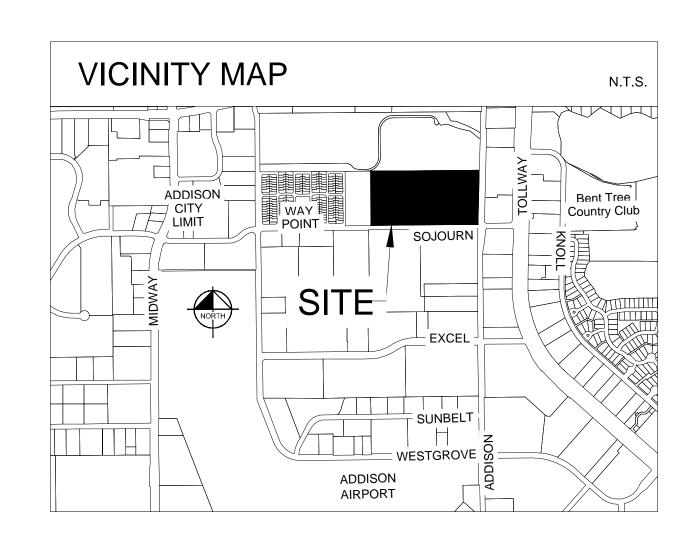
# TRINITY CHRISTIAN ACADEMY MIDDLE SCHOOL EXPANSION

PLANS SUBMITTAL/REVIEW LOG

CIVIL CONSTRUCTION SUBMITTAL CIVIL CONSTRUCTION SUBMITTAL #2

04/16/2021 05/14/2021 17001 ADDISON RD
TOWN OF ADDISON, TX
DALLAS COUNTY, TEXAS
LOT 15, BLOCK 1B
CARROLL ESTATES



# OWNER

TRINITY CHRISTIAN ACADEMY 17001 ADDISON ROAD ADDISON, TEXAS 75001 PHONE: 972-931-8325 CONTACT: DAWN BOOTH

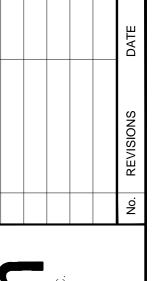
### **ARCHITECT**

GFF ARCHITECS
2808 FAIRMOUNT STREET SUITE 300
DALLAS, TEXAS 75201
PHONE: 214-303-1500
CONTACT: JEREMY ROEHR

# ENGINEER Kimley >>> Horn

TWO GALLERIA OFFICE TOWER, SUITE 700,
DALLAS, TEXAS 75240
PHONE: 972-770-1300
CONTACT: JEFFREY W DOLIAN, P.E.
TEXAS REGISTERED ENGINEERING FIRM NO. F-928

MAY 2021



© 2021 KIMLEY-HORN AND ASSOCIATES, IN 13455 NOEL ROAD, SUITE 700, DALLAS, TEXAS PHONE: 972-770-1300 FAX: 972-239-3820 FEXAS REGISTERED ENGINEERING FIRM TX F-928

SHEET LIST

TOWN OF ADDISON CONSTRUCTION NOTES

PAVING AND DIMENSION CONTROL PLAN

SHEET TITLE

**COVER SHEET** 

SITE PLAN

KH GENERAL NOTES

KH GENERAL NOTES

**DEMOLITION PLAN** 

**PAVING DETAILS** 

**GRADING PLAN** 

**OVERALL GRADING PLAN** 

**EXISTING DRAINAGE AREA MAF** 

INTERIM DRAINAGE AREA MAP

PRIVATE STORM SEWER PLAN
STORM SEWER PROFILES

STORM SEWER CALCULATIONS

DETENTION DETAILS

**UTILITY PLAN** 

**UTILITY PROFILES** 

**UTILITY DETAILS** 

STORM SEWER DETAILS

FRANCHISE UTILITY PLAN

**EROSION CONTROL PLAN** 

LSCP GENERAL NOTES

LANDSCAPE DETAILS

LANDSCAPE DETAILS

**EROSION CONTROL DETAILS** 

TREE PRESERVATION PLAN

LANDSCAPE LAYOUT PLAN

LANDSCAPE PLANTING PLAN

LANDSCAPE PLANTING PLAN

LANDSCAPE PLANTING DETAILS

LANDSCAPE ENLARGEMENT PLAN

SHEET NUMBER

C-305

C-310

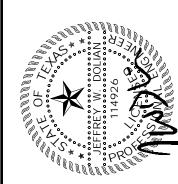
C-311

C-313

C-401

L-201

L-301



ATE: MAY 14, 2021
CALE: AS SHOWN
ESIGNED BY: TCP
RAWN BY: HMB

TY CHRISTIAN CADEMY

OI ADDISON ROAD,

/ER SHEET

#### OVERALL

- ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THESE PLANS, CITY (OR TOWN) STANDARD DETAILS AND SPECIFICATIONS, THE FINAL GEOTECHNICAL REPORT AND ALL ISSUED ADDENDA, AND COMMONLY ACCEPTED CONSTRUCTION STANDARDS. THE CITY SPECIFICATIONS SHALL GOVERN WHERE OTHER SPECIFICATIONS DO NOT EXIST. IN CASE OF CONFLICTING SPECIFICATIONS OR DETAILS, THE MORE RESTRICTIVE SPECIFICATION AND DETAIL SHALL BE FOLLOWED.
- 2. THE CONTRACTOR SHALL COMPLY WITH CITY (OR TOWN) "GENERAL NOTES" FOR CONSTRUCTION, IF EXISTING AND REQUIRED BY THE CITY. FOR INSTANCES WHERE THEY CONFLICT WITH THESE KH GENERAL NOTES, THEN THE MORE RESTRICTIVE SHALL APPLY.
- 3. THE CONTRACTOR SHALL FURNISH ALL MATERIAL AND LABOR TO CONSTRUCT THE FACILITY AS SHOWN AND DESCRIBED IN THE CONSTRUCTION DOCUMENTS IN ACCORDANCE WITH THE APPROPRIATE AUTHORITIES' SPECIFICATIONS AND REQUIREMENTS.
- 4. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING TO DETERMINE EXISTING CONDITIONS.
- 5. THE EXISTING CONDITIONS SHOWN ON THESE PLANS WERE PROVIDED BY THE TOPOGRAPHIC SURVEY PREPARED BY THE PROJECT SURVEYOR, AND ARE BASED ON THE BENCHMARKS SHOWN. THE CONTRACTOR SHALL REFERENCE THE SAME BENCHMARKS.
- 6. THE CONTRACTOR SHALL REVIEW AND VERIFY THE EXISTING TOPOGRAPHIC SURVEY SHOWN ON THE PLANS REPRESENTS EXISTING FIELD CONDITIONS PRIOR TO CONSTRUCTION, AND SHALL REPORT ANY DISCREPANCIES FOUND TO THE OWNER AND ENGINEER IMMEDIATELY.
- 7. IF THE CONTRACTOR DOES NOT ACCEPT THE EXISTING TOPOGRAPHIC SURVEY AS SHOWN ON THE PLANS, WITHOUT EXCEPTION, THEN THE CONTRACTOR SHALL SUPPLY AT THEIR OWN EXPENSE, A TOPOGRAPHIC SURVEY BY A REGISTERED PROFESSIONAL LAND SURVEYOR TO THE OWNER AND ENGINEER FOR REVIEW.
- 8. CONTRACTOR SHALL PROVIDE ALL CONSTRUCTION SURVEYING AND STAKING.
- 9. CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL CONTROL, INCLUDING BENCHMARKS PRIOR TO COMMENCING CONSTRUCTION OR STAKING OF IMPROVEMENTS. PROPERTY LINES AND CORNERS SHALL BE HELD AS THE HORIZONTAL CONTROL
- 10. THE CONTRACTOR SHALL REVIEW AND VERIFY ALL DIMENSIONS, ELEVATIONS, AND FIELD CONDITIONS THAT MAY AFFECT CONSTRUCTION. ANY DISCREPANCIES ON THE DRAWINGS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER BEFORE COMMENCING WORK. NO FIELD CHANGES OR DEVIATIONS FROM DESIGN ARE TO BE MADE WITHOUT PRIOR APPROVAL OF THE ARCHITECT, ENGINEER, AND IF APPLICABLE THE CITY AND OWNER. NO CONSIDERATION WILL BE GIVEN TO CHANGE ORDERS FOR WHICH THE CITY, ENGINEER, AND OWNER WERE NOT CONTACTED PRIOR TO CONSTRUCTION OF THE AFFECTED ITEM.
- 11. CONTRACTOR SHALL THOROUGHLY CHECK COORDINATION OF CIVIL, LANDSCAPE, MEP, ARCHITECTURAL, AND OTHER PLANS PRIOR TO COMMENCING CONSTRUCTION. OWNER/ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCY PRIOR TO COMMENCING WITH CONSTRUCTION.
- 12.IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY COMPANIES WHICH MAY HAVE BURIED OR AERIAL UTILITIES WITHIN OR NEAR THE CONSTRUCTION AREA BEFORE COMMENCING WORK TO HAVE THEM LOCATE THEIR EXISTING UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE AN ADEQUATE MINIMUM NOTICE TO ALL UTILITY COMPANIES PRIOR TO BEGINNING CONSTRUCTION.
- 13. CONTRACTOR SHALL CALL TEXAS 811 AN ADEQUATE AMOUNT OF TIME PRIOR TO COMMENCING CONSTRUCTION OR ANY EXCAVATION.
- 14. CONTRACTOR SHALL USE EXTREME CAUTION AS THE SITE CONTAINS VARIOUS KNOWN AND UNKNOWN PUBLIC AND PRIVATE UTILITIES.
- 15. THE LOCATIONS, ELEVATIONS, DEPTH, AND DIMENSIONS OF EXISTING UTILITIES SHOWN ON THE PLANS WERE OBTAINED FROM AVAILABLE UTILITY COMPANY MAPS AND PLANS, AND ARE CONSIDERED APPROXIMATE AND INCOMPLETE. IT SHALL BE THE CONTRACTORS' RESPONSIBILITY TO VERIFY THE PRESENCE, LOCATION, ELEVATION, DEPTH, AND DIMENSION OF EXISTING UTILITIES SUFFICIENTLY IN ADVANCE OF CONSTRUCTION SO THAT ADJUSTMENTS CAN BE MADE TO PROVIDE ADEQUATE CLEARANCES. THE ENGINEER SHALL BE NOTIFIED WHEN A PROPOSED IMPROVEMENT CONFLICTS WITH AN EXISTING UTILITY.
- 16. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING ANY ADJUSTMENTS AND RELOCATIONS OF EXISTING UTILITIES THAT CONFLICT WITH THE PROPOSED IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO, ADJUSTING EXISTING MANHOLES TO MATCH PROPOSED GRADE, RELOCATING EXISTING POLES AND GUY WIRES THAT ARE LOCATED IN PROPOSED DRIVEWAYS, ADJUSTING THE HORIZONTAL OR VERTICAL ALIGNMENT OF EXISTING UNDERGROUND UTILITIES TO ACCOMMODATE PROPOSED GRADE OR CROSSING WITH A PROPOSED UTILITY, AND ANY OTHERS THAT MAY BE ENCOUNTERED THAT ARE UNKNOWN AT THIS TIME AND NOT SHOWN ON THESE PLANS.
- 17. CONTRACTOR SHALL ARRANGE FOR OR PROVIDE, AT ITS EXPENSE, ALL GAS, TELECOMMUNICATIONS, CABLE, OVERHEAD AND UNDERGROUND POWER LINE, AND UTILITY POLE ADJUSTMENTS NEEDED.
- 18. CONTRACTOR IS RESPONSIBLE FOR COORDINATING INSTALLATION OF FRANCHISE UTILITIES THAT ARE NECESSARY FOR ON-SITE AND OFF-SITE CONSTRUCTION, AND SERVICE TO THE PROPOSED DEVELOPMENT.
- 19. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ALL DAMAGES DUE TO THE CONTRACTORS' FAILURE TO EXACTLY LOCATE AND PRESERVE ALL UTILITIES. THE OWNER OR ENGINEER WILL ASSUME NO LIABILITY FOR ANY DAMAGES SUSTAINED OR COST INCURRED BECAUSE OF THE OPERATIONS IN THE VICINITY OF EXISTING UTILITIES OR STRUCTURES. IF IT IS NECESSARY TO SHORE, BRACE, SWING OR RELOCATE A UTILITY, THE UTILITY COMPANY OR DEPARTMENT AFFECTED SHALL BE CONTACTED BY THE CONTRACTOR AND THEIR PERMISSION OBTAINED REGARDING THE METHOD TO USE FOR SUCH WORK.
- 20.BRACING OF UTILITY POLES MAY BE REQUIRED BY THE UTILITY COMPANIES WHEN TRENCHING OR EXCAVATING IN CLOSE PROXIMITY TO THE POLES. THE COST OF BRACING POLES WILL BE BORNE BY THE CONTRACTOR, WITH NO SEPARATE PAY ITEM FOR THIS WORK. THE COST IS INCIDENTAL TO THE PAY ITEM.
- 21.CONTRACTOR SHALL USE ALL NECESSARY SAFETY PRECAUTIONS TO AVOID CONTACT WITH OVERHEAD AND UNDERGROUND POWER LINES. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LOCAL, STATE, FEDERAL AND UTILITY OWNER REGULATIONS PERTAINING TO WORK SETBACKS FROM POWER LINES.
- 22.THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ALL REQUIRED CONSTRUCTION PERMITS, APPROVALS, AND BONDS PRIOR TO CONSTRUCTION.
- 23.THE CONTRACTOR SHALL HAVE AVAILABLE AT THE JOB SITE AT ALL TIMES A COPY OF THE CONTRACT DOCUMENTS INCLUDING PLANS, GEOTECHNICAL REPORT AND ADDENDA, PROJECT AND CITY SPECIFICATIONS, AND SPECIAL CONDITIONS, COPIES OF ANY REQUIRED CONSTRUCTION PERMITS, EROSION CONTROL PLANS, SWPPP AND INSPECTION REPORTS.
- 24.ALL SHOP DRAWINGS AND OTHER DOCUMENTS THAT REQUIRE ENGINEER REVIEW SHALL BE SUBMITTED BY THE CONTRACTOR SUFFICIENTLY IN ADVANCE OF CONSTRUCTION OF THAT ITEM, SO THAT NO LESS THAN 10 BUSINESS DAYS FOR REVIEW AND RESPONSE IS AVAILABLE.
- 25.ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES, JURISDICTIONAL AGENCIES, AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO USE OF THE FACILITY AND THE FINAL CONNECTION OF SERVICES.
- 26.CONTRACTOR SHALL ARRANGE FOR REQUIRED CITY INSPECTIONS.
- 27.CONTRACTOR'S BID PRICE SHALL INCLUDE ALL INSPECTION FEES.
- 28.ALL SYMBOLS SHOWN ON THESE PLANS (E.G. FIRE HYDRANT, METERS, VALVES, INLETS, ETC....) ARE FOR PRESENTATION PURPOSES ONLY AND ARE NOT TO SCALE. CONTRACTOR SHALL COORDINATE FINAL SIZES AND LOCATIONS WITH APPROPRIATE CITY INSPECTOR.
- 29.THE SCOPE OF WORK FOR THE CIVIL IMPROVEMENTS SHOWN ON THESE PLANS TERMINATES 5-FEET FROM THE BUILDING. REFERENCE THE BUILDING PLANS (E.G. ARCHITECTURAL, STRUCTURAL, MEP) FOR AREAS WITHIN 5-FEET OF THE BUILDING AND WITHIN THE BUILDING FOOTPRINT.
- 30.REFER TO ARCHITECTURAL AND STRUCTURAL PLANS FOR ALL FINAL BUILDING DIMENSIONS.
- 31.THE PROPOSED BUILDING FOOTPRINT(S) SHOWN IN THESE PLANS WAS PROVIDED TO KIMLEY-HORN AND ASSOCIATES, INC. (KH) BY THE PROJECT ARCHITECT AT THE TIME THESE PLANS WERE PREPARED. IT MAY NOT BE THE FINAL CORRECT VERSION BECAUSE THE BUILDING DESIGN WAS ONGOING. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR CONFIRMING THE FINAL CORRECT VERSION OF THE BUILDING FOOTPRINT WITH THE ARCHITECT AND STRUCTURAL ENGINEER PRIOR TO LAYOUT. DIMENSIONS AND/OR COORDINATES SHOWN ON THESE PLANS WERE BASED ON THE ABOVE STATED ARCHITECTURAL FOOTPRINT, AND ARE THEREFORE A PRELIMINARY LOCATION OF THE BUILDING. THE CONTRACTOR IS SOLELY RESPONSIBLE TO VERIFY WHAT PART OF THE BUILDING THE ARCHITECT'S FOOTPRINT REPRESENTS (E.G. SLAB, OUTSIDE WALL, MASONRY LEDGE, ETC.....) AND TO CONFIRM ITS FINAL POSITION ON THE SITE BASED ON THE FINAL ARCHITECTURAL FOOTPRINT, CIVIL DIMENSION CONTROL PLAN, SURVEY BOUNDARY AND/OR PLAT. ANY DIFFERENCES FOUND SHALL BE REPORTED TO KH IMMEDIATELY.
- 32.ALL CONSTRUCTION SHALL COMPLY WITH THE PROJECT'S FINAL GEOTECHNICAL REPORT (OR LATEST EDITION), INCLUDING SUBSEQUENT ADDENDA.
- 33.CONTRACTOR IS RESPONSIBLE FOR ALL MATERIALS TESTING AND CERTIFICATION, UNLESS SPECIFIED OTHERWISE BY OWNER. ALL MATERIALS TESTING SHALL BE COORDINATED WITH THE APPROPRIATE CITY INSPECTOR AND COMPLY WITH CITY STANDARD SPECIFICATIONS AND GEOTECHNICAL REPORT. TESTING SHALL BE PERFORMED BY AN APPROVED INDEPENDENT AGENCY FOR TESTING MATERIALS. OWNER SHALL APPROVE THE AGENCY NOMINATED BY THE CONTRACTOR FOR MATERIALS TESTING.
- 34.ALL COPIES OF MATERIALS TEST RESULTS SHALL BE SENT TO THE OWNER, ENGINEER AND ARCHITECT DIRECTLY FROM THE TESTING AGENCY.

- 35.IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO SHOW, BY THE STANDARD TESTING PROCEDURES OF THE MATERIALS, THAT THE WORK CONSTRUCTED MEETS THE PROJECT REQUIREMENTS AND CITY SPECIFICATIONS.
- 36.DUE TO THE POTENTIAL FOR DIFFERENTIAL SOIL MOVEMENT ADJACENT TO THE BUILDING, THE CONTRACTOR SHALL ADHERE TO GEOTECHNICAL REPORT'S RECOMMENDATION FOR SUBGRADE PREPARATION SPECIFIC TO FLATWORK ADJACENT TO THE PROPOSED BUILDING. THE OWNER AND CONTRACTOR ARE ADVISED TO OBTAIN A GEOTECHNICAL ENGINEER RECOMMENDATION SPECIFIC TO FLATWORK ADJACENT TO THE BUILDING, IF NONE IS CURRENTLY EXISTING.
- 37.ALL CONTRACTORS MUST CONFINE THEIR ACTIVITIES TO THE WORK AREA. NO ENCROACHMENTS OUTSIDE OF THE WORK AREA WILL BE ALLOWED. ANY DAMAGE RESULTING THEREFROM SHALL BE CONTRACTOR'S SOLE RESPONSIBILITY TO REPAIR
- 38.THE CONTRACTOR SHALL PROTECT ALL EXISTING STRUCTURES, UTILITIES, MANHOLES, POLES, GUY WIRES, VALVE COVERS, VAULT LIDS, FIRE HYDRANTS, COMMUNICATION BOXES/PEDESTALS, AND OTHER FACILITIES TO REMAIN AND SHALL REPAIR ANY DAMAGES AT NO COST TO THE OWNER.
- 39.THE CONTRACTOR SHALL IMMEDIATELY REPAIR OR REPLACE ANY PHYSICAL DAMAGE TO PRIVATE PROPERTY OR PUBLIC IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO: FENCES, WALLS, SIGNS, PAVEMENT, CURBS, UTILITIES, SIDEWALKS, GRASS, TREES, LANDSCAPING, AND IRRIGATION SYSTEMS, ETC.... TO ORIGINAL CONDITION OR BETTER AT NO COST TO THE OWNER.
- 40.ALL AREAS IN EXISTING RIGHT-OF-WAY DISTURBED BY SITE CONSTRUCTION SHALL BE REPAIRED TO ORIGINAL CONDITION OR BETTER, INCLUDING AS NECESSARY GRADING, LANDSCAPING, CULVERTS, AND PAVEMENT.
- 41.THE CONTRACTOR SHALL SALVAGE ALL EXISTING POWER POLES, SIGNS, WATER VALVES, FIRE HYDRANTS, METERS, ETC... THAT ARE TO BE RELOCATED DURING CONSTRUCTION.
- 42.CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.
- 43.THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND SUBMITTING A TRENCH SAFETY PLAN, PREPARED BY A PROFESSIONAL ENGINEER IN THE STATE OF TEXAS, TO THE CITY PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING TRENCH SAFETY REQUIREMENTS IN ACCORDANCE WITH CITY, STATE, AND FEDERAL REQUIREMENTS, INCLUDING OSHA FOR ALL TRENCHES. NO OPEN TRENCHES SHALL BE ALLOWED OVERNIGHT WITHOUT PRIOR WRITTEN APPROVAL OF THE CITY.
- 44.THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.
- 45.SITE SAFETY IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.
- 46.THESE PLANS DO NOT EXTEND TO OR INCLUDE DESIGNS OR SYSTEMS PERTAINING TO THE SAFETY OF THE CONTRACTOR OR ITS EMPLOYEES, AGENTS OR REPRESENTATIVES IN THE PERFORMANCE OF THE WORK. THE ENGINEER'S SEAL HEREON DOES NOT EXTEND TO ANY SUCH SAFETY SYSTEM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTATION OF ALL REQUIRED SAFETY PROCEDURES AND PROGRAMS.
- 47.SIGNS RELATED TO SITE OPERATION OR SAFETY ARE NOT INCLUDED IN THESE PLANS.
- 48.CONTRACTOR OFFICE AND STAGING AREA SHALL BE AGREED ON BY THE OWNER AND CONTRACTOR PRIOR TO BEGINNING OF CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR ALL PERMITTING REQUIREMENTS FOR THE CONSTRUCTION OFFICE, TRAILER, STORAGE, AND STAGING OPERATIONS AND LOCATIONS.
- $49. LIGHT\ POLES,\ SIGNS,\ AND\ OTHER\ OBSTRUCTIONS\ SHALL\ NOT\ BE\ PLACED\ IN\ ACCESSIBLE\ ROUTES.$
- 50.ALL SIGNS, PAVEMENT MARKINGS, AND OTHER TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES".
- 51.TOP RIM ELEVATIONS OF ALL EXISTING AND PROPOSED MANHOLES SHALL BE COORDINATED WITH TOP OF PAVEMENT OR FINISHED GRADE AND SHALL BE ADJUSTED TO BE FLUSH WITH THE ACTUAL FINISHED GRADE AT THE TIME OF PAVING.
- 52.CONTRACTOR SHALL ADJUST ALL EXISTING AND PROPOSED VALVES, FIRE HYDRANTS, AND OTHER UTILITY APPURTENANCES TO MATCH ACTUAL FINISHED GRADES AT THE TIME OF PAVING.
- 53.THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTION SEQUENCING AND PHASING, AND SHALL CONTACT THE APPROPRIATE CITY OFFICIALS, INCLUDING BUILDING OFFICIAL, ENGINEERING INSPECTOR, AND FIRE MARSHALL TO LEARN OF ANY REQUIREMENTS.
- 54.CONTRACTOR IS RESPONSIBLE FOR PREPARATION, SUBMITTAL, AND APPROVAL BY THE CITY OF A TRAFFIC CONTROL PLAN PRIOR TO THE START OF CONSTRUCTION, AND THEN THE IMPLEMENTATION OF THE PLAN.
- 55.CONTRACTOR SHALL KEEP A NEAT AND ACCURATE RECORD OF CONSTRUCTION, INCLUDING ANY DEVIATIONS OR
- 56.THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AS-BUILT PLANS TO THE ENGINEER AND CITY IDENTIFYING ALL DEVIATIONS AND VARIATIONS FROM THESE PLANS MADE DURING CONSTRUCTION.
- EROSION CONTROL:

VARIANCES FROM THE PLANS.

- 1. THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL EROSION CONTROL AND WATER QUALITY REQUIREMENTS, LAWS, AND ORDINANCES THAT APPLY TO THE CONSTRUCTION SITE LAND DISTURBANCE
- 2. CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE "TCEQ GENERAL PERMIT TO DISCHARGE UNDER THE TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM TXR 150000".
- 3. EROSION CONTROL DEVICES SHOWN ON THE EROSION CONTROL PLAN FOR THE PROJECT SHALL BE INSTALLED PRIOR TO THE START OF LAND DISTURBANCE.
- 4. ALL EROSION CONTROL DEVICES ARE TO BE INSTALLED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS FOR THE PROJECT.
- 5. CONTRACTOR IS SOLELY RESPONSIBLE FOR INSTALLATION, IMPLEMENTATION, MAINTENANCE, AND EFFECTIVENESS OF ALL EROSION CONTROL DEVICES, BEST MANAGEMENT PRACTICES (BMPS), AND FOR UPDATING THE EROSION CONTROL PLAN DURING CONSTRUCTION AS FIELD CONDITIONS CHANGE.
- 6. CONTRACTOR SHALL DOCUMENT THE DATES OF INSTALLATION, MAINTENANCE OR MODIFICATION, AND REMOVAL FOR EACH BMP EMPLOYED IN THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IF APPLICABLE.
- 7. AS STORM SEWER INLETS ARE INSTALLED ON-SITE, TEMPORARY EROSION CONTROL DEVICES SHALL BE INSTALLED AT EACH INLET PER APPROVED DETAILS.
- 8. THE EROSION CONTROL DEVICES SHALL REMAIN IN PLACE UNTIL THE AREA IT PROTECTS HAS BEEN PERMANENTLY STABILIZED.

WASHING OFF THE SITE, THEN THE CONTRACTOR SHALL NOTIFY THE ENGINEER.

- 9. CONTRACTOR SHALL PROVIDE ADEQUATE EROSION CONTROL DEVICES NEEDED DUE TO PROJECT PHASING.
- 10. CONTRACTOR SHALL OBSERVE THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES AND MAKE FIELD ADJUSTMENTS AND MODIFICATIONS AS NEEDED TO PREVENT SEDIMENT FROM LEAVING THE SITE. IF THE

EROSION CONTROL DEVICES DO NOT EFFECTIVELY CONTROL EROSION AND PREVENT SEDIMENTATION FROM

- 11. OFF-SITE SOIL BORROW, SPOIL, AND STORAGE AREAS (IF APPLICABLE) ARE CONSIDERED AS PART OF THE PROJECT SITE AND MUST ALSO COMPLY WITH THE EROSION CONTROL REQUIREMENTS FOR THIS PROJECT. THIS INCLUDES THE INSTALLATION OF BMP'S TO CONTROL EROSION AND SEDIMENTATION AND THE ESTABLISHMENT OF PERMANENT GROUND COVER ON DISTURBED AREAS PRIOR TO FINAL APPROVAL OF THE PROJECT. CONTRACTOR IS RESPONSIBLE FOR MODIFYING THE SWPPP AND EROSION CONTROL PLAN TO INCLUDE BMPS FOR ANY OFF-SITE THAT ARE NOT ANTICIPATED OR SHOWN ON THE EROSION CONTROL PLAN.
- 12. ALL STAGING, STOCKPILES, SPOIL, AND STORAGE SHALL BE LOCATED SUCH THAT THEY WILL NOT ADVERSELY AFFECT STORM WATER QUALITY. PROTECTIVE MEASURES SHALL BE PROVIDED IF NEEDED TO ACCOMPLISH THIS REQUIREMENT, SUCH AS COVERING OR ENCIRCLING THE AREA WITH AN APPROPRIATE BARRIER.
- ENTRY AND EXIT AREAS WEEKLY AND WITHIN 24 HOURS OF ALL RAINFALL EVENTS OF 0.5 INCHES OR GREATER, AND KEEP A RECORD OF THIS INSPECTION IN THE SWPPP BOOKLET IF APPLICABLE, TO VERIFY THAT THE DEVICES AND EROSION CONTROL PLAN ARE FUNCTIONING PROPERLY.

13. CONTRACTORS SHALL INSPECT ALL EROSION CONTROL DEVICES, BMPS, DISTURBED AREAS, AND VEHICLE

14. CONTRACTOR SHALL CONSTRUCT A STABILIZED CONSTRUCTION ENTRANCE AT ALL PRIMARY POINTS OF ACCESS IN ACCORDANCE WITH CITY SPECIFICATIONS. CONTRACTOR SHALL ENSURE THAT ALL CONSTRUCTION TRAFFIC USES THE STABILIZED ENTRANCE AT ALL TIMES FOR ALL INGRESS/EGRESS.

15. SITE ENTRY AND EXITS SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT THE TRACKING AND FLOWING

- OF SEDIMENT AND DIRT ONTO OFF-SITE ROADWAYS. ALL SEDIMENT AND DIRT FROM THE SITE THAT IS DEPOSITED ONTO AN OFF-SITE ROADWAY SHALL BE REMOVED IMMEDIATELY.

  16. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL SILT AND DEBRIS FROM THE AFFECTED OFF-SITE ROADWAYS THAT ARE A RESULT OF THE CONSTRUCTION, AS REQUESTED BY OWNER AND CITY. AT A MINIMUM,
- THIS SHOULD OCCUR ONCE PER DAY FOR THE OFF-SITE ROADWAYS.

  17. WHEN WASHING OF VEHICLES IS REQUIRED TO REMOVE SEDIMENT PRIOR TO EXITING THE SITE, IT SHALL BE
- DONE IN AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP BMP.
- 18. CONTRACTOR SHALL INSTALL A TEMPORARY SEDIMENT BASIN FOR ANY ON-SITE DRAINAGE AREAS THAT ARE GREATER THAN 10 ACRES, PER TCEQ AND CITY STANDARDS. IF NO ENGINEERING DESIGN HAS BEEN PROVIDED FOR A SEDIMENTATION BASIN ON THESE PLANS, THEN THE CONTRACTOR SHALL ARRANGE FOR AN APPROPRIATE DESIGN TO BE PROVIDED.
- 19. ALL FINES IMPOSED FOR SEDIMENT OR DIRT DISCHARGED FROM THE SITE SHALL BE PAID BY THE RESPONSIBLE CONTRACTOR.

- 20. WHEN SEDIMENT OR DIRT HAS CLOGGED THE CONSTRUCTION ENTRANCE VOID SPACES BETWEEN STONES OR DIRT IS BEING TRACKED ONTO A ROADWAY, THE AGGREGATE PAD MUST BE WASHED DOWN OR REPLACED. RUNOFF FROM THE WASH-DOWN OPERATION SHALL NOT BE ALLOWED TO DRAIN DIRECTLY OFF SITE WITHOUT FIRST FLOWING THROUGH ANOTHER BMP TO CONTROL SEDIMENTATION. PERIODIC RE-GRADING OR NEW STONE MAY BE REQUIRED TO MAINTAIN THE EFFECTIVENESS OF THE CONSTRUCTION ENTRANCE.
- 21.TEMPORARY SEEDING OR OTHER APPROVED STABILIZATION SHALL BE INITIATED WITHIN 14 DAYS OF THE LAST DISTURBANCE OF ANY AREA, UNLESS ADDITIONAL CONSTRUCTION IN THE AREA IS EXPECTED WITHIN 21 DAYS OF THE LAST DISTURBANCE.
- 22.CONTRACTOR SHALL FOLLOW GOOD HOUSEKEEPING PRACTICES DURING CONSTRUCTION, ALWAYS CLEANING UP DIRT, LOOSE MATERIAL, AND TRASH AS CONSTRUCTION PROGRESSES.
- 23.UPON COMPLETION OF FINE GRADING, ALL SURFACES OF DISTURBED AREAS SHALL BE PERMANENTLY STABILIZED. STABILIZATION IS ACHIEVED WHEN THE AREA IS EITHER COVERED BY PERMANENT IMPERVIOUS STRUCTURES, SUCH AS BUILDINGS, SIDEWALK, PAVEMENT, OR A UNIFORM PERENNIAL VEGETATIVE COVER.
- 24.AT THE CONCLUSION OF THE PROJECT, ALL INLETS, DRAIN PIPE, CHANNELS, DRAINAGEWAYS AND BORROW DITCHES AFFECTED BY THE CONSTRUCTION SHALL BE DREDGED, AND THE SEDIMENT GENERATED BY THE PROJECT SHALL BE REMOVED AND DISPOSED IN ACCORDANCE WITH APPLICABLE REGULATIONS.

#### STORM WATER DISCHARGE AUTHORIZATION:

- 1. CONTRACTOR SHALL COMPLY WITH ALL TCEQ AND EPA STORM WATER POLLUTION PREVENTION REQUIREMENTS.
- 2. CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE TCEQ GENERAL PERMIT TO DISCHARGE UNDER THE TEXAS POLLUTANT DISCHARGE ELIMINATION SYSTEM TXR 150000.
- 3. THE CONTRACTOR SHALL ENSURE THAT ALL PRIMARY OPERATORS SUBMIT A NOI TO TCEQ AT LEAST SEVEN DAYS PRIOR TO COMMENCING CONSTRUCTION (IF APPLICABLE), OR IF UTILIZING ELECTRONIC SUBMITTAL, PRIOR TO COMMENCING CONSTRUCTION. ALL PRIMARY OPERATORS SHALL PROVIDE A COPY OF THE SIGNED NOI TO THE OPERATOR OF ANY MS4 (TYPICALLY THE CITY) RECEIVING DISCHARGE FROM THE SITE.
- 4. CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMPLEMENTATION OF THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP) IF APPLICABLE, INCLUDING POSTING SITE NOTICE, INSPECTIONS, DOCUMENTATION, AND SUBMISSION OF ANY INFORMATION REQUIRED BY THE TCEQ AND EPA (E.G. NOI).
- 5. ALL CONTRACTORS AND SUBCONTRACTORS PROVIDING SERVICES RELATED TO THE SWPPP SHALL SIGN THE REQUIRED CONTRACTOR CERTIFICATION STATEMENT ACKNOWLEDGING THEIR RESPONSIBILITIES AS SPECIFIED IN THE SWPPP.
- A COPY OF THE SWPPP, INCLUDING NOI, SITE NOTICE, CONTRACTOR CERTIFICATIONS, AND ANY REVISIONS, SHALL BE SUBMITTED TO THE CITY BY THE CONTRACTOR AND SHALL BE RETAINED ON-SITE DURING CONSTRUCTION.
- 7. A NOTICE OF TERMINATION (NOT) SHALL BE SUBMITTED TO TCEQ BY ANY PRIMARY OPERATOR WITHIN 30 DAYS AFTER ALL SOIL DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED AND A UNIFORM VEGETATIVE COVER HAS BEEN ESTABLISHED ON ALL UNPAVED AREAS AND AREAS NOT COVERED BY STRUCTURES, A TRANSFER OF OPERATIONAL CONTROL HAS OCCURRED, OR THE OPERATOR HAS OBTAINED ALTERNATIVE AUTHORIZATION UNDER A DIFFERENT PERMIT. A COPY OF THE NOT SHALL BE PROVIDED TO THE OPERATOR OF ANY MS4 RECEIVING DISCHARGE FROM THE SITE.

#### **DEMOLITION:**

- 1. KH IS NOT RESPONSIBLE FOR THE MEANS AND METHODS EMPLOYED BY THE CONTRACTOR TO IMPLEMENT THIS DEMOLITION PLAN. THIS PRELIMINARY DEMOLITION PLAN SIMPLY INDICATES THE KNOWN OBJECTS ON THE SUBJECT TRACT THAT ARE TO BE DEMOLISHED AND REMOVED FROM THE SITE.
- 2. KH DOES NOT WARRANT OR REPRESENT THAT THE PLAN, WHICH WAS PREPARED BASED ON SURVEY AND UTILITY INFORMATION PROVIDED BY OTHERS, SHOWS ALL IMPROVEMENTS AND UTILITIES, THAT THE IMPROVEMENTS AND UTILITIES ARE SHOWN ACCURATELY, OR THAT THE UTILITIES SHOWN CAN BE REMOVED. THE CONTRACTOR IS RESPONSIBLE FOR PERFORMING ITS OWN SITE RECONNAISSANCE TO SCOPE ITS WORK AND TO CONFIRM WITH THE OWNERS OF IMPROVEMENTS AND UTILITIES THE ABILITY AND PROCESS FOR THE REMOVAL OF THEIR FACILITIES.
- 3. THIS PLAN IS INTENDED TO GIVE A GENERAL GUIDE TO THE CONTRACTOR, NOTHING MORE. THE GOAL OF THE DEMOLITION IS TO LEAVE THE SITE IN A STATE SUITABLE FOR THE CONSTRUCTION OF THE PROPOSED DEVELOPMENT. REMOVAL OR PRESERVATION OF IMPROVEMENTS, UTILITIES, ETC. TO ACCOMPLISH THIS GOAL ARE THE RESPONSIBILITY OF THE CONTRACTOR.
- 4. CONTRACTOR IS STRONGLY CAUTIONED TO REVIEW THE FOLLOWING REPORTS DESCRIBING SITE CONDITIONS PRIOR TO BIDDING AND IMPLEMENTING THE DEMOLITION PLAN:
- a. ENVIRONMENTAL SITE ASSESSMENT PROVIDED BY THE OWNER,
   b. ASBESTOS BUILDING INSPECTION REPORT(S) PROVIDED BY THE OWNER,
- c. GEOTECHNICAL REPORT PROVIDED BY THE OWNER.
- d. OTHER REPORTS THAT ARE APPLICABLE AND AVAILABLE.
- 5. CONTRACTOR SHALL CONTACT THE OWNER TO VERIFY WHETHER ADDITIONAL REPORTS OR AMENDMENTS TO THE ABOVE CITED REPORTS HAVE BEEN PREPARED AND TO OBTAIN/REVIEW/AND COMPLY WITH THE RECOMMENDATION OF SUCH STUDIES PRIOR TO STARTING ANY WORK ON THE SITE.
- 6. CONTRACTOR SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS REGARDING THE DEMOLITION OF OBJECTS ON THE SITE AND THE DISPOSAL OF THE DEMOLISHED MATERIALS OFF-SITE. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO REVIEW THE SITE, DETERMINE THE APPLICABLE REGULATIONS, RECEIVE THE REQUIRED PERMITS AND AUTHORIZATIONS, AND COMPLY.
- 7. KH DOES NOT REPRESENT THAT THE REPORTS AND SURVEYS REFERENCED ABOVE ARE ACCURATE, COMPLETE, OR COMPREHENSIVE SHOWING ALL ITEMS THAT WILL NEED TO BE DEMOLISHED AND REMOVED.
- 8. SURFACE PAVEMENT INDICATED MAY OVERLAY OTHER HIDDEN STRUCTURES, SUCH AS ADDITIONAL LAYERS OF PAVEMENT, FOUNDATIONS OR WALLS, THAT ARE ALSO TO BE REMOVED.

#### GRADING:

- 1. THE CONTRACTOR AND GRADING SUBCONTRACTOR SHALL VERIFY THE SUITABILITY OF EXISTING AND PROPOSED SITE CONDITIONS INCLUDING GRADES AND DIMENSIONS BEFORE START OF CONSTRUCTION. THE CIVIL ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES.
- $2. \ \ {\tt CONTRACTOR} \ {\tt SHALL} \ {\tt OBTAIN} \ {\tt ANY} \ {\tt REQUIRED} \ {\tt GRADING} \ {\tt PERMITS} \ {\tt FROM} \ {\tt THE} \ {\tt CITY}. \\$
- 3. UNLESS OTHERWISE NOTED, PROPOSED CONTOURS AND SPOT ELEVATIONS SHOWN IN PAVED AREA REFLECT TOP OF PAVEMENT SURFACE. IN LOCATIONS ALONG A CURB LINE, ADD 6-INCHES (OR THE HEIGHT OF THE CURB) TO THE PAVING GRADE FOR TOP OF CURB ELEVATION.
- 4. PROPOSED SPOT ELEVATIONS AND CONTOURS OUTSIDE THE PAVEMENT ARE TO TOP OF FINISHED GRADE.
- 5. PROPOSED CONTOURS ARE APPROXIMATE. PROPOSED SPOT ELEVATIONS AND DESIGNATED GRADIENT ARE TO BE USED IN CASE OF DISCREPANCY.
- ${\it 6. \ ALL\ FINISHED\ GRADES\ SHALL\ TRANSITION\ UNIFORMLY\ BETWEEN\ THE\ FINISHED\ ELEVATIONS\ SHOWN.}$
- 7. CONTOURS AND SPOT GRADES SHOWN ARE ELEVATIONS OF TOP OF THE FINISHED SURFACE. WHEN PERFORMING THE GRADING OPERATIONS, THE CONTRACTOR SHALL PROVIDE AN APPROPRIATE ELEVATION HOLD-DOWN ALLOWANCE FOR THE THICKNESS OF PAVEMENT, SIDEWALK, TOPSOIL, MULCH, STONE, LANDSCAPING, RIP-RAP AND ALL OTHER SURFACE MATERIALS THAT WILL CONTRIBUTE TO THE TOP OF FINISHED GRADE. FOR EXAMPLE, THE LIMITS OF EARTHWORK IN PAVED AREAS IS THE BOTTOM OF THE PAVEMENT
- 8. NO REPRESENTATIONS OF EARTHWORK QUANTITIES OR SITE BALANCE ARE MADE BY THESE PLANS. THE CONTRACTOR SHALL PROVIDE THEIR OWN EARTHWORK CALCULATION TO DETERMINE THEIR CONTRACT QUANTITIES AND COST. ANY SIGNIFICANT VARIANCE FROM A BALANCED SITE SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE CIVIL ENGINEER.
- 9. ALL GRADING AND EARTHWORK SHALL COMPLY WITH THE PROJECT'S FINAL GEOTECHNICAL REPORT (OR LATEST EDITION), INCLUDING SUBSEQUENT ADDENDA.
- 10. ALL EXCAVATION IS UNCLASSIFIED AND SHALL INCLUDE ALL MATERIALS ENCOUNTERED. UNUSABLE EXCAVATED MATERIAL AND ALL WASTE RESULTING FROM SITE CLEARING AND GRUBBING SHALL BE REMOVED FROM THE SITE AND APPROPRIATELY DISPOSED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE.
- 11. EROSION CONTROL DEVICES SHOWN ON THE EROSION CONTROL PLAN FOR THE PROJECT SHALL BE INSTALLED PRIOR TO THE START OF GRADING. REFERENCE EROSION CONTROL PLAN, DETAILS, GENERAL NOTES, AND SWPPP FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

12. BEFORE ANY EARTHWORK IS PERFORMED, THE CONTRACTOR SHALL STAKE OUT AND MARK THE LIMITS OF THE

STATE AND FEDERAL LAWS AND REGULATIONS. THE CONTRACTOR SHALL KEEP A RECORD OF WHERE EXCESS

- PROJECT'S PROPERTY LINE AND SITE IMPROVEMENTS. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY ENGINEERING AND SURVEYING FOR LINE AND GRADE CONTROL POINTS RELATED TO EARTHWORK.

  13. CONTRACTOR TO DISPOSE OF ALL EXCESS EXCAVATION MATERIALS IN A MANNER THAT ADHERES TO LOCAL,
- 14. CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND REPLACEMENT OF TOPSOIL AT THE COMPLETION OF FINE GRADING. CONTRACTOR SHALL REFER TO LANDSCAPE ARCHITECTURE PLANS FOR SPECIFICATIONS AND REQUIREMENTS FOR TOPSOIL.
- 15. CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION, INCLUDING MAINTAINING EXISTING DITCHES OR CULVERTS FREE OF OBSTRUCTIONS AT ALL TIMES.

EXCAVATION WAS DISPOSED, ALONG WITH THE RECEIVING LANDOWNER'S APPROVAL TO DO SO.

- 16.NO EARTHWORK FILL SHALL BE PLACED IN ANY EXISTING DRAINAGE WAY, SWALE, CHANNEL, DITCH, CREEK, OR FLOODPLAIN FOR ANY REASON OR ANY LENGTH OF TIME, UNLESS THESE PLANS SPECIFICALLY INDICATE THIS IS REQUIRED.
- 17. TEMPORARY CULVERTS MAY BE REQUIRED IN SOME LOCATIONS TO CONVEY RUN-OFF.
- 18.REFER TO DIMENSION CONTROL PLAN, AND PLAT FOR HORIZONTAL DIMENSIONS.
- 19. THE CONTRACTOR SHALL CLEAR AND GRUB THE SITE AND PLACE, COMPACT, AND CONDITION FILL PER THE PROJECT GEOTECHNICAL ENGINEER'S SPECIFICATIONS. THE FILL MATERIAL TO BE USED SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT.
- 20.CONTRACTOR IS RESPONSIBLE FOR ALL SOILS TESTING AND CERTIFICATION, UNLESS SPECIFIED OTHERWISE BY OWNER. ALL SOILS TESTING SHALL BE COORDINATED WITH THE APPROPRIATE CITY INSPECTOR AND SHALL COMPLY WITH CITY STANDARD SPECIFICATIONS AND THE GEOTECHNICAL REPORT. SOILS TESTING SHALL BE PERFORMED BY AN APPROVED INDEPENDENT AGENCY FOR TESTING SOILS. THE OWNER SHALL APPROVE THE AGENCY NOMINATED BY THE CONTRACTOR FOR SOILS TESTING.
- 21.ALL COPIES OF SOILS TEST RESULTS SHALL BE SENT TO THE OWNER, ENGINEER AND ARCHITECT DIRECTLY FROM THE TESTING AGENCY.
- 22.IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO SHOW, BY THE STANDARD TESTING PROCEDURES OF THE SOILS, THAT THE WORK CONSTRUCTED MEETS THE PROJECT REQUIREMENTS AND CITY SPECIFICATIONS.
- 23.THE SCOPE OF WORK FOR CIVIL IMPROVEMENT SHOWN ON THESE PLANS TERMINATES 5-FEET FROM THE BUILDING. CONTRACTOR SHALL REFER TO THE GEOTECHNICAL REPORT AND STRUCTURAL PLANS AND SPECIFICATIONS FILL, CONDITIONING, AND PREPARATION IN THE BUILDING PAD.
- 24.DUE TO THE POTENTIAL FOR DIFFERENTIAL SOIL MOVEMENT ADJACENT TO THE BUILDING, THE CONTRACTOR SHALL ADHERE TO GEOTECHNICAL REPORT'S RECOMMENDATION FOR SUBGRADE PREPARATION SPECIFIC TO FLATWORK ADJACENT TO THE PROPOSED BUILDING. THE OWNER AND CONTRACTOR ARE ADVISED TO OBTAIN A GEOTECHNICAL ENGINEER RECOMMENDATION SPECIFIC TO FLATWORK ADJACENT TO THE BUILDING, IF NONE IS
- 25.CONTRACTOR SHALL ENSURE THAT SUFFICIENT POSITIVE SLOPE AWAY FROM THE BUILDING PAD IS ACHIEVED FOR ENTIRE PERIMETER OF THE PROPOSED BUILDING(S) DURING GRADING OPERATIONS AND IN THE FINAL CONDITION. IF THE CONTRACTOR OBSERVES THAT THIS WILL NOT BE ACHIEVED, THE CONTRACTOR SHALL CONTACT THE ENGINEER TO REVIEW THE LOCATION.
- 26.THE CONTRACTOR SHALL TAKE ALL AVAILABLE PRECAUTIONS TO CONTROL DUST. CONTRACTOR SHALL CONTROL DUST BY SPRINKLING WATER, OR BY OTHER MEANS APPROVED BY THE CITY, AT NO ADDITIONAL COST TO THE OWNER.
- 27.CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES FOR ANY REQUIRED UTILITY ADJUSTMENTS AND/OR RELOCATIONS NEEDED FOR GRADING OPERATIONS AND TO ACCOMMODATE PROPOSED GRADE, INCLUDING THE UNKNOWN UTILITIES NOT SHOWN ON THESE PLANS. CONTRACTOR SHALL REFER TO THE GENERAL NOTES "OVERALL" SECTION THESE PLANS FOR ADDITIONAL INFORMATION.
- 28.EXISTING TREE LOCATIONS SHOWN ON THESE PLANS ARE APPROXIMATE. CONTRACTOR SHALL REPORT ANY DISCREPANCIES FOUND IN THE FIELD THAT AFFECT THE GRADING PLAN TO THE CIVIL ENGINEER.
- 29.CONTRACTOR SHALL FIELD VERIFY ALL PROTECTED TREE LOCATIONS, INDIVIDUAL PROTECTED TREE CRITICAL ROOT ZONES, AND PROPOSED SITE GRADING, AND NOTIFY THE CIVIL ENGINEER AND LANDSCAPE ARCHITECT OF ANY CONFLICTS WITH THE TREE PRESERVATION PLAN BY THE LANDSCAPE ARCHITECT PRIOR TO COMMENCING THE WORK.
- 30.TREE PROTECTION MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY STANDARD TREE PROTECTION DETAILS AND THE APPROVED TREE PRESERVATION PLANS BY THE LANDSCAPE ARCHITECT.
- 31.CONTRACTOR SHALL REFER TO THE LANDSCAPING AND TREE PRESERVATIONS PLANS FOR ALL INFORMATION AND DETAILS REGARDING EXISTING TREES TO BE REMOVED AND PRESERVED.
- 32.NO TREE SHALL BE REMOVED UNLESS A TREE REMOVAL PERMIT HAS BEEN ISSUED BY THE CITY, OR CITY HAS OTHERWISE CONFIRMED IN WRITING THAT ONE IS NOT NEEDED FOR THE TREE(S).
- 33.NO TREE SHALL BE REMOVED OR DAMAGED WITHOUT PRIOR AUTHORIZATION OF THE OWNER OR OWNER'S REPRESENTATIVE. EXISTING TREES SHALL BE PRESERVED WHENEVER POSSIBLE AND GRADING IMPACT TO THEM HELD TO A MINIMUM.34.AFTER PLACEMENT OF SUBGRADE AND PRIOR TO PLACEMENT OF PAVEMENT, CONTRACTOR SHALL TEST AND

OBSERVE PAVEMENT AREAS FOR EVIDENCE OF PONDING AND INADEQUATE SLOPE FOR DRAINAGE. ALL AREAS

35.CONTRACTOR FIELD ADJUSTMENT OF PROPOSED SPOT GRADES IS ALLOWED, IF THE APPROVAL OF THE CIVIL

CONTRACTOR SHALL IMMEDIATELY NOTIFY OWNER AND ENGINEER IF ANY AREAS OF POOR DRAINAGE ARE

SHALL ADEQUATELY DRAIN TOWARDS THE INTENDED STRUCTURE TO CONVEY STORMWATER RUNOFF.

## ENGINEER IS OBTAINED.

- RETAINING WALLS SHOWN ARE FOR SITE GRADING PURPOSES ONLY, AND INCLUDE ONLY LOCATION AND
- SURFACE SPOT ELEVATIONS AT THE TOP AND BOTTOM OF THE WALL.

  2. RETAINING WALL TYPE OR SYSTEM SHALL BE SELECTED BY THE OWNER.
- 3. RETAINING WALL DESIGN SHALL BE PROVIDED BY OTHERS AND SHALL FIT IN THE WALL ZONE OR LOCATION SHOWN ON THESE PLANS. STRUCTURAL DESIGN AND PERMITTING OF RETAINING WALLS, RAILINGS, AND OTHER WALL SAFETY DEVICES SHALL BE PERFORMED BY A LICENSED ENGINEER AND ARE NOT PART OF THIS PLAN SET.

4. RETAINING WALL DESIGN SHALL MEET THE INTENT OF THE GRADING PLAN AND SHALL ACCOUNT FOR ANY

5. RETAINING WALL ENGINEER SHALL CONSULT THESE PLANS AND THE GEOTECHNICAL REPORT FOR POTENTIAL

INFLUENCE ON ADJACENT BUILDING FOUNDATIONS, UTILITIES, PROPERTY LINES AND OTHER CONSTRUCTABILITY

L ROAD, SUITE 700, DALLAS, TEXAS 972-770-1300 FAX: 972-239-3820 STERED ENGINEERING FIRM TX F-928

ATE: MAY 14, 2021
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- 2. ALL PRIVATE ON-SITE PAVING AND PAVING SUBGRADE SHALL COMPLY WITH THE PROJECT'S FINAL GEOTECHNICAL REPORT (OR LATEST EDITION), INCLUDING ALL ADDENDA.
- 3. ALL FIRELANE PAVING AND PAVING SUBGRADE SHALL COMPLY WITH CITY STANDARDS AND DETAILS. IF THESE ARE DIFFERENT THAN THOSE IN THE GEOTECHNICAL REPORT, THEN THE MORE RESTRICTIVE SHALL BE
- 4. ALL PUBLIC PAVING AND PAVING SUBGRADE SHALL COMPLY WITH CITY STANDARD CONSTRUCTION DETAILS AND
- 5. CONTRACTOR IS RESPONSIBLE FOR ALL PAVING AND PAVING SUBGRADE TESTING AND CERTIFICATION, UNLESS SPECIFIED OTHERWISE BY OWNER. ALL PAVING AND PAVING SUBGRADE TESTING SHALL BE COORDINATED WITH THE APPROPRIATE CITY INSPECTOR. TESTING SHALL BE PERFORMED BY AN APPROVED INDEPENDENT AGENCY FOR TESTING PAVING AND SUBGRADE. OWNER SHALL APPROVE THE AGENCY NOMINATED BY THE CONTRACTOR FOR PAVING AND PAVING SUBGRADE TESTING.
- 6. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO SHOW, BY THE STANDARD TESTING PROCEDURES OF THE PAVING AND PAVING SUBGRADE, THAT THE WORK CONSTRUCTED MEETS THE PROJECT REQUIREMENTS AND
- 7. DUE TO THE POTENTIAL FOR DIFFERENTIAL SOIL MOVEMENT ADJACENT TO THE BUILDING, THE CONTRACTOR SHALL ADHERE TO GEOTECHNICAL REPORT'S RECOMMENDATION FOR SUBGRADE PREPARATION SPECIFIC TO FLATWORK ADJACENT TO THE PROPOSED BUILDING. THE OWNER AND CONTRACTOR ARE ADVISED TO OBTAIN A GEOTECHNICAL ENGINEER RECOMMENDATION SPECIFIC TO FLATWORK ADJACENT TO THE BUILDING, IF NONE IS CURRENTLY EXISTING.
- 8. CURB RAMPS ALONG PUBLIC STREETS AND IN THE PUBLIC RIGHT-OF-WAY SHALL BE CONSTRUCTED BASED ON THE CITY STANDARD CONSTRUCTION DETAIL AND SPECIFICATIONS.
- 9. PRIVATE CURB RAMPS ON THE SITE (I.E. OUTSIDE PUBLIC STREET RIGHT-OF-WAY) SHALL CONFORM TO ADA AND TAS STANDARDS AND SHALL HAVE A DETECTABLE WARNING SURFACE THAT IS FULL WIDTH AND FULL DEPTH OF THE CURB RAMP, NOT INCLUDING FLARES.
- 10. ALL ACCESSIBLE RAMPS, CURB RAMPS, STRIPING, AND PAVEMENT MARKINGS SHALL CONFORM TO ADA AND TAS STANDARDS, LATEST EDITION.
- 11. ANY COMPONENTS OF THE PROJECT SUBJECT TO RESIDENTIAL USE SHALL ALSO CONFORM TO THE FAIR HOUSING ACT, AND COMPLY WITH THE FAIR HOUSING ACT DESIGN MANUAL BY THE US DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT.
- 12. CONTRACTOR SHALL CONSTRUCT PROPOSED PAVEMENT TO MATCH EXISTING PAVEMENT WITH A SMOOTH, FLUSH, CONNECTION.
- 13. CONTRACTOR SHALL FURNISH AND INSTALL ALL PAVEMENT MARKINGS FOR FIRE LANES. PARKING STALLS. HANDICAPPED PARKING SYMBOLS, AND MISCELLANEOUS STRIPING WITHIN PARKING LOT AND AROUND BUILDING AS SHOWN ON THE PLANS. ALL PAINT AND PAVEMENT MARKINGS SHALL ADHERE TO CITY AND OWNER
- 14.REFER TO GEOTECHNICAL REPORT FOR PAVING JOINT LAYOUT PLAN REQUIREMENTS FOR PRIVATE PAVEMENT.
- 15.REFER TO CITY STANDARD DETAILS AND SPECIFICATIONS FOR JOINT LAYOUT PLAN REQUIREMENTS FOR PUBLIC
- 16. ALL REINFORCING STEEL SHALL CONFORM TO THE GEOTECHNICAL REPORT, CITY STANDARDS, AND ASTM A-615. GRADE 60, AND SHALL BE SUPPORTED BY BAR CHAIRS. CONTRACTOR SHALL USE THE MORE STRINGENT OF THE CITY AND GEOTECHNICAL STANDARDS.
- 17. ALL JOINTS SHALL EXTEND THROUGH THE CURB.
- 18. THE MINIMUM LENGTH OF OFFSET JOINTS AT RADIUS POINTS SHALL BE 2 FEET.

AISLES SHALL NOT EXCEED 2.0 PERCENT SLOPE IN ANY DIRECTION.

- 19. CONTRACTOR SHALL SUBMIT A JOINTING PLAN TO THE ENGINEER AND OWNER PRIOR TO BEGINNING ANY OF THE
- 20.ALL SAWCUTS SHALL BE FULL DEPTH FOR PAVEMENT REMOVAL AND CONNECTION TO EXISTING PAVEMENT.
- 21.FIRE LANES SHALL BE MARKED AND LABELED AS A FIRELANE PER CITY STANDARDS.
- 22.UNLESS THE PLANS SPECIFICALLY DICTATE TO THE CONTRARY, ON-SITE AND OTHER DIRECTIONAL SIGNS SHALL BE ORIENTED SO THEY ARE READILY VISIBLE TO THE ONCOMING TRAFFIC FOR WHICH THEY ARE INTENDED.
- 23.CONTRACTOR IS RESPONSIBLE FOR INSTALLING NECESSARY CONDUIT FOR LIGHTING, IRRIGATION, ETC. PRIOR TO PLACEMENT OF PAVEMENT. ALL CONSTRUCTION DOCUMENTS (CIVIL, MEP, LANDSCAPE, IRRIGATION, AND ARCHITECT) SHALL BE CONSULTED.
- 24.BEFORE PLACING PAVEMENT, CONTRACTOR SHALL VERIFY THAT SUITABLE ACCESSIBLE PEDESTRIAN ROUTES (PER ADA, TAS, AND FHA) EXIST TO AND FROM EVERY DOOR AND ALONG SIDEWALKS, ACCESSIBLE PARKING SPACES, ACCESS AISLES, AND ACCESSIBLE ROUTES, IN NO CASE SHALL AN ACCESSIBLE RAMP SLOPE EXCEED: VERTICAL TO 12 HORIZONTAL. IN NO CASE SHALL SIDEWALK CROSS SLOPE EXCEED 2.0 PERCENT. IN NO CASE SHALL LONGITUDINAL SIDEWALK SLOPE EXCEED 5.0 PERCENT. ACCESSIBLE PARKING SPACES AND ACCESS
- 25.CONTRACTOR SHALL TAKE FIELD SLOPE MEASUREMENTS ON FINISHED SUBGRADE AND FORM BOARDS PRIOR TO PLACING PAVEMENT TO VERIFY THAT ADA/TAS SLOPE REQUIREMENTS ARE PROVIDED. CONTRACTOR SHALL CONTACT ENGINEER PRIOR TO PAVING IF ANY EXCESSIVE SLOPES ARE ENCOUNTERED. NO CONTRACTOR CHANGE ORDERS WILL BE ACCEPTED FOR ADA AND TAS SLOPE COMPLIANCE ISSUES.

- 1. ALL STORM SEWER MATERIALS AND CONSTRUCTION SHALL COMPLY WITH CITY STANDARD CONSTRUCTION DETAILS AND SPECIFICATIONS.
- 2. THE SITE UTILITY CONTRACTOR SHALL PROVIDE ALL MATERIALS AND APPURTENANCES NECESSARY FOR COMPLETE INSTALLATION OF THE STORM SEWER.
- 3. THE CONTRACTOR SHALL FIELD VERIFY THE SIZE, CONDITION, HORIZONTAL, AND VERTICAL LOCATIONS OF ALL EXISTING STORM SEWER FACILITIES THAT ARE TO BE CONNECTED TO, PRIOR TO START OF CONSTRUCTION OF ANY STORM SEWER, AND SHALL NOTIFY THE ENGINEER OF ANY CONFLICTS DISCOVERED.
- 4. THE CONTRACTOR SHALL VERIFY AND COORDINATE ALL DIMENSIONS SHOWN, INCLUDING THE HORIZONTAL AND VERTICAL LOCATION OF CURB INLETS AND GRATE INLETS AND ALL UTILITIES CROSSING THE STORM SEWER.
- 5. FLOW LINE, TOP-OF-CURB, RIM, THROAT, AND GRATE ELEVATIONS OF PROPOSED INLETS SHALL BE VERIFIED WITH THE GRADING PLAN AND FIELD CONDITIONS PRIOR TO THEIR INSTALLATION.
- 6. ALL PUBLIC STORM SEWER CONSTRUCTION, PIPE, STRUCTURES, AND FITTINGS SHALL ADHERE TO CITY PUBLIC WORKS STANDARD DETAILS AND SPECIFICATIONS. CONTRACTOR SHALL ARRANGE FOR REQUIRED CITY
- 7. ALL PRIVATE STORM SEWER CONSTRUCTION, PIPE, STRUCTURES, AND FITTINGS SHALL ADHERE TO THE APPLICABLE PLUMBING CODE. CONTRACTOR SHALL ARRANGE FOR REQUIRED CITY INSPECTIONS.
- 8. ALL PVC TO RCP CONNECTIONS AND ALL STORM PIPE CONNECTIONS ENTERING STRUCTURES OR OTHER STORM PIPES SHALL HAVE A CONCRETE COLLAR AND BE GROUTED TO ASSURE THE CONNECTION IS WATERTIGHT.
- 9. ALL PUBLIC STORM SEWER LINES SHALL BE MINIMUM CLASS III RCP. PRIVATE STORM SEWER LINES 18-INCHES AND GREATER SHALL BE CLASS III RCP OR OTHER APPROVED MATERIAL
- 10. WHERE COVER EXCEEDS 20-FEET OR IS LESS THAN 2-FEET, CLASS IV RCP SHALL BE USED.
- 11.IF CONTRACTOR PROPOSES TO USE HDPE OR PVC IN LIEU OF RCP FOR PRIVATE STORM SEWER, CONTRACTOR SHALL SUBMIT TECHNICAL DATA TO THE OWNER, ENGINEER AND CITY ENGINEER/INSPECTOR FOR APPROVAL PRIOR TO ORDERING THE MATERIAL. ANY PROPOSED HDPE AND PVC SHALL BE WATERTIGHT.
- 12. THE CONTRACTOR SHALL PROVIDE CONSTRUCTION SURVEYING FOR ALL STORM SEWER LINES.
- 13.EMBEDMENT FOR ALL STORM SEWER LINES, PUBLIC OR PRIVATE, SHALL BE PER CITY STANDARD DETAILS.
- 14. ALL WYE CONNECTIONS AND PIPE BENDS ARE TO BE PREFABRICATED AND INSTALLED PER MANUFACTURERS
- 15.USE 4 FOOT JOINTS WITH BEVELED ENDS IF RADIUS OF STORM SEWER IS LESS THAN 100 FEET.
- 16. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND SUBMITTING A TRENCH SAFETY PLAN, PREPARED BY A PROFESSIONAL ENGINEER IN THE STATE OF TEXAS, TO THE CITY PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING TRENCH SAFETY REQUIREMENTS IN ACCORDANCE WITH CITY, STATE, AND FEDERAL REQUIREMENTS, INCLUDING OSHA FOR ALL TRENCHES. NO OPEN TRENCHES SHALL BE ALLOWED OVERNIGHT WITHOUT PRIOR WRITTEN APPROVAL OF THE CITY.
- 17. THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.

#### POND NOTES:

- 1. ANY PONDS THAT ARE INTENDED TO HOLD WATER INDEFINITELY SHALL BE CONSTRUCTED WATERTIGHT.
- 2. FOR ANY PONDS INTENDED TO HOLD WATER INDEFINITELY: THE CONTRACTOR SHALL REFER TO THE GEOTECHNICAL REPORT FOR POND LINER SPECIFICATIONS.
- 3. A GEOTECHNICAL ENGINEER SHALL REVIEW AND APPROVE ALL POND LINER MATERIAL, PLACEMENT PROCEDURES, AND PROVIDE TESTING TO ENSURE THE POND LINER MATERIAL PLACED IS WATERTIGHT.
- 4. STORM SEWER PIPES AND HEADWALLS THAT CONNECT TO A POND INTENDED TO HOLD WATER INDEFINITELY SHALL BE INSTALLED WITH WATERTIGHT JOINTS TO AT LEAST 1-FOOT ABOVE THE NORMAL POOL WATER
- 5. ANY GRAVEL OR OTHER PERVIOUS EMBEDMENT AROUND PIPES OR OUTFALL STRUCTURES NEAR THE POND SHALL BE ELIMINATED FOR AT LEAST 20-FEET FROM THE POND SO NO ROUTE FOR WATER TO LEAK THROUGH THE EMBEDMENT MATERIAL IS PROVIDED. BACKFILL IN THESE AREAS SHALL BE OF IMPERVIOUS MATERIAL.
- 6. FOR ANY PONDS INTENDED TO HOLD WATER INDEFINITELY: THE WATER LEVEL FOLLOWING COMPLETION AND FILLING OF THE POND SHALL BE MONITORED BY THE CONTRACTOR FOR AT LEAST 60 DAYS TO OBSERVE WATER INFLOW, OUTFLOW, AND CALCULATE EVAPORATION TO VERIFY THAT THE POND IS WATERTIGHT.
- 7. FOR ANY PONDS INTENDED TO HOLD WATER INDEFINITELY: THE POND WATER LEVEL SHALL ALSO BE MAINTAINED BY THE CONTRACTOR FOR THE DURATION OF CONSTRUCTION SO THAT IT REMAINS FULL TO ITS DESIGN WATER LEVEL, AND IS NOT LOWERED, AS THIS MAY DRY-OUT THE POND LINER AND RISK ITS WATERTIGHT PROPERTIES.

#### **WATER AND WASTEWATER:**

- 1. ALL WATER AND WASTEWATER MATERIALS AND CONSTRUCTION SHALL COMPLY WITH CITY STANDARD CONSTRUCTION DETAILS AND SPECIFICATIONS.
- 2. CONTRACTOR SHALL FIELD VERIFY THE SIZE, CONDITION, HORIZONTAL, AND VERTICAL LOCATIONS OF ALL EXISTING WATER AND WASTEWATER FACILITIES THAT ARE TO BE CONNECTED TO, PRIOR TO START OF CONSTRUCTION OF ANY WATER OR WASTEWATER CONSTRUCTION, AND SHALL NOTIFY THE ENGINEER OF ANY CONFLICTS DISCOVERED.
- 3. CONTRACTOR SHALL VERIFY AND COORDINATE ALL DIMENSIONS SHOWN, INCLUDING THE HORIZONTAL AND VERTICAL LOCATION OF ALL UTILITY SERVICES ENTERING THE BUILDING.
- 4. THE CONTRACTOR SHALL FIELD VERIFY THE ELEVATION OF ALL UTILITY CROSSINGS PRIOR TO THE INSTALLATION
- 5. THE SITE UTILITY CONTRACTOR SHALL PROVIDE ALL MATERIALS AND APPURTENANCES NECESSARY FOR
- 6. ALL PUBLIC WATER AND WASTEWATER CONSTRUCTION, PIPE, STRUCTURES, AND FITTINGS SHALL ADHERE TO CITY PUBLIC WORKS STANDARD DETAILS AND SPECIFICATIONS. CONTRACTOR SHALL ARRANGE FOR REQUIRED CITY INSPECTIONS

COMPLETE INSTALLATION OF THE WATER AND WASTEWATER IMPROVEMENTS.

- 7. ALL PRIVATE WATER AND WASTEWATER CONSTRUCTION, PIPE, STRUCTURES, AND FITTINGS SHALL ADHERE TO THE APPLICABLE PLUMBING CODE. CONTRACTOR SHALL ARRANGE FOR REQUIRED CITY INSPECTIONS.
- 8. FIRE SPRINKLER LINES SHALL BE DESIGNED AND INSTALLED BY A LICENSED FIRE SPRINKLER CONTRACTOR, AND COMPLY TO THE APPLICABLE CODES AND INSPECTIONS REQUIRED. THESE PLANS WERE PREPARED WITHOUT THE BENEFIT OF THE FIRE SPRINKLER DESIGN. CONTRACTOR SHALL NOTIFY THE ENGINEER IF ANY DISCREPANCIES.
- 9. EMBEDMENT FOR ALL WATER AND WASTEWATER LINES, PUBLIC OR PRIVATE, SHALL BE PER CITY STANDARD
- 10. CONTRACTOR SHALL TAKE REQUIRED SANITARY PRECAUTIONS. FOLLOWING ANY CITY, TCEQ. AND AWWA STANDARDS, TO KEEP WATER PIPE AND FITTINGS CLEAN AND CAPPED AT TIMES WHEN INSTALLATION IS NOT IN PROGRESS
- 11. CONTRACTOR SHALL PROVIDE CONSTRUCTION SURVEYING FOR ALL WATER AND WASTEWATER LINES.
- 12. ALL WATER AND WASTEWATER SERVICES SHALL TERMINATE 5-FEET OUTSIDE THE BUILDING, UNLESS NOTED
- 13. CONTRACTOR SHALL COMPLY WITH CITY REQUIREMENTS FOR WATER AND WASTEWATER SERVICE DISRUPTIONS AND THE AMOUNT OF PRIOR NOTICE THAT IS REQUIRED, AND SHALL COORDINATE DIRECTLY WITH THE APPROPRIATE CITY DEPARTMENT
- 14. CONTRACTOR SHALL SEQUENCE WATER AND WASTEWATER CONSTRUCTION TO AVOID INTERRUPTION OF SERVICE TO SURROUNDING PROPERTIES.
- 15. CONTRACTOR SHALL MAINTAIN WATER SERVICE AND WASTEWATER SERVICE TO ALL CUSTOMERS THROUGHOUT CONSTRUCTION (IF NECESSARY, BY USE OF TEMPORARY METHODS APPROVED BY THE CITY AND OWNER). THIS WORK SHALL BE CONSIDERED SUBSIDIARY TO THE PROJECT AND NO ADDITIONAL COMPENSATION SHALL BE
- 16. THE CONTRACTOR IS RESPONSIBLE TO PROTECT ALL WATER AND WASTEWATER LINES CROSSING THE PROJECT THE CONTRACTOR SHALL REPAIR ALL DAMAGED LINES IMMEDIATELY. ALL REPAIRS OF EXISTING WATER MAINS, WATER SERVICES, SEWER MAINS, AND SANITARY SEWER SERVICES ARE SUBSIDIARY TO THE WORK, AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.
- 17. VALVE ADJUSTMENTS SHALL BE CONSTRUCTED SUCH THAT THE COVERS ARE AT FINISHED SURFACE GRADE OF THE PROPOSED PAVEMENT
- 18. THE ENDS OF ALL EXISTING WATER MAINS THAT ARE CUT, BUT NOT REMOVED, SHALL BE PLUGGED AND ABANDONED IN PLACE. THIS WORK SHALL BE CONSIDERED AS A SUBSIDIARY COST TO THE PROJECT AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.
- 19. ALL FIRE HYDRANTS, VALVES, TEES, BENDS, WYES, REDUCERS, FITTINGS, AND ENDS SHALL BE MECHANICALLY RESTRAINED AND/OR THRUST BLOCKED TO CITY STANDARDS.
- 20.CONTRACTOR SHALL INSTALL A FULL SEGMENT OF WATER OR WASTEWATER PIPE CENTERED AT ALL UTILITY CROSSINGS SO THAT THE JOINTS ARE GREATER THAN 9-FEET FROM THE CROSSING.
- 21. ALL CROSSINGS AND LOCATIONS WHERE WASTEWATER IS LESS THAN 9-FEET FROM WATER. WASTEWATER CONSTRUCTION AND MATERIALS SHALL COMPLY WITH TCEQ CHAPTER 217.53.
- 22.ALL CROSSING AND LOCATIONS WHERE WATER IS LESS THAN 9-FEET FROM WASTEWATER, WATER CONSTRUCTION AND MATERIALS SHALL COMPLY WITH TCEQ CHAPTER 290.44.
- 23.ALL WATER AND WASTEWATER SHALL BE TESTED IN ACCORDANCE WITH THE CITY, AWWA, AND TCEQ STANDARDS AND SPECIFICATIONS. AT A MINIMUM, THIS SHALL CONSIST OF THE FOLLOWING: a. ALL WATERLINES SHALL BE HYDROSTATICALLY TESTED AND CHLORINATED BEFORE BEING PLACED INTO SERVICE. CONTRACTOR SHALL COORDINATE WITH THE CITY FOR THEIR REQUIRED PROCEDURES AND SHALL ALSO COMPLY WITH TCEQ REGULATIONS.
- b. WASTEWATER LINES AND MANHOLES SHALL BE PRESSURE TESTED. CONTRACTOR SHALL COORDINATE WITH THE CITY FOR THEIR REQUIRED PROCEDURES AND SHALL ALSO COMPLY WITH TCEQ REGULATIONS. AFTER COMPLETION OF THESE TESTS, A TELEVISION INSPECTION SHALL BE PERFORMED AND PROVIDED TO THE CITY
- 24. CONTRACTOR SHALL INSTALL DETECTABLE WIRING OR MARKING TAPE A MINIMUM OF 12" ABOVE WATER AND WASTEWATER LINES. MARKER DECALS SHALL BE LABELED "CAUTION - WATER LINE", OR "CAUTION - SEWER LINE". DETECTABLE WIRING AND MARKING TAPE SHALL COMPLY WITH CITY STANDARDS, AND SHALL BE INCLUDED IN THE COST OF THE WATER AND WASTEWATER PIPE.
- 25.DUCTILE IRON PIPE SHALL BE PROTECTED FROM CORROSION BY A LOW-DENSITY POLYETHYLENE LINER WRAP THAT IS AT LEAST A SINGLE LAYER OF 8-MIL. ALL DUCTILE IRON JOINTS SHALL BE BONDED.
- 26.WATERLINES SHALL BE INSTALLED AT NO LESS THAN THE MINIMUM COVER REQUIRED BY THE CITY.
- 27.CONTRACTOR SHALL PROVIDE CLEAN-OUTS FOR PRIVATE SANITARY SEWER LINES AT ALL CHANGES IN DIRECTION AND 100-FOOT INTERVALS, OR AS REQUIRED BY THE APPLICABLE PLUMBING CODE. CLEAN-OUTS REQUIRED IN PAVEMENT OR SIDEWALKS SHALL HAVE CAST IRON COVERS FLUSH WITH FINISHED GRADE.
- 28.CONTRACTOR SHALL PROVIDE BACKWATER VALVES FOR PLUMBING FIXTURES AS REQUIRED BY THE APPLICABLE PLUMBING CODE (E.G. FLOOR ELEVATION OF FIXTURE UNIT IS BELOW THE ELEVATION OF THE MANHOLE COVER OF THE NEXT UPSTREAM MANHOLE IN THE PUBLIC SEWER). CONTRACTOR SHALL REVIEW BOTH MEP AND CIVIL PLANS TO CONFIRM WHERE THESE ARE REQUIRED.
- 29.THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND SUBMITTING A TRENCH SAFETY PLAN, PREPARED BY A PROFESSIONAL ENGINEER IN THE STATE OF TEXAS, TO THE CITY PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING TRENCH SAFETY REQUIREMENTS IN ACCORDANCE WITH CITY, STATE, AND FEDERAL REQUIREMENTS, INCLUDING OSHA FOR ALL TRENCHES. NO OPEN TRENCHES SHALL BE ALLOWED OVERNIGHT WITHOUT PRIOR WRITTEN APPROVAL OF THE CITY.
- 30.THE CONTRACTOR SHALL KEEP TRENCHES FREE FROM WATER.

Α	AREA
ADA	AMERICANS WITH DISABILITIES ACT
AWWA	AMERICAN WATER WORKS ASSOCIATION
B-B	BACK TO BACK
BC	BEGIN CURVE
BC	BACK OF CURB
BCR	BEGIN CURB RETURN
BMP	BEST MANAGEMENT PRACTICE
BOC	BACK OF CURB
BVCE	BEGIN VERTICAL CURVE ELEVATION
BVCS	BEGIN VERTICAL CURVE STATION
BW	BOTTOM OF WALL
CFS	CUBIC FEET PER SECOND
CITY	CITY, TOWN, OR OTHER APPLICABLE LOCAL GOVERNMENT JURISDICTION
C/L	CENTERLINE
CL	CENTERLINE
CONC	CONCRETE
CY	CUBIC YARD
DEMO	DEMOLITION
DG	DECOMPOSED GRANITE
DTL	DETAIL
EA	EACH
EC	END CURVE
ECR	END CURB RETURN
EG	EXISTING GROUND
EL .	ELEVATION
ELEC	ELECTRICAL / ELECTRICITY
ELEV	ELEVATION
EPA	UNITES STATES ENVIRONMENTAL PROTECTION AGENCY
ESMT	EASEMENT
EVCE	END VERTICAL CURVE ELEVATION
EVCS	END VERTICAL CURVE STATION
EX.	EXISTING
F-F	FACE TO FACE
FG	FINISHED GROUND
FH	FIRE HYDRANT
FL	FLOW LINE
FOC	FACE OF CURB
FT	FEET
HGL	HYDRAULIC GRADE LINE
_	KIMLEY-HORN AND ASSOCIATES, INC.
KH	
KH KHA	KIMLEY-HORN AND ASSOCIATES, INC.

LINEAR FEET MAX MAXIMUM

MATCH EXISTING ELEVATION MANHOLE MINUTE / MINIMUM

NUMBER

NOI NOTICE OF INTENT, REF. TCEQ GENERAL PERMIT NOTICE OF TERMINATION, REF. TCEQ GENERAL PERMIT NOT NOT TO SCALE

ON CENTER

OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

POINT OF CURVATURE PCC PORTLAND CEMENT CONCRETE / POINT OF COMPOUND CURVATURE PGL PROPOSED GRADE LINE

POINT OF INFLECTION PROPOSED POINT OF REVERSE CURVATURE

PSI POUNDS PER SQUARE INCH POINT OF TANGENCY POLYVINYL CHLORIDE

PVI POINT OF VERTICAL INFLECTION PVMT PAVEMENT REINFORCED CONCRETE PIPE

ROW RIGHT OF WAY SQUARE FEET

STANDARD

STD

SANITARY SEWER SANITARY SEWER MANHOLE STA STATION

SQUARE YARD ARCHITECTURAL BARRIERS TEXAS ACCESSIBILITY STANDARDS TOP OF CURB

TEXAS COMMISSION OF ENVIRONMENTAL QUALITY TEMP TEMPORARY TXDOT TEXAS DEPARTMENT OF TRANSPORTATION

TXMUTCD TEXAS MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES TW TOP OF WALL TYPICAL

VERTICAL CURVE WTR WATER WW WASTEWATER

THESE PLAN AND GENERAL NOTES REFER TO SCHOOL - TRINITY CHRISTIAN ACADEMY ALPHA TESTING

REPORT NO: G203487

**JANUARY 18, 2021** INCLUDING ALL REVISIONS AND ADDENDA TO THIS REPORT THAT MAY HAVE BEEN RELEASED AFTER THE NOTED DATE.

THESE PLANS CONFORM WITH THE DESIGN STANDARDS INCLUDED IN THE TOWN OF ADDISON TRANSPORTATION PLAN, WATER SYSTEM REQUIREMENTS, WASTEWATER SYSTEM REQUIREMENTS, AND DRAINAGE CRITERIA MANUAL



#### EROSION CONTROL PLAN NOTES

- 1. ALL OPERATORS AND/OR CONTRACTORS SHALL CONFORM TO THE TERMS AND CONDITIONS OF THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ), TPDES GENERAL PERMIT NO. TXR 150000 ISSUED AND DATED MARCH 5, 2003.
- THE NOTICE OF INTENT (NOI), AS REQUIRED BY THE GENERAL PERMIT, MUST BE PROPERLY DISPLAYED ON SITE AT ALL TIMES BY EACH OPERATOR.
- 3. ALL RELEASES OF THE REPORTABLE QUANTITIES OF HAZARDOUS SUBSTANCES SHALL BE REPORTED IMMEDIATELY TO THE FACILITY OPERATOR, EPA AND TCEQ.
- 4. QUALIFIED OPERATOR PERSONNEL MUST INSPECT THE SITE AT LEAST ONCE EVERY 14 DAYS AND WITHIN 24 HOURS OF A STORM EVENT OF 0.5 INCHES OR GREATER. AS AN ALTERNATIVE, AN INSPECTION CAN BE CONDUCTED ONCE EVERY SEVEN (7) CALENDAR DAYS ON A DEFINED DAY. A DECISION ON WHICH METHOD TO USE MUST BE DECIDED BEFORE WORK BEGINS AND MUST BE FOLLOWED THROUGHOUT
- 5. MODIFICATIONS TO THE STORM WATER POLLUTION PREVENTION PLAN SHALL BE IMPLEMENTED AND BE IN-PLACE WITHIN A SEVEN CALENDAR DAY PERIOD.
- 6. IF ANY CONTRACTOR SEES A VIOLATION BY AN OPERATOR OR ANOTHER CONTRACTOR, THAT OPERATOR OR CONTRACTOR IN VIOLATION SHALL BE NOTIFIED AS WELL AS THE FACILITY OPERATOR.
- EROSION CONTROL SHALL BE INSTALLED PRIOR TO GRADING.
- 8. ACCUMULATED SILT DEPOSITS SHALL BE REMOVED FROM SILT FENCES AND HAY BALE DIKES WHEN SILT DEPTH REACHES THREE INCHES OR 25%.
- 9. THE CONTRACTOR SHALL ADD OR DELETE EROSION PROTECTION AT THE REQUEST AND DIRECTION OF THE OPERATOR OR TOWN.
- 10. AFTER INSTALLATION OF PAVEMENT, FINAL LOT BENCHING AND GENERAL CLEANUP, THE CONTRACTOR SHALL ESTABLISH GRASS GROUNDCOVER IN ALL STREET PARKWAYS, LOT AND ALL OTHER DISTURBED AREAS. SODDING SHALL BE DONE AS SPECIFIED BY SECTION 202.5 AND SEEDING AS SPECIFIED BY SECTION 202.6 OF THE OCTOBER 2004 OR LATEST EDITION OF NCTCOG STANDARD
- 11. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTROL AND LIMIT SILT AND SEDIMENT LEAVING THE SITE. SPECIFICALLY, THE CONTRACTOR SHALL PROTECT ALL PUBLIC STREETS, ALLEYS, STREAMS AND STORM DRAINAGE SYSTEMS FROM EROSION DEPOSITS.
- 12. A DRAINAGE AREA MAP WILL BE INCLUDED WITH THE EROSION CONTROL PLAN
- 13. CONSTRUCTION WASTE DISPOSAL CONTAINERS SHALL BE PROVIDED ON THE SITE FOR DISPOSAL OF ALL NON-HAZARDOUS CONSTRUCTION WASTE MATERIALS. THE CONTAINERS SHALL BE HAULED TO
- 14. ALL HAZARDOUS MATERIALS SHALL BE HANDLED AND DISPOSED OF BY THE CONTRACTOR IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.

#### SILT FENCE NOTES

- 1. POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. THE POST MUST BE EMBEDDED A MINIMUM OF 18 INCHES.
- THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CANNOT BE TRENCHED IN (E.G. PAVEMENT): WEIGHT FABRIC FLAP WITH WASHED GRAVEL ON THE UPHILL SIDE TO PREVENT FLOW UNDER FENCE.
- 3. THE TRENCH MUST BE A MINIMUM OF 6 INCHES DEEP AND 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
- SILT FENCE SHALL BE SECURELY FASTENED TO EACH SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE SUPPORT POST. THERE SHALL BE A 6 INCH DOUBLE OVERLAP, SECURELY FASTENED WHERE ENDS OF FABRIC MEET.
- 5. INSPECTION SHALL BE MADE EVERY TWO WEEKS OR AFTER EACH RAINFALL. REPAIR OR REPLACEMENT SHALL BE PROMPTLY AS NEEDED.
- 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 3 INCHES. THE SILT SHALL BE DISPOSED OF AT AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SILTATION.

Addison!
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PUBLIC WORKS DEPARTMENT

**EROSION CONTROL & SILT** FENCE NOTES

STANDARD CONSTRUCTION DETAILS EROSION CONTROL REV DATE:

#### STORM SEWER - GENERAL NOTES:

- ALL CONCRETE DRAINAGE STRUCTURES SHALL BE CLASS C CONCRETE MINIMUM.
- 2. ALL CRUSHED STONE SHALL BE 3/4", PASSING #4 SIEVE (GRADE 4).
- . ALL FIELD JOINTS WILL BE APPROVED BY THE TOWN ENGINEER IF NECESSARY. FIELD JOINTS SHALL BE WIPED ON THE INSIDE AND OUTSIDE TO PROVIDE FOR SMOOTH FLOW OF WATER.
- 4. RAMNECK COMPOUND OR APPROVED EQUAL SHALL BE USED FOR JOINT SEALS.
- . ALL STORM SEWER PIPE SHALL BE CAMERA INSPECTED AFTER THE INSTALLATION OF ALL PAVING AND UTILITIES AND PRIOR TO FINAL ACCEPTANCE OF THE PROJECT.

PUBLIC WORKS DEPARTMENT

STORM SEWER GENERAL NOTES STANDARD CONSTRUCTION DETAILS STORM DRAINAGE

REV DATE:

PAVEMENT THICKNESS IS AS SHOWN IN ITEM 7. SUBGRADE DESIGN SHALL CONFORM TO TOWN OF ADDISON PUBLIC WORKS REQUIREMENTS IN ITEM 3, AND SHALL EXTEND 12" MIN. BEHIND THE BACK OF

2. REINFORCED CONCRETE PAVEMENT:

A. CONCRETE STRENGTH SHALL BE AS SHOWN IN ITEM 7 (NCTCOG LATEST EDITION).
B. ALL CURBS SHALL BE INTEGRAL WITH PAVEMENT AND SHALL BE OF THE SAME STRENGTH AS CONCRETE C. DETAIL AND ARRANGEMENT OF PAVEMENT JOINTS, ALL TYPES, SHALL BE AS SHOWN ON THE TOWN STANDARD CONSTRUCTION DETAILS.

PAVING - GENERAL NOTES

D. BAR LAPS SHALL BE THIRTY DIAMETERS. E. REINFORCING STEEL SHALL BE #3 REBAR (3/8") ON 18" CENTERS FOR 8" OR LESS. #4 FOR

SUBGRADE UNDER ALL PAVEMENT SHALL BE 6" THICK AND SHALL BE STABILIZED WITH AT LEAST 30 LBS. PER SQ. YD. HYDRATED LIME, COMPACTED TO A DENSITY NOT LESS THAN 95 PERCENT. LABORATORY TESTS MUST BE SUBMITTED TO THE PUBLIC WORKS DEPARTMENT FOR APPROVAL TO DETERMINE AMOUNT OF LIME REQUIRED. LABORATORY TEST MAY BE WAIVED PROVIDED AT LEAST 36 LBS. OF LIME PER SQ. YD. IS USED. SEE NCTCOG ITEM 301.2 "LIME TREATMENT". FLEXIBLE BASE (CRUSHED STONE/CONCRETE) PER NCTCOG ITEM 301.5 MAY BE SUBSTITUTED FOR LIME TREATMENT WITH THE APPROVAL OF THE TOWN

- 4. REBAR SHALL BE SUPPORTED BY BAR CHAIRS OR OTHER DEVICES APPROVED BY TOWN ENGINEER.
- 5. NO TRAFFIC ON FINISHED SUBGRADE SHALL BE PERMITTED AFTER REINFORCING STEEL IS INSTALLED ABOVE SUBGRAGE. NO TRAFFIC SHALL BE PERMITTED BEFORE OR DURING THE PLACING OF CONCRETE.
- 6. CROSS SLOPE OF STRAIGHT CROWN STREETS SHALL BE 1/4" PER FOOT UNLESS APPROVED BY THE TOWN
- PAVEMENT THICKNESS AND STRENGTHS SHALL BE AS FOLLOWS: MAJOR ARTERIAL - 10" CLASS "P1" OR "P2." MINOR ARTERIAL - 8" CLASS "P1" OR "P2." COMMERCIAL/INDUSTRIAL COLLECTOR - 8" CLASS "P1" OR "P2." RESIDENTIAL COLLECTOR - 8" CLASS "P1" OR "P2." RESIDENTIAL LOCAL - 8" CLASS "P1" OR "P2." SIDEWALK AND BFR's-4"-CLASS "A" DRIVE APPROACH-8"-CLASS "P2" ALLEY-6" CLASS "P1" OR "P2."
- 8. CONCRETE MIX DESIGN SHALL BE AS DEFINED BY NCTCOG 303.3.
- ALL MEDIANS AND PARKWAYS SHALL BE PROVIDED WITH BERMUDA GROUND COVER.
- 10. ONCE A CURB ABUTTING A THOROUGHFARE HAS BEEN SAWCUT AND REMOVED, THE CONTRACTOR MUST REPLACE THE CONCRETE WITH A NEW POUR (i.e. DRIVEWAY) WITHIN 14 CALENDAR DAYS. LIQUIDATED DAMAGES WILL BE ASSESSED AT \$500 PER DAY FOR EACH CALENDAR DAY IN EXCESS OF 14 CALENDAR DAYS. PAYMENT SHALL BE MADE PRIOR TO ACCEPTANCE OR ISSUANCE OF A CERTIFICATE OF OCCUPANCY.
- 11. ALL SIDEWALKS AND ACCESSIBLE ROUTES SHALL HAVE A MAXIMUM LONGITUDINAL SLOPE OF 5% AND A MAXIMUM CROSS SLOPE OF 2%.
- A. CONCRETE FOR ALLEY RETURNS AND DRIVEWAYS SHALL HAVE A MINIMUM COPRESSIVE STRENGTH AT 28 DAYS IDENTICAL TO THAT SPECIFIED FOR THE STREET PAVEMENT OR BASE WHEN BUILT AS COMPONENTS OF A CONCRETE PAVING PROJECT. WHEN BUILT SEPARATELY, THE STRENGTH SHALL BE AS SPECIFIED ON
- B. SPACING AND CONSTRUCTION OF JOINTS SHALL CONFORM TO PARABOLIC STREET PAVEMENT.

STANDARD CONSTRUCTION DETAILS PAVING PAVING GENERAL NOTES REV DATE:

#### GENERAL NOTES FOR PEDESTRIAN FACILITIES

- 1. <u>ALL SLOPES ARE MAXIMUM ALLOWABLE.</u> THE LEAST POSSIBLE SLOPE THAT WILL STILL DRAIN PROPERLY SHOULD BE USED. ADJUST CURB RAMP LENGTH OR GRADE OF APPROACH SIDEWALKS AS DIRECTED.
- 2. LANDINGS SHALL BE 5'X5' MINIMUM WITH A MAXIMUM 2% SLOPE IN ANY DIRECTION.
  3. MANEUVERING SPACE AT THE BOTTOM OF CURB RAMPS SHALL BE A MINIMUM OF 4'X4' WHOLLY CONTAINED WITHIN THE CROSSWALK AND WHOLLY OUTSIDE THE PARALLEL
- . MAXIMUM ALLOWABLE CROSS SLOPE ON SIDEWALK AND CURB RAMP SURFACES IS 2%
  . CURB RAMPS WITH RETURNED CURBS MAY BE USED ONLY WHERE PEDESTRIANS WOULD NOT NORMALLY WALK ACROSS THE RAMP, EITHER BECAUSE THE ADJACENT SURFACE IS PLANTING OR OTHER NON-WALKING SURFACE OR BECAUSE THE SIDE APPROACH IS SUBSTANTIALLY OBSTRUCTED. OTHERWISE, PROVIDE FLARED SIDES.
- 6. ADDITIONAL INFORMATION ON CURB RAMP LOCATION, DESIGN, LIGHT REFLECTIVE VALUE AND TEXTURE MAY BE FOUND IN THE CURRENT EDITION OF THE TEXAS ACCESSIBILITY STANDARDS (TAS) AND 16 TAC §68.102.
- 7. CURB RAMPS SHALL BE ALIGNED WITH THEORETICAL CROSSWALKS, OR AS DIRECTED
- BY THE TOWN ENGINEER.

  8. HANDRAILS ARE NOT REQUIRED ON CURB RAMPS. PROVIDE CURB RAMPS WHEREVER ON ACCESSIBLE ROUTE CROSSES (PENETRATES) A CURB.
- FLARE SLOPE SHALL NOT EXCÈED 10% MEÁSURED ALONG CURB LINE. 10. BARRIER FREE RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT EDITION
- OF THE TEXAS ACCESSIBILITY STANDARDS (TAS).

  11. ALL BARRIER FREE RAMPS MUST PASS AN INDEPENDENT INSPECTION. A LETTER OF COMPLIANCE ACCEPTANCE IS REQUIRED PRIOR TO FINAL ACCEPTANCE BY THE TOWN OF
- 12. STREETS ON STEEP GRADE WILL REQUIRE LONGER TRANSITION ON UPGRADE SIDE.

  13. MAXIMUM SLOPE ON RAMP PORTION SHALL NOT EXCEED 1" PER FOOT AT ANY LOCATION. VERTICAL DISTANCE BETWEEN STREET AND RAMP SHALL NOT EXCEED 1/4".

#### GENERAL NOTES FOR DETECTABLE WARNINGS

- 1. CURB RAMPS MUST CONTAIN A DETECTABLE WARNING SURFACE THAT CONSIST OF RAISED TRUNCATED DOMES COMPLYING WITH SECTION 4.29 OF THE TEXAS ACCESSIBILITY STANDARDS (TAS). THE SURFACE MUST CONTRAST VISUALLY WITH THE ADJOINING SURFACES, INCLUDING SIDE FLARES. FURNISH DARK RED COLORED DETECTABLE WARNING SURFACE ADJACENT TO UNCOLORED CONCRETE AND CREAM COLORED DETECTABLE WARNING SURFACE ADJACENT TO
- ARK RED COLORED BRICK PAVERS. 2. DETECTABLE WARNING SURFACES MUST BE SLIP RESISTANT AND NOT ALLOW WATER TO
- ACCUMULATE. 3. ALIGN TRUNCATED DOMES IN THE DIRECTION OF PEDESTRIAN TRAVEL WHEN ENTERING THE
- 4. DETECTABLE WARNING SURFACES SHALL BE A MINIMUM OF 24" IN DEPTH IN THE DIRECTION OF PEDESTRIAN TRAVEL, AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR LANDING
- WHERE THE PEDESTRIAN ACCESS ROUTE ENTERS THE STREET.

  5. DETECTABLE WARNING SURFACES SHALL BE LOCATED SO THAT THE EDGE NEAREST THE CURB LINE IS A MINIMUM OF 6" AND A MAXIMUM OF 8" FROM THE EXTENSION OF THE FACE OF CURB AND SHALL BE AN INTEGRAL PART OF THE WALKING SURFACE. DETECTABLE WARNING SURFACES MAY BE CURVED ALONG THE CORNER RADIUS.

#### GENERAL NOTES FOR DETECTABLE WARNING PAVER UNITS

- 1. DETECTABLE WARNING PAVER UNITS SHALL MEET OR EXCEED ALL REQUIREMENTS OF ASTM C-936, C-33, AND BE LAID IN A TWO BY TWO UNIT BASKET WEAVE PATTERN OR AS
- LAY FULL-SIZE UNITS FIRST FOLLOWED BY CLOSURE UNITS CONSISTING OF AT LEAST 25
  PERCENT OF A FULL UNIT. CUT DETECTABLE WARNING PAVER UNITS USING A POWER SAW.

PEDESTRIAN FACILITIES GENERAL NOTES

STANDARD CONSTRUCTION DETAIL PAVING REV DATE:

0



SHEET NUMBER C-004

O

- HAVE A MIN. INSIDE TURNING RADIUS OF 20'. ALL SCREENING WILL BE PROVIDED IN ACCORDANCE WITH ADDISON REQUIREMENTS.

ZONING/PROPOSED USE	PLANNED DEVELOPMENT/SCHOO PD016-04		
ARTIFICIAL LOT AREA	108,900 SQ. FT.		
ARTIFICIAL LOT AREA	2.5 AC.		
BUILDING AREA (GSF):			
MIDDLE SCHOOL BUILDING:	45,180 SQ. FT		
BUILDING HEIGHT	55' TOP OF TOWER (3 STORIES		
LOT COVERAGE	41.5%		
EXISTING PARKING REMOVED	4 SPACE		
PARKING ADDED	4 SPACES		
EXISTING ADA PARKING	3 SPACES		
PROPOSED ADA PARKING	3 SPACES		
STORMWATER MITIGATION AREA	3,782 SQ. FT.		
IMPERVIOUS SURFACE	36,120 SQ. FT.		

THESE PLANS CONFORM WITH THE DESIGN STANDARDS INCLUDED IN THE TOWN OF ADDISON TRANSPORTATION PLAN, WATER SYSTEM REQUIREMENTS, WASTEWATER SYSTEM REQUIREMENTS, AND DRAINAGE CRITERIA MANUA

# **OWNER**

TRINITY CHRISTIAN ACADEMY 17001 ADDISON ROAD ADDISON, TEXAS 75001 PHONE: 972-931-8325

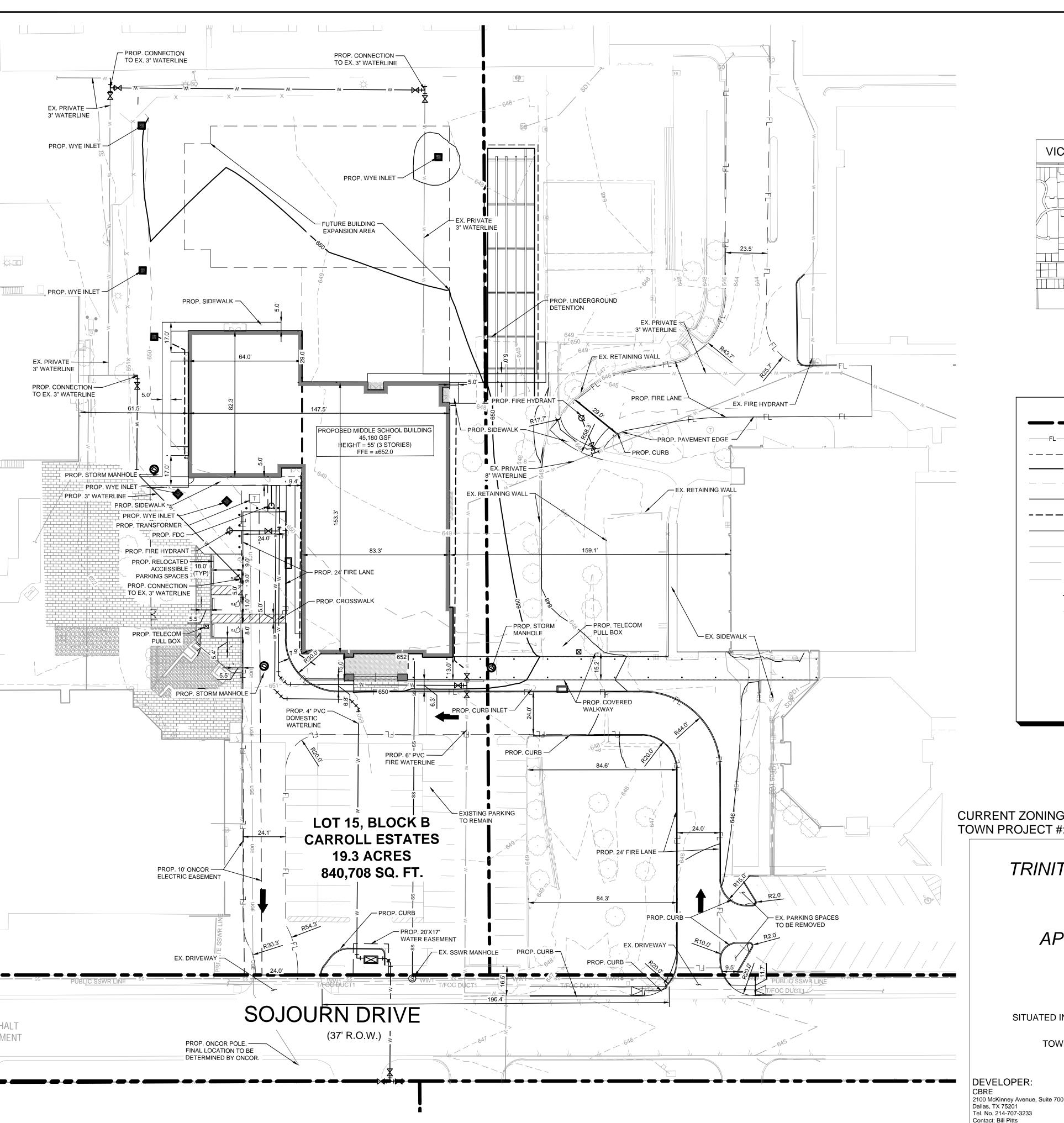
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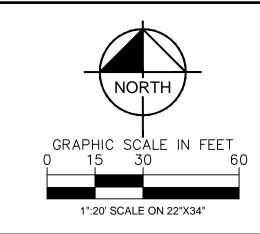
**CONTACT: DAWN BOOTH** 

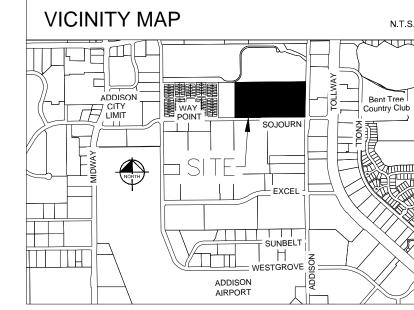
**GFF ARCHITECS** 2808 FAIRMOUNT STREET SUITE 300 DALLAS, TEXAS 75201 PHONE: 214-303-1500 CONTACT: JEREMY ROEHR

# **ENGINEER**

13455 NOEL ROAD, SUITE 700, DALLAS, TEXAS 75240 PHONE: 972-770-1300 CONTACT: JEFFREY W DOLIAN, P.E. TEXAS REGISTERED ENGINEERING FIRM NO. F-928







	<u>LEGEND</u>
	PROPOSED PROPERTY LINE
FLFL	PROPOSED FIRELANE
	PROPOSED EASEMENT LINE
686	PROPOSED CONTOUR LINE
— ·686· — —	EXISTING CONTOUR LINE
	PROPOSED WATER LINE
	PROPOSED SANITARY SEWER LINE
SD	PROPOSED STORM SEWER LINE
	EXISTING WATER LINE
SS	EXISTING SANITARY SEWER LINE
OHE	EXISTING OVERHEAD ELECTRIC LINE
$\Phi$	PROPOSED FIRE HYDRANT
$\leftarrow$	EXISTING FIRE HYDRANT
$\boxtimes$	EXISTING WATER VALVE
S	PROPOSED SANITARY SEWER MANHOLE
S	EXISTING SANITARY SEWER MANHOLE
	BARRIER FREE RAMP (BFR)
EX.	EXISTING
PROP.	PROPOSED
TYP.	TYPICAL

**CURRENT ZONING: PD016-040** TOWN PROJECT #: 1824-Z

# TRINITY CHRISTIAN ACADEMY SITE PLAN

APPROX. 2.5 ACRES OF LOT 15, BLOCK 1B CARROLL ESTATES

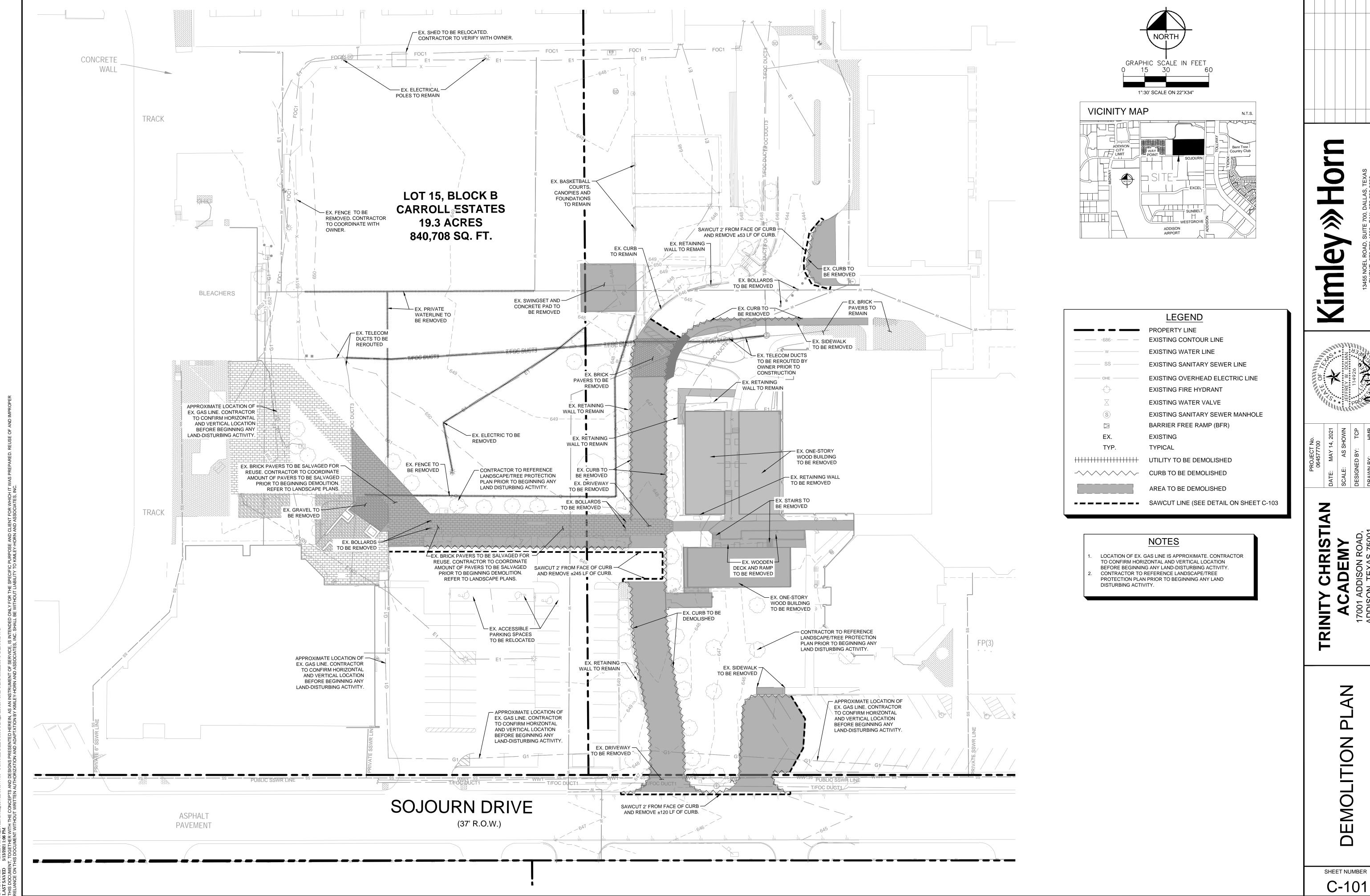
**19.3 ACRES** 

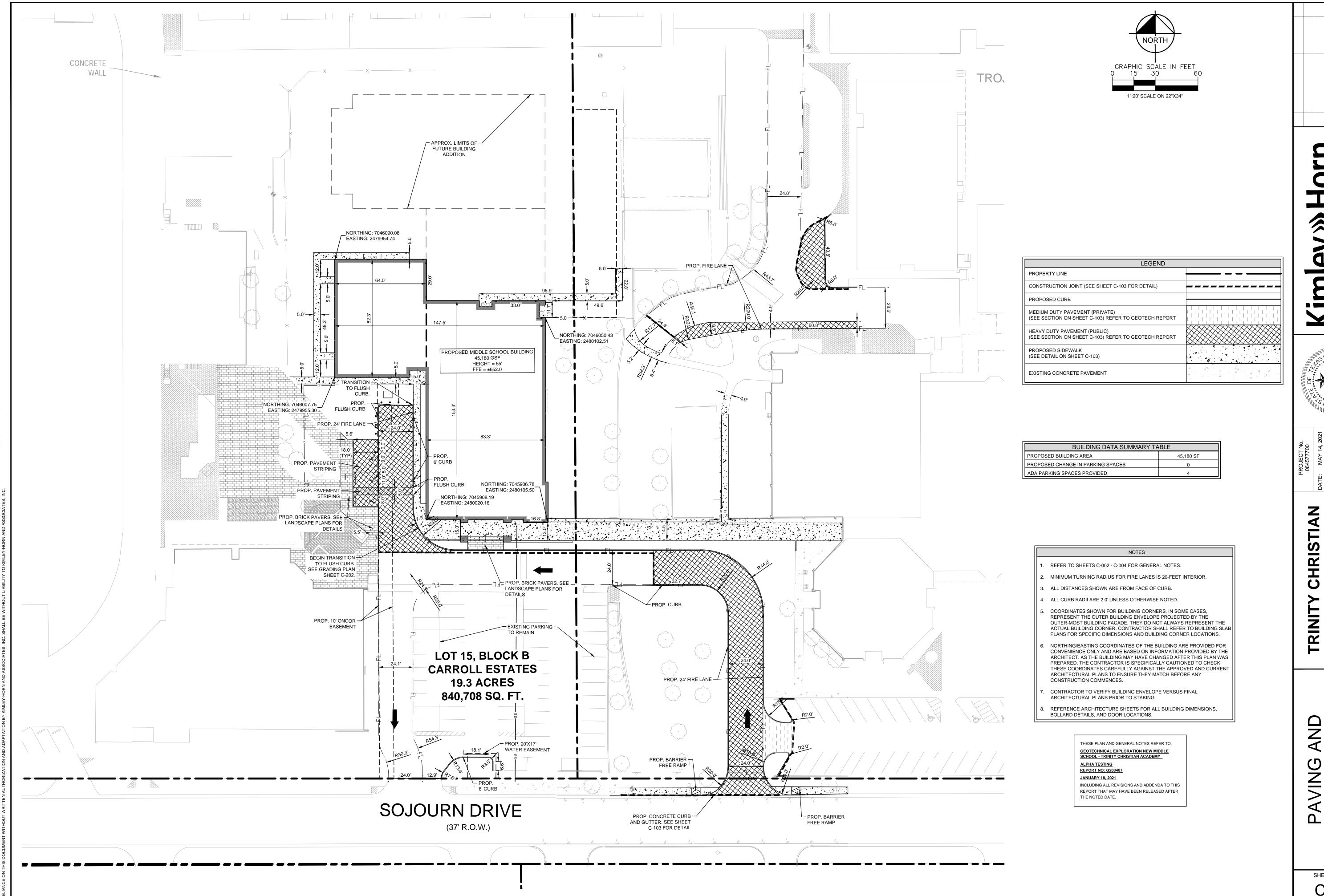
SITUATED IN THE ELI SHEPERD AND LEVI NOBES SURVEYS **ABSTRACT NO. 1361 AND 1098** TOWN OF ADDISON, DALLAS COUNTY, TEXAS

**DATE: MARCH 8, 2021** 

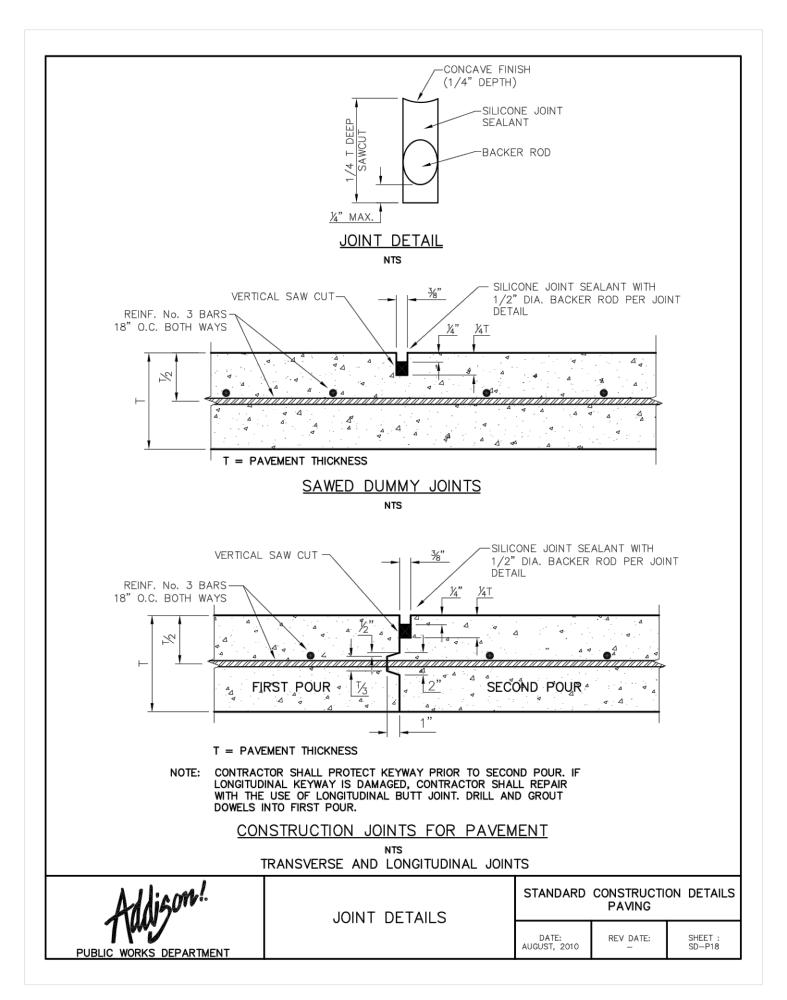
ARCHITECT: **GFF ARCHITECTS** 2808 Fairmont Street, Suite 300 13455 Noel Road, Two Galleria Office Tower, Suite 70 Dallas, Texas 75201 Tel. No. 214-303-1500 Tel. No. 972-770-1300 Contact: Jeremy Roehr, AIA

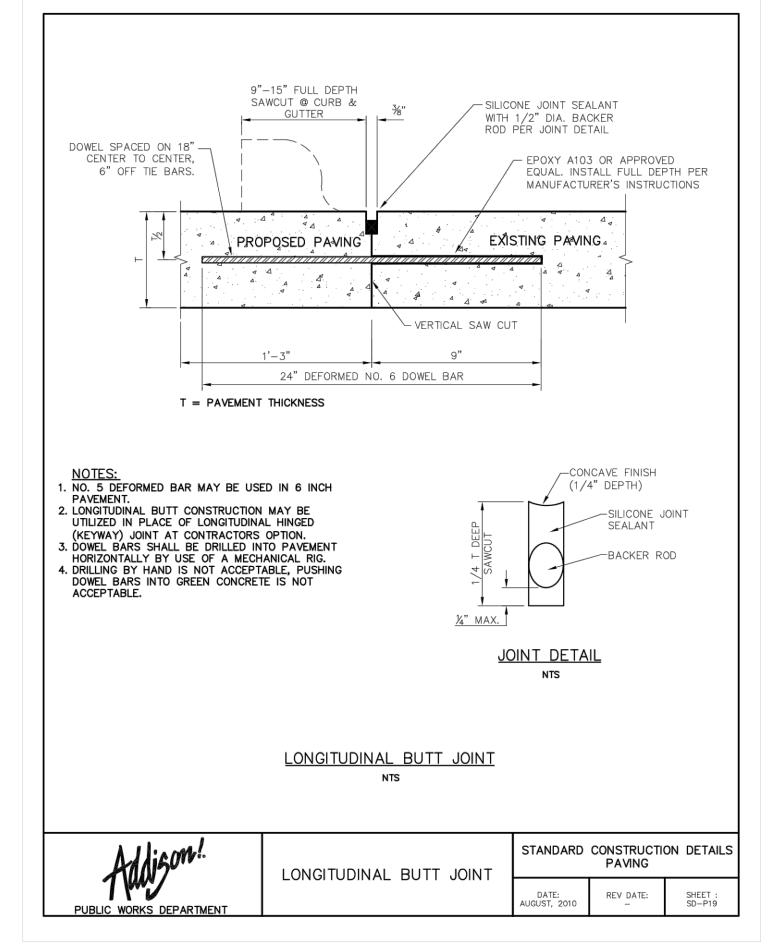
**CIVIL ENGINEER:** KIMLEY-HORN AND ASSOCIATES, INC. Contact: Jeffery W. Dolian, P.E

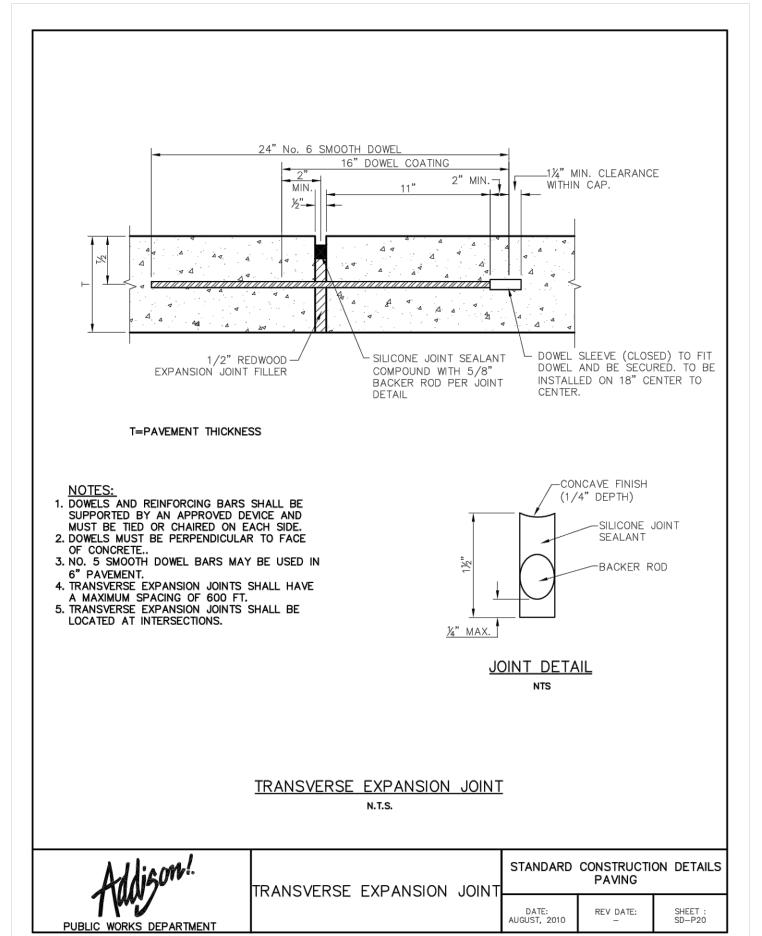


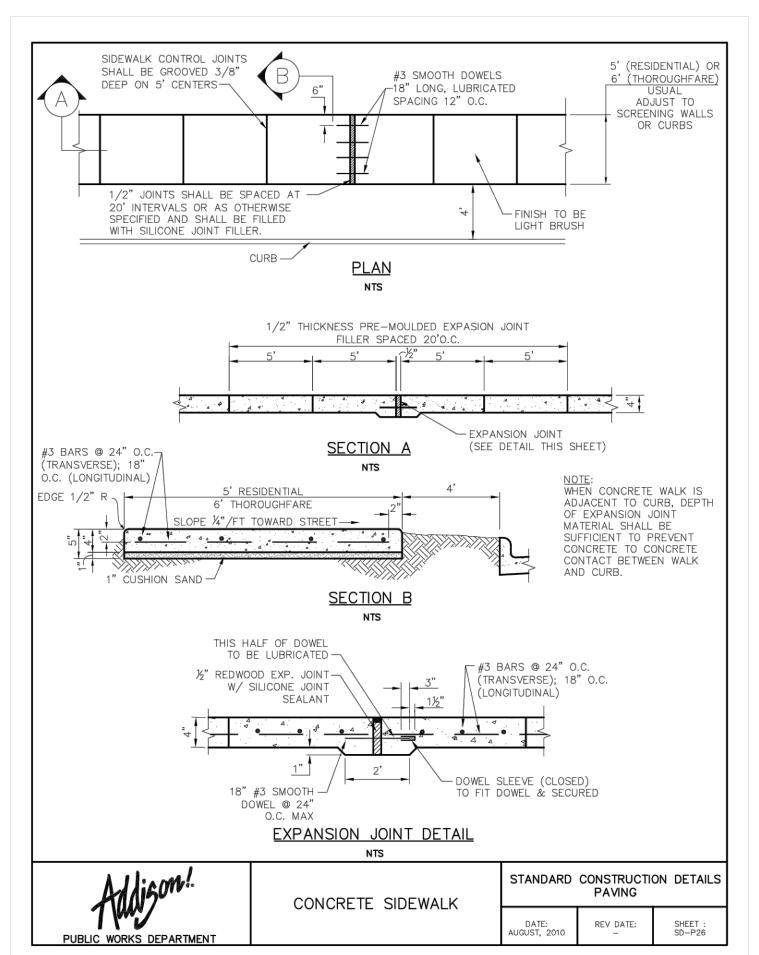


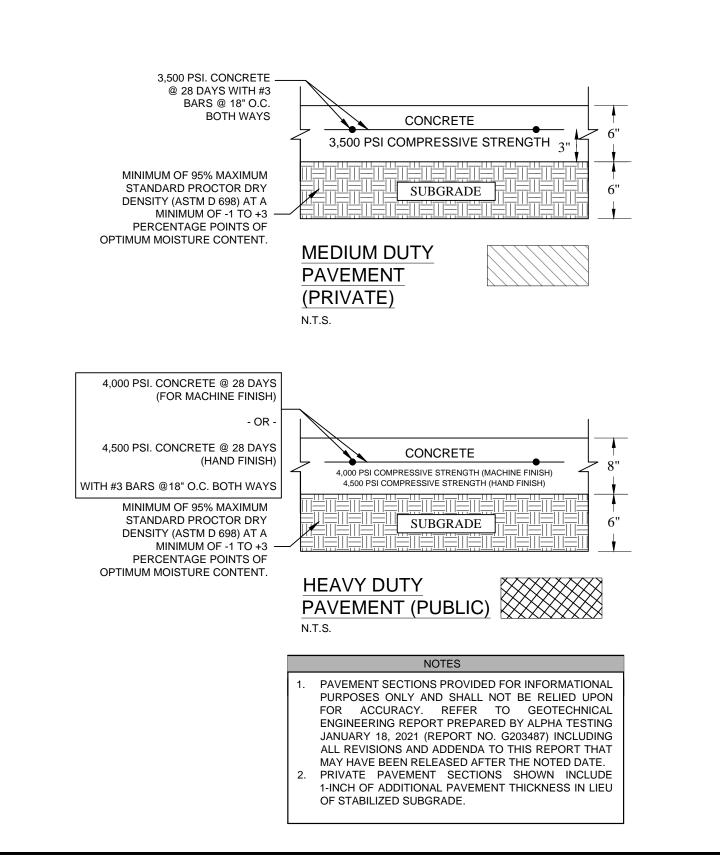
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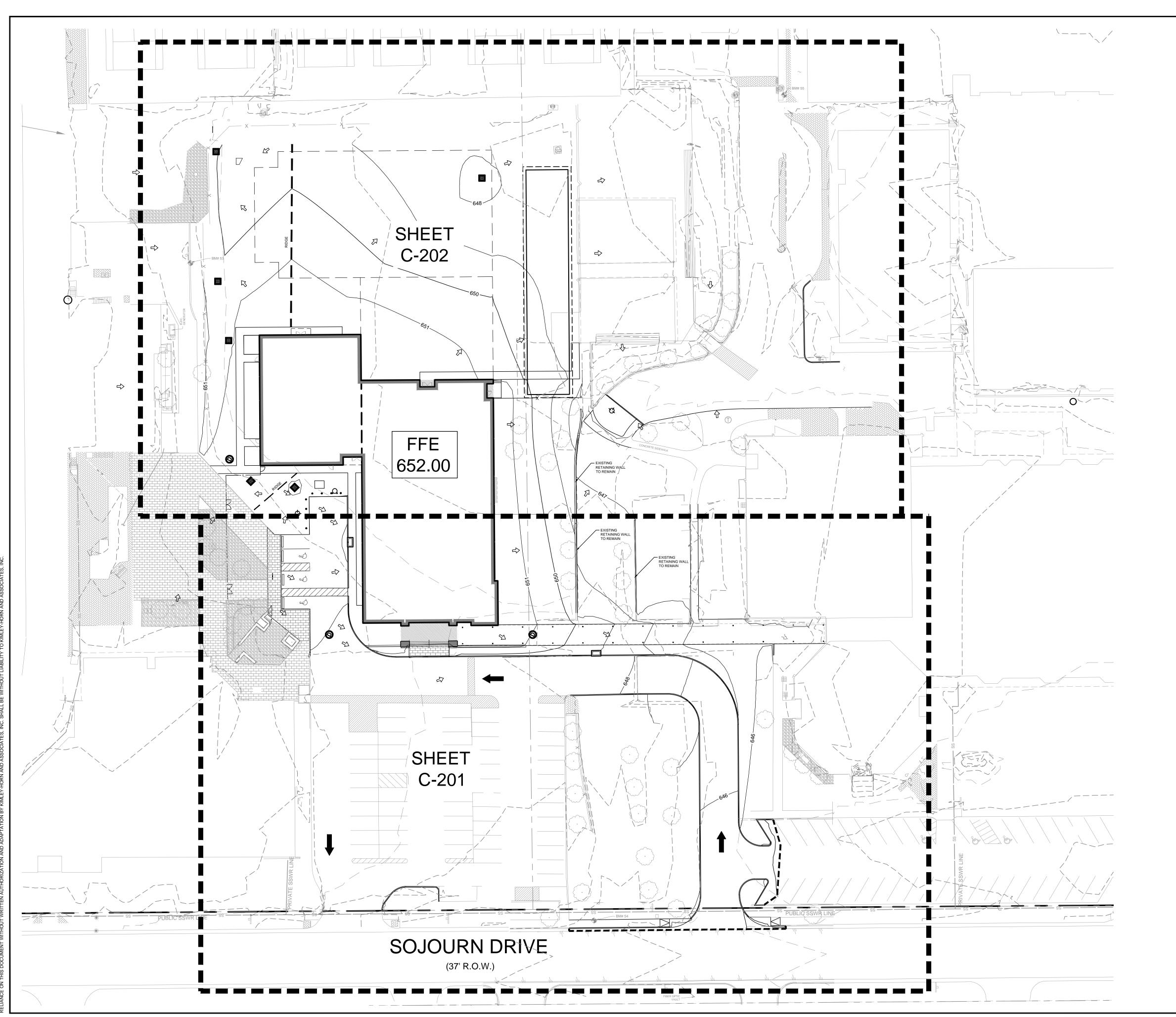


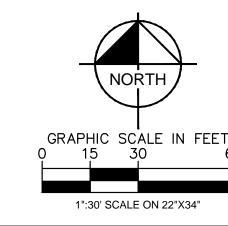


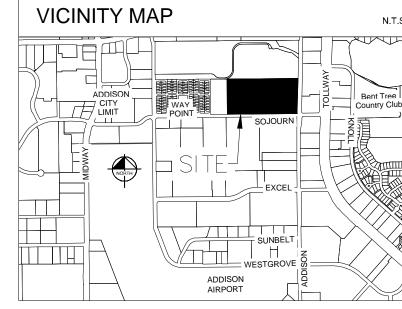












LEGEN	D
PROPERTY LINE	
PROPOSED CONTOUR	560
EXISTING CONTOUR	— — — — — — — — — — — — — — — — — — —
FACE OF CURB ELEVATION	× XXX.XX
PROPOSED RIDGE LINE	R
TOP OF WALL ELEVATION	× TW XXX.XX
BOTTOM OF WALL ELEVATION	× BW XXX.XX
SIDEWALK PAVEMENT ELEVATION	× SW XXX.XX
TOP OF INLET AT GRATE ELEVATION	× RIM XXX.XX
MATCH TO EXISTING ELEVATION	× ME XXX.XX
ELEVATION AT TOP OF WALL/SIDEWALK	× TW/SW XXX.XX

#### NOTES ALL GRADING SPOTS SHOWN REFERENCE TOP OF PAVEMENT UNLESS

OTHERWISE NOTED.

ALL SIDEWALKS SHALL HAVE A MAX. OF 2% CROSS SLOPE.

CONTRACTOR TO VERIFY T.A.S. COMPLIANCE. FOR ANY QUESTIONS CONTACT OWNER/ARCHITECT IMMEDIATELY.

CONTRACTOR TO VERIFY ENGINEERING PLANS MATCH ARCHITECTURAL PLANS BEFORE CONSTRUCTION STAKING.

GRADES IN ACCESSIBILITY ROUTING, INCLUDING CROSSING DRIVEWAYS, SHALL CONFORM TO T.A.S. STANDARDS: NOT TO EXCEED 5.0% ALONG TRAVEL PATH WITH NOT MORE THAN 2.0% CROSS SLOPE.

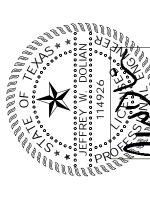
PRIOR TO BEGINNING CONSTRUCTION, OWNER/CONTRACTOR TO HAVE ALL CONSTRUCTION DOCUMENTS REVIEWED AND APPROVED BY T.A.S.

CONSULTANT.

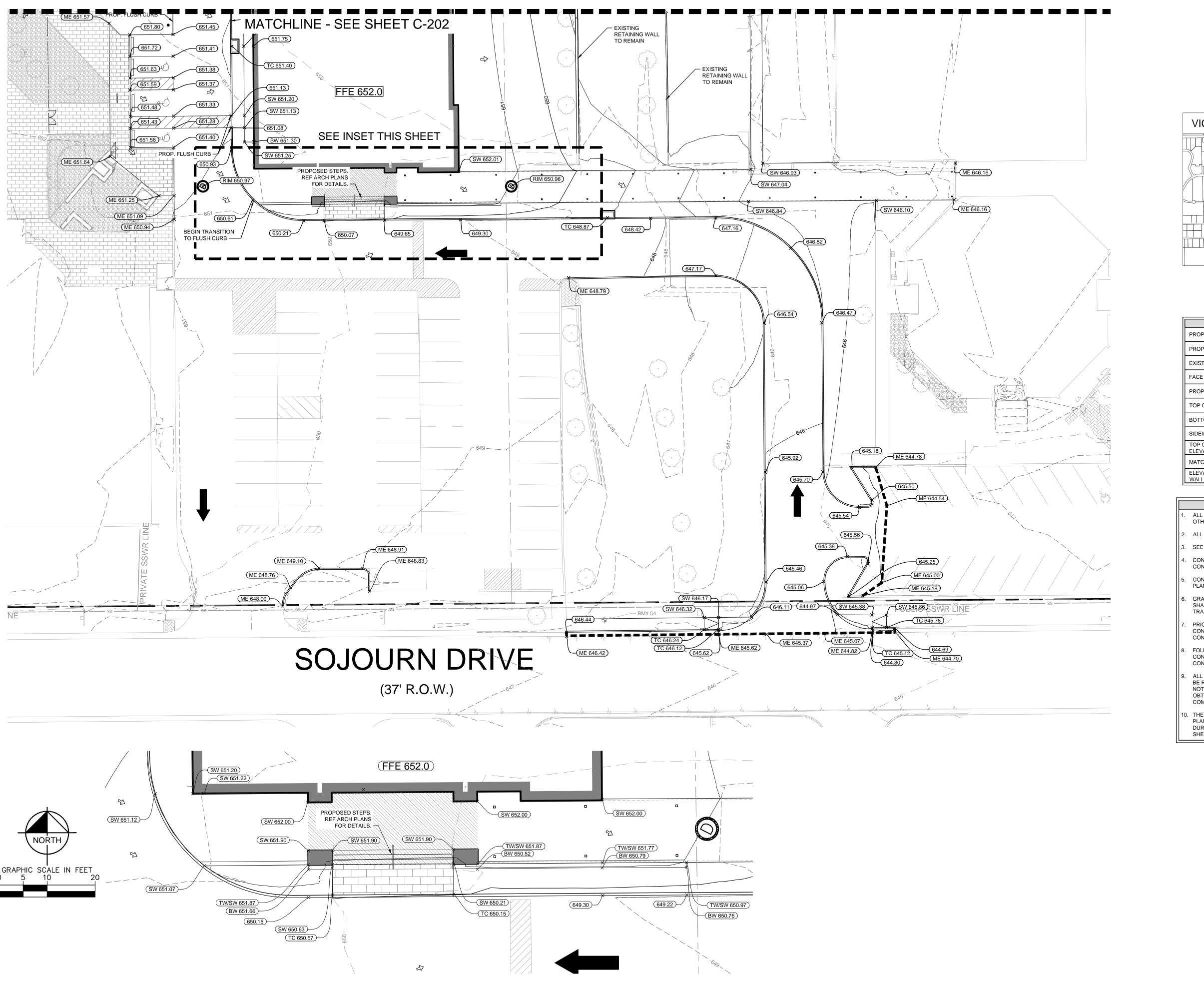
FOLLOWING CONSTRUCTION, OWNER/CONTRACTOR TO HAVE ALL CONSTRUCTION REVIEWED AND APPROVED BY T.A.S. COMPLIANCE

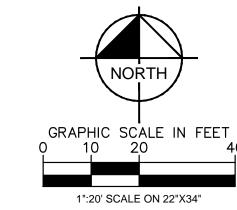
ALL TREES, STUMPS, BRUSH, GRASSES AND SURFACE ORGANICS ARE TO BE REMOVED AND PROPERLY DISPOSED OF OFFSITE UNLESS OTHERWISE NOTED ON THE LANDSCAPE PLAN. TREE REMOVAL PERMITS SHALL BE OBTAINED BY THE OWNER OR THE CONTRACTOR PRIOR TO COMMENCEMENT OF GRADING.

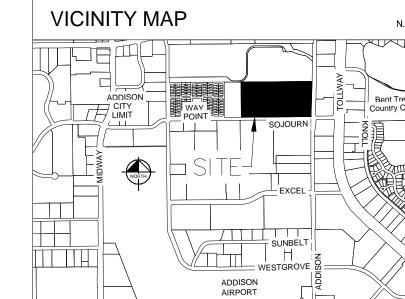
). THE CONTRACTOR SHALL INSTALL EROSION CONTROL MEASURES PER THE PLANS AND MAINTAIN STREETS FREE OF MUD, DIRT AND DEBRIS FOR THE DURATION OF THE CONSTRUCTION ACTIVITIES. SEE EROSION CONTROL SHEET C-212 - C-301 FOR SPECIFIC DETAILS AND REQUIREMENTS.



TRINITY CHRISTIA
ACADEMY
17001 ADDISON ROAD,
ADDISON, TEXAS 75001







LEGEN	<u> </u>
PROPERTY LINE	
PROPOSED CONTOUR	560
EXISTING CONTOUR	— — — — — — — — — — — — — — — — — — —
FACE OF CURB ELEVATION	× XXX.XX
PROPOSED RIDGE LINE	R
TOP OF WALL ELEVATION	× TW XXX.XX
BOTTOM OF WALL ELEVATION	× BW XXX.XX
SIDEWALK PAVEMENT ELEVATION	× SW XXX.XX
TOP OF INLET AT GRATE ELEVATION	× RIM XXX.XX
MATCH TO EXISTING ELEVATION	× ME XXX.XX
ELEVATION AT TOP OF WALL/SIDEWALK	× TW/SW XXX.XX

#### ALL GRADING SPOTS SHOWN REFERENCE TOP OF PAVEMENT UNLESS OTHERWISE NOTED.

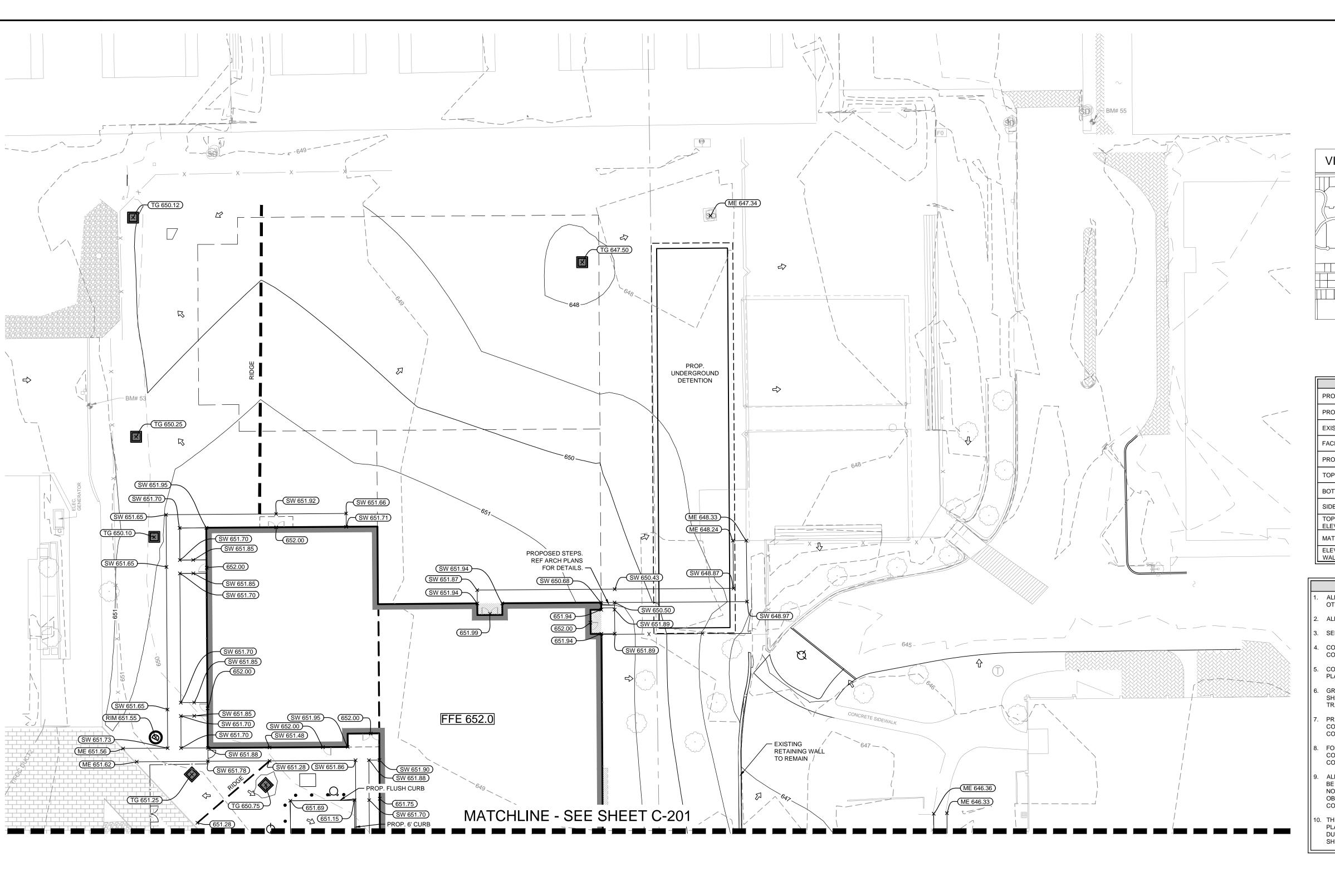
- ALL SIDEWALKS SHALL HAVE A MAX. OF 2% CROSS SLOPE.
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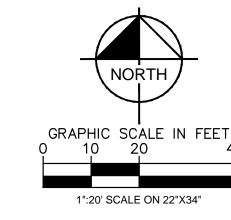
NOTES

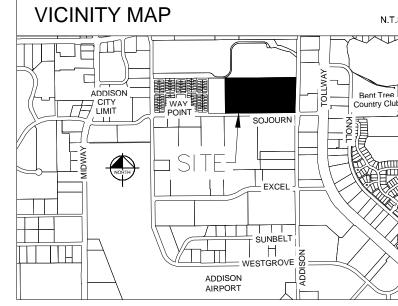
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GRADING







LEGEN	D
PROPERTY LINE	
PROPOSED CONTOUR	560
EXISTING CONTOUR	— — — — — — — — — — — — — — — — — — —
FACE OF CURB ELEVATION	× XXX.XX
PROPOSED RIDGE LINE	R
TOP OF WALL ELEVATION	× TW XXX.XX
BOTTOM OF WALL ELEVATION	× BW XXX.XX
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TOP OF INLET AT GRATE ELEVATION	× RIM XXX.XX
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#### NOTES ALL GRADING SPOTS SHOWN REFERENCE TOP OF PAVEMENT UNLESS

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TOTAL

Weighted Runoff

Coefficient

0.54

0.63

0.97

0.77

TOC (min) Intensity Q<sub>ccc</sub> (cfs)

19.0

16.8

13.0

13.0

(in/hr)

8.45

8.45

7.21 4.29

7.62 10.72

6.65

5.33

Comments

EX. GRATE INLET

EX. CURB INLET

EX. CURB INLET

SHEET FLOW TO SOJOURN

Drainage

A-1

B-1

C-1

D-1

1.1

2.25

0.81

0.82

Design Point

A

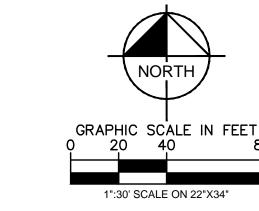
SHALLOW CONCENTRATED FLOW

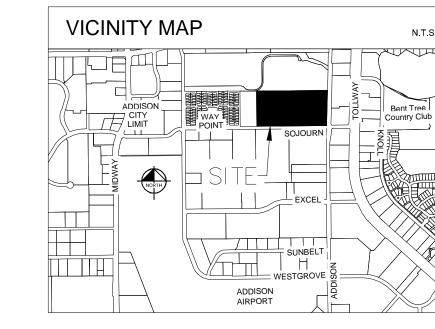
648.00 643.00 0.014

Tc = L / 60\*V

 $Tc = (0.007(nL)^0.8)/(P2^0.5)(s^0.4)$ 

-year/24-hr Rainfall Depth (in.) from iSWM 3.600





- RUNOFF CALCULATIONS BASED ON CURRENTLY PUBLISHED TOWN OF ADDISON DRAINAGE CRITERIA MANUAL (APPROVED JULY 12, 2011).
- 1.a. EXISTING STORM SEWER SIZE AND LOCATION BASED ON AVAILABLE RECORD DRAWINGS OBTAINED FROM THE TOWN OF ADDISON.
- EXISTING TOPOGRAPHY BASED ON NORTH TEXAS LIDAR DATA AND ON-GROUND TOPOGRAPHIC

LEGE	:ND
PROPOSED DRAINAGE AREA BOUNDARY	
EXISTING STORM SEWER	=======================================
- PROPOSED DRAINAGE AREA I.D. NUMBER - PROPOSED AREA (IN ACRES) - PROPOSED FLOW (IN CFS)	C X.X X.X

Existing Condition Weighted Runoff Coefficient Summary

C = 0.30

0.722

1.204

0.033

0.270

Coefficient

0.63

0.97

0.77

Total Impervious Area Pervious Area

C = 1.0

0.379

1.046

0.777

0.550

A-1

B-1

C-1

D-1

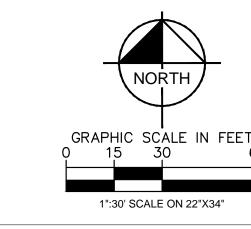
2.25

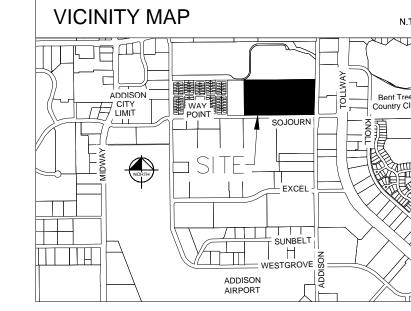
0.81

0.82

TING ARE,

C-210





	<u>LEGEND</u>	
1 1.00 Ac. 7.88 cfs 527 527	DRAINAGE AREA NUMBI ACREAGE 100-YEAR FLOW EXISTING CONTOUR PROPOSED CONTOUR	Q=C*C <sub>A</sub> *I*A Q=DESIGN DISCHARGE (CFS) C=RATIONAL METHOD RUNOFF COEFFICIENT C <sub>A</sub> =RATIONAL METHOD ANTECEDENT PRECIPITATION FACTOR I=RAINFALL INTENSITY
	DRAINAGE DIVIDE  DIRECTION OF FLOW	(INCHES/HOUR) A=DRAINAGE AREA (ACRES)
	PROPOSED STORM SEV	VER LINE

PROPOSED STORM SEWER MANHOLE PROPOSED WYE AND CURB STORM INLETS

Proposed Condition Weighted Runoff Coefficient Summary

0.310

0.067

1.760

0.578

0.470

0.350

0.130

0.82

0.18

1.84

0.81

0.47

0.43

0.43

A-1

A-2

B-1

B-1 Bypass C-1

> D-1 D-2

C = 0.30

0.113

0.080

0.232

0.090

0.300

Coefficient

0.56

0.56

0.97

0.80

1.00

0.88

0.51

SHEET NUMBER

C-211

# TIME OF CONCENTRATION & LAG TIME

2. THIS PLAN CONFORMS WITH DESIGN STANDARDS INCLUDED IN THE TOWN OF ADDISON TRANSPORTATION PLAN, WATER SYSTEM REQUIREMENTS, AND

DRAINAGE CRITERIA MANUAL

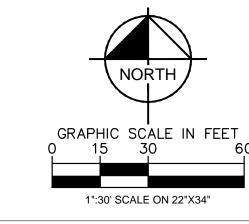
PROPOSED CONDITIONS

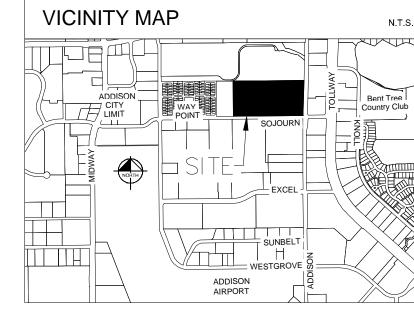
TR-55 Method	lology																	
	SHEET FL	ow					SHALLOV	V CONCEN	TRATED F	LOW				ENCLOSE	DSYSTE	M PIPE:		TOTAL
	Tc = (0.00)	7(nL)^0.8)/(I	P2^0.5)(s^0	.4)			Tc = L / 60	)*V						Tc = L / 60	*V + Inlet	Time		
	2-year/24-h	2-year/24-hr Rainfall Depth (in.) from iSWM 3.600																
Basin	Length	Elev₁	Elev <sub>2</sub>	Slope	Manning's	T <sub>c1</sub>	Length	Elev <sub>2</sub>	Elev <sub>3</sub>	Slope	Condition	Vavg	T <sub>c2</sub>	Inlet Time	Length	Velocity	T <sub>c3</sub>	T <sub>cTOTAL</sub>
Dasiii	(ft)	LICV	LICV2	(ft/ft)	"n"	(min)	(ft)	LICV <sub>2</sub>	LICV3	(ft/ft)	TR-55 Fig. 3-1	(ft/s)	(min)	(min)	(ft)	assume 6 fps	(min)	(min)
A-1	100	654.00	653.50	0.005	0.150	16.1	155	653.50	650.00	0.023	Unpaved	2.42	1.1		100	6.0	0.3	17.4
A-2	100	649.50	648.50	0.010	0.150	12.2	75	648.50	647.30	0.016	Unpaved	2.04	0.6		100	6.0	0.3	13.1
B-1	100	652.87	651.75	0.011	0.150	11.7	67	651.75	650.50	0.019	Unpaved	2.20	0.5		155	6.0	0.4	12.6
B-1 Bypass														10	325	6.0	10.9	10.9
C-1	100	648.50	647.50	0.010	0.150	12.2	363	647.50	643.30	0.012	Paved	2.19	2.8					15.0
D-1	100	645.00	644.00	0.010	0.150	12.2	176	644.00	643.00	0.006	Paved	1.53	1.9					14.1
D-2	100	648.50	648.00	0.005	0.150	16.1	85	648.00	645.00	0.035	Paved	3.82	0.4					16.5

Proposed Condition Summary							
Design Point	Drainage Area	Area (ac)	Weighted Runoff Coefficient	TOC (min)	Intensity (in/hr)	Q <sub>100</sub> (0	
A	A-1	0.82	0.56	17.4	7.50	3.47	
A	A-2	0.18	0.56	13.1	8.43	0.85	
В	B-1	1.84	0.97	12.6	8.55	15.2	
В	B-1 Bypass	0.81	0.80	10.9	9.01	5.83	
С	C-1	0.47	1.00	15.0	8.00	3.76	
D	D-1	0.43	0.88	14.1	8.19	3.09	
D	D-2	0.43	0.51	16.5	7.69	1.69	
OUTFALL*	B-1, B-1 Byp, C-1	3.12	0.93	10.9	9.01	26.1	

to reduce proposed condition flows to match existing condition flows.

00117122	0 1,0 10,01	5.11	5
*Underground de	tention proposed at th	nis design p	oint





#### <u>LEGEND</u> DRAINAGE AREA NUMBER Q=C\*C<sub>A</sub>\*I\*A Q=DESIGN DISCHARGE (CFS) ACREAGE C=RATIONAL METHOD RUNOFF √ 7.88 cfs 100-YEAR FLOW COEFFICIENT C<sub>A</sub>=RATIONAL METHOD ANTECEDENT PRECIPITATION ----527---- EXISTING CONTOUR PROPOSED CONTOUR I=RAINFALL INTENSITY (INCHES/HOUR) A=DRAINAGE AREA (ACRES) DRAINAGE DIVIDE DIRECTION OF FLOW PROPOSED STORM SEWER LINE PROPOSED STORM SEWER MANHOLE PROPOSED WYE AND CURB STORM INLETS

### NOTES

1. UTILITY CONNECTIONS TERMINATE 5' FROM BUILDING ENVELOPE.

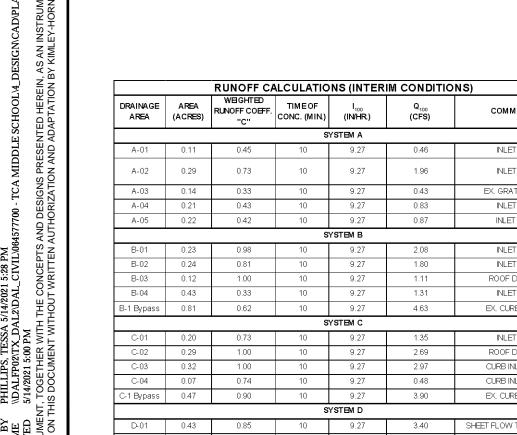
THIS PLAN CONFORMS WITH DESIGN STANDARDS INCLUDED IN THE TOWN OF ADDISON TRANSPORTATION PLAN, WATER SYSTEM REQUIREMENTS, WASTE WATER SYSTEM REQUIREMENTS, AND DRAINAGE CRITERIA MANUAL

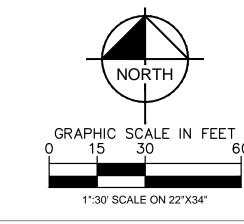


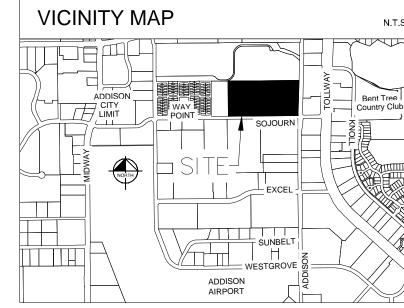
ERIM DRAINAC AREA MAP

SHEET NUMBER C-212

9.27 INLET A-2 EX. GRATE INLET ROOF DRAINS INLET B-4 CURB INLET C-3 CURB INLET C-4







#### **LEGEND** DRAINAGE AREA NUMBER Q=C\*C<sub>A</sub>\*I\*A Q=DESIGN DISCHARGE (CFS) ACREAGE C=RATIONAL METHOD RUNOFF √ 7.88 cfs 100-YEAR FLOW COEFFICIENT C<sub>A</sub>=RATIONAL METHOD ----527---- EXISTING CONTOUR ANTECEDENT PRECIPITATION PROPOSED CONTOUR I=RAINFALL INTENSITY (INCHES/HOUR) A=DRAINAGE AREA (ACRES) DRAINAGE DIVIDE DIRECTION OF FLOW PROPOSED STORM SEWER LINE PROPOSED STORM SEWER MANHOLE PROPOSED WYE AND CURB STORM INLETS

### NOTES

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#### DRAINAGE SUMMARY

FINAL DRAINAGE SUMMARY IN EXISTING AND PROPOSED CONDITIONS, THE DEVELOPED RUNOFF FOR THE SITE IS COLLECTED INTO THREE MAIN DRAINAGE SYSTEMS

SYSTEM A

SURVEY AND RECORD INFORMATION SHOWS AN EXISTING GRATE INLET IN THE NORTHEAST OF THE PROPOSED SITE. THE EXISTING INLET IN THE NORTHEAST OF THE PROPOSED SITE. THE EXISTING INLET A COLLECTS A 100 YEAR STORM EVENT FLOW OF 4.29 CFS. IN THE PROPOSED CONDITION, LINE A CONVEYS RUNOFF FROM THE NORTHWEST OF THE SITE FROM DRAINAGE AREAS A1, A2, A3, A4, AND A5 WITH A 100 YEAR STORM EVENT FLOW OF 4.55 CFS.

OUTFALL (COMBINED SYSTEM OF LINES B AND C)
RECORD INFORMATION SHOWS EXISTING CURB INLETS NORTHEAST OF THE SITE ALONG THE EXISTING SITE DRIVE, ON THE WEST SIDE IS INLET B AND ON THE EAST IS INLET C. THESE INLETS COMBINE UPSTREAM AT AN EXISTING MANHOLE. THIS COMBINED OUTFALL POINT HAS A 100 YEAR STORM EVENT OF 16.72 CFS FOR THE

EXISTING CONDITION. IN THE PROPOSED CONDITION, THE STORMWATER RUNOFF TO THE OUTFALL POINT IS LESS THAN THE EXISTING CONDITION. THIS IS ACHIEVED AS SUCH: 13.79 CFS IS ROUTED THROUGH A DETENTION SYSTEM PRODUCING AN OUTFALL OF 6.59 CFS. THERE IS 8.53 CFS OF BYPASS FLOW TO INLETS B AND C. THIS PRODUCES A TOTAL 100 YEAR STORM EVENT FLOW OF 15.12 CFS BEING ROUTED TO THE OUTFALL POINT IN THE INTERIM CONDITION.

IN EXISTING CONDITIONS, 5.33 CFS OF RUNOFF DISCHARGES ONTO SOJOURN ROAD AS SHEET FLOW.
IN PROPOSED CONDITIONS, 5.33 CFS OF RUNOFF DISCHARGES ONTO SOJOURN ROAD AS SHEET FLOW.

			CEATIONS (III			
DRAINAGE AREA	AREA (ACRES)	WEIGHTED RUNOFF COEFF. "C"	TIME OF CONC. (MIN.)	I <sub>100</sub> (IN/HR.)	Q <sub>100</sub> (CFS)	COMMENTS
			SYSTEM A			
A-1	0.15	0.41	10	9.27	0.57	INLET A-1
A-2	0.24	0.67	10	9.27	1.49	INLET A-2
A-3	0.18	0.32	10	9.27	0.54	EX. GRATE INLET
A-4	0.21	0.43	10	9.27	0.83	INLET A-2
A-5	0.22	0.42	10	9.27	0.87	INLET A-1
•			SYSTEM B			
B-01	0.23	0.98	10	9.27	2.08	INLET B-1
B-02	0.24	0.81	10	9.27	1.80	INLET B-2
B-03	0.12	1.00	10	9.27	1.11	ROOF DRAINS
B-04	0.40	1.00	10	9.27	3.71	*
B-1 Bypass	0.81	0.62	10	9.27	4.63	EX. CURB INLET
			SYSTEM C			
C-01	0.20	0.73	10	9.27	1.35	INLET C-1
C-02	0.29	1.00	10	9.27	2.69	ROOF DRAINS
C-03	0.32	1.00	10	9.27	2.97	CURB INLET C-3
C-04	0.07	0.74	10	9.27	0.48	OURB INLET C-4
	0.47	0.90	10	9.27	3.90	EX. CURB INLET

 D-01
 0.43
 0.85
 10
 9.27
 3.40
 SHEET FLOW TO SOJOUR

 D-02
 0.39
 0.64
 10
 9.27
 2.32
 SHEET FLOW TO SOJOUR

CONCRETE

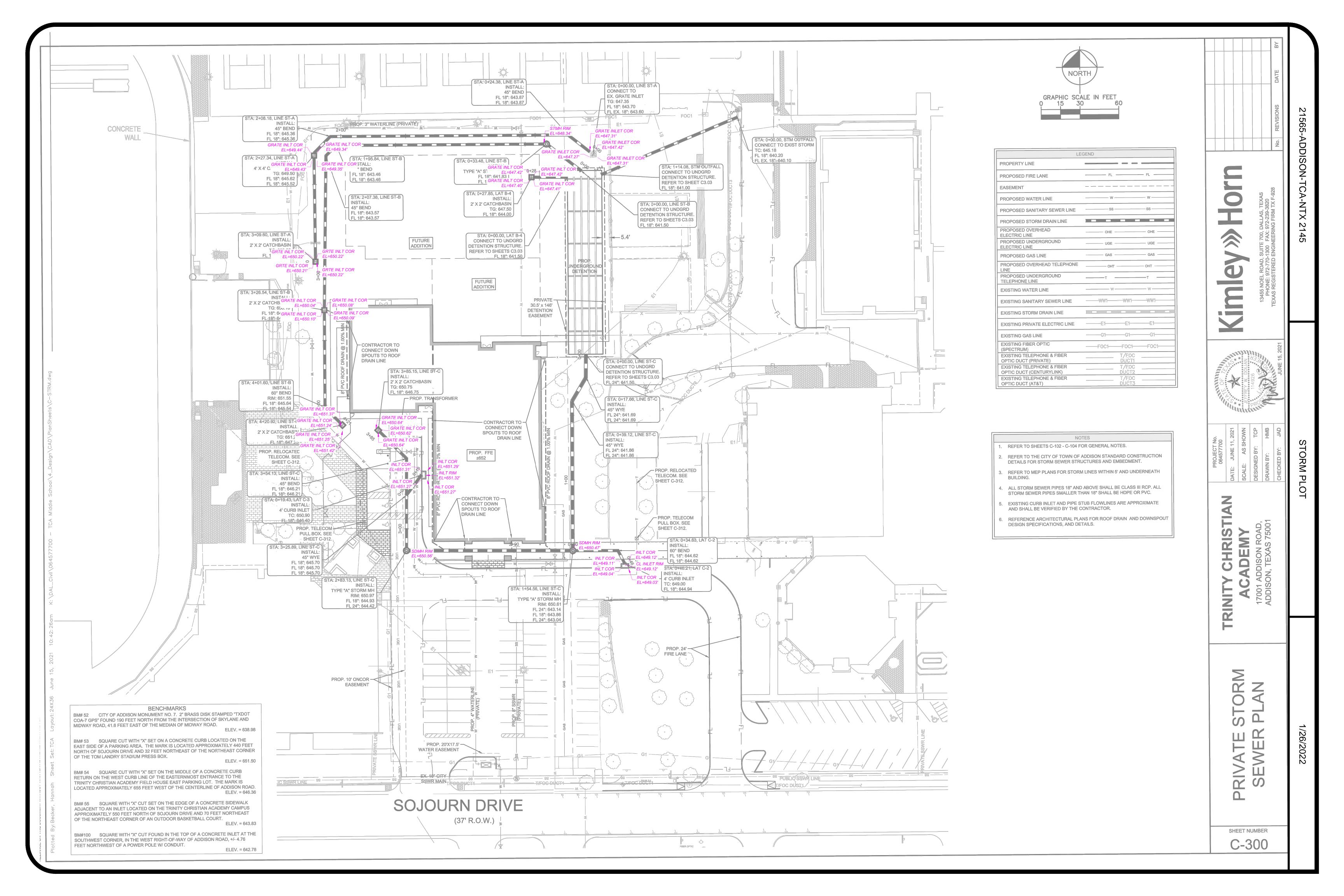
WALL

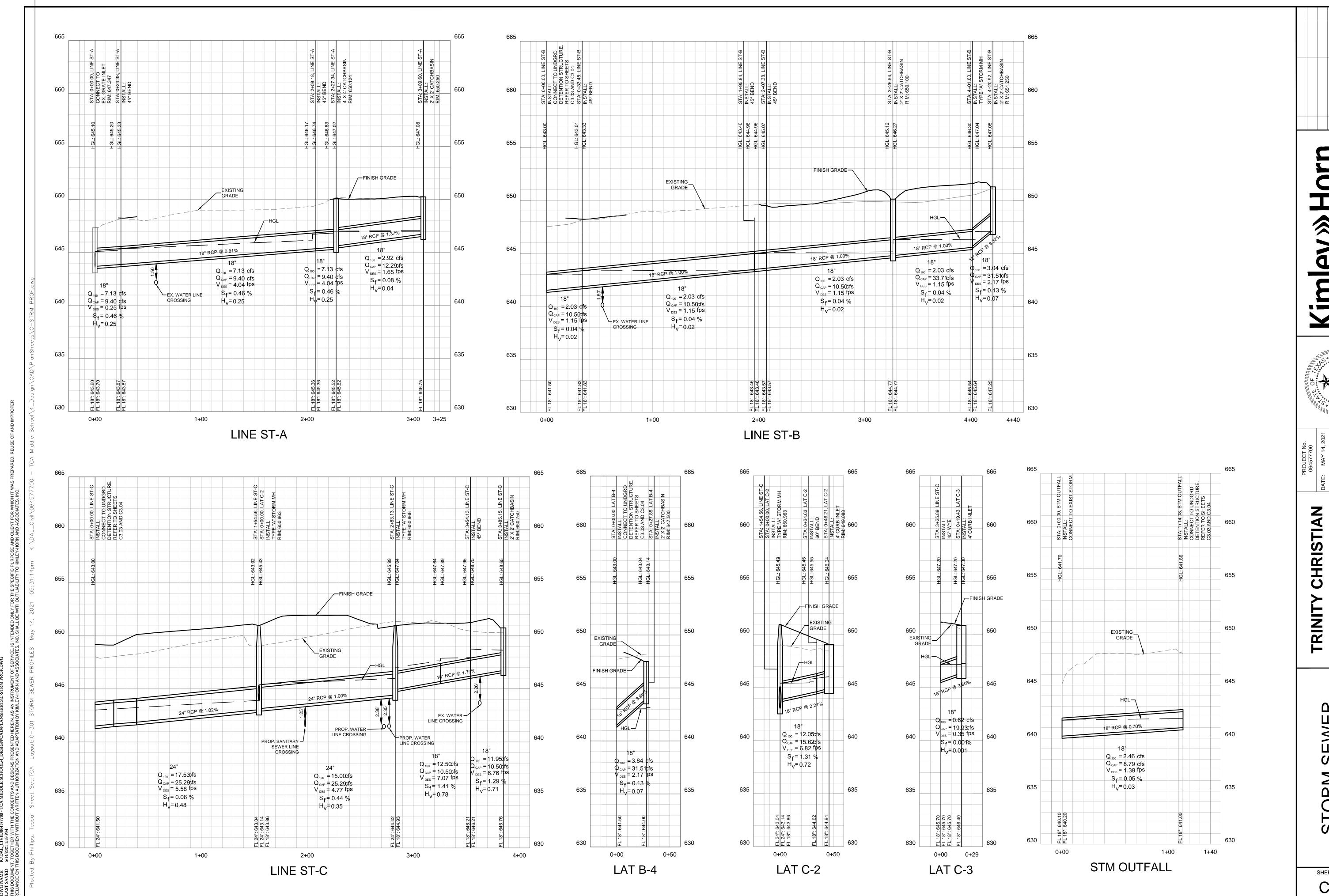
Drainage Area	Total Area	Im pervious Area C = 1.0	Pervious Area C = 0.30	Weighte Runoff Coefficie
A-1	0.15	0.02	0.13	0.41
A-2	0.24	0.13	0.11	0.67
A-3	0.18	0.01	0.17	0.32
A-4	0.21	0.04	0.17	0.43
A-5	0.22	0.04	0.18	0.42
B-1	0.23	0.22	0.01	0.98
B-2	0.24	0.17	0.07	0.81
B-3	0.12	0.12	0.00	1.00
B-4	0.40	0.40	0.00	1.00
B-1 Bypass	0.81	0.37	0.44	0.62
C-1	0.20	0.12	0.08	0.73
C-2	0.29	0.29	0.00	1.00
C-3	0.32	0.29	0.03	0.94
C-4	0.07	0.04	0.03	0.74
C-1 Bypass	0.47	0.40	0.07	0.90
D-1	0.43	0.34	0.09	0.85
D-2	0.39	0.19	0.20	0.64

Final Condition Weighted Runoff Coefficient Summary

**(** AINA FINAL UN, AREA I

TRINITY CHRISTIAN
ACADEMY
17001 ADDISON ROAD,
ADDISON, TEXAS 75001





TRINITY CHRISTIAN
ACADEMY
17001 ADDISON ROAD,
ADDISON, TEXAS 75001

FORM SEWER PROFILES

S

															STOR	M DRAIN															,	$\mathbf{H}'$	GL I	INVI		
LINE.	STA.		INCREMENTAL	CUMULATIVE	RUNOFF	INCREMENTAL	CUMULATIVE	INII ET TIME	FLOW TIME	TIME OF	INTENSITY	DICT	TOTAL FLO	Λ(					ROUGH-	PIPE	PIPE							FRICTION		· /	( 11	INCOMING '	OUTGOING	INCOMING	OUTGOING	
			AREA	AREA	COEFFICIENT	CA	CA	INCELLINE	IN PIPE	CONCENTRATION	INTENSIT	וכוט	TIOTAL FLOX	/ (					NESS	SLOPE	CAPACITY					FLOW	'	SLOPE		N <sub>j</sub>	, nj '	PIPE	PIPE	PIPE	PIPE	
													Q <sub>100</sub>	DIA.	SPAN F	ISE NU	MBER A	R	n	So	Q <sub>cap</sub>	V <sub>design</sub>	V <sub>full</sub> Q/0	⊋full V/V	ull d/D	DEPTH	l Vpartial	Sf	Hv		(MIN 0.1)	1	1			
			ACRES	ACRES				MIN	MIN	MIN	IN/HR	FT	CFS	IN	FT	FT	Sq F	-T		%	ŒS	Qdesign/A	FPS			FT	FPS	%	V design^2/2g		FT.	FT '	FT	FT	FT	
																																<u>'</u>	<u> </u>			
LINE B	0+00.00	DETENTION								16.08																					·	643.00	1	641.50		0+
				0.47			0.22		0.48			33.48	2.03	18		1.5	1.77	7 0.375	0.013	1.00%	10.50	1.15	5.94 0.1	194 0.7	6 0.29	1.50	4.53	0.04%	0.02		· — · · · · · · · · · · · · · · · · · ·	í ,				
	0+33.48	45 DEGREE BEND	0.00		0.90	0.00		10.00		15.59	8.26																			0.47	0.10	643.33	643.01	641.83	641.83	0+
				0.47			0.22		2.35			162.36	2.03	18		1.5	1.77	7 0.375	0.013	1.00%	10.50	1.15	5.94 0.1	194 0.7	6 0.29	1.50	4.53	0.04%	0.02		·	i '				
	1+95.84	45 DEGREE BEND	0.00		0.90	0.00		10.00		13.24	8.84																			0.47	0.10	644.96	643.40	643.46	643.46	1+
				0.47			0.22		0.17			11.54	2.03	18		1.5	1.77	7 0.375	0.013	1.00%	10.50	1.15	5.94 0.1	194 0.7	6 0.29	1.50	4.53	0.04%	0.02		·	ſ '				
	2+07.38	45 DEGREE BEND	0.00		0.90	0.00		10.00		13.08	8.88																			0.47	0.10	645.07	644.96	643.57	643.57	2+
				0.47			0.22		1.73			119.24	2.03	18		1.5	1.77	7 0.375	0.013	1.00%	10.50	1.15	5.94 0.1	194 0.7	6 0.29	1.50	4.53	0.04%	0.02		,		$\overline{}$			
	3+26.62	INLET B-2	0.24		0.90	0.22		10.00		11.35	9.38																			0.15	0.10	646.27	645.12	644.77	644.77	3+
				0.23			0.00		1.12			77.69	2.03	18		1.5	1.77	7 0.375	0.013	1.00%	10.50	1.15	5.94 0.1	194 0.7	6 0.29	1.50	4.53	0.04%	0.02				$\overline{}$		+ +	
	4+04.31	МН	0.00		0.90	0.00		10.00		10.23	9.75																			0.56	0.10	647.04	646.30	645.54	645.54	4+0
	1.0			0.23	0.00		0.21	1	0.23	1		15.58	2.03	18		1.5	1.77	7 0.375	0.013	10.30%	33.71	1.15	19.08 0.0	060 0.5	4 0.16	1.50	10.26	0.04%	0.02	5.53					-	
	4+19.89	INLET B-1	0.23		0.90	0.21		10.00	<del> </del>	10.00	9.83	10.00	1			-	1										1.5.2.5	0.0		1.25	0.10	647.25	647.05		647.15	4+1
	11.10.00		5.25		0.00	5.21	0.00	10.00		10.00	0.00																					, , , , , , , , , , , , , , , , , , ,	T		+	
LAT B-4	0+00.00	CONNECT TO LINE C					2.00		+	10.04	1		+					_					-		-		+				,	643.00	$\vdash$	641.50	+	0+0
LA 1 D-4	0.00.00	CONTROL TO LINE O		0.43			0.39	+	0.04	10.04	+	27.85	3.84	18		1.5	1 77	7 0.375	0.013	9.00%	31.51	2.17	17.83 0.1	122 0.6	7 0.23	0.35	11.91	0.13%	0.07		,	040.00	$\vdash$	541.50	+	0+0
	0+27.85	INLET B-4	0.43	0.40	0.90	0.39	0.58	10.00	0.04	10.00	9.92	27.00	3.04	10		1.5	1.77	7 0.373	0.010	0.0070	51.51	2.17	17.00 0.1	0.0	, 0.23	0.55	11.01	0.1070	0.07	1.50	0.10	643.14	643.04	644.01	644.01	0+2
	UTZ1.00	IINLE I D-4	0.43		0.50	0.38		10.00	1	10.00	3.32	-	1									1					+			1.50	0.10	043.14	043.04	044.01	044.01	0+2

															STORM	DRAIN															H	IGL	INV	'ERT	
LINE.	STA.		INCREMENTAL	CUMULATIVE	RUNOFF	INCREMENTAL	CUMULATIVE	INI ET TIME	FLOW TIME	TIME OF	INTENSITY	DIST	TOTAL FLOV	v				ROUGH-	- PIPE	PIPE							FRICTION		κ.	H	INCOMING '	OUTGOING	INCOMING	OUTGOING	
			AREA	AREA	COEFFICIENT	CA	CA	IIIVE IIIVE	IN PIPE	CONCENTRATION	IIII EII	DIO I	1017121200	1 1				NESS		CAPACITY					FLOW		SLOPE		14)	''J	PIPE	PIPE	PIPE	PIPE	
			1.0050	1.0050				h 405 l	h dis i	) (D. I	B.I.A.ID	1 -	Q <sub>100</sub>	DIA. S	PAN RIS	E NUMBE	R A R	n	So	Q <sub>cap</sub>	V <sub>design</sub>	V <sub>full</sub> Q/Q <del>1</del>	ull   V/V	full d/D	DEPTH	1 Vpartial		Hv		(MIN 0.1)	<del></del> '				
			ACRES	ACRES				MIN	MIN	MIN	N/HR	FI	U-5	I IN	FI FI		SQFI		%	CFS	Qdesign/A	FPS			FI	FPS	%	V design^2/2g	9	FT.	FT	F1	FT	FI	
LINE C	0+00.00	DETENTION								11.16																					643.00	$\leftarrow$	641.50	+	0+00.00
	0.00.00	BETERMON		2.03			1.83		0.46	11.10		154.46	17.53	24	2		3.14 0.500	0.013	1.25%	25 29	5.58	8.05 0.60	3 10	8 0.61	2.00	8.68	0.60%	0.48			10.00	$\overline{}$	(	+	0.00.00
	1+54.46	MH/LAT C-2	0.32	2.00	0.90	0.29	1.00	10.00	0.40	10.70	9.59	104.40	11.00	+			0.14 0.000	0.010	1.20%	20.20	0.00	0.00	1.0	0.01	2.00	0.00	0.0070	0.40	0.70	0.24	645.43	643.92	643.43	643.43	1+54.46
	1101111	111111111111111111111111111111111111111	5.02	1.71	3.00	5.25	1.54	10.00	0.45	10.110	0.00	128.67	15.00	24	2		3.14 0.500	0.013	1.25%	25.29	4.77	8.05 0.59	3 1.0	4 0.55	2.00	8.37	0.44%	0.35	5.10	0.21	510.10	- 5 10.02	1	1 310.10	1101.10
	2+83.13	MH	0.29		0.90	0.26		10.00		10.25	9.74																		0.70	0.10	647.04	645.99	645.54	645.04	2+83.13
				1.42			1.28		0.10			42.76	12.50	18	1.5	5	1.77 0.375	0.013	1.00%	10.50	7.07	5.94 1.19	0 1.0	0 1.00	1.50	5.94	1.41%	0.78			'				
	3+25.89	INLET C-3	0.07		0.90	0.06		10.00		10.15	9.78																		0.75	0.24	647.89	647.64	645.97	645.97	3+25.89
				0.00			0.00		0.18			71.00	11.95	18	1.5	5	1.77 0.375	0.013	1.00%	10.50	6.76	5.94 1.13	8 1.0	0 1.00	1.50	5.94	1.29%	0.71			'				
	3+54.13	45 DEGREE BEND	0.00		0.90	0.00		10.00		10.00	9.83																		0.47	0.38	648.75	647.95		646.25	3+54.13
				1.35			1.22		0.15			59.26	11.95	18	1.5	5	1.77 0.375	0.013	1.00%	10.50	6.76	5.94 1.13	8 1.0	0 1.00	1.50	5.94	1.29%	0.71			'				
	3+85.15	INLET C-1	1.35		0.90	1.22		10.00		10.00	9.83																		1.25	0.71	648.75	648.65		646.56	3+85.15
				0.00			0.00								0																<b></b> '				
																															<b></b> '	$\longrightarrow$	<del></del>		0+00.00
	1	0.0111150770.11115.0								40.00					0																1 215 12				2 22 22
LAT C-2	0+00.00	CONNECT TO LINE C		4.05			4.00		0.00	10.08	-	40.00	10.05	18	4.5	<b>-</b>	4 77 0 075	0.040	2.240/	45.00	0.00	0.04 0.77	2 44	0 00	0.00	0.74	4.040/	0.70			645.43	$\overline{}$	643.85		0+00.00
	0+46.20	CURB INLET	1.35	1.35	0.90	1.22	1.22	10.00	0.08	10.00	0.00	46.20	12.05	18	1.5	2	1.77 0.375	0.013	2.21%	15.62	6.82	8.84 0.77	2 1.1	0 0.05	0.98	9.71	1.31%	0.72	1.50	0.72	646.76	646.04	644.87	644.87	0+46.20
	0+46.20	CURB INLET	1.35		0.90	1.22		10.00		10.00	9.92			+															1.50	0.72	040.76	040.04	044.87	044.87	0+46.20
LAT C-3	0+00.00	CONNECT TO LINE C									+			+ +															+		647.20	$\overline{}$	645.70	+	
ERI C-5	0.00.00	CONNECT TO LINE O		0.07			0.06		0.92			19.43	0.62	18	0.69	9	1.77 0.375	0.013	3.60%	19.93	0.35 1	1.28 0.03	1 0.4	5 0.12	0.69	5.07	0.00%	0.00			047.20		043.70	+	
	0+19.43	CURB INLET	0.07	5.51	0.90	0.06	3.55	10.00	0.02	10.00	9.92	10.40	0.02	+ " +	0.00		1.11 0.010	0.010	0.00%	10.00	0.00	1.20 0.00		0.12	0.00	0.01	0.0070	0.00	1.50	0.10	647.30	647.20	646.40	646.40	0+19.43
		00112 11121			3.00	0.00		10.00			0.02																		1.00	00	75		1	1 3.3	5 15 15
OUTFALL	0+00.00	STRM OUTFALL																													641.70		640.20	<del>                                     </del>	
				0.07			2.70		0.08			114.08	2.46	18	0.69	9	1.77 0.375	0.013	0.70%	8.79	1.39	4.97 0.28	0 0.8	6 0.36	0.69	4.25	0.05%	0.03							
	1+14.08	DETENTION	3.00		0.90	2.70		10.00		10.00	9.92																		1.50	0.10	641.86	641.76	641.00	641.00	1+14.08
																															,		[		
																															<u> </u>		1	j	

Dolian-Scanblack - XREF xSD - XREF xSite - XRP PHILLIPS, TESSA 5/14/2021 5:31 PM K:\DAL\_CIVIL\064577700 - TCA MIDDLE SC 5/14/2021 1:59 PM NTT TOGETHER WITH THE CONCEPTS AND DI

TRINITY CHRISTIAN
ACADEMY
17001 ADDISON ROAD,
ADDISON, TEXAS 75001

SEWER ATIONS STORM CALCUL

DETENTION SYSTEM CALCULATIONS MODIFIED RATIONAL METHOD

EXISTING CONDITIONS:			
DRAINAGE AREAS	B-1, C-1		
DRAINAGE AREA (A)	3.06	AC	
TIME OF CONC. ( $T_{\circ}$ )	16.8	MIN	
RAINFALL INTENSITY (I)	7.62	IN/HR	
RUNOFF COEFFICIENT (C)	0.72		
ALLOWARI E DISCHARGE	16.72	CES	

RAINFALL INTENSITY (I)	7.62	IN/HR
RUNOFF COEFFICIENT (C)	0.72	
ALLOWABLE DISCHARGE	16.72	CFS
PROPOSED ONSITE CONDITIONS:		

PROPOSED ONSITE CONDITIONS:	
DETAINED	
DRAINAGE AREAS	

DETAINED			DDODOCED DVD4.cc		
<u>DETAINED</u>			PROPOSED BYPASS		
DRAINAGE AREAS	B-1		DRAINAGE AREAS	B-1 Byp, C-1	
DRAINAGE AREA (A)	1.84	AC	DRAINAGE AREA (A)	1.28	AC
TIME OF CONC. (T <sub>o</sub> )	12.6	MIN	TIME OF CONC. (T₀)	10.9	MIN
RAINFALL INTENSITY (I)	8.55	IN/HR	RAINFALL INTENSITY (I)	9.01	IN/F
WEIGHTED COEFFICIENT (C)	0.97		WEIGHTED COEFFICIENT (C)	0.87	
UNDETAINED RUNOFF	15.26	CFS	UNDETAINED RUNOFF	10.07	CFS

#### ALLOW ABLE DISCHARGE 6.65 CFS ACTUAL DISCHARGE 6.59 CFS

TIME	TIME	I <sub>100</sub>	INFLOW	INFLOW	OUTFLOW	OUTFLOW	STORAGE (FT <sup>3</sup> )	
(MIN)	(HRS)	(IN/HR)	RATE (CFS)	VOLUME (FT <sup>3</sup> )	RATE (CFS)	VOLUME (FT <sup>3</sup> )	` ,	
10	0.17	9.27	16.55	9,930	6.65	4,465	5,465	
15	0.25	7.99	14.26	12,830	6.65	5,452	7,377	
20	0.33	7.05	12.58	15,101	6.65	6,440	8,661	
30	0.50	5.77	10.29	18,531	6.65	8,416	10,115	
40	0.67	4.92	8.78	21,083	6.65	10,391	10,692	
50	0.83	4.32	7.71	23,115	6.65	12,367	10,748	<== CONTROLS 0.25 AC-
60	1.00	3.86	6.89	24,805	6.65	14,342	10,462	
70	1.17	3.50	6.25	26,253	6.65	16,318	9,935	
80	1.33	3.21	5.73	27,522	6.65	18,293	9,229	
90	1.50	2.97	5.31	28,654	6.65	20,269	8,385	
100	1.67	2.77	4.95	29,677	6.65	22,244	7,432	
110	1.83	2.60	4.64	30,610	6.65	24,220	6,391	
120	2.00	2.45	4.37	31,470	6.65	26,195	5,275	
130	2.17	2.32	4.14	32,268	6.65	28,171	4,097	
140	2.33	2.20	3.93	33,013	6.65	30,146	2,867	
150	2.50	2.10	3.75	33,712	6.65	32,122	1,591	
160	2.67	2.01	3.58	34,371	6.65	34,097	274	
				,		,		

#### **DETENTION SYSTEM CALCULATIONS** MODIFIED RATIONAL METHOD DESIGN FREQUENCY = 2 YEAR STORM

EXISTING CONDITIONS:		
DRAINAGE AREAS	B-1	
DRAINAGE AREA (A)	3.06	AC
TIME OF CONC. ( $T_c$ )	16.8	MIN
RAINFALL INTENSITY (I)	3.78	IN/HR
RUNOFF COFFEIGIENT (C)	N 72	

#### RUNOFF COEFFICIENT (C) ALLOWABLE DISCHARGE 8.29 CFS

PROPOSED ONSITE CONDITIONS:

		PROPOSED BYPASS		
B-1		DRAINAGE AREAS	B-1	
1.84	AC	DRAINAGE AREA (A)	1.28	AC
13	MIN	TIME OF CONC. ( $T_{\circ}$ )	10.9	MIN
4.34	IN/HR	RAINFALL INTENSITY (I)	4.63	IN/H
0.97		WEIGHTED COEFFICIENT (C)	0.87	
7.75	CFS	UNDETAINED RUNOFF	5.17	CFS
	1.84 13 4.34 0.97	1.84 AC 13 MIN 4.34 IN/HR	B-1 DRAINAGE AREAS  1.84 AC DRAINAGE AREA (A)  13 MIN TIME OF CONC. (T <sub>o</sub> )  4.34 IN/HR RAINFALL INTENSITY (I)  0.97 WEIGHTED COEFFICIENT (C)	B-1 DRAINAGE AREAS B-1 1.84 AC DRAINAGE AREA (A) 1.28 13 MIN TIME OF CONC. (T₀) 10.9 4.34 IN/HR RAINFALL INTENSITY (I) 4.63 0.97 WEIGHTED COEFFICIENT (C) 0.87

#### 3.12 CFS ALLOW ABLE DISCHARGE ACTUAL DISCHARGE 2.46 CFS

TIME	TIME	I <sub>100</sub>	INFLOW	INFLOW	OUTFLOW	OUTFLOW	STORAGE (ET
(MIN)	(HRS)	(IN/HR)	RATE (CFS)	VOLUME (FT <sup>3</sup> )	RATE (CFS)	VOLUME (FT <sup>3</sup> )	STORAGE (FT
10	0.17	`4.80´	8.56	5,136 ´	3.12	1,671` ´	3,465
15	0.25	4.00	7.14	6,422	3.12	2,040	4,382
20	0.33	3.45	6.15	7,379	3.12	2,410	4,970
30	0.50	2.73	4.86	8,755	3.12	3,149	5,606
40	0.67	2.27	4.05	9,731	3.12	3,888	5,843
50	0.83	1.96	3.49	10,483	3.12	4,627	5,856
60	1.00	1.73	3.08	11,094	3.12	5,367	5,727
70	1.17	1.55	2.76	11,607	3.12	6,106	5,502
80	1.33	1.41	2.51	12,051	3.12	6,845	5,206
90	1.50	1.29	2.30	12,441	3.12	7,584	4,857
100	1.67	1.19	2.13	12,790	3.12	8,323	4,466
110	1.83	1.11	1.99	13,105	3.12	9,063	4,042
120	2.00	1.04	1.86	13,393	3.12	9,802	3,591
130	2.17	0.98	1.75	13,658	3.12	10,541	3,117
140	2.33	0.93	1.66	13,904	3.12	11,280	2,624
150	2.50	0.88	1.57	14,134	3.12	12,019	2,114
160	2.67	0.84	1.49	14,349	3.12	12,759	1,590

<== CONTROLS 0.13 AC-FT

# DESIGN FREQUENCY = 10 YEAR STORM

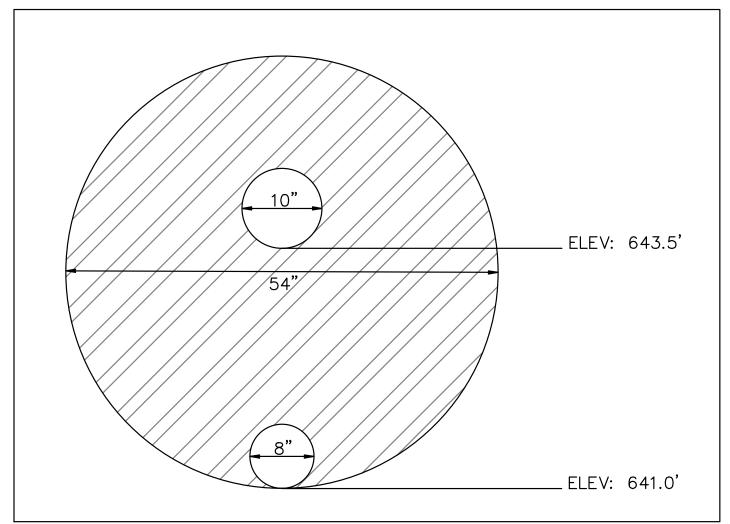
EXISTING CONDITIONS:		
DRAINAGE AREAS	B-1	
DRAINAGE AREA (A)	3.06	AC
TIME OF CONC. ( $T_{\circ}$ )	16.8	MIN
RAINFALL INTENSITY (I)	5.32	IN/HR
RUNOFF COEFFICIENT (C)	0.72	
ALLOWABLE DISCHARGE	11.67	CFS

# PROPOSED ONSITE CONDITIONS:

DETAINED	-		PROPOSED BYPASS		
DRAINAGE AREAS	B-1		DRAINAGE AREAS	B-1	
DRAINAGE AREA (A)	1.84	AC	DRAINAGE AREA (A)	1.28	AC
TIME OF CONC. (T <sub>c</sub> )	12.6	MIN	TIME OF CONC. ( $T_{\circ}$ )	10.9	MIN
RAINFALL INTENSITY (I)	6.01	IN/HR	RAINFALL INTENSITY (I)	6.34	IN/H
WEIGHTED COEFFICIENT (C)	0.97		WEIGHTED COEFFICIENT (C)	0.87	
DETAINED RUNOFF	10.72	CFS	UNDETAINED RUNOFF	7.09	CFS

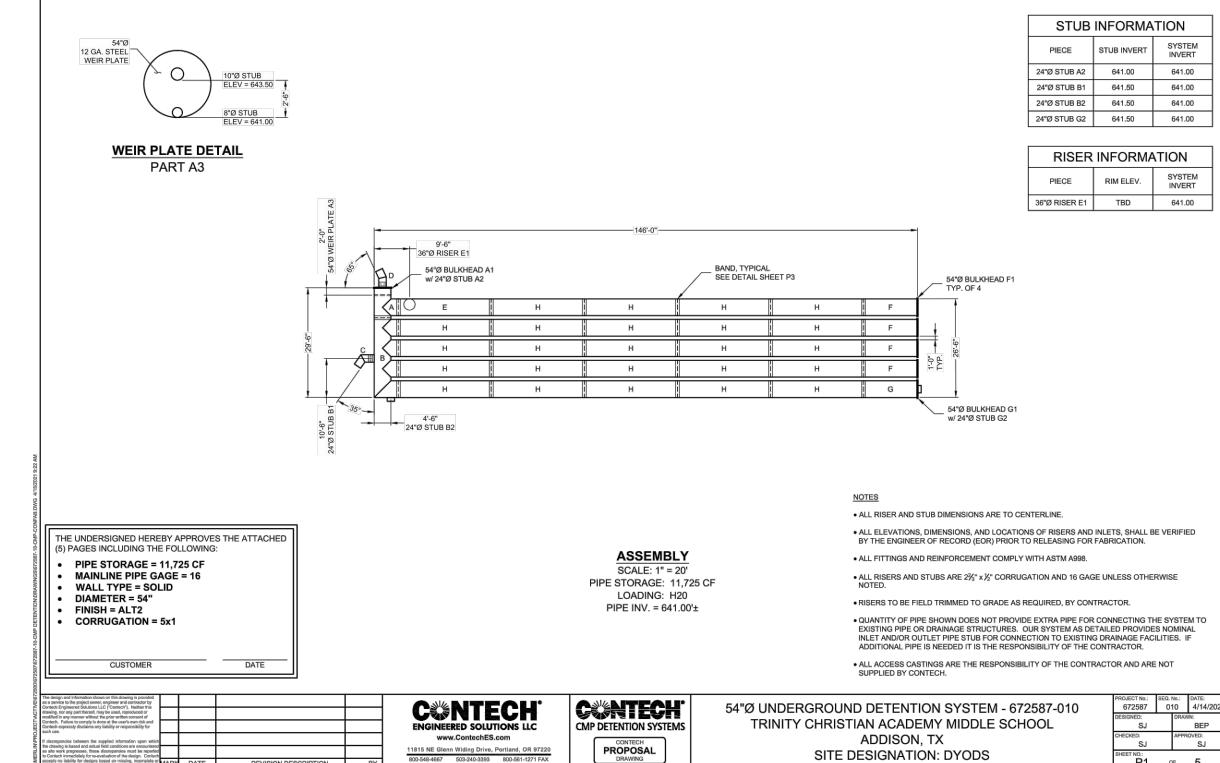
#### ALLOWABLE DISCHARGE 4.58 CFS ACTUAL DISCHARGE 4.12 CFS

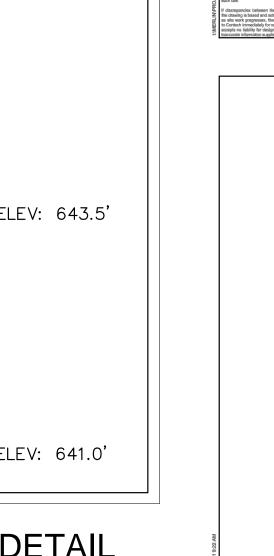
TIME (MIN)	TIME (HRS)	I <sub>100</sub> (IN/HR)	INFLOW RATE (CFS)	INFLOW VOLUME (FT <sup>3</sup> )	OUTFLOW RATE (CFS)	OUTFLOW VOLUME (FT <sup>3</sup> )	STORAGE (FT <sup>3</sup> )	
10	0.17	6.54	11.68	7,005	4.58	2,793	4,212	
15	0.25	5.59	9.98	8,981	4.58	3,411	5,570	
20	0.33	4.90	8.75	10,503	4.58	4,029	6,473	
30	0.50	3.97	7.09	12,753	4.58	5,265	7,488	
40	0.67	3.36	6.00	14,391	4.58	6,501	7,889	
50	0.83	2.93	5.22	15,670	4.58	7,737	7,933	<== CONTROLS 0.18 AC-FT
60	1.00	2.60	4.64	16,718	4.58	8,973	7,744	
70	1.17	2.35	4.19	17,604	4.58	10,209	7,395	
80	1.33	2.14	3.83	18,372	4.58	11,445	6,927	
90	1.50	1.98	3.53	19,051	4.58	12,681	6,369	
100	1.67	1.84	3.28	19,658	4.58	13,917	5,741	
110	1.83	1.72	3.06	20,209	4.58	15,153	5,055	
120	2.00	1.61	2.88	20,712	4.58	16,389	4,323	
130	2.17	1.52	2.71	21,177	4.58	17,625	3,551	
140	2.33	1.44	2.57	21,608	4.58	18,861	2,746	
150	2.50	1.37	2.45	22,010	4.58	20,097	1,913	
160	2.67	1.31	2.33	22,388	4.58	21,333	1,054	



# RESTRICTOR PLATE OUTFALL DETAIL

Detention Pond - Outfall Structure Summary										
Design	Volume	Elevation		Opening #1			Opening #2		To	tal
Storm	(ac-ft)	clevation	Weir	Orifice	Actual	Weir	Orifice	Actual	Actual	Max
2-year	0.13	643.49	8.8	2.5	2.5	0.0	0.0	0.0	2.46	3.12
10-year	0.18	644.16	12.6	2.8	2.8	1.5	1.3	1.3	4.12	4.58
100-year	0.25	645.40	20.7	3.4	3.4	7.4	3.2	3.2	6.59	6.65



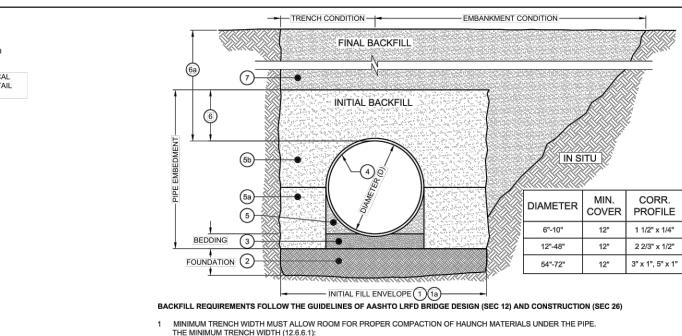


MAY BE REQUIRED BASED ON HEIGHT OF COVER AND LIVE LOAD CONDITION

TYPICAL MANWAY DETAIL

NOT TO SCALE

CINTECH'
ENGINEERED SOLUTIONS LLC





1a MINIMUM EMBANKMENT WIDTH (IN FEET) FOR INITIAL FILL ENVELOPE (12.6.6.2): PIPE < 24". 3.0D PIPE 24" - 144": D + 4'0" PIPE > 144": D + 10"

2 THE FOUNDATION UNDER THE PIPE AND SIDE BACKFILL SHALL BE ADEQUATE TO SUPPORT THE LOADS ACTING UPON IT (26.5.2). BEDDING MATERIAL SHALL BE A RELATIVELY LOOSE MATERIAL THAT IS ROUGHLY SHAPED TO FIT THE BOTTOM OF THE PIPE, AND A MINIMUM OF TWICE THE CORRUGATION DEPTH IN THICKNESS, WITH THE MAXIMUM PARTICLE SIZE OF ONE-HALF OF THE CORRUGATION DEPTH IN THICKNESS. DEPTH (26.3.8.1, 26.5.3).

4 CORRUGATED STEEL PIPE (CSP / HEL-COR), DIAMETERS 18" - 72"

5 HAUNCH ZONE MATERIAL SHALL BE HAND SHOVELED OR SHOVEL SLICED INTO PLACE TO ALLOW FOR PROPER COMPACTION (26.5.4).

P1 of 5

5a INITIAL BACKFILL SHALL BE WELL GRADED CRUSHED ROCK UP TO SPRINGLINE OF PIPE.

5b BACKFILL PLACED ABOVE THE SPRINGLINE TO MEET AASHTO A-1, A-2 OR A-3 CLASSIFICATION, OR APPROVED EQUAL, COMPACTED TO 90% STANDARD PROCTOR (T 99). MAXIMUM PARTICLE SIZE NOT TO EXCEED 3" (12.4.1.2). ALL LIFTS PLACED IN A CONTROLLED MANNER. IT IS RECOMMENDED THAT LIFTS NOT EXCEED AN 8" UNCOMPACTED LIFT HEIGHT TO PREVENT UNEVEN LOADING, AND THE LESSER OF 12 THE PLANMETER OF 2014 AS THE MAXIMUM DIFFERENTIAL SIDE TO SIDE 70 FOR 12 THE PLANMETER OF 2014 AS THE MAXIMUM DIFFERENTIAL SIDE TO SIDE 70 FOR 12 THE PLANMETER OF 2014 AS THE MAXIMUM DIFFERENTIAL SIDE TO SIDE 70 FOR 12 THE MAXIMUM DIFFERENTIAL SIDE TO SIDE 1/3 THE DIAMETER OR 24" AS THE MAXIMUM DIFFERENTIAL SIDE-TO-SIDE (26.5.4).

6 SAND BACKFILL (AASHTO A-3 OR APPROVED EQUAL) TO BE PLACED FROM SPRINGLINE TO 12" ABOVE PIPE. INITIAL BACKFILL ABOVE MAY INCLUDE ROAD BASE MATERIAL (AND RIGID PAVEMENT IF APPLICABLE).

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 (12.6.6.3).

7 FINAL BACKFILL MATERIAL SELECTION AND COMPACTION REQUIREMENTS SHALL FOLLOW THE PROJECT PLANS AND SPECIFICATIONS

NOTES:

GEOTEXTILE SHOULD BE CONSIDERED FOR USE 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 TAHA 12", OR 36" FOR PIPE DIAMETERS 72" AND LARGER. CONTACT YOUR CONTECH REPRESENTATIVE FOR NONSTANDARD SPACING (TABLE C12.6.7-1).

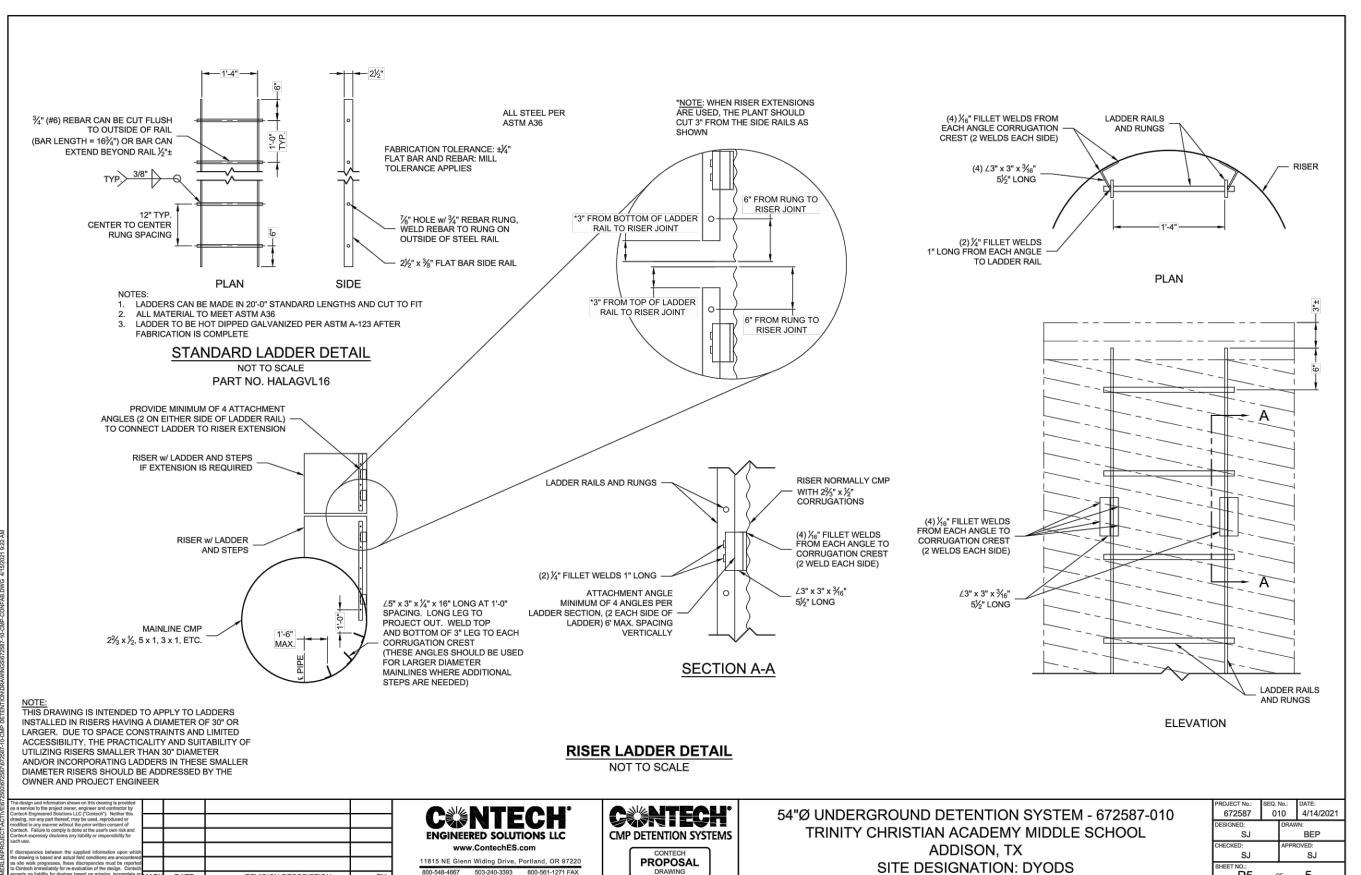
TYPICAL BACKFILL DETAIL

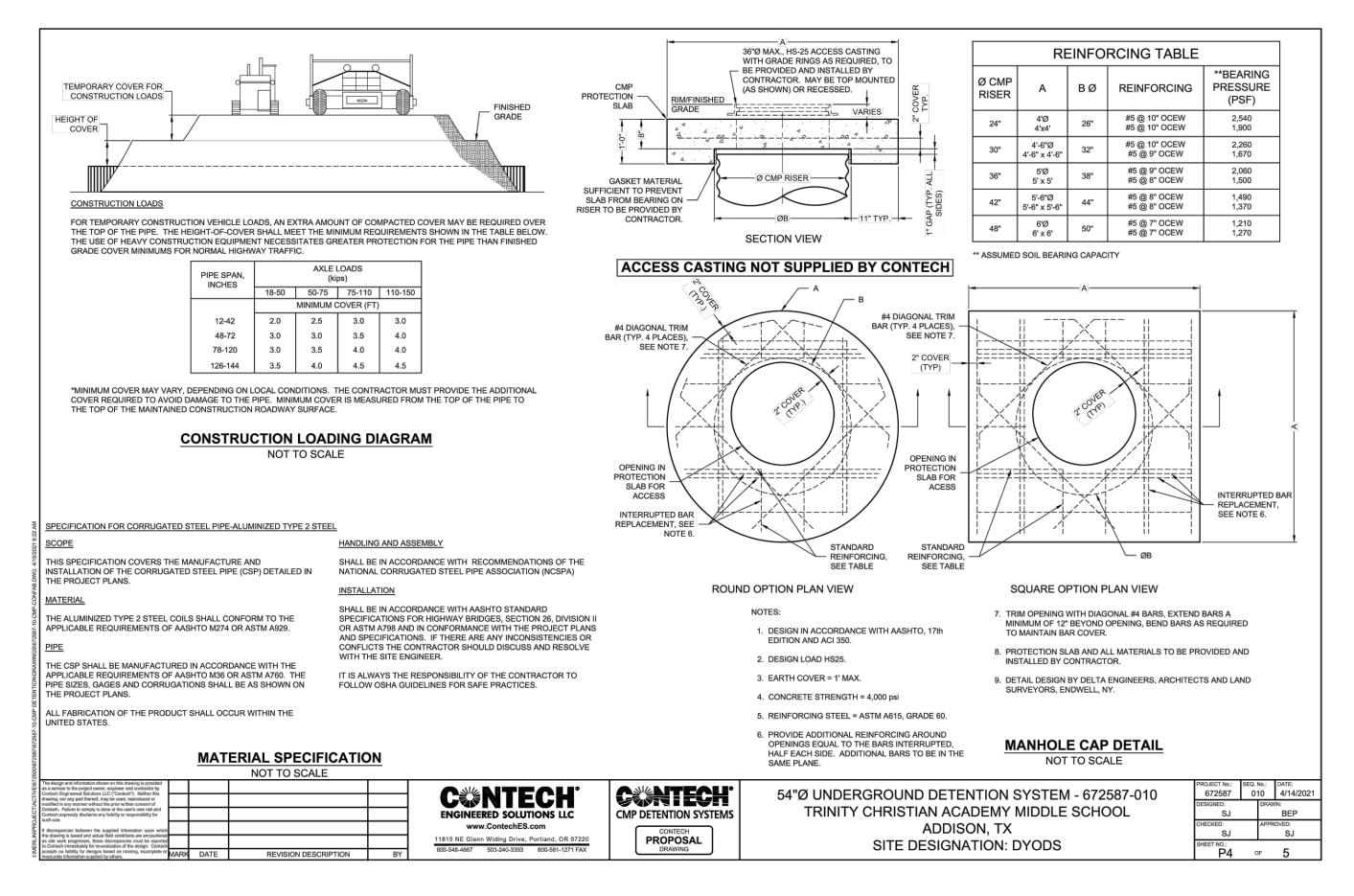
NOT TO SCALE

		NOT TO SCALE				
•	C&NTECH'	54"Ø UNDERGROUND DETENTION SYSTEM - 672587-010	PROJECT No.: 672587	SEQ. No.: 010	DATE: 4/14/2021	
	CMP DETENTION SYSTEMS		DESIGNED: SJ	DRA	WN: BEP	
7700	CONTECH	ADDISON, TX	CHECKED: SJ	APP	ROVED: SJ	
7220 FAX	PROPOSAL DRAWING	SITE DESIGNATION: DYODS	SHEET NO.:			

Detention Pond Summary Table							
Elevation	Volume (ac-ft)	Volume (ft^3)					
641.00	0.00	0					
642.00	0.03	1,437					
643.00	0.10	4,312					
644.00	0.17	7,492					
645.00	0.24	10,237					
645.86	0.26	11,326					

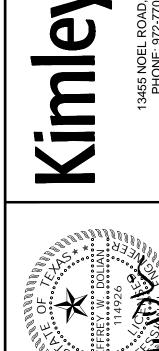
Detention Pond - Water Suface Elevation Summary						
Storm Event	Elevation	Volume				
2-yr Elevation (MRM Calcs) =	643.49	0.13				
10-yr Elevation (MRM Calcs) =	644.16	0.18				
100-yr Elevation (MRM Calcs) =	645.40	0.25				

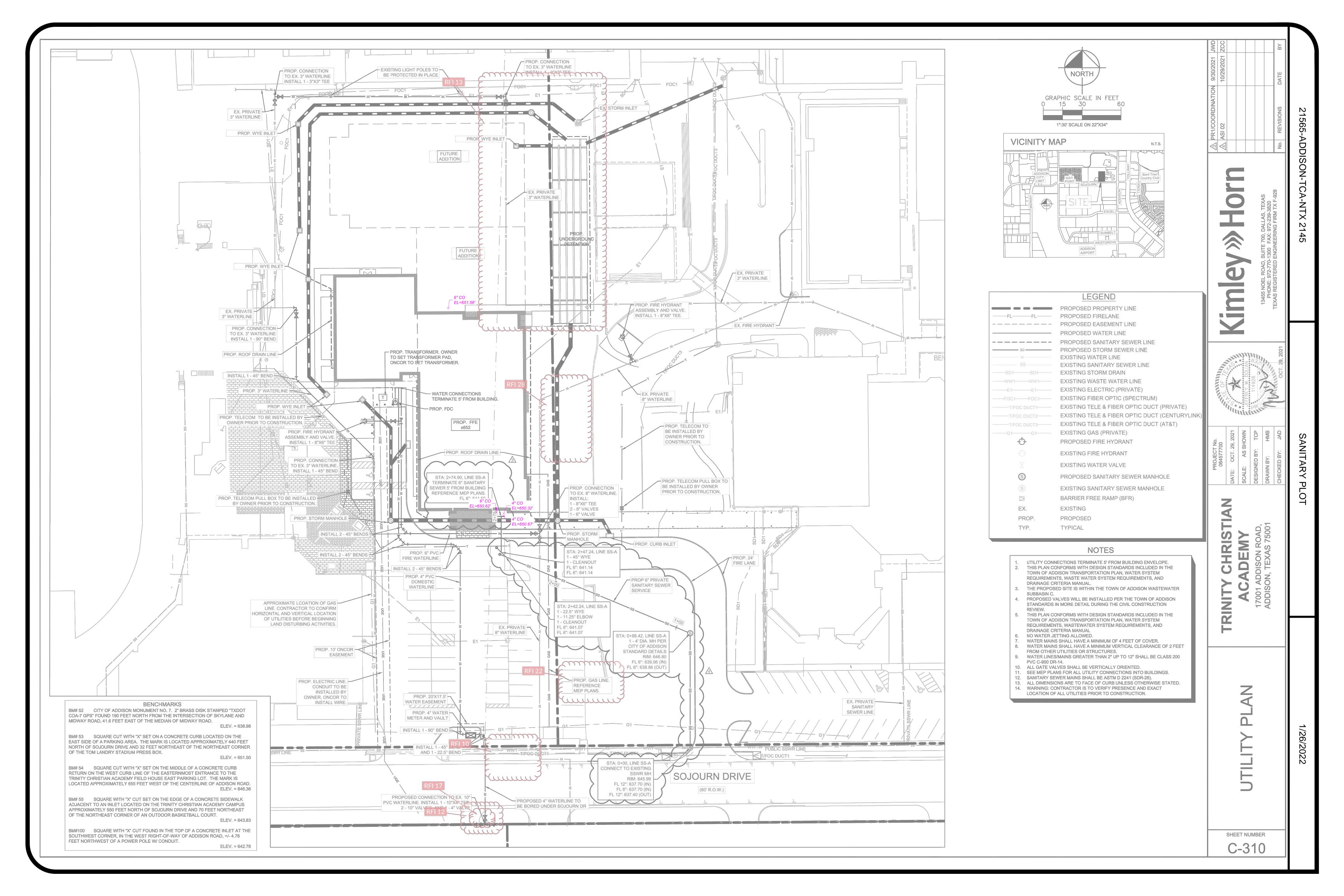


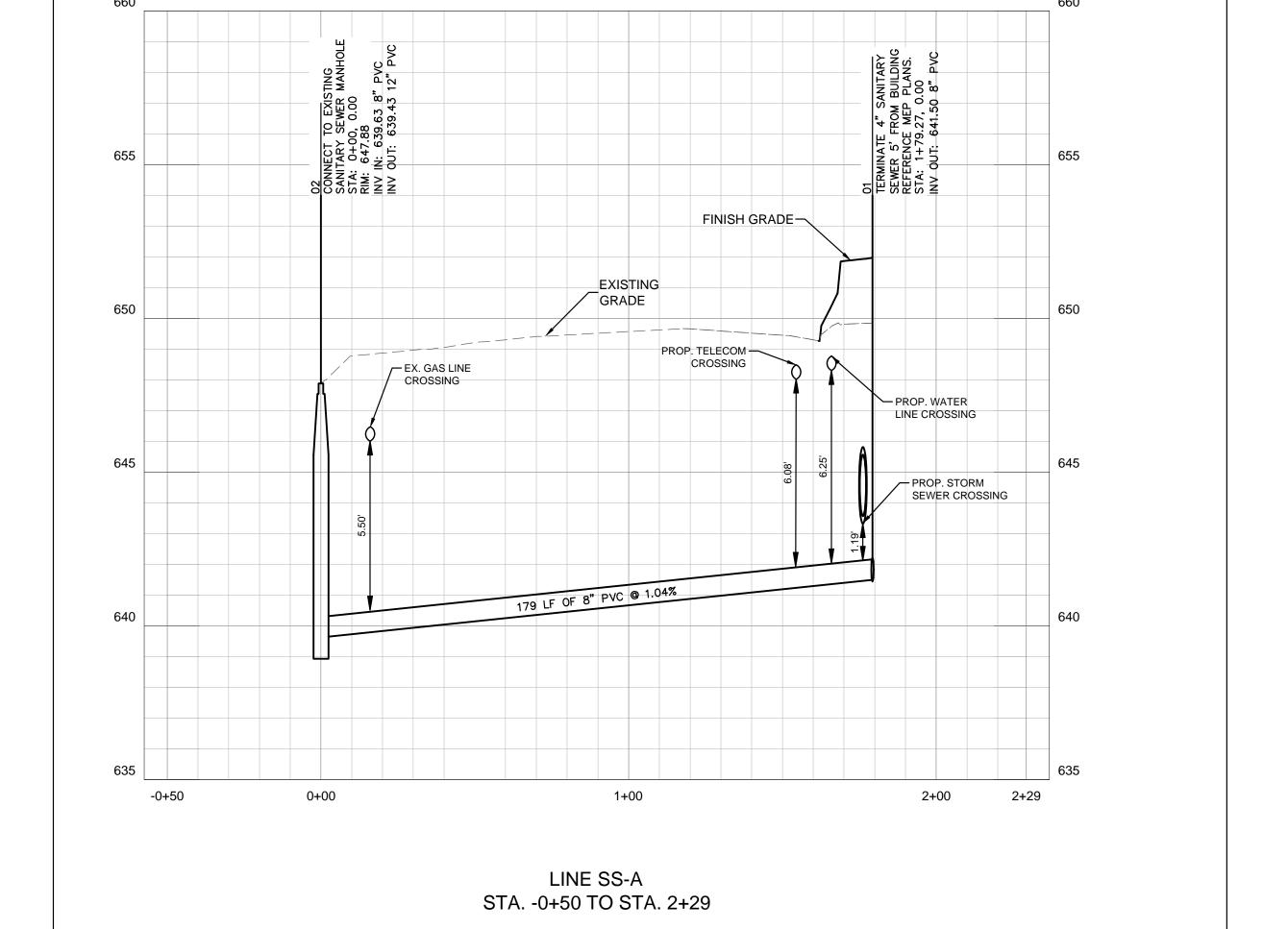




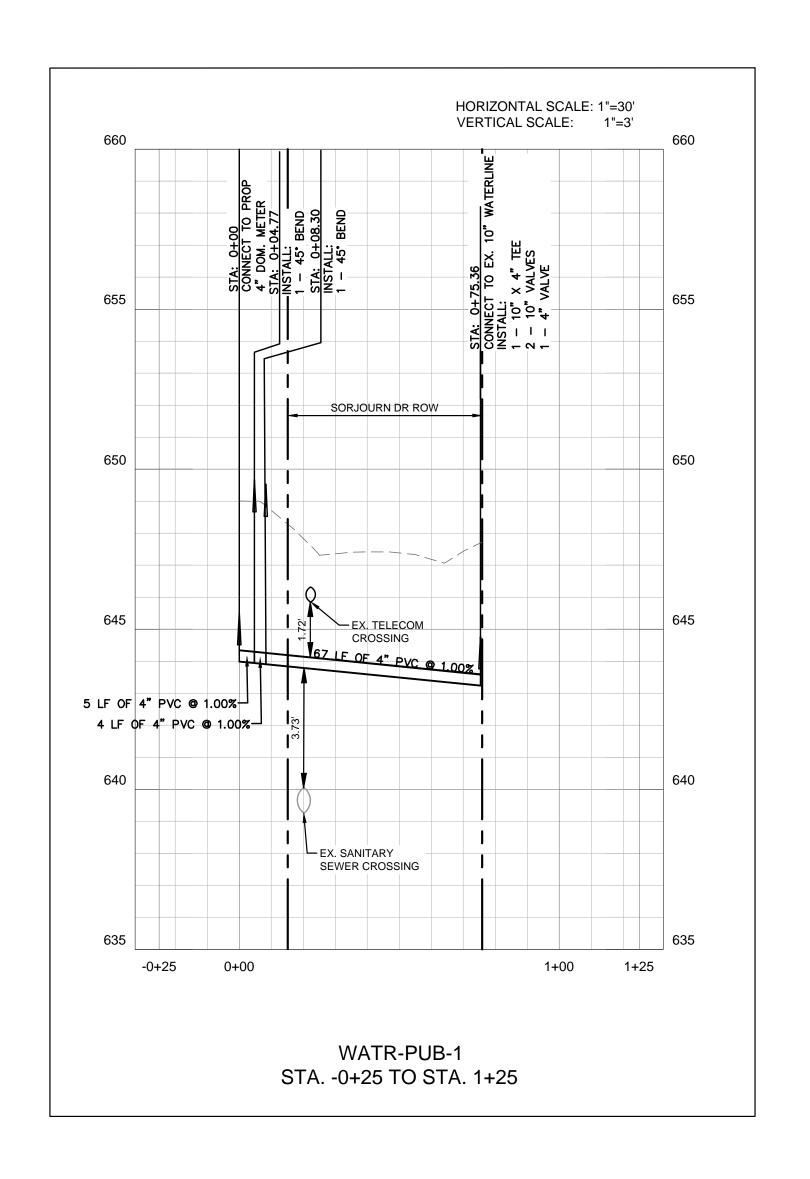
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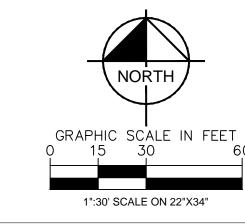


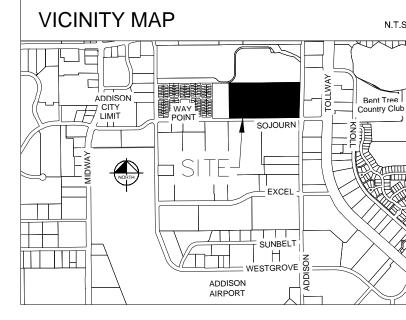


HORIZONTAL SCALE: 1"=30' VERTICAL SCALE: 1"=3'



**PROFILES** 





	<u>LEGEND</u>
	PROPOSED EASEMENT LINE PROPOSED ELECTRIC LINE
SD	PROPOSED SANITARY SEWER LINE PROPOSED STORM SEWER LINE EXISTING WATER LINE
SS	EXISTING SANITARY SEWER LINE
	EXISTING STORM DRAIN
	EXISTING WASTE WATER LINE
	EXISTING ELECTRIC (PRIVATE)
	EXISTING FIBER OPTIC (SPECTRUM)
	EXISTING TELE & FIBER OPTIC DUCT (PRIVATE)
	EXISTING TELE & FIBER OPTIC DUCT (CENTURYLI
	EXISTING TELE & FIBER OPTIC DUCT (AT&T) EXISTING GAS (PRIVATE)
	,
T	PROPOSED TRANSFORMER
	PROPOSED TELECOM PULL BOX
$\bullet$	PROPOSED FIRE HYDRANT
$\leftrightarrow$	EXISTING FIRE HYDRANT
$\boxtimes$	EXISTING WATER VALVE
S	PROPOSED SANITARY SEWER MANHOLE
S	EXISTING SANITARY SEWER MANHOLE
	BARRIER FREE RAMP (BFR)
EX.	EXISTING
PROP.	PROPOSED
TYP.	TYPICAL

- FRANCHISE UTILITIES SHOWN ARE SCHEMATIC AND ARE BASED ON INFORMATION PROVIDED BY THE RESPECTIVE FRANCHISE UTILITY COMPANIES. CONTRACTOR SHALL COORDINATE PROPOSED WORK WITH FRANCHISE UTILITY COMPANIES.
- FRANCHISE UTILITY COMPANIES. CONTRACTOR SHALL OBTAIN ALL PERMITS NECESSARY FOR IDENTIFIED WORK PRIOR

DESIGN (LOCATION, SIZE, ETC.) OF FRANCHISE UTILITIES WILL BE COMPLETED BY THE

- TO CONSTRUCTION. ALL ELECTRICAL CONDUIT INSTALLATION SHALL CONFORM TO APPLICABLE ELECTRIC
- CONTRACTOR SHALL REPAIR AND REPLACE DISTURBED AREAS TO EXISTING SURFACE MATERIALS AND CONDITION.
- CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS PRIOR TO BEGINNING WITH CONSTRUCTION AND REPORT ANY DISCREPANCIES TO ENGINEER OR FRANCHISE UTILITY COMPANY.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING ALL MATERIAL AND LABOR TO CONSTRUCT THE FACILITY AS SHOWN AND DESCRIBED IN THE CONSTRUCTION DOCUMENTS IN ACCORDANCE WITH THE APPROPRIATE APPROVING AUTHORITIES, SPECIFICATIONS AND REQUIREMENTS.
- CONTRACTOR SHALL CONTACT ALL FRANCHISE UTILITY COMPANIES TO HAVE THEM LOCATE EXISTING UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE THE EXACT LOCATION AND DEPTH OF ALL FRANCHISE UTILITY SERVICES AND ANY REQUIRED RELOCATIONS AND/OR EXTENSIONS.
- THE LOCATIONS, ELEVATIONS, AND DIMENSIONS OF EXISTING UTILITIES SHOWN ON THE PLANS WERE OBTAINED FROM AVAILABLE UTILITY COMPANY RECORDS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY LOCATIONS, ELEVATIONS, AND DIMENSIONS OF ADJACENT AND/OR CONFLICTING UTILITIES SUFFICIENTLY IN ADVANCE OF CONSTRUCTION IN ORDER THAT ADJUSTMENTS CAN BE MADE TO PROVIDE ADEQUATE CLEARANCES. THE CONTRACTOR SHALL PRESERVE AND PROTECT PUBLIC AND PRIVATE UTILITIES AT ALL TIMES DURING CONSTRUCTION. ANY DAMAGE TO UTILITIES RESULTING FROM CONTRACTOR'S OPERATIONS SHALL BE RESTORED AT THEIR EXPENSE. THE ENGINEER SHALL BE NOTIFIED WHEN PROPOSED FACILITY GRADES CONFLICT WITH EXISTING UTILITY GRADES.
- . THE CONTRACTOR SHALL IMMEDIATELY REPAIR OR REPLACE ANY PHYSICAL DAMAGE TO PRIVATE PROPERTY, INCLUDING, BUT NOT LIMITED TO FENCES, PAVEMENT, GRASS, TREES, LAWN SPRINKLER AND IRRIGATION SYSTEMS AT NO COST TO THE OWNER. THIS WORK SHALL BE SUBSIDIARY TO THE CONTRACT (UNLESS OTHERWISE NOTED) AND IS NOT A SEPARATE PAY ITEM.

TRINITY CHRISTIA
ACADEMY
17001 ADDISON ROAD,
ADDISON, TEXAS 75001

귑

MIN. 2.0' B.C.

MAX . 4.0' B,C

-2 - 2 1/2" NOZZLES

-MIN. 7 CUBIC FEET OF

ALL ANCHOR FITTINGS TO BE CONCRETE THRUST BLOCKED.

IN GEOTEXTILE MATERIAL.

GEOTEXTILE MATERIAL

PRECAST CONCRETE SLAB

TYPICAL FIRE HYDRANT INSTALLATION

TYPICAL FIRE HYDRANT

INSTALLATION

ALL DUCTILE OR CAST IRON FITTINGS

FIRE HYDRANT BASE TO BE WRAPPED

STANDARD CONSTRUCTION DETAILS

WATER

REV DATE:

SHEET : SD-W16

AND OR PIPE TO BE POLYWRAPPED.

WASHED GRAVEL FILL

1. DESIGN, SITE REQUIREMENTS, THE GENERAL

2. FIRE HYDRANTS SHALL BE LOCATED A

MINIMUM OF 18" OUTSIDE OF THE

DRIVEWAYS (SEE PLAN VIEW).

PLAN VIEW

CLASS "B" CONCRETE -THRUST BLOCK MUST

NOT BLOCK WEEP

PUBLIC WORKS DEPARTMENT

REQUIREMENTS.

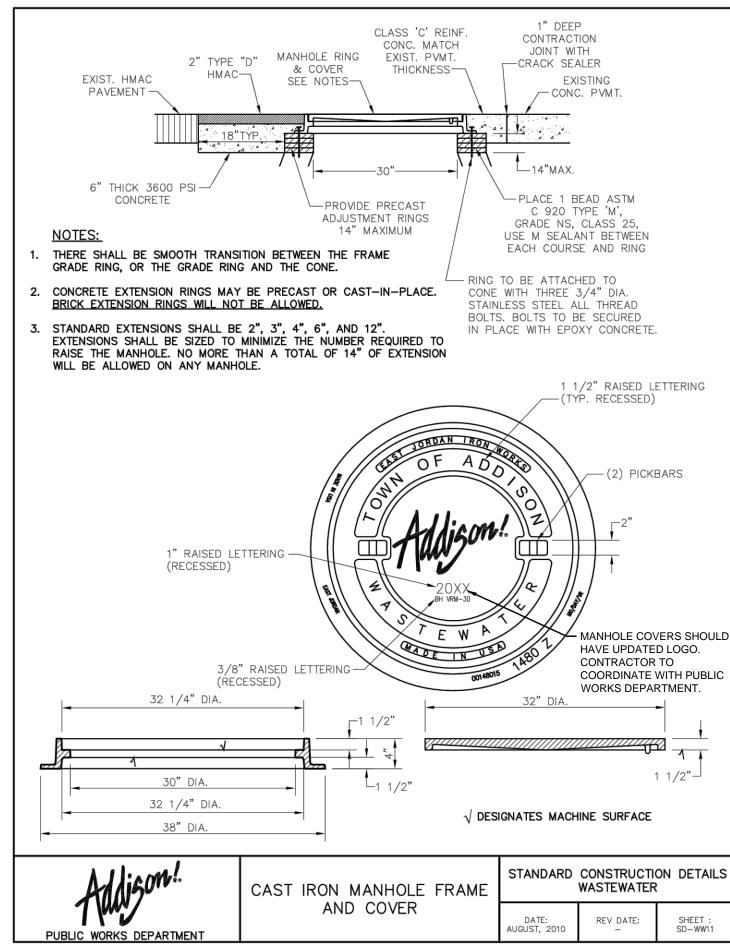
OPERATION, PAINTING AND DELIVERY OF ALL FIRE HYDRANTS SHALL BE IN ACCORDANCE

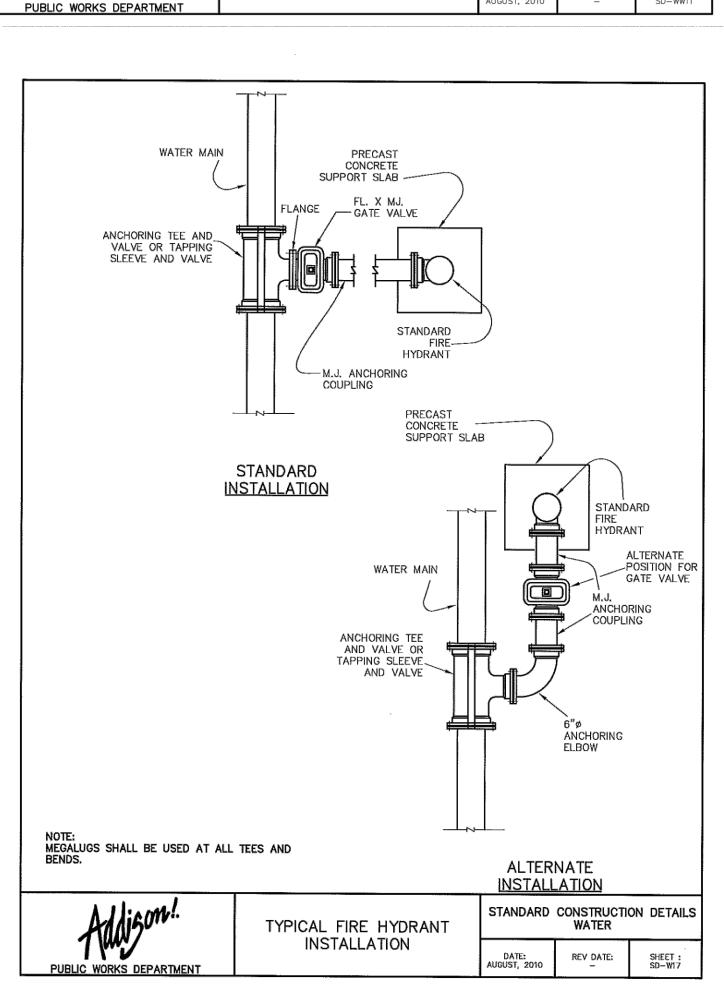
AREA BETWEEN THE P.C.'S OF THE CORNER TURNING RADIUS AT INTERSECTIONS AND

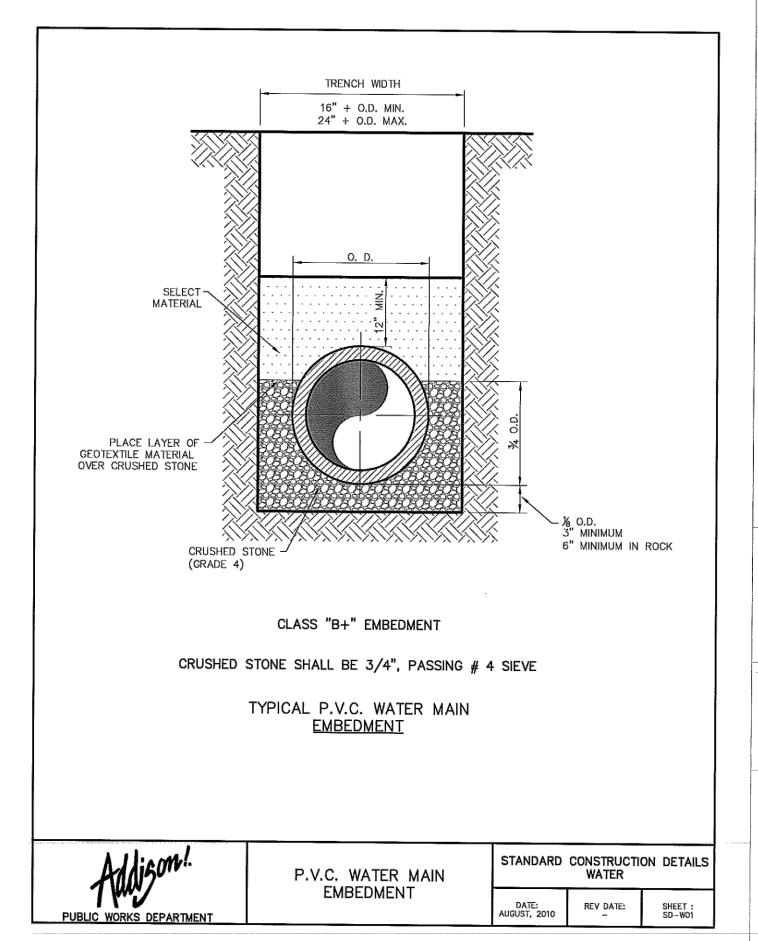
CLASS "B" CONC.

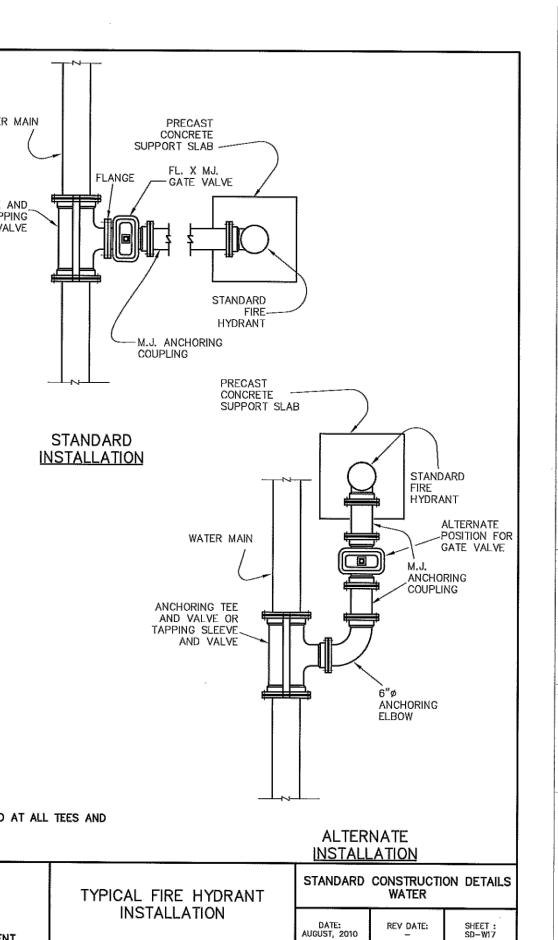
GROUND LINE-

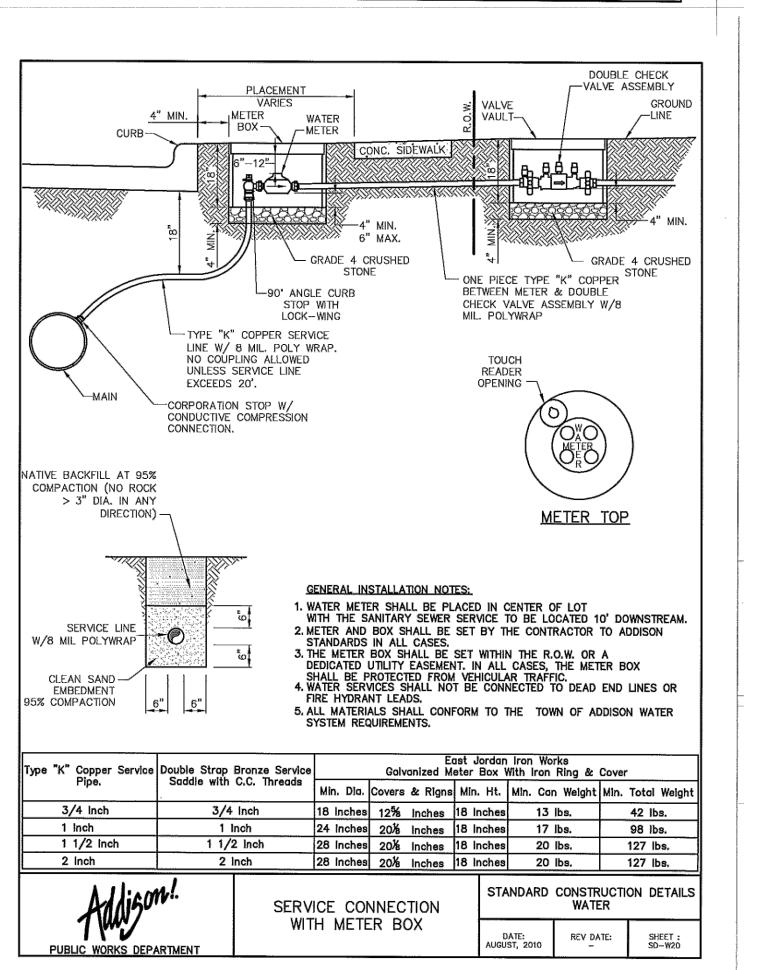
WITH THE TOWN OF ADDISON WATER SYSTEM

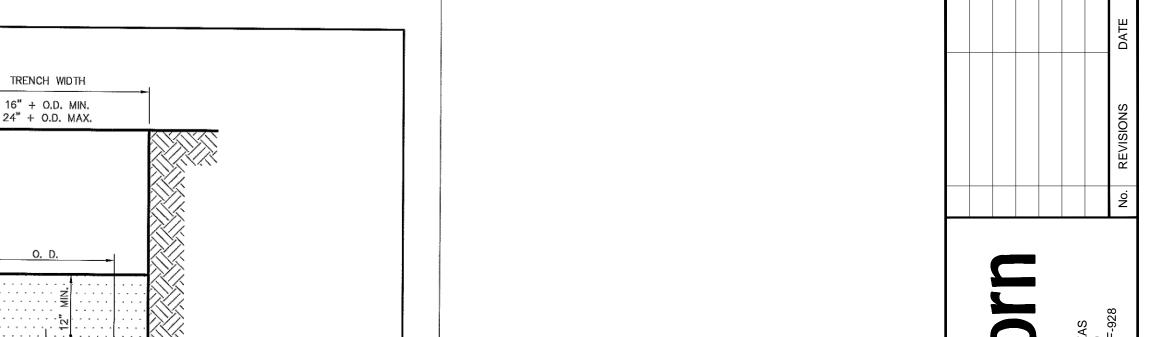






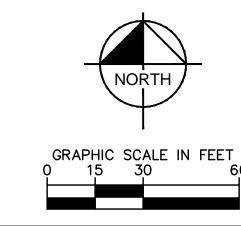


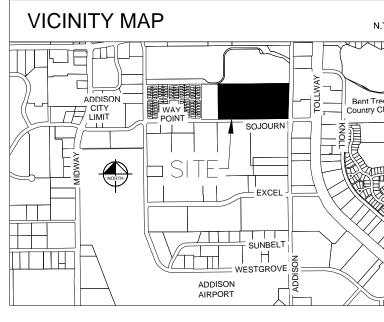






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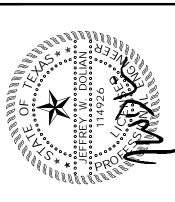
#### NOTES

- 1. CONTRACTOR IS SOLELY RESPONSIBLE FOR SELECTION, IMPLEMENTATION, MAINTENANCE, AND EFFECTIVENESS OF ALL SWPPP CONTROLS - CONTROLS SHOWN ON THIS SITE MAP ARE SUGGESTED
- 2. CONTRACTOR SHALL RECORD INSTALLATION, MAINTENANCE OR MODIFICATION, AND REMOVAL DATES FOR EACH BMP EMPLOYED (WHETHER CALLED OUT ON ORIGINAL SWPPP OR NOT) DIRECTLY ON THE SITE MAP.
- 3. DRAINAGE PATTERNS ARE SHOWN ON THIS PLAN BY PROPOSED AND EXISTING CONTOURS, FLOW ARROWS, TEMPORARY AND PERMANENT STABILIZATION PRACTICES AND BMP'S SHALL BE INSTALLED AT THE EARLIEST
- POSSIBLE TIME DURING THE CONSTRUCTION SEQUENCE. AS AN EXAMPLE, PERIMETER SILT FENCE SHALL BE INSTALLED BEFORE COMMENCEMENT OF ANY GRADING ACTIVITIES. OTHER BMP'S SHALL BE INSTALLED AS SOON AS PRACTICABLE AND SHALL BE MAINTAINED UNTIL FINAL SITE STABILIZATION IS ATTAINED. CONTRACTOR SHALL ALSO REFERENCE CIVIL AND LANDSCAPE PLANS SINCE PERMANENT STABILIZATION IS PROVIDED BY LANDSCAPING, THE BUILDING(S), AND SITE PAVING.
- 5. BMP'S HAVE BEEN LOCATED AS INDICATED ON THIS PLAN IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING PRACTICES IN ORDER TO MINIMIZE SEDIMENT TRANSFER. FOR EXAMPLE: SILT FENCES LOCATED AT TOE OF SLOPE AND INLET PROTECTION FOR INLETS RECEIVING SEDIMENT FROM SITE RUN-OFF.
- 6. SANITARY SEWER EFFLUENT IS DISPOSED OF VIA AN ONSITE SEWER SYSTEM CONNECTED TO A MUNICIPAL
- 7. IN AREAS WITH 4:1 SLOPES, CONTRACTOR TO INSTALL SOIL RETENTION BLANKET IF NECESSARY. 8. ALL SAWCUT WATER SHALL BE VACUUMED AND DISPOSED PROPERLY (I.E. CONCRETE WASHOUT PIT). 9. ALL HYPERCHLORINATED WATER AND BLOW OFF WATER SHALL BE DISCHARGED INTO SANITARY SEWER
- 10. ALL DISTURBED AREAS, WHETHER ON-SITE OR OFF-SITE, SHALL RECEIVE A FULL STAND OF GRASS (PERMANENT GRASS) PRIOR TO ISSUANCE OF ANY OCCUPANCY BY THE BUILDING AND CODE DIVISION OF
- I1. WHEN NECESSARY, VEHICLES SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO A PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WITH DRAINAGE FLOWING AWAY FROM BOTH THE STREET AND THE STABILIZED
- ENTRANCE. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE USING APPROVED METHODS. 12. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PAVED SURFACES. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PAVED

LEG	END
PROPERTY LINE	
PROPOSED CONTOURS	
EXISTING CONTOURS	
CONSTRUCTION FENCE	xxx
SILT FENCE	SF sf sf
CONSTRUCTION ENTRANCE	CE CE
GRATE INLET PROTECTION	GP 🔲
CURB INLET PROTECTION	IP
SOIL RETENTION BLANKET (IF REQUIRED)	

PHASING					
PHASE	EROSION CONTROL MEASURES				
1. GRADING	ALL SILT FENCE AND CONSTRUCTION ENTRANCE/EXIT SHALL BE INSTALLED PRIOR TO THE INITIATION OF ROUGH GRADING. CONSTRUCTION ENTRANCE TO BE INSTALLED AT THIS TIME.				
2. UTILITY INSTALLATION	ALL SILT FENCE SHALL BE INSTALLED PRIOR TO THE INITIATION OF ALL UTILITY CONSTRUCTION. UPON THE COMPLETION OF STORM SEWER INSTALLATION INLET PROTECTORS TO BE INSTALLED.				
3. PAVING/BUILDING	ALL PRIOR EROSION CONTROL MEASURES INSTALLED ABOVE TO BE MAINTAINED DURING PAVING AND THROUGHOUT THE REMAINDER OF THI PROJECT.				
4. SOIL STABILIZATION /LANDSCAPING	AFTER SITE CONSTRUCTION AND PAVING PHASE, CONTRACTOR TO EXCAVATE BOTTOM OF POND AND REMOVE SEDIMENT TRAP. REMOVE TEMPORARY ENTRANCE/EXIT AND INLET PROTECTION. ALL PRIOR EROSION CONTROL MEASURES INSTALLED ABOVE TO BE MAINTAINED DURING FINE GRADING AND THROUGH OUT THE REMAINDER OF THE PROJECT.				

TOT	AL DISTURBED	AREA
	3 ACRES	



- ALL EROSION CONTROL DEVICES ARE TO BE INSTALLED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS FOR THE PROJECT. CHANGES ARE TO BE APPROVED BEFORE CONSTRUCTION BY THE DESIGN ENGINEER AND THE CITY OF TOWN OF ADDISON.
- IF THE EROSION CONTROL PLAN AS APPROVED CANNOT CONTROL EROSION AND OFF-SITE SEDIMENTATION FROM THE PROJECT THE EROSION CONTROL PLAN WILL BE REQUIRED TO BE REVISED AND/OR ADDITIONAL EROSION CONTROL DEVICES WILL BE REQUIRED ON SITE.
- IF OFF-SITE BORROW OR SPOILS SITES ARE USED IN CONJUNCTION WITH THIS PROJECT, THIS INFORMATION SHALL BE DISCLOSED AND SHOWN ON THE EROSION CONTROL PLAN. OFF-SITE BORROW AND SPOILS AREAS ARE CONSIDERED PART OF EROSION CONTROL REQUIREMENTS. THESE AREAS SHALL BE STABILIZED WITH GROUND COVER PRIOR TO FINAL APPROVAL OF THE PROJECT.
- INSPECTIONS SHALL BE MADE WEEKLY AND AFTER RAIN STORM EVENTS TO INSURE THAT THE DEVICES ARE FUNCTIONING PROPERLY. WHEN SEDIMENT OR MUD HAS CLOGGED THE VOID SPACES BETWEEN STONES OR MUD IS BEING TRACKED ONTO A PUBLIC ROADWAY THE AGGREGATE PAD MUST BE WASHED DOWN OR REPLACED. RUNOFF FROM THE WASH DOWN OPERATION HALL SHALL NOT BE ALLOWED TO DRAIN DIRECTLY OFF SITE WITHOUT FIRST FLOWING THROUGH ANOTHER BMP TO CONTROL OFF SITE SEDIMENTATION. PERIODIC RE-GRADING OR THE ADDITION OF NEW STONE MAY BE REQUIRED TO MAINTAIN THE EFFICIENCY OF THE INSTALLATION.
- CONTRACTOR SHALL HAVE A COPY THE SWPPP ON SITE AT ALL TIMES.
- CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTAL OF N.O.I., N.O.T. AND ANY ADDITIONAL INFORMATION REQUIRED BY THE E.P.A. CONTRACTOR SHALL COMPLY WITH ALL E.P.A. STORM WATER POLLUTION PREVENTION REQUIREMENTS.

#### EROSION CONTROL SCHEDULE AND PHASING

THE PROJECT SHALL GENERALLY CONFORM TO THE FOLLOWING:

PHASE 1 - DEMOLITION/GRADING

A. CONSTRUCT TEMPORARY CONSTRUCTION ENTRANCE AND SILT FENCE ACCORDING TO THE APPROXIMATE LOCATION SHOWN ON GRADING AND EROSION CONTROL PLAN, NOTES, AND DETAIL SHEETS.

B. BEGIN CLEARING AND GRADING OF SITE. C. SEED AND REVEGETATE SLOPES WHERE SHOWN.

PHASE 2 - UTILITIES

A. KEEP ALL STORM WATER POLLUTION PREVENTION MEASURES IN PLACE.

B. INSTALL STORM DRAINS AS SPECIFIED ON PLAN SHEETS.

C. INSTALL INLET PROTECTION.

PHASE 3 - PAVING A. KEEP ALL STORM WATER POLLUTION PREVENTION MEASURES IN PLACE

REMOVE AS NEEDED TO PAVE.

B. STABILIZE SUBGRADE.

C. PAVE PARKING LOT AND SIDEWALKS AS SPECIFIED ON PLAN SHEETS.

D. REMOVE TEMPORARY CONSTRUCTION ENTRANCE.

PHASE 4 - LANDSCAPING AND SOIL STABILIZATION A. REVEGETATE LOT AND PARKWAYS

B. LANDSCAPE CONTRACTOR SHALL REVEGETATE ALL AREAS RESERVED FOR

LANDSCAPE VEGETATIVE COVERS. C. REMOVE EROSION CONTROL DEVICES WHEN GROUND COVER ESTABLISHED.

#### TEMPORARY STONE CONSTRUCTION ENTRANCE/EXIT:

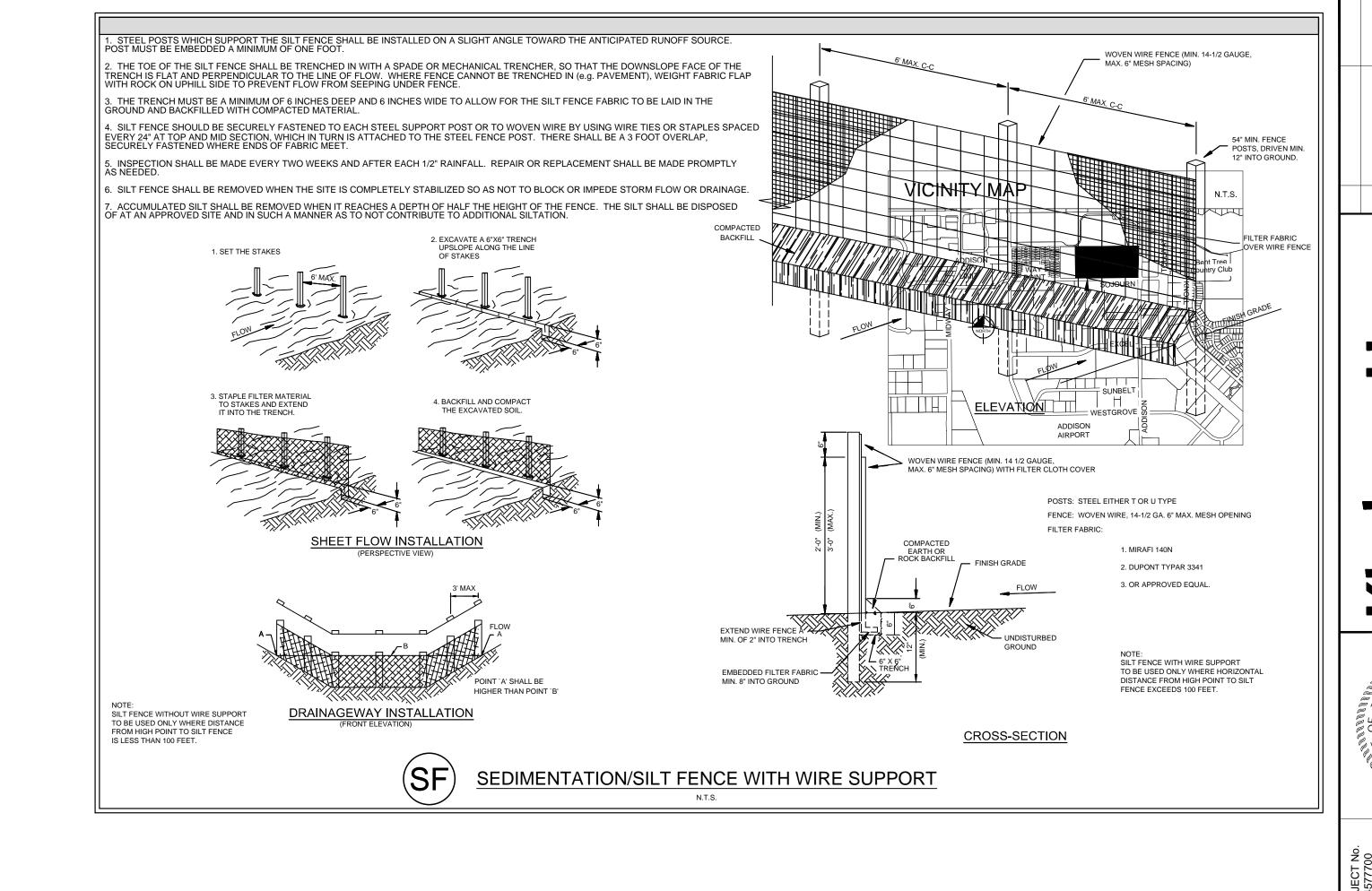
INSPECTIONS SHALL BE MADE WEEKLY AND AFTER RAIN STORM EVENTS TO ENSURE THAT THE FACILITY IS FUNCTIONING PROPERLY. AGGREGATE PAD SHALL BE WASHED DOWN OR REPLACED WHEN SEDIMENT OR MUD HAS CLOGGED THE VOID SPACES BETWEEN THE SONES OR MUD IS BEING TRACKED ONTO THE PUBLIC ROADWAY. RUNOFF FROM WASH DOWN OPERATION SHALL BE FILTERED THROUGH ANOTHER B.M.P. PRIOR TO DRAINING OFF-SITE.

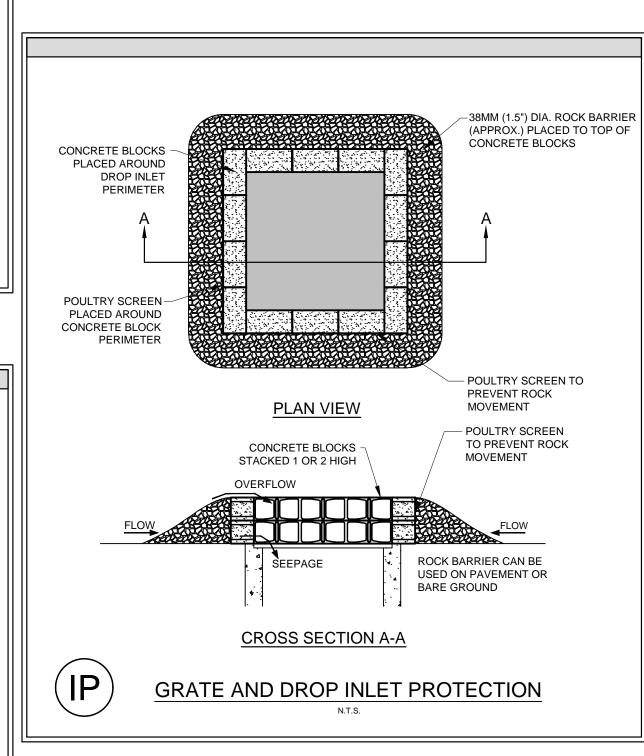
#### SILT FENCE:

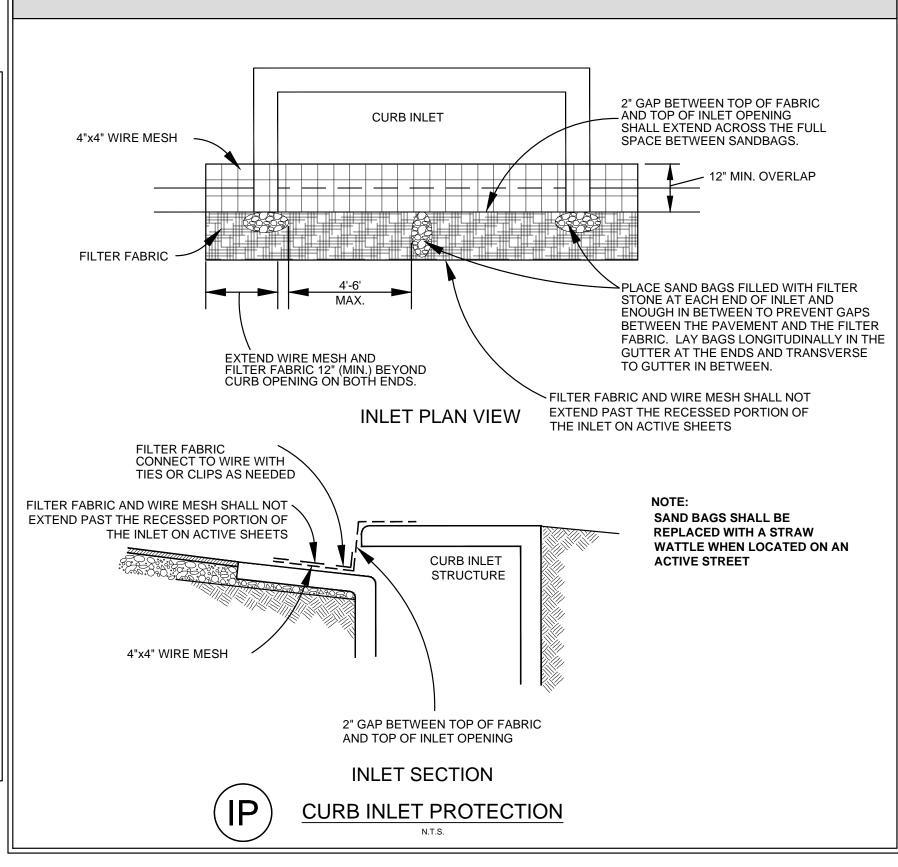
INSPECTIONS SHALL BE MADE WEEKLY AND AFTER RAIN STORM EVENTS. SEDIMENT SHALL BE REMOVED FROM BEHIND THE FENCE WHEN THE DEPTH OF SEDIMENT HAS BUILT UP TO ONE-THIRD THE HEIGHT OF THE FENCE ABOVE GRADE. FENCE SHALL BE INSPECTED FOR GAPS AT BASE. INSPECT SUPPORTING POSTS AND FILTER FABRIC. REPLACE IF REQUIRED.

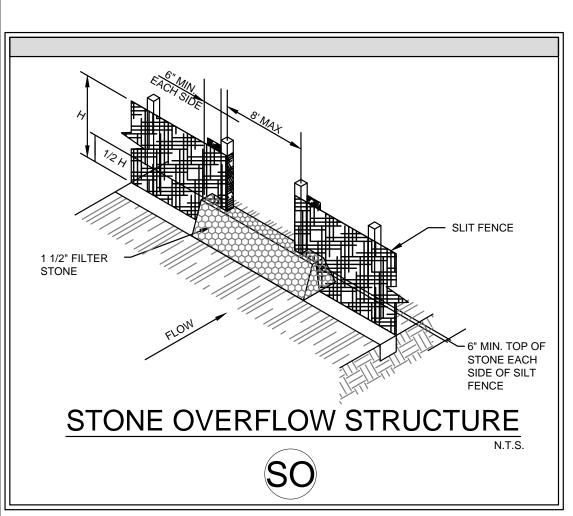
#### **INLET PROTECTION:**

INSPECTIONS SHALL BE MADE WEEKLY AND AFTER RAIN STORM EVENTS TO ENSURE THAT THE DEVICE IS FUNCTIONING PROPERLY. SEDIMENT SHALL BE REMOVED FROM THE STORAGE AREA WHEN SEDIMENT DEPTH HAS BUILT UP TO ONE-HALF THE DESIGN DEPTH. IF DE-WATERING OF THE STORAGE VOLUME IS NOT OCCURRING, CLEAN OR REPLACE THE FILTER STONE SURROUNDING THE INLET. CLEAN THE STONE SURFACE THE FIRST FEW TIMES BY RAKING. REPEATED SEDIMENT BUILD-UP WILL REQUIRE FILTER STONE REPLACEMENT.









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