSTIN, TX
SITE DESIGNATION: UNDERGROUND DETENTION

PROJECT No.:	SEQ. No.:	DATE:
675331	010	4/4/2022
DESIGNED: MJK	DRAWN: MJK	
CHECKED: MJK	APPROVED: MJK	
SHEET NO.: P3 OF 4		

I CERTIFY THAT THESE ENGINEERING DOCUMENTS ARE COMPLETE, ACCURATE AND ADEQUATE FOR THEIR INTENDED PURPOSES, INCLUDING CONSTRUCTION, BUT ARE NOT AUTHORIZED FOR CONSTRUCTION PRIOR TO FORMAL CITY APPROVAL.

SITE PLAN APPROVAL SHEET 47 OF 63
FILE NUMBER: SPC-2021-0195C APPLICATION DATE: 05/20/2021
APPROVED BY COMMISSION ON _____ UNDER SECTION 112 OF CHAPTER 25-5 OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE(25-5-81, LDC)_____ CASE MANAGER R. AVILA
PROJECT EXPIRATION DATE (ORD. #970905-A)_____DMPZ_____DDZ__X___

_____
Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE:_____ZONING LO-MU-CO
Rev. 1 _____Correction 1 _____
Rev. 2 _____Correction 2 _____
Rev. 3 _____Correction 3 _____
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23 DEC 2022
STATE OF TEXAS
BRIAN LEE WELLS
89517
LICENSED
PROFESSIONAL ENGINEER

mwm Design Group
305 East Huntland Drive
Suite 200
Austin, Texas 78752
p: 512.453.0767
f: 512.453.1734
TBAE FIRM REGISTRATION NO.: 1452
TBPE FIRM REGISTRATION NO.: F-1416
TBPLS FIRM REGISTRATION NO.: 10065600

NO.	DATE	DESCRIPTION	BY

0 1"
The bar above measures one inch on the original drawing. Adjust scales accordingly.

POND DETAILS

KAALO STUDIO
7901 RM 2222
Austin, Texas 78730

PLOTTED: 12/23/2022
JOB NO: 864-01

C543
47 OF 63

SPC-2021-0195C

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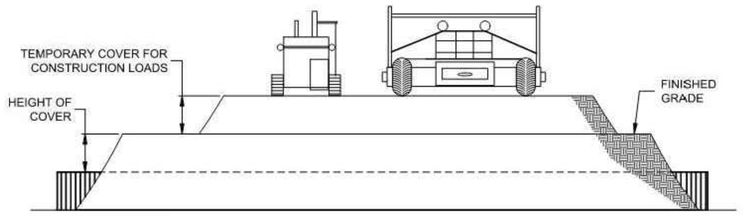


CONSTRUCTION LOADS

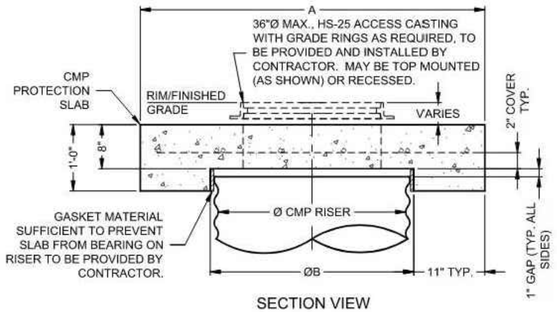
FOR TEMPORARY CONSTRUCTION VEHICLE LOADS, AN EXTRA AMOUNT OF COMPACTED COVER MAY BE REQUIRED OVER THE TOP OF THE PIPE. THE HEIGHT-OF-COVER SHALL MEET THE MINIMUM REQUIREMENTS SHOWN IN THE TABLE BELOW. THE USE OF HEAVY CONSTRUCTION EQUIPMENT NECESSITATES GREATER PROTECTION FOR THE PIPE THAN FINISHED GRADE COVER MINIMUMS FOR NORMAL HIGHWAY TRAFFIC.

PIPE SPAN, INCHES	AXLE LOADS (kips)			
	18-50	50-75	75-110	110-150
	MINIMUM COVER (FT)			
12-42	2.0	2.5	3.0	3.0
48-72	3.0	3.0	3.5	4.0
78-120	3.0	3.5	4.0	4.0
126-144	3.5	4.0	4.5	4.5

*MINIMUM COVER MAY VARY, DEPENDING ON LOCAL CONDITIONS. THE CONTRACTOR MUST PROVIDE THE ADDITIONAL COVER REQUIRED TO AVOID DAMAGE TO THE PIPE. MINIMUM COVER IS MEASURED FROM THE TOP OF THE PIPE TO THE TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE.

CONSTRUCTION LOADING DIAGRAM

NOT TO SCALE

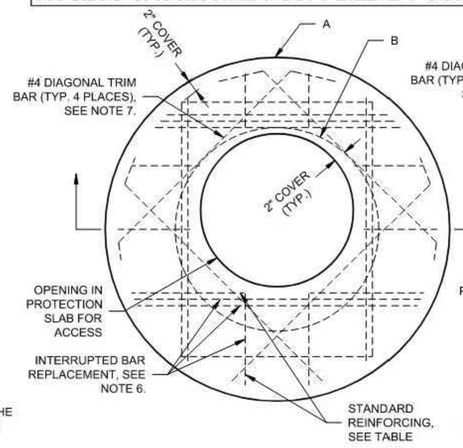


SECTION VIEW

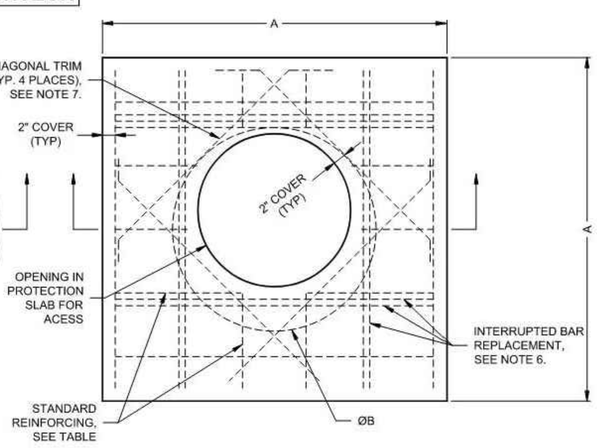
REINFORCING TABLE				
Ø CMP RISER	A	B Ø	REINFORCING	**BEARING PRESSURE (PSF)
24"	4'Ø 4'x4'	26"	#5 @ 10" OCEW #5 @ 10" OCEW	2,540 1,900
30"	4'-6"Ø 4'-6" x 4'-6"	32"	#5 @ 10" OCEW #5 @ 9" OCEW	2,260 1,670
36"	5'Ø 5' x 5'	38"	#5 @ 9" OCEW #5 @ 8" OCEW	2,060 1,500
42"	5'-6"Ø 5'-6" x 5'-6"	44"	#5 @ 8" OCEW #5 @ 8" OCEW	1,490 1,370
48"	6'Ø 6' x 6'	50"	#5 @ 7" OCEW #5 @ 7" OCEW	1,210 1,270

** ASSUMED SOIL BEARING CAPACITY

ACCESS CASTING NOT SUPPLIED BY CONTECH



ROUND OPTION PLAN VIEW



SQUARE OPTION PLAN VIEW

NOTES:

1. DESIGN IN ACCORDANCE WITH AASHTO, 17th EDITION AND ACI 350.
2. DESIGN LOAD HS25.
3. EARTH COVER = 1' MAX.
4. CONCRETE STRENGTH = 4,000 psi
5. REINFORCING STEEL = ASTM A615, GRADE 60.
6. PROVIDE ADDITIONAL REINFORCING AROUND OPENINGS EQUAL TO THE BARS INTERRUPTED, HALF EACH SIDE. ADDITIONAL BARS TO BE IN THE SAME PLANE.
7. TRIM OPENING WITH DIAGONAL #4 BARS, EXTEND BARS A MINIMUM OF 12" BEYOND OPENING, BEND BARS AS REQUIRED TO MAINTAIN BAR COVER.
8. PROTECTION SLAB AND ALL MATERIALS TO BE PROVIDED AND INSTALLED BY CONTRACTOR.
9. DETAIL DESIGN BY DELTA ENGINEERS, ARCHITECTS AND LAND SURVEYORS, ENDWELL, NY.

MANHOLE CAP DETAIL

NOT TO SCALE

SPECIFICATION FOR CORRUGATED STEEL PIPE-ALUMINIZED TYPE 2 STEEL

SCOPE

THIS SPECIFICATION COVERS THE MANUFACTURE AND INSTALLATION OF THE CORRUGATED STEEL PIPE (CSP) DETAILED IN THE PROJECT PLANS.

MATERIAL

THE ALUMINIZED TYPE 2 STEEL COILS SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF AASHTO M274 OR ASTM A929.

PIPE

THE CSP SHALL BE MANUFACTURED IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF AASHTO M36 OR ASTM A760. THE PIPE SIZES, GAGES AND CORRUGATIONS SHALL BE AS SHOWN ON THE PROJECT PLANS.

ALL FABRICATION OF THE PRODUCT SHALL OCCUR WITHIN THE UNITED STATES.

HANDLING AND ASSEMBLY

SHALL BE IN ACCORDANCE WITH RECOMMENDATIONS OF THE NATIONAL CORRUGATED STEEL PIPE ASSOCIATION (NCSPA)

INSTALLATION

SHALL BE IN ACCORDANCE WITH AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SECTION 26, DIVISION II OR ASTM A798 AND IN CONFORMANCE WITH THE PROJECT PLANS AND SPECIFICATIONS. IF THERE ARE ANY INCONSISTENCIES OR CONFLICTS THE CONTRACTOR SHOULD DISCUSS AND RESOLVE WITH THE SITE ENGINEER.

IT IS ALWAYS THE RESPONSIBILITY OF THE CONTRACTOR TO FOLLOW OSHA GUIDELINES FOR SAFE PRACTICES.

ANTI-FLOTATION PROVISIONS DUE TO HIGH GROUNDWATER OR OTHER FLOTATION CONCERNS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.

MATERIAL SPECIFICATION

NOT TO SCALE

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MARK	DATE	REVISION DESCRIPTION	BY

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9025 Centre Pointe Dr., Suite 400, West Chester, OH 45069
800-338-1122 513-645-7000 513-645-7993 FAX

CONTECH CMP DETENTION SYSTEMS
CONTECH PROPOSAL DRAWING

78"Ø PERFORATED UNDERGROUND RETENTION SYSTEM - 675331-010
KAALO STUDIOS AUSTIN
AUSTIN, TX
SITE DESIGNATION: UNDERGROUND DETENTION

PROJECT No.:	SEQ. No.:	DATE:
675331	010	4/4/2022
DESIGNED: MJK	DRAWN: MJK	
CHECKED: MJK	APPROVED: MJK	
SHEET NO.: P4 OF 4		

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SITE PLAN APPROVAL SHEET 48 OF 63
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Director, Development Services Department
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STATE OF TEXAS
BRIAN LEE WELLS
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TBAE FIRM REGISTRATION NO.: 1452
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TBPLS FIRM REGISTRATION NO.: 10065600

NO.	DATE	DESCRIPTION	BY

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POND DETAILS

KAALO STUDIO
7901 RM 2222
Austin, Texas 78730

PLOTTED: 12/23/2022
JOB NO: 864-01

C544
48 OF 63

SPC-2021-0195C

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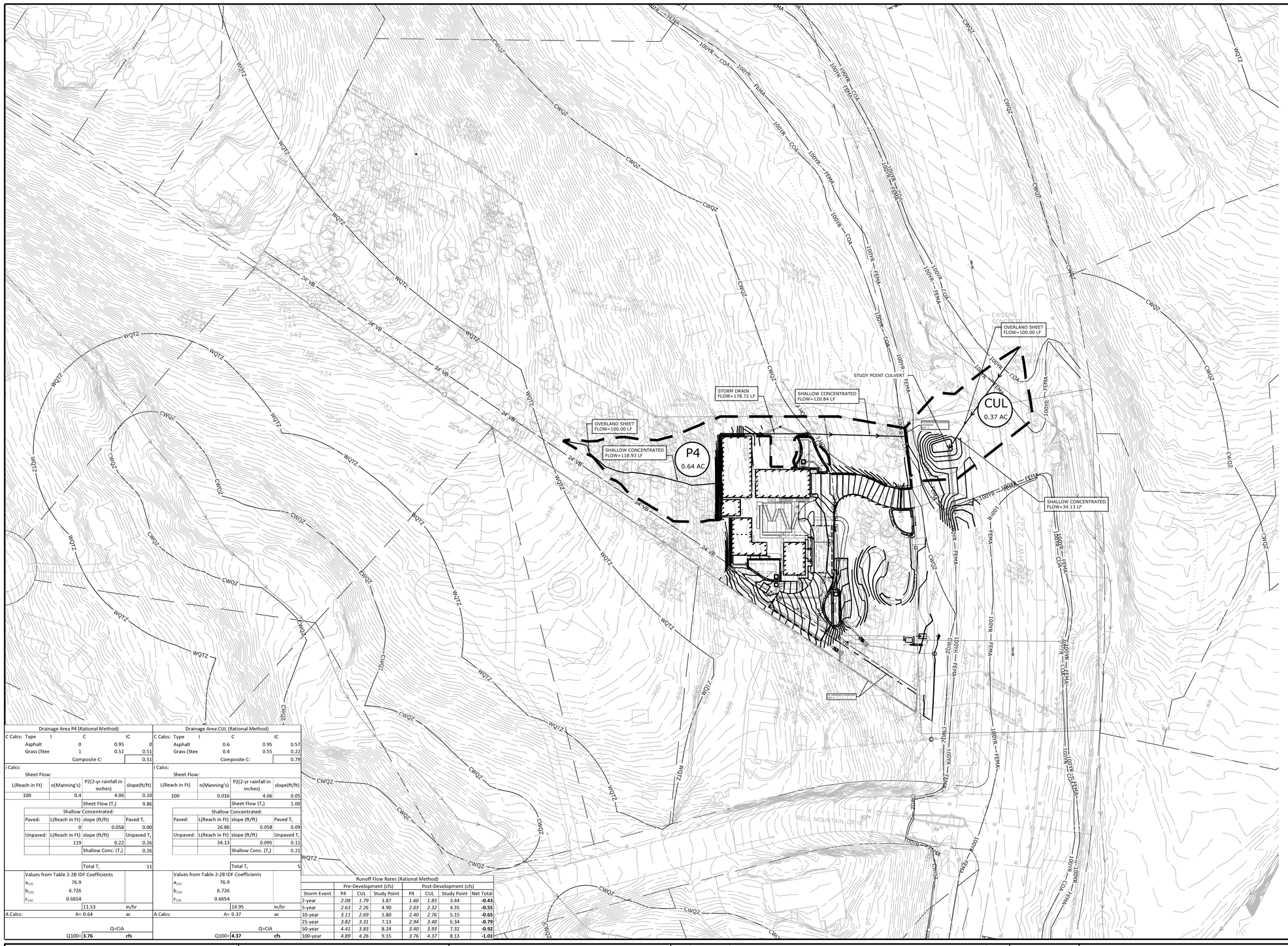

0 30' 60' 120'

Scale: 1" = 60'

DRAINAGE AREA MAP LEGEND

- EXISTING WATERSHED BOUNDARY
- DRAINAGE AREA BOUNDARY
- TIME OF CONCENTRATION PATH
- (E1) DRAINAGE AREA DESIGNATION
- LOC — LIMITS OF CONSTRUCTION
- FLOW PATTERNS

NOTES:
1. DRAINAGE FOR THIS DEVELOPMENT HAS BEEN DESIGNED SUCH THAT THERE WILL BE NO ADVERSE IMPACTS ON THE CAPACITY, FUNCTION OR INTEGRITY OF TEXAS DEPARTMENT OF TRANSPORTATION RIGHT OF WAY DRAINAGE FACILITIES.
2. CoA ATLAS 14 RAINFALL DATA WAS USED FOR ALL DRAINAGE MODELING AND RUNOFF CALCULATIONS.
3. FOR CAPACITY CALCULATIONS OF THE PROPOSED CULVERT AND ROADWAY DITCH REFER TO SHEET C551.

Drainage Area P4 (Rational Method)

C Calcs: Type	I	C	IC
Asphalt	0	0.95	0
Grass (Stee	1	0.51	0.51
	Composite C:		0.51

i Calcs:

Sheet Flow:

L(Reach in Ft)	n(Manning's)	P2(2-yr rainfall in inches)	slope(ft/ft)
100	0.4	4.06	0.10
		Sheet Flow (T_t)	9.86

Shallow Concentrated:

Paved:	L(Reach in Ft)	slope (ft/ft)	Paved T_t
	0	0.058	0.00
Unpaved:	L(Reach in Ft)	slope (ft/ft)	Unpaved T_t
	119	0.22	0.26
		Shallow Conc. (T_t)	0.26
		Total T_c	11

Values from Table 2-2B IDF Coefficients		
a_{100}	76.9	
b_{100}	6.726	
c_{100}	0.6654	
	11.53	in/hr

A Calcs: A= 0.64 ac

Q=CIA

Q100= **3.76** cfs

Drainage Area CUL (Rational Method)

C Calcs: Type	I	C	IC
Asphalt	0.6	0.95	0.57
Grass (Stee	0.4	0.55	0.22
	Composite C:		0.79

i Calcs:

Sheet Flow:

L(Reach in Ft)	n(Manning's)	P2(2-yr rainfall in inches)	slope(ft/ft)
100	0.016	4.06	0.05
		Sheet Flow (T_t)	1.00

Shallow Concentrated:

Paved:	L(Reach in Ft)	slope (ft/ft)	Paved T_t
	26.86	0.058	0.09
Unpaved:	L(Reach in Ft)	slope (ft/ft)	Unpaved T_t
	34.13	0.095	0.11
		Shallow Conc. (T_t)	0.21
		Total T_c	3

Values from Table 2-2B IDF Coefficients		
a_{100}	76.9	
b_{100}	6.726	
c_{100}	0.6654	
	14.95	in/hr

A Calcs: A= 0.37 ac

Q=CIA

Q100= **4.37** cfs

Runoff Flow Rates (Rational Method)

	Pre-Development (cfs)			Post-Development (cfs)			
Storm Event	P4	CUL	Study Point	P4	CUL	Study Point	Net Total
2-year	*2.08*	*1.79*	3.87	*1.60*	*1.83*	3.44	**-0.43**
5-year	*2.63*	*2.26*	4.90	*2.03*	*2.32*	4.35	**-0.55**
10-year	*3.11*	*2.69*	5.80	*2.40*	*2.76*	5.15	**-0.65**
25-year	*3.82*	*3.31*	7.13	*2.94*	*3.40*	6.34	**-0.79**
50-year	*4.41*	*3.83*	8.24	*3.40*	*3.93*	7.32	**-0.92**
100-year	*4.89*	*4.26*	9.15	*3.76*	*4.37*	8.13	**-1.01**

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23 DEC 2022

STATE OF TEXAS — BRIAN LEE WELLS — 89517 — LICENSED PROFESSIONAL ENGINEER

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p: 512.453.0767
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TBAE FIRM REGISTRATION NO.: 1452
TBPE FIRM REGISTRATION NO.: F-1416
TBPLS FIRM REGISTRATION NO.: 10065600

NO.	DATE	DESCRIPTION	BY

0 1"

The bar above measures one inch on the original drawing. Adjust scales accordingly.

CULVERT DRAINAGE AREA MAP

KAALO STUDIO
7901 RM 2222
Austin, Texas 78730

PLOTTED: 12/23/2022
JOB NO: 864-01

C550

49 OF 63

SPC-2021-0195C

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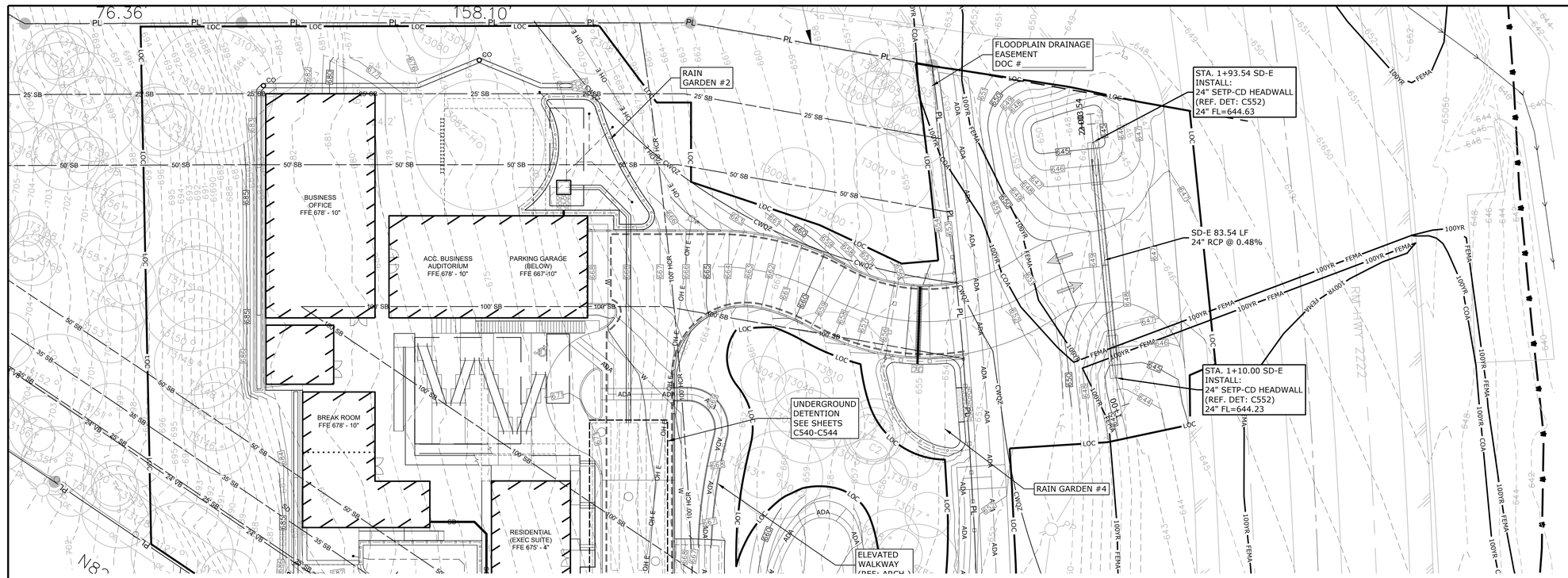
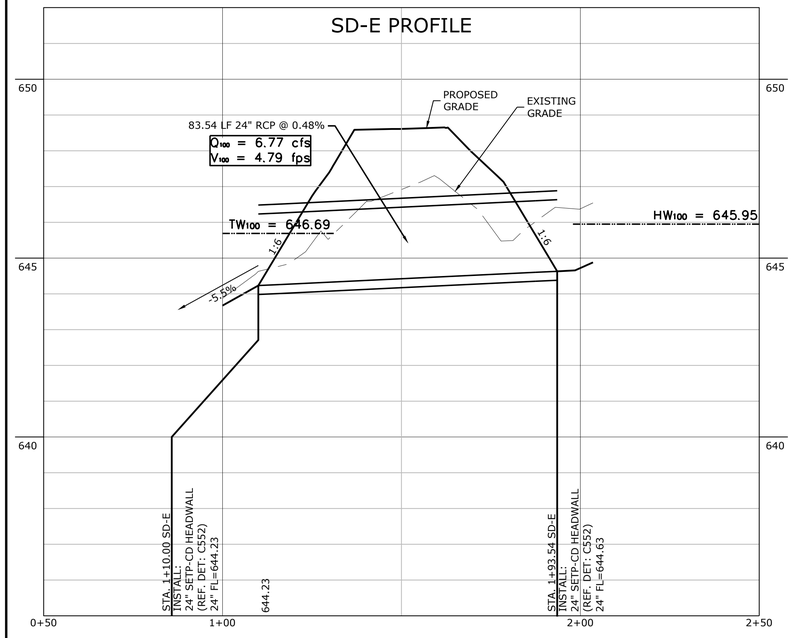




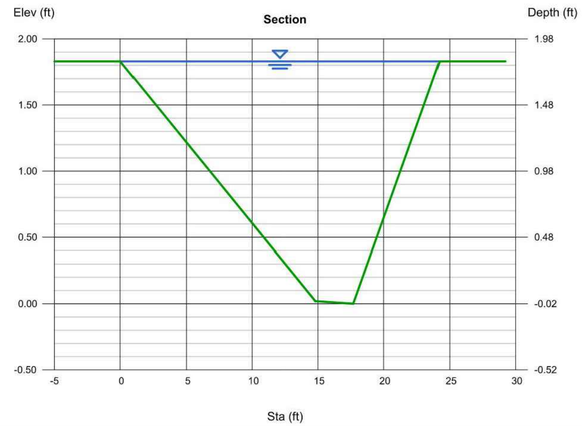
Proposed Driveway Culvert Q100: 6.77 CFS

Invert Elev Dn (ft)	= 644.23	**Calculations**	
Pipe Length (ft)	= 80.40	Qmin (cfs)	= 6.77
Slope (%)	= 0.50	Qmax (cfs)	= 27.00
Invert Elev Up (ft)	= 644.63	Tailwater Elev (ft)	= (dc+D)/2
Rise (in)	= 24.0		
Shape	= Circular	**Highlighted**	
Span (in)	= 24.0	Qtotal (cfs)	= 6.77
No. Barrels	= 1	Qpipe (cfs)	= 6.77
n-Value	= 0.015	Qovertop (cfs)	= 0.00
Culvert Type	= Circular Concrete	Veloc Dn (ft/s)	= 2.75
Culvert Entrance	= Square edge w/headwall (C)	Veloc Up (ft/s)	= 4.79
Coeff. K,M,c,Y,k	= 0.0098, 2, 0.0398, 0.67, 0.5	HGL Dn (ft)	= 645.69
		HGL Up (ft)	= 645.55
Embankment		Hw Elev (ft)	= 645.95
Top Elevation (ft)	= 649.06	Hw/D (ft)	= 0.66
Top Width (ft)	= 25.00	Flow Regime	= Inlet Control
Crest Width (ft)	= 0.00		

Kaalo Existing ROW Drainage Ditch Capacity

User-defined		**Highlighted**	
Invert Elev (ft)	= 0.02	Depth (ft)	= 1.81
Slope (%)	= 1.80	Q (cfs)	= 140.76
N-Value	= Composite	Area (sqft)	= 24.64
		Velocity (ft/s)	= 5.71
Calculations		Wetted Perim (ft)	= 24.59
Compute by:	Q vs Depth	Crit Depth, Yc (ft)	= 1.81
No. Increments	= 10	Top Width (ft)	= 24.23
		EGL (ft)	= 2.32

(Sta, El, n)-(Sta, El, n)...
(0.00, 1.83)-(14.80, 0.02, 0.035)-(24.23, 1.83, 0.035)



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SITE PLAN APPROVAL SHEET 50 OF 63
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CULVERT PLAN & PROFILE

KAALO STUDIO
7901 RM 2222
Austin, Texas 78730

PLOTTED: 12/23/2022
JOB NO: 864-01

C551
50 OF 63

SPC-2021-0195C

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CROSS PIPE LENGTHS & PIPE RUNNER LENGTHS ①②

Nominal Culvert I.D.	Pipe Culvert Spa ~ G	Cross Pipe Length	Pipe Runner Length: 3:1 Side Slope				4:1 Side Slope				6:1 Side Slope			
			0° Skew	15° Skew	30° Skew	45° Skew	0° Skew	15° Skew	30° Skew	45° Skew	0° Skew	15° Skew	30° Skew	45° Skew
24"	1'- 7"	3'- 5"	N/A	N/A	N/A	5'-10"	N/A	N/A	N/A	8'- 1"	N/A	N/A	N/A	12'- 9"
27"	1'- 8"	3'- 8"	N/A	N/A	N/A	6'-11"	N/A	N/A	N/A	9'- 7"	N/A	N/A	N/A	14'-11"
30"	1'-10"	3'-11"	N/A	N/A	N/A	8'- 0"	N/A	N/A	8'- 9"	11'- 0"	N/A	N/A	13'- 8"	17'- 0"
33"	1'-11"	4'- 2"	6'- 2"	6'- 5"	7'- 3"	9'- 1"	8'- 6"	8'-10"	10'- 0"	12'- 5"	13'- 3"	13'- 9"	15'- 5"	19'- 2"
36"	2'- 1"	4'- 5"	6'-11"	7'- 2"	8'-10"	10'- 2"	9'- 6"	9'-11"	12'- 2"	13'-10"	14'- 9"	15'- 3"	18'- 5"	22'- 3"
42"	2'- 4"	4'-11"	8'- 1"	8'- 4"	10'- 2"	12'- 4"	11'- 2"	11'- 7"	13'- 6"	16'- 3"	16'-10"	17'- 4"	20'- 8"	25'- 3"
48"	2'- 7"	5'- 5"	10'- 1"	10'- 5"	11'- 9"	N/A	13'- 7"	14'- 2"	15'-10"	N/A	20'- 9"	21'- 6"	24'- 2"	N/A
54"	3'- 0"	5'-11"	11'- 8"	12'- 1"	N/A	N/A	15'- 8"	16'- 3"	N/A	N/A	23'-10"	24'- 8"	N/A	N/A
60"	3'- 3"	6'- 5"	13'- 3"	N/A	N/A	N/A	17'- 9"	N/A	N/A	N/A	26'-10"	N/A	N/A	N/A

TYPICAL PIPE CULVERT MITERS ③

Side Slope	0° Skew	15° Skew	30° Skew	45° Skew
3:1	3.1061 | 3.464ft	3.464ft	4.243ft	
4:1	4.1411 | 4.619ft	4.619ft	5.657ft	
6:1	6.2121 | 6.928ft	6.928ft	8.485ft	

CONDITIONS WHERE PIPE RUNNERS ARE NOT REQUIRED ②

Nominal Culvert I.D.	Single Pipe Culvert	Multiple Pipe Culverts
12" thru 21"	Skews thru 45°	Skews thru 45°
24"	Skews thru 45°	Skews thru 30°
27"	Skews thru 30°	Skews thru 15°
30"	Skews thru 15°	Skews thru 15°
33"	Skews thru 15°	Always required
36"	Normal(No Skew)	Always required
42" to 60"	Always required	Always required

STANDARD PIPE SIZES & MAX PIPE RUNNER LENGTHS ①

Pipe Size	Pipe O.D.	Pipe I.D.	Max Pipe Runner Length
2" STD	2.375"	2.067"	N/A
3" STD	3.500"	3.068"	10'- 0"
4" STD	4.500"	4.026"	19'- 8"
5" STD	5.563"	5.047"	34'- 2"

ESTIMATED CONCRETE RIPRAP QUANTITIES (CY) ⑤

Nominal Culvert I.D.	3:1 Side Slope				4:1 Side Slope				6:1 Side Slope			
	0° Skew	15° Skew	30° Skew	45° Skew	0° Skew	15° Skew	30° Skew	45° Skew	0° Skew	15° Skew	30° Skew	45° Skew
12"	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.6	0.7	0.7	0.7	0.8
15"	0.5	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.7	0.7	0.8	0.9
18"	0.5	0.5	0.6	0.6	0.6	0.7	0.7	0.8	0.8	0.8	0.9	1.0
21"	0.6	0.6	0.6	0.7	0.7	0.7	0.8	0.9	0.9	0.9	0.9	1.0
24"	0.6	0.7	0.7	0.8	0.8	0.8	0.8	1.0	1.0	1.0	1.0	1.1
27"	0.7	0.7	0.8	0.9	0.8	0.9	0.9	1.1	1.1	1.1	1.1	1.2
30"	0.8	0.8	0.9	1.0	0.9	1.0	1.0	1.2	1.2	1.2	1.2	1.4
33"	0.8	0.8	0.9	1.0	1.0	1.0	1.1	1.3	1.3	1.3	1.4	1.5
36"	0.9	0.9	0.9	1.1	1.1	1.1	1.1	1.4	1.4	1.4	1.4	1.6
42"	1.0	1.0	1.1	1.3	1.2	1.3	1.3	1.6	1.6	1.6	1.7	1.8
48"	1.1	1.1	1.2	N/A	1.4	1.4	1.4	1.5	N/A	1.9	1.9	2.1
54"	1.3	1.3	N/A	N/A	1.6	1.6	N/A	N/A	N/A	2.1	2.1	N/A
60"	1.4	N/A	N/A	N/A	1.7	N/A	N/A	N/A	N/A	2.3	N/A	N/A

① Size of Pipe Runner shall be as shown in the tables. Cross Pipe shall be the same size as the Pipe Runner. Cross Pipe Stub Out shall be the next smaller size pipe as shown in the STANDARD PIPE SIZES Table.

② This standard allows for the placement of only one pipe runner across each culvert pipe opening. In order to limit the clear obstruction presented by an errant vehicle, the following conditions must be met:

For 60" culvert pipes, the skew must not exceed 0°;
For 54" culvert pipes, the skew must not exceed 15°;
For 48" culvert pipes, the skew must not exceed 30°;
For all culvert pipe sizes 42" and less, the skew must not exceed 45°.

If the above conditions cannot be met, the designer should consider using multiple pipe culverts without pipe runners. For further information, refer to the TxDOT "Roadway Design Manual".

③ Miter = Slope of Mitered Pipe Culvert End

④ Riprap placed beyond the limits shown will be paid as Concrete Riprap in accordance with Item 432, "Riprap".

⑤ Quantities shown are for one end of one reinforced concrete Pipe Culvert. For multiple Pipe Culverts or corrugated metal Pipe Culverts, the quantities will be doubled, tripled, etc. Riprap quantities are for Contractor's information only.

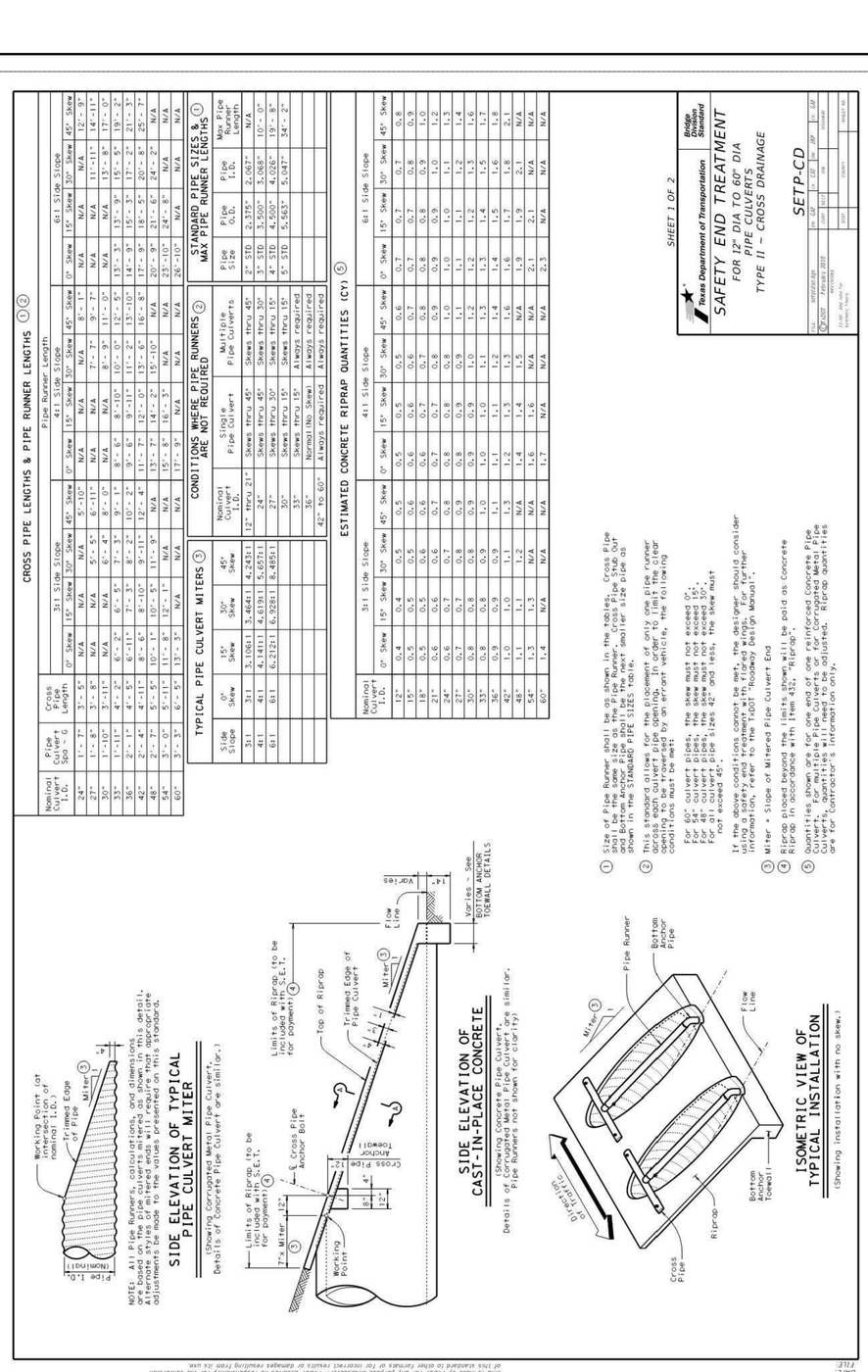
SHEET 1 OF 2

Texas Department of Transportation — Bridge Division Standard

SAFETY END TREATMENT
FOR 12" DIA TO 60" DIA PIPE CULVERTS
TYPE II ~ CROSS DRAINAGE

SETP-CD

FILE:	setpcd-cdii					
© TxDOT	February 2015	DATE:	CHK	DSN:	CK:	DW:
	REVISIONS					
2-15: ADA min TY						
4-20:		CONT	SECT	JOB	HIGHWAY NO.	



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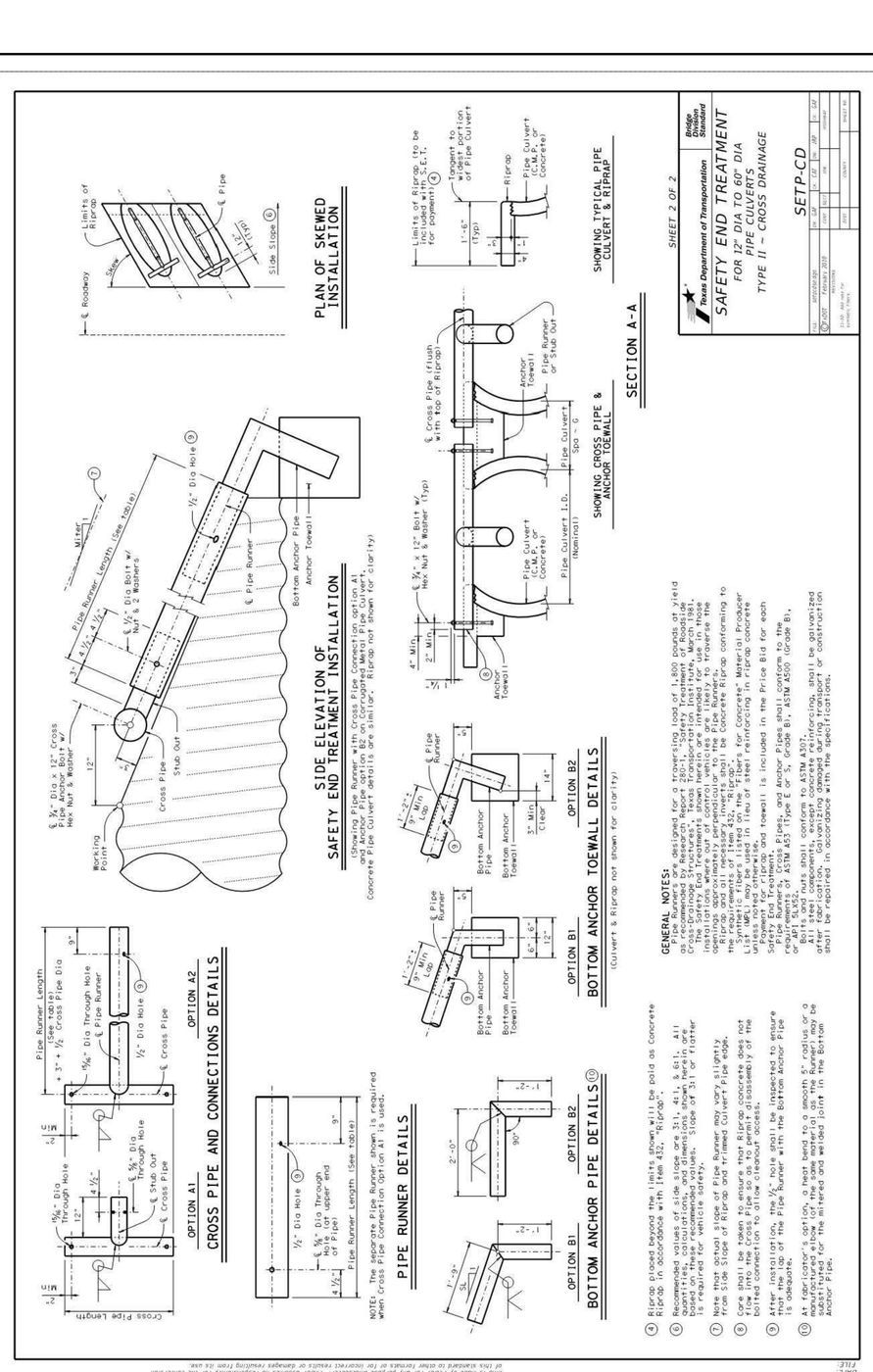

GENERAL NOTES:
Pipe Runners are designed for a traversing load of 1,800 pounds per yard of culvert width, in accordance with Standard Specifications for Cross-Drainage Structures, Texas Transportation Institute, March 1981. Pipe Runners are not designed for the heavier loads that may occur in installations where over-fill heights are greater than those for which spacings approximately perpendicular to the Pipe Runners.
Steel reinforcement for Riprap conforming to the requirements of Item 432, "Riprap".
Concrete for Riprap, Toewall and Anchor Pipe conforming to Item 421, "Hydraulic Cement Concrete". Class "C" concrete may be used in lieu of steel reinforcing in riprap concrete.
Excavation for Riprap and Toewall is included in the Price Bid for each Safety End Treatment.
Pipe Runners, Pipes, and Anchor Pipes shall conform to the requirements of ASTM A53 (Type E or S, Grade B), ASTM A500 (Grade B), or ASTM A501.
Bolts and nuts shall conform to ASTM A307.
All steel components, except concrete reinforcing, shall be galvanized after fabrication. Galvanizing of the same material as the Runner may be welded to the mitered end before galvanizing. Any welding of other components shall be done after galvanizing. Damaged galvanizing shall be repaired in accordance with the specifications.

① Pipe Runner Length (See table)
② 3" + ½ Cross Pipe Dia
③ ⅝" Dia Through Hole
④ ℄ Pipe Runner
⑤ ½" Dia Hole
⑥ ℄ Cross Pipe
⑦ ⅝" Dia Through Hole
⑧ ⅝" Dia Through Hole (on upper end of Pipe)
⑨ ½" Dia Hole
⑩ ℄ Stub Out
⑪ ℄ Cross Pipe
⑫ Cross Pipe Length
⑬ Pipe Runner Length. (See table)
⑭ 4½"
⑮ 12"
⑯ 9"
⑰ 2"
⑱ 90°
⑲ 2'-0"
⑳ 1'-3"
㉑ 2'-6"
㉒ 1'-2"
㉓ 9" Min Lap
㉔ 1'-2" 9" Min.
㉕ 6'-6"
㉖ 12"

OPTION A1
CROSS PIPE AND CONNECTIONS DETAILS

OPTION A2
PIPE RUNNER DETAILS

NOTE: The separate Pipe Runner shown is required when Cross Pipe Connection Option A1 is used.

OPTION B1
BOTTOM ANCHOR PIPE DETAILS ⑩

OPTION B2

④ Riprap placed beyond the limits shown will be paid as Concrete Riprap in accordance with Item 432, "Riprap".
⑥ Recommended values of side slope are 3:1, 4:1, & 6:1. All calculations and dimensions shown on this standard are based on these recommended values. Slope of 3:1 or flatter is required for vehicle safety.
⑦ Note that actual slope of Pipe Runner may vary slightly. Slope of Pipe Runner and Riprap should not change.
⑧ Care shall be taken that Riprap concrete does not flow into the Cross Pipe so as to permit disassembly of the bolted connection to allow cleanout access.
⑨ After installation, the ½" hole shall be inspected to ensure that the top of the Pipe Runner with the Bottom Anchor Pipe is adequate.
⑩ At fabricator's option, a heat bend to a smooth 5° radius or a manufactured elbow of the same material as the Runner may be welded to the mitered end before galvanizing. Any welding of other components shall be done after galvanizing. Damaged galvanizing shall be repaired in accordance with the specifications.

SHEET 2 OF 2

Texas Department of Transportation — Bridge Division Standard

SAFETY END TREATMENT
FOR 12" DIA TO 60" DIA PIPE CULVERTS
TYPE II ~ CROSS DRAINAGE

SETP-CD

FILE:	setpcd-cdii					
© TxDOT	February 2015	DATE:	CHK	DSN:	CK:	DW:
	REVISIONS					
2-15: ADA min TY						
4-20:		CONT	SECT	JOB	HIGHWAY NO.	

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DATE:
FILE:

I CERTIFY THAT THESE ENGINEERING DOCUMENTS ARE COMPLETE, ACCURATE AND ADEQUATE FOR THEIR INTENDED PURPOSES, INCLUDING CONSTRUCTION, BUT ARE NOT AUTHORIZED FOR CONSTRUCTION PRIOR TO FORMAL CITY APPROVAL.

SITE PLAN APPROVAL SHEET 51 OF 63
FILE NUMBER: SPC-2021-0195C APPLICATION DATE: 05/20/2021
APPROVED BY COMMISSION ON _____ UNDER SECTION 112 OF CHAPTER 25-5 OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE(25-5-81, LDC) _____ CASE MANAGER R. AVILA
PROJECT EXPIRATION DATE (ORD. #970905-A) _____ DMPZ ____ DDZ ____ X ____

Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE: _____ ZONING LO-MU-CO
Rev. 1 _____ Correction 1 _____
Rev. 2 _____ Correction 2 _____
Rev. 3 _____ Correction 3 _____

Final Plat must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction (if a building permit is not required), must also be approved prior to the Project Expiration Date.

ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN REVIEWING THESE PLANS, THE CITY OF AUSTIN MUST RELY UPON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.

dwA

23 DEC 2022
STATE OF TEXAS
BRIAN LEE WELLS
89517
LICENSED PROFESSIONAL ENGINEER

mwm Design Group
305 East Huntland Drive
Suite 200
Austin, Texas 78752
p: 512.453.0767
f: 512.453.1734
TBAE FIRM REGISTRATION NO.: 1452
TBPE FIRM REGISTRATION NO.: F-1416
TBPLS FIRM REGISTRATION NO.: 10065600

NO.	DATE	DESCRIPTION	BY

0 — 1"
The bar above measures one inch on the original drawing. Adjust scales accordingly.

CULVERT DETAILS

KAALO STUDIO
7901 RM 2222
Austin, Texas 78730

PLOTTED: 12/23/2022
JOB NO: 864-01

C552
51 OF 63

SPC-2021-0195C

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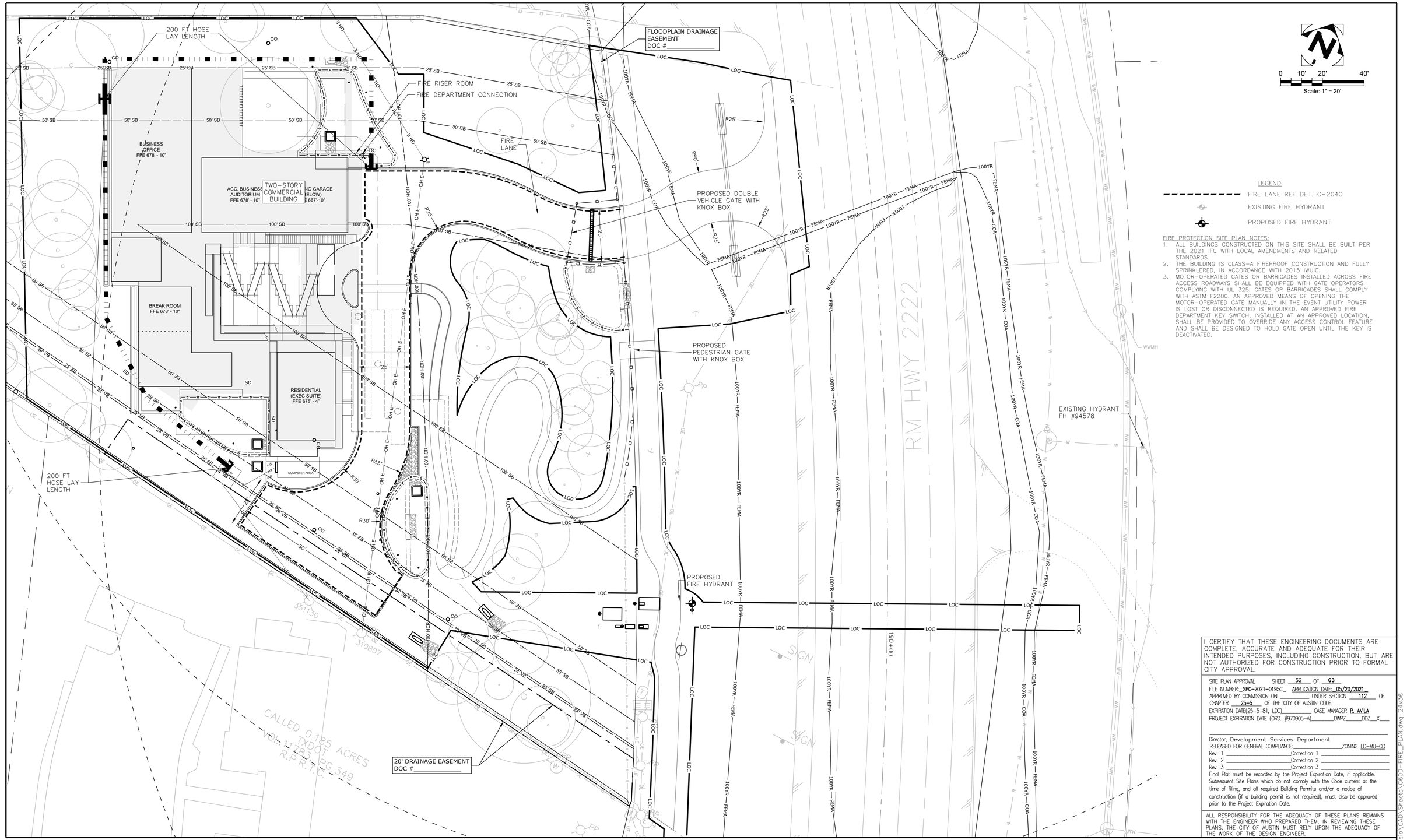

LEGEND

- FIRE LANE REF DET. C-204C
- EXISTING FIRE HYDRANT
- PROPOSED FIRE HYDRANT

FIRE PROTECTION SITE PLAN NOTES:

1. ALL BUILDINGS CONSTRUCTED ON THIS SITE SHALL BE BUILT PER THE 2021 IFC WITH LOCAL AMENDMENTS AND RELATED STANDARDS.
2. THE BUILDING IS CLASS-A FIREPROOF CONSTRUCTION AND FULLY SPRINKLERED, IN ACCORDANCE WITH 2015 IWUIC.
3. MOTOR-OPERATED GATES OR BARRICADES INSTALLED ACROSS FIRE ACCESS ROADWAYS SHALL BE EQUIPPED WITH GATE OPERATORS COMPLYING WITH UL 325. GATES OR BARRICADES SHALL COMPLY WITH ASTM F2200. AN APPROVED MEANS OF OPENING THE MOTOR-OPERATED GATE MANUALLY IN THE EVENT UTILITY POWER IS LOST OR DISCONNECTED IS REQUIRED. AN APPROVED FIRE DEPARTMENT KEY SWITCH, INSTALLED AT AN APPROVED LOCATION, SHALL BE PROVIDED TO OVERRIDE ANY ACCESS CONTROL FEATURE AND SHALL BE DESIGNED TO HOLD GATE OPEN UNTIL THE KEY IS DEACTIVATED.

I CERTIFY THAT THESE ENGINEERING DOCUMENTS ARE COMPLETE, ACCURATE AND ADEQUATE FOR THEIR INTENDED PURPOSES, INCLUDING CONSTRUCTION, BUT ARE NOT AUTHORIZED FOR CONSTRUCTION PRIOR TO FORMAL CITY APPROVAL.

SITE PLAN APPROVAL SHEET 52 OF 63
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Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE:_____ZONING LO-MU-CO
Rev. 1 _____Correction 1 _____
Rev. 2 _____Correction 2 _____
Rev. 3 _____Correction 3 _____
Final Plat must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction (if a building permit is not required), must also be approved prior to the Project Expiration Date.

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dwA

23 DEC 2022

STATE OF TEXAS
BRIAN LEE WELLS
89517
LICENSED
PROFESSIONAL ENGINEER

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TBAE FIRM REGISTRATION NO.: 1452
TBPE FIRM REGISTRATION NO.: F-1416
TBPLS FIRM REGISTRATION NO.: 10065600

NO.	DATE	DESCRIPTION	BY

0 1"
The bar above measures one inch on the original drawing. Adjust scales accordingly.

FIRE ACCESS PLAN

KAALO STUDIO
7901 RM 2222
Austin, Texas 78730

PLOTTED: 12/23/2022
JOB NO: 864-01

C600
52 OF 63

SPC-2021-0195C

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LANDSCAPE NOTES

1. THE CONTRACTOR SHALL LOCATE AND VERIFY THE EXISTENCE OF ALL OVERHEAD AND UNDERGROUND UTILITIES (INCLUDING THOSE PROPOSED WITH THIS PROJECT, I.E. IRRIGATION, WASTEWATER, WATER, STORM SEWER, GAS, TELECOM, FIBER OPTIC, ELECTRIC, ETC.) PRIOR TO STARTING WORK.

2. INFORMATION PROVIDED ON THIS PLAN IS GENERAL IN NATURE; DIMENSIONS, AREAS, AND DISTANCES ARE APPROXIMATE AND SHOULD BE FIELD VERIFIED PRIOR TO BIDDING. DISCREPANCIES SHALL BE REPORTED TO THE LANDSCAPE ARCHITECT FOR RESOLUTION PRIOR TO STARTING WORK.

3. THE CONTRACTOR IS TO THOROUGHLY FAMILIARIZE HIM/HERSELF WITH ALL PLANS, SPECIFICATIONS AND THE SITE PRIOR TO BIDDING. FAILURE TO DO SO WILL NOT REDUCE THE CONTRACTOR'S OBLIGATION TO PERFORM THE WORK AS DESCRIBED FOR THE PRICE BID.

4. QUANTITIES SHOWN ARE INTENDED TO ASSIST CONTRACTORS IN EVALUATING THEIR OWN TAKE OFFS AND ARE NOT GUARANTEED AS ACCURATE REPRESENTATIONS OF REQUIRED MATERIALS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HIS BID QUANTITIES AND IS REQUIRED TO REFLECT THE DESIGN INTENT.

5. ALL PLANT MATERIALS SHALL CONFORM TO THE GUIDELINES ESTABLISHED BY THE CURRENT AMERICAN STANDARD FOR NURSERY STOCK, PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, OR EQUIVALENT

6. NO SUBSTITUTIONS OF PLANT MATERIAL LOCATIONS, SPECIES OR SIZE WILL BE ALLOWED WITHOUT PRIOR APPROVAL OF THE LANDSCAPE ARCHITECT. ALL PLANT MATERIALS SHALL BE APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.

7. AS PART OF THE BASE BID, THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR ALL LANDSCAPE MAINTENANCE AS INDICATED IN THE PROJECT SPECIFICATIONS (INCLUDING, BUT NOT LIMITED TO MOWING, WATERING, REPLACEMENT OF UNACCEPTABLE, DISEASED OR DEAD PLANTS, ETC.) AND WEED CONTROL UNTIL FINAL ACCEPTANCE BY OWNER.

8. CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIAL TO BE ALIVE AND BE IN A HEALTHY, VIGOROUS CONDITION FOR A PERIOD OF ONE YEAR FROM THE DATE OF COMPLETION OF THE ENTIRE PROJECT OR OTHER DATE(S) ESTABLISHED BY THE LANDSCAPE ARCHITECT, OR OWNER, EXCEPT AS MAY RESULT FROM NEGLECT OR DAMAGE BY THE OWNER, DAMAGE BY OTHERS OR UNUSUAL PHENOMENA BEYOND THE CONTRACTORS CONTROL.

9. CONTRACTOR SHALL REPLACE ALL DEAD, AND/OR UNHEALTHY PLANT MATERIALS AND/OR PLANT MATERIALS THAT HAVE PARTIALLY DIED PURSUANT TO THE CONDITION OF THE WARRANTY AT NO EXPENSE TO THE OWNER. DEAD MATERIALS MUST BE REPLACED WITHIN 10 BUSINESS DAYS PER TECHNICAL PROVISIONS. RE-WARRANT REPLACEMENT PLANTS FOR AN ADDITIONAL ONE YEAR UNDER THE SAME TERMS AS THE ORIGINAL WARRANTY. PLANT MATERIALS USED FOR REPLACEMENT SHALL BE THE SAME SPECIES, SIZE AND SHAPE.

10. ALL PLANTS SHALL BE HEALTHY, VIGOROUS AND REPRESENTATIVE OF THE SPECIES SPECIFIED. ALL PLANTS SHALL BE WELL BRANCHED, PROPORTIONED, AND FREE OF ALL INSECTS, DISEASES, BARK BRUISES, SCRAPES, CRACKED BRANCHES AND PHYSICAL DAMAGE. PLANTS SHALL BE BALLED AND WRAPPED OR CONTAINER GROWN AS SPECIFIED. NO PLANT MATERIALS WILL BE ACCEPTED IF IT IS ROOT BOUND. ALL ROOT WRAPPING MATERIAL SHALL BE REMOVED AT TIME OF PLANTING, AS SHOWN ON DETAILS.

11. ALL PLANTS SHALL BE INSTALLED AS PER DETAILS AND THE CONTRACT SPECIFICATIONS.

12. ALL PLANTS AND STAKES SHALL BE SET PLUMB UNLESS OTHERWISE SPECIFIED.

13. THE LANDSCAPE CONTRACTOR SHALL REFER TO THE CONTRACT SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

14. INSTALLATION OF LANDSCAPE SHALL BE PERFORMED BY A QUALIFIED LANDSCAPE INSTALLER WITH A MINIMUM OF FIVE YEARS CONTINUOUS EXPERIENCE OF INSTALLING LANDSCAPE PLANTINGS OF SIMILAR SIZE AND SCOPE.

15. CONTRACTOR SHALL PROVIDE MAINTENANCE FOR LANDSCAPE & IRRIGATION SYSTEM FOR 12 MONTHS FOLLOWING FINAL ACCEPTANCE OF ENTIRE PROJECT.

16. LANDSCAPE MATERIALS SHALL BE LOCATED SO AS NOT TO OBSTRUCT VISUAL OR PHYSICAL ACCESS TO FIRE HYDRANTS. ALL LANDSCAPE MATERIALS SHALL BE INSTALLED IN CONFORMANCE WITH UTILITY COMPANY REQUIREMENTS AT TRANSFORMERS, METERS, OVERHEAD LINES, ETC. NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES.

17. EXECUTE ALL LANDSCAPING AND REVEGETATION PRIOR TO REQUEST FOR CERTIFICATE OF OCCUPANCY, FINAL INSPECTION OR AS OTHERWISE DIRECTED BY THE LANDSCAPE ARCHITECT OR OWNER. HOWEVER, NO PLANT MATERIALS SHALL BE INSTALLED BEFORE ROUGH GRADING HAS BEEN COMPLETED AND APPROVED BY THE LANDSCAPE ARCHITECT, OWNER OR OWNER'S DESIGNATED REPRESENTATIVE. FULLY PREPARE ALL LANDSCAPE BEDS (INCLUDING IRRIGATION) PRIOR TO INSTALLATION OF LANDSCAPE PLANTS.

18. SITE STOCKPILED TOPSOIL MAY BE USED IF IT HAS BEEN DEEMED ACCEPTABLE IN QUALITY AND APPROVED BY LANDSCAPE ARCHITECT.

19. ALL PLANTS SHALL BEAR THE SAME RELATIONSHIP TO FINISHED GRADE AS THE PLANT'S ORIGINAL GRADE BEFORE DIGGING.

20. THE LANDSCAPE CONTRACTOR SHALL PROVIDE AN IRRIGATION SYSTEM FULLY COMPLIANT WITH TCEQ REQUIREMENTS AND COMPLIANT WITH THE LANDSCAPE IRRIGATION NOTES AND CONTRACT SPECIFICATIONS.

21. IF ESTABLISHING VEGETATION DURING ANY STAGE OF A DROUGHT, SECTION 6-4-30 MAY REQUIRE A VARIANCE. CONTACT AUSTIN WATER CONSERVATION STAFF AT WATERUSECOMPVAR@AUSTINTEXAS.GOV OR CALL (512) 974-2199.

22. ALL LANDSCAPED AREAS ARE TO BE PROTECTED BY 6 INCH WHEEL CURBS, WHEELSTOPS OR OTHER APPROVED BARRIERS AS PER ECM 2.4.7. [LDC 25-2-1004(A), ECM 2.4.7(A)]

23. EXCEPT FOR CLEARING NECESSARY TO PROVIDE UTILITIES AND ACCESS TO THE SITE, NO CLEARING OF VEGETATION SHALL BE PERMITTED WITHIN ONE HUNDRED FEET (100') OF THE DEDICATED RIGHT-OF-WAY OF RM2222

LANDSCAPE IRRIGATION NOTES

AUTOMATIC IRRIGATION SYSTEMS SHALL COMPLY WITH TCEQ CHAPTER 344, AS WELL AS THE FOLLOWING REQUIREMENTS:

1. THESE REQUIREMENTS SHALL BE NOTED ON THE SITE DEVELOPMENT PERMIT AND SHALL BE IMPLEMENTED AS PART OF THE LANDSCAPE INSPECTION:

(A) THE SYSTEM MUST PROVIDE A MOISTURE LEVEL ADEQUATE TO SUSTAIN GROWTH OF THE PLANT MATERIALS;

(B) THE SYSTEM DOES NOT INCLUDE SPRAY IRRIGATION ON AREAS LESS THAN TEN (10) FEET WIDE (SUCH AS MEDIANS, BUFFER STRIPS, AND PARKING LOT ISLANDS);

(C) CIRCUIT REMOTE CONTROL VALVES HAVE ADJUSTABLE FLOW CONTROLS;

(D) SERVICEABLE IN-HEAD CHECK VALVES AREA ADJACENT TO PAVED AREAS WHERE ELEVATION DIFFERENCES MAY CAUSE LOW HEAD DRAINAGE;

(E) A MASTER VALVE INSTALLED ON THE DISCHARGE SIDE OF THE BACKFLOW PREVENTER;

(F) ABOVE-GROUND IRRIGATION EMISSION DEVICES ARE SET BACK AT LEAST SIX (6) INCHES FROM IMPERVIOUS SURFACES;

(G) AN AUTOMATIC RAIN SHUT-OFF DEVICE SHUTS OFF THE IRRIGATION SYSTEM AUTOMATICALLY AFTER MORE THAN A ONE-HALF INCH (½") RAINFALL; AND

(H) NEWLY PLANTED TREES SHALL HAVE PERMANENT IRRIGATION CONSISTING OF DRIP OR BUBBLERS.

2. THE IRRIGATION INSTALLER SHALL DEVELOP AND PROVIDE AN AS-BUILT DESIGN PLAN TO THE CITY AT THE TIME THE FINAL IRRIGATION INSPECTION IS PERFORMED;

(A) UNLESS FISCAL SECURITY IS PROVIDED TO THE CITY FOR THE INSTALLATION OF THE SYSTEM, IT MUST BE OPERATIONAL AT THE TIME OF THE FINAL LANDSCAPE INSPECTION.

3. THE IRRIGATION INSTALLER SHALL ALSO PROVIDE EXHIBITS TO BE PERMANENTLY INSTALLED INSIDE OR ATTACHED TO THE IRRIGATION CONTROLLER, INCLUDING:

(A) A LAMINATED COPY OF THE WATER BUDGET CONTAINING ZONE NUMBERS, PRECIPITATION RATE, GALLONS PER MINUTE AND THE LOCATION OF THE ISOLATION VALVE; AND AN AS BUILT PLAN.

4. THE IRRIGATION INSTALLER SHALL PROVIDE A REPORT TO THE CITY ON A FORM PROVIDED BY AUSTIN WATER CERTIFYING COMPLIANCE WITH SUBSECTION 1. WHEN THE FINAL PLUMBING INSPECTION IS PERFORMED BY THE CITY.

5. IRRIGATION CONTRACTOR SHALL PROVIDE A COMPLETE AS-BUILT PLAN TO OWNER, OR OWNER'S DESIGNATED REPRESENTATIVE SHOWING ALL IRRIGATION COMPONENTS AND SIZE OF COMPONENTS, INCLUDING WATER PRESSURE, MAIN LINE, LATERAL LINES, VALVES, HEADS, BACKFLOW DEVICE, CONTROLLER, QUICK COUPLERS, ETC.

6. COMPLY WITH ALL APPLICABLE TCEQ IRRIGATION RULES AND REGULATIONS.

7. CONTRACTOR IS TO VERIFY PRESSURE AND WATER SUPPLY CHARACTERISTICS ARE ADEQUATE FOR THIS INSTALLATION. ANY DISCREPANCIES OR INADEQUACIES SHALL BE REPORTED TO THE OWNER IMMEDIATELY, BEFORE STARTING CONSTRUCTION. DESIGN PRESSURE IS 65 PSI AT 45 GMP.

8. CONTRACTOR SHALL OBTAIN ALL PERMITS AND HANDLE ALL INSPECTIONS FOR THIS WORK AS REQUIRED BY LOCAL REGULATIONS AND SHALL PAY ALL FEES ASSOCIATED WITH THESE PERMIT(S).

9. VERIFY LOCATION OF CONTROLLER, WATER SUPPLY; SITE CONDITIONS MAY VARY. OPERABLE IRRIGATION EQUIPMENT (VALVES, QUICK COUPLERS, BFP, ETC.) SHALL BE INSTALLED SEPARATELY IN VALVE BOXES.

10. ALL HEADS SHALL BE INSTALLED ON TRIPLE SWING JOINTS. HEADS SHALL BE NOT BE LOCATED CLOSER THAN 6" FROM PAVEMENT.

11. ADJUST RADII AND SPRAY PATTERNS TO ELIMINATE OVERSPRAY ONTO BUILDINGS, SIDEWALKS, FENCES, DRIVEWAYS, ROADWAYS, ETC.

12. ALL PAVEMENT CROSSINGS (LATERALS, WIRING, MAINLINE, ETC.) SHALL OCCUR WITHIN SLEEVES. INCLUDING SIDEWALKS, DRIVEWAYS, TRAILS, BIKE WAYS, ROADWAYS, ETC.

13. PRIOR TO CONSTRUCTION, VERIFY WITH THE GENERAL CONTRACTOR AND ALL UTILITY COMPANIES THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES. IMMEDIATELY REPORT ANY BREAKAGES TO THE APPROPRIATE UTILITY COMPANY.

14. THE CONTRACTOR IS TO INSTALL ALL SLEEVES IN SEQUENCE WITH OTHER CONSTRUCTION ACTIVITIES, AND WILL BE RESPONSIBLE FOR COORDINATING WITH OTHER SITE CONTRACTORS FOR THIS WORK. ADEQUATELY MARK THE LOCATIONS OF ALL SLEEVES AND PIPE CONNECTION POINTS TO EXISTING LINES.

15. INSTALL THE MAIN LINE A MINIMUM OF 15" DEEP AND LATERAL LINES MIN. 12" DEEP.

16. PROVIDE A NEW WATER PROOF TAG WITH CONTRACTOR'S NAME AND TELEPHONE NUMBER CLEARLY SHOWN AND SECURELY ATTACHED TO THE INSIDE OF THE CONTROLLER DOOR.

LANDSCAPE MAINTENANCE NOTES

1. FOLLOWING FINAL COMPLETION, THE OWNER WILL CONTINUOUSLY MAINTAIN REQUIRED LANDSCAPING IN ACCORDANCE WITH CITY OF AUSTIN LAND DEVELOPMENT CODE, SECTION 25-2-984

A) THIS SECTION APPLIES TO AN OWNER WHO IS RESPONSIBLE FOR PROPERTY FOR WHICH A SITE PLAN HAS BEEN APPROVED BY THE CITY.

B) AN OWNER SHALL MAINTAIN REQUIRED LANDSCAPED AREAS IN ACCORDANCE WITH THE SITE PLAN AND IN HEALTHY CONDITION, FREE FROM DISEASES, PESTS, WEEDS, AND LITTER, IN ACCORDANCE WITH GENERALLY ACCEPTED HORTICULTURAL PRACTICE.

C) AN OWNER WHO RECEIVES NOTIFICATION FROM THE WATERSHED PROTECTION AND DEVELOPMENT REVIEW DEPARTMENT THAT PLANTS ON A SITE ARE DEAD, DISEASED, OR SEVERELY DAMAGED:

(1) SHALL REMOVE THE PLANTS NOT LATER THAN THE 60TH DAY AFTER NOTIFICATION; AND

(2) REPLACE THE PLANTS WITHIN SIX MONTHS AFTER NOTIFICATION, OR BY THE NEXT PLANTING SEASON, WHICHEVER COMES FIRST.

D) AN OWNER REQUIRED TO REPLACE PLANTS UNDER SUBSECTION (B) MUST USE REPLACEMENT PLANTS THAT ARE THE SAME SIZE AND SPECIES AS SHOWN ON THE APPROVED SITE PLAN OR MUST BE OF EQUIVALENT QUALITY AND SIZE. THE REPLACEMENT OF PLANTS UNDER THIS SECTION IS NOT AN AMENDMENT TO THE APPROVED PLAN.

LANDSCAPE CERTIFICATION

I, CHRISTOPHER KELLY, A PROFESSIONAL LANDSCAPE ARCHITECT, DO HEREBY CERTIFY THAT ALL INFORMATION SHOWN TO BE TRUE AND ACCURATE AND THAT THIS PLAN SATISFIES THE WRITTEN REQUIREMENTS OF THE LANDSCAPE REGULATIONS, CHAPTER 25-2, SUBCHAPTER C, ARTICLE 9 OF THE LAND DEVELOPMENT CODE

PLANT LIST

COMMON NAME	BOTANICAL NAME	SIZE	SPACING	COMMENT
BIG MUHLY	MUHLENBERGIA LINDHEIMERII	5 GAL	AS SHOWN	RAIN GARDEN & LANDSCAPE
BUSHY BLUESTEM	ANDROPOGON GLOMERATUS	5 GAL	AS SHOWN	RAIN GARDEN
EASTERN GAMAGRASS	TRIPSACUM DACTYLOIDES	5 GAL	AS SHOWN	RAIN GARDEN
INDIAN GRASS	SORGHASTRUM NUTANS	5 GAL	AS SHOWN	RAIN GARDEN
INLAND SEA OATS	CHASMANTHIUM LATIFOLIUM	1 GAL	AS SHOWN	RAIN GARDEN
LITTLE BLUESTEM	SCHIZACHYRIUM SCOPARIUM	1 GAL	AS SHOWN	RAIN GARDEN & LANDSCAPE
MAXIMILIAN SUNFLOWER	HELIANTHUS MAXIMILIANI	1 GAL	AS SHOWN	RAIN GARDEN
SWITCHGRASS	PANICUM VIRGATUM	5 GAL	AS SHOWN	RAIN GARDEN
TEXAS SEDGE	CAREX TEXENSIS	1 GAL	AS SHOWN	RAIN GARDEN
TEXAS SAGE	LEUCOPHYLLUM FRUTESCENS	5 GAL	AS SHOWN	2.5' HEIGHT; SCREEN

SMALL TREES / LARGE SHRUBS

CAROLINA CHERRY LAUREL	PRUNUS CAROLINIANA	6' HEIGHT; 1.5" CAL.	<20% OF TOTAL SMALL TREES / LARGE SHRUBS	HCR BUFFER
EVE'S NECKLANCE	STYPHNOLOBIUM AFFINE	6' HEIGHT; 1.5" CAL.	<20% OF TOTAL SMALL TREES / LARGE SHRUBS	HCR BUFFER
FLAMELEAF SUMAC	RHUS LANCEOLATA	6' HEIGHT; 1.5" CAL.	<20% OF TOTAL SMALL TREES / LARGE SHRUBS	HCR BUFFER
MEXICAN SILKTASSEL	GARRYA OVATA	6' HEIGHT; 1.5" CAL.	<20% OF TOTAL SMALL TREES / LARGE SHRUBS	HCR BUFFER
POSSUMHAW HOLLY	ILEX DECIDUA	6' HEIGHT; 1.5" CAL.	<20% OF TOTAL SMALL TREES / LARGE SHRUBS	HCR BUFFER
TEXAS REDBUD	CERCIS CANADENSIS 'TEXENSIS'	6' HEIGHT; 1.5" CAL.	<20% OF TOTAL SMALL TREES / LARGE SHRUBS	HCR BUFFER

SMALL SHRUBS

BIG MUHLY	MUHLENBERGIA LINDHEIMERII	5 GAL	<20% OF TOTAL SMALL SHRUBS	HCR BUFFER
BUSHY BLUESTEM	ANDROPOGON GLOMERATUS	5 GAL	<20% OF TOTAL SMALL SHRUBS	HCR BUFFER
EASTERN GAMAGRASS	TRIPSACUM DACTYLOIDES	5 GAL	<20% OF TOTAL SMALL SHRUBS	HCR BUFFER
INDIAN GRASS	SORGHASTRUM NUTANS	5 GAL	<20% OF TOTAL SMALL SHRUBS	HCR BUFFER
MAXIMILIAN SUNFLOWER	HELIANTHUS MAXIMILIANI	5 GAL	<20% OF TOTAL SMALL SHRUBS	HCR BUFFER
SWITCHGRASS	PANICUM VIRGATUM	5 GAL	<20% OF TOTAL SMALL SHRUBS	HCR BUFFER

TREE LIST

COMMON NAME	BOTANICAL NAME	SIZE	SPACING	COMMENT
CEDAR ELM	ULMUS CRASSIFOLIA	6" CALIPER	AS SHOWN	SINGLE TRUNK
TEXAS RED OAK	QUERCUS BUCKLEYI	6" CALIPER	AS SHOWN	SINGLE TRUNK
LIVE OAK	QUERCUS FUSIFORMIS	6" CALIPER	AS SHOWN	SINGLE TRUNK
TEXAS ASH	FRAXINUS ALBICANS	6" CALIPER	AS SHOWN	SINGLE TRUNK
SOAPBERRY	SAPINDUS SAPONARIA 'DRUMMONDII'	3" CALIPER	AS SHOWN	SINGLE TRUNK
TEXAS REDBUD	CERCIS CANADENSIS 'TEXENSIS'	3" CALIPER	AS SHOWN	SINGLE TRUNK
TEXAS PERSIMMON	DIOSPYROS TEXANA	3" CALIPER	AS SHOWN	MULTI-TRUNK
ANACACHO ORCHID	BAUHINIA LUNARIOIDES	3" CALIPER	AS SHOWN	MULTI-TRUNK
MOUNTAIN LAUREL	SOPHORA SECUNDIFLORA	3" CALIPER	AS SHOWN	MULTI-TRUNK
YAUPON HOLLY TREE	ILEX VOMITORIA	4" CALIPER	AS SHOWN	MULTI-TRUNK

TREE REPLACEMENT

TYPE	SIZE (CALIPER INCHES)	INCHES ALLOCATED TO MITIGATION	QUANTITY	MITIGATION INCHES PER TREE
CEDAR ELM (HCR BUFFER & MITIGATION)	6.0	4.0	6	24.0
TEXAS RED OAK (HCR BUFFER & MITIGATION)	6.0	4.0	9	36.0
TEXAS RED OAK (MITIGATION)	6.0	6.0	1	6.0
LIVE OAK (HCR BUFFER & MITIGATION)	6.0	4.0	8	32.0
LIVE OAK (MITIGATION)	6.0	6.0	2	12.0
TEXAS ASH (HCR BUFFER & MITIGATION)	6.0	4.0	7	28.0
SOAPBERRY (HCR BUFFER & MITIGATION)	3.0	1.0	5	5.0
TEXAS REDBUD (HCR BUFFER & MITIGATION)	3.0	1.0	11	11.0
TEXAS REDBUD (MITIGATION)	3.0	3.0	3	9.0
TEXAS PERSIMMON (HCR BUFFER & MITIGATION)	3.0	1.0	13	13.0
ANACACHO ORCHID (HCR BUFFER & MITIGATION)	3.0	1.0	13	13.0
MOUNTAIN LAUREL (HCR BUFFER & MITIGATION)	3.0	1.0	16	16.0
YAUPON HOLLY TREE (HCR BUFFER & MITIGATION)	4.0	2.0	17	34.0
YAUPON HOLLY TREE (MITIGATION)	4.0	4.0	4	16.0
SMALL HCR BUFFER TREES	1.5	1.5	70	105.0
		TOTAL MITIGATION INCHES		**360.0**

TREE MITIGATION FUND

	QUANTITY	INCHES
TREE REPLACEMENT INCHES REQUIRED (L791)		358
TREE REPLACEMENT INCHES PROPOSED (ABOVE)		360.0

NATIVE GRASS AND WILDFLOWER MIX

COMMON NAME	BOTANICAL NAME	LBS/ACRE	TYP HEIGHT (IN)
BLACK-EYED SUSAN	RUDBECKIA HIRTA	1.00	12-24
BLUEBONNET	LUPINUS TEXENSIS	10.00	6-12
BLUE GRAMA GRASS	BOUTELOUA GRACILIS	10.00	4-12
BUFFALO GRASS	BOUTELOUA DACTYLOIDES	10.00	3-12
BUTTERFLYWEED MILKWEED	ASCLEPIAS TUBEROSA	0.50	12-18
COMMON MILKWEED	ASCLEPIAS SYRIACA	0.50	12-18
CURLY MESQUITE	HILARIA BELANGERI	10.00	2-6
INDIAN BLANKET	GAILLARDIA PULCHELLA	10.00	12-24
LEMON MINT	MONARDA CITRIODORA	2.00	12-24
SHOWY MILKWEED	ASCLEPIAS SPECIOSA	0.50	18-36
	TOTAL	**54.50**	LBS/ACRE

Surveyed:	
Total Appendix F tree inches surveyed;	3,819.50
Heritage tree inches surveyed;	24.00
Non-Appendix F tree inches surveyed;	-
Invasive tree inches surveyed;	-
Removed:	
Total Appendix F inches removed;	699.50
Heritage Tree inches removed;	-
Total Non-Appendix F inches removed;	-
Invasive inches removed;	-
Total Dead, Diseased, or Imminent Hazard (DDI) inches removed;	27.00
DDI Appendix F inches removed;	-
DDI Heritage tree inches removed;	-
DDI Non-Appendix F inches removed;	-
DDI Invasive inches removed;	-
Mitigation:	
Total mitigation replacement inches planted;	360.00
Total replacement inches planted on site (private trees);	360.00
Total replacement ROW inches planted;	-
Private inches owed to Urban Forest Replenishment Fund (UFRF)	-
Public inches owed to UFRF	
Total non-mitigation inches planted on site; [ECM 3.5.4]	210.00

NOTE:
REFER TO SHEET L791 FOR TREE MITIGATION LIST

I CERTIFY THAT THESE ENGINEERING DOCUMENTS ARE COMPLETE, ACCURATE AND ADEQUATE FOR THEIR INTENDED PURPOSES, INCLUDING CONSTRUCTION, BUT ARE NOT AUTHORIZED FOR CONSTRUCTION PRIOR TO FORMAL CITY APPROVAL.

SITE PLAN APPROVAL SHEET 53 OF 63
FILE NUMBER: SPC-2021-0195C APPLICATION DATE: 05/20/2021
APPROVED BY COMMISSION ON _____ UNDER SECTION 112 OF CHAPTER 25-5 OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE(25-5-81, LDC)_____ CASE MANAGER R. AVILA
PROJECT EXPIRATION DATE (ORD. #970905-A)_____DWPZ_____DDZ__X___

_____
Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE:_____ZONING LO-MU-CO
Rev. 1 _____Correction 1 _____
Rev. 2 _____Correction 2 _____
Rev. 3 _____Correction 3 _____
Final Plat must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction (if a building permit is not required), must also be approved prior to the Project Expiration Date.

ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER WHO PREPARED THEM. IN REVIEWING THESE PLANS, THE CITY OF AUSTIN MUST RELY UPON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.

dwA

REGISTERED LANDSCAPE ARCHITECT · CHRISTOPHER D. KELLY · 3309 · STATE OF TEXAS
12-23-22

mwm Design Group
305 East Huntland Drive
Suite 200
Austin, Texas 78752
p: 512.453.0767
f: 512.453.1734
TBAE FIRM REGISTRATION NO.: 1452
TBPE FIRM REGISTRATION NO.: F-1416
TBPLS FIRM REGISTRATION NO.: 10065600

NO.	DATE	DESCRIPTION	BY

0 1"
The bar above measures one inch on the original drawing. Adjust scales accordingly.

LANDSCAPE NOTES

KAALO STUDIO
7901 RM 2222
Austin, Texas 78730

PLOTTED: 12/23/2022
JOB NO: 864-01

L700
53 OF 63

SPC-2021-0195C

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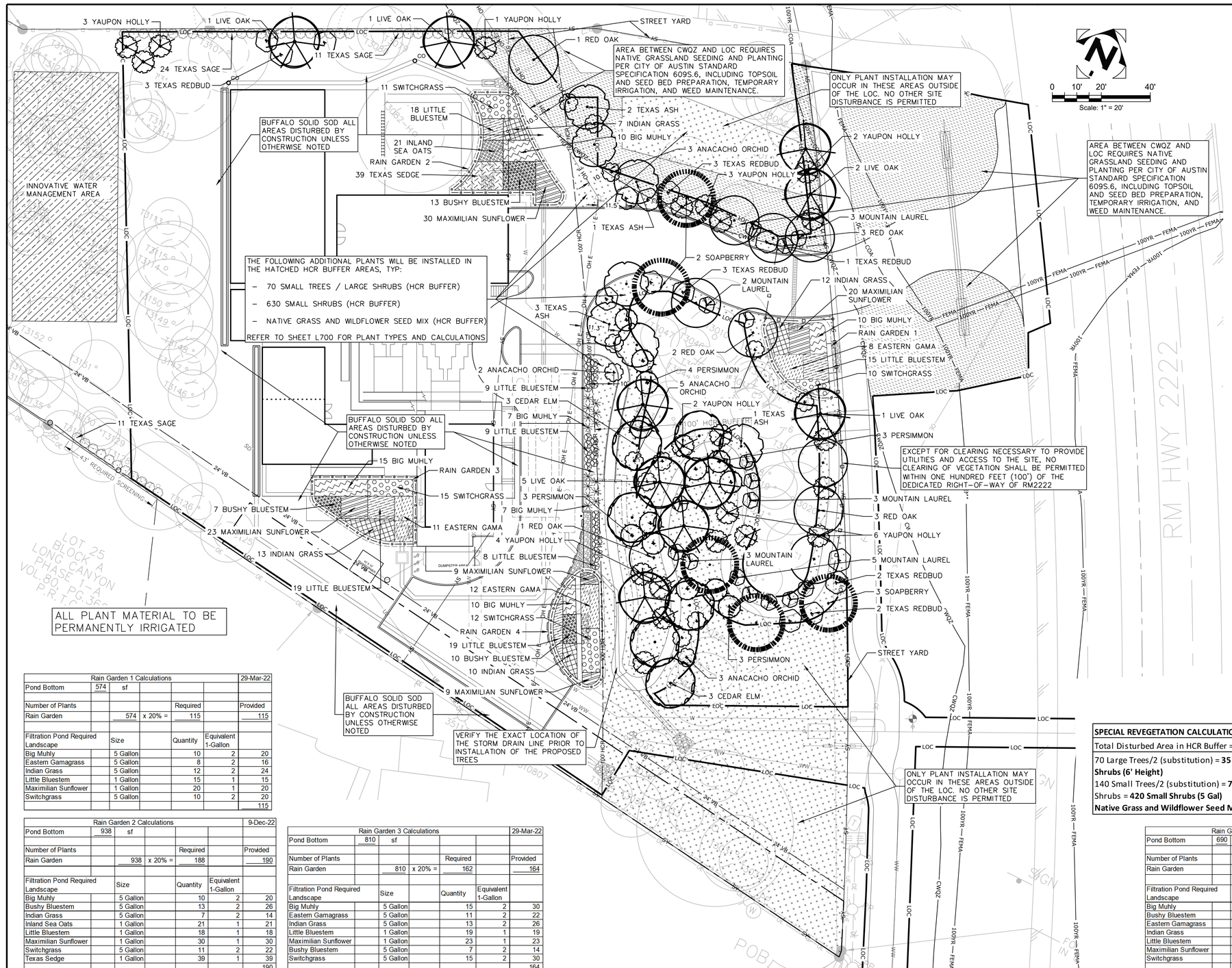

BASIC STREET YARD REQUIREMENTS
City Landscape Requirements
Street Yard = 46,424 s.f.
Required Street Yard Landscape= 9,285 s.f.
Provided Street Yard Landscaped = 27,007 s.f.
City Tree Requirements
Required Street Yard Trees = 25
Provided Street Yard Trees (including existing tree credit) = 82
Existing Trees Credit
2" diameter to 6" diameter (1 for 1) = N/A
6" diameter or more (2 for 1) = 36 trees (credit of 2)

LANDSCAPE IN PARKING LOTS
City Landscape Requirements
Required street yard parking lot landscaped area = N/A
Provided street yard parking lot landscaped area = N/A
Required non-street yard parking lot landscaped area = N/A
Provided non-street yard parking lot landscaped area = N/A

INNOVATIVE WATER MANAGEMENT REQUIREMENTS
City Requirements
50% of total required landscaped area = 4,327 s.f.
1- undisturbed natural area(s) or undisturbed existing trees with no potable irrigation = 4,350 s.f.
2- irrigated by stormwater runoff conveyed from impervious surfaces on the site = N/A

BUFFERING POINT SYSTEM				
Buffering Points Required = N/A				
Buffering Points Provided = N/A				
	Quantity	Preferred	Other	Points
Large Trees (3" Cal.)		0	N/A	0
Large Shrubs - 5 Gal.		0	N/A	0
			TOTAL	0

Hill Country Landscape Calculations

1. Total Site Area = 205,784 sf

2. Total natural area required (40% of the site) = 82,313 sf

3. Total natural area provided = 176,480 sf
A. Natural area left undisturbed = 147,136 sf
B. Natural area used for sewage disposal fields (and restored) = N/A
C. Previously developed area (restored) = N/A

4. Total highway buffer required (100 feet or 20% of the site) = 36,600 sf

5. Total highway buffer provided = 36,600 sf
A. Highway buffer left undisturbed = 6,471 sf
B. Highway buffer used for access and utilities = 4,921 sf
C. Highway buffer used for detention/sedimentation ponds or wastewater drain fields (and restored) = 794 sf

6. Total highway buffer previously disturbed = 1,250 sf

7. Total of all restored areas = 14,713 ft
A. Sewage disposal or wastewater drain field = 0 ft
B. Detention/sedimentation ponds = 3,157 ft
C. Restoration of previously developed areas =700 sf

8. Total caliper inches of trees removed (according to Section 5189A)
A. Class I trees = N/A
B. Class II trees = N/A

Rain Garden 1 Calculations						29-Mar-22
Pond Bottom	574	sf				
Number of Plants				Required		Provided
Rain Garden		574	x 20% =	115		115
Filtration Pond Required Landscape		Size		Quantity	Equivalent 1-Gallon	
Big Muhly		5 Gallon		10	2	20
Eastern Gamagrass		5 Gallon		8	2	16
Indian Grass		5 Gallon		12	2	24
Little Bluestem		1 Gallon		15	1	15
Maximilian Sunflower		1 Gallon		20	1	20
Switchgrass		5 Gallon		10	2	20
						115

Rain Garden 2 Calculations						9-Dec-22
Pond Bottom	938	sf				
Number of Plants				Required		Provided
Rain Garden		938	x 20% =	188		190
Filtration Pond Required Landscape		Size		Quantity	Equivalent 1-Gallon	
Big Muhly		5 Gallon		10	2	20
Bushy Bluestem		5 Gallon		13	2	26
Indian Grass		5 Gallon		7	2	14
Inland Sea Oats		1 Gallon		21	1	21
Little Bluestem		1 Gallon		18	1	18
Maximilian Sunflower		1 Gallon		30	1	30
Switchgrass		5 Gallon		11	2	22
Texas Sedge		1 Gallon		39	1	39
						190

Rain Garden 3 Calculations						29-Mar-22
Pond Bottom	810	sf				
Number of Plants				Required		Provided
Rain Garden		810	x 20% =	162		164
Filtration Pond Required Landscape		Size		Quantity	Equivalent 1-Gallon	
Big Muhly		5 Gallon		15	2	30
Eastern Gamagrass		5 Gallon		11	2	22
Indian Grass		5 Gallon		13	2	26
Little Bluestem		1 Gallon		19	1	19
Maximilian Sunflower		1 Gallon		23	1	23
Bushy Bluestem		5 Gallon		7	2	14
Switchgrass		5 Gallon		15	2	30
						164

Rain Garden 4 Calculations						29-Mar-22
Pond Bottom	690	sf				
Number of Plants				Required		Provided
Rain Garden		690	x 20% =	138		141
Filtration Pond Required Landscape		Size		Quantity	Equivalent 1-Gallon	
Big Muhly		5 Gallon		10	2	20
Bushy Bluestem		5 Gallon		10	2	20
Eastern Gamagrass		5 Gallon		10	2	20
Indian Grass		5 Gallon		10	2	20
Little Bluestem		1 Gallon		19	1	19
Maximilian Sunflower		1 Gallon		18	1	18
Switchgrass		5 Gallon		12	2	24
						141

SPECIAL REVEGETATION CALCULATIONS HILL COUNTRY ROADWAY
Total Disturbed Area in HCR Buffer = 13,997 sf
70 Large Trees/2 (substitution) = **35 Large Trees + 70 Small Trees / Large Shrubs (6' Height)**
140 Small Trees/2 (substitution) = **70 Small Trees + 210 Small Shrubs (5 Gal)**
Shrubs = **420 Small Shrubs (5 Gal)**
Native Grass and Wildflower Seed Mix = 13,997 sf

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SITE PLAN APPROVAL SHEET 54 OF 63
FILE NUMBER: SPC-2021-0195C APPLICATION DATE: 05/20/2021
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Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE:_____ZONING LO-MU-CO
Rev. 1 _____Correction 1 _____
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dwA

REGISTERED LANDSCAPE ARCHITECT CHRISTOPHER D. KELLY 3309 STATE OF TEXAS 01.23.22

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NO.	DATE	DESCRIPTION	BY

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LANDSCAPE PLAN

KAALO STUDIO
7901 RM 2222
Austin, Texas 78730

PLOTTED: 1/23/2023
JOB NO: 864-01

L701
54 OF 63

SPC-2021-0195C

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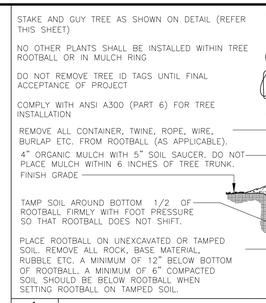
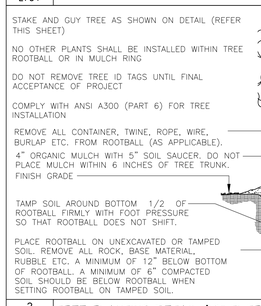
TREE REMOVAL & MITIGATION LIST

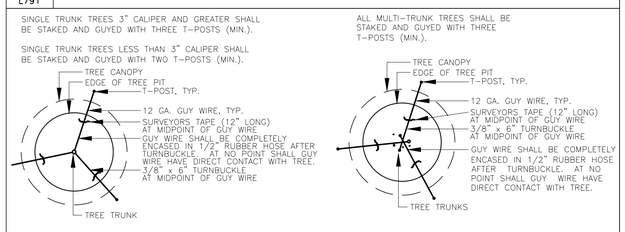
TREE TAG	TREE TYPE	SIZE (INCHES)						TOTAL CALIPER (INCHES)	REPLACEMENT FACTOR	REPLACEMENT INCHES REQUIRED	REASON FOR REMOVAL/MITIGATION	REPLACEMENT VALUE	MITIGATION VALUE
3027	Juniper*	7.00	6.0					10.0	50%	5.00	Construction	$ 200.00	$ 1,000.00
3028	Juniper*	8.00						8.0	50%	4.00	Construction	$ 200.00	$ 800.00
3038	Juniper*	6.00	5.0					8.5	50%	4.25	Construction	$ 200.00	$ 850.00
3039	Juniper*	7.00	6.0	5.0	5.0	4.0	4.0	19.0	50%	9.50	Construction	$ 200.00	$ 1,900.00
3040	Juniper*	8.00	6.0					11.0	50%	5.50	Construction	$ 200.00	$ 1,100.00
3041	Juniper*	7.00	6.0					10.0	50%	5.00	Construction	$ 200.00	$ 1,000.00
3048	Juniper*	10.00	7.0					13.5	50%	6.75	Construction	$ 200.00	$ 1,350.00
3049	Juniper*	7.00	7.0					10.5	50%	5.25	Construction	$ 200.00	$ 1,050.00
3050	Juniper*	10.00						10.0	50%	5.00	Construction	$ 200.00	$ 1,000.00
3051	Juniper*	8.00						8.0	50%	4.00	Construction	$ 200.00	$ 800.00
3052	Juniper*	8.00						8.0	50%	4.00	Construction	$ 200.00	$ 800.00
3053	Live Oak*	16.00						16.0	50%	8.00	Construction	$ 200.00	$ 1,600.00
3054	Juniper*	11.00						11.0	50%	5.50	Construction	$ 200.00	$ 1,100.00
3055	Juniper*	8.00	5.0	4.0				12.5	50%	6.25	Construction	$ 200.00	$ 1,250.00
3056	Juniper*	9.00						9.0	50%	4.50	Construction	$ 200.00	$ 900.00
3057	Live Oak*	9.00						9.0	50%	4.50	Construction	$ 200.00	$ 900.00
3058	Live Oak*	9.00						9.0	50%	4.50	Construction	$ 200.00	$ 900.00
3059	Live Oak*	8.00						8.0	50%	4.00	Construction	$ 200.00	$ 800.00
3060	Live Oak*	9.00						9.0	50%	4.50	Construction	$ 200.00	$ 900.00
3061	Juniper*	12.00						12.0	50%	6.00	Construction	$ 200.00	$ 1,200.00
3062	Juniper*	12.00						12.0	50%	6.00	Construction	$ 200.00	$ 1,200.00
3063	Live Oak*	10.00						10.0	50%	5.00	Construction	$ 200.00	$ 1,000.00
3064	Live Oak*	8.00						8.0	50%	4.00	Construction	$ 200.00	$ 800.00
3065	Live Oak*	7.00						7.0	50%	3.50	Construction	$ 200.00	$ 700.00
3066	Live Oak*	6.00						6.0	50%	3.00	Construction	$ 200.00	$ 600.00
3067	Juniper*	12.00						12.0	50%	6.00	Construction	$ 200.00	$ 1,200.00
3068	Juniper*	17.00						17.0	50%	8.50	Construction	$ 200.00	$ 1,700.00
3069	Juniper*	11.00						11.0	50%	5.50	Construction	$ 200.00	$ 1,100.00
3070	Juniper*	6.00						6.0	50%	3.00	Construction	$ 200.00	$ 600.00
3071	Juniper*	10.00	8.0					14.0	50%	7.00	Construction	$ 200.00	$ 1,400.00
3072	Juniper*	7.00						7.0	50%	3.50	Construction	$ 200.00	$ 700.00
3073	Juniper*	9.00						9.0	50%	4.50	Construction	$ 200.00	$ 900.00
3074	Juniper*	10.00						10.0	50%	5.00	Construction	$ 200.00	$ 1,000.00
3075	Live Oak*	13.00						13.0	50%	6.50	Construction	$ 200.00	$ 1,300.00
3076	Juniper*	13.00						13.0	50%	6.50	Construction	$ 200.00	$ 1,300.00
3077	Live Oak*	13.00						13.0	50%	6.50	Construction	$ 200.00	$ 1,300.00
3078	Juniper*	16.00						16.0	50%	8.00	Construction	$ 200.00	$ 1,600.00
3083	Live Oak*	15.00	12.0					21.0	100%	21.00	Construction	$ 200.00	$ 4,200.00
3084	Live Oak*	16.00	13.0					22.5	100%	22.50	Construction	$ 200.00	$ 4,500.00
3085	Live Oak*	8.00						8.0	50%	4.00	Construction	$ 200.00	$ 800.00
3086	Live Oak*	9.00	7.0					12.5	50%	6.25	Construction	$ 200.00	$ 1,250.00
3087	Live Oak*	11.00						11.0	50%	5.50	Construction	$ 200.00	$ 1,100.00
3088	Live Oak*	8.00						8.0	50%	4.00	Construction	$ 200.00	$ 800.00
3089	Juniper*	13.00						13.0	50%	6.50	Construction	$ 200.00	$ 1,300.00
3090	Juniper*	11.00						11.0	50%	5.50	Construction	$ 200.00	$ 1,100.00
3091	Juniper*	9.00						9.0	50%	4.50	Construction	$ 200.00	$ 900.00
3092	Juniper*	8.00						8.0	50%	4.00	Construction	$ 200.00	$ 800.00
3093	Juniper*	9.00						9.0	50%	4.50	Construction	$ 200.00	$ 900.00
3094	Juniper*	9.00						9.0	50%	4.50	Construction	$ 200.00	$ 900.00
3095	Live Oak*	9.00						9.0	50%	4.50	Construction	$ 200.00	$ 900.00
3096	Live Oak*	10.00	6.0					13.0	50%	6.50	Construction	$ 200.00	$ 1,300.00
3097	Live Oak*	8.00	7.0					11.5	50%	5.75	Construction	$ 200.00	$ 1,150.00
3098	Live Oak*	9.00						9.0	50%	4.50	Construction	$ 200.00	$ 900.00
3099	Juniper*	10.00						10.0	50%	5.00	Construction	$ 200.00	$ 1,000.00
3100	Juniper*	9.00						9.0	50%	4.50	Construction	$ 200.00	$ 900.00
3101	Juniper*	12.00						12.0	50%	6.00	Construction	$ 200.00	$ 1,200.00
3102	Juniper*	13.00						13.0	50%	6.50	Construction	$ 200.00	$ 1,300.00
3103	Juniper*	12.00						12.0	50%	6.00	Construction	$ 200.00	$ 1,200.00
3104	Juniper*	9.00						9.0	50%	4.50	Construction	$ 200.00	$ 900.00
3105	Juniper*	10.00						10.0	50%	5.00	Construction	$ 200.00	$ 1,000.00
3106	Juniper*	9.00						9.0	50%	4.50	Construction	$ 200.00	$ 900.00
3145	Juniper**	27.00						27.0	0%	-	Imminent Hazard	$ 200.00	$ -
3363	Juniper*	8.00						8.0	50%	4.00	Construction	$ 200.00	$ 800.00
	*Appendix F Tree ** Dead, Diseased, Imminent Hazard						TOTAL INCHES REMOVED	699.5	TOTAL REPLACEMENT INCHES	358.00			



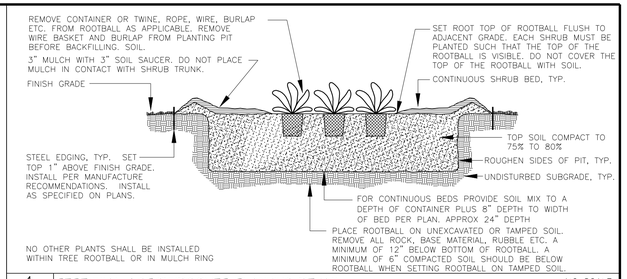
1 L791 **TREE PLANTING DETAIL (SINGLE TRUNK)** NO SCALE



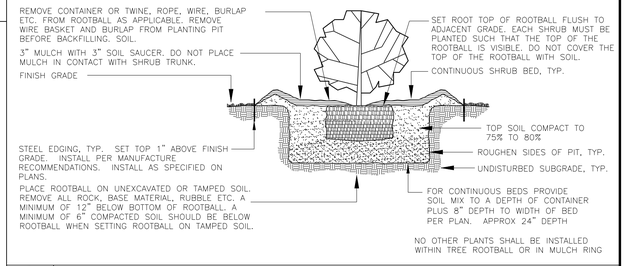
2 L791 **TREE PLANTING DETAIL (MULTI-TRUNK)** NO SCALE



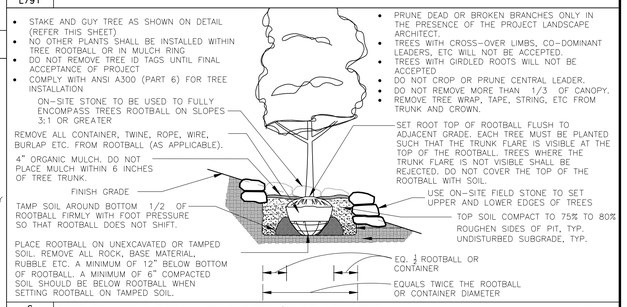
3 L791 **TREE STAKING DETAIL** NO SCALE



4 L791 **PERENNIAL / GROUNDCOVER PLANTING DETAIL** NO SCALE



5 L791 **SHRUB PLANTING DETAIL** NO SCALE



6 L791 **TREE PLANTING DETAIL ON SLOPES 3:1 OR GREATER** NO SCALE

I CERTIFY THAT THESE ENGINEERING DOCUMENTS ARE COMPLETE, ACCURATE AND ADEQUATE FOR THEIR INTENDED PURPOSES, INCLUDING CONSTRUCTION, BUT ARE NOT AUTHORIZED FOR CONSTRUCTION PRIOR TO FORMAL CITY APPROVAL.

SITE PLAN APPROVAL SHEET 55 OF 63
FILE NUMBER: SPC-2021-0195C APPLICATION DATE: 05/20/2021
APPROVED BY COMMISSION ON _____ UNDER SECTION 112 OF CHAPTER 25-5 OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE(25-5-81, LDC)_____ CASE MANAGER R. AVILA
PROJECT EXPIRATION DATE (ORD. #970905-A)_____DWPZ_____DDZ__X___

_____
Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE:_____ZONING LO-MU-CO
Rev. 1 _____Correction 1 _____
Rev. 2 _____Correction 2 _____
Rev. 3 _____Correction 3 _____

Final Plat must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction (if a building permit is not required), must also be approved prior to the Project Expiration Date.

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dwA

REGISTERED LANDSCAPE ARCHITECT CHRISTOPHER D. KELLY 3309 STATE OF TEXAS 12-23-22

mwm Design Group
305 East Huntland Drive
Suite 200
Austin, Texas 78752
p: 512.453.0767
f: 512.453.1734
TBAE FIRM REGISTRATION NO.: 1452
TBPE FIRM REGISTRATION NO.: F-1416
TBPLS FIRM REGISTRATION NO.: 10065600

NO.	DATE	DESCRIPTION	BY

0 1"
The bar above measures one inch on the original drawing. Adjust scales accordingly.

LANDSCAPE DETAILS

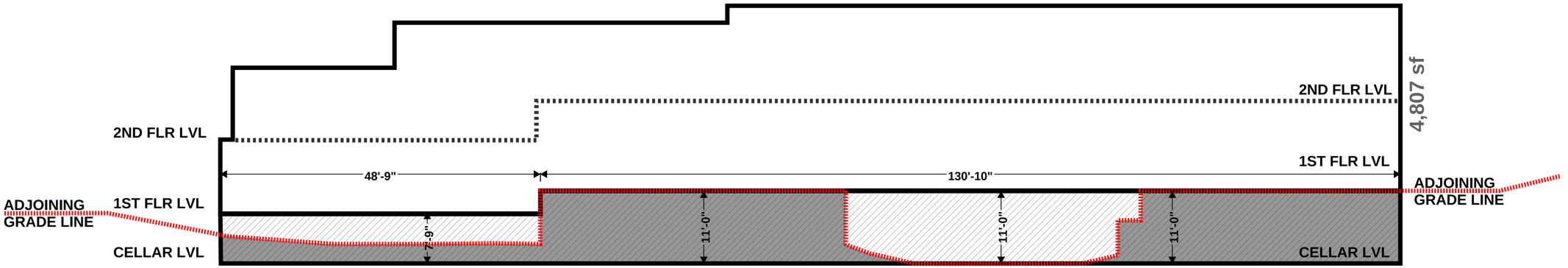
KAALO STUDIO
7901 RM 2222
Austin, Texas 78730

PLOTTED: 12/23/2022
JOB NO: 864-01

L791
55 OF 63

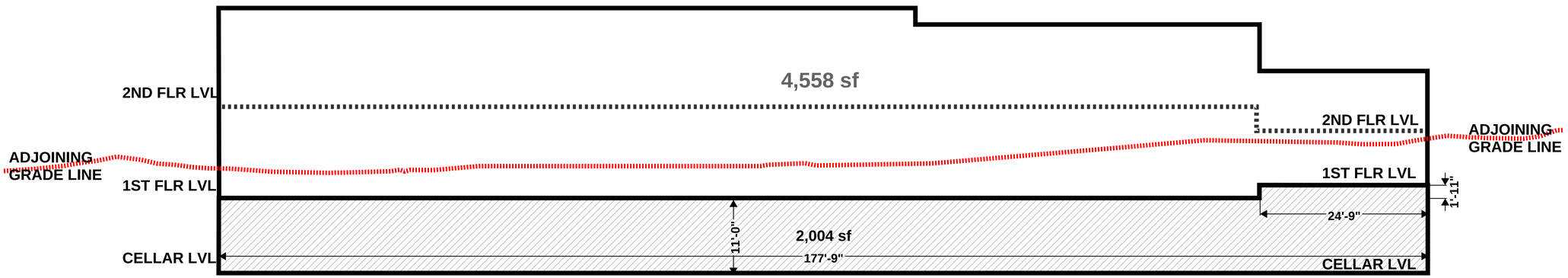
SPC-2021-0195C

File: \\mwmdata\mwmprojects\data\864-01_Kaalo_Studio\CAD\Sheets\L791-LANDSCAPE_DETAILS.dwg 24x36



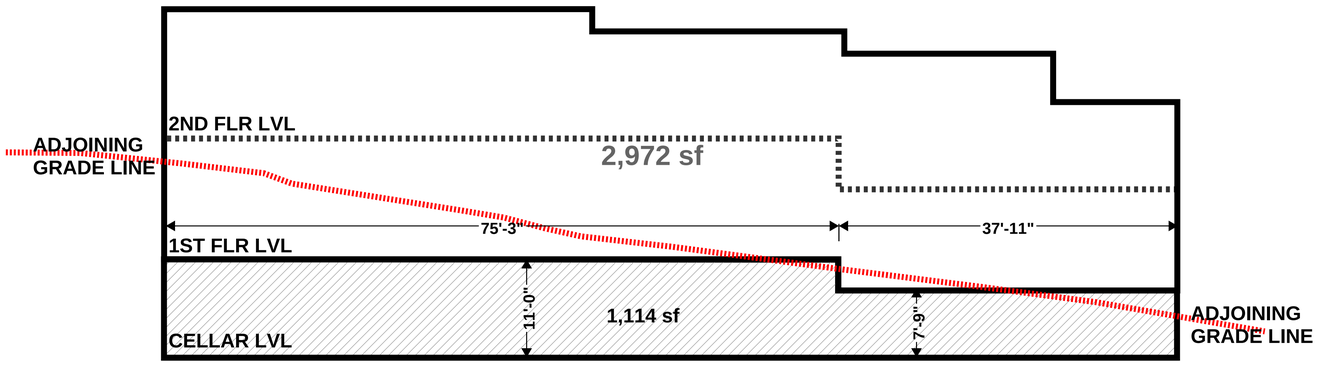
EAST ELEVATION

CELLAR LVL SURFACE AREA	1,801 sf
CELLAR LVL UNDER NATURAL GRADE	1,147 sf



WEST ELEVATION

CELLAR LVL SURFACE AREA	2,004 SF
CELLAR LVL UNDER NATURAL GRADE	2,004 SF

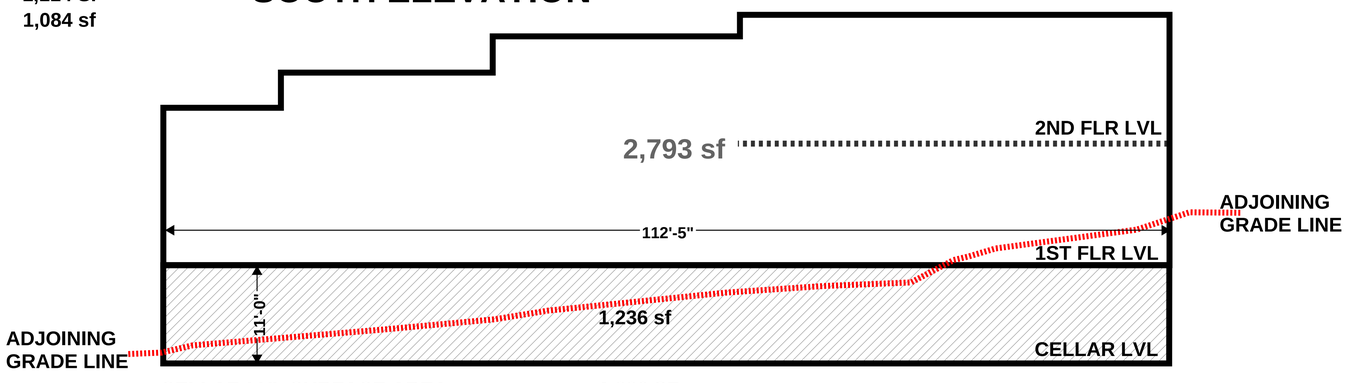


CELLAR LVL SURFACE AREA	1,114 SF
CELLAR LVL UNDER NATURAL GRADE	1,084 sf

SOUTH ELEVATION

BUILDING STORY DETERMINATION

TOTAL CELLAR LVL SURFACE AREA	6,155 SFT
TOTAL CELLAR LVL UNDER NATURAL GRADE	5,026 SFT
81.66% BELOW GRADE	
CELLAR LVL IS NOT A STORY	COMPLIES



CELLAR LVL SURFACE AREA	1,236 SF
CELLAR LVL UNDER NATURAL GRADE	791 sf

NORTH ELEVATION

KAALO STUDIO

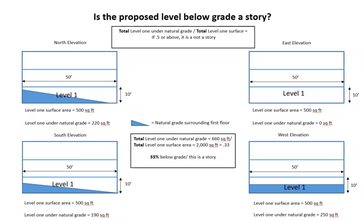
7901 RM 2222
AUSTIN, TEXAS 78730

dwA

ARCHITECT
DENCITYWORKS
55 Washington St Suite #713
Brooklyn NY 11201
T: 1.646.690.0333

mwm DesignGroup
305 East Huntland Drive
Suite 200
Austin, Texas 78752
p: 512.453.0767
f: 512.453.1734
TBAE FIRM REGISTRATION NO.: 1452
TBPE FIRM REGISTRATION NO.: F-1416
TBPLS FIRM REGISTRATION NO.: 10065600

PROJECT NOTES



NO.	DESCRIPTION	DATE

I CERTIFY THAT THESE ARCHITECTURAL DOCUMENTS ARE COMPLETE, ACCURATE AND ADEQUATE FOR THEIR INTENDED PURPOSES, INCLUDING CONSTRUCTION, BUT ARE NOT AUTHORIZED FOR CONSTRUCTION PRIOR TO FORMAL CITY APPROVAL.

SITE PLAN APPROVAL SHEET 56 OF 62
FILE NUMBER: SPC-2021-0195C APPLICATION DATE: 05/20/2021
APPROVED BY COMMISSION ON _____ UNDER SECTION 122 OF CHAPTER 25-C OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE(25-5-81, LDC)_____ CASE MANAGER Robert Anderson
PROJECT EXPIRATION DATE (ORD. #970905-A)_____DMPZ_____DDZ__X__

Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE:_____ZONING AV
Rev. 1 _____Correction 1 _____
Rev. 2 _____Correction 2 _____
Rev. 3 _____Correction 3 _____
Final Plat must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction (if a building permit is not required), must also be approved prior to the Project Expiration Date.

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BUILDING STORY & GRADE DETERMINATION

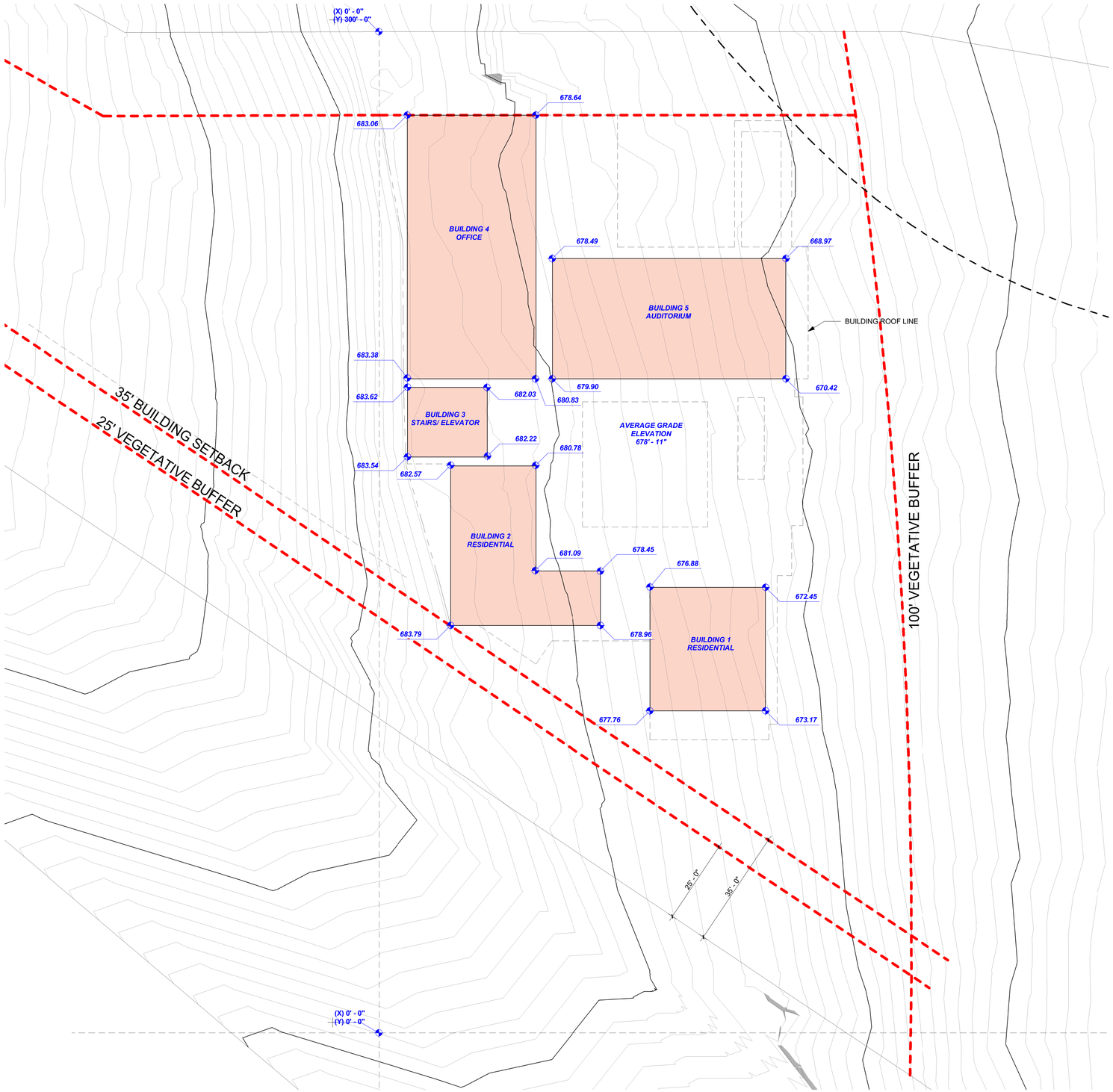
SEAL & SIGNATURE

DATE	12/09/20
PROJECT NO.	Project Number
DRAWING BY	Author
CHECKED BY	Checker

A-100.00

SCALE: 1/8" = 1'-0"

CASE # SPC-2021-0195C



RESIDENTIAL
(BUILDING 1)

672.45
673.17
676.88
677.76
2700.26

2700.26 / 4 = 675.06

RESIDENTIAL
(BUILDING 2)

678.45
678.96
681.09
680.78
682.57
683.79
4085.64

4085.64 / 6 = 680.94

STAIRS / ELEVATOR
(BUILDING 3)

682.22
682.03
683.62
683.54
2731.41

2731.41 / 4 = 682.85

OFFICE
(BUILDING 4)

680.83
678.64
683.06
683.38
2725.91

2725.91 / 4 = 681.47

AUDITORIUM
(BUILDING 5)

668.97
670.42
678.49
679.90
2697.78

2697.78 / 4 = 674.44

AVERAGE GRADE PLANE CALCULATION

(675.06 + 680.94 + 682.85 + 681.47 + 674.44) / 5
= 678.95

= 678' - 11"

KAALO STUDIO

7901 RM 2222
AUSTIN, TEXAS 78730

dwA

ARCHITECT
DENCITYWORKS
55 Washington St Suite #713
Brooklyn NY 11201
T: 1.646.690.0333

mwm DesignGroup

305 East Huntland Drive
Suite 200
Austin, Texas 78752
p: 512.453.0767
f: 512.453.1734

TBAE FIRM REGISTRATION NO.: 1452
TBPE FIRM REGISTRATION NO.: F-1416
TBPLS FIRM REGISTRATION NO.: 10065600

PROJECT NOTES

NO.	DESCRIPTION	DATE

I CERTIFY THAT THESE ARCHITECTURAL DOCUMENTS ARE COMPLETE, ACCURATE AND ADEQUATE FOR THEIR INTENDED PURPOSES, INCLUDING CONSTRUCTION, BUT ARE NOT AUTHORIZED FOR CONSTRUCTION PRIOR TO FORMAL CITY APPROVAL.

SITE PLAN APPROVAL SHEET 57 OF 62
FILE NUMBER: SPC-2021-0195C APPLICATION DATE: 05/20/2021
APPROVED BY COMMISSION ON _____ UNDER SECTION 122 OF CHAPTER 25-C OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE(25-5-81, LDC)_____ CASE MANAGER Robert Anderson
PROJECT EXPIRATION DATE (ORD. #970905-A)_____DMPZ_____DDZ__X__

Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE:_____ZONING AV
Rev. 1 _____Correction 1 _____
Rev. 2 _____Correction 2 _____
Rev. 3 _____Correction 3 _____
Final Plat must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction (if a building permit is not required), must also be approved prior to the Project Expiration Date.

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AVERAGE GRADE ELEVATION DIAGRAM

SEAL & SIGNATURE

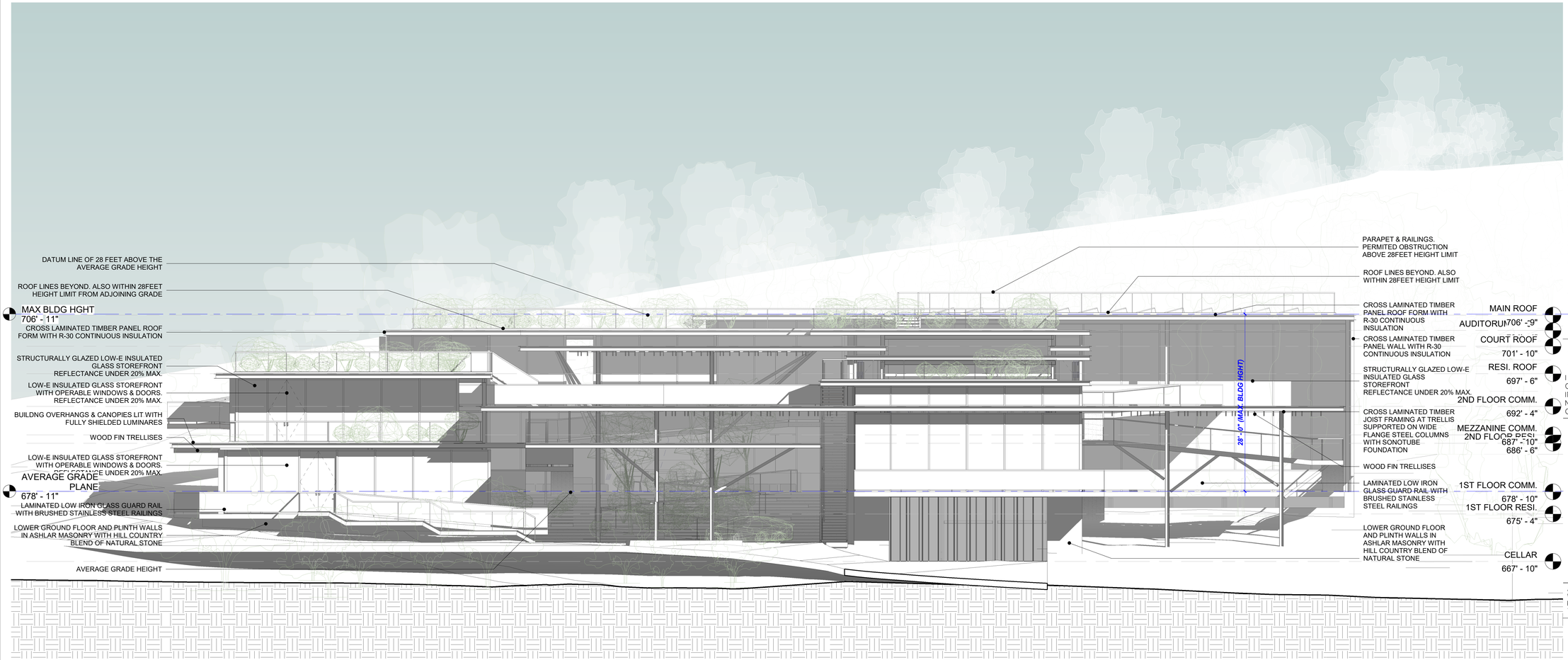
REGISTERED ARCHITECT
BHASKAR SRIVASTAVA
28084
STATE OF TEXAS

DATE	12/09/20
PROJECT NO.	Project Number
DRAWING BY	Author
CHECKED BY	Checker

A-101.00

SCALE: 1/16" = 1'-0"

CASE # SPC-2021-0195C



KAALO STUDIO

7901 RM 2222
AUSTIN, TEXAS 78730

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Austin, Texas 78752
p: 512.453.0767
f: 512.453.1734

TBAE FIRM REGISTRATION NO.: 1452
TBPE FIRM REGISTRATION NO.: F-1416
TBPLS FIRM REGISTRATION NO.: 10065600

PROJECT NOTES

SUBCHAPTER "E" NOTES:

1. ALL EXTERIOR LIGHTING WILL BE FULL CUT-OFF AND FULLY SHIELDED IN COMPLIANCE WITH SUBCHAPTER E 2.5 AND WILL BE REVIEWED DURING BUILDING PLAN REVIEW. ANY CHANGE OR SUBSTITUTION OF LAMP/LIGHT FIXTURE SHALL BE SUBMITTED TO THE DIRECTOR FOR APPROVAL IN ACCORDANCE WITH SECTION 2.5.2.E

2. SCREENING FOR LOADING & TRASH PICKUP AREAS SHALL BE THE SAME A, OR OF EQUAL QUALITY TO, PRINCIPAL BUILDING MATERIALS.

3. THE DEVELOPMENT SHALL DEVOTE A MIIMUM OF 5% GROSS SITE AREA TO PRIVATE COMMON OPEN SPACE. OPEN SPACE SHALL BE READILY ACCESSIBLE AND USEABLE FOR VISITORS.

4. AT LEAST 50% OF THE BUILDING FRONTAGE SHALL HAVE SHADED SIDEWALKS UNDER BUILDING CANOPIES AND OVERHANGS.

NO.	DESCRIPTION	DATE

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SITE PLAN APPROVAL SHEET 58 OF 62
FILE NUMBER: SPC-2021-0195C APPLICATION DATE: 05/20/2021
APPROVED BY COMMISSION ON _____ UNDER SECTION 122 OF CHAPTER 25-C OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE(25-5-81, LDC)_____ CASE MANAGER Robert Anderson
PROJECT EXPIRATION DATE (ORD. #970905-A)_____DMPZ_____DDZ__X__

Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE:_____ZONING: AV
Rev. 1 _____Correction 1 _____
Rev. 2 _____Correction 2 _____
Rev. 3 _____Correction 3 _____
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EAST ELEVATION

SEAL & SIGNATURE

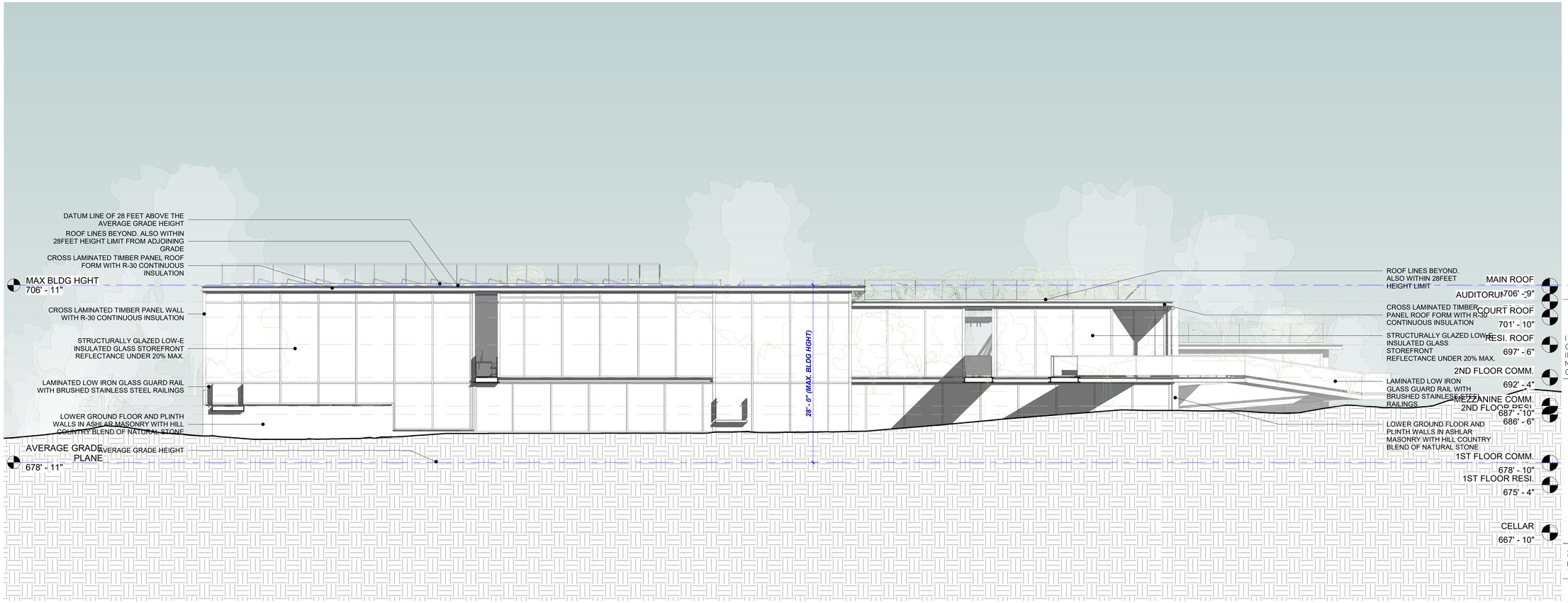
REGISTERED ARCHITECT PRASHAN SRIVASTAVA 28084 STATE OF TEXAS

DATE	02/09/22
PROJECT NO.	Project Number
DRAWING BY	Author
CHECKED BY	Checker

A-310.00

SCALE: 1/8" = 1'-0"

CASE # SPC-2021-0195C



KAALO STUDIO

7901 RM 2222
AUSTIN, TEXAS 78730

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Brooklyn NY 11201
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mwm DesignGroup
305 East Huntland Drive
Suite 200
Austin, Texas 78752
p: 512.453.0767
f: 512.453.1734

TBAE FIRM REGISTRATION NO.: 1452
TBPE FIRM REGISTRATION NO.: F-1416
TBPLS FIRM REGISTRATION NO.: 10065600

PROJECT NOTES

SUBCHAPTER "E" NOTES:

1. ALL EXTERIOR LIGHTING WILL BE FULL CUT-OFF AND FULLY SHIELDED IN COMPLIANCE WITH SUBCHAPTER E 2.5 AND WILL BE REVIEWED DURING BUILDING PLAN REVIEW. ANY CHANGE OR SUBSTITUTION OF LAMP/LIGHT FIXTURE SHALL BE SUBMITTED TO THE DIRECTOR FOR APPROVAL IN ACCORDANCE WITH SECTION 2.5.2.E

2. SCREENING FOR LOADING & TRASH PICKUP AREAS SHALL BE THE SAME A, OR OF EQUAL QUALITY TO, PRINCIPAL BUILDING MATERIALS.

3. THE DEVELOPMENT SHALL DEVOTE A MIIMUM OF 5% GROSS SITE AREA TO PRIVATE COMMON OPEN SPACE. OPEN SPACE SHALL BE READILY ACCESSIBLE AND USEABLE FOR VISITORS.

4. AT LEAST 50% OF THE BUILDING FRONTAGE SHALL HAVE SHADED SIDEWALKS UNDER BUILDING CANOPIES AND OVERHANGS.

NO.	DESCRIPTION	DATE

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SITE PLAN APPROVAL SHEET 59 OF 62
FILE NUMBER: SPC-2021-0195C APPLICATION DATE: 05/20/2021
APPROVED BY COMMISSION ON _____ UNDER SECTION 122 OF CHAPTER 25-C OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE(25-5-81, LDC)_____ CASE MANAGER Robert Anderson
PROJECT EXPIRATION DATE (ORD. #970905-A)_____DMPZ_____DDZ___X___

_____
Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE:_____ZONING: AV____
Rev. 1 _____Correction 1 _____
Rev. 2 _____Correction 2 _____
Rev. 3 _____Correction 3 _____
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WEST ELEVATION

SEAL & SIGNATURE

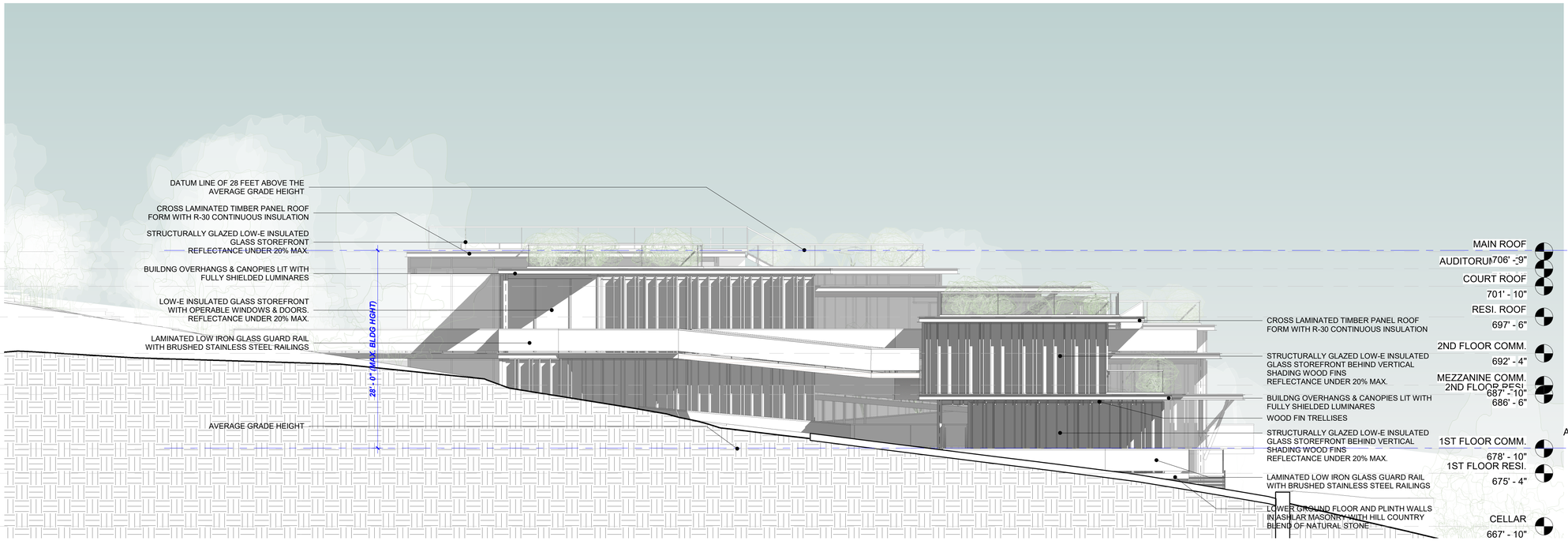
REGISTERED ARCHITECT SRINIVASAN 28084 STATE OF TEXAS

DATE	02/09/22
PROJECT NO.	Project Number
DRAWING BY	Author
CHECKED BY	Checker

A-311.00

SCALE: 1/8" = 1'-0"

CASE # SPC-2021-0195C



SOUTH ELEVATION

KAALO STUDIO

7901 RM 2222
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TBAE FIRM REGISTRATION NO.: 1452
TBPE FIRM REGISTRATION NO.: F-1416
TBPLS FIRM REGISTRATION NO.: 10065600

PROJECT NOTES

SUBCHAPTER "E" NOTES:

1. ALL EXTERIOR LIGHTING WILL BE FULL CUT-OFF AND FULLY SHIELDED IN COMPLIANCE WITH SUBCHAPTER E 2.5 AND WILL BE REVIEWED DURING BUILDING PLAN REVIEW. ANY CHANGE OR SUBSTITUTION OF LAMP/LIGHT FIXTURE SHALL BE SUBMITTED TO THE DIRECTOR FOR APPROVAL IN ACCORDANCE WITH SECTION 2.5.2.E

2. SCREENING FOR LOADING & TRASH PICKUP AREAS SHALL BE THE SAME A, OR OF EQUAL QUALITY TO, PRINCIPAL BUILDING MATERIALS.

3. THE DEVELOPMENT SHALL DEVOTE A MIIMUM OF 5% GROSS SITE AREA TO PRIVATE COMMON OPEN SPACE. OPEN SPACE SHALL BE READILY ACCESSIBLE AND USEABLE FOR VISITORS.

4. AT LEAST 50% OF THE BUILDING FRONTAGE SHALL HAVE SHADED SIDEWALKS UNDER BUILDING CANOPIES AND OVERHANGS.

NO.	DESCRIPTION	DATE

I CERTIFY THAT THESE ARCHITECTURAL DOCUMENTS ARE COMPLETE, ACCURATE AND ADEQUATE FOR THEIR INTENDED PURPOSES, INCLUDING CONSTRUCTION, BUT ARE NOT AUTHORIZED FOR CONSTRUCTION PRIOR TO FORMAL CITY APPROVAL.

SITE PLAN APPROVAL SHEET 60 OF 62
FILE NUMBER: SPC-2021-0195C APPLICATION DATE: 05/20/2021
APPROVED BY COMMISSION ON _____ UNDER SECTION 122 OF CHAPTER 25-C OF THE CITY OF AUSTIN CODE.
EXPIRATION DATE(25-5-81, LDC)_____ CASE MANAGER Robert Anderson
PROJECT EXPIRATION DATE (ORD. #970905-A)_____DMPZ_____DDZ___X___

Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE:_____ZONING__AV__
Rev. 1 _____Correction 1 _____
Rev. 2 _____Correction 2 _____
Rev. 3 _____Correction 3 _____
Final Plat must be recorded by the Project Expiration Date, if applicable. Subsequent Site Plans which do not comply with the Code current at the time of filing, and all required Building Permits and/or a notice of construction (if a building permit is not required), must also be approved prior to the Project Expiration Date.

ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ARCHITECT WHO PREPARED THEM. IN REVIEWING THESE PLANS, THE CITY OF AUSTIN MUST RELY UPON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.

SEAL & SIGNATURE

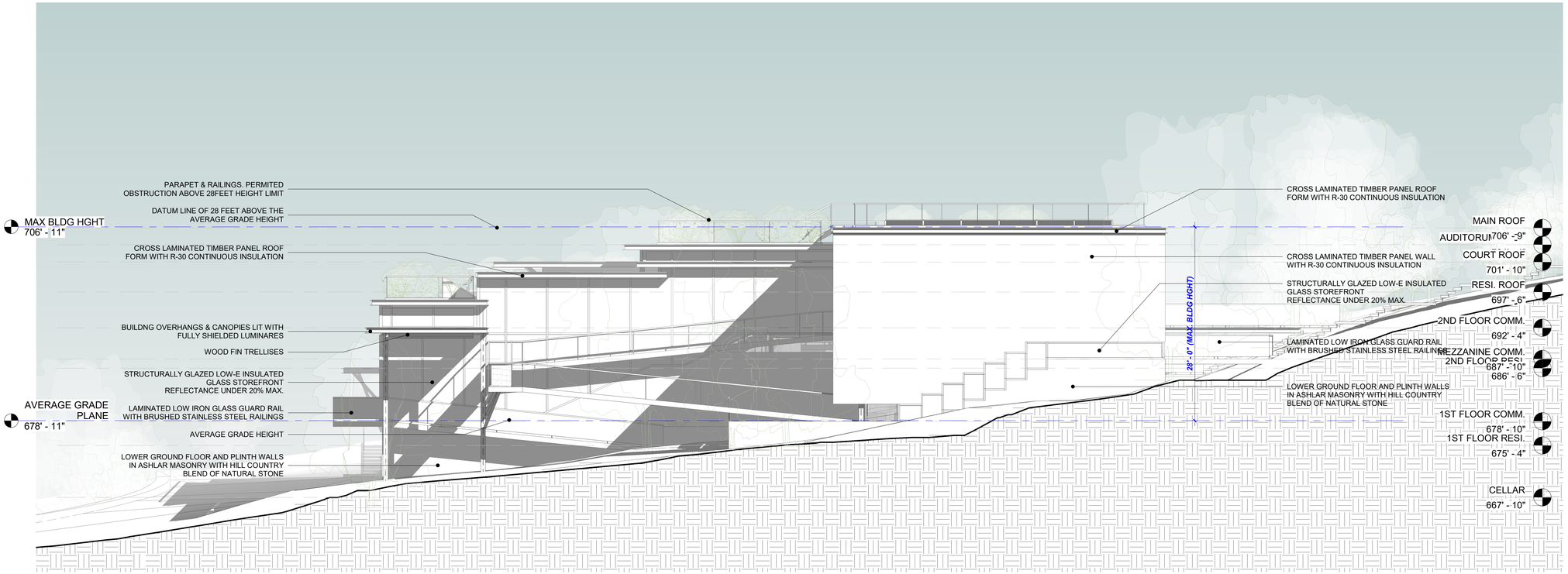
REGISTERED ARCHITECT VAIDEHI SRINIVASAN 28084 STATE OF TEXAS

DATE	02/09/22
PROJECT NO.	Project Number
DRAWING BY	Author
CHECKED BY	Checker

A-312.00

SCALE: 1/8" = 1'-0"

CASE # SPC-2021-0195C



NORTH ELEVATION

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NO.	DESCRIPTION	DATE

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SITE PLAN APPROVAL SHEET 61 OF 62
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Director, Development Services Department
RELEASED FOR GENERAL COMPLIANCE:_____ZONING__AV___
Rev. 1 _____Correction 1 _____
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SEAL & SIGNATURE

DATE	02/09/22
PROJECT NO.	Project Number
DRAWING BY	Author
CHECKED BY	Checker

A-313.00

SCALE: 1/8" = 1'-0"

61 of 63

CASE # SPC-2021-0195C

1 ES101 SITE PLAN – ELECTRICAL
SCALE: 1" = 30'

KEYED NOTES

1. EXISTING POLES AND OVERHEAD ELECTRICAL ARE EXISTING TO REMAIN.
2. 2–4" CONCRETE ENCASED CONDUITS INSTALLED PER AUSTIN ENERGY STANDARDS. THE CONDUITS SHALL BE INSTALLED 1' ABOVE THE STORM CULVERT. CONDUITS REQUIRE A MINIMUM 2' OF COVER FROM FINISHED GRADE.
3. 48" TRAFFIC RATED PULLBOX INSTALLED PER AUSTIN ENERGY STANDARDS.
4. PROPOSED LOCATION FOR PAD MOUNTED TRANSFORMER.
5. UNDERGROUND SECONDARY. 6–4" CONDUITS EACH WITH 4 #600 KCMIL COPPER CONDUCTORS.
6. PROPOSED LOCATION FOR METER BANK AND SERVICE DISCONNECT MOUNTED ON THE EXTERIOR WALL.

STATE OF TEXAS
E.G. LOPEZ DEL CASTILLO
58483
REGISTERED PROFESSIONAL ENGINEER
04/04/2022

THIS DOCUMENT IS RELEASED FOR THE PURPOSE OF SITE DEVELOPMENT PERMITTING UNDER THE AUTHORITY OF E.G. LOPEZ DEL CASTILLO, P.E., REG. #58483 ON 2022-APRIL-4. IT IS NOT TO BE USED FOR BIDDING, NEGOTIATIONS, OR CONSTRUCTION.

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drawn by/checked by:	BG
original date issued:	04/04/2022
scale:	SEE DRAWING
part 1 revised:	04/04/2022

KAALO STUDIO
7901 FM 2222 - AUSTIN, TEXAS
SP-2021-0195C

PLAN NO.

SHEET NO.
ES101
62 OF 63

1 ES102 SITE PLAN – OVERHEAD LINE RELOCATION

SCALE: 1" = 30'

KEYED NOTES

1. EXISTING POLES AND OVERHEAD ELECTRICAL ARE EXISTING TO REMAIN.
2. EXISTING OVERHEAD PRIMARY LINES AND COMMUNICATIONS LINES TO BE REROUTED TO NEW LOCATION OF EXISTING POLE. REFER TO KEYED NOTE 6.
3. RELOCATE EXISTING POLE #311150 WITH POLE MOUNTED TRANSFORMER. REFER TO KEYED NOTE 6 FOR NEW LOCATION.
4. EXISTING POLE 311212. IS EXISTING TO REMAIN.
5. EXISTING SECONDARY CONDUCTORS AND COMMUNICATIONS LINES SERVING THE ADJACENT DWELLING UNIT SHALL BE REROUTED AND EXTENDED TO NEW POLE LOCATION. REFER TO KEYED NOTE 6.
6. NEW LOCATION OF EXISTING AUSTIN ENERGY POLE AND POLE MOUNTED TRANSFORMER.

Drawn By/Checked By:	BH
Original Date Issued:	04/04/2022
Scale:	SEE DRAWING
Last Updated:	04/04/2022

KAALO STUDIO
7901 FM 2222 - AUSTIN, TEXAS
SP-2021-0195C

PLAN NO.

SHEET NO.
ES102
63 OF 63

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