

GENERAL NOTES:

CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH THE NOTES AND SPECIFICATIONS CONTAINED HEREIN. CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ALL SUBCONTRACTORS FULLY AND COMPLETELY CONFORM TO AND COMPLY WITH THESE REQUIREMENTS.

- THE FOLLOWING DOCUMENTS ARE INCORPORATED BY REFERENCE AS PART OF THIS SITE PLAN:

ALTANSPS LAND TITLE SURVEY:
BOHLER ENGINEERING
1902 S. GOLIAD STREET
ROCKWALL, TX 75087
DATED: 09/16/2018 (REV. #1)

GEOTECHNICAL INVESTIGATION REPORT:
EGCS SOUTHWEST, LLP
2000 S. GOLIAD STREET
ROCKWALL, TX 75087
DATED: 09/04/2018

PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR MUST VERIFY THAT HEISHE HAS THE LATEST EDITION OF THE DOCUMENTS REFERENCED ABOVE. THIS IS CONTRACTOR'S RESPONSIBILITY.

- ALL ACCESSIBLE (AKVA ADA) PARKING SPACES MUST BE CONSTRUCTED TO MEET, AT A MINIMUM, THE MORE STRINGENT OF THE REQUIREMENTS OF THE "AMERICANS WITH DISABILITIES ACT" (ADA) CODE (42 U.S.C. § 12011 et seq. AND 42 U.S.C. § 4151 et seq.) OR THE REQUIREMENTS OF THE JURISDICTION WHERE THE PROJECT IS TO BE CONSTRUCTED, AND ANY AND ALL AMENDMENTS TO BOTH WHICH ARE IN EFFECT WHEN THESE PLANS ARE COMPLETED.
- PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED THE COMMENTS TO ALL PLANS AND OTHER DOCUMENTS REVIEWED AND APPROVED BY THE PERMITTING AUTHORITIES AND CONFIRMED THAT ALL NECESSARY OR REQUIRED PERMITS HAVE BEEN OBTAINED. CONTRACTOR MUST HAVE COPIES OF ALL PERMITS AND APPROVALS ON SITE AT ALL TIMES.
- THE OWNER/CONTRACTOR MUST BE FAMILIAR WITH AND RESPONSIBLE FOR THE PROCUREMENT OF ANY AND ALL CERTIFICATIONS REQUIRED FOR THE ISSUANCE OF A CERTIFICATE OF OCCUPANCY.
- ALL WORK MUST BE PERFORMED IN ACCORDANCE WITH THESE PLANS, SPECIFICATIONS AND CONDITIONS OF APPROVAL, AND ALL APPLICABLE REQUIREMENTS, RULES, REGULATIONS, STATUTORY REQUIREMENTS, CODES, LAWS AND STANDARDS OF ALL GOVERNMENTAL ENTITIES WITH JURISDICTION OVER THIS PROJECT.
- THE GEOTECHNICAL REPORT AND RECOMMENDATIONS SET FORTH HEREIN ARE A PART OF THE REQUIRED CONSTRUCTION DOCUMENTS AND, IN CASE OF CONFLICT, DISCREPANCY OR AMBIGUITY, THE MORE STRINGENT REQUIREMENTS AND/OR RECOMMENDATIONS CONTAINED IN THE PLANS AND THE GEOTECHNICAL REPORT AND RECOMMENDATIONS SHALL TAKE PRECEDENCE UNLESS SPECIFICALLY NOTED OTHERWISE ON THE PLANS. THE CONTRACTOR MUST NOTIFY THE ENGINEER, IN WRITING, OF ANY SUCH CONFLICT, DISCREPANCY OR AMBIGUITY WITHIN THE GEOTECHNICAL REPORTS AND PLANS AND SPECIFICATIONS PRIOR TO PROCEEDING WITH ANY FURTHER WORK.

7. THESE PLANS ARE BASED ON INFORMATION PROVIDED TO BOHLER ENGINEERING BY THE OWNER AND OTHERS PRIOR TO THE TIME OF PLAN PREPARATION. CONTRACTOR MUST FIELD VERIFY EXISTING CONDITIONS AND NOTIFY BOHLER ENGINEERING, IN WRITING, IMMEDIATELY IF ACTUAL SITE CONDITIONS DIFFER FROM THOSE SHOWN ON THE PLAN, OR IF THE PROPOSED WORK CONFLICTS WITH ANY OTHER SITE FEATURES.

8. ALL DIMENSIONS SHOWN ON THE PLANS MUST BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. CONTRACTOR MUST NOTIFY ENGINEER, IN WRITING, IF ANY CONFLICTS, DISCREPANCIES, OR AMBIGUITIES EXIST PRIOR TO CONSTRUCTION. NO EXTRA COMPENSATION WILL BE PAID TO THE CONTRACTOR FOR WORK WHICH HAS TO BE REDONE OR REPAIRED DUE TO DIMENSIONS OR GRADES SHOWN INCORRECTLY ON THESE PLANS PRIOR TO CONTRACTOR GIVING ENGINEER WRITTEN NOTIFICATION OF SAME AND ENGINEER, THEREAFTER, PROVIDING CONTRACTOR WITH WRITTEN AUTHORIZATION TO PROCEED WITH SUCH ADDITIONAL WORK.

9. CONTRACTOR MUST REFER TO THE ARCHITECTURAL/BUILDING PLANS "OF RECORD" FOR EXACT LOCATIONS AND DIMENSIONS OF ENTRY/EXIT POINTS, ELEVATIONS, PRECISE BUILDING DIMENSIONS, AND EXACT BUILDING UTILITY LOCATIONS.

10. PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR MUST COORDINATE THE BUILDING LAYOUT BY CAREFUL REVIEW OF THE ENTIRE SITE PLAN AND THE LATEST ARCHITECTURAL PLANS (INCLUDING, BUT NOT LIMITED TO, STRUCTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND FIRE SUPPRESSION PLANS, WHERE APPLICABLE). CONTRACTOR MUST IMMEDIATELY NOTIFY OWNER, ARCHITECT AND SITE ENGINEER, IN WRITING, OF ANY CONFLICTS, DISCREPANCIES OR AMBIGUITIES WHICH EXIST.

11. DEBRIS MUST NOT BE BURIED ON THE SUBJECT SITE AND ALL UNSUITABLE EXCAVATED MATERIAL AND DEBRIS (SOLID WASTE) MUST BE DISPOSED OF IN ACCORDANCE WITH THE REQUIREMENTS OF ANY AND ALL GOVERNMENTAL AUTHORITIES WHICH HAVE JURISDICTION OVER THIS PROJECT OR OVER CONTRACTOR.

12. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING WHEN SHORING IS REQUIRED AND FOR INSTALLING ALL SHORING REQUIRED DURING EXCAVATION (TO BE PERFORMED IN ACCORDANCE WITH CURRENT OSHA STANDARDS) AND ANY ADDITIONAL PRECAUTIONS TO BE TAKEN TO ASSURE THE STABILITY OF ADJACENT, NEARBY AND CONTIGUOUS STRUCTURES AND PROPERTIES.

13. THE CONTRACTOR IS TO EXERCISE EXTREME CARE WHEN PERFORMING ANY WORK ACTIVITIES ADJACENT TO PAVEMENT, STRUCTURES, UTILITIES, OR OTHER FEATURES OF THE PROJECT OR AS PART OF THE PROJECT. UNDER ALL CIRCUMSTANCES, CONTRACTOR IS RESPONSIBLE FOR TAKING ALL APPROPRIATE MEASURES REQUIRED TO ENSURE THE STRUCTURAL STABILITY OF SIDEWALKS AND PAVEMENT, UTILITIES, BUILDINGS, AND INFRASTRUCTURE WHICH ARE TO REMAIN, AND TO PROVIDE A SAFE WORK AREA FOR THIRD PARTIES, PEDESTRIANS AND ANYONE INVOLVED WITH THE PROJECT.

14. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE DONE TO ANY NEW OR EXISTING CONSTRUCTION OR PROPERTY DURING THE COURSE OF CONSTRUCTION, INCLUDING BUT NOT LIMITED TO DAMAGE, UTILITIES, PAVEMENT, STRIPING, CURB, ETC. AND SHALL BEAR ALL COSTS ASSOCIATED WITH SAME TO INCLUDE, BUT NOT BE LIMITED TO, REDESIGN, RE-SURVEY, RE-PERMITTING AND CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR AND MUST REPLACE ALL SIGNAL, INTERCONNECTION CABLE, WIRING CONDUITS, AND ANY UNDERGROUND ACCESSORY EQUIPMENT DAMAGED DURING CONSTRUCTION AND MUST BEAR ALL COSTS ASSOCIATED WITH SAME. THE REPAIR OF ANY SUCH NEW OR EXISTING CONSTRUCTION OR PROPERTY MUST RESTORE SUCH CONSTRUCTION OR PROPERTY TO A CONDITION EQUIVALENT TO OR BETTER THAN THE CONDITIONS PRIOR TO COMMENCEMENT OF THE CONSTRUCTION, AND IN CONFORMANCE WITH APPLICABLE CODES, LAWS, RULES, REGULATIONS, STATUTORY REQUIREMENTS AND STATUTES. CONTRACTOR MUST BEAR ALL COSTS ASSOCIATED WITH SAME. CONTRACTOR IS RESPONSIBLE TO DOCUMENT ALL EXISTING DAMAGE AND TO NOTIFY THE OWNER AND THE CONSTRUCTION MANAGER PRIOR TO THE START OF CONSTRUCTION.

15. ALL CONCRETE MUST BE AIR ENTRAINED AND HAVE THE MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS WITH A MINIMUM 6.5 SACK MIX UNLESS OTHERWISE NOTED ON THE PLANS, DETAILS AND/OR GEOTECHNICAL REPORT.

16. THE ENGINEER IS NOT RESPONSIBLE FOR CONSTRUCTION METHODS, MEANS, TECHNIQUES OR PROCEDURES, GENERALLY OR FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES OR PROCEDURES FOR COMPLETION OF THE WORK DEPICED BOTH ON THESE PLANS, AND FOR ANY CONFLICTS/SCOPE REVISIONS WHICH RESULT FROM SAME. CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE METHODS/MEANS FOR COMPLETION OF THE WORK PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

17. THE ENGINEER OF RECORD IS NOT RESPONSIBLE FOR JOB SITE SAFETY. THE ENGINEER OF RECORD HAS NOT BEEN RETAINED TO PERFORM OR BE RESPONSIBLE FOR JOB SITE SAFETY, SAME BEING WHOLLY OUTSIDE OF ENGINEER'S SERVICES AS RELATED TO THE PROJECT. THE ENGINEER OF RECORD IS NOT RESPONSIBLE TO IDENTIFY OR REPORT ANY JOB SITE SAFETY ISSUES, AT ANY TIME.

18. ALL CONTRACTORS MUST CARRY THE SPECIFIED STATUTORY WORKER'S COMPENSATION INSURANCE, EMPLOYER'S LIABILITY INSURANCE AND LIMITS OF COMMERCIAL GENERAL LIABILITY INSURANCE (CGL). ALL CONTRACTORS MUST HAVE THEIR CGL POLICY ENGINEERING AND ITS PAST OWNERS, OFFICERS, DIRECTORS, PARTNERS, SHAREHOLDERS, MEMBERS, PRINCIPALS, COMMISSIONERS, AGENTS, SERVANTS, EMPLOYEES, AFFILIATES, SUBSIDIARIES, AND RELATED ENTITIES, AND ITS SUBCONTRACTORS AND SUBCONSULTANTS AS ADDITIONAL NAMED INSURED AND TO PROVIDE CONTRACTUAL LIABILITY COVERAGE SUFFICIENT TO INSURE THIS HOLD HARMLESS AND INDEMNIFY OBLIGATIONS ASSUMED BY THE CONTRACTORS. ALL CONTRACTORS MUST FURNISH BOHLER ENGINEERING WITH CERTIFICATIONS OF INSURANCE AS EVIDENCE OF THE REQUIRED INSURANCE PRIOR TO COMMENCING WORK AND UPON RENEVAL OF EACH POLICY DURING THE ENTIRE PERIOD OF CONSTRUCTION AND FOR ONE YEAR AFTER THE COMPLETION OF CONSTRUCTION. IN ADDITION, ALL CONTRACTORS WILL, TO THE FULLEST EXTENT PERMITTED UNDER THE LAW, INDEMNIFY, DEFEND AND HOLD HARMLESS BOHLER ENGINEERING AND ITS PAST, PRESENT AND FUTURE OWNERS, OFFICERS, DIRECTORS, PARTNERS, SHAREHOLDERS, MEMBERS, PRINCIPALS, COMMISSIONERS, AGENTS, SERVANTS, EMPLOYEES, AFFILIATES, SUBSIDIARIES, AND RELATED ENTITIES, AND ITS SUBCONTRACTORS AND SUBCONSULTANTS FROM ANY DAMAGES, INJURIES, CLAIMS, ACTIONS, PENALTIES, EXPENSES, PUNITIVE DAMAGES, TORT DAMAGES, STATUTORY CLAIMS, STATUTORY CAUSES OF ACTION, LOSSES, CAUSES OF ACTION, LIABILITIES OR COSTS, INCLUDING, BUT NOT LIMITED TO, REASONABLE ATTORNEY'S FEES AND DEFENSE COSTS, ARISING OUT OF OR IN ANY WAY CONNECTED WITH OR TO THE PROJECT, INCLUDING ALL CLAIMS BY EMPLOYEES OF THE CONTRACTORS, ALL CLAIMS BY THIRD PARTIES AND ALL CLAIMS RELATED TO THE PROJECT. CONTRACTOR MUST NOTIFY ENGINEER, IN WRITING, AT LEAST THIRTY (30) DAYS PRIOR TO ANY TERMINATION, SUSPENSION OR CHANGE OF ITS INSURANCE HEREUNDER.

19. BOHLER ENGINEERING WILL REVIEW OR TAKE OTHER APPROPRIATE ACTION ON THE CONTRACTOR SUBMITTALS, SUCH AS SHOP DRAWINGS, PRODUCT DATA, SAMPLES, AND OTHER DATA, WHICH THE CONTRACTOR IS REQUIRED TO SUBMIT, BUT ONLY FOR THE LIMITED PURPOSE OF CHECKING FOR CONFORMANCE WITH THE DESIGN INTENT AND THE INFORMATION PROVIDED IN THE CONSTRUCTION CONTRACT DOCUMENTS. CONSTRUCTION MEANS AND/OR METHODS AND/OR TECHNIQUES OR PROCEDURES, COORDINATION OF THE WORK WITH OTHER TRADES, AND CONSTRUCTION SAFETY PRECAUTIONS ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND BOHLER HAS NO RESPONSIBILITY OR LIABILITY FOR SAME HEREUNDER. BOHLER ENGINEERING'S SHOP DRAWING REVIEW WILL BE CONDUCTED WITH REASONABLE PROMPTNESS WHILE ALLOWING SUFFICIENT TIME TO PERMIT ADEQUATE REVIEW. REVIEW OF A SPECIFIC ITEM MUST NOT INDICATE THAT BOHLER ENGINEERING HAS REVIEWED THE ENTIRE ASSEMBLY OF WHICH THE ITEM IS A COMPONENT. BOHLER ENGINEERING WILL NOT BE RESPONSIBLE FOR ANY DEVIATIONS FROM THE CONSTRUCTION DOCUMENTS NOT PROMPTLY AND IMMEDIATELY BROUGHT TO ITS ATTENTION. IN WRITING, BY THE CONTRACTOR OR BOHLER ENGINEERING. CONTRACTOR IS REQUIRED TO REVIEW PARTIAL SUBMISSIONS OR THOSE FOR WHICH SUBMISSIONS OR CORRELATED ITEMS HAVE NOT BEEN RECEIVED.

20. NEITHER THE PROFESSIONAL ACTIVITIES OF BOHLER ENGINEERING, NOR THE PRESENCE OF BOHLER ENGINEERING AND/OR ITS PAST, PRESENT AND FUTURE OWNERS, OFFICERS, DIRECTORS, PARTNERS, SHAREHOLDERS, MEMBERS, PRINCIPALS, COMMISSIONERS, AGENTS, SERVANTS, EMPLOYEES, AFFILIATES, SUBSIDIARIES, AND RELATED ENTITIES, AND ITS SUBCONTRACTORS AND SUBCONSULTANTS AT A CONSTRUCTION PROJECT SITE, SHALL RELIEVE THE GENERAL CONTRACTOR OF ITS OBLIGATIONS, DUTIES AND RESPONSIBILITIES INCLUDING, BUT NOT LIMITED TO, CONSTRUCTION MEANS, METHODS, SEQUENCES, TECHNIQUES OR PROCEDURES NECESSARY FOR PERFORMING, OVERSEEING, SUPERINTENDING AND COORDINATING THE WORK IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AND COMPLIANCE WITH ANY HEALTH OR SAFETY PRECAUTIONS REQUIRED BY ANY REGULATORY AGENCIES WITH JURISDICTION OVER THE PROJECT AND/OR PROPERTY. BOHLER ENGINEERING AND ITS PERSONNEL HAVE NO AUTHORITY TO EXERCISE ANY CONTROL OVER ANY CONSTRUCTION CONTRACTOR OR ITS EMPLOYEES IN CONNECTION WITH THEIR WORK OR ANY HEALTH OR SAFETY PROGRAMS OR PROCEDURES. THE GENERAL CONTRACTOR IS SOLELY RESPONSIBLE FOR JOB SITE SAFETY. BOHLER ENGINEERING SHALL BE INDEMNIFIED BY THE GENERAL CONTRACTOR AND MUST BE NAMED AN ADDITIONAL

INSURED UNDER THE GENERAL CONTRACTOR'S POLICIES OF GENERAL LIABILITY INSURANCE AS DESCRIBED ABOVE IN NOTE 19 FOR JOB SITE SAFETY.

21. IF THE CONTRACTOR DEVIATES FROM THE PLANS AND SPECIFICATIONS, INCLUDING THE NOTES CONTAINED HEREIN, WITHOUT FIRST OBTAINING THE PRIOR WRITTEN AUTHORIZATION OF THE ENGINEER AND THE CITY OF ROCKWALL FOR SUCH DEVIATIONS, THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE PAYMENT OF ALL COSTS INCURRED IN CORRECTING ANY WORK DONE WHICH DEVIATES FROM THE PLANS, ALL FINES AND/OR PENALTIES ASSESSED WITH RESPECT TO THEM AND TO ALL COMPENSATORY OR PUNITIVE DAMAGES RESULTING THEREFROM AND, FURTHER, SHALL DEFEND, INDEMNIFY AND HOLD HARMLESS THE ENGINEER, TO THE FULLEST EXTENT PERMITTED UNDER THE LAW, IN ACCORDANCE WITH PARAGRAPH 19 HEREIN, FOR AND FROM ALL FEES, ATTORNEY'S FEES, DAMAGES, COSTS, JUDGMENTS, PENALTIES AND THE LIKE RELATED TO SAME.

22. CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE AND PROTECTION OF TRAFFIC PLAN FOR ALL WORK THAT AFFECTS PUBLIC TRAVEL EITHER IN THE R.O.W. OR ON SITE. THE COST FOR THIS ITEM MUST BE INCLUDED IN THE CONTRACTOR'S PRICE.

23. ALL SIGNING AND PAVEMENT STRIPING MUST CONFORM TO MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES OR LOCALLY APPROVED SUPPLEMENT.

24. ENGINEER IS NOT RESPONSIBLE FOR ANY INJURY OR DAMAGES RESULTING FROM CONTRACTOR'S FAILURE TO BUILD OR CONSTRUCT IN STRICT ACCORDANCE WITH THE APPROVED PLANS. IF CONTRACTOR AND/OR OWNER FAIL BUILD OR CONSTRUCT IN STRICT ACCORDANCE WITH APPROVED PLANS, CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN AND HOLD ENGINEER HARMLESS FOR ALL INJURIES AND DAMAGES THAT ENGINEER SUFFERS AND COSTS THAT ENGINEER INCURS.

25. OWNER MUST MAINTAIN AND PRESERVE ALL PHYSICAL SITE FEATURES AND DESIGN FEATURES DEPICTED ON THE PLANS AND RELATED DOCUMENTS, IN STRICT ACCORDANCE WITH THE APPROVED PLANS AND DESIGN AND, FURTHER ENGINEER IS NOT RESPONSIBLE FOR ANY FAILURE TO SO MAINTAIN OR PRESERVE SITE AND/OR DESIGN FEATURES. IF OWNER FAILS TO MAINTAIN AND PRESERVE ALL PHYSICAL SITE FEATURES AND/OR DESIGN FEATURES DEPICTED ON THE PLANS AND RELATED DOCUMENTS, OWNER AGREES TO INDEMNIFY AND HOLD ENGINEER HARMLESS FOR ALL INJURIES AND DAMAGES THAT ENGINEER SUFFERS AND COSTS THAT ENGINEER INCURS AS A RESULT OF SAID FAILURE.

26. ALL DIMENSIONS MUST BE TO FACE OF CURB, EDGE OF PAVEMENT, OR EDGE OF BUILDING, UNLESS NOTED OTHERWISE.

27. ALL CONSTRUCTION AND MATERIALS MUST COMPLY WITH AND CONFORM TO APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS, LAWS, ORDINANCES, RULES AND CODES, AND ALL APPLICABLE OSHA REQUIREMENTS.

28. CONTRACTOR AND OWNER MUST INSTALL ALL ELEMENTS AND COMPONENTS IN STRICT COMPLIANCE WITH AND ACCORDANCE WITH MANUFACTURER'S STANDARDS AND RECOMMENDED INSTALLATION CRITERIA AND SPECIFICATIONS. IF CONTRACTOR AND/OR OWNER FAIL TO DO SO, THEY AGREE TO JOINTLY AND SEVERALLY INDEMNIFY AND HOLD ENGINEER HARMLESS FOR ALL INJURIES AND DAMAGES THAT ENGINEER SUFFERS AND COSTS THAT ENGINEER INCURS AS A RESULT OF SAID FAILURE.

29. CONTRACTOR IS RESPONSIBLE TO MAINTAIN ON-SITE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) IN COMPLIANCE WITH EPA REQUIREMENTS FOR SITES WHERE ONE (1) ACRE OR MORE (UNLESS THE LOCAL JURISDICTION REQUIRES FEWER) IS DISTURBED BY CONSTRUCTION ACTIVITIES. CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ALL ACTIVITIES, INCLUDING THOSE OF SUBCONTRACTORS, ARE IN COMPLIANCE WITH THE SWPPP, INCLUDING BUT NOT LIMITED TO LOGGING ACTIVITIES (MINIMUM ONCE PER WEEK AND AFTER RAINFALL EVENTS) AND CORRECTIVE MEASURES, AS APPROPRIATE.

30. AS CONTAINED IN THESE DRAWINGS AND ASSOCIATED APPLICATION DOCUMENTS PREPARED BY THE SIGNATORY PROFESSIONAL ENGINEER, THE USE OF THE WORDS CERTIFY OR CERTIFICATION CONSTITUTES AN EXPRESSION OF PROFESSIONAL OPINION. PROVIDING THE INFORMATION WHICH IS THE SUBJECT OF THE UNDERSIGNING PROFESSIONAL KNOWLEDGE OR BELIEF AND IN ACCORDANCE WITH COMMON ACCEPTED PROCEDURE CONSISTENT WITH THE APPLICABLE STANDARDS OF PRACTICE, AND DOES NOT CONSTITUTE A WARRANTY OR GUARANTEE, EITHER EXPRESSED OR IMPLIED.

31. CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE TO CITY OF ROCKWALL STANDARDS AND NCTCOG EDITION 4 WITH ALL CITY REVISIONS.

ADA INSTRUCTIONS TO CONTRACTOR

CONTRACTORS SHALL EXERCISE APPROPRIATE CARE AND PRECISION IN CONSTRUCTION OF ADA (HANDICAP) ACCESSIBLE COMPONENTS AND ACCESS ROUTES FOR THE SITE. THESE COMPONENTS, AS CONSTRUCTED, MUST COMPLY WITH THE CURRENT ADA STANDARDS AND REGULATIONS BARRIER FREE ACCESS AND ANY MODIFICATIONS, REVISIONS OR UPDATES TO SAME. FINISHED SURFACES ALONG THE ACCESSIBLE ROUTE OF TRAVEL FROM PARKING SPACE, PUBLIC TRANSPORTATION, PEDESTRIAN ACCESS, INTER-BUILDING ACCESS, TO POINTS OF ACCESSIBLE BUILDING ENTRANCE/EXIT, MUST COMPLY WITH THESE ADA CODE REQUIREMENTS. THESE INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:

- PARKING SPACES AND PARKING AISLES - SLOPE SHALL NOT EXCEED 1:50 (2.0%) IN ANY DIRECTION.
- CURB RAMPS - SLOPE SHALL NOT EXCEED 1:12 (8.3%).
- LANDINGS - SHALL BE PROVIDED AT EACH END OF RAMPS, MUST PROVIDE POSITIVE DRAINAGE, AND MUST NOT EXCEED 1:50 (2.0%) IN ANY DIRECTION.
- PATH OF TRAVEL ALONG ACCESSIBLE ROUTE - MUST PROVIDE A 36-INCH OR GREATER UNOBSTRUCTED WIDTH OF TRAVEL (CAR OVERHANGS AND/OR HANDRAILS CANNOT REDUCE THIS MINIMUM WIDTH). THE SLOPE MUST BE NO GREATER THAN 1:20 (5.0%) IN THE DIRECTION OF TRAVEL, AND MUST NOT EXCEED 1:50 (2.0%) IN CROSS SLOPE. WHERE PATH OF TRAVEL WILL BE GREATER THAN 1:20 (5.0%), ADA RAMP REQUIREMENTS MUST BE ADHERED TO. A MAXIMUM RISE OF 1:12 (8.3%) FOR A MAXIMUM RISE OF 2.5 FEET (30 INCHES), SHALL BE PROVIDED. THE RAMP MUST HAVE ADA HAND RAILS AND 80" W BY 60" L LANDINGS ON EACH END THAT ARE CROSS SLOPED NO MORE THAN 1:50 (2.0%) IN ANY DIRECTION FOR POSITIVE DRAINAGE.
- DOORWAYS - MUST HAVE A 'LEVEL' LANDINGS AREA ON THE EXTERIOR SIDE OF THE DOOR THAT IS SLOPED AWAY FROM THE DOOR NO MORE THAN 1:50 (2.0%) FOR POSITIVE DRAINAGE. THIS LANDING AREA MUST BE NO LESS THAN 60 INCHES (5 FEET) LONG, EXCEPT WHERE OTHERWISE PERMITTED BY ADA STANDARDS FOR ALTERNATIVE DOORWAY OPENING CONDITIONS. (SEE ICC/ANSI A117.1-2009 AND OTHER REFERENCED INCORPORATED BY COD.)
- WHEN THE PROPOSED CONSTRUCTION INVOLVES RECONSTRUCTION, MODIFICATION, REVISION OR EXTENSION OF OR TO ADA COMPONENTS FROM EXISTING DOORWAYS OR SURFACES, CONTRACTOR MUST VERIFY EXISTING ELEVATIONS SHOWN ON THE PLAN. NOTE THAT TABLE 405.2 OF THE DEPARTMENT OF JUSTICE'S ADA STANDARDS FOR ACCESSIBLE DESIGN AND USE FOR STATEER BARRIERS, IN BARRIERS CIRCUMSTANCES, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE DESIGN ENGINEER OF ANY DISCREPANCIES AND/OR FIELD CONDITIONS THAT DIFFER IN ANY WAY OR ANY RESPECT FROM WHAT IS SHOWN ON THE PLANS, IN WRITING, BEFORE COMMENCEMENT OF WORK. CONTRACTOR MUST IMMEDIATELY NOTIFY THE ENGINEER OF THE MAXIMUM AND MINIMUM LIMITATIONS IMPOSED BY THE BARRIER FREE REGULATIONS AND THE ADA REQUIREMENTS.
- THE CONTRACTOR MUST VERIFY THE SLOPES OF CONTRACTOR'S FORMS PRIOR TO POURING CONCRETE. IF ANY NON-COMFORMING IS OBSERVED OR EXISTS, CONTRACTOR MUST IMMEDIATELY NOTIFY THE ENGINEER PRIOR TO POURING CONCRETE. CONTRACTOR IS RESPONSIBLE FOR ALL COSTS TO REMOVE, REPAIR AND REPLACE NON-COMFORMING CONCRETE.

IT IS STRONGLY RECOMMENDED THAT THE CONTRACTOR REVIEW THE INTENDED CONSTRUCTION WITH THE LOCAL BUILDING CODE PRIOR TO COMMENCEMENT OF CONSTRUCTION.

GENERAL DEMOLITION NOTES:

- THIS PLAN REFERENCES DOCUMENTS AND INFORMATION BY:

ALTANSPS LAND TITLE SURVEY:
BOHLER ENGINEERING
1902 S. GOLIAD STREET
ROCKWALL, TX 75087
DATED: 09/16/2018 (REV. #1)

GEOTECHNICAL INVESTIGATION REPORT:
EGCS SOUTHWEST, LLP
2000 S. GOLIAD STREET
ROCKWALL, TX 75087
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- CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970, (29 U.S.C. 651 et seq.), AS AMENDED AND ANY MODIFICATIONS, AMENDMENTS OR REVISIONS TO SAME.
- BOHLER ENGINEERING HAS NO CONTRACTUAL, LEGAL, OR OTHER RESPONSIBILITY FOR JOB SITE SAFETY OR JOB SITE SUPERVISION, OR ANYTHING RELATED TO SAME.
- THE DEMOLITION PLAN IS INTENDED TO PROVIDE GENERAL INFORMATION, ONLY, REGARDING ITEMS TO BE DEMOLISHED AND/OR REMOVED. THE CONTRACTOR MUST ALSO REVIEW THE OTHER SITE PLAN DRAWINGS AND INCLUDE IN DEMOLITION ACTIVITIES ALL INCIDENTAL WORK NECESSARY FOR THE CONSTRUCTION OF THE NEW SITE IMPROVEMENTS.
- CONTRACTOR MUST RAISE ANY QUESTIONS CONCERNING THE ACCURACY OR INTENT OF THESE PLANS OR SPECIFICATIONS, CONCERNS REGARDING THE APPLICABLE SAFETY STANDARDS, OR THE SAFETY OF THE CONTRACTOR OR THIRD PARTIES IN PERFORMING THE WORK ON THIS PROJECT, WITH BOHLER ENGINEERING, IN WRITING, AND RESPONDED TO BY BOHLER, IN WRITING, PRIOR TO THE INITIATION OF ANY SITE ACTIVITY AND ANY DEMOLITION ACTIVITY. ALL DEMOLITION ACTIVITIES MUST BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THESE PLANS AND SPECIFICATIONS AND ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS, RULES, REQUIREMENTS, STATUTES, ORDINANCES AND CODES.
- PRIOR TO STARTING ANY DEMOLITION, CONTRACTOR IS RESPONSIBLE FORTO:

A. OBTAINING ALL REQUIRED PERMITS AND MAINTAINING THE SAME ON SITE FOR REVIEW BY THE ENGINEER AND OTHER PUBLIC AGENCIES HAVING JURISDICTION THROUGHOUT THE DURATION OF THE PROJECT, SITE WORK AND DEMOLITION WORK.

GENERAL GRADING & UTILITY NOTES

1. LOCATIONS OF ALL EXISTING AND PROPOSED SERVICES ARE APPROXIMATE AND MUST BE INDEPENDENTLY CONFIRMED WITH LOCAL UTILITIES OR OTHER CONSTRUCTION FIRMS. CONTRACTOR SHALL VERIFY ALL EXISTING SANITARY SEWER AND ALL OTHER UTILITY SERVICE CONNECTION POINTS MUST BE INDEPENDENTLY CONFIRMED BY THE CONTRACTOR IN THE FIELD PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. ALL DISCREPANCIES MUST IMMEDIATELY BE REPORTED TO AND ALL COMPENSATORY OR PUNITIVE DAMAGES RESULTING THEREFROM AND, FURTHER, SHALL DEFEND, INDEMNIFY AND HOLD HARMLESS THE ENGINEER, TO THE FULLEST EXTENT PERMITTED UNDER THE LAW, IN ACCORDANCE WITH PARAGRAPH 19 HEREIN, FOR AND FROM ALL FEES, ATTORNEY'S FEES, DAMAGES, COSTS, JUDGMENTS, PENALTIES AND THE LIKE RELATED TO SAME.

2. CONTRACTOR MUST VERTICALLY AND HORIZONTALLY LOCATE ALL UTILITIES AND SERVICES INCLUDING, BUT NOT LIMITED TO, GAS, WATER, ELECTRIC, SANITARY AND STORM SEWER, TELEPHONE, CABLE, FIBER OPTIC CABLE, ETC. WITHIN THE LIMITS OF DISTURBANCE OR WORK SPACE, WHICHEVER IS GREATER. THE CONTRACTOR MUST USE, REFER TO, AND COMPLY WITH THE REQUIREMENTS OF THE APPLICABLE UTILITY NOTIFICATION SYSTEM TO LOCATE ALL THE UNDERGROUND UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ALL DAMAGE TO ANY EXISTING UTILITIES DURING CONSTRUCTION, AT NO COST TO THE OWNER. CONTRACTOR SHALL BEAR ALL COSTS ASSOCIATED WITH DAMAGE TO ANY EXISTING UTILITIES DURING CONSTRUCTION.

3. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW ALL CONSTRUCTION CONTRACT DOCUMENTS INCLUDING, BUT NOT LIMITED TO, ALL OF THE DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THE PROJECT WORK SCOPE PRIOR TO THE INITIATION AND COMMENCEMENT OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT AND/OR DISCREPANCY BETWEEN THE DOCUMENTS RELATIVE TO THE SPECIFICATIONS OR THE RELATIVE OR APPLICABLE CODES, REGULATIONS, LAWS, RULES, STATUTES AND/OR ORDINANCES, IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO NOTIFY THE PROJECT ENGINEER OF RECORD, IN WRITING, OF SAID CONFLICT AND/OR DISCREPANCY PRIOR TO THE START OF CONSTRUCTION. CONTRACTOR'S FAILURE TO NOTIFY THE PROJECT ENGINEER SHALL CONSTITUTE CONTRACTOR'S FULL AND COMPLETE ACCEPTANCE OF ALL RESPONSIBILITY TO COMPLETE THE SCOPE OF WORK AS DEFINED BY THE DRAWINGS AND IN FULL COMPLIANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS, LAWS, RULES, STATUTES, ORDINANCES AND CODES AND, FURTHER, CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH SAME.

4. THE CONTRACTOR MUST LOCATE AND CLEARLY AND UNAMBIGUOUSLY DEFINE VERTICALLY AND HORIZONTALLY ALL ACTIVE AND INACTIVE UTILITY AND/OR SERVICE SYSTEMS THAT ARE TO BE REMOVED. THE CONTRACTOR IS RESPONSIBLE TO PROTECT AND MAINTAIN ALL ACTIVE AND INACTIVE SYSTEMS THAT ARE NOT BEING REMOVED/RELOCATED DURING SITE ACTIVITY.

5. THE CONTRACTOR MUST FAMILIARIZE ITSELF WITH THE APPLICABLE UTILITY SERVICE PROVIDER REQUIREMENTS AND IS RESPONSIBLE FOR ALL COORDINATION REGARDING UTILITY DEMOLITION AS IDENTIFIED OR REQUIRED FOR THE PROJECT. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY SERVICE PROVIDER REGARDING ALL UTILITY AND SERVICES HAVE BEEN TERMINATED AND ABANDONED IN ACCORDANCE WITH THE JURISDICTION AND UTILITY COMPANY REQUIREMENTS AND ALL OTHER APPLICABLE REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES.

6. THE CONTRACTOR MUST INSTALL ALL STORM SEWER AND SANITARY SEWER COMPONENTS WHICH FUNCTION BY GRAVITY PRIOR TO THE INSTALLATION OF ALL OTHER UTILITIES.

7. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF SITE PLAN DOCUMENTS AND ARCHITECTURAL DESIGN FOR EXACT BUILDING UTILITY CONNECTION LOCATIONS, GREASE TRAP REQUIREMENTS/DETAILS, DOOR ACCESS, AND EXTERIOR GRADING. THE ARCHITECT WILL DETERMINE THE UTILITY SERVICE SIZES. THE CONTRACTOR MUST COORDINATE INSTALLATION WITH THE INDIVIDUAL COMPANIES, TO AVOID CONFLICTS AND TO ENSURE THAT PROPER DEPTHS ARE ACHIEVED. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT INSTALLATION OF ALL IMPROVEMENTS COMPLIES WITH ALL UTILITY REGULATIONS WITH JURISDICTION AND/OR CONTROL OF THE SITE, AND ALL OTHER APPLICABLE REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES. FURTHER, CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE UTILITY TIE-IN CONNECTIONS PRIOR TO CONNECTING TO THE EXISTING UTILITY SERVICE, WHERE A CONFLICT(S) EXISTS BETWEEN THESE SITE PLANS AND THE ARCHITECTURAL PLANS, OR WHERE ARCHITECTURAL PLAN UTILITY CONNECTION POINTS DIFFER, THE CONTRACTOR MUST IMMEDIATELY NOTIFY THE ENGINEER, IN WRITING, AND PRIOR TO CONSTRUCTION, RESOLVE SAME.

8. WATER SERVICE MATERIALS, BURIAL DEPTH, AND COVER REQUIREMENTS MUST BE SPECIFIED BY THE LOCAL UTILITY COMPANY. CONTRACTOR'S PRICE FOR WATER SERVICE MUST INCLUDE ALL FEES, COSTS AND APPURTENANCES REQUIRED BY THE UTILITY COMPANY. CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN ALL NECESSARY PERMITS AND APPLICABLE MUNICIPALITY TO CONFIRM THE PROPER WATER METER AND VAULT, PRIOR TO COMMENCING CONSTRUCTION.

9. ALL NEW UTILITIES/SERVICES, INCLUDING ELECTRIC, TELEPHONE, CABLE TV, ETC. ARE TO BE INSTALLED UNDERGROUND. ALL NEW UTILITIES/SERVICES MUST BE INSTALLED IN ACCORDANCE WITH THE UTILITY/SERVICE PROVIDER INSTALLATION SPECIFICATIONS AND STANDARDS.

10. SITE GRADING MUST BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL REPORT REFERENCED IN THIS PLAN SET. THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL SUBSIDIARIES AND/OR REMAINS OF EXISTING UTILITIES AND SERVICES SHOWN IN THE GEOTECHNICAL REPORT. ALL EXCAVATED OR FILLED AREAS MUST BE COMPACTED AS OUTLINED IN THE GEOTECHNICAL REPORT. MOISTURE CONTENT AT TIME OF PLACEMENT MUST BE SUBMITTED IN A COMPACTION REPORT PREPARED BY A QUALIFIED GEOTECHNICAL ENGINEER, REGISTERED WITH THE STATE WHERE THE WORK IS PERFORMED, VERIFYING THAT ALL SUBSIDIARIES AND/OR REMAINS OF EXISTING UTILITIES AND SERVICES TO BE PAVED HAVE BEEN COMPACTED IN ACCORDANCE WITH THESE PLANS, SPECIFICATIONS AND THE RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL REPORT AND ALL APPLICABLE REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES. SUBBASE MATERIALS FOR SIDEWALKS, CURBS, OR ASPHALT MUST BE FREE OF ORGANICS AND OTHER UNSUITABLE MATERIALS. SHOULD SUBBASE BE DEEMED UNSUITABLE BY OWNER/DEVELOPER, OR OWNER/DEVELOPER'S REPRESENTATIVE, SUBBASE IS TO BE REMOVED AND FILLED WITH APPROVED FILL MATERIAL, COMPACTED AS DIRECTED BY THE GEOTECHNICAL REPORT. EARTHWORK ACTIVITIES INCLUDING, BUT NOT LIMITED TO, EXCAVATION, BACKFILLING AND COMPACTING MUST COMPLY WITH THE RECOMMENDATIONS IN THE GEOTECHNICAL REPORT AND ALL APPLICABLE REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES. EARTHWORK ACTIVITIES MUST COMPLY WITH THE STANDARD STATE DOT SPECIFICATIONS FOR ROADWAY CONSTRUCTION (LATEST EDITION) AND ANY AMENDMENTS OR REVISIONS THERETO.

11. ALL FILL, COMPACTION, AND BACKFILL MATERIALS REQUIRED FOR UTILITY INSTALLATION MUST BE AS PER THE RECOMMENDATIONS PROVIDED IN THE GEOTECHNICAL REPORT AND MUST BE COORDINATED WITH THE APPLICABLE UTILITY COMPANY SPECIFICATIONS WHEN THE PROJECT DOES NOT HAVE GEOTECHNICAL RECOMMENDATIONS. FILL AND COMPACTION MUST, AT A MINIMUM, COMPLY WITH THE STATE DOT REQUIREMENTS AND SPECIFICATIONS AND CONSULTANT SHALL HAVE NO LIABILITY OR RESPONSIBILITY FOR OR AS RELATED TO FILL, COMPACTION AND BACKFILL. FURTHER, CONTRACTOR IS FULLY RESPONSIBLE FOR EARTHWORK BALANCE. ALL FILL MUST BE COMPACTED TO 95% STANDARD DENSITY USING A SHEEPS' FOOT ROLLER.

12. THE CONTRACTOR MUST COMPLY, TO THE FULLEST EXTENT, WITH THE LATEST OSHA STANDARDS AND REGULATIONS AND/OR ANY OTHER AGENCY WITH JURISDICTION FOR EXCAVATION AND TRENCHING PROCEDURES. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE "MEANS AND METHODS" REQUIRED TO MEET THE INTENT AND PERFORMANCE CRITERIA OF OSHA, AS WELL AS ANY OTHER ENTITY THAT HAS JURISDICTION FOR EXCAVATION AND/OR TRENCHING PROCEDURES AND CONSULTANT SHALL HAVE NO RESPONSIBILITY FOR OR AS RELATED FOR OR AS RELATED TO EXCAVATION AND TRENCHING PROCEDURES.

13. PAVEMENT MUST BE SAW CUT IN STRAIGHT LINES, AND EXCEPT FOR EDGE OF BUTT JOINTS, MUST EXTEND TO THE FULL DEPTH OF THE EXISTING PAVEMENT FROM REMOVAL OPERATIONS MUST BE REMOVED FROM THE SITE AT THE TIME OF EXCAVATION. STOCKPILING OF DEBRIS WILL NOT BE PERMITTED.

14. THE TOPS OF EXISTING MANHOLES, INLET STRUCTURES, FIRE HYDRANTS, VALVES, AND SANITARY CLEANOUT TOPS MUST BE ADJUSTED, AS NECESSARY, TO MATCH PROPOSED GRADE IN ACCORDANCE WITH ALL APPLICABLE STANDARDS, REQUIREMENTS, RULES, STATUTES, LAWS, ORDINANCES AND CODES.

15. DURING THE INSTALLATION OF SANITARY SEWER, STORM SEWER, AND ALL UTILITIES, THE CONTRACTOR MUST MAINTAIN A CONTEMPORANEOUS AND THOROUGH RECORD OF CONSTRUCTION TO IDENTIFY THE AS-INSTALLED LOCATIONS OF ALL UNDERGROUND INFRASTRUCTURE. THE CONTRACTOR MUST CAREFULLY NOTE ANY INSTALLATIONS THAT DEVIATE FROM THE INFORMATION CONTAINED IN THE UTILITY PLAN. THIS RECORD MUST BE KEPT ON A CLEAR COPY OF THE SITE PLAN, WHICH CONTRACTOR MUST PROMPTLY PROVIDE TO THE OWNER AT THE COMPLETION OF WORK.

16. WHEN THE SITE IMPROVEMENT PLANS INVOLVE MULTIPLE BUILDINGS, SOME OF WHICH MAY BE BUILT AT A LATER DATE, THE CONTRACTOR MUST EXTEND ALL LINES, INCLUDING BUT NOT LIMITED TO STORM SEWER, SANITARY SEWER, UTILITIES, AND IRRIGATION LINE, TO A POINT AT LEAST FIVE (5) FEET BEYOND THE PAVED AREAS FOR WHICH THE CONTRACTOR IS RESPONSIBLE. CONTRACTOR MUST CAP ENDS AS APPROPRIATE, MARK LOCATIONS WITH A 2X4, AND MUST NOTE THE LOCATION OF ALL OF THE ABOVE ON A CLEAR COPY OF THE SITE PLAN, WHICH CONTRACTOR MUST PROMPTLY PROVIDE TO THE OWNER UPON COMPLETION OF THE WORK.

17. THE CONTRACTOR IS FULLY RESPONSIBLE FOR VERIFICATION OF EXISTING TOPOGRAPHIC INFORMATION AND UTILITY INVERT ELEVATIONS PRIOR TO COMMENCING ANY CONSTRUCTION. CONTRACTOR MUST CONFIRM AND ENSURE 0.75% MINIMUM SLOPE AGAINST ALL ISLANDS, GUTTERS, AND CURBS; 1.0% ON ALL CONCRETE SURFACES; AND 1.5% MINIMUM ON ASPHALT (EXCEPT WHERE ADA REQUIREMENTS LIMIT GRADES), TO PREVENT PONDING. CONTRACTOR MUST IMMEDIATELY IDENTIFY, IN WRITING, ANY DISCREPANCY THAT MAY OR COULD AFFECT THE PUBLIC SAFETY, HEALTH OR GENERAL WELFARE, OR PROJECT COST. IF CONTRACTOR PROCEEDS WITH CONSTRUCTION WITHOUT PROVIDING PROPER NOTIFICATION, MUST BE AT THE CONTRACTOR'S OWN RISK AND, FURTHER, CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS THE DESIGN ENGINEER FOR ANY DAMAGES, COSTS, INJURIES, ATTORNEY'S FEES AND THE LIKE WHICH RESULT FROM SAME.

18. PROPOSED TOP OF CURB ELEVATIONS ARE GENERALLY 6" ABOVE EXISTING LOCAL ASPHALT GRADE UNLESS OTHERWISE NOTED. FIELD VERIFICATION OF EXISTING GRADES IS REQUIRED TO DETERMINE THE MINIMUM CURB ELEVATION. CONTRACTOR'S OBLIGATION TO ENSURE THAT DESIGN ENGINEER APPROVES FINAL CURBING CUT SHEETS PRIOR TO INSTALLATION OF SAME.

19. REFER TO SITE PLAN FOR ADDITIONAL NOTES.

20. IN THE EVENT OF DISCREPANCIES AND/OR CONFLICTS BETWEEN PLANS OR RELATIVE TO OTHER PLANS, THE SITE PLAN WILL TAKE PRECEDENCE AND CONTRACTOR MUST IMMEDIATELY NOTIFY THE DESIGN ENGINEER, IN WRITING, OF ANY DISCREPANCIES AND/OR CONFLICTS.

21. CONTRACTOR IS REQUIRED TO SECURE ALL NECESSARY AND/OR REQUIRED PERMITS AND APPROVALS FOR ALL OFF SITE MATERIAL SOURCES AND DISPOSAL FACILITIES. CONTRACTOR MUST SUPPLY A COPY OF APPROVALS TO ENGINEER AND OWNER PRIOR TO INITIATING WORK.

22. WHERE RETAINING WALLS (WHETHER OR NOT THEY MEET THE JURISDICTIONAL DEFINITION) ARE IDENTIFIED ON PLANS, ELEVATIONS IDENTIFIED ARE FOR THE EXPOSED PORTION OF THE WALL. WALL FOOTINGS/FOUNDATION ELEVATIONS ARE NOT IDENTIFIED HEREIN AND ARE TO BE SET/DETERMINED BY THE CONTRACTOR BASED ON FINAL STRUCTURAL DESIGN SHOP DRAWINGS PROVIDED BY THE CONTRACTOR. CONSTRUCTION SHALL BE PERFORMED BY THE CONTRACTOR. CONSTRUCTION OCCURS, ALL PORTIONS OF THE WALL, INCLUDING THE FOOTING, ARE NOT ALLOWED OFF-SITE, IN EASEMENTS, OR IN RIGHT OF WAYS. ALL WALLS ARE TO BE STONE OR ROCK, NO SMOOTH CONCRETE WALLS ARE ALLOWED. ALL WALLS 3 FEET OR TALLER MUST BE DESIGNED BY A PROFESSIONAL ENGINEER.

23. STORM DRAINAGE PIPE:

UNLESS INDICATED OTHERWISE, ALL STORM SEWER PIPE MUST BE REINFORCED CONCRETE PIPE (RCP) CLASS III WITH SILT TIGHT JOINTS. WHEN HIGH-DENSITY POLYETHYLENE PIPE (HDPE) IS CALLED FOR ON THE PLANS, IT MUST CONFORM TO AASHTO M294 AND TYPE S (SMOOTH INTERIOR WITH ANGULAR CORRUGATIONS) WITH GASKET FOR SLT

TIGHT JOINT. PVC PIPE FOR ROOF DRAIN CONNECTION MUST BE SDR 26 OR SCHEDULE 40 UNLESS INDICATED OTHERWISE.

24. SANITARY SEWER PIPE MUST BE POLYVINYL CHLORIDE (PVC) SDR 35 EXCEPT WHERE INDICATED OTHERWISE. SANITARY LATERAL MUST BE PVC SCHEDULE 40 OR PVC SDR 26 UNLESS INDICATED, IN WRITING, OTHERWISE.

25. STORM AND SANITARY SEWER PIPE LENGTHS INDICATED ARE NOMINAL AND MEASURED CENTER OF INLET AND/OR MANHOLES STRUCTURE TO CENTER OF STRUCTURE.

26. STORMWATER ROOF DRAIN LOCATIONS ARE BASED ON PRELIMINARY ARCHITECTURAL PLANS. CONTRACTOR IS RESPONSIBLE TO AND FOR VERIFYING LOCATIONS OF SAME BASED ON FINAL ARCHITECTURAL PLANS.

27. SEWERS CROSSING STREAMS AND/OR LOCATION WITHIN 10 FEET OF THE STREAM EMBANKMENT, OR WHERE SITE CONDITIONS SO INDICATE, MUST BE CONSTRUCTED OF STEEL REINFORCED CONCRETE, DUCTILE IRON OR OTHER SUITABLE MATERIAL.

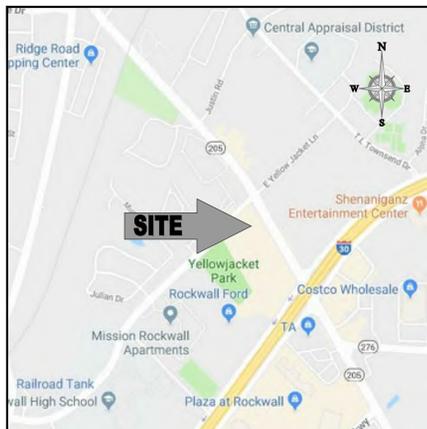
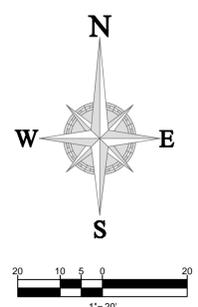
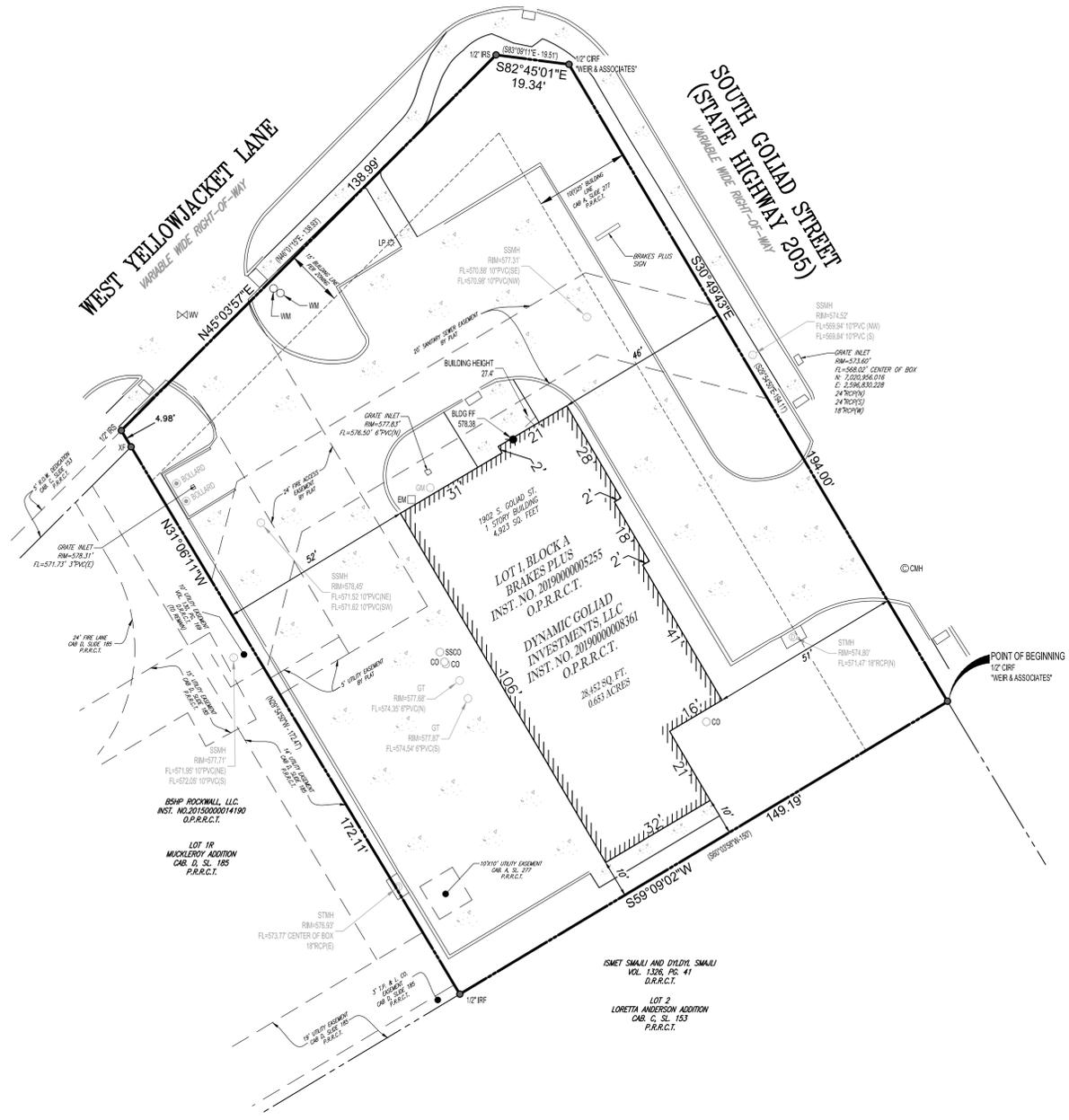
28. SEWERS CONVEYING SANITARY FLOW, COMBINED SANITARY AND STORMWATER FLOW, OR INDUSTRIAL FLOW MUST BE SEPARATED FROM WATER MAINS BY A DISTANCE OF AT LEAST 10 FEET HORIZONTALLY. IF SUCH LATERAL SEPARATION IS NOT POSSIBLE, THE PIPES MUST BE IN SEPARATE TRENCHES WITH THE SEWER AT LEAST 18 INCHES BELOW THE BOTTOM OF THE WATER MAIN, OR SUCH OTHER CONFIGURATION AS APPROVED BY THE GOVERNMENT AGENCY WITH JURISDICTION OVER SAME.

• WHERE APPROPRIATE SEPARATION FROM A WATER MAIN IS NOT POSSIBLE, THE SEWER MUST BE ENCASED IN CONCRETE USING MECHANICAL MEGALUGS FOR A DISTANCE OF 10 FEET ON EITHER SIDE OF THE CROSSING. IN ADDITION, ONE FULL LENGTH OF SEWER PIPE SHOULD BE LOCATED SO BOTH JOINTS WILL BE AS FAR FROM THE WATER LINE AS POSSIBLE. WHERE A WATER MAIN CROSSES UNDER A SEWER, ADEQUATE STRUCTURAL SUPPORT FOR THE SEWER MUST BE PROVIDED.

29. WATER MAIN PIPING MUST BE C900 DR-14 AND INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS AND SPECIFICATIONS OF THE LOCAL WATER PURVEYOR. IN THE ABSENCE OF SUCH REQUIREMENTS, WATER MAIN PIPING ARCHITECTURE METHODS ARE UTILIZED. TO BE REVIEWED AND APPROVED BY THE MUNICIPAL CONSTRUCTION CODE OFFICIAL. IF AND WHERE SUMP PUMPS ARE INSTALLED, ALL DISCHARGES MUST BE CONNECTED TO THE STORM SEWER. A CLEANOUT MUST BE PROVIDED PRIOR TO THE CONNECTION TO THE STORM DRAIN IN ORDER THAT BLOCKAGES CAN BE ADDRESSED.

30. CONTRACTOR MUST ENSURE THAT ALL UTILITY TRENCHES LOCATED IN EXISTING PAVED ROADWAYS INCLUDING SEWER, WATER AND STORM SYSTEMS, MUST BE REPAIRED IN ACCORDANCE WITH REFERENCED MUNICIPAL COUNTY AND/OR STATE DETAILS AS APPLICABLE. CONTRACTOR MUST COORDINATE INSPECTION AND APPROVAL OF COMPLETED WORK WITH THE AGENCY WITH JURISDICTION OVER SAME.

31. WHERE BASEMENTS ARE TO BE PROVIDED FOR PROPOSED DWELLING UNITS, THE DEVELOPER SHALL, BY BORING OR BY TEST PIT, DETERMINE THE DEPTH TO GROUNDWATER AT THE LOCATION OF THE PROPOSED DWELLINGS. WHERE GROUNDWATER IS ENCOUNTERED IN THE BASEMENT AREA, BASEMENTS WILL NOT BE INSTALLED UNLESS SPECIAL PROTECTION METHODS ARE UTILIZED. TO



LOCATION MAP
SCALE: N.T.S.

LEGAL DESCRIPTION:

Lot 1, Block A of BRAKES PLUS, an addition to the City of Rockwall, Rockwall County, Texas, according to the map or plat thereof, recorded under Instrument No. 20190000005255 of the Official Public Records of Rockwall County, Texas.

EASEMENT NOTES:

Reference: Fidelity National Title Insurance Company, effective date November 20, 2019, and issued December 13, 2019, Commitment No. 9001181900648.

Schedule B:

10(f) The building lines and easements, on the map of said tract/plat recorded in Cabinet A, Slide 277, Plat Records, Rockwall County, Texas, affects the subject tract as shown hereon.

GENERAL NOTES:

- Location of all underground utilities are approximate, source information from record documents listed in title commitment from Fidelity National Title Insurance Company, effective date November 20, 2019, and issued December 13, 2019, Commitment No. 9001181900648 has been combined with observed evidence of utilities at the time of this survey to develop a view of those underground utilities. However, lacking excavation, the exact location of underground features cannot be accurately, completely and reliably depicted. Where additional or more detailed information is required, the client is advised that excavation may be necessary.
- The basis of bearing is derived from the Texas WDS RTK Cooperative Network - Texas State Plane Coordinate System, North Central Zone (4202), NAD83, and referenced to city of Rockwall Geodetic Monuments.
- Zoning: GR (General Retail)
building setbacks
front (Yellow Jacket Lane) 15'
front (Goliad Street) 25'
interior (S.E. side) 0'
interior (S.W. side) 0'
height 30' maximum
- All zoning information is per City of Rockwall zoning ordinance and must be verified prior to use or reliance upon same, to confirm the zoning information represents and depicts the then-current site specific information. Should there be any change in use, setback(s) and/or set back requirements, zoning classification and/or any other change or variation from the conditions recorded herein, the client must verify compliance with the use, set back, zoning classification and/or ordinance, regulation or legal requirement, prior to using or relying upon the findings recorded herein, or referencing same as related to the property, project and/or development.
- Property has direct access to Yellowjacket Lane along its northwestern boundary and direct access to Goliad Street (State Highway 205) along its northeastern boundary.
- This survey has been prepared for the sole purpose of the transaction described in the referenced title commitment and the parties listed thereon. This survey is not to be used for any subsequent transactions.
- According to Community Panel No. 48397C0040L, dated September 26, 2008 of the Federal Emergency Management Agency, National Flood Insurance Program Map, this property is within Flood Zone "X", (areas determined to be outside 500-year floodplain), which is not a special flood hazard area. If this site is not within an identified special flood hazard area, this flood statement does not imply that the property and/or the structures thereon will be free from flooding or flood damage. On rare occasions, greater floods can and will occur and flood heights may be increased by man-made or natural causes. This statement shall not create liability on the part of the Surveyor.
- The subject property has visible signs of recent earth work, building construction, or building additions at the time of the fieldwork being conducted.
- The number and type of parking was unable to be determined at the time of the fieldwork being conducted due to striping not located on the subject property.
- All plottable offsite easements are shown hereon on.

LEGEND

- POB POINT OF BEGINNING
- IRS IRON ROD SET
- IRF IRON ROD FOUND
- CRF CAPPED IRON PIPE FOUND
- () ORIGINAL BOUNDARY CALL
- P.R.R.C.T. PLAT RECORDS ROCKWALL COUNTY
- D.R.R.C.T. DEED RECORDS ROCKWALL COUNTY
- O.P.R.R.C.T. OFFICIAL PUBLIC RECORDS ROCKWALL COUNTY
- PP POWER POLE
- LP LIGHT POLE
- GUY GUY WIRE
- EM ELECTRIC METER
- EB ELECTRIC BOX
- TSB TRAFFIC SIGNAL BOX
- TSL TRAFFIC SIGNAL LIGHT POST
- A/C AIR CONDITIONER
- TMH TELECOM MANHOLE
- TPED TELECOM PEDESTAL
- GLM GAS LINE MARKER
- SSMH SANITARY SEWER MANHOLE
- CO CLEAN OUT
- GT GREASE TRAP
- CI CURB INLET
- IG INLET GRATE
- WM WATER METER
- WV WATER VALVE
- ICV IRRIGATION CONTROL VALVE
- FH FIRE HYDRANT

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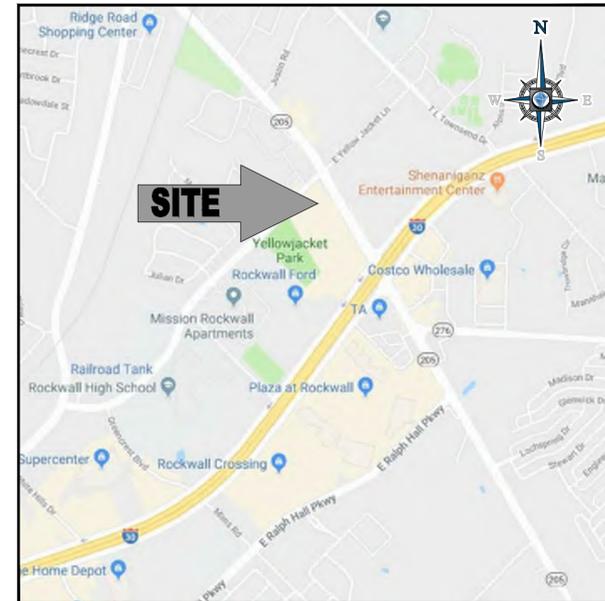
TO: SHAKEEL CHAUGHTAI, MIAN REAL ESTATE HOLDINGS LLC, FUND III SERIES, DYNAMIC GOLIAD INVESTMENTS, LLC, A TEXAS LIMITED LIABILITY COMPANY AND FIDELITY NATIONAL TITLE INSURANCE COMPANY.

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2016 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 4, 6(A), 7(A), 8, 9, 11, 13, 14, 16 & 19 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON DECEMBER 13, 2019.

BILLY M LOGSDON, JR.
REGISTERED PROFESSIONAL LAND SURVEYOR NO. 6487
JANUARY 08, 2020

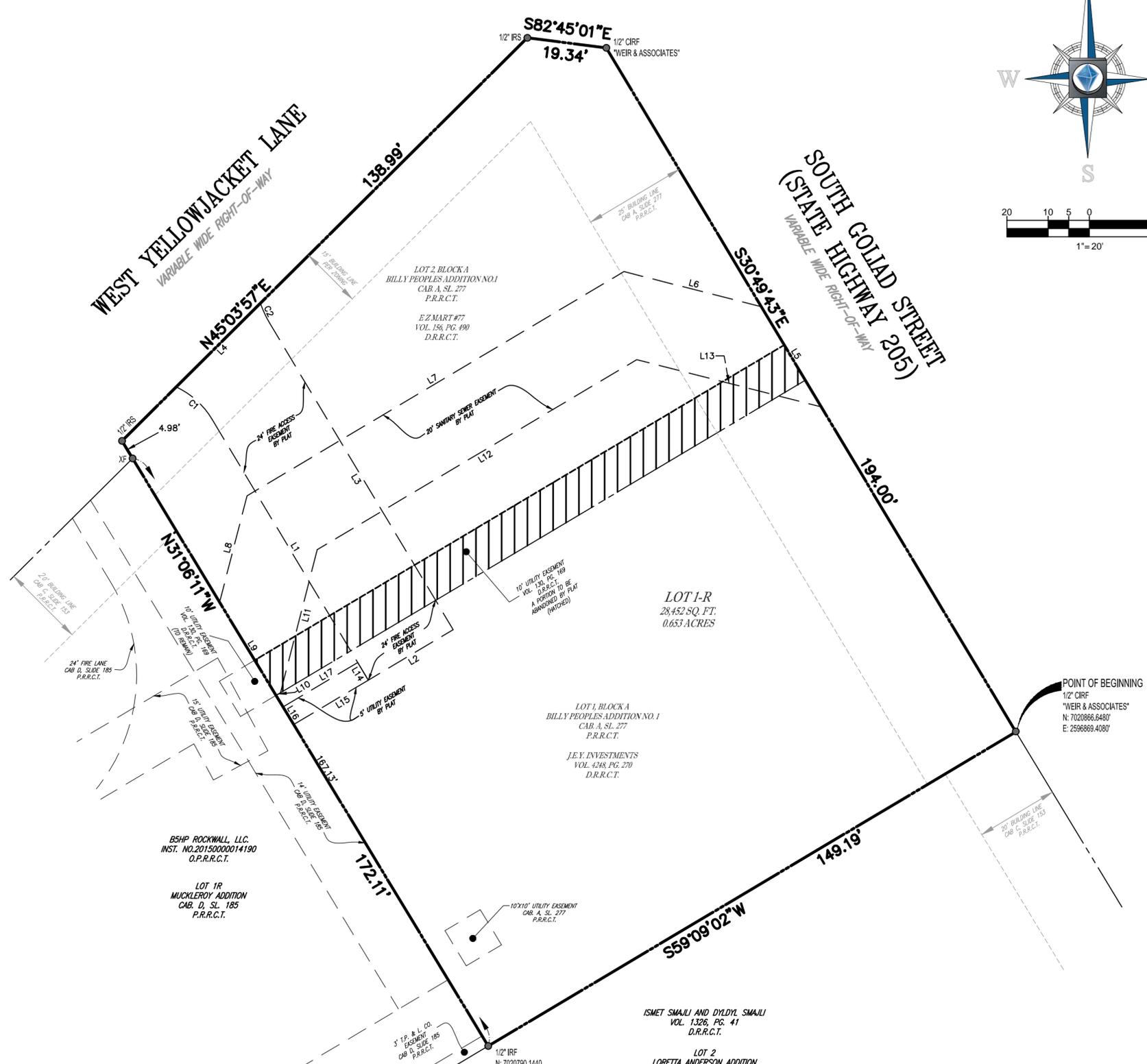
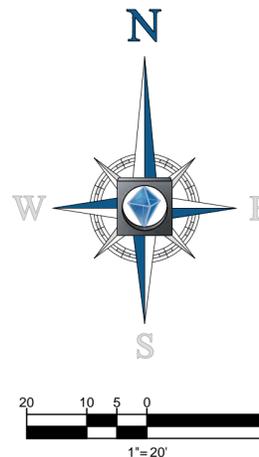
THIS CERTIFICATION IS MADE TO ONLY NAMED PARTIES FOR PURCHASE AND/OR MORTGAGE OF HEREIN DELINEATED PROPERTY BY THE NAMED PURCHASER. NO RESPONSIBILITY OR LIABILITY IS ASSUMED BY SURVEYOR FOR THE USE OF SURVEY FOR ANY OTHER PURPOSE INCLUDING, BUT NOT LIMITED TO, USE OF SURVEY AFFRANVIT, RESALE OF PROPERTY, OR TO ANY OTHER PERSON NOT LISTED IN CERTIFICATION, EITHER DIRECTLY OR INDIRECTLY.

1	INVERTS ADDED	ASA	01-08-2020
No.	DESCRIPTION OF REVISION	BY:	DATE
ALTA/NSPS LAND TITLE SURVEY			
MIAN REAL ESTATE HOLDINGS LLC		8660 THOMAS CHARLES LANE HICKORY HILLS, IL 60457 708-728-1624	
FILE NO. TS195043	BOHLER // 6017 MAIN STREET FRESNO, TEXAS 75034 469.458.7300 www.bohlerengineering.com		
DATE 12/19/19	SITE CIVIL AND CONSULTING ENGINEERING LAND SURVEYING PROGRAM MANAGEMENT LANDSCAPE ARCHITECTURE SUSTAINABLE DESIGN PERMITTING SERVICES TRANSPORTATION SERVICES		
FIELD DATE 12/13/19	CHEW CHIEF DM	DRAWN ASA	REVIEWED BL
	APPROVED BL	SCALE 1" = 20'	DWG. NO. 1 OF 1



LOCATION MAP

SCALE: N.T.S.



LINE TABLE		
NO.	BEARING	LENGTH
L1	S30°49'43"E	68.49'
L2	N59°10'17"E	24.00'
L3	N30°49'43"W	81.46'
L4	N45°03'57"E	28.87'
L5	N30°49'43"W	28.40'
L6	N75°35'41"W	34.42'
L7	S59°10'17"W	106.57'
L8	S14°24'19"W	26.74'
L9	S31°05'51"E	26.50'

LINE TABLE		
NO.	BEARING	LENGTH
L10	N59°09'19"E	1.25'
L11	N14°24'19"E	35.97'
L12	N59°10'17"E	90.31'
L13	S75°35'41"E	46.25'
L14	S30°49'43"E	5.00'
L15	S59°10'17"W	21.10'
L16	N31°06'11"W	5.00'
L17	N59°10'17"E	21.12'

CURVE TABLE						
NO.	LENGTH	DELTA	RADIUS	TANGENT	CHORD BEARING	CHORD
C1	11.90'	034°04'50"	20.00'	6.13'	S47°52'08"E	11.72'
C2	5.31'	012°10'02"	25.00'	2.66'	N24°44'42"W	5.30'

CITY PROJECT NO. FP ___-___
AMENDING PLAT
BRAKES PLUS

LOT 1R, BLOCK A
 BEING ALL OF LOT 1 AND LOT 2, BLOCK A
 BILLY PEOPLES ADDITION NO. 1
 CAB A, PG 277.

0.653 ACRES OUT OF THE
 JAMES CADLE SURVEY, ABSTRACT NO. 65;
 CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

LEGEND

- POB POINT OF BEGINNING
- IRS IRON ROD SET
- IRF IRON ROD FOUND
- CRF CAPPED IRON ROD FOUND
- P.R.R.C.T. PLAT RECORDS ROCKWALL COUNTY
- D.R.R.C.T. DEED RECORDS ROCKWALL COUNTY

SURVEYOR:
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 FRISCO, TX 76107
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 CONTACT: BILLY LOGSDON

ENGINEER:
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 FRISCO, TX 76107
 PHONE: (469) 458-7300
 CONTACT: MATHIAS HAUBERT

OWNER:
 JEY INVESTMENTS
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 TEXARKANA, TX 75501
 PHONE: (903) 832-6502

OWNER:
 EZ MART #77
 PO BOX 1426
 TEXARKANA, TX 75504
 PHONE: (903) 832 - 6502

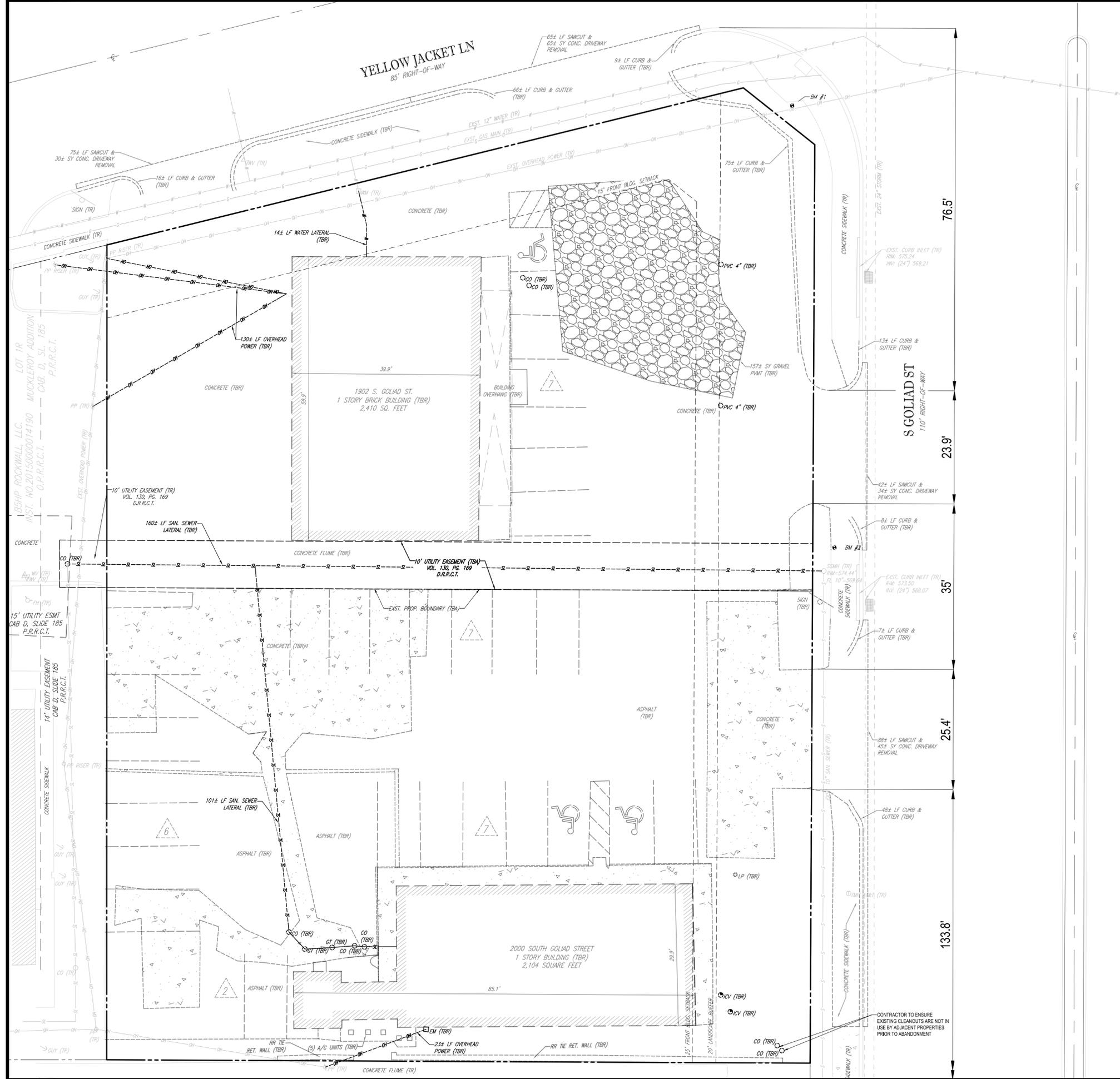
APPLICANT:
 EXPRESS OIL CHANGE, LLC
 1800 SOUTHPARK DR
 BIRMINGHAM, AL 35244
 PHONE: (205) 397-1164
 CONTACT: JOHN DAVIS



SITE CIVIL AND CONSULTING ENGINEERING
 LAND SURVEYING PROGRAM MANAGEMENT LANDSCAPE ARCHITECTURE
 SUSTAINABLE DESIGN PERMITTING SERVICES TRANSPORTATION SERVICES

FILE NO.	DATE	DRAWN	REVIEWED	APPROVED	SCALE	DWG. NO.
TSD180033	12/10/18	ASA	BL	BL	1" = 20'	1 OF 2

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LEGEND

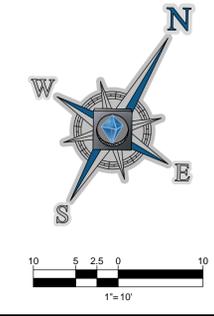
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[Symbol]	PROP. SIDEWALK
[Symbol]	PROP. FIRE LANE
[Symbol]	PROPERTY BOUNDARY
[Symbol]	PROPERTY BOUNDARY TO BE REMOVED VIA PLAT
[Symbol]	BUILDING SETBACK
[Symbol]	STREET CENTERLINE
[Symbol]	EXST. WATER
[Symbol]	EXST. SANITARY MAIN
[Symbol]	EXST. SANITARY LATERAL
[Symbol]	EXST. SANITARY GREASE TRAP
[Symbol]	EXST. SANITARY CLEANOUT
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[Symbol]	EXST. WATER VALVE
[Symbol]	EXST. FIRE HYDRANT
[Symbol]	EXST. POWER POLE
[Symbol]	PARKING SPACES TO BE REMOVED
[Symbol]	TO REMAIN
[Symbol]	TO BE REMOVED
[Symbol]	TO BE ABANDONED

GENERAL DEMOLITION NOTES:

- CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970, (29 U.S.C. 651 et seq.), AS AMENDED AND ANY MODIFICATIONS, AMENDMENTS OR REVISIONS TO SAME.
- BOHLER ENGINEERING HAS NO CONTRACTUAL, LEGAL, OR OTHER RESPONSIBILITY FOR JOB SITE SAFETY OR JOB SITE SUPERVISION, OR ANYTHING RELATED TO SAME.
- THE DEMOLITION PLAN IS INTENDED TO PROVIDE GENERAL INFORMATION, ONLY. REGARDING ITEMS TO BE DEMOLISHED AND/OR REMOVED. THE CONTRACTOR MUST ALSO REVIEW THE OTHER SITE PLAN DRAWINGS AND INCLUDE IN DEMOLITION ACTIVITIES ALL INCIDENTAL WORK NECESSARY FOR THE CONSTRUCTION OF THE NEW SITE IMPROVEMENTS.
- CONTRACTOR MUST RAISE ANY QUESTIONS CONCERNING THE ACCURACY OR INTENT OF THESE PLANS OR SPECIFICATIONS, CONCERNING REGARDING THE APPLICABLE SAFETY STANDARDS, OR THE SAFETY OF THE CONTRACTOR OR THIRD PARTIES IN PERFORMING THE WORK ON THIS PROJECT, WITH BOHLER ENGINEERING, IN WRITING, AND RESPONDED TO BY BOHLER, IN WRITING, PRIOR TO THE INITIATION OF ANY SITE ACTIVITY AND ANY DEMOLITION ACTIVITY. ALL DEMOLITION ACTIVITIES MUST BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THESE PLANS AND SPECIFICATIONS AND ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS, RULES, REQUIREMENTS, STATUTES, ORDINANCES AND CODES.
- PRIOR TO STARTING ANY DEMOLITION, CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS AND MAINTAINING THE SAME ON SITE FOR REVIEW BY THE ENGINEER AND OTHER PUBLIC AGENCIES HAVING JURISDICTION THROUGHOUT THE DURATION OF THE PROJECT, SITE WORK AND DEMOLITION WORK.
- ALL RESPONSIBILITY FOR ADEQUACY OF DESIGN REMAINS WITH THE DESIGN ENGINEER. THE CITY OF ROCKWALL, IN REVIEWING AND RELEASING PLANS FOR CONSTRUCTION, ASSUMES NO RESPONSIBILITY FOR ADEQUACY OR ACCURACY OF DESIGN.
- ALL SAWCUTS INTO ROAD ARE TO BE A MINIMUM OF 2' IN LENGTH.

PROJECT BENCHMARKS

SITE BENCHMARK 1 X-CUT AT THE SWC OF EAST YELLOW JACKET LANE & SOUTH GOLIAD STREET ON SIDEWALK RAMP ELEVATION = 577.21'
SITE BENCHMARK 2 X-CUT ON WEST EDGE OF SIDEWALK LOCATED ON THE WEST SIDE OF S. GOLIAD STREET APPROXIMATELY 95' SOUTH OF THE INTERSECTION OF YELLOW JACKET LANE & SOUTH GOLIAD STREET ELEVATION = 574.61'



BOHLER ENGINEERING

SITE CIVIL AND CONSULTING ENGINEERING ARCHITECTURE
LAND SURVEYING DESIGN PERMITTING SERVICES TRANSPORTATION SERVICES
SUSTAINABLE DESIGN

CHARLOTTE, NC
ATLANTA, GA
BALTIMORE, MD
BETHESDA, MD
BIRMINGHAM, AL
BOULDER, CO
CHICAGO, IL
COLUMBIA, SC
DENVER, CO
FORT WORTH, TX
HOUSTON, TX
INDIANAPOLIS, IN
JACKSONVILLE, FL
KANSAS CITY, MO
LONG BEACH, CA
LOS ANGELES, CA
MEMPHIS, TN
MIAMI, FL
MINNEAPOLIS, MN
NEW YORK, NY
PHILADELPHIA, PA
RICHMOND, VA
SAN ANTONIO, TX
SAN JOSE, CA
WASHINGTON, DC

REVISIONS

REV	DATE	COMMENT	BY
1	3/18/19	DOMESTIC WATER REVISION	MJH
2	4/19/19	TAS REVIEW COMMENTS	MJH

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ASBUILT RECORD DRAWING

PROJECT No.: TD180033
DRAWN BY: MJH
CHECKED BY: DOC
DATE: 02/25/2019
SCALE: 1"=10'
CAD I.D.: DP0

CONSTRUCTION DOCUMENTS

FOR

brakes plus

LOCATION OF SITE
1902 S. GOLIAD ST
LOTS 1 & 2, BLOCK A, BILLY PEOPLES ADDITION NO. 1
ROCKWALL, TX 75087
ROCKWALL COUNTY

BOHLER ENGINEERING

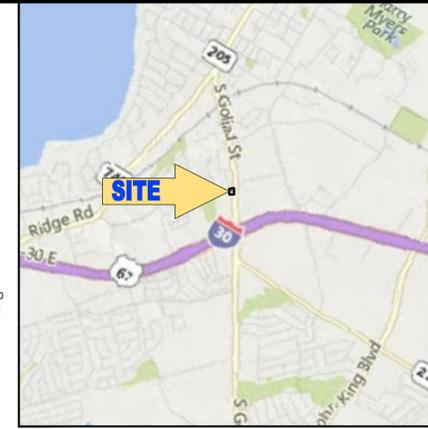
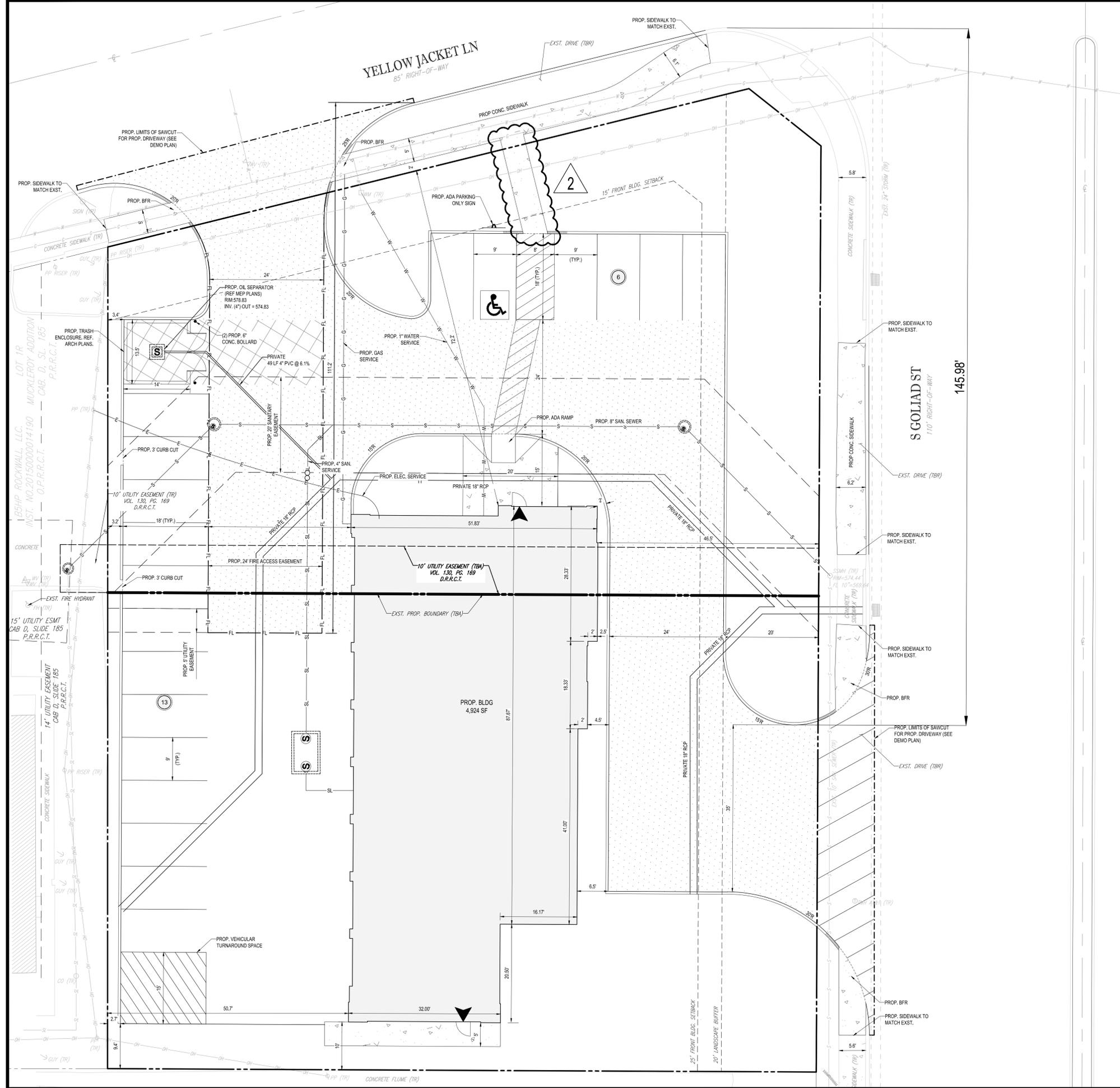
6017 MAIN STREET
FRISCO, TX 75034
Phone: (469) 458-7300
TX@BohlerEng.com

STATE OF TEXAS
DEAN O. CARDWELL
115432
LICENSED PROFESSIONAL ENGINEER
1.16.20

SHEET TITLE:
EXISTING CONDITIONS & DEMOLITION PLAN

SHEET NUMBER:
C-201

CASE NUMBER: SP2018-030



LOCATION MAP
SCALE: N.T.S.

SITE DATA TABLE	
TOTAL SITE AREA	0.653 AC (28,452 SF)
TOTAL BUILDING SIZE	4,924 SF
SITE ZONING DISTRICT	GR - GENERAL RETAIL
SITE OVERLAY DISTRICT	SH-205 OVERLAY DISTRICT
PROPOSED LAND USE	COMMERCIAL (AUTO REPAIR GARAGE, MINOR)
FRONT BUILDING SETBACK (S. GOLIAD)	25 FT
FRONT BUILDING SETBACK (YELLOW JACKET)	15 FT
SIDE BUILDING SETBACK	0 FT (PROVIDED BLDG IS FIRE RETARDANT)
TYPICAL PARKING SPACE	9' x 18'
CODE REQUIRED PARKING SPACES	2 SPACES PER SERVICE BAY = 16 SPACES
CODE REQUIRED ADA SPACES	1 SPACE
PROVIDED PARKING SPACES	20 SPACES
PROVIDED ADA SPACES	1 SPACE
EXISTING IMPERVIOUS AREA	26,234 SF (92.20%)
PROPOSED IMPERVIOUS AREA	19,933 SF (70.06%)
NET IMPERVIOUS AREA	-6,301 SF (-22.14%)

TxDOT NOTE: NO LANE CLOSURES ARE ALLOWED DURING PEAK HOURS: OFF-PEAK HOURS ARE 9 AM TO 3 PM AND 9 PM TO 5 AM, MONDAY THROUGH FRIDAY. ONLY ASSOCIATED SIGNS SHALL BE REMOVED WHEN NOT IN USE AND ALL PAVEMENT EDGES AT THE END OF THE EACH DAY FOR SAFETY IN ACCORDANCE WITH TxDOT STANDARDS.

GENERAL NOTES:

- ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
- ALL RADII ARE 4'0" UNLESS OTHERWISE NOTED.
- ALL PROPOSED SIDEWALKS, LANDINGS, AND BARRIER-FREE RAMPS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH ADA STANDARDS.
- HANDICAP PARKING IS PROVIDED IN ACCORDANCE WITH ADA STANDARDS.
- CONTRACTOR SHALL ADJUST EXISTING VALVES, MANHOLE RIMS, ETC. AS NECESSARY TO MATCH FINISHED GRADE.
- FIELD VERIFY THE LOCATION OF ALL EXISTING UTILITIES IMMEDIATELY PRIOR TO START OF CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY CONFLICTS DISCOVERED. CONTRACTOR IS RESPONSIBLE FOR COORDINATING UTILITY RELOCATION WHERE NECESSARY AND PROTECTING EXISTING UTILITIES (SHOWN OR NOT SHOWN). IF ANY EXISTING UTILITIES ARE DAMAGED, THE CONTRACTOR SHALL REPLACE THEM AT THEIR OWN EXPENSE.
- ON-SITE DETENTION IS NOT REQUIRED BASED PRE-DEVELOPMENT PERVIOUS/IMPERVIOUS COVER AREAS COMPARED TO POST-DEVELOPMENT COVER AREAS. PROPOSED IMPROVEMENTS INCREASE THE AMOUNT OF PERVIOUS AREA COVER.
- ALL PAVED AREAS SHALL BE CONCRETE. HEAVY DUTY PAVED AREAS SHALL BE 6" CONCRETE WITH A MINIMUM STRENGTH OF 3,600 PSI AND A MINIMUM 6.5 SACK MIX OVER 6" LIME STABILIZED CLAY. ALL PAVED AREAS NOT INDICATED AS HEAVY DUTY SHALL BE STANDARD DUTY CONCRETE. STANDARD DUTY CONCRETE SHALL BE 5" CONCRETE OVER 6" LIME STABILIZED CLAY. SEE SHEET C-303.
- PROPOSED TRASH ENCLOSURE MUST BE SCREENED FROM SH 205 (S GOLIAD) AND SHALL BE 4-SIDED WITH AN OPAQUE SELF-LATCHING GATE.
- ALL SAWCUTS INTO ROAD ARE TO BE A MINIMUM OF 2' IN LENGTH.
- DRIVEWAYS CONNECTING TO YELLOW JACKET LANE AND S. GOLIAD STREET ARE TO CONNECT TO EXISTING PAVEMENT WITH A LONGITUDINAL BUTT JOINT.
- 8" MASONRY TRASH ENCLOSURE IS TO MATCH THE BUILDING AND IS TO BE INSTALLED WITH A SELF-LATCHING, OPAQUE GATE.
- ALL BARRIER FREE RAMPS WITHIN ROW SHALL BE COLONIAL OR BRICK RED TRUNCATED DOME PLATES.

LEGEND

	PROP. HEAVY DUTY PAVEMENT
	PROP. 10' 3,600 PSI, MIN. 6.5 SACK MIX HEAVY DUTY PAVEMENT
	PROP. 7' 3,600 PSI, MIN. 6.5 SACK MIX HEAVY DUTY PAVEMENT
	PROP. STANDARD DUTY PAVEMENT
	PROP. SIDEWALK
	PROP. FIRE LANE
	PROPERTY BOUNDARY
	PROPERTY BOUNDARY TO BE REMOVED VIA PLAT
	BUILDING SETBACK
	STREET CENTERLINE
	EXST. WATER
	PROP. WATER
	EXST. SANITARY MAIN
	EXST. SANITARY LATERAL
	PROP. SANITARY LATERAL
	PROP. SANITARY SEWER MANHOLE
	PROP. WATER METER
	EXST. FIRE HYDRANT
	EXST. POWER POLE
	PROP. CURB TRANSITION
	TO REMAIN
	TO BE REMOVED
	TO BE ABANDONED

SURVEYOR:
BOHLER ENGINEERING
6017 MAIN STREET
FRISCO, TX 76107
PHONE: (469) 458-7300
CONTACT: BILLY LOGSDON
DATE: JULY 2018

APPLICANT:
BRAKES PLUS, LLC
1800 SOUTHPARK DR
BIRMINGHAM, AL 35244
PHONE: (205) 397-1184
CONTACT: JOHN DAVIS

OWNER:
DYNAMIC DEVELOPMENT
1725 21ST ST
SANTA MONICA, CA 90404
PHONE: (310) 662-5167
CONTACT: DANIEL J. PORTER

ENGINEER:
BOHLER ENGINEERING
6017 MAIN STREET
FRISCO, TX 75034
PHONE: (469) 458-7300
CONTACT: MATHIAS HAUBERT

BOHLER ENGINEERING

SITE CIVIL AND CONSULTING ENGINEERING
LAND SURVEYING DESIGN
SUSTAINABLE DESIGN

PERMITTING SERVICES
TRANSPORTATION SERVICES

CHARLOTTE, NC
ATLANTA, GA
SOUTH FLORENCE, FL
CENTRAL VIRGINIA
DALLAS, TX
BALTIMORE, MD
SOUTH NEW JERSEY
PHILADELPHIA, PA
LEHIGH VALLEY, PA
NEW YORK, NY
NEW YORK METRO
SOUTH WESTERN, PA
BALTIMORE, MD

REVISIONS

REV	DATE	COMMENT	BY
1	3/18/19	DOMESTIC WATER REVISION	MJH
2	4/19/19	TAS REVIEW COMMENTS	MJH

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RECORD DRAWING

PROJECT No.: TD1800333
DRAWN BY: MJH
CHECKED BY: DOC
DATE: 02/25/2019
SCALE: 1"=10'
CAD I.D.: SP0

CONSTRUCTION DOCUMENTS

FOR

brakes plus

LOCATION OF SITE
1902 S. GOLIAD ST
LOTS 1 & 2, BLOCK A, BILLY PEOPLES ADDITION NO. 1
ROCKWALL, TX 75087
ROCKWALL COUNTY

BOHLER ENGINEERING

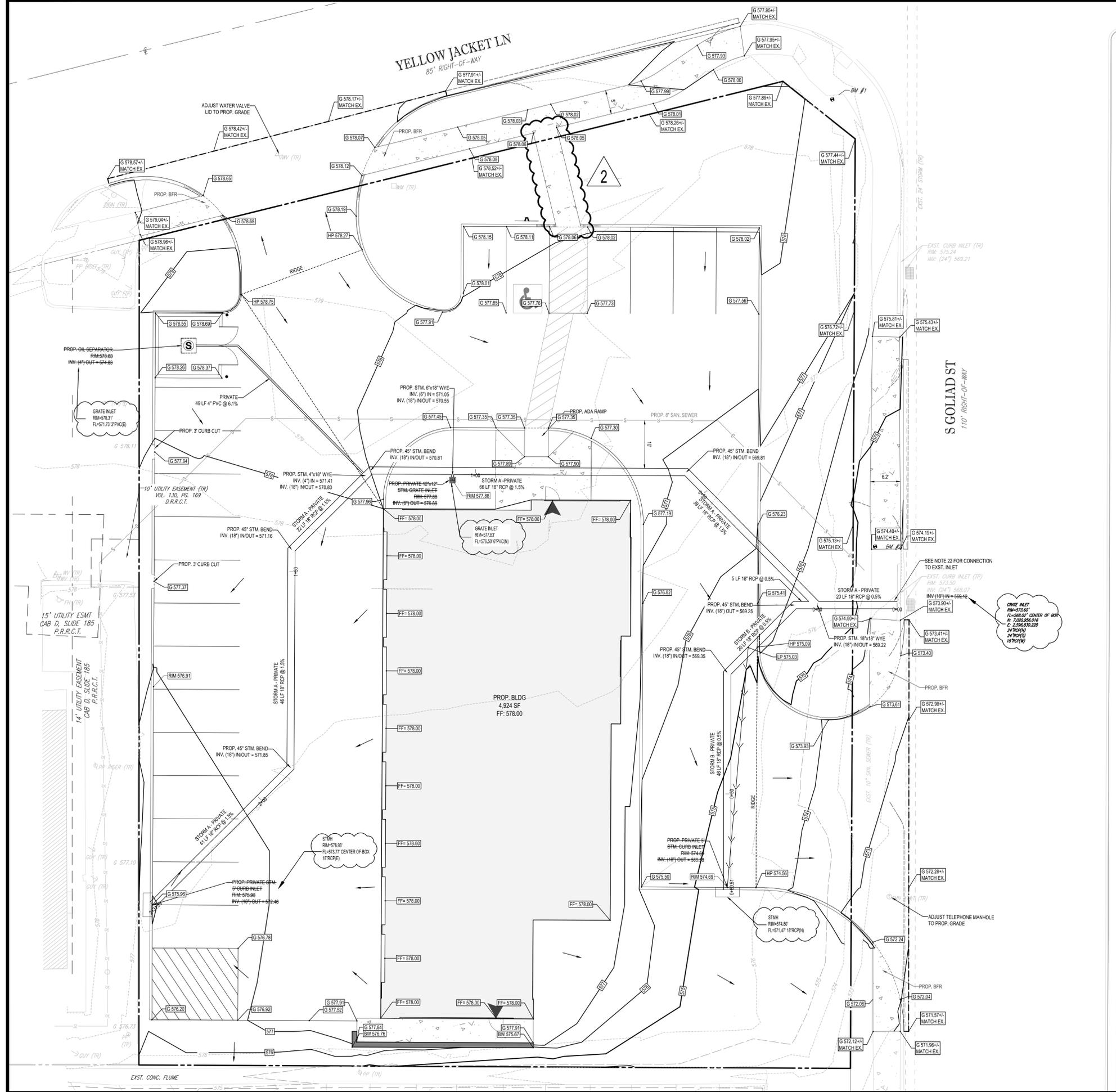
6017 MAIN STREET
FRISCO, TX 75034
Phone: (469) 458-7300
TX@BohlerEng.com

STATE OF TEXAS
DEAN O. CARDWELL
115432
LICENSED PROFESSIONAL ENGINEER
1.16.20

SHEET TITLE:
SITE & PAVING PLAN

SHEET NUMBER:
C-301

CASE NUMBER: SP2018-030



LEGEND

PROPERTY LINE	---
DRAINAGE FLOW DIRECTION	→
PROPOSED CONTOUR	———
EXISTING CONTOUR	- - - - -
RIDGE	-----
PROPOSED GROUND SPOT ELEVATION	G 703.00
PROPOSED FINISHED FLOOR ELEVATION	FF 703.00
PROPOSED TOP OF CURB ELEVATION	TC 703.00
SWALE	→ → → →

GRADING NOTES:

- WORK SHALL BE DONE IN ACCORDANCE WITH THE GEOTECHNICAL REPORT BY ECS SOUTHWEST, LLP, DATED SEPTEMBER 4, 2018.
- ALL CONSTRUCTION TO BE IN ACCORDANCE WITH THESE PLANS, THE CITY OF ROCKWALL STANDARDS AND SPECIFICATIONS, AND NCTCOG 4TH EDITION WITH CITY REVISIONS.
- PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL MAKE CERTAIN THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS APPROVED BY ALL OF THE PERMITTING AUTHORITIES.
- THE GENERAL CONTRACTOR AND ALL SUB-CONTRACTORS SHALL VERIFY THE SUITABILITY OF ALL EXISTING AND PROPOSED SITE CONDITIONS INCLUDING GRADES AND DIMENSIONS BEFORE COMMENCEMENT OF ANY CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES. MINOR ADJUSTMENTS TO FINISH GRADES TO ACCOMPLISH SPOT DRAINAGE ARE ACCEPTABLE. IF NECESSARY, UPON PRIOR APPROVAL OF ENGINEER, PAVING INSTALLED SHALL "FLUSH OUT" AT ANY JUNCTURE WITH EXISTING PAVING.
- THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
- EXISTING GRADE CONTOUR INTERVALS SHOWN AT 1 FOOT INTERVALS.
- PROPOSED GRADE CONTOUR INTERVALS SHOWN AT 1 FOOT INTERVALS.
- THE CONTRACTOR SHALL ADHERE TO ALL TERMS & CONDITIONS AS OUTLINED IN THE EPA OR T.P.D.E.S. PERMIT FOR STORM WATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITIES.
- CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS FOR ALL NATURAL AND PAVED AREAS.
- TOPOGRAPHIC INFORMATION IS TAKEN FROM BOUNDARY/TOPOGRAPHIC SURVEY BY BOHLER ENGINEERING. IF THE CONTRACTOR DOES NOT ACCEPT EXISTING TOPOGRAPHY AS SHOWN ON THE PLANS, WITHOUT EXCEPTION, THEN THE CONTRACTOR SHALL SUPPLY, AT THEIR EXPENSE, A TOPOGRAPHIC SURVEY BY A REGISTERED LAND SURVEYOR TO THE OWNER FOR REVIEW.
- ALL SUBSURFACE AREAS DISTURBED BY GRADING OPERATION SHALL RECEIVE 4 INCHES OF TOPSOIL. CONTRACTOR SHALL STABILIZE DISTURBED AREAS IN ACCORDANCE WITH GOVERNING SPECIFICATIONS UNTIL A HEALTHY STAND OF VEGETATION IS OBTAINED.
- CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE GOVERNING CODES AND BE CONSTRUCTED TO SAME.
- ALL ELEVATIONS ARE TOP OF PAVEMENT UNLESS NOTED OTHERWISE. TO GET TOP OF CURB ELEVATIONS ADD 6" TO THE ELEVATION SHOWN.
- GRADING FOR ALL SIDEWALKS AND ACCESSIBLE ROUTS INCLUDING CROSSING DRIVEWAYS SHALL CONFORM TO ADA STANDARDS. SLOPES SHALL NOT EXCEED 5% LONGITUDINAL SLOPE OR 2% CROSS SLOPE. SIDEWALK ACCESS TO EXTERNAL BUILDING DOORS SHALL BE ADA COMPLIANT. CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY IF ADA CRITERIA CANNOT BE MET AT ANY LOCATION.
- ANY PROPOSED CONTOURS SHOWN ARE APPROXIMATE PROPOSED SPOT ELEVATIONS AND DESIGNATED GRADIENT ARE TO BE USED IN THE EVENT OF ANY DISCREPANCIES.
- REFER TO EROSION CONTROL PLAN FOR EROSION CONTROL DEVICES TO BE INSTALLED PRIOR TO COMMENCING GRADING OPERATIONS.
- ALL VEGETATION SHALL BE CLEARED AND GRUBBED FOR ALL AREAS TO BE DISTURBED.
- ALL FILL TO BE PLACED SHALL BE A MINIMUM OF 95% OF STANDARD DENSITY USING A SHEEP'S FOOT ROLLER AND SHALL BE IN ACCORDANCE WITH THE CURRENTLY APPLICABLE GEOTECHNICAL REPORT RECOMMENDATIONS.
- ALL RESPONSIBILITY FOR ADEQUACY OF DESIGN REMAINS WITH THE DESIGN ENGINEER. THE CITY OF ROCKWALL, IN REVIEWING AND RELEASING PLANS FOR CONSTRUCTION, ASSUMES NO RESPONSIBILITY FOR ADEQUACY OR ACCURACY OF DESIGN.
- ALL RIGHT OF WAYS TO BE SODDED.
- 75-80% OF ALL DISTURBED AREA TO HAVE A MINIMUM 1" STAND OF GRASS (NOT WEEDS OR WINTER RYE) PRIOR TO CITY ACCEPTANCE OR CERTIFICATE OF OCCUPANCY.
- CONTRACTOR TO CORE DRILL EXISTING INLET BOX FOR PROPOSED STORM PIPE CONNECTION AND SLURRY SEAL FOR WATER-TIGHT SEAL. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO THE EXISTING INLET STRUCTURE DURING CONSTRUCTION.

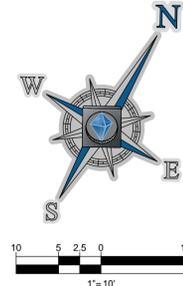
!!WARNING!!

EXISTING UTILITIES IN THE AREA CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF ALL EXISTING UTILITIES WITH THE PROVIDER PRIOR TO START OF CONSTRUCTION AND SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY CONFLICTS DISCOVERED. CONTRACTOR IS RESPONSIBLE FOR COORDINATING UTILITY RELOCATION WHERE NECESSARY AND PROTECTING EXISTING UTILITIES (SHOWN OR NOT SHOWN). IF ANY EXISTING UTILITIES ARE DAMAGED, THE CONTRACTOR SHALL REPLACE THEM AT THEIR OWN EXPENSE.

PROJECT BENCHMARKS

SITE BENCHMARK 1
X-CUT AT THE SWC OF EAST YELLOW JACKET LANE & SOUTH GOLIAD STREET ON SIDEWALK RAMP
ELEVATION = 577.21'

SITE BENCHMARK 2
X-CUT ON WEST EDGE OF SIDEWALK LOCATED ON THE WEST SIDE OF S. GOLIAD STREET APPROXIMATELY 95' SOUTH OF THE INTERSECTION OF YELLOW JACKET LANE & SOUTH GOLIAD STREET
ELEVATION = 574.61'



BOHLER ENGINEERING
 SITE CIVIL AND CONSULTING ENGINEERING ARCHITECTURE
 LAND SURVEYING DESIGN PERMITTING SERVICES TRANSPORTATION SERVICES
 SUSTAINABLE DESIGN PERMITTING SERVICES TRANSPORTATION SERVICES
 CHARLOTTE, NC
 CHICAGO, IL
 COLUMBUS, OH
 DALLAS, TX
 DENVER, CO
 HOUSTON, TX
 KANSAS CITY, MO
 LOS ANGELES, CA
 MEMPHIS, TN
 MIAMI, FL
 MINNEAPOLIS, MN
 NEW YORK, NY
 OKLAHOMA CITY, OK
 PHOENIX, AZ
 RICHMOND, VA
 SAN ANTONIO, TX
 TAMPA, FL
 WASHINGTON, DC
 WICHITA, KS

REVISIONS

REV	DATE	COMMENT	BY
1	3/18/19	DOMESTIC WATER REVISION	MJH
2	4/19/19	TAS REVIEW COMMENTS	MJH

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ASBUILT RECORD DRAWING

PROJECT No.: TD180033
 DRAWN BY: MJH
 CHECKED BY: DOC
 DATE: 02/25/2019
 SCALE: 1"=10'
 CAD I.D.: GPO

CONSTRUCTION DOCUMENTS

FOR

LOCATION OF SITE
 1902 S. GOLIAD ST
 LOTS 1 & 2, BLOCK A, BILLY PEOPLES ADDITION NO. 1
 ROCKWALL, TX 75087
 ROCKWALL COUNTY

BOHLER ENGINEERING
 6017 MAIN STREET
 FRISCO, TX 75034
 Phone: (469) 458-7300
 TX@BohlerEng.com

DEAN O. CARDWELL
 115432
 1 CENSUS
 PROFESSIONAL ENGINEER
 1.16.20

SHEET TITLE:
GRADING & DRAINAGE PLAN

SHEET NUMBER:
C-401

CASE NUMBER: SP2018-030

REVISIONS

REV	DATE	COMMENT	BY
1	3/18/19	DOMESTIC WATER REVISION	MJH
2	4/19/19	TAS REVIEW COMMENTS	MJH

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ASBUILT RECORD DRAWING

PROJECT No.: TD180033
 DRAWN BY: MJH
 CHECKED BY: DOC
 DATE: 02/25/2019
 SCALE: 1"=30'
 CAD I.D.: HPD

CONSTRUCTION DOCUMENTS

FOR

brakes plus

LOCATION OF SITE
 1902 S. GOLIAD ST
 LOTS 1 & 2, BLOCK A, BILLY PEOPLES ADDITION NO. 1
 ROCKWALL, TX 75087
 ROCKWALL COUNTY

BOHLER ENGINEERING

6017 MAIN STREET
 FRISCO, TX 75034
 Phone: (469) 458-7300
 TX@BohlerEng.com

STATE OF TEXAS
 DEAN O. CARDWELL
 115432
 LICENSED PROFESSIONAL ENGINEER
 1/16/20

SHEET TITLE:
EXISTING DRAINAGE AREA MAP

SHEET NUMBER:
C-402

CASE NUMBER: SP2018-030

LEGEND

DIRECTION OF DRAINAGE	
EX. AREA BOUNDARY	
EXISTING CONTOUR	
PROPERTY LINE	
DRAINAGE AREA NUMBER	
AREA (ACRE)	

DRAINAGE GENERAL NOTES:

- CONTRACTOR TO FIELD VERIFY HORIZONTAL AND VERTICAL LOCATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.
- SEE GRADING SHEET C-401 FOR DETAILED INFORMATION ON STORM DRAIN LINES.
- ALL RESPONSIBILITY FOR ADEQUACY OF DESIGN REMAINS WITH THE DESIGN ENGINEER. THE CITY OF ROCKWALL, IN REVIEWING AND RELEASING PLANS FOR CONSTRUCTION, ASSUMES NO RESPONSIBILITY FOR ADEQUACY OR ACCURACY OF DESIGN.
- CI-F18 AND CI-F19 ARE 15" TY II CURB INLETS. SEE NOTE 6 BELOW FOR THE REFERENCE PLAN SET.
- REFER TO TXDOT PLANS TITLED "SH 205 0451-01-032 AS-BUILT INDEX VOL. II" PREPARED BY PARSONS BRINKERHAFF QUADE & DOUGLAS, INC. DATED 6/9/06.

FLOOD NOTE:

ACCORDING TO FLOOD INSURANCE RATE MAP (FIRM) NO. 48397C0040L, EFFECTIVE SEPTEMBER 26, 2008, ROCKWALL COUNTY, TEXAS, THIS PROPERTY IS WITHIN ZONE X. NO 100-YEAR FLOODPLAIN EXISTS ON THE SITE.

C VALUE CALCULATIONS

DRAINAGE AREA	AREA (AC)	PAVEMENT C=0.90	INDUSTRIAL C=0.85	WEIGHTED COEFFICIENT
A1	0.39	0.25	0.14	0.883
A2.1	0.12	0.12	0.00	0.900
A2.2	0.71	0.12	0.59	0.858
A3	0.37	0.22	0.15	0.879
A4	0.95	0.00	0.95	0.850

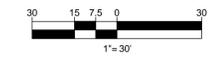
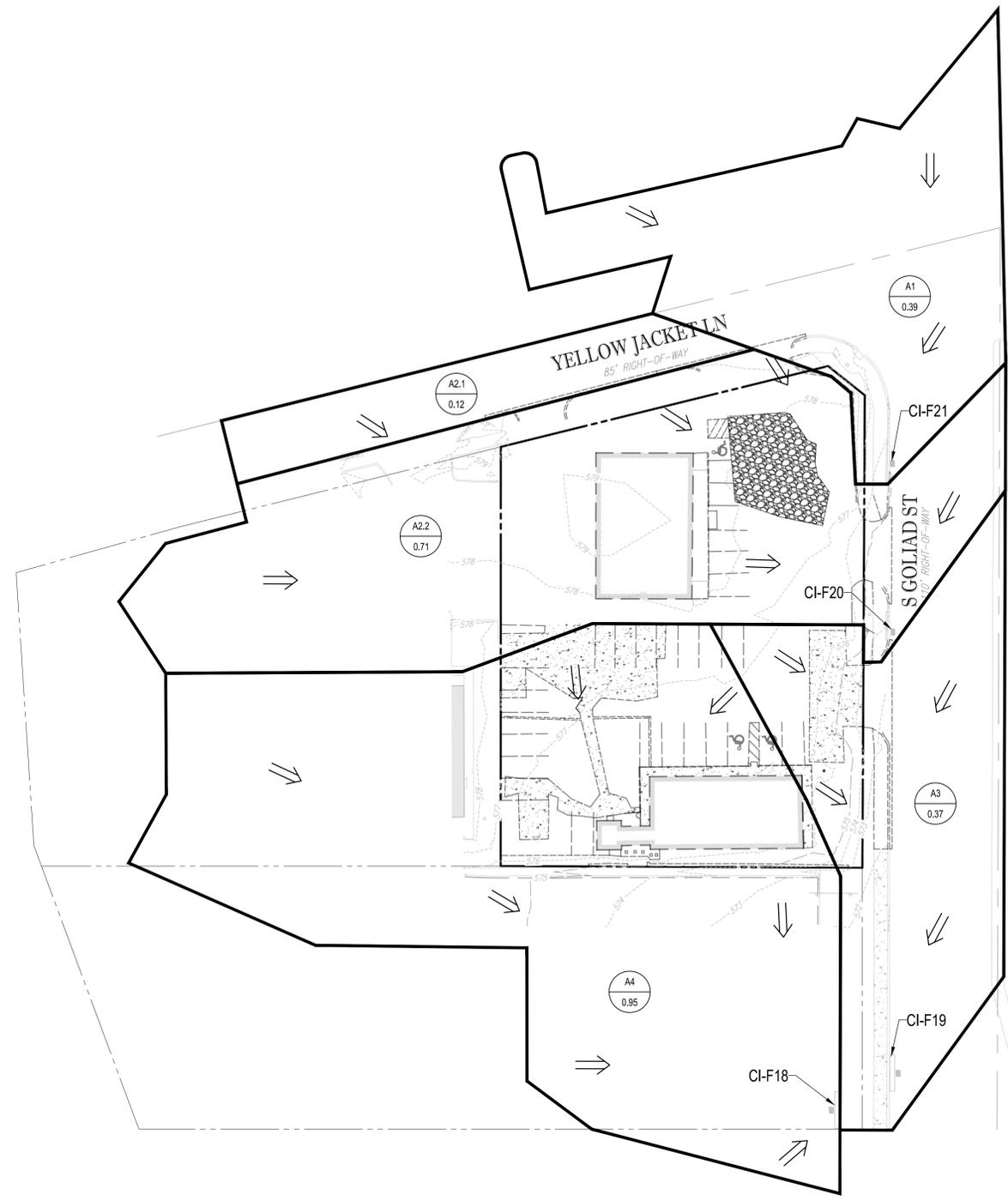
*COEFFICIENT VALUES BASED ON TXDOT DESIGN PLANS.

5-YR DRAINAGE AREA TABLE

DRAINAGE AREA	AREA (AC)	RUNOFF COEFFICIENT "C"	C*A	TIME OF CONCENTRATION (MINUTES)	RAINFALL INTENSITY "I _s " (IN/HR)	TOTAL FLOW Q _s (CFS)	COLLECTION POINT
A1	0.39	0.883	0.341	10	6.93	2.36	CI-F21
A2.1	0.12	0.900	0.108	10	6.93	0.75	CI-F21
A2.2	0.71	0.858	0.609	10	6.93	4.22	CI-F20
A3	0.37	0.879	0.322	10	6.93	2.23	CI-F19
A4	0.95	0.850	0.803	10	6.93	5.57	CI-F18

100-YR DRAINAGE AREA TABLE

DRAINAGE AREA	AREA (AC)	RUNOFF COEFFICIENT "C"	C*A	TIME OF CONCENTRATION (MINUTES)	RAINFALL INTENSITY "I ₁₀₀ " (IN/HR)	TOTAL FLOW Q ₁₀₀ (CFS)	COLLECTION POINT
A1	0.39	0.883	0.341	10	9.80	3.34	CI-F21
A2.1	0.12	0.900	0.108	10	9.80	1.06	CI-F21
A2.2	0.71	0.858	0.609	10	9.80	5.97	CI-F20
A3	0.37	0.879	0.322	10	9.80	3.16	CI-F19
A4	0.95	0.850	0.803	10	9.80	7.87	CI-F18



LEGEND

SWALE	
RIDGE	
DIRECTION OF DRAINAGE	
PROP. AREA BOUNDARY	
EXISTING CONTOUR	
PROPOSED CONTOUR	
PROPERTY LINE	
DRAINAGE AREA NUMBER	
AREA (ACRE)	

DRAINAGE GENERAL NOTES:

- CONTRACTOR TO FIELD VERIFY HORIZONTAL AND VERTICAL LOCATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.
- SEE GRADING SHEET C-401 FOR DETAILED INFORMATION ON STORM DRAIN LINES.
- ALL RESPONSIBILITY FOR ADEQUACY OF DESIGN REMAINS WITH THE DESIGN ENGINEER. THE CITY OF ROCKWALL, IN REVIEWING AND RELEASING PLANS FOR CONSTRUCTION, ASSUMES NO RESPONSIBILITY FOR ADEQUACY OR ACCURACY OF DESIGN.
- CI-F18 AND CI-F19 ARE 15" TY II CURB INLETS. SEE NOTE 5 BELOW FOR THE REFERENCE PLAN SET.
- REFER TO TXDOT PLANS TITLED "SH 205 0451-01-032 AS-BUILT INDEX VOL. I" PREPARED BY PARSONS BRINKERHAFF QUADE & DOUGLAS, INC. DATED 6/9/06.

FLOOD NOTE:

ACCORDING TO FLOOD INSURANCE RATE MAP (FIRM) NO. 48397C0040L, EFFECTIVE SEPTEMBER 26, 2005, ROCKWALL COUNTY, TEXAS, THIS PROPERTY IS WITHIN ZONE X. NO 100-YEAR FLOODPLAIN EXISTS ON THE SITE.

REVISIONS

REV	DATE	COMMENT	BY
1	3/18/19	DOMESTIC WATER REVISION	MJH
2	4/19/19	TAS REVIEW COMMENTS	MJH

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 BEFORE YOU DIG
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ASBUILT RECORD DRAWING

PROJECT No.:	TD180033
DRAWN BY:	MJH
CHECKED BY:	DOC
DATE:	02/25/2019
SCALE:	1"=30'
CAD I.D.:	HPD

CONSTRUCTION DOCUMENTS

FOR
brakes plus
 LOCATION OF SITE
 1902 S. GOLIAD ST
 LOTS 1 & 2, BLOCK A, BILLY PEOPLES ADDITION NO. 1
 ROCKWALL, TX 75087
 ROCKWALL COUNTY

BOHLER ENGINEERING
 6017 MAIN STREET
 FRISCO, TX 75034
 Phone: (469) 458-7300
 TX@BohlerEng.com

STATE OF TEXAS
 DEAN O. CARDWELL
 115432
 1/16/20
 LICENSED PROFESSIONAL ENGINEER

PROPOSED DRAINAGE AREA MAP

SHEET NUMBER:
C-403

CASE NUMBER: SP2018-030

C VALUE CALCULATIONS

DRAINAGE AREA	AREA (AC)	PAVEMENT C=0.90	INDUSTRIAL C=0.85	WEIGHTED COEFFICIENT
B1	0.39	0.26	0.13	0.883
B2.1	0.13	0.13	0.00	0.900
B2.2	0.46	0.00	0.46	0.850
B2.3	0.01	0.00	0.01	0.850
B2.4	0.01	0.00	0.01	0.850
B2.5	0.14	0.00	0.14	0.850
B2.6	0.10	0.06	0.04	0.880
B3	0.32	0.22	0.10	0.884
B4	0.73	0.00	0.73	0.850

*COEFFICIENT VALUES BASED ON TXDOT DESIGN PLANS.

5-YR DRAINAGE AREA TABLE

DRAINAGE AREA	AREA (AC)	RUNOFF COEFFICIENT "C"	C*A	TIME OF CONCENTRATION (MINUTES)	RAINFALL INTENSITY "I _s " (IN/HR)	PROPOSED FLOW Q _s (CFS)	COLLECTION POINT
B1	0.39	0.883	0.341	10	6.93	2.38	CI-F21
B2.1	0.13	0.900	0.117	10	6.93	0.81	CI-F21
B2.2	0.68	0.850	0.578	10	6.93	4.01	CI-F20
B2.3	0.01	0.850	0.009	10	6.93	0.06	CI-F20
B2.4	0.01	0.850	0.009	10	6.93	0.06	CI-F20
B2.5	0.14	0.850	0.119	10	6.93	0.82	CI-F20
B2.6	0.10	0.880	0.088	10	6.93	0.61	CI-F20
B3	0.32	0.884	0.282	10	6.93	1.96	CI-F19
B4	0.95	0.850	0.621	10	6.93	4.30	CI-F18

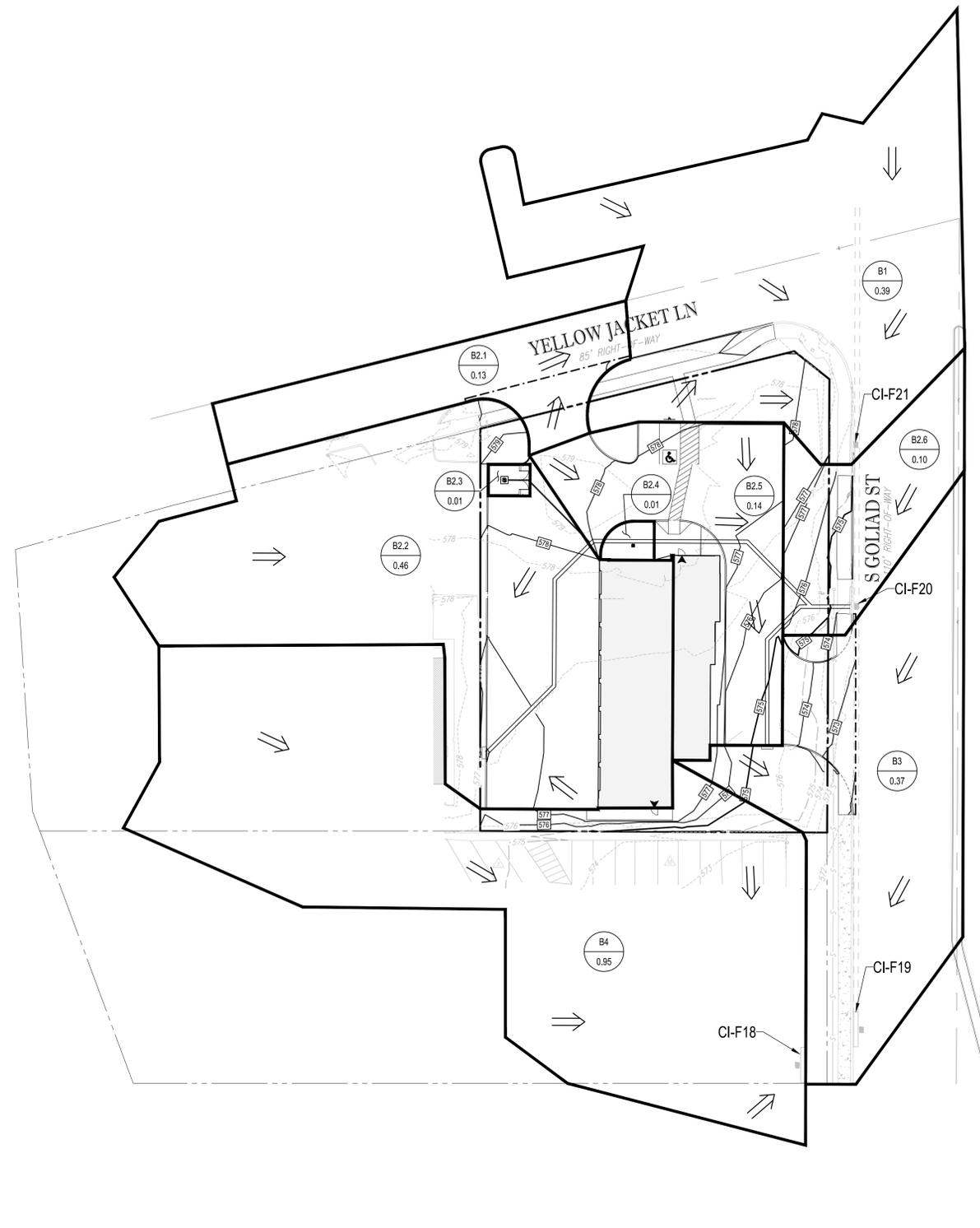
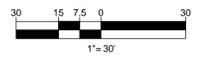
TOTAL EXISTING Q _{s, YR} TO TXDOT SYSTEM	15.13 CFS
TOTAL PROPOSED Q _{s, YR} TO TXDOT SYSTEM	15.01 CFS
DELTA Q _{s, YR} TO TXDOT SYSTEM	-0.12 CFS

100-YR DRAINAGE AREA TABLE

DRAINAGE AREA	AREA (AC)	RUNOFF COEFFICIENT "C"	C*A	TIME OF CONCENTRATION (MINUTES)	RAINFALL INTENSITY "I ₁₀₀ " (IN/HR)	PROPOSED FLOW Q ₁₀₀ (CFS)	COLLECTION POINT
B1	0.39	0.883	0.341	10	9.80	3.38	CI-F21
B2.1	0.13	0.900	0.117	10	9.80	1.15	CI-F21
B2.2	0.68	0.850	0.578	10	9.80	5.66	CI-F20
B2.3	0.01	0.850	0.009	10	9.80	0.09	CI-F20
B2.4	0.01	0.850	0.009	10	9.80	0.09	CI-F20
B2.5	0.14	0.850	0.119	10	9.80	1.17	CI-F20
B2.6	0.10	0.880	0.088	10	9.80	0.86	CI-F20
B3	0.32	0.884	0.282	10	9.80	2.76	CI-F19
B4	0.95	0.850	0.621	10	9.80	6.09	CI-F18

TOTAL EXISTING Q _{100, YR} TO TXDOT SYSTEM	21.40 CFS
TOTAL PROPOSED Q _{100, YR} TO TXDOT SYSTEM	21.25 CFS
DELTA Q _{100, YR} TO TXDOT SYSTEM	-0.15 CFS

*TXDOT PLANS UTILIZE A RUNOFF COEFFICIENT OF 0.9 FOR PAVEMENT AREAS WITHIN THE TXDOT RIGHT-OF-WAY. ALL PRIVATE DEVELOPMENT IS CALCULATED USING A COEFFICIENT BY USE - AN INDUSTRIAL USE WITH A COEFFICIENT VALUE OF 0.85. BECAUSE THE PAVEMENT VALUES WITHIN THE TXDOT ROW ARE NEGLIGIBLY IMPACTED AND THE COEFFICIENT BY USE REMAINING, THE FLOW VALUES WERE MINIMALLY IMPACTED. A DECREASE IN DISCHARGE WILL BE INCURRED WITH THE RUNOFF CALCULATIONS. HENCE, THE EXISTING STORM SYSTEM WILL HAVE ADEQUATE CAPACITY FOR THE PROPOSED DEVELOPMENT IMPROVEMENTS INCLUDED IN THIS PLANSET.



STORM LINE A 100-YR HYDRAULIC CALCULATIONS

Storm Drainage Calculations																																												
System ID	Collection Point			Conduit Properties							Incremental Drainage Area				Accumulated CA	Upstream T _c	Design Storm Frequency	Storm Intensity	Runoff Q	Conduit Capacity Q _c	Partial Flow	Velocity V	Time in Conduit	Friction Slope S _f	Friction Head Loss	HGL		Headloss Calculations					Design HGL	T/C or Ground Elev.	HGL Depth below T/C	Comment								
	From (Ups Junction)	To (Dns Junction)	Pipe Length	No. of Barrels	Pipe Size Diameter	Box		Area	Wetted Perimeter P _w	Hydraulic Radius	Manning's "n"	Flowline Elevation														Inlet ID	Area	Runoff Coeff. C	Incremental C*A	Upstream	Downstream	Slope					Ac	Upstream	Downstream	V ₁ ² /2g	V ₂ ² /2g	Junction Type	Coeff. K _j	Headloss H _L
	Sta	Sta	ft		in	ft	ft	ft ²	ft	ft		Upstream	Downstream	Slope													Ac			min.	yr	in/hr					cfs	cfs		ft/s	min.	ft/ft	ft	ft
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42			
A9	2+31.59	1+90.86	40.73	1	18	N/A	N/A	RCP	1.77	4.712	0.38	0.013	572.46	571.85	0.0150	A9	0.88	0.85	0.58	0.58	10.0	100	9.80	5.67	12.86	Yes	3.21	0.0	0.0029	0.12	573.47	573.35	N/A	3.21	Inlet	1.25	0.10	573.47	575.96	2.49				
A8	1+90.86	1+45.35	45.51	1	18	N/A	N/A	RCP	1.77	4.712	0.38	0.013	571.85	571.15	0.0152	N/A	0	0	0.00	0.58	10.0	100	9.80	5.67	12.93	Yes	3.21	0.2	0.0029	0.13	572.79	572.66	3.21	3.21	45 BEND	0.37	1.19	573.35	577.51	4.16	Design HGL = top of pipe			
A7	1+45.35	1+23.45	21.9	1	18	N/A	N/A	RCP	1.77	4.712	0.38	0.013	571.15	570.83	0.0151	N/A	0	0	0.00	0.58	10.2	100	9.77	5.67	12.89	Yes	3.21	0.1	0.0029	0.06	572.39	572.33	3.21	3.21	45 BEND	0.37	1.19	572.66	577.70	5.04	Design HGL = top of pipe			
A6	1+23.45	1+21.93	1.52	1	18	N/A	N/A	RCP	1.77	4.712	0.38	0.013	570.83	570.81	0.0132	N/A	0.01	0.85	0.01	0.59	10.3	100	9.75	5.76	12.05	Yes	3.26	0.0	0.0030	0.00	572.31	572.31	3.21	3.26	45 WYE	0.50	1.63	572.33	578.07	5.74	Design HGL = top of pipe			
A5	1+21.93	1+04.79	17.14	1	18	N/A	N/A	RCP	1.77	4.712	0.38	0.013	570.81	570.55	0.0152	N/A	0	0	0.00	0.59	10.3	100	9.75	5.76	12.94	Yes	3.26	0.1	0.0030	0.05	572.10	572.05	3.26	3.26	45 BEND	0.37	1.21	572.31	577.99	5.68	Design HGL = top of pipe			
A4	1+04.79	0+55.77	49.02	1	18	N/A	N/A	RCP	1.77	4.712	0.38	0.013	570.55	569.81	0.0151	N/A	0.01	0.85	0.01	0.60	10.4	100	9.74	5.85	12.91	Yes	3.31	0.2	0.0031	0.15	571.46	571.31	3.26	3.31	45 WYE	0.50	1.66	572.05	577.88	5.83	Design HGL = top of pipe			
A3	0+55.77	0+16.74	39.03	1	18	N/A	N/A	RCP	1.77	4.712	0.38	0.013	569.81	569.22	0.0151	N/A	0	0	0.00	0.60	10.6	100	9.70	5.85	12.92	Yes	3.31	0.2	0.0031	0.12	570.84	570.72	3.31	3.31	45 BEND	0.37	1.22	571.31	577.03	5.72	Design HGL = top of pipe			
A2	0+16.74	0+00.00	16.74	1	18	N/A	N/A	RCP	1.77	4.712	0.38	0.013	569.22	569.12	0.0060	N/A	0	0	0.00	0.60	10.8	100	9.67	7.02	8.12	Yes	3.97	0.1	0.0045	0.07	570.14	570.07	3.31	3.97	45 WYE	0.50	1.99	570.72	575.49	4.77	Design HGL = top of pipe			

STORM LINE B 100-YR HYDRAULIC CALCULATIONS

Storm Drainage Calculations																																												
System ID	Collection Point			Conduit Properties							Incremental Drainage Area				Accumulated CA	Upstream T _c	Design Storm Frequency	Storm Intensity	Runoff Q	Conduit Capacity Q _c	Partial Flow	Velocity V	Time in Conduit	Friction Slope S _f	Friction Head Loss	HGL		Headloss Calculations					Design HGL	T/C or Ground Elev.	HGL Depth below T/C	Comment								
	From (Ups Junction)	To (Dns Junction)	Pipe Length	No. of Barrels	Pipe Size Diameter	Box		Area	Wetted Perimeter P _w	Hydraulic Radius	Manning's "n"	Flowline Elevation														Inlet ID	Area	Runoff Coeff. C	Incremental C*A	Upstream	Downstream	Slope					Ac	Upstream	Downstream	V ₁ ² /2g	V ₂ ² /2g	Junction Type	Coeff. K _j	Headloss H _L
	Sta	Sta	ft		in	ft	ft	ft ²	ft	ft		Upstream	Downstream	Slope													Ac			min.	yr	in/hr					cfs	cfs		ft/s	min.	ft/ft	ft	ft
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42			
A10	0+69.51	0+24.73	44.78	1	18	N/A	N/A	RCP	1.77	4.712	0.38	0.013	569.85	569.35	0.0112	A10	0.14	0.85	0.12	0.12	10.0	100	9.80	1.17	11.10	Yes	0.66	0.0	0.0001	0.01	570.86	570.85	N/A	0.66	Inlet	1.25	0.10	570.95	574.69	3.74				
A9	0+24.73	0+04.73	20	1	18	N/A	N/A	RCP	1.77	4.712	0.38	0.013	569.35	569.25	0.0050	N/A	0	0	0.00	0.12	10.0	100	9.80	1.17	7.43	Yes	0.66	0.5	0.0001	0.00	570.75	570.75	0.66	0.66	45 Bend	0.37	0.24	570.85	576.00	5.15	HGL = top of pipe			
A8	0+04.73	0+00.00	4.73	1	18	N/A	N/A	RCP	1.77	4.712	0.38	0.013	569.25	569.22	0.0063	N/A	0	0	0.00	0.12	10.5	100	9.72	1.17	8.37	Yes	0.66	0.1	0.0001	0.00	570.72	570.72	0.66	0.66	45 Bend	0.37	0.24	570.75	575.74	4.99	HGL = top of pipe			

INLET SIZING CALCULATIONS

$$L = \frac{Q}{2.3y^{1.5}} - 1.8W$$

Equation 3.18

where:
 Q = total flow reaching inlet (cfs)
 y = depth of flow (ft)
 L = length of curb inlet opening (ft)
 W = gutter depression width (ft)
 standard inlets W = 2.0 ft, recessed inlets W = 3.0 ft

Inlet Sizing Calculations					
Inlet ID	Q (flow reaching inlet)	y (depth of flow)	W (gutter depression)	L (curb inlet opening)	Remarks
1	2	3	4	5	6
A9	5.67	0.5	2	3.37	5' inlet selected
A12	1.17	0.5	2	-2.16	5' inlet selected

BOHLER ENGINEERING

CIVIL AND CONSULTING ENGINEERING ARCHITECTURE
 LAND SURVEYING DESIGN PERMITTING SERVICES TRANSPORTATION SERVICES
 SUSTAINABLE DESIGN PERMITTING SERVICES TRANSPORTATION SERVICES

CHARLOTTE, NC
 ATLANTA, GA
 ALBANY, NY
 ALBUQUERQUE, NM
 ANCHORAGE, AK
 ARIZONA, AZ
 ARKANSAS, AR
 CALIFORNIA, CA
 COLORADO, CO
 CONNECTICUT, CT
 DELAWARE, DE
 FLORIDA, FL
 GEORGIA, GA
 ILLINOIS, IL
 INDIANA, IN
 IOWA, IA
 KANSAS, KS
 KENTUCKY, KY
 LOUISIANA, LA
 MARYLAND, MD
 MASSACHUSETTS, MA
 MICHIGAN, MI
 MINNESOTA, MN
 MISSISSIPPI, MS
 MISSOURI, MO
 MONTANA, MT
 NEBRASKA, NE
 NEVADA, NV
 NEW HAMPSHIRE, NH
 NEW JERSEY, NJ
 NEW MEXICO, NM
 NEW YORK, NY
 NORTH CAROLINA, NC
 NORTH DAKOTA, ND
 OHIO, OH
 OKLAHOMA, OK
 OREGON, OR
 PENNSYLVANIA, PA
 RHODE ISLAND, RI
 SOUTH CAROLINA, SC
 SOUTH DAKOTA, SD
 TENNESSEE, TN
 TEXAS, TX
 UTAH, UT
 VERMONT, VT
 VIRGINIA, VA
 WASHINGTON, WA
 WEST VIRGINIA, WV
 WISCONSIN, WI
 WYOMING, WY

REVISIONS

REV	DATE	COMMENT	BY
1	3/18/19	DOMESTIC WATER REVISION	MJH
2	4/19/19	TAS REVIEW COMMENTS	MJH

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ASBUILT RECORD DRAWING

PROJECT No.: TD180033
 DRAWN BY: MJH
 CHECKED BY: DOC
 DATE: 02/25/2019
 SCALE: 1"=10'
 CAD I.D.: HPO

CONSTRUCTION DOCUMENTS

FOR

brakes plus

LOCATION OF SITE
 1902 S. GOLIAD ST
 LOTS 1 & 2, BLOCK A, BILLY PEOPLES ADDITION NO. 1
 ROCKWALL, TX 75087
 ROCKWALL COUNTY

BOHLER ENGINEERING

6017 MAIN STREET
 FRISCO, TX 75034
 Phone: (469) 458-7300
 TX@BohlerEng.com

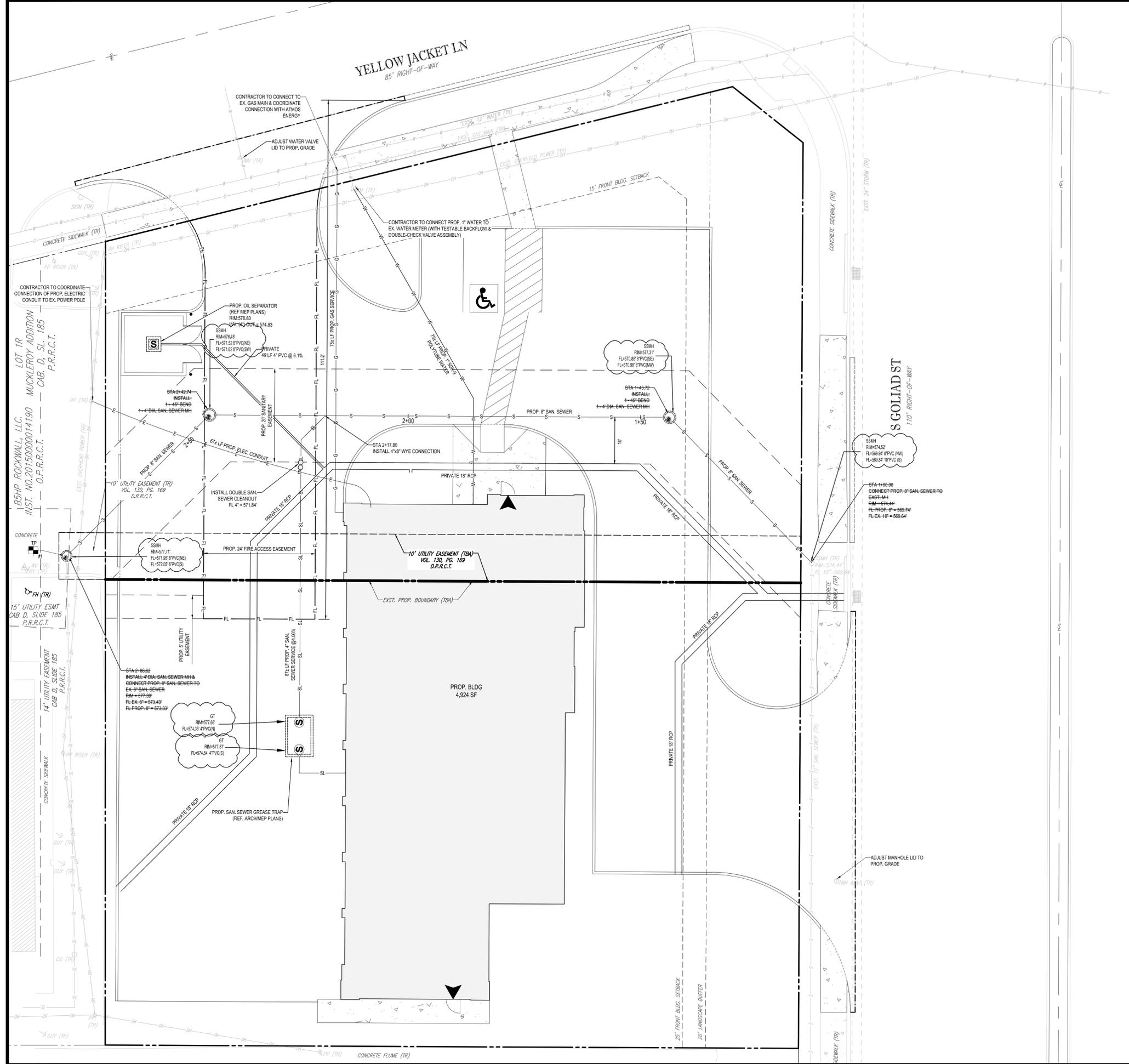
STATE OF TEXAS

DEAN O. CARDWELL
 115432
 LICENSED PROFESSIONAL ENGINEER
 1.16.20

SHEET TITLE:
STORM SEWER CALCULATIONS

SHEET NUMBER:
C-405

CASE NUMBER: SP2018-030



LEGEND

	PROP. SIDEWALK
	PROP. FIRE LANE
	PROPERTY BOUNDARY
	PROPERTY BOUNDARY TO BE REMOVED VIA PLAT
	BUILDING SETBACK
	PROP. EASEMENT
	STREET CENTERLINE
	EXST. WATER
	PROP. WATER
	PROP. WATER METER
	EXST. SANITARY MAIN
	EXST. SANITARY LATERAL
	PROP. SANITARY LATERAL
	PROP. SANITARY SEWER MANHOLE
	PROP. ELECTRIC CONDUIT
	EXST. GAS SERVICE
	PROP. GAS SERVICE
	EXST. FIRE HYDRANT
	EXST. POWER POLE
	TO REMAIN
	TO BE REMOVED
	TO BE ABANDONED
	TEST PIT (SEE NOTES BELOW)

BOHLER ENGINEERING

STATE OF TEXAS
 DEAN O. CARDWELL
 115432
 LICENSED PROFESSIONAL ENGINEER
 1.16.20

PROJECT: CONSTRUCTION DOCUMENTS
 FOR
brakes plus
 LOCATION OF SITE
 1902 S. GOLIAD ST
 LOTS 1 & 2, BLOCK A, BILLY PEOPLES ADDITION NO. 1
 ROCKWALL, TX 75087
 ROCKWALL COUNTY

REVISIONS

REV	DATE	COMMENT	BY
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2	4/19/19	TAS REVIEW COMMENTS	MJH

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PROJECT No.: TD180033
 DRAWN BY: MJH
 CHECKED BY: DOC
 DATE: 02/25/2019
 SCALE: 1" = 10'
 CAD I.D.: UPD

BOHLER ENGINEERING

6017 MAIN STREET
 FRISCO, TX 75034
 Phone: (469) 458-7300
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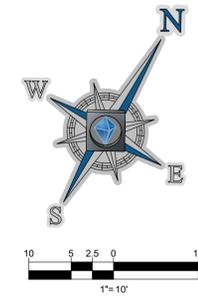
UTILITY NOTES:

- SEE SHEET C-102 FOR GENERAL UTILITY NOTES.
- CONTRACTOR TO OBTAIN ALL NECESSARY PERMITS AND COORDINATE WITH ADJACENT USERS AND APPROPRIATE JURISDICTIONS FOR ANY ANTICIPATED SERVICE DISRUPTION.
- CONTRACTOR TO PROVIDE NECESSARY FITTINGS TO CONNECT TO BUILDING SERVICE. SEE ARCHITECTURAL AND M.E.P. PLANS FOR FURTHER DETAIL.
- THE CONTRACTOR WILL ENSURE THAT FIRE HYDRANTS ARE ACCESSIBLE TO FIRE TRUCKS AT ALL TIMES.
- THE CONTRACTOR SHALL SEQUENCE HIS CONSTRUCTION SUCH THAT NO MORE THAN ONE FIRE HYDRANT IS OUT OF SERVICE AT ANY GIVEN TIME.
- EXISTING UTILITIES ARE SHOWN USING REFERENCED ALTA SURVEY DATA, RECORD PLANS, AND LIMITED FIELD VERIFICATION.
- CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO THE START OF CONSTRUCTION.
- CONTRACTOR IS RESPONSIBLE FOR COORDINATING UTILITY RELOCATIONS WHERE NECESSARY AND PROTECTING EXISTING UTILITIES (SHOWN AND UNSHOWN).
- CONTRACTOR SHALL REPLACE, AT THEIR OWN EXPENSE, ANY EXISTING UTILITIES DAMAGED.
- CONTRACTOR TO LOCATE AND DIP ALL UTILITIES AT TEST PIT LOCATIONS. CONTRACTOR TO NOTIFY ENGINEER IN WRITING SHOULD THERE BE ANY CONFLICTS OR DISCREPANCIES.
- ALL RESPONSIBILITY FOR ADEQUACY OF DESIGN REMAINS WITH THE DESIGN ENGINEER. THE CITY OF ROCKWALL, IN REVIEWING AND RELEASING PLANS FOR CONSTRUCTION, ASSUMES NO RESPONSIBILITY FOR ADEQUACY OR ACCURACY OF DESIGN.
- ALL MANHOLES INCLUDING EXISTING MANHOLES AT CONNECTIONS TO BE RAVEN LINED OR APPROVED EQUAL AND SEALED IF WITHIN A PAVED AREA.
- ALL WATER SERVICES ARE TO BE INSTALLED WITH TESTABLE BACKFLOW AND A DOUBLE CHECK VALVE ASSEMBLY.

UTILITY CONTACTS

ONCOR ELECTRIC
 PHONE: (862) 222-8045

ATMOS ENERGY
 TAYLOR JONES
 PHONE: (214) 428-7010



BOHLER ENGINEERING

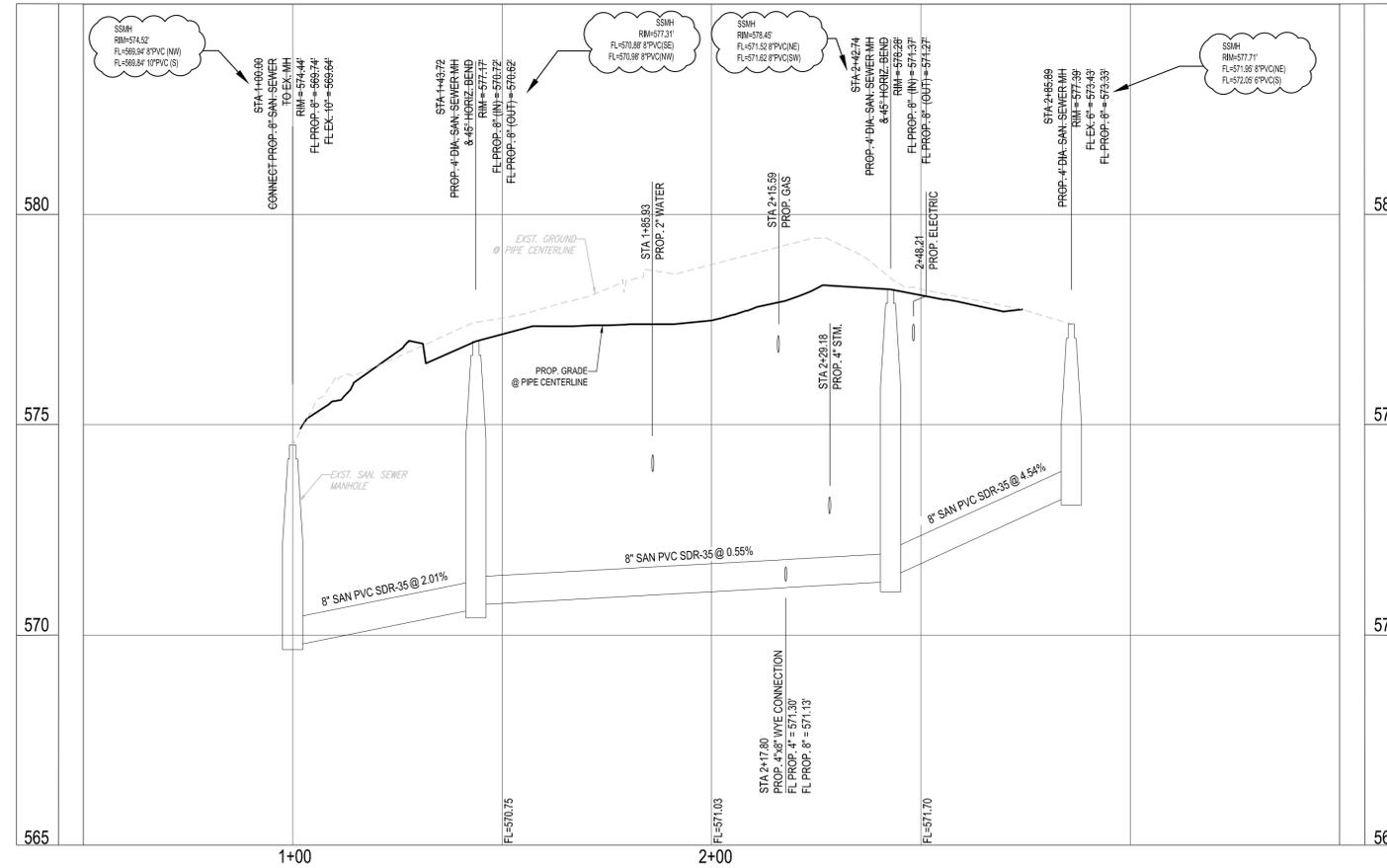
6017 MAIN STREET
 FRISCO, TX 75034
 Phone: (469) 458-7300
 TX@BohlerEng.com

SHEET TITLE:
UTILITY PLAN

SHEET NUMBER:
C-501

CASE NUMBER: SP2018-030

SANITARY SEWER PROFILE



BOHLER ENGINEERING

STATE OF TEXAS
 DEAN O. CARDWELL
 115432
 LICENSED PROFESSIONAL ENGINEER
 1/16/20

THE INFORMATION CONTAINED ON THIS PLAN IS FOR INFORMATION ONLY AND DOES NOT CONSTITUTE AN OFFER OF ANY SERVICE. THE INFORMATION IS FOR INFORMATION ONLY AND DOES NOT CONSTITUTE AN OFFER OF ANY SERVICE.

REVISIONS

REV	DATE	COMMENT	BY
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2	4/19/19	TAS REVIEW COMMENTS	MJH

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ASBUILT RECORD DRAWING

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 DRAWN BY: MJH
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CONSTRUCTION DOCUMENTS

FOR

brakes plus

LOCATION OF SITE
 1902 S. GOLIAD ST
 LOTS 1 & 2, BLOCK A, BILLY
 PEOPLES ADDITION NO. 1
 ROCKWALL, TX 75087
 ROCKWALL COUNTY

BOHLER ENGINEERING

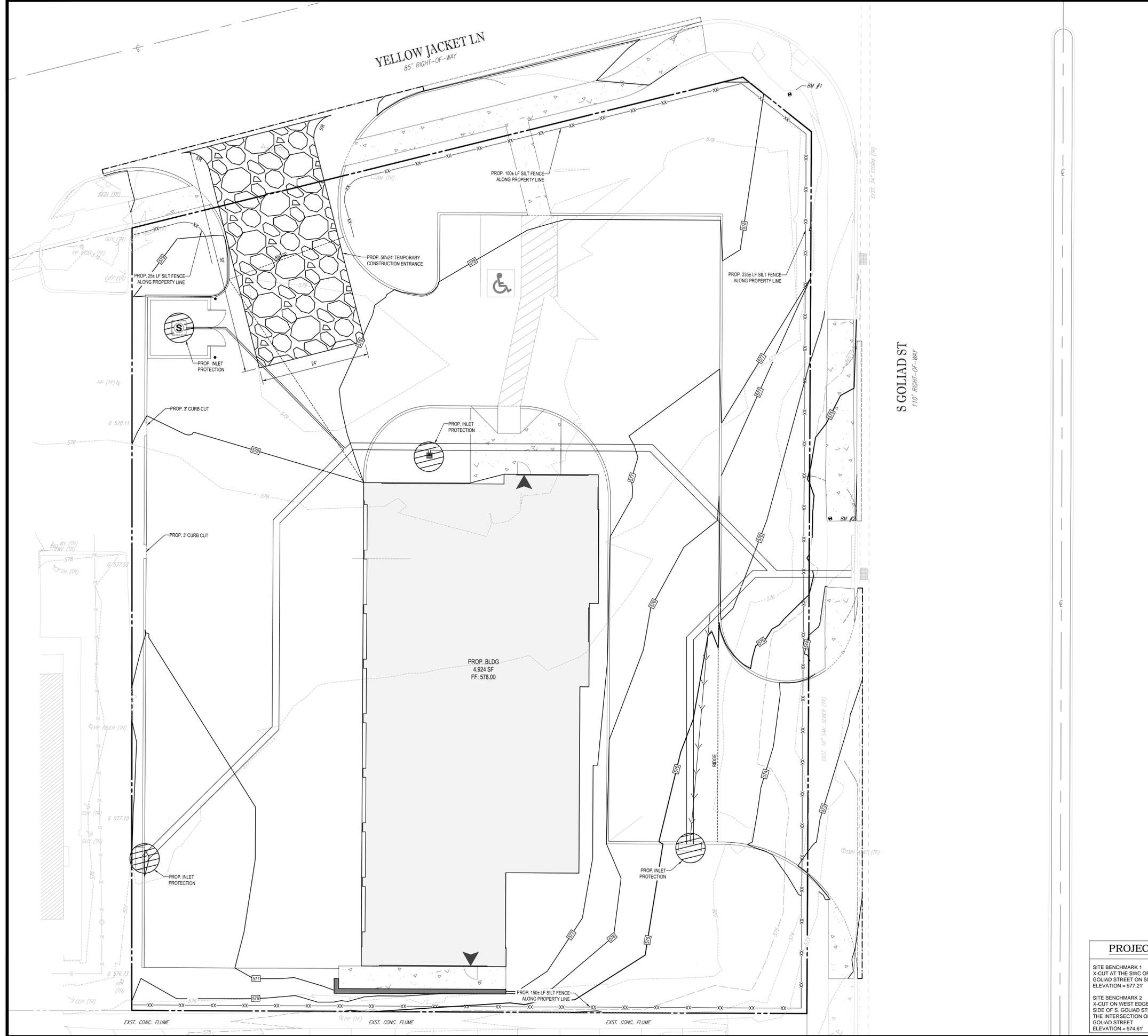
6017 MAIN STREET
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 Phone: (469) 458-7300
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STATE OF TEXAS
 DEAN O. CARDWELL
 115432
 LICENSED PROFESSIONAL ENGINEER
 1/16/20

SHEET TITLE:
SANITARY SEWER PROFILE

SHEET NUMBER:
C-502

CASE NUMBER: SP2018-030



LEGEND

PROPERTY LINE	---
PROPOSED CONTOUR	——— 701 ———
EXISTING CONTOUR	----- 701 -----
RIDGE	-----
PROP. INLET PROTECTION	
PROP. SILT FENCE	---XX---XX---XX---
TEMPORARY CONSTRUCTION ENTRANCE	

EROSION CONTROL NOTES:

- EROSION CONTROL DEVICES SHALL BE INSTALLED ON ALL PROJECTS PRIOR TO BEGINNING CONSTRUCTION AND SHALL BE MAINTAINED THROUGHOUT THE PROJECT IN A CONDITION ACCEPTABLE TO THE CITY.
- WIRE REINFORCEMENT SHALL BE USED ON ALL SILT FENCE USED FOR EROSION CONTROL.
- ASPHALT BAGS SHALL BE PLACED AT CONSTRUCTION ENTRANCES TO PREVENT CURB DAMAGE FOR CONSTRUCTION ENTRANCES.
- NO EQUIPMENT SHALL BE CLEANED ON-SITE, OR OTHER LIQUIDS DEPOSITED AND ALLOWED TO FLOW OVERLAND OR SUBTERRANEAN WITHIN THE LIMITS OF THE CRITICAL ROOT ZONE OF TREES THAT REMAIN ON SITE. THIS INCLUDES PAINT, OIL, SOLVENTS, ASPHALT, CONCRETE, CONCRETE EQUIPMENT WASH WATER, MORTAR OF SIMILAR MATERIALS.
- SEE GENERAL NOTES ON SHEET C-102 FOR MORE DETAILS.
- ALL RESPONSIBILITY FOR ADEQUACY OF DESIGN REMAINS WITH THE DESIGN ENGINEER. THE CITY OF ROCKWALL, IN REVIEWING AND RELEASING PLANS FOR CONSTRUCTION, ASSUMES NO RESPONSIBILITY FOR ADEQUACY OR ACCURACY OF DESIGN.

BMP MAINTENANCE SCHEDULE:

TEMPORARY STONE CONSTRUCTION ENTRANCE/EXIST:
 INSPECTIONS SHALL BE MADE WEEKLY AND AFTER RAIN STORM EVENTS TO ENSURE THAT THE FACILITY IS FUNCTIONING PROPERLY. AGGREGATE PAD SHALL BE WASHED ON OR REPLACED WHEN SEDIMENT OR MUD HAS CLOGGED THE VOID SPACES BETWEEN THE STONES 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.

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

EROSION CONTROL SCHEDULE AND PHASING:

- THE PROJECT SHALL GENERALLY CONFORM TO THE FOLLOWING
- PHASE A - GRADING**
- CONSTRUCT TEMPORARY CONSTRUCTION ENTRANCE AND FILTER SOCK ACCORDING TO THE APPROXIMATE LOCATION AND SHOWN ON GRADING AND EROSION CONTROL PLAN NOTES AND DETAIL SHEET.
 - BEGIN CLEARING AND GRADING OF SITE.
- PHASE B - UTILITIES**
- KEEP ALL STORM WATER POLLUTION PREVENTION MEASURES IN PLACE.
 - INSTALL STORM DRAINS, SANITARY SEWER, AND WATER AS SPECIFIED ON PLAN SHEETS.
- PHASE C - PAVING**
- KEEP ALL STORM WATER POLLUTION PREVENTION MEASURES IN PLACE. REMOVE AS NEEDED TO PAVE.
 - STABILIZE SUBGRADE.
 - PAVE STREETS AND SIDEWALKS AS SPECIFIED ON PLAN SHEETS.
 - RE-INSTALL ANY STORM WATER POLLUTION PREVENTION MEASURED REMOVED FOR PAVING OPERATIONS.
- PHASE D - LANDSCAPING AND SOIL STABILIZATION**
- REVEGETATE LOT AND PARKWAYS.
 - LANDSCAPE CONTRACTOR SHALL REVEGETATE ALL AREAS RESERVED FOR LANDSCAPE VEGETATIVE COVERS.
 - REMOVE EROSION CONTROL DEVICES WHEN MINIMUM 70% GROUND COVER IS ESTABLISHED. VEGETATION MUST BE ESTABLISHED BEFORE STRUCTURAL CONTROLS REMOVED.

EROSION CONTROL DATA TABLE

TOTAL SITE AREA	0.653 AC (28,452 SF)
TOTAL DISTURBED AREA	0.653 AC (28,452 SF)

PROJECT BENCHMARKS

SITE BENCHMARK 1
 X-CUT AT THE SWC OF EAST YELLOW JACKET LANE & SOUTH GOLIAD STREET ON SIDEWALK RAMP
 ELEVATION = 577.21'

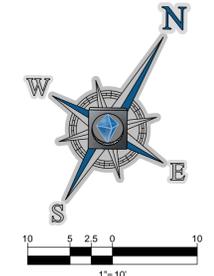
SITE BENCHMARK 2
 X-CUT ON WEST EDGE OF SIDEWALK LOCATED ON THE WEST SIDE OF S. GOLIAD STREET APPROXIMATELY 95' SOUTH OF THE INTERSECTION OF YELLOW JACKET LANE & SOUTH GOLIAD STREET
 ELEVATION = 574.61'

SURVEYOR:
 BOHLER ENGINEERING
 6017 MAIN STREET
 FRISCO, TX 76107
 PHONE: (469) 458-7300
 CONTACT: BILLY LOSSOON
 DATE: JULY 2018

APPLICANT:
 BRAKES PLUS, LLC
 1800 SOUTHPARK DR
 BIRMINGHAM, AL 35244
 PHONE: (205) 397-1164
 CONTACT: JOHN DAVIS

OWNER:
 DYNAMIC DEVELOPMENT
 1725 21ST ST
 SANTA MONICA, CA 90404
 PHONE: (310) 682-5167
 CONTACT: DANIEL J. PORTER

ENGINEER:
 BOHLER ENGINEERING
 6017 MAIN STREET
 FRISCO, TX 75034
 PHONE: (469) 458-7300
 CONTACT: MATTHIAS HAUBERT



BOHLER ENGINEERING

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 SAN ANTONIO, TX
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REVISIONS

REV	DATE	COMMENT	BY
1	3/18/19	DOMESTIC WATER REVISION	MJH
2	4/19/19	TAS REVIEW COMMENTS	MJH

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ASBUILT RECORD DRAWING

PROJECT No.: TD180033
 DRAWN BY: MJH
 CHECKED BY: DOC
 DATE: 02/25/2019
 SCALE: 1"=10'
 CAD I.D.: EPO

CONSTRUCTION DOCUMENTS

FOR

brakes plus

LOCATION OF SITE
 1902 S. GOLIAD ST
 LOTS 1 & 2, BLOCK A, BILLY PEOPLES ADDITION NO. 1
 ROCKWALL, TX 75087
 ROCKWALL COUNTY

BOHLER ENGINEERING

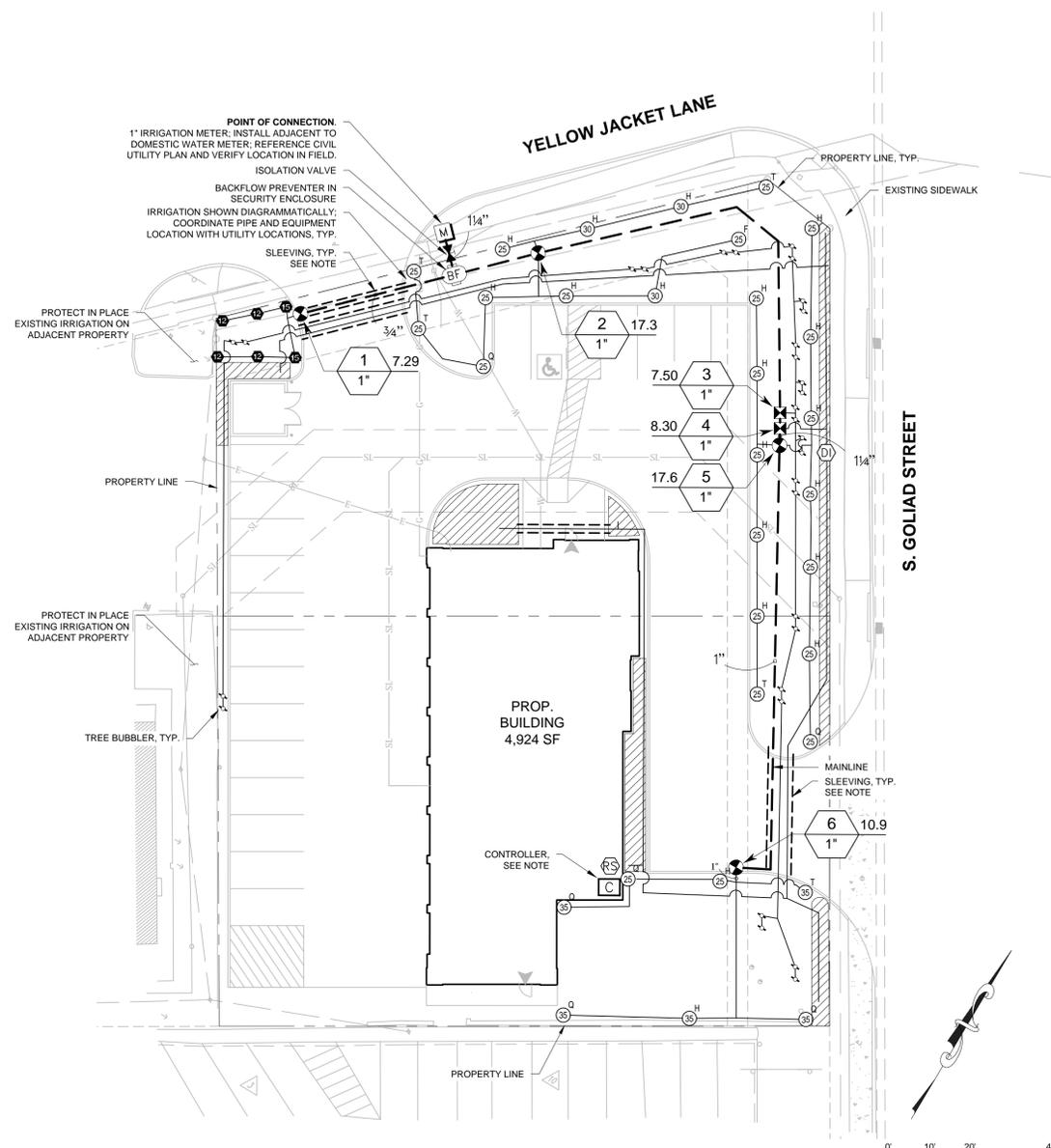
6017 MAIN STREET
 FRISCO, TX 75034
 Phone: (469) 458-7300
 TX@BohlerEng.com

STATE OF TEXAS
 DEAN O. CARDWELL
 115432
 LICENSED PROFESSIONAL ENGINEER
 1.16.20

EROSION & SEDIMENT CONTROL PLAN

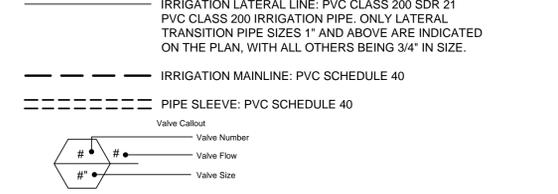
SHEET NUMBER:
C-601

CASE NUMBER: SP2018-030



IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	PSI
108E-VAN 104E-VAN	RAIN BIRD 1806-U ADJ TURF SPRAY 6.0" POP-UP SPRINKLER WITH CO-MOLDED WIPER SEAL. SIDE AND BOTTOM INLET. 1/2" NPT FEMALE THREADED INLET.	30
1401 1402 1404 1408	RAIN BIRD 1806-1400 FLOOD FLOOD BUBBLER 6.0" POPUP	30
25	RAIN BIRD 5006-R-SS-PC-FC-MPR TURF ROTOR, 6.0" POP-UP, STAINLESS STEEL RISER, MATCHED PRECIPITATION ROTOR (MPR NOZZLE), ARC AND RADIUS AS PER SYMBOL. 25 FT=RED, 30 FT=GREEN, 35FT=BEIGE. PRESSURE REGULATING.	25
30	RAIN BIRD 5006-R-SS-PC-FC-MPR TURF ROTOR, 6.0" POP-UP, STAINLESS STEEL RISER, MATCHED PRECIPITATION ROTOR (MPR NOZZLE), ARC AND RADIUS AS PER SYMBOL. 25 FT=RED, 30 FT=GREEN, 35FT=BEIGE. PRESSURE REGULATING.	25
35	RAIN BIRD 5006-R-SS-PC-FC-MPR TURF ROTOR, 6.0" POP-UP, STAINLESS STEEL RISER, MATCHED PRECIPITATION ROTOR (MPR NOZZLE), ARC AND RADIUS AS PER SYMBOL. 25 FT=RED, 30 FT=GREEN, 35FT=BEIGE. PRESSURE REGULATING.	25
4	RAIN BIRD XCZ-100-PRB-COM WIDE FLOW DRIP CONTROL KIT FOR COMMERCIAL APPLICATIONS. 1" BALL VALVE WITH 1" PESB VALVE AND 1" PRESSURE REGULATING 40PSI QUICK-CHECK BASKET FILTER. 0.3GPM TO 20GPM.	
5	RAIN BIRD MDCFCAP DRIPLINE FLUSH VALVE CAP IN COMPRESSION FITTING COUPLER.	
6	RAIN BIRD ARV050 1/2" AIR RELIEF VALVE, MADE OF QUALITY RUST-PROOF MATERIALS, WITH A 6.0" DRIP VALVE BOX (SEB 7XB EMITTER BOX). USE WITH INSTALLATION BELOW SOIL. THE VALVE WILL ALLOW AIR TO ESCAPE THE PIPELINE, THUS PREVENTING WATER HAMMER OR BLOCKAGE.	
7	RAIN BIRD OPERIND DRIP SYSTEM OPERATION INDICATOR. STEM RISES 6" FOR CLEAR VISIBILITY WHEN DRIP SYSTEM IS CHARGED TO A MINIMUM OF 20PSI. INCLUDES 16" OF 1/4" DISTRIBUTION TUBING WITH CONNECTION FITTING PRE-INSTALLED.	
8	AREA TO RECEIVE DRIPLINE RAIN BIRD XFS-09-18 XFS SUB-SURFACE PRESSURE COMPENSATING DRIPLINE W/COPPER SHIELD TECHNOLOGY. 0.9 GPH EMITTERS AT 18" O.C. LATERALS SPACED AT 18" APART, WITH EMITTERS OFFSET FOR TRIANGULAR PATTERN. UV RESISTANT. SPECIFY XF INSERT FITTINGS.	
9	RAIN BIRD PEB 1", 1-1/2", 2" PLASTIC INDUSTRIAL VALVES. LOW FLOW OPERATING CAPABILITY, GLOBE CONFIGURATION.	
10	NIBCO BALL VALVE BRASS, TWO-PIECE, FULL PORT, NPT X NPT, T-FP-600A	
11	FEBCO 765 1" PRESSURE VACUUM BREAKER, BRASS WITH BALL VALVE SOV. INSTALL 12" (305MM) ABOVE HIGHEST DOWNSTREAM OUTLET AND THE HIGHEST POINT IN THE DOWNSTREAM PIPING. WITH GUARDSHACK (OR EQUAL) ENCLOSURE. POWDER-COATED BLACK.	
12	RAIN BIRD ESP-12LX BASIC 12 STATION COMMERCIAL CONTROLLER WITH LXMM METAL WALL-MOUNT CASE.	
13	RAIN BIRD WR2-RFC WIRELESS RAIN AND FREEZE SENSOR COMBO, INCLUDES 1 RECEIVER AND 1 RAIN/FREEZE SENSOR TRANSMITTER.	
14	IRRIGATION LATERAL LINE: PVC CLASS 200 SDR 21 PVC CLASS 200 IRRIGATION PIPE. ONLY LATERAL TRANSITION PIPE SIZES 1" AND ABOVE ARE INDICATED ON THE PLAN, WITH ALL OTHERS BEING 3/4" IN SIZE.	
15	IRRIGATION MAINLINE: PVC SCHEDULE 40	
16	PIPE SLEEVE: PVC SCHEDULE 40	



VALVE SCHEDULE

NUMBER	MODEL	SIZE	TYPE	GPM	PSI @ POC	PRECIP
1	RAIN BIRD PEB	1"	TURF SPRAY	7.29	37.78	1.18 in/h
2	RAIN BIRD PEB	1"	TURF ROTOR	17.29	34.96	0.72 in/h
3	RAIN BIRD XCZ-100-PRB-COM	1"	BUBBLER	7.50	40.57	1.06 in/h
4	RAIN BIRD XCZ-100-PRB-COM	1"	AREA FOR DRIPLINE	8.30	43.16	0.64 in/h
5	RAIN BIRD PEB	1"	TURF ROTOR	17.58	37.12	0.74 in/h
6	RAIN BIRD PEB	1"	TURF ROTOR	10.90	37.01	0.62 in/h

CRITICAL ANALYSIS

Generated: 2019-01-31 14:04

P.O.C. NUMBER: 01
Water Source Information:

FLOW AVAILABLE
Water Meter Size: 1"
Flow Available: 37.50 gpm

PRESSURE AVAILABLE
Static Pressure at POC: 65.00 psi
Elevation Change: 5.00 ft
Service Line Size: 1 1/2"
Length of Service Line: 20.00 ft
Pressure Available: 61.00 psi

DESIGN ANALYSIS
Maximum Station Flow: 17.58 gpm
Flow Available at POC: 37.50 gpm
Residual Flow Available: 19.92 gpm

Critical Station: 4
Design Pressure: 30.00 psi
Friction Loss: 2.06 psi
Fittings Loss: 0.21 psi
Elevation Loss: 0.00 psi
Loss through Valve: 6.18 psi
Pressure Req. at Critical Station: 38.44 psi
Loss for Fittings: 0.07 psi
Loss for Main Line: 0.66 psi
Loss for POC to Valve Elevation: 0.00 psi
Loss for Backflow: 3.46 psi
Loss for Water Meter: 0.53 psi
Critical Station Pressure at POC: 43.16 psi
Pressure Available: 61.00 psi
Residual Pressure Available: 17.84 psi

IRRIGATION DISCLAIMER

THIS DESIGN IS DIAGRAMMATIC. ALL PIPING, VALVES, AND OTHER EQUIPMENT SHOWN WITHIN PAVED AREAS OR OUT OF PROPERTY BOUNDARIES ARE FOR DESIGN CLARIFICATION ONLY, AND SHALL BE INSTALLED IN PLANTING AREAS WITHIN THE PROPERTY LINES OR LIMITS INDICATED ON PLAN. THE IRRIGATION CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL ABOVE-GRADE IRRIGATION EQUIPMENT WITH THE OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO INSTALLATION, OR IRRIGATION CONTRACTOR MAY BE REQUIRED TO MOVE SUCH ITEMS AT HIS OWN COST.

IRRIGATION CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL FINAL QUANTITIES PER DRAWINGS AND SPECIFICATIONS. ANY QUANTITIES PROVIDED ARE PROVIDED AS A CONVENIENCE TO THE CONTRACTOR ONLY AND SHALL NOT BE CONSIDERED ABSOLUTE.

CONTROLLER NOTE

LOCATE CONTROLLER AT LOCATION SHOWN ON PLAN. VERIFY LOCATION IN FIELD WITH OWNER'S REPRESENTATIVE.

120 VAC POWER TO CONTROLLER LOCATION IS NOT WITHIN THE IRRIGATION CONTRACTOR'S SCOPE OF WORK, AND SHALL BE PROVIDED BY OTHERS. HOOK-UP OF CONTROLLER TO 120V VAC SHALL BE PERFORMED BY THE IRRIGATION CONTRACTOR. IRRIGATION CONTRACTOR SHALL COORDINATE LOCATION OF WIRE SLEEVE PENETRATIONS THROUGH BUILDING WITH OWNER AND GENERAL CONTRACTOR. STATION RUN ORDER SHALL MATCH PLANS.

SLEEVING / WIRING NOTES:

IN ADDITION TO PROVIDING SLEEVES FOR ALL PIPING UNDER ROADWAYS AND WALKWAYS, THE IRRIGATION CONTRACTOR SHALL PROVIDE AND INSTALL SCH. 40 PVC SLEEVES FOR ALL CONTROLLER WIRES OCCURRING UNDER ALL ROADWAYS AND WALKWAYS. SLEEVES FOR CONTROLLER WIRES SHALL BE 2" DIA. AND CONTAIN NO MORE THAN 25 WIRES.

BOHLER ENGINEERING NC, PLLC

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REVISIONS

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PROJECT No.: TD180033
DRAWN BY: CMR
CHECKED BY: RM
DATE: 01/08/19
SCALE:
CAD I.D.:

PROP. SITE PLAN DOCUMENTS FOR

BRAKES PLUS

LOCATION OF SITE
SW CORNER OF S. GOLIAD ST AND YELLOW JACKET LN
LOTS 1 & 2, BLOCK A, BILLY PEOPLES ADDITION NO. 1
ROCKWALL, TX 75087
ROCKWALL COUNTY

BOHLER ENGINEERING

6017 MAIN STREET
FRISCO, TX 75034
Phone: (469) 458-7300
TX@BohlerEng.com

REGISTERED LANDSCAPE ARCHITECT
CHRISTOPHER M. ROSS
3358
02/01/19

SHEET TITLE:
LANDSCAPE IRRIGATION

SHEET NUMBER:
L-1.2

CASE NUMBER:

Texas 811
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NOTE:
THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON DESIGN DRAWINGS, RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE DESIGNER DOES NOT GUARANTEE THAT LOCATIONS SHOWN ARE EXACT. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES. AS SUCH, THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND UNCOVERING EXISTING UTILITIES IN THE VICINITY OF THE PROPOSED IMPROVEMENTS AND UTILITY CONNECTION POINTS PRIOR TO THE START OF CONSTRUCTION TO ASCERTAIN EXACT MATERIALS, LOCATIONS, ELEVATIONS, ETC. AND THEIR POTENTIAL CONFLICT WITH PROPOSED IMPROVEMENTS. GC SHALL CONSULT WITH CONSTRUCTION MANAGER AND ENGINEER AS APPROPRIATE BEFORE PROCEEDING WITH WORK.

EVERGREEN DESIGN GROUP

(800) 680-6630
15305 Dallas Pkwy., Ste 300
Addicks, TX 75001
www.EvergreenDesignGroup.com

IRRIGATION SPECIFICATIONS

GENERAL

- A. QUALIFICATIONS OF IRRIGATION CONTRACTOR
 1. ALL WORK SHOWN ON THESE PLANS SHALL BE PERFORMED BY A SINGLE IRRIGATION CONTRACTING FIRM SPECIALIZING IN IRRIGATION SYSTEMS. SEE THE IRRIGATION PLAN FOR SPECIFIC EQUIPMENT AND SYSTEM LAYOUT.
 2. THE IRRIGATION CONTRACTOR MUST HAVE ON ITS STAFF A TEXAS LICENSED IRRIGATOR, AS REGULATED BY THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY. A LICENSED IRRIGATOR OR LICENSED IRRIGATION INSTALLER SHALL BE PRESENT AT THE PROJECT SITE AT ALL TIMES AS WORK IS IN PROGRESS. THE OWNER MAY DEMAND THAT WORK STOP UNTIL THE CONTRACTOR PROVIDES FOR A LICENSED IRRIGATOR OR LICENSED IRRIGATION INSTALLER TO BE PRESENT AT THE PROJECT SITE AND SUPERVISING ALL IRRIGATION WORK. A LIST OF SUCCESSFULLY COMPLETED PROJECTS OF THIS TYPE, SIZE AND NATURE MAY BE REQUESTED BY THE OWNER FOR FURTHER QUALIFICATION MEASURES.
- B. SCOPE OF WORK
 1. WORK COVERED BY THESE SECTIONS INCLUDES THE FURNISHING AND PAYMENT OF ALL MATERIALS, LABOR, SERVICES, EQUIPMENT, LICENSES, TAXES, FEES, AND ANY OTHER ITEMS THAT ARE NECESSARY FOR THE EXECUTION, INSTALLATION AND COMPLETION OF ALL WORK SPECIFIED HEREIN AND/OR SHOWN ON THE IRRIGATION PLANS, NOTES, AND DETAILS.
 2. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE LAWS, CODES AND REGULATIONS REQUIRED BY AUTHORITIES HAVING JURISDICTION OVER SUCH WORK, INCLUDING ALL INSPECTIONS AND PERMITS REQUIRED BY FEDERAL, STATE AND LOCAL AUTHORITIES IN SUPPLY, TRANSPORTATION AND INSTALLATION OF MATERIALS. IN CASE OF CONFLICT BETWEEN THESE PLANS AND LOCAL AND/OR STATE CODES, CODES SHALL PREVAIL.
 3. THE INTENT OF THE IRRIGATION SYSTEM IS TO PROVIDE 100% COVERAGE OF ALL LANDSCAPE AREAS. THE IRRIGATION DIAGRAMMATIC, COORDINATE IRRIGATION INSTALLATION WITH UTILITY INSTALLATIONS. ACTUAL LOCATION OF CONTROLLER, BACKFLOW PREVENTER, PIPING, VALVES, SPRAY HEADS, DRIP IRRIGATION, AND RELATED EQUIPMENT MAY NEED TO BE ADJUSTED BASED ON ACTUAL SITE CONDITIONS.
 4. FOR CLARITY PURPOSES, SOME IRRIGATION LINES AND EQUIPMENT ARE SHOWN IN HARDSCAPE AREAS WITHOUT ACCESS SLEEVES. THESE LINES SHALL BE INSTALLED IN A COMMON TRENCH OR AT THE BACK OF CURB IN LANDSCAPE AREAS. MINOR FIELD ADJUSTMENTS SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER.

PRODUCTS

- A. ALL MATERIALS SHALL BE NEW AND WITHOUT FLAWS OR DEFECTS OF ANY TYPE AND SHALL BE THE BEST OF THEIR CLASS AND KIND. ALL MATERIALS SHALL HAVE A MINIMUM GUARANTEE OF ONE YEAR AGAINST MATERIAL DEFECTS OR DEFECTIVE WORKMANSHIP. ALL MATERIALS SHALL BE OF THE BRANDS AND TYPES NOTED ON THE DRAWINGS OR AS SPECIFIED HEREIN, OR APPROVED EQUIVALENT. THE CONTRACTOR MUST OBTAIN APPROVAL FROM THE IRRIGATION DESIGNER FOR AN APPROVED EQUIVALENT BEFORE INSTALLING SUCH MATERIALS IN THE FIELD. OR THE CONTRACTOR MAY BE REQUIRED TO REPLACE SUCH MATERIALS AT HIS OWN COST.
- B. BACKFLOW PREVENTION DEVICES SHALL BE OF THE SIZE AND TYPE INDICATED ON THE DRAWINGS. INSTALL BACKFLOW PREVENTION UNITS IN ACCORDANCE WITH IRRIGATION CONSTRUCTION DETAILS AND ALL APPLICABLE STATE AND LOCAL CODES AND ORDINANCES.
- C. PIPING
 1. PRESSURE SUPPLY LINES, DOWNSTREAM OF THE POINT-OF-CONNECTION:
 - a. SCHEDULE 40 PVC FOR ALL PIPE 1-1/2" OR LESS
 - b. CLASS 315 FOR ALL PIPE 2" TO 2-1/2"
 - c. CLASS 200 PVC, GASKETED, FOR ALL PIPE 3" AND LARGER
 2. SLEEVING AND NON-PRESSURE LATERAL LINES (DOWNSTREAM FROM VALVES): SCHEDULE 40 PVC
 3. FITTINGS: SCH. 40 PVC, EXCEPT AS NOTED OTHERWISE.
- D. VALVES AND DRIP VALVE ASSEMBLIES: TYPE AND SIZE AS NOTED ON PLANS. EACH VALVE SHALL BEAR A PREMANUFACTURED, NUMBERED WATERPOOF TAG BEARING A NUMBER CORRESPONDING TO ITS VALVE SEQUENCE OF OPERATION ON THE CONTROLLER. THE OPERATION SEQUENCE SHALL MATCH THAT AS SHOWN ON THE PLANS.
- E. QUICK COUPLER BALL VALVES, AND GATE VALVES: TYPE AND SIZE PER PLANS.
- F. VALVE BOXES: TYPE AND SIZE AS NOTED ON DETAILS. ALL VALVE BOXES SHALL BE LOCKING BOLT-DOWN TYPE, FURNISHED WITH LIDS AND BOLTS. BOXES SHALL BE OF A SIZE TO CONTAIN THE ENTIRE VALVE AND VALVE ASSEMBLY. THE VALVE BOX LID SHALL HAVE THE VALVE STATION NUMBER HEAT-BRANDED INTO THE LID WITH 2" HIGH LETTERS.
- G. FIXED SPRAY HEADS AND ROTORS: PLASTIC BODY POP-UP, WITH A REMOVABLE PLASTIC SPRAY NOZZLE. EXACT TYPE SHALL BE AS NOTED ON PLANS.
- H. INTEGRAL EMITTER DRIP TUBING: TUBING MODEL AND FLOW RATE AS NOTED ON PLANS, WITH INTEGRAL EMITTERS WELDED TO THE INSIDE WALL OF THE TUBING AS AN INTEGRAL PART OF THE TUBING ASSEMBLY.
- I. AUTOMATIC CONTROLLER: TYPE AND MODEL PER PLANS. PROVIDE VANDAL-PROOF ENCLOSURE FOR ALL EXTERIOR INSTALLATIONS. PROVIDE LINE-VOLTAGE DISCONNECT SWITCH WITH GROUND FAULT PROTECTION.
- J. 24 VOLT VALVE WIRE SHALL BE A MINIMUM OF #14 GAUGE, U.F. APPROVED FOR DIRECT BURIAL, SINGLE CONDUCTOR IRRIGATION WIRE. EACH CONTROLLER SHALL HAVE A DIFFERENT COLOR STATION AND COMMON WIRE.
 1. STATION WIRE - RED
 2. COMMON WIRE - WHITE
 3. EXTRA COMMON WIRES - BLUE
- K. WIRE SPLICES SHALL BE ENCASED IN A WATERPROOF COMPOUND OR GEL. ALL FIELD SPLICES SHALL BE LOCATED IN A 6 INCH ROUND VALVE BOX.
- L. RAIN SENSOR: TYPE AND MODEL PER PLANS.

METHODS

- A. THIS DESIGN IS DIAGRAMMATIC. ALL PIPING, VALVES, AND OTHER EQUIPMENT SHOWN WITHIN PAVED AREAS OR OUT OF PROPERTY BOUNDARIES ARE FOR DESIGN CLARIFICATION ONLY, AND SHALL BE INSTALLED IN PLANTING AREAS WITHIN THE PROPERTY LINES OR LIMITS INDICATED ON PLAN. THE IRRIGATION CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL ABOVE-GRADE IRRIGATION EQUIPMENT WITH THE OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO INSTALLATION, OR IRRIGATION CONTRACTOR MAY BE REQUIRED TO MOVE SUCH ITEMS AT HIS OWN COST. ENSURE FIELD COORDINATION IS MADE EARLY ON IN THE CONSTRUCTION PHASE SO PLACEMENT LOCATION IS CORRECT.
- B. THE IRRIGATION CONTRACTOR SHALL MEET WITH THE OWNER'S REPRESENTATIVE PRIOR TO COMMENCEMENT OF WORK, AND SHALL OBTAIN ALL ENGINEERING, LANDSCAPE, AND OTHER APPLICABLE PLANS & DOCUMENTS. THE CONTRACTOR SHALL THOROUGHLY REVIEW THE PLANS AND REPORT ANY CONFLICTS OR DISCREPANCIES TO THE LANDSCAPE ARCHITECT AND OWNER'S REPRESENTATIVE IMMEDIATELY.
- C. THE IRRIGATION CONTRACTOR SHALL NOT WILLFULLY INSTALL THE IRRIGATION SYSTEM AS SHOWN ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT UNKNOWN OBSTRUCTIONS, GRADES OR DIMENSIONS EXIST THAT MIGHT NOT HAVE BEEN CONSIDERED IN THE ENGINEERING. SUCH OBSTRUCTIONS OR DIFFERENCES SHALL BE BROUGHT TO THE ATTENTION OF THE IRRIGATION DESIGNER. IN THE EVENT THAT THIS NOTIFICATION IS NOT PERFORMED, THE IRRIGATION CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY REVISIONS AND NECESSARY COSTS.
- D. SEE UTILITY PLANS FOR IRRIGATION POINTS OF CONNECTION (TAP) AND DOMESTIC WATER SUPPLY.
- E. THE IRRIGATION CONTRACTOR SHALL PAY ANY AND ALL FEES AND PERMITS ASSOCIATED WITH THE INSTALLATION OF THE IRRIGATION SYSTEM.
- F. AT LEAST SEVEN DAYS BEFORE BEGINNING WORK, CONFIRM THE STATIC WATER PRESSURE IS AT LEAST 55 PSI AND LESS THAN 75 PSI. IF STATIC WATER PRESSURE IS OUTSIDE OF THE STATED RANGE, DO NOT PROCEED WITHOUT FIRST NOTIFYING THE IRRIGATION DESIGNER AND OWNER IN WRITING, AND OBTAINING SUBSEQUENT DIRECTION FOR CORRECTIVE MEASURES. SHOULD THE IRRIGATION CONTRACTOR CHOOSE TO BEGIN THE INSTALLATION WITHOUT SUCH NOTIFICATION, THE IRRIGATION CONTRACTOR WILL ASSUME THE RESPONSIBILITY FOR ALL COSTS INCURRED TO ENSURE THE SYSTEM IS WORKING PROPERLY. NO CHANGE ORDERS WILL BE AUTHORIZED IN SUCH CIRCUMSTANCES.
- G. THE IRRIGATION CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UNDERGROUND UTILITY LINES (WATER, SEWER, ELECTRIC, TELEPHONE, GAS, CABLE, TELEVISION, ETC.) PRIOR TO THE START OF ANY WORK. THE CONTRACTOR SHALL BE FAMILIAR WITH ALL GRADE DIFFERENCES, LOCATIONS OF WALLS, STRUCTURES AND UTILITIES.
- H. COORDINATE WITH THE OWNER THE PROPOSED LOCATIONS OF THE AUTOMATIC CONTROLLER AND ANY REQUIRED SLEEVES THROUGH THE BUILDING FOR CONTROL WIRES.
- I. TRENCHING NEAR EXISTING TREES.
 1. CONTRACTOR SHALL NOT DISTURB ROOTS 1-1/2" AND LARGER IN DIAMETER WITHIN THE CRITICAL ROOT ZONE (CRZ) OF EXISTING TREES, AND SHALL EXERCISE ALL POSSIBLE CARE AND PRECAUTIONS TO AVOID INJURY TO TREE ROOTS, TRUNKS, AND BRANCHES. THE CRZ IS DEFINED AS A CIRCULAR AREA EXTENDING OUTWARD FROM THE TREE TRUNK WITH A RADIUS EQUAL TO 1" FOR EVERY 1" OF TRUNK DIAMETER-AT-BREAST-HEIGHT (4.5' ABOVE THE AVERAGE GRADE AT THE TRUNK).
 2. ALL EXCAVATION WITHIN THE CRZ SHALL BE PERFORMED USING HAND TOOLS. NO MACHINE EXCAVATION OR TRENCHING OF ANY KIND SHALL BE ALLOWED WITHIN THE CRZ.
 3. ALTER ALIGNMENT OF PIPE TO AVOID TREE ROOTS 1-1/2" AND LARGER IN DIAMETER. WHERE TREE ROOTS 1-1/2" AND LARGER IN DIAMETER ARE ENCOUNTERED IN THE FIELD, TUNNEL UNDER SUCH ROOTS. WRAP EXPOSED ROOTS WITH SEVERAL LAYERS OF BURLAP AND KEEP MOIST. CLOSE ALL TRENCHES WITHIN THE CANOPY DRIP LINES WITHIN 24 HOURS.
 4. ALL SEVERED ROOTS SHALL BE HAND PRUNED WITH SHARP TOOLS AND ALLOWED TO AIR-DRY. DO NOT USE ANY SORT OF SEALERS OR WOUND PLANTS.

J. BACKFILL

1. ALL BACKFILL MATERIAL SHALL BE SUBJECT TO APPROVAL BY THE OWNER. BACKFILL MATERIAL SHALL BE FREE FROM RUBBISH, ROCK LARGER THAN 1" LARGEST STONES, BRUSH, SOIL, FROZEN MATERIAL OR OTHER UNSUITABLE SUBSTANCES THAT MAY DAMAGE PIPE DURING THE BACKFILLING OPERATIONS. SEPARATE OUT ROCKS LARGER THAN 1 INCH IN ANY DIRECTION FROM EXCAVATED MATERIAL, AND REMOVE FROM AREAS TO RECEIVE LANDSCAPING. COVER FOR BOTH TOP AND SIDES OF PIPE SHALL BE A MINIMUM OF 2 INCHES OF ROCK-FREE SOIL, SAND, OR OTHER APPROVED MATERIAL.
2. IN THE EVENT THAT THE MATERIAL FROM THE EXCAVATION OR TRENCHING IS FOUND TO BE UNSUITABLE FOR USE IN BACKFILL, IT SHALL BE REMOVED FROM THE SITE AND PROPERLY AND LEGALLY DISPOSED OF BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL THEN PURCHASE AND AND FURNISH SUITABLE BACKFILL MATERIAL, CONSISTING OF EARTH, LOAM, SANDY CLAY, SAND OR OTHER APPROVED MATERIALS FREE OF DEBRIS.

K. BACKFLOW PREVENTER INSTALLATION

1. CONTRACTOR SHALL MAKE CONNECTIONS TO EXISTING WATER SOURCES AT LOCATION SHOWN ON PLANS AND AS APPROVED BY THE OWNER, AND SHALL MAKE ANY MINOR CHANGES IN LOCATION AS MAY BE NECESSARY DUE TO ACTUAL SITE CONDITIONS. BACKFLOW PREVENTER HEIGHT SHALL BE AS PER LOCAL CODES AND IRRIGATION DETAILS. INSTALL A BRASS BALL VALVE IMMEDIATELY UPSTREAM OF THE BACKFLOW DEVICE TO SERVE AS AN ISOLATION VALVE. TO EVERY EXTENT POSSIBLE, INSTALL BACKFLOW PREVENTER IN A LOCATION SCREENED FROM PUBLIC VIEW (SUCH AS BEHIND A SHRUB ROW).
2. PIPE SIZE SHALL CONFORM TO THOSE SHOWN ON THE DRAWINGS. NO SUBSTITUTIONS OF SMALLER PIPE SIZES SHALL BE PERMITTED, BUT SUBSTITUTIONS FOR LARGER SIZES MAY BE APPROVED.
3. MAINLINE PIPE AND WIRES SHALL BE INSTALLED WITH A MINIMUM COVER OF 18 INCHES. LATERAL PIPE SHALL BE INSTALLED WITH A MINIMUM COVER OF 12 INCHES.
4. ALL SOLVENT-WELD CONNECTIONS SHALL BE MADE WITH APPROVED SOLVENT-WELD PRIMER.
5. PIPE SHALL BE INSTALLED WITH A MINIMUM OF 4" HORIZONTAL CLEARANCE FROM ANY OTHER PIPE AND 2" VERTICAL CLEARANCE FROM ANY PIPES THAT CROSS OVER OR UNDER.

L. VALVES

1. VALVES SHALL BE INSTALLED PER MANUFACTURER'S DIRECTIONS AND THE IRRIGATION DETAILS.
2. VALVE BOXES SHALL BE INSTALLED FLUSH WITH THE GRADE, WITH CLEAN PEA GRAVEL LOCATED BELOW THE VALVE AS NOTED ON THE DETAILS. LOCATE BOXES WITHIN 12 TO 24" OF SIDEWALKS OR LANDSCAPE EDGES, WITH TOPS OF BOXES 1" ABOVE FINISH GRADE IN TURF, AND 3" ABOVE FINISH GRADE IN SHRUB AREAS (TO BE BEHIND CURB OR MULCH).
3. EACH VALVE COVER SHALL BE HEAT-BRANDED WITH THE CONTROLLER STATION NUMBER.
4. DO NOT INSTALL MORE THAN TWO VALVES IN A JUMBO BOX.

N. DRIP IRRIGATION EQUIPMENT SHALL BE INSTALLED PER MANUFACTURER'S DIRECTIONS AND THE IRRIGATION DETAILS.

1. SUBSURFACE DRIP LINES SHALL BE BURIED NO MORE THAN 2" BELOW FINISH GRADE.
2. DRIP LINES MOUNTED ON GRADE SHALL BE LOCATED BENEATH LANDSCAPE FABRIC, AND SECURED IN PLACE WITH WIRE STAPLES AT A MAXIMUM OF 48" ON CENTER.
3. SPRAY, ROTOR, AND BUBBLER HEADS
 1. ALL SPRAY AND ROTOR HEAD LOCATIONS SHALL BE STAKED, FLAGGED AND/OR OTHERWISE CLEARLY MARKED ON THE GROUND PRIOR TO INSTALLATION. SPRINKLER HEAD STAKING SHALL BE INSPECTED AND APPROVED BY THE OWNER'S REPRESENTATIVE BEFORE INSTALLATION.
 2. ALL SPRAY HEADS SHALL BE CONNECTED WITH A 1/2 INCH MINIMUM LENGTH OF 3/8 INCH FLEX PVC. THE FLEX PVC SHALL BE SOLVENT WELDED TO SCHEDULE 40 PVC FITTINGS WITH WELD-ON #795 SOLVENT AND #P-70 PRIMER. ALL ROTORS SHALL BE CONNECTED TO LATERAL LINES WITH PRE-MANUFACTURED SWING JOINTS.
 3. ALL ROTOR, SPRAY AND BUBBLER HEADS SHALL BE SET PERPENDICULAR AND FLUSH TO FINISH GRADE AND WITH A CLEARANCE OF FOUR INCHES (MINIMUM) FROM THE EDGE OF ANY BUILDINGS, WALLS, BOULDERS, AND HARDSCAPE, UNLESS OTHERWISE SPECIFIED.
 4. ALL ROTOR, SPRAY AND BUBBLER HEADS AND VALVES SHALL BE FLUSHED AND ADJUSTED FOR OPTIMUM COVERAGE WITH MINIMUM OVERSPRAY ON WALKS, STREETS, WALLS, ETC.

P. AUTOMATIC CONTROLLER

1. INSTALL THE CONTROLLER AT THE LOCATION INDICATED BY THE OWNER. INSTALL CONTROLLER WITH A BACKUP BATTERY AS RECOMMENDED BY THE MANUFACTURER.
2. THE IRRIGATION CONTRACTOR SHALL COORDINATE 120 V.A.C. ELECTRICAL POWER TO CONTROLLERS AND DEDICATE ONE (1) 20-AMP BREAKER FOR EACH CONTROLLER. IT SHALL BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO MAKE THE FINAL HOOKUP FROM THE ELECTRICAL SOURCE TO THE CONTROLLER UNIT ONLY.
3. ALL VALVE CONTROL WIRE SHALL BE AWG 14 TYPE UF, 600 VOLT TEST, DIRECT BURIAL. NO SPLICES SHALL BE ALLOWED EXCEPT AT VALVES AND CONTROLLER. WHERE SPLICES MAY BE NECESSARY DUE TO EXCESSIVELY LONG WIRE RUNS, THE CONTRACTOR SHALL MAKE ALL SPLICES IN 6" ROUND VALVE BOXES WITH 3M'S "DBY-DIRECT BURIAL SPLICE KIT". THE CONTRACTOR SHALL LABEL ALL WIRES WITH WATERPROOF TAGS AND MARKERS AT ALL SPLICES AND VALVE MANIFOLDS, AND SHALL LEAVE A 24" COL. OF EXCESS WIRE AT EACH CONNECTION.
4. PROVIDE #10 COMMON WIRE, DIRECT BURIAL, TO ALL REMOTE CONTROL VALVES.
5. CONNECT ALL DIRECT BURIAL WIRES TO VALVES USING 3M'S "DBY-DIRECT BURIAL SPLICE KIT" (UNLESS OTHERWISE SPECIFIED).
6. PROVIDE THREE ADDITIONAL IRRIGATION CONTROL WIRES ALONG EACH BRANCH OF MAINLINE FOR FUTURE EXPANSION. STUB ADDITIONAL CONTROL WIRES INTO BACK OF IRRIGATION CONTROLLERS.
7. THE IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ALL CONTROL WIRE SLEEVES AND PIPE SLEEVES UNDER PAVED AREAS PRIOR TO PAVING - SEE SLEEVING NOTES.

Q. INSTALL THE RAIN SENSOR IN THE VICINITY OF THE CONTROLLER, AND COORDINATE LOCATION WITH THE OWNER. IT IS THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO ENSURE THE RAIN SENSOR IS PLACED IN A LOCATION WHERE IT CAN RECEIVE ADEQUATE RAINFALL WITHOUT OBSTRUCTIONS. IF IT IS PLACED IN AN INADEQUATE LOCATION, THE IRRIGATION CONTRACTOR MAY BE REQUIRED TO RELOCATE IT AT NO ADDITIONAL COST TO THE OWNER.

R. ALL IRRIGATION EQUIPMENT NOT OTHERWISE DETAILED OR SPECIFIED SHALL BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.

S. QUALITY CONTROL

1. PERFORM COVERAGE TESTS AFTER SPRINKLER SYSTEM IS COMPLETED, BUT PRIOR TO ANY PLANTING AND PERFORMANCE TESTING IN THE PRESENCE OF THE IRRIGATION DESIGNER AND THE CONSTRUCTION MANAGER.
2. TEST SYSTEM TO ASSURE THAT ALL LAWN AND PLANTING AREAS ARE WATERED COMPLETELY AND UNIFORMLY.
3. MAKE ALL NECESSARY ADJUSTMENTS TO PROVIDE COMPLETE COVERAGE, INCLUDING REALIGNMENT OF HEADS AND REPLACEMENT OF NOZZLES.

U. CLEAN UP

1. DURING IRRIGATION EXCAVATION AND INSTALLATION, KEEP ALL PAVEMENT CLEAN AND ALL WORK AREAS IN A NEAT, ORDERLY CONDITION.
2. DISPOSED LEGALLY OF ALL EXCAVATED MATERIALS OFF THE PROJECT SITE.

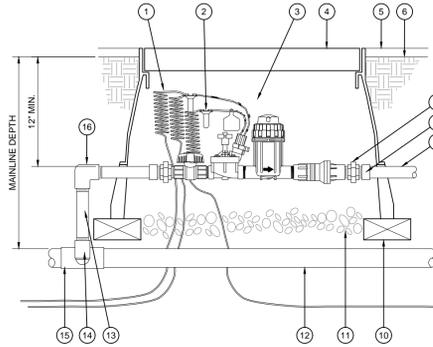
V. INSPECTION AND ACCEPTANCE

1. UPON COMPLETION OF THE WORK, THE IRRIGATION CONTRACTOR SHALL PROVIDE THE SITE CLEAN, FREE OF DEBRIS AND TRASH, AND SUITABLE FOR USE AS INTENDED. THE IRRIGATION CONTRACTOR SHALL THEN REQUEST AN INSPECTION BY THE OWNER TO DETERMINE FINAL ACCEPTABILITY.
2. WHEN THE INSPECTED WORK DOES NOT COMPLY WITH THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL REPLACE AND/OR REPAIR THE REJECTED WORK TO THE OWNER'S SATISFACTION WITHIN 24 HOURS.
3. THE MAINTENANCE PERIOD WILL NOT COMMENCE UNTIL THE WORK HAS BEEN RE-INSPECTED BY THE OWNER AND FOUND TO BE ACCEPTABLE. AT THAT TIME, A WRITTEN NOTICE OF FINAL ACCEPTANCE WILL BE ISSUED BY THE OWNER, AND THE MAINTENANCE AND GUARANTEE PERIODS WILL COMMENCE.
4. CONTROLLER CHART: THE IRRIGATION CONTRACTOR SHALL PROVIDE A 11" X 17" COLOR-CODED, LAMINATED COPY OF THE IRRIGATION LAYOUT AND PLACE IT IN THE CONTROLLER'S COVER. THE CONTROLLER CHART SHALL CLEARLY DELINEATE THE AREAS COVERED BY EACH VALVE, USING A SEPARATE COLOR FOR EACH ZONE.
5. TURN THE FOLLOWING ITEMS IN TO THE OWNER UPON COMPLETION OF THE INSTALLATION:
 - a. QUICK COUPLER KEYS (2)
 - b. CONTROLLER MANUAL (1)
 - c. CONTROLLER KEYS (2)
 - d. A MINIMUM OF (2) COPIES OF RECORD DRAWINGS. A RECORD DRAWING IS A RECORD OF ALL CHANGES THAT OCCURRED IN THE FIELD AND THAT ARE DOCUMENTED THROUGH CHANGE ORDERS, ADDENDA, OR CONTRACTOR/CONSULTANT DRAWING MARKUPS.

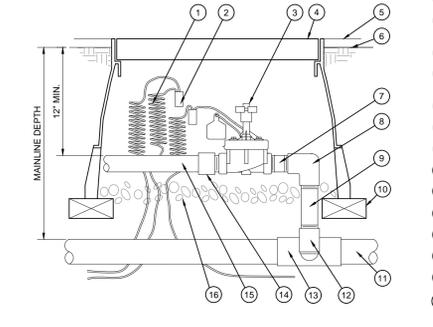
W. REFER TO THE PLANTING SPECIFICATIONS FOR ADDITIONAL CONDITIONS OF FINAL ACCEPTANCE AND START OF THE MAINTENANCE PERIOD.

X. WARRANTY

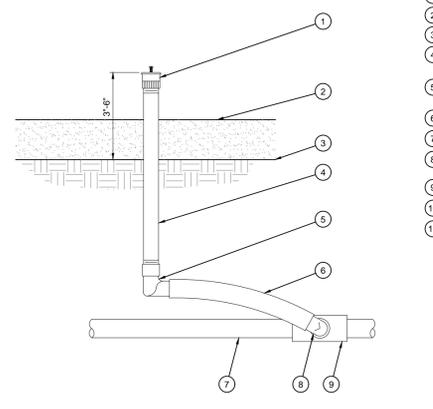
1. THE IRRIGATION SYSTEM SUPPLIED AND INSTALLED SHALL BE WARRANTED (LABOR AND MATERIALS) TO BE IN PROPER OPERATION FOR A PERIOD OF 12 MONTHS AFTER THE DATE OF FINAL ACCEPTANCE. DURING THIS PERIOD, THE CONTRACTOR SHALL ALSO REPAIR ANY SETTLEMENT OF THE IRRIGATION TRENCHES.
2. BY THE END OF THE WARRANTY PERIOD, ANY IRRIGATION PART THAT IS EITHER NON-OPERATIONAL OR THAT IS OPERATING BELOW STANDARDS AS DETERMINED BY THE OWNER, SHALL BE REMOVED FROM THE SITE AND SHALL BE REPLACED. REPLACEMENTS SHALL BE OF THE SAME KIND AND AS SPECIFIED IN THE IRRIGATION LEGEND, AND SHALL BE INSTALLED AS ORIGINALLY SPECIFIED.
3. IRRIGATION PARTS DAMAGED OR IMPAIRED DUE TO ACTS OF GOD, VANDALISM, AND/OR THE OWNER'S IMPROPER MAINTENANCE SHALL NOT BE COVERED BY THIS WARRANTY.
4. SHOULD THE PERMITTING JURISDICTION REQUIRE AN IRRIGATION AUDIT, THE IRRIGATION CONTRACTOR SHALL RETAIN THE SERVICES OF A THIRD-PARTY CERTIFIED LANDSCAPE IRRIGATION AUDITOR, AT NO ADDITIONAL COST TO THE OWNER.



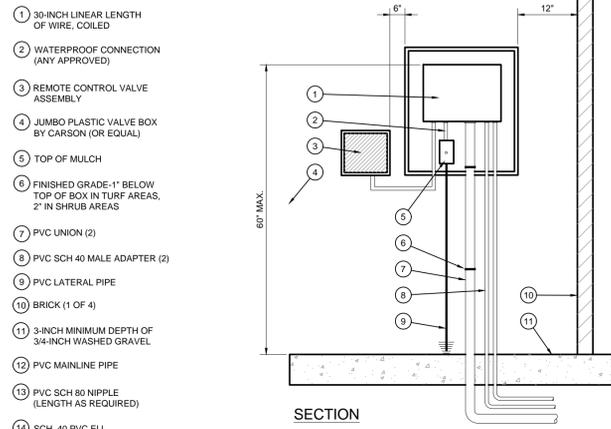
D DRIP CONTROL ZONE KIT
SCALE: NTS



E REMOTE CONTROL VALVE
SCALE: NTS



F BUBBLER
SCALE: NTS

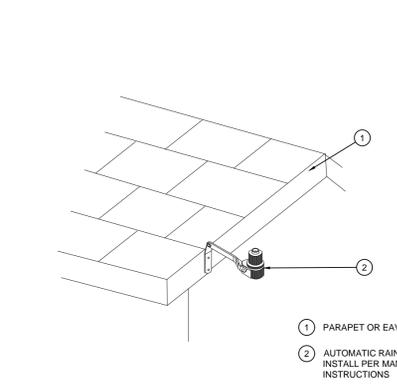


A CONTROLLER - WALL MOUNT, INDOOR
SCALE: NTS

- 1 30-INCH LINEAR LENGTH OF WIRE, COILED
- 2 WATERPROOF CONNECTION (ANY APPROVED)
- 3 REMOTE CONTROL VALVE ASSEMBLY
- 4 JUMBO PLASTIC VALVE BOX BY CARSON (OR EQUAL)
- 5 TOP OF MULCH
- 6 FINISHED GRADE-1" BELOW TOP OF BOX IN TURF AREAS, 2" IN SHRUB AREAS
- 7 PVC UNION (2)
- 8 PVC SCH 40 MALE ADAPTER (2)
- 9 PVC LATERAL PIPE
- 10 BRICK (1 OF 4)
- 11 3-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL
- 12 PVC MAINLINE PIPE
- 13 PVC SCH 80 NIPPLE (LENGTH AS REQUIRED)
- 14 SCH. 40 PVC ELL
- 15 SCH. 40 PVC TEE OR ELL
- 16 SCH. 40 PVC THREADED ELL

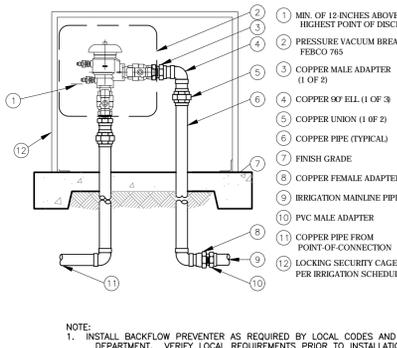
- 1 CONTROLLER PER LEGEND
- 2 1/2" ELECTRICAL CONDUIT BETWEEN CONTROLLER AND ELECT. BOX CLAMP TO WALL
- 3 SENSOR MONITOR PANEL OR RECEIVER (WHERE OCCURS)
- 4 WALL
- 5 120 VOLT SERVICE IN WATERPROOF JUNCTION BOX WITH DISCONNECT SWITCH, INSTALL INSIDE STAINLESS ENCLOSURE
- 6 C-CLAMPS (TYP.)
- 7 CONDUIT(S) FOR 24 VOLT CONTROL WIRES. CLAMP TO WALL, USE 1 CONDUIT FOR 0-24 STATIONS, USE 2 CONDUITS FOR 25-48 STATIONS
- 8 SENSOR CABLES IN CONDUITS (WHERE OCCURS)
- 9 GROUNDING PER MANUFACTURER
- 10 WALL
- 11 FINISH FLOOR SURFACE

NOTES:
1. MOUNT CONTROLLER AND CABINET PER MANUFACTURER'S DIRECTIONS.
2. 120 V.A.C. POWER PROVIDED BY OTHERS. LANDSCAPE CONTRACTOR SHALL MAKE FINAL CONNECTION AT CONTROLLER. CONNECT TO ELECTRICAL SUPPLY PER NATIONAL ELECTRIC CODE AND LOCAL CODE.
3. LOCATE GROUND ROD 8" MIN. FROM CONTROLLER. VERIFY LOCATION OF GROUND ROD, CONTROLLER AND SOURCE OF ELECTRICITY WITH MANUFACTURER'S REPRESENTATIVE AND OWNER AS PART OF PRE-CONSTRUCTION MEETING.



B RAIN SENSOR, ROOF MOUNT
SCALE: NTS

- 1 BUBBLER PER LEGEND - 3 PER TREE
- 2 MULCH
- 3 FINISH GRADE/TOP OF MULCH
- 4 UV RADIATION RESISTANT 1/2-INCH PVC SCH 80 NIPPLE (LENGTH AS REQUIRED)
- 5 1/2-INCH FEMALE NPT X 0.490-INCH BARB ELBOW
- 6 SWING PIPE, 12-INCH LENGTH
- 7 PVC LATERAL PIPE
- 8 1/2-INCH MALE NPT X .490-INCH BARB ELBOW
- 9 SCH 40 TEE OR ELL
- 10 EDGE OF ROOTBALL
- 11 PVC LATERAL LINE - 3/4"



C BACKFLOW PREVENTER (PVB)
SCALE: NTS

NOTE:
1. INSTALL BACKFLOW PREVENTER AS REQUIRED BY LOCAL CODES AND HEALTH DEPARTMENT. VERIFY LOCAL REQUIREMENTS PRIOR TO INSTALLATION.

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TYPE (C) AND (D) ARE UNUSUAL AND UNCOMMON. SEE THE IRRIGATION LEGEND FOR A COMPLETE LIST OF MATERIALS AND EQUIPMENT. THESE ITEMS ARE AVAILABLE FROM THE FOLLOWING SUPPLIERS:

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PROJECT No.: TD180033
DRAWN BY: CMR
CHECKED BY: RM
DATE: 01/08/19
SCALE:
CAD I.D.:

PROP. SITE PLAN DOCUMENTS

FOR

BRAKES PLUS

LOCATION OF SITE
SW CORNER OF S. GOLIASD ST AND YELLOW JACKET LN
LOTS 1 & 2, BLOCK A, BILLY PEOPLES ADDITION NO. 1
ROCKWALL, TX 75087
ROCKWALL COUNTY

BOHLER ENGINEERING

6017 MAIN STREET
FRISCO, TX 75034
Phone: (469) 458-7300
TX@BohlerEng.com

REGISTERED LANDSCAPE ARCHITECT
CITY OF TEXAS
3358
02/01/19

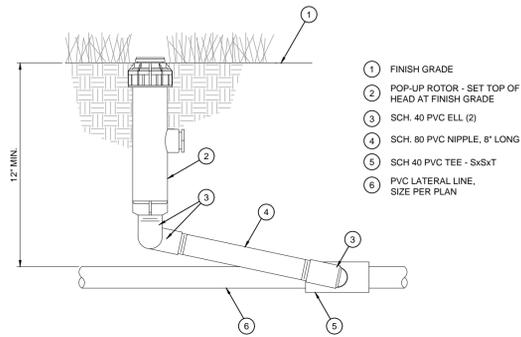
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IRRIGATION SPECIFICATIONS AND DETAILS

SHEET NUMBER:
L-1.3

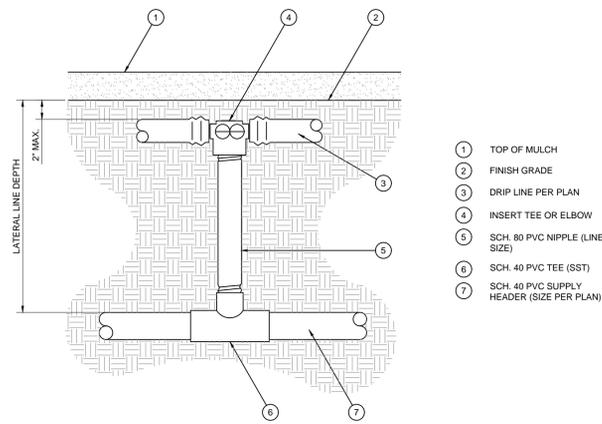
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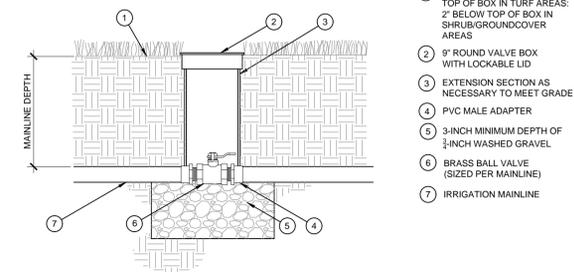
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www.EvergreenDesignGroup.com



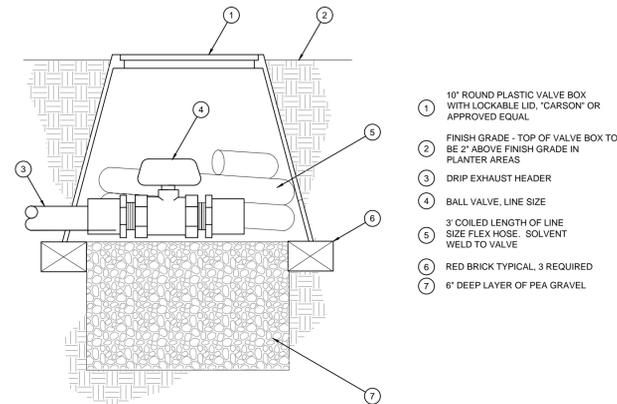
M POP-UP ROTOR
SCALE: NOT TO SCALE



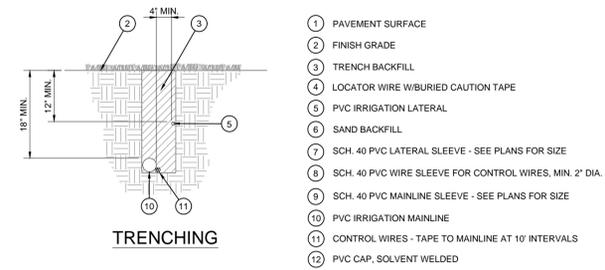
J SUBSURFACE DRIPLINE CONNECTION
SCALE: NOT TO SCALE



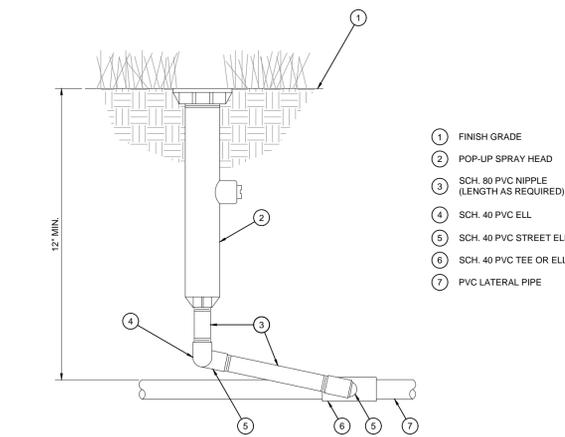
G BRASS BALL VALVE
SCALE: NTS



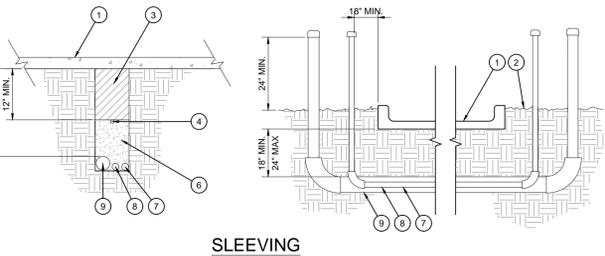
K FLUSH VALVE
SCALE: NTS



H PIPE AND SLEEVE INSTALLATION
SCALE: NTS



L POP-UP SPRAY HEAD
SCALE: NTS



I SUBSURFACE DRIP LINE LAYOUT
SCALE: NOT TO SCALE

- 1 FINISH GRADE
- 2 POP-UP ROTOR - SET TOP OF HEAD AT FINISH GRADE
- 3 SCH. 40 PVC ELL (2)
- 4 SCH. 80 PVC NIPPLE, 8" LONG
- 5 SCH. 40 PVC TEE - SxSxT
- 6 PVC LATERAL LINE, SIZE PER PLAN

- 1 TOP OF MULCH
- 2 FINISH GRADE
- 3 DRIP LINE PER PLAN
- 4 INSERT TEE OR ELBOW
- 5 SCH. 80 PVC NIPPLE (LINE SIZE)
- 6 SCH. 40 PVC TEE (SST)
- 7 SCH. 40 PVC SUPPLY HEADER (SIZE PER PLAN)

- 1 FINISH GRADE AT 1" BELOW TOP OF BOX IN TURF AREAS; 2" BELOW TOP OF BOX IN SHRUB/GROUNDCOVER AREAS
- 2 9" ROUND VALVE BOX WITH LOCKABLE LID
- 3 EXTENSION SECTION AS NECESSARY TO MEET GRADE
- 4 PVC MALE ADAPTER
- 5 3-INCH MINIMUM DEPTH OF 1/2-INCH WASHED GRAVEL
- 6 BRASS BALL VALVE (SIZED PER MAINLINE)
- 7 IRRIGATION MAINLINE

- 1 10" ROUND PLASTIC VALVE BOX WITH LOCKABLE LID, "CARSON" OR APPROVED EQUAL
- 2 FINISH GRADE - TOP OF VALVE BOX TO BE 2" ABOVE FINISH GRADE IN PLANTER AREAS
- 3 DRIP EXHAUST HEADER
- 4 BALL VALVE, LINE SIZE
- 5 3' COILED LENGTH OF LINE SIZE FLEX HOSE. SOLVENT WELD TO VALVE
- 6 RED BRICK TYPICAL, 3 REQUIRED
- 7 6" DEEP LAYER OF PEA GRAVEL

- 1 PAVEMENT SURFACE
- 2 FINISH GRADE
- 3 TRENCH BACKFILL
- 4 LOCATOR WIRE W/BURIED CAUTION TAPE
- 5 PVC IRRIGATION LATERAL
- 6 SAND BACKFILL
- 7 SCH. 40 PVC LATERAL SLEEVE - SEE PLANS FOR SIZE
- 8 SCH. 40 PVC WIRE SLEEVE FOR CONTROL WIRES, MIN. 2" DIA.
- 9 SCH. 40 PVC MAINLINE SLEEVE - SEE PLANS FOR SIZE
- 10 PVC IRRIGATION MAINLINE
- 11 CONTROL WIRES - TAPE TO MAINLINE AT 10' INTERVALS
- 12 PVC CAP, SOLVENT WELDED

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Phone: (469) 458-7300
TX@BohlerEng.com

REGISTERED LANDSCAPE ARCHITECT
CHRISTOPHER M. BOHLER
3358
02/01/19

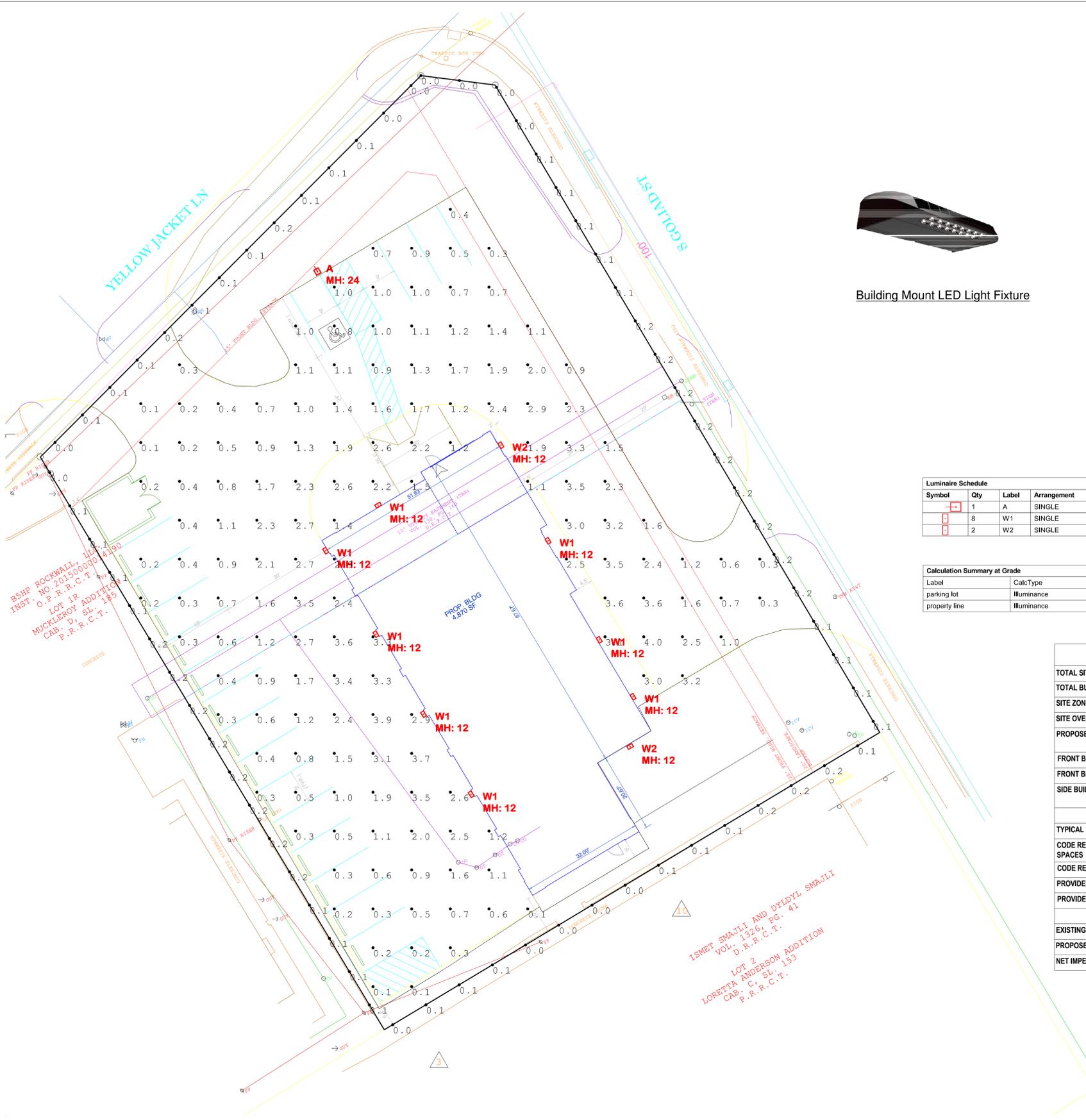
SHEET TITLE:
IRRIGATION DETAILS

SHEET NUMBER:
L-1.4

CASE NUMBER:

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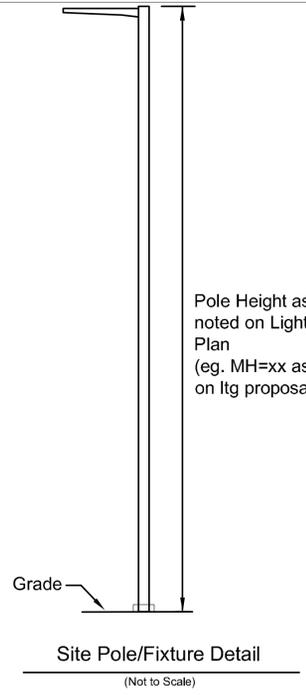
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Building Mount LED Light Fixture



Site Pole Mounted fixture



Pole Height as noted on Lighting Plan (eg. MH=xx as noted on Itg proposal)

Symbol	Qty	Label	Arrangement	Description	LLF	Lum. Watts	Lum. Lumens
A	1	A	SINGLE	XLCS-FTE-LED-SS-50-(voltage)-(finish)-HSS mtd. on 24'-0 pole	0.890	96	5677
W1	8	W1	SINGLE	XWM-FT-LED-03L-50K-(voltage)-(finish)	0.890	28.2	3461
W2	2	W2	SINGLE	XWM-3-LED-03L-50K-(voltage)-(finish)	0.890	28.2	3487

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
parking lot	Illuminance	Fc	1.46	4.0	0.1	14.60	40.00
property line	Illuminance	Fc	0.11	0.2	0.0	N.A.	N.A.

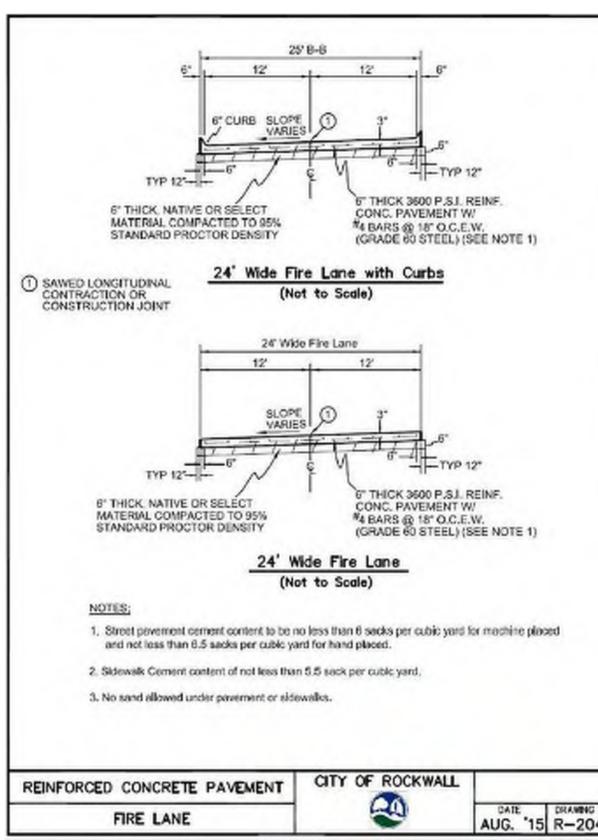
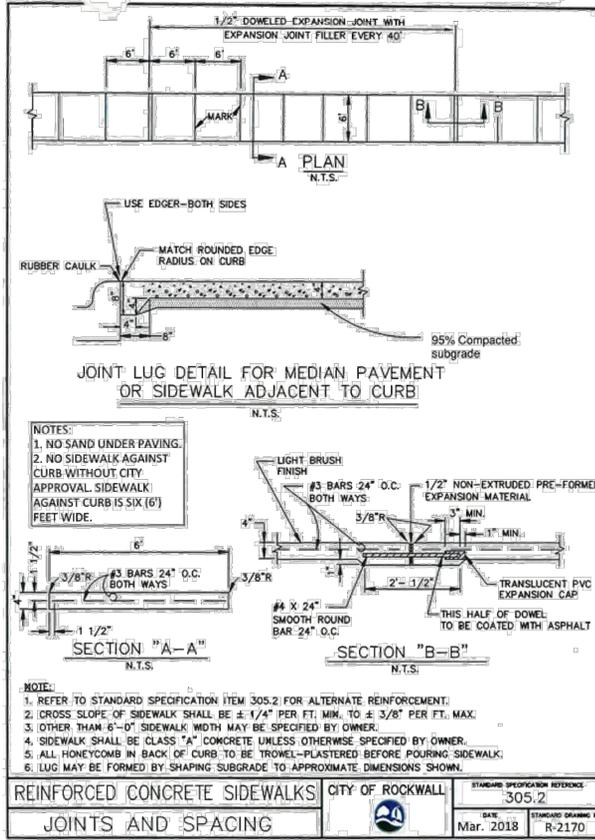
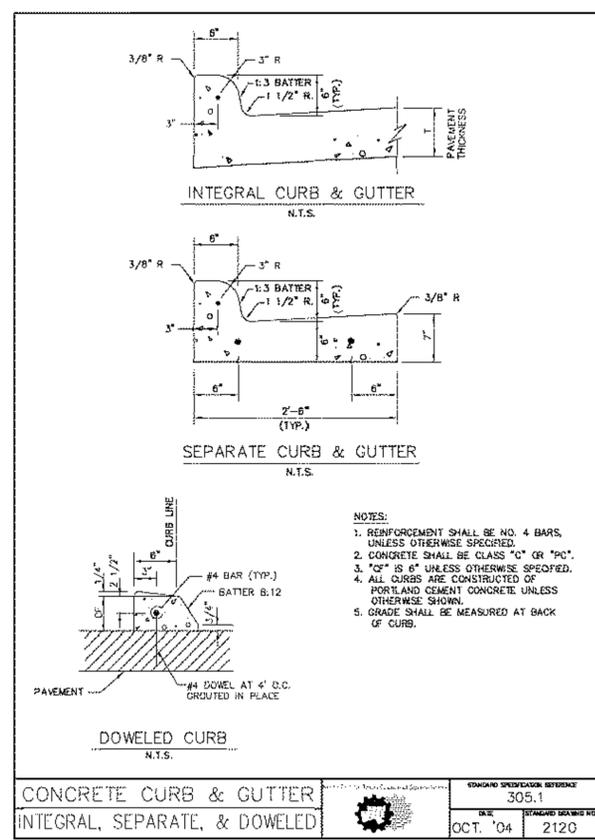
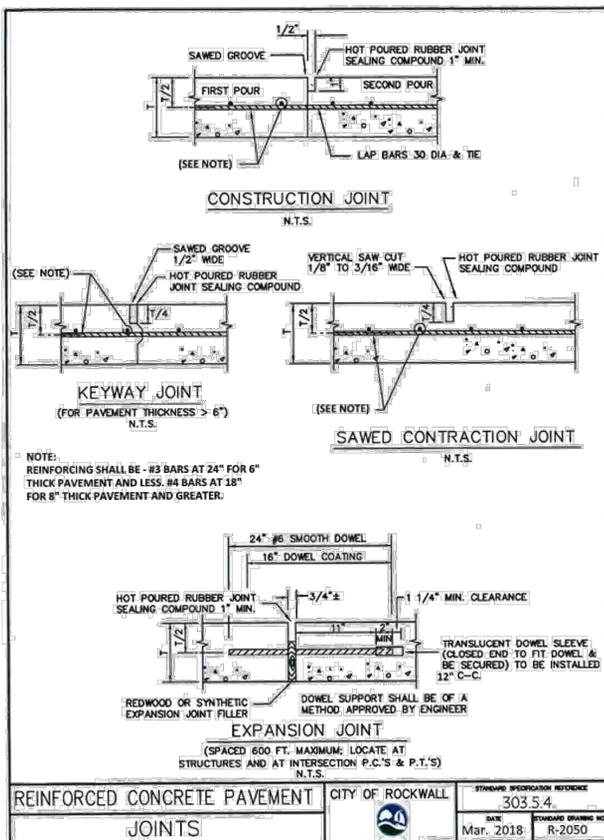
SITE DATA TABLE	
TOTAL SITE AREA	0.653 AC (28,452 SF)
TOTAL BUILDING SIZE	4,924 SF
SITE ZONING DISTRICT	GR - GENERAL RETAIL
SITE OVERLAY DISTRICT	SH-205 OVERLAY DISTRICT
PROPOSED LAND USE	COMMERCIAL (AUTO REPAIR GARAGE, MINOR)
FRONT BUILDING SETBACK (S. GOLIAD)	25 FT
FRONT BLDG. SETBACK (YELLOW JACKET)	15 FT
SIDE BUILDING SETBACK	0 FT (PROVIDED BLDG IS FIRE RETARDANT)
TYPICAL PARKING SPACE	9' x 18'
CODE REQUIRED PARKING SPACES	2 SPACES PER SERVICE BAY = 16 SPACES
CODE REQUIRED ADA SPACES	1 SPACE
PROVIDED PARKING SPACES	20 SPACES
PROVIDED ADA SPACES	1 SPACE
EXISTING IMPERVIOUS AREA	26,234 SF
PROPOSED IMPERVIOUS AREA	19,933 SF
NET IMPERVIOUS AREA	-6,301 SF

DISCLAIMER: --- CALCULATED VALUES:
Calculations have been performed according to IESNA & CIE standards and procedures. In the provided information and to ensure the accuracy of the calculations, lighting fixture data used to generate the analysis calculations such as beam dimensions, reflectance, and temperature variations. If the real environment conditions do not match the input data, the results may vary. The reflective properties of surrounding surfaces, obstructions of lighting from other sources, and the height of the fixtures will occur between measured values and calculated values.

Rev	Date	Comments
A	10/17/17	Site Lighting Proposal
B	10/31/18	Updated per comment review



Brakes Plus - Rockwall, Texas Site Lighting Proposal

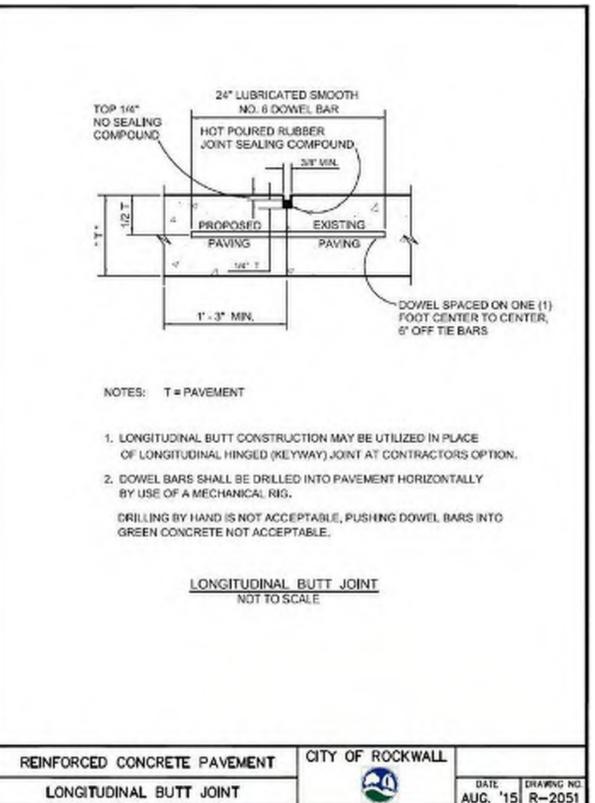
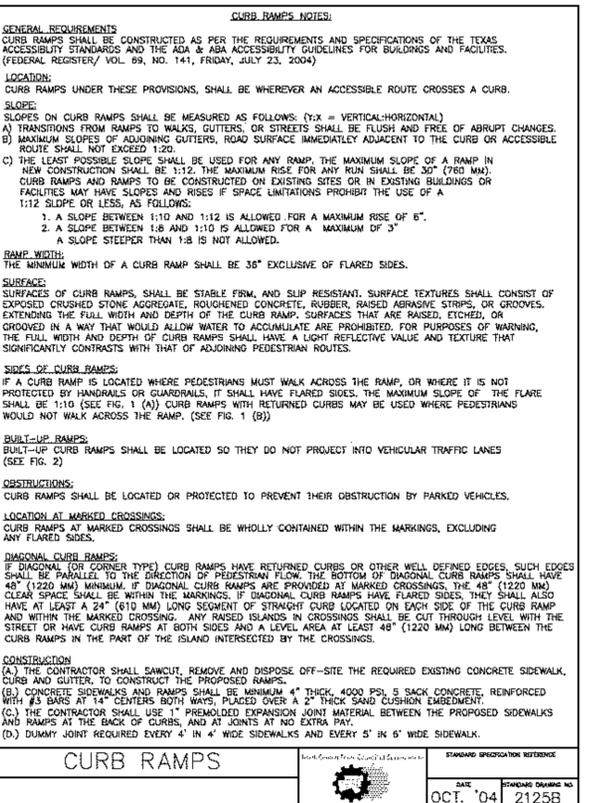
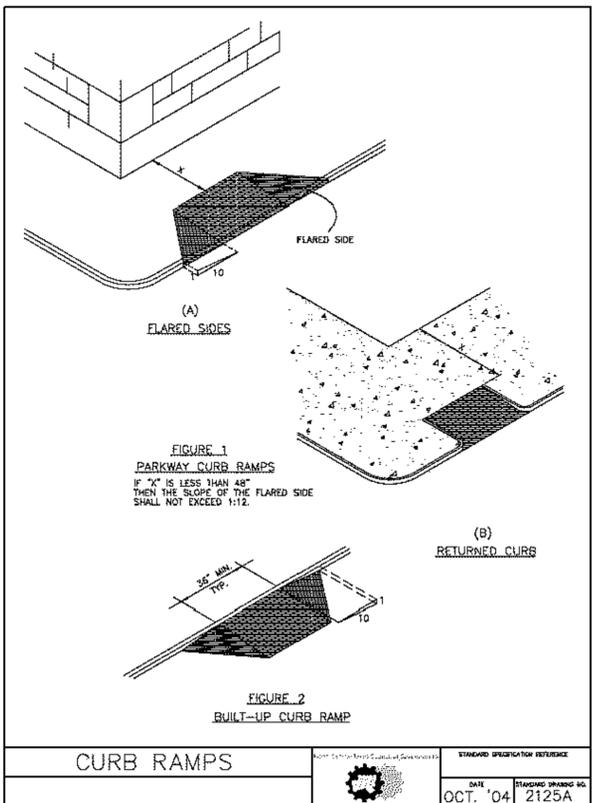


REINFORCED CONCRETE PAVEMENT	CITY OF ROCKWALL	STANDARD SPECIFICATION REFERENCE	303.5.4
JOINTS		DATE	Mar. 2018
		STANDARD DRAWING NO.	R-2050

CONCRETE CURB & GUTTER	CITY OF ROCKWALL	STANDARD SPECIFICATION REFERENCE	305.1
INTEGRAL, SEPARATE, & DOWELED		DATE	OCT. '04
		STANDARD DRAWING NO.	2120

REINFORCED CONCRETE SIDEWALKS	CITY OF ROCKWALL	STANDARD SPECIFICATION REFERENCE	305.2
JOINTS AND SPACING		DATE	Mar. 2018
		STANDARD DRAWING NO.	R-2170

REINFORCED CONCRETE PAVEMENT	CITY OF ROCKWALL	DATE	AUG. '15
FIRE LANE		DRAWING NO.	R-2041



CURB RAMPS	CITY OF ROCKWALL	STANDARD SPECIFICATION REFERENCE	303.5.4
		DATE	OCT. '04
		STANDARD DRAWING NO.	2125A

CURB RAMPS	CITY OF ROCKWALL	STANDARD SPECIFICATION REFERENCE	305.1
		DATE	OCT. '04
		STANDARD DRAWING NO.	2125B

REINFORCED CONCRETE PAVEMENT	CITY OF ROCKWALL	DATE	AUG. '15
LONGITUDINAL BUTT JOINT		DRAWING NO.	R-2051

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1	3/18/19	DOMESTIC WATER REVISION	MJH
2	4/19/19	TAS REVIEW COMMENTS	MJH

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PROJECT NO.: TD180033
DRAWN BY: MJH
CHECKED BY: DOC
DATE: 02/25/2019
SCALE: N/A
CAD ID: SD0

CONSTRUCTION DOCUMENTS

FOR

brakes plus
CREATABLE AUTO SERVICE

LOCATION OF SITE
1902 S. GOLIAU ST
LOTS 1 & 2, BLOCK A, BILLY PEOPLES ADDITION NO. 1
ROCKWALL, TX 75087
ROCKWALL COUNTY

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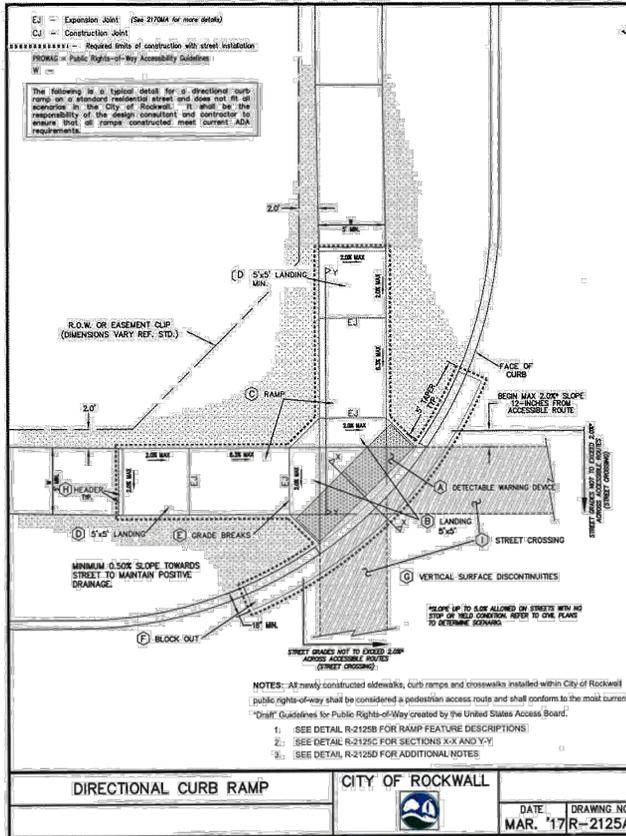
6017 MAIN STREET
FRISCO, TX 75034
Phone: (469) 458-7300
TX@BohlerEng.com

STATE OF TEXAS
DEAN O. CARDWELL
115432
LICENSED PROFESSIONAL ENGINEER
1.16.20

SHEET TITLE:
CONSTRUCTION DETAILS

SHEET NUMBER:
C-901

CASE NUMBER: SP2018-030



DIRECTIONAL CURB RAMP CITY OF ROCKWALL
 DATE: MAR. '17 DRAWING NO. R-2125A

A Detectable Warning Devices (DWD) shall be pre-manufactured cast-in-place truncated dome plates installed to the manufacturer's specifications, and shall meet all ADA requirements. No Brick Pavers allowed. Color to be approved by the City. DWD shall be 24 inches in length for the full width of the street connection starting at the back of curb. A maximum 2-inch border shall be allowed on the sides of the DWD for proper installation.

B Also known as "Clear Space" per ADA PROWAG, the City requires a minimum landing space of 5-foot by 5-foot at the bottom of every ramp. This landing space shall have a cross slope in both directions that does not exceed 2.0% and shall be wholly outside the parallel vehicular travel path.

C The ramp component of the directional curb ramp shall have a continuous longitudinal slope more than 5% and less than 8.3%. The ramp shall also have a cross slope of no more than 2.0%. Length of ramp can vary, but shall not exceed 15 feet to achieve desired elevation change.

D Also known as "Turning Space" per ADA PROWAG, a minimum landing space of 5-foot by 5-foot shall be at the top of every ramp. This landing (turning) space shall have a cross slope in both directions that does not exceed 2.0%. Landing must match width of sidewalk and length shall be the same distance ("Squared" Landing).

E All curb ramps shall have grade breaks at the top and bottom that are perpendicular to the direction of the ramp run. Where the ends of the bottom grade break are less than or equal to 5 feet, the DWD shall be placed within the ramp at the bottom grade break. Where either end of the bottom grade break is greater than 5 feet, the DWD shall be placed behind the back of the curb.

F Paving contractor shall leave block out with a keyway joint installed, minimum of 18 inches measured from back of curb. Block out shall be poured monolithically with Curb Ramp. Concrete shall tie to street paving with a keyway joint per NCTCOG detail 2050. No curb shall be constructed where a DWD is provided. The curb on either side shall have a typical 5 foot taper to transition from the standard 6-inch curb height to be flush with ramp.

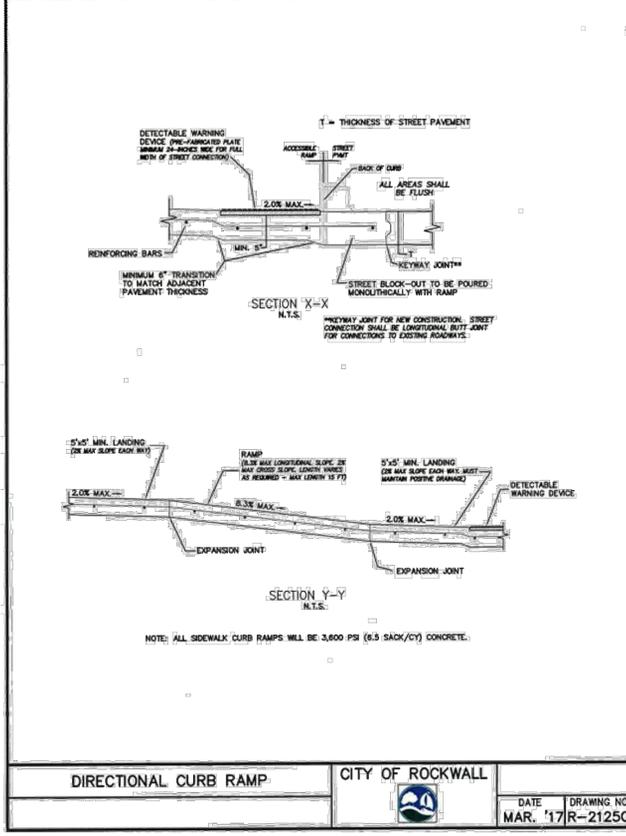
G All work associated with accessible routes shall be installed flush with all features to minimize vertical surface discontinuities. Each segment along accessible route shall be flush with no more (zero tolerance) than a 1/8-inch grade separation (elevation difference), or 1/2-inch grade separation if beveled (bevel slope shall not be steeper than 50%).

H A sidewalk header shall be constructed at ends of all work performed.

I Street crossings shall adhere to same guidelines as other accessible routes within public right-of-way, and shall be for the full width of the in-line accessible route. Cross slope shall not exceed 2%. New street construction shall incorporate all ADA design requirements. It shall be the responsibility of the Design Professional and Contractor to ensure all street crossings meet the requirements of PROWAG. Street alterations on existing streets to bring to compliance shall be at the City Engineer's discretion.

J All curbs constructed as part of an ADA Ramp shall match City curb standards.
 * See PROWAG special design considerations when street crossing has no stop or yield condition.

DIRECTIONAL CURB RAMP CITY OF ROCKWALL
 DATE: MAR. '17 DRAWING NO. R-2125B



DIRECTIONAL CURB RAMP CITY OF ROCKWALL
 DATE: MAR. '17 DRAWING NO. R-2125C

PEDESTRIAN ACCESSIBILITY (WITHIN PUBLIC R.O.W.)
 All newly constructed sidewalks, curb ramps and crosswalks installed within City of Rockwall public rights-of-way shall be considered a pedestrian access route and shall conform to the most current Guidelines for Public Rights-of-Way created by the United States Access Board.

CURB RAMPS:

- All slopes shown are MAXIMUM ALLOWABLE. Lesser slopes that will still drain properly should be used. Adjust curb ramp length or grade of approach sidewalks as directed.
- Landing shall be 5' x 5' minimum with a maximum 2% slope in the transverse and longitudinal directions.
- Clear space at the bottom of curb ramps shall be a minimum of 5' x 5' wholly contained within the crosswalk and wholly outside the parallel vehicular travel path.
- Maximum allowable cross slope on sidewalk and curb ramp surfaces is 2%.
- Additional information on curb ramp location, design, light reflective value and texture may be found in the most current edition of the Texas Accessibility Standards (TAS) and 16 TAC 68.102. Federal guidelines shall supersede any conflicts.
- Crosswalk dimensions, crosswalk markings and stop bar locations shall be as shown elsewhere in the plans. At intersections where crosswalk markings are not required, curb ramps and accessible routes shall align with theoretical crosswalks unless otherwise directed.
- Handrails are not required on curb ramps.
- Provide a flush transition where the curb ramps connect to the street.
- Accessible routes are considered "ramps" when longitudinal slopes are between 5% and 8.3% (maximum allowable). Sidewalks under 5% longitudinal slope are deemed accessible routes and must follow all applicable guidelines.

DETECTABLE WARNING DEVICE

- Curb ramps must contain a detectable warning surface that consists of raised truncated domes complying with Section 705 of the TAS. The surface must contrast visually with adjoining surfaces. Furnish and install on approved cast-in-place dark red detectable warning surface material adjacent to uncolored concrete, unless specified elsewhere in the plans.
- Detectable Warning Materials shall be truncated dome plates in the color approved by the City. Install products in accordance with manufacturer's specifications.
- Detectable warning surfaces must be slip resistant and not allow water to accumulate.
- 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.
- Detectable warning surfaces shall be located so that the edge nearest the curb line is at the back of curb. When placed on the ramp, align the rows of domes to be perpendicular to the grade break between the ramp run and the street. Where detectable warning surfaces are provided on a surface with a slope that is less than 5 percent, dome orientation is less critical. Detectable warning surfaces may be curved along the corner radius.

SIDEWALKS

- Provide clear ground space of operable parts, including pedestrian push buttons. Operable parts shall be placed within one or more reach ranges specified in TAS 308.
- Place traffic signal or illumination poles, ground boxes, controller boxes, signs, drainage facilities and other items so as not to obstruct the pedestrian access route or clear ground space.
- Street grades and cross-slopes shall be as shown elsewhere in the plans.
- Changes in level greater than 1/4 inch are not permitted (1/2 inch with bevel).
- The least possible grade should be used to maximize accessibility. The running slope of sidewalks and crosswalks within the public right of way may follow the grade of the parallel roadway. Where a continuous grade greater than 5% must be provided, handrails may be desirable to improve accessibility. Handrails may also be needed to protect pedestrians from potentially hazardous conditions. If provided, handrails shall comply with TAS 505.
- Handrail extensions shall not protrude into the usable landing area or into intersecting pedestrian routes.

DIRECTIONAL CURB RAMP CITY OF ROCKWALL
 DATE: MAR. '17 DRAWING NO. R-2125D

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2	4/19/19	TAS REVIEW COMMENTS	MJH

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PROJECT NO.: TD180033
 DRAWN BY: MJH
 CHECKED BY: DOC
 DATE: 02/25/2019
 SCALE: N/A
 CAD I.D.: SD0

CONSTRUCTION DOCUMENTS

FOR

brakes plus

LOCATION OF SITE
 1902 S. GOLIAD ST
 LOTS 1 & 2 BLOCK A, BILLY PEOPLES ADDITION NO. 1
 ROCKWALL, TX 75087
 ROCKWALL COUNTY

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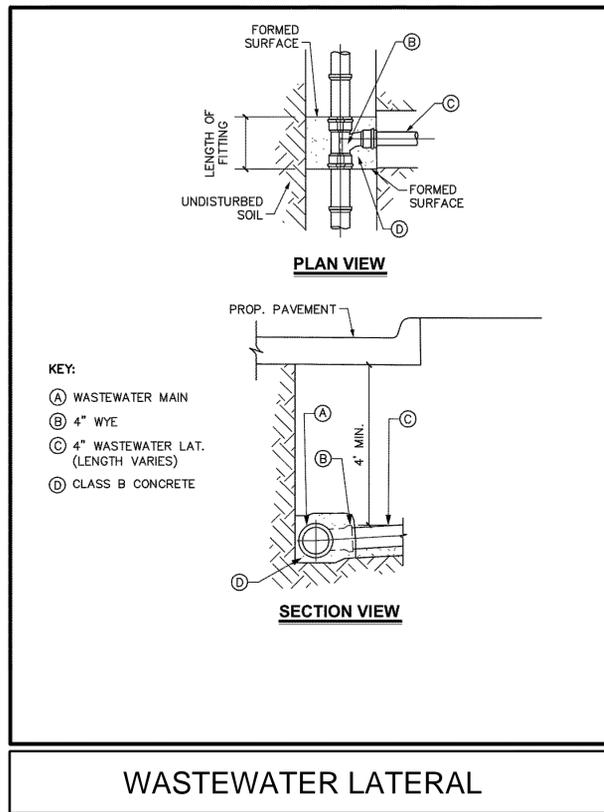
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 TX@BohlerEng.com

STATE OF TEXAS
 DEAN O. CARDWELL
 115432
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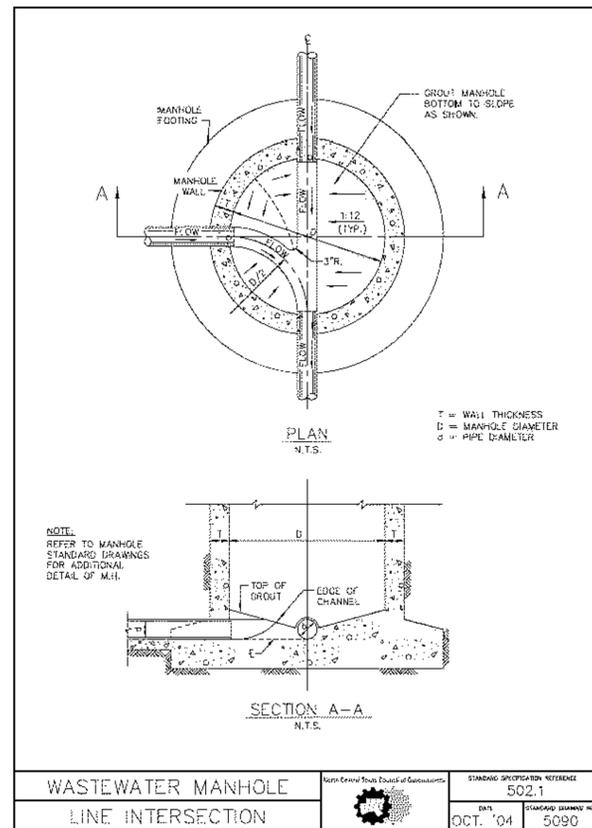
SHEET TITLE:
CONSTRUCTION DETAILS

SHEET NUMBER:
C-902

CASE NUMBER: SP2018-030

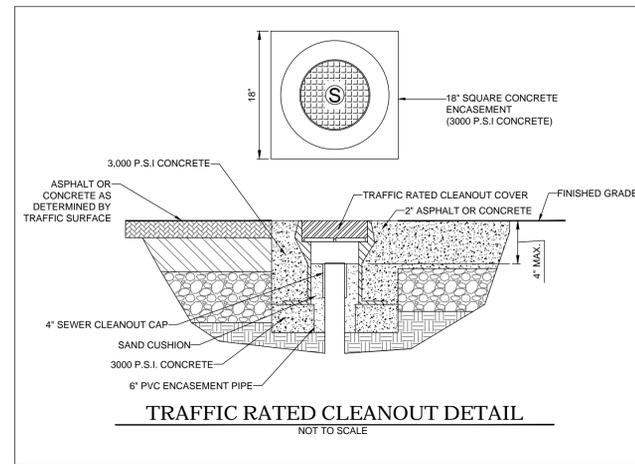


WASTEWATER LATERAL

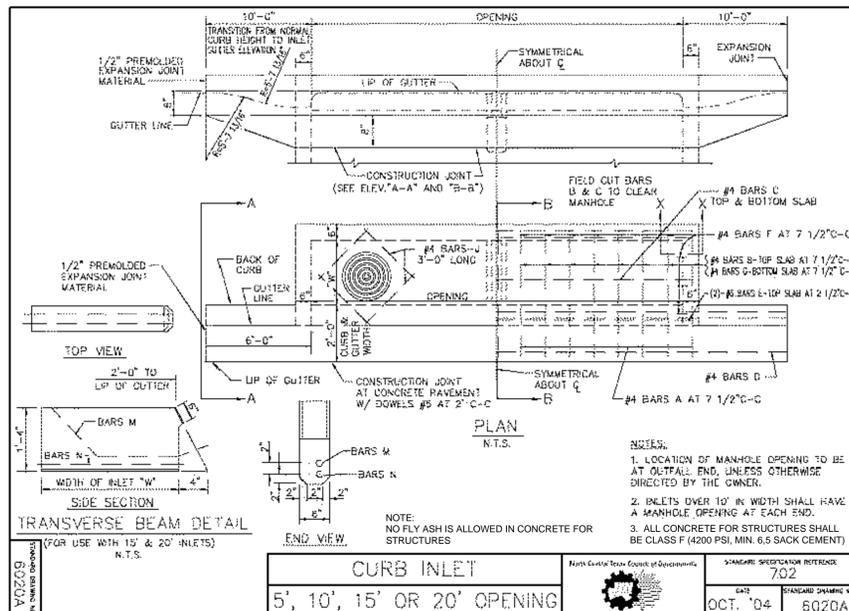


WASTEWATER MANHOLE
LINE INTERSECTION

STANDARD SPECIFICATION REFERENCE	502.1
DATE	OCT. '04
STANDARD DRAWING NO.	5090

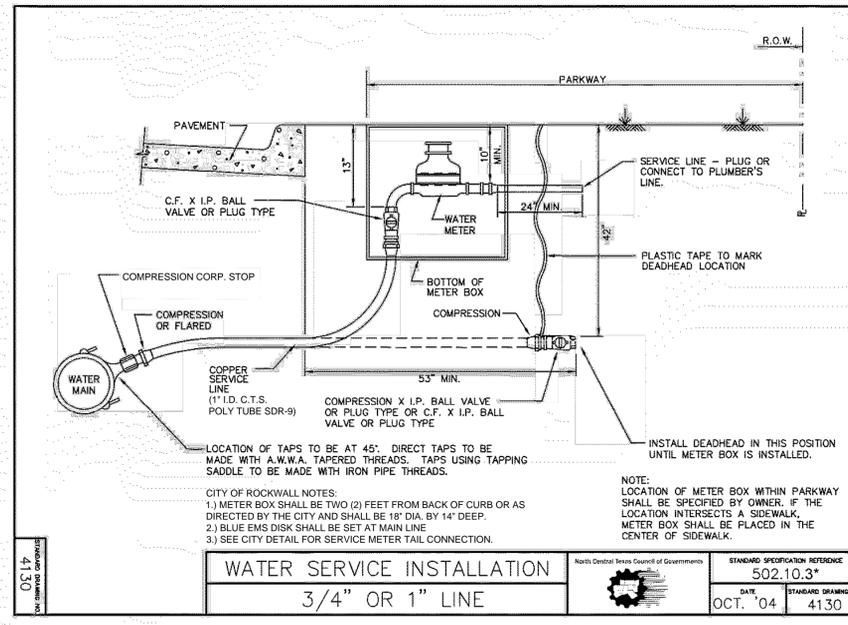


TRAFFIC RATED CLEANOUT DETAIL
NOT TO SCALE



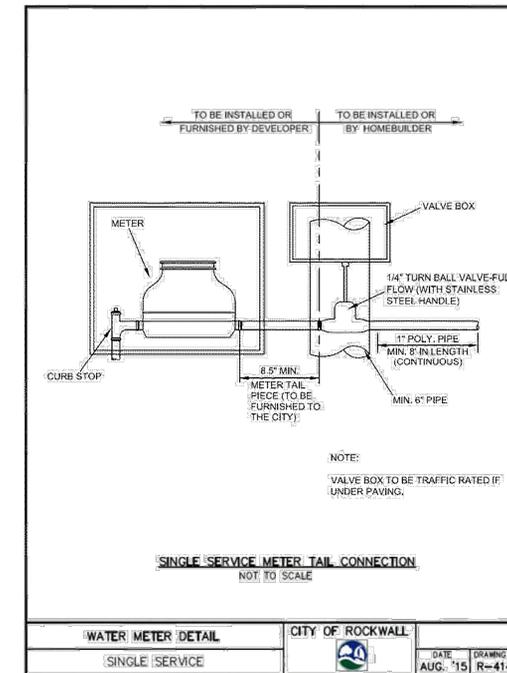
CURB INLET
5', 10', 15' OR 20' OPENING

STANDARD SPECIFICATION REFERENCE	702
DATE	OCT. '04
STANDARD DRAWING NO.	5020A



WATER SERVICE INSTALLATION
3/4" OR 1" LINE

STANDARD SPECIFICATION REFERENCE	502.10.3*
DATE	OCT. '04
STANDARD DRAWING NO.	4130



WATER METER DETAIL
SINGLE SERVICE

CITY OF ROCKWALL	DATE	DRAWING NO.
	AUG. '15	R-4145

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SCALE: N/A
CAD I.D.: SD0

CONSTRUCTION DOCUMENTS

FOR

brakes plus

LOCATION OF SITE
1902 S. GOLIAD ST
LOTS 1 & 2 BLOCK A, BILLY
PEOPLES ADDITION NO. 1
ROCKWALL, TX 75087
ROCKWALL COUNTY

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DEAN O. CARDWELL
115432
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SHEET TITLE:
UTILITY DETAILS

SHEET NUMBER:
C-904

CASE NUMBER: SP2018-030

TABLE NO.1 LONGITUDINAL STEEL

SLAB THICKNESS AND BAR SIZE	REGULAR STEEL BARS	FIRST SPACING AT EDGE AT TRANSVERSE CONSTRUCTION JOINT OR JOINT	ADDITIONAL STEEL BARS AT TRANSVERSE CONSTRUCTION JOINT OR JOINT	LENGTH (IN.)
7.0 #5	6.5	3 TO 4	13	50
7.5 #5	6.0	3 TO 4	12	50
8.0 #6	9.0	3 TO 4	18	50
8.5 #6	8.5	3 TO 4	17	50
9.0 #6	8.0	3 TO 4	16	50
9.5 #6	7.5	3 TO 4	15	50
10.0 #6	7.0	3 TO 4	14	50
10.5 #6	6.75	3 TO 4	13.5	50
11.0 #6	6.5	3 TO 4	13	50
11.5 #6	6.25	3 TO 4	12.5	50
12.0 #6	6.0	3 TO 4	12	50
12.5 #6	5.75	3 TO 4	11.5	50
13.0 #6	5.5	3 TO 4	11	50

TABLE NO.2 TRANSVERSE STEEL AND TIE BARS

SLAB THICKNESS (IN.)	TRANSVERSE STEEL	TIE BARS AT LONGITUDINAL CONSTRUCTION JOINT (SECTION Z-Z)	TIE BARS AT LONGITUDINAL CONSTRUCTION JOINT (SECTION Y-Y)
7.0 - 7.5	#5 48	#5 48	#5 24
8.0 - 13.0	#5 48	#6 48	#6 24

GENERAL NOTES

- DETAILS FOR PAVEMENT WIDTH, PAVEMENT THICKNESS AND THE CROWN CROSS-SLOPE SHALL BE SHOWN ELSEWHERE IN THE PLANS. PAVEMENTS WIDER THAN 100 FT. WITHOUT A FREE LONGITUDINAL JOINT ARE NOT COVERED BY THIS STANDARD.
- USE COARSE AGGREGATES WITH A RATED COEFFICIENT OF THERMAL EXPANSION (CTE) OF NOT MORE THAN 5.5 x 10⁻⁶ IN/IN/°F AS LISTED IN THE CONCRETE RATED SOURCE QUALITY CATALOG (CRSDC).
- ALL THE REINFORCING STEEL AND TIE BARS SHALL BE DEFORMED STEEL BARS CONFORMING TO ASTM A 615 (GRADE 60) OR ASTM A 996 (GRADE 80) OR ABOVE. STEEL BAR SIZES AND SPACINGS SHALL CONFORM TO TABLE NO.1 AND TABLE NO.2.
- WHEN COARSE AGGREGATE WITH A RATED COTE OF NOT MORE THAN 4.2 x 10⁻⁶ IN/IN/°F IS USED, TABLE NO.1A MAY BE USED FOR LONGITUDINAL STEEL AS APPROVED BY THE ENGINEER.
- STEEL BAR PLACEMENT TOLERANCE SHALL BE +/- 1 IN. HORIZONTALLY AND +/- 0.5 IN. VERTICALLY. CALCULATED AVERAGE BAR SPACING (CONCRETE PLACEMENT WIDTH / NUMBER OF LONGITUDINAL BARS) SHALL CONFORM TO TABLE NO.1 OR TABLE NO.1A.
- PAVEMENT WIDTHS OF MORE THAN 15 FT. SHALL HAVE A LONGITUDINAL JOINT (SECTION Z-Z OR SECTION Y-Y). THESE JOINTS SHALL BE LOCATED WITHIN 6 IN. OF THE LANE LINE UNLESS THE JOINT LOCATION IS SHOWN ELSEWHERE ON THE PLANS.
- THE SAW CUT DEPTH FOR THE LONGITUDINAL CONTRACTION JOINT (SECTION Z-Z) SHALL BE ONE THIRD OF THE SLAB THICKNESS (T/3).
- WHEN TYING CONCRETE CUTTER AT A LONGITUDINAL JOINT, THE TIE BAR LENGTH OR POSITION MAY BE ADJUSTED. PROVIDE 3 IN. OF CONCRETE COVER FROM THE BACK OF CUTTER TO THE END OF TIE BAR.
- REPLACE MISSING OR DAMAGED TIE BARS WITHOUT ADDITIONAL COMPENSATION BY DRILLING MIN. 10 IN. DEEP AND GROUTING THE BARS WITH TYPE III, CLASS C EPOXY. MEET THE PULL-OUT TEST REQUIREMENTS IN ITEM 361.
- OMIT TIE BARS LOCATED WITHIN 18-IN. OF THE TRANSVERSE CONSTRUCTION JOINTS (SECTION X-X). USE HAND-OPERATED IMMERSION VIBRATORS TO CONSOLIDATE THE CONCRETE ADJACENT TO ALL FORMED JOINTS.
- LONGITUDINAL REINFORCING STEEL SPLICES SHALL BE A MINIMUM OF 25 IN. STAGGER THE LAP LOCATIONS SO THAT NO MORE THAN 1/3 OF THE LONGITUDINAL STEEL IS SPLICED IN ANY GIVEN 12-FT. WIDTH AND 2-FT. LENGTH OF THE PAVEMENT.
- THE DETAIL FOR THE JOINT SEALANT AND RESERVOIR IS SHOWN ON STANDARD SHEET "CONCRETE PAVING DETAILS, JOINT SEALS."

TYPICAL PAVEMENT LAYOUT
PLAN VIEW (NOT TO SCALE)

CONCRETE PAVING DETAILS
JOINT SEALS
JS-14

TABLE NO.1A LONGITUDINAL STEEL FOR LOW COTE CONCRETE AS APPROVED BY THE ENGINEER

SLAB THICKNESS AND BAR SIZE	REGULAR STEEL BARS	FIRST SPACING AT EDGE AT TRANSVERSE CONSTRUCTION JOINT OR JOINT	ADDITIONAL STEEL BARS AT TRANSVERSE CONSTRUCTION JOINT OR JOINT	LENGTH (IN.)
7.0 #5	7.5	3 TO 4	15	50
7.5 #5	7.0	3 TO 4	14	50
8.0 #6	10.0	3 TO 4	20	50
8.5 #6	9.5	3 TO 4	19	50
9.0 #6	9.0	3 TO 4	18	50
9.5 #6	8.5	3 TO 4	17	50
10.0 #6	8.0	3 TO 4	16	50
10.5 #6	7.5	3 TO 4	15	50
11.0 #6	7.0	3 TO 4	14	50
11.5 #6	6.75	3 TO 4	13.5	50
12.0 #6	6.50	3 TO 4	13	50
12.5 #6	6.25	3 TO 4	12.5	50
13.0 #6	6.0	3 TO 4	12	50

TRANSVERSE EXPANSION JOINT DETAIL AT BRIDGE APPROACH

FREE LONGITUDINAL JOINT DETAIL

TRANSVERSE TIE JOINT DETAIL

CONCRETE PAVING DETAILS
JOINT SEALS
JS-14

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MIAMI, FL
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2	4/19/19	TAS REVIEW COMMENTS	MJH

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PROJECT NO.: TD180033
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DATE: 02/25/2019
SCALE: N/A
CAD ID: SDO

CONSTRUCTION DOCUMENTS

FOR
brakes plus
CREATED BY JOHN BRIDGES

LOCATION OF SITE
1902 S. GOLIAF ST
LOTS 1 & 2, BLOCK A, BILLY PEOPLES ADDITION NO. 1
ROCKWALL, TX 75087
ROCKWALL COUNTY

BOHLER ENGINEERING
6017 MAIN STREET
FRISCO, TX 75034
Phone: (469) 458-7300
TX@BohlerEng.com

DEAN O. CARDWELL
115432
PROFESSIONAL ENGINEER
1.16.20

SHEET TITLE:
TxDOT DETAILS

SHEET NUMBER:
C-905

CASE NUMBER: SP2018-030

METHOD B: JOINT SEALING COMPOUND

METHOD A: PREFORMED COMPRESSION SEALS (PCS) (DMS-6310 CLASS 6)

GENERAL NOTES

- UNLESS OTHERWISE SHOWN IN THE PLANS, EITHER METHOD "A" OR METHOD "B" MAY BE USED.
- THE LOCATION OF JOINTS SHALL BE AS SHOWN ELSEWHERE IN THE PLANS.
- THE JOINT RESERVOIR FOR SEALANT OR PCS SHALL BE SAWS UNLESS OTHERWISE SHOWN ON THE PLANS FOR THE LONGITUDINAL AND TRANSVERSE CONSTRUCTION JOINTS AND THE SAWS JOINTS.
- DIMENSIONS d1, d2, AND d3 SHOWN IN METHOD A SHALL BE IN ACCORDANCE WITH THE PREFORMED COMPRESSION SEAL MANUFACTURER'S RECOMMENDATION.
- REFER TO DMS-6310 "JOINT SEALANTS AND FILLERS" FOR THE CLASSIFICATIONS.
- FOR SAWS LONGITUDINAL JOINT, LONGITUDINAL OR TRANSVERSE CONSTRUCTION JOINT, USE JOINT SEALANT CLASS 5 OR 8 UNLESS OTHERWISE SHOWN ON THE PLAN OR APPROVED.
- FOR TRANSVERSE SAWS CONTRACTION, TRANSVERSE FORMED EXPANSION JOINT, AND ISOLATION JOINT USE JOINT SEALANT CLASS 5 OR 8 AT NEW JOINTS. USE JOINT SEALANT CLASS 4, 5, 7, OR 8 FOR MAINTAINING EXISTING JOINTS.
- THE JOINTS SHALL BE CLEANED IN ACCORDANCE WITH THE ITEM 436 "CLEANING AND SEALING JOINTS" OR ITEM 713 "CLEANING AND SEALING JOINTS AND CRACKS (CONCRETE PAVEMENT)".
- ISOLATION JOINTS ACCOMMODATE HORIZONTAL AND VERTICAL MOVEMENTS THAT OCCUR BETWEEN A PAVEMENT AND A STRUCTURE. ISOLATION JOINTS MAY BE USED FOR BRIDGE ABUTMENTS, INTERSECTIONS, CURB AND CUTTER, OLD AND NEW PAVEMENTS, OR AROUND DRAINAGE INLETS, MANHOLES, FOOTINGS AND LIGHTING STRUCTURES.

CONCRETE PAVING DETAILS
JOINT SEALS
JS-14

TRAFFIC CONTROL PLAN
LANE CLOSURES ON MULTILANE CONVENTIONAL ROADS

TCP (1-4a) ONE LANE CLOSED

TCP (1-4b) TWO LANES CLOSED

TCP (1-4) - 18

LEGEND

Symbol	Description	Symbol	Description
3 Barricade	Channelizing Device	Truck Mounted Attenuator (TMA)	Truck Mounted Attenuator (TMA)
Heavy Work Vehicle	Heavy Work Vehicle	Flashing Arrow Board	Flashing Arrow Board
Trailer Mounted Flashing Arrow Board	Trailer Mounted Flashing Arrow Board	Sign	Sign
Flag	Flag	Flagger	Flagger

GENERAL NOTES

- Flags attached to signs when shown are REQUIRED.
- All traffic control devices illustrated are REQUIRED, except those denoted with the triangle symbol may be omitted when stored elsewhere in the plans, or for routine maintenance work, when approved by the Engineer.
- The "ROAD WORK AHEAD" sign may be replaced if the visibility of the work zone is less than 1500 feet.
- A show vehicle with a TMA should be used anytime it can be positioned 50 to 100 feet in advance of the area of work exposure without adversely affecting the performance or quality of the work. If workers are no longer present but road or work conditions require the traffic control to remain in place, type 3 Barricades or other channelizing devices may be substituted for the Show Vehicle and TMA.
- Additional Show Vehicles with TMAs may be positioned off the paved roadway, next to show signs in order to protect worker spaces.

TYPICAL USAGE

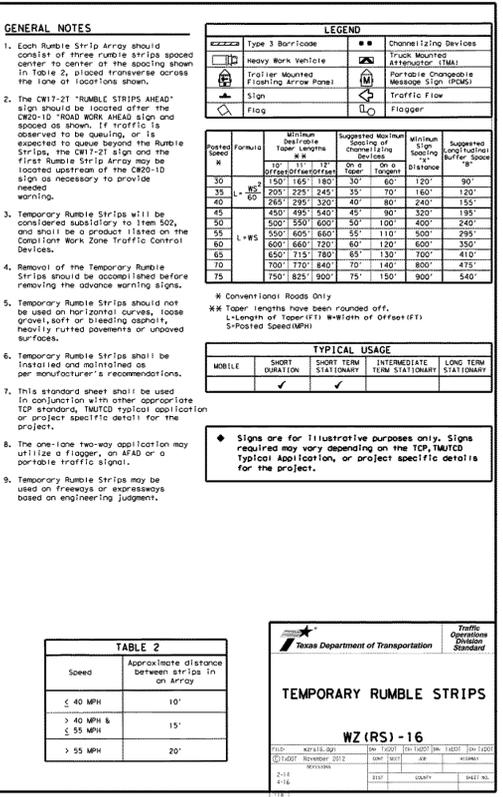
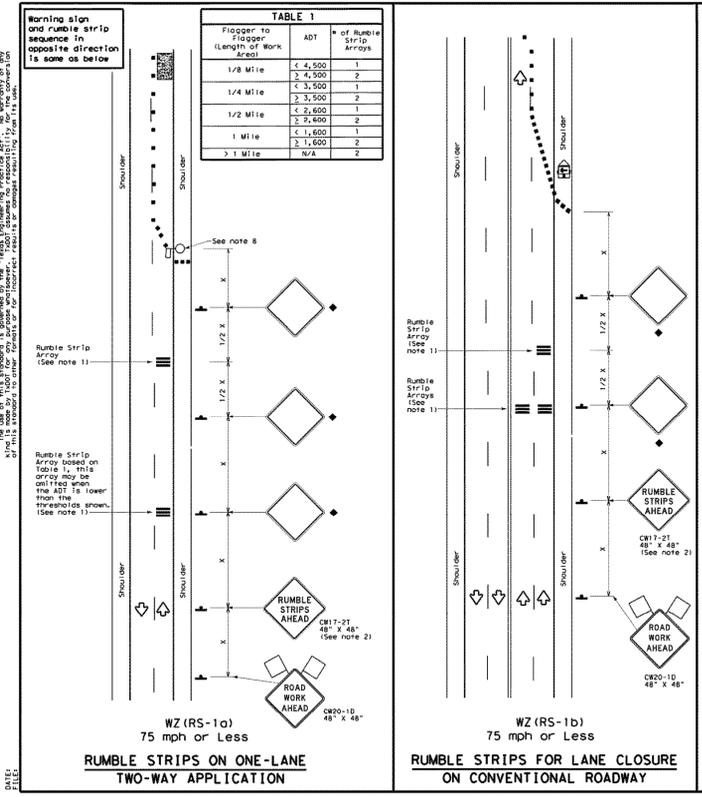
MOBILE	STATIONARY	TERM STATIONARY	LONG TERM STATIONARY
✓	✓	✓	✓

CONCRETE PAVING DETAILS
JOINT SEALS
JS-14

TxDOT DETAILS

SHEET NUMBER:
C-905

CASE NUMBER: SP2018-030



Type 3 Bar/Board	Channelizing Devices
Heavy Work Warning	Truck Mounted Attenuator (TMA)
Trailer Mounted Flashing Arrow Panel	Portable Changeable Message Sign (PCMS)
Sign	Traffic Flow
Flag	Flagger

MOBILE	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
✓	✓	✓	✓

Posted Speed (mph)	Forming Length (ft)	Minimum Taper Length (ft)	Maximum Taper Length (ft)	Minimum Sign Length (ft)	Maximum Sign Length (ft)	Minimum Spacing (ft)	Maximum Spacing (ft)
30	150	125	180	30	60	120	90
35	150	125	245	35	70	160	120
40	150	125	320	40	80	240	155
45	150	125	405	45	90	320	195
50	150	125	500	50	100	400	240
55	150	125	605	55	110	500	295
60	150	125	720	60	120	600	350
65	150	125	845	65	130	700	410
70	150	125	980	70	140	800	475
75	150	125	1125	75	150	900	540

TEXAS DEPARTMENT OF TRANSPORTATION
 DESIGN STANDARD
 115
 11/15/11

WARNING sign and rumble strip sequence in opposite direction is same as below

Rumble Strip Array based on ADT in this array may be modified when the ADT is lower than the design ADT shown. (See note 1)

Rumble Strip Array based on ADT in this array may be modified when the ADT is lower than the design ADT shown. (See note 1)

WZ (RS-1a) 75 mph or Less

RUMBLE STRIPS ON ONE-LANE TWO-WAY APPLICATION

WZ (RS-1b) 75 mph or Less

RUMBLE STRIPS FOR LANE CLOSURE ON CONVENTIONAL ROADWAY

CR-201 48" x 48" ROAD WORK AHEAD

CR-202 48" x 48" ROAD WORK AHEAD

CR-203 48" x 48" ROAD WORK AHEAD

CR-204 48" x 48" ROAD WORK AHEAD

CR-205 48" x 48" ROAD WORK AHEAD

CR-206 48" x 48" ROAD WORK AHEAD

CR-207 48" x 48" ROAD WORK AHEAD

CR-208 48" x 48" ROAD WORK AHEAD

CR-209 48" x 48" ROAD WORK AHEAD

CR-210 48" x 48" ROAD WORK AHEAD

CR-211 48" x 48" ROAD WORK AHEAD

CR-212 48" x 48" ROAD WORK AHEAD

CR-213 48" x 48" ROAD WORK AHEAD

CR-214 48" x 48" ROAD WORK AHEAD

CR-215 48" x 48" ROAD WORK AHEAD

CR-216 48" x 48" ROAD WORK AHEAD

CR-217 48" x 48" ROAD WORK AHEAD

CR-218 48" x 48" ROAD WORK AHEAD

CR-219 48" x 48" ROAD WORK AHEAD

CR-220 48" x 48" ROAD WORK AHEAD

CR-221 48" x 48" ROAD WORK AHEAD

CR-222 48" x 48" ROAD WORK AHEAD

INSTALL DETECTABLE WARNING SURFACE AT EACH END OF THE CUT-THROUGH RAMP WITH A MINIMUM 2' USUAL SIDEWALK SURFACE BENEATH. IF MEDIAN IS LESS THAN 8' WIDE, ELIMINATE DETECTABLE WARNING SURFACES.

ALIGN CURB PARALLEL WITH CROSSWALK

NOTE: CURB DETAILS ARE SHOWN ELSEWHERE IN THE PLANS.

COMBINATION ISLAND RAMPS

PERPENDICULAR CURB RAMP

PARALLEL CURB RAMP

COMBINATION CURB RAMPS

PERPENDICULAR CURB RAMP

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PERPENDICULAR CURB RAMP

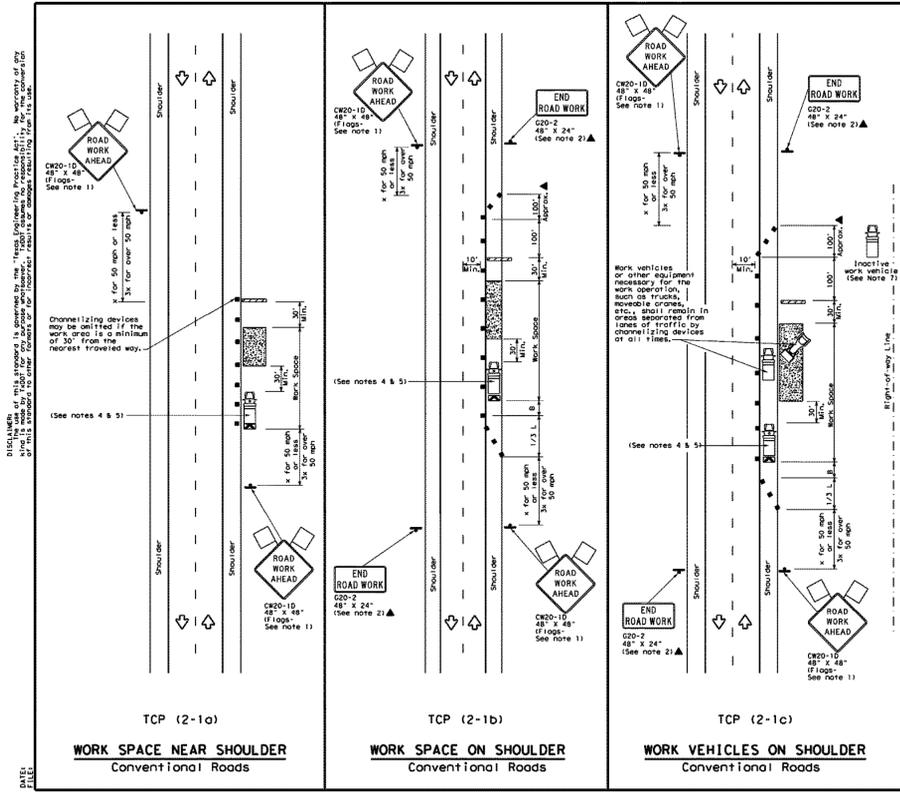
PARALLEL CURB RAMP

COMBINATION CURB RAMPS

PERPENDICULAR CURB RAMP

PARALLEL CURB RAMP

COMBINATION CURB RAMPS



LEGEND

Channelizing Devices	Truck Mounted Attenuator (TMA)
Heavy Work Vehicle	Portable Changeable Message Sign (PCMS)
Trailer Mounted Flashing Arrow Board	Traffic Flow
Sign	Flagger

Post/Sign	Formula	Without Channelizing Devices	Spacing of Channelizing Devices	Minimum Spacing	Suggested Buffer Spacing
30	$150(1 + 0.0015L)$	180	30'	60'	120'
35	$205(1 + 0.0015L)$	245	35'	70'	120'
40	$265(1 + 0.0015L)$	320	40'	80'	135'
45	$325(1 + 0.0015L)$	400	45'	90'	150'
50	$385(1 + 0.0015L)$	480	50'	100'	165'
55	$445(1 + 0.0015L)$	560	55'	110'	180'
60	$505(1 + 0.0015L)$	640	60'	120'	195'
65	$565(1 + 0.0015L)$	720	65'	130'	210'
70	$625(1 + 0.0015L)$	800	70'	140'	225'
75	$685(1 + 0.0015L)$	880	75'	150'	240'

TYPICAL USAGE

MOBILE	SHORT DURATION	SHORT TERM STATIONARY	INTERMEDIATE TERM STATIONARY	LONG TERM STATIONARY
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GENERAL NOTES

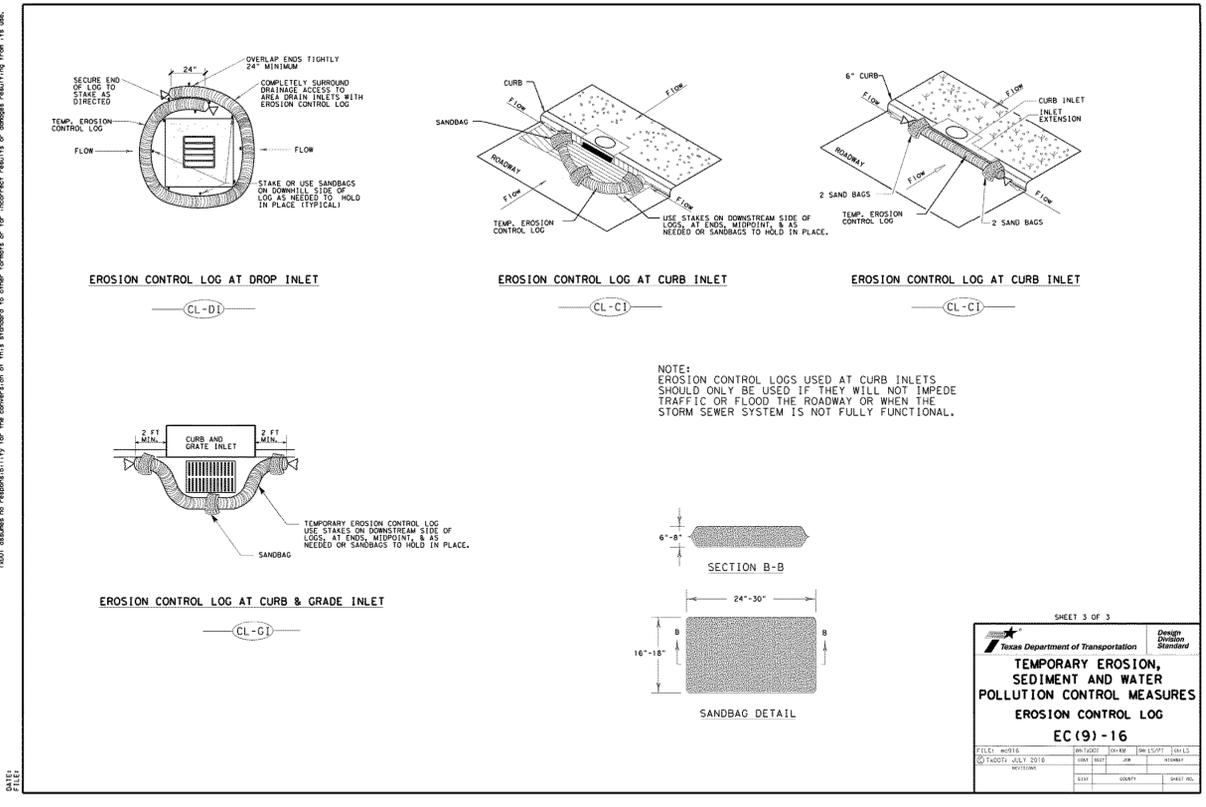
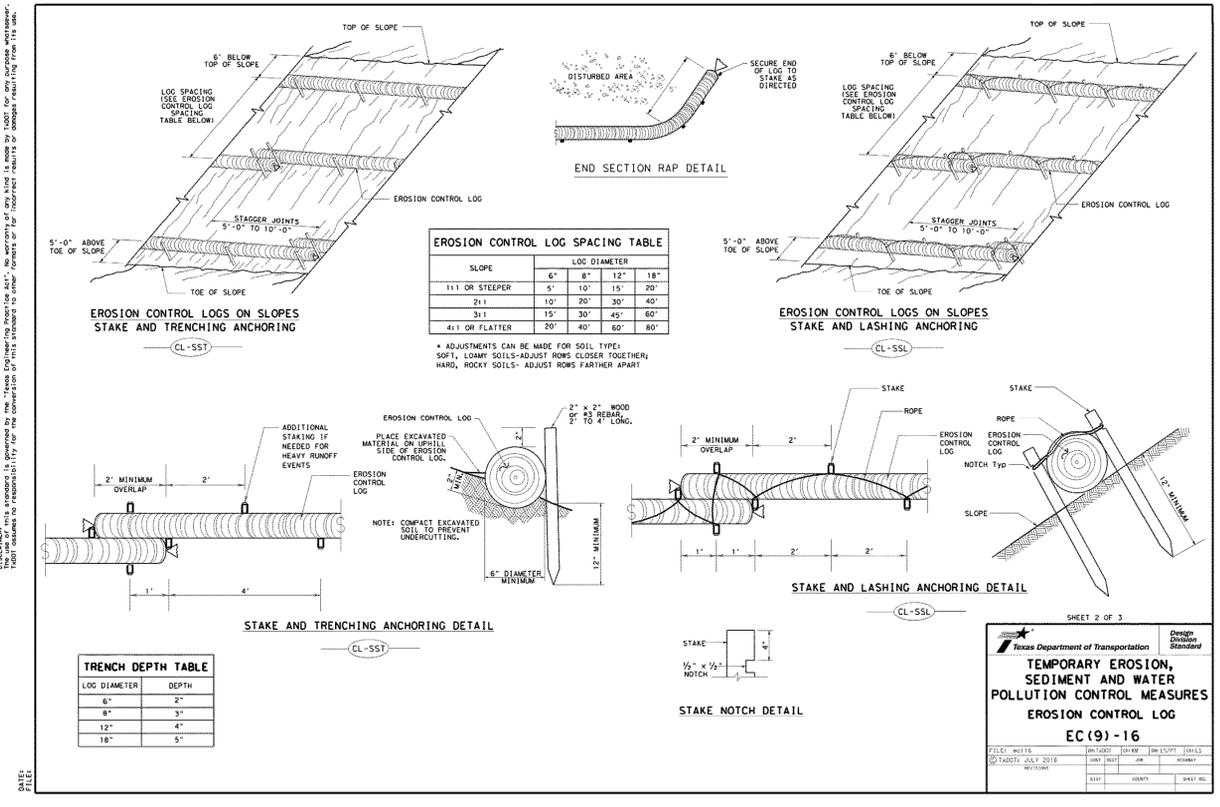
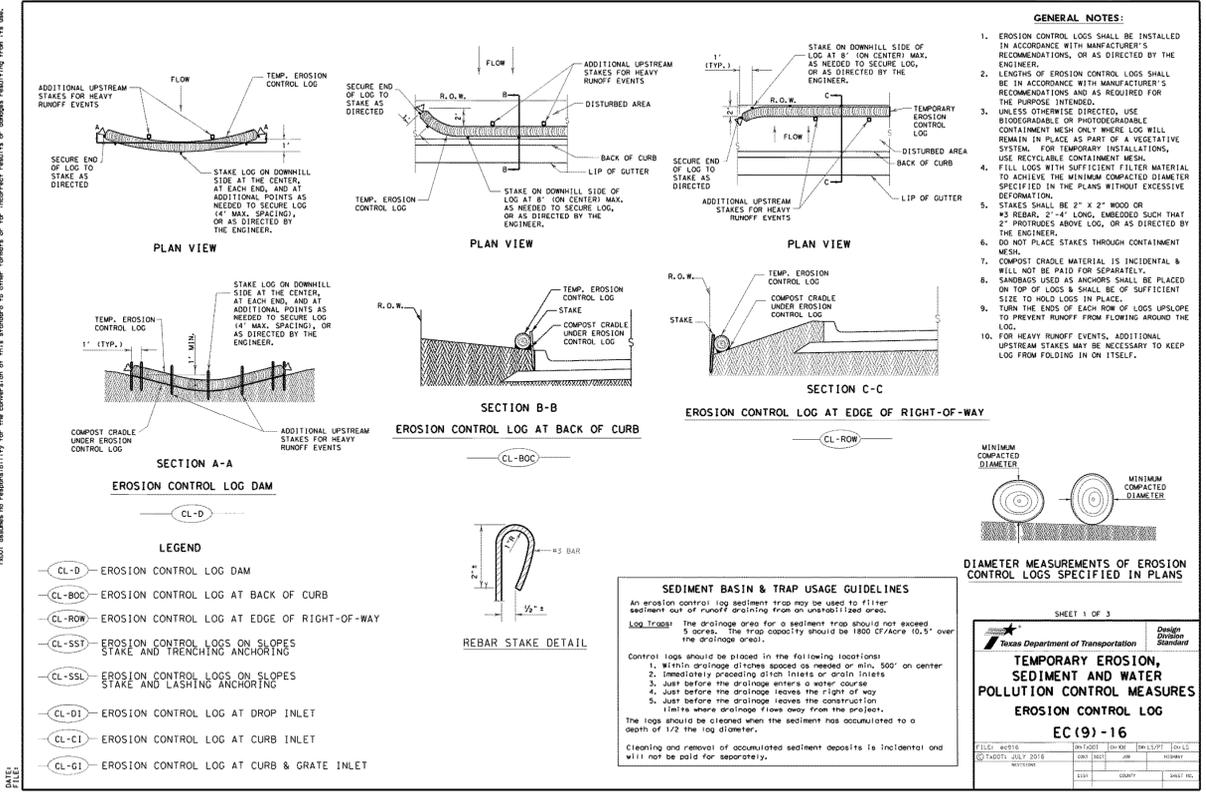
- Flags attached to signs where shown, are required.
- All traffic control devices illustrated are required, except those omitted with the exception of those that may be omitted when stated in the plans, or for routine maintenance work, when approved by the Engineer.
- Shoulder work should be placed a minimum of 30 feet from nearest traveled way.
- Shovel vehicle with TMA and high intensity rotating, flashing, oscillating or strobe lights. A shovel vehicle with a TMA should be used anytime it can be positioned 30 to 100 feet in advance of the work area. If workers are no longer present but road or work conditions require the traffic control to remain in place, Type 3 Barricades or other approved devices may be substituted for the shovel vehicle and TMA.
- Additional shovel vehicles with TMA may be positioned off the paved surface, next to those shown in order to protect a clear work space.
- See Note 15 for shoulder work on divided highways, expressways and freeways.
- Tractor vehicles or other equipment should be parked near the right-of-way line and not parked on the paved shoulder.
- Only "SHOULDER WORK" signs may be used in place of "ROAD WORK AHEAD" signs for shoulder work on conventional roadways.

Texas Department of Transportation Traffic Operations Division Standard

TRAFFIC CONTROL PLAN CONVENTIONAL ROAD SHOULDER WORK

TCP (2-1)-18

FILE: 2-18-18-000
 DATE: 07/20/2016
 SHEET NO. 18



BOHLER ENGINEERING

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REVISIONS

REV	DATE	COMMENT	BY
1	3/18/19	DOMESTIC WATER REVISION	MJH
2	4/19/19	TAS REVIEW COMMENTS	MJH

811

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ASBUILT RECORD DRAWING

PROJECT NO.: TD180033
 DRAWN BY: MJH
 CHECKED BY: DOC
 DATE: 02/25/2019
 SCALE: N/A
 CAD ID.: N/A

CONSTRUCTION DOCUMENTS

FOR

brakes plus

LOCATION OF SITE
 1902 S. GOLIAD ST
 LOTS 1 & 2, BLOCK A, BILLY PEOPLES ADDITION NO. 1
 ROCKWALL, TX 75087
 ROCKWALL COUNTY

BOHLER ENGINEERING

6017 MAIN STREET
 FRISCO, TX 75034
 Phone: (469) 458-7300
 TX@BohlerEng.com

STATE OF TEXAS
 DEAN O. CARDWELL
 115432
 LICENSED PROFESSIONAL ENGINEER
 1.16.20

SHEET TITLE:
 TxDOT DETAILS

SHEET NUMBER:
C-908

CASE NUMBER: SP2018-030