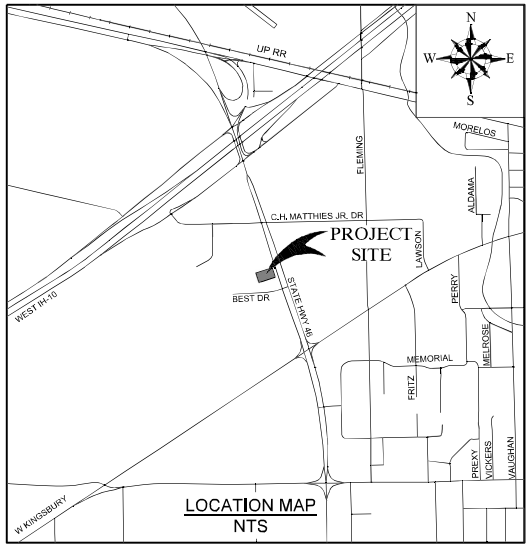
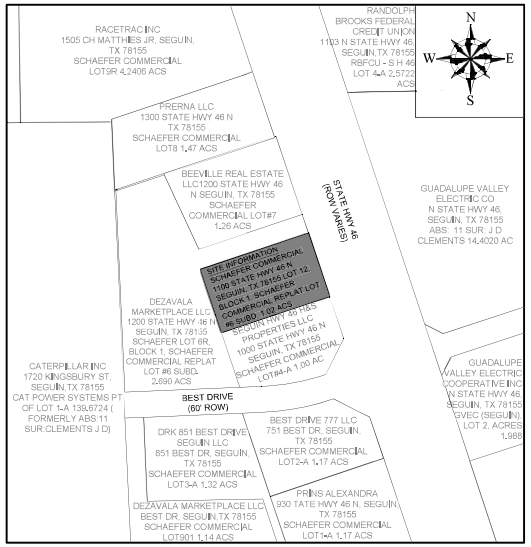
EXPRESS OIL CHANGE

1100 STATE HWY 46

SEGUIN, TX





MELISSA REYNOLDS, DIRECTOR OF ENGINEERING — DATE

SPRINGS HILL SPECIAL UTILITY DISTRICT, XXXX, PE. — DATE

PLANNING DEPARTMENT — DATE

OWNER: DEZAVALA MARKETPLACE LLC/ HARRY ADAMS IV
ADDRESS: 755 E MULBERRY, STE 600
SAN ANTONIO, TX 78212
PHONE: 1-337-277-7240

DEVELOPER: EXPRESS OIL CHANGE & TIRE ENGINEERS / TYLER HENDON
ADDRESS: 1880 SOUTHPARK DRIVE,
BIRMINGHAM, AL 35244
PHONE: 205-206-9006

ARCHITECT: AHO ARCHITECT, LLC / APRIL CAIN
1855 DATA DRIVE, STE 150
HOOVER, AL 35244
PHONE: 205-983-6000

ENGINEER: UNINTECH / MARK B HILL
ADDRESS: 2431 E EVANS RD
SAN ANTONIO, TX 78259
PHONE: 210-641-6003

LANDSCAPE: EDGELAND
ADDRESS: 601 NW LOOP 410, STE 400
SAN ANTONIO, TX 78216
PHONE: 1-830-337-0074

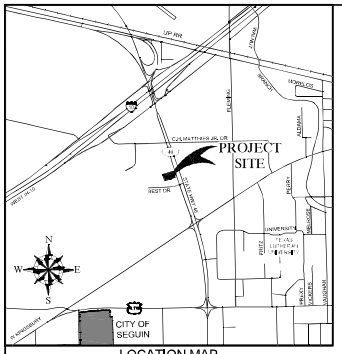
SURVEYOR: UNINTECH / DANNY DAVIS
ADDRESS: 2431 E EVANS RD
SAN ANTONIO, TX 78259
PHONE: 210-641-6003

MARK B. HILL
94904
LICENSED
PROFESSIONAL ENGINEER

UNINTECH CONSULTING ENGINEERS, INC.
2431 E. EVANS ROAD
SAN ANTONIO, TEXAS 78259
P: (210) 641-6003 F: (210) 641-6279
TBPE REG. NO. F-3499
TBPLS NO. 10051100
WWW.UNINTECH.COM

PROJECT NO.: 26-031-V

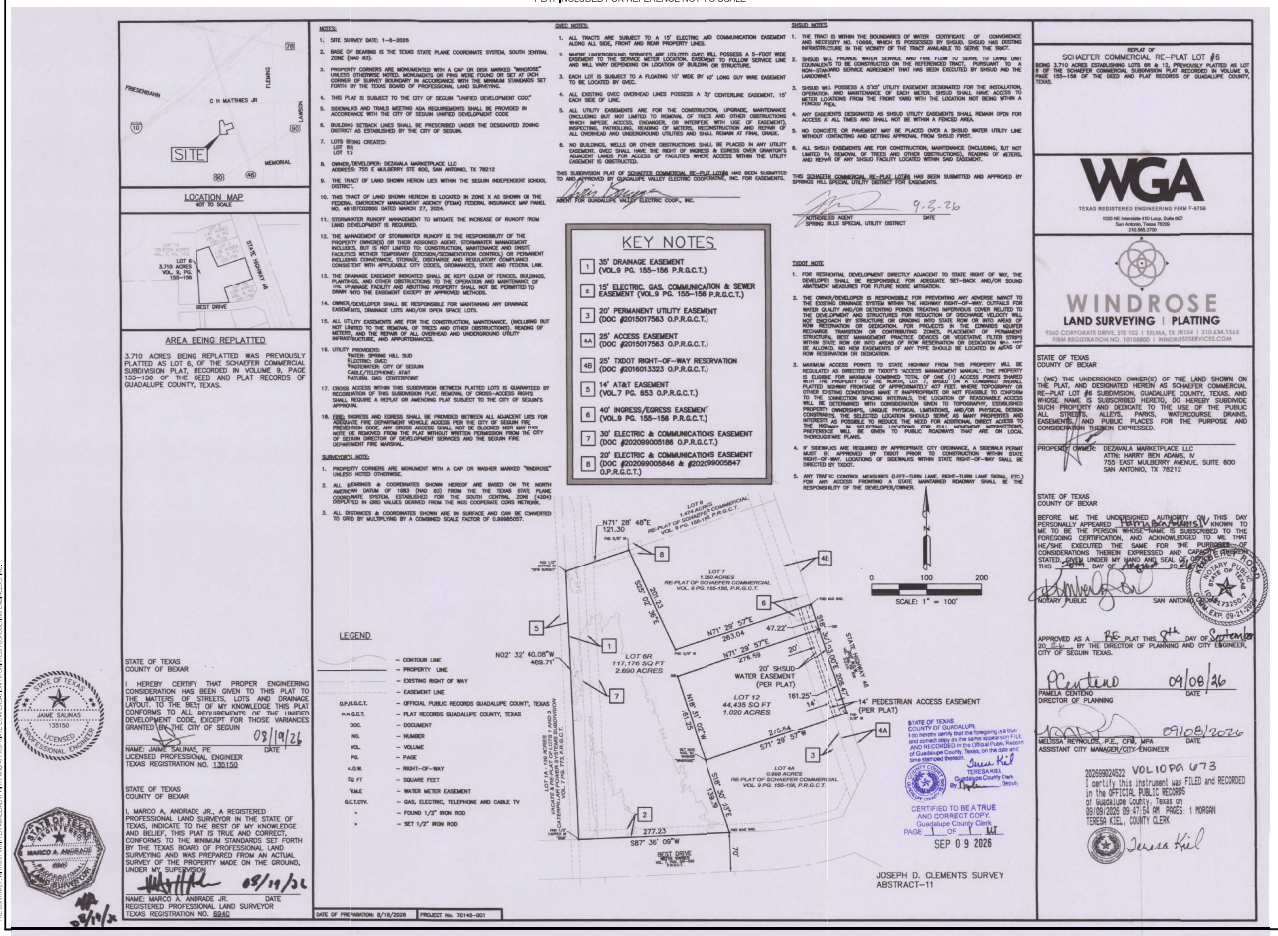
DATE: 7-31-2026



LOCATION MAP
NTS

LEGEND - EXIST FEATURES	
	Edge of Pavement
S	Sanitary Sewer Line
S	Sanitary Sewer Manhole
RW RW	Reuse/Recycle Water Line
W W	Water Line
	Water Valve
	Firehydrant
	Water Meter
	Power Pole
	Power Pole w/Guy Line
OHE	Overhead Electric Line
UE	Underground Electric Line
UGT	Underground Telephone Line
	Telephone Pedestal
FOC	Fiber Optic Cable
	Gas Line
	Gas Valve
	Mailbox
	Sign
	Light Standard
	Barbed Wire Fence
	Chain Link Fence
	Wood Fence

PLAT INCLUDED FOR REFERENCE NOT TO SCALE



SHEET LIST TABLE	
SHEET NUMBER	SHEET TITLE
GENERAL	
C1	COVER
C2	INDEX AND LEGEND
C3	GENERAL CONSTRUCTION NOTES
C4	EXISTING & DEMOLITION PLAN
SITE	
C5	SITE PLAN
C6	DIMENSIONAL CONTROL
C7	PAVEMENT PARKING PLAN
C8	GRADING PLAN
C9	PREDEVELOPMENT AND ULTIMATE OVERALL DRAINAGE
C10	EXISTING AND PROPOSED ONSITE DRAINAGE
C11	UTILITY PLAN
C12	WATER DETAILS
C13	WASTEWATER DETAILS
C14	FIRE SITE PLAN
SWPPP	
C15	SWPPP PLAN
C16	SWPPP NARRATIVE
C17	SWPPP DETAILS
DETAILS	
C18	PAVEMENT DETAILS
C19	SIDEWALK, STRIPING, AND SIGNAGE DETAIL
LANDSCAPE	
L0.00	KEY MAP AND INDEX
L0.01	TREE PROTECTION
L1.00	PLANTING NOTES AND SCHEDULE
L1.01	PLANTING PLAN
L1.02	PLANTING DETAILS
IRRIGATION	
LI1.0	IRRIGATION NOTES AND LEGEND
LI1.1	IRRIGATION PLAN
LI2.1	IRRIGATION DETAILS

AC	ASBESTOS CONCRETE	ID	INSIDE DIAMETER	RCB	REINFORCED CONCRETE BOX
ASPH	ASPHALT	INV	INVERT	RCP	REINFORCED CONCRETE PIPE
BFV	BUTTERFLY VALVE	IR	IRON ROD	REQ'D	REQUIRED
BLDG	BUILDING	IRS	SET IRON ROD	ROW	RIGHT OF WAY
CFN	CHAIN LINK FENCE	LF	LINEAR FEET	RWALL	RETAINING WALL
CI	CAST IRON	LT	LEFT	RWL	RECYCLED WATER LINE
CL	CENTER LINE	LP	LIGHT POLE	SF	SILT FENCE
CONC	CONCRETE	MH	MANHOLE	SPL	SERVICE POLE
COSA	CITY OF SAN ANTONIO	MAX	MAXIMUM	SAN SWR	SANITARY SEWER
CSC	CONCRETE STEEL CYLINDER PIPE	MFG	MANUFACTURER	STA	STATION
CORP	CORPORATION	MJ	MECHANICAL JOINT	STD	STANDARD
CMP	CORRUGATED METAL PIPE	MIN	MINIMUM	STL	STEEL
CPED	CABLE PEDESTAL	N/A	NOT APPLICABLE	STRM	STORM
CPL	COUPLING	NSPI	NO SEPARATE PAY ITEM	SW	SIDEWALK
DEMO	DEMOLISH	N.T.S.	NOT TO SCALE	TEL	TELEPHONE
DI	DUCTILE IRON	OC	ON CENTER	TBM	TEMPORARY BENCHMARK
DRWY	DRIVEWAY	OCEW	ON CENTER EACH WAY	THD	THREADED
DTL	DETAIL	OD	OUTSIDE DIAMITER	TPED	TELEPHONE PEDESTAL
ELEC	ELECTRICAL	OHE	OVERHEAD ELECTRIC	TSPL	TRAFFIC SIGNAL POLE
ELEV / EL	ELEVATION	OHT	OVERHEAD TELEPHONE	TYP	TYPICAL
EOP	EDGE OF PAVEMENT	PVMT	PAVEMENT	UNK	UNKNOWN
ESMT	EASEMENT	+/-	PLUS OR MINUS	VCP	CLAY PIPE
EX / EXIST	EXISTING	PE	PLAIN END	VERT	VERTICAL
FH	FIRE HYDRANT	UG	UNDERGROUND	WDFN	WOOD FENCE
FL	FLOW LINE	PSI	POUNDS PER SQUARE INCH	WFN	WIRE FENCE
FND	FOUND	PP	POWER POLE	WL	WATERLINE
GA	GAUGE	PROP	PROPOSED WORK BY OTHERS	WM	WATER METER
GV	GATE VALVE	UE	UNDERGROUND ELECTRIC		
PVC	POLYVINYL CHLORIDE PIPE	PCP	PRESTRESSED CONCRETE PRESSURE PIPE		
GUY	GUY ANCHOR	PL	PROPERTY LINE		
HORZ	HORIZONTAL	PZ	PRESSURE ZONE		
HMAC	HOT MIX ASPHALTIC CONCRETE	RR	RAILROAD		

NO.	BY	REVISION	DATE
1	MH	IFB	09/15/26

PROJECT NAME:
EXPRESS OIL CHANGE, SEGUIN TX
1100 STATE HWY 46 N, SEGUIN, TX 78155

ARCHITECT: AHD ARCHITECTS, LLC

ENGINEER: UNINTECH CONSULTING ENGINEERS, INC
TBPE REG. NO. F-14389
TBPLS NO. 10051100
WWW.UNINTECH.COM

CUSTOMER: EXPRESS OIL CHANGE AND TIRE ENGINEERS

UNINTECH CONSULTING ENGINEERS, INC.
2401 E. EVANS ROAD
SAN ANTONIO, TEXAS 78259
P: (210) 641-0000 F: (210) 641-6279

MARK B. HILL
94904
LICENSED PROFESSIONAL ENGINEER
09/16/2026

DRAWN BY:	DATE:
NV	7-31-2026
CHECKED BY:	DATE:
MH	7-31-2026

PROJECT NO:
26-031-V

SHEET TITLE:
INDEX AND LEGEND

SHEET NO:
C2

DRAWINGS AND SPECIFICATIONS, AS INSTRUMENTS OF SERVICE, ARE AND SHALL REMAIN THE PROPERTY OF THE ARCHITECT AND THE ENGINEER WHETHER THE PROJECT FOR WHICH THEY ARE MADE IS EXECUTED OR NOT. THEY ARE NOT TO BE USED BY THE OWNER OR OTHERS ON EXTENSIONS OF THE PROJECT OR ON ANY OTHER PROJECT WITHOUT THE WRITTEN AGREEMENT OF THE ARCHITECT AND THE ENGINEER.

GENERAL CONSTRUCTION NOTES

1. CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNITY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF THE WORK ON THIS PROJECT, EXCEPTING FROM LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.

2. ANY DISCREPANCY OR CONFLICT WITHIN THE DRAWINGS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER. DISCREPANCIES OR CONFLICTS NOT BROUGHT TO THE ENGINEERS ATTENTION AND CLARIFIED DURING BIDDING OF THE PROJECT WILL BE DEEMED TO HAVE BEEN BID OR PROPOSED IN THE MORE COSTLY MANNER, AND THE BETTER QUALITY OR GREATER QUANTITY OF THE WORK SHALL BE PROVIDED BY THE CONTRACTOR IN ACCORDANCE WITH ENGINEERS INTERPRETATION. ALL ITEMS, WORK, AND IMPROVEMENTS SHOWN OR INDICATED IN THE CONSTRUCTION DOCUMENTS SHALL BE COMPLETED FOR THE PRICES BID, WHETHER OR NOT A SEPARATE PAY ITEM IS INCLUDED IN THE CONTRACT.

3. CONTRACTOR SHALL NOTIFY THE ENGINEER AND ALL RESPECTIVE GOVERNMENTAL OR UTILITY AGENCIES AFFECTED BY CONSTRUCTION 72 HOURS PRIOR TO STARTING CONSTRUCTION.

4. ALL WORKMANSHIP AND MATERIALS SHALL CONFORM TO THE CITY OF SEGUIN ORDINANCE OF CAPITAL PROJECTS / ENGINEERING WORKS CONSTRUCTION.

DESIGN STANDARDS REQUIRED:

A. PROJECT CONTRACT DOCUMENTS AND TECHNICAL SPECIFICATIONS
B. CITY OF SEGUIN, CAPITAL PROJECTS / ENGINEERING CONSTRUCTION SPECIFICATIONS
C. CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) FOR SEWERAGE SYSTEMS [31 TAC 317.1, 31 TAC 317.2, 31 TAC 317.3, AND 31 TAC 317.13 AND 213].
D. CURRENT TXDOT "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND DRAINAGE."
E. CURRENT "SPRINGS HILL SPECIAL UTILITY DISTRICT STANDARD SPECIFICATIONS FOR CONSTRUCTION."

5. ALL PAVEMENTS, DRIVEWAYS, SIDEWALKS, CURBING, GUTTERS, FENCES, POLES, MAILBOXES, SIGNS, TREES, SHRUBBERY, LAWNS, SOD OR OTHER PROPERTY AND SURFACE STRUCTURES ON OR ADJACENT TO THE SITE OF THE WORK THAT ARE DAMAGED, DISTURBED, REMOVED OR DESTROYED BY THE CONTRACTOR DURING THE WORK SHALL BE REPAIRED, REPLACED OR RETURNED TO A CONDITION EQUAL TO THAT BEFORE THE WORK BEGAN. CONTRACTOR TO SUPPORT AND KEEP INTACT STORM DRAINS AND INLET STRUCTURES. ANY DAMAGES INCURRED WILL BE AT CONTRACTOR'S EXPENSE.

6. CONSTRUCTION STAKING TO BE PROVIDED BY CONTRACTOR. MINIMAL CONTROL AND BENCHMARK STAKING WILL BE PROVIDED BY ENGINEER PER CONTRACT DOCUMENTS. CONTRACTOR SHALL PRESERVE ALL CONTROL AND BENCHMARK STAKES, ETC. IF ANY ARE DESTROYED OR REMOVED BY THE CONTRACTOR OR HIS EMPLOYEES, THEY SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

7. THE CONTRACTOR SHALL MAINTAIN "AS-BUILT" DRAWINGS THROUGH THE COURSE OF CONSTRUCTION AND SHALL SUBMIT SAME TO THE ENGINEER FOR APPROVAL PRIOR TO FINAL ACCEPTANCE OF THE WORK BY OWNER.

8. MATERIALS LAYDOWN/STORAGE TO BE DONE ON-SITE, AND PROPERLY SECURED BY CONTRACTOR AS PER SPECIFICATIONS.

9. THE LOCATION AND DEPTHS OF EXISTING UTILITIES, INCLUDING SERVICE LATERALS, SHOWN ON THE PLANS ARE APPROXIMATE ONLY. ACTUAL LOCATIONS AND DEPTHS MUST BE FIELD VERIFIED BY THE CONTRACTOR 48 HOURS PRIOR TO CONSTRUCTION AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITY SERVICE LINES AS REQUIRED FOR CONSTRUCTION AND TO PROTECT THEM DURING CONSTRUCTION.

10. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF UNDERGROUND UTILITIES AND DRAINAGE STRUCTURES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION WHETHER SHOWN ON PLANS OR NOT, AND TO PROTECT THE SAME DURING CONSTRUCTION.

A.	SPRINGS HILL SPECIAL UTILITY DISTRICT	(830) 379-7683
B.	TEXAS STATE WIDE ONE CALL LOCATOR	1-800-545-6005
C.	CITY OF SEGUIN	830-386-2222
D.	GVEC	1-800-223-4832
E.	CENTER POINT ENERGY	830-643-6938

11. CONTRACTOR TO BE RESPONSIBLE FOR ALL TREES MARKED OR FLAGGED FOR PRESERVATION.

SWPPP GENERAL NOTES

1. THE CONTRACTOR SHALL BE OPERATOR AS DEFINED BY THE TPDES GENERAL PERMIT. THE OPERATOR WILL PREPARE, SUBMIT A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) PLANS AND PERMITS, AND HAVE A DAY TO DAY OPERATIONAL CONTROL OF THE CONSTRUCTION ACTIVITIES. CONTRACTOR WILL ENSURE COMPLIANCE WITH SWPPP FOR THE SITE OR OTHER CONSTRUCTION GENERAL PERMIT CONDITIONS. SEE SECTION 01410 OF THE CONTRACT DOCUMENTS. ALL WORK AND FEES SHALL BE INCIDENTAL TO THE LUMP SUM ITEM FOR PLANT CONSTRUCTION.

2. THE CONTRACTOR SHALL ADHERE TO THE REQUIREMENTS OF THE GENERAL PERMIT (TXR150000). IMPLEMENT THE STORM WATER POLLUTION PREVENTION PLAN. SIGN AND POST A CONSTRUCTION SITE NOTICE.

3. AT LEAST 2 DAYS BEFORE BEGINNING CONSTRUCTION, PROVIDE A COPY OF THE SITE NOTICE TO THE TO CITY OF SEGUIN, PUBLIC WORKS (OPERATOR OF ANY MUNICIPAL SEPARATE STORM WATER SEWER SYSTEM (MS4) INTO WHICH STORM WATER WILL BE DISCHARGED)

4. NO NOTICE OF INTENT (NOI), NOTICE OF TERMINATION (NOT), OR FEE IS REQUIRED--AS LONG AS THE REQUIREMENTS OF THIS GENERAL PERMIT ARE FOLLOWED.

5. DISTURBED AREAS ON WHICH CONSTRUCTION ACTIVITY HAS CEASED TEMPORARILY OR PERMANENTLY, SHALL BE STABILIZED WITHIN 14 DAYS UNLESS ACTIVITIES ARE SCHEDULED TO RESUME AND DONE WITHIN 21 DAYS. ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE REVEGETATED AFTER CONSTRUCTION IS COMPLETE. CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING VEGETATION IN ALL DISTURBED AREAS BY WATER OR OTHER ACCEPTABLE MEANS.

6. A RAIN GAUGE SHALL BE PROVIDED BY THE CONTRACTOR AND LOCATED AT THE PROJECT SITE. WITHIN 24 HOURS OF A RAINFALL EVENT OF 0.5 INCHES OR MORE (AS MEASURED BY THE PROJECT SITE GAUGE) THE CONTRACTOR AND INSPECTOR WILL INSPECT THE ENTIRE PROJECT TO DETERMINE THE CONDITION OF THE CONTROL MEASURES. SEDIMENT WILL BE REMOVED AND DEVICES REPAIRED AS SOON AS PRACTICABLE BUT NO LATER THAN 7 DAYS AFTER THE SURROUNDING EXPOSED GROUND HAS DRIED SUFFICIENTLY TO PREVENT FURTHER DAMAGE BEING CAUSED BY REPAIR OPERATIONS.

7. DISPOSAL AREAS, STOCKPILES AND HAUL ROADS SHALL BE CONSTRUCTED IN A MANNER THAT WILL MINIMIZE AND CONTROL THE AMOUNT OF SEDIMENT THAT ENTERS RECEIVING WATERS. DISPOSAL AREAS SHALL NOT BE LOCATED IN ANY WETLAND, BODY OF WATER, STREAMBED OR FLOODPLAIN. THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIALS IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN PERMIT.

8. CONSTRUCTION STAGING AREAS AND VEHICLE MAINTENANCE AREAS SHALL BE CONSTRUCTED BY THE CONTRACTOR IN A MANNER TO MINIMIZE THE RUNOFF OF POLLUTANTS. THE CONTRACTOR SHALL CLEAN PAVED SURFACES (ADJACENT TO THE CONSTRUCTION AREAS) AS NECESSARY TO REMOVE SEDIMENT WHICH HAS ACCUMULATED ON THE ROADWAY DUE TO STORMWATER FLOWS AND VEHICULAR TRAFFIC THROUGH AND ACROSS THE CONSTRUCTION SITE

9. THE CONTROL MEASURES CONTAINED HEREON ARE GENERAL AND SHALL BE ADJUSTED, INSTALLED AND MAINTAINED THROUGHOUT THE CONSTRUCTION CONTRACT TO ASSURE EFFECTIVE AND CONTINUOUS WATER POLLUTION CONTROL DURING CONSTRUCTION AND POST CONSTRUCTION PERIODS.

10. UPON COMPLETION OF CONSTRUCTION AND THE INSTALLATION OF PERMANENT EROSION CONTROL METHODS, A FINAL EROSION CONTROL INSPECTION WILL BE PERFORMED AS PART OF ACCEPTANCE OF THE PROJECT BY THE CITY. IN THE EVENT THAT THE PERMANENT EROSION CONTROL IS INADEQUATE DUE TO IMPROPER DESIGN OR INSTALLATION, THE PERMANENT EROSION CONTROL MEASURE MUST BE CORRECTED OR REDESIGNED TO FUNCTION PROPERLY.

SPRINGS HILL SPECIAL UTILITY DISTRICT NOTES:

1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THE PROJECT SHALL BE APPROVED BY SHSUD AND COMPLY WITH ALL APPLICABLE STANDARDS AND REGULATIONS.

2. THE CONTRACTOR SHALL NOT PROCEED WITH ANY WORK UNTIL WRITTEN APPROVAL IS OBTAINED FROM SHSUD. WORK COMPLETED BY THE CONTRACTOR, WHICH HAS NOT RECEIVED AN APPROVAL WILL BE SUBJECT TO REMOVAL AND REPLACEMENT BY AND AT THE EXPENSE OF THE CONTRACTOR AT THE PREROGATIVE OF SHSUD.

3. THE DEVELOPER DEDICATES THE WATER MAINS UPON COMPLETION BY THE DEVELOPER AND ACCEPTANCE BY SHSUD, SHSUD WILL OWN AND MAINTAIN SAID WATER MAINS WHICH ARE LOCATED WITHIN SAID SUBDIVISION (AS APPLICABLE).

4. CONTRACTOR AGREES TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD THE OWNERS AND THE ENGINEER AND HIS EMPLOYEES, PARTNERS OFFICERS, DIRECTORS, OR CONSULTANTS HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF THE WORK ON THIS PROJECT, EXCEPTING FROM LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER OR ENGINEER. ENGINEER'S DIRECTORS, OFFICERS, EMPLOYEES, OR CONSULTANTS.

5. CONTRACTOR AND / OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL OR BETTER CONDITION, ANY DAMAGES DONE TO EXISTING FENCES, CURBS, STREETS, DRIVEWAYS, LANDSCAPING AND STRUCTURES, AND EXISTING UTILITIES (NOT ADJUSTED ON PLANS). COST OF RESTORATIONS, IF ANY, SHALL BE THE CONTRACTOR'S ENTIRE EXPENSE.

7. THE CONTRACTOR SHALL AVOID CUTTING ROOTS LARGER THAN ONE INCH IN DIAMETER WHEN EXCAVATING NEAR EXISTING TREES. EXCAVATION IN VICINITY OF TREES SHALL PROCEED WITH CAUTION.

8. THE CONTRACTOR SHALL PROCURE ALL PERMITS AND LICENSES, PAY ALL CHARGES, FEES AND TAXES AND GIVE ALL NOTICES NECESSARY AND INCIDENTAL TO THE DUE AND LAWFUL PROSECUTION OF THE WORK.

9. NO EXTRA PAYMENT SHALL BE ALLOWED FOR WORK CALLED FOR ON THE PLANS BUT NOT INCLUDED ON THE BID SCHEDULE, THIS INCIDENTAL WORK WILL BE REQUIRED AND SHALL BE INCLUDED UNDER THE PAY ITEM TO WHICH IT RELATES.

10. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL WASTE MATERIALS UPON PROJECT COMPLETION, THE CONTRACTOR SHALL NOT PERMANENTLY PLACE ANY WASTE MATERIALS IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN DEVELOPMENT PERMIT.

11. THE CONTRACTOR SHALL NOT PLACE ANY MATERIALS ON THE RECHARGE ZONE OF THE EDWARDS AQUIFER WITHOUT AN APPROVED WATER POLLUTION ABATEMENT PLAN FROM THE TCEQ 31 TAC 313.4 AND 31 TAC 313.9.

12. BARRICADES AND WARNING SIGNS SHALL CONFORM TO THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AND SHALL BE LOCATED TO PROVIDE MAXIMUM PROTECTION TO THE PUBLIC AS WELL AS CONSTRUCTION PERSONNEL AND EQUIPMENT WHILE ALWAYS PROVIDING CONTINUOUS TRAFFIC FLOW DURING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL DEVICES DURING CONSTRUCTION.

13. CONTRACTORS ARE REQUIRED TO VERIFY PROJECT ELEVATIONS. THE TERM "MATCH EXISTING" SHALL BE UNDERSTOOD TO SIGNIFY BOTH HORIZONTAL AND VERTICAL ALIGNMENT.

14. THE LOCATION OF UTILITIES, EITHER UNDERGROUND OR OVERHEAD, SHOWN WITHIN THE RIGHT OF WAY ARE APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR BEFORE BEGINNING CONSTRUCTION OPERATIONS.

15. OSHA REGULATIONS PROHIBIT OPERATIONS THAT WILL BRING PERSONS OR EQUIPMENT WITHIN 10 FEET OF AN ENERGIZED LINE. WHERE WORKMEN AND/OR EQUIPMENT MUST WORK CLOSE TO AN ENERGIZED ELECTRICAL LINE, THE CONTRACTOR SHALL NOTIFY THE ELECTRICAL POWER COMPANY INVOLVED AND MAKE WHATEVER ADJUSTMENTS NECESSARY TO ENSURE THE SAFETY OF THOSE WORKMEN.

16. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITY SERVICE LINES AS REQUIRED FOR CONSTRUCTION. UTILITY COMPANIES ARE ALSO PREVIOUSLY MENTIONED IN "UTILITY COMPANY NOTIFICATION".

17. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192 (8). GAS COMPANIES MUST ALWAYS MAINTAIN ACCESS TO GAS VALVES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.

18. THE CONTRACTOR IS FULLY RESPONSIBLE FOR TRAFFIC CONTROL AND WILL BE RESPONSIBLE FOR FURNISHING ALL TRAFFIC CONTROL DEVICES, AND FLAGGERS, THE CONSTRUCTION METHODS SHALL BE CONDUCTED TO PROVIDE THE LEAST POSSIBLE INTERFERENCE TO TRAFFIC TO ALWAYS PERMIT THE CONTINUOUS MOVEMENT OF THE TRAFFIC IN ONE DIRECTION. THE CONTRACTOR SHALL CLEAN UP AND REMOVE FROM THE WORK AREA ANY LOOSE MATERIAL RESULTING FROM CONTRACT OPERATIONS AT THE END OF EACH WORKDAY.

19. PRIOR TO ORDERING MATERIALS TO BE USED IN CONSTRUCTION, CONTRACTOR SHALL PROVIDE SHSUD WITH FOUR (4) COPIES OF THE SOURCE, TYPE, GRADATION, MATERIAL SPECIFICATION DATA AND / OR SHOP DRAWINGS, AS APPLICABLE, TO SATISFY THE REQUIREMENTS OF THE FOLLOWING ITEMS AND ALL MATERIAL ITEMS REFERRED TO IN THESE LISTED ITEMS:

   A. WATER MAINS AND SERVICES

20. NO METER BOXES, VALVES, TO BE SET IN DRIVEWAYS OR SIDEWALKS, ANY METER BOXES SET IN THESE AREAS WILL BE RELOCATED AT THE CONTRACTOR'S AND/OR DEVELOPER'S EXPENSE.

21. WHERE THE MINIMUM 9-FOOT SEPARATION DISTANCE BETWEEN SEWER LINES AND WATER LINES / MAINS CANNOT BE MAINTAINED, THE INSTALLATION OF WATER LINES SHALL BE IN STRICT ACCORDANCE WITH TCEQ.

22. CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITE(S) WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS. PROGRAMS AND/OR PROCEDURES. THE CONTRACTOR'S IMPLEMENTATION OF THE SYSTEMS, PROGRAMS AND/OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLIES WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

23. UTILITY TRENCH COMPACTION WITH STREET RIGHT-OF-WAY.

   A. ALL UTILITY TRENCH COMPACTION TEST WITHIN THE STREET PAVEMENT SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEO-TECHNICAL ENGINEER.
   B. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE.
   C. EACH LAYER OF MATERIAL SHALL BE COMPACTED AS SPECIFIED AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E.
   D. THE NUMBER AND LOCATION OF THE REQUIRED TESTS SHALL BE DETERMINED BY THE GEO TECHNICAL ENGINEER AND APPROVED BY SHSUD.
   E. UPON THE COMPLETION OF TESTING THE GEO-TECHNICAL ENGINEER SHALL PROVIDE SHSUD INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS.

24. NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, DRIVEWAYS, OR ROADWAYS. SHSUD WILL NOT BE RESPONSIBLE FOR ANY DAMAGES TO CONCRETE OR PAVED AREAS IF THE DEVELOPER DOES NOT COMPLY.

25. SPRINGS HILL WILL NOT ACCEPT OR PROVIDE SERVICE VIA ANY INFRASTRUCTURE THAT VIOLATES ANY OF THE STANDARDS, CONDITIONS, OR REQUIREMENTS OF THESE NOTES, THE GENERAL NOTES, THE STANDARD DETAILS, STANDARD SPECIFICATIONS, AND/OR ANY APPLICABLE AGREEMENTS REGARDING SERVICE.

NO.	REVISION	BY	DATE
1	IFR	MH	09/15/26

PROJECT NAME:
EXPRESS OIL CHANGE, SEGUIN TX
1100 STATE HWY 46 N, SEGUIN, TX 78155

ARCHITECT AHD ARCHITECTS, LLC
ENGINEER UNINTECH CONSULTING ENGINEERS, INC
CUSTOMER EXPRESS OIL CHANGE AND TIRE ENGINEERS

UNINTECH CONSULTING ENGINEERS, INC.
TBPE REG. NO. F-14389
TBPLS NO. 10051100
2401 E. EVANS ROAD
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MARK B. HILL
94904
LICENSED PROFESSIONAL ENGINEER
09/15/2026

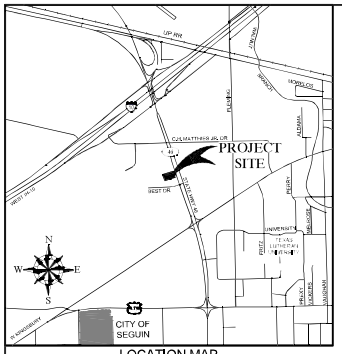
DRAWN BY: MV	DATE: 7-31-2026
CHECKED BY: MH	DATE: 7-31-2026

PROJECT NO: 26-031-V

SHEET TITLE: GENERAL CONSTRUCTION NOTES

SHEET NO: C3

DRAWINGS ARE AND SHALL REMAIN THE PROPERTY OF THE ARCHITECT WHETHER THE PROJECT FOR WHICH THEY ARE MADE IS EXECUTED OR NOT. THEY ARE NOT TO BE USED BY ANYONE ON OTHER PROJECTS, OR EXTENSIONS TO THIS PROJECT, EXCEPT BY AGREEMENT IN WRITING AND WITH APPROPRIATE COMPENSATION TO THE ARCHITECT.



LOCATION MAP
NTS

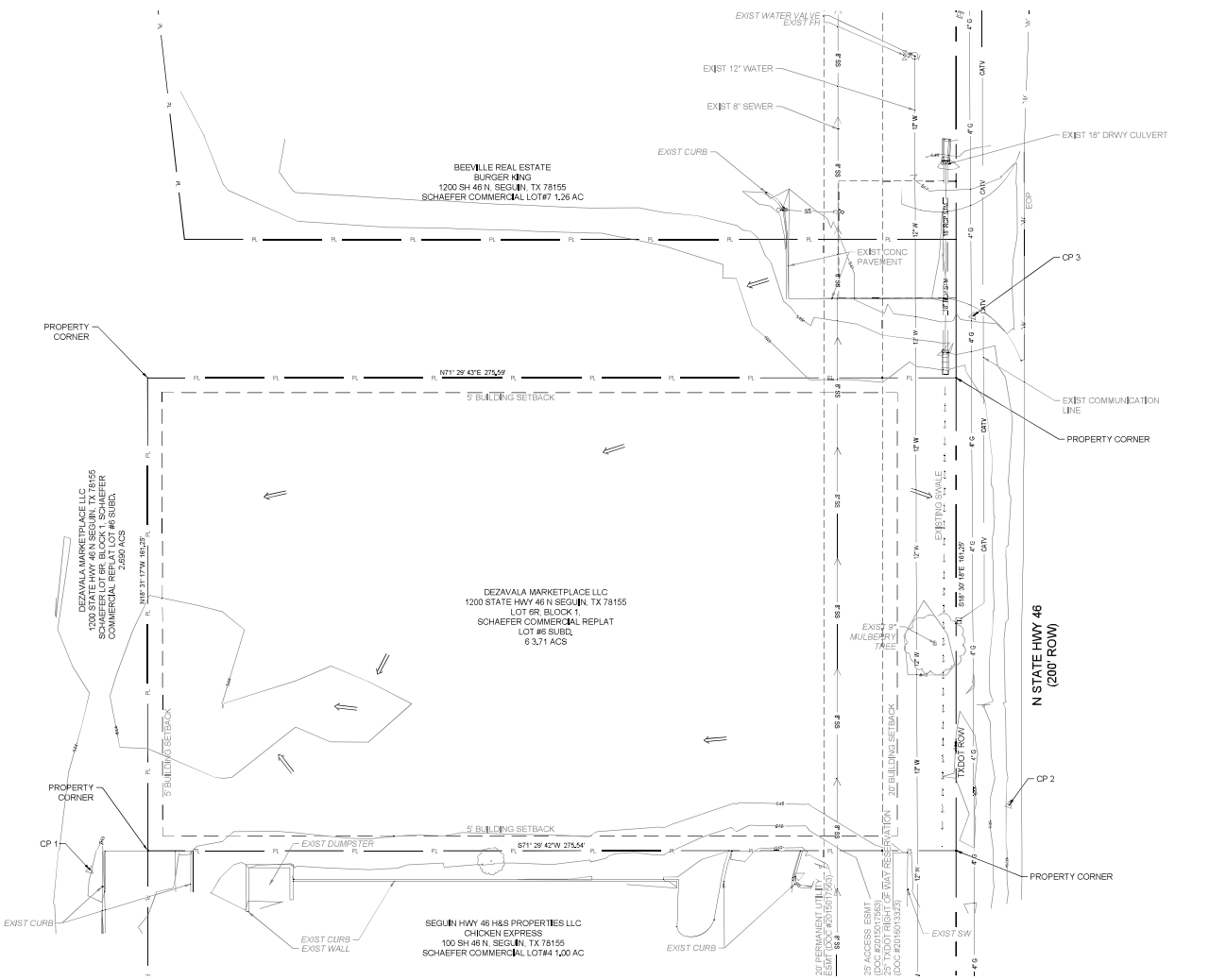
CONTROL POINTS				
POINT #	NORTHING	EASTING	ELEVATION	NAME
1	13759123.220	2288819.410	544.73	CP 1
2	13759243.650	2289109.469	546.42	CP 2
3	13759397.910	2289044.873	547.04	CP 3

LEGEND

UE	= EXISTING UNDERGROUND ELECTRIC	CP	= CONTROL POINT
G G	= EXISTING GAS LINE (SIZE SHOWN)	WL	= EXISTING WATER LINE
	= EXISTING SIGN		= EXISTING WATER VALVE
	= EDGE OF PAVEMENT		= EXISTING FIRE HYDRANT
	= EXISTING LIGHT POST	UT	= UNDERGROUND TELEPHONE CABLE
	= TREE		= TELEPHONE BOX
	= RIGHT OF WAY	PP	= EXISTING POWER POLE
	= UTILITY EASEMENT BOUNDARY	OHE	= EXISTING OVERHEAD ELECTRIC

N
W
E
S

0 20 40
SCALE: 1" = 20'



NO.	BY	REVISION	DATE
1	MH		08/18/26

PROJECT NAME: EXPRESS OIL CHANGE, SEGUIN TX
1100 STATE HWY 46 N, SEGUIN, TX 78155

ARCHITECT: AHD ARCHITECTS, LLC
ENGINEER: UNINTECH CONSULTING ENGINEERS, INC
CUSTOMER: EXPRESS OIL CHANGE AND TIRE ENGINEERS

UNINTECH CONSULTING ENGINEERS, INC.
2401 E. EVANS ROAD
SAN ANTONIO, TEXAS 78259
P. (210) 641-0000 F. (210) 641-6279
TBPE REG. NO. F-4469
TBPLS NO. 10051100
WWW.UNINTECH.COM

MARK B. HILL
94904
LICENSED PROFESSIONAL ENGINEER
08/18/2026

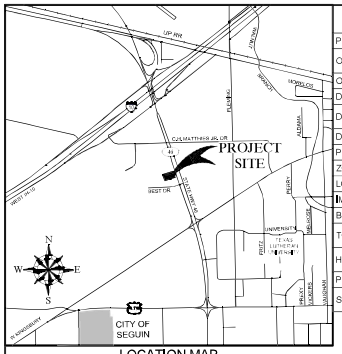
DRAWN BY: MV	DATE: 7-31-2026
CHECKED BY: MH	DATE: 7-31-2026

PROJECT NO: 26-031-V

SHEET TITLE: EXISTING & DEMOLITION PLAN

SHEET NO: C4

DRAWINGS ARE AND SHALL REMAIN THE PROPERTY OF THE ARCHITECT/ENGINEER WHETHER THE PROJECT FOR WHICH THEY ARE PREPARED IS EXECUTED OR NOT. THEY ARE NOT TO BE USED IN WHOLE OR IN PART FOR ANY OTHER PROJECTS. USE OF THESE DRAWINGS FOR ANY PROJECT OTHER THAN THE PROJECT FOR WHICH THEY WERE PREPARED IS PROHIBITED AND WITHOUT THE EXPRESS WRITTEN PERMISSION OF THE ARCHITECT/ENGINEER IS UNLAWFUL.



LOCATION MAP
NTS

SITE DATA SUMMARY	
PROPERTY OWNER:	DEZAVALA MARKETPLACE LLC
OWNER ADDRESS:	755 E MULBERRY, STE 600 SAN ANTONIO, TX 78212
OWNER PHONE:	1-337-277-7240
DEVELOPER:	EXPRESS OIL CHANGE & TIRE
DEVELOPER ADDRESS:	1880 SOUTH PARK DR, BIRMINGHAM, AL 35244
DEVELOPER PHONE:	205-206-9006
PROP USE:	AUTOMOBILE SERVICE, REPAIR, GARAGE
ZONING DISTRICT:	COMMERCIAL
LOT AREA:	±44,435 SQ. FT. / 1.02 AC
IMPERVIOUS COVER:	±32,360 SQ. FT / 73%
BUILDING AREA:	±5,662 SQ. FT
TOTAL PARKING:	SPACES REQUIRED: 28 SPACES PROVIDED: 28
HANDICAP SPACES:	REQUIRED: 2/ 1 VAN ACCESSIBLE PROVIDED: 2/ 1 VAN ACCESSIBLE
PROPERTY ADDRESS:	1100 STATE HWY 46 N SEGUIN, TX 78155
SUBDIVISION INFO:	LOT 12, BLOCK 1, SCHAEFER COMMERCIAL REPLAT LOT #6 SUBD.

FLOOD PLAIN NOTE:
ACCORDING TO FEMA FLOOD INSURANCE RATE MAP, PANEL NO. 48187C0280G, DATED MARCH 27, 2024, PROPERTY IS LOCATED IN ZONE "X" AND IS NOT WITHIN THE 100-YEAR FLOODPLAIN.

NOTE:
SEE LANDSCAPE PLANS FOR TREE PRESERVATION, LANDSCAPING, AND IRRIGATION PLANS

NOTES:

1. ALL DIMENSIONS ARE TO FACE OF CURB, TO FACE OF BUILDINGS, TO CENTER OF PAINT STRIPING, AND PERPENDICULAR TO THE PROPERTY LINES.
2. COORDINATE CONTROL FOR PARKING, DRIVEWAYS, AND ISLANDS ARE AS SHOWN. NO OFFSETS FROM FACE OF CURB OR BUILDINGS ARE GIVEN.
3. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY QUESTIONS THAT MAY ARISE CONCERNING THE INTENT, PLACEMENT, OR LIMITS OF DIMENSIONS NECESSARY FOR CONSTRUCTING THE PROJECT.
4. "MATCH EXISTING" SHALL BE UNDERSTOOD TO SIGNIFY VERTICAL AND HORIZONTAL ALIGNMENT.
5. ACCESS DRIVE IS NOT IN CONTRACT. VERIFY ELEVATION OF CURBS AT POINTS OF TIE IN. ACCESS GUARANTEED IN PLAT VOLUME 10, PAGE 673.

LEGEND

- PROPOSED CURB
- PROPOSED UG ELEC
- PROPOSED WATER
- PROPOSED SEWER
- PROPOSED GAS
- # OF PARKING SPACES
- CONC PAVEMENT
- CONC SIDEWALK
- PROPOSED BUILDING
- TRAFFIC FLOW ARROW
- SHEET FLOW ARROW

SCALE: 1" = 20'

GENERAL CONSTRUCTION NOTES

1. CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNITY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF THE WORK ON THIS PROJECT, EXCEPTING FROM LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.
2. ANY DISCREPANCY OR CONFLICT WITHIN THE DRAWINGS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER. DISCREPANCIES OR CONFLICTS NOT BROUGHT TO THE ENGINEERS ATTENTION AND CLARIFIED DURING BIDDING OF THE PROJECT WILL BE DEEMED TO HAVE BEEN BID OR PROPOSED IN THE MORE COSTLY MANNER, AND THE BETTER QUALITY OR GREATER QUANTITY OF THE WORK SHALL BE PROVIDED BY THE CONTRACTOR IN ACCORDANCE WITH ENGINEERS INTERPRETATION. ALL ITEMS, WORK, AND IMPROVEMENTS SHOWN OR INDICATED IN THE CONSTRUCTION DOCUMENTS SHALL BE COMPLETED FOR THE PRICES BID, WHETHER OR NOT A SEPARATE PAY ITEM IS INCLUDED IN THE CONTRACT.
3. CONTRACTOR SHALL NOTIFY THE ENGINEER AND ALL RESPECTIVE GOVERNMENTAL OR UTILITY AGENCIES AFFECTED BY CONSTRUCTION 72 HOURS PRIOR TO STARTING CONSTRUCTION.
4. ALL WORKMANSHIP AND MATERIALS SHALL CONFORM TO THE CITY OF SEGUIN ORDINANCE OF CAPITAL PROJECTS / ENGINEERING WORKS CONSTRUCTION.

DESIGN STANDARDS REQUIRED:

A. PROJECT CONTRACT DOCUMENTS AND TECHNICAL SPECIFICATIONS
B. CITY OF SEGUIN, CAPITAL PROJECTS / ENGINEERING CONSTRUCTION SPECIFICATIONS
C. CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) FOR SEWERAGE SYSTEMS [31 TAC 317.1, 31 TAC 317.2, 31 TAC 317.3, AND 31 TAC 317.13 AND 213].
D. CURRENT TXDOT "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND DRAINAGE."
E. CURRENT "SPRINGS HILL SPECIAL UTILITY DISTRICT STANDARD SPECIFICATIONS FOR CONSTRUCTION."

5. ALL PAVEMENTS, DRIVEWAYS, SIDEWALKS, CURBING, GUTTERS, FENCES, POLES, MAILBOXES, SIGNS, TREES, SHRUBBERY, LAWNS, SOD OR OTHER PROPERTY AND SURFACE STRUCTURES ON OR ADJACENT TO THE SITE OF THE WORK THAT ARE DAMAGED, DISTURBED, REMOVED OR DESTROYED BY THE CONTRACTOR DURING THE WORK SHALL BE REPAIRED, REPLACED OR RETURNED TO A CONDITION EQUAL TO THAT BEFORE THE WORK BEGAN. CONTRACTOR TO SUPPORT AND KEEP INTACT STORM DRAINS AND INLET STRUCTURES. ANY DAMAGES INCURRED WILL BE AT CONTRACTOR'S EXPENSE.
6. CONSTRUCTION STAKING TO BE PROVIDED BY CONTRACTOR. MINIMAL CONTROL AND BENCHMARK STAKING WILL BE PROVIDED BY ENGINEER PER CONTRACT DOCUMENTS. CONTRACTOR SHALL PRESERVE ALL CONTROL AND BENCHMARK STAKES, ETC. IF ANY ARE DESTROYED OR REMOVED BY THE CONTRACTOR OR HIS EMPLOYEES, THEY SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
7. THE CONTRACTOR SHALL MAINTAIN "AS-BUILT" DRAWINGS THROUGH THE COURSE OF CONSTRUCTION AND SHALL SUBMIT SAME TO THE ENGINEER FOR APPROVAL PRIOR TO FINAL ACCEPTANCE OF THE WORK BY OWNER.
8. MATERIALS LAYDOWN/STORAGE TO BE DONE ON-SITE, AND PROPERLY SECURED BY CONTRACTOR AS PER SPECIFICATIONS.
9. THE LOCATION AND DEPTHS OF EXISTING UTILITIES, INCLUDING SERVICE LATERALS, SHOWN ON THE PLANS ARE APPROXIMATE ONLY. ACTUAL LOCATIONS AND DEPTHS MUST BE FIELD VERIFIED BY THE CONTRACTOR 48 HOURS PRIOR TO CONSTRUCTION AND IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITY SERVICE LINES AS REQUIRED FOR CONSTRUCTION AND TO PROTECT THEM DURING CONSTRUCTION.
10. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF UNDERGROUND UTILITIES AND DRAINAGE STRUCTURES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION WHETHER SHOWN ON PLANS OR NOT, AND TO PROTECT THE SAME DURING CONSTRUCTION.

A.	SPRINGS HILL SPECIAL UTILITY DISTRICT	(830) 379-7683
B.	TEXAS STATE WIDE ONE CALL LOCATOR	1-800-545-6005
C.	CITY OF SEGUIN	830-386-2222
D.	GVEC	1-800-223-4832
E.	CENTER POINT ENERGY	830-643-6938

11. CONTRACTOR TO BE RESPONSIBLE FOR ALL TREES MARKED OR FLAGGED FOR PRESERVATION.

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NO.	REVISION	BY	DATE
1	IFB	MH	08/18/26

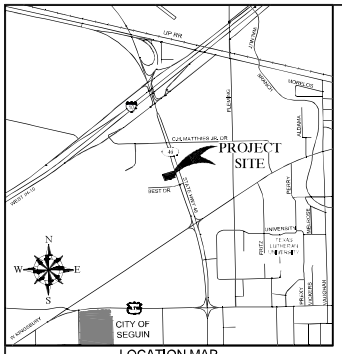
PROJECT NAME: EXPRESS OIL CHANGE, SEGUIN TX
1100 STATE HWY 46 N, SEGUIN, TX 78155

ARCHITECT: AHD ARCHITECTS, LLC
ENGINEER: UNINTECH CONSULTING ENGINEERS, INC
CUSTOMER: EXPRESS OIL CHANGE AND TIRE ENGINEERS

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TBPE REG. NO. F-14389
TBPLS NO. 10051100
WWW.UNINTECH.COM
2401 E. EVANS ROAD
SAN ANTONIO, TEXAS 78259
P. (210) 641-0000 F. (210) 641-6279

MARK B. HILL
94904
LICENSED PROFESSIONAL ENGINEER
08/18/2026

DRAWN BY: MV	DATE: 7-31-2026
CHECKED BY: MH	DATE: 7-31-2026
PROJECT NO:	26-031-V
SHEET TITLE:	SITE PLAN
SHEET NO:	C5



LOCATION MAP
NTS

DIMENSIONAL CONTROL NOTES:

1. ALL DIMENSIONS ARE TO FACE OF CURB, TO FACE OF BUILDINGS, TO CENTER OF PAINT STRIPING, AND PERPENDICULAR TO THE PROPERTY LINES.
2. COORDINATE CONTROL FOR PARKING, DRIVEWAYS, AND ISLANDS ARE AS SHOWN. NO OFFSETS FROM FACE OF CURB OR BUILDINGS ARE GIVEN.
3. CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY QUESTIONS THAT MAY ARISE CONCERNING THE INTENT, PLACEMENT, OR LIMITS OF DIMENSIONS NECESSARY FOR CONSTRUCTING THE PROJECT.
4. "MATCH EXISTING" SHALL BE UNDERSTOOD TO SIGNIFY VERTICAL AND HORIZONTAL ALIGNMENT.
5. ACCESS DRIVE IS NOT IN CONTRACT. VERIFY ELEVATION OF CURBS AT POINTS OF TIE IN. ACCESS GUARANTEED IN PLAT VOLUME 10, PAGE 673.

PROPERTY CORNER		
Point #	Northing	Easting
1	13759288,60	2288784,80
2	13759376,07	2289046,14
3	13759223,16	2289097,31
4	13759135,70	2288836,02

BUILDING CORNER		
Point #	Northing	Easting
5	13759323,16	2288911,78
6	13759332,68	2288940,23
7	13759291,59	2288953,98
8	13759293,70	2288960,30
9	13759290,54	2288961,36
10	13759289,92	2288958,49
11	13759279,80	2288962,88
12	13759280,43	2288964,74
13	13759277,27	2288965,80
14	13759275,15	2288959,48
15	13759218,25	2288978,52
16	13759200,69	2288926,05
17	13759273,40	2288901,72
18	13759281,44	2288925,74

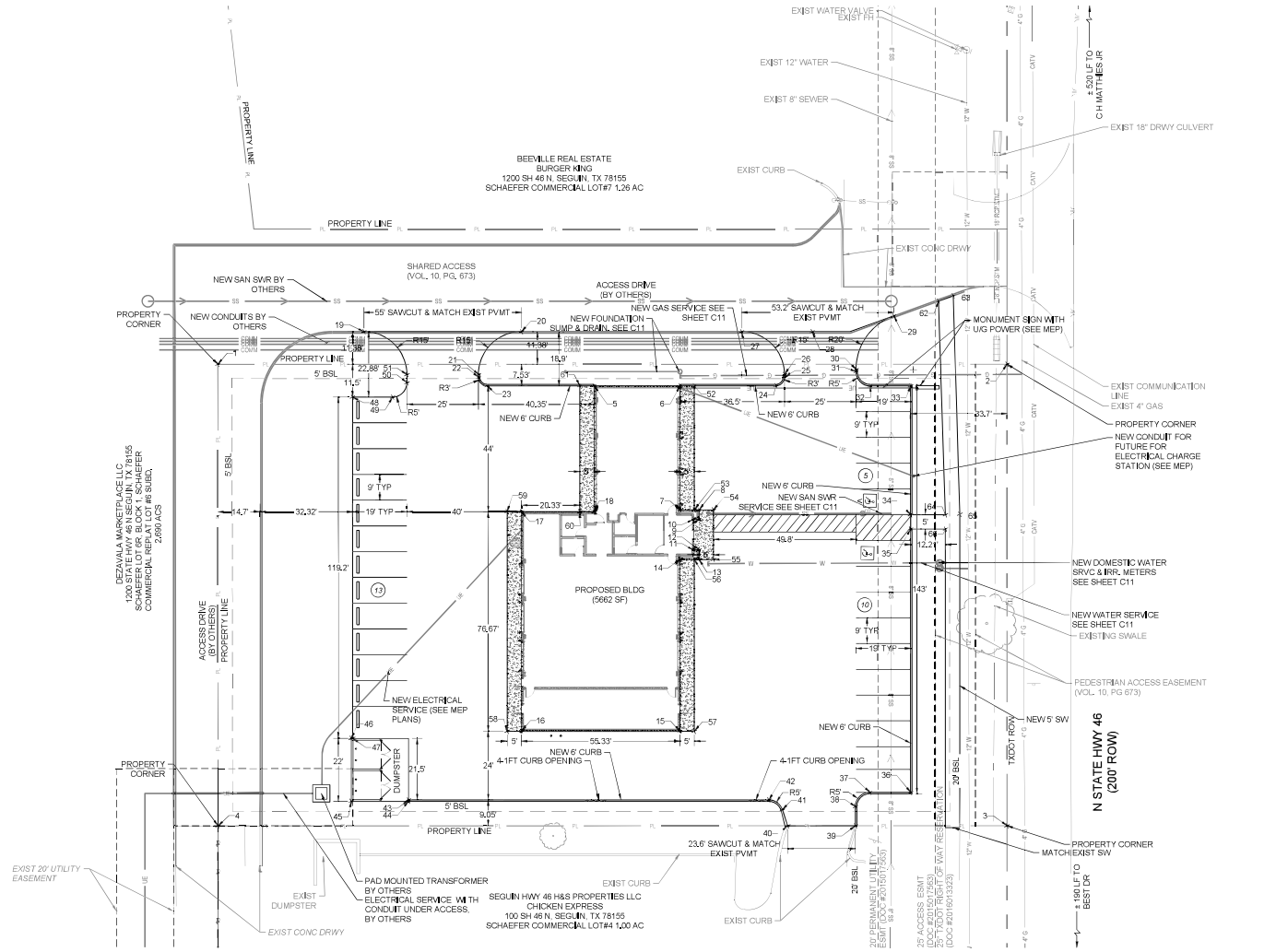
DIMENSIONAL CONTROL		
Point #	Northing	Easting
19	13759315,59	2288829,58
20	13759333,04	2288881,74
21	13759314,05	2288872,28
22	13759313,20	2288872,56
23	13759311,31	2288876,36
24	13759343,31	2288972,00
25	13759347,11	2288973,89
26	13759347,97	2288973,60
27	13759357,43	2288954,62
28	13759365,26	2288978,02
29	13759379,57	2289003,30
30	13759357,55	2288996,76
31	13759356,91	2288996,98
32	13759353,75	2289003,30
33	13759358,19	2289016,58
34	13759315,52	2289030,86
35	13759310,78	2289032,45
36	13759223,53	2289061,64
37	13759219,02	2289048,16
38	13759212,69	2289045,00
39	13759206,36	2289047,12
40	13759198,83	2289024,70
41	13759203,59	2289021,14
42	13759205,33	2289015,55
43	13759165,41	2288896,21

DIMENSIONAL CONTROL		
Point #	Northing	Easting
44	13759164,94	2288896,37
45	13759158,59	2288877,41
46	13759179,46	2288870,43
47	13759179,61	2288870,89
48	13759292,63	2288833,05
49	13759297,07	2288846,32
50	13759303,40	2288849,48
51	13759306,13	2288848,56
52	13759334,27	2288944,97
53	13759293,17	2288958,72
54	13759295,26	2288965,05
55	13759278,85	2288970,54
56	13759276,74	2288964,22
57	13759219,84	2288963,26
58	13759199,11	2288921,30
59	13759271,81	2288896,96
60	13759279,85	2288921,00
61	13759321,58	2288907,04
62	13759389,36	2289016,45
63	13759392,75	2289020,73
64	13759319,39	2289042,44
65	13759321,14	2289047,13
66	13759314,65	2289044,03

LEGEND

- PROPOSED CURB
- UE — PROPOSED UG ELEC
- W — PROPOSED WATER
- SS — PROPOSED SEWER
- G — PROPOSED GAS
- (#) — # OF PARKING SPACES
- PROPOSED BUILDING
- # — POINT NUMBER

SCALE: 1" = 20'



NO.	REVISION	BY	DATE
1	IFB	MH	08/18/26

PROJECT NAME: EXPRESS OIL CHANGE, SEGUIN TX
1100 STATE HWY 46 N, SEGUIN, TX 78155

ARCHITECT: AHD ARCHITECTS, LLC
ENGINEER: UNINTECH CONSULTING ENGINEERS, INC
CUSTOMER: EXPRESS OIL CHANGE AND TIRE ENGINEERS

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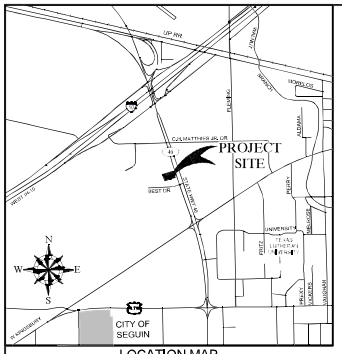
DRAWN BY: MV	DATE: 7-31-2026
CHECKED BY: MH	DATE: 7-31-2026

PROJECT NO: 26-031-V

SHEET TITLE: DIMENSIONAL CONTROL

SHEET NO: C6

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LOCATION MAP
NTS

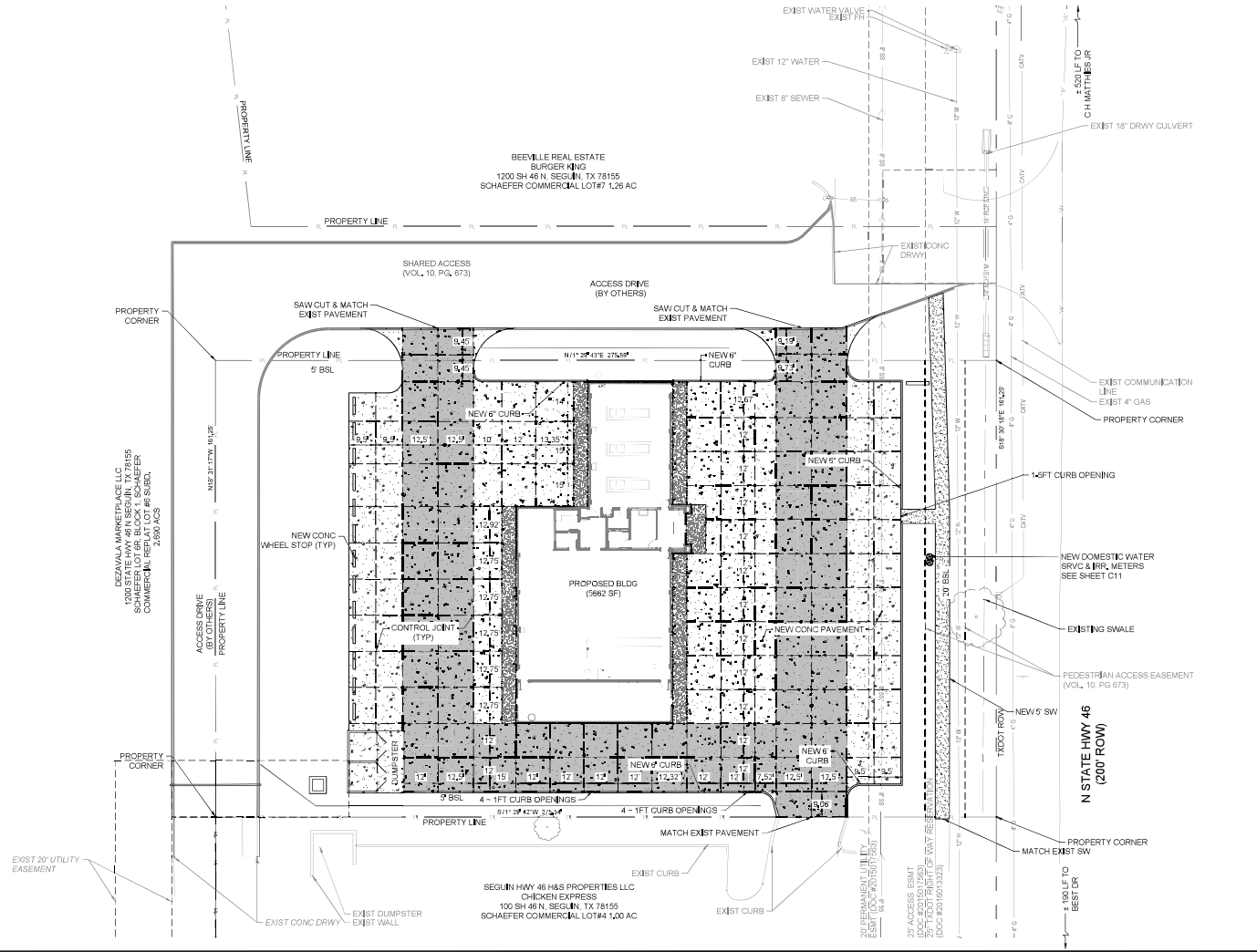
NOTES:

1. EXISTING TOPSOIL, ORGANIC SOILS, TREE ROOTS, VEGETATION, DELETERIOUS MATERIALS (WOOD), WET SOILS, ANY SOFT OR LOOSE SOILS, MUST BE REMOVED FROM THE PROPOSED BUILDING OR NEW PAVEMENT AREAS. THE STRIPPING AND REMOVAL OPERATIONS SHOULD EXTEND TO AT LEAST 5 FEET BEYOND THE BUILDING PERIMETER AND 2 FEET BEYOND THE EDGE OF PAVEMENTS.
2. THE EXPOSED SUBGRADE SHOULD BE PROOF-ROLLED WHERE POSSIBLE WITH A HEAVY (MINIMUM 20 TON) RUBBER-TIRED VEHICLE SUCH AS A LOADED DUMP TRUCK.
3. ALL FILL MATERIALS IN PAVEMENT AREAS SHOULD BE CLEANED OF ORGANICS, DEBRIS, DELETERIOUS MATERIALS, AND OVERSIZED INERT MATERIALS LARGER THAN 4 INCHES. SELECT FILL SHOULD HAVE A PI OF LESS THAN 20, AND SHOULD CONSIST OF A WELL-GRADED CRUSHED LIMESTONE MATERIAL OR OTHER LOW PLASTICITY CLAYEY OR COARSE-GRAINED SOIL.
4. WHERE REQUIRED TO MEET GRADE, ENGINEERED FILL (SELECT FILL) SHOULD BE PLACE IN 8" MAXIMUM LIFTS, AND COMPACTED TO 95% MAX DRY DENSITY PER TEX 113-E, @ ±3% OPTIMUM MOISTURE CONTENT. DENSITY SAMPLING AT 5000 SF MAX.
5. PORTLAND CEMENT CONCRETE - THE CONCRETE SHOULD CONFORM TO ASTM C-94 (STANDARD SPECIFICATIONS FOR READY-MIXED CONCRETE) AND HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3,000 POUNDS PER SQUARE INCH (PSI) AND 550 PSI FLEXURAL STRENGTH AT 28 DAYS.
6. REINFORCEMENT TO BE #3 BARS AT 18" OCEW
7. ALL LONGITUDINAL AN TRANSVERSE CONSTRUCTION JOINTS SHALL BE DOWELLED TO PROMOTE LOAD TRANSFER.
8. DOWELS USED TO TRANSFER LOAD BETWEEN CONCRETE PANELS SHOULD BE AT LEAST 18-INCHES IN LENGTH, SPACED AT 12-INCHES ON CENTER, AND SHOULD HAVE ONE END TREATED TO SLIP.
9. CONSTRUCTION, EXPANSION, AND CONTROL JOINTS SHALL BE LAID OUT TO FORM SQUARE PANELS WHERE PRACTICAL BUT NOT TO EXCEED A.C.I. 302.69 CODE RECOMMENDATIONS.
10. JOINT SPACINGS:
    - 10.1. CONCRETE PAVEMENT EXPANSION JOINTS @ 75' MAXIMUM @ BUILDING & STRUCTURES
    - 10.2. CONCRETE PAVEMENT CONTROL JOINTS @ 15'-0" MAX
    - 10.3. NO EXPANSION OR CONSTRUCTION JOINT SHOULD BE LOCATED IN SWALES OR DRAINAGE COLLECTION LOCATIONS.
11. SAWING OF CONTROL JOINTS SHALL BEGIN AS SOON AS CONCRETE WILL NOT RAVEL.
12. ALL EXPANSION JOINTS, CONSTRUCTION JOINTS AND CONTROL JOINTS TO HAVE BACKER ROD AND ELASTOMERIC JOINT SEALANT MATERIAL APPLIED. ALL JOINTS SHALL BE CLEANED AS RECOMMENDED BY SEALANT MANUFACTURER.
13. EXPANSION JOINT MATERIAL TO BE A MINIMUM OF 1/2" WIDE, FULL SLAB DEPTH, BITUMINOUS FIBER BOARD. NO STEEL REINFORCEMENT SHALL EXTEND ACROSS EXPANSION JOINTS.
14. USE EXPANSION JOINTS @ TIE TO BUILDINGS, EXISTING PAVEMENT, STRUCTURES. USE DOWELS @ TIE TO EXIST PAVEMENT.
15. SEE GEOTECHNICAL REPORT FOR FURTHER DETAILS
16. ACCESS DRIVE IS NOT IN CONTRACT. VERIFY ELEVATION OF CURBS AT POINTS OF TIE IN. ACCESS GUARANTEED IN PLAT VOLUME 10, PAGE 673.

LEGEND

- PROPOSED CURB
- CONTROL JOINT
- LOW DENSITY CONC PAVEMENT
- HIGH DENSITY CONC PAVEMENT
- CONC SIDEWALK
- PROPOSED BUILDING

SCALE: 1" = 20'



NO.	REVISION	BY	DATE
1	IFR	MH	08/18/26

PROJECT NAME: EXPRESS OIL CHANGE, SEGUIN TX
1100 STATE HWY 46 N, SEGUIN, TX 78155

ARCHITECT: AHD ARCHITECTS, LLC
ENGINEER: UNINTECH CONSULTING ENGINEERS, INC
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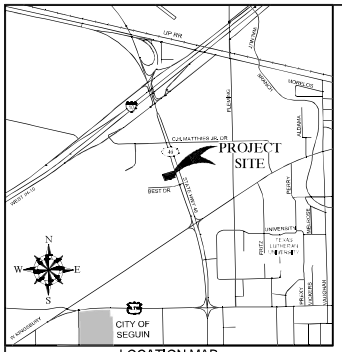
DRAWN BY: NV	DATE: 7-31-2026
CHECKED BY: MH	DATE: 7-31-2026

PROJECT NO: 26-031-V

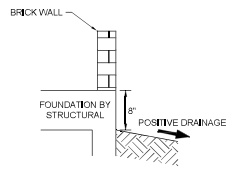
SHEET TITLE: PAVEMENT PARKING PLAN

SHEET NO: C7

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LOCATION MAP
NTS



BUILDING FOUNDATION EXPOSURE
(NOT TO SCALE)

CONTROL POINTS				
POINT #	NORTHING	EASTING	ELEVATION	NAME
1	13759123.220	2288819.410	544.73	CP 1
2	13759243.650	2289109.469	546.42	CP 2
3	13759397.910	2289044.873	547.04	CP 3

NOTES:
- HANDICAP PARKING AND AISLES SHALL HAVE NO SLOPE GREATER THAN 2% IN ANY DIRECTION.
- ALL SIDEWALK HAVE A CROSS SLOPE 1.5% TO 2% MAX.
- ALL SIDEWALK DRAINS AWAY FROM BUILDING.
- GRADE DUMPSTER AREA TO DRAIN TO PAVEMENT.
- AREA DISTURBED BY GRADING ACTIVITIES TO BE REVEGETATED PER LANDSCAPE PLAN

CUT/FILL
- CUT= 0 CY
- FILL = 3030 CY

NOTE:
CUT/FILL QTY BASED ON TOP OF SUBGRADE TO TOP OF EXISTING GROUND, FIGURED IN-SITU, EXCLUDES FOUNDATION.

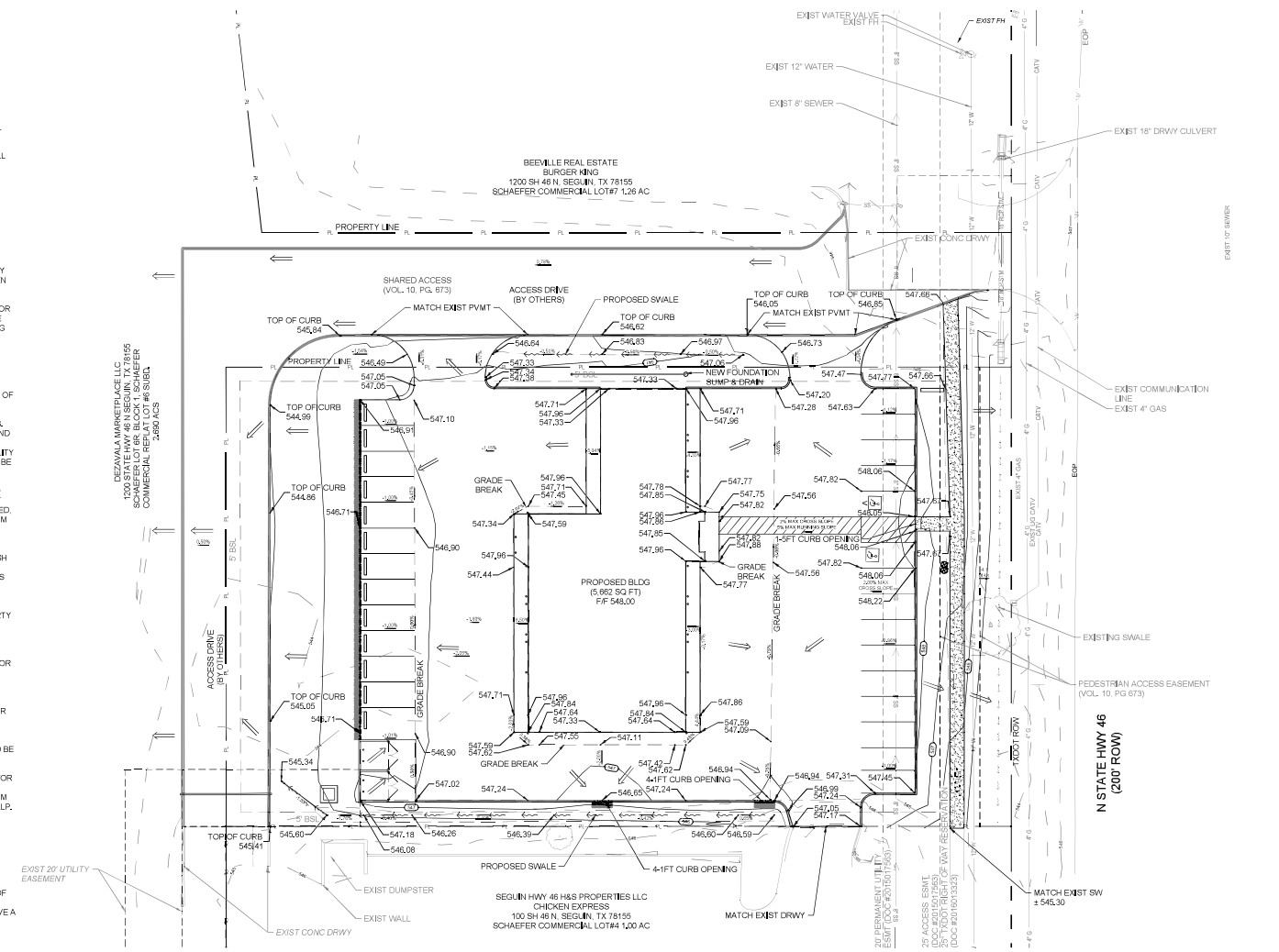
NOTE:
ACCESS DRIVE IS NOT IN CONTRACT. VERIFY ELEVATION OF CURBS AT POINTS OF TIE IN. ACCESS GUARANTEED IN PLAT VOLUME 10, PAGE 673.

LEGEND
- PROPOSED CURB
- PROPOSED TOPO
- EXIST TOPO
- SHEET FLOW ARROW
- PROPOSED SPOT ELEV
- PROPOSED SLOPE
- CONC SIDEWALK
- PROPOSED BUILDING

SCALE: 1" = 20'

GRADING NOTES:

1. EXISTING CONDITIONS SHALL BE VERIFIED BY EARTHWORK CONTRACTOR DISCREPANCIES ARE TO BE REPORTED PRIOR TO CONSTRUCTION. "MATCH EXISTING" SHALL BE UNDERSTOOD TO SIGNIFY VERTICAL AND HORIZONTAL ALIGNMENT.
2. ALL ELEVATIONS ARE FINISHED GROUND OR TOP OF PARKING/SIDEWALK/FINISH GRADE; ALL CUT AND FILL ARE BASED ON IN-SITU QUANTITY.
3. NO CLEARING OR ROUGH GRADING MAY BE DONE UNTIL THE APPROVED EROSION AND SEDIMENTATION CONTROLS ARE IN PLACE.
4. AFTER THE PRECONSTRUCTION MEETING IS HELD, THE CONTRACTOR SHALL INSTALL EROSION/SEDIMENTATION CONTROLS AND FENCING FOR AREAS OUTSIDE OF THE CONSTRUCTION AREA PRIOR TO ANY SITE PREPARATIONWORK (CLEARING, GRUBBING OR EXCAVATION).
5. THE CONTRACTOR IS REQUIRED TO INSPECT THE CONTROLS AND FENCES AT WEEKLY INTERVALS, AND AFTER SIGNIFICANT RAINFALL EVENTS TO ENSURE THAT THEY ARE FUNCTIONING PROPERLY. THE PERSON(S) RESPONSIBLE FOR MAINTENANCE OF CONTROLS AND FENCES SHALL IMMEDIATELY MAKE ANY NECESSARY REPAIRS TO DAMAGED AREAS. SILT ACCUMULATION AT CONTROLS MUST BE REMOVED WHEN THE DEPTH REACHES SIX (6) INCHES.
6. PRIOR TO FINAL ACCEPTANCE BY THE CITY, HAUL ROADS AND WATERWAY CROSSINGS CONSTRUCTED FOR TEMPORARY CONTRACTOR ACCESS MUST BE REMOVED. ACCUMULATED SEDIMENT REMOVED FROM THE WATERWAY AND THE AREA RESTORED TO THE ORIGINAL GRADE AND REVEGETATED. ALL LAND CLEARING DEBRIS SHALL BE DISPOSED OF IN APPROVED SPOIL DISPOSAL SITES.
7. FIELD REVISIONS TO THE EROSION AND SEDIMENTATION CONTROL PLAN MAY BE REQUIRED BY THE CITY INSPECTOR DURING THE COURSE OF CONSTRUCTION TO CORRECT CONTROL INADEQUACIES.
8. ALL GRADING SHALL BE DONE TO INSURE POSITIVE DRAINAGE AWAY FROM FOUNDATIONS AND STRUCTURES. ALL SIDEWALKS SHALL BE GRADED TO SLOPES NO GREATER THAN 1:20 (5%) IN DIRECTION OF TRAVEL. CROSS SLOPES TO BE NO GREATER THAN 1:50 (2%).
9. UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES HAVE BEEN DRAWN FROM AVAILABLE RECORDS. THEREFORE, THE RELATIONSHIP BETWEEN PROPOSED WORK AND EXISTING FACILITIES, STRUCTURES AND UTILITIES MUST BE CONSIDERED APPROXIMATE AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THEIR EXACT LOCATION AND THE EXISTENCE ON ANY NOT SHOWN BY CONTACTING THE UTILITY COMPANIES. CONTRACTOR TO PROTECT EXISTING UTILITIES UNLESS OTHERWISE SHOWN ON PLANS TO BE REMOVED.
10. ALL WEEDS, TRASH, DEBRIS, RUBBLE, BROKEN ASPHALT, ORGANIC MATERIAL (EXCLUDING TOPSOIL) AND REFUSE, OR ANY OTHER MATERIAL WHICH WOULD BE DELETERIOUS AS FILL MATERIAL OR INCAPABLE OF SUPPORTING THE BUILDING, VEHICULAR AND/OR OVERBURDEN LOADS TO BE IMPOSED SHALL BE CLEARED, GRUBBED OR EXCAVATED AS THE CASE MAY DICTATE, PRIOR TO GRADING AND SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
11. GRADING, INCLUDING EXCAVATION AND FILLED SECTIONS AND ADJACENT TRANSITION AREAS SHALL BE REASONABLY SMOOTH, COMPACTED AND FREE FROM IRREGULAR SURFACE CHANGES. DEGREE OF FINISH SHALL BE THAT ORDINARILY OBTAINABLE FROM EITHER BLADE GRADER OPERATIONS, EXCEPT AS OTHERWISE SPECIFIED. REDRESS AND RECOMPACT ANY AREAS THAT SETTLE BELOW REQUIRED GRADES BECAUSE OF TRAFFIC, PRECIPITATION, OR STORAGE LOADING BEFORE EXECUTION OF OTHER WORK REQUIRED.
12. THE EARTHWORK CONTRACTOR SHALL RESTORE TO ORIGINAL CONDITION ADJACENT (OFFSITE) PROPERTY DISTURBED BY HIS OPERATIONS. THE EARTHWORK CONTRACTOR SHALL STRIP TOPSOIL FROM CONSTRUCTION AREAS AND STOCKPILE TOPSOIL IN A MANNER SO AS NOT TO CONFLICT WITH OTHER TRADES AND CONSTRUCTION PROCESS.
13. CONTRACTOR SHALL SCHEDULE AND COORDINATE REQUIRED TRENCHING OPERATIONS FOR CONDUIT FOR LIGHTING, ETC. WITH PAVEMENT PLACEMENT OPERATIONS
14. ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES TO BE VEGETATED LANDSCAPE PLANS. IF NOT SHOWN BY LANDSCAPE PLANS, PROVIDE HYDROMULCH WITH SEED OF SAME VARIETY AS EXISTING AND OBTAIN 85% GROWTH, AS DETERMINED BY OWNERS REPRESENTATIVE, PRIOR TO ACCEPTANCE. REGULAR IRRIGATION OF NEWLY VEGETATED AREAS TO BE PROVIDED BY CONTRACTOR PRIOR TO ACCEPTANCE.
15. CONTRACTOR TO REMOVE AND STRIP TOP 6" OF VEGETATION, EXISTING CONCRETE SLABS, ABANDONED UTILITIES, ORGANICS, DELETERIOUS MATERIALS AND EXISTING ZONES OF SOFTER SOILS. MATERIALS TO BE DISPOSED OF OFF-SITE.
16. COMPACTION AND TESTING SHALL CONFORM TO CITY SPECIFICATIONS. AT A MINIMUM, AREAS GRADED FOR NON STRUCTURAL PURPOSES TO BE COMPACTED TO 80% STANDARD PROCTOR (ASTM D 698) AND FOR STRUCTURAL AREAS (SIDEWALKS, PAVEMENT, ETC) COMPACT TO GREATER THAN OR EQUAL TO 95% ASTM 698 (0 TO +4 FROM OPTIMUM). REFER TO THE GEOTECHNICAL REPORT PREPARED BY ECS SOUTHWEST, LLP, ON APRIL 21, 2025. FOLLOW GEOTECHNICAL REPORT GUIDELINES FOR HORIZONTAL OVERBUILD, PROOF ROLLING, SITE AND BUILDING PAD PREPARATIONS, AND COMPACTION REQUIREMENTS.
17. WHEN THE SUBGRADE OR LAYER OF SOIL MATERIAL MUST BE MOISTURE CONDITIONED BEFORE COMPACTION, CONTRACTOR SHALL UNIFORMLY APPLY THE REQUIRED AMOUNT OF WATER TO THE SURFACE OF THE SUBGRADE OR LAYER OF SOIL MATERIAL IN SUCH A MANNER AS TO PREVENT FREE WATER APPEARING AT THE SURFACE DURING OR SUBSEQUENT TO COMPACTION OPERATIONS
18. FILL REQUIREMENTS FOR GRADE INCREASES: GENERAL NON-STRUCTURAL FILL TO BE MATERIAL FREE OF ROOTS, DEBRIS AND OTHER DELETERIOUS MATERIAL WITH A MAXIMUM ROCK SIZE OF 3 INCHES. ON-SITE CLAYS HAVING CBR > 2 MAY BE USED. IMPORTED FILL MATERIALS USED UNDER PAVEMENTS SHOULD HAVE A CBR VALUE OF AT LEAST 2. MAXIMUM 8" LOOSE LIFTS WITH COMPACTED THICKNESS NOT TO EXCEED 6".
19. CONTRACTOR WILL BE RESPONSIBLE FOR MAINTAINING POSITIVE DRAINAGE IN THE AREA OF CONSTRUCTION. MITIGATE STANDING WATER AND EXCESSIVE EROSION.



1	IPB	MH	08/18/26
NO.	REVISION	BY	DATE

PROJECT NAME: EXPRESS OIL CHANGE, SEGUIN TX
SITE DEVELOPMENT
1100 STATE HWY 46 N, SEGUIN, TX 78155

ARCHITECT: AHD ARCHITECTS, LLC
ENGINEER: UNINTECH CONSULTING ENGINEERS, INC
CUSTOMER: EXPRESS OIL CHANGE AND TIRE ENGINEERS

UNINTECH CONSULTING ENGINEERS, INC.
TBPE REG. NO. F-4469
TBPLS NO. 10051100
WWW.UNINTECH.COM
2401 E. EVANS ROAD
SAN ANTONIO, TEXAS 78259
P. (210) 641-6000 F. (210) 641-6278

MARK B. HILL
94904
LICENSED PROFESSIONAL ENGINEER
08/18/2026

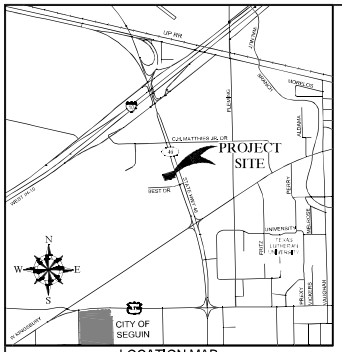
DRAWN BY: MV	DATE: 7-31-2026
CHECKED BY: MH	DATE: 7-31-2026

PROJECT NO: 26-031-V

SHEET TITLE: GRADING PLAN

SHEET NO: C8

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LOCATION MAP
NTS

LEGEND

DRAINAGE AREA BOUNDARY

FLOW PATH

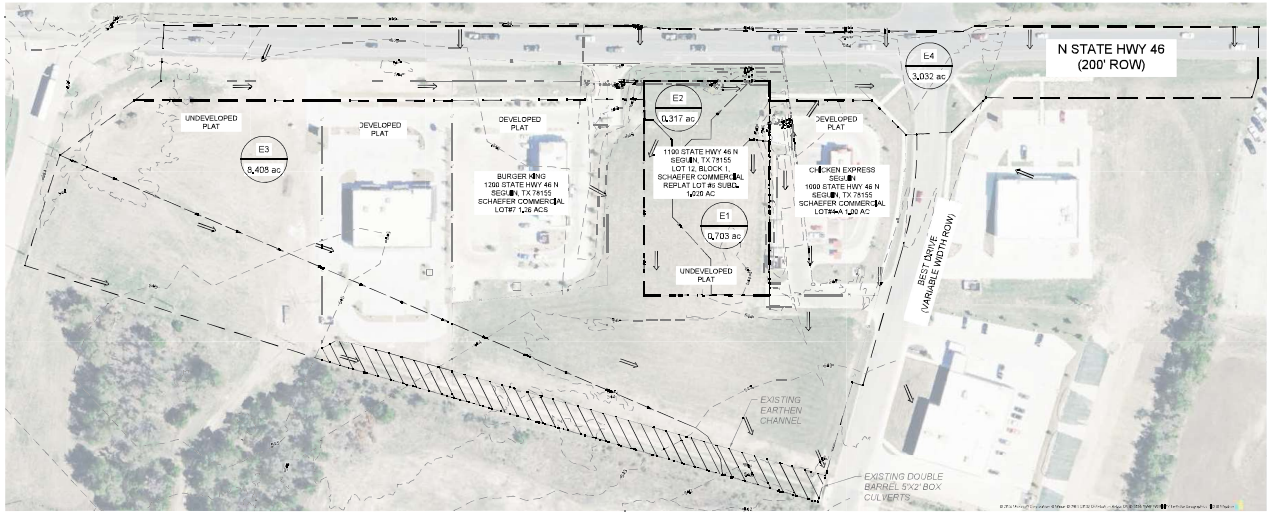
RUNOFF FLOW

DA-1 / 0.89 ac — DRAINAGE AREA LABEL

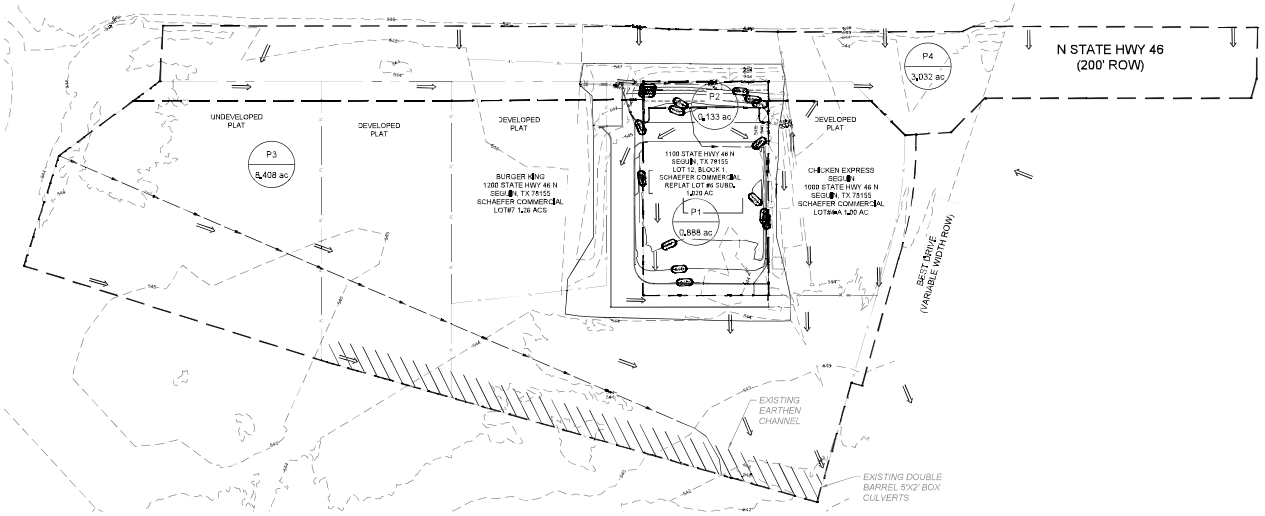
PL — PROPERTY LINE

SCALE: 1" = 80'

PREDEVELOPMENT OVERALL WATERSHED MAP



ULTIMATE OVERALL WATERSHED MAP



NO.	REVISION	BY	DATE
1	IFB	MH	08/18/26

PROJECT NAME: EXPRESS OIL CHANGE, SEGUIN TX
1100 STATE HWY 46 N, SEGUIN, TX 78155

ARCHITECT: AHD ARCHITECTS, LLC
ENGINEER: UNINTECH CONSULTING ENGINEERS, INC
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UNINTECH CONSULTING ENGINEERS, INC.
2401 E. EVANS ROAD
SAN ANTONIO, TEXAS 78259
P. (210) 641-0000 F. (210) 641-6279
TBPE REG. NO. F-4489
TBPLS NO. 10051100
WWW.UNINTECH.COM

MARK B. HILL
94904
LICENSED PROFESSIONAL ENGINEER
08/18/2026

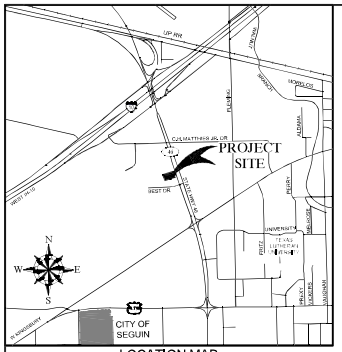
DRAWN BY:	DATE:
MV	7-31-2026
CHECKED BY:	DATE:
MH	7-31-2026

PROJECT NO: 26-031-V

SHEET TITLE: PREDEVELOPMENT AND ULTIMATE OVERALL DRAINAGE

SHEET NO: C9

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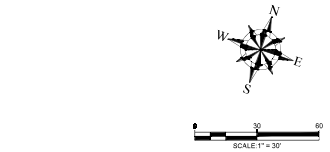
LOCATION MAP
NTS

HYDROLOGIC COMPUTATIONS - EXISTING

Area Name	Acres	TC, min	C-2	C-5	C-10	C-25	C-50	C-100	i-2	i-5	i-10	i-25	i-50	i-100	Q-2, cfs	Q-5, cfs	Q-10, cfs	Q-25, cfs	Q-50, cfs	Q-100, cfs
E1	0.703	22.0	0.25	0.28	0.30	0.34	0.37	0.41	3.52	4.34	5.12	6.15	7.04	7.90	0.62	0.85	1.08	1.47	1.83	2.28
E2	0.317	19.7	0.25	0.28	0.30	0.34	0.37	0.41	3.73	4.59	5.42	6.49	7.42	8.32	0.30	0.41	0.52	0.70	0.87	1.08
E3	8.408	10.0	0.30	0.30	0.30	0.30	0.30	0.30	5.08	6.13	7.82	9.21	10.55	12.07	12.81	15.47	19.73	23.23	26.61	30.45
E4	3.032	65.0	0.70	0.70	0.70	0.70	0.70	0.70	1.73	2.32	2.70	3.22	3.73	4.32	3.67	4.92	5.73	6.83	7.92	9.17

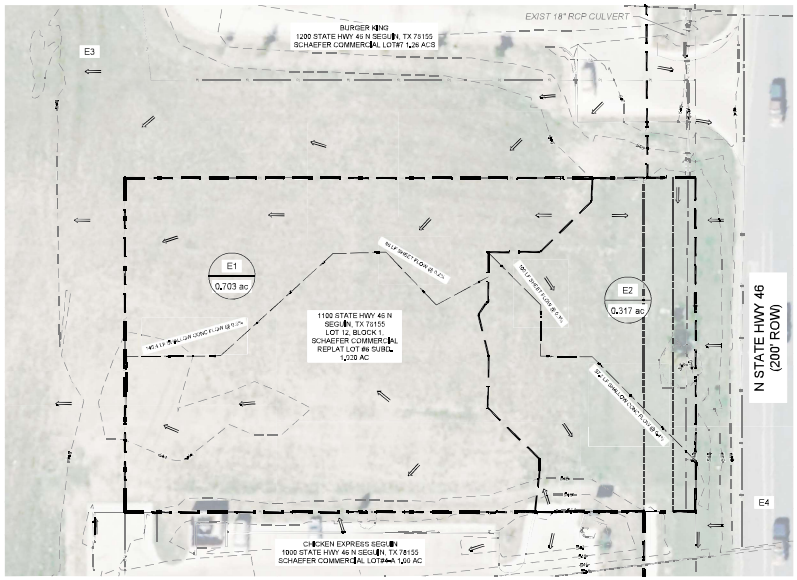
HYDROLOGIC COMPUTATIONS - PROPOSED

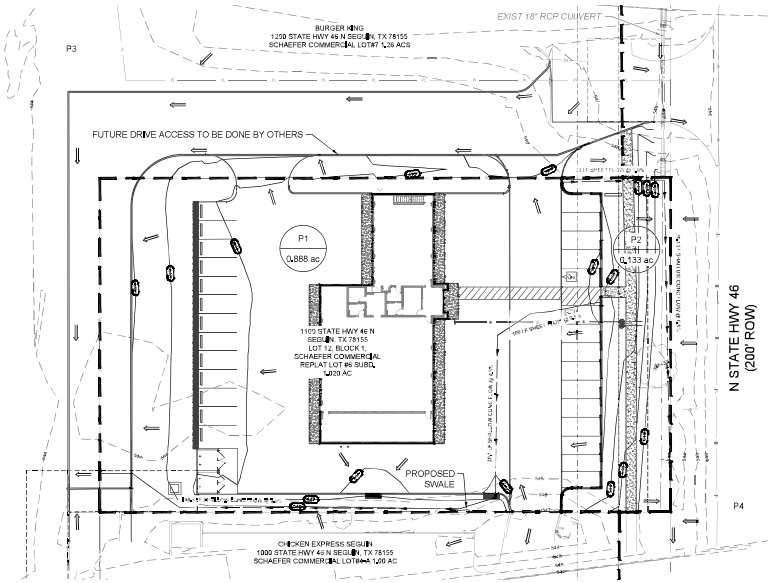
Area Name	Acres	TC, min	C-2	C-5	C-10	C-25	C-50	C-100	i-2	i-5	i-10	i-25	i-50	i-100	Q-2, cfs	Q-5, cfs	Q-10, cfs	Q-25, cfs	Q-50, cfs	Q-100, cfs
P1	0.888	5.0	0.65	0.70	0.73	0.77	0.81	0.86	6.25	7.56	8.86	10.52	11.93	13.12	3.61	4.67	5.71	7.21	8.60	10.02
P2	0.133	5.7	0.41	0.44	0.47	0.51	0.54	0.59	6.04	7.32	8.58	10.19	11.56	12.73	0.33	0.43	0.54	0.69	0.84	0.99
P3	8.408	10.0	0.96	0.96	0.96	0.96	0.96	0.96	5.08	6.13	7.82	9.21	10.55	12.07	41.00	49.50	63.12	74.34	85.16	97.42
P4	3.032	65.0	0.70	0.70	0.70	0.70	0.70	0.70	1.73	2.32	2.70	3.22	3.73	4.32	3.67	4.92	5.73	6.83	7.92	9.17



LEGEND

- DRAINAGE AREA BOUNDARY
- FLOW PATH
- RUNOFF FLOW
- DA-1 / 0.89 ac — DRAINAGE AREA LABEL
- PL — PROPERTY LINE





NOTE:
RUNOFF COEFFICIENT VALUES FOR E3, E4, P3 AND P4 ARE TAKEN FROM STORM WATER MANAGEMENT PLAN DONE BY KFW ENGINEERS FOR SCHAEFER DEVELOPMENT.

COMPARISON	ΔQ-2, cfs	ΔQ-5, cfs	ΔQ-10, cfs	ΔQ-25, cfs	ΔQ-50, cfs	ΔQ-100, cfs
EXISTING ONSITE (E1 + E2) VS PROPOSED ONSITE (P1 + P2)	3.02	3.84	4.65	5.74	6.73	7.65
ULTIMATE DA 2 VS P1 + P3	-0.89	-	-1.21	-0.94	-0.74	-0.66
ULTIMATE DA 4 VS P2 + P4	0.00	-	0.00	0.00	0.00	0.00

NO.	REVISION	BY	DATE
1	IFB	MH	08/18/26

PROJECT NAME: EXPRESS OIL CHANGE, SEGUIN TX
1100 STATE HWY 46 N, SEGUIN, TX 78155

ARCHITECT: AHD ARCHITECTS, LLC
ENGINEER: UNINTECH CONSULTING ENGINEERS, INC
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UNINTECH CONSULTING ENGINEERS, INC.
TBPE REG. NO. F-14469
TBPLS NO. 10051100
WWW.UNINTECH.COM
2401 E. EVANS ROAD
SAN ANTONIO, TEXAS 78259
P. (210) 641-0000 F. (210) 641-6279

MARK B. HILL
94904
LICENSED PROFESSIONAL ENGINEER
08/18/2026

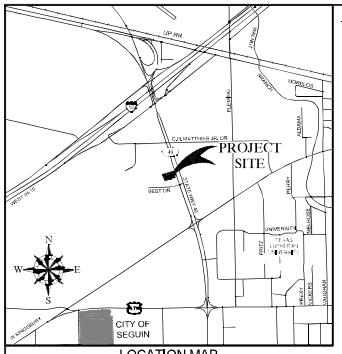
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NV	7-31-2026
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MH	7-31-2026

PROJECT NO: 26-031-V

SHEET TITLE: EXISTING AND PROPOSED ONSITE DRAINAGE

SHEET NO: C10

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LOCATION MAP
NTS

NATURAL GAS NOTE:
NATURAL GAS LINES ARE TO BE CONSIDERED FOR SCHEMATIC ONLY. DESIGN IS INTENDED TO SHOW POSSIBLE LOCATION. PLUMBING CONTRACTOR TO COORDINATE W/ OTHER TRADES AS TO NOT INTERFERE WITH OTHER FIXTURES. NOTE THAT THE GAS LINES ARE TO BE INSTALLED IN A NORMAL AND CUSTOMARY MANNER WITH ALL GOVERNING GAS CODES TO APPLY.

NEW BUILDING FIRE PROTECTION NOTES:
NEW BLDG - 5,662 SQUARE FEET (SF)
OCCUPANCY TYPE - S-1
BUILDING TYPE - VB
NON SPRINKLED, UNPROTECTED
REQUIRED FIRE FLOW - 2000 (PER TABLE B.105.1(2) OF IFC)
REQUIRED FIRE HYDRANT (FH) - 2 (PER TABLE C.102.1 OF IFC)
AVAILABLE FIRE HYDRANT (FH) - 2
ALLOWABLE DISTANCE TO HYDRANT = 400 FT
REF. ARCHITECTURAL FIRE PROTECTION PLANS AND SEGUIN FIRE CODE FOR BUILDING FIRE PROTECTION

SEWER UTILITY NOTES:
NO FLOOR DRAINS IN BUILDING. MOP SINK TIED TO OIL/WATER SEPARATOR WITHIN BUILDING. SEE BUILDING PLANS.

UTILITY CONSTRUCTION NOTES:

1. ALL UNDERGROUND UTILITIES REQUIRE AS-BUILT SURVEY BY CONTRACTOR. PROVIDE IN REDLINE DRAWING/CADFILE/POINTS FILE TO ENGINEER/OWNER.
2. CONTRACTOR IS RESPONSIBLE TO COORDINATE WITH LOCAL MUNICIPALITY ON AS-BUILT REQUIREMENTS

WATER CONSTRUCTION NOTES:

1. A MINIMUM OF 3 FEET OF COVER IS TO BE MAINTAINED OVER THE SERVICE LINE LATERALS AT SUBGRADE.
2. SERVICE LINE TO BE PRESSURE PIPE OF 1 IN. DIAMETER HDPE DR 9, SUITABLE FOR DOMESTIC SERVICE.
3. BACKFILL FOR UTILITIES TRENCHING SHALL BE APPLIED IN 6 INCH LIFTS, LOOSE MEASUREMENTS AND EACH LIFT THOROUGHLY COMPACTED BY MECHANICAL MEANS TO 95% PROCTOR DENSITY ASTM D 698 AND PROOF ROLLED PRIOR TO THE APPROVAL OF UTILITY, OR AS INDICATED IN CITY SPECIFICATIONS.
4. INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH THE TCEQ RULES OF SEPARATION DISTANCES WHEN WATER MAINS ARE INSTALLED IN THE VICINITY OF SEWER LINES.
5. TESTING OF WATER SYSTEM FROM MAIN TO METER AND FROM METER TO BUILDING. USE THE AWWA C651 METHOD.
6. NEW METERS WILL REQUIRE A TCEQ COMPLIANCE CERTIFICATE REPORT.

SEWER CONSTRUCTION NOTES:

1. UNLESS PROVIDED BY THE OWNER, THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS TO PROVIDE THE TELEVISING AND A NASSCO-(PACP) STANDARD VIDEO, RECORDED IN MPEG-1 FORMAT AND WRITTEN TO DVD VIDEO OF SEWER LINES AND MANHOLES UTILIZING A COLOR, CLOSED-CIRCUIT TELEVISION INSPECTION UNIT PRIOR TO CONSTRUCTION TO DETERMINE THE CONDITION OF THE MAIN AND LOCATION OF SERVICES. A COPY OF THE RECORDING AND LOGS SHALL BE PROVIDED TO OWNER/MUNICIPALITY FOR REVIEW PRIOR TO CONSTRUCTION ACTIVITIES BEGINNING.
2. UPON COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, EQUIPMENT, AND INCIDENTALS TO PROVIDE THE TELEVISING AND A NASSCO-(PACP) STANDARD VIDEO, RECORDED IN MPEG-1 FORMAT AND WRITTEN TO DVD VIDEO OF SEWER LINES AND MANHOLES UTILIZING A COLOR, CLOSED-CIRCUIT TELEVISION INSPECTION TO DETERMINE THE CONDITION OF THE NEW MAIN . A COPY OF THE RECORDING AND LOGS SHALL BE PROVIDED TO OWNER/MUNICIPALITY FOR REVIEW. ANY ABNORMALITIES, SUCH AS BROKEN PIPE, MISALIGNED JOINTS IDENTIFIED IN THE CCTV RECORDING, MUST BE REPLACED AND RE-TELEVISED BY THE CONTRACTOR AT CONTRACTOR'S EXPENSE.
3. THE EXACT LOCATION AND ELEVATION OF THE SERVICE LATERALS AND MANHOLES SHALL BE FIELD VERIFIED BY THE CONTRACTOR.
4. SERVICE LATERALS TO BE PVC SEWER PIPE OF 6 IN. DIAMETER, CONFORMING TO ASTM D 1784 AND ASTM D 3034, WITH A STIFFNESS OF 115 PSI (SDR 26) FOR PIPE 10-IN. IN DIAMETER OR LESS.
5. A MINIMUM OF 3 FEET OF COVER IS TO BE MAINTAINED OVER THE SANITARY SEWER MAIN AND LATERALS AT SUBGRADE.
6. BACKFILL FOR UTILITIES TRENCHING SHALL BE APPLIED IN 6 INCH LIFTS, LOOSE MEASUREMENTS AND EACH LIFT THOROUGHLY COMPACTED BY MECHANICAL MEANS TO 95% PROCTOR DENSITY ASTM D 698 AND PROOF ROLLED PRIOR TO THE APPROVAL OF UTILITY, OR AS INDICATED IN CITY SPECIFICATIONS.
7. WHEN SEWER LINES ARE INSTALLED IN THE VICINITY OF WATER MAINS, SUCH INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH THE TCEQ RULES OF SEPARATION DISTANCES.
8. WHENEVER UTILITY POLES ARE ADJACENT TO THE PROPOSED SANITARY SEWER, THE CONTRACTOR SHALL PROVIDE PROPER SHORING OR OTHER SUITABLE SUPPORT DURING CONSTRUCTION OF THE SANITARY SEWER, IN WHICH METHODS MUST BE APPROVED BY THE UTILITY COMPANY MAINTENANCE DEPARTMENT.

UTILITY CONTACT LIST
Water Company: Springhill SUD
Phone: 830-379-7683
Email: dmontoya@springhill.org

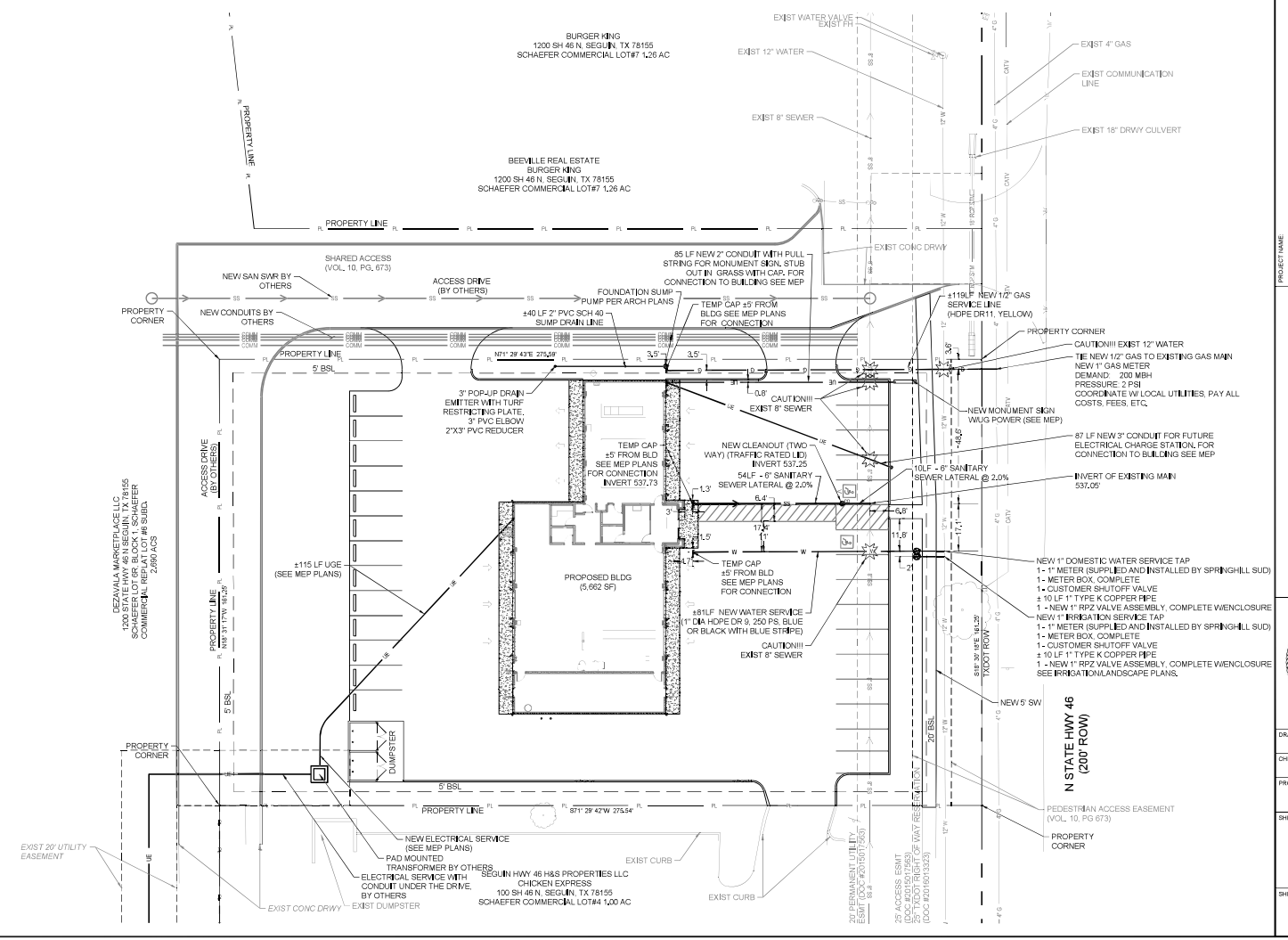
Sewer Company: City of Seguin
Phone: 830-386-2222

Power Company: GVEC
Phone: 1-800-223-4832
Website: https://www.gvec.org/developer-builder/

Gas Company: Centerpoint Energy
Phone: 830-643-6938
Email: pdsusing@centerpointenergy.com

LEGEND
PROPOSED CURB
PROPOSED UG ELEC
PROPOSED WATER
PROPOSED SEWER
PROPOSED GAS
PROPOSED BUILDING

SCALE: 1" = 20'



NO.	REVISION	BY	DATE
1	IFB	MH	09/15/26

PROJECT NAME: EXPRESS OIL CHANGE, SEGUIN TX
1100 STATE HWY 46 N, SEGUIN, TX 78155

ARCHITECT: AHD ARCHITECTS, LLC
ENGINEER: UNINTECH CONSULTING ENGINEERS, INC
CUSTOMER: EXPRESS OIL CHANGE AND TIRE ENGINEERS

UNINTECH CONSULTING ENGINEERS, INC.
TBPE REG. NO. F-14389
TBPLS NO. 10051100
WWW.UNINTECH.COM
2401 E EVANS ROAD
SAN ANTONIO, TEXAS 78259
P: (210) 641-0000 F: (210) 641-6279

MARK B. HILL
94904
LICENSED PROFESSIONAL ENGINEER
08/18/2026

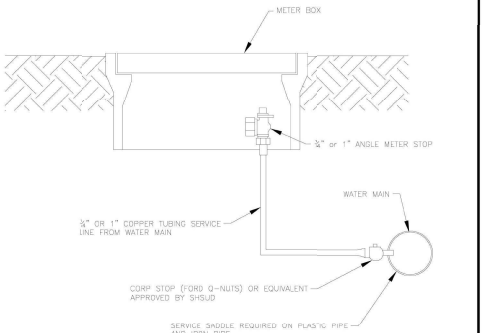
DRAWN BY: MV	DATE: 7-31-2026
CHECKED BY: MH	DATE: 7-31-2026

PROJECT NO: 26-031-V

SHEET TITLE: UTILITY PLAN

SHEET NO: C11

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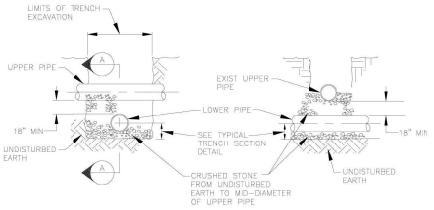
NOTES:

1. NO METERS SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, DRIVEWAYS, OR ROADWAYS. SHSUD WILL NOT BE RESPONSIBLE FOR ANY DAMAGES TO CONCRETE OR PAVED AREAS IF DEVELOPER DOES NOT COMPLY.

SPRINGS HILL SPECIAL UTILITY DISTRICT

¾" AND 1" SERVICE INSTALLATION

DATE:	REVISIONS:	STANDARD NO.
03/03/2010	09/24/2025	WA-23



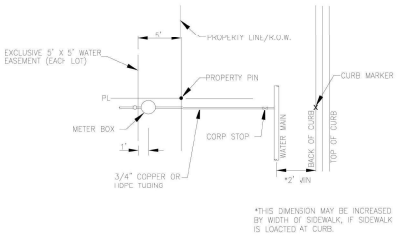
NOTES:

1. WATER MAINS CROSSING WASTE WATER LINES SHALL MAINTAIN A MINIMUM 18-INCH VERTICAL SEPARATION, MEASURED OUTSIDE-TO-OUTSIDE. ALL CROSSNGS MUST COMPLY WITH 30 TAC § 290.44 (e).
2. WHERE WATER MAINS CROSS OTHER UTILITIES (e.g., GAS, ELECTRIC, STORM SEWER), A MINIMUM 18-INCH VERTICAL SEPARATION SHALL BE MAINTAINED, AND CONFIGURATIONS WITH THE WATER MAIN BELOW OTHER UTILITIES SHOULD BE AVOIDED WHEN POSSIBLE.
3. A FULL JOINT OF PIPE SHALL BE CENTERED OVER OR UNDER THE CROSSING TO KEEP JOINTS AS FAR AS PRACTICAL FROM THE INTERSECTING UTILITY.
4. BEDDING MATERIAL MUST BE APPROVED BY SHSUD PERSONAL PRIOR TO START OF WORK.
5. WATER MAINS AT CREEK OR DRAINAGE DITCH CROSSINGS SHALL BE STEEL ENCASED AND/OR ENCASED IN 6" CONCRETE TO WITHIN 10 FEET BEYOND THE EDGE OF THE CROSSING AREA.

SPRINGS HILL SPECIAL UTILITY DISTRICT

UTILITY CROSSING

DATE:	REVISIONS:	STANDARD NO.
03/03/2010	09/24/2025	WA-6



*THIS DIMENSION MAY BE INCREASED BY WIDTH OF SIDEWALK, IF SIDEWALK IS LOACTED AT CURB.

NOTES:

1. INSTALLATIONS SHALL BE MADE IN ACCORDANCE WITH INFORMATION SHOWN ON APPLICABLE STANDARD DRAWINGS AND WILL BE INSPECTED BY SHSUD CONSTRUCTION INSPECTION PERSONNEL.
2. CUSTOMER ALSO INSTALLS WATER LINES INCLUDING FITTINGS AND VALVES ON BOTH SIDES OF METER, INSTALL METER BOXES AND COVERS, ALL IN ACCORDANCE WITH INFORMATION ON APPLICABLE STANDARD DRAWING. A VENTED SPACER MAY BE USED TO ASSURE PROPER SPACING AND ALIGNMENT OF METER FITTINGS.
3. CUSTOMER IS RESPONSIBLE FOR METER BOX AND PIPING SYSTEM UNTIL METER IS INSTALLED AND WATER IS CONNECTED. ANY MISSING OR DAMAGED PARTS SHALL BE REINSTALLED BY CUSTOMER WHO SHALL GUARANTEE, FOR A PERIOD OF ONE (1) YEAR FROM DATE OF ACCEPTANCE, THAT CONNECTIONS TO SHSUD SYSTEMS ARE FREE FROM DEFECTS IN WORKMANSHIP OR MATERIAL. CUSTOMER ALSO HAS THE RESPONSIBILITY TO ASSURE THAT ALL VALVES AND STOPS, METER BOX AND REMAIN CLEAR OF SIDEWALKS AND OTHER OBSTRUCTIONS.
4. SHSUD ACTIVITY IS LIMITED TO INSTALLATION OF TAP, WATER METER AND INSPECTION OF CONNECTIONS TO SHSUD WATER SYSTEMS. FOR MAINTENANCE PURPOSES, SHSUD RESPONSIBILITY ENDS AT THE CUSTOMER'S WATER CUT – OFF VALVE.
5. NO METER BOX SHALL BE SET IN SIDEWALK OR DRIVEWAY AREA WITHOUT WRITTEN APPROVAL FROM SHSUD.
6. PIPING AND TUBING IN STREET RIGHT-OF-WAY AND IN EASEMENT AREA SHALL BE BEDDED IN GRANULAR MATERIAL AS REQUIRED IN THE SPECIFICATIONS. SERVICE LINES SHALL HAVE A MINIMUM COVER BELOW FINAL GRADE OF 30 – INCHES.
7. AN "X" OR "M" MARKER SHALL BE CUT WITH A CONCRETE SAW TO MARK THE LOCATION OF THE SERVICE METER THE MARKER SHALL BE STAINED A BLUE COLOR.
8. NO METERS SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, DRIVEWAYS, OR ROADWAYS. SHSUD WILL NOT BE RESPONSIBLE FOR ANY DAMAGES TO CONCRETE OR PAVED AREAS IF DEVELOPER DOES NOT COMPLY.

SPRINGS HILL SPECIAL UTILITY DISTRICT

SINGLE WATER SERVICE CONNECTION

DATE:	REVISIONS:	STANDARD NO.
03/03/2010	09/24/2025	WA-21

NO.	REVISION	BY	DATE
1	IFB	MH	09/15/26

PROJECT NAME:
EXPRESS OIL CHANGE, SEGUIN TX
1100 STATE HWY 46 N, SEGUIN, TX 78155

ARCHITECT: AHD ARCHITECTS, LLC
ENGINEER: UNINTECH CONSULTING ENGINEERS, INC
CUSTOMER: EXPRESS OIL CHANGE AND TIRE ENGINEERS

UNINTECH CONSULTING ENGINEERS, INC.
TBPE REG. NO. F-14389
TBPLS NO. 10051100
WWW.UNINTECH.COM
2401 E EVANS ROAD
SAN ANTONIO, TEXAS 78259
P. (210) 641-0000 F. (210) 641-0279

MARK B. HILL
94904
LICENSED PROFESSIONAL ENGINEER
08/15/2026

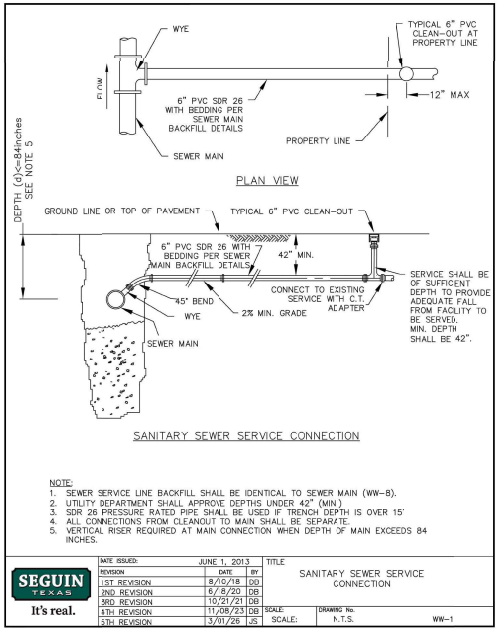
DRAWN BY:	DATE:
MV	7-31-2026
CHECKED BY:	DATE:
MH	7-31-2026

PROJECT NO:
26-031-V

SHEET TITLE:
WATER DETAILS

SHEET NO:
C12

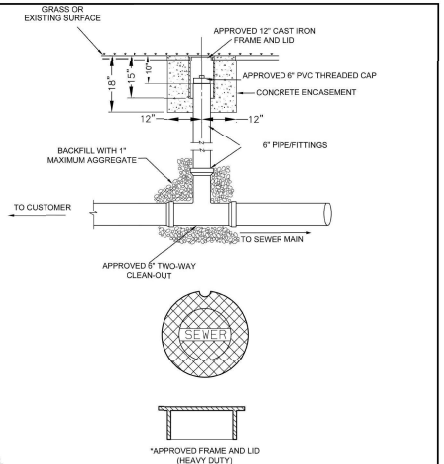
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NOTE:
1. SEWER SERVICE LINE BACKFILL SHALL BE IDENTICAL TO SEWER MAIN (WW-8).
2. UTILITY DEPARTMENT SHALL APPROVE DEPTHS UNDER 42" (MIN.)
3. SDR 26 PRESSURE RATED PIPE SHALL BE USED IF TRENCH DEPTH IS OVER 15'
4. ALL CONNECTIONS FROM CLEANOUT TO MAIN SHALL BE SEPARATE.
5. VERTICAL RISER REQUIRED AT MAIN CONNECTION WHEN DEPTH OF MAIN EXCEEDS 84 INCHES.

SEGUIN TEXAS It's real.

DATE ISSUED:	JUNE 1, 2013		TITLE
REVISION	DATE	BY	SANITARY SEWER SERVICE CONNECTION
1ST REVISION	8/10/18	DG	
2ND REVISION	6/8/20	DB	
3RD REVISION	10/21/21	DB	
4TH REVISION	11/08/23	DB	SCALE: N.T.S.
5TH REVISION	3/01/26	JS	DRAWING No. WW-1



NOTES:

1. FOR NEW DEVELOPMENT CLEAN-OUTS MAY NOT BE PLACED IN PAVED AREAS I.E. SIDEWALKS, DRIVEWAYS, OR PARKING LOTS, AND MUST BE LOCATED A MINIMUM OF 6" FROM ALL PAVED AREAS.

SEGUIN TEXAS It's real.

DATE ISSUED:	FEBRUARY 1, 2019		TITLE
REVISION	DATE	BY	TYPICAL 6" CLEANOUT DETAIL
1ST REVISION	11/08/23	DB	
			SCALE: N.T.S.
			DRAWING No. WW-20

NO.	REVISION	BY	DATE
1	IFB	MH	09/15/26

PROJECT NAME:
EXPRESS OIL CHANGE, SEGUIN TX
1100 STATE HWY 46 N, SEGUIN, TX 78155

ARCHITECT: AHD ARCHITECTS, LLC
ENGINEER: UNINTECH CONSULTING ENGINEERS, INC
CUSTOMER: EXPRESS OIL CHANGE AND TIRE ENGINEERS

UNINTECH CONSULTING ENGINEERS, INC.
2401 E. EVANS ROAD
SAN ANTONIO, TEXAS 78259
P: (210) 641-6000 F: (210) 641-6279
TBPE REG. NO. F-4489
TBPLS NO. 10051100
WWW.UNINTECH.COM

MARK B. HILL
94904
LICENSED PROFESSIONAL ENGINEER
04/15/2026

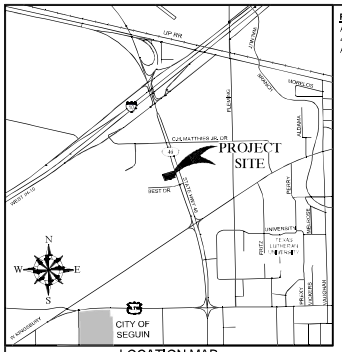
DRAWN BY:	DATE:
MV	7-31-2026
CHECKED BY:	DATE:
MH	7-31-2026

PROJECT NO:
26-031-V

SHEET TITLE:
WASTEWATER DETAILS

SHEET NO:
C13

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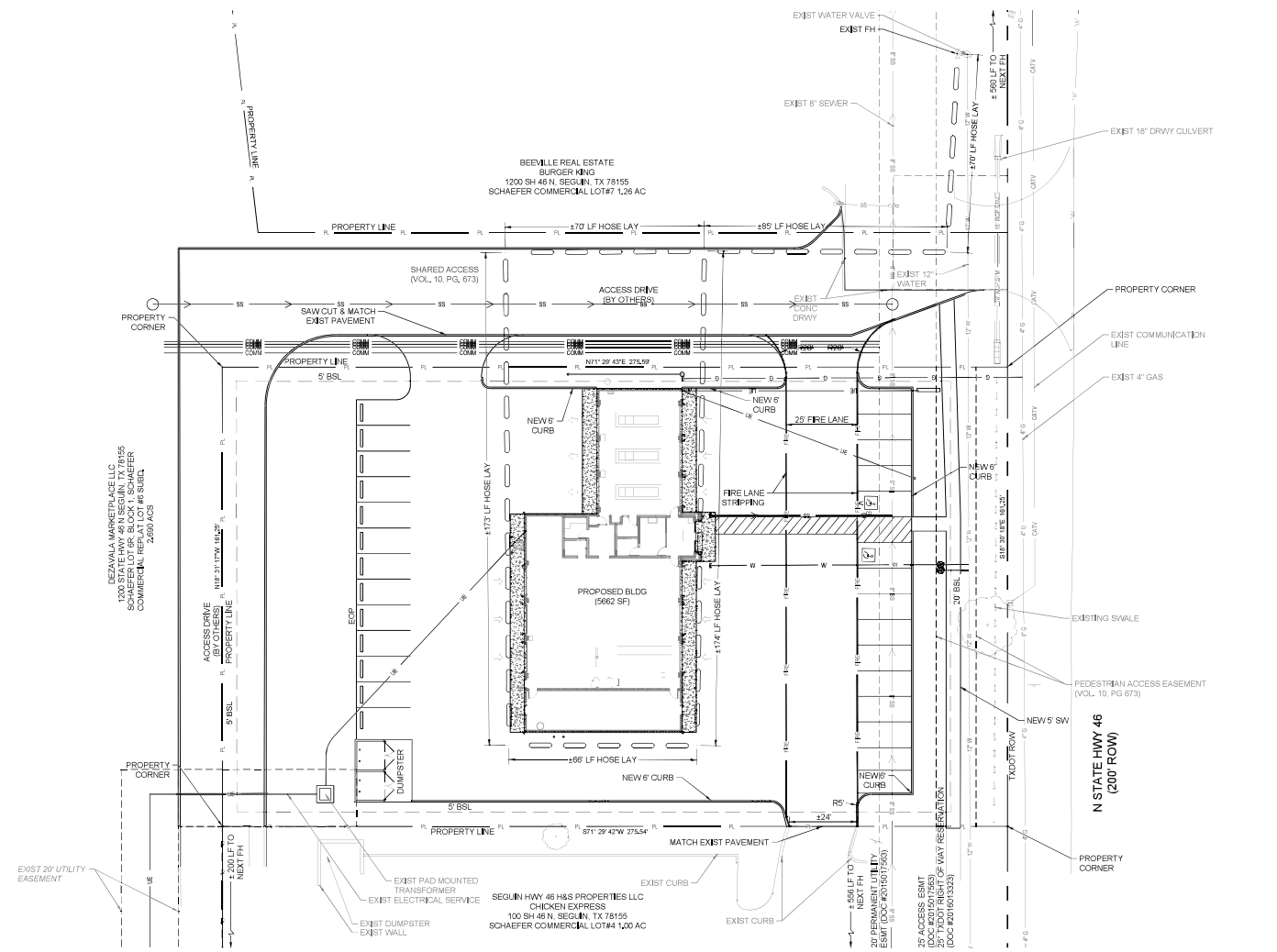
LOCATION MAP
NTS

FLOOD PLAIN NOTE:
ACCORDING TO FEMA FLOOD INSURANCE RATE MAP, PANEL NO. 48187C0280G, DATED MARCH 27, 2024, PROPERTY IS LOCATED IN ZONE "X" AND IS NOT WITHIN THE 100-YEAR FLOODPLAIN.

NEW BUILDING FIRE PROTECTION NOTES:
NEW BLDG - 5,662 SQUARE FEET (SF)
OCCUPANCY TYPE - S-1
BUILDING TYPE - VB
NON SPRINKLERED, UNPROTECTED
REQUIRED FIRE FLOW - 2000 (PER TABLE B.105.1(2) OF IFC)
REQUIRED FIRE HYDRANT (FH) - 2 (PER TABLE C.102.1 OF IFC)
AVAILABLE FIRE HYDRANT (FH) - 2
ALLOWABLE DISTANCE TO HYDRANT = 400 FT
REF. ARCHITECTURAL FIRE PROTECTION PLANS AND SEGUIN FIRE CODE FOR BUILDING FIRE PROTECTION

LEGEND
PROPOSED CURB
PROPOSED UG ELEC
PROPOSED WATER
PROPOSED SEWER
PROPOSED GAS
PROPOSED FIRE LANE
CONC PAVEMENT
PROPOSED BUILDING

SCALE: 1" = 20'



NO.	REVISION	BY	DATE
1	IFB	MH	08/18/26

PROJECT NAME: EXPRESS OIL CHANGE, SEGUIN TX
1100 STATE HWY 46 N, SEGUIN, TX 78155

ARCHITECT: AHD ARCHITECTS, LLC
ENGINEER: UNINTECH CONSULTING ENGINEERS, INC
CUSTOMER: EXPRESS OIL CHANGE AND TIRE ENGINEERS

UNINTECH CONSULTING ENGINEERS, INC.
TBPE REG. NO. F-4469
TBPLS NO. 10051100
WWW.UNINTECH.COM
2401 E. EVANS ROAD
SAN ANTONIO, TEXAS 78259
P. (210) 641-0000 F. (210) 641-6279

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08/18/2026

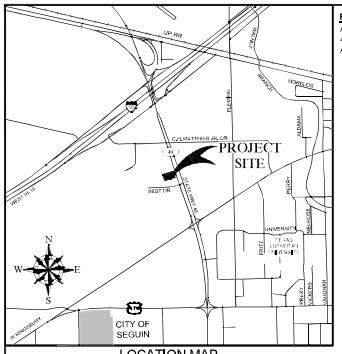
DRAWN BY: MV	DATE: 7-31-2026
CHECKED BY: MH	DATE: 7-31-2026

PROJECT NO: 26-031-V

SHEET TITLE: FIRE SITE PLAN

SHEET NO: C14

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LOCATION MAP
NTS

FLOOD PLAIN NOTE:
ACCORDING TO FEMA FLOOD INSURANCE RATE MAP, PANEL NO. 48187C0280G, DATED MARCH 27, 2024, PROPERTY IS LOCATED IN ZONE "X" AND IS NOT WITHIN THE 100-YEAR FLOODPLAIN.

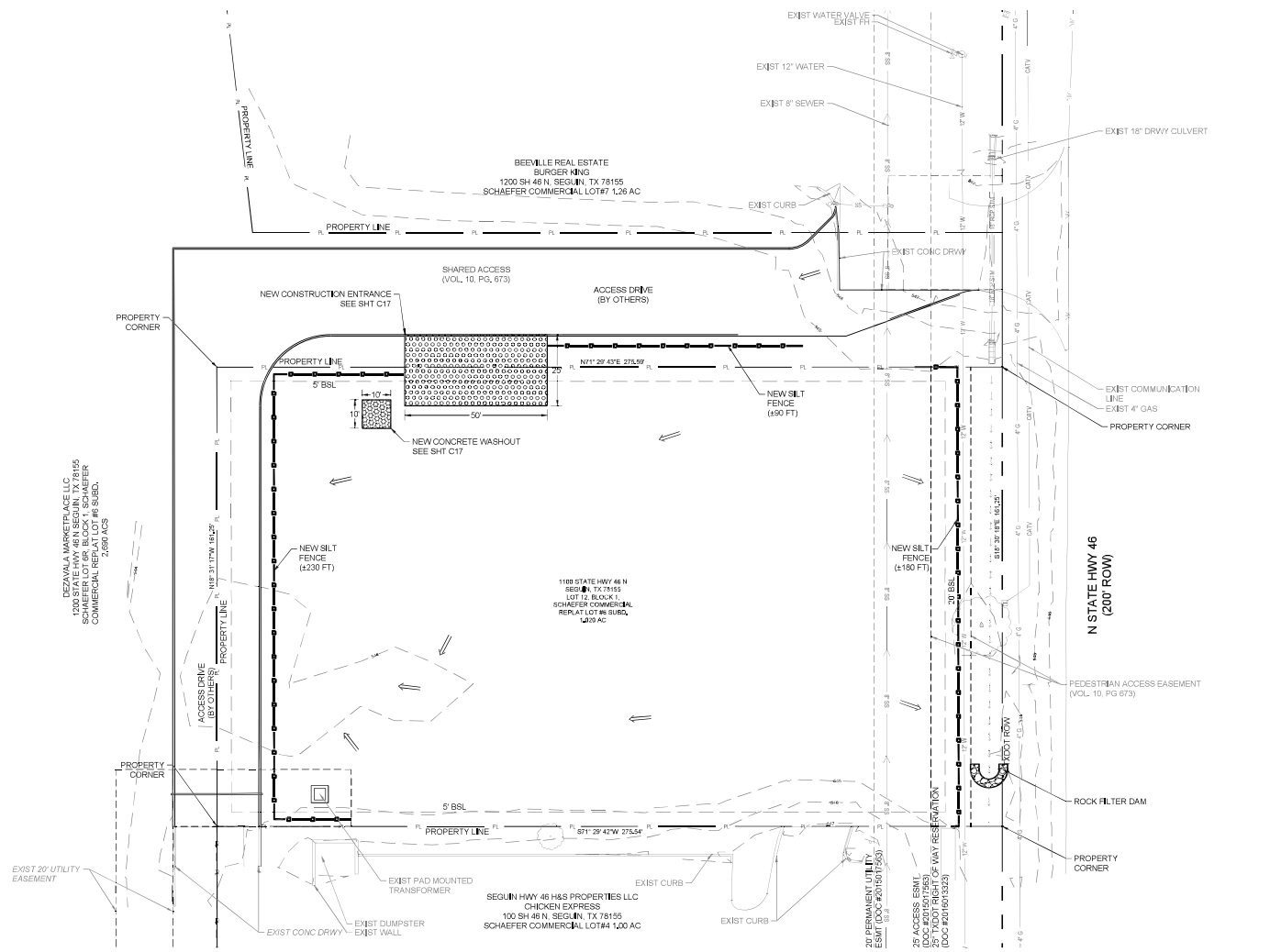
SWPPP GENERAL NOTES:

1. THE CONTRACTOR SHALL BE OPERATOR AS DEFINED BY THE TPDES GENERAL PERMIT. THE OPERATOR WILL PREPARE, SUBMIT A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) PLANS AND PERMITS, AND HAVE A DAY TO DAY OPERATIONAL CONTROL OF THE CONSTRUCTION ACTIVITIES. CONTRACTOR WILL ENSURE COMPLIANCE WITH SWPPP FOR THE SITE OR OTHER CONSTRUCTION GENERAL PERMIT CONDITIONS. SEE SECTION 01410 OF THE CONTRACT DOCUMENTS. ALL WORK AND FEES SHALL BE INCIDENTAL TO THE LUMP SUM ITEM FOR PLANT CONSTRUCTION.
2. THE CONTRACTOR SHALL ADHERE TO THE REQUIREMENTS OF THE GENERAL PERMIT (TXR150000). IMPLEMENT THE STORM WATER POLLUTION PREVENTION PLAN. SIGN AND POST A CONSTRUCTION SITE NOTICE.
3. AT LEAST 2 DAYS BEFORE BEGINNING CONSTRUCTION, PROVIDE A COPY OF THE SITE NOTICE TO THE TO CITY OF SEGUIN, CAPITAL PROJECTS / ENGINEERING (OPERATOR OF ANY MUNICIPAL SEPARATE STORM WATER SEWER SYSTEM (MS4) INTO WHICH STORM WATER WILL BE DISCHARGED)
4. NO NOTICE OF INTENT (NOI), NOTICE OF TERMINATION (NOT), OR FEE IS REQUIRED--AS LONG AS THE REQUIREMENTS OF THIS GENERAL PERMIT ARE FOLLOWED.
5. DISTURBED AREAS ON WHICH CONSTRUCTION ACTIVITY HAS CEASED TEMPORARILY OR PERMANENTLY, SHALL BE STABILIZED WITHIN 14 DAYS UNLESS ACTIVITIES ARE SCHEDULED TO RESUME AND DONE WITHIN 21 DAYS. ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE REVEGETATED AFTER CONSTRUCTION IS COMPLETE. CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING VEGETATION IN ALL DISTURBED AREAS BY WATER OR OTHER ACCEPTABLE MEANS.
6. A RAIN GAUGE SHALL BE PROVIDED BY THE CONTRACTOR AND LOCATED AT THE PROJECT SITE. WITHIN 24 HOURS OF A RAINFALL EVENT OF 0.5 INCHES OR MORE (AS MEASURED BY THE PROJECT SITE GAUGE) THE CONTRACTOR AND INSPECTOR WILL INSPECT THE ENTIRE PROJECT TO DETERMINE THE CONDITION OF THE CONTROL MEASURES. SEDIMENT WILL BE REMOVED AND DEVICES REPAIRED AS SOON AS PRACTICABLE BUT NO LATER THAN 7 DAYS AFTER THE SURROUNDING EXPOSED GROUND HAS DRIED SUFFICIENTLY TO PREVENT FURTHER DAMAGE BEING CAUSED BY REPAIR OPERATIONS.
7. DISPOSAL AREAS, STOCKPILES AND HAUL ROADS SHALL BE CONSTRUCTED IN A MANNER THAT WILL MINIMIZE AND CONTROL THE AMOUNT OF SEDIMENT THAT ENTERS RECEIVING WATERS. DISPOSAL AREAS SHALL NOT BE LOCATED IN ANY WETLAND, BODY OF WATER, STREAMBED OR FLOODPLAIN. THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIALS IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN PERMIT.
8. CONSTRUCTION STAGING AREAS AND VEHICLE MAINTENANCE AREAS SHALL BE CONSTRUCTED BY THE CONTRACTOR IN A MANNER TO MINIMIZE THE RUNOFF OF POLLUTANTS. THE CONTRACTOR SHALL CLEAN PAVED SURFACES (ADJACENT TO THE CONSTRUCTION AREAS) AS NECESSARY TO REMOVE SEDIMENT WHICH HAS ACCUMULATED ON THE ROADWAY DUE TO STORMWATER FLOWS AND VEHICULAR TRAFFIC THROUGH AND ACROSS THE CONSTRUCTION SITE
9. THE CONTROL MEASURES CONTAINED HEREON ARE GENERAL AND SHALL BE ADJUSTED, INSTALLED AND MAINTAINED THROUGHOUT THE CONSTRUCTION CONTRACT TO ASSURE EFFECTIVE AND CONTINUOUS WATER POLLUTION CONTROL DURING CONSTRUCTION AND POST CONSTRUCTION PERIODS.
10. UPON COMPLETION OF CONSTRUCTION AND THE INSTALLATION OF PERMANENT EROSION CONTROL METHODS, A FINAL EROSION CONTROL INSPECTION WILL BE PERFORMED AS PART OF ACCEPTANCE OF THE PROJECT BY THE CITY. IN THE EVENT THAT THE PERMANENT EROSION CONTROL IS INADEQUATE DUE TO IMPROPER DESIGN OR INSTALLATION, THE PERMANENT EROSION CONTROL MEASURE MUST BE CORRECTED OR REDESIGNED TO FUNCTION PROPERLY.

LEGEND

- PROPOSED SILT FENCE
- CONSTRUCTION ENTRANCE
- CONCRETE WASHOUT
- ROCK FILTER DAM

SCALE: 1" = 20'



NO.	REVISION	BY	DATE
1	IFB	MH	08/18/26

PROJECT NAME: EXPRESS OIL CHANGE, SEGUIN TX
1100 STATE HWY 46 N, SEGUIN, TX 78155

ARCHITECT: AHD ARCHITECTS, LLC
ENGINEER: UNINTECH CONSULTING ENGINEERS, INC
CUSTOMER: EXPRESS OIL CHANGE AND TIRE ENGINEERS

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WWW.UNINTECH.COM
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SAN ANTONIO, TEXAS 78259
P: (210) 641-6000 F: (210) 641-6279

MARK B. HILL
94904
LICENSED PROFESSIONAL ENGINEER
08/18/2026

DRAWN BY: NV	DATE: 7-31-2026
CHECKED BY: MH	DATE: 7-31-2026

PROJECT NO: 26-031-V

SHEET TITLE: SWPPP PLAN

SHEET NO: C15

DRAWINGS ARE AND SHALL REMAIN THE PROPERTY OF THE ARCHITECT WHETHER THE PROJECT FOR WHICH THEY ARE MADE IS EXECUTED OR NOT. THEY ARE NOT TO BE USED IN ANY WAY WITHOUT THE PERMISSION OF THE ARCHITECT. ALL REPRODUCTIONS OF THESE DRAWINGS MUST BEAR THE ARCHITECT'S NAME AND THE NOTICE OF COPYRIGHT.

SITE DATA

PROJECT LIMITS:

PROJECT SITE MAP

- Project Latitude: 29°34'41.05"N Project Longitude: 97°59'28.32"W
- Project Location Map: SEE SHT C4
- Drainage Patterns: SEE SHT C10
- Approx. Slopes Anticipated After Major Gradings and Areas of Soil Disturbance: Shown on SHT 13
- Major Controls and Locations of Stabilization Practices: Shown on SW3P Sheets
- Project Specific Locations: Off-site waste, borrow, or storage areas are not part of this SW3P.

Surface Waters and Discharge Locations: EARTHEN CHANNEL LEADING TO BEST DRIVE CULVERTS, FURTHER INTO DETENTION BASIN

PROJECT DESCRIPTION

- CONSTRUCTION OF EXPRESS OIL CHANGE

FOR MAJOR SOIL DISTURBING ACTIVITIES SEQUENCE OF EVENT:

1. Install controls down-slope of work area and initiate inspection and maintenance activities.

2. Begin phased construction with interim stabilization practices. Adjust erosion and sedimentation controls during construction to meet requirements and changing conditions and as directed/approved by the Owner/Engineer.

3. Major soil disturbing activities may include but are not limited to: right-of-way preparation, cut and/or fill to improve roadway profile, final grading and placement of topsoil and the following (if marked):
   - X Placement of road base
   - ____ Extensive ditch grading
   - ____ Upgrading or replacing culverts or bridges
   - ____ Temporary detour road(s)
   - X Other: NEW CONC SIDEWALK CONSTRUCTION

EXISTING AND PROPOSED CONDITIONS

Description of existing vegetative cover:

THICK GRASSES WITH (3-4) OF SMALL TREES CLUSTERED TOGETHER

Percentage of existing vegetative cover: 99%

Existing vegetative cover: (mark one)

- X Thick or uniformly established
- ____ Thin and Patchy
- ____ None or minimal cover

Description of soils (classification/description):

Site Areage: 3.71 Area Disturbed: 1.41

Site Runoff (pre- construction): 0.30 (post construction): 0.87

RECEIVING WATERS

Name of receiving waters that will receive discharges from disturbed areas of the project: GUADALUPE RIVER

Name of classified water body that discharge will eventually reach.

Name: GUADALUPE RIVER Segment Number: 1804

Are any of the recieving waters on the EPA-approved CWA 303(d) list of impaired waters? YES

Name: GUADALUPE RIVER BELOW COMAL RIVER

Site is in a Municipal Separate Storm Sewer System (MS4).

MS4 Operator (name): CITY OF SEGUIN

BEST MANAGEMENT PRACTICES

General timing or sequence for implementation of BMPs shall be as required and/or as directed/approved by the Engineer to provide adequate controls. BMPs shown on plan sheets are to be considered "proposed" unless/until install date is shown. BMPs are to reduce sediments from road construction activities.

SOIL STABILIZATION PRACTICES: (Select T = Temporary or P = Permanent, as applicable)

- P SEEDING
- ____ MULCHING (Hay or Straw)
- ____ BUFFER ZONES
- P PLANTING
- ____ COMPOST/MULCH FILTER BERM
- ____ SODDING
- ____ PRESERVATION OF NATURAL RESOURCES
- ____ FLEXIBLE CHANNEL LINER
- ____ RIGID CHANNEL LINER
- ____ SOIL RETENTION BLANKET
- ____ COMPOST MANUFACTURED TOPSOIL
- ____ OTHER: (Specify Practice)

STRUCTURAL PRACTICES: (Select T = Temporary or P = Permanent, as applicable)

- T SILT FENCES
- ____ HAY BALES
- T ROCK FILTER DAMS
- ____ DIVERSION, INTERCEPTOR, OR PERIMETER DIKES
- ____ DIVERSION, INTERCEPTOR, OR PERIMETER SWALES
- ____ DIVERSION DIKE AND SWALE COMBINATIONS
- ____ PIPE SLOPE DRAINS
- ____ PAVED FLUMES
- T ROCK BEDDING AT CONSTRUCTION EXIT
- ____ TIMBER MATTING AT CONSTRUCTION EXIT
- ____ CHANNEL LINERS
- T SEDIMENT TRAPS
- ____ SEDIMENT BASINS
- ____ STORM INLET SEDIMENT TRAP
- ____ STONE OUTLET STRUCTURES
- ____ CURBS AND GUTTERS
- ____ STORM SEWERS
- ____ VELOCITY CONTROL DEVICES
- ____ OTHER: (Specify Practice)

STORM WATER MANAGEMENT:

The proposed facility was designed in consideration of hydraulic design standards to convey stormwater in a manner that is protective of public safety and property. The control of erosion from the facility is inherent to the design. Additional factors affecting post-construction stormwater at the project location include: (mark all that apply)

- X Existing or new vegetation provides natural filtration.
- ____ The design includes provisions for permanent erosion controls provided by strategically placed pervious and impervious surfaces.
- ____ Project includes permanent sedimentation controls (other than grass).
- X Velocities do not require dissipation devices.
- ____ Velocity-dissipation devices included in the design.
- ____ Other : _____

NON-STORM WATER DISCHARGES:

Off-site discharges are prohibited except as follows:

1. Discharges from fire fighting activities and/or fire hydrant flushings.
2. Vehicle, external building, and pavement wash water where detergents and soaps are not used and where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed).
3. Plain water used to control dust.
4. Plain water originating from potable water sources.
5. Uncontaminated groundwater, spring water or accumulated stormwater.
6. Foundation or footing drains where flows are not contaminated with process materials such as solvents.
7. Other:

Concrete truck wash water discharges on the site should be prohibited or minimized. If allowed by the Engineer, they must be managed in a manner so as not to contaminate surface water. They must not be located in areas of concentrated flow. Concrete truck wash-out locations must be shown on the SW3P Layout and included in the inspections.

Hazardous material spill/leak shall be prevented or minimized. At a minimum, this includes asphalt products, fuels, oils, lubricants, solvents, paints, acids, concrete curing compounds and chemical additives for soil stabilization. BMPs shall be implemented to the storage areas of these products. All spills must be cleaned and disposed properly and reported to the Engineer. Report any release at or above the reportable quantity during a 24 hour period to the National Response Center at 1-800-424-8802.

SANITARY SEWER

All sanitary waste will be collected from portable units as necessary, or as required by local regulations by a Licensed Sanitary Waste Management Contractor.

NARRATIVE - SEQUENCE OF CONSTRUCTION (STORM WATER MANAGEMENT)

ACTIVITIES: .

The order of activities will be as follows:

1. Contractor shall limit vegetative and soil disturbance to essential construction sites only.
2. Install perimeter controls prior to construction.
3. Implement phase construction system installation.
4. Construction of the proposed work contained in contract and as outlined in general phasing of the project
5. Project clean up
6. Replace the topsoil and seed required areas .

OTHER REQUIREMENTS & PRACTICES

MAINTENANCE:

All erosion and sediment controls shall be maintained in good working order. If a repair is necessary, it shall be performed before the next anticipated storm event but no later than 7 calendar days after the surrounding exposed ground has dried sufficiently to prevent further damage from equipment. If maintenance prior to the next anticipated storm event is impracticable, maintenance must be scheduled and accomplished as soon as practicable. Disturbed areas on which construction activities have ceased, temporarily or permanently, shall be stabilized within 14 calendar days unless they are scheduled to and do resume within 21 calendar days. The areas adjacent to creeks and drainageways shall have priority followed by protecting storm sewer inlets.

INSPECTION:

For areas of the construction site that have not been finally stabilized, areas used for storage of materials, structural control measures, and locations where vehicles enter or exit the site, personnel provided by the permittee and familiar with the SW3P must inspect disturbed areas at least once every fourteen (14) calendar days and within twenty four (24) hours of the end of a storm of 0.5 inches or greater.

As an alternative to the above-described inspection schedule of once every fourteen (14) calendar days and within twenty four (24) hours of a storm of 0.5 inches or greater, the SW3P may be developed to require that these inspections will occur at least once every seven (7) calendar days. If this alternative schedule is developed, the inspection must occur on a specifically defined day, regardless of whether or not there has been rainfall since the previous inspection.

An Inspection and Maintenance Report shall be prepared for each inspection and the controls shall be revised on the SW3P within seven (7) calendar days following the inspection.

WASTE MATERIALS:

All non-hazardous municipal waste materials such as litter, rubbish, trash and garbage located on or originating from the project shall be collected and stored in a securely lidded metal dumpster, provided by the Contractor. The dumpster shall be emptied as necessary or as required by local regulation and the trash shall be hauled to a permitted disposal facility. The burying of non-hazardous municipal waste on the project shall not be permitted.

Construction material waste sites, stockpiles and haul roads shall be constructed to minimize and control the amount of sediment that may enter receiving waters.

Construction material waste sites shall not be located in any wetland, water body or stream bed. Construction staging areas and vehicle maintenance areas shall be constructed in a manner to minimize the runoff of pollutants.

OFFSITE VEHICLE TRACKING:

Off-site vehicle tracking of sediments and the generation of dust must be minimized. Excess sediments on road shall be removed on a regular basis as directed/approved by the Engineer.

NO.	REVISION	BY	DATE
1	IFB	MH	08/18/26

PROJECT NAME: EXPRESS OIL CHANGE, SEGUIN TX
1100 STATE HWY 46 N, SEGUIN, TX 78155

ARCHITECT: AHD ARCHITECTS, LLC
ENGINEER: UNINTECH CONSULTING ENGINEERS, INC
CUSTOMER: EXPRESS OIL CHANGE AND TIRE ENGINEERS

UNINTECH CONSULTING ENGINEERS, INC.
TBPE REG. NO. F-14469
TBPLS NO. 10051100
WWW.UNINTECH-COM
2401 E EVANS ROAD
SAN ANTONIO, TEXAS 78259
P: (210) 641-6000 F: (210) 641-6279

MARK B. HILL
94904
LICENSED PROFESSIONAL ENGINEER
08/18/2026

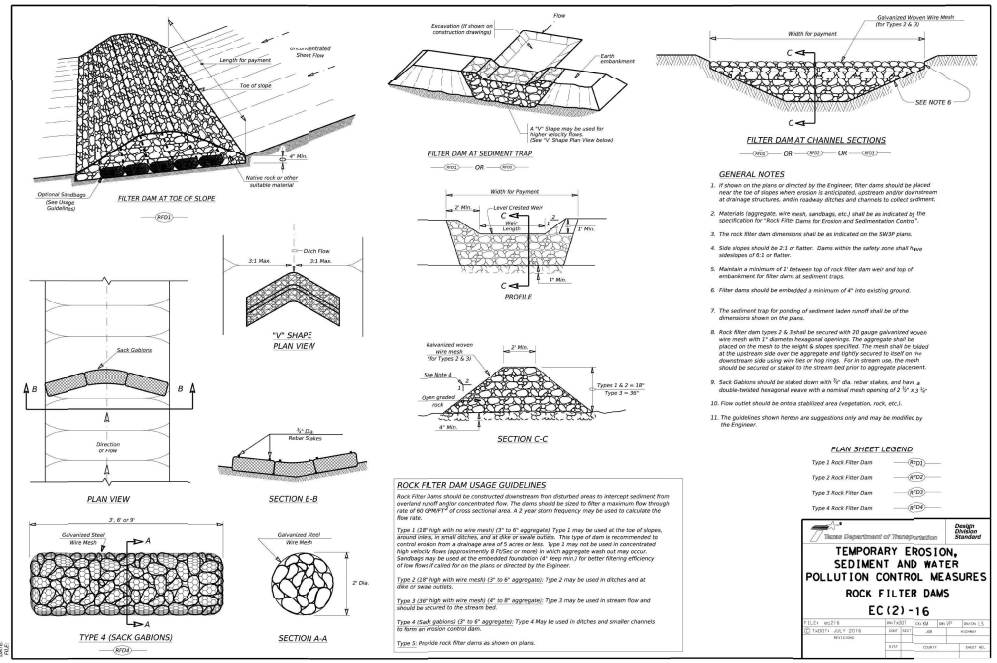
DRAWN BY:	DATE:
NV	7-31-2026
CHECKED BY:	DATE:
MH	7-31-2026

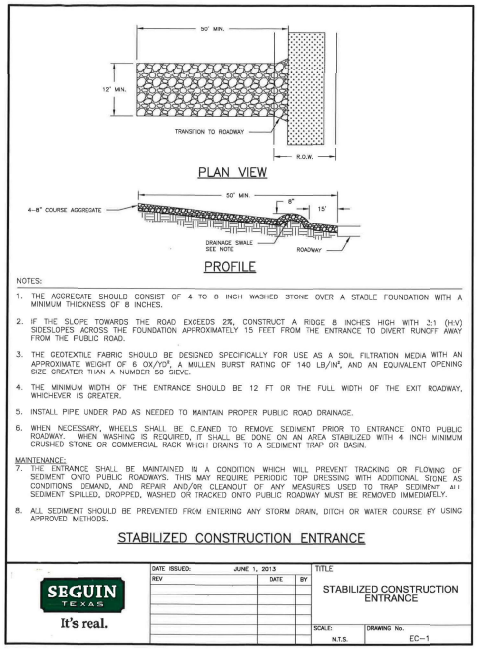
PROJECT NO: 26-031-V

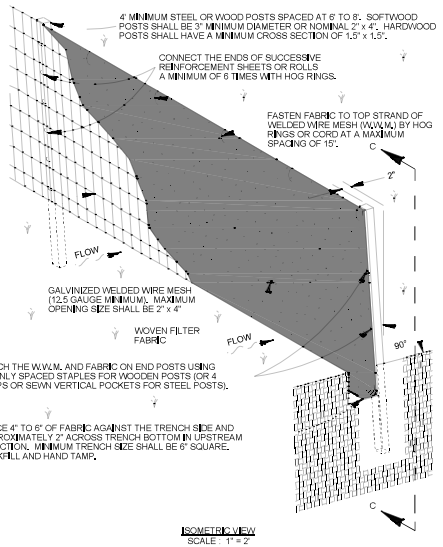
SHEET TITLE: SWPPP NARRATIVE

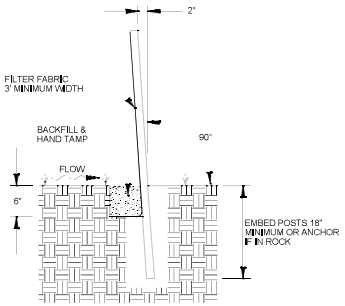
SHEET NO: C16

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SEDIMENT CONTROL FENCE USAGE GUIDELINES

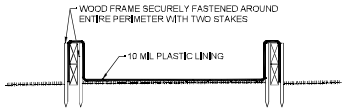
A SEDIMENT CONTROL FENCE MAY BE CONSTRUCTED NEAR THE DOWNSTREAM PERIMETER OF A DISTURBED AREA ALONG A CONTOUR TO INTERCEPT SEDIMENT FROM OVERLAND RUN-OFF. A 2 YEAR STORM FREQUENCY MAY BE USED TO CALCULATE THE FLOW RATE TO BE FILTERED.

SEDIMENT CONTROL FENCE SHOULD BE SIZED TO FILTER A MAXIMUM FLOW THRU RATE OF 100 GPM / FT SQUARED. SEDIMENT CONTROL FENCE IS NOT RECOMMENDED TO CONTROL EROSION FROM A DRAINAGE AREA LARGER THAN 2 ACRES.

GENERAL NOTES

1. THE GUIDELINES SHOWN HEREON ARE SUGGESTIONS ONLY AND MAY BE MODIFIED BY THE ENGINEER.

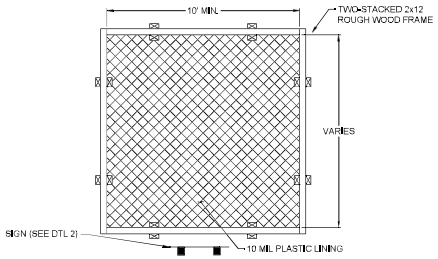
TEMPORARY SEDIMENT CONTROL FENCE



TRUCK WASHOUT SECTION A-A

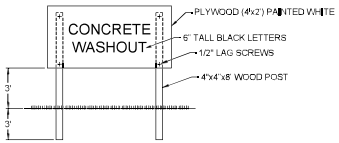
SCALE: N.T.S.

TEMPORARY CONCRETE TRUCK WASHOUT NOTES:
1. ACTUAL LAYOUT AND LOCATION TO BE DETERMINED BY CONTRACTOR IN THE FIELD
2. CONCRETE TRUCK WASHOUT SIGN (SEE DETAIL THIS SHEET) SHALL BE INSTALLED WITHIN TEN (10) FEET OF THE TEMPORARY CONCRETE WASHOUT FACILITY



TEMPORARY CONCRETE TRUCK WASHOUT DETAIL

SCALE: N.T.S.



CONCRETE WASHOUT SIGN DETAIL

SCALE: N.T.S.

NO.	REVISION	BY	DATE
1	IFB	MH	08/18/26

PROJECT NAME: EXPRESS OIL CHANGE, SEGUIN TX
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ENGINEER: UNINTECH CONSULTING ENGINEERS, INC
CUSTOMER: EXPRESS OIL CHANGE AND TIRE ENGINEERS

UNINTECH CONSULTING ENGINEERS, INC.
TBPE REG. NO. F-14389
TBPLS NO. 10051100
2401 E. EVANS ROAD
SAN ANTONIO, TEXAS 78259
P. (210) 641-0000 F. (210) 641-6279
WWW.UNINTECH-COM

MARK B. HILL 94904 LICENSED PROFESSIONAL ENGINEER 08/18/2026

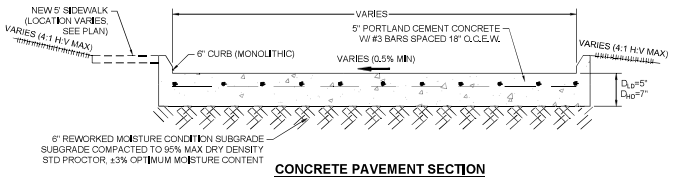
DRAWN BY: MV	DATE: 7-31-2026
CHECKED BY: MH	DATE: 7-31-2026

PROJECT NO: 26-031-V

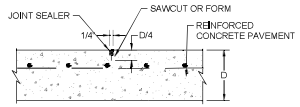
SHEET TITLE: SWPPP DETAILS

SHEET NO: C17

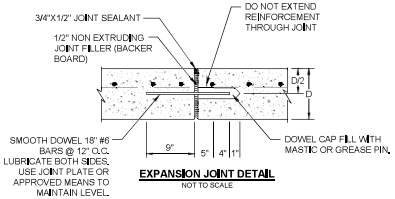
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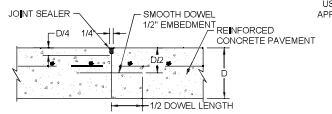
CONCRETE PAVEMENT SECTION
(NOT TO SCALE)



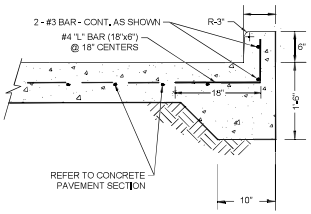
CONTROL/CONTRACTION JOINT DETAIL
NOT TO SCALE



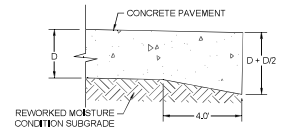
EXPANSION JOINT DETAIL
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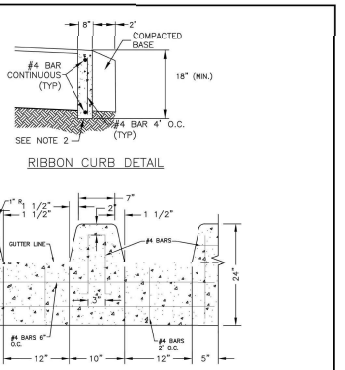
CONSTRUCTION JOINT DETAIL
NOT TO SCALE



MONOLITHIC CURB DETAIL
(NOT TO SCALE)



THICKENED EDGE/NO CURB
(NOT TO SCALE)

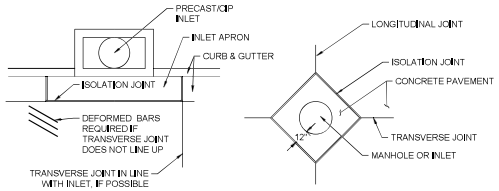


NOTES:

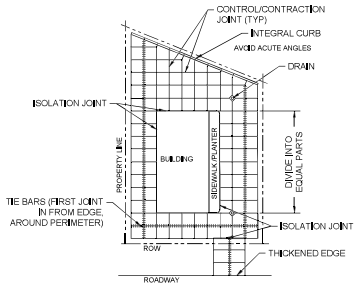
1. RIBBON CURB AND SAW TOOTH CURB CAN ONLY BE INSTALLED WITHIN THE RIGHT-OF-WAY ON A CASE BY CASE BASIS AS APPROVED BY THE CITY ENGINEER.
2. CURB SHALL EXTEND A MINIMUM OF 3 INCHES INTO THE COMPACTED SUBGRADE. (NO SEPARATE PAY ITEM)
3. REFER TO THE ROADWAY SECTIONS FOR SPECIFICATIONS AND REQUIRED THICKNESS OF ALL MATERIAL.
4. EXPANSION JOINT EVERY 40'. SEE SPECIFICATIONS FOR DETAILS.
5. CONCRETE SHALL BE CLASS A, 3000 PSI.

SEGUIN TEXAS
It's real.

DATE ISSUED:	JUNE 1, 2013		TITLE
REVISION	DATE	BY	RIBBON CURB AND SAW TOOTH CURB
1ST REVISION	11/01/18	MS	
2ND REVISION	9/03/24	JS	
			SCALE: N.T.S. DRAWING No. CRB-1

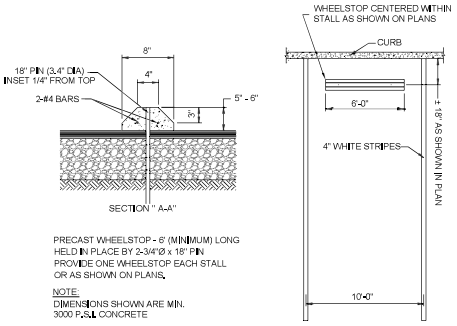


JOINT AT MANHOLE/INLET DETAIL
NOT TO SCALE



TYPICAL JOINT LAYOUT
(UN-REINFORCED CONCRETE PARKING LOT)
NOT TO SCALE

ACI 330-R TABLE 3.7				
LENGTHS AND SPACING FOR NO. 4, 1/2 IN. DIA TIE BARS				
		TIE BAR SPACING (IN.) O.C.)		
"SLAB THICKNESS IN."	"TIE BAR LEN. IN."	DISTANCE TO NEAREST FREE EDGE OR TO NEAREST JOINT WHERE MOVEMENT CAN OCCUR.		
		12 FT OR LESS	14 FT.	16 TO 24 FEET
5	24	30	30	28
5.5	24	30	30	25
6	24	30	30	23
6.5	24	30	30	21
7	24	30	30	20
7.5	24	30	30	18
8	24	30	28	17
8.5	24	30	26	16
9	30	36	30	24



PRECAST WHEELSTOP - 6' (MINIMUM) LONG HELD IN PLACE BY 2-3/4"Ø x 18" PIN PROVIDE ONE WHEELSTOP EACH STALL OR AS SHOWN ON PLANS.

NOTE:
DIMENSIONS SHOWN ARE MIN.
3000 P.S.I. CONCRETE

PRECAST CONCRETE WHEEL STOP
(NOT TO SCALE)

NO.	BY	REVISION	DATE
1	IPB		08/18/26
	MH		

PROJECT NAME: EXPRESS OIL CHANGE, SEGUIN TX
1100 STATE HWY 46 N, SEGUIN, TX 78155

ARCHITECT: AHD ARCHITECTS, LLC
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WWW.UNINTECH.COM
2401 E. EVANS ROAD
SAN ANTONIO, TEXAS 78259
P. (210) 641-6000 F. (210) 641-6279

MARK B. HILL
94904
LICENSED PROFESSIONAL ENGINEER
08/18/2026

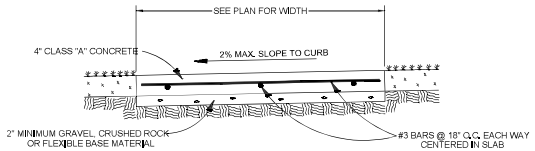
DRAWN BY:	DATE:
NV	7-31-2026
CHECKED BY:	DATE:
MH	7-31-2026

PROJECT NO: 26-031-V

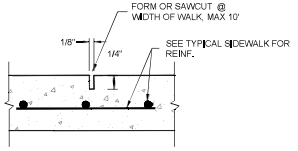
SHEET TITLE: PAVEMENT DETAILS

SHEET NO: C18

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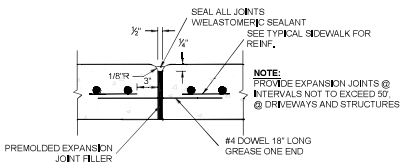


CONCRETE SIDEWALK SECTION



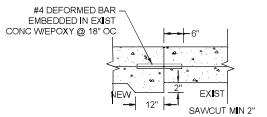
SIDEWALK CONTROL JOINT

NOT TO SCALE



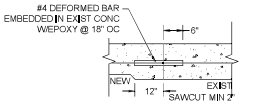
SIDEWALK EXPANSION JOINT

NOT TO SCALE



SIDEWALK TO EXIST SIDEWALK

(NOT TO SCALE)

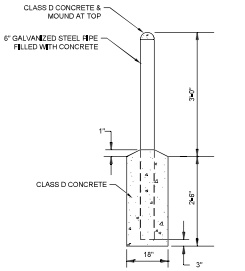


SIDEWALK TO EXIST DRIVEWAY

(NOT TO SCALE)

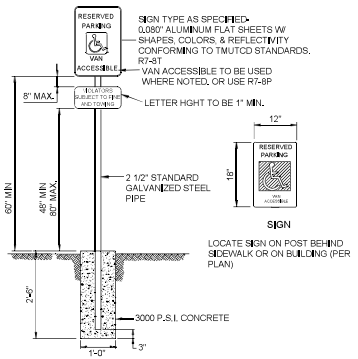
SIDEWALK EXPANSION JOINT NOTES:

1. STEEL TO MEET ASTM STD SPECIFICATIONS FOR CONC. REINF. BARS
2. EXPANSION JOINT TO BE PLACED AT THE END OF EACH CURB RADIUS, DRIVEWAYS AND STRUCTURES, AND SPACED AT A MAXIMUM DISTANCE OF 50 FEET (MATCH CURB JOINTS). MAXIMUM SPACING FOR CONTROL JOINTS SHALL BE EQUAL TO WIDTH OF SIDEWALK
3. MINIMUM OF TWO (2) DOWELS @ 18" OC AT EXPANSION JOINTS
4. CENTER DOWEL VERTICALLY IN CONCRETE AS NEEDED TO MAINTAIN 2" MIN. COVER.



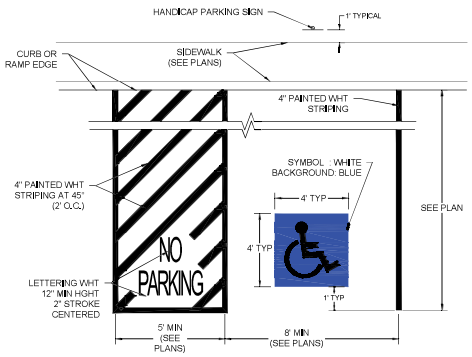
PIPE BOLLARD DETAIL

(NOT TO SCALE)



SIGN SUPPORT & FOUNDATION DETAIL

NOT TO SCALE



HANDICAP STRIPING DETAIL

(NOT TO SCALE)

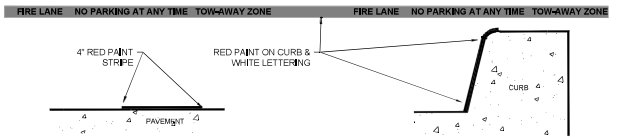
GENERAL NOTES:

1. ALL PARKING SPACE LIMIT LINES SHALL BE 4" SOLID WHITE LINES.
2. AISLE MARKINGS SHOWN ARE EXAMPLES ONLY. OTHER METHODS TO INDICATE A NO PARKING AREA ORE ACCEPTABLE. AISLE MARKINGS SHALL BE WHITE.
4. PAVEMENT MARKING SYMBOLS (WITH BACKGROUND):
   A) ARE REQUIRED UNLESS STATED ELSEWHERE IN THE PLANS.
   B) SHOULD BE PLACED TOWARD THE FAR END OF THE PARKING SPACES SO AS TO BE VISIBLE TO MOTORISTS IN THE TRAVEL LANE,
   C) MAY BE POINTED OR PREFABRICATED MATERIAL, AND
   D) SHALL BE 30" X 30" MINIMUM.
5. WITH APPROVAL OF THE ENGINEER, PREFABRICATED PAVEMENT MARKING SYMBOLS WITH BACKGROUND OF OTHER DIMENSIONS EXCEEDING THE 30" X 30" MINIMUM MAY BE USED. ALTERNATIVE DESIGNS SHALL INCLUDE A PROPORTION SIZED SYMBOL OF ACCESSIBILITY, AND SHALL CONFORM TO THE COLORS FOR BACKGROUND, SYMBOL AND BORDER.
6. SIGN R7-8T SIGN:
   A) SHALL BE REQUIRED FOR EACH ACCESSIBLE PARKING SPACE,
   B) SHALL NOT BE PLACED BETWEEN TWO ACCESSIBLE PARKING SPACES,
   C) SHALL NOT BE PLACED IN A LOCATION THAT RESTRICTS MOVEMENT OF WHEELCHAIRS WITHIN THE ADJACENT SIDEWALK, AND
   D) SHALL HAVE A MINIMUM MOUNTING HEIGHT OF 7 FEET. IF MOUNTED TO WALL OR LOCATED SO AS NOT TO BE NEAR PEDESTRIAN TRAFFIC MINIMUM MOUNTING HEIGHT MAY BE 7 FEET.
7. POST MOUNTED SIGNS SHOULD BE PLACED APPROXIMATELY 1 FOOT (OR GREATER) BEHIND THE CURB TO PREVENT DAMAGE FROM VEHICLE OVERHANG.
8. SIGNS MAY BE MOUNTED DIRECTLY TO AN ADJACENT WALL OF A BUILDING WHEN POST MOUNTING IS IMPRACTICAL.
9. STRIPED ACCESS AISLE SHALL HAVE THE WORDS "NO PARKING" PAINTED CENTERED IN THE AISLE, 12" LETTER HEIGHT, 2" STROKE.

NOTES:

DESIGNATE FIRE LANES WITH 4-INCH HEIGHT AND 1-INCH WIDTH WHITE LETTERING ON RED BACKGROUND, STATING 'Fire Lane - No Parking' AT 25 FT. MAX INTERVALS BETWEEN WORDING. PLACE 'No Parking - Fire Lane' STRIPING ON SURFACE IN FRONT OF DUMPSTER PADS AND OTHER FIRE HAZARDS/FIRE PROTECTION FEATURES WHEN PRESENT.

SIGNS SHALL HAVE RED LETTERS ON A WHITE REFLECTIVE BACKGROUND AND HAVE A MINIMUM DIMENSION OF 12 INCHES (305 MM) WIDE BY 18 INCHES (457 MM) HIGH FOR "FIRE LANE - NO PARKING AT ANY TIME CITY ORD. 54547." (SAN ANTONIO), OR "NO PARKING - FIRE LANE" (OTHER CITIES), AND A MINIMUM DIMENSION OF 12 INCHES (305 MM) WIDE BY 6 INCHES (153 MM) HIGH FOR "TOW - AWAY ZONE". SIGNS SHALL BE POSTED ON ONE OR BOTH SIDES OF THE FIRE APPARATUS ROAD, POSTS PER CITY CODES.



FIRE LANE MARKINGS DETAIL

NOT TO SCALE

NO.	REVISION	BY	DATE
1	IFB	MH	08/18/26

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2401 E. EVANS ROAD
SAN ANTONIO, TEXAS 78259
P. (210) 641-6000 F. (210) 641-6279
WWW.UNINTECH-COM

MARK B. HILL
94904
LICENSED PROFESSIONAL ENGINEER
08/18/2026

DRAWN BY:	DATE:
NV	7-31-2026
CHECKED BY:	DATE:
MH	7-31-2026

PROJECT NO: 26-031-V

SHEET TITLE: SIDEWALK, STRIPING, AND SIGNAGE DETAIL

SHEET NO: C19

DRAWINGS AND SHALL REMAIN THE PROPERTY OF THE ARCHITECT WHETHER THE PROJECT FOR WHICH THEY ARE PREPARED IS EXECUTED OR NOT. THEY ARE NOT TO BE USED BY ANY OTHER PROJECTS, BE LOANED TO OTHERS OR COPIED IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF THE ARCHITECT. VISUAL CONTACT WITH THESE DRAWINGS OR WRITTEN MATERIAL CONSTITUTES PRIMA FACIE EVIDENCE OF ACCEPTANCE OF THESE RESTRICTIONS.

GENERAL NOTES:

1. VERIFY SITE INFORMATION, INCLUDING PROPERTY LINES, EASEMENTS, BUILDINGS, ROADWAY CURB AND GUTTERS, UTILITIES AND OTHER INFORMATION AFFECTING THE SCOPE OF WORK INCLUDED ON THESE DRAWINGS. MORE SPECIFIC UTILITY INFORMATION IS INDICATED ON THE CIVIL DRAWINGS.
2. CONTRACTOR SHALL CONTACT THE OWNER AND THE LANDSCAPE ARCHITECT FOR DIRECTION ON HOW TO PROCEED IF ACTUAL SITE CONDITIONS VARY FROM WHAT IS SHOWN ON THE DRAWINGS.
3. EXCAVATION IN THE VICINITY OF UTILITIES SHALL BE UNDERTAKEN WITH CARE. THE CONTRACTOR BEARS FULL RESPONSIBILITY FOR THIS WORK. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL SITE UTILITIES PRIOR TO BEGINNING EXCAVATION. ANY DAMAGE TO UTILITIES THAT ARE TO REMAIN CAUSED BY ANY PERSON, VEHICLE, EQUIPMENT, OR TOOL RELATED TO THE EXECUTION OF THE CONTRACT SHALL BE REPAIRED IMMEDIATELY AT NO EXPENSE TO THE OWNER.
4. CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING EXISTING IRRIGATION AND LANDSCAPE ON SITE FROM ANY DAMAGE. CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT IMMEDIATELY OF ANY CONFLICTS
5. BASE INFORMATION INCLUDING THE LOCATION OF PROPERTY LINES, EASEMENTS, BUILDINGS, ROADS AND CURBS HAVE BEEN TAKEN FROM THE CIVIL ENGINEER'S DRAWINGS. FOR ADDITIONAL INFORMATION REFER TO ARCHITECT'S & CIVIL ENGINEERING DRAWINGS.
6. THE CONTRACTOR SHALL NOTIFY LOCAL AUTHORITIES AND THE GENERAL CONTRACTOR FOR LOCATION OF EXISTING UNDERGROUND UTILITIES. POT HOLE AS NECESSARY TO CONFIRM LOCATIONS PRIOR TO EXCAVATION.

DEMOLITION NOTES:

1. CONTRACTOR SHALL DEMOLISH ALL ITEMS NECESSARY TO INSTALL NEW WORK PER PLANS AND SPECIFICATIONS. DEMOLITION WORK SHALL INCLUDE BUT NOT BE LIMITED TO ITEMS INDICATED BY REFERENCED NOTES AND SYMBOLS ON THE DEMOLITION PLANS.
2. CONTRACTOR SHALL VERIFY IN FIELD ALL DIMENSIONS AND ITEMS TO BE REMOVED. PROMPTLY NOTIFY THE LANDSCAPE ARCHITECT IN WRITING OF ANY DISCREPANCIES.
3. REFER TO SPECIFICATIONS SECTION 024119 FOR GENERAL DEMOLITION REQUIREMENTS.
4. INSTALL TEMPORARY BARRIERS TO SEPARATE CONSTRUCTION FROM OCCUPIED AREAS OR AREAS ACCESSIBLE TO PUBLIC OR OWNER EMPLOYEES. BARRIER SHALL BE DUST-TIGHT. COORDINATE DEMOLITION SCHEDULE WITH OWNER. MINIMIZE DISRUPTIONS FROM SOUND OR CONSTRUCTION EQUIPMENT AND PERSONNEL TO OCCUPIED AREAS.
5. FOR ALL EXISTING PLUMBING - IRRIGATION AND DRAINAGE ITEMS REMOVED, DEMOLISH LINES BACK TO GRADE OR WALLS TO REMAIN, ABOVE OR BELOW FLOOR. CAP ALL LINES.
6. **CONTRACTOR SHALL PROVIDE UNIT PRICES BASED ON QUANTITIES/CALCULATIONS SHOWN ON DOCUMENTS. FIELD CONDITIONS MAY REVISE ACTUAL LOCATION, INCREASING OR DECREASING THE EXTENT OF WORK BID. CHANGES TO THE EXTENT OF WORK RESULTING IN AN INCREASE WILL BE BASED ON UNIT PRICES AND PERFORMED SUBJECT TO APPROVAL OF THE LANDSCAPE ARCHITECT AND THE OWNER IN THE FORM OF A CHANGE ORDER**

SITE/LANDSCAPE SLEEVING NOTES:

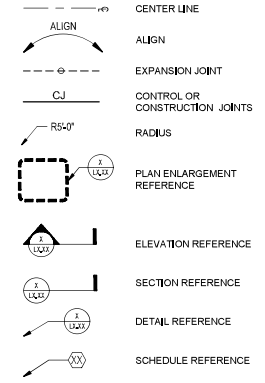
1. CONTRACTOR IS RESPONSIBLE TO VERIFY ALL OTHER CONSULTANTS AND SUB-CONTRACTOR SLEEVING REQUIREMENTS AND PLACE SUCH SLEEVES PRIOR TO HARDSCAPE/FLATWORK INSTALLATION.

LAYOUT/DIMENSIONAL CONTROL NOTES:

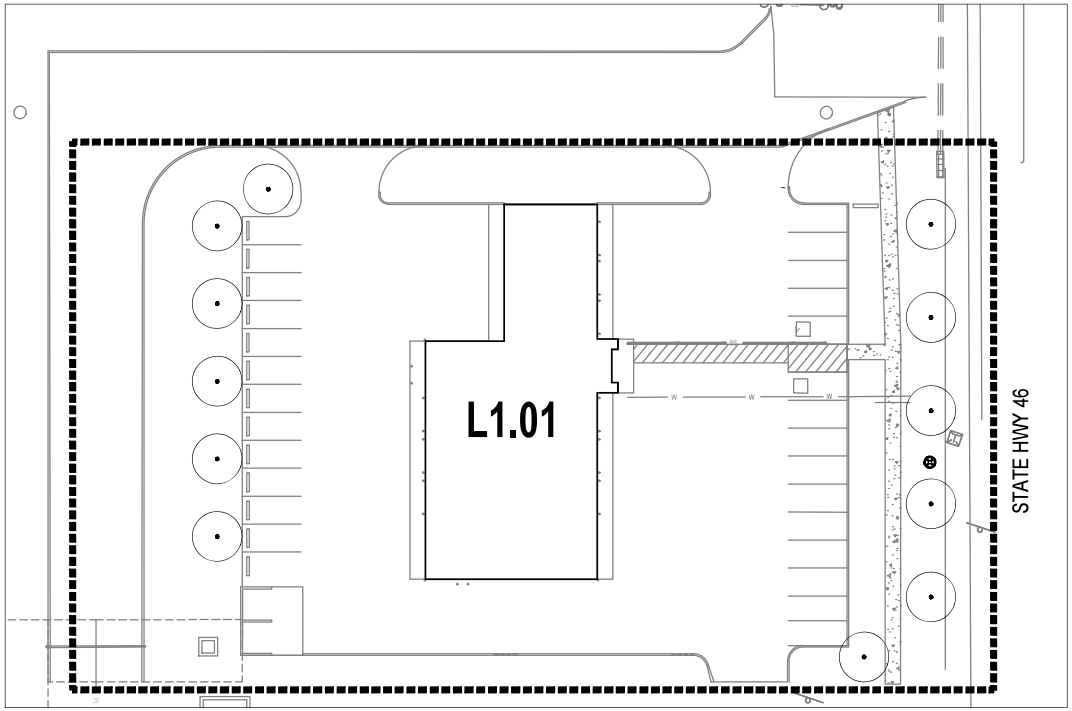
1. CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING ALL EXISTING UTILITIES.
2. THE CONTRACTOR SHALL LAYOUT AND VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT FOR DIRECTION AND RESOLUTION OF DISCREPANCIES PRIOR TO PROCEEDING.
3. FOR DIMENSIONS OF BUILDING, PARKING STRUCTURE AND OTHER RELATED NON-LANDSCAPE WORK, REFER TO THE ARCHITECTURAL OR CIVIL DRAWINGS.
4. VERIFY LOCATIONS OF ALL SITE IMPROVEMENTS INSTALLED UNDER OTHER SECTIONS. IF ANY PART OF THIS PLAN CANNOT BE FOLLOWED DUE TO SITE CONDITIONS, CONTACT THE LANDSCAPE ARCHITECT FOR INSTRUCTION PRIOR TO COMMENCING WORK.
5. ALL DIMENSIONS ARE TAKEN PERPENDICULAR TO WALL, CURB, P.O.B., OR CENTERLINE UNLESS OTHERWISE NOTED. DIMENSIONS AT CURB ARE FROM BACK OF CURB.
6. COORDINATE POINTS HAVE BEEN COORDINATED WITH CIVIL ENGINEER.
7. EDGES OF IRREGULAR PAVING ARE LOCATED BY COORDINATES AND ARE GENERAL LOCATIONS. CONTRACTOR SHALL STAKE POINTS IN FIELD. STAKED EDGES SHALL BE REVIEWED BY LANDSCAPE ARCHITECT FOR FINAL LAYOUT APPROVAL AND SETTING AND MAY REQUIRE ADJUSTMENTS IN FIELD FOR FINAL PLACEMENT. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS.
8. CENTERLINES OF PAVING ARE LOCATED BY COORDINATES AND ARE GENERAL LOCATIONS. CONTRACTOR SHALL STAKE POINTS AND ESTABLISH ONE SIDE OF TRAIL WITH TEMPORARILY STAKED STEEL EDGING AT NOTED OFFSET. TEMPORARY STEEL EDGE STAKING SHALL BE REVIEWED BY LANDSCAPE ARCHITECT FOR FINAL LAYOUT APPROVAL AND SETTING AND MAY REQUIRE ADJUSTMENTS IN FIELD FOR FINAL PLACEMENT. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS.
9. THIS DRAWING INCLUDES THE LOCATION OF VARIOUS DRAIN DEVICES AND SYSTEMS. COORDINATE CONSTRUCTION, DETAILS AND UTILITY CONNECTIONS WITH RELATED ARCHITECTURAL AND ENGINEERING DRAWINGS. CONFIRM LOCATIONS WITH THE LANDSCAPE ARCHITECT PRIOR TO ROUGH IN.
10. FOR HANDICAPPED STANDARDS, VERIFY COMPLIANCE WITH LATEST EDITION OF ADA AND LOCAL AND STATE HANDICAP STANDARDS PRIOR TO CONSTRUCTION. WHERE FIELD MODIFICATIONS ARE REQUIRED FOR COMPLIANCE, CONSTRUCTION CHANGES MAY BE APPLIED INCLUDING DIFFERENT GRADES AND LAYOUT THAN THOSE NOTED HEREIN.
11. SURFACES SHALL BE ADA COMPLIANT ALONG ACCESS AND EGRESS, FLAGSTONE SHALL HAVE NO ADJACENT SURFACE IRREGULARITIES GREATER THAN 1/4" IN ANY PIECE OR BETWEEN ADJACENT PIECES
12. WHERE DIMENSIONS ARE CALLED AS "EQUAL", ALL REFERENCED ITEMS SHALL BE SPACED EQUALLY, MEASURED TO THEIR CENTER LINES OR OTHER NOTED REFERENCES.
13. INSTALL ALL INTERSECTING ELEMENTS AT 90 DEGREES TO EACH OTHER UNLESS OTHERWISE NOTED.

ABBREVIATIONS

APPROX	APPROXIMATE
ADJ	ADJACENT
BC	BOTTOM OF CURB
BLDG	BUILDING
BR	BOTTOM OF RAMP
BS	BOTTOM OF STEP
BL	BUILDING LINE
BOC	BACK OF CURB
BW	BOTTOM OF WALL
CJ	CONTROL JOINT
CMU	CONCRETE MASONRY UNIT
COH	CITY OF HOUSTON
CONC	CONCRETE
CONT	CONTINUOUS
CL	CENTERLINE
CLR	CLEAR / CLEARANCE
CRS	COURSE
DIA	DIAMETER
DWG	DRAWINGS
GALV	GALVANIZED
EJ	EXPANSION JOINT
ELEV	ELEVATION
EP	EDGE OF PAVEMENT
EQ	EQUAL
ESMT	EASEMENT
EXIST	EXISTING
FF	FINISHED FLOOR
FL	FLOWLINE
FTG	FOOTING
FG	FINISHED GRADE
FOC	FACE OF CURB
FIN	FINISH
G	GUTTER
HT	HEIGHT
HP	HIGH POINT
INT	INTERIOR
LA	LANDSCAPE ARCHITECT
LF	LINEAR FEET
LP	LOW POINT
LOW	LIMIT OF WORK
MAX	MAXIMUM
MIN	MINIMUM
NIC	NOT IN CONTRACT
OC	ON CENTER
OPP	OPPOSITE
PA	PLANTING AREA
PERP	PERPENDICULAR
PL	PROPERTY LINE
POB	POINT OF BEGINNING
PROP	PROPOSED
PVMT	PAVEMENT
PT	POINT
R	RADIUS
RE	REFER TO
REF	REFERENCE
REINF	REINFORCED
REQ	REQUIRED
ROW	RIGHT OF WAY
SCH	SCHEDULE
SSEJ	SUB-SURFACE EXPANSION JOINT
SEC	SECTION
SF	SQUARE FEET
SHT	SHEET
SIM	SIMILAR
SQ	SQUARE
SQFT	SQUARE FEET
STL	STEEL
SS	STAINLESS STEEL
SWE	STATIC WATER ELEVATION
TAN	TANGENT
TC	TOP OF CURB
TF	TOP OF FRAME
THK	THICK / THICKNESS
TOB	TOP OF BANK
TOS	TOE OF SLOPE
TP	TOP OF PAVEMENT
TR	TOP OF RAMP
TS	TOP OF STEP
TW	TOP OF WALL
TY	TYPE
TYP	TYPICAL
UTL	UTILITY
WL	WATER LEVEL



Sheet List Table	
Sheet Number	Sheet Title
L0.00	KEY MAP AND INDEX
L0.01	TREE PROTECTION
L1.00	PLANTING NOTES AND SCHEDULE
L1.01	PLANTING PLAN
L1.02	PLANTING DETAILS
LI1.0	IRRIGATION NOTES AND LEGEND
LI1.1	IRRIGATION PLAN
LI2.1	IRRIGATION DETAILS
LI2.2	IRRIGATION DETAILS



KEY MAP

REVISION	BY	DATE
01	IFB	09/18/2026

PROJECT NAME: EXPRESS OIL CHANGE, SEGUIN TX
1100 STATE HWY 46 N, SEGUIN, TX 78155

ARCHITECT: AHO ARCHITECTS, LLC
ENGINEER: UNINTECH CONSULTING ENGINEERS, INC.
CUSTOMER: EXPRESS OIL CHANGE AND TIRE ENGINEERS

UNINTECH CONSULTING ENGINEERS, INC.
TBPE REG. NO.: F-4369
TBPLS NO.: 10051100
WWW.UNINTECH.COM
2431 E. EVANS ROAD
SAN ANTONIO, TEXAS 78259
P: (210) 641-6293 F: (210) 641-4279

REGISTERED LANDSCAPE ARCHITECT — JACOB L. CALLAHAN — STATE OF TEXAS
08/05/2026

DRAWN BY: NCM	DATE: 08/05/2026
CHECKED BY: BL	DATE: 08/05/2026
PROJECT NO:	

SHEET TITLE: **KEY MAP AND INDEX**

SHEET NO: **L0.00**

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GENERAL TREE PROTECTION NOTES:

1. ALL TREES INDICATED ON THE TREE PRESERVATION PLANS TO BE PROTECTED SHALL BE PROTECTED WITH TEMPORARY FENCING THROUGHOUT CONSTRUCTION.
2. TREE PROTECTION FENCES SHALL BE INSTALLED PRIOR TO THE COMMENCEMENT OF ANY DEMOLITION AND/OR SITE PREPARATION WORK (CLEARING, GRUBBING OR GRADING).
3. FENCES SHALL COMPLETELY SURROUND THE TREE OR CLUSTERS OF TREES; FENCES SHALL BE LOCATED AT THE OUTERMOST LIMITS OF THE TREE BRANCHES (DRIP LINE); AND SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PROJECT. FENCES MAY BE MOVED OR REMOVED TO ENABLE THE PROGRESS OF CONSTRUCTION ONLY AS APPROVED BY THE LANDSCAPE ARCHITECT.
4. WHERE EXCEPTIONS RESULT IN A FENCE BEING CLOSER THAN 4 FEET TO A TRUNK, PROTECT THE TRUNK WITH STRAPPED-ON PLANKING TO A HEIGHT OF 8' (OR TO THE LIMITS OF THE LOWER BRANCHING) AS INDICATED ON TREE PRESERVATION PLANS.
5. COVER THE ROOT ZONE AREA WITH 4" OF HARDWOOD MULCH, UNDER DIRECTION OF THE LANDSCAPE ARCHITECT, WHERE ROOT ZONES WITHIN DRIP LINES ARE UNPROTECTED BY FENCING.
6. ALL GRADING AND EXCAVATION WITHIN TREE ROOT ZONE AREAS SHALL BE DONE BY HAND TO MINIMIZE ROOT DAMAGE AND SOIL COMPACTION. PRIOR TO GRADING, RELOCATE PROTECTIVE FENCING TO 2' BEHIND THE GRADE CHANGE AREA. GRADE SHALL REMAIN UNCHANGED WHERE POSSIBLE.
7. NO LANDSCAPE TOPSOIL DRESSING GREATER THAN A 3" LAYER SHALL BE PERMITTED WITHIN THE DRIP LINE OF TREES. NO SOIL OR MULCH IS PERMITTED ON THE ROOT FLARE OF ANY TREE.
8. EQUIPMENT MUST NOT TOUCH UNDERSIDE OF TREE CROWNS.
9. ANY TRENCHING REQUIRED FOR THE INSTALLATION OF UTILITIES, LIGHTING, CONDUIT, OR LANDSCAPE IRRIGATION SHALL BE PLACED OUTSIDE ROOT ZONE AREAS. ROOTS SHALL NOT BE SEVERED AS A RESULT OF THE EXCAVATION. ROOTS SHALL REMAIN IN PLACE, BRIDGING TRENCHES. CONDUIT PIPES, ETC., SHALL BE PLACED BETWEEN ROOTS, WHILE EXPOSED ROOTS SHALL BE WRAPPED WITH BURLAP AND BE KEPT MOIST. AFTER BACKFILLING WITH SPECIFIED BEDDING, FILL REMAINING EXCAVATION WITH SOIL EXCAVATED FROM THE TRENCH. ANY EXCESS SOIL MAY BE DISPOSED OF ON SITE AS APPROVED BY THE LANDSCAPE ARCHITECT IN THE PROCESS OF EXCAVATION, AVOID STOCKPILING MATERIAL WITHIN THE DRIP LINE OF EXISTING TREES. IF UNAVOIDABLE, STOCKPILED MATERIAL SHALL BE PLACED ON PLYWOOD BOARD BASE SET ON TOP OF EXISTING GRADE. PLYWOOD BOARD BASE SHALL NOT REMAIN IN PLACE LONGER THAN (7) SEVEN DAYS.
10. ANY ROOT SEVERED BY CONSTRUCTION ACTIVITY SHALL BE PRUNED FLUSH WITH THE SOIL. BACKFILL ROOT AREAS WITH SPECIFIED TOP SOIL AS SOON AS POSSIBLE. IF EXPOSED ROOT AREAS ARE NOT BACKFILLED WITHIN 2 DAYS, COVER THEM WITH SPECIFIED ORGANIC MATERIAL.
11. PRIOR TO EXCAVATION OR GRADE CUTTING WITHIN TREE DRIP-LINES, ROOT PRUNE BY MAKING A CLEAN CUT BETWEEN THE DISTURBED AND UNDISTURBED ROOT ZONES WITH A ROCK SAW, IRRIGATION TRENCHER OR SIMILAR EQUIPMENT TO MINIMIZE DAMAGE TO REMAINING ROOTS.
12. TREES HEAVILY IMPACTED BY CONSTRUCTION ACTIVITIES SHALL BE WATERED THOROUGHLY ONCE A WEEK DURING PERIODS OF HOT, DRY WEATHER AS DIRECTED BY THE LANDSCAPE ARCHITECT. TREE CROWNS SHALL BE SPRAYED WITH WATER PERIODICALLY TO REDUCE DUST ACCUMULATION ON THE LEAVES.
13. HEAVY CONSTRUCTION EQUIPMENT SHALL NOT OPERATE WITHIN 3' OF ANY STRUCTURES OR 5' OF ANY TREES TO REMAIN
14. PRUNING TO PROVIDE CLEARANCE FOR STRUCTURES, VEHICULAR TRAFFIC, AND EQUIPMENT SHALL TAKE PLACE BEFORE CONSTRUCTION BEGINS BY A RECOGNIZED ARBORIST.
15. ALL FINISHED PRUNING MUST BE DONE ACCORDING TO RECOGNIZED, APPROVED STANDARDS OF THE INDUSTRY (REFERENCE THE NATIONAL ARBORIST ASSOCIATION PRUNING STANDARDS FOR SHADE TREES).
16. COVER SEVERED ROOTS AND TREE SIDE OF TRENCH WITH 8 MIL BLACK VISQUENE TO FULL DEPTH OF TRENCH AND 6" OVER TOP. STAPLE VISQUENE IN PLACE, BACKFILL AND COMPACT TRENCH WITH EXCAVATED SOIL, TO PROTECT ROOT ENDS FROM CONCRETE AND LIME.
17. CORE AERATE AND DEEP ROOT FERTILIZE TREES BY PROBE AND WATER INJECTION OF DAVEY ARBOR GREEN FERTILIZER. REFER TO MANUFACTURER'S MAXIMUM RECOMMENDED RATES PER TREE CALIPER INCHES. INJECT 18"-24" DEEP 5'-0" O.C. THROUGHOUT DRIP-LINE OF TREE.
18. CONTRACTOR SHALL MODIFY EXHAUST PIPES ON CONSTRUCTION EQUIPMENT AS NEEDED TO INSURE THAT TREE CROWNS ARE NOT DAMAGED FROM EXHAUST HEAT FROM VERTICAL EXHAUST PIPES ON TOP OF CONSTRUCTION EQUIPMENT.
19. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL TREE WORK/REPAIR TO ANY DAMAGE TO EXISTING TREES DURING THE CONTRACT PERIOD. DAMAGE TO ANY EXISTING TREES SHALL BE REPORTED IMMEDIATELY TO THE OWNER'S REPRESENTATIVE. CONTRACTOR SHALL SUBMIT TO OWNER'S REPRESENTATIVE A WRITTEN PROGRAM OF CORRECTIVE PRUNING AND TREE CARE TO REPAIR DAMAGE WITH THE NAME OF A QUALIFIED URBAN FORESTER OR ARBORIST FOR OWNER'S APPROVAL.
20. PLANS ARE DIAGRAMMATIC. CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF REQUIRED TREE FENCING LIMITS.
21. ALL EXISTING TREES, IN DESIGNATED PROTECTED AREAS, MUST BE PRUNED TO AVOID DAMAGE BY EQUIPMENT DURING CONSTRUCTION OPERATIONS (REF. SPECIFICATIONS)
22. ALL EXISTING UTILITY MANHOLE COVERS AND GRATES TO BE ADJUSTED TO MATCH PROPOSED FINISHED GRADE ELEVATIONS; REF. CIVIL DRAWINGS.
23. THESE NOTES ARE SUPPLEMENTARY TO SPECIFICATION SECTION 015639.

TREE REMOVAL NOTES:

1. ALL TREES TO BE REMOVED SHALL BE MARKED PER TECHNICAL SPECIFICATIONS AND REMOVED UPON REVIEW AND APPROVAL BY OWNER AND LANDSCAPE ARCHITECT. ALL TREES REMOVED WITHOUT APPROVAL FROM LANDSCAPE ARCHITECT OR DAMAGED BY CONSTRUCTION ACTIVITY WILL BE REPLACED INCH FOR INCH.
2. ALL TREES 6" CALIPER AND UNDER IN AREAS NOT MARKED FOR REMOVAL SHALL REMAIN UNLESS OTHERWISE NOTED. ALL TREES 6" CALIPER AND LESS IN NOTED CLEARING AREAS SHALL BE REMOVED UNDER DIRECTION OF OWNER AND LANDSCAPE ARCHITECT.
3. ALL TREES REMOVED SHALL BE MULCHED ON SITE INCLUDING ALL LIMB/BRACH DEBRIS, TRUNK AND ROOT BALL SYSTEMS. MULCH GRIND SHALL BE STORED ON SITE UNLESS OTHERWISE NOTED. REFER TO SPECIFICATIONS FOR REMOVAL AND STORAGE INFORMATION.

EXISTING TREE MAINTENANCE NOTES:

1. TREE MAINTENANCE SHALL OCCUR AS NOTED FOR ALL EXISTING TREES AS REQUIRED PER TECHNICAL SPECIFICATIONS ISSUED. SUCH OPERATIONS MAY INCLUDE TRIMMING, PRUNING, FERTILIZING, WATERING, ROOT PRUNING AND/OR FOLIAGE WASHING AS REQUIRED BY SITE ARBORIST OR LANDSCAPE ARCHITECT.
2. TREE MAINTENANCE OPERATIONS SHALL BE DEEMED HIGH PRIORITY AND SHALL OCCUR WHEN SUCH NOTED OPERATIONS ARE NOTED TO OCCUR AND SHALL OCCUR AS NOTED BY ARBORIST.

TREE PRUNING:

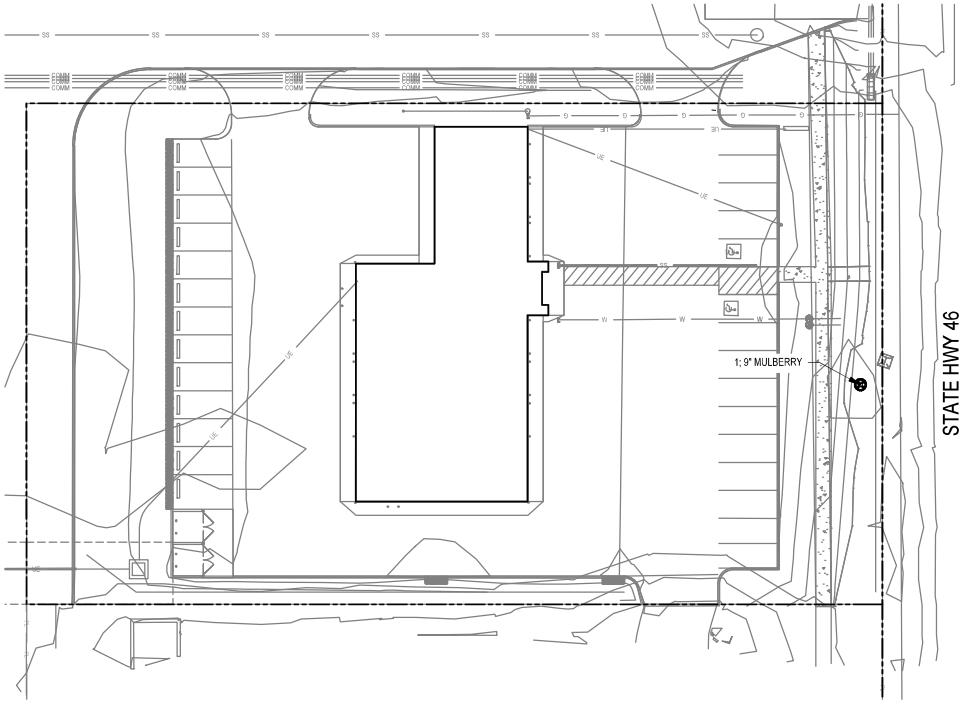
1. PRUNE EXISTING TREES AS NECESSARY TO ALLOW ADEQUATE CLEARANCE FOR CONSTRUCTION ACTIVITIES TO PREVENT DAMAGE TO LIMNS.
2. ALL WORK TO BE CONDUCTED BY A CERTIFIED ARBORIST.
3. OAK TREES SHALL NOT BE PRUNED BETWEEN FEB. 1ST & JUNE 1ST.
4. PAINT ALL CUTS WITH PRUNING SEALER WITHIN 20 MINUTES.
5. PRUNE & SHAPE TREES TO ESTABLISH MIN. CLEAR DISTANCE OF 3'-0" FROM ANY PART OF NEW BUILDING. PRUNE UNIFORMLY AROUND TREE TO MAINTAIN A BALANCED SHAPE.
6. PROVIDE 7'FT. CLEAR HEIGHT ABOVE LANDSCAPE AREAS AND 10FT. CLEAR HEIGHT ABOVE DRIVES
7. TREE PRUNING IS THE RESPONSIBILITY OF THE CONTRACTOR

TREE PRESERVATION TABLE

Tag No.	Dia.	Species	Preserve	Remove	Comments
1	9	Mulberry		x	Not Protected

LEGEND

⊗ TREES TO BE REMOVED



01 PLAN-TREE PROTECTION
NOT TO SCALE

NO.	REVISION	BY	DATE
01	IFB		08/18/2026

PROJECT NAME: EXPRESS OIL CHANGE, SEGUIN TX
1100 STATE HWY 46 N, SEGUIN, TX 78155

ARCHITECT: AHO ARCHITECTS, LLC
ENGINEER: UNINTECH CONSULTING ENGINEERS, INC.
CUSTOMER: EXPRESS OIL CHANGE AND TIRE ENGINEERS

UNINTECH CONSULTING ENGINEERS, INC.
TBPE REG. NO.: F-4499
TBPLS NO.: 10051100
WWW.UNINTECH.COM
2431 E. EVANS ROAD
SAN ANTONIO, TEXAS 78259
P: (210) 641-6093 F: (210) 641-4279

08/05/2026

DRAWN BY:	DATE:
NCM	08/05/2026
CHECKED BY:	DATE:
BL	08/05/2026

PROJECT NO:

SHEET TITLE: TREE PROTECTION

SHEET NO: L0.01

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THESE PLANS AND SPECIFICATIONS, AS INSTRUMENTS OF SERVICE, ARE AND SHALL REMAIN THE PROPERTY OF EDGELAND P.C. WHETHER THE PROJECT FOR WHICH THEY ARE MADE IS EXECUTED OR NOT. THEY ARE NOT TO BE USED IN WHOLE OR IN PART FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF EDGELAND P.C. VISUAL CONTACT WITH THESE PLANS AND SPECIFICATIONS SHALL CONSTITUTE PRIMA FACIE EVIDENCE OF ACCEPTANCE OF THESE RESTRICTIONS.
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PLANTING NOTES:

1. PLANTING SOIL MIXTURE: REF. SPECIFICATIONS.
2. ALL ON SITE TOPSOIL FROM DESIGNATED STOCKPILE AREA OR BORROW SITE WILL BE TESTED TO COMPLY WITH CONFORMITY SHOWN IN SOIL PREPARATION SPECIFICATION
3. BIDDING CONTRACTORS BE ADVISED THAT ALL NEW TREE MATERIAL IS TO BE CONTAINER-GROWN CORRESPONDING TO STATED ROOT BALL SIZES AS RECOGNIZED BY INDUSTRY STANDARDS. THIS SHALL EXCLUDE ALL B&B, MACHINE MOVED, OR TRANSPLANTED TREES FROM THE BIDDING PROCESS UNLESS OTHERWISE INDICATED. THE INSTALLATION CONTRACTOR SHALL BE PREPARED TO PROVIDE PHOTOGRAPHS OF INTENDED PLANT MATERIAL ALONG WITH SIGNED CLARIFICATION THAT PLANT MATERIAL MEETS THESE REQUIREMENTS AND THAT NO VARIATIONS OR SUBSTITUTIONS HAVE BEEN MADE.
4. THE LANDSCAPE CONTRACTOR DOING THE INSTALLATION OF THIS WORK SHALL SUBMIT INFORMATION TO THE LA REGARDING THE SOURCING OF PLANT MATERIAL. ALL PLANT MATERIAL MUST BE APPROVED BY THE LA.
5. IF THE PLANTING PLAN DOES NOT AGREE WITH THE PLANT LIST, THE QUANTITIES INDICATED GRAPHICALLY ON THE PLANTING PLAN SHALL GOVERN.
6. IF IRRIGATION IS NOT PROVIDED TO PROPOSED TREES, AND DECLINED BY THE OWNER THE CONTRACTOR IS TO INSTALL: **TREE GATORS** REFERENCE SPECIFICATIONS.
7. CONTRACTOR TO PROVIDE ONSITE INVESTIGATION FOR ALL TREE PITS. SOIL CONDITIONS VARY FROM HEAVY CLAY TO SOLID BEDROCK. RESPONSIBILITY FOR ADDRESSING THESE CONDITIONS FALLS ON THE CONTRACTOR.
8. **PROVIDE $\frac{3}{8}$"X48" ORANGE DRIVEWAY MARKERS W/REFLECTORS 15' O.C. WHERE ALL NATIVE SEEDING MEETS MOWED LAWN CONDITION. CONFIRM ANY CONFLICTS WITH LANDSCAPE ARCHITECT.**

IRRIGATION NOTES:

1. REFERENCE IRRIGATION PLANS AND DETAILS. IF IRRIGATION PLANS ARE NOT PROVIDED THE CONTRACTOR IS TO PRODUCE SEALED IRRIGATION DRAWINGS USING THE BELOW GUIDELINES. IRRIGATION DRAWINGS TO BE APPROVED BY LANDSCAPE ARCHITECT PRIOR TO INSTALLATION
2. IRRIGATION DESIGNS ARE TO BE DESIGNED BY A LICENSED IRRIGATOR IN THE STATE IN WHICH THE PROJECT IS BEING CONSTRUCTED
3. IRRIGATION DESIGN TO PROVIDE TEMPORARY IRRIGATION AT ALL AREAS SHOWN TO BE SEEDED
4. VERIFY TAP LOCATION WITH CIVIL ENGINEER, CONFIRM LOCATION, SIZE AND METHOD
5. VERIFY STATIC PRESSURE OF WATER SOURCE AT POINT OF CONNECTION PRIOR TO DESIGN AND INSTALLATION
6. HEAD TO HEAD COVERAGE OR BETTER; DO NOT EXCEED MANUFACTURER'S PUBLISHED RADIUS OF THROW.
7. MAINLINE AND SECTION PIPE TO BE SCHEDULE 40
8. ALL PIPE UNDER PAVEMENT SHALL BE IN SLEEVES
9. PREFERRED EQUIPMENT:
   - 9.1. CLIENT, CITY AND DISTRICT STANDARDS SUPERCEDE ANY OF THE FOLLOWING NOTES.
   - 9.2. SPRAY HEAD:RAINBIRD, 1806 SERIES; POP-UP HEIGHT APPROPRIATE FOR PLANT MATERIAL AT TIME OF PLANTING
   - 9.3. NOZZLES: RAINBIRD MPR
   - 9.4. ROTOR HEADS: RAINBIRD 500 SERIES
   - 9.5. INCLUDE SWING JOINTS ON ALL SPRAY POP UPS AND ROTORS
   - 9.6. REMOTE CONTROL VALVE: PEB SERIES BRASS.
   - 9.7. BALL VALVE: LASCO UNION TYPE BALL VALVE SAME SIZE AS CONTROL VALVE
   - 9.8. TREE BUBBLERS: GPH AND EMITTER SPACING APPROPRIATE FOR SOIL CONDITIONS, PROVIDE DETAIL
   - 9.9. QUCK COUPLERS: RAINBIRD 33DRC-$\frac{3}{4}$" DIAMETER OUTLET
   - 9.10. VALVE BOXES: RAIN BIRD VB SERIES 12x18 MIN. FOR 1-$\frac{1}{2}$" VALVE OR SMALLER, JUMBO 17x30 FOR 2" VALVE AND LARGER; ALLOW 24" BETWEEN VALVE BOXES. ALIGN SQUARE TO ADJACENT PAVING
   - 9.11. CONTROLLER: RAINBIRD ESP-LXME2/PRO WITH LXMSS CABINET AND PEDESTAL; VERIFY ON PLAN WITH LANDSCAPE ARCHITECT PRIOR TO INSTALLATION
10. CONTRACTOR TO CONTACT IRRIGATION MANUFACTURER TO PROGRAM ADEQUATE WATERING SCHEDULE ON IRRIGATION CONTROLLER UPON PLANTING INSTALLATION.
11. CONTRACTOR TO COORDINATE MANUFACTURER'S MOBILE ACCESS TO IRRIGATION CONTROLLER WITH CLIENT BEFORE SUBSTANTIAL COMPLETION OR BEFORE TURNING OVER MAINTENANCE DUTIES TO CLIENT UPON MAINTENANCE AGREEMENT COMPLETION.

SITE/LANDSCAPE SLEEVING NOTES:

1. CONTRACTOR IS RESPONSIBLE TO VERIFY ALL OTHER CONSULTANTS AND SUB-CONTRACTOR SLEEVING REQUIREMENTS AND PLACE SUCH SLEEVES PRIOR TO HARDSCAPE INSTALLATION.

PLANTING SCHEDULE

	ABBREVIATION	BOTANICAL NAME	COMMON NAME	SIZE	HEIGHT	REMARKS/COMMENTS
TREES						
	QT	QUERCUS TEXANA	TEXAS RED OAK	65 GALLON	14'-16'(FT)	FULL, WELL BRANCHED
	UC	ULMUS CRASSIFOLIA	CEDAR ELM	65 GALLON	14'-16'(FT)	FULL, WELL BRANCHED
SHRUBS						
	ABBREVIATION	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	REMARKS/COMMENTS
	RO	ROSMARINUS OFFICINALIS	UPRIGHT ROSEMARY	5 GALLON	36" O.C.	FULL PLANTS, ROOTED TO CONTAINER
TURF						
SYMBOL	ABBREVIATION	BOTANICAL NAME	COMMON NAME		DENSITY	REMARKS/COMMENTS
	SOD	CYNODON DACTYLON 'BERMUDA CELEBRATION'	BERMUDA 'CELEBRATION' TURF			SOLID SOD, STAGGERED

MATERIAL SCHEDULE (P)

SYMBOL	KEY	DESCRIPTION	SUPPLIER	MATERIAL	SIZE	COLOR	FINISH	REMARK	DETAIL
	P1	DECORATIVE GRAVEL	SITE ONE, ALAMO STONE, OR APPROVED EQUAL	SIENNA COBBLES	2"-4"	NATURAL	-	-	08 L-L.02
- - - -	SE	STEEL EDGING	JD RUSSELL	STEEL	14GA x6" ROLLED TOP	-	GALVANIZED	REF. SPECS	06 L-L.02

PLANT SIZING CHART

SHADE AND ORNAMENTAL SINGLE TRUNK TREES			
CONT. SIZE	CALIPER (DBH)	HEIGHT	SPREAD
10 GALLON	$\frac{3}{4}$"	6'MIN	3'-4'
15 GALLON	1"	8'-10'	4'-5'
30 GALLON	1-$\frac{1}{2}$" TO 2"	12'-14'	4'-5'
45 GALLON	2" TO 3"	14'-16'	5'-7'
65 GALLON	3" TO 3-$\frac{1}{2}$"	16'-18'	6'-8'
100 GALLON	3-$\frac{1}{2}$" TO 4"	18'-20'	8'-12'
PALMS			
CONT. SIZE	HEIGHT	BARE TRUNK	
10 GALLON	3'-4'		
15 GALLON	4'	1'	
30 GALLON	5' TO 6'	3'	
45 GALLON	6'-8'	4'	
65 GALLON	8'-10'	6'	
MULTI-TRUNK TREES			
CONT. SIZE	HEIGHT	SPREAD	
5 GALLON	4'	24"-36"	
7 GALLON	5'-6'	36"-48"	
10 GALLON	6'-7'	42"-60"	
15 GALLON	7'-8'	60"MIN	
45 GALLON	10'-12'	60"MIN	
65 GALLON	12'-16'	72"MIN	
100 GALLON	14'-18'	80"MIN	

DECIDUOUS SHRUBS			
CONT. SIZE	MIN. NUMBER OF CANES	HEIGHT	SPREAD
1 GALLON	3	6"MIN	6"MIN
3 GALLON	4	14"MIN	10"
5 GALLON	4	30"MIN	24"
7 GALLON	5	40"MIN	30"
10 GALLON	5	48"MIN	36"
15 GALLON	6	60"-72"	48"MIN
30 GALLON	8	96"MIN	48"-60"
BROADLEAF EVERGREEN SHRUBS			
CONT. SIZE	HEIGHT	SPREAD	
1 GALLON	6"-9"	6"MIN	
3 GALLON	14"MIN	10"	
5 GALLON	30"MIN	24"	
7 GALLON	40"MIN	24-30"	
10 GALLON	48"-60"	40"MIN	
15 GALLON	60"-72"	48"MIN	
30 GALLON	72"-84"	48"-60"	

NO.	BY	DATE
01	IFB	09/18/2026

PROJECT NAME: EXPRESS OIL CHANGE, SEGUIN TX
1100 STATE HWY 46 N, SEGUIN, TX 78155

ARCHITECT: AHO ARCHITECTS, LLC
ENGINEER: UNINTECH CONSULTING ENGINEERS, INC.
CUSTOMER: EXPRESS OIL CHANGE AND TIRE ENGINEERS

UNINTECH CONSULTING ENGINEERS, INC.
TBPE REG. NO. F-4369
TBPLS NO. 10051100
WWW.UNINTECH.COM
2431 ELVANS ROAD
SAN ANTONIO, TEXAS 78259
P: (210) 641-6003 F: (210) 641-4279

REGISTERED LANDSCAPE ARCHITECT
JACOB L. GALLEGOS
STATE OF TEXAS

08/05/2026

DRAWN BY:	DATE:
NCM	08/05/2026
CHECKED BY:	DATE:
BL	08/05/2026

PROJECT NO:

SHEET TITLE: **PLANTING NOTES AND SCHEDULE**

SHEET NO: **L1.00**

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SEGUIN LANDSCAPE CALCULATIONS

Per UDC Code Section 5.2.4.C "10% of the lot area shall be devoted to landscaping. 1 shade tree and 2 shrubs shall be planted for every 400 s.f. of required landscaping. 50% of the required landscaping shall be located between the front property line and the building."

Therefore:

Total Lot Area		10%		Req. Landscape	Provided:
44436 s.f.	x	10%	=	4,444 s.f.	100%+

Required Landscape		400 s.f.		Tree/Shrub Multiplier
4,444 s.f.	/	400 s.f.	=	12

				Req. Trees	
12	x	1	=	12	100%

				Req. Shrubs	
12	x	2	=	24	100%+

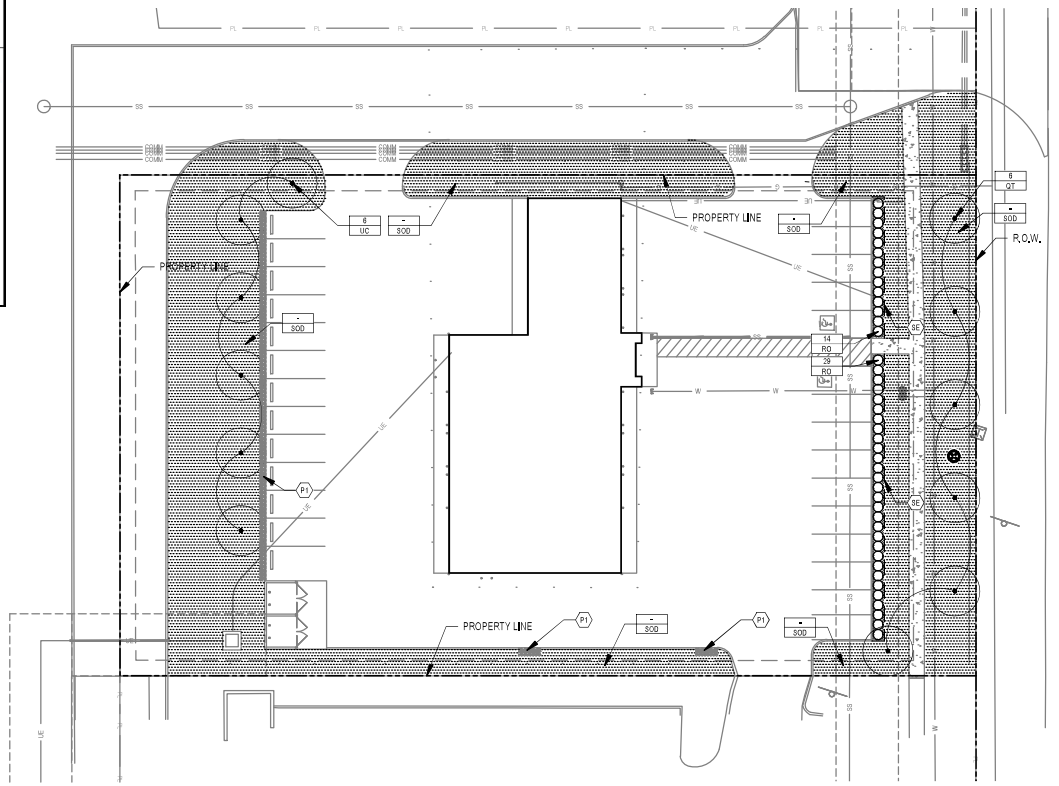
Per UDC Code Section 5.2.5. "All off-street parking areas including 10 spaces or more are required to meet the following standards... A. The landscape area shall consist of either a minimum of fifteen s.f. for each off-street parking space, or a minimum of 5% of the total parking area, including back-up space, whichever is greater. ... Each landscape area shall contain a minimum of the following: minimum area of 25 s.f., one tree, ground cover (including sod), curbing."

Therefore:

				Req. Landscape	Provided:
Landscape Area Required Per Total Parking Area:					
10,779 s.f. Total Parking Area	x	5%	=	**539 s.f.**	100%+

PLANTING LEGEND

- SOD
- HEDGE
- TYP. PLANTING AREA
- PROPOSED SINGLE TRUNK TREE
- REMOVED TREE



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UNINTECH CONSULTING ENGINEERS, INC.
2431 E. EVANS ROAD
SAN ANTONIO, TEXAS 78259
P: (210) 641-6003 F: (210) 641-6279
TBPE REG. NO. F-4469
TBPLS NO. 10051100
WWW.UNINTECH4U.COM

JACOB L. CALVERT 08/05/2026

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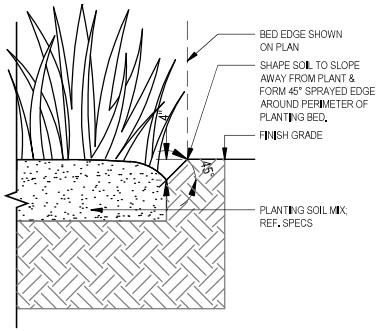
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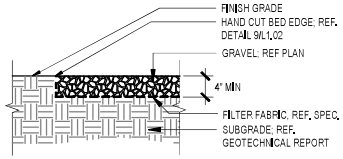
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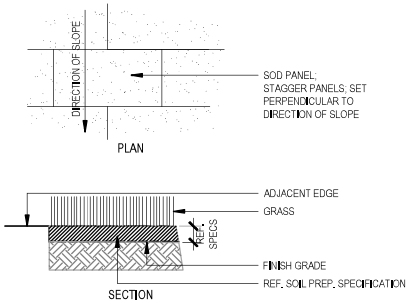
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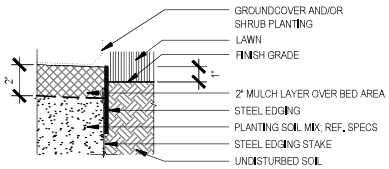
09 SECTION-HAND CUT BED EDGE
1"=1'-0"



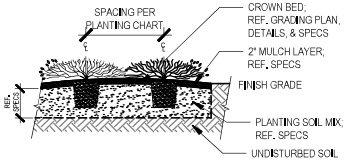
08 SECTION - DECORATIVE GRAVEL
1" = 1'-0"



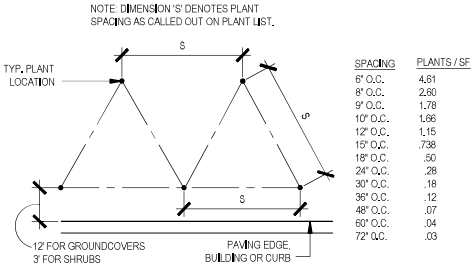
07 SECTION-TYP. SOD PLANTING
1/2"=1'-0"



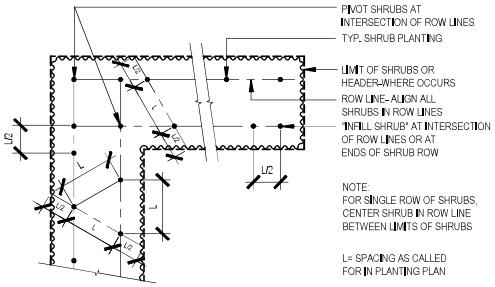
06 SECTION-METAL BED EDGE
3"=1'-0"



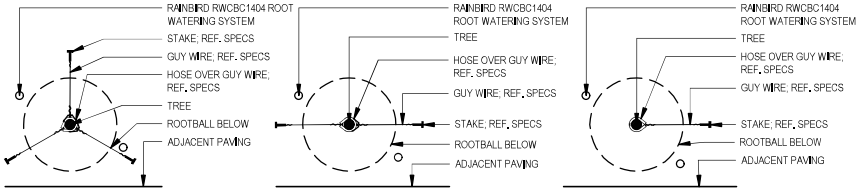
05 SECTION-TYP. BED PLANTING
1/2"=1'-0"



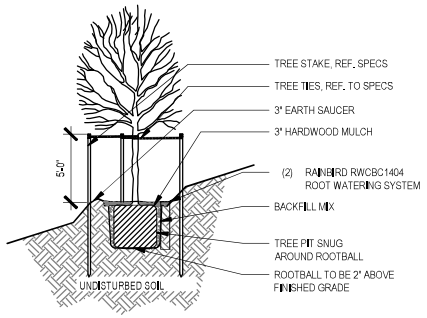
SPACING	PLANTS / SF
6" O.C.	4.61
8" O.C.	2.60
9" O.C.	1.78
10" O.C.	1.66
12" O.C.	1.15
15" O.C.	.738
18" O.C.	.50
24" O.C.	.28
30" O.C.	.18
36" O.C.	.12
48" O.C.	.07
60" O.C.	.04
72" O.C.	.03



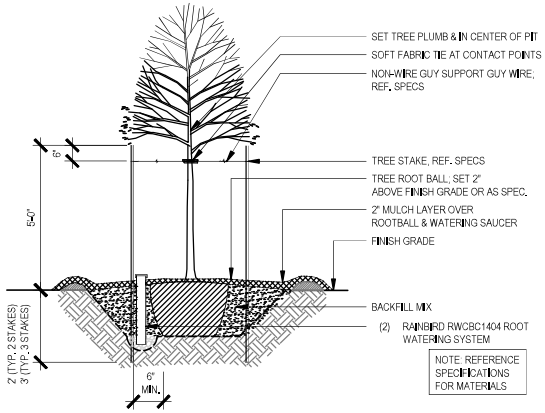
04 SECTION-PLANT SPACING
3"=1'-0"



03 PLAN-TYP. TREE STAKING
3/4"=1'-0"



02 SECTION-TYP. TREE PLANTING ON SLOPE
1/2"=1'-0"



01 SECTION-TYP. TREE PLANTING
1/2"=1'-0"

REVISION	BY	DATE
01	JFB	09/18/2026

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TBPE REG. NO. F-4369
TBPLS NO. 10051100
WWW.UNINTECH.COM
2431 E. EVANS ROAD
SAN ANTONIO, TEXAS 78259
P: (210) 641-6300 F: (210) 641-6279

JACOB L. CALLIES — REGISTERED LANDSCAPE ARCHITECT — STATE OF TEXAS
08/05/2026

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BL	08/05/2026

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SHEET TITLE: **PLANTING DETAILS**

SHEET NO: **L1.02**

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PRESSURE REQUIREMENT CALCULATIONS @ ZONE No. 3	
DESIGN STATISTICS FOR CALCULATIONS	
Total Zone Flow:	13.0 gpm
Electric Valve Size:	1"
Static Pressure Less 10% (static @ 65 psi):	58.5 psi
ACCUMULATIVE LOSSES FROM CITY MAIN TO FURTHEST HEAD	
Sprinkler head requirement:	30 psi
Zone Pipe/Fitting Loss:	0.88 psi
1" Electric Valve Loss:	3.0 psi
Elevation Net Loss (+- FT.):	n/a
System Mainline Loss (1.5" Sch-40 Loop Mainline):	0.45 psi
Backflow Preventer Loss (1.5"):	4.5 psi
Water Meter Loss (1"):	2.2 psi
Master Electric Valve Loss (1.5"):	1.5 psi
Type K Copper Service Loss:	
Total Net Loss:	12.92 psi
Design Pressure:	43.92 psi

Notes: System requires a minimum of 43 psi static pressure for system to operate properly. Irrigation Contractor shall conduct on site pressure test to verify site pressure prior to starting work. Contractor shall notify Owner's Representative of pressure deficiencies or any other on site problems that may alter the effectiveness of the system. Pipe has been size to insure that velocity does not exceed 5 FPS, do not change pipe size in the field without consulting system designer.

4 CRITICAL LOSS CHART

TYPICAL WEEKLY SCHEDULE BASED ON PRECIPITATION RATE

Precipitation Rate (in/hr)	Water Desired (in/wk)	Time/Cycle (min)	No. of Zones	Total Time * Min.	Hrs.
Turf Rotor Zone .64	.80				
MP Rotator Spray .44	.80				
Turf Drip Zones .85	.80				
Drip Zones .64	.80	75.0	1	75	1.3
Tree Bubblers 3.67	.80	12.0	2	24	0.4
Total System Hours of Operation Per Week					1.7

* IT WILL BE NECESSARY TO WATER MULTIPLE ZONES AT ONE TIME TO MEET WATERING WINDOW. A TYPICAL SCHEDULE WOULD ALLOW WATERING TO OCCUR TWO TIMES PER WEEK, TOTAL WATERING TIME WOULD BE DIVIDED BY THE NUMBER OF WATERING DAYS. THIS SCHEDULE IS DESIGNED FOR SUMMER WATER USAGE AND ESTABLISHMENT OF NEW PLANTING.

3 VALVE SCHEDULE

1. IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING HIMSELF FAMILIAR WITH THE SPECIFICATIONS AND ALL SUBMITTAL REQUIREMENTS. IT IS THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO NOTIFY THE OWNER'S REPRESENTATIVE FOR SITE INSPECTIONS AS SPECIFIED IN THE SPECIFICATIONS. FAILURE TO NOTIFY THE OWNER'S REPRESENTATIVE DOES NOT RELIEVE THE CONTRACTOR FROM INSPECTION APPROVAL AND WILL REQUIRE THE CONTRACTOR TO UNCOVER WORK AS REQUIRED FOR APPROVAL AT THE COST OF THE CONTRACTOR. IRRIGATION CONTRACTOR IS TO INFORM OWNER'S REPRESENTATIVE OF THE START DATE OF WORK.
2. THE IRRIGATION CONTRACTOR IS REQUIRED BY LAW TO NOTIFY TEXAS ONE CALL (800-245-4545) 72 HOURS PRIOR TO ANY EXCAVATION. IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING HIMSELF FAMILIAR WITH ALL UNDERGROUND UTILITIES, PIPES AND STRUCTURES. IRRIGATION CONTRACTOR SHALL TAKE SOLE RESPONSIBILITY FOR ANY COST INCURRED DUE TO DAMAGE OF SAID UTILITIES WHETHER OR NOT TEXAS ONE CALL IS NOTIFIED.
3. DO NOT WILLFULLY PROCEED WITH CONSTRUCTION AS DESIGNED WITHOUT VERIFYING ACTUAL ON-SITE WATER PRESSURE FROM THE SOURCE. DO NOT WILLFULLY PROCEED WITH CONSTRUCTION AS DESIGNED WHEN IT IS OBVIOUS THAT UNKNOWN OBSTRUCTIONS AND/OR GRADE DIFFERENCES EXIST THAT MAY NOT HAVE BEEN KNOWN DURING DESIGN. SUCH CONDITIONS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE. THE IRRIGATION CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ALL NECESSARY REVISIONS DUE TO FAILURE TO GIVE SUCH NOTIFICATION.
4. IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COORDINATION WITH OTHER CONTRACTORS AS REQUIRED TO ACCOMPLISH IRRIGATION INSTALLATION.
5. DUE TO SCALE OF DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS SLEEVES, ETC., WHICH MAY BE REQUIRED. IRRIGATION CONTRACTOR SHALL CAREFULLY INVESTIGATE THE STRUCTURAL AND FINISHED CONDITIONS AFFECTING ALL OF HIS WORK AND PLAN HIS WORK ACCORDINGLY, FURNISHING SUCH FITTINGS, ETC., AS MAY BE REQUIRED TO MEET SUCH CONDITIONS. DRAWINGS ARE GENERALLY DIAGRAMMATIC AND INDICATIVE OF THE WORK TO BE INSTALLED. THE WORK SHALL BE INSTALLED IN SUCH A MANNER AS TO AVOID CONFLICTS BETWEEN IRRIGATION SYSTEM, PLANTING AND ARCHITECTURAL FEATURES. THIS DESIGN IS DIAGRAMMATIC. ALL PIPING, VALVES, ETC., SHOWN WITHIN PAVED AREAS IS FOR DESIGN CLARIFICATION ONLY AND SHALL BE INSTALLED IN PLANTING AREAS AND WITHIN PROPERTY LINES.
6. DURING INSTALLATION IT IS THE IRRIGATION CONTRACTOR'S RESPONSIBILITY TO COORDINATE PIPING WITH THE LANDSCAPE SUBCONTRACTOR TO AVOID CONFLICT WITH PROPOSED PLANTING. IT WILL BE THE RESPONSIBILITY OF THE IRRIGATION SUBCONTRACTOR TO MOVE PIPING TO ALLOW PROPER PLACEMENT OF PLANT MATERIAL. THE IRRIGATION CONTRACTOR SHALL MAKE MINOR ADJUSTMENTS TO ENSURE PROPER COVERAGE AT NO ADDITIONAL COST TO THE OWNER.
7. NO MACHINE TRENCHING IS TO BE DONE WITHIN THE DRIPLINE OF EXISTING TREES. TRENCHING IS TO BE DONE BY HAND. AIR-SPADE OR BY TUNNELING UNDER ROOT SYSTEM BY METHOD APPROVED BY LANDSCAPE ARCHITECT. PIPING LAYOUT IS DIAGRAMMATIC AND PIPING SHALL BE ROUTED AROUND EXISTING TREES AS POSSIBLE TO AVOID DAMAGE TO THE ROOT SYSTEMS. DO NOT CUT ANY ROOT OVER 3/4" DIAMETER UNLESS APPROVAL FROM THE LANDSCAPE ARCHITECT IS FIRST OBTAINED. ANY CUTS MADE SHALL BE CLEAN AND WITHOUT FRAYED ENDS.
8. IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR SLEEVES AND CHASES WHEREVER PIPING OR CONDUIT PASSES, UNDER ALL PAVING, THROUGH WALLS, ETC. ALL SLEEVE LOCATIONS MAY NOT BE SHOWN ON PLAN. COORDINATE WITH ARCHITECTURAL AND CIVIL DRAWINGS. GENERAL CONTRACTOR AND OTHER SUBCONTRACTORS AS REQUIRED. ALL SLEEVE AND CHASE LOCATIONS ARE NOT NOTED ON PLAN. ALL SLEEVES 4" OR LESS SHALL BE SCH-40 PVC. ALL SLEEVES 6" OR GREATER SHALL BE CLASS-200 PVC. ALL SLEEVES TO BE SIZED TWICE THE DIAMETER OF PIPE OR COMBINATION OF PIPES ENCLOSED WITHIN THE SLEEVE.
9. CONFIRM STATIC WATER PRESSURE AT LEAST 7 DAYS BEFORE BEGINNING WORK. IF STATIC WATER PRESSURE IS LESS THAN STATED IN PRESSURE CALCULATIONS DO NOT PROCEED UNTIL DIRECTED SO BY THE LANDSCAPE ARCHITECT. IF ACTUAL SITE STATIC PRESSURE EXCEEDS DESIGN PRESSURE BY 15 P.S.I. IN ANY ZONE, A PRESSURE REDUCING VALVE SHALL BE INSTALLED. REFER TO DETAILS FOR MODEL.
10. ADJUSTABLE FLOW CONTROLS SHALL BE REQUIRED ON CIRCUIT REMOTE CONTROL VALVE. PRESSURE AT ANY POINT WITHIN A ZONE SHALL NOT VARY BY MORE THAN 10% FROM THE DESIGN SPRINKLER OPERATING PRESSURE. SEE SPECIFICATIONS FOR TESTING.
11. THE CONTRACTOR SHALL BE A REGISTERED LICENSED IRRIGATOR IN THE STATE OF TEXAS. CONTRACTOR MUST CONFORM TO ALL CODES AS STATED IN SECTION 344 OF THE TEXAS WATER CODE AS OUTLINED BY TCEQ.
12. OBTAIN COVERAGE TEST APPROVAL FROM OWNER'S REPRESENTATIVE PRIOR TO PLANTING, SODDING OR SEEDING.
13. ALL UNDESIGNATED END LATERAL PIPING SHALL BE ½" IN SPRAY ZONES AND ¾" IN ROTOR ZONES.
14. SPRINKLER HEAD SPACING SHALL NOT EXCEED 50% OF SPRAY DIAMETER BASED ON MANUFACTURERS OPERATING SPECIFICATIONS. SPRINKLER HEAD SPACING SHALL BE DESIGNED FOR HEAD-TO-HEAD COVERAGE OR HEADS SHALL BE SPACED AS PER MANUFACTURER'S RECOMMENDATIONS AND ADJUSTED FOR PREVAILING WINDS. THE SYSTEM SHALL BE DESIGNED SO THAT IRRIGATION IS NOT APPLIED TO VEHICULAR TRAFFIC LANES, OTHER PAVEMENT OR STRUCTURES.
15. ALL ROTORS SHALL BE LOCATED 12" FROM PAVEMENT, CURBS OR EDGE OF STRUCTURE, ALL SPRAY HEADS SHALL BE LOCATED 6" FROM PAVEMENT, CURBS OR EDGE OF STRUCTURE.
16. VALVE AND CIRCUITS SHALL BE SEPARATED BASED ON WATER USE, SO THAT TURF AREAS ARE WATERED SEPARATELY FROM SHRUB AND GROUND COVER AREAS. IRRIGATION HEADS IN THE TURF AREAS WILL BE VALVED SEPARATELY FROM SHRUB AND/OR GROUND COVER AREAS. IT IS RECOMMENDED THAT SEASONAL COLOR AREAS BE WATERED SEPARATELY, UNDER NO CIRCUMSTANCES ARE ZONE TYPES TO BE COMBINED I.E. ROTARY HEADS WITH SPRAYS, TURF AREAS WITH PLANTING BEDS.
17. IT IS THE CONTRACTORS RESPONSIBILITY TO CONFIRM STATIC PRESSURE ON SITE PRIOR TO STARTING WORK. REFER TO NOTES #9 AND #10.
18. IT IS THE IRRIGATION CONTRACTOR'S RESPONSIBILITY TO SECURE ALL REQUIRED PERMITS AND PAY ALL ASSOCIATED FEES UNLESS OTHERWISE NOTED. ALL LOCAL CODES SHALL PREVAIL OVER ANY DISCREPANCIES CONTAINED IN THESE DOCUMENTS.
19. UNSLEEVED PIPES MAY BE SHOWN UNDER PAVEMENT FOR GRAPHIC CLARITY. INSTALL PIPES IN ADJACENT SLEEVES WITHIN LANDSCAPE AREAS.
20. 120 VAC ELECTRICAL POWER SOURCE AT CONTROLLER LOCATION SHALL BE PROVIDED BY OTHERS. THE IRRIGATION CONTRACTOR SHALL MAKE THE FINAL CONNECTION FROM THE ELECTRICAL SOURCE TO THE CONTROLLER WITH A HARDWIRE CONNECTION APPROVED AND INSTALLED BY A LICENSED ELECTRICIAN.
21. SPRINKLER HEADS SHALL HAVE MATCHED PRECIPITATION RATES WITHIN EACH CONTROL VALVE CIRCUIT.
22. SERVICEABLE CHECK VALVES SHALL BE REQUIRED ADJACENT TO PAVED AREAS WHERE ELEVATION DIFFERENCES MAY CAUSE LOW HEAD DRAINAGE.
23. ALL AUTOMATIC IRRIGATION SYSTEMS SHALL BE EQUIPPED WITH A CONTROLLER CAPABLE OF DUAL OR MULTIPLE PROGRAMMING. CONTROLLERS SHALL HAVE MULTIPLE CYCLE START CAPACITY AND A FLEXIBLE CALENDAR PROGRAM, INCLUDING THE CAPABILITY OF BEING SET TO WATER EVERY FIVE DAYS. ALL AUTOMATIC IRRIGATION SYSTEMS SHALL BE EQUIPPED WITH A RAIN SENSOR SHUT-OFF DEVICE.
24. ALL IRRIGATION WIRES SHALL BE UL LISTED FOR DIRECT UNDERGROUND BURIAL AND SHALL BE SIZED PER THE MANUFACTURER'S RECOMMENDATIONS. 3M-DBY WATERPROOF CONNECTORS TO BE USED ON ALL WIRE CONNECTIONS. SUBMIT SAMPLE TO LANDSCAPE ARCHITECT.
25. ALL IRRIGATION HEADS SHALL BE ADJUSTED TO MINIMIZE OVER-SPRAY ONTO ALL IMPERVIOUS SURFACES.
26. ALL PIPE CONNECTIONS SHALL BE PRIMED WITH AN APPROVED COLOR PRIMER BEFORE BEING CHEMICAL WELDED.
27. AFTER AWARD OF CONTRACT AND BEFORE ANY IRRIGATION SYSTEM MATERIALS ARE ORDERED FROM SUPPLIERS OR DELIVERED TO THE JOB SITE, SUBMIT TO THE OWNER A COMPLETE LIST OF ALL IRRIGATION SYSTEM MATERIALS, OR PROCESSES PROPOSED TO BE FURNISHED AND INSTALLED AS PART OF THIS CONTRACT. THE LANDSCAPE ARCHITECT OR OWNER'S AUTHORIZED REPRESENTATIVE WILL ALLOW NO SUBSTITUTIONS WITHOUT PRIOR WRITTEN ACCEPTANCE. MANUFACTURER'S WARRANTIES SHALL NOT RELIEVE THE CONTRACTOR OF HIS LIABILITY UNDER THE GUARANTEE. SUCH WARRANTIES SHALL ONLY SUPPLEMENT THE GUARANTEE.
28. ALL TEMPORARY IRRIGATION SHALL BE DESIGNED PRIOR TO INSTALLATION BY A STATE OF TEXAS LICENSED IRRIGATOR. THE DESIGN IS TO BE SUBMITTED FOR APPROVAL PRIOR TO COMMENCING INSTALLATION OF THE TEMPORARY SYSTEM.
29. IRRIGATION CLOSEOUT DOCUMENTS SHALL INCLUDE A WATER BUDGET. A LAMINATED COPY OF THE WATER BUDGET SHALL BE PERMANENTLY INSTALLED INSIDE THE IRRIGATION CONTROLLER DOOR.

A. CHART CONTAINING ZONE NUMBER, PRECIPITATION RATE AND GPM.
B. LOCATION OF EMERGENCY IRRIGATION SYSTEM SHUT-OFF VALVE.

2 CONSTRUCTION NOTES

W DEDICATED IRRIGATION WATER METER - 1", BY CIVIL ENGINEER
DCDA DOUBLE CHECK BACKFLOW DEVICE - 1.5" WATTS, MODEL 007 PER LOCAL CODES
MV MASTER VALVE - 1.5" HUNTER NORMALLY CLOSED VALVE, MODEL ICV-101G
C CONTROLLER - HUNTER PRO-C. FINAL LOCATION IS TO BE DETERMINED AFTER CONSULTING WITH OWNERS REPRESENTATIVE
WS WEATHER SENSOR - HUNTER SOLAR-SYNC RAIN/FREEZE SENSOR. FINAL LOCATION IS TO BE DETERMINED AFTER CONSULTING WITH OWNERS REPRESENTATIVE
SHUT OFF VALVE - SCH 80 BALL VALVE, SIZE PER LINE
REMOTE CONTROL VALVE - HUNTER ICV, SIZE AS INDICATED
DRIP CONTROL ZONE KIT - RAIN BIRD, REFERENCE DETAILS
QUICK COUPLING VALVE - SUPERIOR QB33NP07 WITH QB33KD7 KEY
MP ROTATOR NOZZLE 90°-210°; SIZE AS SPECIFIED ON PLAN.
MP ROTATOR NOZZLE 210°-270°; SIZE AS SPECIFIED ON PLAN.
MP ROTATOR NOZZLE 360°; SIZE AS SPECIFIED ON PLAN.
MP ROTATOR STRIP NOZZLE; PATTERN AS SPECIFIED ON PLAN.
MP MP ROTATOR; MS=MS300, MS=MP3000, MS=MP2000, M1=MP1000, M8=M800SR, MC=MP CORNER, MR=RIGHT CORNER STRIP, ML=LEFT CORNER STRIP, MS=SIDE STRIP

NOTE: ALL MP ROTATOR SPRAY HEADS ARE TO BE HUNTER PROS-06-PRS40-CV SPRAY BODY. PROVIDE CHECK VALVE AT LOW HEADS

BBL TREE BUBBLER ASSEMBLY - SINGLE BUBBLER ON 6" POP-UP
2-BBL TREE BUBBLER ASSEMBLY - TWO BUBBLERS ON 6" POP-UPS

ZONE IDENTIFICATION
ZONE SIZE IN GALLONS PER MINUTE
ZONE VALVE SIZE

ZONE IDENTIFICATION
ZONE SIZE IN GALLONS PER MINUTE
HATCH PATTERN INDICATES BED/TURF AREAS TO BE INCLUDED THIS ZONE
ZONE VALVE SIZE, REFERENCE DETAILS
DRIPLINE: RAIN BIRD XFS-06-18 FOR SURFACE PLANTING BEDS, ROWS SPACED AT 18 INCHES
RAIN BIRD XFS-06-12 FOR SURFACE PLANTING BEDS WITH SLOPES GREATER THAN 3:1
RAIN BIRD XFS-06-12 FOR SUBSURFACE TURF, ROWS SPACED AT 12 INCHES
DRIP SUPPLY LINE, SCH 40 PVC, SIZE PER PLAN.

MAIN LINE - PVC PIPE, SCH-40, SIZE AS INDICATED ON PLANS
1-1/2" LATERAL LINE - PVC PIPE, CLASS 200 SDR 21, SIZE AS INDICATED ON PLANS. DO NOT DEVIATE ON SIZING WITHOUT CONSULTING WITH PROJECT DESIGNER.
SLEEVE - PVC PIPE, SCH-40, USE TWO (2) SIZES LARGER THAN SPRINKLER PIPE WITHIN. VALVE WIRING MAY BE RUN IN THE SAME SLEEVES

GENERAL NOTE: REFER TO SHEET LI 2.1 to LI 2.2 FOR DETAILS

FIELD LOCATE BY STAKING, THE CONTROLLER, WATER METER, BACKFLOW DEVICE, MASTER VALVE AND FLOW SENSOR FOR APPROVAL BY LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.

1 LEGEND

STATEMENT OF IRRIGATION DESIGN STANDARDS CONFORMITY:
This plan is complete and conforms to the design and installation parameters of the irrigation design and equipment standards set out by the City of Seguin, Texas and TCEQ (Texas Commission on Environmental Quality).

Wade O. Radlet TX LI # 22397

SPECIAL NOTES:
1. THE IRRIGATION CONTRACTOR SHALL COMPLY WITH ALL LOCAL AND STATE MANDATED IRRIGATION ORDINANCES AND CODES AND WILL SECURE ALL REQUIRED PERMITS.
2. ALL WIRES, CONTROL VALVES, AND PRESSURIZED WATER SUPPLY LINES SHALL NOT BE LOCATED WITHIN THE EXISTING ROW OR OUTSIDE PROPERTY BOUNDARIES.

Irrigation in Texas is regulated by the Texas Commission on Environmental Quality (TCEQ).
MC-178, PO Box 13087, Austin, Texas 78711-3087
TCEQ's website is: www.tceq.state.tx.us

811

01	IFB	09/18/2026	
NO.	REVISION	DATE	BY

PROJECT NAME: EXPRESS OIL CHANGE, SEGUIN TX
1100 STATE HWY 46 N, SEGUIN, TX 78155
ARCHITECT: AHO ARCHITECTS, LLC
ENGINEER: UNINTECH CONSULTING ENGINEERS, INC.
CUSTOMER: EXPRESS OIL CHANGE AND TIRE ENGINEERS

UNINTECH CONSULTING ENGINEERS, INC.
TBPE REG. NO. F-14389
TBPLS NO. 10051100
WWW.UNINTECH.COM
2431 E. EVANS ROAD
SAN ANTONIO, TEXAS 78259
P: (210) 641-6003 F: (210) 641-4279

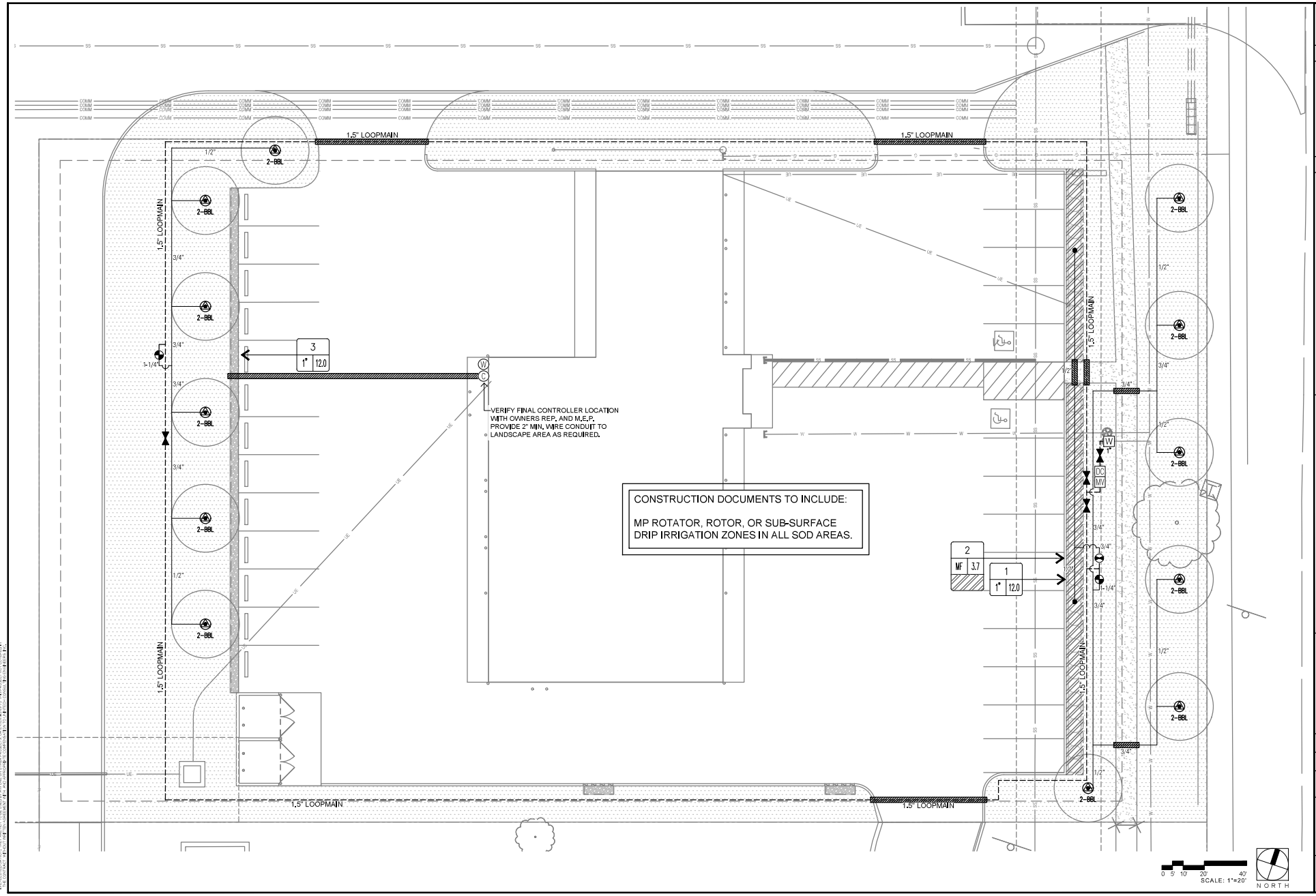
STATE OF TEXAS
WADE O. RADLET
22397
LICENSED
PROFESSIONAL
ENGINEER
08.05.26

DRAWN BY: AH	DATE:
CHECKED BY: WR	DATE:
PROJECT NO:	

SHEET TITLE: IRRIGATION NOTES AND LEGEND

SHEET NO: LI1.0

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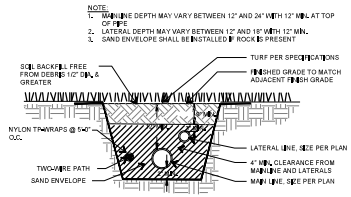
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PROJECT NO:

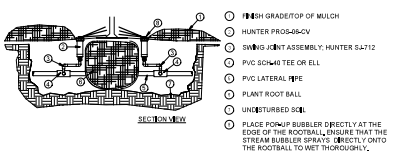
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IRRIGATION PLAN

SHEET NO:
LI1.1

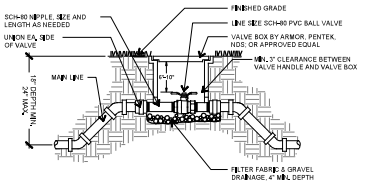
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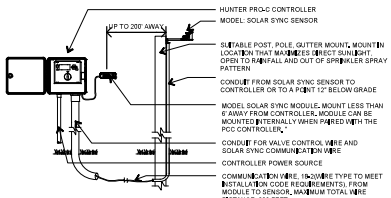
12 TRENCH PROFILE



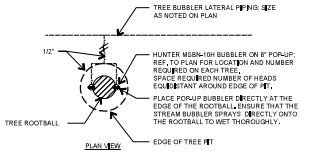
8 TREE BUBBLER ASSEMBLY- SECTION



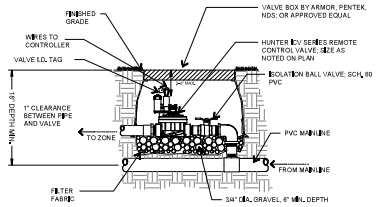
4 MANUAL ISOLATION VALVE



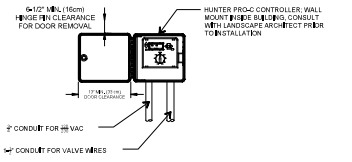
11 WEATHER SENSOR



7 TREE BUBBLER ASSEMBLY- PLAN

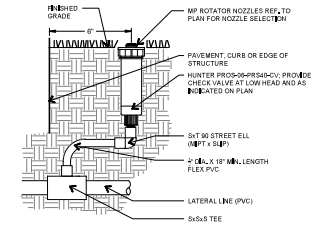


3 ZONE VALVE

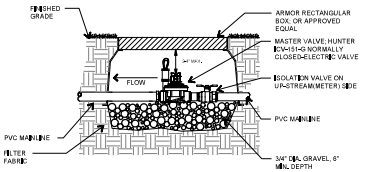


NOTES:
1. All electrical work to comply with applicable codes.
2. Provide remote control unit per spec.

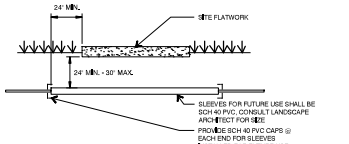
10 IRRIGATION CONTROLLER



6 MP ROTATOR

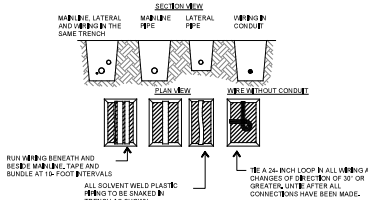


2 MASTER VALVE



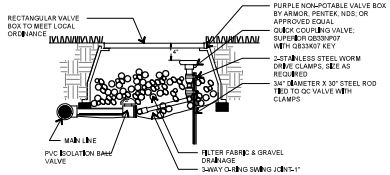
IRRIGATION SLEEVE NOTES:
1. PIPING AND CONTROL WIRES SHALL BE INSTALLED IN SEPARATE SLEEVES UNDER PAVING. REFER TO IRRIGATION SLEEVE PLAN FOR SIZE AND LOCATION.
2. SLEEVE ELEVATION SHALL BE TWENTY-FOUR (24) INCHES BELOW TOP OF PAVEMENT.
3. SLEEVES SHALL EXTEND ONE (1) FOOT BEYOND THE EDGE OF PAVEMENT AND BE STAKED FOR LOCATION.
4. ALL SLEEVES 4" OR LESS, SHALL BE SCH-40 PVC. ALL SLEEVES GREATER THAN 4" SHALL BE CLASS-200 SDR-21. SLEEVES SHALL BE CAPPED ON BOTH ENDS AND SIZED A MIN. OF TWO (2) TIMES THE DIAMETER OF THE PIPE INSIDE THE SLEEVE.
5. SLEEVE LOCATIONS SHALL BE MARKED ONTO THE TOP OF CURB WITH A SAW-CUT OF TWO PARALLEL LINES THAT ARE TWO (2) INCHES LONG AND ONE (1) INCH APART ON BOTH SIDES OF THE STREET OR CROSSING.
6. THE CONTRACTOR RESPONSIBLE FOR INSTALLATION OF SLEEVES SHALL ALSO BE RESPONSIBLE TO LOCATE ANY SLEEVE WHICH CANNOT BE FOUND DURING THE INSTALLATION OF THE IRRIGATION SYSTEM.

13 IRRIGATION SLEEVE

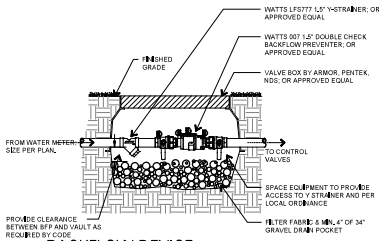


NOTES:
1. SLEEVE BELOW ALL HARDSCAPE ELEMENTS WITH SCH-40 PVC TWICE THE DIAMETER OF THE PIPE OR WIRE BUNDLE WITHIN
2. FOR PIPE AND WIRE BURIAL DEPTHS SEE TRENCH PROFILE DETAIL.

9 IRRIGATION TRENCH



5 QUICK COUPLER VALVE



1 BACKFLOW DEVICE

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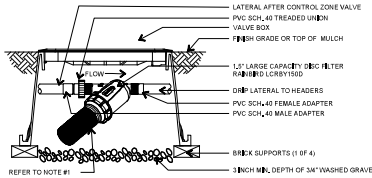
STATE OF TEXAS
WADE O. RADLET
22397
LICENSED PROFESSIONAL ENGINEER
08.05.26

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CHECKED BY: WR | DATE:
PROJECT NO:

SHEET TITLE: IRRIGATION DETAILS

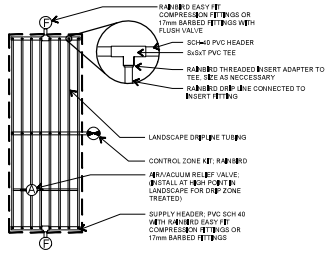
SHEET NO: LI2.1

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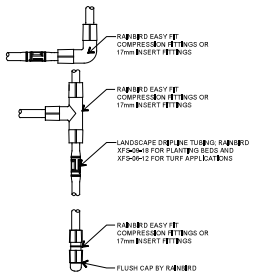


NOTE:
1. FILTER ASSEMBLY TO BE INSTALLED WITH SCREEN DIRECTION FACING A 45° DOWNWARD ANGLE WITH ENOUGH SPACE TO REMOVE SCREEN FOR MAINTENANCE. SOME APPLICATIONS MAY REQUIRE RAIN BIRD VALVE BOX EXTENSIONS TO ACHIEVE ACCEPTABLE SCREEN CLEARANCE.

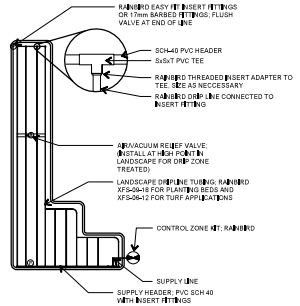
7 HIGH CAPACITY FILTER



3 DRIPLINE INSTALLATION (CENTER FEED)



6 DRIPLINE FITTINGS



2 DRIPLINE INSTALLATION (END FEED)

1. DRIP LINE SHALL BE BURIED 3" TO 5" BELOW FINISHED SOIL GRADE IN PLANTING BEDS AFTER PLANTING AND BEFORE MULCH AND 4" TO 6" BELOW FINISHED GRADE IN TURF AREAS.
2. STAGGER EMITTER SPACING IN PARALLEL ROWS TO CREATE TRIANGULAR WETTING PATTERN.
3. ALL DRIPLINE SHALL BE SECURED USING SOIL STAPLES AS SUPPLIED BY THE MANUFACTURER SPACED A MAX. OF 3' ON CENTER.
4. DRIP LATERALS SHOWN ON THE PLANS ARE USED TO INDICATE ZONING SIZES AND RELATIONSHIPS. INSTALLATION OF DRIP ZONES SHALL FOLLOW ONE OF THE TWO METHODS DESCRIBED IN DTL1, 2, AND 3, AND RAIN BIRD'S RECOMMENDED INSTALLATION SPECIFICATIONS.
5. RAIN BIRD XFS SERIES DRIP LINE SHALL BE USED AS FOLLOWS:
   TURF AREAS: XFS-06-12, ROWS SPACED AT 12 INCHES
   BED AREAS: XFS-06-18, ROWS SPACED AT 18 INCHES
   BED AREAS WITH SLOPE 3:1 OR MORE: XFCVAN-12
6. WHEN CONFLICTS OCCUR BETWEEN THESE DRAWINGS AND THE MANUFACTURER'S SPECIFICATIONS DEFER TO THE MANUFACTURER'S RECOMMENDED SPECIFICATIONS.
7. EACH DRIP ZONE SHALL HAVE A DRIP SYSTEM OPERATION INDICATOR, RAIN BIRD MODEL OPSRHD. INSTALL PER RAIN BIRD RECOMMENDATIONS.

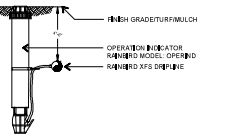
CONTRACTOR TO USE EASY FIT COMPRESSION OR 17MM INSERT FITTINGS WITH DRIPLINE BY RAIN BIRD. REFER TO MANUFACTURER'S SPECIFICATIONS FOR ALL PARTS TO INSURE COMPATIBILITY.

PROPER SIZING OF SUPPLY AND EXHAUST HEADERS
(17MM XFS SERIES DRIPLINE)

TOTAL ZONE FLOW	PIPE SIZE
UP TO 5 GPM	1/2" SCH 40 PVC or 1/2" CLASS 315 PVC
5.1 TO 8 GPM	3/4" CLASS 200 PVC
8.1 TO 13 GPM	1" CLASS 200 PVC
13.1 TO 22 GPM	1-1/4" CLASS 200 PVC
22.1 TO 31 GPM	1-1/2" CLASS 200 PVC

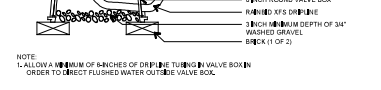
NOTE: A 45 PSI PRESSURE REGULATOR IS RECOMMENDED TO OBTAIN MAXIMUM RUN LENGTHS AND MAXIMIZE ZONE SIZE WHEN INSTALLING XFS SERIES DRIPLINE.

10 DRIP DESIGN NOTES



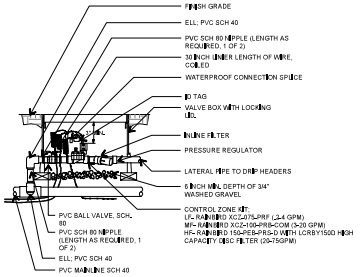
NOTE:
1. INSERT BARB TRANSFER FITTING DIRECTLY INTO DRIPLINE TUBING.
2. VAN NOZZLE MAY BE SET TO CLOSED, OR IF IT IS DESIRED TO SEE SPRAY FROM THE NOZZLE, SET THE ARC TO X PATTERN. THE FLOW FROM THE NOZZLE, 0.3 GPM, SHOULD BE ACCOUNTED FOR IN THE SYSTEM DESIGN.

9 TURF DRIP ZONED WITH TURF SPRAYS



NOTE:
1. ALLOW A MINIMUM OF 8 INCHES OF DRIPLINE TUBING IN VALVE BOX IN ORDER TO DIRECT FLUSHED WATER OUTSIDE VALVE BOX.

5 DRIPLINE FLUSH VALVE

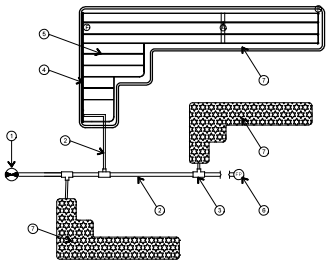


1 CONTROL ZONE KIT

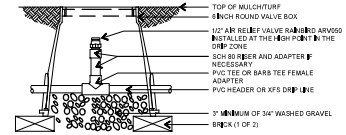
1. CONTROL ZONE KIT; RAINBIRD
2. PVC SUPPLY LINE; SIZE PER CHART BELOW

TOTAL FLOW OF ZONE	PIPE SIZE
UP TO 5 GPM	1/2" SCH 40 PVC or 1/2" CLASS 315 PVC
5.1 TO 8 GPM	3/4" CLASS 200 PVC
8.1 TO 13 GPM	1" CLASS 200 PVC
13.1 TO 22 GPM	1-1/4" CLASS 200 PVC
22.1 TO 31 GPM	1-1/2" CLASS 200 PVC

3. PVC SCH-40 TEE OR EL (TYPICAL)
4. SUPPLY HEADER; PVC SCH 40 WITH INSERT FITTINGS
5. LANDSCAPE DRIPLINE TUBING;
   XFS-06-18 FOR PLANTING BEDS
   XFS-06-12 FOR TURF APPLICATIONS
6. DRIPLINE FLUSH POINT (SEE RAINBIRD DETAIL: FLUSH VALVE)
7. DRIP AREA; DEFINED BY HATCH ASSOCIATED TO ZONE TAG ON PLANS



11 DRIP HATCH LAYOUT



NOTE: PER MANUFACTURER'S SPECIFICATIONS.
CONTRACTOR SHALL NOT EXCEED 12" SPACING BY MORE THAN 15%. SPACING WILL VARY DEPENDING ON WIDTH OF AREA BEING IRRIGATED.

8 TURF DRIP

4 AIR RELIEF VALVE

DRAWINGS ARE ORIGINAL IDEAS AND PROPERTY OF THE ARCHITECT/ENGINEER AND WERE PREPARED FOR USE ON THIS SITE AND PROJECT ONLY AND SHALL NOT BE USED ON ANY OTHER SITE OR PROJECT WITHOUT THE EXPRESSED PERMISSION OF THE ARCHITECT/ENGINEER. ALL DRAWINGS, SPECIFICATIONS AND COPIES THEREOF FURNISHED BY THE ARCHITECT/ENGINEER ARE AND SHALL REMAIN THE PROPERTY OF THE ARCHITECT/ENGINEER. THEY ARE TO BE USED ONLY WITH RESPECT TO THIS PROJECT AND SHALL NOT BE LOANED, COPIED OR DISCLOSED WITHOUT WRITTEN CONSENT. VISUAL CONTACT WITH THESE DRAWINGS OR SPECIFICATIONS SHALL CONSTITUTE PRIMA FACIE EVIDENCE OF ACCEPTANCE OF THESE RESTRICTIONS.

NO.	REVISION	BY	DATE
01	IFB		09/18/2026

PROJECT NAME: EXPRESS OIL CHANGE, SEGUIN TX
1100 STATE HWY 46 N, SEGUIN, TX 78155

ARCHITECT: AHO ARCHITECTS, LLC

ENGINEER: UNINTECH CONSULTING ENGINEERS, INC.

CUSTOMER: EXPRESS OIL CHANGE AND TIRE ENGINEERS

UNINTECH CONSULTING ENGINEERS, INC.
2431 E. EVANS ROAD
SAN ANTONIO, TEXAS 78259
P: (210) 641-6003 F: (210) 641-6279
TBPE REG. NO. F-4349
TBPLS NO. 10051100
WWW.UNINTECH.COM

STATE OF TEXAS
WADE O. RADLET
82287
LICENSED
PROFESSIONAL
ENGINEER
08.05.26

DRAWN BY: AH | DATE:
CHECKED BY: WR | DATE:
PROJECT NO:

SHEET TITLE: **IRRIGATION DETAILS**

SHEET NO: **LI2.2**

EXPRESS OIL CHANGE & TIRE ENGINEERS

SINGLE BUILDING / RIGHT HAND OIL CHANGE / FRONT ENTER / SIDE TIRE STORAGE

1100 STATE HWY 46 N
SEGUIN, TEXAS 78155

ATTENTION AUTHORITY HAVING JURISDICTION

Notice is hereby given that Aho Architects, LLC, the Architect of Record on the above referenced project, will be providing construction administration services on a limited basis, supplemented by a third-party independent engineering consulting service as described below.

This project has been designed by the Architect and Engineers ("Design Team") for its specific location, or adapted from prototypical designs, to comply with the following codes, ordinances, and similar requirements adopted by the Authority Having Jurisdiction ("AHJ"):

- **See codes listed on Sheet LS100.**

During the Construction Administration Phase of the Project:

- General. The Design Team will respond to inquiries or requests from the Owner or Contractor, specifically related to documents prepared by the Design Team. As is standard in Construction Law and Professional Service Agreements, the Design Team shall not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Project(s), nor shall the Architect be responsible for the Owner's or Contractor's failure to perform the work in accordance with the requirements of the Permit Set Documents. The Architect shall be responsible for the Architect's negligent acts or omissions, but shall not have control over or charge of, and shall not be responsible for, acts or omissions of the Owner, Contractor, or of any other persons or entities performing portions of the work.
- Experienced Contractor. The Owner will use experienced and licensed Contractors familiar with the construction of Projects of this type and in similar locations, and experienced with the applicable building codes, selection of materials and systems, and methods of installation and construction; and able to implement the Permit Set Documents through completion of the Project(s).
- Submittals. The Design Team's Basic Construction Administration Services include review of critical submittals (e.g. shop drawings) by engineering disciplines (Structural). The Design Team shall also review, approve or take other appropriate action on any submittal for which the AHJ requires approval by the Architect/Engineer, as Additional Services.
- Site Visits. The Architect and Design Engineers typically will not be making any site visits unless specifically required to do so.
  - The Owner has been advised and acknowledges that some States and AHJs require the Architect to perform at least some site visits or provide a notice such as this statement.
  - In consideration of this, the Owner will provide site visits, observation, testing, and related work by a third party independent engineering consulting service:
    - The Owner has an agreement with ECS Southwest, LLP., a provider of geotechnical, environmental, construction materials and facilities engineering
    - Experienced Professional Engineers or field technicians under the responsible control of a Professional Engineer will perform site observation, construction materials testing, and required Special Inspections (per IBC Chapter 17; see Schedule of Special Inspections on structural drawings provided) including review of construction for conformance with the permit drawings, supplemental drawings, shop drawings/submittals, and similar relevant documents. Written reports shall be provided, with the Design Team included on the distribution list and involved in resolving any deficiencies noted or other items requiring the Design Team's input.
  - If the above provisions are not acceptable to the AHJ and the AHJ gives notice requiring the Architect to make site visit(s), the Owner has agreed to authorize the Architect's Additional Services and Reimbursable Expenses to comply with the AHJ's requirements.

If you have any questions, or if there is anything else we can do for you, please do not hesitate to contact April Cain, the project manager or Tim Aho, Architect at the address/phone listed below, or by email at HYPERLINK "mailto:acain@ahoarch.com" acain@ahoarch.com or HYPERLINK "mailto:taho@ahoarch.com" taho@ahoarch.com . Thank you very much, and we appreciate the opportunity to be involved in this project in your jurisdiction.

EXPRESS OIL CHANGE 10 MINUTE SERVICE

TIRE ENGINEERS FULL SERVICE AUTO CARE

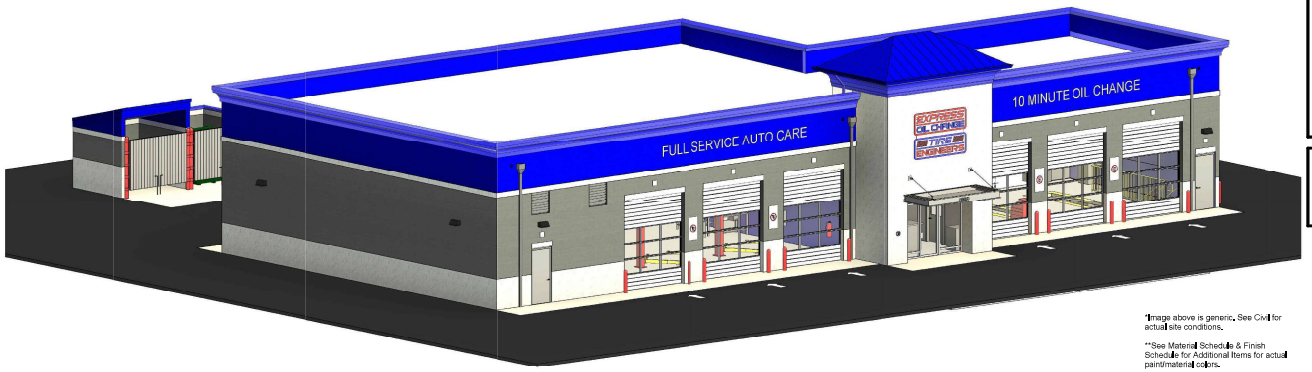


*Image above is generic. See Civil for actual site conditions.

**See Material Schedule & Finish Schedule for Additional Items for actual paint/material colors.

Note:

Owner responsible for reviewing all non-structural submittals / shop drawings,GC shall send the following submittals / shop drawings to the Structural Engineer for review:

Structural Steel (not including stairs)
Bar Joist
Rebar
Metal Deck
Concrete Mix Design

Note:

Full exterior wall mock-up required for Owner's approval prior to ordering materials. No exceptions.

ARCHITECT

AHO ARCHITECTS, LLC
1855 DATA DRIVE, SUITE 150
HOOVER, ALABAMA 35244
205-983-6000

CIVIL ENGINEER

UNINTECH CONSULTING ENGINEERS, INC.
2431 E. EVANS ROAD
SAN ANTONIO, TEXAS 78259
210-641-6003

STRUCTURAL ENGINEER

BARNET - JONES - WILSON, LLC
125 18TH STREET NORTH
PELL CITY, ALABAMA 35125
205-884-5334

MECHANICAL / PLUMBING ENGINEER

PINNACLE ENGINEERING, INC.
2031 SHADY CREST DRIVE
HOOVER, ALABAMA 35216
205-733-6912

ELECTRICAL ENGINEER

GIDEON WAMAE, P.E.
4120 OVERLOOK CIRCLE
TRUSSVILLE, ALABAMA 35173
205-413-4112

FINAL

AHO ARCHITECTS, LLC
www.ahoarch.com

REGISTERED ARCHITECT — TIMOTHY A. AHO — 23347 — STATE OF TEXAS — 04/08/2026

Express Oil Change & Tire Engineers
Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage
Seguin, Texas

FINAL

No.	Description	Date
IFB-1	Iss for Bid 1 AHJ Rev.	08/01/26
IFB-2	Iss for Bid 2 AHJ Rev.	08/08/26

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Title Sheet

Project number	26014
Date	08/01/2026
Drawn by	ARC
Checked by	N/A

T100

Scale

9/11/2025 10:44:54 AM

GENERAL PROJECT NOTES

1. These documents are considered accurate and true to the best knowledge of the Architect at this time, but do not necessarily represent, nor are they intended to represent, actual existing conditions, dimensions, and tolerances. Contractor shall field-verify existing conditions including, but not limited to materials, construction, elevations, and dimensions prior to bidding and undertaking the work. Items of concern shall be brought to the attention of the Architect. Submittal of a proposal (bid) by a Contractor and their Subcontractors shall constitute an acknowledgement and confirmation of having complied with these requirements.
2. All work shall comply with all applicable local, state, and national codes, rules, ordinances and regulations and authorities having jurisdiction.
3. The Contractor shall comply with all applicable provisions of the specifications, including, but not limited to all general conditions, supplementary general conditions, special conditions, and material and construction provisions, which apply to materials or construction methods required by this project.
4. Where warranties are concerned, Contractor shall follow manufacturer's standards and recommendations unless specifically directed otherwise. Any conditions which might negatively affect the warranty shall be brought to the attention of the Architect in advance.
5. The Owner and Contractor shall promptly report to the Architect any defects, suspected defects, or discrepancies in the Architect 's work or services of which the Owner or Contractor may become aware, so that the Architect may take measures to minimize the consequences of such a defect. Failure to notify the Architect shall relieve the Architect of costs of remedying the defects above the sum such remedy would have cost had prompt notification been given.
6. Neither the professional activities of the Architect, nor the presence of the Architect or its employees and consultants at a construction site shall relieve the Contractor or others of their obligations, duties, and responsibilities including, but not limited to: construction means and methods, sequence, techniques, or procedures necessary for performing, superintending, or coordinating all portions of the work in accordance with the contract documents and any health and safety precautions required by agencies having jurisdictional authority over the project. The Architect and its personnel have no authority to exercise control over any Contractor or other entity or their employees in connection with their means, methods, or safety precautions. The Contractor is solely responsible for jobsite safety. The Owner, Architect, and their Consultants shall be indemnified and shall be made additional insureds under the Contractor 's general liability insurance policy.
7. All work, unless specifically indicated otherwise, shall be the responsibility of the General Contractor and shall be performed by the tradesmen skilled in the required field.
8. "Provide" shall mean to furnish and install, complete and ready for intended use.
9. Provide pressure treated wood where in contact with concrete or masonry.
10. The Contractor shall be responsible for all cutting, fitting, and patching that may be required to complete the work.
11. Dimensions of existing construction and repetitive dimensions are sometimes omitted. Detailed dimensions not indicated may be found on large-scale drawings of the same areas. Drawings are intended to reflect the existing conditions as closely as possible, however, the Contractor shall field verify and accept all existing conditions and dimensions. Notify Architect of any discrepancies affecting the work.
12. Provide all temporary services required to facilitate the work indicated, including but not limited to the following: power, lighting, heat, and water.
13. The Contractor(s) shall provide all barriers, shoring, warning lights, etc. as required to conduct the work and maintain the site in a safe condition consistent with good construction practices and with all applicable rules and regulations.
14. All exist. utility services including domestic water, sanitary sewer, electricity, fuel oil and/or gas shall be disconnected and made safe prior to any demolition work. Any work which might require interruption of utility services to Owner or other tenants, shall be approved and coordinated beforehand with the Owner.
15. It is the intent of the bid and construction documents to indicate complete and fully operational systems (i.e. structural, HVAC, plumbing, electrical, roofing, etc.). The Contractor shall provide operational systems and testing which comply with applicable codes, regulations, and requirements of authorities having jurisdiction.
16. Any work or utility outages which might disrupt the operations of the Owner or others shall be approved and coordinated in advance with the Owner and the Architect. The Contractor shall give the Owner and Architect at least three days advance notice prior to undertaking work which might cause disruption. Activities which produce utility outages, excessive noise, dust and other disruption shall be coordinated with the Owner and Architect. Some of these activities may need to occur at "off hours" to minimize disruption of the Owner's operations.
17. All wood blocking, trim, decking, etc. shall be decay-resistant treated, or as specified.
18. To prepare substrate for all wall mounted items, wall fixture, toilet accessories, etc. - fill all voids in the CMU surface to provide a sound base (provide blocking in stud walls) for all new wall mounted items, fixtures, etc. Install per manufacturer's specifications and recommendations.
19. Do not paint any caulking or sealants which are subject to movement. Control joints shall be caulked after paint and special coating applications. Provide caulking or sealants in colors which match adjacent finished surface as approved by the Architect.
20. Bidders shall be responsible for obtaining a copy of the Geotech Report from the Owner.
21. The project may include some items that are delegated design. Bidders shall ensure these items are covered in their base bid.
22. All questions that affect cost, time, etc. shall be presented in the form of RFI's to the Architect prior to bid.

ENERGY CODE EXEMPTION

Per 2021 International Energy Conservation Code:

C402.1.1 Low Energy Buildings and Greenhouses. The following low-energy buildings, or portions thereof, separated from the remainder of the building by building thermal envelope assemblies complying with this section, shall be exempt from the building thermal envelope provisions of Section C402:

1. Those with a peak design rate of energy usage less than 3.4 Btu/h x ft2 or 1.0 watt/ft2 of floor area for space conditioning purposes.
2. Those that do not contain "conditioned space".

Per Chapter 2:
Definition of Conditioned Space: An area, room or space that is **enclosed** within the building thermal envelope and is directly or indirectly heated or cooled. Spaces are indirectly heated or cooled where they communicate through openings with conditioned spaces, where they are separated from conditioned spaces by uninsulated walls, floors, or ceilings, or where they contain uninsulated ducts, piping or other sources of heating or cooling.

While the Oil Change & Service areas do have radiant heaters, during normal operations, the Oil Change, Service, and Pit areas are **not enclosed** and are outside the building thermal envelope assembly. These areas are separated from the remainder of the building by building thermal envelope assemblies complying with this code. Section C403.13.1 allows radiant heating outside the building. Therefore, these areas shall be exempt from the building thermal envelope provisions of this code.

GENERAL ACCESSIBILITY NOTES

1. All door hardware shall be accessible type per section 404 of the 2017 ICC A117.1 / 2010 ADA Standards.
2. All walking surfaces shall have a maximum slope of 1:20 per section 405 of the 2017 ICC A117.1 / 2010 ADA Standards.
3. All floor or ground surfaces shall be stable, firm, and slip resistant per section 302 of the 2017 ICC A117.1 / 2010 ADA Standards.
4. Changes in level of 1/4" high maximum shall be permitted to be vertical per section 303 of the 2017 ICC A117.1 / 2010 ADA Standards.
5. Provide maneuvering clearances at manual swinging doors per section 404 of the 2017 ICC A117.1 / 2010 ADA Standards.
6. ADA mounting heights, dimensions, tolerances, etc. shall apply to all construction and the location of all fixtures, etc. unless specifically noted otherwise.

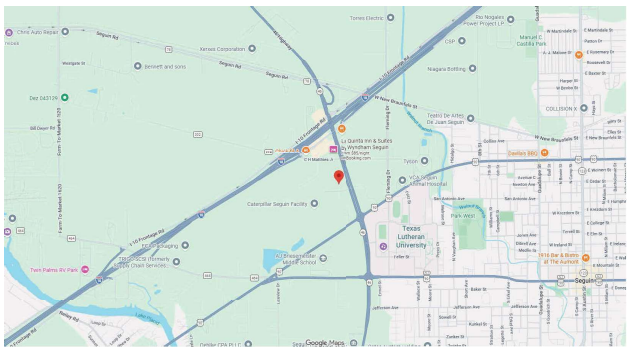
GENERAL INTERIOR NOTES

1. Quantities (area, perimeter, etc.) shown on finish schedule are approximate and are provided as a convenience to the Contractor. Actual quantities may vary and it is the responsibility of the Contractor to field verify.
2. Anything specified with a directional pattern (e.g. brushed aluminum, wood grain laminate, etc.) the pattern shall go in the same direction as directed by Architect.
3. The Contractor shall provide all necessary blocking in walls for support of all equipment, shelving, accessories, grab bars, wall hung lavatories, and other required elements.
4. Provide pressure treated wood where in contact with concrete or masonry.
5. Ease all edges on casework to prevent sharp corners.
6. Paint all HVAC wall grilles to match adjacent surface color unless otherwise noted or instructed by the Architect.
7. Use moisture resistant gypsum board at all walls subject to moisture unless wall will be subject to standing water or frequent wetting in which case you shall use cementitious backer.
8. Provide thresholds where required. All shall be ADA compliant.
9. All gypsum board to have a level 4 finish unless otherwise indicated.

BIDDING INQUIRES

Company: Express Oil Change
Contact: **Chris Plummer**
E-Mail: chris.plummer@expressoil.com
Phone: 205-945-1771

Note: Sub-contractors to call bidding General Contractor for questions



Express Oil Change & Tire Engineers
1100 State Hwy 46 N,
Seguin, Texas 78155

NORTH

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G202	Architectural Specifications
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G301	EOC Standards - Interior
G400	Building COMCheck
LS100	Life Safety / Code Summary
LS101	Life Safety / Code Summary
LS102	Life Safety Plan - Main
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AHO ARCHITECTS, LLC
www.ahoarch.com

REGISTERED ARCHITECT
TIMOTHY A. AHO
23347
STATE OF TEXAS
04/08/2026

Express Oil Change & Tire Engineers

Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

Seguin, Texas

FINAL

No.	Description	Date
IFB-1	Iss for Bid 1 AHJ Rev.	08/01/26
IFB-2	Iss for Bid 2 AHJ Rev.	08/08/26

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General Information

Project number	26014
Date	08/01/2026
Drawn by	ARC
Checked by	N/A

G101

Scale 12" = 1'-0"

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GENERAL NOTES

1. GENERAL CONTRACTOR SHALL ENSURE EACH OF THE FOLLOWING HAVE BEEN REVIEWED BY THE MANUFACTURER FOR COMPLIANCE WITH LOCAL CONDITIONS/REQUIREMENTS PRIOR TO BIDDING/ORDERING/INSTALLING: ROOFING, DOORS, WINDOWS/STOREFRONT, GLAZING, DOOR HARDWARE, PAINT, AND FIRE EXTINGUISHERS.
2. GENERAL CONTRACTOR SHALL PROVIDE SUBMITTALS / SHOP DRAWINGS FOR EACH PRODUCT LISTED UNDER ARCHITECTURAL SPECIFICATIONS. ALL SUBMITTALS / SHOP DRAWINGS ARE TO BE APPROVED BY THE OWNER AND/OR THE A/E PRIOR TO ORDERING.
3. PROVIDE MANUFACTURER'S STANDARD WARRANTY FOR ALL SPECIFIED PRODUCTS.
4. ALL EXTERIOR SIGNAGE AND SCONCES BY OTHERS.
5. ALL FURNITURE AND EQUIPMENT BY OTHERS, COORDINATE PLACEMENT WITH OWNER PRIOR TO ROUGHING IN REQUIRED UTILITIES.
6. ALL COMPARABLE PRODUCTS TO BE REVIEWED AND APPROVED BY THE OWNER PRIOR TO BID.
7. GC SHALL BE RESPONSIBLE FOR CHECKING WITH THE LOCAL AHJ ON ANY DEFERRED SUBMITTALS THAT MAY BE REQUIRED TO BE APPROVED BY THE AHJ PRIOR TO CONSTRUCTION.

DIVISION 4 – MASONRY

042200 – Concrete Unit Masonry
Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Echelon, An Oldcastle Company or a comparable product by an approved manufacturer.

Products

A. Concrete Masonry Units
1. Finish: Smooth and split-face
2. Min. Compressive Strength: See Structural
3. Density Classification: See Structural
4. Provide types, shapes and sizes as indicated
5. Integral Water Repellent: Provide RainBloc 80 by ACM Chemistries or a comparable product by an approved manufacturer.

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Argos or an approved comparable product by an approved manufacturer.

Products:

B. Mortar
1. Type: See Structural
2. Color: Standard Gray.
3. Liquid Mortar Additive: Provide RainBloc for Mortar or a comparable product by an approved manufacturer.

Subject to compliance with requirements, provide products indicated below:

Products

C. Joint Reinforcement
1. Type: Hot dipped galvanized, carbon steel (ladder)
2. Size: 0.187" diameter
3. Length: Not less than 10'

*Provide full exterior wall mock-up for Owner's Approval prior to ordering. No Exceptions.

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Mortar Net Solutions or an approved comparable products by an approved manufacturer.

Subject to compliance with requirements, provide products indicated below:

D. Single Wythe Concrete Masonry Unit Drainage System
1. Block Flash

055000– Metal Fabrications
Products:

A. Concrete-filled Steel Pipe Bollards
1. Material: Schedule 40 steel pipe
2. Height: 3'-6"
3. Diameter: 4"
4. Finish: Painted (See Finish Schedule)

Installation:
See drawings for installation details.

055113– Metal Pan Stairs
Delegated Design: Engage a qualified professional engineer to design stairs and railings and provide sealed calculations and drawings.

Products:

A. Metal Pan Stairs
1. Steel Sheet Thickness: 0.067" minimum
2. Uniform Load: 100 lbf/sf
3. Concentrated Load: 300 lbf applied on an area of 4 sq. in.
4. Finish: Painted (See Finish Schedule)
5. Uniform and concentrated loads need not be assumed to act concurrently.
6. Stair Framing: Capable of withstanding stresses resulting from railing loads in addition to loads specified above.

B. Stair Tread Bar Ribbed Abrasive Nosing
1. Basis of Design: Nystrom Model V951
2. Extents: Install Nosing to the full length of steps
3. Color: Safety Yellow
4. Type: Short Nose. Aluminum Extruded Anchor

C. Stair Railings
1. Rails and Posts: 1 1/2" diameter
2. Picket Infill: 1/2" round pickets spaced less than 4 inches clear.

D. Installation: Install per manufacturer's standard written instructions.

E. Warranty: Provide manufacturer's standard material warranty.

055133 – Ladders

Manufacturers:
Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Grainger, or a comparable product by an approved manufacturer:

Product:

A. Fixed Welded-Steel Ladder by Grainger
1. Model F14S C1 Cotterman Fixed (Pit Ladder)
a. Width: 20 inches
b. Height: 13 feet

Installation:
Install ladder according to manufacturer's written instructions.

055213– Pipe and Tube Railings
Delegated Design: Engage a qualified professional engineer to design stairs and railings and provide sealed calculations and drawings.
A. Handrails & Top Rails of Guards
1. Rails and Posts: 1 1/2" diameter
2. Uniform Load: 50 lbf/ft in any direction.
3. Concentrated Load: 200 lbf applied in any direction
4. Uniform and concentrated loads need not be assumed to act concurrently.
5. Type: F or S
6. Material: Schedule 40
7. Finish: Painted (See Finish Schedule)
8. Seismic Performance: See Structural
B. Infill of Guards
1. Concentrated Load: 50 lbf applied horizontally on an area of 1 SF.
2. Infill load and other loads need not be assumed to act concurrently.

Installation:
Install stairs and railings according to manufacturers' written instructions and with welded connections.

DIVISION 6 – WOOD, PLASTICS AND COMPOSITES
061000– Rough Carpentry
Products:
A. Framing with Dimensional Lumber (Interior Non-Load-Bearing)
1. Thoroughly Dried
2. No. 2 Southern Yellow Pine or No. 2 Douglas Fir
3. Of sizes, shapes, and lengths required.
4. Moisture content shall not exceed 19% at time of installation

B. Miscellaneous Lumber (e.g., Blocking, Furring, etc.)
1. Thoroughly Dried
2. No. 2 Southern Yellow Pine or No. 2 Douglas Fir
3. Of sizes, shapes, and lengths required.
4. Moisture content shall not exceed 19% at time of installation

C. Temporary Bracing, Shoring, etc., as required
1. Thoroughly Dried
2. No. 2 Southern Yellow Pine or No. 2 Douglas Fir
3. Of sizes, shapes, and lengths required.
4. Moisture content shall not exceed 19% at time of installation

D. Plywood decking (Platform)
1. Plywood Type: Exposure 1
2. Plywood Grade: BC
3. Thickness: As indicated on drawings
4. Square Edge
5. Class: C Fire Rating
6. Flame Spread Rating 76–200 / Smoke Developed Index <450

E. Plywood decking (Roofing / Sheating)
1. Plywood Type: Exposure 1
2. Plywood Grade: BC
3. Thickness: As indicated on drawings
4. Square Edge

Note:
1. All plywood which has any edge or surface permanently exposed to the weather shall be of the exterior type.
2. All wood exposed to weather and/or in contact with masonry or concrete shall be pressure-treated lumber.

061533– Composite Decking
Products
A. Plastic Decking for Dumpster Enclosure Doors
1. Composite plastic lumber
2. Solid shapes made from a mixture of cellulose fiber and polyethylene or polypropylene.
3. Surface Texture: Smooth.
4. Color: See Finish Schedule.
5. Size: See dumpster details.

Installation:
Install plastic decking according to manufacturers' written instructions.
Warranty:
Provide manufacturer's standard material warranty.

066400 Plastic Paneling (Fiberglass Reinforced Panels)
Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Maxlite Wall Systems, or a comparable product by one of the following:
1. KeKLite
2. Crane Composites
3. Panolam
Product Requirements:
A. Provide standard FRP (Fiber Reinforced Plastic) panels in 4' x 8' textured panels.
B. Color: As indicated on the Finish Schedule.
C. Conform to all building code requirements for interior finish for smoke and flame spread requirements tested in accordance with ASTM 84
D. Wall required Rating - Class A
Submittals:
Submit shop drawings (elevations of each wall) showing location of paneling and trim members.
Installation:
A. Install per manufacturer's written standards.
Warranty:
A. Provide manufacturer's standard warranty.

DIVISION 7 - THERMAL AND MOISTURE PROTECTION
071909– Water Repellents
Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Ghostshield or a comparable product from an approved manufacturer.
Products
A. Water Repellant
1. ISC-Tek 8540
2. Color: Clear
Installation:
Install water repellents according to manufacturers' written instructions.
Warranty:
Provide manufacturers' standard product warranty.

072109– Thermal Insulation
Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Owens Corning, or a comparable product by one of the following:
1. Johns Manville
2. CertainTeed
Products:
A. Kraft Faced (Vapor Retarder) Batt Insulation:
1. EcoTouch PINK Fiberglass Insulation
2. R-20 & R-38, where indicated
Installation:
Install insulation and accessories according to manufacturers' written instructions.
Warranty:
Provide manufacturers' standard material warranty.

072400 Exterior Insulation and Finish System
Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Dryvit Systems, Inc. or a comparable product by an approved manufacturer.
Products: Dryvit Systems, Inc., One Energy Way, West Warwick, RI 02893, 800-556-7752, HYPERLINK "http://www.dryvit.com" www.dryvit.com.
A. Molded, (Expanded) Rigid Cellular Polystyrene Board Insulation (Pre-/Wrapped / Pre- base coated Architectural Shapes): Comply with ASTM E 2430/E 2430M.
Provide pre-coated architectural shapes which include base coat and reinforcing mesh provided.
1. Cornice Shape: Product number 205C166 604
2. Trim: Product number 205T154 604
System Description
A. The Dryvit Direct Apply is an Exterior Insulation and Finish System (EIFS):
1. Water-resistive barrier membrane (for use at EIFS only): Basis-of-Design: Backstop NTX
2. Adhesive: Basis-of-Design, as per Manufacturer's recommendation: Chemex-Pro. Installed in vertical ribbons to facilitate egress of incidental moisture
3. Rigid expanded polystyrene insulation board.
4. Base Coat (included in pre-coated shapes)
5. Reinforcing Mesh (included in pre-coated shapes)
6. Finish Coat
7. Flashing materials
B. Pre-Installation Requirement: Contractor is to provide a mock-up of EIFS Finish for Owner's approval. This is required. No Exceptions.
C. Installation:
1. Install on clean and dry unpainted brick, concrete or masonry, free of loose material and irregularities in accordance with ASTM C1397 and the Exterior Insulation and Finish System manufacturer's application instructions.
2. Contractor's Option: Install EIFS system using Pre-buck Engineered Framing system for Parapet Cap in lieu of wood framing and plywood as shown in section detail drawing. If using Pre-Buck system, contractor must install per manufacturer's written installation instructions/ requirements.
D. Finish:
1. Freestyle: Fine Texture
2. Color (See Finish Schedule)
Warranty: Provide manufacturer's standard warranty.

072600 Vapor Retarders
Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Reef Industries, or a comparable product by an approved manufacturer.
Products:
A. Reinforced Under Slab Vapor Retarder:
1. Griffolyn 10 Mil Green
2. Thickness: 10 mil
3. Max Perm Rating: 0.1 perm
4. Lap: 12" and tape with manufacturer recommended tape
Installation:
Install vapor retarders according to manufacturers' written instructions.
Warranty:
Provide manufacturers' standard product warranty.

072715 – Self-Adhesive Membrane Air Barrier
Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by VCR Meadows, or a comparable product by an approved manufacturer.
Products:
A. Self-Adhesive Air Barrier Sheet Membrane: Fully adhered, sheet membrane, vapor permeable air and water resistive barrier.
1. Air-Shield SMP
Installation:
Install self adhered membrane air barriers according to manufacturers' written instructions.
Warranty:
Provide manufacturer's standard product warranty.

072726– Fluid-Applied Membrane Air Barrier
Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by VLR Meadows, or a comparable product by an approved manufacturer.
Products:
A. Liquid Membrane Air/Vapor & Liquid Moisture Barrier
1. Air-Shield LMP
Installation:
Install fluid applied membrane air barriers according to manufacturers' written instructions.
Warranty:
Provide manufacturer's standard product warranty.

074113.16– Standing-Seam Metal Roof Panels (Standard)
Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Berridge Manufacturing Co., or comparable product by an approved manufacturer.
Products:
A. Metal Panel: Cee–Lock
1. Structural Performance: Provide metal panel systems capable of withstanding the effects of the following loads, based on testing according to ASTM E 1592.
a. Wind Loads: See Structural.
b. Other Design Loads: See Structural.
c. Deflection Limits: See Structural.
2. Air Infiltration: Air leakage of not more than 0.06 cfm/sq. ft when tested according to ASTM E 1680 and ASTM E 283 at the following test-pressure difference:
a. Test-Pressure Difference: 6.24 lbf/sq.ft.
3. Water Penetration under Static Pressure: No water penetration when tested according to ASTM E 1646 and ASTM E 331 at the following test-pressure difference:
a. Test-Pressure Difference: 15 lbf/sq.ft.
4. Wind-Uplift Resistance: Provide metal roof panel assemblies that comply with UL 580 for wind-uplift-resistance class indicated.
a. Uplift Rating: UL 90.
5. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects.
6. Material: Metallic coated steel
7. Nominal Thickness: 24 gauge
8. Finish: Two-coat fluoropolymer.
9. Color: See Finish Schedule (verify sample with Owner prior to ordering)
10. Panel Coverage: 16.5 inches
11. Panel Height: 1.5 inches
12. Slope: As indicated
B Substrate / Underlayment
1. 5/8" exterior grade plywood with two layer of 15# felt. (FL Product Approval #10626.2)
C. Ridge/Hip Cap
1. Provide preformed ridge/hip cap by roofing manufacturer.
2. Color: Match Roof Color.
3. Material: Match Roof.
Installation:
Install metal panels, underlayment, vents, and accessories according to manufacturers' written instructions.
Warranty:
Provide manufacturers' standard material and product warranties.

074213.13 – Formed Metal Soffit & Wall Panels

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Berridge Manufacturing Co, or a comparable product by an approved manufacturer.

Products.

A. Metal Panel: Metal Thin Line Panels
1. Material: Metallic Coated Steel
2. Nominal Thickness: Available in 24 gauge
3. Finish: Two-coat fluoropolymer [Mica fluoropolymer, Metallic fluoropolymer]
4. Color: As indicated by manufacturer's designations
5. Panel Coverage: 3.625 inches
6. Panel Height: 0.375 inches
7. Panel Fasteners: Self-tapping screws designed to withstand design loads. Provide exposed fasteners with heads matching color of metal panels by means of factory-applied coating. Provide EPDM or PVC sealing washers for exposed fasteners.
8. Panel Sealants: Provide sealant type recommended by manufacturer that are compatible with panel materials, are nonstaining, and do not damage panel finish.
1. Sealant Tape: Pressure-sensitive, 100 percent solids, gray polyisobutylene compound sealant tape with release-paper backing. Provide permanently elastic, nonsag, nontoxic, nonstaining tape 1/2 inch (13mm) wide and 1/8 inch (3mm) thick.
2. Joint Sealant: ASTM C 920, elastomeric polyurethane or silicone sealant; of type, grade, class, and use classifications required to sealjoints in metal panels and remain weathertight; and as recommended in writing by metal panel manufacturer.
3. Butyl-Rubber-Based, Solvent-Release Sealant: ASTM C 1311.
9. Underlayment: Self-Adhering, High-Temperature Underlayment: Provide self-adhering, cold-applied, sheet underlayment, a minimum of 40 mils (1.02mm) thick, consisting of slip-resistant, polyethylene film top surface laminated to a layer of butyl or SBS-modified asphalt adhesive, with release paper backing. Provide primer when recommended by underlayment manufacturer.
10. Wind Uplift Resistance: Provide metal panel systems capable of withstanding the effects of the following loads, based on testing according to ASTM E 330:
1. Wind Loads: As indicated on Drawings.

074213.13 – Formed Metal Soffit & Wall Panels (cont.)

11. Metal Protection: Where dissimilar metals contact each other or corrosive substrates, protect against galvanic action as recommended in writing by metal panel manufacturer.

Installation:
Install metal panels, underlayment, and accessories according to manufacturers' written instructions.

Warranty:
Provide manufacturers' standard material and product warranties.

075423– Thermoplastic Polyolefin (TPO) Roofing:
Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Versico or comparable product by an approved manufacturer.
Products:
A. VersiWeld 60 mil TPO fully adhered.
1. ASTM D6878
Please Note: System must be selected based on design pressures per Structural drawing sheet S0.2.
B. Underlayment: 1/2" Securock Gypsum Fiber Cover Board
C. Polyisocyanurate Insulation
1. Thickness: R-25ci
D. Roof Walkways (if required)
1. VersaWeld Heat Weldable Walkway Rolls
a. Color: White
b. Thickness: 180 mils
c. As an option, walkway rolls may be fully adhered to the membrane surface with QA Seam Tape/ TPO Primer.
Installation:
Install TPO, underlayment, insulation, vents, accessories, etc., according manufacturer's published installation instructions.
Warranty:
Provide 20 Year NDL Manufacturers full system warranty

076200 – Sheet Metal Flashing and Trim (Standard)
Provide products indicated for formed flow-shape roof sheet metal fabrications:
A. Copings: Fabricate in minimum 96-inch-long, but not exceeding 12-foot-long, sections. Fabricate joint plates of same thickness as copings. Furnish with continuous cleats to support edge of external leg and interior leg. Miter corners, fasten and seal to be watertight. Shop fabricate interior and exterior corners.
Form sheet metal to fit substrates without excessive oil canning, buckling, and tool marks; true to line, levels, and slopes; and with exposed edges folded back to form hems. Conceal fasteners and expansion provisions where possible. Do not use exposed fasteners on faces exposed to view. Form seams and seal joints as required by manufacturer for watertight construction.
1. Fabricate from one of the Following Materials:
a. Galvanized Steel: 0.040 inch thick.
b. Aluminum-Zinc Alloy-Coated Steel: 0.040 inch
2. Fabricate coping cap to include :
a. Face Dimension: 6 inches minimum (Building)
b. Back Dimension: 6 inches minimum (Building)

B. Performance Requirements:
1. Sheet metal flashing and trim assemblies shall withstand wind loads, structural movement, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Completed sheet metal flashing and trim shall not rattle, leak, or loosen, and shall remain watertight.
2. Sheet Metal Standard for Flashing and Trim: Comply with NRCA's "The NRCA Roofing Manual" and SMACNA's "Architectural Sheet Metal Manual" requirements for dimensions and profiles shown unless more stringent requirements are indicated.
3. SPRI Wind Design Standard: Manufacture and install copings and roof edge flashings tested according to SPRI ES-1 and capable of resisting the design pressure as specified on sheets S0.1 and S0.3
4. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.
a. Temperature Change: 120 deg. F., ambient; 180 deg. F, material surfaces

C. Quality Assurance:
1. Fabricator Qualifications: Employs skilled workers who custom fabricate sheet metal flashing and trim similar to that required for this Project and whose products have a record of successful in-service performance.
a. For copings and roof edge flashings that are SPRI ES-1 tested, shop shall be listed as able to fabricate required details as tested and approved.

D. Sheet Metals
1. Metallic-Coated Steel Sheet: Provide zinc-coated (galvanized) steel sheet according to ASTM A 653/A 653M, G90 coating designation or aluminum-zinc alloy-coated steel sheet according to ASTM A 792/A 792M, Class AZ50 coating designation, Grade 40, prepainted by coil-coating process to comply with ASTM A 755/A 755M.
a. Two-Coat Fluoropolymer: AAMA 621. Fluoropolymer finish containing not less than 70 percent PVDF resin by weight in color coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
1. Color: See Finish Schedule

E. Warranty:
1. Special Warranty on Finishes: Manufacturer agrees to repair finish or replace sheet metal flashing and trim that shows evidence of deterioration of factory-applied finishes within specified warranty period.
a. Finish Warranty Period: 10 years from date of Substantial Completion.

077100– Roof Specialties (Standard)
Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Roof Drainage Components & Accessories, Inc., or a comparable product by an approved manufacturer.
Products:
A. Gutters (alum.):
1. Style: Smooth Box Gutter - "F" Style
2. Size: 5"
3. Color: Match Roof Color

B. Conductor head w/ built-in overflow (alum.): Match downspout color.

C. Downspouts (alum.):
1. Style: Smooth Box Downspout
2. Size: 3"x4"
3. Color: As indicated on Finish Schedule

D. Downspout elbow / boot - Match downspout color

E. Straps
1. Smooth Box Downspout Strap.
2. Color: Match downspout color.

F. Thru-wall scuppers- match downspout color.
1. Size: 8" wide x 8" high

G. Thru-wall emergency roof scuppers - match downspout color:
1. Size: 4" wide x 4" high

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Hickman Edge Systems, LLC or comparable product by an approved manufacturer.
Products:
A. Coping Cap (for Dumpster Enclosure only)
1. Product: Permasnap Premier Coping
2. 24 gauge w/ kynar finish
3. Color: See Finish Schedule
4. Face Dimension: 4 inches minimum
5. Back Dimension: 4 inches minimum
Installation:
Install roof specialties according to manufacturers' written instructions.
Warranty:
Provide manufacturers' standard material warranty.

AHO ARCHITECTS, LLC
www.ahoarch.com

REGISTERED ARCHITECT – TIMOTHY A. AHO – 23347 – STATE OF TEXAS
04/08/2026

Express Oil Change & Tire Engineers
Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage
Seguin, Texas

FINAL

No.	Description	Date
IFB-1	Iss for Bid 1 AHJ Rev.	08/01/26
IFB-2	Iss for Bid 2 AHJ Rev.	08/08/26

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Architectural Specifications

Project number	26014
Date	08/01/2026
Drawn by	ARC
Checked by	N/A

G200

Scale 12" = 1'-0"

9/11/2026 10:44:57 AM

078443 - Joint Firestopping

Basis-of-Design Product: For joints in or between Fire-Resistance-Rated Construction: Subject to compliance with requirements, provide products indicated below by Tremco, or a comparable product by one of the following:

1. 3M Fire Protection Products
2. Owens Corning
3. Hilti, Inc.
4. ROCKWOOL

A. **Scope:** Work specified under this Section includes all labor, materials, equipment, services, accessories and coordination as required to furnish and install all firestopping systems including but not limited to, the following:
   1. Firestopping sealant, firesafing and material required to render all fire rated assemblies fire and smoke tight in accordance with applicable codes, ordinances and requirements.
   2. Penetrations of fire rated materials or assemblies shall be sealed by the trade whose work required the penetration, unless a firestop contractor is designated by the Contractor

B. **System Description/ Design Requirements:**
   1. Fire-Rated Construction: Maintain vertical and horizontal barrier, structural floor-ceiling, and roof-ceiling fire resistance ratings at all penetrations, connections with other surfaces or types of construction, at separations required to permit building movement and sound or vibration absorption, and at other construction gaps.
   2. Smoke Barrier Construction: Maintain vertical barrier and structural floor resistance to cold smoke at all penetrations, connections with other surfaces and types of construction and at all separations required to permit building movement and sound or vibration absorption, and at other construction gaps.
      Provide products that upon curing, do not re-emulsify, dissolve, leach, breakdown or otherwise deteriorate over time from exposure to atmospheric moisture, sweating pipes, ponding water or other forms of moisture.
   4. Provide firestop products that do not contain ethylene glycol.
   5. Fire resistance rating must be equal to or exceed the fire resistance rating of the wall, floor or roof in or between which it is installed.
   6. Exposed Joint firestopping systems must have a flame-spread and smoke-developed index of less than 25 and 450, respectively, as determined per ASTM E84

C. Installation:
   1. Firestopping shall be installed at locations where openings are made and where shown or specified in accordance with manufacturer's written instructions, fire test assembly and as indicated on drawings.
   2. Firestopping materials shall completely fill all void spaces regardless of geometric configuration and subject to tolerances established by the manufacturer.
   3. Firestopping shall be installed at all piping, electrical conduit and cables,and ductwork penetrating fire rated assemblies and seal holes or voids made by penetrations to ensure an effective fire or fire/smoke barrier. Fire dampers in ducts and penetrations of fire resistance rated construction shall be furnished and installed in accordance with the requirements in Mechanical Sections.
   4. Identify joint firestopping systems with legible metal or plastic labels. Attach labels permanently to surfaces adjacent to and within 6 inches of joint edge so labels are visible to anyone seeking to remove joint firestopping system. Include the following on the labels:
      a. "Warning - Joint Firestopping - Do NOT Disturb. Notify Building Management of Any Damage."
      b. Contractor's name, address and phone number.
      c. Designation of applicable testing agency
      d. Date of Installation
      e. Manufacturer's name
      f. Installer's name

D. Warranty: Provide manufacturers' standard product warranty.

079200- Joint Sealants

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Tremco, or a comparable product by one of the following:

1. BASF Building Systems
2. Pecora Corporation
3. Dow Corning Corp.

Products:

A. Silicone (for use around plumbing fixtures and around glazing):
   1. Spectrem 2
   2. Color: Clear

B. Urethane (for use at masonry, control joints, and rough openings)
   1. Dymonic 100
   2. Color: To match adjacent material color (color and paintable)

C. Joint Sealant Backing:
   1. Closed cell material with a surface skin or as approved by sealant manufacturer

Installation:
Install sealants and proper backing according to manufacturers' written instructions.

Warranty:
Provide manufacturers' standard product warranty.

079219- Acoustical Joint Sealants

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by USG or a comparable product by an approved manufacturer.

Products:

A- Acoustical Joint Sealant
   1. USG Sheetrock Brand Acoustical Sealant

Installation:
Install sealants according to manufacturers' written instructions.

Warranty:
Provide manufacturer's standard warranty.

DIVISION 08 - OPENINGS

081113- Hollow Metal Doors and Frames (Standard)

Manufacturers:
Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by CECO Door Products, or a comparable product by one of the following:

1. Curries Company
2. Steelcraft
3. Or Approved equal

Products:

Materials

A. Cold-Rolled Steel Sheet: ASTM A 1008/A 1008M, Commercial Steel (CS), Type B; suitable for exposed applications.

B. Metallic-Coated Steel Sheet: ASTM A 653/A 653M, Commercial Steel (CS), Type B; with minimum G60 (Z180) or A60 (ZF180) metallic coating.

C. Frame Anchors: ASTM A 653/A 653M, Commercial Steel (CS), Commercial Steel (CS), Type B; with minimum G60 (Z180) or A60 (ZF180) metallic coating.

Hollow Metal Doors

A. General: Provide 1-3/4 inch doors of design indicated, not less than thickness indicated; fabricated with smooth surfaces, without visible joints or seams on exposed faces unless otherwise indicated. Comply with ANSI/SDI A250.8 and ANSI/NAAMM HMMA 867.

B. Exterior Doors: Face sheets fabricated of commercial quality hot-dipped zinc coated steel that complies with ASTM A 653/A 653M, Coating Designation A60. Provide doors complying with requirements indicated below by referencing ANSI/SDI A250.8 for level and model and ANSI/SDI A250.4 for physical performance level.

081113- Hollow Metal Doors and Frames (Standard) (cont.)

   1. Design: Flush panel.
   2. Level/Model: Level 2 and Physical Performance Level B (Heavy Duty), Minimum 18 gauge (0.042-inch - 1.0-mm) thick steel, Model 2.
   3. Top and Bottom Edges: Reinforce tops and bottoms of doors with a continuous steel channel not less than 16 gauge, extending the full width of the door and welded to the face sheet. Doors with an inverted top channel to include a steel closure channel, screw attached, with the web of the channel flush with the face sheets of the door. Plastic or composite channel fillers are not acceptable.
   4. Hinge Reinforcement: Minimum 7 gauge (3/16") plate 1-1/4" x 9" or minimum 14 gauge continuous channel with pierced holes, drilled and tapped.
   5. Hardware Reinforcements: Fabricate according to ANSI/SDI A250.6 with reinforcing plates from same material as door face sheets.

C. Interior Doors: Face sheets fabricated of commercial quality cold rolled steel that complies with ASTM A 1008/A 1008M, Provide doors complying with requirements indicated below by referencing ANSI/SDI A250.8 for level and model and ANSI/SDI A250.4 for physical performance level.
   1. Design: Flush panel.
   2. Level/Model: Level 2 and Physical Performance Level B (Heavy Duty), Minimum 18 gauge (0.042-inch - 1.0-mm) thick steel, Model 2.
   3. Top and Bottom Edges: Reinforce tops and bottoms of doors with a continuous steel channel not less than 16 gauge, extending the full width of the door and welded to the face sheet.
   4. Hinge Reinforcement: Minimum 7 gauge (3/16") plate 1-1/4" x 9" or minimum 14 gauge continuous channel with pierced holes, drilled and tapped.
   5. Hardware Reinforcements: Fabricate according to ANSI/SDI A250.6 with reinforcing plates from same material as door face sheets.

D. Manufacturers Basis of Design:
   1. CECO Door Products (C) Honeycomb Core - Regent Series.

Hollow Metal Frames

A. General: Comply with ANSI/SDI A250.8 and with details indicated for type and profile.
B. Exterior Frames: Fabricated of hot-dipped zinc coated steel that complies with ASTM A 653/A 653M, Coating Designation A60.
   1. Fabricate frames with mitered or coped corners. Profile as indicated on drawings.
   2. Manufacturers Basis of Design:
      a. CECO Door Products (C) - SQSeries.
      b. Curries Company (CU) – M Series.
C. Interior Frames: Fabricated from cold-rolled steel sheet that complies with ASTM A 1008/A 1008M.
   1. Fabricate frames with mitered or coped corners. Profile as indicated on drawings.
   2. Manufacturers Basis of Design:
      a. CECO Door Products (C) - SQ Series.
      b. Curries Company (CU) - M Series.
D. Fire rated frames: Fabricate frames in accordance with NFPA 80. Listed and labeled by a qualified testing agency, for fire protection ratings indicated.
E. Hardware Reinforcement: Fabricate according to ANSI/SDI A250.6 Table 4 with reinforcement plates from same material as frames.

Frame Anchors

A. Jamb Anchors:
   1. Masonry Type: Adjustable strap-and-stirrup or T-shaped anchors to suit frame size, formed from A60 metallic coated material, not less than 0.042 inch thick, with corrugated or perforated straps not less than 2 inches wide by 10 inches long; or wire anchors not less than 0.177 inch thick.
   2. Stud Wall Type: Designed to engage stud and not less than 0.042 inch thick.
   3. Compression Type for Drywall Slip-on (Knock-Down) Frames: Adjustable compression anchors.
   4. Wallstorm Opening Anchors: Types as tested and required for indicated wall types to meet specified wind load design criteria.
B. Floor Anchors: Floor anchors to be provided at each jamb, formed from A60 metallic coated material, not less than 0.042 inches thick.
C. Mortar Guards: Formed from same material as frames, not less than 0.016 inches thick.

Installation:
Install hollow metal doors and frames according to manufacturers' written instructions.

Warranty:
Provide manufacturers' standard product warranty.

081416- Flush Interior Wood Doors

Door Construction - General
A. WDMA I.S.1-A Performance Grade: Extra Heavy Duty; Aesthetic Grade: Premium.
B. U-Factor: 0.50
Core Construction
A. Particleboard Core Doors:
   1. Particleboard: Wood fiber based materials complying with ANSI A208.1 Particleboard standard, Grade LD-2.
   2. Adhesive: Fully bonded construction using Polyurethane (PUR) glue.
   3. Blocking: As indicated under article 'Blocking'.
Veneered Doors for Painted Finish
A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
   1. ASSA ABLOY Wood Doors (GR): GPD Series.
   2. Eggers Industries (EG): Premium Series.
   3. Marshfield-Algoma (MF): Signature Series.
   4. VT Industries (VT): Artistry Series.
B. Interior Solid Core Doors:
   1. Grade: Custom.
   2. Faces: Veneer grades as noted below; veneer minimum 1/50-inch (0.5mm) thickness at moisture content of 12% or less.
      a. Rotary Sliced Natural Birch, A grade faces.
   3. Match between Veneer Leaves: Book match.
   4. Assembly of Veneer Leaves on Door Faces:
      a. Running Match.
   5. Pair and Set Match: Provide for doors hung in same opening or separated only by mullions.
   6. Transom Match: Continuous match.
   7. Vertical Edges: Matching same species as faces. Wood or composite material, one piece, laminated, or veneered. Minimum requirements per WDMA section P-1, Performance Standards for Architectural Wood Flush Doors.
   8. Horizontal Edges: Solid wood or structural composite material meeting the minimum requirements per WDMA section P-1, Performance Standards for Architectural Wood Flush Doors
   9. Construction: Five plies. Stiles and rails are bonded to core, then entire unit sanded before applying face veneers.
   10. At doors over 40% of the face cut-out for lights and or louvers, furnish engineered composite lumber core.
Light Frames and Glazing
A. Metal Frames for Light Openings in doors with up to 1-inch thick insulated glazing.
   1. Low profile beveled vision lite frame
   2. Color: Gray
   3. 20 gauge cold rolled steel
   4. Mitered and welded corners with counter sunk mounting holes
   5. Size as indicated on plans.
B. Glazing: Comply with installation requirements in Division 08 Section "Glazing" and with the flush wood door manufacturer's written instructions.
Fabrication
A. Factory fit doors to suit frame opening sizes indicated.
   1. Comply with requirements in NFPA 80 for fire rated doors.
   2. Undercut: As per manufacturer's templates and sill condition.
B. Factory machine doors for hardware that is not surface applied. Comply with final hardware schedules, door frame Shop Drawings, DHI A115-W series standards, and hardware templates.
   1. Coordinate with hardware mortises in metal frames to verify dimensions and alignment before factory machining.
   2. Metal Astragals: Factory machine astragals and formed steel edges for hardware for pairs of fire rated doors.
C. Openings: Cut and trim openings through doors in factory.
   1. Light Openings: Trim openings with moldings of material and profile indicated.
   2. Glazing: Comply with applicable requirements in Division 08 Section "Glazing."
Installation
A. Install per manufacturers' standard written instructions.
Warranty
A. Provide manufacturers' standard material warranty.

083113- Access Doors and Frames

Manufacturers:
Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Williams Brothers, or a comparable product by an approved manufacturer.

Products:
A. Attic Ladder: Super Simplex Disappearing Stairway
   i. Opening Size: 30 inches x 54 inches
   ii. Floor to Mezzanine Height: 9' - 4"
   iii. Floor to Ceiling Height: 8' - 5 1/2"
   iv. Ladder width: 18 inches min.

Installation:
1. Install attic access according to manufacturer's written instructions.

Warranty:
1. Provide manufacturers' standard product warranty.

083613- Sectional Doors (Standard and Non-Impact Hurricane Zone):

Manufacturers:

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Overhead Door Corporation, or a comparable product by an approved manufacturer.

Products:

Notes:
1.) All glazing to have proper labels as required by local AHJ and building codes.
2.) All glazing shall be reviewed and approved by the local distributor to meet the requirements for the region in which the glazing is being installed. Any issues with items specified shall be brought to the attention of the Architect prior to bid.
3.) Door supplier is responsible for providing a door to meet the wind load requirements for the site location.
4.) Cornell Doors is NOT an approved manufacturer in Hurricane Prone Regions.

1.1 MANUFACTURERS
A. Acceptable Manufacturer: Overhead Door CorporationWayne Dalton, Commercial Solutions National Accounts, 2501 S. State Hwy. 121, Suite 200, Lewisville, TX 75067, ASD, Tel: Toll Free: (800) 275-3290, Phone: (469) 549-7100, Fax: (972) 906-1499, Web Site: www.overheaddoor.com, E-mail: info@overheaddoor.com.

B. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

1.2 GLAZED ALUMINUM SECTIONAL OVERHEAD DOORS

A. Glazed Aluminum Sectional Overhead Doors: Model 521 by Overhead Door Corporation:
   1. Doors:
      a. Operation:
         1) Provide doors designed for manual operation using a chain hoist.
      b. Structural Performance Requirements:
         1) Wind Loads: See Structural.
   2. Door Model 521Requirements:
      a. Door Assembly: Stile and rail assembly secured with 1/4 inch (6mm) diameter through rods.
         1) Panel Thickness: 1 3/4 inches (44 mm).
         2) Center Stile Width: 2 11/16 inches (68 mm)
         3) End Stile Width: 3 5/16 inches (84 mm)
         4) Intermediate Rail Pair Width: 3 11/16 inches (94 mm)
         5) Top Rail Width: 3 3/4 inches (95 mm)
         6) Bottom Rail Width: 4 1/2 inches (114 mm)
         7) Aluminum Panels: 0.050 inch (1.3 mm) thick, aluminum
         8) Stiles and Rails: 6063 - T6 aluminum.
         9) Springs: 50,000 cycles.
         10) Provide leaf spring bumpers.
         11) Glazing Panels: Match Exterior Elevations
         12) Glazing Type: Non-Impact Rated Glazing: ¼ inch clear tempered glass consisting of one pane of ¾ inch non-insulated glass
         13) Stile and Rail Finish: Anodized Finish, see Finish Schedule for color.
         14) Hardware: Galvanized steel hinges and fixtures. Ball bearing rollers with hardened steel races.
         12) Lock: Interior galvanized single unit.
         13) Weatherstripping: Provide complete weather stripping system to reduce air infiltration. Weatherstripping shall be replaceable.
         14) Track: Provide track as recommended by manufacturer to suit loading required and clearances available.
         15) Configuration Type: Vertical Lift Clearance: Track must provide 35" available headroom, which will maintain 14'-0" minimum clearance from finish floor to underside of lift equipment.
         16) Follow manufacturer's instrutions for installation. Support tracks are to be adequately reinforced with continuous angle attached to structure.
         17) Provide and install Clopay ControlGard Chain Hoist or electric operators at each door.
         18) Doors are to be installed by a qualified and manufacturer-certified installer. Prior to door installation, GC shall submit door installer's current manufacturer certification or other proof of training to the Owner contact: jeffcarter@expressoil.com
         19) Doors must be installed per manufacturer's requirements, details and specifications. Proper alignment, spring tension, and support are essential to proper door operation and performance.
         20) Provide Cable Snubber Device Kit.

1.3 EXECUTION

1 EXAMINATION
   a. Do not begin installation until substrates have been properly prepared. Verify that site conditions are acceptable for installation of doors, operators, controls and accessories. Ensure that openings are square, flush and plumb.
   b. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

2. PREPARATION
   a. Clean surfaces thoroughly prior to installation.
   b. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3. INSTALLATION
   a. General: Install door, track and operating equipment complete with all necessary accessories and hardware according to shop drawings, manufacturer's instructions.
   b. Lubricate bearings and sliding parts, and adjust doors for proper operation, balance, clearance and similar requirements.
   c. Coordinate installation with adjacent work to ensure proper clearance and allow for maintenance.
   d. Anchor assembly to wall construction and building framing without distortion or stress.
   e. Secure brace door tracks suspended from structure. Secure tracks to structural members only.

4 PROTECTION
   a. Clean installed products in accordance with manufacturer's instructions prior to Owner's acceptance.
   b. Remove and legally dispose of construction debris from project site.
   c. Remove temporary coverings and protection of adjacent work areas. Repair or replace installed products damaged prior to or during installation.
   c. Lubricate bearings and sliding parts, assure weather tight fit around door perimeter and adjust doors for proper operation, balance, clearance and similar requirements. Protect installed products until completion of project.
   d. Touch-up, repair or replace damaged products before Substantial Completion.

Installation:
Install sectional doors according to manufacturers' written instructions.
Warranty:
Overhead Door Corporation warrants the door sections against defects in material and workmanship, and deterioration due to rust-through for ten years from date of delivery to the original purchaser. Window components are warranted against defects in material and workmanship for one year from date of delivery to the original purchaser. Overhead Door warrants all hardware and spring components against defects in material and workmanship for one year (or cycle life of the springs) from date of delivery to the original purchaser. Additional Limited Warranty requirements in accordance with manufacturer's full standard limited warranty documentation.

084113- Aluminum-Framed Entrances and Storefronts (Standard & Hurricane Non-Impact)

Manufacturers:

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by YKK AP America Inc., or a comparable product by one of the following:

1. Kawneer
2. Or Approved equal

Products:

A. Exterior Storefront System
   1. YES 45 TU
   2. Center set.
   3. Thermal Barrier: Provide continuous thermal barrier by means of a poured and debridged pocket consisting of a two part, chemically curing high density polyurethane which is bonded to the aluminum by YKK ThermaBond Plus.
   4. Materials: Anodized Aluminum: 0.050" minimum thickness.
   5. Accessories: As recommended by the manufacturer.
   6. Components: Manufacturer's standard extruded aluminum mullions, entrance doors, framing, and indicated shapes, perimeter anchor fillers and steel reinforcing as required.
   7. Glazing Stops: Manufacturer's standard glazing stops with EPDM glazing gaskets to prevent water infiltration at the exterior and Dow Corning 995 Structural Silicone Sealant with fixed stops at the interior. Color to match storefront.
   8. Finish: See finish schedule.
   9. Wind Load: See Structural for design pressures.
   10. Door: 350 - Medium Stile
      a. Material: 0.050" aluminum min. thickness
      b. Finish: See finish schedule.
      c. Hardware: See Division 8 Door Hardware
      d. Accessories: Manufacturer's standard
      e. Glass: See Division 8 Glazing
      f. Glazing Stops: Manufacturer's standard
      g. Weather-stripping: Manufacturer's standard

B. Interior Storefront System
   1. YES 45 FS
   2. Center set.
   3. Materials: Anodized Aluminum: 0.050" minimum thickness.
   4. Accessories: As recommended by the manufacturer.
   5. Finish: See finish schedule.

C. Storefront Glazing
   1. Glazing: Comply with Division 08 "Glazing"
   2. Glazing Gaskets: Manufacturer's standard sealed-corner pressure-glazing system of resilient elastomeric glazing gaskets, setting blocks, and shims or spacers.
   3. Glazing Sealants: As recommended by the manufacturer.

Installation:
Install aluminum-framed entrances and storefronts according to manufacturers' written instructions.

Warranty:
Provide manufacturers' standard product warranty.

087100- Door Hardware (Standard Single Bldg. w/ Side Tire Storage)

Manufacturers:

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by the following manufacturers, or approved equal.

1. MK- McKinney
2. AD- Adams Rite
3. YA- Yale
4. RO-Rockwood
5. NO-Norton
6. PE- Pemko

General Notes:
1. Hardware listed for design criteria, confirm with specific door manufacturer.
2. Finishes for all door hardware are to be as indicated on Finish Schedule.

Hardware Sets:

Set: 1.0
Doors: 1
Description: EXT - ALUM

1	Continuous Hinge	MCK-25HD	MK
1	Deadlatch	4900 x 4591	AD
1	Cylinder	Mort / Cyl as required	YA
2	Pull	BF168	RO
1	Surface Closer	CLP8501	NO
1	Mtg Plate	as required	NO
1	Threshold	271A Pemkote MSES25SS	PE
1	Gasketing	by door / frame mfg	
1	Sweep	315CN	PE

Set: 2.0
Doors: 2, 3, 22, 23
Description: BAYS

4	Hinge	TA2714 4-1/2" x 4-1/2"	MK
1	Cylindrical Lock (classroom)	PB 5408LN	YA
1	Surface Closer	8501 Reg / PA	NO
1	Kick Plate	K1050 8" X 2" LDW 4BE CSK	RO
1	Door Stop	409 / 446 [as required]	RO
1	Gasketing	S773D	PE

Set: 3.0
Doors: 4
Description: WAITING - ALUM

1	Continuous Hinge	MCK-25HD	MK
2	Door Pull	BF168	RO
1	Surface Closer	8501 Reg / PA	NO
1	Door Stop	409 / 446 [as required]	RO
1	Gasketing	by door / frame mfg	

Set: 3.1
Doors: 9, 20, 21, 24
Description: EXT - BAYS

4	Hinge (heavy weight)	T4A3386 NRP 4-1/2" x 4-1/2"	MK
1	Exit Device (rim, nightlatch)	7150 WS PB627F	YA
1	Cylinder	Mort / Cyl as required	YA
1	Surface Closer	CLP8501	NO
1	Threshold	271A Pemkote MSES25SS	PE
1	Gasketing	S773D	PE
1	Rain Guard	346C x LAR	PE
1	Sweep	315CN	PE

Set 3.2
Door: 14
Description: Pit Ladder

4	Hinge (heavy weight)	T4A3386 NRP 4-1/2" x 4-1/2"	MK
1	Exit Device (rim, nightlatch)	7150 WS PB627F	YA
1	Cylinder	Mort / Cyl as required	YA
1	Surface Closer	CLP8501	NO

AHO ARCHITECTS, LLC
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REGISTERED ARCHITECT TIMOTHY A. AHO 23347 STATE OF TEXAS
04/08/2026

Express Oil Change & Tire Engineers
Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage
Seguin, Texas

FINAL

No.	Description	Date
IFB-1	Iss for Bid 1 AHJ Rev.	08/01/26
IFB-2	Iss for Bid 2 AHJ Rev.	08/08/26

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Architectural Specifications

Project number	26014
Date	08/01/2026
Drawn by	ARC
Checked by	N/A

G201

Scale: 12" = 1'-0"

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087100- Door Hardware (Standard Single Bldg. w/ Side Tire Storage) (cont.)

Set: 4.0
Doors: 5
Description: TOILET

4	Hinge	TA2714 4-1/2" x 4-1/2"	MK
1	Cylindrical Lock (privacy)	PB 5402LN	YA
1	Mop Plate	K1050 4" X 1" LDW 4BE CSK	RO
1	Door Stop	409 / 446 [as required]	RO
1	Gasketing	S773D	PE
1	Surface Closer	8501 Reg / PA	NO

Set: 5.0
Doors: 13
Description: OFFICE

4	Hinge	TA2714 4-1/2" x 4-1/2"	MK
1	Cylindrical Lock (entry)	PB 5407LN	YA
1	Door Stop	409 / 446 [as required]	RO
1	Threshold	271A Pemkote MSES25SS	PE
1	Gasketing	S773D	PE
1	Sweep	315CN	PE
1	Surface Closer	8501 Reg / PA	NO

Set: 6.0
Doors: 15
Description: BREAK

4	Hinge	TA2714 4-1/2" x 4-1/2"	MK
1	Passage Set	PB 5401LN	YA
1	Surface Closer	8501 Reg / PA	NO
1	Mop Plate	K1050 4" X 1" LDW 4BE CSK	RO
1	Kick Plate	K1050 8" X 2" LDW 4BE CSK	RO
1	Door Stop	409 / 446 [as required]	RO
1	Gasketing	S773D	PE

Set: 7.0
Doors: 16
Description: SHOP TOILET

4	Hinge	TA2714 4-1/2" x 4-1/2"	MK
1	Cylindrical Lock (privacy)	PB 5402LN	YA
1	Mop Plate	K1050 4" X 1" LDW 4BE CSK	RO
1	Door Stop	409 / 446 [as required]	RO
1	Threshold	271A Pemkote MSES25SS	PE
1	Gasketing	S773D	PE
1	Sweep	315CN	PE
1	Surface Closer	8501 Reg / PA	NO

Set: 8.0
Doors: 6, 7, 8, 10, 11, 12, 17, 18, 19, 25, 26, 27
Description: OH DOOR

1	Hardware	By door mfg

Installation:
Install door hardware according to manufacturers' written instructions.
All door hardware (Interior and Exterior) to be keyed alike.

Warranty:
Provide manufacturers' standard product warranty.

088000- Glazing (EGU) Standard and Hurricane Non-Impact

Manufacturers:

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Vitro, or a comparable product by one of the following:

1. Guardian Industries Corp.
2. Or Approved equal

Products:

Notes:
1.) All glazing to have proper labels as required by local AHJ and building codes.
2.) All glazing shall be reviewed and approved by the local distributor to meet the requirements for the region in which the glazing is being installed. Any issues with items specified shall be brought to the attention of the Architect prior to bid.

A. GL-1 Insulated Glass Unit
Double Glazed Clear Solar Control Insulating Glass Unit Solarban® 90 on Clear 6mm (2) | Air 1/2" (12.7mm) | Clear 6mm
1. Conformance: ASTM E 2190
2. Outdoor Lite: Clear float glass as manufactured by Vitro Architectural Glass
   a. Conformance: ASTM C 1036, Type 1, Class 1, Quality q3.
   b. Glass Thickness: 6mm (1/4")
   c. Magnetic Sputter Vacuum Deposition Coating (MSVD): ASTM C 1376.
   d. Coating: Solarban® 90 on Surface # 2
   e. Heat-Treatment: Tempered. ASTM C 1048, Kind FT; Safety Glazing meets ANSI Z97.1 and CPSC 16CFR-1201
3. Interspace Content: Air 1/2" (12.7mm)
4. Indoor Lite: Clear float glass as manufactured by Vitro Architectural Glass
   a. Conformance: ASTM C 1036, Type 1, Class 1, Quality q3.
   b. Heat-Treatment: Tempered. ASTM C 1048, Kind FT; Safety Glazing meets ANSI Z97.1 and CPSC 16CFR-1201
   c. Glass Thickness: 6mm (1/4")
5. Performance Requirements:
   a. Visible Light Transmittance: 51 percent minimum.
   b. Winter Nighttime U-Factor: 0.29 (Btu/hr*ft.**F) maximum.
   c. Summer daytime U-Factor: 0.27 (Btu/hr*ft.**F) maximum.
   d. Shading Coefficient: 0.27 maximum.
   e. Solar Heat Gain Coefficient: 0.23 maximum.
   f. Outdoor Visible Light Reflectance: 12 percent maximum.

B. GL-2 Monolithic Single-Glaze Float-Glass:
Monolithic Clear Glass Clear 6mm
1. Clear float glass as manufactured by Vitro Architectural Glass
   a. Conformance: ASTM C 1036, Type 1, Class 1, Quality q3.
   b. Heat-Treatment: Tempered. ASTM C 1048, Kind FT; Safety Glazing meets ANSI Z97.1 and CPSC 16CFR-1201
   c. Glass Thickness: 6mm (1/4")
2. Performance Requirements:
   a. Visible Light Transmittance: 89 percent minimum.
   b. Winter Nighttime U-Factor: 1.02 (Btu/hr*ft.**F) maximum.
   c. Summer daytime U-Factor: 0.92 (Btu/hr*ft.**F) maximum.
   d. Shading Coefficient: 0.94 maximum.
   e. Solar Heat Gain Coefficient: 0.82 maximum.
   f. Outdoor Visible Light Reflectance: 8 percent maximum.

C. Glazing Installation
1. Install per manufacturers' standard written instructions.

D. Glazing warranty
1. Provide manufacturers' standard product warranty.

DIVISION 9 - FINISHES

092900- Gypsum Board

Manufacturers:

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Lafarge unless otherwise indicated, or a comparable product by one of the following:

1. Georgia-Pacific
2. USG
3. National Gypsum

Products:

A. Moisture and Mold-Resistant Type: Mold Defense
   1. Thickness: 1/2 inch
   2. Long Edges: Tapered
   3. Finish: Level 4 in areas exposed to view, Level 1 in concealed areas.
B. Water-resistant Type: Watercheck (@ Toilet Rooms and behind plumbing fixtures)
   1. Thickness: 1/2 inch
   2. Long Edges: Tapered
   3. Finish: Level 4
   4. Cuts: All cuts in board shall be covered with special waterproofing sealant as recommended by the manufacturer.
C. Type X: Firecheck (As Required)
   1. Thickness: 5/8"
   2. Long Edges: Tapered
   3. Finish: Level 4
   4. All penetrations and joints to be sealed with fire caulk as recommended by the manufacturer.

Installation:
Install gypsum board and accessories according to manufacturers' written instructions.

Warranty:
Provide manufacturers' standard product warranty.

095000- Acoustical Tile Ceiling

Manufacturer:

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Armstrong World Industries, Inc.

Products:
A. Acoustical Ceiling Panels
   1. Style: 1775 Dune
   2. Surface Texture: Fine Texture
   3. Composition: Mineral Fiber
   4. Color: White
   5. Size: 24 inch x 24 inch
   6. Edge Profile: Square Lay-in

B. Metal Suspension Systems
   1. Supratine XL 9/16" Exposed Tee Grid and Edge Molding
   2. Wire for Hangers and Ties: ASTM A 641, Class 1 zinc coating, soft annealed, with a yield stress load of at least time three design load, but not less than 12 gauge.

Installation:
Install suspension system and panels in accordance with manufacturers' written instructions, and in compliance with ASTM C 636.

Warranty:
Provide manufacturers' standard product warranty.

096513- Resilient Base and Accessories

Manufacturers:

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Roppe, or a comparable product by one of the following:

1. Johnsonite, a Tarkett Company
2. Armstrong World Industries
3. Or Approved equal

Products:

A. Rubber Base: Pinnacle Rubber by Roppe
   1. Height: 4"
   2. Length: Coils in manufacturer's standard length
   3. Outside Corners: Job formed
   4. Inside Corners: Job formed
   5. Color as indicated on finish schedule.

B. Reducer Strip: Roppe Reducer Strip #22
   1. Color as indicated on finish schedule.

C. Adhesives: As recommended by the manufacturer

Installation:
Install resilient base and reducer according to manufacturers' written instructions.

Warranty:
Provide manufacturers' standard product warranty.

096519- Resilient Tile Flooring

Manufacturers:

Subject to compliance with requirements, provide product indicated below by Tarkett.

Products:

A. LVT
   1. Style / Color: Contour Mineral Basalt PCMB / Paved Path 4645
   2. Size: 12" x 36" planks
   3. Overall thickness: .120" (3 mm)
   4. Wear layer Thickness: 32 mil (0.8 mm)

B. Adhesives: As recommended by the manufacturer

Installation:
Install resilient floor tile according to manufacturers' written instructions.

Warranty:
Provide manufacturers' standard product warranty.

099113- Exterior Painting

Manufacturer:

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Sherwin Williams.

Products:

A. Masonry:
   1.) Primer: SW Pro Industrial Heavy Duty Block Filler B42W150
   2.) Finish Coats: SW Latitude Exterior Acrylic in Satin Finish K62-Series
B. Steel:
   1.) Primer: SW Pro Industrial Pro-Cryl Universal Primer B66-1300 Series
   2.) Finish Coats: SW Pro Industrial Urethane Alkyd Enamel B54-Series
C. Wood:
   1.) Primer: SW Exterior Latex Wood Primer B42W8141
   2.) Finish Coats: SW Latitude Exterior Acrylic in Satin Finish K62-Series
D. Aluminum: Pro Industrial Urethane Alkyd Enamel Gloss, B54-150 Series
   1.) Primer: SW Pro Industrial Pro-Cryl Universal Primer B66-1300 Series
   2.) Finish Coats: SW Pro Industrial Sher-Cryl High Performance Acrylic Semi-Gloss B66-1350 Series

Note: Use 1 coat primer as recommended by manufacturer and 2 finish coats unless otherwise recommended by the manufacturer.

Installation:
Install exterior paint according to manufacturers' written instructions.

Warranty:
Provide manufacturers' standard product warranty.

099123- Interior Painting
Manufacturer:

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Sherwin Williams.

Products:

A. Masonry:
   1.) Primer: SW Pro Industrial Heavy Duty Block Filler B42W150
   2.) Finish Coats: SW Pro Industrial Pre-Catalyzed Epoxy Semi-Gloss K46-Series
B. Steel:
   1.) Primer: SW Pro Industrial Pro-Cryl Universal Primer B66-1300 Series
   2.) Finish Coats: Pro Industrial Urethane Alkyd Enamel Gloss, B54-150 Series
C. Interior Wood:
   1.) Primer: SW PrepRite ProBlock Interior/ Exterior Latex Primer- Sealer B51-600 Series
   2.) Finish Coats: SW Pro Industrial Acrylic Semi-Gloss B66-650 Series
D. Gypsum Board in Office Area:
   1.) Primer: ProMar 200 Zero VOC Interior Latex Primer B28W12600
   2.) Finish Coats: ProMar 200 Zero VOC Interior Latex Egshel, B20W2600 Series. Use extreme bond primer at vinyl graphics.
E. Gypsum Board in Bay Area:
   1.) Primer: ProMAR 200 Zero VOC Interior Latex Primer B28W12600
   2.) Finish Coats: SW Pro Industrial Catalyzed Epoxy B73-Series. Use extreme bond primer at vinyl graphics.
F. Gypsum Board Ceilings:
   1.) Primer: ProMar 200 Zero VOC Interior Latex Primer B28W12600
   2.) Finish Coats: ProMar 200 Zero VOC Interior Latex Flat, B30W2650 Series
G. Sealed Concrete Floors:
   ArmorSeal Rexthane I Floor Coating + SharkGrip Slip-Resistant Additive (1000 HS primer)

Note: Use 1 coat primer as recommended by manufacturer and 2 finish coats unless otherwise recommended by the manufacturer.

Installation:
Install interior paint according to manufacturers' written instructions.

Warranty:
Provide manufacturers' standard product warranty.

DIVISION 10 - SPECIALTIES

101419- Dimensional Letter Signage - By others.

101423.13 Room-Identification Signage

See drawing on A602.

102600 - Wall and Door Protection
Manufacturer:

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by InPro Corporation:

Products:

A. Stainless Steel Flush Mount Corner Guards
B. Corner Radius:1/8"
C. Height: 4'-0"
D. Width: 1 1/2"
E. Materials: Stainless Steel, Type 430, 16 gauge
F. Attachment: Pre-drilled beveled holes and Phillips head screws.
G. Finish: Stainless Steel No. 4 satin finish.
H. Location: As indicated on drawings.
I. Installation: Install per manufacturer's standard written instructions.
K. Warranty: Provide manufacturers' standard product warranty.

102800- Toilet, Bath, and Laundry Accessories
The following list of accessories is essentially complete; however, the Contractor shall examine the drawings carefully and shall supply such items not specifically called for to provide a complete installation.
Manufacturers:

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Bradley Corporation or a comparable product by one of the following:

1. Bobrick Washroom Equipment, Inc.
2. American Specialties, Inc.
3. Or Approved Equal

Products:

A. Robe Hook: Bradley Model 915.
B. Grab Bars: Bradley Model 812-001-42, Model 812-001-36, and Model 812-001-24
C. Toilet Tissue Dispenser: Bradley Model 5425 **(By Others)**
D. Mirror: Bradley Model 780-2436
E. Soap Dispenser: Bradley Model 6563 **(By Others)**
F. Paper Towel Dispenser: Bradley Model 2494 **(By Others)**
G. Under Lavatory Guard: Truebro Lav Guard 2 by IPS Corporation
H. Baby Changing Station: Bradley Model 9631 (Light Gray)

Installation:

1. Install accessories according to manufacturers' written instructions, using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Install units level, plumb, and firmly anchored in locations and heights indicated.

2. Install grab bars to withstand a downward load of at least 250 lbf, when tested according to ASTM F 446.

Warranty:
Provide manufacturers' standard product warranty.

104413- Fire Department Lock Box

Manufacturers:

Subject to compliance with requirements, provide products indicated below by the Knox Company:

Products:

A. Lock Box: 3200 Series Hinged Door Surface Mount
   i. Color: As indicated on Finish Schedule

Installation:
1. Install fire department lock box in location and height as required by the authorities having jurisdiction.
2. Install per manufacturer's written installation instructions.

Warranty:
Provide manufacturers' standard product warranty.

104416- Fire Extinguishers

Manufacturers:

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Amerex Corporation or a comparable product by one of the following:

1. Larsens Manufacturing Company
2. JL Industries
3. Or Approved Equal

Products:

A. ABC Dry Chemical Extinguisher: Amerex Model B456 (Office Only)
   i. Wall Bracket: Amerex Model 0544S-P Wall
   ii. UL and ULC Rating: 4A:80B:C
B. ABC Dry Chemical Extinguisher: Amerex Model 760 High Flow (In all Service Areas)
   i. Wall Bracket: 0577-P
   ii. UL and ULC Rating: 4A:60B:C

Installation:

1. Install fire extinguishers in locations and heights indicated and in compliance with requirements of authorities having jurisdiction.

2. Install fire extinguishers and brackets according to manufacturers' written instructions.

Warranty:
Provide manufacturers' standard product warranty.

DIVISION 12- FURNISHINGS

123623.13 Plastic-Laminate-Clad Countertops

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Willsonart.

Products:

A. Plastic Laminate #1
   i. High pressure decorative laminate: NEMA LD3
   ii. Grade: HGS
   iii. Color: 4880-38 Carbon Mesh

B. Adhesives: as recommended by the manufacturer

Installation:
Install plastic laminate according to manufacturers' written instructions.

Warranty:
Provide manufacturers' standard product warranty.

DIVISION 31- EARTHWORK

313116- Termite Control

Provide EPA Registered termiticide acceptable to authorities having jurisdiction, in an aqueous solution formulated to prevent termite infestation.

DIVISION 33 - UTILITIES

334600- Subdrainage

Basis-of-Design Product: Subject to compliance with requirements, provide products indicated below by Cardelle.

Products:

A. CCW MiraDrain 6200 and 9800
B. CCW MiraStop BW
C. CCW MiraClay Woven and Non-woven Geotextile
D. CCW MiraClay Granules or Mastic

Installation:
Install subdrainage products according to manufacturers' written instructions.

AHO ARCHITECTS, LLC
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23347
REGISTERED ARCHITECT
STATE OF TEXAS
04/08/2026

Express Oil Change & Tire Engineers

Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

Seguin, Texas

FINAL

No.	Description	Date
IFB-1	Iss for Bid 1 AHJ Rev.	08/01/26
IFB-2	Iss for Bid 2 AHJ Rev.	09/08/26

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Architectural Specifications

Project number	26014
Date	08/01/2026
Drawn by	ARC
Checked by	N/A

G202

Scale 12" = 1'-0"

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REQUIRED SUBMITTALS

REQUIRED SUBMITTALS	SPECIFICATION SECTION	SUBMIT TO
Cast-In-Place Concrete / Rebar	See Structural Drawings	Structural Engineer / Architect / Owner
Unit Masonry	042200 Masonry	Structural Engineer / Architect / Owner
Structural Steel Framing	See Structural Drawings	Structural Engineer / Architect / Owner
Steel Joist Framing	See Structural Drawings	Structural Engineer / Architect / Owner
Steel Decking	See Structural Drawings	Structural Engineer / Architect / Owner
Ladders	055133 Ladders	Owner
Metal Copings & Canopies	077100 Roof Specialties & Drawings	Owner
EIFS Cornice	072400 EIFS	Owner
TPO Roofing	075423 TPO Roofing	Owner
Standing Seam Metal Roofing	074113.16 SSMR	Owner
Roof Specialties	077100 Roof Specialties	Owner
Aluminum Framed Entrances & Storefronts	084113 Storefront	Owner
Aluminum Windows	084113 Storefront	Owner
Hollow Metal Doors & Frames	081113 HM Doors & Frames	Owner
Interior Wood Doors	081416 Interior Wood Doors	Owner
Overhead Doors	083613 Sectional Doors	Owner
Door Hardware	087100 Door Hardware	Owner
Glazing	088000 Glazing	Owner
Exterior Paint	099113 Exterior Paint	Owner
Interior Paint	099123 Interior Paint	Owner
Fire Extinguishers	104416 Fire Extinguishers	Owner
Termite Control	313116 Termite Control	Owner
Foundation Waterproofing	334600 Subdrainage	Owner
Smoke Vent	See Mechanical Drawings	Owner
Exhaust Fans in Shop	See Mechanical Drawings	Owner
Radiant Heaters / Gas Fired Unit Heaters	See Mechanical Drawings	Owner
Heat Pump / Gas Fired Furnace	See Mechanical Drawings	Owner
Sump Pump	See Keynote #35	Owner
Water Heater / Recirculating Pump	See Plumbing Drawings	Owner
Oil Water Separator	See Plumbing Drawings	Owner
Plumbing Fixtures	See Plumbing Drawings	Owner
Fire Suppression (If Required)	See Fire Suppression Drawings	Owner
Electrical Panels	See Electrical Drawings	Owner
Electrical Fixtures	See Electrical Drawings	Owner
Signage	See Signage Package	Owner
Underground Piping Materials	See Civil Drawings	Civil Engineer / Owner
Underground Water Retention System	See Civil Drawings	Civil Engineer / Owner
Sewer Pump / Grinder Pump	See Civil Drawings	Civil Engineer / Owner

EXPRESS OIL CHANGE & TIRE ENGINEER STANDARDS - EXTERIOR

PAINTED GRAY BRICK

Painted buildings include all of the same specs as the RED BRICK buildings except the red brick is painted Summit Gray. Downspouts are painted to match the background of the building.

If the building does not have a Peak, the blue stripe will go all the way around the building.

Must have a Gray, Black, or Blue Roof





4

EXTERIOR

AWNING

The new metal awning adds a star modern, industrial look to the buildings and features built-in lighting for customers entering and exiting a late afternoons. Standard size is 12' for most buildings.

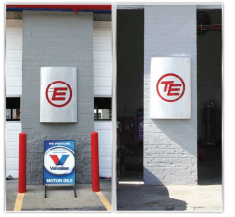


9

Awnings by General Contractor. See Details

BRANDED SCONCES

AT 4.65' aluminum sconces light up your building from top to bottom with a glowing logo in center. E sconces are to be placed on oil change side. TE sconces are to be placed on mechanical side. Sconces is to be evenly spaced between the bay doors, and vertically centered with the bay doors.



10

Branded Sconces by Others

CHANNEL LETTERS

White channel letters with 3" depth. Channel letter sizing to fit individual sign spaces on each building, may change due to fire local sign regulations. In most cases, these letters are treated as directional signage. In some cases, sizes vary from 18" to 24".

FONT

Interstate Solid Condensed - 90pt tracking

LETTERING FOR FRONT BUILDING

10 MINUTE OIL CHANGE
FULL SERVICE AUTO CARE
TIRE CENTER

LETTERING FOR BACK BUILDINGS

TIRES ALIGNMENT BRAKE & BALANCE
DIAGNOSTICS A/C BRAKES

8

Letters by Others

Note: Items shown on this page are EOC standards. See Finish Schedule for actual materials to be used on this project.

AHO ARCHITECTS, LLC
www.ahoarch.com

REGISTERED ARCHITECT
TIMOTHY A. AHO
#23347
STATE OF TEXAS
04/08/2026

Express Oil Change & Tire Engineers

Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

Seguin, Texas

FINAL

No.	Description	Date
IFB-1	Iss for Bid 1 AHJ Rev.	08/01/26
IFB-2	Iss for Bid 2 AHJ Rev.	09/08/26

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Architectural Specifications & EOC Standards - Exterior

Project number	26014
Date	08/01/2026
Drawn by	ARC
Checked by	N/A

G300

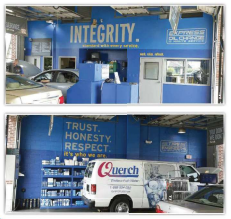
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EXPRESS OIL CHANGE & TIRE ENGINEERS STANDARDS - INTERIOR

INTERIOR

INTERIOR PAINT



13

IN-BAY MEDIA

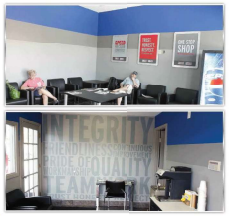


14

In Bay Media by Others

LOBBY

PAINT SCHEME



15

BRANDED POSTERS



POSTER FRAMES, MAGAZINE AND ACE CARD HOLDERS



16

Branded Posters by Others.

LOBBY

CHAIRS



Grand Lounge Chair - Large

Europa Guest Chair - Small

TILE

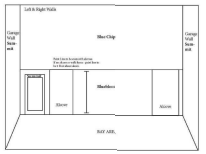


17

Furniture by Others

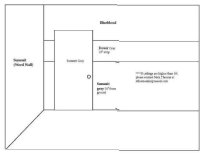
PAINT SCHEDULE

BAY AREA



25

LOBBY



26

See Finish Schedule for Paint Selections

TABLES & LAPTOP STATION



CHAIRS FOR LAPTOP WORKSTATION

Sonic Armless Chair



18

Furniture by Others

VINYL SCHEDULE



23

Wall Graphics by Others

Coffee Cabinet Detail

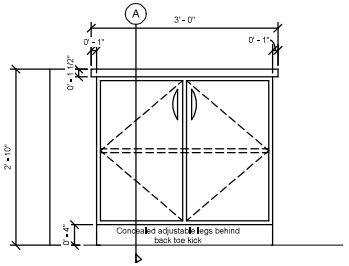
CONSTRUCTION AND MATERIAL NOTES:

Construction

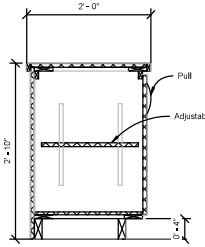
1.) Cabinets:	3/4" plywood with plastic laminate at exposed surfaces, black melamine at semi-exposed surfaces, and 3MM PVC edgebanding to match the adjacent laminate / melamine color
2.) Door Fronts:	3/4" plywood with plastic laminate with 3MM PVC edgebanding to match the adjacent laminate color
3.) Shelf:	3/4" plywood with black melamine at semi-exposed surfaces with 3MM PVC edgebanding to match the adjacent melamine color
4.) CounterTops:	3/4" plywood with plastic laminate with 3MM PVC Edgebanding to match the adjacent laminate color

Materials

1.) Cabinets:	Wilsonart 4880-38 Carbon Mesh
2.) Drawer Fronts:	Wilsonart 4880-38 Carbon Mesh
3.) Shelf:	Black Melamine
4.) Countertops:	Wilsonart 4830K-18 Satin Stainless
5.) Adjustable Shelve Supports:	Standard Euro Style 5MM Pin System.
5.) Hinges:	European 120 Degree Concealed / Supports - 90 Degree Angle Brackets
6.) Legs:	1" -2" Concealed Adjustable. / Legs - 5" to 6" Aluminum or Chrome Adjustable
7.) Finger Pulls:	Amerock Current 3 inch Modern Polished Chrome Edge Cabinet Pull



FRONT ELEVATION



SECTION A

CONSTRUCTION AND MATERIAL NOTES:

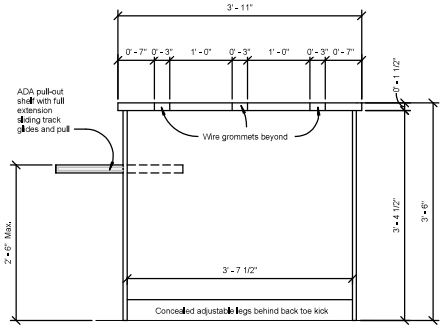
Construction

1.) Cabinets:	3/4" plywood with plastic laminate at exposed surfaces, black melamine at semi-exposed surfaces, and 3MM PVC edgebanding to match the adjacent laminate / melamine color
2.) Door and Drawer Fronts:	3/4" plywood with plastic laminate with 3MM PVC edgebanding to match the adjacent laminate color
3.) Drawer Box:	1/2" plywood with black melamine at semi-exposed surfaces with 3MM PVC edgebanding to match the adjacent melamine color
4.) CounterTops:	3/4" plywood with plastic laminate with 3MM PVC Edgebanding to match the adjacent laminate color

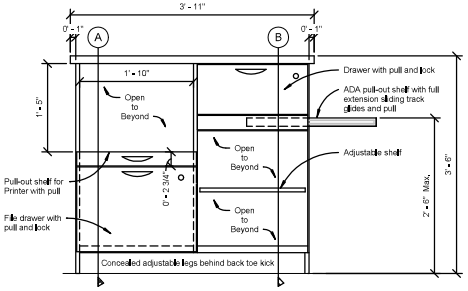
Materials

1.) Cabinets:	Wilsonart 4880-38 Carbon Mesh
2.) Drawer and Drawer Fronts:	Wilsonart 4880-38 Carbon Mesh
3.) Drawer Box:	Black Melamine
4.) Countertops:	Wilsonart 4830K-18 Satin Stainless
5.) Adjustable Shelve Supports:	Standard Euro Style 5MM Pin System.
5.) Hinges:	European 120 Degree Concealed / Supports - 90 Degree Angle Brackets
6.) Legs:	1" -2" Concealed Adjustable. / Legs - 5" to 6" Aluminum or Chrome Adjustable
7.) Finger Pulls:	Amerock Current 3 inch Modern Polished Chrome Edge Cabinet Pull
8.) Locks:	Manufacturer standard

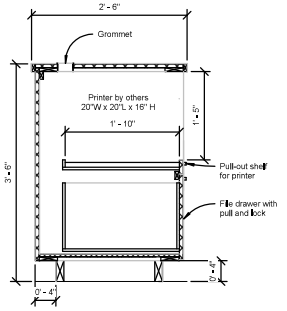
Service Desk Details



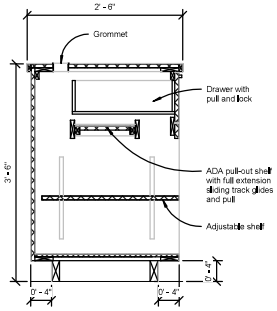
FRONT ELEVATION



BACK ELEVATION



SECTION A



SECTION B

AHO ARCHITECTS, LLC
www.ahoarch.com

REGISTERED ARCHITECT TIMOTHY A. AHO 23347 STATE OF TEXAS
04/08/2026

Express Oil Change & Tire Engineers
Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage
Seguin, Texas

FINAL

No.	Description	Date
IFB-1	Iss for Bid 1 AHJ Rev.	08/01/26
IFB-2	Iss for Bid 2 AHJ Rev.	08/08/26

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EOC Standards - Interior

Project number	26014
Date	08/01/2026
Drawn by	ARC
Checked by	N/A

G301

Scale: As indicated

9/11/2025 10:45:05 AM

COMcheck Software Version COMcheckWeb

Envelope Compliance Certificate

Project Information

Energy Code: 2021 IECC
Project Title: 26014 EOC Seguin, TX
Location: Seguin, Texas
Climate Zone: 2a
Project Type: New Construction
Vertical Glazing / Wall Area: 3%

Construction Site:
Seguin, Texas 78155

Owner/Agent:
Tyler Hendon
Express Oil Change & Tire Engineers
1880 Southpark Drive
Birmingham, Alabama 35244
tyler.hendon@expressoil.com

Designer/Contractor:
Aho Architects, LLC
1855 Data Drive
Hoover, Alabama 35244
acain@ahoarch.com

Additional Efficiency Package(s)

Credits: 10.0 Required 19.5 Proposed
Reduced lighting power, 9.0 credit
Enhanced envelope performance, 0.0 credit
10% cooling efficiency improvement, 10.5credit

Building Area	Floor Area
1-Automotive Facility : Nonresidential	573

Envelope Assemblies

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor$_{alt}$
Roof: Insulation Entirely Above Deck, 3-Year-Aged Solar Reflectance Index = 76.00, Thermal Emittance = 0.90 (d), [Bldg. Use 1 - Automotive Facility]	573	—	25.0	0.038	0.038
Floor: Unheated Slab-On-Grade, [Bldg. Use 1- Automotive Facility] (c)	123	—	—	0.730	0.730
NORTH					
Ext. Wall: Wood-Framed, 16in. o.c., [Bldg. Use 1 - Automotive Facility]	998	20.0	0.0	0.064	0.064
Door #2: Wood, Swinging, [Bldg. Use 1 - Automotive Facility]	21	—	—	0.500	0.370
Door #13: Wood, Swinging, [Bldg. Use 1 - Automotive Facility]	21	—	—	0.500	0.370
EAST					
Ext. Wall (Innermost): Wood-Framed, 16in. oc., [Bldg. Use 1 - Automotive Facility]	515	20.0	0.0	0.064	0.064
Door #15: Wood, Swinging, [Bldg. Use 1 - Automotive Facility]	21	—	—	0.500	0.370
Ext. Wall (Outermost): Wood-Framed, 16in. c.c., [Bldg. Use 1 - Automotive Facility]	293	20.0	0.0	0.064	0.064
Door #1: Glass (over 50% glazing): Metal Frame, Entrance Door, Perf. Specs.: Product ID Solarban 90 or Clear, SHGC 0.23, Pf 0.63, [Bldg. Use 1 - Automotive Facility] (b)	21	—	—	0.290	0.770
Window 8: Metal Frame with Thermal Break:Fixed, Perf. Specs.: Product ID Solarban 90 on Clear, SHGC 0.23, PF 0.63, [Bldg. Use 1 - Automotive Facility] (b)	85	—	—	0.290	0.450

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor$_{alt}$
SOUTH					
Ext. Wall: Wood-Framed, 16in. o.c., [Bldg. Use 1 - Automotive Facility]	998	20.0	0.0	0.064	0.064
Door #3: Wood, Swinging, [Bldg. Use 1 - Automotive Facility]	21	—	—	0.500	0.370
Door #16: Wood, Swinging, [Bldg. Use 1 - Automotive Facility]	21	—	—	0.500	0.370
WEST					
Ext. Wall (Outermost): Wood-Framed, 16in. c.c., [Bldg. Use 1 - Automotive Facility]	315	20.0	0.0	0.064	0.064
Ext. Wall (Innermost): Wood-Framed, 16in. o.c., [Bldg. Use 1 - Automotive Facility]	315	20.0	0.0	0.064	0.064

(a) Budget U-factors are used for software baseline calculations ONLY, and are not code requirements.
(b) Fenestration product performance must be certified in accordance with NFRC and requires supporting documentation.
(c) Slab-On-Grade proposed and budget U-factors shown in table are F-factors.
(d) High albedo roof requirement options: 1) 3-year aged solar reflectance index >= 55.0 thermal emittance >= 0.75, 2) 3-year aged solar reflectance index >= 64.0, 3) Initial year aged solar reflectance >= 0.70 thermal emittance >= 0.75, 4) Initial year aged solar reflectance index >= 82.0.

Envelope PASSES: Design 2% better than code

Envelope Compliance Statement

Compliance Statement: The proposed envelope design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed envelope systems have been designed to meet the 2021 IECC requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title Signature Date

COMcheck Software Version COMcheckWeb

Inspection Checklist

Energy Code: 2021 IECC

Requirements: 44.0% were addressed directly in the COMcheck software

Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
C103.2 [PR1][1]	Plans and/or specifications provide all information with which compliance can be determined for the building envelope and document where exceptions to the standard are claimed.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C402.4.1 [PR11][1]	The skylight area <= 3 percent of the gross roof area.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.4.1.1 [PR12][1]	Vertical Fenestration Area Allowance: A maximum of 40 percent of gross above-grade wall area is permitted to be vertical fenestration area provided >= 50 percent of the conditioned floor area is within a daylight zone, daylight responsive controls are installed,and glazing assemblies within the scope of NFRC 200 have visible transmittance >= 1.1 times SHGC.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.4.2 [PR14][1]	In enclosed spaces > 2,500 ft2 directly under a roof with ceiling heights >15 ft. and used as an office, lobby, atrium, concourse, corrido; storage, gymnasium/exercise center, convention center, automotive service, manufacturing, non-refrigerated warehouse, retail store, distribution/sorting area, transportation, or workshop, the following requirements apply: (a)the daylight zone under skylights is >= half the floor area; (b) the skylight area to daylight zone is >= 3 percent with a skylight VT >= 0.40; or a minimum skylight effective aperture >= 1 percent.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Spaces where the proposed general lighting densities 0.5 W/ft2.
C406 [PR9][1]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the additional energy efficiency package options.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1 | High Impact (Tier 1) | 2 | Medium Impact (Tier 2) | 3 | Low Impact (Tier 3)

Section # & Req.ID	Footing / Foundation Inspection	Complies?	Comments/Assumptions
C303.2 [FO4][2]	Slab edge insulation installed per manufacturer's instructions.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C303.2.1 [FO6][1]	Exterior insulation protected against damage, sunlight, moisture, wind, landscaping and replacement maintenance activities.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C.05 [FO3][2]	Installed slab-on-grade insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.2.4 [FO7][2]	Slab edge insulation depth/length. Slab insulation extending away from building is covered by pavement or >= 10 inches of soil.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply. *See the Envelope Assemblies table for values.*

Additional Comments/Assumptions:

1 | High Impact (Tier 1) | 2 | Medium Impact (Tier 2) | 3 | Low Impact (Tier 3)

Section # & Req.ID	Framing / Rough-In Inspection	Complies?	Comments/Assumptions
C303.1.3 [FR12][2]	Fenestration products rated in accordance with NFRC certified and as to performance labels or certificates provided.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C402.4.3 [FR10][2]	Vertical fenestration SHGCvalue.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.4.3, C402.4.4 [FR8][1]	Installed vertical fenestration U-factor and SHGC consistent with label specifications and as reported in plans and COMcheck reports.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.4.5 [FR14][2]	U-factor of opaque swinging and nonswinging doors associated with the building thermal envelope meets requirements.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.5.1 [FR16][2]	The building envelope contains a continuous air barrier that is sealed in an approved manner and either constructed or tested in an approved manner. Air barrier penetrations are sealed in an approved manner.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
C402.5.4 [FR18][2]	Factory-built fenestration and doors are labeled as meeting air eakage requirements.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1 | High Impact (Tier 1) | 2 | Medium Impact (Tier 2) | 3 | Low Impact (Tier 3)

Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.7 [EL26][2]	Low-voltage dry-type distribution electric transformers meetthe minimum efficiency requirements of Table C405.6.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
C405.8 [EL27][2]	Electric motors meet the minimum efficiency requirements of tables C405.7(1) through C405.7(6). Efficiency verified through certification under an approved certification program or the equipmentefficiency ratings shall be provided by motor manufacturer (where certification programs do not exist)	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C405.9.1, C405.9.2 [EL28][2]	Escalators and moving walks comply with ASME A17.1/CSA B44 and have automatic controls configured to reduce speed to the minimum permitted speed in accordance with ASME A17.1/CSA B44 or applicable local code when not conveying passengers.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
C405.10 [EL29][2]	Total voltage drop across the combination of feeders and branch circuits <= 5%.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
C405.11.1 [EL30][2]	At least 90% of dwelling unit permanently installed lighting shall have lamp efficacy > = 65 lm/W or luminaires with efficacy >= 45 lm/W or comply with C405.2.4 or C405.3.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
C405.11, C405.11.1 [EL31][2]	50% of 15/20 amp receptacles installed in enclosed offices, conference rooms, copy rooms, break rooms, classrooms and workstations and > 25% of branch circuit feeders for modular furniture will have automatic receptacle control in accordance with C405.11.1.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.

Additional Comments/Assumptions:

1 | High Impact (Tier 1) | 2 | Medium Impact (Tier 2) | 3 | Low Impact (Tier 3)

Section # & Req.ID	Insulation Inspection	Complies?	Comments/Assumptions
C303.1 [IN3][2]	Roof insulation installed per manufacturer's instructions and is labeled with R-value or insulation certificate providing R-value and other relevant data. Blown or poured loose-fill insulation is installed only where the roof slope is <=3 in 12	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.2.1 [IN20][1]	Roof assembly meets minimal thermal resistance installed between roof framing or in a continuous fashion on the roof assembly as stipulated in Table C402.1.3. Requirements for above deck insulation, minimum thickness, suspended ceilings, staggered joints and skylight curbs will be met.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C303.2 [IN7][2]	Above-grade wall insulation installed per manufacturer's instructions.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C105 [IN6][2]	Installed above-grade wall insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.2.3 [IN8][2]	Installed floor insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.2.6 [IN18][2]	Radiant panels and associated components, designed for heat transfer from the panel surfaces to the occupants or indoor space are insulated with a minimum of R-3.5.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
C402.3 [IN5][2]	High-albedo roofs satisfy one of the following: 3-year-aged solar reflectance >= 0.55 and thermal emittance >= 0.75 or 3-year-aged solar reflectance index >= 64.0.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Roof Over Conditioned Space With No Cooling.
C105 [IN2][2]	Installed roof insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports. For some ceiling systems, verification may need to occur during Framing Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.5.1.1 [IN1][2]	All sources of air leakage in the building thermal envelope are sealed, caulked, gasketed, weather stripped or wrapped with moisture vapor-permeable wrapping material to minimize air leakage.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1 | High Impact (Tier 1) | 2 | Medium Impact (Tier 2) | 3 | Low Impact (Tier 3)

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C401.3 [FI58][2]	A thermal envelope certificate will be supplied and completed by an approved third party.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C402.5.10 [FI26][2]	Recessed luminaires in thermal envelope to limit infiltratio and be IC rated and labeled. Seal between interior finish and luminaire housing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
C402.5.8 [FI37][2]	Weatherseals installed on all loading dock cargo door openings and provide direct contact along the top and sides of vehicles pulled in the doorway.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
C406.2.4 [FI66][3]	10% cooling efficiency improvement - all HVAC and Plant cooling equipment is 10% more efficient than required by 2021 IECC.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C406.3 [FI67][3]	Reduced lighting power - this credit specifies that the connected lighting power is >= 10% more efficient than 2021 IECC requirements.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C406.8 [FI68][3]	Enhanced envelope performance - the building thermal envelope JA value is >= 15% better than the toal UA of the envelope specified by Section C402.1.5.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C408.1.1 [FI57][3]	Building operations and maintenance documents will be provided to the owner. Documents will cover manufacturers' informatior, specifications, programming procedures and means of illustrating to owner how building, equipment and systems are intended to be installed, maintained, and operated.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1 | High Impact (Tier 1) | 2 | Medium Impact (Tier 2) | 3 | Low Impact (Tier 3)

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REGISTERED ARCHITECT — TIMOTHY A. AHO — 23347 — STATE OF TEXAS — 04/08/2026

Express Oil Change & Tire Engineers

Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

Seguin, Texas

FINAL

No.	Description	Date
FB-1	Iss for Bid 1 AHJ Rev.	08/01/26
FB-2	Iss for Bid 2 AHJ Rev.	08/08/26

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Building COMCheck

Project number	26014
Date	08/01/2026
Drawn by	ARC
Checked by	N/A

G400

Scale

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1 General Information

PROJECT INFORMATION

Name of Project: Single Building / Right Hand Oil Change/ Front Enter

Client: Express Oil Change & Tire Engineers

Location: Seguin, TX
Authority Having Jurisdiction (AHJ): City: Seguin County: N/A State: N/A

Square Footage / Stories / Height: Main Level G.S.F. = 5,662 Stories = 1 + Pit Height = 28' - 6"
Pit Level G.S.F. = 1,381
Total G.S.F. = 7,043

PROJECT TYPE

■ New Construction ☐ Addition ☐ Other

☐ Alteration ☐ Change of Occupancy

BUILDING USE

☐ Single Use ☐ Mixed Use (Separated) ■ Mixed Use (Non-Separated)

■ Description: Automotive repair garage used for general service on automobiles.

SPRINKLERED

☐ Yes ☐ Partial ■ No

2 Codes

■ 2021 International Building Code
■ 2021 International Plumbing Code
■ 2021 International Energy Conservation Code
■ 2010 ADA
■ 2018 International Fire Code
■ 2023 National Electrical Code
■ 2021 International Fuel Gas Code
■ 2021 International Mechanical Code

3 Use and Occupancy Classification(s) (2021 IBC)

☐ Assembly Group A-1 ☐ High-Hazard Group H-2 ☐ Residential Group R-2
☐ Assembly Group A-2 ☐ High-Hazard Group H-3 ☐ Residential Group R-3
☐ Assembly Group A-3 ☐ High-Hazard Group H-4 ☐ Residential Group R-4
☐ Assembly Group A-4 ☐ High-Hazard Group H-5 ■ Storage Group S-1
☐ Assembly Group A-5 ☐ Institutional Group I-1 ☐ Storage Group S-2
■ Business Group B ☐ Institutional Group I-2 ☐ Utility & Misc Group U
☐ Educational Group E ☐ Institutional Group I-3
☐ Factory Group F-1 ☐ Institutional Group I-4
☐ Factory Group F-2 ☐ Mercantile Group M
☐ High-Hazard Group H-1 ☐ Residential Group R-1

4 Special Detailed Requirements Based On Use and Occupancy (2021 IBC)

406.8 Repair Garages

■ Project complies with 406.8 through 406.8.3

413 Combustible Storage

413.1 High-piled storage of combustible materials over 12'-0" or high-hazard commodities over 6'-0"

■ Yes ☐ No

413.2 Storage of combustible materials in attics, under-floor, and concealed spaces

☐ Yes ■ No

414 Hazardous Materials

■ Project complies with 414.2.1 through 414.2.5 (IFC)/Control Areas

■ Number of Control Areas Provided: Entire Building is one control area

Location
■ Inside ☐ Outside

Use
■ Open ☐ Closed ■ Storage Only

Types of Hazardous Materials (Table 307.1.(1) of IBC and 3206.2 of IFC)

■ Class IIIB Liquids — ■ Actual Storage per control area: 4040.13 gallons
■ Class IA Flammable Liquids — ■ Actual Storage per control area: 0.94 gallons
■ Class IB Flammable Liquids — ■ Actual Storage per control area: 3.25 gallons
■ High-Hazard Commodities per IFC 2021 3203.6 / 3206.2 (Rubber Tires)
■ Allowable Quantity: 0<500 s.f. ■ Actual Quantity: X≥500 s.f.

5 General Building Heights and Areas (2021 IBC)

504 Building Height and Areas and 506 Building Area (Per Table 504.3, 504.4, and 506.2)

☐ Allowable Building Height = 40'-0" ■ Actual Building Height = 28'-6"
☐ Allowable Number of Stories Above Grade Plane = 1 ■ Actual Number of Stories Above Grade Plane = 1
☐ Allowable Area Factor = 9,000 s.f. ■ Actual Area = 7,043 s.f. (5,662 Main Level + 1,381 Pit)

505.3 Equipment Platforms

■ Project complies with 505.3 through 505.3.3

508 Mixed Use and Occupancy

☐ Mixed Use Occupancy (Separated) ■ Mixed Use Occupancy (Non-Separated) ☐ Does not apply

No separation required between Group B and Group S-1 Occupancies

6 Types of Construction (2021 IBC)

601 General and 602 Construction Classification

☐ Type IA ☐ Type IB ☐ Type IIA ☐ Type IIB ☐ Type IIIA
☐ Type IIIB ☐ Type IV ☐ Type VA ■ Type VB

Table 601 Fire Resistance Rating Requirements for Building Elements

Building Elements	Hours Required	Hours Provided
Primary Structural Frame	0	0
Bearing Walls (Exterior)	0	0
Bearing Walls (Interior)	0	N/A
Nonbearing Walls & Partitions (Exterior)	0	0
Nonbearing Walls & Partitions (Interior)	0	0
Floor Construction & Associated Secondary Members	0	0
Roof Construction & Associated Secondary Members	0	0

Table 705.5 Fire Resistance Requirements for Exterior Walls Based on Fire Separation Distance

Fire Separation Distance	Rear (West)	Right (North)	Front (East)	Left (South)
X < 5				
5 ≤ X < 10				
10 ≤ X < 30	29'			
X ≥ 30		11' 6"	>30'	>30'

X≥30' for Group B and S-1 = 0 hours

10≤X<30' for Group B and S-1 = 0 hours

7 Fire And Smoke Protection Systems (2021 IBC)

718.4 Draftstopping in Attics

☐ Yes ☐ No ■ Not Required

☐ Openings in the partitions shall be protected by self-closing doors with automatic latches constructed as required for the partitions.

☐ Installed in attics and concealed roof spaces such that any horizontal area does not exceed 3,000 s.f.

8 Interior Finishes (2021 IBC)

Table 803.13 Interior Wall and Ceiling Finish Requirements by Occupancy

Group	Exit Enclosures and Exit Passageways	Corridors	Rooms and Enclosed Spaces
S-1	B	B	C
B	A	B	C

804.4.2 Minimum Critical Radiant Flux

☐ Class I ■ Class II

9 Fire Protection Systems (2021 IBC)

903 Automatic Sprinkler Systems
903.2.9.1 Repair Garages

☐ Yes ☐ Partial ■ Not Required

906 Portable Fire Extinguishers

■ Yes ☐ No
■ Project complies with 906.1 through 906.10
■ Project complies NFPA 10

907 Fire Alarm and Detection System

☐ Yes ■ Not Required

10 Means of Egress (2021 IBC)

DT_2021 IBC Table 1004.5 Maximum Floor Area Allowance Per Occupant (Group S-1)

Occupancy Classification	Name	Number	Area	S.F. Per Occupants	No. of Occupants
S-1	Oil Change	5	1264 SF	200	6.32
S-1	Corridor	6	115 SF	200	0.58
S-1	Service	9	2477 SF	200	12.38
S-1	Storage	10	188 SF	300	0.63
S-1	Pit	11	1247 SF	200	6.23
S-1	Storage	12	253 SF	300	0.84
S-1	Storage	13	500 SF	300	1.67
Subtotal			6044 SF		28.65

DT_2021 IBC Table 1004.5 Maximum Floor Area Allowance Per Occupant (Group B)

Occupancy Classification	Name	Number	Area	S.F. Per Occupants	No. of Occupants
B	Service Writing	1	139 SF	150	0.93
B	Waiting Room	2	127 SF	150	0.85
B	Toilet	3	47 SF	150	0.31
B	Manager	4	48 SF	150	0.32
B	Break Room	7	61 SF	150	0.41
B	Toilet	8	45 SF	150	0.30
Subtotal			467 SF		3.11

10 Means of Egress (2021 IBC)

DT_2021 IBC Sections 1005.3.1 & 1005.3.2 Egress width Stairways and Other Egress Components (Group S-1)

Occupancy Classification	Name	Room Number	No. of Occupants	Egress - Stairways	Required Stairway Width	Other Egress Components	Required Capacity in Inches
S-1	Oil Change	5	6.32			0.2	1.26
S-1	Corridor	6	0.58			0.2	0.12
S-1	Service	9	12.38			0.2	2.48
S-1	Storage	10	0.63			0.2	0.13
S-1	Pit	11	6.23	0.3	1.869792	0	0.00
S-1	Storage	12	0.84			0.2	0.17
S-1	Storage	13	1.67			0.2	0.33
Subtotal			28.65				4.48

DT_2021 IBC Table 1005.3.2 Egress width Other Egress Components (Group B)

Occupancy Classification	Name	Room Number	No. of Occupants	Other Egress Components	Required Capacity in Inches
B	Service Writing	1	0.93	0.2	0.19
B	Waiting Room	2	0.85	0.2	0.17
B	Toilet	3	0.31	0.2	0.06
B	Manager	4	0.32	0.2	0.06
B	Break Room	7	0.41	0.2	0.08
B	Toilet	8	0.30	0.2	0.06
Subtotal			3.11		0.62

Tables 1006.2.1 Spaces with One Exit or Exit Access Doorway

Occupancy	Max Occupant Load	Max Occupant Load Provided	Number of Exits Required	Number of Exits Provided	Max. Common Path of Travel Allowable (Nonsprinkled)	Max. Provided Common Path of Travel (Nonsprinkled)
S-1	29	28.67	1	4	100'-0"	≤ 100'-0"
B	49	3.11	1	1	100'-0"	≤ 100'-0"

Table 1006.3.3 Minimum Number of Exits or Access to Exits Per Story

Occupant Load Per Story	Minimum Number of Exits or Access to Exits from Story	Number of Exits or Access to Exits from Story Provided
1-500	2	5

Table 1017.2 Exit Access Travel Distance

Occupancy	Without Sprinkler System (Feet)	With Sprinkler System	Max Travel Distance Provided (Feet)
S-1	200	N/A	71'-1"
B	200	N/A	87'-7"

12 Interior Environment (2021 IBC)

1208.1 Minimum Room Widths

Habitable spaces are not less than 7 feet in any plan dimension

■ Yes ☐ No

1208.2 Minimum Ceiling Heights

Occupiable spaces, habitable spaces, and corridors have a ceiling height of not less than 7 feet 6 inches. Bathrooms, toilet rooms, kitchens, storage rooms, and laundry rooms have a ceiling height of not less than 7 feet.

■ Yes ☐ No

1209.2 Attic spaces

Opening not less than 20 inches by 30 inches is provided for attic area with clear height over 30 inches. 30" headroom provided at or above access opening

■ Yes ☐ Not Required

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Seguin, Texas

FINAL

No.	Description	Date
IFB-1	Iss for Bid 1 AHJ Rev.	08/01/26
IFB-2	Iss for Bid 2 AHJ Rev.	08/08/26

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Life Safety / Code Summary

Project number	26014
Date	08/01/2026
Drawn by	ARC
Checked by	N/A

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29 Plumbing Systems (2021 IBC)

Table 2902.1 Minimum Number of Required Plumbing Fixtures

DT_Plumbing Fixture_Group S-1												
Total Occupant Load	Male	Female	Required Water Closets		Water Closets Provided	Required Lavatories		Lavatories Provided	Required Drinking Fountains	Drinking Fountains Provided	Required Service Sinks	Service Sinks Provided
			Male	Female		Male	Female					
28.67	14.34	14.34	0.14	0.14	1	0.14	0.14	1	0.03	1	1	1

DT_Plumbing Fixture_Group B												
Total Occupant Load	Male	Female	Required Water Closets		Water Closets Provided	Required Lavatories		Lavatories Provided	Required Drinking Fountains	Drinking Fountains Provided	Required Service Sinks	Service Sinks Provided
			Male	Female		Male	Female					
3.11	1.555	1.555	0.06	0.06	1	0.04	0.04	1	0.03	1	1	1

2902.2 Separate Facilities

Separate facilities provided for each sex

☐ Yes ■ Not Required per 2902.2 Exception 2

2902.2.1 Family or assisted use toilet facilities serving as separate facilities

■ Yes ☐ No ☐ Not Required

2902.3 Employee and public toilet facilities

■ Employee toilet combined with public toilet facilities

2902.3.1 Access

Route to public toilet facilities does not pass through kitchens, storage rooms, or closets and is accessible.

■ Yes ☐ No

2902.3.3 Location of toilet facilities in occupancies other than covered mall buildings

Located not more than one story above or below the space required to be provided with toilet facilities

■ Yes ☐ No

Path of travel to such facilities does not exceed 500 feet

■ Yes ☐ No

2902.4 Signage

■ Yes ☐ No

Legible sign designating the sex provided in visible location near entrance to toilet facility

☐ Yes ■ Not Required per 2902.2.1

Plumbing Fixture Notes:
(1) High / Low drinking fountain provided for the entire building.
(1) Service Sink provided for the entire building.
(2) Family Assisted-Use Toilet Room each containing (1) lavatory and (1) water closet provided for the entire building.

5 Fire Service Features (2018 IFC)

505.1 Address Identification

■ Yes ☐ No ☐ Not Required

■ Project complies 505.1 Address Identification

506 Key Boxes

■ Yes ☐ No ☐ Not Required

■ Project complies 506.1 Where Required

23 Motor Fuel-Dispensing Facilities and Repair Garages (2021 IFC)

2311.2.2 Waste oil, motor oil and other Class IIIB Liquids

■ Project complies with 2311.2.2 Waste oil, motor oil and other Class IIIB liquids.

2311.2.2.1 Tank Location

■ Project complies with 2311.2.2.1 tank location ☐ Not Applicable

2311.2.3 Drainage and disposal of liquid and oil-soaked waste

☐ Yes ☐ No ■ Not Required

■ Garage floors do not contain floor drains.

2311.4 Below-grade areas

■ Project complies with 2311.4.1 through 2311.4.3 ☐ Not Applicable

2311.7 Fire Extinguishers

■ Project complies with 2311.7 fire extinguishers (See Section 9 Fire Protection Systems)

32 High Piled Combustible Storage (2018 IFC)

3203.6 High-hazard commodities

■ Yes ☐ No

■ Project does contain high-hazard commodities (Rubber Tires)

Definitions per Chapter 2 of the International Fire Code

High-piled Combustible Storage. Storage of combustible materials in closely packed piles or combustible materials on pallets, in racks or on shelves where the top of storage is greater than 12'-0" in height. When required by the fire code official, high-piled combustible storage also includes certain high-hazard commodities, such as rubber tires, Group A plastics, flammable liquids, idle pallets, and similar commodities, where the top of storage is greater than 8'-0" in height.

■ Project does contain high piled combustible storage over 6'-0" (<500 s.f. of rubber tire storage over 6 feet high).

Table 3206.2 General Fire Protection and Life Safety Requirements

Commodity Class	Size of High Piled Storage Area	All Storage Areas			
		Automatic Fire Extinguishing System	Fire Detection System	Building Access	Smoke and Heat Removal
High Hazard	0-500 s.f.	Not Required	Not Required	Not Required	Not Required

Solid-Piled Storage, Shelf Storage and Palletized Storage			
Max. Pile Dimension (Feet)	Max. Permissible Storage Height (Feet)	Max. Pile Volume (Cubic Feet)	
60 feet	Not Required	Not Required	

IFB-2

Cubic feet of tire storage generally means the volume of space occupied by the stored tires, expressed in cubic feet (ft³). As a worst case scenario, we calculated the volume of the available space in the room.

Maximum Cubic volume of Tire Storage Room 13 is 9000 feet, < 20,000 cubic feet.
Maximum pile volume is not required for 0-500 square feet, per IFC Table 3206.2

34 Tire Rebuilding and Tire Storage (2021 IFC)

3409 Indoor Storage Arrangement

■ Project complies with 3409.1 Pile Dimensions

■ Pile dimension less than 50'-0" in direction of wheel hole.

■ Tires stored adjacent to or along one wall shall not extend more than 25'-0" from that wall.

50 Hazardous Materials - General Provisions (2018 IFC)

Table 5003.1.1 (1) Maximum Allowable Quantity Per Control Area of Hazardous Materials Posing a Physical Hazard

■ Project complies with Table 5003.1.1 (1).

■ Project contains Class IIIB Liquid Storage that does not exceed 13,200 liquid gallons per control area.

■ Project contains Class IIIB Liquid Open-System that does not exceed 3,300 liquid gallons per control area.

■ Project contains Flammable Liquid IA Storage that does not exceed 30 liquid gallons per control area.

■ Project contains Flammable Liquid IA Open System that does not exceed 10 liquid gallons per control area.

■ Project contains Flammable Liquid IB Storage that does not exceed 120 liquid gallons per control area.

■ Project contains Flammable Liquid IB Open System that does not exceed 30 liquid gallons per control area.

■ Project complies 5003.8.3.1 through 5003.8.3.4

■ Entire building is one single control area.

57 Flammable and Combustible Liquids (2018 IFC)

5703.2 Fire Protection

■ Project complies with 5703.2.1 portable fire extinguishers an hose lines. (See Section 9 Fire Protection Systems).

5703.4 Spill Control and Secondary Containment

■ Not required. Project does not exceed maximum allowable quantity per control area.

■ Though not required, the pit itself acts as a secondary containment. There are no drains in the pit.

3 Use and Occupancy Classification(s) (2018 NFPA 101)

■ Business Group B (Incidental occupancy / accessory to Special-Purpose Industrial.) Section 6.1.14.1.3

■ Industrial, Special-Purpose

6 Classification of Occupancy and Hazard of Contents (2018 NFPA 101)

6.1.14.3 Mixed Occupancies

☐ Mixed Use Occupancy (Separated) ■ Mixed Use Occupancy (Non-Separated) ☐ Does not apply

6.1.14.1.3 Multiple Occcupancies

Where incidental to another occupancy, areas used as follows shall be permitted to be considered part of the predominant occupancy and shall be subject to the provisions of the Code that apply to the predominant occupancy:

(1) Mercantile, business, industrial or storage use.

■ The Business use is incidental to the Special Industrial use.

7 Means of Egress (2018 NFPA 101)

7.2.9.1 Fire Escape Ladders

General. Fire escape ladders complying with 7.2.9.2 and 7.2.9.3 shall be permitted in the means of egress only where providing one of the following (item #4):

■ Secondary means of egress from boiler rooms or similar spaces subject to occupancy not to exceed three persons who are all capable of using the ladder.

8 Features of Fire Protection (2018 NFPA 101)

8.7.1.1 Special Hazard Protection

Protection from any area having a degree of hazard greater than that normal to the genral occupancy of the building or structure shall be provided by one of the following means:

(1) Enclosing the area with a fire barrier without windows that has a 1-hour fire resistance rating in accordance with Section 8.3.

8.7. 1.3 Doors in barriers required to have a fire resistance rating rating shall be self-closing or authomatic closing in accordance with 7.2.1.8

■ 1-Hour Separation has been provided between Tire Storage and Service. Self-closing doors are provided.

40 Industrial Occupancies (2018 NFPA 101)

40.2.2.10 Fire Escape Ladders

■ Fire escape ladders complying with 7.2.9 shall be permitted.

40.2.5 Arrangement of Means of Egress & 40.2.6.1 Maximum Travel Distance to Exits

Table 40.2.5.1 & Table 40.2.6.1

Occupancy	Code References	Max. Travel without Sprinkler System (Feet)	Max Travel Distance Provided (Feet)	Max. Common Path Travel Distance (Feet) Allowable	Max. Common Path Travel Distance (Feet) Provided
Special Purpose Industrial	Tables 40.2.5.1 40.2.6.1	300'	75'-2"	50'	50'

Note: IBC 1017.2 only allows 200 feet max travel distance to exit. We comply with the more stringent requirment of the IBC.

(40.3.4.1, Table 40.2.6.1) Automatic Sprinkler Systems Required:

☐ Yes ■ No

(40.3.4.1) Fire Alarm and Detection System Required:

☐ Yes ■ No

Portable Fire Extinguishers Required:

■ Yes ☐ No ■ Project complies NFPA 10

Spaces with One Exit Or Exit Access Doorway

Code Reference	Occupancy	Number of Exits Required	Max. Common Path of Travel	Max. Dead-End Corridor	Number of Exits Provided
40.2.4.1.2 Table 40.2.5.1	Special Purpose Industrial	1	50'-0"	50'-0"	5

Minimum Number of Exits or Access to Exits Per Story

Occupancy	Code Reference	Minimum Number of Exits or Access to Exits from Story	Number of Exits or Access to Exits from Story Provided
Special Purpose Industrial	**40.2.4.1.1**	2	5

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Life Safety / Code Summary

Project number	26014
Date	08/01/2026
Drawn by	ARC
Checked by	N/A

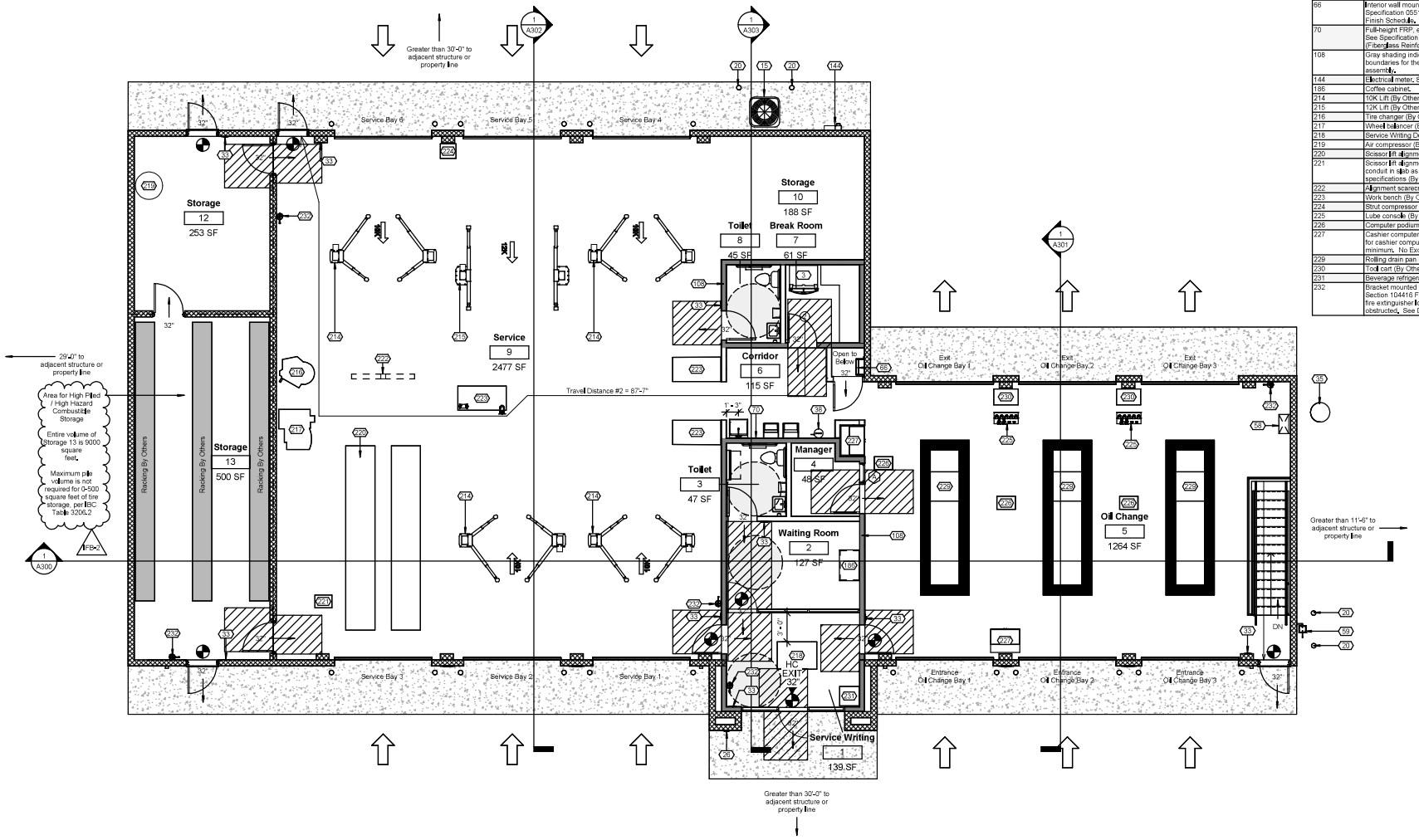
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LIFE SAFETY SYMBOL LEGEND

- Exit Sign
- Maneuvering clearances at manual swinging doors
- HC EXIT 32" — Handicap Accessible Egress Width
- (#) — Travel Distance
- 32" — Exit from room (# = minimum clear width in inches)
- 1 Hour Rated



1 05_Life Safety Plan_Main
3/16" = 1'-0"

Keynote Schedule

Tag	Text
3	Location of 30" wide refrigerator (By Others).
15	HVAC condensing unit. See Mechanical.
20	4" diameter painted concrete-filled steel pipe bollard. Color as indicated on Finish Schedule. Paint embedded portion of bollard. Use primer and two finish coats. See Details. See Specification 055000 Metal Fabrications.
26	Fire Department Lock Box. Locate as directed by the Local Fire Marshal or AHJ. See Specification 104413 Fire Department Lock Box.
33	ADA compliant room / exit sign. See Details.
35	Submersible foundation sump pump. Provide Zoeller M98 or comparable product. Coordinate location with Civil and tie into Civil's storm drainage system.
38	Eyewash station. See Plumbing.
58	Verify location and size of pit exhaust opening with Structural and Mechanical drawings.
59	Gas meter. See Plumbing.
66	Interior wall mounted ladder. See Details. See Specification 055133 Ladders. Color as indicated on Finish Schedule.
70	Full-height FRP, entire wall, unless otherwise noted. See Specification 066400 Plastic Paneling (Fiberglass Reinforced Panels).
108	Gray shading indicates these walls are the boundaries for the building thermal envelope assembly.
144	Electrical meter. See Electrical.
186	Coffee cabinet.
214	10K Lift (By Others).
215	12K Lift (By Others).
216	Tire changer (By Others).
217	Wheel balancer (By Others).
218	Service Writing Desk.
219	Air compressor (By Others).
220	Scissor lift alignment (By Others).
221	Scissor lift alignment console (By Others). Provide conduit in slab as required. See alignment lift specifications (By Others).
222	Alignment scarecrow (By Others).
223	Work bench (By Others).
224	Strut compressor (By Others).
225	Lube console (By Others).
226	Computer podium (By Others).
227	Cashier computer station (By Others). Clear opening for cashier computer station must be 38 ½" wide minimum. No Exceptions.
229	Rolling drain pan (By Others).
230	Tool cart (By Others).
231	Beverage refrigerator (By Others).
232	Bracket mounted fire extinguisher. See Specification Section 104416 Fire Extinguishers. Provide sign at all fire extinguisher locations which may be visually obstructed. See Details.

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Life Safety Plan - Main

Project number	26014
Date	08/01/2026
Drawn by	ARC
Checked by	N/A

LS102

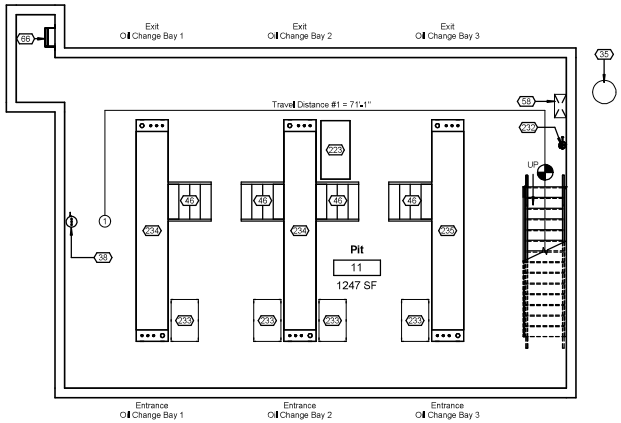
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LIFE SAFETY SYMBOL LEGEND

- Exit Sign
- Maneuvering clearances at manual swinging doors
- HC EXIT 32" — Handicap Accessible Egress Width
- (#) — Travel Distance
- 32" — Exit from room (# = minimum clear width in inches)
- 1 Hour Rated

Keynote Schedule	
Tag	Text
35	Submersible foundation sump pump. Provide Zoeller M98 or comparable product. Coordinate location with Civil and tie into Civil's storm drainage system.
38	Eyewash station. See Plumbing.
46	Oil tank stairs (By Others).
58	Verify location and size of pit exhaust opening with Structural and Mechanical drawings.
66	Interior wall mounted ladder. See Details. See Specification 055133 Ladders. Color as indicated on Finish Schedule.
223	Work bench (By Others).
232	Bracket mounted fire extinguisher. See Specification Section 104416 Fire Extinguishers. Provide sign at all fire extinguisher locations which may be visually obstructed. See Details.
233	275-gallon Class IIIB new oil tank (By Others).
234	926-gallon Class IIIB new oil tank (By Others). Provide a 2" concrete walkway cap with non-slip surface over (oil tank By Others). Coordinate with equipment supplier prior to installation.
235	926-gallon Class IIIB waste oil tank (By Others). Provide a 2" concrete walkway cap with non-slip surface over (oil tank By Others). Coordinate with equipment supplier prior to installation.



1 04_Life Safety Plan_Pit
3/16" = 1'-0"

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REGISTERED ARCHITECT — TIMOTHY A. AHO — 23347 — STATE OF TEXAS
04/08/2026

Express Oil Change & Tire Engineers

Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

Seguin, Texas

FINAL

No.	Description	Date
IFB-1	Iss for Bid 1 AHJ Rev.	08/01/26
IFB-2	Iss for Bid 2 AHJ Rev.	08/08/26

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Life Safety - Pit

Project number	26014
Date	08/01/2026
Drawn by	ARC
Checked by	N/A

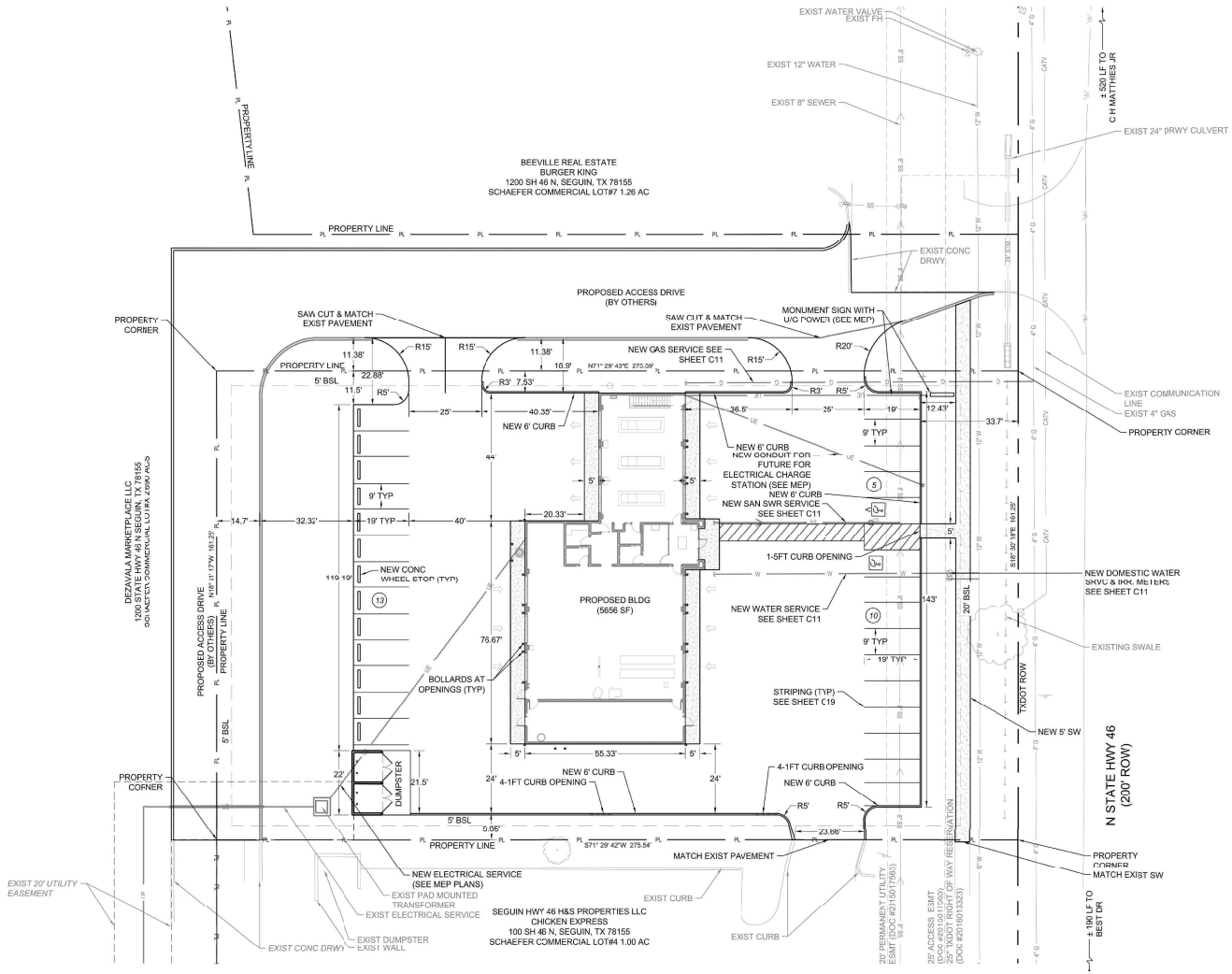
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Scale: As indicated

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NOTE:

THIS PLAN IS TO SHOW THE BUILDING AS IT RELATES TO THE SITE. A COMPLETE SET OF CIVIL DRAWINGS ARE TO BE SUBMITTED TO THE AHJ INDEPENDENT OF THIS SUBMITTAL. REFER TO THOSE DRAWINGS FOR ACTUAL INFORMATION.



1 Architectural Site Plan
N.T.S.

TRUE NORTH
PLAN NORTH

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04/08/2026

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Architectural Site Plan

Project number	26014
Date	08/01/2026
Drawn by	ARC
Checked by	N/A

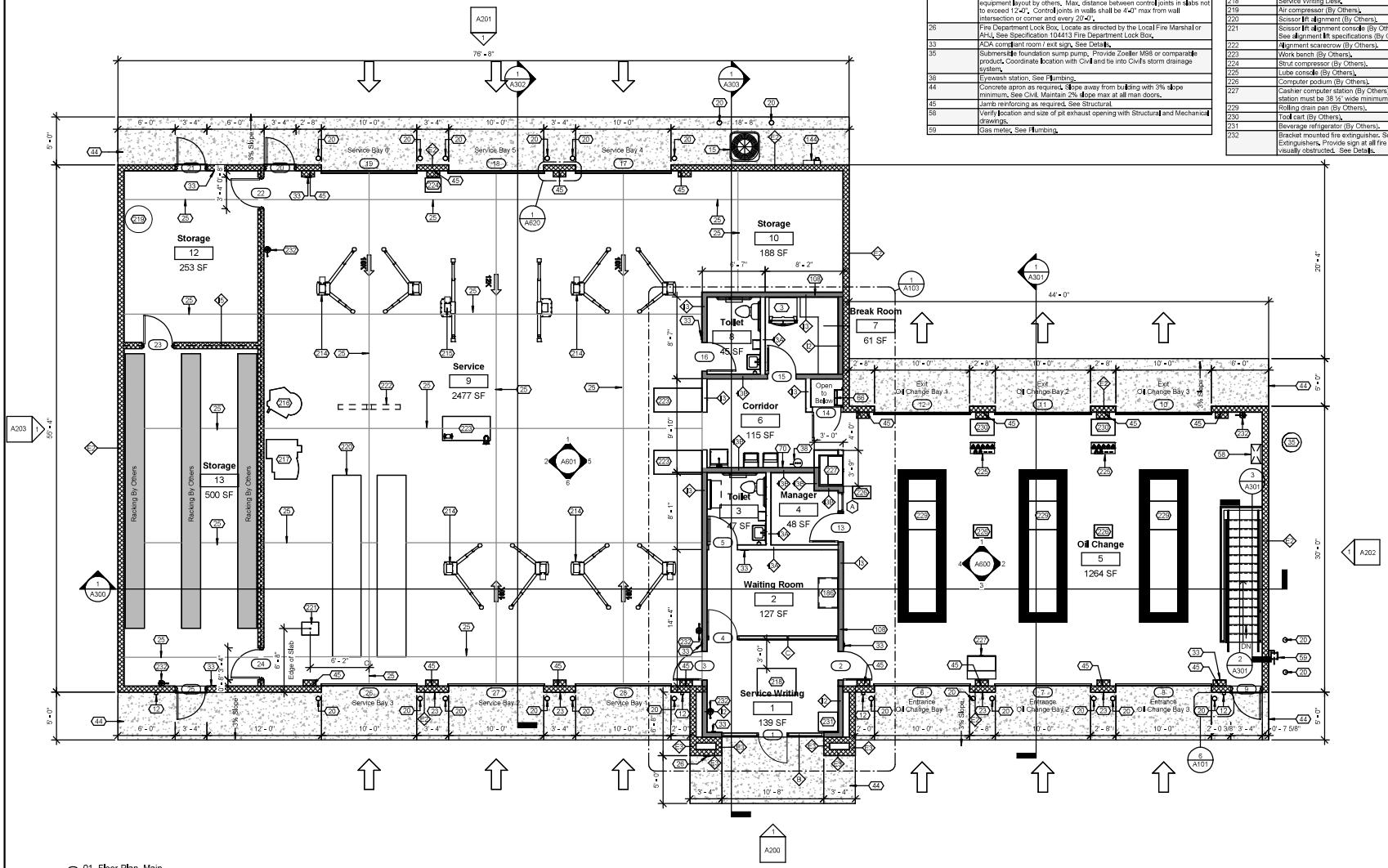
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Scale N.T.S.

9/11/2026 10:45:21 AM

Keynote Schedule	
Tag	Text
3	Location of 30" wide refrigerator (By Others).
12	Pre-finished metal conductor head with built-in overflow and downspout. Drainage to discharge on grade, unless indicated on drawings that drainage is to be piped to storm. (See Civil). Provide a pre-finished elbow and concrete splash block. See Specification 077100 Roof Specialties.
15	HVAC condensing unit. See Mechanical.
20	4" diameter painted concrete-filled steel pipe bollard. Color as indicated on Finish Schedule. Paint embedded portion of bollard. Use primer and two finish coats. See Details. See Specification 055000 Metal Fabrications.
23	Wall sconce (By Others). See Electrical. Locate junction box for sconces 5'-0" a.f.f. vertically and 4" from center horizontally. Verify with sign company prior to rough-in.
25	Control joint. For control joints in concrete floor slabs, coordinate location with equipment layout by others. Max. distance between control joints in slabs not to exceed 12'-0". Control joints in walls shall be 4'-0" max from wall intersection or corner and every 20'-0".
26	Fire Department Lock Box. Locate as directed by the Local Fire Marshal or AHJ. See Specification 104413 Fire Department Lock Box.
33	ADA compliant room / exit sign. See Details.
35	Submersible foundation sump pump. Provide Zoeller M98 or comparable product. Coordinate location with Civil and tie into Civil's storm drainage system.
38	Eyewash station. See Plumbing.
44	Concrete apron as required. Slope away from building with 3% slope minimum. See Civil. Maintain 2% slope max at all man doors.
45	Jamb reinforcing as required. See Structural.
58	Verify location and size of pit exhaust opening with Structural and Mechanical drawings.
59	Gas meter. See Plumbing.

Keynote Schedule	
Tag	Text
66	Interior wall mounted ladder. See Details. See Specification 055133 Ladders. Color as indicated on Finish Schedule.
70	Full-height FRP entire wall, unless otherwise noted. See Specification 066400 Plastic Paneling (Fiberglass Reinforced Panels).
108	Gray shading indicates these walls are the boundaries for the building thermal envelope assembly.
144	Electrical meter. See Electrical.
188	Coffee cabinet.
214	10K Lift (By Others).
215	12K Lift (By Others).
216	Tire changer (By Others).
217	Wheel balancer (By Others).
218	Service Writing Desk.
219	Air compressor (By Others).
220	Scissor lift alignment (By Others).
221	Scissor lift alignment console (By Others). Provide conduit in slab as required. See alignment lift specifications (By Others).
222	Alignment scarecrow (By Others).
223	Work bench (By Others).
224	Strut compressor (By Others).
225	Lube console (By Others).
226	Computer podium (By Others).
227	Cashier computer station (By Others). Clear opening for cashier computer station must be 38 ½" wide minimum. No Exceptions.
229	Rolling drain pan (By Others).
230	Tool cart (By Others).
231	Beverage refrigerator (By Others).
232	Bracket mounted fire extinguisher. See Specification Section 104416 Fire Extinguishers. Provide sign at all fire extinguisher locations which may be visually obstructed. See Details.



1 01_Floor Plan_Main
3/16" = 1'-0"

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Seguin, Texas

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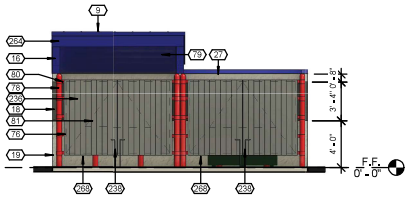
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Floor Plan - Main

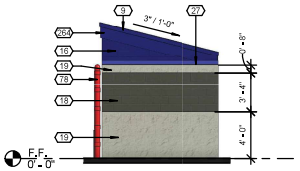
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Date	08/01/2026
Drawn by	ARC
Checked by	N/A
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A100

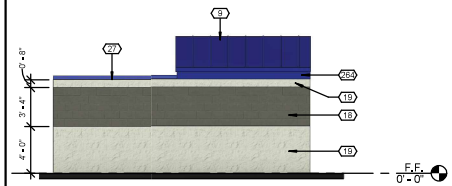
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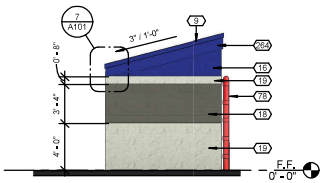
05_Dumpster Elevation_A
3/16" = 1'-0"



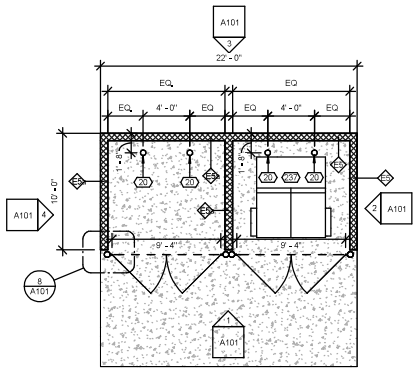
07_Dumpster Elevation_C
3/16" = 1'-0"



06_Dumpster Elevation_B
3/16" = 1'-0"

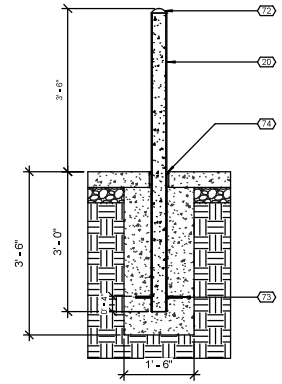


08_Dumpster Elevation_D
3/16" = 1'-0"

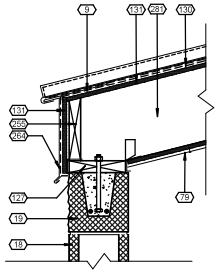


02_Floor Plan_Dumpster
3/16" = 1'-0"

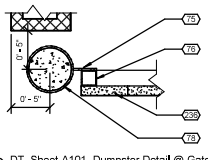
Keynote Schedule	
Tag	Text
9	Pre-finished standing seam metal roof system. See Specification 074113.16 Standing Seam Metal Roof Panels. See Finish Schedule for color.
16	Painted smooth-face CMU. See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule.
18	Painted smooth-face CMU. See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule.
19	Painted split-face CMU (bond beam where indicated; see Structural). See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule. Project 1/2" where indicated on details.
20	4" diameter painted concrete-filled steel pipe bollard. Color as indicated on Finish Schedule. Paint embedded portion of bollard. Use primer and two finish coats. See Details. See Specification 055000 Metal Fabrications.
27	Pre-finished metal coping at exposed tops only over self-adhered membrane flashing and pressure treated wood blocking. Slope to drain. Color as indicated on Finish Schedule.
34	4" perforated perimeter drain with silt filtration fabric. See Details.
35	Submersible foundation sump pump. Provide Zoeller M98 or comparable product. Coordinate location with Civil and tie into Civil's storm drainage system.
38	Eyewash station. See Plumbing.
46	Oil tank stairs (By Others).
58	Verify location and size of pit exhaust opening with Structural and Mechanical drawings.
66	Interior wall mounted ladder. See Details. See Specification 055133 Ladders. Color as indicated on Finish Schedule.
72	Painted concrete cap for pipe bollard. Color as indicated on Finish Schedule.
73	1/2" diameter x 4" long metal studs. Provide a total of 4.
74	1/2" expansion joint with backer rod and sealant.
75	1/4" x 6" painted steel bracket with continuous fillet weld to painted steel collar hinge and frame. Color as indicated on Finish Schedule.
76	2" x 2" x 1/4" painted steel gate frame with welded connections. Color as indicated on Finish Schedule.
78	6" diameter painted steel dumpster post. Color as indicated on Finish Schedule.
79	Wrap front face and underside of dumpster roof joists with prefinished metal panels (on 5/8" PT plywood) to match standing seam metal roof. Install and fasten prefinished metal panels per manufacturer's written standards to ensure a weathertight construction.
80	Hinge collar with grease fitting. Collar welded all around to post. Typical.
81	2" x 2" x 1/4" painted steel cross bracing with horizontal bracing in thirds (beyond). Color as indicated on Finish Schedule.
127	2x pressure treated wood nailer.
130	2 layers of #15 roofing felt.
131	5/8" pressure treated plywood decking. See Structural.
223	Work bench (By Others).
232	Bracket mounted fire extinguisher. See Specification Section 104416 Fire Extinguishers. Provide sign at all fire extinguisher locations which may be visually obstructed. See Details.
233	275-gallon Class IIIB new oil tank (By Others).
234	928-gallon Class IIIB new oil tank (By Others). Provide a 2" concrete walkway cap with non-slip surface over (oil tank By Others). Coordinate with equipment supplier prior to installation.
235	928-gallon Class IIIB waste oil tank (By Others). Provide a 2" concrete walkway cap with non-slip surface over (oil tank By Others). Coordinate with equipment supplier prior to installation.
236	1x6 painted Trex slats secured to frame. See Finish Schedule for color.
237	Dumpster (By Others).
238	Cane bolts with stops.
255	2x pressure treated wood blocking. Use barrier to prevent corrosion between wood and metal.
264	Prefinished metal fascia / trim, with hemmed drip edge, to match standing seam metal roof.
268	Hold bottom of gate above grade as necessary to clear adjacent curb height to ensure gates can swing 180 degrees. Coordinate with Civil drawings for clearance needed.
281	2x P.T. joists. See Structural.



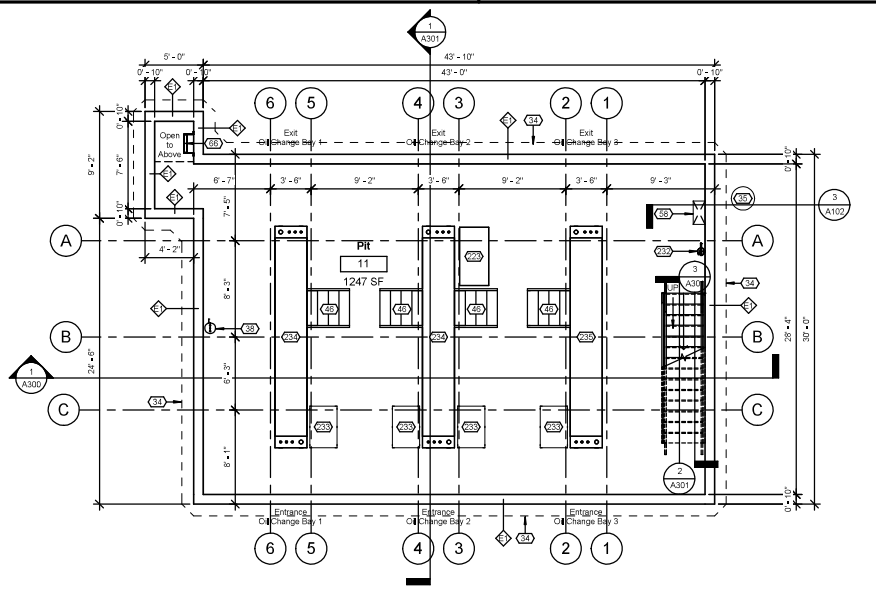
DT_Sheet A101_Bollard Detail
3/4" = 1'-0"



Roof Trim Detail
1 1/2" = 1'-0"



DT_Sheet A101_Dumpster Detail @ Gate
1 1/2" = 1'-0"



00_Floor Plan_Pit
3/16" = 1'-0"

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TIMOTHY A. AHO
23347
STATE OF TEXAS
04/08/2026

Express Oil Change & Tire Engineers

Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

Seguin, Texas

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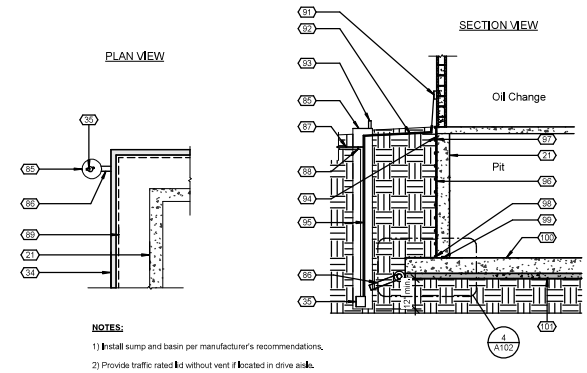
Pit Floor Plan and Site Details

Project number	26014
Date	08/01/2026
Drawn by	ARC
Checked by	N/A

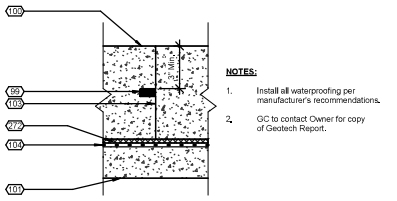
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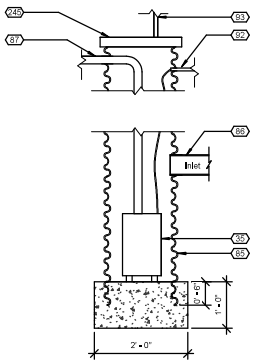
1 DT_Sheet A102_Sump Pump Detail w/ Mud Slab
1/4" = 1'-0"



2 DT_Sheet A102_Foundation Construction Joint w/ Mud Slab
1 1/2" = 1'-0"

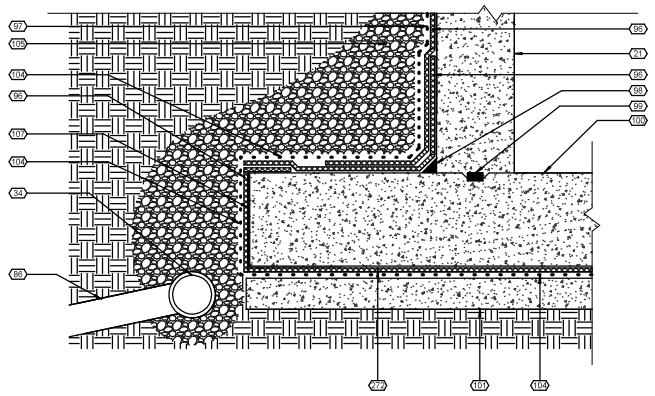
Keynote Schedule

Tag	Text
21	Cast-in-place concrete wall. See Structural. Membrane waterproofing at perimeter of foundation wall as specified, See Specification 334600 Subdrainage.
34	4" perforated perimeter drain with silt filtration fabric. See Details.
35	Submersible foundation sump pump. Provide Zoeller M98 or comparable product. Coordinate location with Civil and tie into Civil's storm drainage system.
85	18" diameter black corrugated pipe with inlet fittings and solid heavy duty corrugated locking pipe cover set in concrete with power grommet, or Nyloplast drain basin with inlet fittings and lockable cover and power grommet, Contractor's Option. Set pipe in concrete 2'x2'x1'. Embed pipe 6" into concrete.
86	4" discharge pipe to sump pump.
87	2" discharge pipe from sump pump to storm drainage system. Coordinate with Civil.
88	Install union at serviceable depth.
89	Concrete foundation. See Structural.
91	Provide power for sump pump. See Electrical.
92	Power cord for sump pump to be run in conduit from outlet to sump below grade.
93	2' – 3' vent pipe
94	Fasteners at 12" max o.c. for securing subdrainage to pit wall. Follow manufacturer's installation instructions.
95	Pull rope or wire for submersible sump pump.
96	CCW MiraClay woven geotextile against wall/slab.
97	CCW MiraDrain 6200.
98	CCW MiraClay granules or CCW MiraClay mastic.
99	CCW MiraStop BW.
100	Concrete slab. See Structural.
101	4" mud slab if required. See Structural.
103	Construction joint.
104	CCW MiraDrain 9800.
105	3" washed #57 stone wrapped in silt filtration fabric.
107	CCW MiraClay 12" Reinforcing Angle Strip at all outside corners.
245	Lockable cover @ sump pump.
272	CCW MiraClay non-woven geotextile side up.



3 DT_Sheet A102_Sump Pump Section
3/4" = 1'-0"

NOTES:
1. Install all waterproofing and drainage components per manufacturer's recommendations.
2. GC to contact Owner for copy of Geotech Report.
3. See Structural for reinforcing in wall and slab.
4. See Structural for dimensions.



4 DT_Sheet A102_Foundation Waterproofing with Gravel Fill w/ Mud Slab
1 1/2" = 1'-0"

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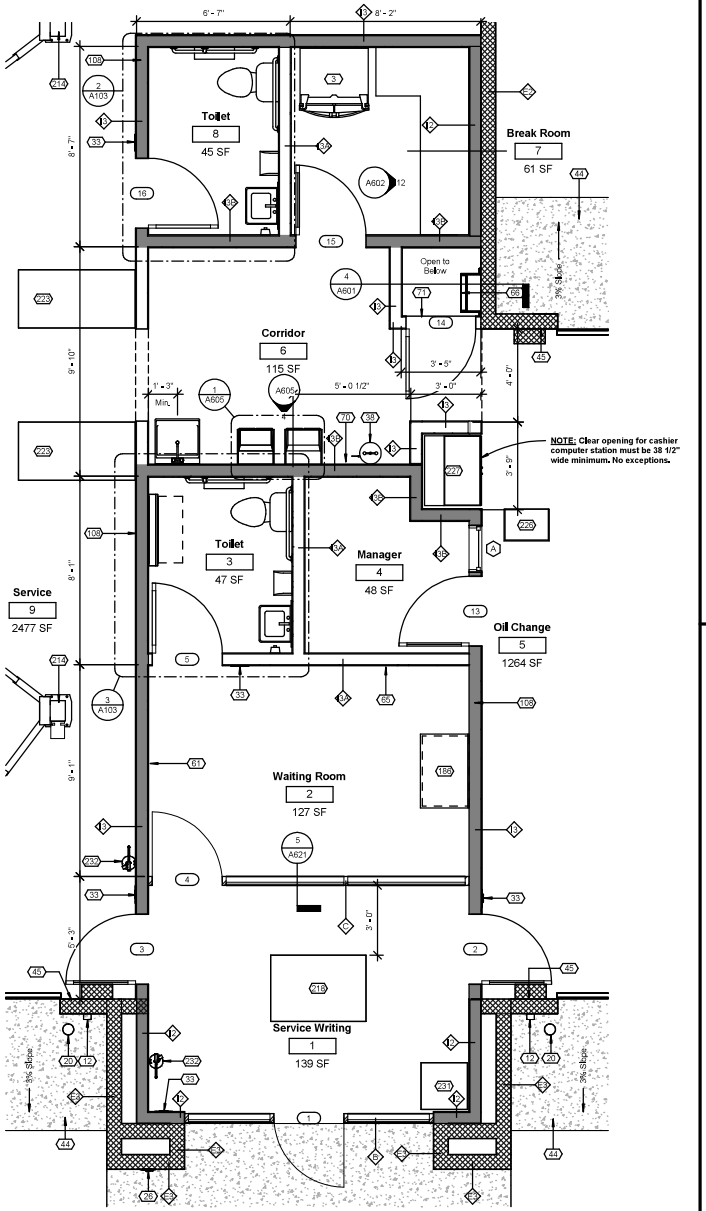
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Project number	26014
Date	08/01/2026
Drawn by	ARC
Checked by	N/A

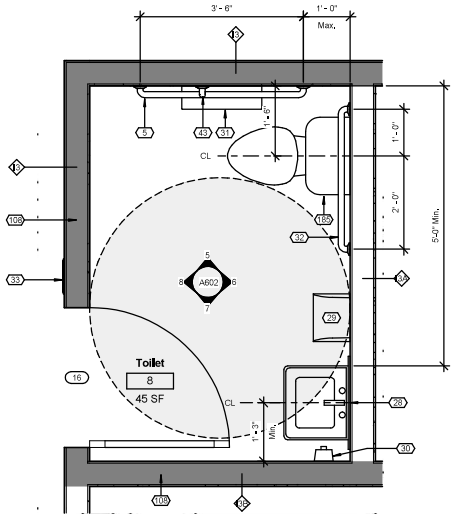
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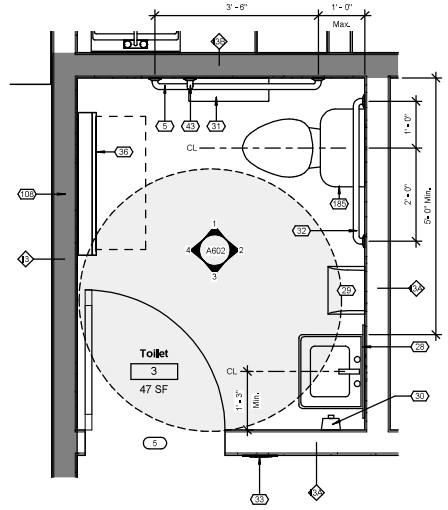
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1 08_Enlarged Plan_Main
3/8" = 1'-0"



2 10_Enlarged Plan_Toilet 8
3/4" = 1'-0"



3 09_Enlarged Plan_Toilet 3
3/4" = 1'-0"

Keynote Schedule	
Tag	Text
3	Location of 30" wide refrigerator (By Others).
5	42" grab bar with blocking in walls as required. See Specification 102800 Toilet, Bath, and Laundry Accessories.
12	Pre-finished metal conductor head with built-in overflow and downspout. Drainage to discharge on grade, unless indicated on drawings that drainage is to be piped to storm. (See Civil). Provide a pre-finished elbow and concrete splash block. See Specification 077100 Roof Specialties.
20	4" diameter painted concrete-filled steel pipe bollard. Color as indicated on Finish Schedule. Paint embedded portion of bollard. Use primer and two finish coats. See Details. See Specification 055000 Metal Fabrications.
26	Fire Department Lock Box. Locate as directed by the Local Fire Marshal or AHJ. See Specification 104413 Fire Department Lock Box.
28	Framed mirror. See Specification 102800 Toilet, Bath, and Laundry Accessories.
29	Automatic Towel Dispenser (By others). Provide blocking in wall as required. See Specification 102800 Toilet, Bath, and Laundry Accessories.
30	Wall mounted soap dispenser (By Others). Provide blocking in wall as required. See Specification 102800 Toilet, Bath, and Laundry Accessories.
31	Jumbo Dual Roll Toilet Tissue dispenser (By Others). Provide blocking in wall as required. See Specification 102800 Toilet, Bath, and Laundry Accessories.
32	36" grab bar with blocking in walls as required. See Specification 102800 Toilet, Bath, and Laundry Accessories.
33	ADA compliant room / exit sign. See Details.
36	Surface mounted baby changing station with blocking in walls as required. See Specification 102800 Toilet, Bath, and Laundry Accessories.
38	Eyewash station. See Plumbing.
43	24" vertical grab bar with blocking in walls as required. See Specification 102800 Toilet, Bath, and Laundry Accessories.
44	Concrete apron as required. Slope away from building with 3% slope minimum. See Civil. Maintain 2% slope max at all man doors.
45	Jamb reinforcing as required. See Structural.
61	Wall mounted T.V. by others. See Electrical.
65	Wood Wall. Use extreme bond primer. Graphics (By Others).
66	Interior wall mounted ladder. See Details. See Specification 055133 Ladders. Color as indicated on Finish Schedule.
70	Full-height FRP, entire wall, unless otherwise noted. See Specification 066400 Plastic Paneling (Fiberglass Reinforced Panels).
71	Edge of slab to align with framed wall in lieu of pit wall below.
108	Gray shading indicates these walls are the boundaries for the building thermal envelope assembly.
185	Flush valve on transfer side of water closet.
186	Coffee cabinet.
214	10K Lift (By Others).
218	Service Writing Desk.
223	Work bench (By Others).
226	Computer podium (By Others).
227	Cashier computer station (By Others). Clear opening for cashier computer station must be 38 ½" wide minimum. No Exceptions.
231	Beverage refrigerator (By Others).
232	Bracket mounted fire extinguisher. See Specification Section 104416 Fire Extinguishers. Provide sign at all fire extinguisher locations which may be visually obstructed. See Details.

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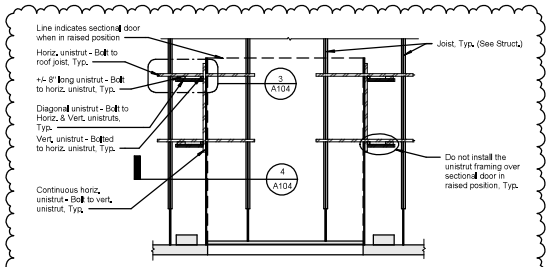
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Enlarged Floor Plans and Details

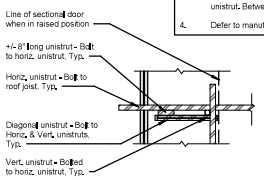
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Date	08/01/2026
Drawn by	ARC
Checked by	N/A
Scale	As indicated

A103

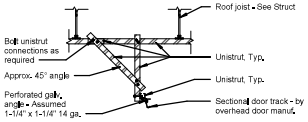
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2 Unistrut & Overhead Door Framing Plan1
1/4" = 1'-0"



3 Unistrut Framing Enlarged
1/2" = 1'-0"



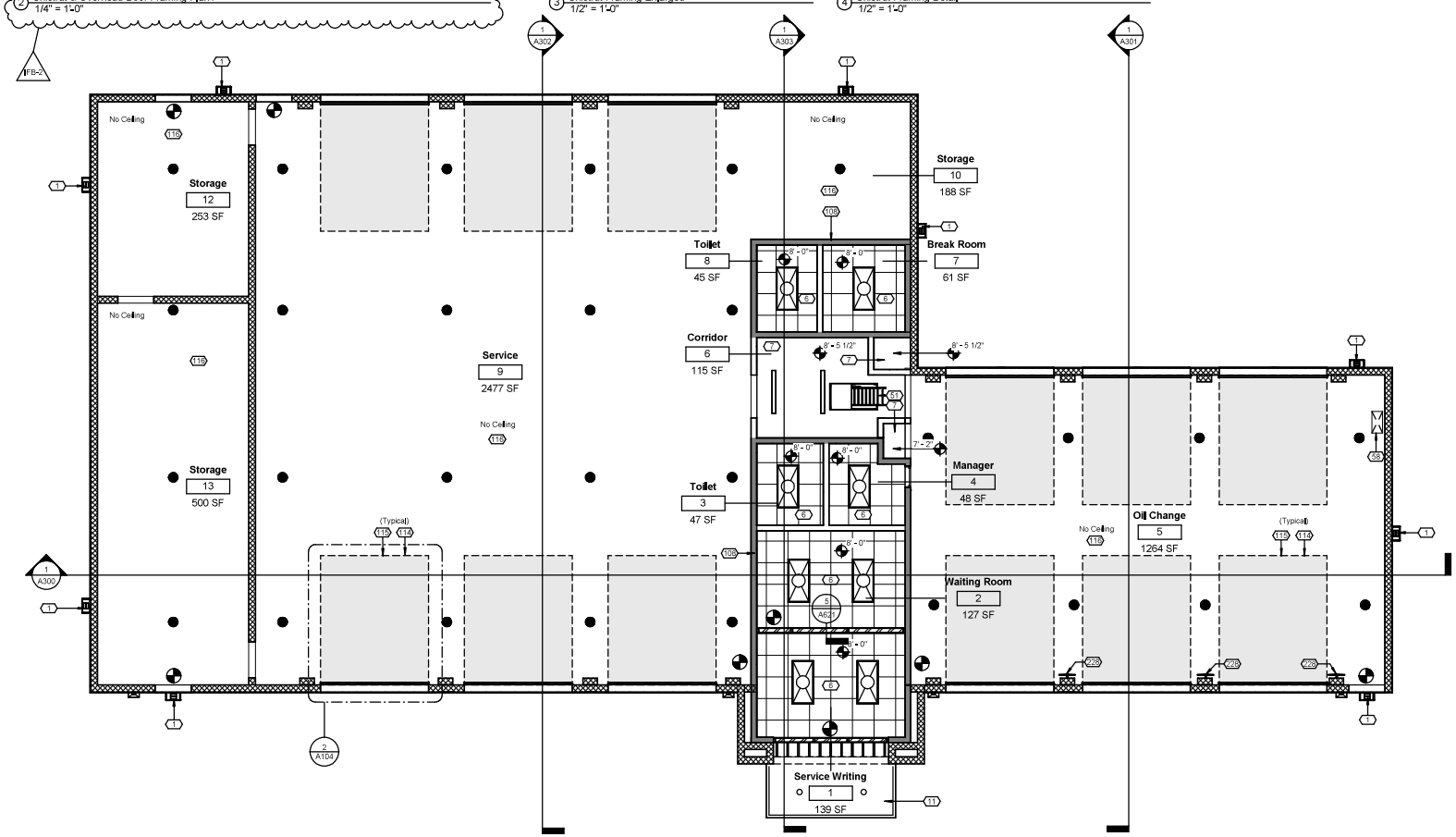
4 Unistrut Framing Detail
1/2" = 1'-0"

GENERAL NOTES FOR UNISTRUT FRAMING

1. Provide 1-5/8" X 1-5/8" X 12 ga galvanized slotted unistrut at all locations.
2. Provide perforated galv. angle in size and thickness recommended by garage door manufacturer.
3. Provide bolted connections between roof-joist and unistrut. Between horizontal, vertical & angled unistrut. Between unistrut and perf. galv. angle.
4. Defer to manufacture's recommendations for support if in conflict with what is shown.

NOTE: Bar joists not shown for clarity.

Keynote Schedule	
Tag	Text
1	Wall Pack / Electrical Fixture, See Electrical.
6	Lay-in acoustical ceiling tile and grid, supported from structure.
7	Painted 1/2" gypsum board ceiling secured to structure above. 5/8" Type X where indicated.
11	Pre-finished metal canopy. See Details.
51	Attic access ladder.
58	Verify location and size of pit exhaust opening with Structural and Mechanical drawings.
108	Gray shading indicates these walls are the boundaries for the building thermal envelope assembly.
114	Contractor to ensure overhead door, track, etc. meets the minimum vertical clearance required for equipment (By Others). Typical.
115	Dashed line indicates extent of overhead doors. Typical.
116	See Engineering drawings for Mechanical/Electrical/Plumbing fixtures and equipment. Typical.
228	Convex mirrors (By Others).



1 01_RCP_Main
3/16" = 1'-0"

AHO ARCHITECTS, LLC
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REGISTERED ARCHITECT TIMOTHY A. AHO 23347 STATE OF TEXAS
09/08/2026

Express Oil Change & Tire Engineers
Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage
Seguin, Texas

FINAL

No.	Description	Date
IFB-1	Iss for Bid 1 AHJ Rev.	08/01/26
IFB-2	Iss for Bid 2 AHJ Rev.	09/08/26

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Reflected Ceiling Plan - Main

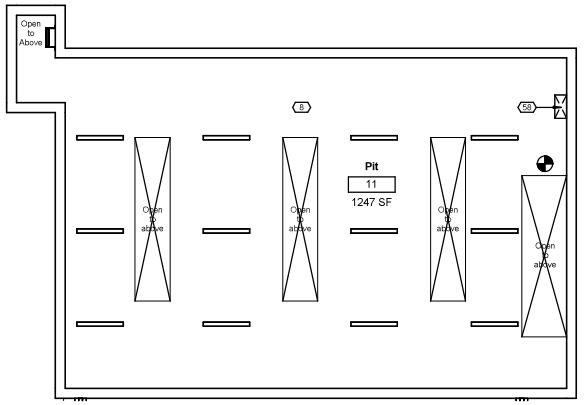
Project number	26014
Date	08/01/2026
Drawn by	ARC
Checked by	N/A

A104

Scale: As indicated

9/11/2025 10:45:38 AM

Keynote Schedule	
Tag	Text
8	Exposed to structure above.
58	Verify location and size of pit exhaust opening with Structural and Mechanical drawings.



1 00_RCP_Pit
3/16" = 1'-0"

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REGISTERED ARCHITECT
TIMOTHY A. AHO
23347
STATE OF TEXAS
04/08/2026

Express Oil Change & Tire Engineers

Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

Seguin, Texas

FINAL

No.	Description	Date
IFB-1	Iss for Bid 1 AHJ Rev.	08/01/26
IFB-2	Iss for Bid 2 AHJ Rev.	08/08/26

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Reflected Ceiling Plan - Pit

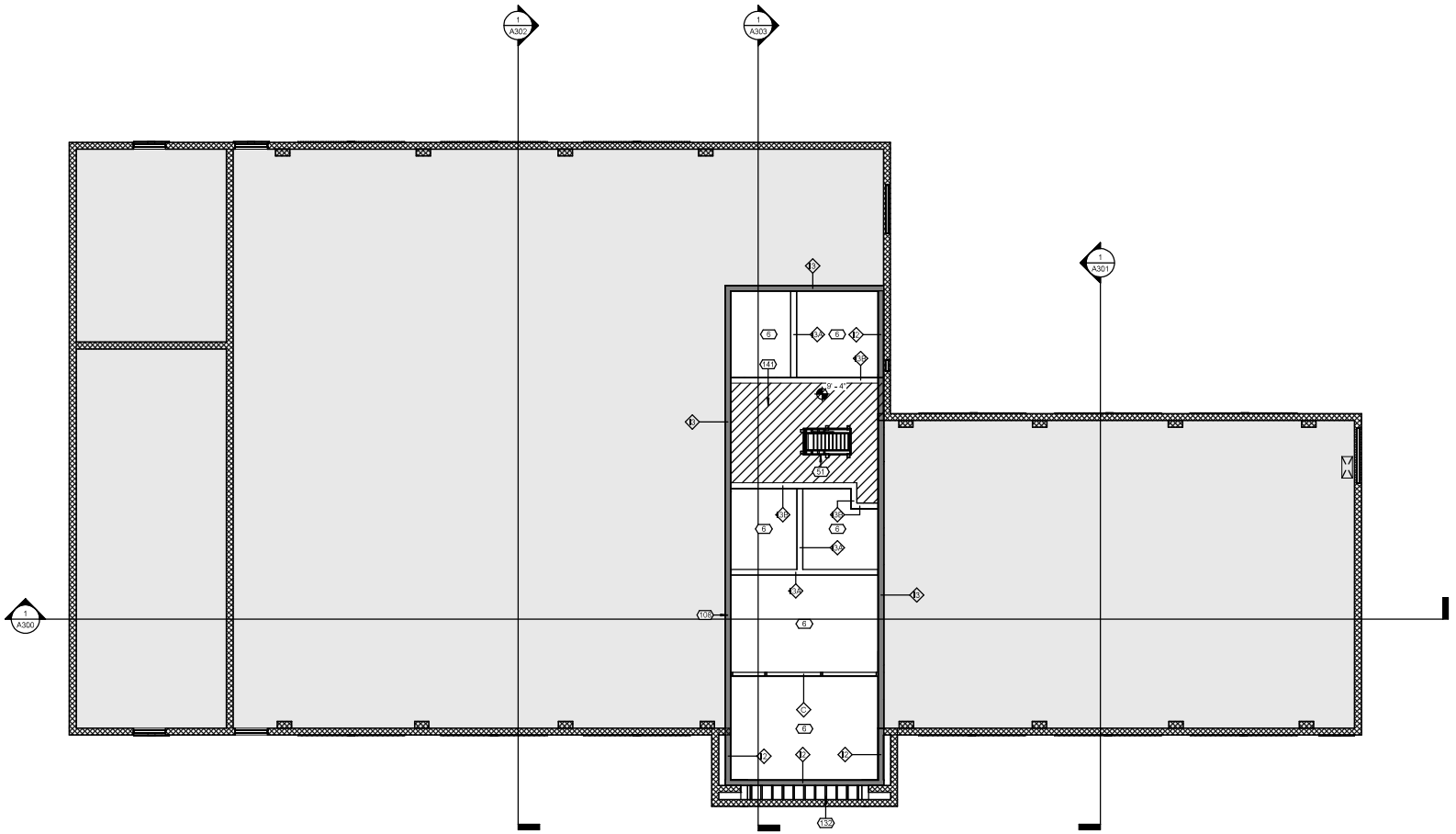
Project number	26014
Date	08/01/2026
Drawn by	ARC
Checked by	N/A

A105

Scale 3/16" = 1'-0"

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Keynote Schedule	
Tag	Text
6	Lay-in acoustical ceiling tile and grid, supported from structure.
51	Attic access ladder.
108	Gray shading indicates these walls are the boundaries for the building thermal envelope assembly.
132	2x wood framing @ 16" o.c. with kraft face R-38 batt insulation in between. Kraft face in contact with substrate.
141	3/4" tongue and groove plywood on 2x10 wood joists @ 12" o.c. Provide R-38 batt kraft face insulation in between joists. Kraft face in contact with substrate. If applicable, it shall be the Contractor's option to provide plywood attached to bottom of joists for insulation to rest on or secure insulation to joists without the need for the plywood bottom.



1 11_Floor Plan_Platform
3/16" = 1'-0"

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REGISTERED ARCHITECT
TIMOTHY A. AHO
23347
STATE OF TEXAS

04/08/2026

Express Oil Change & Tire Engineers

Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

Seguin, Texas

FINAL

No.	Description	Date
FB-1	Iss for Bid 1 AHJ Rev.	08/01/26
FB-2	Iss for Bid 2 AHJ Rev.	08/08/26

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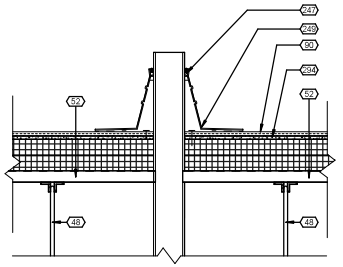
Floor Plan - Platform

Project number	26014
Date	08/01/2026
Drawn by	ARC
Checked by	N/A

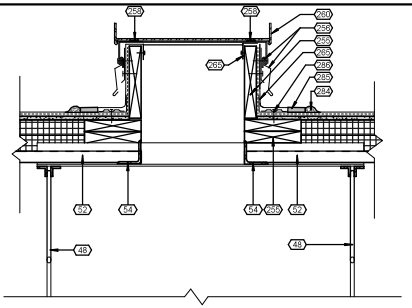
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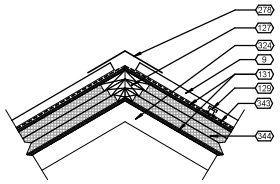
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2 DT_Sheet A107_TPO Roof Penetration Detail
1 1/2" = 1'-0"

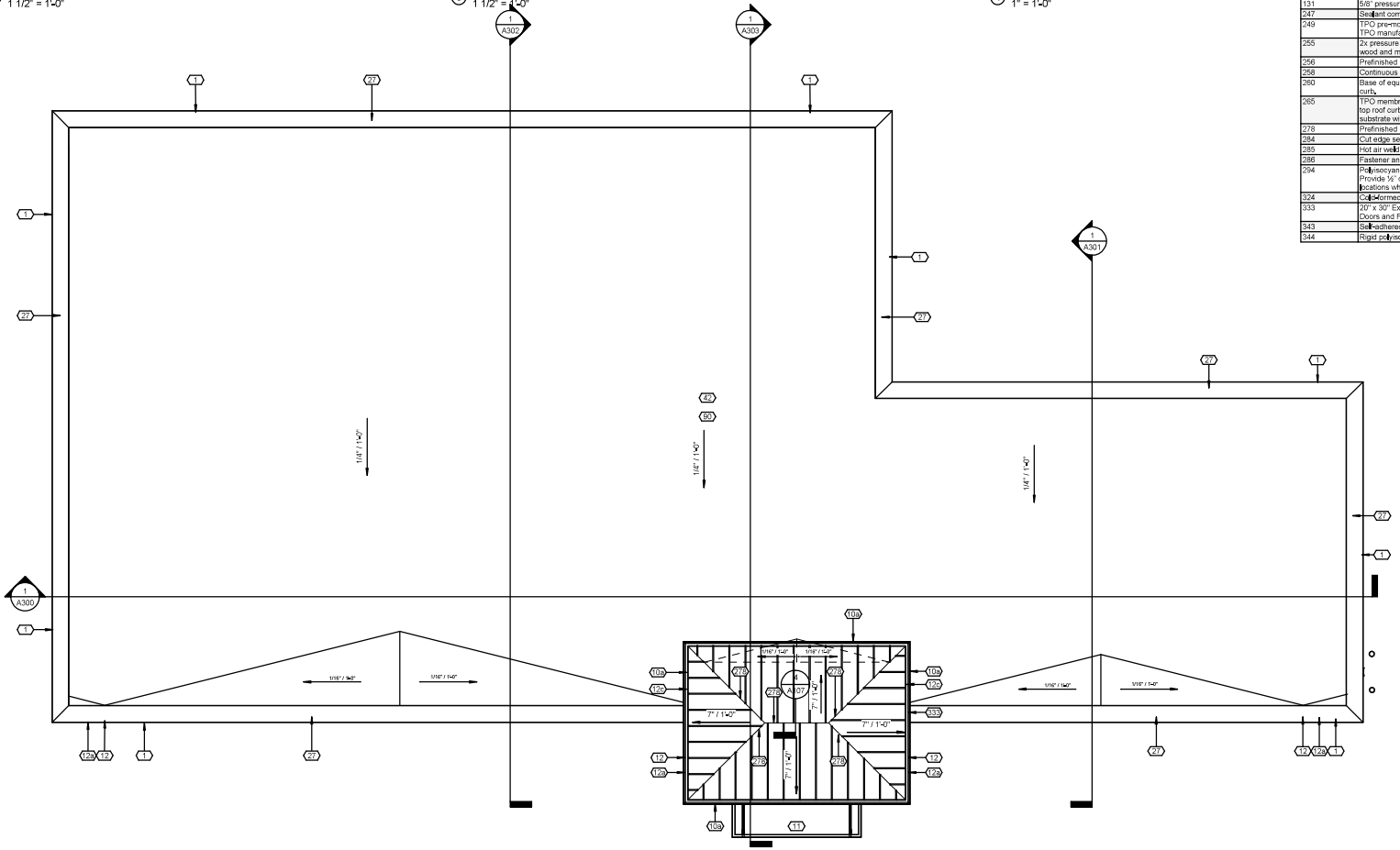


3 DT_Sheet A107_TPO Roof Curb Detail
1 1/2" = 1'-0"



4 Draft Template_Typical Ridge-Hip Details
1" = 1'-0"

Keynote Schedule	
Tag	Text
1	Wall Pack / Electrical Fixture. See Electrical.
9	Pre-finished standing seam metal roof system. See Specification 07411&16 Standing Seam Metal Roof Panels. See Finish Schedule for color.
10a	Prefinished metal gutter. Match SSMR color.
11	Pre-finished metal canopy. See Details.
12	Pre-finished metal conductor head with built-in overflow and downspout. Drainage to discharge on grade, unless indicated on drawings that drainage is to be piped to storm. (See Civil). Provide a pre-finished elbow and concrete splash block. See Specification 077100 Roof Specialties.
12a	Emergency roof drain scupper. Locate adjacent to conductor head and 2 inches higher than downspout scupper location. See Specification 077100 Roof Specialties.
12c	Prefinished metal downspout. Match SSMR color. Discharge on TPO roof below.
27	Pre-finished metal coping at exposed tops only over self-adhered membrane flashing and pressure treated wood blocking. Slope to drain. Color as indicated on Finish Schedule.
42	Paint all roof penetrations to match roof color.
48	Bar joist. See Structural.
52	Galvanized metal roof deck. See Structural.
54	Steel angle. See Structural.
90	Fully adhered TPO membrane roofing installed per manufacturer's written instructions. See Specification 075423 Thermoplastic Polyolefin (TPO) Roofing.
127	2x pressure treated wood nailer.
129	"H" clips at mid-span on standing seam metal roof.
131	5/8" pressure treated plywood decking. See Structural.
247	Sealant compatible with water block sealant.
249	TPO pre-molded vent boot with pre-manufactured TPO membrane flashing by TPO manufacturer.
255	2x pressure treated wood blocking. Use barrier to prevent corrosion between wood and metal.
256	Prefinished metal flashing and counterflashing.
258	Continuous sealant around perimeter.
260	Base of equipment to extend 1/2" minimum beyond and down over top of roof curb.
265	TPO membrane turned vertically up the wall and fastened to wood blocking at top roof curb, or top of wall framing per detail. Adhere TPO membrane to wall substrate with manufacturer approved bonding adhesive.
278	Prefinished metal ridge/hip cap by metal roofing manufacturer.
284	Cut edge sealant at TPO roof membrane flashing.
285	Hot air weld at TPO membrane and membrane flashing.
286	Fastener and seam fastening plate.
294	Polyisocyanurate insulation board (See TPO Spec for required R-value). Provide ½" cover board, mechanically fastened, over the top of insulation in locations where membrane roofing is to be applied.
324	Cold-formed metal stud trusses, see Structural.
333	20" x 30" Exterior attic access door, see Specification Section 083113 Access Doors and Frames.
343	Self-adhered high-temperature SBS-modified roof underlayment (SBTM D36)
344	Rigid polyiso roof insulation. See specifications for insulation R-Value.



1 03_Roof Plan
3/16" = 1'-0"

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REGISTERED ARCHITECT
TIMOTHY A. AHO
23347
STATE OF TEXAS
04/08/2026

Express Oil Change & Tire Engineers

Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

Seguin, Texas

FINAL

No.	Description	Date
IFB-1	Iss for Bid 1 AHJ Rev.	08/01/26
IFB-2	Iss for Bid 2 AHJ Rev.	09/08/26

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Roof Plan

Project number	26014
Date	08/01/2026
Drawn by	ARC
Checked by	N/A

A107

Scale: As indicated

9/11/2025 10:45:41 AM

EXTERIOR FINISH MATERIAL LEGEND



PAINTED SPLIT-FACE CMU

Color: SW7669 Summit Gray
Manuf: Sherwin Williams
Keynote: 19



PAINTED SMOOTH-FACE CMU

Color: SW6966 Bluebird
Manuf: Sherwin Williams
Keynote: 16



PAINTED SMOOTH-FACE CMU

Color: SW7075 Web Gray
Manuf: Sherwin Williams
Keynote: 18

HM DOORS

Color: SW7669 Summit Gray
Manuf: Sherwin Williams



STOREFRONT DOORS/WINDOWS

Color: Clear Anodized Aluminum
Manuf: YKK



BOLLARDS

Color: Safety Red
Manuf: Sherwin Williams
Keynote: 20



STANDING SEAM METAL ROOF

Color: Royal Blue
Manuf: Berridge
Keynote: 9



CONDUCTOR HEADS / DOWNSPOUTS

Color: SW7075 Web Gray
Manuf: Sherwin Williams
Keynote: 12

OVERHEAD DOORS

Color: White
Manuf: Overhead Door Co.



TINTED GLAZING

Color: Solarban 90 on Clear
Manuf: Vitro Architectural Glass



EIFS CORNICE & TRIM

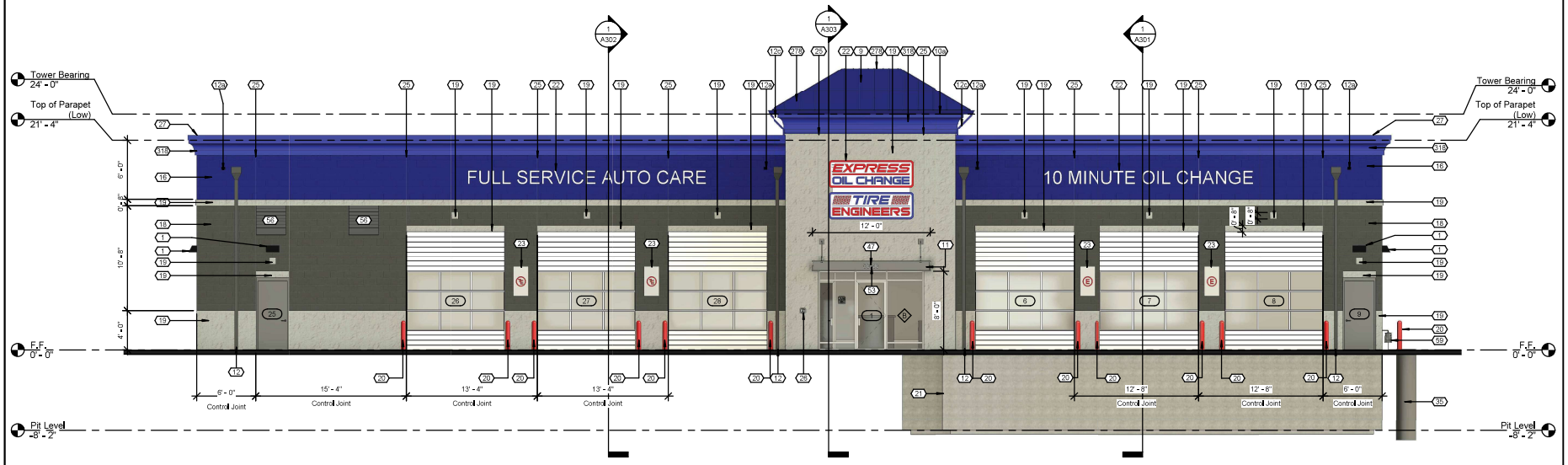
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Manuf: Sherwin Williams
Keynote: 318



GUTTERS/ DOWNSPOUTS

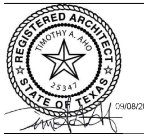
Color: Match SSMR
Keynotes: 10a and 12c

Keynote Schedule	
Tag	Text
1	Wall Pack / Electrical Fixture, See Electrical.
9	Pre-finished standing seam metal roof system. See Specification 074113.16 Standing Seam Metal Roof Panels. See Finish Schedule for color.
10a	Prefinished metal gutter, Match SSMR color.
11	Pre-finished metal canopy. See Details.
12	Pre-finished metal conductor head with built-in overflow and downspout. Drainage to discharge on grade, unless indicated on drawings that drainage is to be piped to storm. (See Civil). Provide a pre-finished elbow and concrete splash block. See Specification 077100 Roof Specialties.
12a	Emergency roof drain scupper. Locate adjacent to conductor head and 2 inches higher than downspout scupper location. See Specification 077100 Roof Specialties.
12c	Prefinished metal downspout, Match SSMR color. Discharge on TPO roof below.
16	Painted smooth-face CMU. See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule.
18	Painted smooth-face CMU. See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule.
19	Painted split-face CMU (bond beam where indicated. see Structural). See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule. Project 1/2" where indicated on details.
20	4" diameter painted concrete-filled steel pipe bollard. Color as indicated on Finish Schedule. Paint embedded portion of bollard. Use primer and two finish coats. See Details. See Specification 055000 Metal Fabrications.
21	Cast-in-place concrete wall. See Structural. Membrane waterproofing at perimeter of foundation wall as specified. See Specification 334600 Subdrainage.
22	Signage (By Others). See Electrical.
23	Wall sconce (By Others). See Electrical. Locate junction box for sconces 5'-0" a.f.f. vertically and 4" from center horizontally. Verify with sign company prior to rough-in.
25	Control Joint. For control joints in concrete floor slabs, coordinate location with equipment layout by others. Max. distance between control joints in slabs not to exceed 12'-0". Control joints in walls shall be 4'-0" max from wall intersection or corner and every 20'-0".
26	Fire Department Lock Box. Locate as directed by the Local Fire Marshal or AHJ. See Specification 104413 Fire Department Lock Box.
27	Pre-finished metal coping at exposed tops only over self-adhered membrane flashing and pressure treated wood blocking. Slope to drain. Color as indicated on Finish Schedule.
35	Submersible foundation sump pump. Provide Zoeller M98 or comparable product. Coordinate location with Civil and tie into Civil's storm drainage system.
47	Provide address identification as directed by the Local Fire Marshal or AHJ, but letter size shall not be less than 4 inches high.
53	Conduit to be centered horizontally for lights in canopy. Verify with sign company prior to rough-in.
56	Metal louver or vent. Color to match adjacent surface. See Mechanical.
59	Gas meter. See Plumbing.
278	Prefinished metal ridge/hip cap by metal roofing manufacturer.
318	Painted preformed EIFS cornice with trim with factory cut drip groove. See Specification Section 072400 EIFS Exterior Insulation and Finish System.



1 01_Exterior Elevation_Front (East)
3/16" = 1'-0"

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Express Oil Change & Tire Engineers
Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage
Seguin, Texas

FINAL

No.	Description	Date
IFB-1	Iss for Bid 1 AHJ Rev.	08/01/26
IFB-2	Iss for Bid 2 AHJ Rev.	08/08/26

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Exterior Elevation - Front (East)

Project number	26014
Date	08/01/2026
Drawn by	ARC
Checked by	N/A

A200

Scale 3/16" = 1'-0"

9/11/2026 10:45:55 AM

EXTERIOR FINISH MATERIAL LEGEND



PAINTED SPLIT-FACE CMU

Color: SW7669 Summit Gray
Manuf: Sherwin Williams
Keynote: 19



PAINTED SMOOTH-FACE CMU

Color: SW6966 Blueblood
Manuf: Sherwin Williams
Keynote: 16



PAINTED SMOOTH-FACE CMU

Color: SW7075 Web Gray
Manuf: Sherwin Williams
Keynote: 18

HM DOORS

Color: SW7669 Summit Gray
Manuf: Sherwin Williams



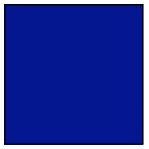
STOREFRONT DOORS/WINDOWS

Color: Clear Anodized Aluminum
Manuf: YKK



BOLLARDS

Color: Safety Red
Manuf: Sherwin Williams
Keynote: 20



STANDING SEAM METAL ROOF

Color: Royal Blue
Manuf: Berridge
Keynote: 9

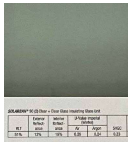


CONDUCTOR HEADS / DOWNSPOUTS

Color: SW7075 Web Gray
Manuf: Sherwin Williams
Keynote: 12

OVERHEAD DOORS

Color: White
Manuf: Overhead Door Co.



TINTED GLAZING

Color: Solarban 90 on Clear
Manuf: Vitro Architectural Glass



EIFS CORNICE & TRIM

Color: SW6966 Blueblood
Manuf: Sherwin Williams
Keynote: 318

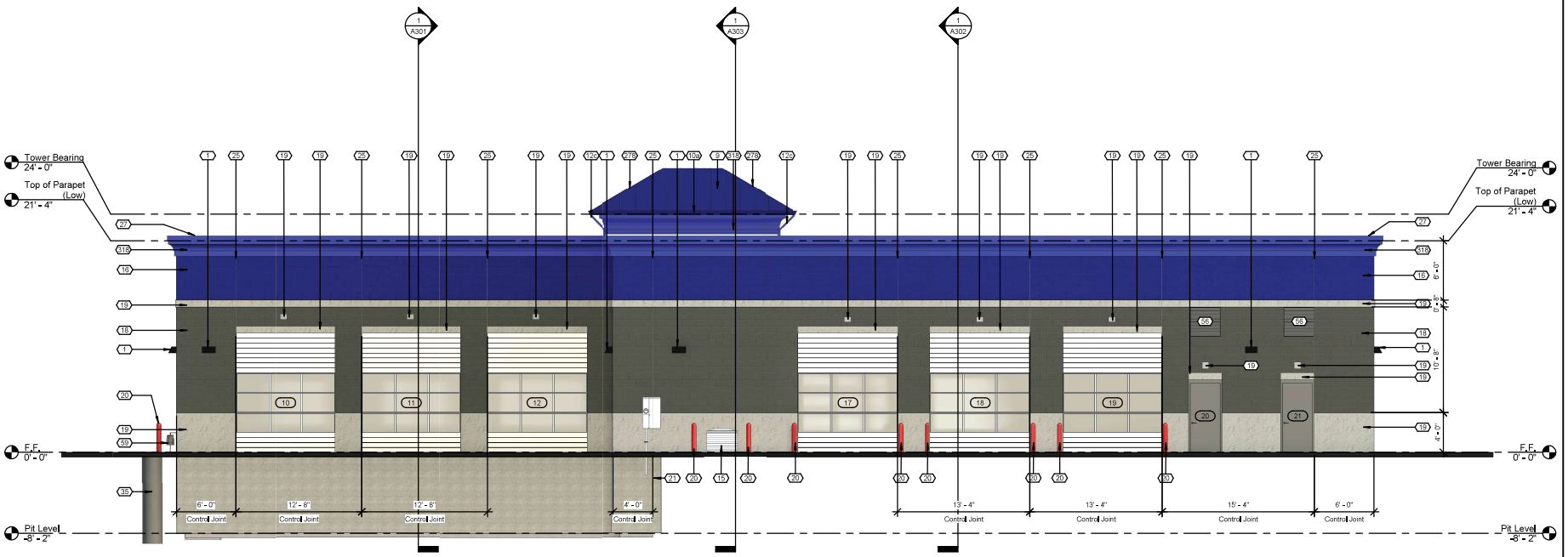


GUTTERS/ DOWNSPOUTS

Color: Match SSMR
Keynotes: 10a and 12c

Keynote Schedule

Tag	Text
1	Wall Pack / Electrical Fixture, See Electrical.
9	Pre-finished standing seam metal roof system. See Specification 074113.16 Standing Seam Metal Roof Panels. See Finish Schedule for color.
10a	Prefinished metal gutter, Match SSMR color.
12c	Prefinished metal downspout. Match SSMR color. Discharge on TPO roof below.
15	HVAC condensing unit, See Mechanical.
16	Painted smooth-face CMU. See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule.
18	Painted smooth-face CMU. See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule.
19	Painted split-face CMU (bond beam where indicated, see Structural). See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule. Project 1/2" where indicated on details.
20	4" diameter painted concrete-filled steel pipe bollard. Color as indicated on Finish Schedule. Paint embedded portion of bollard. Use primer and two finish coats. See Details. See Specification 055000 Metal Fabrications.
21	Cast-in-place concrete wall. See Structural. Membrane waterproofing at perimeter of foundation wall as specified. See Specification 334600 Subdrainage.
25	Control joint. For control joints in concrete floor slabs, coordinate location with equipment layout by others. Max. distance between control joints in slabs not to exceed 12'-0". Control joints in walls shall be 4'-0" max from wall intersection or corner and every 20'-0".
27	Pre-finished metal coping at exposed tops only over self-adhered membrane flashing and pressure treated wood blocking. Slope to drain. Color as indicated on Finish Schedule.
35	Submersible foundation sump pump. Provide Zoeller M98 or comparable product. Coordinate location with Civil and tie into Civil's storm drainage system.
56	Metal louver or vent. Color to match adjacent surface. See Mechanical.
59	Gas meter, See Plumbing.
278	Prefinished metal ridge/hip cap by metal roofing manufacturer.
318	Painted preformed EIFS cornice with trim with factory cut drip groove. See Specification Section 072400 EIFS Exterior Insulation and Finish System.



1 02_Exterior Elevation_Rear (West)
3/16" = 1'-0"

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REGISTERED ARCHITECT
TIMOTHY A. AHO
#23347
STATE OF TEXAS
04/08/2026

Express Oil Change & Tire Engineers
Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage
Seguin, Texas

FINAL

No.	Description	Date
IFB-1	Iss for Bid 1 AHJ Rev.	08/01/26
IFB-2	Iss for Bid 2 AHJ Rev.	08/08/26

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Exterior Elevation - Rear (West)

Project number	26014
Date	08/01/2026
Drawn by	ARC
Checked by	N/A

A201

Scale 3/16" = 1'-0"

9/11/2025 10:46:06 AM

EXTERIOR FINISH MATERIAL LEGEND



PAINTED SPLIT-FACE CMU

Color: SW7669 Summit Gray
Manuf: Sherwin Williams
Keynote: 19



PAINTED SMOOTH-FACE CMU

Color: SW6966 Bluebl0od
Manuf: Sherwin Williams
Keynote: 16



PAINTED SMOOTH-FACE CMU

Color: SW7075 Web Gray
Manuf: Sherwin Williams
Keynote: 18

HM DOORS

Color: SW7669 Summit Gray
Manuf: Sherwin Williams



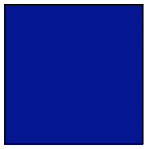
STOREFRONT DOORS/WINDOWS

Color: Clear Anodized Aluminum
Manuf: YKK



BOLLARDS

Color: Safety Red
Manuf: Sherwin Williams
Keynote: 20



STANDING SEAM METAL ROOF

Color: Royal Blue
Manuf: Berridge
Keynote: 9

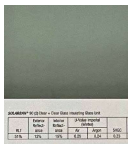


CONDUCTOR HEADS / DOWNSPOUTS

Color: SW7075 Web Gray
Manuf: Sherwin Williams
Keynote: 12

OVERHEAD DOORS

Color: White
Manuf: Overhead Door Co.



TINTED GLAZING

Color: Solarban 90 on Clear
Manuf: Vitro Architectural Glass



EIFS CORNICE & TRIM

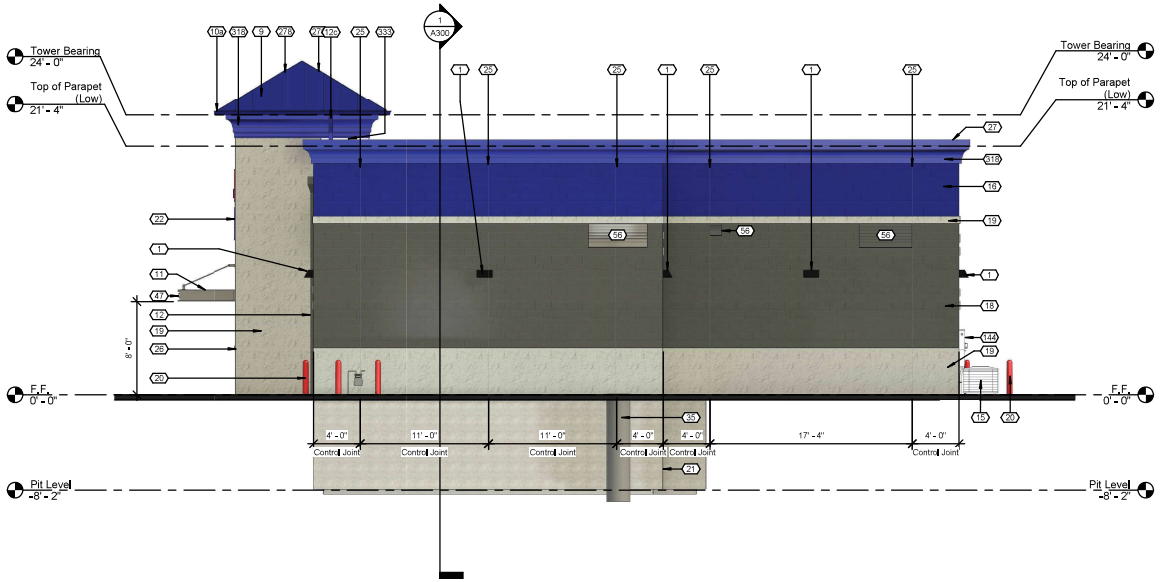
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Manuf: Sherwin Williams
Keynote: 318



GUTTERS/ DOWNSPOUTS

Color: Match SSMR
Keynotes: 10a and 12c

Keynote Schedule	
Tag	Text
1	Wall Pack / Electrical Fixture, See Electrical.
9	Pre-finished standing seam metal roof system. See Specification 074113.16 Standing Seam Metal Roof Panels. See Finish Schedule for color.
10a	Prefinished metal gutter, Match SSMR color.
11	Pre-finished metal canopy. See Details.
12	Pre-finished metal conductor head with built-in overflow and downspout. Drainage to discharge on grade, unless indicated on drawings that drainage is to be piped to storm. (See Civil). Provide a pre-finished elbow and concrete splash block. See Specification 077100 Roof Specialties.
12c	Prefinished metal downspout. Match SSMR color. Discharge on TPO roof below.
15	HVAC condensing unit. See Mechanical.
16	Painted smooth-face CMU. See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule.
18	Painted smooth-face CMU. See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule.
19	Painted split-face CMU (bond beam where indicated, see Structural). See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule. Project 1/2" where indicated on details.
20	4" diameter painted concrete-filled steel pipe bollard. Color as indicated on Finish Schedule. Paint embedded portion of bollard. Use primer and two finish coats. See Details. See Specification 055000 Metal Fabrications.
21	Cash-in-place concrete wall. See Structural. Membrane waterproofing at perimeter of foundation wall as specified. See Specification 334600 Subdrainage.
22	Signage (By Others). See Electrical.
25	Control joint. For control joints in concrete floor slabs, coordinate location with equipment layout by others. Max. distance between control joints in slabs not to exceed 12'-0". Control joints in walls shall be 4'-0" max from wall intersection or corner and every 20'-0".
26	Fire Department Lock Box. Locate as directed by the Local Fire Marshal or AHJ. See Specification 104413 Fire Department Lock Box.
27	Pre-finished metal coping at exposed tops only over self-adhered membrane flashing and pressure treated wood blocking. Slope to drain. Color as indicated on Finish Schedule.
35	Submersible foundation sump pump. Provide Zoeller M98 or comparable product. Coordinate location with Civil and tie into Civil's storm drainage system.
47	Provide address identification as directed by the Local Fire Marshal or AHJ, but letter size shall not be less than 4 inches high.
56	Metal louver or vent. Color to match adjacent surface. See Mechanical.
144	Electrical meter. See Electrical.
278	Prefinished metal ridge/hip cap by metal roofing manufacturer.
318	Painted preformed EIFS cornice with trim with factory cut drip groove. See Specification Section 072400 EIFS Exterior Insulation and Finish System.
333	20" x 30" Exterior attic access door, see Specification Section 083113 Access Doors and Frames.



1 03_Exterior Elevation_Right (North)
3/16" = 1'-0"

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Express Oil Change & Tire Engineers

Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

Seguin, Texas

FINAL

No.	Description	Date
IFB-1	Iss for Bid 1 AHJ Rev.	08/01/26
IFB-2	Iss for Bid 2 AHJ Rev.	09/08/26

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Exterior Elevation - Right (North)

Project number	26014
Date	08/01/2026
Drawn by	ARC
Checked by	N/A

A202

Scale 3/16" = 1'-0"

9/11/2025 10:46:13 AM

EXTERIOR FINISH MATERIAL LEGEND



PAINTED SPLIT-FACE CMU

Color: SW7659 Summit Gray
Manuf: Sherwin Williams
Keynote: 19



PAINTED SMOOTH-FACE CMU

Color: SW6966 Bluebl0od
Manuf: Sherwin Williams
Keynote: 16



PAINTED SMOOTH-FACE CMU

Color: SW7075 Web Gray
Manuf: Sherwin Williams
Keynote: 18

HM DOORS

Color: SW7669 Summit Gray
Manuf: Sherwin Williams



STOREFRONT DOORS/WINDOWS

Color: Clear Anodized Aluminum
Manuf: YKK



BOLLARDS

Color: Safety Red
Manuf: Sherwin Williams
Keynote: 20



STANDING SEAM METAL ROOF

Color: Royal Blue
Manuf: Berridge
Keynote: 9



CONDUCTOR HEADS / DOWNSPOUTS

Color: SW7075 Web Gray
Manuf: Sherwin Williams
Keynote: 12

OVERHEAD DOORS

Color: White
Manuf: Overhead Door Co.



TINTED GLAZING

Color: Solarban 90 on Clear
Manuf: Vitro Architectural Glass



EIFS CORNICE & TRIM

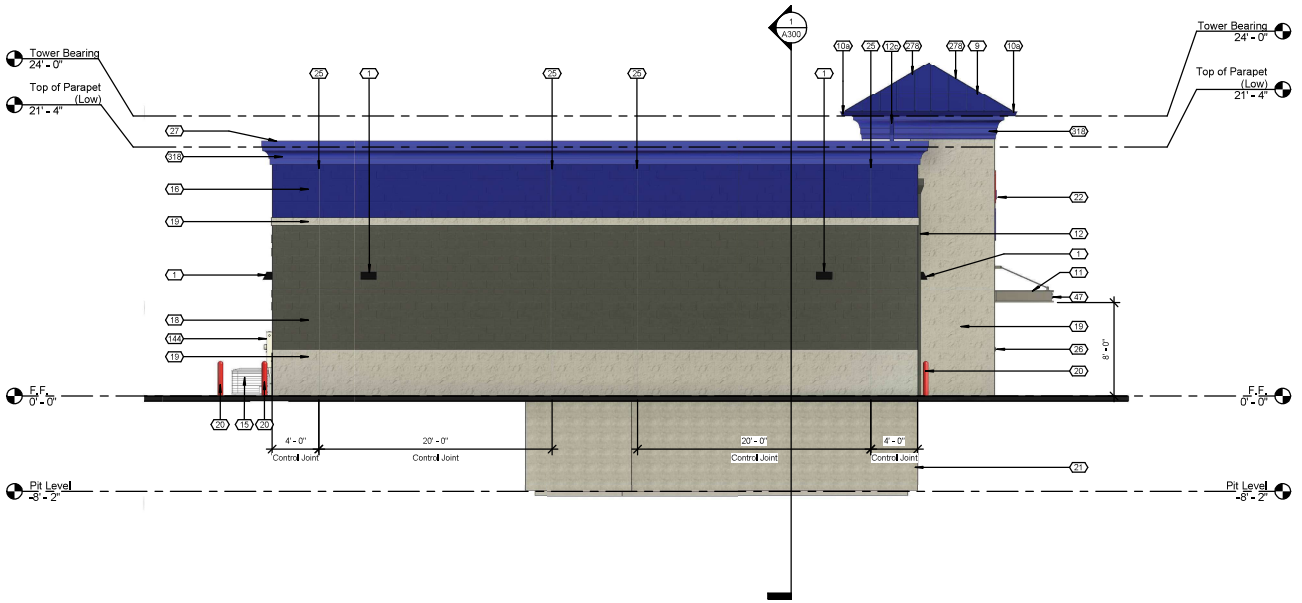
Color: SW6966 Bluebl0od
Manuf: Sherwin Williams
Keynote: 318



GUTTERS/ DOWNSPOUTS

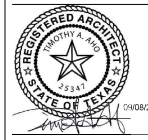
Color: Match SSMR
Keynotes: 10a and 12c

Keynote Schedule	
Tag	Text
1	Wall Pack / Electrical Fixture, See Electrical.
9	Pre-finished standing seam metal roof system. See Specification 074113.16 Standing Seam Metal Roof Panels. See Finish Schedule for color.
10a	Prefinished metal gutter, Match SSMR color.
11	Pre-finished metal canopy. See Details.
12	Pre-finished metal conductor head with built-in overflow and downspout. Drainage to discharge on grade, unless indicated on drawings that drainage is to be piped to storm. (See Civil). Provide a pre-finished elbow and concrete splash block. See Specification 077100 Roof Specialties.
12c	Prefinished metal downspout. Match SSMR color. Discharge on TPO roof below.
15	HVAC condensing unit. See Mechanical.
16	Painted smooth-face CMU. See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule.
18	Painted smooth-face CMU. See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule.
19	Painted split-face CMU (bond beam where indicated, see Structural). See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule. Project 1/2" where indicated on details.
20	4" diameter painted concrete-filled steel pipe bollard. Color as indicated on Finish Schedule. Paint embedded portion of bollard. Use primer and two finish coats. See Details. See Specification 055000 Metal Fabrications.
21	Cash-in-place concrete wall. See Structural. Membrane waterproofing at perimeter of foundation wall as specified. See Specification 334600 Subdrainage.
22	Signage (By Others). See Electrical.
25	Control joint. For control joints in concrete floor slabs, coordinate location with equipment layout by others. Max. distance between control joints in slabs not to exceed 12'-0". Control joints in walls shall be 4'-0" max from wall intersection or corner and every 20'-0".
26	Fire Department Lock Box. Locate as directed by the Local Fire Marshal or AHJ. See Specification 104413 Fire Department Lock Box.
27	Pre-finished metal coping at exposed tops only over self-adhered membrane flashing and pressure treated wood blocking. Slope to drain. Color as indicated on Finish Schedule.
47	Provide address identification as directed by the Local Fire Marshal or AHJ, but letter size shall not be less than 4 inches high.
144	Electrical meter. See Electrical.
278	Prefinished metal ridge/hip cap by metal roofing manufacturer.
318	Painted preformed EIFS cornice with trim with factory cut drip groove. See Specification Section 072400 EIFS Exterior Insulation and Finish System.



1 04_Exterior Elevation_Left (South)
3/16" = 1'-0"

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Express Oil Change & Tire Engineers

Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

Seguin, Texas

FINAL

No.	Description	Date
IFB-1	Iss for Bid 1 AHJ Rev.	08/01/26
IFB-2	Iss for Bid 2 AHJ Rev.	09/08/26

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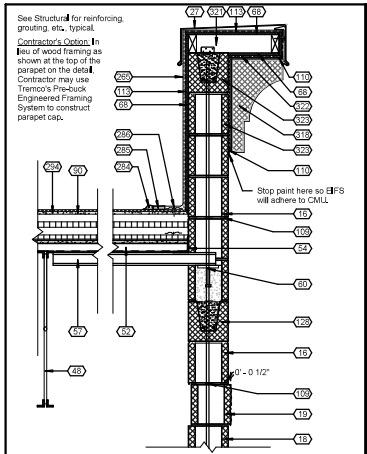
Exterior Elevation - Left (South)

Project number	26014
Date	08/01/2026
Drawn by	ARC
Checked by	N/A

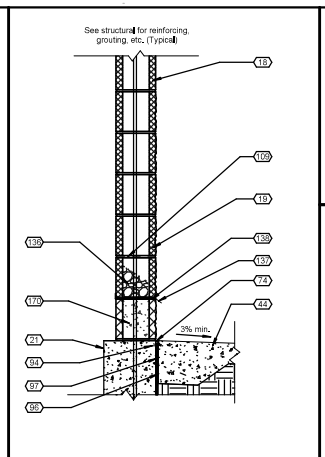
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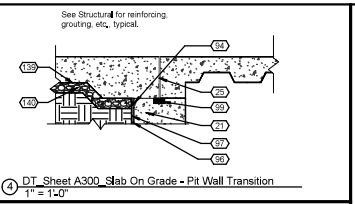
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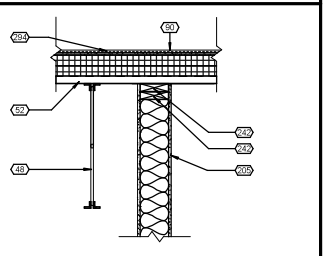
2 DT_Sheet A300 Roof at Parapet (Side Wall) Standard
1" = 1'-0"



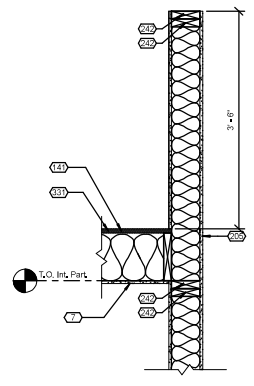
3 DT_Sheet A300_Water Table Detail @ Pit Wall Standard
1" = 1'-0"



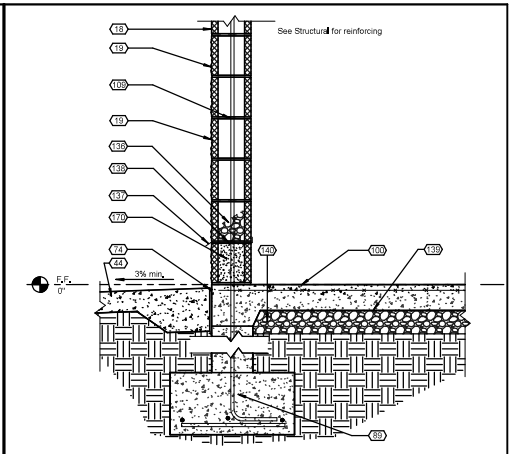
4 DT_Sheet A300_Slab On Grade - Pit Wall Transition
1" = 1'-0"



5 DT_Sheet A300_Wall Detail at Roof
1" = 1'-0"



6 Wall Detail @ Platform (Wall Extended for 42")
1" = 1'-0"



7 DT_Sheet A300_Slab On Grade (Stem Wall)
1" = 1'-0"

Keynote Schedule

Tag	Text
1	Wall Pack / Electrical Fixture. See Electrical.
7	Painted 1/2" gypsum board ceiling secured to structure above. 5/8" Type X where indicated.
16	Painted smooth-face CMU. See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule.
18	Painted smooth-face CMU. See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule.
19	Painted split-face CMU (bond beam where indicated; see Structural). See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule. Project 1/2" where indicated on details.
21	Cast-in-place concrete wall. See Structural. Membrane waterproofing at perimeter of foundation wall as specified. See Specification 334600 Subdrainage.
25	Control joint. For control joints in concrete floor slabs, coordinate location with equipment layout by others. Max. distance between control joints in slabs not to exceed 12'-0". Control joints in walls shall be 4'-0" max from wall intersection or corner and every 20'-0".
27	Pre-finished metal coping at exposed tops only over self-adhered membrane flashing and pressure treated wood blocking. Slope to drain. Color as indicated on Finish Schedule.
33	ADA compliant room / exit sign. See Details.
35	Submersible foundation sump pump. Provide Zoeller M98 or comparable product. Coordinate location with Civil and tie into Civil's storm drainage system.
38	Eyewash station. See Plumbing.

Keynote Schedule

Tag	Text
44	Concrete apron as required. Slope away from building with 3% slope minimum. See Civil. Maintain 2% slope max at all man doors.
46	Oil tank stairs (By Others).
48	Bar joist. See Structural.
52	Galvanized metal roof deck. See Structural.
54	Steel angle. See Structural.
56	Metal louver or vent. Color to match adjacent surface. See Mechanical.
57	Joist extension. See Structural.
58	Verify location and size of pit exhaust opening with Structural and Mechanical drawings.
60	Embed plate. See Structural.
62	4" high stainless steel chair rail (By Others).
65	Word Wall. Use extreme bond primer. Graphics (By Others).
68	1/2" PT exterior plywood sheathing.
74	1/2" expansion joint with backer rod and sealant.
89	Concrete foundation. See Structural.
90	Fully adhered TPO membrane roofing installed per manufacturer's written instructions. See Specification 075423 Thermoplastic Polyolefin (TPO) Roofing.
94	Fasteners at 12" max o.c. for securing subdrainage to pit wall. Follow manufacturer's installation instructions.
96	CCW MiraClay woven geotextile against wall/slab.
97	CCW MiraDrain 6200.

Keynote Schedule

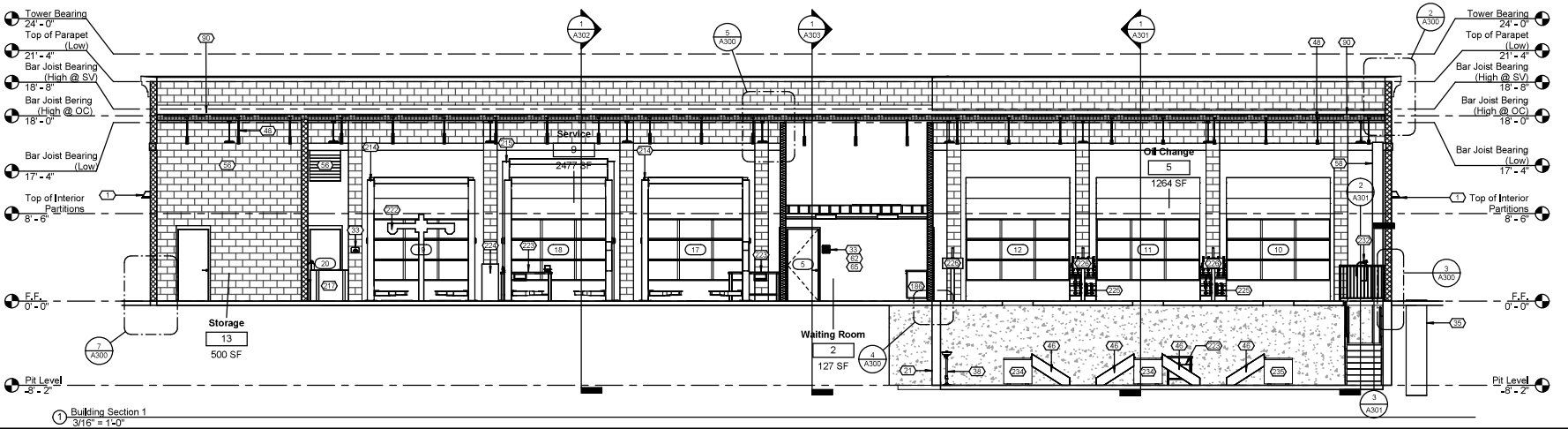
Tag	Text
99	CCW MiraStop BW.
100	Concrete slab. See Structural.
109	Horizontal joint reinforcement at 16" o.c. vertical.
110	Sealant with backer rod.
113	Fluid applied vapor permeable air barrier. See Specification 072726 Fluid Applied Membrane Air Barrier.
128	Painted smooth-face concrete-filled "U" block bond beam. Condition varies. See Structural.
136	Pea gravel above through wall flashing.
137	Flashing to utilize Block-Flash with drainable weeps in addition to the pea gravel specified. Provide a drainage mat in open masonry cell directly above the Block-Flash pan.
138	Drainable weeps at every third mortar joint.
139	10 mil vapor barrier. See Specification 072600 Vapor Retarders.
140	Porous fill. See Geotechnical Report.
141	3/4" tongue and groove plywood on 2x10 wood joists @ 12" o.c. Provide R-38 batt kraft face insulation in between joists. Kraft face in contact with substrate. If applicable, it shall be the Contractor's option to provide plywood attached to bottom of joists for insulation to rest on or secure insulation to joists without the need for the plywood bottom).
170	Fill CMU with grout.
186	Coffee cabinet.
205	1 layer of 1/2" painted gypsum board on both sides of 2"x6" wood studs at 16" o.c. Infill with kraft-faced R-20 batt insulation. Kraft in contact with gypsum board.

Keynote Schedule

Tag	Text
214	10K Lift (By Others).
215	12K Lift (By Others).
217	Wheel balancer (By Others).
222	Alignment scarecrow (By Others).
223	Work bench (By Others).
224	Strut compressor (By Others).
225	Lube console (By Others).
226	Computer podium (By Others).
232	Bracket mounted fire extinguisher. See Specification Section 104416 Fire Extinguishers. Provide sign at all fire extinguisher locations which may be visually obstructed. See Details.
234	928-gallon Class IIIB new oil tank (By Others). Provide a 2" concrete walkway cap with non-slip surface over (oil tank By Others). Coordinate with equipment supplier prior to installation.
235	928-gallon Class IIIB waste oil tank (By Others). Provide a 2" concrete walkway cap with non-slip surface over (oil tank By Others). Coordinate with equipment supplier prior to installation.
242	2x pressure treated wood top plate. Use barrier to prevent corrosion between wood and metal where applicable.
265	TPO membrane turned vertically up the wall and fastened to wood blocking at top roof curb, or top of wall framing per detail. Adhere TPO membrane to wall substrate with manufacturer approved bonding adhesive.
284	Cut edge sealant at TPO roof membrane flashing.

Keynote Schedule

Tag	Text
285	Hot air weld at TPO membrane and membrane flashing.
286	Fastener and seam fastening plate.
294	Polyisocyanurate insulation board (See TPO Spec for required R-value). Provide ½" cover board, mechanically fastened, over the top of insulation in locations where membrane roofing is to be applied.
318	Painted preformed EIFS cornice with trim with factory cut drip groove. See Specification Section 072400 EIFS Exterior Insulation and Finish System.
321	2x pressure treated wood framing spaced at 2'-0" o.c., minimum. Anchor 2x framing into grouted masonry cells using Simpson Strong Tie A23 angle ties. Secure angle ties on each side of framing members using 4 concrete screws on each side.
322	Vapor permeable air and water resistive barrier membrane. See Specification Section 072400 EIFS Exterior Insulation and Finish System.
323	Unpainted smooth-face CMU (bond beam where indicated; see Structural). See Specification 042200 Concrete Unit Masonry.
331	Provide 42" guards at all exposed edges of above ceiling platforms. Concentrated Load: Guards shall be designed to resist a concentrated load of 200 pounds in accordance with Section 4.5.1 of ASCE/SEI 7. Uniform Load: Guards shall be designed to resist a linear load of 50 pounds per linear foot in accordance with Section 4.5.1.1 of ASCE/SEI 7. This load need not be assumed to act concurrently with the concentrated load specified above. Guard infill components except the top rail shall be designed to resist a concentrated load of 50 pounds in accordance with Section 4.5.1.2 of ASCE/SEI 7.



1 Building Section 1
3/16" = 1'-0"

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REGISTERED ARCHITECT TIMOTHY A. AHO 23347 STATE OF TEXAS
04/08/2026

Express Oil Change & Tire Engineers

Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

Seguin, Texas

FINAL

No.	Description	Date
IFB-1	Iss for Bid 1 AHJ Rev.	08/01/26
IFB-2	Iss for Bid 2 AHJ Rev.	09/09/26

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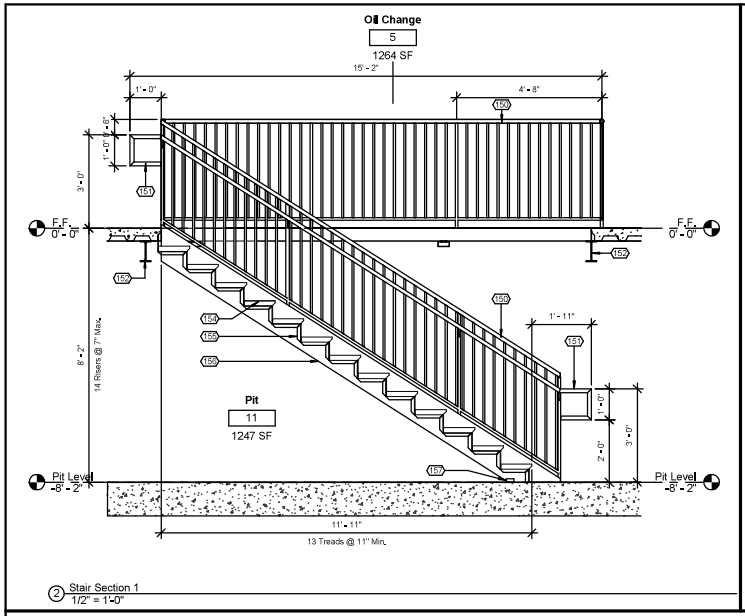
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Date	08/01/2026
Drawn by	ARC
Checked by	N/A

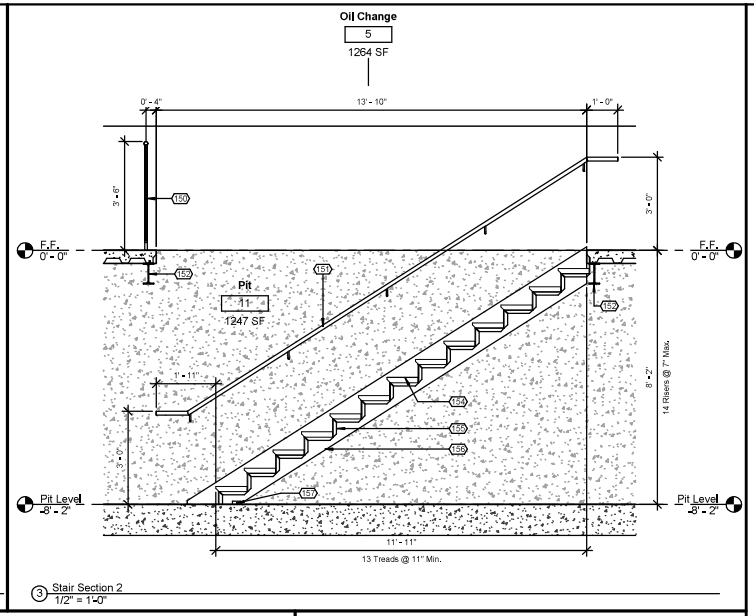
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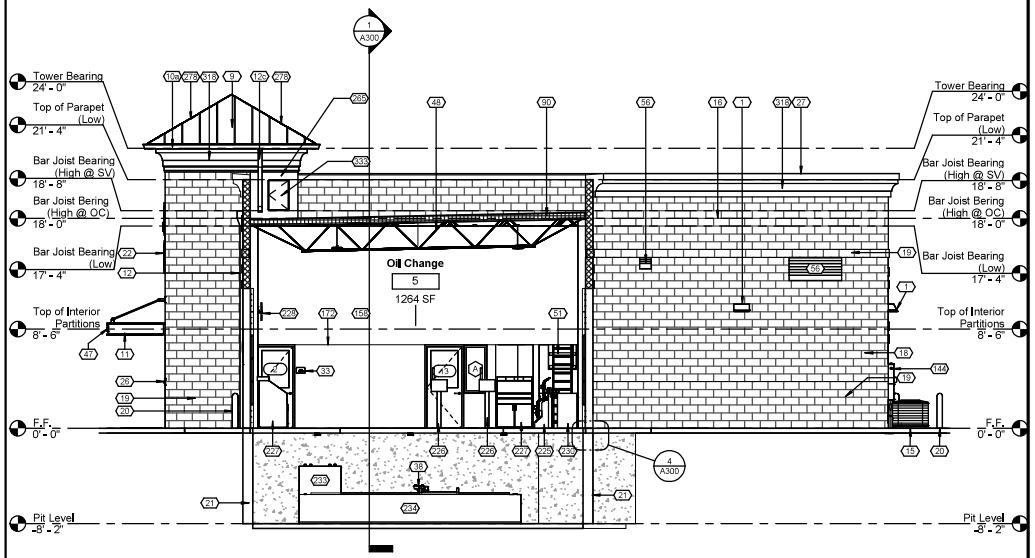


2 Stair Section 1
1/2" = 1'-0"

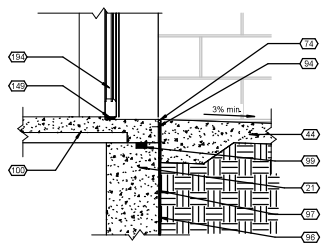


3 Stair Section 2
1/2" = 1'-0"

Keynote Schedule	
Tag	Text
1	Wall Pack / Electrical Fixture. See Electrical.
9	Pre-finished standing seam metal roof system. See Specification 074113.16 Standing Seam Metal Roof Panels. See Finish Schedule for color.
10a	Prefinished metal gutter. Match SSMR color.
11	Pre-finished metal canopy. See Details.
12	Pre-finished metal conductor head with built-in overflow and downspout. Drainage to discharge on grade, unless indicated on drawings that drainage is to be piped to storm. (See Civil). Provide a pre-finished elbow and concrete splash block. See Specification 077100 Roof Specialties.
12c	Prefinished metal downspout. Match SSMR color. Discharge on TPO roof below.
15	HVAC condensing unit. See Mechanical.
16	Painted smooth-face CMU. See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule.
18	Painted smooth-face CMU. See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule.
19	Painted split-face CMU (bond beam where indicated; see Structural). See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule, Project 1/2" where indicated on details.
20	4" diameter painted concrete-filled steel pipe bollard. Color as indicated on Finish Schedule. Paint embedded portion of bollard. Use primer and two finish coats. See Details. See Specification 055000 Metal Fabrications.
21	Cast-in-place concrete wall. See Structural. Membrane waterproofing at perimeter of foundation wall as specified. See Specification 334600 Subdrainage.
22	Signage (By Others). See Electrical.
26	Fire Department Lock Box. Locate as directed by the Local Fire Marshal or AHJ. See Specification 104413 Fire Department Lock Box.
27	Pre-finished metal coping at exposed tops only over self-adhered membrane flashing and pressure treated wood blocking. Slope to drain. Color as indicated on Finish Schedule.
33	ADA compliant room / exit sign. See Details.
38	Eyewash station. See Plumbing.
44	Concrete apron as required. Slope away from building with 3% slope minimum. See Civil. Maintain 2% slope max at all man doors.
47	Provide address identification as directed by the Local Fire Marshal or AHJ, but letter size shall not be less than 4 inches high.
48	Bar joist. See Structural.
51	Attic access ladder.
56	Metal louver or vent. Color to match adjacent surface. See Mechanical.
74	1/2" expansion joint with backer rod and sealant.
90	Fully adhered TPO membrane roofing installed per manufacturer's written instructions. See Specification 075423 Thermoplastic Polyolefin (TPO) Roofing.
94	Fasteners at 12" max o.c. for securing subdrainage to pit wall. Follow manufacturer's installation instructions.
96	CCW MiraClay woven geotextile against wall/slab.
97	CCW MiraDrain 6200.
99	CCW MiraStop BW.
100	Concrete slab. See Structural.
144	Electrical meter. See Electrical.
149	1/2" recess at scheduled door. See Structural.
150	Painted guardrail with painted 1/2" round pickets at 4" max o.c. See Finish Schedule for color. See Specification 055213 Pipe and Tube Railings.
151	Painted 1-1/2" outside diameter pipe handrail. Return handrail to guard/wall. Typical. See Finish Schedule for color. See Specification 055213 Pipe and Tube Railings.
152	Paint all structural steel P-5 Safety Yellow.
154	Concrete filled pre-fabricated metal pan stair treads with safety yellow abrasive nosing, full grit, full length, adhered and fastened. Typical. See Finish Schedule for color. See Specification 055113 Metal Pan Stairs.
155	1-1/4" steel angle rails.
156	10" steel channel stringer. See Finish Schedule for color. See Specification 055113 Metal Pan Stairs.
157	Simpson THD50400.
158	Vinyl letters (By Others).
172	Ensure paint line occurs at top of door and window frames. Ensure all openings, alcoves and windows align with top of door frame. Typical in Oil and Service Bays.
194	Scheduled door. See plans for details.
225	Lube console (By Others).
226	Computer podium (By Others).
227	Cashier computer station (By Others). Clear opening for cashier computer station must be 38 ½" wide minimum. No Exceptions.
228	Convex mirrors (By Others).
230	Tool cart (By Others).
233	275-gallon Class IIIB new oil tank (By Others).
234	926-gallon Class IIIB new oil tank (By Others). Provide a 2" concrete walkway cap with non-slip surface over oil tank By Others). Coordinate with equipment supplier prior to installation.
265	TPO membrane turned vertically up the wall and fastened to wood blocking at top roof curb, or top of wall framing per detail. Adhere TPO membrane to wall substrate with manufacturer approved bonding adhesive.
278	Prefinished metal ridge/hip cap by metal roofing manufacturer.
318	Painted preformed EIFS cornice with trim with factory cut drip groove. See Specification Section 072400 EIFS Exterior Insulation and Finish System.
333	20" x 30" Exterior attic access door, see Specification Section 083113 Access Doors and Frames.



1 Building Section 2
3/16" = 1'-0"



4 DT_Sheet A301_Slab Detail @ Pit Wall
1" = 1'-0"

AHO ARCHITECTS, LLC
www.ahoarch.com
REGISTERED ARCHITECT
TIMOTHY A. AHO
23347
STATE OF TEXAS
04/08/2026

Express Oil Change & Tire Engineers

Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

Seguin, Texas

FINAL

No.	Description	Date
IFB-1	Iss for Bid 1 AHJ Rev.	08/01/26
IFB-2	Iss for Bid 2 AHJ Rev.	09/08/26

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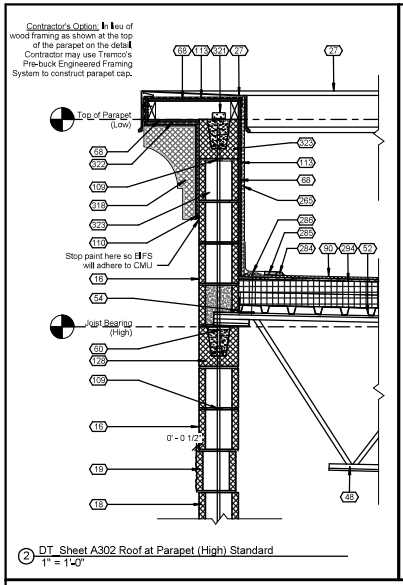
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Date	08/01/2026
Drawn by	ARC
Checked by	N/A

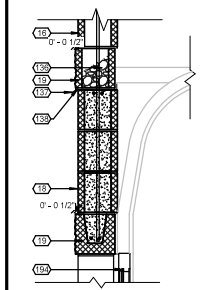
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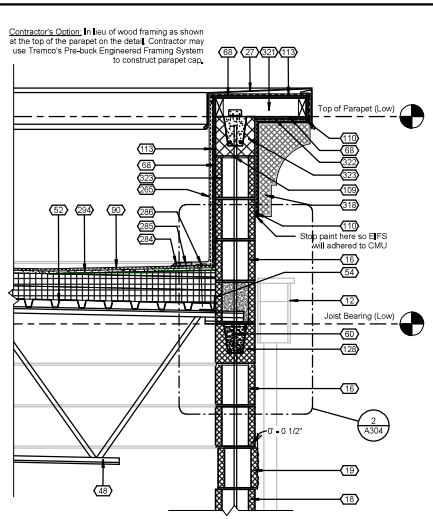
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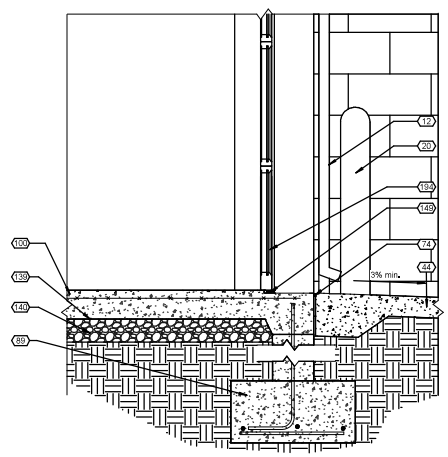
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1" = 1'-0"



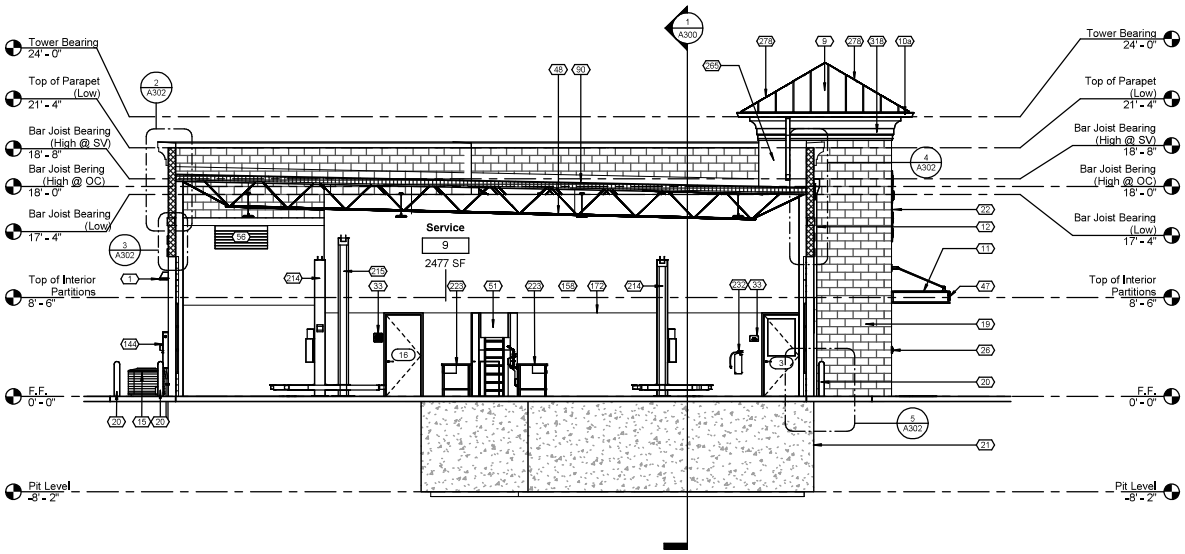
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1" = 1'-0"



4 DT_Sheet A302 Roof at Parapet (Low) Standard
1" = 1'-0"



5 DT_Sheet A302_Slab on Grade @ OH Door (Stem Wall)
1" = 1'-0"



1 Building Section 3
3/16" = 1'-0"

Keynote Schedule

Tag	Text
1	Wall Pack / Electrical Fixture. See Electrical.
9	Pre-finished standing seam metal roof system. See Specification 074113.16 Standing Seam Metal Roof Panels. See Finish Schedule for color.
10a	Prefinished metal gutter. Match SSMR color.
11	Pre-finished metal canopy. See Details.
12	Pre-finished metal conductor head with built-in overflow and downspout. Drainage to discharge on grade, unless indicated on drawings that drainage is to be piped to storm. (See Civil). Provide a pre-finished elbow and concrete splash block. See Specification 077100 Roof Specialties.
15	HVAC condensing unit. See Mechanical.
16	Painted smooth-face CMU. See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule.
18	Painted smooth-face CMU. See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule.
19	Painted split-face CMU (bond beam where indicated; see Structural). See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule. Project 1/2" where indicated on details.
20	4" diameter painted concrete-filled steel pipe bollard. Color as indicated on Finish Schedule. Paint embedded portion of bollard. Use primer and two finish coats. See Details. See Specification 055000 Metal Fabrications.
21	Cast-in-place concrete wall. See Structural. Membrane waterproofing at perimeter of foundation wall as specified. See Specification 334600 Subdrainage.
22	Signage (By Others). See Electrical.
26	Fire Department Lock Box. Locate as directed by the Local Fire Marshal or AHJ. See Specification 104413 Fire Department Lock Box.
27	Pre-finished metal coping at exposed tops only over self-adhered membrane flashing and pressure treated wood blocking. Slope to drain. Color as indicated on Finish Schedule.
33	ADA compliant room / exit sign. See Details.
44	Concrete apron as required. Slope away from building with 3% slope minimum. See Civil. Maintain 2% slope max at all man doors.
47	Provide address identification as directed by the Local Fire Marshal or AHJ, but letter size shall not be less than 4 inches high.
48	Bar joist. See Structural.
51	Attic access ladder.
52	Galvanized metal roof deck. See Structural.
54	Steel angle. See Structural.
56	Metal louver or vent. Color to match adjacent surface. See Mechanical.
60	Embed plate. See Structural.
68	1/2" PT exterior plywood sheathing.
74	1/2" expansion joint with backer rod and sealant.
89	Concrete foundation. See Structural.
90	Fully adhered TPO membrane roofing installed per manufacturer's written instructions. See Specification 075423 Thermoplastic Polyolefin (TPO) Roofing.
100	Concrete slab. See Structural.
109	Horizontal joint reinforcement at 16" o.c. vertical.
110	Sealant with backer rod.
113	Fluid applied vapor permeable air barrier. See Specification 072726 Fluid Applied Membrane Air Barrier.
128	Painted smooth-face concrete-filled "U" block bond beam. Condition varies. See Structural.
136	Pea gravel above through wall flashing.
137	Flashing to utilize BlockFlash with drainable weeps in addition to the pea gravel specified. Provide a drainage mat in open masonry cell directly above the BlockFlash pan.
138	Drainable weeps at every third mortar joint.
139	10 mil vapor barrier. See Specification 072600 Vapor Retarders.
140	Porous fill. See Geotechnical Report.
144	Electrical meter. See Electrical.
149	1/2" recess at scheduled door. See Structural.
158	Vinyl letters (By Others).
172	Ensure paint line occurs at top of door and window frames. Ensure all openings, alcoves and windows align with top of door frame. Typical in Oil and Service Bays.
194	Scheduled door. See plans for details.
214	10K Lift (By Others).
215	12K Lift (By Others).
223	Work bench (By Others).
232	Bracket mounted fire extinguisher. See Specification Section 104416 Fire Extinguishers. Provide sign at all fire extinguisher locations which may be visually obstructed. See Details.
265	TPO membrane turned vertically up the wall and fastened to wood blocking at top roof curb, or top of wall framing per detail. Adhere TPO membrane to wall substrate with manufacturer approved bonding adhesive.
278	Prefinished metal ridge/hip cap by metal roofing manufacturer.
284	Cut edge sealant at TPO roof membrane flashing.
285	Hot air weld at TPO membrane and membrane flashing.
286	Fastener and seam fastening plate.
294	Polyisocyanurate insulation board (See TPO Spec for required R-value). Provide ½" cover board, mechanically fastened, over the top of insulation in locations where membrane roofing is to be applied.
318	Painted preformed EIFS cornice with trim with factory cut drip groove. See Specification Section 072406 EIFS Exterior Insulation and Finish System.
321	2x pressure treated wood framing spaced at 2'-0" o.c. minimum. Anchor 2x framing into grouted masonry cells using Simpson Strong Tie A23 angle ties. Secure angle ties on each side of framing members using 4 concrete screws on each side.
322	Vapor permeable air and water resistive barrier membrane. See Specification Section 072400 EIFS Exterior Insulation and Finish System.
323	Unpainted smooth-face CMU (bond beam where indicated; see Structural). See Specification 042200 Concrete Unit Masonry.

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REGISTERED ARCHITECT TIMOTHY A. AHO #23347 STATE OF TEXAS
04/08/2026

Express Oil Change & Tire Engineers

Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

Seguin, Texas

FINAL

No.	Description	Date
IFB-1	Iss for Bid 1 AHJ Rev.	08/01/26
IFB-2	Iss for Bid 2 AHJ Rev.	09/09/26

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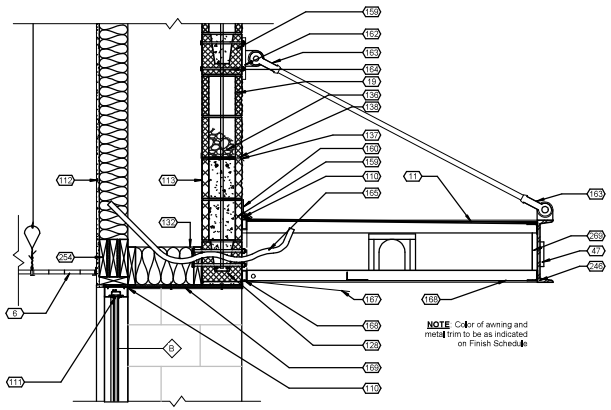
Building Sections

Project number	26014
Date	08/01/2026
Drawn by	ARC
Checked by	N/A

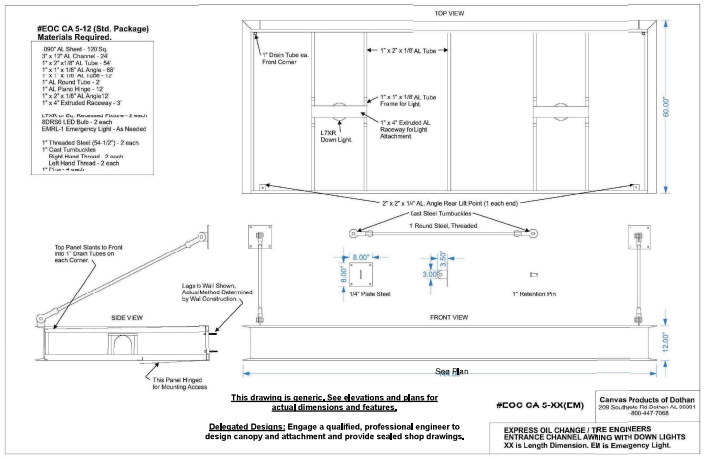
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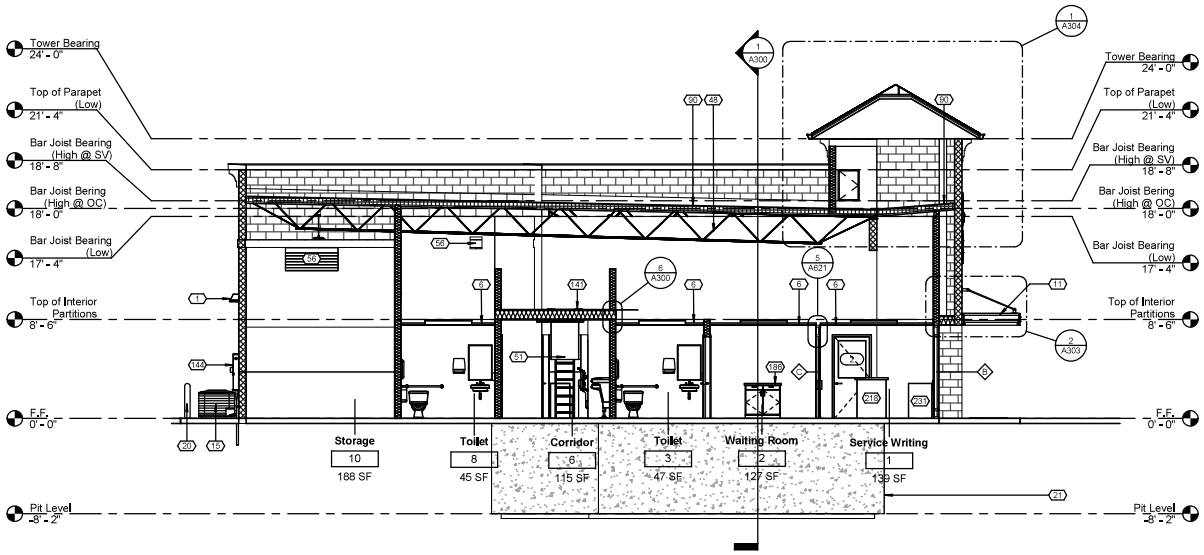


2 DT_Sheet A303_Awning Section
1" = 1'-0"



3 DT_Sheet A303_Awning Details
N.T.S.

Keynote Schedule	
Tag	Text
1	Wall Pack / Electrical Fixture. See Electrical.
6	Lay-in acoustical ceiling tile and grid, supported from structure.
11	Pre-finished metal canopy. See Details.
15	HVAC condensing unit. See Mechanical.
19	Painted split-face CMU (bond beam where indicated; see Structural). See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule. Project 1/2" where indicated on details.
20	4" diameter painted concrete-filled steel pipe bollard. Color as indicated on Finish Schedule. Paint embedded portion of bollard. Use primer and two finish coats. See Details. See Specification 055000 Metal Fabrications.
21	Cast-in-place concrete wall. See Structural. Membrane waterproofing at perimeter of foundation wall as specified. See Specification 334600 Subdrainage.
47	Provide address identification as directed by the Local Fire Marshal or AHJ, but letter size shall not be less than 4 inches high.
48	Bar joist. See Structural.
51	Attic access ladder.
56	Metal louver or vent. Color to match adjacent surface. See Mechanical.
90	Fully adhered TPO membrane roofing installed per manufacturer's written instructions. See Specification 07542 Thermoplastic Polyolefin (TPO) Roofing.
110	Sealant with backer rod.
111	Aluminum storefront with insulated glazing. See Details.
112	Painted 1/2" gypsum board on one side on 2x6 wood studs at 16" o.c. with kraft-face R-20 batt insulation (kraft in contact with gypsum board). See Details.
113	Fluid applied vapor permeable air barrier. See Specification 072726 Fluid Applied Membrane Air Barrier.
128	Painted smooth-face concrete-filled "U" block bond beam. Condition varies. See Structural.
132	2x wood framing @ 16" o.c. with kraft face R-38 batt insulation in between. Kraft face in contact with substrate.
136	Pea gravel above through wall flashing.
137	Flashing to utilize Block Flash with drainable weeps in addition to the pea gravel specified. Provide a drainage mat in open masonry cell directly above the Block Flash pan.
138	Drainable weeps at every third mortar joint.
141	3/4" tongue and groove plywood on 2x10 wood joists @ 12" o.c. Provide R-38 batt kraft face insulation in between joists. Kraft face in contact with substrate. If applicable, it shall be the Contractor's option to provide plywood attached to bottom of joists for insulation to rest on or secure insulation to joists without the need for the plywood bottom).
144	Electrical meter. See Electrical.
159	Painted smooth-face grout-filled CMU (bond beam where indicated) where canopy attaches to wall construction. See Structural.
160	Pre-finished aluminum flashing to match color of canopy. Turn out onto canopy.
162	Pre-finished 8"x8"x1/4" steel plate anchored to wall using through wall fasteners by Canopy manufacturer's designated design.
163	Pre-finished 1" cast steel turnbuckle with 1" threaded steel rod and 1" pins.
164	Anchor canopy to wall using through wall fasteners by Canopy manufacturer's designated design.
165	Provide a 1" flexible conduit extending 12" beyond the face of the wall for canopy lighting. See Electrical.
167	Pre-finished hinged panel for mounting access. Color to match canopy.
168	1"x2" aluminum tube. Typical.
169	Pre-finished metal over 1/2" pressure treated plywood. Terminate at aluminum storefront. Turn up pre-finished metal 1" at edge where metal meets canopy. Secure panel to plywood with fasteners compatible with type and color of metal being used.
186	Coffee cabinet.
218	Service Writing Desk.
231	Beverage refrigerator (By Others).
246	3"x12" aluminum channel.
254	2x wood framing at opening.
269	1" drain tube beyond. Slope top panel of canopy toward the drain tube at the front of the canopy.



1 Building Section 4
3/16" = 1'-0"

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04/08/2026

Express Oil Change & Tire Engineers

Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

Seguin, Texas

FINAL

No.	Description	Date
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IFB-2	Iss for Bid 2 AHJ Rev.	08/08/26

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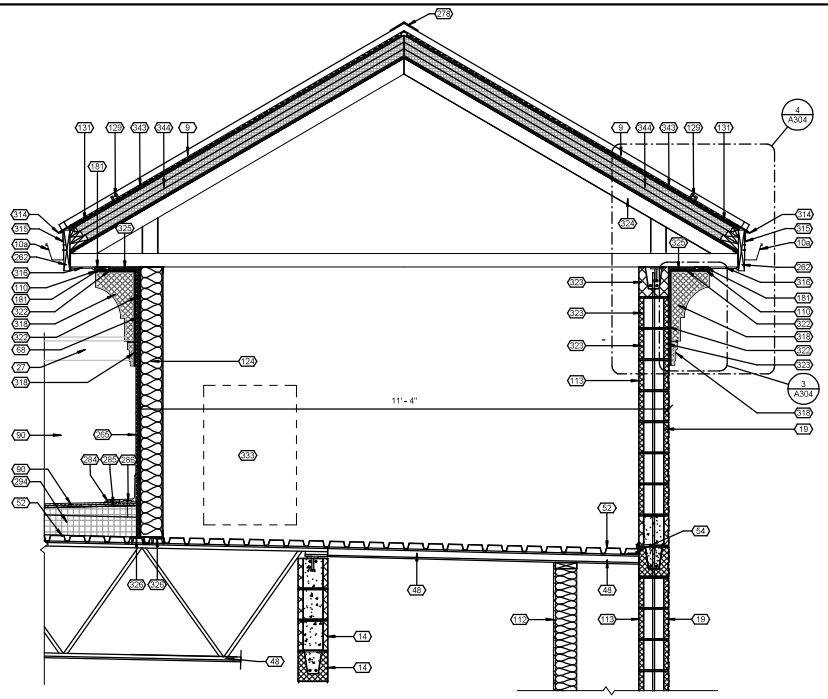
Building Sections

Project number	26014
Date	08/01/2026
Drawn by	ARC
Checked by	N/A

A303

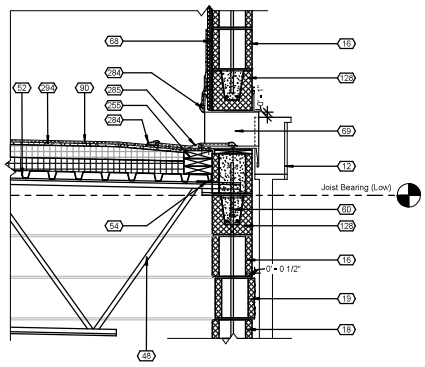
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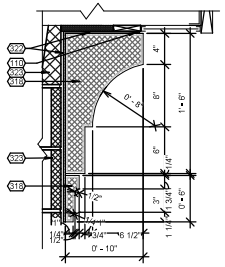


1 DT_Sheet A304_Single Building_Section Thru Front Entry Tower2
3/4" = 1'-0"

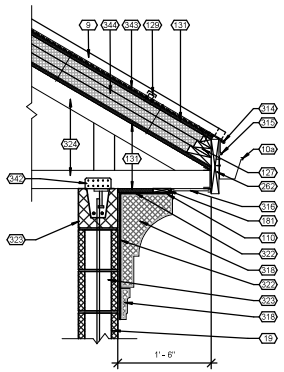
Keynote Schedule	
Tag	Text
9	Pre-finished standing seam metal roof system. See Specification 074113.16 Standing Seam Metal Roof Panels. See Finish Schedule for color.
10a	Prefinished metal gutter. Match SSMR color.
12	Pre-finished metal conductor head with built-in overflow and downspout. Drainage to discharge on grade, unless indicated on drawings that drainage is to be piped to storm. (See Civil). Provide a pre-finished elbow and concrete splash block. See Specification 077100 Roof Specialties.
14	Painted smooth-face CMU (bond beam where indicated; see Structural). See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule.
16	Painted smooth-face CMU. See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule.
18	Painted smooth-face CMU. See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule.
19	Painted split-face CMU (bond beam where indicated; see Structural). See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule. Project 1/2" where indicated on details.
27	Pre-finished metal coping at exposed tops only over self-adhered membrane flashing and pressure treated wood blocking. Slope to drain. Color as indicated on Finish Schedule.
48	Bar joist. See Structural.
52	Galvanized metal roof deck. See Structural.
54	Steel angle. See Structural.
60	Embed plate. See Structural.
68	1/2" PT exterior plywood sheathing.
69	Thru-wall metal roof scupper for roof drainage. See Specification 077100 Roof Specialties.
90	Fully adhered TPO membrane roofing installed per manufacturer's written instructions. See Specification 075423 Thermoplastic Polyolefin (TPO) Roofing.
110	Sealant with backer rod.
112	Painted 1/2" gypsum board on one side on 2x6 wood studs at 16" o.c. with kraft-face R-20 batt insulation (kraft in contact with gypsum board). See Details.
113	Fluid applied vapor permeable air barrier. See Specification 072726 Fluid Applied Membrane Air Barrier.
124	6" metal structural C-stud framing at 16" o.c. with R-20 batt insulation.
127	2x pressure treated wood nailer.
128	Painted smooth-face concrete-filled "U" block bond beam. Condition varies. See Structural.
129	"H" clips at mid-span on standing seam metal roof.
131	5/8" pressure treated plywood decking. See Structural.
181	1x PT wood blocking.
255	2x pressure treated wood blocking. Use barrier to prevent corrosion between wood and metal.
262	2x pressure treated painted wood fascia.
265	TPO membrane turned vertically up the wall and fastened to wood blocking at top roof curb or top of wall framing per detail. Adhere TPO membrane to wall substrate with manufacturer approved bonding adhesive.
278	Prefinished metal ridge/hip cap by metal roofing manufacturer.
284	Cut edge sealant at TPO roof membrane flashing.
285	Hot air weld at TPO membrane and membrane flashing.
286	Fastener and seam fastening plate.
294	Polyisocyanurate insulation board (See TPO Spec for required R-value). Provide ½" cover board, mechanically fastened, over the top of insulation in locations where membrane roofing is to be applied.
314	Field cut seam and form pan around eave flashing.
315	Eave flashing with drip edge. Match SSMR color.
316	Painted soffit. Provide paintable PVC jointer between soffit panels fastened to pressure treated wood blocking. See specification section 074293.
318	Painted preformed EIFS cornice with trim with factory cut drip groove. See Specification Section 072400 EIFS Exterior Insulation and Finish System.
322	Vapor permeable air and water resistive barrier membrane. See Specification Section 072400 EIFS Exterior Insulation and Finish System.
323	Unpainted smooth-face CMU (bond beam where indicated; see Structural). See Specification 042200 Concrete Unit Masonry.
324	Cold-formed metal stud trusses, see Structural.
325	3/4" pressure treated plywood.
326	C channel running continuously within metal deck flute to support metal deck at wall locations. See Structural.
333	20" x 30" Exterior attic access door, see Specification Section 083113 Access Doors and Frames.
342	Truss anchor (See Struct.)
343	Self-adhered high-temperature SBS-modified roof underlayment (SBTM D36)
344	Rigid polyiso roof insulation. See specifications for insulation R-Value.



2 DT_Sheet A304 Roof Scupper Detail (Rear) Standard
1" = 1'-0"



3 Preformed EIFS Cornice and Trim Detail
1 1/2" = 1'-0"



4 Typical Eave Detail
1" = 1'-0"

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TIMOTHY A. AHO
23347
STATE OF TEXAS
04/08/2026

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Building Sections

Project number	26014
Date	08/01/2026
Drawn by	ARC
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A304

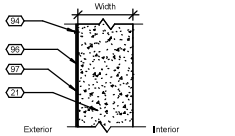
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E1

Refer to structural drawings for reinforcing and other information

Install all waterproofing per manufacturer's recommendations.



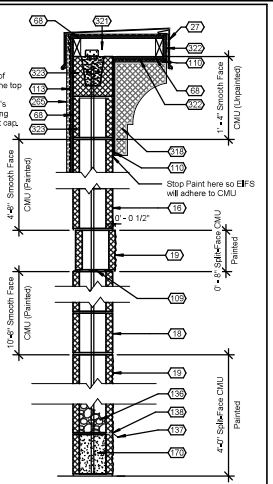
Wall Type No.	Description	Width	Ref Test
E1	As shown	See Struct.	-

E2

Contractor's Option: In lieu of wood framing as shown at the top of the parapet on the detail, Contractor may use Tremco's Pre-buck Engineered Framing System to construct parapet cap.

Refer to structural drawings for reinforcing, grouting, and other information

Install siloxane on the exterior side of wall construction

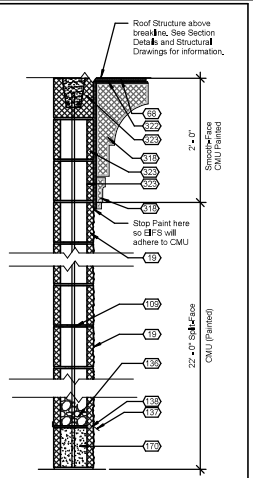


Wall Type No.	Description	Width	Ref Test
E2	As shown	7 5/8"	-

E3

Refer to structural drawings for reinforcing and other information

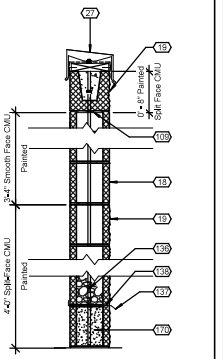
Install siloxane on the exterior side of wall construction



Wall Type No.	Description	Width	Ref Test
E3	As shown	7 5/8"	-

E5

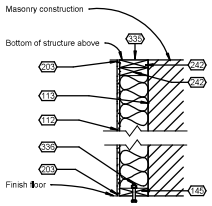
Refer to structural drawings for reinforcing, grouting, and other information



Wall Type No.	Description	Width
E5	As shown	7 5/8"
E5a	As shown, except without coping and painted CMU to roof. See Elevations on A101.	7 5/8"

Keynote Schedule	
Tag	Text
7	Painted 1/2" gypsum board ceiling secured to structure above. 5/8" Type X where indicated.
14	Painted smooth-face CMU (bond beam where indicated; see Structural). See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule.
16	Painted smooth-face CMU. See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule.
18	Painted smooth-face CMU. See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule.
19	Painted split-face CMU (bond beam where indicated; see Structural). See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule. Project 1/2" where indicated on details.
21	Cast-in-place concrete wall. See Structural. Membrane waterproofing at perimeter of foundation wall as specified. See Specification 334600 Subdrainage.
27	Pre-finished metal coping at exposed tops only over self-adhered membrane flashing and pressure treated wood blocking. Slope to drain. Color as indicated on Finish Schedule.
48	Bar joist. See Structural.
52	Galvanized metal roof deck. See Structural.
54	Steel angle. See Structural.
68	1/2" PT exterior plywood sheathing.
94	Fasteners at 12" max o.c. for securing subdrainage to pit wall. Follow manufacturer's installation instructions.
96	CCW MiraClay woven geotextile against wall/slab.
97	CCW MiraDrain 6200.
109	Horizontal joint reinforcement at 16" o.c. vertical.
110	Sealant with backer rod.
112	Painted 1/2" gypsum board on one side on 2x6 wood studs at 16" o.c. with kraft-face R-20 batt insulation (kraft in contact with gypsum board). See Details.
113	Fluid applied vapor permeable air barrier. See Specification 072726 Fluid Applied Membrane Air Barrier.
128	Painted smooth-face concrete-filled "U" block bond beam. Condition varies. See Structural.
133	Firestop safing.
136	Pea gravel above through wall flashing.
137	Flashing to utilize BlockFlash with drainable weeps in addition to the pea gravel specified. Provide a drainage mat in open masonry cell directly above the BlockFlash pan.
138	Drainable weeps at every third mortar joint.
145	2x pressure treated wood sill plate.
170	Fill CMU with grout.
189	2x wood studs at 16" o.c.
203	Acoustical sealant and backer rod. See Specification 079219 Acoustical Joint Sealants.
205	1 layer of 1/2" painted gypsum board on both sides of 2'x6" wood studs at 16" o.c. Infill with kraft-faced R-20 batt insulation. Kraft in contact with gypsum board.
206	Fire caulk both sides. Typical. See Specification 078443 Joint Firestopping.
207	Adhered stone veneer waterstable sill over substrate. Install on mortar setting bed over scratch coat, on 3.4 # galvanized metal lath on rainscreen drainage mat over fluid applied vapor permeable air barrier applied to substrate. Provide manufacturer's finished edge at corners and openings, typical. See Specification 047300 Manufactured Stone Veneer.
242	2x pressure treated wood top plate. Use barrier to prevent corrosion between wood and metal where applicable.
265	TPO membrane turned vertically up the wall and fastened to wood blocking at top roof curb, or top of wall framing per detail. Adhere TPO membrane to wall substrate with manufacturer approved bonding adhesive.
318	Painted preformed EIFS cornice with trim with factory cut drip groove. See Specification Section 072400 EIFS Exterior Insulation and Finish System.
321	2x pressure treated wood framing spaced at 2'-0" o.c. minimum. Anchor 2x framing into grouted masonry cells using Simpson Strong Tie A23 angle ties. Secure angle ties on each side of framing members using 4 concrete screws on each side.
322	Vapor permeable air and water resistive barrier membrane. See Specification Section 072400 EIFS Exterior Insulation and Finish System.
323	Unpainted smooth-face CMU (bond beam where indicated; see Structural). See Specification 042200 Concrete Unit Masonry.
335	Use barrier like felt, butyl tape, polyethylene, etc. anywhere pressure treated wood is in contact with metal.
338	Titen anchor, powder actuated fastener, or anchor bolt as directed by the Structural Engineer.
340	Void form see Structural.

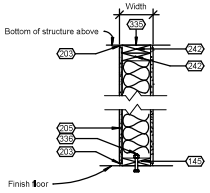
I2



Wall Type No.	Description	Width	Ref Test
I2	As shown	6"	-

I3

Note: Stagger electrical outlet boxes, switches, etc. Seal around all penetrations in wall with acoustical sealant.

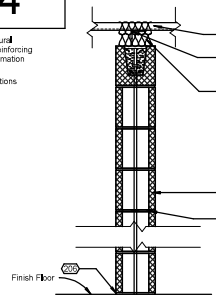


Wall Type No.	Description	Width	Ref Test
I3	As shown	6 1/2"	-
I3a	As shown, except extend only 6" above lay-in ceiling in lieu of extending to bottom of structure above. Brace as required	6 1/2"	
I3b	As shown, except extend 42" above platform in lieu of extending to bottom of structure above	6 1/2"	

I4

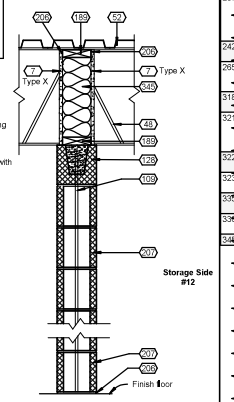
Refer to structural drawings for reinforcing and other information

Seal all pentrations with fire caulk



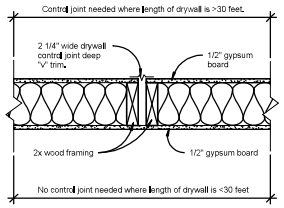
Wall Type No.	Description	Width	Ref Test
I4	As shown - Full Height	7 5/8"	U905/U305

I5

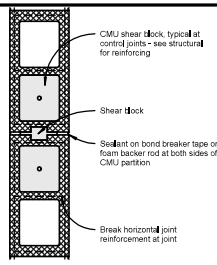


Wall Type No.	Description	Width	Ref Test
I5	1 hour rated wood framed wall.	Varies	U905/U305

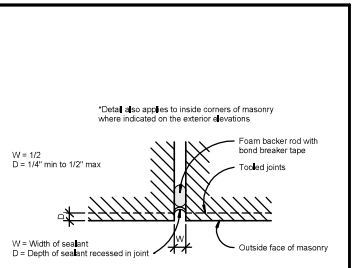
IFB-2



6 DT_Sheet A400_Gypsum Board Control Joint
1 1/2" = 1'-0"



9 DT_Sheet A400_Masonry Control Joint
1 1/2" = 1'-0"



10 DT_Sheet A400_Sealant Detail
6" = 1'-0"

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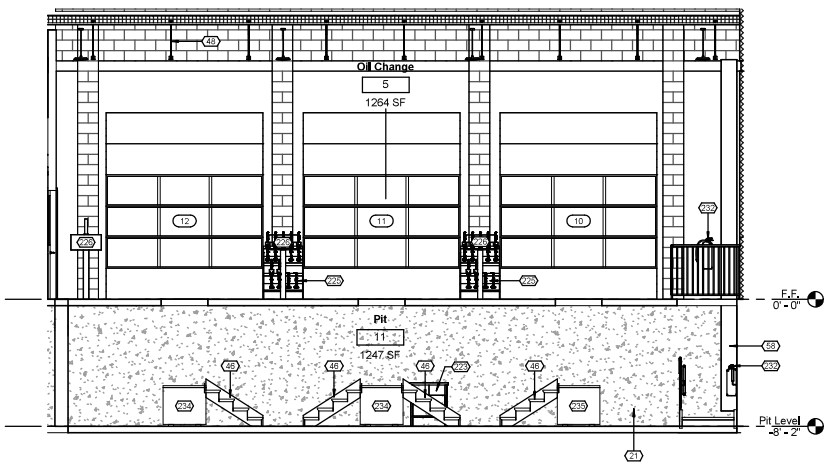
Wall Types

Project number	26014
Date	08/01/2026
Drawn by	ARC
Checked by	N/A

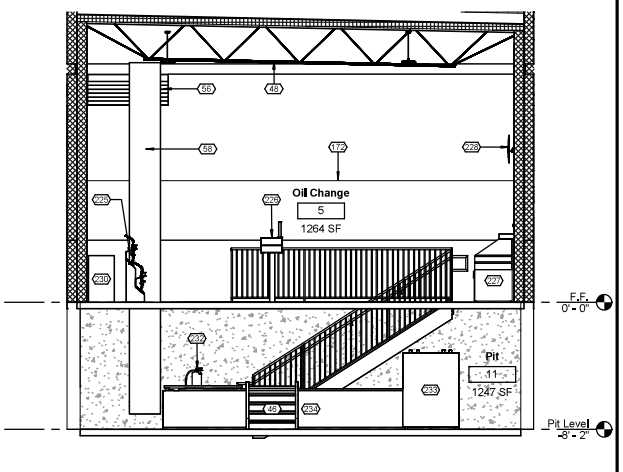
A400

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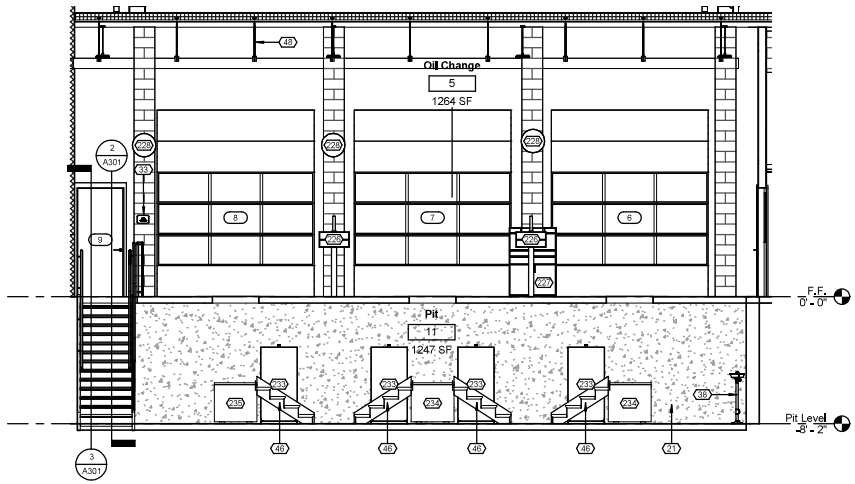
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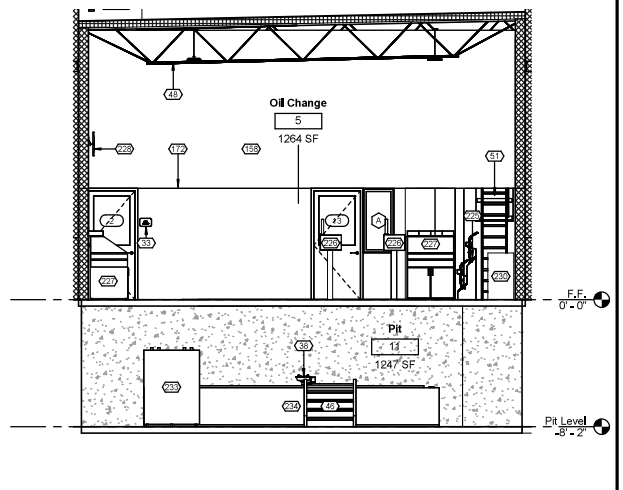
1 Oil Change_Interior Elevation A
1/4" = 1'-0"



2 Oil Change_Interior Elevation B
1/4" = 1'-0"



3 Oil Change_Interior Elevation C
1/4" = 1'-0"

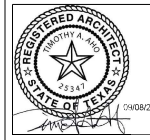


4 Oil Change_Interior Elevation D
1/4" = 1'-0"

Keynote Schedule

Tag	Text
21	Cast-in-place concrete wall. See Structural. Membrane waterproofing at perimeter of foundation wall as specified. See Specification 334600 Subdrainage.
33	ADA compliant room / exit sign. See Details.
38	Eyewash station. See Plumbing.
46	Oil tank stairs (By Others).
48	Bar joist. See Structural.
51	Attic access ladder.
56	Metal louver or vent. Color to match adjacent surface. See Mechanical.
58	Verify location and size of pit exhaust opening with Structural and Mechanical drawings.
158	Vinyl letters (By Others).
172	Ensure paint line occurs at top of door and window frames. Ensure all openings, alcoves and windows align with top of door frame. Typical in Oil and Service Bays.
223	Work bench (By Others).
225	Lube console (By Others).
226	Computer podium (By Others).
227	Cashier computer station (By Others). Clear opening for cashier computer station must be 36 ½" wide minimum. No Exceptions.
228	Convex mirrors (By Others).
230	Tool cart (By Others).
232	Bracket mounted fire extinguisher. See Specification Section 104416 Fire Extinguishers. Provide sign at all fire extinguisher locations which may be visually obstructed. See Details.
233	275-gallon Class IIIB new oil tank (By Others).
234	926-gallon Class IIIB new oil tank (By Others). Provide a 2" concrete walkway cap with non-slip surface over (oil tank By Others). Coordinate with equipment supplier prior to installation.
235	926-gallon Class IIIB waste oil tank (By Others). Provide a 2" concrete walkway cap with non-slip surface over (oil tank By Others). Coordinate with equipment supplier prior to installation.

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Express Oil Change & Tire Engineers

Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

Seguin, Texas

FINAL

No.	Description	Date
IFB-1	Iss for Bid 1 AHJ Rev.	08/01/26
IFB-2	Iss for Bid 2 AHJ Rev.	08/08/26

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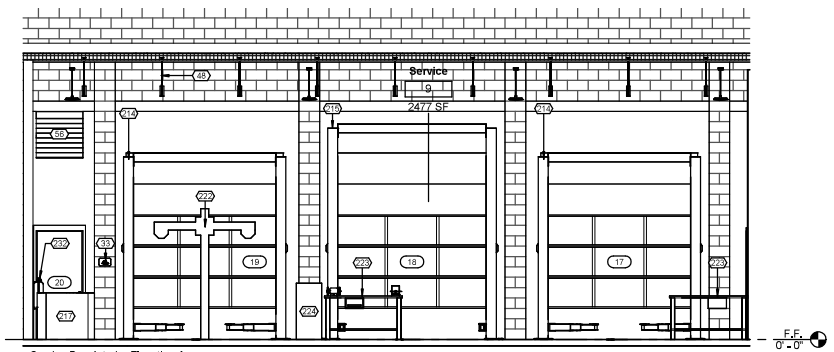
Interior Elevations

Project number	26014
Date	08/01/2026
Drawn by	ARC
Checked by	N/A

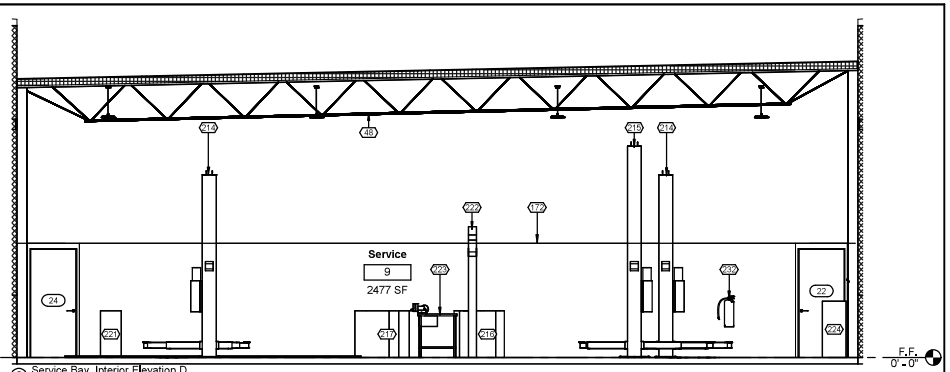
A600

Scale 1/4" = 1'-0"

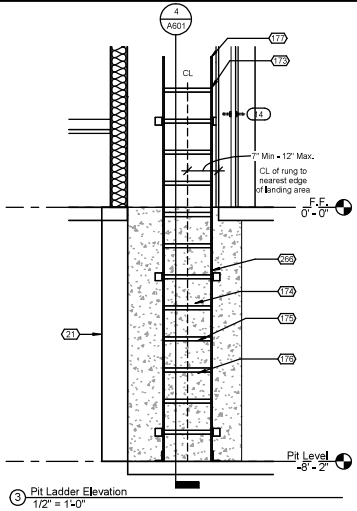
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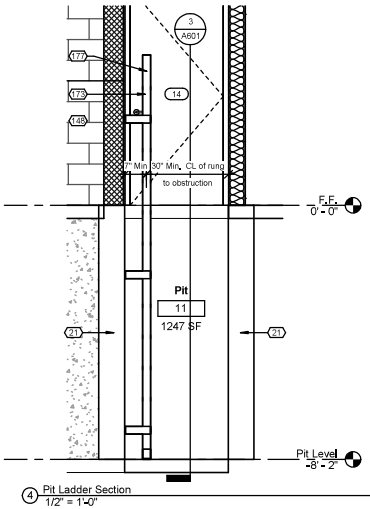
1 Service Bay_Interior Elevation A
1/4" = 1'-0"



2 Service Bay_Interior Elevation D
1/4" = 1'-0"

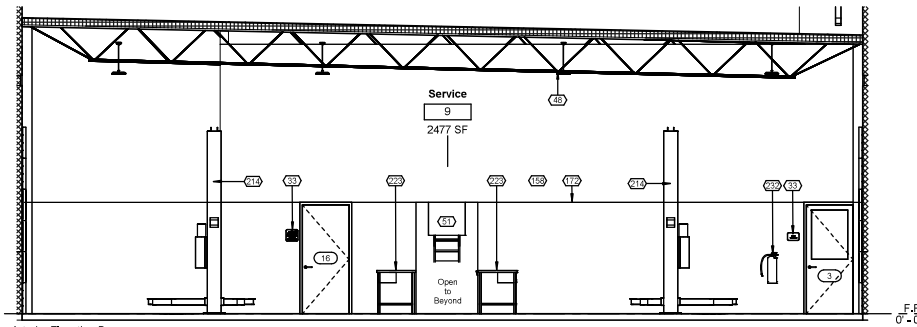


3 Pit Ladder Elevation
1/2" = 1'-0"

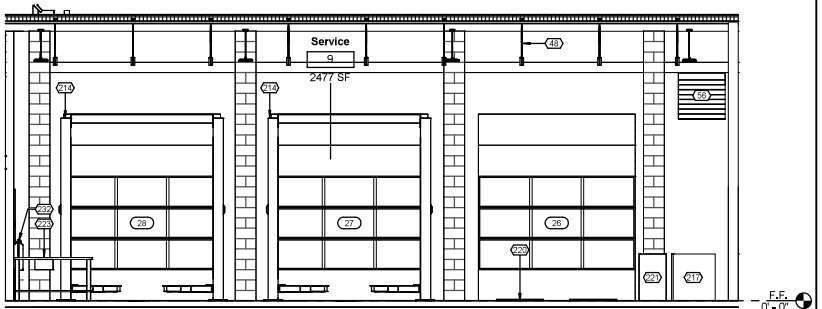


4 Pit Ladder Section
1/2" = 1'-0"

Keynote Schedule	
Tag	Text
21	Cast-in-place concrete wall. See Structural. Membrane waterproofing at perimeter of foundation wall as specified. See Specification 334600 Subdrainage.
33	ADA compliant room / exit sign. See Details.
48	Bar joist. See Structural.
51	Attic access ladder.
56	Metal louver or vent. Color to match adjacent surface. See Mechanical.
148	Latch side of door to be located on side nearest the wall mounted ladder.
158	Vinyl letters (By Others).
172	Ensure paint line occurs at top of door and window frames. Ensure all openings, alcoves and windows align with top of door frame. Typical in Oil and Service Bays.
173	Pit ladder to comply fully with OSHA 1910.23 and 1926.1053.
174	Rungs shall be capable of supporting a single concentrated load of at least 250 lbs. applied to the middle of the rung.
175	Rungs shall be corrugated, knurled, dimpled, coated with skid-resistant material or otherwise treated to minimize slipping.
176	Rungs to be uniformly spaced 10" min. to 14" max. as measured between centerline of rungs.
177	Extend ladder above landing surface to ensure proper grip.
214	10K Lift (By Others).
215	12K Lift (By Others).
216	Tire changer (By Others).
217	Wheel balancer (By Others).
220	Scissor lift alignment (By Others).
221	Scissor lift alignment console (By Others). Provide conduit in slab as required. See alignment lift specifications (By Others).
222	Alignment scarecrow (By Others).
223	Work bench (By Others).
224	Strut compressor (By Others).
232	Bracket mounted fire extinguisher. See Specification Section 104416 Fire Extinguishers. Provide sign at all fire extinguisher locations which may be visually obstructed. See Details.
266	Pit ladder to be painted P-5 Safety Yellow.



5 Service Bay_Interior Elevation B
1/4" = 1'-0"



6 Service Bay_Interior Elevation C
1/4" = 1'-0"

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REGISTERED ARCHITECT
TIMOTHY A. AHO
23347
STATE OF TEXAS
04/08/2026

Express Oil Change & Tire Engineers

Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

Seguin, Texas

FINAL

No.	Description	Date
IFB-1	Iss for Bid 1 AHJ Rev.	08/01/26
IFB-2	Iss for Bid 2 AHJ Rev.	09/08/26

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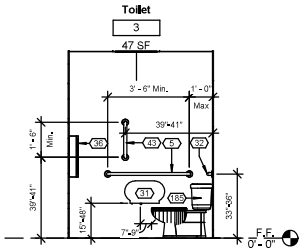
Interior Elevations

Project number	26014
Date	08/01/2026
Drawn by	ARC
Checked by	N/A

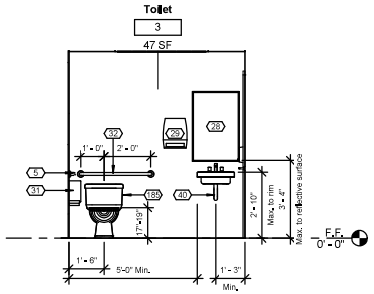
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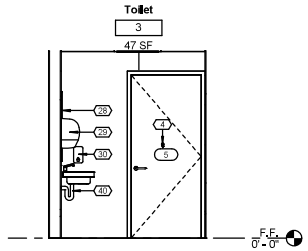
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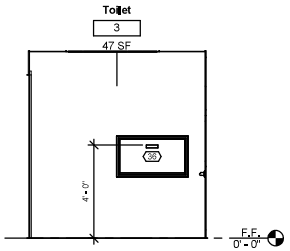
1 Toilet #3_Interior Elevation A
3/8" = 1'-0"



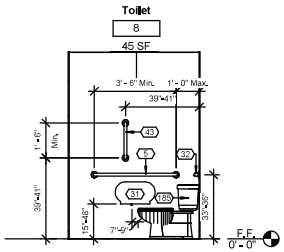
2 Toilet #3_Interior Elevation B
3/8" = 1'-0"



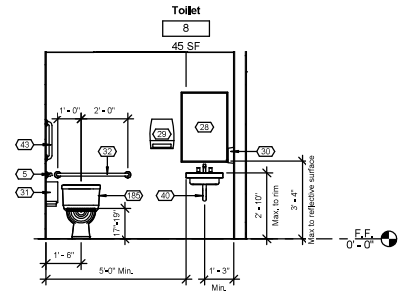
3 Toilet #3_Interior Elevation C
3/8" = 1'-0"



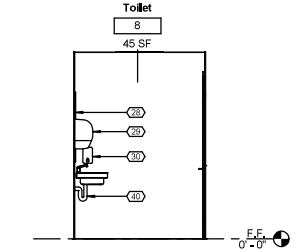
4 Toilet #3_Interior Elevation D
3/8" = 1'-0"



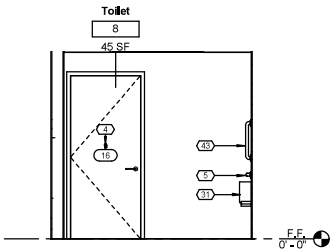
5 Toilet #8_Interior Elevation A
3/8" = 1'-0"



6 Toilet #8_Interior Elevation B
3/8" = 1'-0"

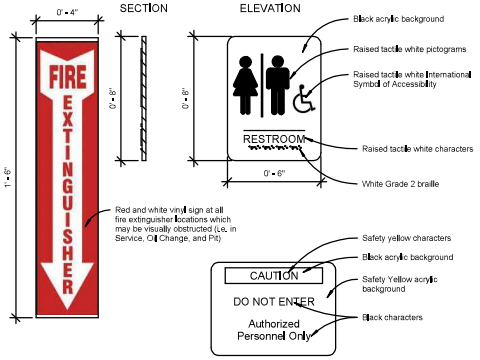


7 Toilet #8_Interior Elevation C
3/8" = 1'-0"

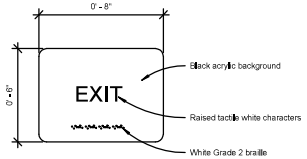


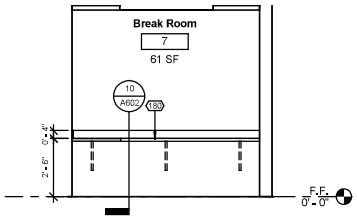
8 Toilet #8_Interior Elevation D
3/8" = 1'-0"

Keynote Schedule	
Tag	Text
4	Robe hook mounted at 48" A.F.F. See Specification 102800 Toilet, Bath, and Laundry Accessories.
5	42" grab bar with blocking in walls as required. See Specification 102800 Toilet, Bath, and Laundry Accessories.
28	Framed mirror. See Specification 102800 Toilet, Bath, and Laundry Accessories.
29	Automatic Towel Dispenser (By others). Provide blocking in wall as required. See Specification 102800 Toilet, Bath, and Laundry Accessories.
30	Wall mounted soap dispenser (By Others). Provide blocking in wall as required. See Specification 102800 Toilet, Bath, and Laundry Accessories.
31	Jumbo Dual Roll Toilet Tissue dispenser (By Others). Provide blocking in wall as required. See Specification 102800 Toilet, Bath, and Laundry Accessories.
32	36" grab bar with blocking in walls as required. See Specification 102800 Toilet, Bath, and Laundry Accessories.
36	Surface mounted baby changing station with blocking in walls as required. See Specification 102800 Toilet, Bath, and Laundry Accessories.
40	Under lavatory guard. See Specification 102800 Toilet, Bath, and Laundry Accessories.
43	24" vertical grab bar with blocking in walls as required. See Specification 102800 Toilet, Bath, and Laundry Accessories.
179	Plastic laminate over 1x wood blocking. See Specification 123623.13 Plastic-Laminate-Clad Countertops. See Finish Schedule for color.
180	Plastic laminate over 3/4" plywood. See Specification 123623.13 Plastic-Laminate-Clad Countertops. See Finish Schedule for color.
181	1x PT wood blocking.
182	Concealed countertop bracket.
183	2x wood cleat.
184	Finish base. See Specification Section 096513 Resilient Base Accessories. See Finish Schedule for color.
185	Flush valve on transfer side of water closet.

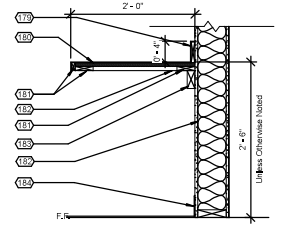


Signage shall comply with Section 703 of the 2017 ICC/ANSI A117.1





12 Break Room_Interior Elevation A
3/8" = 1'-0"



9 DT_Sheet A602_Countertop Section @ Wall
1" = 1'-0"

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04/08/2026

Express Oil Change & Tire Engineers

Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

Seguin, Texas

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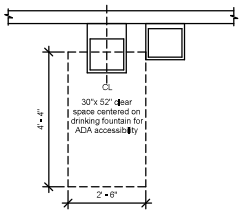
Interior Elevations

Project number	26014
Date	08/01/2026
Drawn by	ARC
Checked by	N/A

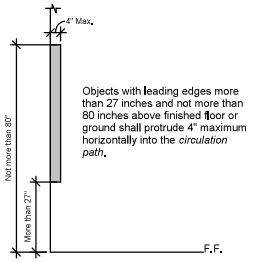
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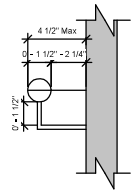
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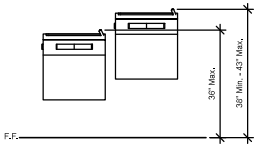
1 DT_Sheet A605_Drinking Fountain_Plan View
1/2" = 1'-0"



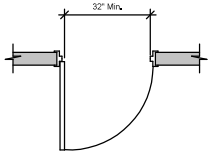
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1/2" = 1'-0"



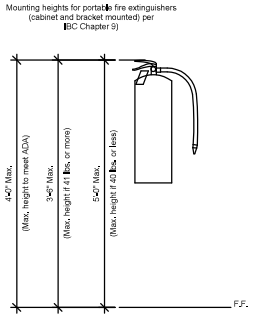
3 DT_Sheet A605_Handrail Detail
3" = 1'-0"



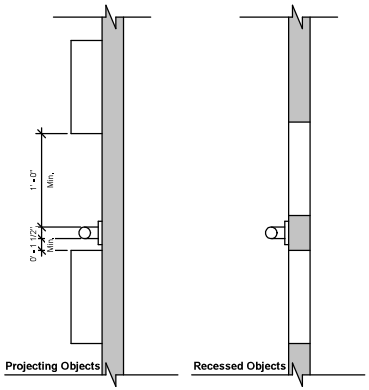
4 DT_Sheet A605_Drinking Fountain_Front View
1/2" = 1'-0"



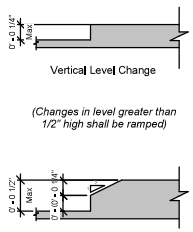
5 DT_Sheet A605_Clear Width @ Doorways
1/2" = 1'-0"



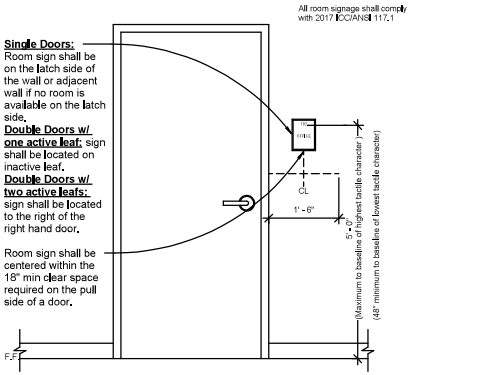
6 DT_Sheet A605_Fire Extinguisher Mounting Heights
1" = 1'-0"



7 DT_Sheet A605_Spacing of Grab Bars
1 1/2" = 1'-0"



8 DT_Sheet A605_Level Change
12" = 1'-0"



9 DT_Sheet A605_Signage Mounting Heights
3/4" = 1'-0"

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04/08/2026

Express Oil Change & Tire Engineers

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Seguin, Texas

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Interior Dimensional Info.

Project number	26014
Date	08/01/2026
Drawn by	ARC
Checked by	N/A

A605

Scale: As indicated

9/11/2025 10:46:44 AM

FLOOR FINISH LEGEND

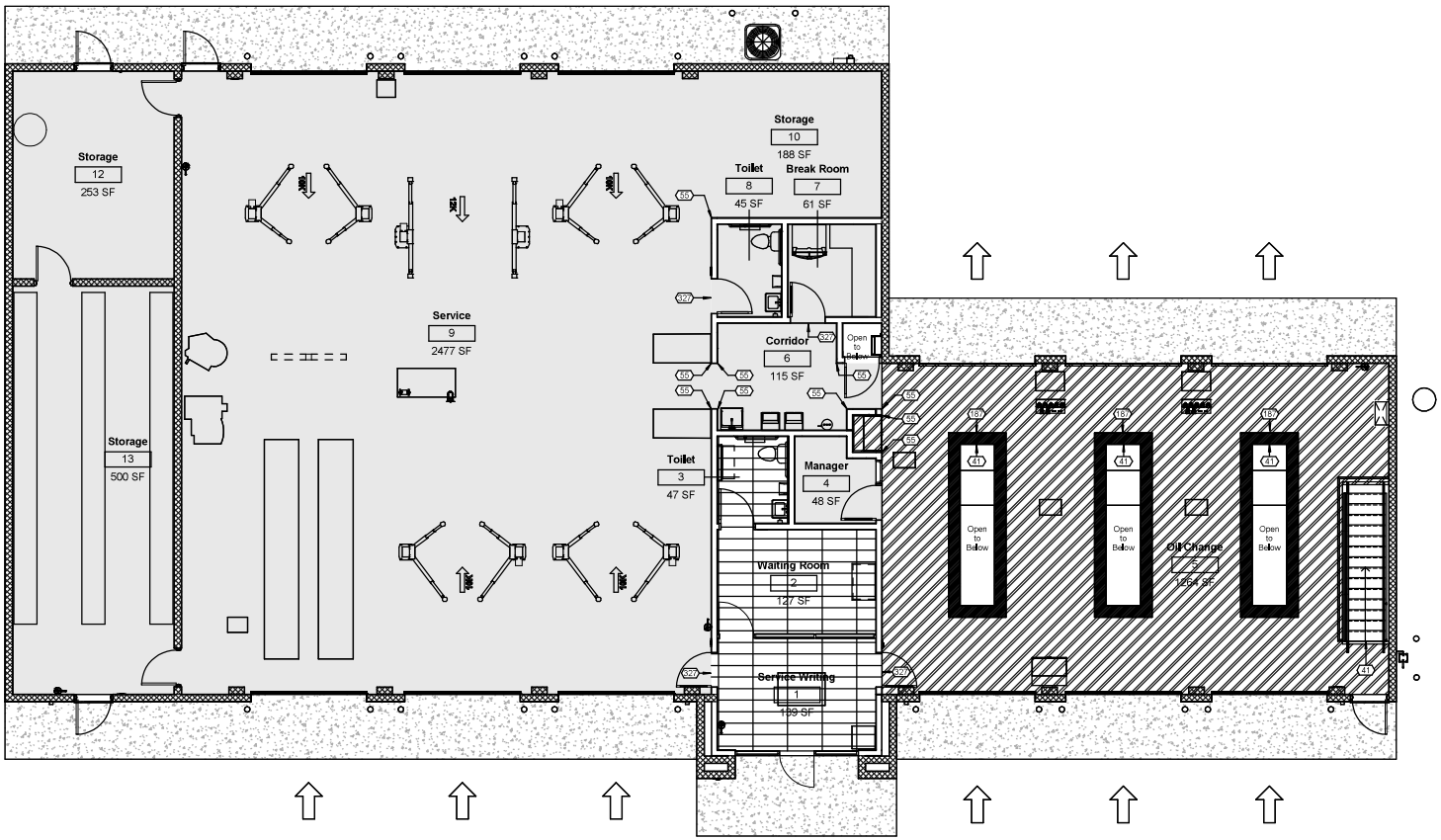
Sealed Concrete

Stonhard Flooring (By Others)

Safety Yellow Paint.

Luxury Vinyl Tile (LVT)

Keynote Schedule	
Tag	Text
41	Paint structural steel at openings P-5 Safety Yellow. Typical for all pit and stairwell openings.
55	Stainless steel corner guard. See Specification 102600 Wall and Door Protection.
187	Paint 12" P-5 Safety Yellow around pit openings. Verify paint is compatible with floor finish.
327	Reducer strip.



② 07_Floor Finish Plan_Main
3/16" = 1'-0"

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04/08/2026

Express Oil Change & Tire Engineers

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Floor Finishes - Main

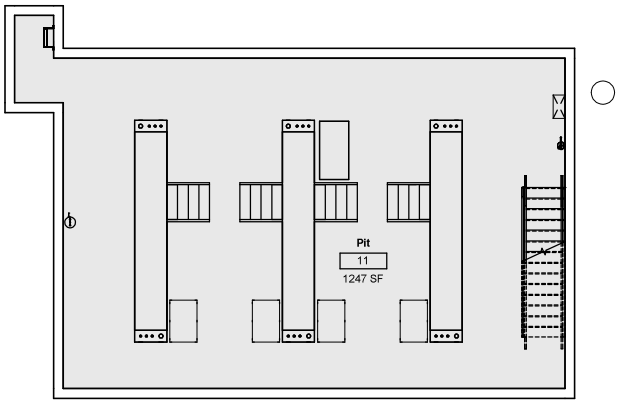
Project number	26014
Date	08/01/2026
Drawn by	ARC
Checked by	N/A
Scale	As indicated

A610

9/11/2025 10:46:45 AM

FLOOR FINISH LEGEND

Sealed Concrete	Stonhard Flooring (By Others)	Safety Yellow Paint.	Luxury Vinyl Tile (LVT)



1 06_Floor Finish Plan_Pit
3/16" = 1'-0"

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REGISTERED ARCHITECT
TIMOTHY A. AHO
23347
STATE OF TEXAS
04/08/2026

Express Oil Change & Tire Engineers
Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage
Seguin, Texas

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No.	Description	Date
FB-1	Iss for Bid 1 AHJ Rev.	08/01/26
FB-2	Iss for Bid 2 AHJ Rev.	08/08/26

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Floor Finishes - Pit

Project number	26014
Date	08/01/2026
Drawn by	ARC
Checked by	N/A

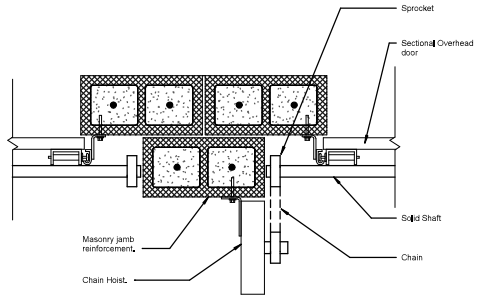
A611

Scale: As indicated

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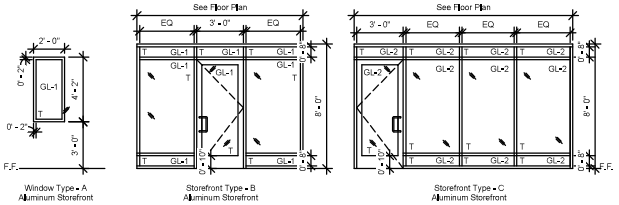
Door and Frame Schedule

Number	Door						Frame			Glass	UL Label	Notes
	Width	Height	Thickness	Door Type	Door Material	Door Finish	Frame Type	Frame Material	Frame Finish			
1	3' - 0"	7' - 0"	0' - 1 3/4"	SF	Aluminum / Glass	Factory Finish	3	Aluminum	Factory Finish	Tempered		If required by the Fire Marshal or AHJ, add lettering that reads "This door must remain unlocked when business is occupied."
2	3' - 0"	7' - 0"	0' - 1 3/4"	FV	Wood / Glass	Painted	1	Hollow Metal	Painted	Tempered		
3	3' - 0"	7' - 0"	0' - 1 3/4"	FV	Wood / Glass	Painted	1	Hollow Metal	Painted	Tempered		
4	3' - 0"	7' - 0"	0' - 1 3/4"	SF	Aluminum / Glass	Factory Finish	3	Aluminum	Factory Finish	Tempered		
5	3' - 0"	7' - 0"	0' - 1 3/4"	F	Wood	Painted	1	Hollow Metal	Painted	N/A		
6	10' - 0"	12' - 0"	0' - 2 1/8"	OH	Metal / Glass	Factory Finish	N/A	N/A	Factory Finish	Tempered		
7	10' - 0"	12' - 0"	0' - 2 1/8"	OH	Metal / Glass	Factory Finish	N/A	N/A	Factory Finish	Tempered		
8	10' - 0"	12' - 0"	0' - 2 1/8"	OH	Metal / Glass	Factory Finish	N/A	N/A	Factory Finish	Tempered		
9	3' - 0"	7' - 0"	0' - 1 3/4"	F	Hollow Metal	Painted	2	Hollow Metal	Painted	N/A		
10	10' - 0"	12' - 0"	0' - 2 1/8"	OH	Metal / Glass	Factory Finish	N/A	N/A	Factory Finish	Tempered		
11	10' - 0"	12' - 0"	0' - 2 1/8"	OH	Metal / Glass	Factory Finish	N/A	N/A	Factory Finish	Tempered		
12	10' - 0"	12' - 0"	0' - 2 1/8"	OH	Metal / Glass	Factory Finish	N/A	N/A	Factory Finish	Tempered		
13	3' - 0"	7' - 0"	0' - 1 3/4"	FV	Wood / Glass	Painted	1	Hollow Metal	Painted	Tempered		
14	3' - 0"	7' - 0"	0' - 1 3/4"	F	Wood	Painted	1	Hollow Metal	Painted	N/A		
15	3' - 0"	7' - 0"	0' - 1 3/4"	FV	Wood / Glass	Painted	1	Hollow Metal	Painted	Tempered		
16	3' - 0"	7' - 0"	0' - 1 3/4"	F	Wood	Painted	1	Hollow Metal	Painted	N/A		
17	10' - 0"	12' - 0"	0' - 2 1/8"	OH	Metal / Glass	Factory Finish	N/A	N/A	Factory Finish	Tempered		
18	10' - 0"	12' - 0"	0' - 2 1/8"	OH	Metal / Glass	Factory Finish	N/A	N/A	Factory Finish	Tempered		
19	10' - 0"	12' - 0"	0' - 2 1/8"	OH	Metal / Glass	Factory Finish	N/A	N/A	Factory Finish	Tempered		
20	3' - 0"	7' - 0"	0' - 1 3/4"	F	Hollow Metal	Painted	2	Hollow Metal	Painted	N/A		
21	3' - 0"	7' - 0"	0' - 1 3/4"	F	Hollow Metal	Painted	2	Hollow Metal	Painted	N/A		
22	3' - 0"	7' - 0"	0' - 1 3/4"	F	Hollow Metal	Painted	2	Hollow Metal	Painted	N/A	45 Min.	Provide Fire Rated label on Door and Frame
23	3' - 0"	7' - 0"	0' - 1 3/4"	F	Hollow Metal		2	Hollow Metal		N/A		
24	3' - 0"	7' - 0"	0' - 1 3/4"	F	Hollow Metal	Painted	2	Hollow Metal	Painted	N/A	45 Min.	Provide Fire Rated label on Door and Frame
25	3' - 0"	7' - 0"	0' - 1 3/4"	F	Hollow Metal	Painted	2	Hollow Metal	Painted	N/A		
26	10' - 0"	12' - 0"	0' - 2 1/8"	OH	Metal / Glass	Factory Finish	N/A	N/A	Factory Finish	Tempered		
27	10' - 0"	12' - 0"	0' - 2 1/8"	OH	Metal / Glass	Factory Finish	N/A	N/A	Factory Finish	Tempered		
28	10' - 0"	12' - 0"	0' - 2 1/8"	OH	Metal / Glass	Factory Finish	N/A	N/A	Factory Finish	Tempered		



1 DT_Sheet A620_Chain Hoist Detail
1 1/2" = 1'-0"

WINDOW LEGEND

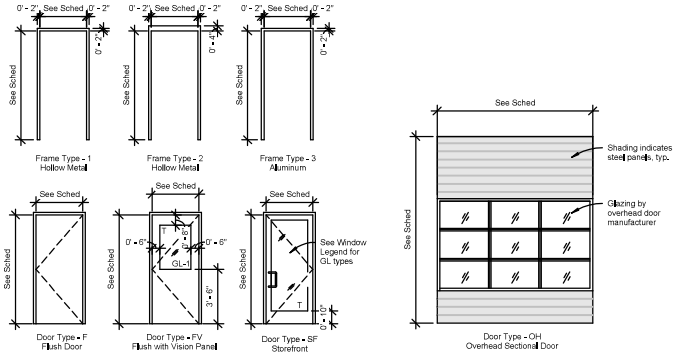


Window Type - A
Aluminum Storefront

Storefront Type - B
Aluminum Storefront

Storefront Type - C
Aluminum Storefront

DOOR AND FRAME LEGEND



Frame Type - 1
Hollow Metal

Frame Type - 2
Hollow Metal

Frame Type - 3
Aluminum

Door Type - F
Flush Door

Door Type - FV
Flush with Vision Panel

Door Type - SF
Storefront

Door Type - OH
Overhead Sectional Door

NOTE: Refer to floor plan for direction of door swing.

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REGISTERED ARCHITECT · TIMOTHY A. AHO · 23347 · STATE OF TEXAS
04/08/2026

Express Oil Change & Tire Engineers

Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

Seguin, Texas

FINAL

No.	Description	Date
FB-1	Iss for Bid 1 AHJ Rev.	08/01/26
FB-2	Iss for Bid 2 AHJ Rev.	08/08/26

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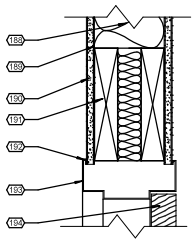
Schedules

Project number	26014
Date	08/01/2026
Drawn by	ARC
Checked by	N/A

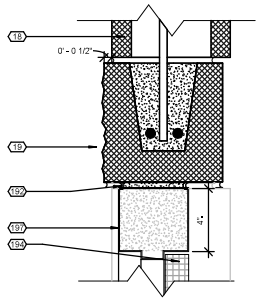
A620

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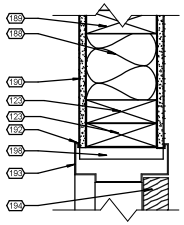
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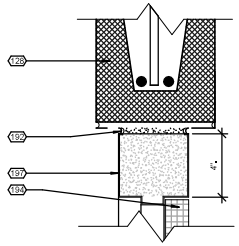
1 DT_Sheet A621_Door Head Detail_Wood
3" = 1'-0"



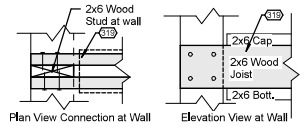
2 DT_Sheet A621_Door Head Detail_Masonry (Exterior)
3" = 1'-0"



3 DT_Sheet A621_Door Jamb Detail_Wood
3" = 1'-0"

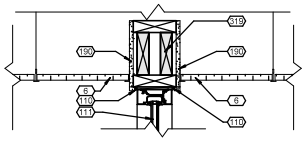


4 DT_Sheet A621_Door Head Detail_Masonry (Interior)
3" = 1'-0"

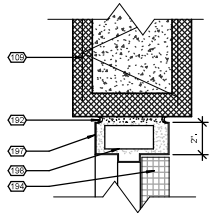


Plan View Connection at Wall

Elevation View at Wall



5 DT_Sheet A621_Wood Header @ Interior Storefront
1 1/2" = 1'-0"



6 DT_Sheet A621_Door Jamb Detail_Masonry
3" = 1'-0"

Dover Gray is a Custom Color:

Deep Base CCE Colorant	OZ	32	64	128
W1 White	-	14	1	1
B1 Black	2	26	1	1
R2 Maroon	-	4	-	1
Y3 Deep Gold	-	17	1	1

Keynote Schedule

Tag	Text
6	Lay-in acoustical ceiling tile and grid, supported from structure.
18	Painted smooth-face CMU. See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule.
19	Painted split-face CMU (bond beam where indicated, see Structural). See Specification 042200 Concrete Unit Masonry. Color as indicated on Finish Schedule. Project 1/2" where indicated on details.
109	Horizontal joint reinforcement at 16" o.c. vertical.
110	Sealant with backer rod.
111	Aluminum storefront with insulated glazing. See Details.
123	Blocking. See Structural.
128	Painted smooth-face concrete-filled "U" block bond beam. Condition varies. See Structural.
188	Kraft-faced batt insulation. Kraft in contact with gypsum board.
189	2x wood studs at 16" o.c.
190	1/2" painted gypsum board.
191	Double 2"x8" wood header.
192	Caulk all around on both sides.
193	Painted hollow metal frame with returns. See Finish Schedule for color.
194	Scheduled door. See plans for details.
197	Painted hollow metal frame, grouted solid.
198	Jamb anchors. Provide 3 per jamb.
319	Wood stud header at interior storefront. (4) 2x6 wood studs attached to extended wood stud at bearing wall. Extend wood stud in bearing wall up to roof deck. Brace as required.

Material Schedule

Abbreviation	Material Description	Manufacturer	Style Name or Number	Color (Description)	Size	Finish	Material Notes
ACT-1	Acoustical Ceiling Tile	Armstrong	1775 Dune	White	24"x24"	N/A	Suprafine XL 9/16" Exposed Tee Grid
P-1	Paint - Color 1	Sherwin Williams	See Paint Schedule on G202	SW6966 Bluestood	N/A	See Paint Schedule on G202	
P-2	Paint - Color 2	Sherwin Williams	See Paint Schedule on G202	Custom Color (Dover Gray)	N/A	See Paint Schedule on G202	
P-3	Paint - Color 3	Sherwin Williams	See Paint Schedule on G202	SW7669 Summit Gray	N/A	See Paint Schedule on G202	
P-4	Paint - Color 4	Sherwin Williams	See Paint Schedule on G202	SW6959 Bluechip	N/A	See Paint Schedule on G202	
P-5	Paint - Color 5	Sherwin Williams	See Paint Schedule on G202	Safety Yellow	N/A	See Paint Schedule on G202	
P-6	Paint - Color 6	Sherwin Williams	See Paint Schedule on G202	Safety Red	N/A	See Paint Schedule on G202	
P-7	Paint - Color 7	Sherwin Williams	See Paint Schedule on G202	SW7006 Extra White	N/A	See Paint Schedule on G202	
P-8	Paint - Color 8	Sherwin Williams	See Paint Schedule on G202	SW7075 Web Gray	N/A	See Paint Schedule on G202	
PL-1	Plastic Laminate - Color 1	Wilsonart	4880-38	Carbon Mesh	N/A	N/A	
RB	Rubber Base	Ropee	Pinnacle	669 Battleship	4"	N/A	
SC	Sealed Concrete	Sherwin Williams	See Paint Schedule on G202	Haze Gray	N/A	See Paint Schedule on G202	Add SharkGrip for added slip resistance
SH	StonHard Flooring	StonHard	N/A	N/A	N/A	N/A	Provided and installed by (Others)
FRP-1	Fiberglass Reinforced Panels	Marlite	4'x8' Textured Panels	P430N Medium Gray	4'x8'	Pebbled	
LVT	Lux. Vinyl Tile	Tarkett	Contour Mineral Basalt PCMB	4845 Paved Path	12"x36"		

Finish Schedule for Additional Items

1.	Doors & Frames: Paint P-3	9.	Keynote 16: P-1	17.	Door Hardware: Satin Chrome	25.	Dumpster Gate / Frame: P-3
2.	Bollards & Dumpster Posts: P-6	10.	Not Used.	18.	Window Gaskets: Light Gray	26.	Overhead Door: White
3.	Exterior Pole Sign: By others.	11.	Keynote 18: P-8	19.	Exterior Aluminum Storefront & Door: Clear Anodized	27.	Lintel at OH Doors: P-3
4.	Conductor Head / Downspouts: Match P-8	12.	Keynote 19: P-3	20.	Abrasive Nosing: Safety Yellow	28.	Countertop Carbon Mesh: PL-1
5.	Electrical covers to be brushed aluminum	13.	Knox Box: Aluminum	21.	Interior Aluminum Storefront & Door: Clear Anodized	29.	EIFS Cornice & Trim: P-1
6.	Paint all louvers to match adjacent finish	14.	Roof: White TPO	22.	Chair Rail: Stainless Steel by others	30.	SSMR: Royal Blue
7.	Keynote #327 Reducer Strip: Roppe Charcoal 123	15.	Coping Cap @ Dumpster: Match P-1	23.	Wood Wall: P-3	31.	Bar Joists: Prefinished Gray
8.	Stairs & Railings & Interior Ladder (if req'd): P-5	16.	Coping Cap @ Bldg: Match P-1	24.	Canopy: Pantone 425C	32.	Metal Deck: Prefinished Gray

Finish Schedule

Number	Name	Area	Floor Finish	Base Finish	Walls				Ceiling Finish	Remarks
					Rear (West)	Right (North)	Front (East)	Left (South)		
1	Service Writing	139 SF	LVT	RB	Storefront	P-1, P-2, P-3	Storefront & P-1, P-2, P-3	P-1, P-2, P-3	ACT-1	See G301 for paint patterns
2	Waiting Room	127 SF	LVT	RB	P-3 & Vinyl Graphics (By Others)	P-1, P-2, P-3	Storefront	P-1, P-2, P-3	ACT-1	See G301 for paint patterns. Word Wall with Vinyl Graphics (By Others) to be painted P-3
3	Toilet	47 SF	LVT	RB	FRP-1	FRP-1	FRP-1	FRP-1	ACT-1	
4	Manager	48 SF	SC	RB	P-3	P-3	P-3	P-3	ACT-1	
5	Oil Change	1264 SF	SH	None / RB	P-3	P-1, P-4	P-3	P-1, P-4 & Vinyl Graphics (By Others)	No Ceiling	Rubber base on gypsum board walls only. See G301 for paint patterns.
6	Corridor	115 SF	SC	RB	P-1	P-1	FRP-1	P-1	P-7	
7	Break Room	61 SF	SC	RB	P-3	P-3	P-3	P-3	ACT-1	
8	Toilet	45 SF	SC	RB	FRP-1	FRP-1	FRP-1	FRP-1	ACT-1	
9	Service	2477 SF	SC	None / RB	P-3	P-1, P-4 & Vinyl Graphics (By Others)	P-3	P-1, P-4	No Ceiling	Rubber base on gypsum board walls only. See G301 for paint patterns.
10	Storage	188 SF	SC	None / RB	P-3	P-1, P-4	P-1, P-4	None	No Ceiling	
11	Pit	1247 SF	SC	None	None	None	None	None	N/A	Paint all structural steel in Pit P-5 Safety Yellow.
12	Storage	253 SF	SC	None	P-3	P-3	P-3	P-3	No Ceiling	
13	Storage	500 SF	SC	None	P-3	P-3	P-3	P-3	No Ceiling	

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04/08/2026

Express Oil Change & Tire Engineers

Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

Seguin, Texas

FINAL

No.	Description	Date
IFB-1	Iss for Bid 1 AHJ Rev.	08/01/26
IFB-2	Iss for Bid 2 AHJ Rev.	08/08/26

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Finish Schedules & Head, Jamb, and Sill Details

Project number	26014
Date	08/01/2026
Drawn by	ARC
Checked by	N/A

A621

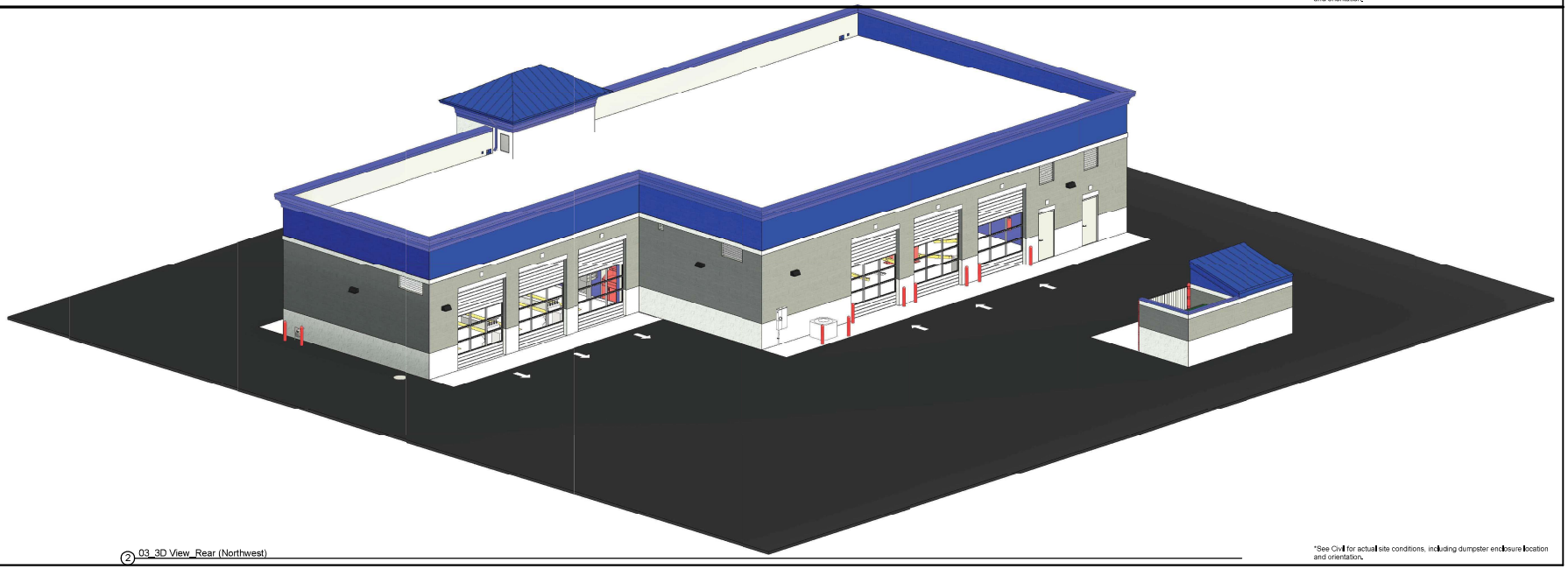
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1 02_3D View_Front (Southeast)

*See Civil for actual site conditions, including dumpster enclosure location and orientation.



2 03_3D View_Rear (Northwest)

*See Civil for actual site conditions, including dumpster enclosure location and orientation.

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REGISTERED ARCHITECT
TIMOTHY A. AHO
#23347
STATE OF TEXAS
04/08/2026

Express Oil Change & Tire Engineers

Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

Seguin, Texas

FINAL

No.	Description	Date
IFB-1	Issued for Bid 1 AHJ Rev.	08/01/26
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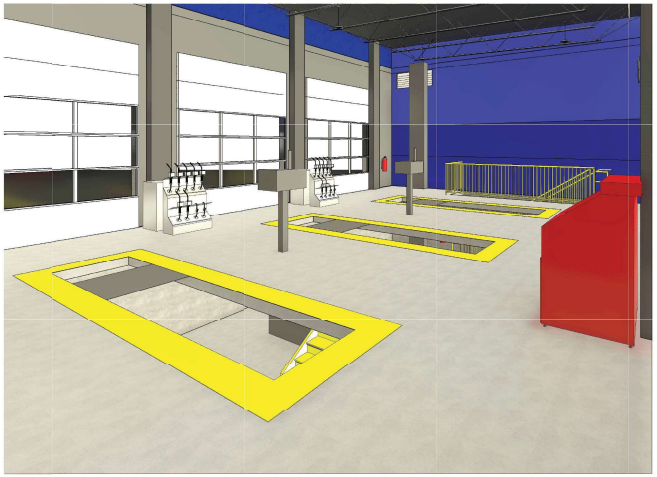
3D Views

Project number	26014
Date	08/01/2026
Drawn by	ARC
Checked by	N/A

R100

Scale

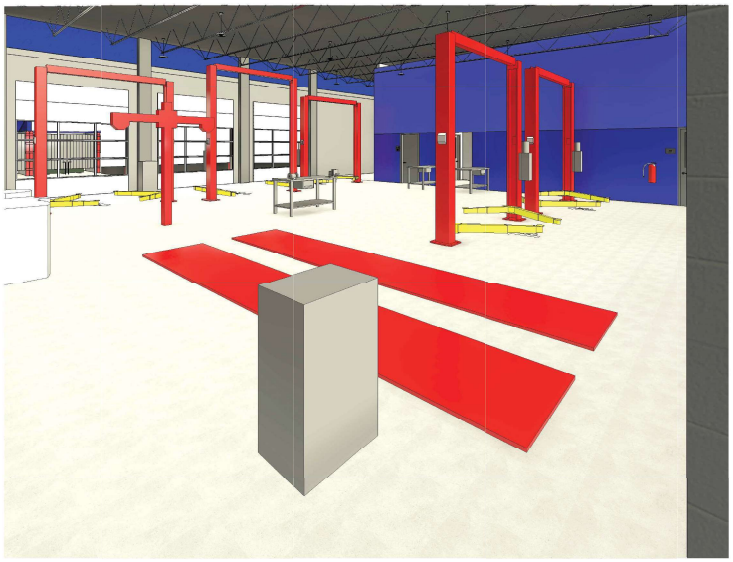
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1 04_3D View_Oil Change A



2 05_3D View_Oil Change B



3 06_3D View_Service Bay A



4 07_3D View_Service Bay B

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REGISTERED ARCHITECT
TIMOTHY A. AHO
#23347
STATE OF TEXAS
04/08/2026

Express Oil Change & Tire Engineers

Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

Seguin, Texas

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3D Views

Project number	26014
Date	08/01/2026
Drawn by	ARC
Checked by	N/A

R101

Scale

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SCHEDULE OF SPECIAL INSPECTIONS SERVICES

PROJECT		APPLICABLE TO THIS PROJECT			
MATERIAL / ACTIVITY	SERVICE	Y/N	EXTENT	AGENT*	DATE COMPLETED
1705.1.1 Special Cases (work unusual in nature, including but not limited to alternative materials and systems, unusual design applications, materials and systems with special manufacturer's requirements - add additional rows as needed.)	Submittal review, shop (S) and/or field inspection				
1. Inspection of anchors post-installed in solid grouted masonry: Per research reports including verification of anchor type, anchor dimensions, hole dimensions, hole cleaning procedures, anchor spacing, edge distances, masonry unit, grout, masonry compressive strength, anchor embedment and tightening torque	Field inspection	Y	Periodic or as required by the research report issued by an approved source		
2. Aggregate Pier Inspection: The special inspector's responsibilities include, but are not limited to, review of the aggregate pier designer's use of soil parameters as presented in the project soils report, and during construction, verification of aggregate properties, type and number of lifts of aggregate, hole size and depths and top elevations of the pier elements, and applied energy. Additionally results of qualitative tests on production aggregate pier elements such as modulus load testing, uplift pull-out testing, bottom stabilization tests and dynamic cone penetration tests, shall be reviewed to verify compliance with design specifications.	Field inspection	N	Periodic or as required by the research report issued by an approved source		
1705.2.1 Structural Steel Construction					
1. Fabricator and erector documents (Verify reports and certificates as listed in AISC 360, Section N 3.2 for compliance with construction documents)	Submittal Review	Y	Each submittal		
2. Material verification of structural steel	Shop (S) and field inspection	Y	Periodic		
3. Structural steel welding:					
a. Inspection tasks Prior to Welding (Observe, or perform for each welded joint or member, the QA tasks listed in AISC 360, Table N5.4-1)	Shop (S) and field inspection	Y	Observe or Perform as noted (4)		
b. Inspection tasks During Welding (Observe, or perform for each welded joint or member, the QA tasks listed in AISC 360, Table N5.4-2)	Shop (S) and field inspection	Y	Observe (4)		
c. Inspection tasks After Welding (Observe, or perform for each welded joint or member, the QA tasks listed in AISC 360, Table N5.4-3)	Shop (S) and field inspection	Y	Observe or Perform as noted (4)		
d. Nondestructive testing (NDT) of welded joints:					
1) Complete penetration groove welds 5/16" or greater in risk category III or IV	Shop (S) or field ultrasonic testing - 100%	N	Periodic		
2) Complete penetration groove welds 5/16" or greater in risk category II	Shop (S) or field ultrasonic testing - 10% of welds minimum	Y	Periodic		
3) Welded joints subject to fatigue when required by AISC 360, Appendix 3, Table A-3.1	Shop (S) or field radiographic or Ultrasonic testing	N	Periodic		
4) Fabricator's NDT reports when fabricator performs NDT	Verify reports	Y	Each submittal (S)		
4. Structural steel bolting:	Shop (S) and field inspection				
a. Inspection tasks Prior to Bolting (Observe, or perform tasks for each bolted connection, in accordance with QA tasks listed in AISC 360, Table N5.6-1)		Y	Observe or Perform as noted (4)		
b. Inspection tasks During Bolting (Observe the QA tasks listed in AISC 360, Table N5.6-2)		N	Observe (4)		
1) Pre-tensioned and slip-critical joints		N			
a) Turn-of-nut with matching markings		N	Periodic		
b) Direct tension indicator		N	Periodic		
c) Twist-off type tension control bolt		N	Periodic		
d) Turn-of-nut without matching markings		N	Continuous		
e) Calibrated wrench		N	Continuous		
2) Snug-tight joints		Y	Periodic		
c. Inspection tasks After Bolting (Perform tasks for each bolted connection in accordance with QA tasks listed in AISC 360, Table N5.6-3)		Y	Perform (4)		
5. Visual inspection of exposed cut surfaces of galvanized structural steel main members and exposed corners of the rectangular HSS for cracks subsequent to galvanizing	Shop (S) or field inspection	Y	Periodic		
6. Embedments (Verify diameter, grade, type, length, embedment. See 1705.3 for anchors)	Field inspection	Y	Periodic		
7. Verify memberization, bracing, screeds, laitances, and application or joint details at each connection comply with construction documents	Field inspection	Y	Periodic		
1705.2.2 Cold-Formed Steel Deck					
1. Manufacturer documents (Verify reports and certificates as listed in SDI QA/QC, Section 2, Paragraphs 2.1 and 2.2, for compliance with construction documents)	Submittal Review	Y	Each submittal		
2. Material verification of steel deck, mechanical fasteners and welding materials	Shop (S) and field inspection	Y	Periodic		
3. Cold-formed steel deck placement	Shop (S) and field inspection	Y			
a. Inspection tasks Prior to Deck Placement (Perform the QA tasks listed in SDI QA/QC, Appendix 1, Table 1.1)		Y	Perform (4)		
b. Inspection tasks After Deck Placement (Perform the QA tasks listed in SDI QA/QC, Appendix 1, Table 1.2)		Y	Perform (4)		
4. Cold-formed steel deck welding	Shop (S) and field inspection	Y			
a. Inspection tasks Prior to Welding (Observe the QA tasks listed in SDI QA/QC, Appendix 1 Table 1.3)		Y	Observe (4)		
b. Inspection tasks During Welding (Observe the QA tasks listed in SDI QA/QC, Appendix 1 Table 1.4)		Y	Observe (4)		
c. Inspection tasks After Welding (Perform the QA tasks listed in SDI QA/QC, Appendix 1 Table 1.5)		Y	Perform (4)		
5. Cold-formed steel deck mechanical fastening	Shop (S) and field inspection	Y			
a. Inspection tasks Prior to Mechanical Fastening (Observe the QA tasks listed in SDI QA/QC, Appendix 1, Table 1.6)		Y	Observe (4)		
b. Inspection tasks During Mechanical Fastening (Observe the QA tasks listed in SDI QA/QC, Appendix 1, Table 1.7)		Y	Observe (4)		
c. Inspection tasks After Mechanical Fastening (Perform the QA tasks listed in SDI QA/QC, Appendix 1, Table 1.8)		Y	Perform (4)		
6. Material verification of cold-formed steel deck:					
a. Identification markings	Field inspection		Periodic		
b. Manufacturer's certified test reports	Submittal Review		Each submittal		
7. Connection of cold-formed steel deck to supporting structure:	Shop (S) and field inspection				
a. Welding			Periodic		
b. Other fasteners (in accordance with AISC 360 Section N5)					
1) Verify fasteners are in conformance with approved submittal			Periodic		
2) Verify fastener installation is in conformance with approved submittal and manufacturer's recommendations			Periodic		
1705.2.3. Open-Web Steel Joists and Joist Girders					
1. Installation of open-web steel joists and joist girders.					
a. End connections - welding or bolted	per SJI-C.1 or SJI-100	Y	Periodic		
b. Bridging - horizontal or diagonal.					
1) Standard bridging	per SJI-C.1 or SJI 100	Y	Periodic		
2) Bridging that differs from the specifications listed in SJI-C.1 or SJI 100.		Y	Periodic		
1705.3 Concrete Construction					
1. Inspect reinforcement, including prestressing tendons, and verify placement.	Shop (S) and field inspection	Y	Periodic		
2. Inspection of anchors cast in concrete.	Shop (S) and field inspection	Y	Periodic		
3. Inspection of anchors post-installed in hardened concrete members per research reports, or, if no specific requirements are provided, requirements shall be provided by the registered design professional and approved by the building official, including: Verification of anchor type, anchor dimensions, hole dimensions, hole cleaning procedures, anchor spacing, edge distances, concrete minimum thickness, anchor embedment and tightening torque.	Field inspection	Y	Periodic or as required by the research report issued by an approved source		
a. Adhesive anchors installed in horizontal or upward-inclined orientation that resist sustained tension loads.		Y	Continuous		
b. Mechanical and adhesive anchors not defined in 4a.		Y	Periodic		
4. Verify use of approved design mix.	Shop (S) and field inspection	Y	Periodic		
5. a. Prior to placement, fabricate specimens for strength tests, fresh concrete sampling, perform slump or slump flow, and air content density tests, and determine temperatures of concrete.	Shop (S) and field inspection	Y	Continuous		
5. b. Verify that concrete specimens for strength tests are maintained in the required initial curing and laboratory curing environment, and that the maximum and minimum temperatures during the initial curing period are reported.	Shop (S) and field inspection	Y	Continuous		
6. Verify maintenance of specified curing temperature and techniques	Shop (S) and field inspection	Y	Periodic		
7. Concrete strength testing and verification of compliance with construction documents	Field testing and review of laboratory reports	Y	Periodic		
1705.4 Masonry Construction					
MINIMUM VERIFICATION REQUIREMENTS					
(A) Level 1, 2 and 3 Quality Assurance:					
1. Prior to construction: verification of compliance of submittals	Submittal Review		Prior to Construction		
(B) Levels 2 and 3 Quality Assurance:					
1. As masonry construction begins, verify that the following are in compliance:					
a. Proportions of the site-prepared mortar	Field inspection	Y	Periodic		
c. Grade, type, and size of reinforcement, and anchor bolts.	Field inspection	Y	Periodic		
2. Prior to grouting, verify that the following are in compliance:					
a. Grout space	Field inspection	Y N Y N	Level 2 - Periodic Level 3 - Continuous Level 2 - Periodic Level 3 - Continuous		
b. Placement of reinforcement, connectors, and anchor bolts	Field inspection				
3. Verify compliance of the following during construction:					
a. Materials and procedures with the approved submittals	Field inspection	Y	Periodic		
b. Placement of masonry units and mortar joint construction	Field inspection	Y	Periodic		
c. Size and location of structural members	Field inspection	Y	Periodic		
d. Type, size, location of anchors, including other details of anchorage of masonry to structural members, frames, or other construction	Field inspection	Y N	Level 2 - Periodic Level 3 - Continuous		
f. Preparation, construction, and protection of masonry during cold weather (temperature below 40°F) or hot weather (temperature above 90°F)	Field inspection	Y Y	Periodic Level 2 - Periodic		
4. Observe preparation of grout specimens, mortar specimens, and/or prisms	Field inspection	N	Level 3 - Continuous		
1705.6 Soils					
1. Verify materials below shallow foundations are adequate to achieve the design bearing capacity.	Field inspection	Y	Periodic		
2. Verify excavations are extended to proper depth and have reached proper material.	Field inspection	Y	Periodic		
3. Perform classification and testing of compacted fill materials.	Field inspection	Y	Periodic		
4. Verify use of proper materials, densities, and lift thicknesses during placement and compaction of controlled fill	Field inspection	Y	Continuous		
5. Prior to placement of controlled fill, inspect subgrade and verify that site has been prepared properly	Field inspection	Y	Periodic		
1705.10 Fabricated items					
1. List of fabricated items requiring special inspection during fabrication:	Shop inspection	N	As noted in each applicable shop activity		
2. List of fabricated items to be fabricated on the premises of a fabricator approved to perform such work without special inspection (including name of approved agency providing periodic auditing):					
1705.11.3 Wind-resisting Components					
1. Roof sheathing, roof deck and roof framing connections	Shop (S) and field inspection	Y	Periodic		
2. Exterior wall sheathing and wall connections to roof and floor diaphragms.	Shop (S) and field inspection	Y	Periodic		
1705.12.1 Structural Steel Special Inspections for Seismic Resistance					
1. Seismic force-resisting systems in SDC B, C, D, E, or F.	Shop (S) and field inspection	N	In accordance with AISC 341		
2. Structural steel elements in SDC B, C, D, E, or F other than those in Item 1, including struts, collectors, chords and foundation elements.	Shop (S) and field inspection	N	In accordance with AISC 341		

GENERAL NOTES

1. Contractor shall compare structural drawings and architectural drawings. Any omissions or discrepancies between plans, details, and specifications shall be brought to the attention of the Architect or Engineer before bidding. In all cases, more stringent requirement governs. Architectural dimensions and elevations will control.
2. Structural drawings or parts of the structural drawings may not be used as shop drawings without prior written approval.
3. All or parts of these drawings were produced with computer aided drafting. Drawings are available from the Engineer in DWG format on request.
4. Contractor proposed changes to details must be clearly noted on the first sheet of all shop drawings.
5. Construction shown is stable after the building is complete including interior and exterior finishes. The Contractor is responsible for temporary bracing of the structure during construction.
6. Review of submittal information shall be for general compliance with the contract documents and shall not include checking of detailed dimensions or detailed quantities.

DESIGN LOADS

1. Reference code for loading 2021 IBC.
   a. Risk Category II
   b. Wind Load
      1) Basic Wind Speed (3 sec gust) 110 mph
      2) Wind Exposure C
      3) Internal Pressure Coefficient +/- 0.18
      4) Velocity Pressure (qz) 26.3 psf
   c. Roof Snow Load
      1) Ground Snow Load (Pg) 10 psf
      2) Flat Roof Snow Load (Pf) 10 psf
      3) Snow Exposure (Ce) 1.0
      4) Importance Factor 1.0
      5) Thermal Factor (Ct) 1.0
   d. Seismic Load
      1) Importance Factor 1.0
      2) Mapped Spectral Response Accelerations
         a) Ss 0.052
         b) S1 0.027
      3) Site Class D
      4) Spectral Response Coefficients
         a) Sds 0.056
         b) Sd1 0.044
      5) Seismic design Category A
      6) Base Seismic Force-Resisting System(s) and Response Modification Factor
         a) Intermediate Reinforced Masonry Shear Walls 3.5
      7) Design Base Shear x.x kips
      8) Seismic Response Coefficient (Cs) 0.xx
      9) Analysis Procedure = Equivalent Lateral Force
   e. Live Load
      1) Roof Load 20 psf
      2) Service Bay and slabs on grade 100 psf

FOUNDATIONS

1. Foundation design for this project was based on soils information provided by ECS
2. Bearing capacity---------- 1500 psf
3. All footings are to bear on engineered fill.
4. Install corner bars at all footing intersections and corners (Provide lap length e.w.)
5. All footing elevations are given to the top of the footings.
6. Footing steps shown on the plans are furnished as a guide for estimating quantities. Final elevations are to be set in the field. Bearing elevations must be approved by a Soils Engineer before any concrete is placed.
7. Coordinate foundation elevations with plumbing requirements. Step footings as required to clear plumbing lines.
8. Provide drainage for all retaining walls, see architectural for notes and details.

MASONRY

1. All masonry work to be in accordance with "Building Code Requirements for Concrete Masonry Structures" TMS 402•2016 and "Specifications for Masonry Structures" TMS 602•2016
2. Fill all concrete masonry units with concrete or grout from the top of the footing to the finish floor or to 8" above finish grade whichever is higher.
3. Use ladder type joint reinforcement (H&B 220 LADDER•MESH or better) at 16" on center in all cavity walls where brick is used for one or more of the wythes.
4. Use truss type joint reinforcement (H&B 120 TRUSS-MESH or better) at 16" o/c. in all other masonry walls.
5. Provide joint reinforcement at 8" o/c. for all walls constructed with stack bond.
6. Use Type "M" or Type "S" mortar in accordance with TMS 602 Table 5C•1 and ASTM C270.
7. Minimum compressive strength of concrete masonry f'm = 2500 psi. Submit for review test data on strength of units before starting any masonry work.
8. Minimum compressive strength of grout f'm = 2500 psi. Use 3/8" max size aggregate. See Special Inspection Schedule for any testing requirements. Grout slump shall be 8" to 11".
9. Use "Fine" grout for all reinforced piers and reinforced wall in accordance with ASTM C 476.
10. Each grout lift shall not exceed 5'-0" unless clean-outs are provided in the bottom course.
11. Fill cells under all lintels with grout.
12. Provide lintels over all openings through wall. See lintel details for reinforcement.
13. Unless otherwise noted provide control joints in all walls 4'-0" from wall intersections or corners and at 20'-0"
14. Extend all horizontal steel and bond beams thru control joints.
15. Vertical Reinforcement shall extend into the bond beam.
16. Unless noted, all bars are to be located at the center of cell. Where bars are specified at each face, provide minimum ¾" clear space between reinforcement and CMU face shell.
17. Anchor bolt into grouted cell locations only, unless noted otherwise.

REINFORCING STEEL AND CONCRETE

1. All concrete work is to be in accordance with the "Building Code Requirements for Reinforced Concrete" (ACI 318-19).
2. All detailing is to be in accordance with "ACI Detailing Manual" SP•66
3. Use of Calcium Chloride, Chloride ions, or other salts in concrete are prohibited.
4. Concrete Properties: See Schedule
   a. All concrete must obtain 7 day strength of 70% of design strength.
   b. Concrete mixes may use up to 25% of cementious weight as fly ash.
   c. Concrete mixes may use water reducers, accelerators or retarders with prior approval.
   d. Do not provide air entrainment in concrete mixes for interior slabs.
5. All steel reinforcement shall be of deformed bars of billet steel conforming to ASTM A615, Grade 60 in all concrete.
6. Welded wire fabric shall be ASTM 185 and shall lap 2 cross wires or 6" whichever is greater on all sides. All laps shall be wired together.
7. Provide (2) #4 bars x 4'-0" at re-entrant corner locations Typical. Locate 3" away from corner and space 1'-0" apart.
8. All slabs on grade are 6", unless noted. Slabs are to be placed on 10 MIL PVC vapor barrier over 4" of porous fill. Reinforce slabs with 6x6 W2.9 x W2.9 WWF placed 1" from top of slab. Unless otherwise noted slabs shall have joints placed a 12'•0" on centers. Joints may be control joints or construction joints. See Architectural Plans for floor slopes and recesses for hard tile.
9. Minimum concrete cover for reinforcement:
   a) Footings 3" bottom, 2" sides
   b) Cast-in-Place Walls
      Surfaces exposed to weather or soil 2" • #6 and greater, 1•1/2" • #5 and smaller
      Other surfaces 3/4"
10. Provide corner bars at all wall and footing intersections.
11. No openings shall be allowed to penetrate any concrete work, unless it is shown on the structural framing plans without prior written approval. Contractor shall submit for review locations of proposed openings not shown 30 days prior to pouring any concrete.
12. Provide a continuous water bar at all wall construction joints below ground level.
13. Use 3/4" chamfer for all exposed corners unless noted.
14. Testing samples for prearining strength test specimens of each concrete mixture placed each day shall be taken in accordance with (1) through (3).
    1. At least once a day
    2. At least once for each 150yd^3 of concrete
    3. At least once for each 5000ft^2 of surface area for walls or slabs.

STRUCTURAL STEEL

1. All detailing, fabricating, and erection of structural steel shall be in accordance with the AISC 360-16 "Specifications for Structural Steel Buildings". All reactions shown are ASD loads.
2. All connections are to be detailed as Type 2 "simple frame connections".
3. All structural steel W shapes shall be ASTM A 992.
4. All structural steel Tube sections shall be ASTM A500 Grade B.
5. All structural steel Pipe sections shall be ASTM A501.
6. All structural steel channels, angles and other sections shall be ASTM A36, unless noted.
7. Headed Studs shall be Type B Shear Connectors.
8. Shop and field connections shall be welded with E•70XX electrodes or bolted with 3/4" dia. A•325N or A•325F bolts, unless noted.
9. Use 3/4" cap and bearing plates, unless noted.
10. Use 3/4" dia x 1'-0" long ASTM 1554 Grade 36 anchor bolts, unless noted. In lieu of cast bolts, 3/4" x1'-0" long HAS rods epoxied with Hilti HVA epoxy, or equal, may be used with prior approval.
11. Grout under baseplates with ASTM C 1107 cementitious 6000 psi Non-Shrink Grout.
12. Structural steel shall be shop primed per SSPC paint system No. 7. Primer shall be SSPC paint with a minimum thickness of 2.0 MILS. Omit Paint at surfaces to be fireproofed.
13. Provide L 3"x3"x1/4" frames around all roof opening through metal decking.

STEEL JOIST

-

1. All steel joists shall conform to the standard specifications for the joist noted, as adopted by the Steel Joist Institute.
2. Refer to Components & Cladding Table and Diagram for roof uplift zones and pressures. Use 8psf dead load for net uplift determination.
3. K Series joists shall be welded to bearing plates or steel members with two 1/8" fillet welds 2" long.
4. All joist bearing plates are to be set 1/4" above the top of concrete masonry units.
5. Weights of mechanical units are not included in the joist loading designation shown. Design joist for loading shown plus the weight of mechanical shown. General contractor is to verify all weights of mechanical units with Mechanical Subcontractor before submitting shop drawings.

-

COLD-FORMED METAL (CFS) FRAMING (Tower Element)

-

1. All detailing, fabricating, and erection of light gauge steel shall be in accordance with the AISI S240-20 "North American Standard for Cold•Formed Steel Structural Framing".
2. All studs, joist, tracks, bridging, and accessories shall be a minimum of G60 galvanized and have minimum yield strength of 33ksi, unless noted otherwise.
3. Furnish design calculations sealed by a Professional Engineer licensed in the state of that the project is located for all truss members.
4. Top and bottom tracks to 600T125•43 unless noted otherwise.
5. Provide double studs at all wall intersections, jambs, corners, and intersections.
6. All wall studs to have full bearing at top and bottom of stud.

REQUIRED STRUCTURAL SUBMITTALS

1. Concrete Mix Designs conforming to ACI 318 requirements
2. Reinforcing steel for all cast in place concrete work shown on the structural drawings.
3. Reinforcing steel for all masonry work shown on the structural drawings.
4. Structural steel.
5. Bar joist, composite floor deck, and roof deck.
6. Cold formed metal stud trusses.
7. Aggregate, helical anchor, or other foundation site improvement method, if specified on the project.

BJW STRUCTURAL ENGINEERS

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08.08.2026

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Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

Seguin, Texas

FINAL

No.	Description	Date
IFB-1	ISSUED FOR BID1 AHJREV.	08/05/2026
IFB-2	ISSUED FOR BID2 AHJREV.	09/08/2026

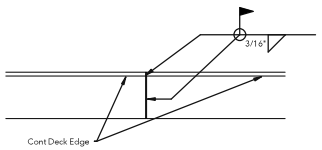
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General Notes & Schedule of Special Inspections

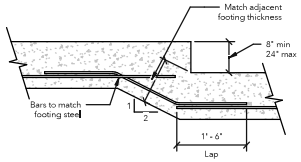
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Date	08/05/26
Drawn by	jcj
Checked by	jd

S0.1

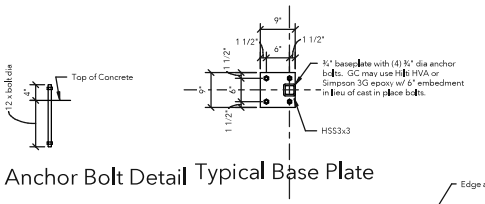
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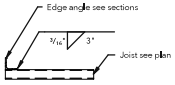
Typical Roof Deck Edge Angle Splice Detail



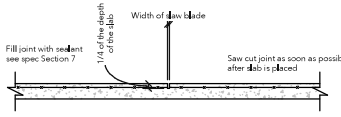
Single Footing Step



Typical Anchor Bolt Detail Typical Base Plate

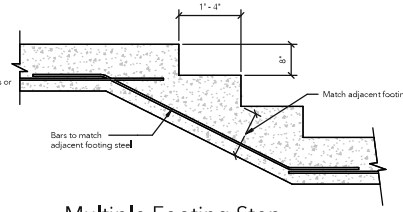


Deck Edge Fastening Detail

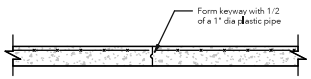


Note: Saw cut joint must be made the same day the slab is placed

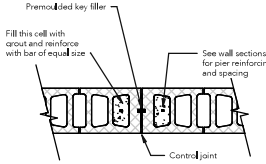
Typical Control Joint



Multiple Footing Step

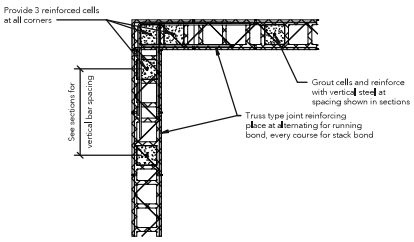


Typical Construction Joint

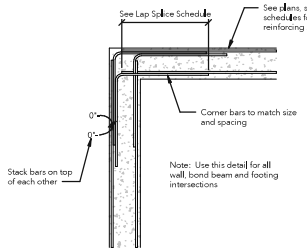


Note:
1. See architectural plan for spacing. If spacing is not shown place joints at 3 times the wall height but not greater than 20'-0" o.c., and at 4'-0" from corners
2. Extend all horizontal reinforcing including bond beam steel thru control joints.

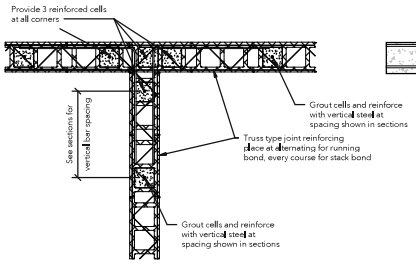
Typical MasonryWall Control Joint



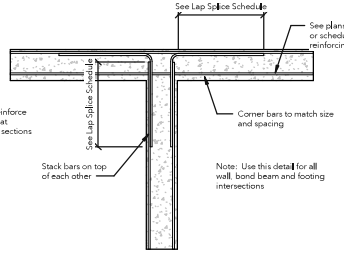
Typical Joint Reinforcing at Corner



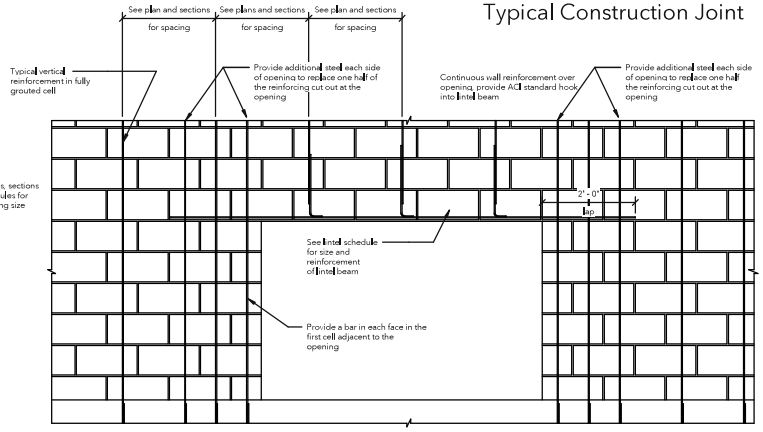
Typical Beam, Wall or Footing Reinforcing at Corners



Typical Joint Reinforcing at Intersection



Typical Beam, Wall or Footing Reinforcing at Intersetions



CMU Lintel Elevation

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Seguin, Texas

FINAL

No.	Description	Date
IFB-1	Iss for Bid1 AHJRev.	08/05/2026
IFB-2	Iss for Bid2 AHJRev.	09/08/2026

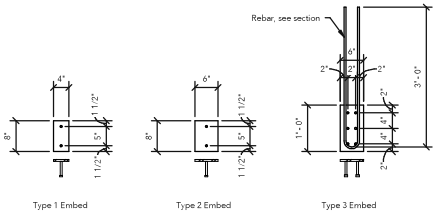
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Typical Details

Project number	26014
Date	08/05/26
Drawn by	jcj
Checked by	jd

S0.2

Scale 3/4" = 1'-0"



Embed plates

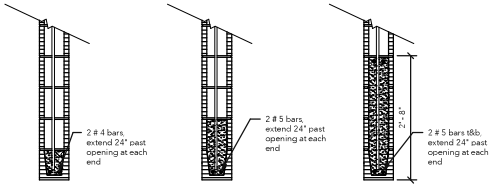
¾" plate w/ ½"x4"headed studs

CONCRETE SCHEDULE

Concrete Use	Design Strength	Max W/C Ratio	Slump Limits	Entrained Air Range	Weight	Notes
Basement Walls	4000 psi	n/a	6" to 8"	3% to 5%	150 pcf	Use HRWR
Slabs on Composite Metal Deck	4000 psi	n/a	6" to 8"	---	150 pcf	Use HRWR
Slabs on Grade/Grade Beams	4000 psi	n/a	6" to 8"	---	150 pcf	Use HRWR

Metal Deck Attachment Schedule

Area	Support Fastener/Pattern	Sidelap Fastener/Pattern
Roof - typical	#12 TEK screws 36/4 pattern	2 - #10 TEK screws
Roof - hatched area	#12 TEK screws 36/4 pattern	10 - #10 TEK screws



CMU Lintel Schedule

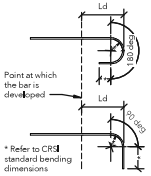
Reinforcing Steel Lap Splice Lengths

Bar Size	Column Splices	Bm, Ftg & Wall Splices	
		Top Bars	Other Bars
# 3	12"	19"	15"
# 4	15"	25"	19"
# 5	19"	31"	24"
# 6	23"	37"	29"
# 7	26"	54"	42"
# 8	30"	62"	48"
# 9	34"	70"	54"
# 10	38"	79"	61"
# 11	42"	87"	67"

Notes:
1. Top bars are any horizontal reinforcing steel that has another layer of steel more than 2" below the bars or reinforcing steel that has more than 12" of concrete below the bars.
2. All horizontal reinforcing bars in walls may be detailed as "Other Bars".
3. All corner bars may be detailed as "Other Bars".

Reinforcing Steel Lap Splice & Development Length for Concrete Masonry

Bar Size	Bar in center of wall			Bar in each face of wall
	6" CMU	8" CMU	12" CMU	
#3	16"	16"	16"	16"
#4	21"	21"	21"	30"
#5	32"	26"	26"	46"
#6	61"	43"	40"	85"
#7	NA	60"	46"	115"
#8	NA	NA	61"	NA



Notes:
1. Lengths are for vertical splices in walls.
2. Bar length for center of wall are based on f'm of 1500 psi or greater.
3. Bar length for face of wall are based on f'm of 2000 psi or greater.
4. Refer to General Notes and details for masonry strength.

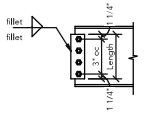
Components and Cladding Schedule a = 6.5'

Area (sf)	Zone 1,2,3 (+) psf	Zone 1 (-) psf	Zone 2 (-) psf	Zone 3 (-) psf	Zone 4 (+) psf	Zone 4 (-) psf	Zone 5 (+) psf	Zone 5 (-) psf
10	11.5	-28.3	-37.5	-71.5	25.9	-28.1	25.9	-34.5
50	9.8	-26.6	-35.8	-43.0	23.2	-25.4	23.2	-29.2
100	9.1	-25.9	-30.7	-30.7	22.1	-24.3	22.1	-26.9

Beam to Column Single Shear Plate Connection Schedule

Min Beam Depth	Max end reaction	Length	# of bolts	Plate thickness	Fillet weld size
W10	16.7k	5-1/2"	2	5/16"	3/16"

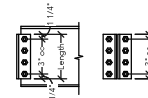
- Use this table for Wide Flange Beams to HSS Columns
- Loads are ASD
- Bolts are 3/4"dia Group A ASTM F3125 Gr A325 in standard or short-slotted holes transverse to direction of load with threads Excluded from shear plane. More than 5 bolts must have short-slotted holes.
- Plate is A36 and welds are E-70XX electrodes
- Beam reactions that exceed the max reaction in this table will use the Double Angle Frame Connection Schedule below.

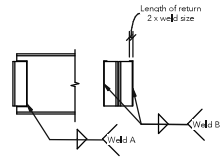


Beam Double Angle Shear Connection Schedule

Min Beam Depth	Max end reaction	Length	rows of bolts	Angle thickness	Weld A fillet size	Weld B fillet size
W10	14.6k	5-1/2"	2	1/4"	3/16"	1/4"

- Use this table for Wide Flange Beams to Wide Flange Columns or other Beams
- Loads are ASD
- Bolts are 3/4"dia Group A ASTM F3125 Gr A325 in standard or short-slotted holes transverse to direction of load with threads Excluded from shear plane.
- Angles are A36 and welds are E-70XX electrodes
- Beam reactions that exceed the max reaction in this table will shall be designed by steel fabricator and submit signed/sealed calculations prepared by a Professional Engineer licensed in the State of the Project





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Schedules

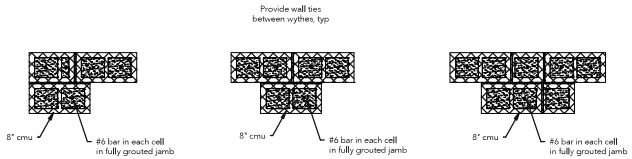
Project number	26014
Date	08/05/26
Drawn by	jcj
Checked by	jd

S0.3

Scale 3/4" = 1'-0"

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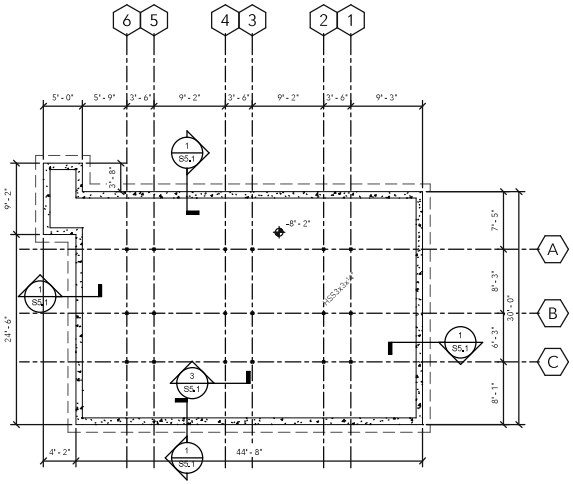
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16" Jamb Reinforcing

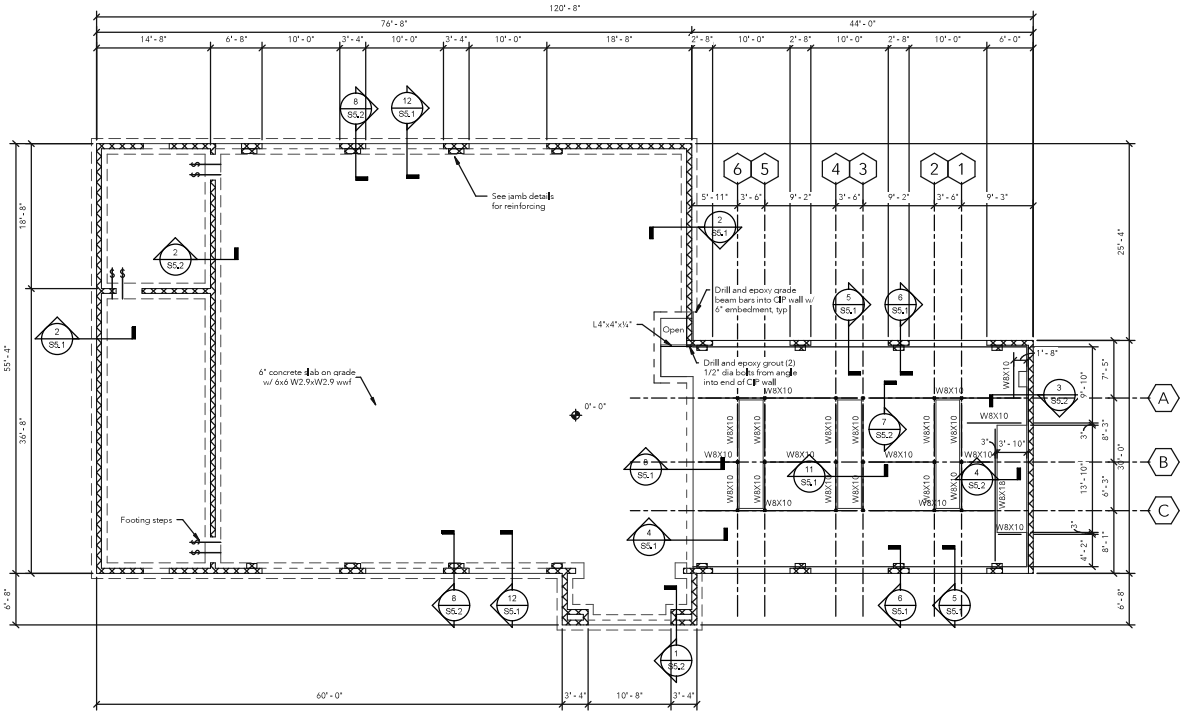
32" Jamb Reinforcing

40" Jamb Reinforcing



PIT FOUNDATION PLAN

1/8" = 1'-0"



FOUNDATION PLAN

1/8" = 1'-0"

Sheet Notes:

1. See Sheet No S0 for typical details and general notes.
2. Reference all elevations to finish floor elevation (+) 0'-0"
3. Floor construction 3" concrete slab with 6x6 W2.9xW2.9 wwf over 2" x 20 ga. galvanized (G60) composite metal deck. Total slab thickness = 5". Provide 5/8" dia puddle welds on 36/4 pattern w/ (3) #12 TEK screw sidelap fasteners per span
4. All steel beam reactions shall be designed for 10 kips (ASD) unless noted otherwise.
5. Refer to architectural for all dimensions, slopes, elevations, etc. not illustrated on this plan. Coordinate all final dimensions and elevations with architectural.

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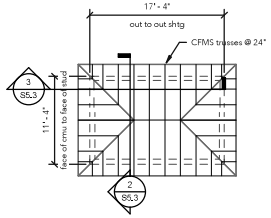
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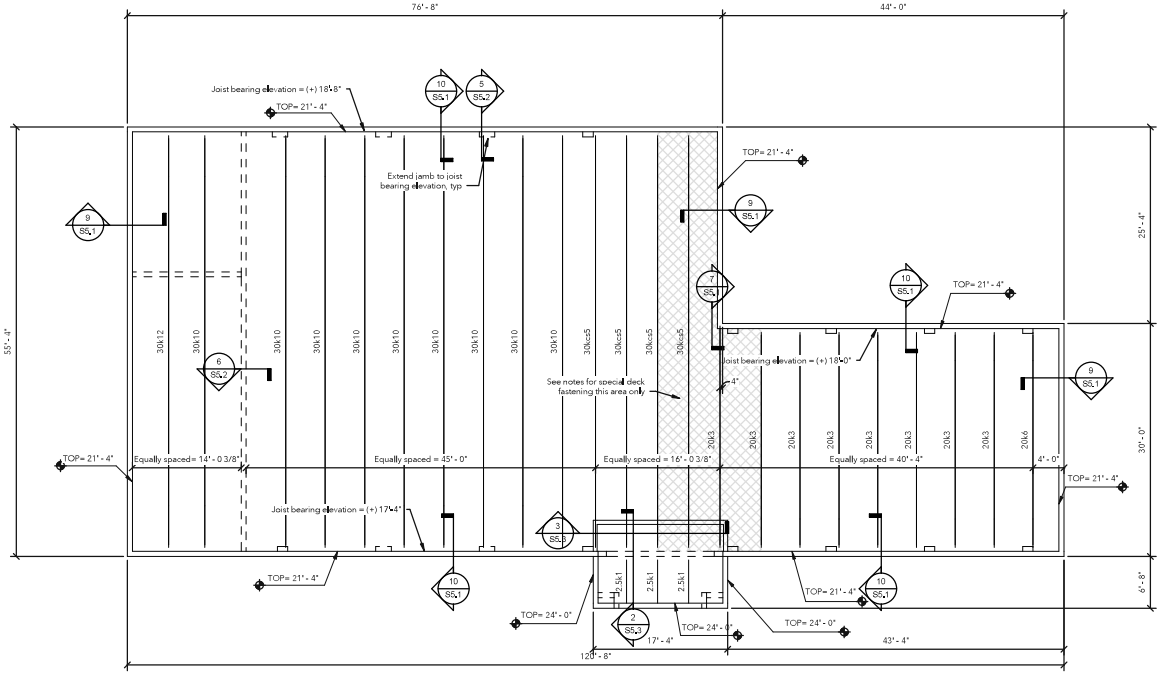
Foundation Plan

Project number	26014
Date	08/05/26
Drawn by	jcj
Checked by	jd

S1.1

Scale: As indicated





HIGH ROOF FRAMING PLAN

1/8" = 1'-0"

Sheet Notes:

1. See Sheet No S0.x for typical details and general notes.
2. Reference all elevations to finish floor elevation (+) 0'-0"
3. Truss Bearing Elevation (+) 23'-4".
4. Roof slope = 7"/12", unless noted
5. Roof construction 5/8" plywood deck with H-clips. Attach with 8d nails @ 6" o.c..
6. Refer to architectural drawings for all dimensions, slopes, elevations, etc... not illustrated on this plan. Coordinate all final dimensions and elevations with architectural.
7. Truss loading: Top Chord Live Load = 20psf, Top Chord Dead Load = 10psf, Bottom Chord Dead Load = 10psf.
8. Truss requirements: (note that all of these requirements must be included in the truss submittal prior to receiving approval)
   a) Furnish design calculations sealed by a Professional Engineer licensed in the state of that the project is located for all truss members.
   b) Truss manufacturer shall specify and provide all truss to truss and truss bearing connections, and not contain mention of "by others" in relation to design.
   c) Truss manufacturer shall be responsible for providing and illustrating all temporary and permanent bracing required.

ROOF FRAMING PLAN

1/8" = 1'-0"

Sheet Notes:

1. See S0.x Sheets for typical details and general notes.
2. Reference all elevations to finish floor elevation (+) 0'-0"
3. See plan for Joist Bearing Elevations.
4. Roof construction 1 1/2" x 22 ga. type B painted (gray) metal deck. See S0.3 sheets for attachment details. Paint bar joist gray.
5. Refer to architectural drawings for all dimensions, slopes, elevations, etc... not illustrated on this plan. Coordinate all final dimensions and elevations with architectural.

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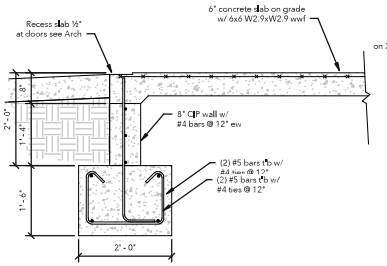
Roof Framing Plan

Project number	26014
Date	08/05/26
Drawn by	jcj
Checked by	jd

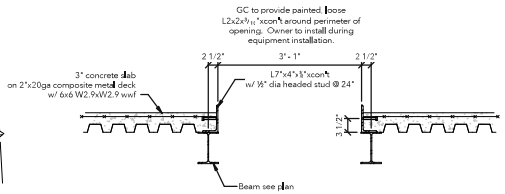
S3.1

Scale: As indicated

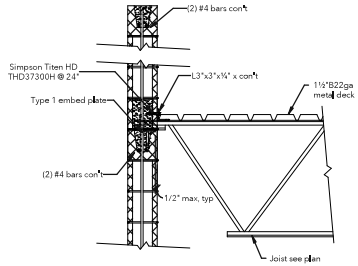
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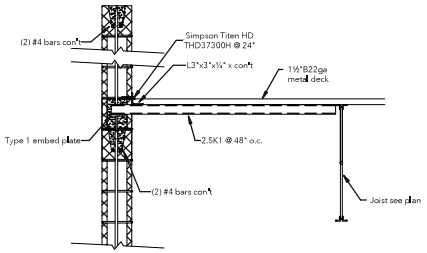
Section 12
3/4" = 1'-0"



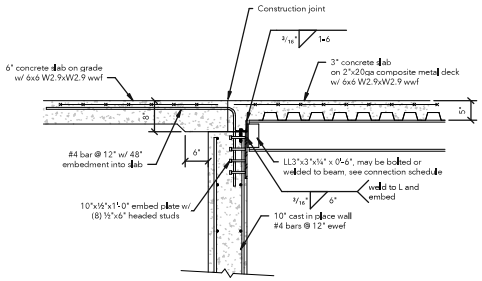
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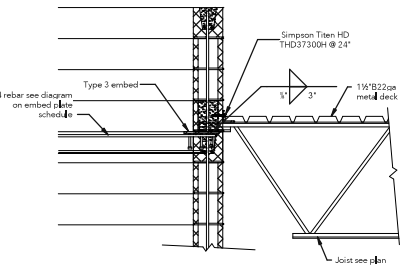
Section 10
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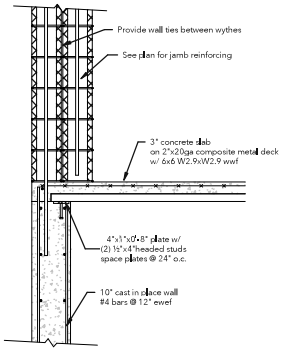
Section 9
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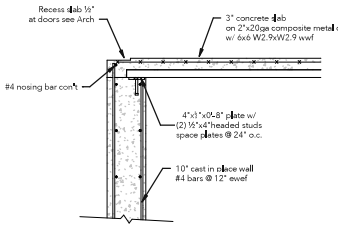
Section 8
3/4" = 1'-0"



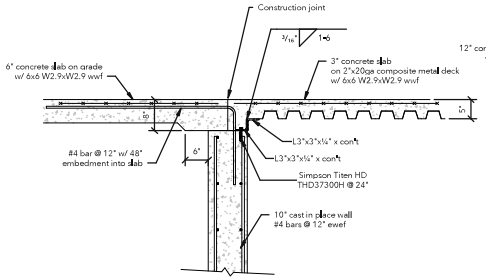
Section 7
3/4" = 1'-0"



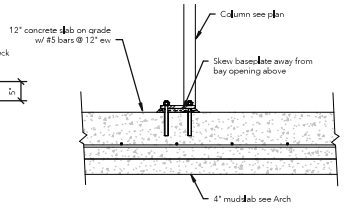
Section 6
3/4" = 1'-0"



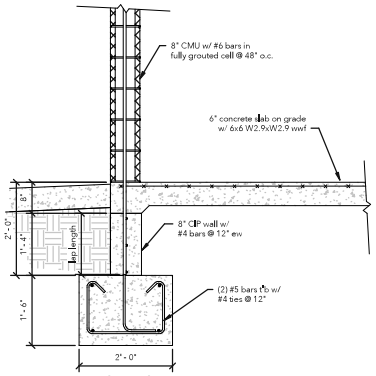
Section 5
3/4" = 1'-0"



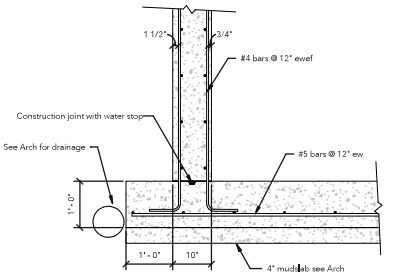
Section 4
3/4" = 1'-0"



Section 3
3/4" = 1'-0"

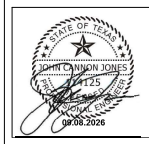


Section 2
3/4" = 1'-0"



Section 1
3/4" = 1'-0"

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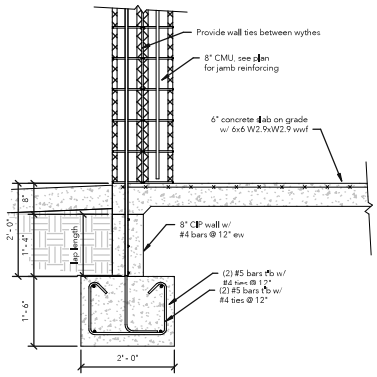
Project number	26014
Date	08/05/26
Drawn by	jcj
Checked by	jd

S5.1

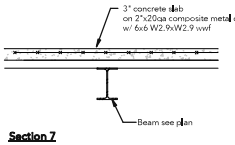
Scale 3/4" = 1'-0"

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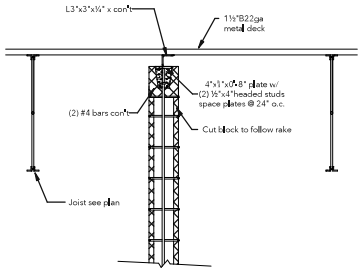
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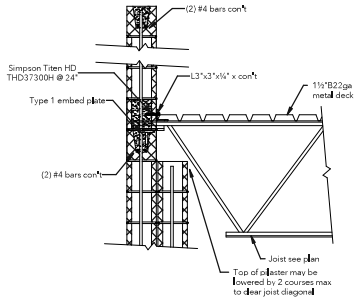
Section 8
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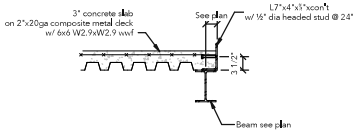
Section 7
3/4" = 1'-0"



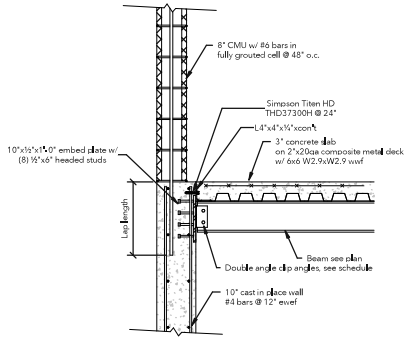
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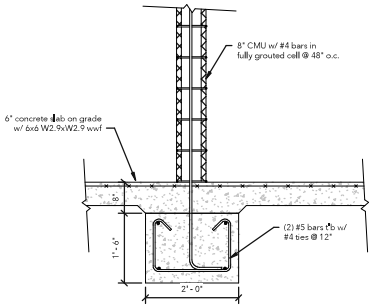
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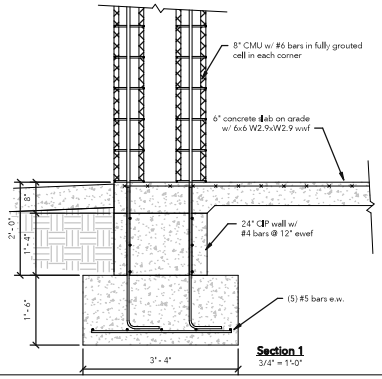
Section 4
3/4" = 1'-0"



Section 3
3/4" = 1'-0"



Section 2
3/4" = 1'-0"



Section 1
3/4" = 1'-0"

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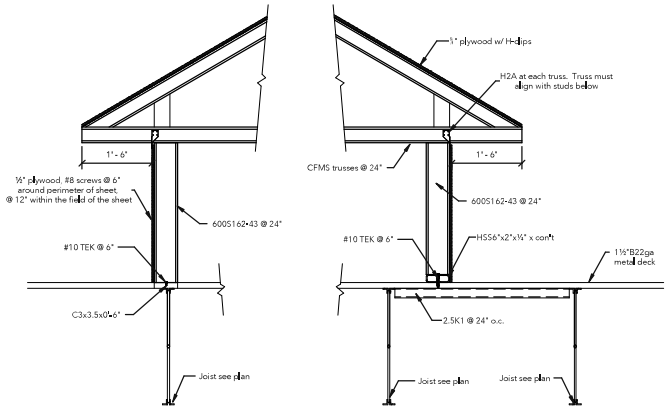
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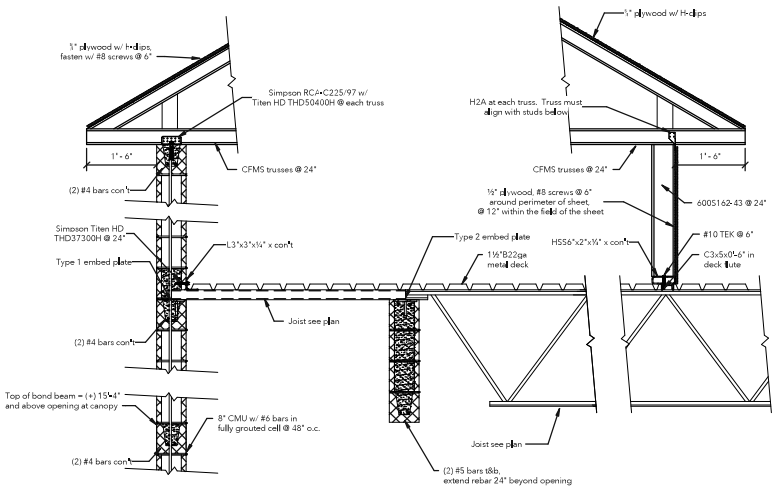
Project number	26014
Date	08/05/26
Drawn by	jcj
Checked by	jd

S5.2

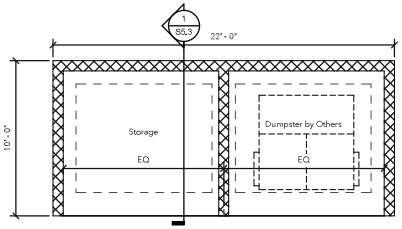
Scale 3/4" = 1'-0"



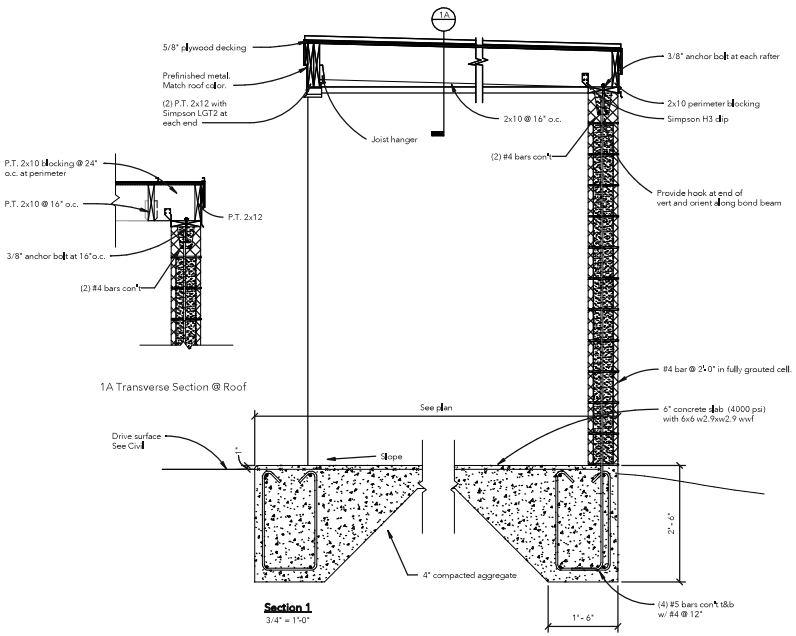
Section 3
3/4" = 1'-0"



Section 2
3/4" = 1'-0"



Dumpster Enclosure Plan
1/4" = 1'-0"



1A Transverse Section @ Roof

Section 1
3/4" = 1'-0"

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Checked by	jd

S5.3

Scale: As indicated

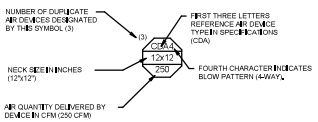
LEGEND

- DUCT SIZE. FIRST FIGURE IS SIDE SHOWN. INSIDE CLEAR DIMENSION UNLESS NOTED OTHERWISE
- LOW PRESSURE, RECTANGULAR (GALVANIZED STEEL)
- ROUND (GALVANIZED STEEL)
- FLEXIBLE DUCT
- DUCT RISE
- DUCT DROP
- EXISTING DUCTWORK TO REMAIN
- DUCT TRANSITION
- RECTANGULAR TO ROUND DUCT TRANSITION
- TURNING VANES
- FIRE DAMPER AND SLEEVE, PROVIDE ACCESS DOOR
- SMOKE DAMPER AND SLEEVE, PROVIDE ACCESS DOOR
- COMBINATION FIRE/SMOKE DAMPER, PROVIDE ACCESS DOOR
- MANUAL VOLUME DAMPER
- STANDARD 45° BRANCH, SUPPLY OR RETURN, NO SPLITTER
- STANDARD 45° BRANCH, SUPPLY OR RETURN, NO SPLITTER, WITH MANUAL VOLUME DAMPER
- CONICAL SPIN-IN FITTING WITH BUTTERFLY DAMPER
- GRILLE OR REGISTER, CEILING
- ACCESS DOOR
- D — CONDENSATE DRAIN PIPING
- AD — AUXILIARY CONDENSATE DRAIN PIPING
- R — REFRIGERANT PIPING (2 LINES TOTAL)
- ELBOW, 90° (LONG RADIUS)
- TEE
- TEE, TURNED UP
- TEE TURNED DOWN
- ELBOW, TURNED DOWN
- ELBOW, TURNED UP
- WALL MOUNTED THERMOSTAT
- WALL MOUNTED HUMIDISTAT
- WALL MOUNTED TEMPERATURE SENSOR
- SMOKE DETECTOR
- TIE NEW INTO EXISTING
- UNDERCUT DOOR 3/4 INCHES
- SUPPLY AIR FLOW
- RETURN OR EXHAUST AIR FLOW

NOTE: THIS LEGEND IS FOR REFERENCE ONLY. ALL SYMBOLS WHICH APPEAR WITHIN THE LEGEND MAY NOT APPLY TO THIS PROJECT.

ABBREVIATIONS

ABCL'G	ABOVE CEILING
ABV.	ABOVE
AC	ALTERNATING CURRENT
A/C	AIR COMPRESSOR
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
AI	ANALOG INPUT
ALT.	ALTERNATE
AMP	AMPERE
AO	ANALOG OUTPUT
APPROX.	APPROXIMATELY
ARCH'L	ARCHITECTURAL
AVG	AVERAGE
B	BOILER
BTU	BRITISH THERMAL UNIT
CFM	CUBIC FEET PER MINUTE
CH	CHILLER
CHWP	CHILLED WATER PUMP
CLG	CEILING
CT	COOLING TOWER
CU	CONDENSING UNIT
CWP	CONDENSER WATER PUMP
DEFL	DEFLECTION
DET	DETAIL
DI	DIGITAL INPUT
DIA	DIAMETER
∅	DIAMETER
DO	DIGITAL OUTPUT
EDB	ENTERING DRY BULB
ELEC.	ELECTRICAL
ELEV.	ELEVATION
EWB	ENTERING WET BULB
EWT	ENTERING WATER TEMPERATURE
EXH	EXHAUST
EXIST.	EXISTING
°F	DEGREES FAHRENHEIT
GFF	GAS FIRED FURNACE
GPM	GALLONS PER MINUTE
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FT	FOOT OR FEET
HD.	HEAD
HP	HORSE POWER
HR	HOUR(S)
HT.	HEIGHT
HTR	HEATER
HVAC	HEATING, VENTILATION AND AIR CONDITIONING
HWP	HOT WATER PUMP
HX	HEAT EXCHANGER
HZ	FREQUENCY (HERTZ)
ID	INSIDE DIAMETER
IN.	INCHES
KW	KILOWATT
KWH	KILOWATT HOUR
MAX	MAXIMUM
MBH	1000 BTU PER HOUR
MECH.	MECHANICAL
MFR.	MANUFACTURER
MIN	MINIMUM
NO.	NUMBER
N/A	NOT APPLICABLE
NC	NOISE CRITERIA
O.D.	OUTSIDE DIAMETER
OA	OUTSIDE AIR
⬬	OVAL DUCTWORK
ORIG.	ORIGINAL
PH.	PHASE
PIU	POWERED INDUCTION UNIT
PRESS	PRESSURE
RTN	RETURN AIR
RTU	ROOFTOP AIR HANDLING UNIT
SDC	STAND ALONE DIGITAL CONTROLLER
SENS.	SENSIBLE
SQ.	SQUARE
SPLY	SUPPLY
TEMP	TEMPERATURE
VAV	VARIABLE AIR VOLUME
W	WATT
W/	WITH
W.P.D.	WATER PRESSURE DROP



1 MEP## AIR DEVICE LEGEND
NO SCALE

AIR HANDLING UNIT SCHEDULE

EQUIPMENT NO.	MANUFACTURER/ MODEL NO.	CFM	OA CFM	E.S.P. (IN. W.C.)	FAN H.P.	FAN DRIVE	COOLING CAPACITY EDB (F°)	COOLING CAPACITY EWB (F°)	COOLING CAPACITY LDB (F°)	COOLING CAPACITY LWB (F°)	ELECTRIC HEAT TOTAL (KW) (208V)	ELECTRIC HEAT TOTAL (KW) (240V)	ELECTRIC HEAT STAGES	ELECTRICAL DISCONNECT	ELECTRICAL VOLTS/PH./HZ. 208/160 UNIT MCA	ELECTRICAL VOLTS/PH./HZ. 208/160 UNIT MOCP	ELECTRICAL VOLTS/PH./HZ. 240/160 UNIT MCA	ELECTRICAL VOLTS/PH./HZ. 240/160 UNIT MOCP	MOUNTING	WEIGHT (LBS.)	REMARKS
AHU-1	TRANE 5TEM6D04AV31	1,000	150	0.5	1/2	DIRECT	80	67	58.0	56.0	10.0	14.4	2	BY DIV. 26	7.5.0	80.0	8.5.0	90.0	HORIZONTAL	150	1), 2), 3)

REMARKS:
1) PROVIDE UNIT WITH SINGLE POINT POWER CONNECTION.
2) PROVIDE WITH 1" THROW AWAY FILTERS.
3) ROUTE CONDENSATE TO HUB DRAIN ON EQUIPMENT PLATFORM.

OUTDOOR HEAT PUMP SCHEDULE

EQUIPMENT NO.	MANUFACTURER/ MODEL NO.	SERVICE	COOLING CAPACITY NOMINAL (TONS)	COOLING CAPACITY AMBIENT TEMP. (F)	HEATING CAPACITY MBH	HEATING CAPACITY AMBIENT TEMP. (F)	ELECTRICAL UNIT MCA	ELECTRICAL UNIT MOCP	ELECTRICAL DISCONNECT	ELECTRICAL VOLTS/PH./HZ.	MIN. SEER	MIN. HSPF	WEIGHT (LBS.)	REMARKS
OHP-1	TRANE 5TWR5030A1	AHU-1	2.5	95.0	26.0	47.0	16.0	25.0	BY DIV. 26	208/1/60	15.2	8.2	225	1), 2), 3)

REMARKS:
1) PROVIDE LONG LINE ACCESSORIES AS REQUIRED BY MANUFACTURER.
2) UNITS SHALL BE SIZED AT 95° F AMBIENT TEMPERATURE.
3) LOCATE UNIT ON HOUSEKEEPING PAD. ANCHOR UNIT TO PAD WITH EXPANSION BOLTS.

POWER VENTILATOR SCHEDULE

EQUIPMENT NO.	MANUFACTURER/ MODEL NO.	CFM	E.S.P. (IN. W.C.)	RPM	MAX. SONES	ELECTRICAL DISCONNECT	ELECTRICAL MOTOR STARTER	ELECTRICAL WATTS	ELECTRICAL MOTOR VOLTS/PH./HZ.	LOCATION	TYPE	DRIVE	WGT (LBS.)	REMARKS
EF-1	COOK GC-146	70	0.35	849	1.5	BY DIV. 26	BY DIV. 23	32	115/1/60	CEILING	CENTRIFUGAL	DIRECT	15	1), 3), 5)
EF-2	COOK GC-146	70	0.35	849	1.5	BY DIV. 26	BY DIV. 23	32	115/1/60	CEILING	CENTRIFUGAL	DIRECT	15	1), 3), 5)
EF-3	COOK 150SQN17D	3000	0.35	1649	21.4	BY DIV. 26	BY DIV. 23	1 HP	115/1/60	INLINE	CENTRIFUGAL	DIRECT	120	2), 6)
EF-4	COOK 24XP28D102	4200	0.25	971	15.8	BY DIV. 26	BY DIV. 23	3/4 HP	115/1/60	WALL	PROPELLER	DIRECT	150	2), 4)

REMARKS:
1) PROVIDE OCCUPANCY SENSOR FOR FAN OPERATION IN EACH RESTROOM.
2) FAN SHALL RUN CONTINUOUSLY DURING OCCUPIED HOURS, INTERLOCK WITH LOCAL SWITCH. COORDINATE WITH ELECTRICAL.
3) PROVIDE WITH FAN SPEED CONTROLLER.
4) PROVIDE WITH FAN INLET GUARDS.
5) PROVIDE WITH BACKDRAFT DAMPER.
6) PROVIDE FAN WITH EC VARIFLOW DRIVE PACKAGE.

RADIANT HEATER SCHEDULE

EQUIPMENT NO.	MANUFACTURER/ MODEL NO.	HEATING CAPACITY (MBH)	AMPS	ELECTRICAL DISCONNECT	ELECTRICAL VOLTS/PH./HZ.	WEIGHT (LBS)	MOUNTING HEIGHT	REMARKS
RH-1	RE-VERBER-RAY DX3L-30-100	100	0.1	BY DIV. 26	115/1/60	160	13' 6"	1), 2), 4), 5)
RH-2	RE-VERBER-RAY DR-50	50	0.1	BY DIV. 26	115/1/60	50	11' 9"	1), 2), 3), 4)
RH-3	RE-VERBER-RAY DR-50	50	0.1	BY DIV. 26	115/1/60	50	11' 9"	1), 2), 3), 4)

REMARKS:
1) MAINTAIN DISTANCES FROM COMBUSTIBLES PER MANUFACTURERS INSTALLATION DETAILS.
2) PROVIDE WITH 24V TRANSFORMER AND LOW VOLTAGE THERMOSTAT.
3) ANGLE UNITS AT 30 DEGREES FROM HORIZONTAL. SUSPEND UNITS FROM STRUCTURE WITH 3/8" THREADED RODS OR CHAINS.
4) HEIGHT SHOWN MEASURED FROM BOTTOM OF HEATING RAY HEADTUBE.
5) PROVIDE HEATER WITH SIDE SHIELDS TO DIRECT HEAT DOWNWARD.

		OUTSIDE AIR CALCULATIONS															
		MECHANICAL CODE OUTSIDE AIR REQUIREMENT												MAX OA REQUIRED			
		Supply	Area	Occupancy	Max Number of	Number of	O.A. Area Air Rate	O.A. People Air Rate	O.A. Area Air Rate	O.A. People	O.A.	Zone	Corrected		Primary	Ventilation	
		Air (cfm)	(sq. ft)	Classification	Occupants/SF	Occupants	(cfm / sq. ft)	(cfm/person)	(cfm)	Air Rate	(cfm)	Effectiveness	CFM		O.A. Fraction	Effectiveness	Remarks
Served By	Space Name	Voz (Max)	Az		(per 1000 SF)	Pz	Ra	Rp		(cfm)	Vbz	Ez	Voz	Vot	Zp	Ev	
AHU-1	1 Service Writing	300	139	Lobbies	--	1	0.06	5	8	5	13	0.80	17	17	0.06	1	
	2 Waiting Room	250	127	Lobbies	--	15	0.06	5	8	75	83	0.80	103	103	0.41	0.737	
	4 Manager	100	48	Office	5	1	0.06	5	3	5	8	0.80	10	10	0.10	1	
	7 Break Room	250	61	Break Room	35	1	0.06	10	4	10	14	1.80	8	8	0.03	1	
															OA	Lowest Ev	
															137.39	1.00	

Pinnacle Engineering LLC
Engineering & Design Consultants
2111 Parkway Office Circle, Suite 125
Birmingham, AL 35244
(205) 733-6912 FAX: (205) 733-6913
Job No.26169

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FINAL

No.	Description	Date
IFB-1	Issued for Bid 1 AHJ Review	08/01/26
IFB-2	Issued for Bid 2 AHJ Review	08/08/26

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Mechanical Legend, Abbreviations and Schedules

Project number	26014
Date	08/05/26
Drawn by	CA
Checked by	JB

M0.01

Scale 12" = 1'-0"

9/11/2026 10:07:56 AM

SECTION 15010 - MECHANICAL GENERAL

A. PROVIDE EQUIPMENT, LABOR, MATERIAL, ETC., REQUIRED TO MAKE A COMPLETE WORKING INSTALLATION.
B. INSTALL THE WORK IN ACCORDANCE WITH DRAWINGS, SPECIFICATIONS AND THE STANDARDS AND CODES (LATEST EDITION) THAT APPLY TO THIS WORK. IN THE EVENT OF A CONFLICT, INSTALL WORK IN ACCORDANCE WITH THE MOST STRINGENT CODE REQUIREMENTS DETERMINED BY THE ENGINEER.
C. OBTAIN AND PAY FOR ALL PERMITS AND INSPECTIONS INCLUDING: BUILDING PERMITS, HEALTH DEPARTMENT PERMITS AND SEWER TAP PERMITS. DELIVER TO ENGINEER CERTIFICATES OF INSPECTION AND APPROVAL ISSUED BY AUTHORITIES.
D. ALL EQUIPMENT AND METHOD SHALL BE INSTALLED AND CONNECTED IN ACCORDANCE WITH THE BEST ENGINEERING PRACTICES AND IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
E. DISCONNECT, REMOVE AND RE-INSTALL MECHANICAL SERVICES LOCATED ON OR CROSSING THROUGH CONTRACT LIMITS, ABOVE OR BELOW GRADE, OBSTRUCTING CONSTRUCTION OF PROJECT OR CONFLICTING WITH COMPLETED PROJECT OR ANY APPLICABLE CODES.
F. DRAWINGS AND SPECIFICATIONS ARE COMPLEMENTARY. WORK CALLED FOR BY ONE IS BINDING AS IF CALLED FOR BY BOTH.
G. DRAWINGS ARE DRAWN TO A SMALL SCALE AND ARE DIAGRAMMATIC ONLY. THE DRAWINGS INDICATE SIZE AND GENERAL ARRANGEMENT OF EQUIPMENT. DO NOT SCALE DRAWINGS FOR EXACT LOCATIONS. FIELD MEASUREMENTS TAKE PRECEDENCE.
H. PROVIDE NECESSARY OFFSETS, ELBOWS AND FITTINGS AS REQUIRED TO AVOID CONFLICT WITH EQUIPMENT OF OTHER DIVISIONS AND TO OBTAIN PROPER HEADROOM AND CLEAR PASSAGEWAYS. THIS SHALL BE DONE AT NO ADDITIONAL COST TO THE OWNER.
I. WORK UNDER THIS DIVISION SHALL BE FIRST CLASS WITH EMPHASIS ON NEATNESS AND WORKMANSHIP. INSTALL WORK USING COMPETENT MECHANICS, UNDER SUPERVISION OF FOREMAN, ALL DULY CERTIFIED BY LOCAL AUTHORITIES.
J. INSTALLATION SUBJECT TO ENGINEER'SOBSERVATION, FINAL APPROVAL, AND ACCEPTANCE. ENGINEER MAY REJECT UNSUITABLE WORK.
K. ALL MATERIALS SHALL BE NEW. ALL MATERIALS AND EQUIPMENT FOR WHICH A UL STANDARD, AN AGA APPROVAL, AN AWWA STANDARD, FM LISTING OR ASME REQUIREMENTS IS ESTABLISHED, SHALL BE SO APPROVED AND LABELED OR STAMPED.

L. THE DRAWINGS ARE BASED ON THE USE OF PRODUCTS SPECIFIED AND LISTED FIRST. IF ANY REVISION IN PIPING, CONDUIT WORK, FOUNDATIONS, ANCHOR BOLTS, CONNECTIONS, ETC., IS REQUIRED BY OTHER NAMED PRODUCTS OR APPROVED SUBSTITUTIONS, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAKE SUCH REVISIONS AT NO ADDITIONAL EXPENSE TO THE OWNER.
M. SUBMIT SIX (6) ORIGINAL COPIES OF COMPLETE SHOP DRAWINGS FOR ALL MATERIALS AND EQUIPMENT FURNISHED UNDER DIVISION 15 OF SPECIFICATIONS TO ENGINEER FOR REVIEW. SHOP DRAWINGS SHALL BEAR THE STAMP OF APPROVAL OF THE CONTRACTOR AS EVIDENCE THAT THE DRAWINGS HAVE BEEN CHECKED BY HIM. DRAWING SUBMITTED WITHOUT THIS STAMP OF APPROVAL WILL NOT BE CONSIDERED AND WILL BE RETURNED FOR PROPER RESUBMISSION.
N. REVIEW OF SHOP DRAWINGS DOES NOT RELIEVE CONTRACTOR OF RESPONSIBILITY FOR ERRORS AND OMISSIONS IN SHOP DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS AND SIZES OF EQUIPMENT. INFORM ENGINEER IN WRITING OF EQUIPMENT DIFFERING FROM THAT SHOWN.
O. PROVIDE MAINTENANCE AND OPERATING MANUALS BOUND IN 8-1/2" X 11" HARDBACK, THREE-POST BINDERS. MANUALS SHALL CONTAIN WRITTEN INSTRUCTIONS FOR EACH SYSTEM, SHOP DRAWINGS, SCHEMATIC DRAWINGS, EQUIPMENT CATALOG CUTS, MANUFACTURER'S INSTRUCTIONS, MANUFACTURERS WARRANTIES, AND VALVE TAG LIST.
P. PROVIDE AS-BUILT PRINTS AT THE COMPLETION OF JOB. KEEP ONE SET OF PRINTS ON JOB AND RECORD DAY TO DAY CHANGES TO CONTRACT DRAWINGS WITH RED PENCIL. INDICATE ACTUAL LOCATION OF PIPING, DUCTWORK, VALVES, DAMPERS, AND EQUIPMENT. TURN OVER PRINTS TO ENGINEER AT FINAL OBSERVATION.
Q. FURNISH ENGINEER WRITTEN WARRANTY, STATING THAT IF WORKMANSHIP AND/OR MATERIALS EXECUTED UNDER THIS DIVISION IS PROVEN DEFECTIVE WITHIN ONE (1) YEAR AFTER FINAL ACCEPTANCE, SUCH DEFECTS AND OTHER WORK DAMAGED WILL BE REPAIRED AND/OR REPLACED.

SECTION 15050 - BASIC MATERIALS AND METHODS

A. CONCRETE HOUSEKEEPING PADS:
1. PROVIDE CONCRETE HOUSEKEEPING PADS UNDER ALL FLOOR MOUNTED EQUIPMENT, PIPE SUPPORT AND DUCT SUPPORTS AND WHERE INDICATED. CONCRETE SHALL BE 3000 PSI AT 28 DAYS MINIMUM.
2. PADS SHALL BE DOWELED TO FLOOR WITH NOT LESS THAN 4 NO. 4 BARS GROUTED IN PLACE. ANCHOR BOLTS FOR EQUIPMENT SHALL BE POURED INTEGRAL WITH THE PAD. PADS SHALL BE REINFORCED WITH AT LEAST ONE NO. 4 BAR (STIRRUPS). PADS SHALL HAVE CHAMFERED EDGES AND A BROOM FINISH.
3. HOUSEKEEPING PADS SHALL BE NOT LESS THAN 3-1/2 IN. THICK, SIZED AT LEAST 8 IN. LARGER THAN THE EQUIPMENT.

B. ACCESS PANELS:
1. ACCESS PANELS SHALL HAVE WELDED STEEL FRAME, ONE PIECE DOORS, AND SELF LATCHING DOOR LOCKS. LOCKS SHALL BE SCREW DRIVER OPERATED WITH CASE HARDENED STEEL CAM. PANELS SHALL BE MILCOR, CESCO, KARP OR EQUAL.
2. PROVIDE ACCESS PANELS IN WALLS AND CEILINGS AS NEEDED TO ALLOW ACCESS TO VALVES, EQUIPMENT, SHOCK ABSORBERS, TRAP PRIMERS, ETC. AND WHERE NOTED.

C. FIRESTOPPING AND SOUNDSTOPPING:
1. PENETRATIONS THROUGH FLOORS AND FIRE RESISTANT WALLS SHALL BE SEALED TO THE RATED FIRE RESISTANCE EQUAL TO THE WALL. INSTALLATION SHALL BE DONE BY A QUALIFIED INSTALLER, APPROVED BY THE MANUFACTURER.
2. IN AN EXISTING BUILDING ALL PENETRATIONS THROUGH FLOORS AND FIRE RESISTANT WALLS SHALL BE SEALED AT THE END OF EACH WORKING DAY. THESE CLOSURES SHALL HAVE AN EQUAL FIRE RESISTANCE RATING TO THE FLOOR OR WALL.
3. PROVIDE SOUND PROOFING THROUGH NON-RATED WALLS.

D. PIPING SEALS:
1. PROVIDE MODULAR, RESILIENT SEALS AROUND PIPES PENETRATING ALL EXTERIOR WALLS, AND FLOORS BELOW GRADE. PIPING SEALS SHALL BE THUNDERLINE CORP. "LINK SEAL" LS SERIES.

E. CUTTING AND PATCHING:
1. CONTRACTOR SHALL BE RESPONSIBLE FOR CUTTING AND PATCHING. CUT WALLS, FLOORS, CEILINGS, PARTITIONS, ETC., REQUIRED FOR THE INSTALLATION OF THIS WORK IN A NEAT AND CAREFUL MANNER. CORE DRILL FOR PIPE SLEEVES AND OTHER OPENINGS THROUGH FLOORS AND WALLS. SAWCUT LARGER OPENINGS. CUTTING SHALL BE KEPT TO A MINIMUM.
2. REPLACE OR REPAIR DUCTWORK, CONDUIT, PIPING, ETC., THAT IS CUT. PATCH AROUND OPENING CUT BY THIS CONTRACTOR OR PROVIDED BY OTHERS FOR HIM. PATCHING SHALL BE DONE BY AN APPROVED QUALIFIED CONTRACTOR, BUT SHALL BE PAID FOR BY THIS CONTRACTOR. FINISHED PATCHING SHALL RETAIN FIRE AND SMOKE RATINGS OF THE ASSEMBLY AND SHALL MATCH SURROUNDING FINISH.

F. ANCHORS:
1. MOUNT ALL EQUIPMENT, BRACKETS, HANGERS, ANCHORS, ETC. TO SAFELY RESIST THE VIBRATION OR THRUST FORCES AND SUPPORT THE UNIT'S WEIGHT.
2. FLOOR MOUNTED ROTATING OR VIBRATING EQUIPMENT SHALL BE ANCHORED TO THE FLOOR USING GROUTED-IN-PLACE OR CAST-IN-PLACE ANCHOR BOLTS WITH THREE INCH HOOK AND SLEEVE. ANCHOR BOLTS SHALL BE OF THE SIZE RECOMMENDED BY THE MANUFACTURER.
3. FLOOR MOUNTED STATIC ITEMS, WALL AND CEILING MOUNTED EQUIPMENT BRACKET AND HANGERS SHALL BE INSTALLED USING DRILLED ANCHORS. ANCHORS SHALL BE PHILLIPS DRILL COMPANY "RED HEAD" OR MULTI-SET II. SIZE ANCHORS FOR FOUR TIMES THE APPLIED LOAD. BOLTS USED OUTDOORS OR IN A WET ENVIRONMENT SHALL BE HOT DIP GALVANIZED.

G. PIPE IDENTIFICATION:
1. IDENTIFICATION SHALL BE IN ACCORDANCE WITH ANSI-A13.1. PIPE MARKERS SHALL BE SETON'S WEATHER-CODE OR EQUAL.
2. PROVIDE PIPE MARKERS AND DIRECTIONAL ARROWS ON PIPES AT BOTH SIDES OF PARTITIONS AND FLOORS SLABS, AT BRANCH LINE TAKE-OFFS, AT VALVES, AT INTERMEDIATE INTERVALS NOT IN EXCESS OF 20 FT. AND AT CONNECTIONS TO EQUIPMENT.
3. TAPE COLOR BAND IDENTIFYING MARKERS AND ARROWS ON EACH PIPE, BOTH INSULATED AND BARE PIPES. PIPE MARKERS AND ARROWS SHALL BE LOCATED WHERE READILY VISIBLE AND ON LOWER QUADRANTS OF OVERHEAD PIPES.

H. VALVE TAG AND CHART:
1. VALVE TAGS SHALL BE SETON M4506, BLACK FILLED LETTERS WITH BRASS JACK CHAIN. ONE VALVE NUMBER SHALL BE STAMPED ON EACH TAG. IDENTIFY EACH VALVE TAG FOR THE UTILITY IT SERVES, SUCH AS "CW" FOR COLD WATER, HW FOR HOT WATER, ETC. VALVE CHARTS SHALL BE SETON. ATTACH A NUMBERED VALVE TAG TO EACH VALVE.
2. PROVIDE A TYPE WRITTEN CHART IN FRAME UNDER GLASS COVER, GIVING THE FULL LIST OF ALL VALVES INSTALLED UNDER THIS CONTRACT. CHART SHALL LIST VALVE NUMBER, TYPE OF UTILITY, AND LOCATION. MOUNT CHART WHERE DIRECTED BY OWNER. PROVIDE ONE ADDITIONAL COPY TO OWNER.

I. EQUIPMENT IDENTIFICATION:
1. IDENTIFY EACH PIECE OF EQUIPMENT WITH A 1/8 INCH THICK ENGRAVED MELAMINE PLASTIC LAMINATE NAMEPLATE. LETTERS SHALL BE 1/2 INCH HIGH STANDARD STYLE. NAMES, ABBREVIATIONS, AND NUMBERING SHALL AGREE WITH THE CORRESPONDING EQUIPMENT DESIGNATIONS SHOWN ON THE DRAWINGS. USE BLACK LETTERS CUT IN A WHITE BACKGROUND FOR ALL EQUIPMENT ON STANDARD ELECTRICAL POWER
2. FASTEN NAMEPLATES TO EQUIPMENT IN A CONSPICUOUS LOCATION USING SELF-TAPPING STAINLESS STEEL SCREWS, EXCEPT USE CONTACT EPOXY ADHESIVE WHERE SCREWS CANNOT OR SHOULD NOT PENETRATE SUBSTRATE.

J. PIPE SLEEVES:
1. PROVIDE PIPE SLEEVES WHERE PIPES PASS THROUGH FLOORS AND WALLS ABOVE OR BELOW CEILINGS. PROVIDE PIPE SLEEVES IN NEW WALLS AND FLOORS AS THE WORK PROGRESSES. PROVIDE SPLIT PIPE SLEEVES IN NEW WALLS BUILT UP AROUND EXISTING PIPES. TACK WELD SPLIT SLEEVES TOGETHER.
2. SIZE PIPE SLEEVES TO ALLOW CONTINUOUS INSULATION, BUT NOT LESS THAN TWO PIPE SIZES LARGER THAN PIPE. SLEEVES IN WALLS SHALL BE FLUSH WITH WALL, SLEEVES IN FLOORS SHALL EXTEND 3/4 INCHES ABOVE FLOOR AND BE FLUSH WITH STRUCTURE BELOW.
3. SLEEVES IN CONCRETE WALLS, FLOORS OR MASONRY SHALL BE SCH 40 STEEL PIPE, MACHINE CUT. SLEEVES IN GYPSUM BOARD OR PLASTER WALLS SHALL BE 14 GAUGE, ROLLED GALVANIZED SHEET METAL TACK WELDED ON THE LONGITUDINAL SEAM.
4. PROVIDE PLATES AROUND PIPES EXTENDING INTO EXPOSED AREAS WHERE THEY PASS THROUGH WALLS, FLOORS AND CEILINGS. SIZE PLATES TO COMPLETELY COVER PIPE SLEEVES. PLATES SHALL BE BEATON AND CADWELL, KEENEY OR GRINNELL, NICKEL PLATED STEEL, SPLIT PLATES WITH SET SCREW. CONCRETE FLOOR PLATE SHALL BE GRINNELL FIGURE 400.

K. FLASHING:
1. PROVIDE FLASHING AT PIPING AND DUCT PENETRATIONS THROUGH ROOF AND ROOF MOUNTED STRUCTURES FURNISHED UNDER THIS DIVISION. FLASH IN ACCORDANCE WITH ROOFING MANUFACTURERS DETAILS. FLASHING MATERIALS SHALL BE IN ACCORDANCE WITH THE ROOFING MANUFACTURERS SYSTEM.
2. PROVIDE FLASHING AT PIPES PASSING THROUGH FLOORS WITH WATERPROOF MEMBRANE. FLASHING SHALL BE IN ACCORDANCE WITH WATERPROOFING MANUFACTURER'S DETAILS.

SECTION 15260 - HVAC INSULATION

A. GENERAL:
1. ALL INSULATION, JACKETING, AND ADHESIVE SHALL HAVE COMPOSITE SURFACE BURNING CHARACTERISTIC RATING AS TESTED BY ASTM E 84, UL 723, OR NFPA 255 NOT EXCEEDING A FLAME SPREAD OF 25 OR SMOKE DEVELOPED OF 50.
2. SUBMITTALS SHALL USE PAGES FROM MIDWEST INSULATION CONTRACTORS ASSOCIATION - ACOMMERCIAL AND INDUSTRIAL INSULATION STANDARDS@ FOR DEFINING HOW INSULATION MATERIALS WILL BE APPLIED.
3. ALL PIPE OR DUCT INSULATION SHALL BE CONTINUOUS THROUGH WALLS, CEILING OR FLOOR OPENINGS, OR SLEEVES; EXCEPT WHERE FIRESTOP OR FIRESAFING MATERIALS ARE REQUIRED.
4. INSULATE ITEMS MOUNTED IN DUCTWORK WITH THE SAME THICKNESS OF INSULATION AS SPECIFIED FOR DUCTWORK: INCLUDING AIR MEASURING STATIONS, SMOKE DAMPERS, AND AUTOMATIC DAMPERS.
5. REPAIR INSULATION DAMAGED BY WORK UNDER THIS CONTRACT TO MATCH EXISTING WORK OR REPLACE DAMAGED PORTION WITH INSULATION SPECIFIED FOR NEW WORK.

B. ELASTOMERIC CLOSED CELL INSULATION:
1. INSULATION SHALL BE RUBATEX OR ARMSTRONG. SECURE INSULATION WITH CONTACT ADHESIVE IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS. EXPOSED OR EXTERIOR INSTALLATIONS SHALL BE PAINTED WITH TWO COATS OF WATER BASE LATEX ENAMEL.
2. PROVIDE 1 IN. THICK INSULATION ON DX REFRIGERANT PIPING, COOLING COIL CONDENATE PIPING, CHILLED WATER RUN-OUTS TO TERMINAL DEVICES, COVERS AND CAPS FOR ALL VALVE STEMS AND OPERATORS, GAUGE COCKS, THERMOMETER WELLS AND OTHER APPURTENANCES SUBJECT TO SWEATING.

C. CONCEALED DUCTWORK:
1. DUCT WRAP SHALL BE 2 IN. THICK, 1.0 PCF WITH ALUMINUM OR FRK FACING, HAVING A MAXIMUM VAPOR TRANSMISSION OF .02 PERMS. MINIMUM INSTALLED "R" VALUE SHALL BE 5.6 WITH 25% COMPRESSION. INSULATION SHALL BE 250 DEG. F RATED AS MANUFACTURED BY OWENS CORNING, MANVILLE, KNAUF, OR CERTAINTEED.
2. APPLY JACKETED DUCTWRAP TO ALL CONCEALED DUCTWORK PROVIDING CONDITIONED AIR, OR OUTSIDE AIR. ONLY INSULATE RETURN DUCTWORK IN NON-CONDITIONED SPACES AND IN CEILING SPACES BELOW A ROOF. PULL INSULATION SNUG, BUT DO NOT COMPRESS INSULATION MORE THAN 1/4 INCH.
3. SECURE DUCTWRAP INSULATION TO DUCTWORK USING ADHESIVE. SECURE INSULATION ON BOTTOM ON SIDES OF HORIZONTAL DUCTWORK AND ALL SIDES OF VERTICAL DUCTWORK WITH INSULPINS WELDED TO DUCT ON 12 TO 18 INCH CENTERS AND WITH CLIPS SLIPPED OVER THE PINS. APPLY CLIPS WITHOUT COMPRESSING INSULATION. MAKE JOINTS BY LAPPING THE FACING A MINIMUM OF 2 INCH AND STAPLING WITH T-5 FLARED STAPLES. VAPOR - SEAL WITH CHILDERS CP-30 LOW ODOR AT ALL STAPLES, CLIP LOCATIONS AND OTHER PENETRATIONS. SEAL JOINTS WITH 3 INCH WIDE FSK TAPE.
4. FOR DUCTWORK INSIDE THERMAL ENVELOPE, INSULATION SHALL BE 2 IN. THICK. FOR DUCTWORK OUTSIDE THE THERMAL ENVELOPE, ALL DUCTWORK EXCEPT EXHAUST SHALL BE 4 IN. THICK (2 LAYERS).

D. EXPOSED DUCTWORK:
1. INSULATION BOARD SHALL BE 2 IN. THICK 3 PCF WITH FRK FACING. MINIMUM INSTALLED "R" VALUE 6. INSULATION SHALL BE 250 DEG. F RATED AS MANUFACTURED BY OWENS CORNING, MANVILLE, KNAUF, OR CERTAINTEED.
2. APPLY 2 IN. THICK INSULATION BOARD WITH FRK FACING TO ALL EXPOSED DUCTWORK PROVIDING CONDITIONED AIR, OR OUTSIDE AIR. INSULATE RETURN DUCTWORK IN NON-CONDITIONED SPACES.
3. SECURE INSULATION WITH INSULPINS (ALL SURFACES) WELDED TO DUCT ON 12 TO 18 IN. CENTERS AND WITH CLIPS SLIPPED OVER PINS. SEAMS AND JOINTS SHALL BE VAPOR SEALED WITH 3 IN. WIDE FSK TAPE. CORNERS AND EDGES OF DUCTWORK SHALL BE REINFORCED WITH ROLL-ON CORNER BEAD. SEAL ALL BREAK AND PUNCTURES WITH VAPOR BARRIER SEALANT AND FSK TAPE.

E. PIPING FINISHES:
1. METAL JACKETING SHALL BE, SMOOTH .016 IN. THICK, TYPE T 3003 ALUMINUM WITH LAMINATED MOISTURE BARRIER. JACKETING SHALL BE CHILDERS, ALUMINUM ROLL JACKETING WITH POLYKRAFT MOISTURE BARRIER. COVER THE FOLLOWING INSULATED SYSTEMS WITH METAL JACKETING: PIPING INSTALLED OUTDOORS. METAL FITTING COVERS SHALL BE TWO PIECE ALUMINUM. COVERS SHALL BE ELL-JAC.
2. CONCEALED PIPING FINISH COVERING SHALL BE THE ALL SERVICE JACKET. FITTINGS SHALL BE COVERED BY WRAPPING THE FITTING WITH FIBER REINFORCED TAPE, WITH A 5 PERCENT OVERLAP. FITTING COVERS SHALL BE ONE PIECE 20 MIL PVC. COVERS SHALL BE CEEL-TITE 550 PVC-UVR BY CEEL-CO OR EQUALS.

A. DUCTWORK FINISHES:
INSULATED DUCTWORK INSTALLED OUTDOORS, INSULATED DUCTWORK WITHIN 8 FT. OF THE FINISHED FLOOR IN A MECHANICAL ROOM SHALL BE COVERED WITH 30 GAUGE GALVANIZED STEEL. COVERING SHALL BE HEMMED, AND FLANGED. SECURE WITH SELF TAPPING SCREWS ON EIGHT INCH CENTERS. DO NOT PUNCTURE VAPOR BARRIER

SECTION 15535 - REFRIGERANT PIPING SYSTEMS

A. REFRIGERANT PIPING SHALL BE TYPE L, HARD DRAWN COPPER TUBING CONFORMING TO ASTM SPECIFICATION B-280, CLEANED AND CAPPED AND MARKED "ACR". FITTINGS FOR REFRIGERANT LINES SHALL BE AS WROUGHT COPPER OR FORGED BRASS CONFORMING TO ANSI/ASME STANDARD B16.22. JOINTS IN REFRIGERANT LINES SHALL BE BRAZED IN ACCORDANCE WITH ANSI B9.1. KEEP REFRIGERATION PIPING SEALED UNTIL IT IS USED. CAP OPEN ENDS OF INSTALLED PIPING UNTIL READY FOR FINAL CONNECTIONS.
B. THE REFRIGERATION SYSTEM PIPING AND ACCESSORIES SHALL BE INSTALLED IN ACCORDANCE WITH THE SAFETY CODE FOR MECHANICAL REFRIGERATION ANSI/ASHRAE 15-92 AND THE REFRIGERATION PIPING CODE ANSI/ASME B31.5. THE REFRIGERANT TUBE SIZES, AND INSTALLATION OF TUBING SHALL BE IN ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S RECOMMENDATIONS.
C. REFRIGERANT SUCTION LINE SIZE SHALL LIMIT THE TEMPERATURE RISE TO TWO DEGREES F AT FULL LOAD AND HOLD THE REFRIGERANT GAS VELOCITY TO NOT LESS THAN 500 FT. PER MIN. (FPM) IN THE HORIZONTAL NOR LESS THAN 1000 FPM IN THE VERTICAL AT MINIMUM LOAD. REFRIGERANT LIQUID LINE SIZE SHALL LIMIT THE PRESSURE DROP BETWEEN 4 AND 6 PSI AT FULL LOAD.
D. PITCH HOT GAS LINES AND SUCTION LINES APPROXIMATELY 1/8 INCH PER 10 FT. HOT GAS LINES AND SUCTION LINES EXCEEDING 30 FT. VERTICAL LIFT SHALL BE TRAPPED EVERY 20 FT. VERTICAL REFRIGERANT LINES SHALL BE RUN PLUMB, HORIZONTAL LINES SHALL RUN PARALLEL WITH BUILDING WALLS. REFRIGERANT LINES SHALL NOT CONTACT BUILDING STRUCTURE. ISOLATE PIPING WITH RESILIENT LINER IN PIPE SUPPORT OR ELASTOMERIC INSULATION.
E. TEST FOR LEAKS WITH AN ELECTRONIC LEAK DETECTOR. REPAIR LEAKS, REFILL, REPRESSURIZE, AND RETEST. FOLLOW STANDARD CHARGING AND DEHYDRATION PROCEDURES. CHARGE THROUGH THE SYSTEM FILTER-DRIER. CHANGE FILTER DRIERS AFTER 40 HOURS OF OPERATION.
F. PROVIDE A LINE SIZE FILTER-DRIER IN EACH LIQUID REFRIGERANT LINE BETWEEN THE CONDENSER AND THE EXPANSION VALVE. FILTER-DRIER SHALL BE A HENRY VALVE CO., SPORLAN OR ALCO.
G. SERVICE VALVES SHALL BE BACK SEATING TYPE, STEEL OR IRON BODY. PROVIDE SERVICE VALVES AT CONDENSING UNIT. SERVICE VALVES SHALL BE LINES SIZE. VALVES SHALL BE HENRY VALVE CO., COMPRESSOR VALVES, SPORLAN OR ALCO.
H. PROVIDE ISOLATION VALVES AROUND THE FILTER-DRIER TO PERMIT SERVICING THE DRIER WITHOUT LOSS OF REFRIGERANT. ISOLATION VALVES SHALL BE HENRY VALVE CO., 900 SERIES BALL VALVES. SPORLAN AND ALCO ARE APPROVED EQUAL.
I. CHARGING VALVE SHALL BE INSTALLED IN EACH LIQUID REFRIGERANT LINE BETWEEN THE CONDENSER AND THE FILTER DRIER. CHARGING VALVE SHALL BE A HENRY VALVE CO. TYPE 927 OR APPROVED EQUAL. SPORLAN AND ALCO ARE APPROVED EQUAL.

J. SIGHT GLASS SHALL BE INSTALLED IN EACH LIQUID REFRIGERANT LINE AT THE EVAPORATOR COIL. SIGHT GLASS SHALL BE HENRY VALVE CO. MI 31 SERIES DOUBLE PORT STYLE WITH EXTENDED ENDS FOR SOLDERING FOR LINES 5/8 INCH OD OR LARGER. USE MI 30 SERIES SINGLE PORT SOLDERING FOR LINES 5/8 INCH OD OR LARGER. USE MI 30 SERIES SINGLE PORT FOR LINES 1/2 INCH OD AND SMALLER. SPORLAN AND ALCO ARE APPROVED EQUAL.
K. PROVIDE BALANCED EXTERNALLY EQUALIZED THERMOSTATIC EXPANSION VALVE. DISTRIBUTORS SHALL BE MATCHED WITH THERMOSTATIC EXPANSION VALVES AND DIRECT EXPANSION COIL FOR PROPER PERFORMANCE. THERMOSTATIC EXPANSION VALVE (TXV) SHALL BE BALANCED EXTERNALLY EQUALIZED TYPE. DISTRIBUTIONS SHALL BE MATCHED WITH THERMOSTATIC EXPANSION VALVES AND DIRECT EXPANSION COIL FOR PROPER PERFORMANCE. DISTRIBUTORS SHALL BE ALCO OR APPROVED EQUAL. LOCATE BULB IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS. CONNECT THE EQUALIZING LINE TO THE TXV DOWN STREAM OF THE BULB. PROVIDE TRAPPED DOUBLE SUCTION RISERS ON SYSTEMS WITH UNLOADING CAPABILITY, WHEN REQUIRED FOR PROPER OIL RETURN.
L. PROVIDE FLEXIBLE CONNECTORS ON LIQUID LINE, AND SUCTION LINE AT THE CONDENSING UNIT. FLEXIBLE CONNECTORS SHALL BE BRAIDED BRONZE COVERING ON A BRONZE HOSE. END CONNECTORS SHALL BE FEMALE COPPER TUBE TYPE. UNITS SHALL BE RATED NOT LESS THAN 270 PSI AT 250 DEGREES F. UNITS SHALL BE SOUTHEASTERN HOSE, INC., SUPERIOR OR ANACONDA.

SECTION 15630 - GAS FIRED RADIANT HEATERS

A. HIGH-INTENSITY INFRARED HEATER (GAS-FIRED)
1. GAS-FIRED HIGH-INTENSITY INFRARED HEATERS SHALL COMPLY WITH ANSI Z83.19, SECTION 2.10 RADIANT COEFFICIENT, WITHOUT THE USE OF A SECONDARY RE-RADIATING SURFACE OF EITHER RODS OR SCREEN. THE CERAMIC RADIANT SURFACE SHALL BE HORIZONTAL WHEN HEATER IS INSTALLED AT 0 DEGREES. HEATERS SHALL BE CAPABLE OF ANGLE MOUNTING FROM 5 TO 30 DEGREES.
2. WITHOUT THE USE OF AN ADDITIONAL REFLECTOR. HEATERS SHALL BE FULLY TESTED AND READY TO INSTALL, PIPE AND WIRE FOR OPERATION ON NATURAL OR LP/PROPANE GAS. HEATERS SHALL BE DESIGNED TO SATISFACTORILY OPERATE AT A MINIMUM SUPPLY
3. INLET GAS PRESSURE OF 7 INCHES WATER COLUMN (W.C.) WHEN SPECIFIED FOR NATURAL GAS OR 11 INCHES W.C. WHEN SPECIFIED FOR LP/PROPANE GAS AND AT A MAXIMUM SUPPLY INLET GAS PRESSURE OF 14 INCHES W.C.F. HEATERS SHALL BE DESIGNED TO OPERATE WITHOUT ADJUSTMENTS WHEN BURNING NATURAL GAS HAVING A HEAT VALUE OF 1000 BTU PER CUBIC FOOT WITH A SPECIFIC GRAVITY OF .65.
4. HEATERS SHALL BE EQUIPPED WITH ONE OF THE FOLLOWING CONTROLS: 1. SINGLE-STAGE, 120 VAC DIRECT SPARK IGNITION CONTROL HAVING: 100% SAFETY SHUT OFF WITH FLAME MONITORING AND 10.8 VA MAXIMUM POWER CONSUMPTION. CONTROL SHALL OPERATE WITH NO EXTERNAL ELECTRICAL POWER, BUT INSTEAD USE MILLI-VOLTAGE GENERATED BY THE PILOT FLAME. THE HEATER'S CONTROLS SHALL BE EASILY ACCESSIBLE.THE DIRECT SPARK IGNITOR OR MANUAL PILOT SHALL BE DURABLE TO RESIST BREAKAGE. THE HEATER IS FITTED WITH A GAS ORIFICE FOR EACH BURNER FOR PROPER AIR TO GAS MIXTURE FOR SEA LEVEL. HEATERS CAN BE ORDERED OR CONVERTED FOR USE AT HIGH ALTITUDES, OR WITH EITHER LP/PROPANE OR NATURAL GAS.
5. CONSTRUCTION: THE HEATER SHALL BE OF MODULAR DESIGN EMPLOYING MULTIPLE BURNERS TO ACHIEVE THE SPECIFIED INPUT. THE BURNER(S) SHALL INCLUDE A CERAMIC COMBUSTION SURFACE, A PLENUM CHAMBER AND A VENTURI MIXER AND SHALL BE REMOVABLE WITH A SINGLE SCREWFOR CLEANING OR REPLACEMENT WITHOUT DISCONNECTING ANY GAS, ELECTRICAL OR HANGING DEVICE. THE CERAMIC COMBUSTION SURFACE SHALL BE CAPABLE OF REACHING TEMPERATURES UP TO 1850 DEGREES F (AN INCANDESCENT APPEARANCE) AND WITHSTAND THERMAL SHOCK WHEN WATER QUENCHED. THE COMBUSTION SURFACE SHALL BE A CORDIERITE-BASED GROOVED CERAMIC OF AN EXCLUSIVE PERMEABLE DESIGN WHEREBY ALTERNATE ROWS OF 230 PERFORATIONS PER SQUARE INCH TERMINATE AT THE BOTTOM OF SLOTS MAKING ONE HALF OF THE FLAME BELOW THE TOP SURFACE OF THE CERAMIC AND CREATING A MORE INTIMATE CONTACT BETWEEN FLAME AND SURFACE. THE BURNER'S PLENUM CHAMBER SHALL BE OF 20 GA. (.035") CORROSION-FREE ALUMINIZED STEEL, ONE-PIECE FABRICATION AND SEAMLESS NO-WELD CONSTRUCTION. THE PLENUM CHAMBER SHALL UTILIZE A ONE-PIECE STAINLESS STEEL RETAINER TO HOLD THE CERAMIC SURFACE IN PLACE AROUND ITS ENTIRE PERIMETER AND A 14 GA. (.083") ALUMINIZED STEEL BACK BRACKET FOR HOLDING THE BURNER ASSEMBLY IN PLACE TO ACHIEVE PROPER ALIGNMENT OF THE SURFACE, VENTURI AND ORIFICE. THE VENTURI SHALL BE MADE OF ALUMINIZED STEEL. F. THE HEATER'S MAIN FRAME SHALL BE 16 GA. (.065") CORROSION-FREE ALUMINIZED STEEL AND OF NO-WELD CONSTRUCTION. THE MAIN FRAME SHALL HAVE A DOUBLE TURNED UPPER EDGE AND TWO (2) CORNER REINFORCEMENT BRACKETS FOR RIGIDITY. THE SIDE FRAMES SHALL HAVE FOUR (4) 3/8" DIAMETER HOLES FOR EASY MOUNTING WITH S-HOOKS AND CHAIN. REFLECTORS SHALL BE OF 21 GA. (.032") HIGHLY POLISHED MIRROR BRITE ALUMINUM WITH A REFLECTIVITY OF NOT LESS THAN 98%. STANDARD REFLECTOR DESIGN (SHAPE) SHALL HAVE .352 SQUARE FEET OF REFLECTIVE AREA PER LINEAR FOOT, WITH A DOUBLE TURNED EDGE FOR RIGIDITY AND BE MOUNTED TO THE HEATER AT THE FACTORY.
6. UNITS SHALL BE DETROIT RADIANT/REVERBERRAY,

B. TUBULAR INFRARED HEATERS
1. AVAILABLE MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
2. DESCRIPTION: FACTORY ASSEMBLED, PIPED, AND WIRED, AND COMPLYING WITH ANSI Z83.20/CSA 2.34.
3. FUEL TYPE: DESIGN BURNER FOR NATURAL GAS HAVING CHARACTERISTICS SAME AS THOSE OF GAS AVAILABLE AT PROJECT SITE.
4. COMBUSTION TUBING: 4-INCH- DIAMETER ALUMINIZED STEEL WITH HIGH-EMISSIVITY, HIGH-TEMPERATURE, CORROSION-RESISTANT EXTERNAL FINISH.
5. TUBING CONNECTIONS: STAINLESS-STEEL COUPLINGS OR FLARED JOINTS WITH STAINLESS-STEEL DRAW BOLTS.
6. REFLECTOR: POLISHED ALUMINUM, 97 PERCENT MINIMUM REFLECTIVITY, WITH END CAPS. SHAPE TO CONTROL RADIATION FROM TUBING FOR UNIFORM INTENSITY AT FLOOR LEVEL WITH 100 PERCENT CUTOFF ABOVE CENTERLINE OF TUBING. PROVIDE FOR ROTATING REFLECTOR OR HEATER AROUND A HORIZONTAL AXIS FOR MINIMUM 30-DEGREE TILT FROM VERTICAL.
7. REFLECTOR EXTENSION SHIELDS: SAME MATERIAL AS REFLECTORS, ARRANGED FOR FIXED CONNECTION TO LOWER REFLECTOR LIP AND RIGID SUPPORT TO PROVIDE 100 PERCENT CUTOFF OF DIRECT RADIATION FROM TUBING AT ANGLES GREATER THAN 30 FROM VERTICAL.
8. INCLUDE HANGER KIT AND BURNER SAFETY CONTROLS:
9. GAS CONTROL VALVE: SINGLE-STAGE, REGULATED REDUNDANT 24-V AC GAS VALVE CONTAINING PILOT SOLENOID VALVE, ELECTRIC GAS VALVE, PILOT FILTER, PRESSURE REGULATOR, PILOT SHUTOFF, AND MANUAL SHUTOFF ALL IN ONE BODY. BLOCKED VENT SAFETY: DIFFERENTIAL PRESSURE SWITCH IN BURNER SAFETY CIRCUIT TO STOP BURNER OPERATION WITH HIGH DISCHARGE OR SUCTION PRESSURE.
10. CONTROL PANEL INTERLOCK: STOPS BURNER IF PANEL IS OPEN. INDICATOR LIGHTS: BURNER-ON INDICATOR LIGHT.
11. BURNER AND EMITTER TYPE: GRAVITY-VENTED POWER BURNER, WITH THE FOLLOWING FEATURES:
12. EMITTER TUBE: 4-INCH- DIAMETER, ALUMINIZED STEEL TUBING WITH SIGHT GLASS FOR BURNER AND PILOT FLAME OBSERVATION.
13. VENTING: CONNECTOR AT EXIT END OF EMITTER TUBING FOR VENT-PIPE CONNECTION. VENT TERMINAL: HORIZONTAL.
14. BURNER/IGNITION: POWER GAS BURNER WITH ELECTRONIC SPARK AND ELECTRONIC FLAME SAFETY. COMBUSTION-AIR CONNECTION: DUCT CONNECTION FOR COMBUSTION AIR TO BE DRAWN DIRECTLY FROM OUTDOORS BY BURNER FAN.

SECTION 15671 - AIR COOLED CONDENSING UNITS

A. UNITS SHALL BE ASSEMBLED ON MINIMUM 10 GAUGE STEEL MOUNTING/LIFTING RAILS AND SHALL BE WEATHER PROOFED. UNIT SHALL INCLUDE HERMETIC OR SEMI-HERMETIC RECIPROCATING COMPRESSOR(S), PLATE FIN CONDENSER COIL, FANS AND MOTORS, CONTROLS AND HOLDING CHARGE OF R-22. UNITS SHALL BE UL LISTED, AND RATED IN ACCORDANCE WITH ARI STANDARD 240 AND 270.
B. UNIT CASING SHALL BE CONSTRUCTED OF MINIMUM 18 GAUGE G-210, HEAVY GALVANIZED STEEL. EXTERIOR SURFACES SHALL BE FINISHED WITH A WEATHER-RESISTANT BAKED ENAMEL FINISH. COATING SYSTEM SHALL HAVE BEEN TESTED 500 HOURS IN SALT SPRAY TEST (ASTM B117). UNITS SHALL HAVE REMOVABLE PANELS THAT ALLOW ACCESS TO ALL MAJOR COMPONENTS AND CONTROLS.
C. SINGLE COMPRESSOR UNITS LESS THAN 7-1/2 TONS:
1. COMPRESSOR SHALL BE HERMETICALLY SEALED AND MOUNTED ON RUBBER VIBRATION ISOLATORS. COMPRESSOR SHALL INCLUDE INTERNAL OVER TEMPERATURE AND PRESSURE PROTECTION, THERMOSTATICALLY CONTROLLED SUMP HEATER, AND INTERNAL SPRING MOUNTS. REFRIGERATION CIRCUIT SHALL INCLUDE FACTORY INSTALLED LIQUID LINE DRIER, LOW PRESSURE SWITCH. LIQUID LINE AND SUCTION LINE SERVICE VALVE WITH GAUGE PORT.
D. CONDENSER SHALL BE INTERNALLY FINNED OR SMOOTH BORE 3/8 INCH COPPER TUBES MECHANICALLY BONDED TO CONFIGURED ALUMINUM PLATE FIN AS STANDARD. COIL SHALL BE FACTORY PRESSURE AND LEAK TESTED TO 375 PSIG AIR PRESSURE. PROVIDE CONDENSER COIL GUARD CONSISTING OF METAL GRILLE WITH PVC COATING.
E. CONDENSER FAN AND MOTOR(S) SHALL HAVE DIRECT-DRIVE, STATICALLY AND DYNAMICALLY BALANCED FAN(S) WITH ALUMINUM BLADES AND ELECTRO-COATED STEEL HUBS. FANS SHALL BE MOUNTED IN DRAW-THROUGH VERTICAL DISCHARGE POSITION. PERMANENTLY LUBRICATED TOTALLY ENCLOSED TYPE MOTORS SHALL BE PROVIDED AND SHALL HAVE BUILT IN CURRENT AND THERMAL OVERLOAD PROTECTION. MOTOR(S) SHALL BE BALL BEARING TYPE.
F. UNITS SHALL BE COMPLETELY FACTORY WIRED WITH NECESSARY CONTROLS AND CONTACTOR WITH PRESSURE LUGS OR TERMINAL BLOCK FOR POWER WIRING. CONTROL WIRING SHALL BE 24-VOLT CONTROL CIRCUIT WHICH INCLUDES FUSING AND CONTROL TRANSFORMER.
G. DEFROST CONTROLS SHALL INCLUDE ELECTRONIC TIME INITIATED, TEMPERATURE TERMINATED DEFROST SYSTEM. TIMED OVERRIDE LIMITS DEFROST CYCLE TO 10 MINUTES.
H. LOW AMBIENT HEAD PRESSURE SHALL BE PROVIDED TO MODULATE THE RPM OF UNIT OUTDOOR FAN MOTOR IN RESPONSE TO OUTDOOR AMBIENT TEMPERATURES AND UNIT HEAD PRESSURE. PROVIDE UNIT COOLING OPERATION TO OUTDOOR TEMPERATURE 0 DEGREES F.
I. PROVIDE ANTI-SHORT-CYCLE TIMER TO PREVENT RAPID ON-OFF COMPRESSOR CYCLING IN LIGHT LOAD CONDITIONS BY NOT ALLOWING COMPRESSOR TO OPERATE FOR 5-7 MINUTES UPON SHUTDOWN. TIMER SHALL CONSIST OF A SOLID STATE TIMING DEVICE, 24-VOLT, 60 CYCLE.
J. WARRANTY:
1. PROVIDE A WRITTEN WARRANTY AGREEING TO REPLACE COMPONENTS THAT FAIL IN MATERIALS AND WORKMANSHIP WITHIN THE SPECIFIED WARRANTY PERIOD, PROVIDED MANUFACTURER'S WRITTEN INSTRUCTIONS FOR INSTALLATION, OPERATION, AND MAINTENANCE HAVE BEEN FOLLOWED.
2. WARRANTY PERIOD: MANUFACTURERS STANDARD, BUT NOT LESS THAN FIVE (5) YEARS FROM DATE OF SUBSTANTIAL COMPLETION FOR COMPRESSOR(S) AND ONE (1) YEAR FOR ALL OTHER COMPONENTS.
K. UNITS SHALL BE JCI, CARRIER OR APPROVED EQUAL. INSTALL UNIT IN ACCORDANCE WITH MANUFACTURER=S INSTRUCTIONS.

Pinnacle ENGINEERING, INC
Engineering & Design Consultants
2111 Parkway Office Circle, Suite 125
Birmingham, AL 35244
(205) 733-6912 FAX: (205) 733-6913
Job No.26189

SECTION 15855 - SPLIT SYSTEM DX AIR HANDLING UNITS

A. AIR HANDLING UNITS SHALL BE COMPLETELY FACTORY ASSEMBLED INCLUDING COIL, CONDENSATE DRAIN PAN, FAN MOTOR(S), FILTERS AND CONTROLS IN AN INSULATED CASING THAT CAN BE APPLIED IN EITHER VERTICAL OR HORIZONTAL CONFIGURATION. UNITS SHALL BE RATED AND TESTED IN ACCORDANCE WITH ARI STANDARD. UNITS SHALL BE UL LISTED AND LABELED IN ACCORDANCE WITH UL 465 AND UL 1995 FOR INDOOR BLOWER COIL UNITS.
B. UNIT CASING SHALL BE CONSTRUCTED OF ZINC COATED, MINIMUM 20 GAUGE, G-90 GALVANIZED STEEL. CASING SHALL BE COMPLETELY INSULATED WITH FIRE-RETARDANT, PERMANENT, ODORLESS GLASS FIBER MATERIAL WITH R-VALVE NOT LESS THAN 4. KNOCKOUTS SHALL BE PROVIDED FOR UNIT ELECTRIC POWER AND REFRIGERANT PIPING CONNECTIONS. CAPTIVE SCREWS SHALL BE STANDARD ON ALL ACCESS PANELS.
C. DIRECT EXPANSION COIL SHALL BE ALUMINUM FIN SURFACE MECHANICALLY BONDED TO 3/8 INCH INTERNALLY ENHANCED COPPER TUBING AND FACTORY PRESSURE AND LEAK TESTED AT 375 PSIG.
D. CONDENSATE DRAIN PAN SHALL BE ONE-PIECE, CORROSION RESISTANT, AND FULLY DRAINABLE. COIL SHALL BE MOUNTED ABOVE, NOT IN, THE DRAIN PAN TO ALLOW FULL INSPECTION OR CLEANING OF DRAIN PAN. UNIT SHALL CONTAIN CONDENSATE DRAIN PANS FOR BOTH HORIZONTAL AND VERTICAL APPLICATIONS. DRAIN PANS SHALL HAVE CONNECTIONS ON BOTH SIDES OF THE UNIT. INSTALL FULL SIZE CONDENSATE DRAIN PIPING FROM UNIT TO LOCATION INDICATED ON PLAN. DRAIN LINE SHALL BE INSTALLED WITH A SLOPE OF NOT LESS THAN 1/8 INCH PER FOOT DOWN IN THE DIRECTION OF FLOW.
E. BLOWER FAN SHALL BE DOUBLE INLET, DOUBLE WIDTH, FORWARD CURVED, CENTRIFUGAL-TYPE FAN(S) WITH ADJUSTABLE BELT DRIVE UNLESS NOTED OTHERWISE. THERMAL OVERLOAD PROTECTION SHALL BE STANDARD ON MOTOR. FAN AND MOTOR BEARINGS SHALL BE PERMANENTLY LUBRICATED.
F. MAGNETIC MOTOR STARTER, LOW VOLTAGE TERMINAL STRIP, AND SINGLE POINT POWER ENTRY SHALL BE INCLUDED. ALL NECESSARY CONTROLS SHALL BE FACTORY-INSULATED AND WIRED. EVAPORATOR DEFROST CONTROL SHALL BE INCLUDED TO PREVENT COMPRESSOR SLUGGING BY TEMPORARILY INTERRUPTING COMPRESSOR OPERATION WHEN LOW EVAPORATOR COIL TEMPERATURES ARE ENCOUNTERED.
G. FILTERS SHALL BE ONEINCH, THROW-AWAY TYPE FILTERS FILTERS SHALL BE ACCESSIBLE FROM EITHER SIDE THROUGH THE COIL ACCESS PANEL.

H. PROVIDE UNIT MOUNTED ELECTRIC HEATERS AS SCHEDULED. ELECTRIC HEAT ASSEMBLY SHALL BE UL, ETL, AND CSA APPROVED FOR DIRECT INSTALLATION ON FAN DISCHARGE. HEATER ASSEMBLY SHALL HAVE SINGLE-POINT POWER WIRING AND INCLUDE CONTACTORS WITH 24 VOLT COILS, POWER WIRING, 24 VOLT CONTROL WIRING TERMINAL BLOCKS, AND A HINGED ACCESS PANEL. ELECTRIC HEATER ELEMENTS SHALL BE CONSTRUCTED OF HEAVY-DUTY NICKEL CHROMIUM ELEMENTS.
I. UNITS SHALL BE YORK, CARRIER OR APPROVED EQUAL. INSTALL UNIT IN ACCORDANCE WITH MANUFACTURER=S INSTRUCTIONS.

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09/08/26

Express Oil Change & Tire Engineers

Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

Seguin, Texas

FINAL

No.	Description	Date
IFB-1	Iss for Bid 1 AHJ Rev.	08/01/26
IFB-2	Iss for Bid 2 AHJ Rev.	09/08/26

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SECTION 15870 - POWER VENTILATORS

A. POWER VENTILATORS WHICH ARE SCHEDULED OR REFERRED TO BY MODEL NUMBER OR CATALOGUE NUMBER ARE INTENDED TO INCLUDE ALL MATERIALS COVERED BY SUCH NUMBER. ANY REQUIRED ACCESSORIES FOR THE INSTALLATION OF THE FAN ARE TO BE BY THE SAME MANUFACTURER UNLESS OTHERWISE NOTED.

B. ALL WIRING AND ELECTRICAL COMPONENTS SHALL COMPLY WITH THE NATIONAL ELECTRIC CODES (NEC). ALL MATERIALS SHALL BE UL LISTED. FANS SHALL BE UL 705. FANS SHALL BEAR THE AMCA CERTIFIED RATINGS SEAL FOR SOUND AND AIR PERFORMANCE. FAN ASSEMBLY SHALL BEAR AN ENGRAVED ALUMINUM NAMEPLATE. FANS WHEELS SHALL BE BALANCED IN ACCORDANCE WITH AMCA STANDARD 204-96.

C. EACH UNIT SHALL HAVE A BIRDSCREEN CONSTRUCTED OF GALVANIZED WIRE MESH WITH 2 IN. OPENINGS MOUNTED VERTICALLY IN THE UNIT DISCHARGE. THE BIRDSCREEN SHALL PRODUCE MINIMAL EFFECT ON AIR AND SOUND PERFORMANCE.

D. INSTALL FAN IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS. INSTALL FANS WITH CLEARANCES FOR SERVICE AND MAINTENANCE. MAKE FINAL DUCT CONNECTIONS TO FANS WITH FLEXIBLE CONNECTORS.

E. ROOF CURBS SHALL BE CONSTRUCTED USING MINIMUM 14 GAUGE GALVANIZED STEEL WITH FULLY MITERED AND WELDED CORNERS, INTEGRAL BASE PLATES INTERNALLY REINFORCED WITH 1 IN. X L IN. X 1/8 IN. STEEL ANGLE, FACTORY INSULATED WITH L L/2 IN. THICK THREE POUND PER CU. FT. DENSITY FIBERGLASS INSULATION. CURBS SHALL BE FABRICATED WITHOUT CANTS. MINIMUM HEIGHT OF CURB SHALL BE 8 IN. ABOVE FINISHED ROOF. CURBS SHALL BE CONSTRUCTED TO MATCH SLOPE OF ROOF AND PROVIDE A LEVEL TOP SURFACE FOR MOUNTING OF MECHANICAL EQUIPMENT.

F. BACK DRAFT DAMPER SHALL BE 6063T5 EXTRUDED ALUMINUM FRAME, .025 IN THICK FORMED ALUMINUM BLADES, EXTRUDED VINYL EDGE SEALS, SYNTHETIC BEARINGS, MILL FINISH.

G. DOWNBLAST CENTRIFUGAL ROOF EXHAUSTER - BELT DRIVE:

1. FAN SHALL BE SPUN ALUMINUM OF BOLTED AND WELDED CONSTRUCTION UTILIZING CORROSION RESISTANT FASTENERS. THE SPUN ALUMINUM STRUCTURAL COMPONENTS SHALL BE CONSTRUCTED OF MINIMUM 16 GAUGE MARINE ALLOY ALUMINUM, BOLTED TO A RIGID ALUMINUM SUPPORT STRUCTURE. THE ALUMINUM BASE SHALL HAVE CONTINUOUSLY WELDED CURB CAP CORNERS FOR MAXIMUM LEAK PROTECTION. THE DISCHARGE BAFFLE SHALL HAVE A ROLLED BEAD.

2. AN INTEGRAL CONDUIT CHASE SHALL BE PROVIDED THROUGH THE CURB CAP AND INTO THE MOTOR COMPARTMENT TO FACILITATE WIRING CONNECTIONS.

3. FAN WHEEL SHALL BE CENTRIFUGAL BACKWARD INCLINED, CONSTRUCTED OF 100% ALUMINUM, INCLUDING A PRECISION MACHINED CAST ALUMINUM HUB. WHEEL INLET SHALL OVERLAP AN AERODYNAMIC ALUMINUM INLET CONE. MOTOR SHALL BE HEAVY DUTY TYPE WITH PERMANENTLY LUBRICATED SEALED BALL BEARINGS AND FURNISHED AT THE SPECIFIED VOLTAGE, PHASE AND ENCLOSURE.

4. BEARINGS SHALL BE DESIGNED AND INDIVIDUALLY TESTED SPECIFICALLY FOR USE IN AIR HANDLING APPLICATIONS. CONSTRUCTION SHALL BE HEAVY DUTY REGREASABLE BALL TYPE IN A CAST IRON HOUSING SELECTED FOR A MINIMUM L50 LIFE IN EXCESS OF 200,000 HOURS AT MAXIMUM CATALOGED OPERATING SPEED.

5. BEARINGS AND DRIVES SHALL BE MOUNTED ON A MINIMUM 14 GAUGE STEEL ASSEMBLY, ISOLATED FROM THE UNIT STRUCTURE WITH RUBBER VIBRATION ISOLATORS. THESE COMPONENTS SHALL BE ENCLOSED IN A WEATHER TIGHT COMPARTMENT, SEPARATED FROM THE EXHAUST AIRSTREAM. DRIVES SHALL BE PRECISION MACHINED CAST IRON TYPE, KEYED AND SECURELY ATTACHED TO THE WHEEL AND MOTOR SHAFTS. DRIVES SHALL BE SIZED FOR 150% OF THE INSTALLED MOTOR HORSEPOWER. BELTS SHALL BE OIL AND HEAT RESISTANT, NON-STATIC TYPE.

6. FAN SHALL BE MODEL ACE-B AS MANUFACTURED BY LOREN COOK COMPANY. GREENHECK, ACME AND PENN VENTILATOR ARE APPROVED EQUAL.

H. SQUARE INLINE EXHAUSTER - DIRECT DRIVE:

1. THE FAN SHALL BE OF BOLTED AND WELDED CONSTRUCTION UTILIZING CORROSION RESISTANT FASTENERS. HOUSING SHALL BE MINIMUM 18 GAUGE STEEL WITH AIRFLOW STRAIGHTENING VANES, INTEGRAL DUCT FLANGES AND HINGED ACCESS DOOR.

2. FAN WHEEL SHALL BE CENTRIFUGAL BACKWARD INCLINED, CONSTRUCTED OF 100% ALUMINUM, INCLUDING A PRECISION MACHINED CAST ALUMINUM HUB. WHEEL INLET SHALL OVERLAP AN AERODYNAMIC ALUMINUM INLET CONE.

3. MOTOR SHALL BE HEAVY DUTY TYPE WITH PERMANENTLY LUBRICATED SEALED BALL BEARINGS AND FURNISHED AT THE SPECIFIED VOLTAGE, PHASE AND ENCLOSURE.

4. FAN SHALL BE MODEL SQI-D AS MANUFACTURED BY LOREN COOK COMPANY. GREENHECK, ACME AND PENN VENTILATOR ARE APPROVED EQUAL.

I. CEILING MOUNTED EXHAUST FAN - DIRECT DRIVE:

1. GC 100 SERIES: THE FAN WHEEL HOUSING AND INTEGRAL OUTLET DUCT SHALL BE INJECTION MOLDED FROM A SPECIALLY ENGINEERED RESIN EXCEEDING UL REQUIREMENTS FOR SMOKE AND HEAT GENERATION. THE OUTLET DUCT SHALL HAVE PROVISION FOR AN ALUMINUM BACKDRAFT DAMPER WITH CONTINUOUS ALUMINUM HINGE ROD. THE INLET BOX SHALL BE MINIMUM 22 GAUGE GALVANIZED STEEL. MOTOR SHALL BE ISOLATION MOUNTED TO A ONE PIECE GALVANIZED STAMPED STEEL INTEGRAL MOTOR MOUNT/INLET. A FIELD WIRING COMPARTMENT WITH RECEPTACLE SHALL BE STANDARD. TO ACCOMMODATE DIFFERENT CEILING THICKNESS, AN ADJUSTABLE PREPUNCHED MOUNTING BRACKET SHALL BE PROVIDED. A WHITE, NON-YELLOWING, HIGH IMPACT STYRENE INJECTION MOLDED GRILL SHALL BE PROVIDED AS STANDARD. WHEEL SHALL BE CENTRIFUGAL FORWARD CURVED TYPE, INJECTION MOLDED OF POLYPROPYLENE RESIN.

2. MOTOR SHALL BE OPEN DRIP PROOF TYPE WITH PERMANENTLY LUBRICATED SEALED BEARINGS AND INCLUDE IMPEDANCE OR THERMAL OVERLOAD PROTECTION AND DISCONNECT PLUG. MOTOR SHALL BE FURNISHED AT THE SPECIFIED VOLTAGE.

3. FAN SHALL BE MODEL GC AS MANUFACTURED BY LOREN COOK COMPANY. GREENHECK, ACME AND PENN VENTILATOR ARE APPROVED EQUAL.

SECTION 15892 - LOW PRESSURE DUCTWORK

A. GENERAL
1. DUCT SYSTEM SHALL BE FABRICATED WITH SHEET METAL THICKNESSES AND REINFORCED IN ACCORDANCE WITH SMACNA, AS SHOWN ON THE DRAWINGS AND AS DESCRIBED HEREIN. DUCTS 18 INCHES AND LARGER ON ANY SIDE SHALL BE STIFFENED BY BEADING ON NOT TO EXCEED 12 INCH CENTERS. UNLESS NOTED OTHERWISE THE MINIMUM PRESSURE/VELOCITY CLASSIFICATION SHALL BE 2 INCH W.G. PLUS OR MINUS, AT 2500 FT. PER MINUTE, DUCT SEAL CLASS "A". DUCT SIZES SHOWN ARE CLEAR INSIDE DIMENSIONS.
2. DUCTWORK HANGERS SHALL BE SUPPORTED BY FASTENERS ATTACHED TO STRUCTURAL STEEL. REPAIR FIRE PROOFING WHICH WAS REMOVED FOR DUCTWORK INSTALLATION. INSTALLATION TO BE DONE BY AN APPROVED QUALIFIED TRADESMAN.
3. INSTALL IN THE DUCTWORK DEVICES FURNISHED BY THE TEMPERATURE CONTROLS SUB-CONTRACTOR. INSTALL SMOKE DETECTORS IN DUCTWORK FURNISHED BY THE DIVISION 16 CONTRACTOR.
4. WATER AND OTHER PIPES SHALL NOT BE ALLOWED TO PASS THROUGH AIR RISERS OR DUCTS, UNLESS APPROVED BY THE ENGINEERS, AND WHEN THIS OCCURS, THE SIZE OF SAID DUCT OR RISER SHALL BE PROPORTIONATELY INCREASED. SANITARY WASTE AND VENT PIPING SHALL NOT PENETRATE ANY DUCTWORK.

B. GALVANIZED STEEL DUCTWORK:
1. GALVANIZED STEEL DUCTWORK SHALL CONFORM TO ASTM A653 (G60). ALL LONGITUDINAL SEAMS SHALL BE GROOVED, DOUBLE OR PITTSBURGH TYPE.

C. DUCTWORK FITTINGS:
1. FOR RECTANGULAR DUCTWORK, VANES SHALL BE PROVIDED IN ELBOWS WITH 90 DEGREE THROATS AND THROAT RADII LESS THAN 1-1/2 TIMES DUCT WIDTH. VANES SHALL BE LOCATED IN ACCORDANCE WITH ASHRAE STANDARDS. DOUBLE-VANE AIRFOIL-TYPE TURNING VANES SHALL BE PROVIDED FOR ALL SQUARE TURNS.

D. HANGERS AND SUPPORTS:
1. PROVIDE CONCRETE INSERTS OR STRUCTURAL STEEL FASTENERS APPROPRIATE FOR BUILDING MATERIALS. PROVIDE TRAPEZE AND RISER SUPPORTS AS REQUIRED. SUPPORT MATERIALS SHALL BE THE SAME AS DUCTWORK SUPPORTING.
2. HANGER, STRAPS AND RODS SHALL WITH SMACNA'S "HVAC DUCT CONSTRUCTION STANDARDS METAL AND FLEXIBLE" STANDARDS
3. DUCT ATTACHMENTS: SHEET METAL SCREWS, BLIND RIVETS OR SELF-TAPPING METAL SCREWS; COMPATIBLE WITH DUCT MATERIALS.

E. SEALANT MATERIAL:
1. SEALANTS SHALL BE SOLVENT OR WATER BASED TYPE U.L. CLASSIFIED MEETING NFPA 90A CLASS 1 WITH ZERO FIRE AND SMOKE DEVELOPMENT RATING. SEALER SHALL BE UNITED SHEET METAL, UNITED DUCT SEALER, OR HARDCAST IRON GRIP NO. 601. TRANSVERSE SEAMS SHALL BE TAPED AND SEALED WITH TWO LAYERS OF UNITED SHEET METAL, UNI-CAST OR CAULKED WITH DUCT SEALER.

F. FLEXIBLE CONNECTORS:
1. INSTALL FLEXIBLE CONNECTORS AT ALL SUPPLY AND EXHAUST FANS AND OTHER AIR HANDLING UNITS WITH INLET AND OUTLET DUCT OR CASING CONNECTIONS. CONNECTORS SHALL NOT BE PAINTED. CONNECTORS SHALL NOT BE USED AS TRANSITION PIECES BETWEEN FAN AND DUCTWORK.
2. CONNECTORS SHALL BE NOT LESS THAN 4 INCHES LONG (IN CLEAR) AND PROPERLY ATTACHED TO DUCT AND FAN CONNECTION COLLAR BY 1 X 1/8 INCH DRAW BAND (FABRICATED OF THE SAME MATERIAL AS ADJACENT DUCTWORK) FIRMLY CLAMPED AROUND COLLARS IN SUCH A MANNER AS TO BE AIRTIGHT AND SECURED TO COLLARS WITH SHEET METAL SCREWS.
3. FLEXIBLE CONNECTORS SHALL BE U.L. LISTED, NEOPRENE COATED HEAVY GLASS FABRIC. FABRIC SHALL BE VENTGLAS, MANUFACTURED BY VENTFABRICS, INC.

G. FLEXIBLE DUCTWORK:
1. FLEXIBLE DUCTS SHALL BE USED FOR STRAIGHT RUNS OF DUCT OR OFFSETS UP TO 45 DEGREES, BUT NOT EXCEEDING 48 INCHES IN LENGTH. THE USE OF FLEXIBLE DUCTS AS ELBOWS WITH MORE THAN A 45 DEGREE BEND WILL NOT BE PERMITTED.
2. FLEXIBLE DUCT SHALL BE UL LISTED AND LABELED AS CLASS 1, AIR DUCT CONNECTOR, IN ACCORDANCE WITH U.L. STANDARD 181 AND SHALL MEET THE REQUIREMENTS OF THE LATEST NFPA BULLETIN, NO. 90A AND NO. 90B FOR FLAME SPREAD AND SMOKE DEVELOPMENT RATING.
3. FLEXIBLE DUCT SHALL BE RATED FOR A MAXIMUM PRESSURE OF 6 INCH POSITIVE AND 3/4 INCH NEGATIVE AND 4000 FPM MAXIMUM VELOCITY. AIR DUCT SHALL CONSIST OF: CPE LINER, COATED SPRING STEEL WIRE HELIX, FIBERGLASS INSULATING BLANKET, FIBERGLASS SCRIM AND REINFORCED ALUMINUM VAPOR BARRIER. THERMAL CONDUCTANCE SHALL BE .23 OR LESS.
4. DUCT SHALL BE FLEXMASTER TYPE 8M OR PRIOR APPROVED EQUAL.

A. VOLUME DAMPERS:
1. SINGLE BLADE DAMPERS SHALL BE CONSTRUCTED OF 22 GAUGE GALVANIZED STEEL (BLADE AND FRAME). SINGLE BLADE DAMPERS SHALL BE LIMITED TO A 12 INCH HIGH BLADE. BLADE EDGES SHALL BE CRIMPED OR REINFORCED. DAMPER LEVERS SHALL INDICATE POSITIVELY THE OPEN AND CLOSED POSITION. END BEARINGS SHALL BE MOLDED SYNTHETIC. DAMPERS SHALL BE RUSKIN MD25 OR APPROVED EQUAL (RUSKIN MDRS25 FOR ROUND DUCTS).
2. MULTIBLADE DAMPERS SHALL BE CONSTRUCTED OF SHEET METAL THE SAME MATERIAL AS THE ADJACENT DUCTWORK. DAMPER FRAME SHALL BE NOT LESS THAN 16 GA., DAMPER BLADES NOT WIDER THAN 6 INCHES CRIMPED OR REINFORCED. DAMPER LEVERS SHALL INDICATE POSITIVELY THE OPEN AND CLOSED POSITION. END BEARINGS SHALL BE MOLDED SYNTHETIC. DAMPER SHALL BE RUSKIN MD35 OR APPROVED EQUAL.

B. FIRE DAMPERS:
1. FIRE DAMPERS SHALL BE UNDERWRITERS APPROVED AND LABELED (UL555). DAMPERS SHALL BE FABRICATED OF GALVANIZED STEEL AND SHALL BE OF SUCH A DESIGN AND LENGTH AS TO FUNCTION AS A WALL MOUNTING SLEEVE, WHICH SHALL BE A PART OF THE FIRE DAMPER. SLEEVES SHALL BE OF WELDED OR BOLTED CONSTRUCTION. CRIMPING OR TABS WILL NOT BE ACCEPTABLE SUBSTITUTES FOR WELDING OR BOLTING.
2. FIRE DAMPERS SHALL BE RUSKIN DIDB2 SERIES FOR 1 2 HOUR RATING. FIRE DAMPERS SHALL BE RUSKIN DIDB23 SERIES FOR 3 HOUR RATING. INSTALL STYLE A FIRE DAMPERS BEHIND DUCTED GRILLES AND REGISTERS IN RATED WALLS. INSTALL STYLE B OR C FIRE DAMPERS IN DUCTED OPENINGS IN RATED WALLS. AIR BALANCE AND PREFCO ARE APPROVED EQUAL.

C. DAMPER HARDWARE:
1. ALL HARDWARE SHALL BE SMACNA ACCEPTED. INSULATED DUCTWORK (CONCEALED) - VENTLOK 638 ELEVATED DIAL REGULATOR. INSULATED DUCTWORK (EXPOSED) - VENTLOK 644 - SELF LOCKING REGULATOR. UNINSULATED DUCTWORK - VENTLOK 555 OR 560 QUADRANTS.

D. DUCT ACCESS DOORS:
1. ACCESS DOORS SHALL BE HINGED, CONSTRUCTED OF THE SAME MATERIAL AS THE DUCTWORK. DOOR EDGES SHALL BE SEALED WITH 3/4 INCH WIDE X 1/8 INCH THICK NEOPRENE SPONGE GASKETING. DOOR HARDWARE SHALL BE VENTLOK #100 LATCHES. ACCESS DOORS ON INSULATED DUCTWORK SHALL BE DOUBLE WALL CONSTRUCTION WITH 1 INCH OF RIGID 3 PCF FIBERGLASS INSULATION.
2. PROVIDE DUCT ACCESS DOORS AT ALL DUCT MOUNTED DEVICES REQUIRING ADJUSTMENT OR RESETTING. ACCESS DOORS SHALL BE APPROXIMATELY 18 INCHES HIGH BY 24 INCHES WIDE. IN SMALLER DUCTWORK, THE HEIGHT SHALL BE REDUCED TO BE 2 INCHES LESS THAN THAT OF THE DUCTWORK.

SECTION 15906 - TEMPERATURE CONTROLS

A. GENERAL:
1. FURNISH AND INSTALL AN ELECTRIC SYSTEM OF AUTOMATIC TEMPERATURE CONTROL AS SPECIFIED HEREIN AND AS SHOWN ON THE CONTRACT DRAWINGS AS MANUFACTURED BY HONEYWELL, JOHNSON CONTROLS, INVENSYS, OR APPROVED EQUAL.
2. EXTRA COSTS INCURRED BY USE OF OTHER THAN BASE BID CONTROL SYSTEM, SUCH AS WIRING, CONTRACT DRAWINGS CHANGES, CHANGES IN DESIGN, ADDED SUPERVISION, ETC., SHALL BE THE RESPONSIBILITY OF THE TEMPERATURE CONTROL SUBCONTRACTOR (TCSC).
3. SYSTEM DOCUMENTATION SHALL INCLUDE THE FOLLOWING: MANUFACTURER'S DATA SHEETS OF ALL PRODUCTS (ORIGINAL COPIES), COMPLETE DESCRIPTION OF OPERATION OF ALL CONTROL LOOPS, INCLUDING RECOMMENDED SETPOINTS AND RANGES OF ADJUSTMENT; FULLY LABELED ELEMENTARY DIAGRAM (ELECTRICAL LADDER DIAGRAM), AND LISTS OF ALL PROPOSED DEVICES AND EQUIPMENT

B. MOTOR OPERATORS: MOTOR OPERATOR SHALL BE SPRING RETURN TYPE, WHICH RETURNS MOTOR ACTUATOR SHAFT TO ITS FULL NORMAL MECHANICAL TRAVEL UPON POWER FAILURE. DAMPER MOTOR DRIVE MECHANISM WILL INCLUDE HOLDING BRAKE TO KEEP THE RETURN SPRING FROM DRAWING THE ACTUATOR FROM DRIVING TOWARD ITS NORMAL POSITION UNLESS POWER IS INTERRUPTED. SUPPLY AND INSTALL ELECTRIC MOTOR OPERATORS FOR ALL DAMPERS. UNIT SHALL BE HONEYWELL MS8105A SERIES OR APPROVED EQUAL.

C. AUTOMATIC DAMPERS: ALL CONTROL DAMPERS SHALL BE STANDARD PRODUCTS OF DAMPER OR TEMPERATURE CONTROL MANUFACTURERS UNLESS NOTED OTHERWISE. LOCAL FABRICATION OF DAMPERS IS NOT ALLOWED. DAMPERS SHALL BE OPPOSED BLADE TYPE. FURNISH FOR INSTALLATION BY THE MECHANICAL CONTRACTOR ALL MOTOR OPERATED DAMPERS. DAMPERS SHALL BE RUSKIN MODEL CD50. GREENHECK IN AN APPROVED EQUAL.

D. THERMOSTATS:
1. PROVIDE HVAC THERMOSTAT WITH THE FOLLOWING FEATURES: SEVEN DAY PROGRAMMING, TWO OCCUPIED/TWO UNOCCUPIED PERIODS PER DAY, AUTOMATIC HEAT/COOL CHANGEOVER WITH 2°F MINIMUM DEAD BAND, TWO STAGE HEATING, TWO STAGE COOLING, TOUCHSCREEN DISPLAY, AUXILIARY CONTACT, AND TEMPERATURE OVERRIDE. THERMOSTAT SHALL BE HONEYWELL VISIONPRO 8000 OR EQUAL.
2. PROVIDE HEATER AND VENTILATION THERMOSTAT WITH THE FOLLOWING FEATURES: SINGLE STAGE CONTROL, ON/OFF/AUTO SWITCHING, AND ADJUSTABLE SETPOINT CONTROL

E. TEMPERATURE CONTROL WIRING:
1. ALL CONTROL WIRING AND CONDUIT REQUIRED TO COMPLETE THE TEMPERATURE CONTROL SYSTEM SHALL BE PROVIDED BY THE TEMPERATURE CONTROL SUB-CONTRACTOR. ALL WIRING SHALL CONFORM TO STANDARDS AND SPECIFICATIONS OUTLINED IN DIVISION 16. WIRE SIZE SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND NATIONAL ELECTRIC CODE. MINIMUM CONDUIT SHALL BE 1/2 INCH DIAMETER. TCSC SHALL COORDINATE ALL CONTROL POWER REQUIREMENTS WITH ELECTRICAL CONTRACTOR PRIOR TO BID.
2. ELECTRIC CONNECTIONS BETWEEN THE VARIOUS UNIT CONTROL CABINETS SHALL BE MADE BY THE TCSC. ALL WIRING MUST BE TAGGED ON BOTH ENDS WITH PANEL NUMBER AND TERMINAL NUMBER.
3. THE TCSC IS RESPONSIBLE FOR ALL REQUIRED PROCESS AND ELECTRICAL CONNECTIONS TO ALL EQUIPMENT, CONTROL DEVICES, AND FIELD INSTRUMENTS. TCSC SHALL FURNISH AND INSTALL ALL CONDUITS, RACEWAYS, ETC., REQUIRED. TCSC SHALL FURNISH AND INSTALL ALL CONTROL AND INTERLOCK WIRING. TCSC SHALL FURNISH AND INSTALL ALL REQUIRED AUXILIARY STARTER CONTACTS OR RELAYS, ETC., FOR A COMPLETE ELECTRICAL INTERLOCK AND CONTROL WIRING SYSTEM.

F. INSTALLATION:
1. THE ENTIRE CONTROL SYSTEM, INCLUDING LOW VOLTAGE WIRING, WITH THE EXCEPTION OF DUCT MOUNTED AUTOMATIC DAMPERS AND SMOKE DETECTORS, SHALL BE INSTALLED BY THE TEMPERATURE CONTROL CONTRACTOR, WHO SHALL MAKE ALL TESTS AND ADJUSTMENTS. ALL CONTROLS SHALL BE FIELD-TESTED AND FIELD-CALIBRATED.
2. SET POINTS OF ALL CONTROLLING INSTRUMENTS ARE INDICATED AT A SPECIFIC POINT; HOWEVER, ALL SET POINTS SHALL BE ADJUSTABLE UP AND DOWN FROM THE POINT INDICATED.
3. CONTRACTOR SHALL SUBMIT TENTATIVE LOCATIONS OF ALL CONTROL DEVICES AND COMPONENTS (INCLUDING TEMPERATURE SENSORS) TO THE ARCHITECT FOR WRITTEN APPROVAL PRIOR TO INSTALLATION. CONTRACTOR SHALL PAY PARTICULAR ATTENTION TO LOCATION OF CONTROL DEVICES AND COMPONENTS TO LOCATION OF CONTROL DEVICES AND COMPONENTS. EFFECTS OF DRAFTS, RADIANT HEAT, VIBRATION, ETC ARE TO BE CONSIDERED WHEN INSTALLING CONTROL DEVICES AND COMPONENTS.
4. PRIOR TO ORDERING FACTORY ASSEMBLED EQUIPMENT WHICH CONTAINS INTEGRAL CONTROL DEVICES AND COMPONENTS, THE CONTRACTOR SHALL OBTAIN A WRITTEN STATEMENT FROM BOTH THE MANUFACTURER AND THE INSTALLING CONTRACTOR THAT THEY HAVE REVIEWED THE APPROPRIATE SUBMITTAL DATA AND ARE AWARE OF THE MAKE, MODEL, TYPE, SIZE, CHARACTERISTICS, ETC. OF THE FACTORY ASSEMBLED CONTROL DEVICES AND COMPONENTS WHICH THEY SHALL BE REQUIRED TO INTERFACE TO AND/OR CONTROL.
5. ALL CONTROL DEVICES (BOTH FIELD AND PANEL MOUNTED) SHALL BE LABELED TO INDICATE BOTH THEIR CONTROL SYSTEMS DESIGNATION, E.G., RTU-1 THERMOSTAT. UNLESS INDICATED OTHERWISE, ABBREVIATIONS AND ACRONYMS FOR ALL ID TAGS AND PANEL FACEPLATES SHALL BE APPROVED BY THE ENGINEER.
6. ALL CONTROL DEVICES ARE TO BE MOUNTED IN ACCESSIBLE LOCATIONS. ALL DEVICES EXPOSED TO THE WEATHER SHALL BE HOUSED IN WEATHERPROOF ENCLOSURES.
7. AT THE COMPLETION OF THE JOB, TCSC SHALL CORRECT HIS DRAWINGS TO INCLUDE ANY CHANGES MADE DURING CONSTRUCTION. TCSC SHALL PROVIDE COLOR-CODED DRAWINGS INDICATED ALL TEMPERATURE ZONES AND EQUIPMENT (3 COPIES).

G. OPERATION TEST AND OWNER'S INSTRUCTION:
1. AT COMPLETION, TCSC SHALL OPERATE THE SYSTEM FOR A PERIOD OF AT LEAST THREE DAYS OF EIGHT HOURS EACH ON THE NEW SYSTEMS TO DEMONSTRATE FULFILLMENT OF THE REQUIREMENTS OF THE CONTRACT. DURING THIS TIME, ALL ADJUSTMENTS SHALL BE MADE TO THE EQUIPMENT SO THAT IT IS IN FIRST-CLASS OPERATING CONDITION. THE ENTIRE SYSTEM IS TO BE LEFT IN OPERATING CONDITION ACCEPTABLE TO THE ENGINEER.
2. UPON COMPLETION OF THE WORK AND ACCEPTANCE BY THE OWNER, TCSC SHALL PROVIDE ONE SCHEDULED FOUR-HOUR PERIOD OF FORMAL INSTRUCTION TO THE OWNER'S OPERATING PERSONNEL WHO HAVE RESPONSIBILITY FOR THE MECHANICAL SYSTEM.

H. SEQUENCE OF OPERATIONS:
1. HVAC UNITS:
   1. NORMAL OPERATION:
      1. UNITS SHALL BE CONTROLLED BY SPACE THERMOSTAT. FAN SHALL OPERATE CONTINUOUSLY DURING OCCUPIED MODE AND INTERMITTENTLY DURING UNOCCUPIED MODE.
      2. HEATING AND COOLING SHALL BE ENABLED BY THERMOSTAT.
      3. COOLING SETPOINT SHALL BE 73°F (ADJUSTABLE).
      4. HEATING SETPOINT SHALL BE 68°F (ADJUSTABLE).
      5. OUTSIDE AIR DAMPER SHALL OPEN DURING OCCUPIED MODE AND CLOSE DURING UNOCCUPIED MODE. OUTSIDE AIR DAMPER SHALL BE NORMALLY CLOSED AND RETURN TO NORMAL POSITION UPON LOSS OF POWER.
2. EXHAUST FANS:
   1. INTERLOCK EXHAUST FANS AS NOTED ON SCHEDULE.

SECTION 15936 - REGISTERS, GRILLES AND DIFFUSERS

A. PRODUCT PERFORMANCE DATA SHALL BE TAKEN FROM TESTS CONDUCTED IN ACCORDANCE WITH ANSI/ASHRAE 70, AND ARI-890.

B. THE NOMINAL OR DUCT CONNECTION SIZE OF GRILLES (NOT OVERALL DIMENSIONS) IS GIVEN ON PLANS. GRILLES AND REGISTERS INCLUDING VOLUME CONTROLLERS SHALL BE CONSTRUCTED OF THE SAME MATERIALS SPECIFIED FOR THE GRILLE. THE GRILLE FINISH SHALL BE WHITE UNLESS NOTED OTHERWISE.

C. REFER TO ARCHITECTURAL DRAWINGS FOR THE VARIOUS CEILING TYPES. REFER TO DRAWINGS OF REFLECTED CEILING PLANS FOR LOCATION OF CEILING DIFFUSERS AND GRILLES. MOUNTING FRAMES SHALL BE PROVIDED FOR ALL GRILLES AND REGISTERS MOUNTED IN DRYWALL, PLASTER, CONCRETE OR MASONRY OPENINGS.

D. SUPPLIER SHALL CHECK ALL AIR DISTRIBUTION AND RETURN AIR DEVICES FOR PROPER PERFORMANCE, NOISE AND ACCESSORIES. ANY DEVICE EXCEEDING NOISE LEVEL HEREIN SPECIFIED SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEERS.

E. CONTRACTOR SHALL COORDINATE OPENINGS IN HARD CEILINGS, FURRED WALLS, MASONRY WALLS, AND FLOORS. MOUNT EACH DEVICE SECURELY TO AVOID RATTLING AND VIBRATION. DEVICES SHALL BE PARALLEL TO THE PLANE OF THE SURFACES THEY ARE MOUNTED.

F. CEILING DIFFUSER TYPE A - TITUS MODEL TDC STEEL LOUVERED FACE DIFFUSER WITH 12 X 12 INCH MODULE AND 9 X 9 INCH UNIFORM BACKPAN. DIFFUSER SHALL INCLUDE ROUND NECK, REMOVABLE CORE OF FIXED DEFLECTION LOUVERS AND EQUALIZING GRID. DIFFUSER SHALL BE SUITABLE FOR SURFACE MOUNTING WITH AIR PATTERN AS SHOWN ON DRAWINGS.

G. RETURN/EXHAUST/GRILLES TYPE A - TITUS MODEL 350 RL STEEL GRILLE. GRILL SHALL INCLUDE ONE SET OF FIXED BLADES SET AT 35° DEFLECTION ON 3/4 INCH SPACING].

H. RETURN/EXHAUST/GRILLES TYPE B - TITUS MODEL 50F ALUMINUM EGG CRATE GRILL. GRILLE SHALL INCLUDE 2 X 2 X 2 INCH ALUMINUM GRID.

I. RETURN/EXHAUST GRILLES TYPE C - TITUS MODEL 33R STEEL HEAVY DUTY BAR GRILLE. GRILLE SHALL INCLUDE ONE SET OF FIXED BLADES SET AT 38° DEFLECTION ON 2 INCH SPACING. BARS SHALL BE 14 GAUGE STEEL. BARS SHALL BE REINFORCED BY PERPENDICULAR STEEL BARS SPACED ON 6 INCH MAXIMUM CENTERS.

SECTION 15990 - TESTING, ADJUSTING AND BALANCING

A. THE TEST AND BALANCE CONTRACTOR SHALL BE AN INDEPENDENT CONTRACTOR THAT REGULARLY PERFORMS AIR AND WATER SYSTEMS TESTING AND BALANCING. MINIMUM QUALIFICATIONS FOR ACCEPTANCE SHALL BE GENERAL MEMBERSHIP IN NEBB OR AABC, EXCEPT THAT AFFILIATION WITH MANUFACTURERS, INSTALLING, CONTRACTORS, OR ENGINEERING FIRMS MAY NOT PRECLUDE ACCEPTANCE.

B. PERFORM TESTING AND BALANCING PROCEDURES ON EACH SYSTEM ACCORDING TO THE PROCEDURES CONTAINED IN ASHRAE APPLICATIONS HANDBOOK, AABC OR NEBB NATIONAL STANDARDS.

C. CUT INSULATION, DUCTS, PIPES, AND EQUIPMENT CABINETS FOR INSTALLATION OF TEST PROBES TO THE MINIMUM EXTENT NECESSARY TO ALLOW ADEQUATE PERFORMANCE OF PROCEDURES. AFTER TESTING AND BALANCING, CLOSE PROBE HOLES AND PATCH INSULATION WITH NEW MATERIALS IDENTICAL TO THOSE REMOVED. RESTORE VAPOR BARRIER AND FINISH ACCORDING TO THE INSULATION SPECIFICATIONS FOR THIS PROJECT.

D. MARK EQUIPMENT SETTINGS WITH PAINT OR OTHER SUITABLE, PERMANENT IDENTIFICATION MATERIAL, INCLUDING DAMPER-CONTROL POSITIONS, VALVE INDICATORS, FAN-SPEED-CONTROL LEVERS, AND SIMILAR CONTROLS AND DEVICES, TO SHOW FINAL SETTINGS.

E. SET HVAC SYSTEM AIRFLOW AND WATER FLOW RATES WITHIN THE FOLLOWING TOLERANCES:
1. SUPPLY, RETURN, AND EXHAUST FANS: PLUS 5 TO PLUS 10 PERCENT.
2. AIR OUTLETS AND INLETS: 0 TO MINUS 10 PERCENT.
3. HEATING-WATER FLOW RATE: 0 TO MINUS 10 PERCENT.
4. COOLING-WATER FLOW RATE: 0 TO MINUS 5 PERCENT.

F. WITHIN 90 DAYS OF COMPLETING TESTING, ADJUSTING, AND BALANCING, PERFORM ADDITIONAL TESTING AND BALANCING TO VERIFY THAT BALANCED CONDITIONS ARE BEING MAINTAINED THROUGHOUT AND TO CORRECT UNUSUAL CONDITIONS. IF INITIAL TESTING, ADJUSTING, AND BALANCING PROCEDURES WERE NOT PERFORMED DURING NEAR-PEAK SUMMER AND WINTER CONDITIONS, PERFORM ADDITIONAL INSPECTIONS, TESTING, AND ADJUSTING DURING NEAR-PEAK SUMMER AND WINTER CONDITIONS.

G. THE MECHANICAL CONTRACTOR=S RESPONSIBILITIES: FURNISH THE TEST AND BALANCE CONTRACTOR ONE COMPLETE SET OF ACCEPTED EQUIPMENT DATA AND ONE COMPLETE SET OF ACCEPTED MECHANICAL SHOP DRAWINGS. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ADVISING THE TEST AND BALANCE CONTRACTOR OF ANY CHANGE(S) MADE TO THE SYSTEM(S) DURING THE CONSTRUCTION PROCESS. MECHANICAL CONTRACTOR SHALL PROVIDE DRAWINGS, SPECIFICATIONS, SHOP DRAWINGS, CONTROL DIAGRAMS, ETC. DETAILING THE CHANGE(S) TO THE TEST AND BALANCE CONTRACTOR. REPLACE AND/OR INSTALL PULLEYS, BELTS, DAMPERS AND TRIM PUMP IMPELLERS AS REQUIRED FOR THE CORRECT BALANCE AS DIRECTED BY THE TEST AND BALANCE CONTRACTOR. ALLOCATE TIME IN THE CONSTRUCTION SCHEDULE FOR TEST AND BALANCE PROCEDURE, ASSIST THE TEST AND BALANCE CONTRACTOR IN COORDINATING WORK WITH THE OTHER TRADES, AND PREPARE THE SYSTEM FOR TESTING AND BALANCING.

Pinnacle Engineering, Inc
Engineering & Design Consultants
2111 Parkway Office Circle, Suite 125
Birmingham, AL 35244
(205) 733-6912 FAX: (205) 733-6913
Job No.26189

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09/08/26

Express Oil Change & Tire Engineers
Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage
Seguin, Texas

FINAL

No.	Description	Date
IFB-1	Iss for Bid 1 AHJ Rev.	08/01/26
IFB-2	Iss for Bid 2 AHJ Rev.	09/08/26

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Mechanical Specifications

Project number	26014
Date	08/05/26
Drawn by	CA
Checked by	JB

M0.03

Scale 12" = 1'-0"

9/11/2026 10:07:56 AM

COMcheck Software Version COMcheckWeb
Mechanical Compliance Certificate

Project Information

Energy Code: 2021 IECC
Project Title: EOC - Seguin, TX
Location: Seguin, Texas
Climate Zone: 2a
Project Type: New Construction

Construction Site: Seguin, Texas

Owner/Agent: Express Oil Change & Tire Engineers, 1880 Southpark Drive, Birmingham, Alabama 35244, 2059451771, jdavis@expressoil.com

Designer/Contractor: James Hogland, Pinnacle Engineering, 2031 Shady Crest Drive, Hoover, Alabama 35216

Additional Efficiency Package(s)

Credits: 10.0 Required 0.0 Proposed

Mechanical Systems List

Quantity	System Type & Description
1	AHU-1 (Single Zone): Split System Heat Pump Heating Mode: Capacity = 26 kBtu/h, Proposed Efficiency = 8.20 HSPF2, Required Efficiency = 7.50 HSPF2 Cooling Mode: Capacity = 28 kBtu/h, Proposed Efficiency = 15.20 SEER2, Required Efficiency = 14.30 SEER2 Proposed Part Load Efficiency = 0.00 , Required Part Load Efficiency = 0.00 Fan System: FAN SYSTEM 1 | office -- Compliance (Motor nameplate HP and fan efficiency method) : Passes Fans: FAN 1 Supply, Constant Volume, 1000 CFM, 0.3 motor nameplate hp, 0.50 fan energy index , fan exception: Single fan < 1 HP or < 0.89 kW
1	RH-1 (Single Zone w/ PerimeterSystem): Heating: 1 each - Radiant Heater, Gas, Capacity = 100 kBtu/h No minimum efficiency requirement applies
2	RH-2,3 (Single Zone w/ PerimeterSystem): Heating: 1 each - Radiant Heater, Gas, Capacity = 50 kBtu/h No minimum efficiency requirement applies
1	Water Heater: Electric Storage Water Heater, Capacity: 30 gallons w/ Circulation Pump No minimum efficiency requirement applies

Mechanical Compliance Statement

Compliance Statement: The proposed mechanical design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 2021 IECC requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

James Hogland, PE — [signature] — 7/22/26
Name - Title — Signature — Date

COMcheck Software Version COMcheckWeb
Inspection Checklist

Energy Code: 2021 IECC

Requirements: 58.0% were addressed directly in the COMcheck software
Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
C103.2 [PR1][1]	Plans and/or specifications provide all information with which compliance can be determined for the building envelope and document where exceptions to the standard are claimed.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C103.2 [PR2][1]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the mechanical and service water heating systems and document where exceptions to the standard are claimed. Load calculations per acceptable engineering standards and handbooks. Hot water system sized per manufacturer's sizing guide.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C103.2 [PR4][1]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the interior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include interior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C103.2 [PR8][1]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the exterior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include exterior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.4.1 [PR10][1]	The vertical fenestration area <= 30 percent of the gross above-grade wall area.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.4.1 [PR11][1]	The skylight area <= 3 percent of the gross roof area.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Section # & Req.ID	Plan Review	Complies?	Comments/Assumptions
C402.4.2 [PR14][1]	In enclosed spaces > 2,500 ft2 directly under a roof with ceiling heights > 15 ft. and used as an office, lobby, atrium, concourse, corridor, storage, gymnasium/exercise center, convention center, automotive service, manufacturing, non-refrigerated warehouse, retail store, distribution/sorting area, transportation, or workshop, the following requirements apply: (a) the daylight zone under skylights is >= half the floor area; (b) the skylight area to daylight zone is >= 3 percent with a skylight VT >= 0.40; or a minimum skylight effective aperture >= 1 percent.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C406 [PR9][1]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the additional energy efficiency package options.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

Section # & Req.ID	Footing / Foundation Inspection	Complies?	Comments/Assumptions
C303.2 [FO4][2]	Slab edge insulation installed per manufacturer's instructions.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C303.2.1 [FO6][2]	Exterior insulation protected against damage, sunlight, moisture, wind, landscaping and equipment maintenance activities.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C105 [FO3][2]	Installed slab-on-grade insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.2.4 [FO7][2]	Slab edge insulation depth/length. Slab insulation extending away from building is covered by pavement or >= 10 inches of soil.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*

Additional Comments/Assumptions:

Section # & Req.ID	Framing / Rough-In Inspection	Complies?	Comments/Assumptions
C303.1.3 [FR12][2]	Fenestration products rated in accordance with NFRC certified and as to performance labels or certificates provided.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.4.3 [FR10][1]	Vertical fenestration SHGC value.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.4.3, C402.4.3.4 [FR8][1]	Installed vertical fenestration U-factor and SHGC consistent with label specifications and as reported in plans and COMcheck reports.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.4.5 [FR14][2]	U-factor of opaque swinging and nonswinging doors associated with the building thermal envelope meets requirements.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.5.1 [FR16][1]	The building envelope contains a continuous air barrier that is sealed in an approved manner and either constructed or tested in an approved manner. Air barrier penetrations are sealed in an approved manner.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.5.4 [FR18][3]	Factory-built fenestration and doors are labeled as meeting air leakage requirements.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

Section # & Req.ID	Plumbing Rough-In Inspection	Complies?	Comments/Assumptions
C404.5, C404.5.1, C404.5.2 [PL6][3]	Heated water supply piping conforms to pipe length and volume requirements. Refer to section details.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C404.6.1, C404.6.2 [PL3][1]	Automatic time switches installed to automatically switch off the recirculating hot-water system or heat trace.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C404.6.3 [PL7][3]	Pumps that circulate water between a heater and storage tank have controls that limit operation from startup to <= 5 minutes after end of heating cycle.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C404.6.1, C404.6.1.1 [PL8][3]	Demand recirculation water systems have controls that start the pump upon receiving a signal from the action of a user of a fixture or appliance and limits the temperature of the water entering the cold-water piping to 104°F.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

Section # & Req.ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C402.2.6 [ME41][3]	Thermally ineffective panel surfaces of sensible heating panels have insulation >= R-3.5.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.12.3 [ME61][2]	HVAC piping insulation insulated in accordance with Table C403.11.3. Insulation exposed to weather is protected from damage and is provided with shielding from solar radiation.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.8.1 [ME65][3]	HVAC fan systems at design conditions do not exceed allowable fan system motor nameplate hp or fan system bhp.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met. *See the Mechanical Systems list for values.*
C403.8.3 [ME117][2]	Fans have a fan energy index (FEI) >= 1.00. Variable volume fans will have an FEI >= 0.95.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.8.3 [ME117][2]	Fans have a fan energy index (FEI) >= 1.00. Variable volume fans will have an FEI >= 0.95.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.8.4 [ME142][2]	Motors for fans that are not less than 1/12 hp and less than 1 hp are electronically commutated motors or have a minimum motor efficiency of 70 percent. These motors have the means to adjust motor speed.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.8.6 [ME143][2]	Each DX cooling system > 65 kBtu and chiller water/evaporative cooling system with fans > 1/4 hp are designed to vary the indoor fan airflow as a function of load and comply with detailed requirements of this section.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.9 [ME144][2]	Large diameter fans where installed shall be tested and labeled in accordance with AMCA 230.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
C403.13.1 [ME71][2]	Systems that heat outside the building envelope are radiant heat systems controlled by an occupancy sensing device or timer switch.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.3 [ME55][2]	HVAC equipment efficiency verified.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Mechanical Systems list for values.*
C403.2.2 [ME59][1]	Natural or mechanical ventilation is provided in accordance with International Mechanical Code Chapter 4. Mechanical ventilation has capability to reduce outdoor air supply to minimum per IMC Chapter 4.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

Section # & Req.ID	Mechanical Rough-In Inspection	Complies?	Comments/Assumptions
C403.7.1 [ME59][1]	Demand control ventilation provided for spaces >500 ft2 and >15 people/1000 ft2 occupant density and served by systems with air side economizer, auto modulating outside air damper control, or design airflow >3,000 cfm.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.7.2 [ME115][3]	Enclosed parking garage ventilation has automatic contaminant detection and capacity to stage or modulate fans to 50% or less of design capacity.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
C403.7.6 [ME141][3]	HVAC systems serving guestrooms in Group R-1 buildings with > 50 guestrooms: Each guestroom is provided with controls that automatically manage temperature setpoint and ventilation (see sections C403.7.6.1 and C403.7.6.2).	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.7.4 [ME57][1]	Exhaust air energy recovery on systems meeting Table C403.7.4(1) and C403.7.4(2).	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
C403.7.5 [ME116][3]	Kitchen exhaust systems comply with replacement air and conditioned supply air limitations, and satisfy hood rating requirements and maximum exhaust rate criteria.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
C403.12.1, C403.12.2 [ME60][2]	HVAC ducts and plenums insulated in accordance with C403.11.1 and constructed in accordance with C403.11.2, verification may need to occur during Foundation Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.4.1.4 [ME63][2]	Heating for vestibules and air curtains with integral heating include automatic controls that shut off the heating system when outdoor air temperatures > 45F. Vestibule heating and cooling systems controlled by a thermostat in the vestibule with heating setpoint <= 60F and cooling setpoint >= 80F.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C408.2.2.1 [ME53][3]	Air outlets and zone terminal devices have means for air balancing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.11.3, C403.11.3.1, C403.11.3.2 [ME123][3]	Refrigerated display cases, walk-in coolers or walk-in freezers served by remote compressors and remote condensers not located in a condensing unit, have fan-powered condensers that comply with Sections C403.11.3.1 and refrigeration compressor systems that comply with C403.11.3.2.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.

Additional Comments/Assumptions:

Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.2.3.1 [EL22][1]	Spaces required to have light-reduction controls have a manual control that allows the occupant to reduce the connected lighting load in a reasonably uniform illumination pattern >= 50 percent.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.1, C405.2.1.1 [EL18][1]	Occupancy sensors installed in classrooms/lecture/training rooms, conference/meeting/multipurpose rooms, copy/print rooms, lounges/breakrooms, enclosed offices, open plan office areas, restrooms, storage rooms, locker rooms, corridors, warehouse storage areas, and other spaces <= 300 sqft that are enclosed by floor-to-ceiling height partitions. Reference section language C405.2.1.2 for control function in warehouses and section C405.2.1.3 for open plan office spaces.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.1.2 [EL19][1]	Occupancy sensors control function in warehouses: In warehouses, the lighting in aisleways and open areas is controlled with occupant sensors that automatically reduce lighting power by 50% or more within 20 minutes of when the areas are unoccupied. The occupant sensors control lighting in each aisleway independently and do not control lighting beyond the aisleway being controlled by the sensor. Lights not turned off by occupant sensors is done so by time-switch.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.1.3 [EL20][1]	Occupant sensor control function in open plan office areas: Occupant sensor controls in open office spaces >= 300 sq.ft. have controls 1) configured so that general lighting can be controlled separately in control zones with floor areas <= 600 sq.ft. within the space, 2) general lighting in each zone permitted to turn on upon occupancy in control zone, 3) automatically turn off general lighting in all control zones within 20 minutes after all occupants have left the space, 4) are configured so that general lighting power in each control zone is reduced by >= 80% of the full zone general lighting power within 20 minutes of all occupants leaving that control zone.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.2, C405.2.2.1 [EL21][2]	Each area not served by occupancy sensors (per C405.2.1.1) have time-switch controls and functions detailed in sections C405.2.2.1.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Section # & Req.ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
C405.2.4, C405.2.4.1, C405.2.4.2 [EL23][2]	Daylight zones provided with individual controls that control the lights independent of general area lighting. See code section C405.2.3 Daylight-responsive controls for applicable spaces, C405.2.3.1 Daylight responsive control function and section C405.2.3.2 Sidelit zone.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.5 [EL27][1]	Additional interior lighting power allowed for special functions per the approved lighting plans and is automatically controlled and separated from general lighting.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.7 [EL28][1]	Automatic lighting controls for exterior lighting installed. Controls will be daylight controlled, set based on business operation time-of-day, or reduce connected lighting > 30%.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.7 [EL26][2]	Low-voltage dry-type distribution electric transformers meet the minimum efficiency requirements of Table C405.6.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C405.8 [EL27][2]	Electric motors meet the minimum efficiency requirements of Tables C405.7(1) through C405.7(4). Efficiency verified through certification under an approved certification program or the equipment efficiency ratings shall be provided by motor manufacturer (where certification programs do not exist).	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C405.9.1, C405.9.2 [EL28][2]	Escalators and moving walks comply with ASME A17.1/CSA B44 and have automatic controls configured to reduce speed to the minimum permitted speed in accordance with ASME A17.1/CSA B44 or applicable local code when not conveying passengers.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
C405.10 [EL29][2]	Total voltage drop across the combination of feeders and branch circuits <= 5%.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C405.1.1 [EL30][2]	At least 90% of dwelling unit permanently installed lighting shall have lamp efficacy >= 65 lm/W or luminaires with efficacy >= 45 lm/W or comply with C405.2.4 or C405.3.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	**Exception:** Requirement does not apply.
C405.11, C405.11.1 [EL31][2]	50% of 15/20 amp receptacles installed in enclosed offices, conference rooms, copy rooms, break rooms, classrooms and workstations and > 25% of branch circuit feeders for modular furniture will have automatic receptacle control in accordance with C405.11.1.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

Section # & Req.ID	Insulation Inspection	Complies?	Comments/Assumptions
C303.1 [IN3][1]	Roof insulation installed per manufacturer's instructions and is labeled with R-value or insulation certificate providing R-value and other relevant data. Blown or poured loose-fill insulation is installed only where the roof slope is <=3 in 12.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.2.1 [IN20][1]	Roof assembly meets minimal thermal resistance installed between roof framing or in a continuous fashion on the roof assembly as stipulated in Table C402.1.3. Requirements for above deck insulation, minimum thickness, suspended ceilings, staggered joints and skylight curbs will be met.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C303.2 [IN7][1]	Above-grade wall insulation installed per manufacturer's instructions.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C105 [IN6][1]	Installed above-grade wall insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.2.3 [IN8][2]	Installed floor insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.2.6 [IN18][3]	Radiant panels and associated components, designed for heat transfer from the panel surfaces to the occupants or indoor space are insulated with a minimum of R-3.5.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.3 [IN5][3]	High-albedo roofs satisfy one of the following: 3-year-aged solar reflectance >= 0.55 and thermal emittance >= 0.75 or 3-year-aged solar reflectance index >= 64.0.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C105 [IN2][1]	Installed roof insulation type and R-value consistent with insulation specifications reported in plans and COMcheck reports. For some ceiling systems, verification may need to occur during Framing Inspection.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Envelope Assemblies table for values.*
C402.5.1.1 [IN1][1]	All sources of air leakage in the building thermal envelope are sealed, caulked, gasketed, weather stripped or wrapped with moisture vapor-permeable wrapping material to minimize air leakage.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C303.3, C408.2.5.2 [FI17][3]	Furnished O&M instructions for systems and equipment to the building owner or designated representative.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C303.3, C408.2.5.3 [FI8][3]	Furnished O&M manuals for HVAC systems within 90 days of system acceptance.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C401.3 [FI58][1]	A thermal envelope certificate will be supplied and completed by an approved third party.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.5.10 [FI26][1]	Recessed luminaires in thermal envelope to limit infiltration and be IC rated and labeled. Seal between interior finish and luminaire housing.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C402.5.8 [FI37][1]	Weatherseals installed on all loading dock cargo door openings and provide direct contact along the top and sides of vehicles parked in the doorway.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.1.1 [FI50][1]	HVAC systems and equipment design loads calculated in accordance with ANSI/ASHRAE/ACCA Standard 183 or by an approved equivalent computational procedure	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C403.3.1 [FI27][3]	HVAC systems and equipment capacity does not exceed calculated loads.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.4.1 [FI47][3]	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.4.1.1 [FI42][3]	Heat pump controls prevent supplemental electric resistance heat from coming on when not needed.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.4.1.2 [FI38][3]	Thermostatic controls have a 5 °F deadband.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.4.1.3 [FI20][3]	Temperature controls have setpoint overlap restrictions.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.4.2 [FI39][3]	Each zone equipped with setback controls using automatic time clock or programmable control system.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C403.4.2.1, C403.4.2.2 [FI40][3]	Automatic Controls: Setback to 55°F (heat) and 85°F (cool); 7-day clock, 2-hour occupant override, 10-hour backup	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C403.4.2.3 [FI41][3]	Systems include optimum start controls.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C404.3 [FI11][3]	Heat traps installed on supply and discharge piping of non-circulating systems.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C404.4 [FI25][3]	All piping insulated in accordance with section details and Table C403.12.3.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C404.6.1 [FI12][3]	Controls are installed that limit the operation of a recirculation pump installed to maintain temperature of a storage tank. System return pipe is a dedicated return pipe or a cold water supply pipe.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C405.5.1 [FI10][1]	Exterior lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	*See the Exterior Lighting fixture schedule for values.*
C408.1.1 [FI57][1]	Building operations and maintenance documents will be provided to the owner. Documents will cover manufacturers' information, specifications, programming procedures and means of illustrating to owner how building, equipment and systems are intended to be installed, maintained, and operated.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C408.2.1 [FI28][1]	Commissioning plan developed by registered design professional or approved agency.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C408.2.3.1 [FI31][1]	HVAC equipment, systems and system-to-system relationships have been tested to ensure proper operation.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C408.2.3.2 [FI10][1]	HVAC and service water heating control systems have been tested to ensure proper operation, calibration and adjustment of controls.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C408.2.4 [FI29][1]	Preliminary commissioning report completed and certified by registered design professional or approved agency.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.

Section # & Req.ID	Final Inspection	Complies?	Comments/Assumptions
C408.2.5 [FI7][3]	Furnished HVAC as-built drawings submitted within 90 days of system acceptance.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C408.2.5 [FI16][3]	Furnished as-built drawings for electric power systems within 90 days of system acceptance.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C408.2.5.1 [FI43][1]	An air and/or hydronic system balancing report is provided for HVAC systems.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C408.2.5.2 [FI30][1]	Final commissioning report due to building owner within 90 days of receipt of certificate of occupancy.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	Requirement will be met.
C408.3 [FI33][1]	Lighting systems have been tested to ensure proper calibration, adjustment, programming, and operation.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

Pinnacle Engineering, Inc
Engineering & Design Consultants
2111 Parkway Office Circle, Suite 125
Birmingham, AL 35244
(205) 733-6912 FAX: (205) 733-6913
Job No.26189

Aho Architects, LLC
www.ahoarch.com

09/08/26

Express Oil Change & Tire Engineers
Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage
Seguin, Texas

FINAL

No.	Description	Date
IFB-1	Iss for Bid 1 AHJ Rev.	08/01/26
IFB-2	Iss for Bid 2 AHJ Rev.	09/08/26

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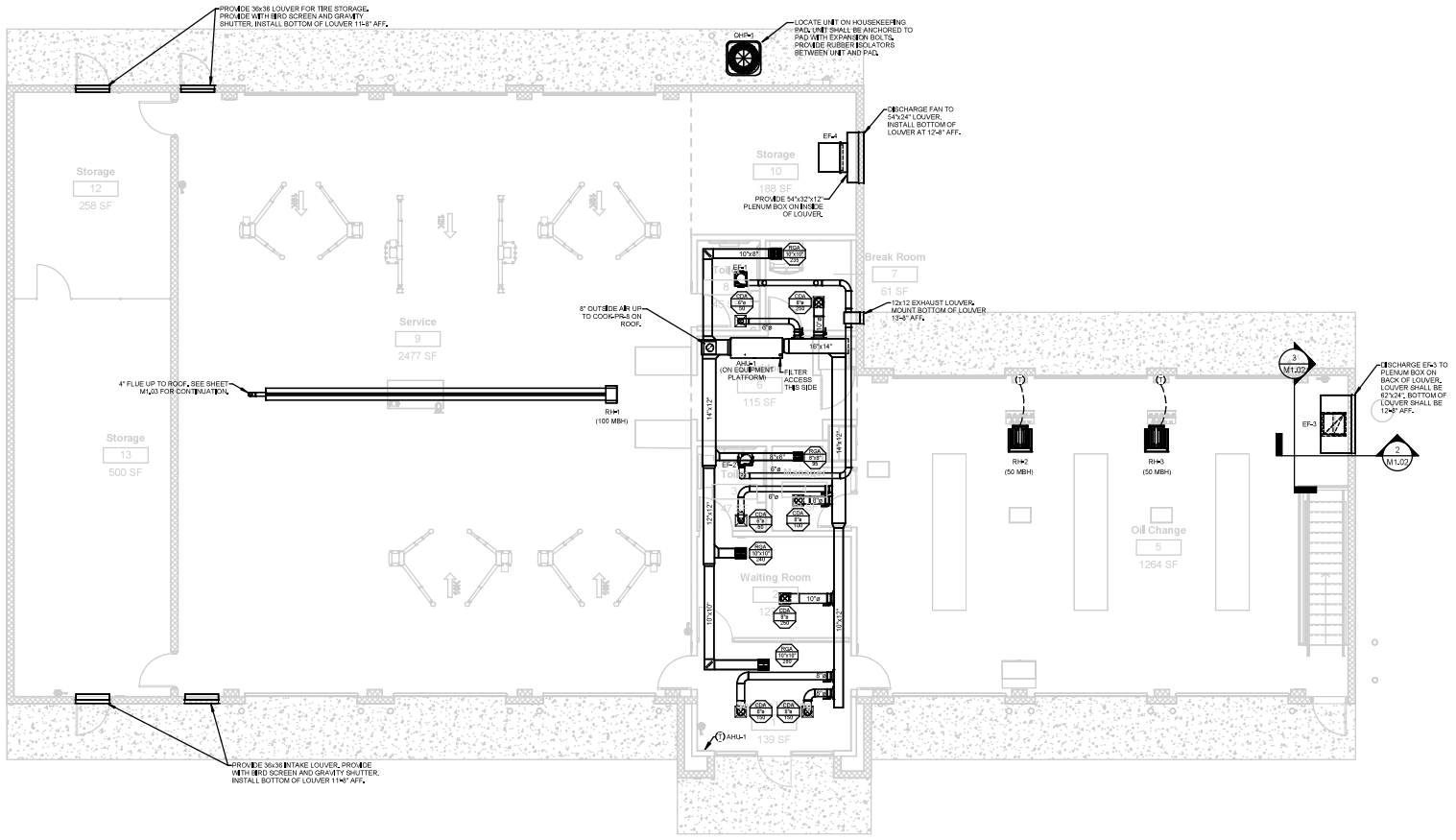
Mechanical Comcheck

Project number	26014
Date	08/05/26
Drawn by	CA
Checked by	JB

M0.04

Scale 6" = 1'-0"

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MAIN FLOOR PLAN MECHANICAL
NORTH 3/16" = 1'-0"

GENERAL NOTES:

1. VERIFY EXISTING CONDITIONS IN FIELD PRIOR TO BEGINNING WORK.
2. SPACE ABOVE CEILING IS LIMITED. CAREFUL COORDINATION WITH LIGHTING, ELECTRICAL, PLUMBING, STRUCTURAL, AND ARCHITECTURAL WORK IS CRITICAL TO DUCTWORK INSTALLATION.
3. PROVIDE NECESSARY OFFSETS IN PIPING, ELECTRICAL CONDUIT, AND DUCTWORK AS REQUIRED TO ACCOMMODATE NEW WORK. DRAWINGS ARE DIAGRAMMATIC AND DO NOT SHOW ALL DETAILS NOR CHANGES IN DUCTWORK ELEVATIONS NECESSARY FOR COMPLETE INSTALLATION.
4. COORDINATE CEILING AIR DEVICE LOCATIONS WITH LIGHTING PLAN AND ARCHITECT'S REFLECTED CEILING PLAN.
5. DUCTWORK SHALL BE RUN TIGHT TO STRUCTURE. AVOID CROSSING OVER LIGHTS AND OTHER DUCTS DUE TO TIGHT CLEARANCES.
6. LOUVERS SHALL BE RUSKIN ELF637SDX OR APPROVED EQUAL. PROVIDE UNIT WITH BIRDSCREEN AND MILL ALUMINUM FINISH. COORDINATE EXACT HEIGHT AND COLOR OF LOUVER WITH ARCHITECT PRIOR TO ORDERING.
7. MOUNT TEMPERATURE CONTROLS 48" ABOVE FINISHED FLOOR. COORDINATE EXACT LOCATION WITH ARCHITECT.
8. SPILL CONDENSATE FROM AHUS INTO NEAREST FLOOR DRAIN.
9. PROVIDE ENGRAVED PLASTIC LABEL AT TERMINATION OF EACH AUXILIARY CONDENSATE DRAIN LINE READING AS FOLLOWS:
   "AHU-### AUXILIARY DRAIN LINE.
   "NOTIFY MAINTENANCE PERSONNEL WHEN WATER IS FLOWING"
10. CONNECT CONDENSATE DRAIN PIPING TO AIR HANDLING UNITS IN ACCORDANCE WITH DETAILS.
11. OUTSIDE AIR VENTILATION INTAKES FOR OIL CHANGE AND SERVICE AREAS WILL BE PROVIDED BY OPEN ROLL-UP DOORS. DOORS SHALL BE OPEN WHILE VENTILATION SYSTEM IS ENABLED.

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09/08/26

Express Oil Change & Tire Engineers

Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

Seguin, Texas

FINAL

No.	Description	Date
EFB-1	Issued for Bid 1 AHJ Review	08/01/26
EFB-2	Issued for Bid 2 AHJ Review	09/08/26

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Mechanical Floor Plan

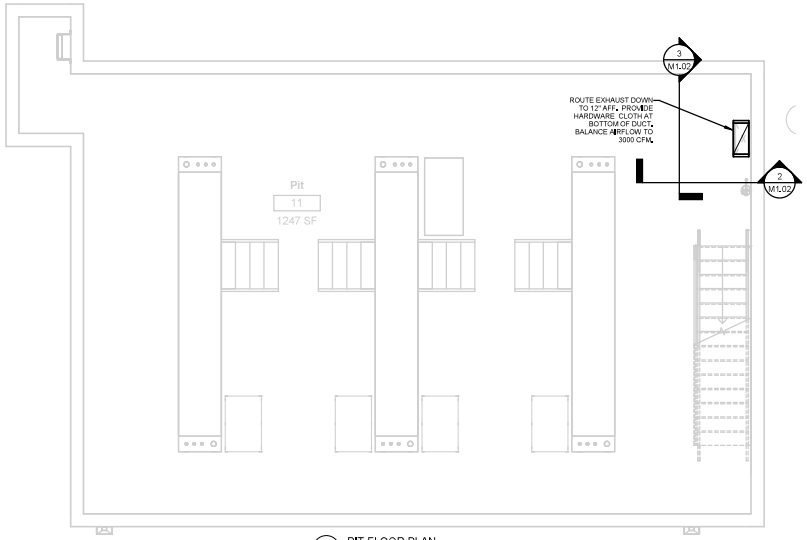
Project number	26014
Date	08/05/26
Drawn by	CA
Checked by	JB

M1.01

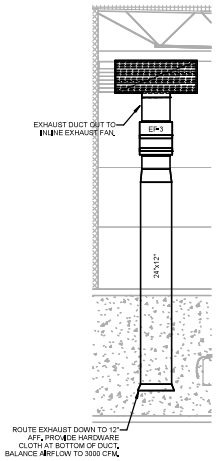
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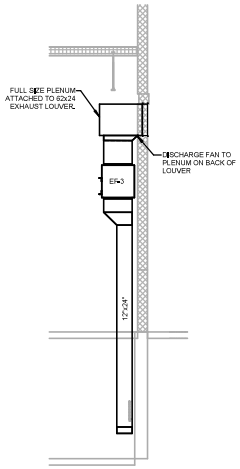
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NORTH PIT FLOOR PLAN MECHANICAL
1/4" = 1'-0"



3 M1.02 Section 2
1/4" = 1'-0"



2 M1.02 Section Through Pit Exhaust1
1/4" = 1'-0"

GENERAL NOTES:

1. VERIFY EXISTING CONDITIONS IN FIELD PRIOR TO BEGINNING WORK.
2. SPACE ABOVE CEILINGS IS LIMITED. CAREFUL COORDINATION WITH LIGHTING, ELECTRICAL, PLUMBING, STRUCTURAL, AND ARCHITECTURAL WORK IS CRITICAL TO DUCTWORK INSTALLATION.
3. PROVIDE NECESSARY OFFSETS IN PIPING, ELECTRICAL CONDUIT, AND DUCTWORK AS REQUIRED TO ACCOMMODATE NEW WORK. DRAWINGS ARE DIAGRAMMATIC AND DO NOT SHOW ALL DETAILS NOR CHANGES IN DUCTWORK ELEVATIONS NECESSARY FOR COMPLETE INSTALLATION.
4. COORDINATE CEILING AIR DEVICE LOCATIONS WITH LIGHTING PLAN AND ARCHITECT'S REFLECTED CEILING PLAN.
5. DUCTWORK SHALL BE RUN TIGHT TO STRUCTURE. AVOID CROSSING OVER LIGHTS AND OTHER DUCTS DUE TO TIGHT CLEARANCES.
6. LOUVERS SHALL BE RUSKIN ELF6375DX OR APPROVED EQUAL. PROVIDE UNIT WITH BIRDSCREEN AND MILL ALUMINUM FINISH. COORDINATE EXACT HEIGHT AND COLOR OF LOUVER WITH ARCHITECT PRIOR TO ORDERING.
7. MOUNT TEMPERATURE CONTROLS 48" ABOVE FINISHED FLOOR. COORDINATE EXACT LOCATION WITH ARCHITECT.
8. SPILL CONDENSATE FROM AHUS INTO NEAREST FLOOR DRAIN.
9. PROVIDE ENGRAVED PLASTIC LABEL AT TERMINATION OF EACH AUXILIARY CONDENSATE DRAIN LINE READING AS FOLLOWS:
   "AHU### AUXILIARY DRAIN LINE,"
   "NOTIFY MAINTENANCE PERSONNEL WHEN WATER IS FLOWING"
10. CONNECT CONDENSATE DRAIN PIPING TO AHU IN ACCORDANCE WITH DETAILS.

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Partial Mechanical Floor Plans - Pit and Platform

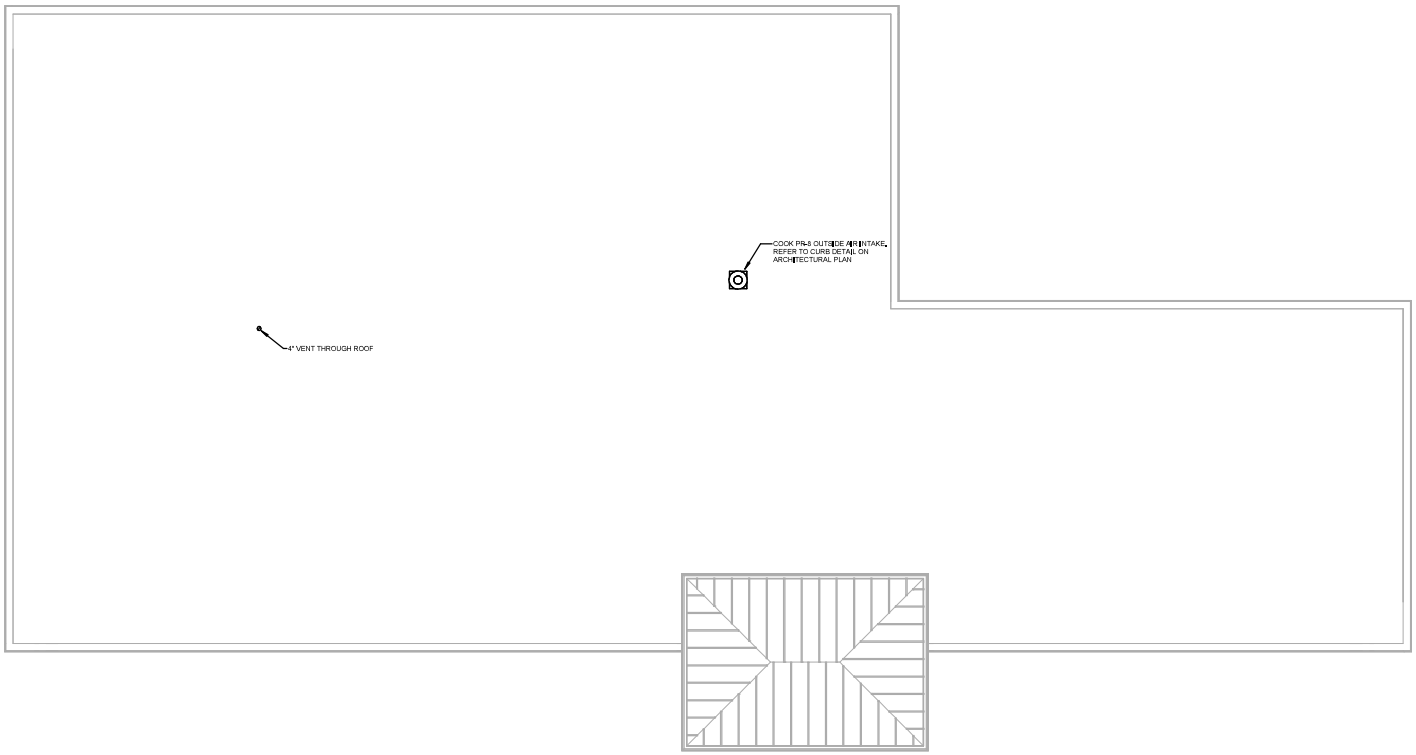
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M1.02

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MECHANICAL ROOF PLAN
3/16" = 1'-0"
NORTH

GENERAL NOTES:

1. VERIFY EXISTING CONDITIONS IN FIELD PRIOR TO BEGINNING WORK.

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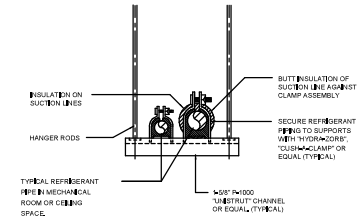
Mechanical Roof Plan

Project number	26014
Date	08/05/26
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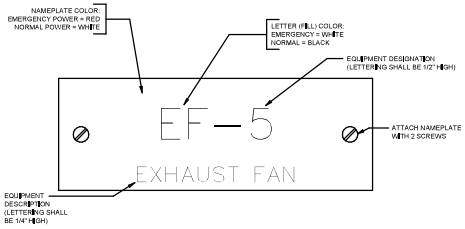
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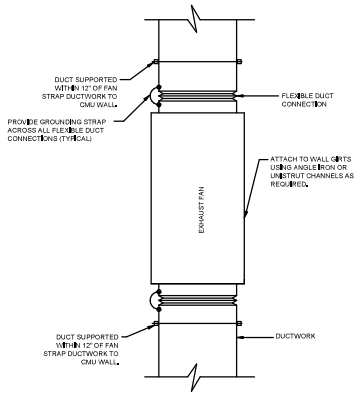
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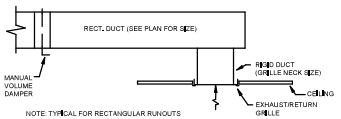
7 M2.01 **REFRIGERANT PIPING SUPPORT DETAIL**
TYPICAL FOR PIPING SUSPENDED FROM STRUCTURE
NO SCALE



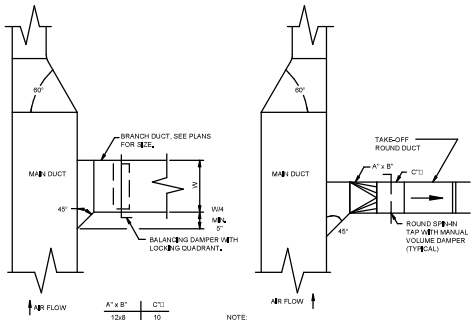
8 M2.01 **MECHANICAL EQUIPMENT NAMEPLATE DETAIL**
NO SCALE



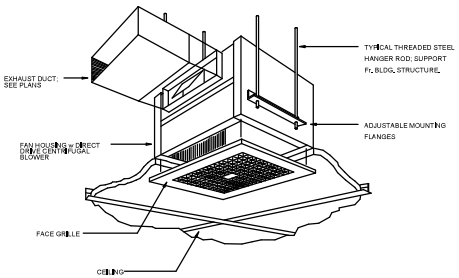
9 M2.01 **INLINE EXHAUST FAN DETAIL**
NO SCALE



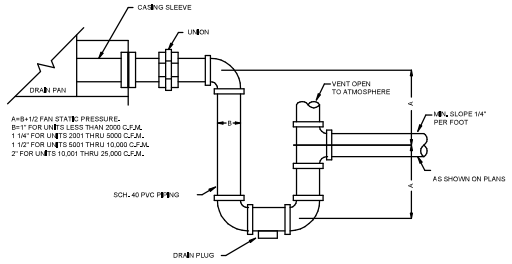
4 M2.01 **TYPICAL RETURN AND EXHAUST RUN-OUT DETAIL**
NO SCALE



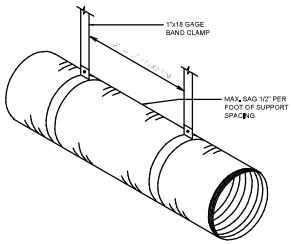
5 M2.01 **TYPICAL DUCT TAKEOFF DETAIL**
NO SCALE



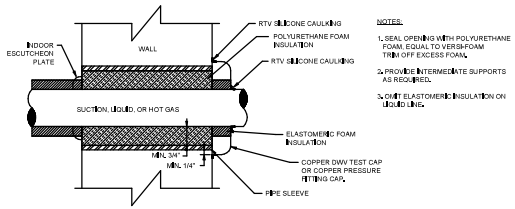
6 M2.01 **EXHAUST FAN INSTALLATION DETAIL(CEILING)**
NO SCALE



1 M2.01 **CONDENSATE DRAIN TRAP DETAIL**
NO SCALE



2 M2.01 **FLEXIBLE DUCT SUPPORT DETAIL**
NO SCALE



3 M2.01 **REFRIGERANT LINE - WALL PENETRATION DETAIL**
NO SCALE

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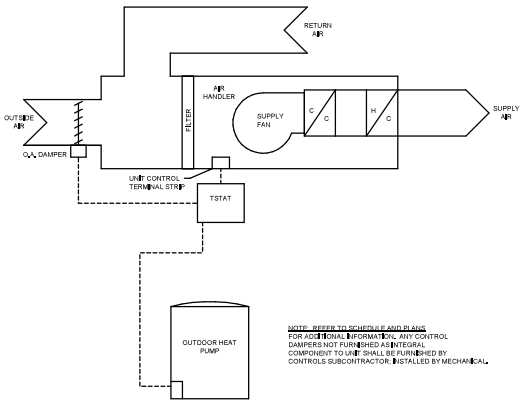
Mechanical Details

Project number	26014
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M2.01

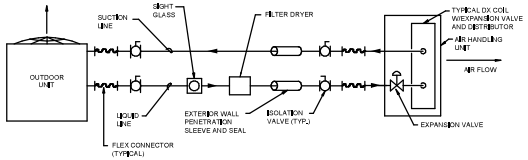
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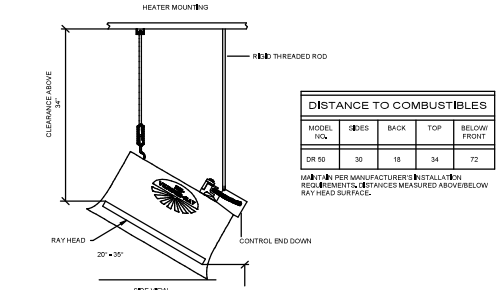
NOTE: REFER TO SCHEDULE AND PLANS FOR ADDITIONAL INFORMATION. ANY CONTROL DAMPERS NOT FURNISHED AS INTEGRAL COMPONENT TO UNIT SHALL BE FURNISHED BY CONTROLS SUBCONTRACTOR; INSTALLED BY MECHANICAL.

6 M2.02 **HVAC CONTROL DIAGRAM**
TYPICAL
NO SCALE



NOTE: SCHEMATIC IS TYPICAL FOR EACH REFRIGERANT CIRCUIT.

7 M2.02 **REFRIGERANT PIPING DETAIL**
NO SCALE

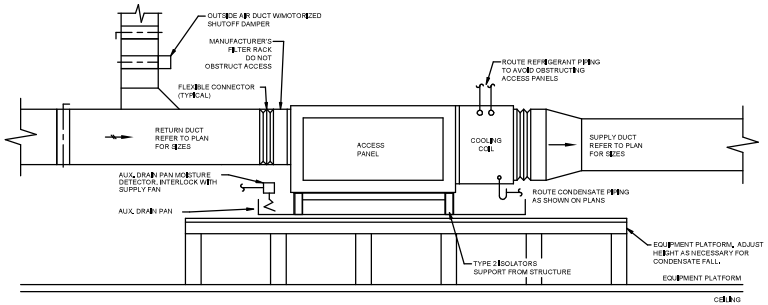


DISTANCE TO COMBUSTIBLES				
MODEL NO.	SIDES	BACK	TOP	BELOW FRONT
DR 50	30	18	34	72

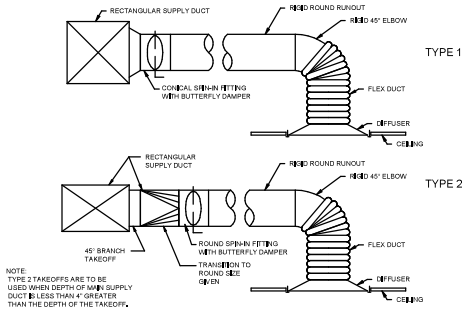
MAINTAIN PER MANUFACTURER'S INSTALLATION REQUIREMENTS. DISTANCES MEASURED ABOVE/BELOW RAY HEAD SURFACE.

MANIFOLD CONTROL BOX MUST BE LOCATED TOWARDS THE LOWER END OF THE HEATER (TOWARDS THE FLOOR).

8 M2.02 **RADIANT HEATER MOUNTING DETAIL**
NO SCALE

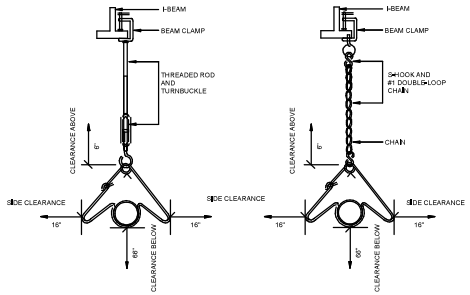


3 M2.02 **AIR HANDLING UNIT DETAIL**
NO SCALE



NOTE:
TYPE 2 TAKEOFFS ARE TO BE USED WHEN DEPTH OF MAIN SUPPLY DUCT IS LESS THAN 4" GREATER THAN THE DEPTH OF THE TAKEOFF.

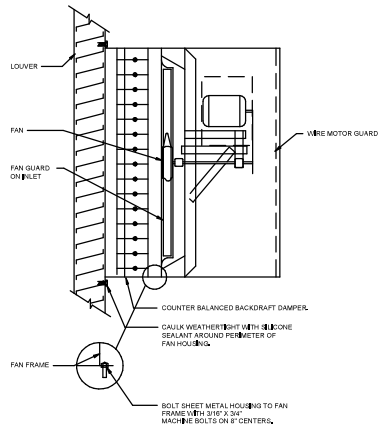
4 M2.02 **TYPICAL DIFFUSER RUN-OUT DETAIL**
NO SCALE



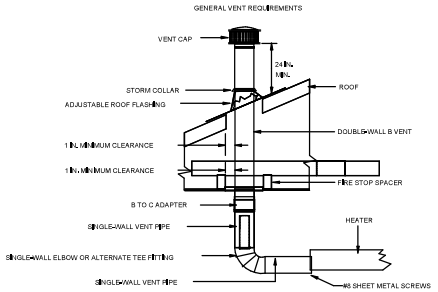
DISTANCE TO COMBUSTIBLES					
MODEL NO.	# OF SIDE SHIELDS	MOUNTING ANGLE	SIDES	TOP	BELOW
DX3U-30	2	0°	16"	6"	66"

*MAINTAIN PER MANUFACTURER'S INSTALLATION REQUIREMENTS. DISTANCES MEASURED ABOVE/BELOW RAY HEAD SURFACE.

5 M2.02 **RADIANT HEATER HANGER DETAIL**
NO SCALE



1 M2.02 **WALL EXHAUST FAN OR SUPPLY DETAIL**
NO SCALE



2 M2.02 **HEATER VENTING DETAIL**
NO SCALE

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Mechanical Details

Project number	26014
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PLUMBING LEGEND, SYMBOLS AND ABBREVIATIONS

	DOMESTIC COLD WATER
	DOMESTIC HOT WATER
	DOMESTIC HOT WATER RETURN
	SANITARY VENT
	SANITARY WASTE

	BALL VALVE
	VALVE IN VERTICAL
	CAP ON END OF PIPE
	CLEANOUT - FLOOR TYPE
	CLEANOUT - WALL TYPE
	P-TRAP
	PIPE TURNING DOWN
	PIPE TURNING UP
	TEE DOWN
	TEE UP
	TIE NEW INTO EXISTING
P-1	PLUMBING FIXTURE NUMBER
	RISER NUMBER
	WATER HAMMER ARRESTOR
	PLUG TYPE CLEANOUT
	BALANCING VALVE
	CHECK VALVE
	GATE VALVE
	REDUCED PRESSURE ZONE BFP
	THERMOSTATIC MIXING VALVE
	FLOOR SINK
	FLOOR DRAIN
	ROOF DRAIN/OVERFLOW DRAIN
FCE	FOOD SERVICE EQUIPMENT

ABV	ABOVE
AFF	ABOVE FINISHED FLOOR
INV	INVERT
BFF	BELOW FINISHED FLOOR
CW	COLD WATER
DN	DOWN
EX	EXISTING
HW	HOT WATER
WS	WASTE STACK
VS	VENT STACK
AC	ABOVE CEILING
WHA	WATER HAMMER ARRESTOR
BFG	BELOW FINISHED GRADE
TMV	THERMOSTATIC MIXING VALVE
TP	TRAP PRIMER
DS	DOWNSPOUT
UG	UNDER GROUND

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PLUMBING FIXTURE CONNECTION SCHEDULE

EQUIPMENT NO.	DESCRIPTION	HOT WATER	COLD WATER	WASTE	VENT	REMARKS
WC-1	WATER CLOSET, ADA COMPLIANT	--	1/2"	3"	2"	TANK TYPE
EW-1	EYEWASH	1/2"	1/2"	1-1/2"	1-1/2"	PROVIDE WITH MIXING VALVE
EWC-1	ELECTRIC WATER COOLER	--	1/2"	1-1/2"	1-1/2"	WALL MOUNT ADA WITH BOTTLE FILLER
LAV-1	LAVATORY, ADA COMPLIANT	1/2"	1/2"	1-1/2"	1-1/2"	WALL MOUNTED, PROVIDE TRAP WRAP AND MIXING VALVE
SK-1	SERVICE SINK	1/2"	1/2"	2"	1-1/2"	ROUTE TO INTERCEPTOR
CMVB	COFFEE MAKER VALVE BOX	--	1/2"	--	--	--
WH-1	WALL HYDRANT	--	1/2"	--	--	PROVIDE VACUUM BREAKER

ELECTRIC WATER HEATER SCHEDULE

EQUIPMENT NO.	MANUFACTURER AND MODEL NO.	SERVICE	EFF (%)	ENTERING WATER TEMP (°F)	LEAVING WATER TEMP (°F)	RECOVERY RATE (GPH)	STORAGE CAPACITY (GAL)	TANK DIMENSIONS		ELECTRICAL			REMARKS
								HEIGHT (INCHES)	DIAMETER (INCHES)	HEATING ELEMENTS WATTAGE	HEATING ELEMENTS QNTY	VOLTS/PH/HZ	
EWH-1	A.O. SMITH EGS-30X	BATHROOMS/EYEWASH	--	60	120	21	30	3'-3"	1'-8"	4.5 KW	1	240 / 1 / 60	

RECIRCULATION PUMP SCHEDULE

EQUIPMENT NO.	MANUFACTURER/ MODEL NO.	SERVICE	TYPE	FLOW (GPM)	HEAD (FT.)	RPM	ELECTRICAL			REMARKS
							HP	DISCONNECT	VOLTS/PH/HZ	
REC-1	TACO 2400-10S	HOT WATER RETURN	INLINE	2	10	3450	1/10	BY DIV. 16	120/1/60	1)

REMARKS:
1) PROVIDE AQUASTAT AND TIMER. INSTALL IN ACCORDANCE WITH IECC REQUIREMENTS.
2) PUMP SHALL BE STAINLESS STEEL BODY FOR DOMESTIC USE.

GREASE INTERCEPTOR SCHEDULE

EQUIPMENT NO.	MANUFACTURER/ MODEL NO.	FLOW RATE (GPM)	LIQUID HOLDING CAPACITY (GAL)	CONNECTION SIZES		UNIT DIMENSIONS			REMARKS
				INLET (IN.)	OUTLET (IN.)	LENGTH (IN.)	WIDTH (IN.)	DEPTH (IN.)	
OS-1	STREM OS-25	25	21	3	3	2'-3"	1'-11"	1'-3"	1)

REMARKS:
1) PROVIDE EXTENSION TO MATCH GRADE.

WASTE FLOW CALCULATION SUMMARY

	GALLONS PER DAY (GPD)	# OF PEOPLE/ CARS	GPD
PER EMPLOYEE	8	8	64
PER CAR SERVED	8	45	360
		BUILDING TOTAL (GPD)	424

REMARKS:
1) NO CARS WASHED ON SITE.

SANITARY SYSTEM SUMMARY

TOTAL LOAD (FIXTURE UNITS)	GPM
12.0	14

WATER METER SUMMARY

TOTAL LOAD (FIXTURE UNITS)	GPM
16	16

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Plumbing Legend, Abbreviations, and Schedules

Project number	26014
Date	08/05/26
Drawn by	CA
Checked by	JB

P0.01

Scale 12" = 1'-0"

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SECTION 15011 - PLUMBING GENERAL

A. PROVIDE EQUIPMENT, LABOR, MATERIAL, ETC., REQUIRED TO MAKE A COMPLETE WORKING INSTALLATION.
B. INSTALL THE WORK IN ACCORDANCE WITH DRAWINGS, SPECIFICATIONS AND THE STANDARDS AND CODES (LATEST EDITION) THAT APPLY TO THIS WORK. IN THE EVENT OF A CONFLICT, INSTALL WORK IN ACCORDANCE WITH THE MOST STRINGENT CODE REQUIREMENTS DETERMINED BY THE ENGINEER.
C. OBTAIN AND PAY FOR ALL PERMITS AND INSPECTIONS INCLUDING: BUILDING PERMITS, HEALTH DEPARTMENT PERMITS AND SEWER TAP PERMITS. DELIVER TO ENGINEER CERTIFICATES OF INSPECTION AND APPROVAL ISSUED BY AUTHORITIES.
D. ALL EQUIPMENT AND METHOD SHALL BE INSTALLED AND CONNECTED IN ACCORDANCE WITH THE BEST ENGINEERING PRACTICES AND IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
E. DISCONNECT, REMOVE AND RE-INSTALL PLUMBING SERVICES LOCATED ON OR CROSSING THROUGH CONTRACT LIMITS, ABOVE OR BELOW GRADE, OBSTRUCTING CONSTRUCTION OF PROJECT OR CONFLICTING WITH COMPLETED PROJECT OR ANY APPLICABLE CODES.
F. PROVIDE CUTTING OF PAVEMENT, SIDEWALKS, DRIVEWAYS, ETC., EXCAVATING, TRENCHING, SHORING AND DE-WATERING. PROVIDE BACKFILL MATERIAL AND PERFORM BACKFILLING.
G. RESTORE SITE TO ORIGINAL CONDITION OR NEW FINAL GRADES. PROVIDE PAVING, CONCRETE, SEED, OR SOD.
H. DRAWINGS AND SPECIFICATIONS ARE COMPLEMENTARY. WORK CALLED FOR BY ONE IS BINDING AS IF CALLED FOR BY BOTH.
I. DRAWINGS ARE DRAWN TO A SMALL SCALE AND ARE DIAGRAMMATIC ONLY. THE DRAWINGS INDICATE SIZE AND GENERAL ARRANGEMENT OF EQUIPMENT. DO NOT SCALE DRAWINGS FOR EXACT LOCATIONS. FIELD MEASUREMENTS TAKE PRECEDENCE.
J. PROVIDE NECESSARY OFFSETS, ELBOWS AND FITTINGS AS REQUIRED TO AVOID CONFLICT WITH EQUIPMENT OF OTHER DIVISIONS AND TO OBTAIN PROPER HEADROOM AND CLEAR PASSAGEWAYS. THIS SHALL BE DONE AT NO ADDITIONAL COST TO THE OWNER.
K. WORK UNDER THIS DIVISION SHALL BE FIRST CLASS WITH EMPHASIS ON NEATNESS AND WORKMANSHIP. INSTALL WORK USING COMPETENT MECHANICS, UNDER SUPERVISION OF FOREMAN, ALL DULY CERTIFIED BY LOCAL AUTHORITIES.
L. INSTALLATION SUBJECT TO ENGINEER'SOBSERVATION, FINAL APPROVAL, AND ACCEPTANCE. ENGINEER MAY REJECT UNSUITABLE WORK.
M. ALL MATERIALS SHALL BE NEW. ALL MATERIALS AND EQUIPMENT FOR WHICH A UL STANDARD, AN AGA APPROVAL, AN AWWA STANDARD, FM LISTING OR ASME REQUIREMENTS IS ESTABLISHED, SHALL BE SO APPROVED AND LABELED OR STAMPED.
N. THE DRAWINGS ARE BASED ON THE USE OF PRODUCTS SPECIFIED AND LISTED FIRST. IF ANY REVISION IN PIPING, CONDUIT WORK, FOUNDATIONS, ANCHOR BOLTS, CONNECTIONS, ETC., IS REQUIRED BY OTHER NAMED PRODUCTS OR APPROVED SUBSTITUTIONS, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAKE SUCH REVISIONS AT NO ADDITIONAL EXPENSE TO THE OWNER.
O. SUBMIT SIX (6) ORIGINAL COPIES OF COMPLETE SHOP DRAWINGS FOR ALL MATERIALS AND EQUIPMENT FURNISHED UNDER DIVISION 15 OF SPECIFICATIONS TO ENGINEER FOR REVIEW. SHOP DRAWINGS SHALL BEAR THE STAMP OF APPROVAL OF THE CONTRACTOR AS EVIDENCE THAT THE DRAWINGS HAVE BEEN CHECKED BY HIM. DRAWING SUBMITTED WITHOUT THIS STAMP OF APPROVAL WILL NOT BE CONSIDERED AND WILL BE RETURNED FOR PROPER RESUBMISSION.
P. REVIEW OF SHOP DRAWINGS DOES NOT RELIEVE CONTRACTOR OF RESPONSIBILITY FOR ERRORS AND OMISSIONS IN SHOP DRAWINGS. CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS AND SIZES OF EQUIPMENT. INFORM ENGINEER IN WRITING OF EQUIPMENT DIFFERING FROM THAT SHOWN.
Q. PROVIDE MAINTENANCE AND OPERATING MANUALS BOUND IN 8-1/2" X 11" HARDBACK, THREE-POST BINDERS. MANUALS SHALL CONTAIN WRITTEN INSTRUCTIONS FOR EACH SYSTEM, SHOP DRAWINGS, SCHEMATIC DRAWINGS, EQUIPMENT CATALOG CUTS, MANUFACTURER'S INSTRUCTIONS, MANUFACTURERS WARRANTIES, AND VALVE TAG LIST.
R. PROVIDE AS-BUILT PRINTS AT THE COMPLETION OF JOB. KEEP ONE SET OF PRINTS ON JOB AND RECORD DAY TO DAY CHANGES TO CONTRACT DRAWINGS WITH RED PENCIL. INDICATE ACTUAL LOCATION OF PIPING, VALVES, AND EQUIPMENT. TURN OVER PRINTS TO ENGINEER AT FINAL OBSERVATION.
S. FURNISH ENGINEER WRITTEN WARRANTY, STATING THAT IF WORKMANSHIP AND/OR MATERIALS EXECUTED UNDER THIS DIVISION IS PROVEN DEFECTIVE WITHIN ONE (1) YEAR AFTER FINAL ACCEPTANCE, SUCH DEFECTS AND OTHER WORK DAMAGED WILL BE REPAIRED AND/OR REPLACED.

SECTION 15051 - BASIC MATERIALS AND METHODS

A. ACCESS PANELS:
 1. ACCESS PANELS SHALL HAVE WELDED STEEL FRAME, ONE PIECE DOORS, AND SELF LATCHING DOOR LOCKS. LOCKS SHALL BE SCREW DRIVER OPERATED WITH CASE HARDENED STEEL CAM. PANELS SHALL BE MILCOR, CESCO, KARP OR EQUAL.
 2. PROVIDE ACCESS PANELS IN WALLS AND CEILINGS AS NEEDED TO ALLOW ACCESS TO VALVES, EQUIPMENT, SHOCK ABSORBERS, TRAP PRIMERS, ETC. AND WHERE NOTED.
B. FIRESTOPPING AND SOUNDSTOPPING:
 1. PENETRATIONS THROUGH FLOORS AND FIRE RESISTANT WALLS SHALL BE SEALED TO THE RATED FIRE RESISTANCE EQUAL TO THE WALL. INSTALLATION SHALL BE DONE BY A QUALIFIED INSTALLER, APPROVED BY THE MANUFACTURER.
 2. PROVIDE SOUND PROOFING THROUGH NON-RATED WALLS.
C. PIPING SEALS:
 1. PROVIDE MODULAR, RESILIENT SEALS AROUND PIPES PENETRATING ALL EXTERIOR WALLS, AND FLOORS BELOW GRADE. PIPING SEALS SHALL BE THUNDERLINE CORP. "LINK SEAL" LS SERIES.
D. CUTTING AND PATCHING:
 1. CONTRACTOR SHALL BE RESPONSIBLE FOR CUTTING AND PATCHING. CUT WALLS, FLOORS, CEILINGS, PARTITIONS, ETC., REQUIRED FOR THE INSTALLATION OF THIS WORK IN A NEAT AND CAREFUL MANNER. CORE DRILL FOR PIPE SLEEVES AND OTHER OPENINGS THROUGH FLOORS AND WALLS. SAWCUT LARGER OPENINGS. CUTTING SHALL BE KEPT TO A MINIMUM.

 2. REPLACE OR REPAIR DUCTWORK, CONDUIT, PIPING, ETC., THAT IS CUT. PATCH AROUND OPENING CUT BY THIS CONTRACTOR OR PROVIDED BY OTHERS FOR HIM. PATCHING SHALL BE DONE BY AN APPROVED QUALIFIED CONTRACTOR, BUT SHALL BE PAID FOR BY THIS CONTRACTOR. FINISHED PATCHING SHALL RETAIN FIRE AND SMOKE RATINGS OF THE ASSEMBLY AND SHALL MATCH SURROUNDING FINISH.
E. ANCHORS:
 1. MOUNT ALL EQUIPMENT, BRACKETS, HANGERS, ANCHORS, ETC. TO SAFELY RESIST THE VIBRATION OR THRUST FORCES AND SUPPORT THE UNIT'S WEIGHT.
 2. FLOOR MOUNTED ROTATING OR VIBRATING EQUIPMENT SHALL BE ANCHORED TO THE FLOOR USING GROUTED-IN-PLACE OR CAST-IN-PLACE ANCHOR BOLTS WITH THREE INCH HOOK AND SLEEVE. ANCHOR BOLTS SHALL BE OF THE SIZE RECOMMENDED BY THE MANUFACTURER.
 3. FLOOR MOUNTED STATIC ITEMS, WALL AND CEILING MOUNTED EQUIPMENT BRACKET AND HANGERS SHALL BE INSTALLED USING DRILLED ANCHORS ![OR CAST IN PLACE INSERTS]. ANCHORS SHALL BE PHILLIPS DRILL COMPANY "RED HEAD" OR MULTI-SET II. SIZE ANCHORS ![AND INSERTS] FOR FOUR TIMES THE APPLIED LOAD. BOLTS USED OUTDOORS OR IN A WET ENVIRONMENT SHALL BE HOT DIP GALVANIZED.
A. PIPE IDENTIFICATION:
 1. IDENTIFICATION SHALL BE IN ACCORDANCE WITH ANSI-A13.1. PIPE MARKERS SHALL BE SETON'S WEATHER-CODE OR EQUAL.
 2. PROVIDE PIPE MARKERS AND DIRECTIONAL ARROWS ON PIPES AT BOTH SIDES OF PARTITIONS AND FLOORS SLABS, AT BRANCH LINE TAKE-OFFS, AT VALVES, AT INTERMEDIATE INTERVALS NOT IN EXCESS OF 20 FT. AND AT CONNECTIONS TO EQUIPMENT.
 3. TAPE COLOR BAND IDENTIFYING MARKERS AND ARROWS ON EACH PIPE, BOTH INSULATED AND BARE PIPES. PIPE MARKERS AND ARROWS SHALL BE LOCATED WHERE READILY VISIBLE AND ON LOWER QUADRANTS OF OVERHEAD PIPES.
B. VALVE TAG AND CHART:

 1. VALVE TAGS SHALL BE SETON M4506, BLACK FILLED LETTERS WITH BRASS JACK CHAIN. ONE VALVE NUMBER SHALL BE STAMPED ON EACH TAG. IDENTIFY EACH VALVE TAG FOR THE UTILITY IT SERVES, SUCH AS "CW" FOR COLD WATER, HW FOR HOT WATER, ETC. VALVE CHARTS SHALL BE SETON. ATTACH A NUMBERED VALVE TAG TO EACH VALVE.
 2. PROVIDE A TYPE WRITTEN CHART IN FRAME UNDER GLASS COVER, GIVING THE FULL LIST OF ALL VALVES INSTALLED UNDER THIS CONTRACT. CHART SHALL LIST VALVE NUMBER, TYPE OF UTILITY, AND LOCATION. MOUNT CHART WHERE DIRECTED BY OWNER. PROVIDE ONE ADDITIONAL COPY TO OWNER.
A. EQUIPMENT IDENTIFICATION:
 1. IDENTIFY EACH PIECE OF EQUIPMENT WITH A 1/8 INCH THICK ENGRAVED MELAMINE PLASTIC LAMINATE NAMEPLATE. LETTERS SHALL BE 1/2 INCH HIGH STANDARD STYLE. NAMES, ABBREVIATIONS, AND NUMBERING SHALL AGREE WITH THE CORRESPONDING EQUIPMENT DESIGNATIONS SHOWN ON THE DRAWINGS. USE BLACK LETTERS CUT IN A WHITE BACKGROUND FOR ALL EQUIPMENT ON STANDARD ELECTRICAL POWER
 2. FASTEN NAMEPLATES TO EQUIPMENT IN A CONSPICUOUS LOCATION USING SELF-TAPPING STAINLESS STEEL SCREWS, EXCEPT USE CONTACT EPOXY ADHESIVE WHERE SCREWS CANNOT OR SHOULD NOT PENETRATE SUBSTRATE.
B. PIPE SLEEVES:
 1. PROVIDE PIPE SLEEVES WHERE PIPES PASS THROUGH FLOORS AND WALLS ABOVE OR BELOW CEILINGS. PROVIDE PIPE SLEEVES IN NEW WALLS AND FLOORS AS THE WORK PROGRESSES. PROVIDE SPLIT PIPE SLEEVES IN NEW WALLS BUILT UP AROUND EXISTING PIPES. TACK WELD SPLIT SLEEVES TOGETHER.
 2. SIZE PIPE SLEEVES TO ALLOW CONTINUOUS INSULATION, BUT NOT LESS THAN TWO PIPE SIZES LARGER THAN PIPE. SLEEVES IN WALLS SHALL BE FLUSH WITH WALL, SLEEVES IN FLOORS SHALL EXTEND 3/4 INCHES ABOVE FLOOR AND BE FLUSH WITH STRUCTURE BELOW.
 3. SLEEVES IN CONCRETE WALLS, FLOORS OR MASONRY SHALL BE SCH 40 STEEL PIPE, MACHINE CUT. SLEEVES IN GYPSUM BOARD OR PLASTER WALLS SHALL BE 14 GAUGE, ROLLED GALVANIZED SHEET METAL TACK WELDED ON THE LONGITUDINAL SEAM.
 4. PROVIDE PLATES AROUND PIPES EXTENDING INTO EXPOSED AREAS WHERE THEY PASS THROUGH WALLS, FLOORS AND CEILINGS. SIZE PLATES TO COMPLETELY COVER PIPE SLEEVES. PLATES SHALL BE BEATON AND CADWELL, KEENEY OR GRINNELL, NICKEL PLATED STEEL, SPLIT PLATES WITH SET SCREW. CONCRETE FLOOR PLATE SHALL BE GRINNELL FIGURE 400.
C. FLASHING:
 1. PROVIDE FLASHING AT PIPING AND DUCT PENETRATIONS THROUGH ROOF AND ROOF MOUNTED STRUCTURES FURNISHED UNDER THIS DIVISION. FLASH IN ACCORDANCE WITH ROOFING MANUFACTURERS DETAILS. FLASHING MATERIALS SHALL BE IN ACCORDANCE WITH THE ROOFING MANUFACTURERS SYSTEM.
 2. PROVIDE FLASHING AT PIPES PASSING THROUGH FLOORS WITH WATERPROOF MEMBRANE. FLASHING SHALL BE IN ACCORDANCE WITH WATERPROOFING MANUFACTURER'S DETAILS.

SECTION 15261 - PLUMBING INSULATION

A. GENERAL:
1. ALL INSULATION, JACKETING, AND ADHESIVE SHALL HAVE COMPOSITE SURFACE BURNING CHARACTERISTIC RATING AS TESTED BY ASTM E 84, UL 723, OR NFPA 255 NOT EXCEEDING A FLAME SPREAD OF 25 OR SMOKE DEVELOPED OF 50.
2. SUBMITTALS SHALL USE PAGES FROM MIDWEST INSULATION CONTRACTORS ASSOCIATION - "COMMERCIAL AND INDUSTRIAL INSULATION STANDARDS" FOR DEFINING HOW INSULATION MATERIALS WILL BE APPLIED.
3. ALL PIPE INSULATION SHALL BE CONTINUOUS THROUGH WALLS, CEILING OR FLOOR OPENINGS, OR SLEEVES; EXCEPT WHERE FIRESTOP OR FIRESAFING MATERIALS ARE REQUIRED.
4. INSULATE ITEMS MOUNTED IN PIPING WITH THE SAME THICKNESS OF INSULATION AS SPECIFIED FOR PIPING.
5. REPAIR INSULATION DAMAGED BY WORK UNDER THIS CONTRACT TO MATCH EXISTING WORK OR REPLACE DAMAGED PORTION WITH INSULATION SPECIFIED FOR NEW WORK.
B. DOMESTIC WATER PIPING:
1. INSULATION SHALL BE 850 DEG. F RATED AS MANUFACTURED BY OWENS CORNING, MANVILLE OR KNAUF. ROUTED OR MOLDED FITTING INSULATION SHALL BE HAMFAB.
2. INSULATION SHALL HAVE FACTORY-APPLIED, REINFORCED, FLAME RETARDANT, VAPOR BARRIER JACKET EQUAL TO OWENS-CORNING ASJ WITH SELF-SEALING LAP. BUTT JOINTS SHALL BE TAPED WITH FIELD-APPLIED ASJ TAPE 3 IN. WIDE.
3. INSULATION THICKNESSES SHALL BE IN ACCORDANCE WITH INTERNATIONAL ENERGY CONSERVATION CODE FOR PIPE SIZES NOTED ON PLAN.
4. ALL FITTINGS AND VALVES SHALL BE INSULATED WITH PREFORMED FIBER GLASS FITTINGS OR MITERED SECTIONS OF PIPE INSULATION. INSULATION SHALL BE OF EQUAL THICKNESS TO THE ADJACENT PIPE INSULATION.
5. METAL SHIELDS SHALL BE INSTALLED BETWEEN HANGERS OR SUPPORTS AND THE PIPING INSULATION. RIGID INSULATION INSERTS SHALL BE INSTALLED AS REQUIRED BETWEEN THE PIPE AND THE INSULATION SHIELDS. INSERTS SHALL BE OF EQUAL THICKNESS TO THE ADJACENT INSULATION AND SHALL BE VAPOR SEALED AS REQUIRED.
C. ELASTOMERIC CLOSED CELL INSULATION:
1. INSULATION SHALL BE RUBATEX OR ARMSTRONG. SECURE INSULATION WITH CONTACT ADHESIVE IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS. EXPOSED OR EXTERIOR INSTALLATIONS SHALL BE PAINTED WITH TWO COATS OF WATER BASE LATEX ENAMEL.
2. PROVIDE 1 IN. THICK INSULATION ON DX REFRIGERANT PIPING, COOLING COIL CONDENATE PIPING, AND CAPS FOR ALL VALVE STEMS AND OPERATORS, GAUGE COCKS, THERMOMETER WELLS AND OTHER APPURTENANCES SUBJECT TO SWEATING.
D. PIPING FINISHES:
1. METAL JACKETING SHALL BE, SMOOTH .016 IN. THICK, TYPE T 3003 ALUMINUM WITH LAMINATED MOISTURE BARRIER. JACKETING SHALL BE CHILDERS, ALUMINUM ROLL JACKETING WITH POLYKRAFT MOISTURE BARRIER. COVER THE FOLLOWING INSULATED SYSTEMS WITH METAL JACKETING: PIPING INSTALLED OUTDOORS AND EXPOSED PIPING INDOORS WITHIN 8 FT. OF FINISHED FLOOR. METAL FITTING COVERS SHALL BE TWO PIECE ALUMINUM. COVERS SHALL BE ELL-JAC.
2. CONCEALED PIPING FINISH COVERING SHALL BE THE ALL SERVICE JACKET. FITTINGS SHALL BE COVERED BY WRAPPING THE FITTING WITH FIBER REINFORCED TAPE, WITH A 5 PERCENT OVERLAP. FITTING COVERS SHALL BE ONE PIECE 20 MIL PVC. COVERS SHALL BE CEEL-TITE 550 PVC-UVR BY CEEL-CO OR EQUALS.

SECTION 15410 - PLUMBING PIPING

A. THE WORK REQUIRED UNDER THIS SECTION INCLUDES ALL WORK NECESSARY FOR A COMPLETE INSTALLATION OF SANITARY WASTE PIPING, STORM PIPING AND DOMESTIC WATER PIPING INSIDE THE BUILDING TO 5 FEET OUTSIDE THE BUILDING. SUBMIT SCHEDULE OF PIPE AND FITTINGS FOR EACH SERVICE.
B. DOMESTIC WATER PIPING: WATER PIPING WITHIN THE BUILDING SHALL BE COPPER TUBE, TYPE "L" HARD TEMPER, ASTM B-88. PIPING BELOW GROUND SHALL BE COPPER TUBE, TYPE "K" SOFT TEMPER, ASTM B-88. FITTINGS SHALL BE WROUGHT COPPER, SOLDER TYPE, ASTM B-75, ANSI B16.22. SOLDER UNIONS SHALL BE WROT COPPER, WITH COPPER GROUND JOINT. ASTM B75, ANSI B16.22. DI-ELECTRIC, EPSO, 250 LB. WOG. SOLDER METAL SHALL CONFORM TO ASTM B32, LEAD-FREE.
C. STORM, SANITARY WASTE, AND VENT PIPING: ABOVE GROUND: SCHEDULE 40 PVC-DWV ASTM D-2665 USING SOLVENT CEMENT ASTM D02565. HORIZONTAL PIPING FOR FIXTURE ROUGH-INS MAY BE DWV COPPER, ASTM B-306. BELOW GROUND: SCHEDULE 40 PVC-DWV ASTM D-2665 USING SOLVENT CEMENT ASTM D-2564.
D. STORM, SANITARY WASTE AND VENT FITTINGS: ABOVE GROUND: ![NO HUB CAST IRON SOIL PIPE FITTINGS WITH COUPLING ASSEMBLY CISPI STANDARD 310.] SCHEDULE 40 PVC-DWV, ASTM D-2855 USING SOLVENT CEMENT ASTM D-2564. BELOW GROUND: SCHEDULE 40 PVC-DWV, ASTM D-2855 USING SOLVENT CEMENT ASTM D-2564.
E. BALL VALVES: VALVES SHALL BE NIBCO T-585-70, FULL PORT BALL TYPE WITH BRONZE BODY, CHROME PLATED BALL AND BRONZE THREADED ENDS, 600 PSI WOG OR NIBCO S-585-70 IN COPPER LINES. HAMMOND, CRANE, APOLLO, MILWAUKEE, OR APPROVED EQUAL.
F. ALL PIPING SHALL BE ROUTED TO CONSERVE BUILDING SPACE, BE COORDINATED WITH ITEMS INSTALLED BY OTHER TRADES AND NOT INTERFERE WITH ACCESS TO OR OPERATION OF THE FACILITY.
G. PROVIDE ROOF FLASHINGS FOR PIPE PENETRATIONS THROUGH ROOF, TO BE INSTALLED BY ROOFING CONTRACTOR
H. WATER PIPING WITHIN BUILDING SHALL BE SIZE INDICATED ON PLANS AND RISERS. IN THE EVENT NO SIZE IS SHOWN, PIPE SIZE OR SIZE REQUIRED BY THE PLUMBING CODE. PIPING SHALL BE SLOPED TOWARD A SYSTEM DRAIN AND TOWARD OUTLETS, TO PROVIDE FOR SYSTEM DRAIN-DOWN. IF INSTALLED NEAR EXTERIOR WALLS, PIPING SHALL BE LOCATED ON THE INTERIOR SIDE OF INSULATION. INSTALL PIPING TO PREVENT DIRECT CONTACT BETWEEN FERROUS AND NON-FERROUS MATERIALS. ALLOW FLEXIBILITY FOR EXPANSION IN PIPING.
I. DOMESTIC WATER PIPING SYSTEM SHALL BE TESTED WITH POTABLE WATER AT A PRESSURE OF 125 PSIG OR 25 PSIG ABOVE DESIGN WORKING PRESSURE, WHICHEVER IS GREATER FOR 12 HOURS. TEST SHALL BE CONDUCTED WITH PLUMBING INSPECTOR UNLESS APPROVED OTHERWISE IN WRITING.
J. WATER DISTRIBUTION PIPING SHALL BE DISINFECTED PRIOR TO OCCUPANCY OR SYSTEM START-UP WITH A CHLORINE SOLUTION 50 PPM. ALLOW SYSTEM TO STAND FOR SIX HOURS MINIMUM, THEN EXERCISE ALL VALVES TO ENSURE TREATMENT OF ALL BRANCHES AND COMPONENTS. SYSTEM SHALL BE FLUSHED WITH POTABLE WATER AFTER DISINFECTION AND PRIOR TO PLACEMENT INTO SERVICE.
K. STORM, SANITARY WASTE AND VENT PIPING SHALL BE TESTED IN ACCORDANCE WITH WATER TEST AS SPECIFIED IN THE INTERNATIONAL PLUMBING CODE, IN ADDITION TO ANY TESTS REQUIRED BY THE LOCAL PLUMBING OFFICIAL. (10 FEET OF HEAD WITH NO APPARENT LEAKS. HOLD FOR 30 MINUTES MINIMUM). FLUSH ALL GRAVITY PIPING INCLUDING FLOOR DRAINS AND ROOF DRAINS PRIOR TO TURNING OVER TO THE OWNER.
L. ALL PIPE SHALL BE CUT SQUARE. REAM PIPE AND TUBE ENDS AND REMOVE BURRS. CLEAN THE ENDS OF PIPES TO REMOVE OIL, GREASE AND OXIDES. PREPARE PIPING CONNECTIONS TO EQUIPMENT WITH FLANGES OR UNIONS.
M. ALL SOLDERED PIPING AND EQUIPMENT CONNECTIONS SHALL BE PROPERLY PREPARED IN ACCORDANCE WITH GOOD PIPING PRACTICE. APPLY A THIN LAYER OF FLUX TO ONLY THE MALE TUBING. ROTATE INTO THE FITTING WITH ONE OR TWO REVOLUTIONS.
N. DOMESTIC WATER PIPING: ROUTE PIPING IN ORDERLY MANNER, PLUMB AND PARALLEL TO BUILDING STRUCTURE, AND MAINTAIN GRADIENT. INSTALL PIPING TO ALLOW FOR EXPANSION AND CONTRACTION WITHOUT STRESSING PIPE, JOINTS, OR CONNECTED EQUIPMENT. PROVIDE CLEARANCE FOR INSTALLATION OF INSULATION AND ACCESS TO VALVES AND FITTINGS. PROVIDE ACCESS WHERE VALVES AND FITTINGS ARE NOT EXPOSED. INSTALL VALVES WITH STEMS UPRIGHT OR HORIZONTAL. PROVIDE DRAIN VALVES AT LOW POINTS IN SYSTEMS. TEST WATER PIPING BEFORE BEING INSULATED OR CONCEALED IN WALLS OR CEILING.
O. STORM, SANITARY WASTE, AND VENT PIPING: HORIZONTAL SOIL, WASTE AND DRAINAGE LINES WITHIN BUILDING SHALL HAVE A MINIMUM UNIFORM SLOPE OF 1/8 INCH PER FOOT ON 3 INCH AND LARGER, AND 1/4 INCH PER FOOT ON LINES 2 INCH AND SMALLER. TURNS IN SANITARY, SOIL, AND DRAIN PIPING SHALL BE MADE USING 45 DEGREE ELBOWS, WYES, QUARTER, EIGHTH, SIXTEENTH BENDS, OR OTHER BENDS APPROVED BY THE PLUMBING CODE. DO NOT USE SANITARY TEES OR CROSSES EXCEPT WHERE DISCHARGING FROM HORIZONTAL TO VERTICAL. MAKE CHANGES IN PIPE SIZES WITH REDUCING FITTINGS AND RECESSED REDUCERS. DO NOT REDUCE LINE SIZE IN DIRECTION OF FLOW. PROVIDE CLEANOUTS IN ALL HORIZONTAL TURNS IN WASTE PIPING GREATER THAN 45 DEGREES. PROVIDE DEEP SEAL TRAPS ON ALL FLOOR DRAINS, AND TRAP PRIMERS/SEAL WHERE REQUIRED BY CODE OR AS INDICATED ON DRAWINGS. INDIRECT WASTE LINES DUMPING INTO FLOOR OR HUB DRAINS SHALL MAINTAIN A 2-INCH AIR GAP BETWEEN THE END OF THE WASTE LINE AND THE RIM OF THE FLOOR OR HUB DRAIN.

SECTION 15416 - GAS PIPING SYSTEMS

A. PROVIDE COMPLETE INSTALLATION OF GAS PIPING FROM THE "POINT OF DELIVERY" UP TO AND INCLUDING CONNECTION TO ALL GAS-FIRED EQUIPMENT. CONNECT EQUIPMENT ITEMS FURNISHED UNDER OTHER SECTIONS OF SPECIFICATIONS. TEST IN ACCORDANCE WITH A.G.A., STANDARD GAS CODE, N.F.P.A. 54, AND APPLICABLE STATE AND LOCAL CODES.
B. ROUTE GAS SERVICE ENTRANCE PIPING INTO BUILDING TO AVOID INTERFERENCE AND DAMAGE. PROVIDE MANUAL SHUTOFF VALVE, GAS COCK AND GAUGE. VALVES SHALL BE LABELED.
C. PROVIDE ACCESS PANELS FOR VALVES AND OTHER ITEMS REQUIRING MAINTENANCE IN ENCLOSED SPACES. AVOID INSTALLING GAS APPURTENANCES IN ENCLOSED SPACES WHERE POSSIBLE. INSTALL IN ENCLOSED SPACES ONLY AS ALLOWED BY APPLICABLE CODES.
D. SUBMIT MANUFACTURER'S LITERATURE ON ALL MATERIALS AND EQUIPMENT INCLUDING: PIPE, PIPE COATING, ANODES, VALVES, FLEXIBLE CONNECTORS, FITTINGS, REGULATORS, RELIEF VALVES, GAUGES.
E. GAS SERVICE:
 1. COORDINATE INSTALLATION OF GAS SERVICE LINE WITH LOCAL GAS COMPANY. PAY ALL FEES.
 2. PROVIDE 12 INCH ELEVATED METER MOUNTING PADS ON TOP OF A 4 INCH THICK CONCRETE PAD FOR SUPPORT OF GAS METER AND PIPING.
 3. PROVIDE (TWO) 8 INCH DIAMETER PIPE BOLLARDS FOR GAS METER PROTECTION. BOLLARDS SHALL BE SIX FEET LONG (3 FEET BELOW GRADE), MOUNTED IN A 24 INCH DIAMETER HOLE, FILLED WITH 3,000 PSI CONCRETE.
F. INTERIOR PIPING: CONNECT TO ENTERING LINE AND DISTRIBUTE GAS TO EQUIPMENT ITEMS REQUIRING GAS AND AS INDICATED. PERFORM WORK IN ACCORD WITH APPLICABLE A.G.A., N.F.P.A. 54, STATE AND LOCAL CODES. INSTALL GAS STOP VALVES AND DRIP LEGS AT EACH EQUIPMENT ITEM. PIPING SHALL BE ADEQUATELY DRAINED WITH A MINIMUM SLOPE OF 1/4 INCH PER 15 FEET AND DRIP LEGS (FULL SIZE OF PIPE) INSTALLED AT ADDITIONAL POINTS WHERE CONDENSATE MAY COLLECT. INSTALL PRESSURE REDUCING VALVES AS REQUIRED TO PROVIDE PRESSURE WITHIN EQUIPMENT MANUFACTURER'S REQUIREMENTS.
G. EXTERIOR PIPING: EXTERIOR PIPING SHALL BE SCHEDULE 40 CARBON STEEL. PIPING 2 INCH AND SMALLER MAY USE THREADED FITTINGS. PIPING 2 2 INCH AND LARGER SHALL USE WELDED FITTINGS AND FLANGED VALVES. EXTERIOR PIPING SHALL BE COATED WITH AN ALKYD ENAMEL PRIMER (MINIMUM DRY THICKNESS 3 MILS). EXTERIOR PIPING SHALL BE SUPPORTED ON GALVANIZED B-LINE CHANNELS AND PIPE CLAMPS.
H. UNDERGROUND PIPING:
 1. UNDERGROUND PIPING SHALL BE CARBON STEEL - A53/A106-WELDED OR POLYETHYLENE. UNDERGROUND STEEL PIPING SHALL HAVE AT LEAST 18 INCH OF PROPER BACKFILL COVER.
 2. UNDERGROUND PIPING SHALL BE PROTECTED FROM CORROSION. PROVIDE COATED PIPING AND FITTINGS. REPAIR DAMAGED COATING AT WELDS. INSTALL SACRIFICIAL ANODES ON STEEL PIPING INTERVALS NOT EXCEEDING 100 FT.
 3. WHERE PIPES PENETRATE BASEMENT WALLS AND FOUNDATIONS INSTALL THUNDERLINE LINK SEAL.
 4. 1. GAS LINES ROUTED UNDER A BUILDING SHALL BE STEEL AND SHALL BE ENCASED IN A SCH 40 OUTER CONDUIT (AT LEAST 3 PIPE SIZES LARGER THAN THE GAS LINE). CONDUIT SHALL BE SEAL WELDED TO THE GAS PIPE INSIDE THE BUILDING. CONDUIT SHALL BE VENTED TO OUTDOORS. CONDUIT SHALL BE PROTECTED FROM CORROSION SIMILARLY TO UNDERGROUND PIPING.
I. PIPE/TUBING:
 1. STEEL PIPE: ASTM A53 GRADE A OR B, TYPE F, ERW OR SEAMLESS. SCHEDULE 40.
 2. ASTM A106 SEAMLESS. SCHEDULE 40.
 3. TUBING (STEEL) ASTM A539.
 4. PLASTIC PIPE ASTM D2513 POLYETHYLENE. DRISCO PIPE 6500 OR PRIOR APPROVED EQUAL.
J. FITTINGS:
 1. WELDED (STEEL): WELDING FITTINGS SHALL BE CARBON STEEL BUTT WELDING TYPE CONFORMING TO ASTM-234. ELBOWS SHALL BE LONG RADIUS TYPE. WELDING TEES SHALL BE USED ON BRANCH CONNECTIONS EQUAL TO OR GREATER THAN 2 THE DIAMETER OF THE MAIN RUN. FITTINGS SHALL BE LADISH, TUBE-TURN OR WELDBAND. CARBON STEEL REINFORCED BRANCH, WELDING FITTINGS UP TO 3 INCHES, BUT NOT GREATER THAN 2 THE DIAMETER OF THE MAIN RUN MAY BE USED. FITTINGS SHALL BE BONNEY FORGE OR PHOENIX FORGING.
 2. THREADED (MALLEABLE, IRON): SCREWED FITTINGS SHALL BE MALLEABLE IRON ASTM A-197 CLASS 150 CONFORMING TO ANSI B16.3. DIMENSIONS CONFORMING TO FEDERAL SPEC WW-P-521. FITTINGS SHALL BE GRINNELL, FLAGG OR STOCKHAM.
 3. HEAT FUSION/COMPRESSION (POLYETHYLENE): SOCKET TYPE FUSION SHALL MEET THE REQUIREMENTS OF ASTM 2683. FITTINGS SHALL BE LISTED AND MARKED ASTM D2513. BUTT TYPE FUSION FITTING SHALL MEET THE REQUIREMENTS OF ASTM D3261.
K. UNIONS (DIELECTRIC): CLASS 250 MALLEABLE, SCREWED ASTM A-197.
L. VALVES:
 1. 1 INCH AND SMALLER: BALL VALVE - CLASS 125 BRASS FULL PART, 2 PIECE BODY, CHROME PLATED BALL, BLOWOUT PROOF STEAM, TFE SEATS.
 2. 2 INCHES AND SMALLER: PLUG COCK - CLASS 125 CAST IRON, SCREWED, FULL PORT AGA LISTED. ANSI B16.33 HOMESTEAD FIGURE 601.
 3. 2 2 INCHES AND LARGER: PLUG VALVE - CLASS 125 FLANGED CAST IRON ASTM A126 CONFORMING TO ANSI B16.1.
M. PIPE COATING: X-TRU COAT OR PRIOR APPROVED EQUAL INCLUDING JOINTS AND FITTINGS.
N. PRESSURE REGULATORS: CAST IRON OR ALUMINUM BODY AND SPRING CASE WITH STAINLESS STEEL VALVE STEAM, SEAT RING AND VALVE PLUG, PLATED STEEL SPRINGS, NEOPRENE DIAPHRAGM AND GASKETS AND TFE DISC. REGULATING VALVES SHALL BE SIZED FOR THE FLOW INDICATED AND FOR INLET AND OUTLET PRESSURES INDICATED. OUTLET PRESSURE SHALL BE MAINTAINED UNDER THE DESIGN FLOW CONDITION AND AT NO FLOW. REGULATING VALVES TWO PSI AND BELOW SHALL HAVE LEAK LIMITING DEVICES. REGULATING VALVES OVER TWO PSI SHALL BE VENTED FULL SIZE TO OUTSIDE OF THE BUILDING. OTHER REGULATING VALVES REQUIRING ACCESS TO THE ATMOSPHERE SHALL BE EQUIPPED WITH VENT PIPING LEADING TO OUTSIDE. PROVIDE A PRESSURE RELIEF VALVE IF THE REGULATOR CONNECTION SIZE EXCEEDS TWO-INCHES. REGULATING VALVES SHALL BE FISHER, MAXITROL OR PRIOR APPROVED EQUAL MEETING ANSI Z21.18.
O. PRESSURE GAGE: FOR MEDIUM PRESSURE GAS; 0-5 PSI RANGE. FOR LOW PRESSURE GAS; 0-30 INCH W.C. RANGE. USE LOW PRESSURE TYPE 2-1/2 INCH DIAL PRESSURE GAGE WITH APPROPRIATE RANGE, OCI MODEL CO 34, TRERICE, WEKSLER OR APPROVED EQUAL.

Pinnacle ENGINEERING, INC
Engineering & Design Consultants
2111 Parkway Office Circle, Suite 125
Birmingham, AL 35244
(205) 733-6912 FAX: (205) 733-6913
Job No.26189

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No.	Description	Date
IFB-1	Iss for Bid 1 AHJ Rev.	08/01/26
IFB-2	Iss for Bid 2 AHJ Rev.	09/08/26

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Plumbing Specifications

Project number	26014
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P0.02

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SECTION 15430 - PLUMBING SPECIALTIES

A. THIS SPECIFICATION DESCRIBES THE REQUIREMENTS FOR LABOR AND MATERIALS REQUIRED FOR THE INSTALLATION OF PLUMBING SPECIALTIES INCLUDED AS PART OF THE BUILDING PLUMBING SYSTEM.

B. MANUFACTURER'S LITERATURE INDICATING MODEL NUMBERS AND OPTIONS SHALL BE SUBMITTED FOR ALL FIXTURES AND EQUIPMENT. FORMAT SHALL INCLUDE A SCHEDULE OF THE SPECIALTIES SUBMITTED AND INCLUDE IDENTIFICATION NUMBER OF EACH ITEM, SUCH AS "FD#1 FLOOR DRAIN." A LIST OF EACH COMPONENT, ACCESSORY, AND OPTION OF THE ITEM BEING SUBMITTED. THIS SCHEDULE MUST BE INCLUDED IN THE FRONT OF THE SUBMITTAL PAGE.

C. CLEANOUTS SHALL CONSIST OF A COATED CAST IRON BODY WITH THREADED TOP WITH SPIGOT OR NO-HUB CONNECTION AND GASKETED BRONZE CLOSURE PLUG WITH COUNTERSUNK SLOT. HEAD SHALL BE ADJUSTABLE IN HEIGHT. PROVIDE NONSKID COVERS FOR FLOOR CLEANOUTS. PROVIDE THREAD SHIELD TO PROTECT ADJUSTMENT THREADS FROM CONCRETE AS REQUIRED. CLEANOUTS SHALL BE INSTALLED IN HORIZONTAL RUNS AT SPACING OF NO MORE THAN 75 FEET. INSTALL CLEANOUTS AT THE BASE OF EVERY SOIL AND WASTE STACK, AND AT EACH 90 DEGREE CHANGE IN DIRECTION. INSTALL CLEANOUTS WHICH ARE NOT EASILY ACCESSIBLE UP THROUGH FLOOR OR WALL AND PROVIDE APPLICABLE COVERS. INSTALL CLEANOUTS TO ALLOW AT LEAST 18" FOR RODDING.

D. WATER HAMMER ARRESTORS SHALL BE CONSTRUCTED OF A STAINLESS STEEL OR COPPER SHELL STAINLESS STEEL OR ELASTOMER BELLOWS, WITH PRECHARGE OF AIR, NITROGEN, OR ARGON. ARRESTERS SHALL CONFORM TO ASSE STD. 1010, AND SHALL BE ZURN "SHOKTROL" JOSAM "ABSORBOTROW", WADE "SHOKSTOP", OR PRECISION PLUMBING PRODUCTS "SHOCK ARRESTOR". UNIT SHALL BE SIZED IN ACCORDANCE WITH PDI STANDARDS. WATER HAMMER ARRESTORS SHALL BE SIZED TO ACTUAL PIPE SIZE AND INSTALLED AS NEAR THE SHOCK SOURCE AS PRACTICAL. INSTALL TO ALLOW UNOBSTRUCTED PATH FROM SHOCK SOURCE TO ARRESTOR.

E. BALANCING VALVES (DOMESTIC HOT WATER RETURN): VALVES SHALL BE BELL AND GOSSETT CB SERIES CIRCUIT SETTER, PRESETTABLE BALANCE VALVE, VARIABLE ORIFICE FLOW METER AND POSITIVE SHUT-OFF SERVICE VALVE. EQUIPMENT WITH CAPPED READOUT VALVES FITTED WITH INTERNAL CHECK VALVES. ¼ INCH NPT TAPPED AND PLUGGED DRAIN PORT. BRONZE BODY/BRASS BALL CONSTRUCTION WITH GLASS AND CARBON FILLED TFE SEAT RINGS. SOLDER CONNECTIONS. VALVES TO HAVE DIFFERENTIAL PRESSURE READ-OUT PORTS ACROSS VALVE SEAT AREA. FURNISH WITH PREFORMED INSULATION TO PERMIT ACCESS FOR BALANCE AND READ-OUT. TACO [ ] AN APPROVED EQUAL.

F. PRESSURE REDUCING VALVES: VALVES SHALL BE EQUAL TO WATTS SERIES LFUS-3S BRONZE BODY SINGLE SEATED WITH COMPOSITION DIAPHRAGM AND STAINLESS STEEL SPRING. DIRECT ACTING WITH STRAINER ON INLET SIDE. INTEGRAL BY-PASS CHECK VALVE, GAUGE, AND THREADED ENDS. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

G. TRAP GUARD SEALS: PROVIDE AN ELASTOMERIC, NORMALLY CLOSED TRAP GUARD DEVICE TO PREVENT EVAPORATION OF THE TRAP SEAL AND TO PROTECT AGAINST SEWER GASES FROM BACKING UP INTO HABITABLE AREAS. DEVICE SHALL OPEN WITH FLUID AND ALLOWS LIQUID DRAINAGE TO FLOW THROUGH INTO THE BUILDING DRAIN. TRAP SEAL SHALL BE TRAP GUARD BY PROGENT SYSTEMS OR APPROVED EQUAL.

H. FLOOR DRAINS (FD-1): DRAIN SHALL INCLUDE COATED CAST IRON BODY WITH BOTTOM OUTLET, 9" TRAP PRIMER CONNECTION, COMBINATION ANTERIOLE MEMBRANE CLAMP AND ADJUSTABLE COLLAR WITH TYPE "B" ROUND POLISHED NICKEL-BRONZE LIGHT DUTY STRAINER TOP WITH SQUARE HEELPROOF OPENINGS AND SECURED GRATE. DRAIN SHALL BE ZURN ZN-415-NH OR EQUAL BY JAY R. SMITH, WADE, OR JOSAM. PROVIDE 3 FT. SQ., 6 MIL BUTYL MEMBRANE, AT EACH FLOOR DRAIN. CLAMP MEMBRANE. MEMBRANE SHALL BE RECESSED IN THE FLOOR SLAB WITH TOPPING POURED OVER IT. DRAINS INSTALLED IN ELEVATED BUILDING FLOORS SHALL BE SEALED IN SUCH A MANNER AS TO PREVENT LEAKAGE OF WATER AROUND TRAP AND BODY TO CEILING BELOW.

I. FLOOR DRAIN (FD-2): DRAIN SHALL INCLUDE SUR-SET BUCKET, 9" DIAMETER MEDIUM DUTY CAST IRON GRATE, COATED CAST IRON BODY, ½" TRAP PRIMER CONNECTION, BOTTOM OUTLET, SEEPAGE PAN, AND COMBINATION MEMBRANE CLAMP. DRAIN SHALL BE ZURN ZN-S-415-NH OR EQUAL BY JAY R. SMITH, WADE, OR JOSAM. PROVIDE 3 FT. SQ., 6 MIL BUTYL MEMBRANE, AT EACH FLOOR DRAIN. CLAMP MEMBRANE. MEMBRANE SHALL BE RECESSED IN THE FLOOR SLAB WITH TOPPING POURED OVER IT. DRAINS INSTALLED IN ELEVATED BUILDING FLOORS SHALL BE SEALED IN SUCH A MANNER AS TO PREVENT LEAKAGE OF WATER AROUND TRAP AND BODY TO CEILING BELOW.

J. ROOF DRAINS (RD): DRAIN SHALL CONSIST OF COATED CAST IRON BODY WITH NON-PUNCTURING FLUSHING CLAMP WITH INTEGRAL GRAVEL STOP AND DECK CLAMP. DRAIN SHALL HAVE AN ADJUSTABLE EXTENSION TO PLACE FLASHING CLAMP ABOVE INSULATION WHILE BODY RESTS ON THE ROOF STRUCTURE. PROVIDE WITH ALUMINUM ROOF DOME. PROVIDE 1710 EXPANSION JOINT IF PIPING IS NOT OFFSET BELOW THE ROOF. DRAIN SHALL BE JAY R. SMITH 1015-A-C-40 OR EQUAL BY WADE, JOSAM, OR ZURN. ROOF DRAINS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. COORDINATE THE WORK WITH ROOF DECK AND ROOFING CONTRACTOR TO INSURE PROPER AND TIMELY INSTALLATION.

K. OVERFLOW DRAINS (OD): DRAIN SHALL CONSIST OF COATED CAST IRON BODY WITH NON-PUNCTURING FLASHING CLAMP. TWO (2) INCH WATER DAM, AND DECK CLAMP. PROVIDE ALUMINUM ROOF DOME. PROVIDE 1710 EXPANSION JOINT IF PIPING IS NOT OFFSET BELOW ROOF. DRAIN SHALL BE J.R. SMITH 1080V-R-OAD OR EQUAL BY WADE, JOSAM, OR ZURN. OVERFLOW DRAINS SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. COORDINATE THE WORK WITH ROOF DECK AND ROOFING CONTRACTOR TO INSURE PROPER AND TIMELY INSTALLATION.

L. DOWNSPOUT NOZZLES: WALL MOUNTED OUTLET NOZZLE FOR STORM DRAINAGE. PLAIN BRONZE BODY. DECORATION FACE OF WALL AND FLANGE. WITH SCREEN AND THREADED CONNECTOR. UNITS SHALL BE JAY R SMITH 1770-BS OR EQUAL BY ZURN, WADE, OR JOSAM.

M. HUB DRAIN (HD): DRAIN SHALL INCLUDE CAST IRON DEEP SEAL "P" TRAP WITH INDIRECT WASTE FUNNEL INLET AND SIDE OUTLET THREADED AND WITH 5 INCH THREADED FLUSH CONNECTION. DRAIN SHALL BE JOSAM 882-501 OR EQUAL BY ZURN, JAY R. SMITH OR WADE.

N. REDUCED PRESSURE ZONE BACKFLOW PREVENTER (ASSE 1015): BACKFLOW PREVENTER SHALL INCLUDE NPT BODY CONNECTIONS, QUARTER TURN, FULL PORT, RESILIENT SEATED BRONZE BALL VALVE, AND STRAINER. UNIT SHALL BE WATTS SERIES 909 QT OR EQUAL BY WILKINS, OR CONBRACO. BACKFLOW PREVENTERS SHALL BE INSTALLED IN ACCORDANCE WITH PER MANUFACTURER'S INSTRUCTIONS. AFTER INSTALLATION, BUT BEFORE SYSTEM IS PUT INTO SERVICE, TEST BACKFLOW PREVENTER FOR FUNCTIONALITY WITH TEST KIT AS RECOMMENDED BY MANUFACTURER. PIPE DISCHARGE FROM BACKFLOW PREVENTER VENT WITH CONNECTION TO RIGID COPPER TUBING TO NEAREST FLOOR DRAIN. ENSURE AIR GAP IS PROVIDED IN RELIEF LINE EITHER BY AIR GAP FITTING OR ELEVATED DISCHARGE ABOVE DRAINS. BACKFLOW PREVENTER TYPE SHALL BE INSTALLED WITH UNIONS FOR REMOVAL.

O. WALL HYDRANTS (WH-1): WALL HYDRANTS SHALL BE NICKEL BRONZE PLATED, INTEGRAL VACUUM BREAKER, 3/4 INCH HOSE THREAD, KEY OPERATOR, NON-FREEZE TYPE, HOUSED IN A RECESSED STAINLESS STEEL BOX WITH HINGED LOCKING COVER. HYDRANT SHALL BE JAY R. SMITH 5509 QT OR EQUAL BY WADE, JOSAM OR ZURN. INSTALL WALL HYDRANTS AS INDICATED ON DRAWINGS, MINIMUM HEIGHT 18" A.F.F., UNLESS OTHERWISE INDICATED.

P. HOSE BIBB (HB-1): CHROME PLATED, ¾ INCH HOSE THREAD OUTLET, LOCK SHIELD CAP WITH INTEGRAL VACUUM BREAKER, CHICAGO FAUCET NO. 952 OR T&S BRASS.

Q. OIL SEPARATOR: STREAM HIGH EFFICIENCY OIL/WATER SEPARATOR MODEL OS-25 SHALL BE LIFETIME GUARANTEED AND MADE IN THE USA. SEPARATOR SHALL BE CERTIFIED TO IAPMO IGC 325 AND CARRY A UPC LISTING. SEPARATOR SHALL BE CONSTRUCTED OF POLYETHYLENE. SEPARATOR SHALL BE MANUFACTURED FOR ABOVE- OR BELOW-GRADE INSTALLATION. FIELD ADJUSTABLE RISER SYSTEM IS AVAILABLE AS AN OPTION TO BRING MANHOLE COVER TO GRADE. SEPARATOR FLOW RATE SHALL BE 25 GPM. SEPARATOR LIQUID HOLDING CAPACITY SHALL BE 21 GALLONS AND OIL CAPACITY SHALL BE 5.25 GALLONS. SOLIDS CAPACITY SHALL BE 6 GALLONS. COVER SHALL PROVIDE WATERGASKET-TIGHT SEAL AND HAVE A MAXIMUM 450 LBS. LOAD CAPACITY WHEN UNIT IS INSTALLED ABOVE-GRADE, AND 2,500 LBS. WHEN BURIED WITH SR16 RISER.

SECTION 15440 - PLUMBING FIXTURES

A. THIS SPECIFICATION DESCRIBES THE REQUIREMENTS FOR PLUMBING FIXTURES AND THEIR INSTALLATION.

B. SUBMITTALS SHALL INCLUDE MANUFACTURER'S DATA SHEETS AND DIMENSIONAL INFORMATION ON ALL FIXTURES AND ACCESSORIES. FORMAT SHALL INCLUDE A SCHEDULE OF THE FIXTURES SUBMITTED AND INCLUDE IDENTIFICATION NUMBER OF EACH ITEM, SUCH AS "W-1 WATER CLOSET." AND A LIST OF EACH COMPONENT AND ACCESSORY OF THE FIXTURE, INCLUDING MANUFACTURER'S MODEL NUMBER. THIS SCHEDULE MUST BE INCLUDED IN THE FRONT OF THE SUBMITTAL BOOKLET.

C. VITREOUS WARE SHALL BE WHITE. REGULAR SECTION, OF WEIGHT REQUIRED, FREE FROM CRACKS, FLAWS, BLISTERS, CRAZES OR OTHER DEFECTS. PROVIDE WITH MOUNTING BRACKETS FOR WALL MOUNTED FIXTURES UNLESS FLOOR CARRIERS ARE INDICATED.

D. STAINLESS STEEL SHALL HAVE MACHINE GROUND FINISH. DECKS AND SINK COMPARTMENT SIDES SHALL BE BUFFED. EXPOSED SURFACES SHALL HAVE NO. 4 SATIN FINISH. INTERIOR SURFACES SHALL BE DEADENED. EXPOSED METAL PARTS SHALL BE CHROMIUM PLATED AND PROTECTED DURING CONSTRUCTION BY A COAT OF GREASE.

E. WATER CLOSET AND URINAL CARRIERS SHALL HAVE TAPERED THREAD FACE PLATE, PLASTIC COUPLING WITH TEST CAP, AND NEOPRENE RUBBER GASKET. LAVATORY, SINK AND URINAL CARRIERS SHALL HAVE RECTANGULAR STRUCTURAL STEEL UPRIGHTS. CARRIERS SHALL HAVE NECESSARY ACCESSORIES FOR PROPER INSTALLATION. CARRIERS SHALL BE ACCORDING TO ANSI A112.6.1M.

F. WATER CLOSETS AND URINALS SHALL HAVE BOLT CAPS.

G. SEATS SHALL BE WHITE, SOLID PLASTIC, WITH INTERNAL CHECK AND MOLDED STAINLESS STEEL HINGE WITHOUT VISIBLE METAL PARTS, EXCEPT AS HEREINAFTER SPECIFIED.

H. CHROMIUM PLATED TRAPS SHALL BE BRASS WITH CHROMIUM PLATED NIPPLE TO WALL AND ESCUTCHEON.

I. FITTINGS AND ACCESSORIES SPECIFIED DESIGNATE TYPE ONLY. PROVIDE MODIFICATIONS TO MAKE FITTINGS WORK PROPERLY WITH FIXTURE AND PIPING. PROVIDE NECESSARY TAILPIECE AND SHANKS.

J. INSTALL EYEWASH STATION WITHIN 10 FEET OF HAZARD AREA, COMPLETELY UNOBSTRUCTED FROM VIEW OR ACCESS, ANCHOR TO FLOOR IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS. PROVIDE AND INSTALL STRAINER AT DOMESTIC WATER INLET TO STATION. PROVIDE AND INSTALL ON WALL ABOVE STATION, A PLASTIC ENGRAVED SIGN READING "EMERGENCY USE ONLY" WHITE LETTERS ON RED BACKGROUND. PROVIDE MINIMUM 5 GALLON CONTAINER AND PROVIDE TIMED FLOW TEST FOR ALL EYEWASHES AND EMERGENCY SHOWERS. SUBMIT REPORT TO ARCHITECT OR ENGINEER PRIOR TO FINAL INSPECTION.

K. FIXTURES

WC-1 WATER CLOSET (17-1/2" HIGH, FLOOR MOUNT, TANK TYPE):
1. KOHLER K-43979 VITREOUS CHINA, 1.6 GALLON FLUSH; CLOSE COUPLED TANK WITH ELONGATED BOWL.
2. KOHLER K-7637 3/8" POLISHED CHROME ANGLE SUPPLY WITH STOP.
3. BENEKE 527SS ELONGATED SELF-SUSTAINING WITH CHECK HINGES. OPEN FRONT, HEAVY DUTY SOLID PLASTIC SEAT.

LAV-1 LAVATORY (ADA COMPLIANT, WALL HUNG):
1. AMERICAN STANDARD DECLYN WALL-HUNG LAVATORY, VITREOUS CHINA, WITH OVER FLOW AND 4" FAUCET CENTERS, DRILLED FOR CONCEALED ARM CARRIER.
2. ZURN Z-7445-WP SINGLE CONTROL FAUCET, LEVER HANDLE, 4" CENTER MOUNT, 1-1/4" GRID STRAINER.
3. MCGUIRE 170 1/2" X 3/8" SWEAT LAVATORY SUPPLIES WITH WHEEL HANDLE STOPS.
4. MCGUIRE 8902, 1-1/4 INCH X 1-1/2 INCH P-TRAP WITH ESCUTCHEON; ZURN GH, 1-1/4" OFFSET HANDICAP GRID DRAIN.
5. TRAP AND SUPPLIES COVERED WITH TRAP WRAP EQUAL TO BROCHAR INDUSTRIES.
6. ZURN Z-1231 LAVATORY CONCEALED ARM CARRIER.

EW-1 EYEFACE WASH (PEDESTAL MOUNT):
1. STAINLESS STEEL BOWL WITH TWIN EYEWASH HEADS WITH FLIP TOP COVERS, CHROME PLATED WATER EYEWASH ASSEMBLY.
2. INCLUDE UNIVERSAL EMERGENCY SIGN CONFORMING TO ANSI Z535.-1.
3. INCLUDE MIXING VALVE/TEMPERED WATER BLENDING SYSTEM.
4. EQUAL TO GUARDIAN G1625, CONFORM TO ANSI Z358.1.

EWC-1 WATER COOLER (WALL MOUNT, BOTTLE FILLING STATION, ADA):
1. ELKAY LZSTLWMSVRSK, HANDS FREE, ADA COMPLIANT DUAL STATION WITH BOTTLE FILLING STATION.
2. MCGUIRE 8902 ¼-TRAP WITH ESCUTCHEON.
3. MCGUIRE 170 STOP AND SUPPLY.

SK-1 LAUNDRY TUB (SINGLE COMPARTMENT).
1. FIAT MODEL NO. FLS- SINGLE MOLDED STONE LAUNDRY TUB WITH FREE DRAINING SOAP TRAY ON BACK LEDGE. INCLUDE FOUR WHITE BAKED ENAMEL ANGLE LEGS THAT SLIP INTO MOLDED SOCKETS. SELF-LEVELING LEGS WITH FLOOR ANCHORS.
2. T&S MODEL w/ BRASS FAUCET WITH SWING SPOUT.
3. MCGUIRE 170 1/2" X 3/8" SWEAT LAVATORY SUPPLIES WITH WHEEL HANDLE STOPS.
4. MCGUIRE #150 TRAY PLUG WITH RUBBER STOPPER (1-1/2").
5. MCGUIRE #8912 1-1/2" X 1-1/2", 17 GAUGE BRASS P-TRAP.

CMVB COFFEE MAKE VALVE BOX:
1. GUY GRAY MODEL BM 875.
2. 1/2" FIP x 1/4" OD, OUTLET COMPRESSION ANGLE VALVE.
3. BOX IS 16 GAUGE STEEL WITH EPOXY FINISH.

L. ACCEPTABLE MANUFACTURERS: FIXTURES, VITREOUS CHINA - AMERICAN STANDARD, CRANE, ELJER, KOHLER. FIXTURES, STAINLESS STEEL - JUST, ELKAY. FLUSH VALVES - SLOAN, DELANEY, ZURN. FAUCETS - OLSONITE, SPERZEL, CHURCH, BENEKE, BEMIS. FAUCETS - T&S BRASS, SPEAKMAN, CHICAGO, SYMMONS, ELJER TERRAZZO - FIAT, CUTLER, FLORESTONE, STERN-WILLIAMS. TRIM, CHROMED BRASS - MCGUIRE, SANITARY DASH, BRIDGEPORT AND PRESCOTT. MIXING VALVES - POWERS, LEONARD, LAWLER, SYMMONS, SPEAKMAN. SHOWER HEADS - SYMMONS, SPEAKMAN, ZURN. ELECTRIC WATER COOLERS - ELKAY, HALSEY TAYLOR, SUNROC, OASIS, HAWS. USE ONLY WATER COOLERS WHICH DO NOT USE CFC'S FOR REFRIGERATION. SCRUB SINKS - ELJER, AMERICAN STANDARD, KOHLER. CRANE CARRIERS - LR, SMITH, JOSAM, ZURN, WADE. EMERGENCY EQUIPMENT - GUARDIAN, HAWS, WESTERN, SPEAKMAN

M. INSTALL PLUMBING FIXTURE LEVEL AND PLUMB IN ACCORDANCE WITH FIXTURE MANUFACTURER'S PUBLISHED LITERATURE, ROUGH-IN DRAWINGS, CODES REGULATIONS, AND REFERENCE STANDARDS. FASTEN PLUMBING FIXTURES SECURELY TO SUPPORTS OR BUILDING STRUCTURE. RIGIDLY SUPPORT WATER SUPPLIES BEHIND OR WITHIN WALL CONSTRUCTION. PROVIDE STOP VALVE IN THE WATER SUPPLY TO EACH FIXTURE IN AN ACCESSIBLE LOCATION. CONNECT WALL HUNG URINALS TO WASTE PIPING WITH RED BRASS NIPPLES. CONNECT FIXTURES TO WATER SUPPLY WITH COPPER OR BRASS (NO STEEL). EACH FIXTURE, FLOOR DRAIN AND PIECE OF EQUIPMENT REQUIRING CONNECTION TO DRAINAGE SYSTEM TO HAVE SEPARATE TRAPS INSTALLED AS CLOSE TO FIXTURE AS POSSIBLE. PROVIDE IRON OR STEEL BACKING FOR ALL WALL MOUNTED FIXTURES (OR WOOD BACKING ONLY IF BUILDING STRUCTURE IS WOOD). PROVIDE ESCUTCHEONS AT EACH WALL, FLOOR AND CEILING PENETRATION IN EXPOSED FINISHED LOCATIONS AND WITHIN CABINETS AND MILLWORK. APPLY SCP3154 PRIMER AND GENERAL ELECTRIC CO.'S NO. 1702 SILICONE SANITARY SEALANT AROUND PLUMBING FIXTURES TO CONCEAL VOIDS AT WALL AND CONTACT POINTS OF FIXTURE AFTER WALLS HAVE BEEN PAINTED. APPLY SCP3154 PRIMER AND GENERAL ELECTRIC CO.'S SILPRUF SEALANT ON PLAIN CONCRETE WALLS.

SECTION 15450 - PLUMBING EQUIPMENT

A. ELECTRIC WATER HEATERS:
1. WATER HEATER SHALL COMPLY WITH UL 1453.
2. STORAGE TANK CONSTRUCTION: ASME-CODE STEEL WITH 150 PSIG WORKING-PRESSURE RATING, STEEL JACKET WITH ENAMELED FINISH.
3. TAPPINGS: FACTORY FABRICATED OF MATERIALS COMPATIBLE WITH TANK FOR PIPING CONNECTIONS, RELIEF VALVE, PRESSURE GAGE, THERMOMETER, DRAIN, ANODE RODS, AND CONTROLS AS REQUIRED. ATTACH TAPPINGS TO TANK SHELL BEFORE TESTING AND LABELING. TAPPINGS SHALL HAVE THREADED ENDS ACCORDING TO ASME B1.20.1, PIPE THREADS.
4. INTERIOR FINISH: MATERIALS AND THICKNESSES COMPLYING WITH NSF 61, BARRIER MATERIALS FOR POTABLE-WATER TANK LININGS, EXTEND FINISH INTO AND THROUGH TANK FITTINGS AND OUTLETS.
5. INSULATION: COMPLY WITH ASHRAE 90.1. SURROUND ENTIRE STORAGE TANK EXCEPT CONNECTIONS AND CONTROLS.
6. HEATING ELEMENTS: ELECTRIC, SCREW-IN OR BOLT-ON IMMERSION TYPE. STAGING AS NOTED IN SCHEDULE.
7. TEMPERATURE CONTROL: ADJUSTABLE IMMERSION THERMOSTAT.
8. SAFETY CONTROLS: AUTOMATIC HIGH-TEMPERATURE-LIMIT AND LOW-WATER CUTOFF DEVICES OR SYSTEMS.
9. DRAIN VALVE: ASSE 1005, CORROSION-RESISTANT METAL, FACTORY INSTALLED.
10. ANODE RODS: FACTORY INSTALLED, MAGNESIUM.
11. OPTIONS: FACTORY INSTALLED, NOT REQUIRED IF COLD-WATER INLET IS NEAR BOTTOM OF STORAGE TANK.
12. SPECIAL REQUIREMENT: NSF 5 CONSTRUCTION.
13. ACCEPTABLE MANUFACTURERS ARE LOCHINVAR, A. O. SMITH, OR PRIOR APPROVAL EQUAL.

B. THERMAL EXPANSION TANK (DOMESTIC WATER):
1. PRECHARGED HYDROPNEUMATIC STEEL EXPANSION TANK, CONSTRUCTED IN ACCORDANCE WITH SECTION VIII OF ASME BOILER AND PRESSURE CODE, WITH ALL WELDS CONFORMING TO ASME SECTION IX. TANK MUST BE STAMPED WITH A MAXIMUM WORKING PRESSURE OF 125 PSI AND A MAXIMUM WORKING TEMPERATURE OF 200 DEGREES F. ALL INTERNAL WETTED PARTS MUST COMPLY WITH FDA REGULATIONS AND APPROVALS. AN INTERNAL BUTYL DIAPHRAGM WILL BE USED TO ISOLATE AIR FROM WATER. AMTROL OR APPROVED EQUAL AST SERIES.

Pinnacle Engineering LLC
Engineering & Design Consultants
2111 Parkway Office Circle, Suite 125
Birmingham, AL 35244
(205) 733-6912 FAX: (205) 733-6913
Job No.26169

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Express Oil Change & Tire Engineers

Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

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No.	Description	Date
FEB-1	Iss for Bid 1 AHJ Rev.	08/01/26
FEB-2	Iss for Bid 2 AHJ Rev.	09/08/26

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Plumbing Specifications

Project number	26014
Date	08/05/26
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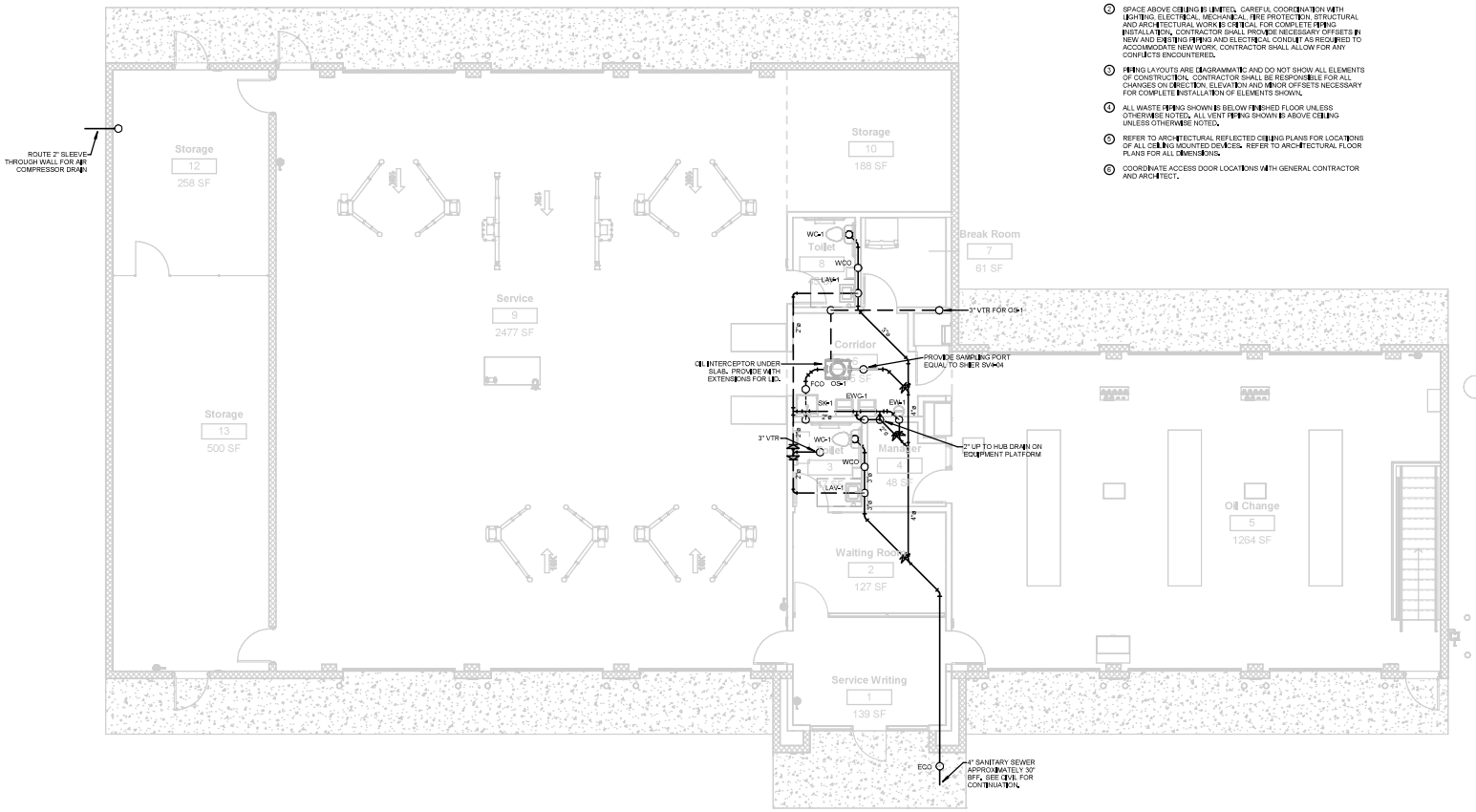
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Pinnacle Engineering LLC
Engineering & Design Consultants
2111 Parkway Office Circle, Suite 125
Birmingham, AL 35244
(205) 733-6912 FAX: (205) 733-6913
Job No.26169

GENERAL NOTES:

1. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS IN FIELD PRIOR TO BEGINNING WORK.
2. SPACE ABOVE CEILING IS LIMITED. CAREFUL COORDINATION WITH LIGHTING, ELECTRICAL, MECHANICAL, FIRE PROTECTION, STRUCTURAL AND ARCHITECTURAL WORK IS CRITICAL FOR COMPLETE PIPING INSTALLATION. CONTRACTOR SHALL PROVIDE NECESSARY OFFSETS IN NEW AND EXISTING PIPING AND ELECTRICAL CONDUIT AS REQUIRED TO ACCOMMODATE NEW WORK. CONTRACTOR SHALL ALLOW FOR ANY CONFLICTS ENCOUNTERED.
3. PIPING LAYOUTS ARE DIAGRAMMATIC AND DO NOT SHOW ALL ELEMENTS OF CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CHANGES IN DIRECTION, ELEVATION AND MINOR OFFSETS NECESSARY FOR COMPLETE INSTALLATION OF ELEMENTS SHOWN.
4. ALL WASTE PIPING SHOWN IS BELOW FINISHED FLOOR UNLESS OTHERWISE NOTED. ALL VENT PIPING SHOWN IS ABOVE CEILING UNLESS OTHERWISE NOTED.
5. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR LOCATIONS OF ALL CEILING MOUNTED DEVICES. REFER TO ARCHITECTURAL FLOOR PLANS FOR ALL DIMENSIONS.
6. COORDINATE ACCESS DOOR LOCATIONS WITH GENERAL CONTRACTOR AND ARCHITECT.



MAIN FLOOR PLAN
PLUMBING - GRAVITY
NORTH 3/16" = 1'-0"

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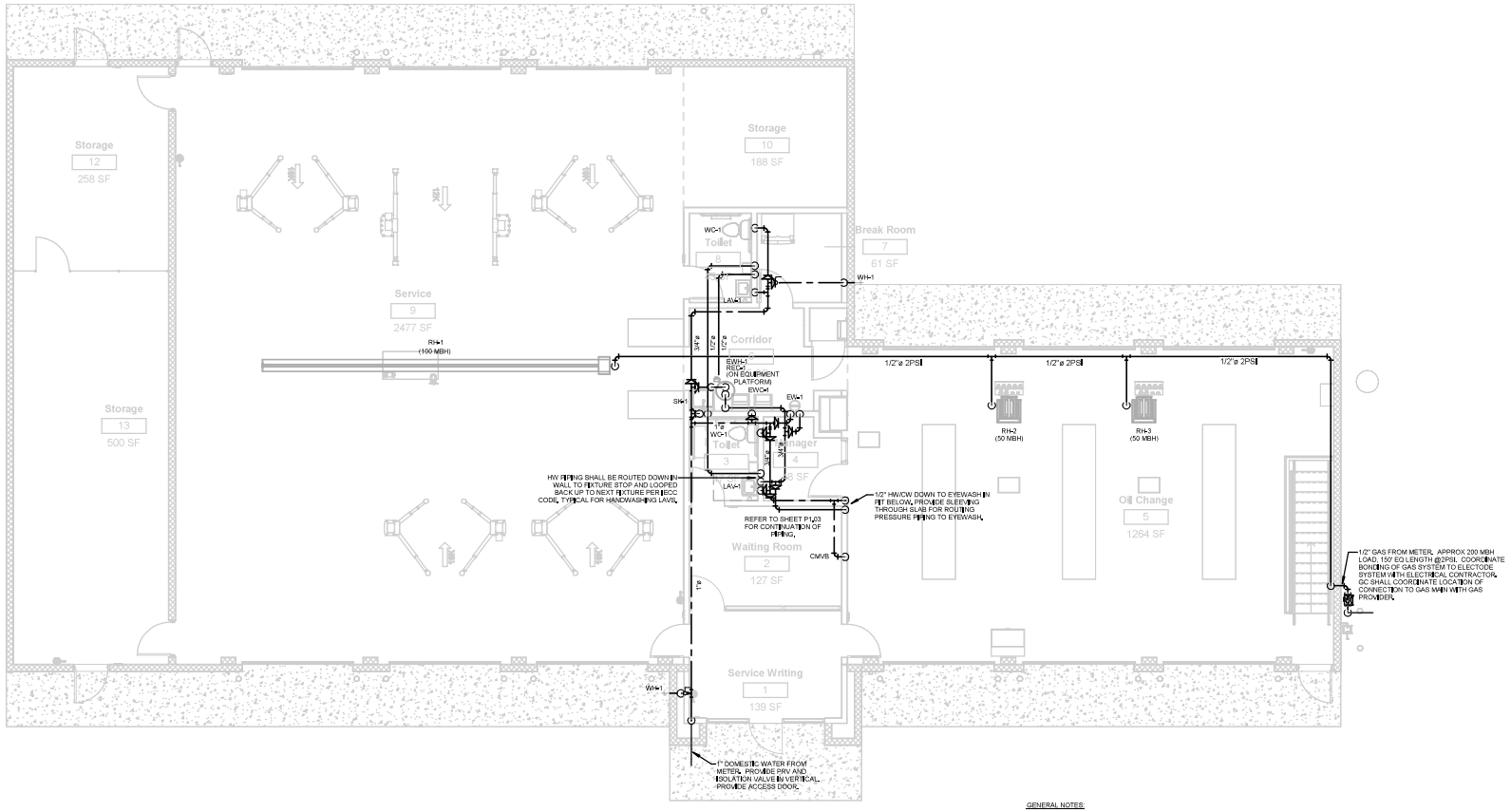
Plumbing Floor Plan Gravity

Project number	26014
Date	08/05/26
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Scale As indicated

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NORTH

MAIN FLOOR PLAN
PLUMBING - PRESSURE
3/16" = 1'-0"

GENERAL NOTES:

1. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS IN FIELD PRIOR TO BEGINNING WORK.
2. SPACE ABOVE CEILING IS LIMITED. CAREFUL COORDINATION WITH LIGHTING, ELECTRICAL, MECHANICAL, FIRE PROTECTION, STRUCTURAL AND ARCHITECTURAL WORK IS CRITICAL FOR COMPLETE PIPING INSTALLATION. CONTRACTOR SHALL PROVIDE NECESSARY OFFSETS IN NEW AND EXISTING PIPING AND ELECTRICAL CONDUIT AS REQUIRED TO ACCOMMODATE NEW WORK. CONTRACTOR SHALL ALLOW FOR ANY CONFLICTS ENCOUNTERED.
3. PIPING LAYOUTS ARE DIAGRAMMATIC AND DO NOT SHOW ALL ELEMENTS OF CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CHANGES IN DIRECTION, ELEVATION AND MINOR OFFSETS NECESSARY FOR COMPLETE INSTALLATION OF ELEMENTS SHOWN.
4. ALL PRESSURE PIPING SHOWN IS ABOVE THE CEILING UNLESS OTHERWISE NOTED. CONCEALED PIPING SHALL BE PEX OR COPPER. EXPOSED PIPING IN PUBLIC SPACES SHALL BE COPPER.
5. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR LOCATIONS OF ALL CEILING MOUNTED DEVICES. REFER TO ARCHITECTURAL FLOOR PLANS FOR ALL DIMENSIONS.
6. COORDINATE ACCESS DOOR LOCATIONS WITH GENERAL CONTRACTOR AND ARCHITECT.

Pinnacle Engineering LLC
Engineering & Design Consultants
2111 Parkway Office Circle, Suite 125
Birmingham, AL 35244
(205) 733-6912 FAX: (205) 733-6913
Job No.26169

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09/08/26

Express Oil Change & Tire Engineers

Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

Seguin, Texas

FINAL

No.	Description	Date
FB-1	Iss for Bid 1 AHJ Rev.	08/01/26
FB-2	Iss for Bid 2 AHJ Rev.	09/08/26

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Plumbing Floor Plan Pressure

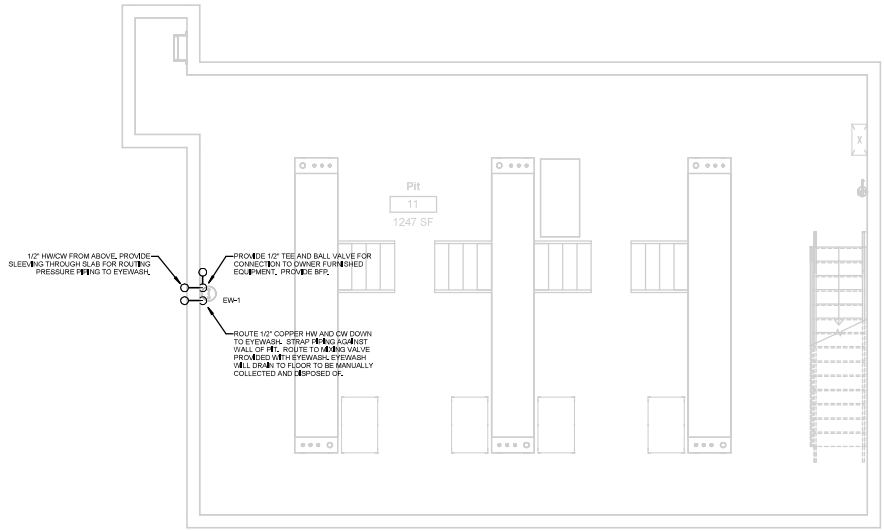
Project number	26014
Date	08/05/26
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NORTH

PIT FLOOR PLAN PLUMBING
1/4" = 1'-0"

GENERAL NOTES:

1. CONTRACTOR SHALL VERIFY EXISTING CONDITIONS IN FIELD PRIOR TO BEGINNING WORK.
2. SPACE ABOVE CEILING IS LIMITED. CAREFUL COORDINATION WITH LIGHTING, ELECTRICAL, MECHANICAL, FIRE PROTECTION, STRUCTURAL AND ARCHITECTURAL WORK IS CRITICAL FOR COMPLETE PIPING INSTALLATION. CONTRACTOR SHALL PROVIDE NECESSARY OFFSETS IN NEW AND EXISTING PIPING AND ELECTRICAL CONDUIT AS REQUIRED TO ACCOMMODATE NEW WORK. CONTRACTOR SHALL ALLOW FOR ANY CONFLICTS ENCOUNTERED.
3. PIPING LAYOUTS ARE DIAGRAMMATIC AND DO NOT SHOW ALL ELEMENTS OF CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CHANGES IN DIRECTION, ELEVATION AND MINOR OFFSETS NECESSARY FOR COMPLETE INSTALLATION OF ELEMENTS SHOWN.
4. ALL PRESSURE PIPING SHOWN IS ABOVE THE CEILING UNLESS OTHERWISE NOTED. ALL TRAP PRIMER LINES AND HOT WATER RETURN LINES SHALL BE ½" UNLESS OTHERWISE NOTED.
5. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR LOCATIONS OF ALL CEILING MOUNTED DEVICES. REFER TO ARCHITECTURAL FLOOR PLANS FOR ALL DIMENSIONS.
6. COORDINATE ACCESS DOOR LOCATIONS WITH GENERAL CONTRACTOR AND ARCHITECT.

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Partial Plumbing Floor Plans - Pit and Platform

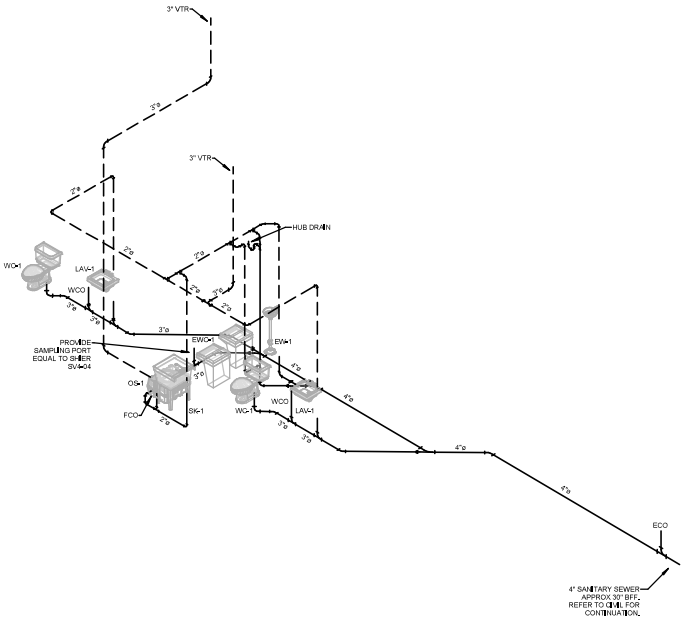
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1 P2.01 Gravity Riser

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Plumbing Riser - Gravity

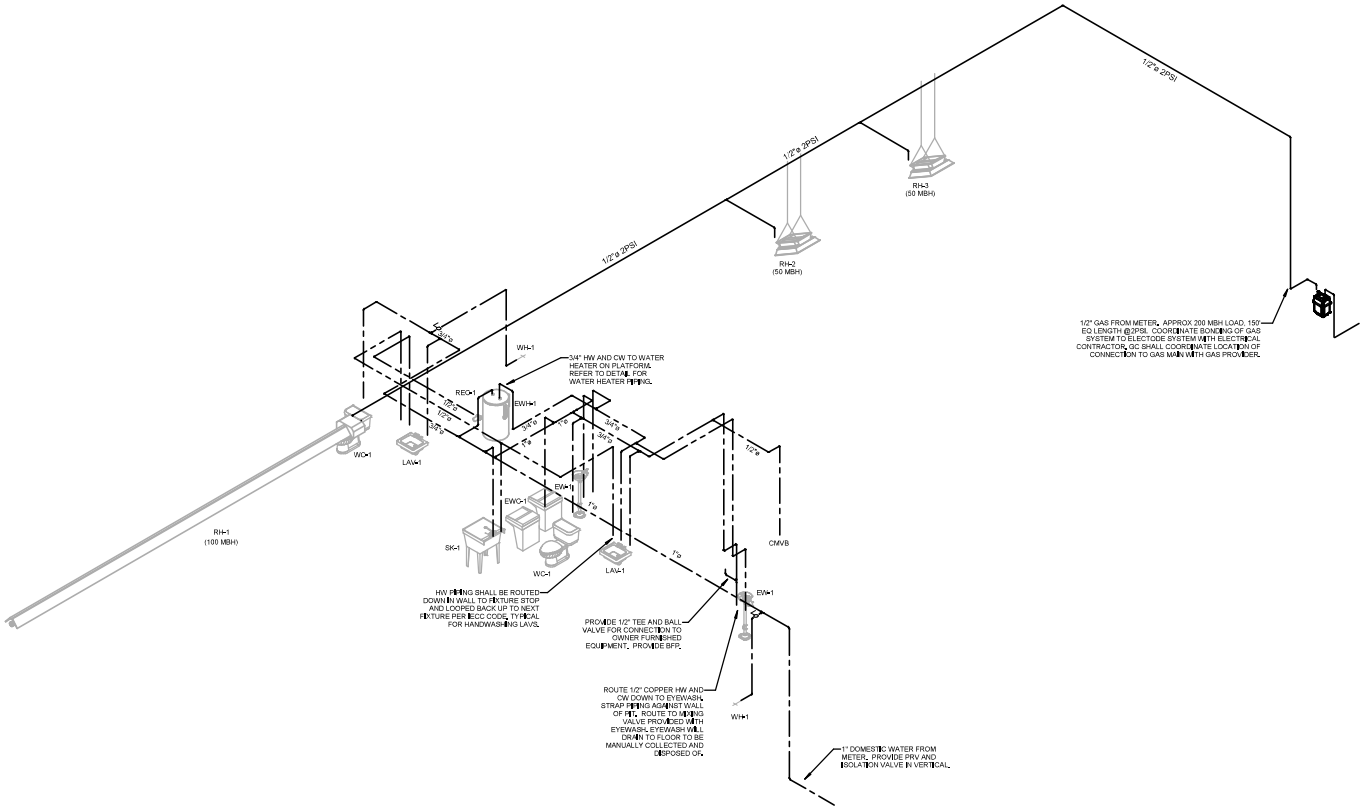
Project number	26014
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P2.01

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1
P2.02
Pressure Riser

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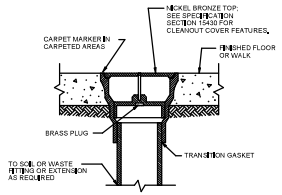
Plumbing Riser - Pressure

Project number	26014
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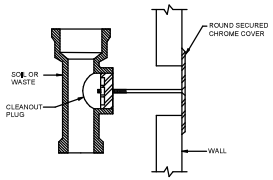
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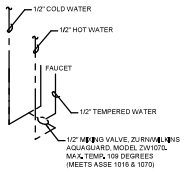
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7 / P2.03 FLOOR CLEANOUT
NO SCALE

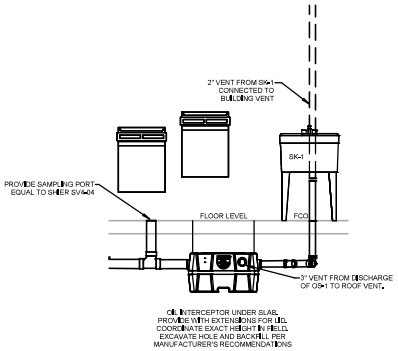


4 / P2.03 WALL CLEANOUT
NO SCALE

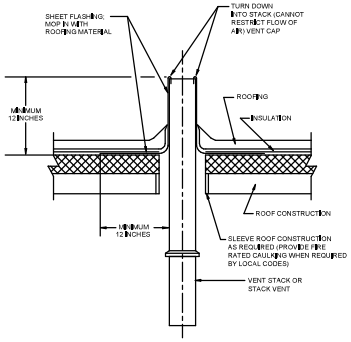


SINGLE

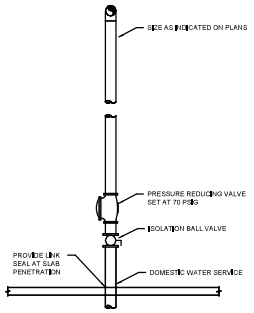
1 / P2.03 TYPICAL LAVATORY MIXING VALVE
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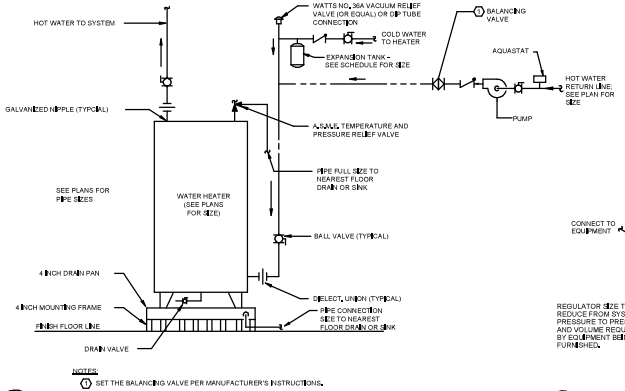
8 / P2.03 OIL INTERCEPTOR DETAIL
NO SCALE



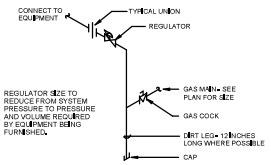
5 / P2.03 VENT THROUGH ROOF DETAIL
NO SCALE



2 / P2.03 DOMESTIC WATER ENTRANCE DETAIL
NO SCALE



6 / P2.03 ELECTRIC WATER HEATER (FLOOR MOUNTED)
NO SCALE



3 / P2.03 TYPICAL GAS CONNECTION
NO SCALE

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Plumbing Details

Project number	26014
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LIGHTING FIXTURE SCHEDULE

TYPE	MANUFACTURER	CATALOG NUMBER	LAMPS QUANTITY	LAMPS WATTS	LAMPS TYPE	MTG. TYPE	MTG. HT.	REC. DEPTH	DESCRIPTION	IMAGE
L1P	MAXLITE	BPHE3-U090WCS	LOT	90	LED	P	12' AFF	–	ROUND ECO PENDANT HIGH BAY GEN 3 FIXTURE WITH 12600 LUMEN OUTPUT, 4000K COLOR TEMPERATURE. PROVIDE ALL REQUIRED ACCESSORIES FOR HOOK AND CHAIN MOUNTING.	
	APPROVED EQUAL									
L2P	MAXLITE	LSV4U23WCSCR MLCHKLSV15	LOT	35	LED	P	*	–	4' LINEAR LED FIXTURE, PENDANT MOUNTED WITH ALUMINUM VAPOR TIGHT HOUSING, SELECTABLE WATTAGE, 4500 LUMEN OUTPUT, 4000K COLOR TEMPERATURE. PROVIDE ALL REQUIRED ACCESSORIES FOR SUSPENDED MOUNTING. SEE LIGHTING PLANS FOR LOCATIONS AND QUANTITIES. * VERIFY MOUNTING HEIGHT ABOVE FINISHED FLOOR PRIOR TO INSTALLATION.	
	APPROVED EQUAL									
L2	MAXLITE	LSV4U23WCSCR	LOT	35	LED	S	C	–	4' LINEAR LED FIXTURE, SURFACE MOUNTED WITH ALUMINUM VAPOR TIGHT HOUSING, SELECTABLE WATTAGE, 4500 LUMEN OUTPUT, 4000K COLOR TEMPERATURE. PROVIDE ALL REQUIRED ACCESSORIES FOR SURFACE MOUNTING. SEE LIGHTING PLANS FOR LOCATIONS AND QUANTITIES.	
	APPROVED EQUAL									
L3	MAXLITE	MLFP2405222WCSCR ML24G4CHK	LOT	38	LED	LI	C	–	2X4 LAY-IN LED FLAT PANEL FIXTURE WITH SELECTABLE WATTAGE, SELECTABLE COLOR TEMPERATURE, 4000 LUMEN OUTPUT, DIMMABLE DRIVER, UNIVERSAL VOLTAGE, FLANGE KIT, HANGING CABLES AND POLYSTYRENE LENS.	
	APPROVED EQUAL									
L3E	MAXLITE	MLFP2405222WCSOREM ML24G4CHK	LOT	38	LED	LI	C	–	2X4 LAY-IN LED FLAT PANEL FIXTURE WITH SELECTABLE WATTAGE, SELECTABLE COLOR TEMPERATURE, 4000 LUMEN OUTPUT, DIMMABLE DRIVER, UNIVERSAL VOLTAGE, FLANGE KIT, CABLE HANGERS, POLYSTYRENE LENS. AND EMERGENCY BATTERY PACK.	
	APPROVED EQUAL									
L4	MAXLITE	M55UC4W-CSBWCR M-VCLV2	LOT	38	LED	W	10'AFF	–	FIXED WALL MOUNTED LED FIXTURE WITH BLACK FINISH, DIE-CAST ALUMINUM HOUSING, SELECTABLE COLOR TEMPERATURE, 3512 LUMEN OUTPUT, WIDE DISTRIBUTION. UL LISTED FOR WET LOCATION. NOTE 3.	
	APPROVED EQUAL									
L4E	MAXLITE	M55UC4W-CSBWCRE2 M-VCLV2	LOT	38	LED	W	10'AFF	–	FIXED WALL MOUNTED LED FIXTURE WITH BLACK FINISH, DIE-CAST ALUMINUM HOUSING, SELECTABLE COLOR TEMPERATURE, 3512 LUMEN OUTPUT, WIDE DISTRIBUTION, ELECTRONIC DRIVER, AND EMERGENCY BATTERY PACK. UL LISTED FOR WET LOCATION. NOTE 3.	
	APPROVED EQUAL									
L5	PROVIDED BY GENERAL CONTRACTOR									
	PROVIDED BY GENERAL CONTRACTOR		FURNISHED WITH UNIT			R	C	–	RECESSED LED DOWNLIGHT WITH 4000K COLOR TEMPERATURE, 3000 LUMEN OUTPUT, AND EMERGENCY BATTERY PACK. UL LISTED FOR WET LOCATION. FIXTURES ARE PROVIDED BY GENERAL CONTRACTOR AS PART OF THE METAL AWNING SYSTEM.	
	PROVIDED BY GENERAL CONTRACTOR									
S1	PROVIDED BY SIGN MANUFACTURER									
	PROVIDED BY SIGN MANUFACTURER		FURNISHED WITH UNIT			W	NOTE 3	–	WALL MOUNTED LED SIGN LIGHTING FIXTURE. NOTE 2.	
	PROVIDED BY SIGN MANUFACTURER									
S2	PROVIDED BY SIGN MANUFACTURER									
	PROVIDED BY SIGN MANUFACTURER		FURNISHED WITH UNIT			W	NOTE 3	–	WALL MOUNTED LED LIGHT FIXTURE. NOTE 2.	
	PROVIDED BY SIGN MANUFACTURER									
BL	MAXLITE	EMT-2WH	FURNISHED WITH UNIT			W	9'AFF	–	WALL MOUNTED TWO HEAD LED EMERGENCY FIXTURE WITH WHITE THERMOPLASTIC HOUSING, 1100 LUMEN OUTPUT, SELF DIAGNOSTICS, AND EMERGENCY BATTERY PACK.	
	APPROVED EQUAL									
W1	MAXLITE	LSV2U20WCSCREM CEA-RDW, CN-RDMSW	LOT	30	LED	W	8'AFF	–	2' LONG LINEAR LED SURFACE MOUNTED FIXTURE WITH ALUMINUM VAPOR TIGHT HOUSING, SELECTABLE WATTAGE, 4000 LUMEN OUTPUT, 4000K SELECTABLE COLOR TEMPERATURE, UNIVERSAL VOLTAGE, MOTION SENSOR AND EMERGENCY BATTERY PACK.	
	APPROVED EQUAL									
Y	MAXLITE	AE100UMC-WCSBACR PL-SG4-20ET-B	LOT	75	LED	POLE	18'AFF	–	POLE MOUNTED LED SITE LIGHTING FIXTURE WITH ALUMINUM HOUSING, 4000K COLOR TEMPERATURE, 11000 LUMEN OUTPUT, TYPE IV DISTRIBUTION, ELECTRONIC DRIVER. PROVIDE FULL CUTOFF TYPE FIXTURE. PROVIDE 15' SQUARE STRAIGHT STEEL 4" POLE WITH 3" BASE. LIGHT FIXTURE SHALL BE MOUNTED 18'AFF.	
	APPROVED EQUAL									
XL	MAXLITE	EXT-GW	FURNISHED WITH UNIT			W	AD	–	WHITE THERMOPLASTIC LED EXIT SIGN WITH SINGLE FACE, GREEN LETTERS, UNIVERSAL MOUNTING, SELF DIAGNOSTICS, AND EMERGENCY BATTERY PACK.	
	APPROVED EQUAL									

ABBREVIATIONS: LI–LAY–IN C–CEILING LG–LENS GASKETING GMF–INTERNAL SLOW BLOW FUSE FL–FLUORESCENT MH–METAL HALIDE HO–HIGH OUTPUT
AFF–ABOVE FINISH FLOOR P–PENDENT FC–FROM CEILING R–RECESSED AM–ABOVE MIRROR W–WALL AD–ABOVE DOOR
S–SURFACE DTT–DOUBLE TWIN TUBE FLUORESCENT CA–CANOPY TC–TOP OF METAL CANOPY AW–ABOVE WINDOW VA–VERIFY WITH ARCHITECT

LIGHTING FIXTURE SCHEDULE GENERAL NOTES:

1. FIXTURE OUTLET BOX LOCATIONS SHOWN ON THE DRAWINGS ARE DIAGRAMMATIC AND APPROXIMATE IN LOCATION. EXACT POSITION OF THE OUTLET BOX SHALL DEPEND ON THE FIXTURE AND THE MOUNTING DETAIL.
2. MOUNTING AND SUPPORT DETAILS FOR LIGHTING FIXTURES SHALL BE SUBMITTED TO AND APPROVED BY THE ENGINEER BEFORE THE FIXTURES ARE INSTALLED. NO COMBUSTIBLE MATERIALS SHALL BE USED.
3. WET LOCATION FIXTURES SHALL BE MOUNTED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION SO AS TO ENSURE THE PREVENTION OF MOISTURE FROM ENTERING THE FIXTURE. IN ADDITION, EACH CONDUIT ENTRY WILL BE SEALED BY USE OF AN APPROVED SWEDGE FITTING WITH A NEOPRENE SEAL, AS MANUFACTURED BY JOHN REMKE COMPANY OR APPROVED EQUAL.
4. OUTLET BOXES SERVING WET LOCATION FIXTURE SHALL BE CODE SIZE, WITH A WATERTIGHT SOLID CAST TOP. CONDUIT ENTRIES SHALL BE THREADED.
5. FIXTURE MOUNTING HEIGHTS IN SCHEDULE ARE TYPICAL UNLESS NOTED OTHERWISE ON DRAWINGS.
6. FOR LIGHTING PACKAGE PRICING, CONTACT THE FOLLOWING:

   MIKE MCMAKEN
   REXEL ENERGY SOLUTIONS
   (M) 906-235-2979
   MIKE.MCMAKEN@REXELENERGY.COM

   STEPHEN MITCHELL
   MAXLITE
   (M) 908-256-3115
   SMITCHELL@MAXLITE.COM

LIGHTING FIXTURE SCHEDULE NOTES:

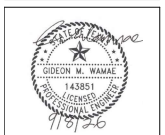
1. SEE MOUNTING DETAIL ON THIS SHEET FOR MORE INFORMATION.
2. INSTALLED BY SIGN COMPANY.
3. VERIFY MOUNTING HEIGHT WITH SIGN COMPANY BEFORE ROUGHING IN.
4. FIXTURE SHALL BE MOUNTED SO THAT THE TOP OF THE FIXTURE IS AT 12' AFF TO ALIGN WITH BANDING ON EXTERIOR OF BUILDING.

GENERAL NOTES:

1. VERIFY ALL DOOR SWINGS WITH ARCHITECTURAL BEFORE ROUGHING IN LIGHT SWITCHES TO ENSURE PROPER SWITCH LOCATION. VERIFY ALL CASEWORK DETAILS TO ENSURE THAT ALL OUTLETS ABOVE CASEWORK ARE AT THE PROPER HEIGHT.
2. SERVICE TO THE BUILDING SHALL BE 120/240 VOLTS, 1PHASE, 3WIRE.
3. ALL CONDUIT SHALL BE RUN CONCEALED UNLESS SPECIFICALLY SHOWN EXPOSED, OR INSTALLED IN EXPOSED CEILING.
4. THE CONTRACTOR SHALL CHECK ALL LIGHTING FIXTURES FOR EXACT TYPE MOUNTING AND SPACE REQUIRED BEFORE ROUGHING IN.
5. THE ELECTRICAL CONTRACTOR SHALL WORK CLOSELY WITH THE GENERAL CONTRACTOR AND VERIFY EXACT TYPE OF EQUIPMENT TO BE INSTALLED AND THE DIMENSIONS WHICH MAY AFFECT THE EXACT PLACEMENT OF ELECTRICAL WORK.
6. VERIFY THE EXACT LOCATION OF ALL MOTORS AND EQUIPMENT BEFORE ROUGHING IN. LIKEWISE APPRAISE ALL TRADES OF THE LOCATIONS OF ELECTRICAL WORK THAT AFFECTS WALL THICKNESS, PLUMBING, MECHANICAL, ETC.
7. ALL CONDUIT STUBBED OUT FOR FUTURE SHALL BE CAPPED AND HAVE LOCATION MARKED WITH A 2" SQUARE, PAINTED RED, WITH CONDUIT NAME AND SIZE SHOWN IN WHITE.
8. ALL BRANCH CIRCUITS AND FEEDERS SHALL HAVE AN INSULATED GROUND WIRE PULLED IN THE CONDUIT WITH CURRENT CONDUCTOR UNLESS SPECIFICALLY NOTED OTHERWISE ON THE PLANS. THE GROUNDING CONDUCTOR SHALL BE SIZED ACCORDING TO TABLE 250-122 OF THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE UNLESS INDICATED TO BE LARGER IN THE SPECIFICATIONS OR PLANS.
9. DO ALL WORK IN COMPLIANCE WITH ALL APPLICABLE CODES, LAWS AND ORDINANCES, THE NATIONAL ELECTRICAL CODE (HEREINAFTER REFERRED TO AS "CODE" OR "NEC"), THE AMERICANS WITH DISABILITIES ACT, AND THE REGULATIONS OF THE LOCAL AUTHORITIES HAVING JURISDICTION AND, WHERE APPLICABLE, UTILITY COMPANIES. OBTAIN AND PAY FOR ANY AND ALL REQUIRED PERMITS, INSPECTIONS, CERTIFICATES OF INSPECTIONS AND APPROVAL, AND THE LIKE, AND DELIVER SUCH CERTIFICATES TO THE OWNER.
10. THE MAIN SERVICE SHALL HAVE THE GROUNDED CONDUCTOR (NEUTRAL) GROUNDED TO THE GROUNDING ELECTRODE SYSTEM AT THE SUPPLY SIDE OF THE SERVICE DISCONNECTING MEANS BY A GROUNDING ELECTRODE CONDUCTOR NOT SMALLER THAN THAT SHOWN IN TABLE 250-66 OF THE NEC. THE GROUNDED CONDUCTOR (NEUTRAL), THE GROUNDING ELECTRODE CONDUCTOR, AND THE EQUIPMENT GROUNDING CONDUCTOR CONNECTIONS SHALL BE MADE INSIDE THE SERVICE ENTRANCE EQUIPMENT.
11. ALL CONDUCTORS SHALL BE COPPER, EXCEPT AS SHOWN ON DRAWINGS.
12. MINIMUM CONDUCTOR SIZE SHALL BE #12.
13. ALL CONDUIT INSTALLED INDOORS SHALL BE EMT, OTHERWISE SHALL BE IMC.
14. SWITCH AND RECEPTACLE COVER PLATES SHALL BE STAINLESS STEEL.
15. ALL DEVICES SHALL BE GRAY.
16. ALL FUSES SHALL BE DUAL ELEMENT, TIME DELAY, RATED 100,000 AIC.
17. ALL DISCONNECT SWITCHES SHALL BE HEAVY DUTY TYPE.
18. ALL CONDUCTORS SHALL BE DUAL RATED THHN/THWN TYPE INSULATION.
19. GUTTERS (WIREWAYS) SHALL BE SIZED AS SHOWN OR AS REQUIRED BY CODE. ALL GUTTERS SHALL HAVE HINGED COVERS WITH APPROVED FASTENING DEVICES & SHALL BE A STANDARD MANUFACTURED ITEM WITH U.L. LABEL. GUTTERS FROM AC DUCT MATERIAL ARE NOT ACCEPTABLE. GUTTERS SHALL BE AS MANUFACTURED BY HOFFMAN, SQUARE "D", B & C OR APPROVED EQUAL. GUTTER TAPS SHALL BE ILSCO TYPE GTA OF PTA WITH GTC OR PTC INSULATING COVERS.
20. IT SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR, PRIOR TO BID, TO REAFFIRM WITH THE UTILITY COMPANIES INVOLVED, THAT THE LOCATION, ARRANGEMENT (AND THE POWER COMPANY: VOLTAGE, PHASE & METERING REQUIRED) AND CONNECTIONS AT THE UTILITY SERVICE ARE IN ACCORDANCE WITH THEIR REGULATIONS & REQUIREMENTS. IF THEIR REQUIREMENTS ARE AT A VARIANCE WITH THESE DRAWINGS & SPECIFICATIONS, THE CONTRACT PRICE SHALL INCLUDE ANY ADDITIONAL COST NECESSARY TO MEET THOSE REQUIREMENTS WITHOUT EXTRA COST TO THE OWNER AFTER A CONTRACT HAS BEEN ENTERED INTO.
21. ON MANY PROJECTS, THE UTILITY COMPANY MAY LEVY CHARGES DUE TO LOCATION, SIZE OR TYPE OF SERVICE INVOLVED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THESE CHARGES, UNLESS SUCH CHARGES ARE NOT AVAILABLE PRIOR TO BID & CONTRACTOR SO DOCUMENTS AT BID OPENING. SHOULD THE THE COST NOT BE AVAILABLE, PRIOR TO BID, THE CONTRACTOR SHALL SUBMIT A LETTER SO STATING WITH HIS BID.
22. ARRANGE WITH UTILITY COMPANIES FOR SUCH SERVICE AS SHOWN OR HEREIN SPECIFIED & INSTALLATION OF METER WHERE SHOWN. FURNISH WITH SHOP DRAWINGS, A SIGNED DOCUMENT FROM UTILITY COMPANIES DESCRIBING THE LOCATION & TYPE OF SERVICES TO BE FURNISHED AND ANY REQUIREMENTS THEY MAY HAVE. THIS DOCUMENT SHALL BE SIGNED FOR EACH UTILITY COMPANY BY A PERSON RESPONSIBLE FOR GRANTING SUCH SERVICES.
23. PAY ALL CHARGES (IF ANY) IN CONNECTION THEREWITH, INCLUDING PERMANENT METER DEPOSIT. METER DEPOSIT WILL BE REFUNDED TO THE CONTRACTOR AT TIME OF OWNER'S ACCEPTANCE.

GW ENGINEERING, LLC
FIRM # 23595
4120 OVELOOK CIRCLE, TRUSSVILLE, AL 35173
GWAMAE@GMAIL.COM | 205.413.4112

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General Notes & Fixture Schedules

Project number	26014
Date	08/05/26
Drawn by	TH
Checked by	GW

E100

Scale: NO SCALE

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GRAPHICAL ELECTRICAL SYMBOLS

BRANCH CIRCUIT SYMBOLS		
	BRANCH CIRCUIT	HOMERUN TO 20A, 1POLE CIRCUIT BREAKER IN PANELBOARD OR DEVICE NOTED. WIRE SIZE IS 2#12&1#12GRD-3/4"C.
	BRANCH CIRCUIT	CONCEALED IN CEILING OR WALL.
	BRANCH CIRCUIT	CONCEALED IN FLOOR.
-EX-	BRANCH CIRCUIT	EXISTING CONDUIT BARS DENOTE NEW CONDUCTORS.
	BRANCH CIRCUIT	EXPOSED.
o	BRANCH CIRCUIT	RISER UP.
•	BRANCH CIRCUIT	RISER DOWN.
BRANCH CIRCUIT NOTES		
	BRANCH CIRCUIT	3#12&1#12GRD-3/4"C
	BRANCH CIRCUIT	4#12&1#12GRD-3/4"C
10	BRANCH CIRCUIT	2#10&1#10GRD-3/4"C
10	BRANCH CIRCUIT	3#10&1#10GRD-3/4"C

SIZE CONDUIT PER NEC FOR GREATER NUMBER OF CONDUCTORS OR AS NOTED. THE NUMBER IN THE CIRCUIT INDICATES AWG WIRE SIZE AND THE HASHMARKS INDICATE THE NUMBER OF WIRES REQUIRED. EQUIPMENT GROUND CONDUCTOR SHALL BE SIZED IN ACCORDANCE WITH NEC TABLE 250-122. THE NUMBER OF HASH MARKS DO NOT INCLUDE EQUIPMENT GROUNDING CONDUCTOR.

GENERAL SYMBOLS	
J	JUNCTION BOX.
J	WALL MOUNTED JUNCTION BOX.
J	WALL MOUNTED JUNCTION BOX WITH FLEXIBLE CONNECTION TO EQUIPMENT.
	ONE GANG BOX WITH 3/4"C. STUB UP ABOVE ACCESSIBLE CEILING WITH COAXIAL CABLE AND TV JACKS.
$T	MANUAL MOTOR STARTER WITH THERMAL PROTECTION.
	SAFETY SWITCH, NON-FUSED.
	SAFETY SWITCH, FUSED.
	CIRCUIT BREAKER MOUNTED IN NEMA 1 ENCLOSURE UNLESS NOTED OTHERWISE
	LIGHTING PANEL AND/OR RECEPTACLE PANEL.
	POWER PANEL.
TR	TRANSFORMER.
	GROUND.

GENERAL ABBREVIATIONS	
H	MOUNTING HEIGHT ABOVE FINISHED FLOOR.
AF	ABOVE FINISHED FLOOR.
WP	WEATHER PROOF - NEMA 3R
RT	WEATHERPROOF - NEMA 3R.
EP	EXPLOSION PROOF.
TP	TAMPER PROOF.
A	MOUNT ABOVE COUNTER.
BC	MOUNT BELOW COUNTER.
F	FLUSH MOUNTED.
SLD	SEE SINGLE LINE DIAGRAM.
GFI	GROUND FAULT INTERRUPTING.
C	CONDUIT.
EC	EMPTY CONDUIT
GC	FLEXIBLE CONDUIT.
SFC	SEALTITE FLEXIBLE CONDUIT.
EMT	ELECTRICAL METALLIC TUBING.
IMC	INTERMEDIATE METALLIC CONDUIT.
RG	RIGID CONDUIT.
PVC	NONMETALLIC RIGID CONDUIT.
EX	EXISTING.
XR	EXISTING TO BE REMOVED
RL	EXISTING TO BE REMOVED AND RELOCATED.
RQ	EXISTING TO BE REMOVED. EXTEND CIRCUIT CONDUCTORS AS REQUIRED AND INSTALL FINISHED BLANK COVER.
RR	EXISTING TO BE REMOVED AND REPLACED WITH NEW.
RL'D	RELOCATED POSITION.
EM	EMERGENCY BATTERY PACK

LIGHTING FIXTURE & CONTROL SYMBOLS		
1A	CEILING OUTLET	FIXTURE TYPE "A" CIRCUIT #1.
	CEILING OUTLET	EXISTING.
	CEILING OUTLET	FLUORESCENT FIXTURE, SINGLE OR CONTINUOUS, LENGTHS AS SHOWN.
	CEILING OUTLET	FLUORESCENT STRIP.
	WALL OUTLET	BRACKET TYPE FIXTURE.
	WALL OUTLET	FLUORESCENT BRACKET TYPE FIXTURE.
$	SWITCH OUTLET	A.C. TYPE, SINGLE POLE, 20A, 125/277V.
$3	SWITCH OUTLET	A.C. TYPE, THREE WAY, 20A, 125/277V.
$4	SWITCH OUTLET	A.C. TYPE, FOUR WAY, 20A, 125/277V.
$OS	SWITCH OUTLET	180° DUAL TECH SENSOR LIGHTING MOTION DETECTOR, WALL MOUNTED. WATT STOPPER #DW-100.
PP	SWITCH OUTLET	LIGHTING MOTION DETECTOR POWER PACK. INSTALL ABOVE ACCESSIBLE CEILING.
W	SWITCH OUTLET	LIGHTING MOTION DETECTOR, CEILING MOUNTED.
SWITCH OUTLET NOTES		
"a" "n" ETC.	FIXTURE CORRESPONDS TO A SWITCH DENOTED WITH THE SAME LOWER CASE LETTER.	

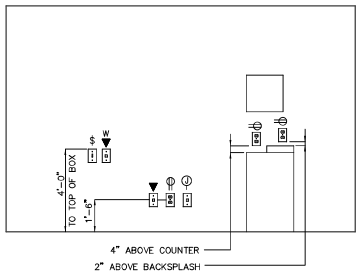
EXIT LIGHT SYMBOLS	
XL	WALL OR CEILING MOUNTED, SINGLE FACE, NO ARROW.
XL	CEILING MOUNTED, DOUBLE FACE, LEFT OR RIGHT ARROWS.
XL	WALL OR CEILING MOUNTED, SINGLE FACE, LEFT OR RIGHT ARROW.
XL	WALL OR CEILING MOUNTED, SINGLE FACE, LEFT AND RIGHT ARROWS.
XL	CEILING MOUNTED, DOUBLE FACE, LEFT AND RIGHT ARROWS.

RECEPTACLE OUTLET SYMBOLS		
	WALL OUTLET	DUPLEX RECEPTACLE, 20A, 125V, 3WIRE, NEMA 5-20R.
	WALL OUTLET	DOUBLE DUPLEX RECEPTACLE, 20A, 125V, 3WIRE, NEMA 5-20R, SINGLE PLATE.
	WALL OUTLET	DUPLEX RECEPTACLE, 20A, 125V, NEMA 5-20R, GFCI, WEATHER-RESISTANT, WITH EXTRA DUTY IN-USE WEATHERPROOF COVER. HUBBELL CATALOG #GFR5362SGGY/WP8M
	WALL OUTLET	SINGLE RECEPTACLE, 20A, 250V, 3WIRE, NEMA 6-20R.
	WALL OUTLET	SINGLE RECEPTACLE, 20A, 250V, 3WIRE, NEMA L6-20R.
	FLOOR OUTLET	FLUSH MOUNTED IN-GRADE WITH DOUBLE DUPLEX RECEPTACLE, 20A, 125V, 3WIRE, NEMA 5-20R, FOUR SPACES FOR KEYSTONE CONNECTORS, AND BRUSHED BRASS COVER LEGRAND RFB4E OR EQUAL.
	CEILING OUTLET	DUPLEX RECEPTACLE, 20A, 125V, 3WIRE, NEMA 5-20R.
RECEPTACLE OUTLET NOTES		
"G"	GROUND FAULT INTERRUPTER.	
"GA"	GROUND FAULT INTERRUPTER, MOUNTED ABOVE COUNTER.	
"A"	MOUNTED ABOVE COUNTER.	
"BC"	MOUNTED BELOW COUNTER.	
"DF"	FOR DRINKING FOUNTAIN.	

VOICE/DATA OUTLET & CONDUIT SYMBOLS		
▶	VOICE/DATA OUTLET	WALL MOUNTED, WITH 3/4" CONDUIT HOMERUN TO NEAREST TELEPHONE CABINET OR BACKBOARD UNLESS NOTED OTHERWISE.
	VOICE/DATA OUTLET	TELEPHONE BACKBOARD - 3/4" PLYWOOD PAINTED WITH TWO COATS OF FIRE RETARDANT PAINT, 48"x96" HIGH, UNLESS SHOWN OTHERWISE.
VOICE/DATA OUTLET NOTES		
"A"	MOUNTED ABOVE COUNTER.	
"BC"	MOUNTED BELOW COUNTER.	

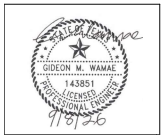
NOTES:

1. INDICATED MOUNTING HEIGHTS ARE FROM FINISHED FLOOR TO CENTERLINE OF OUTLET BOX, UNLESS OTHERWISE NOTED.
2. REFER TO ARCHITECTURAL DETAILS FOR ADDITIONAL REQUIREMENTS.
3. INSTALL OUTLETS THAT ARE IN CLOSE PROXIMITY ON THE SAME CENTERLINE.
4. MOUNTING HEIGHTS SHOWN HERE ARE TYPICAL UNLESS NOTED OTHERWISE ON DRAWINGS.



DETAIL
TYPICAL MOUNTING HEIGHTS
NOT TO SCALE

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Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage
Seguin, Texas

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No.	Description	Date
FEB-1	Iss. for Bid 1 AHJ Rev.	08/05/2026
FEB-2	Iss. for Bid 2 AHJ Rev.	09/08/2026

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Symbol Legends and Details

Project number	26014
Date	08/05/26
Drawn by	TH
Checked by	GW

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GW ENGINEERING, LLC
FIRM # 23595
4120 OVELOOK CIRCLE, TRUSSVILLE, AL 35173
GWAMAE@GMAIL.COM | 205.413.4112
THOMASTHAM@GMAIL.COM | 205.317.2969

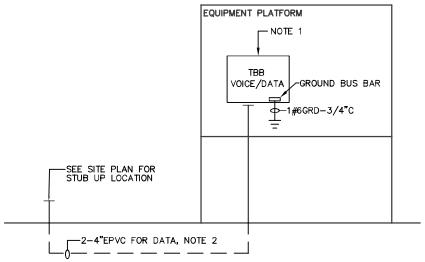
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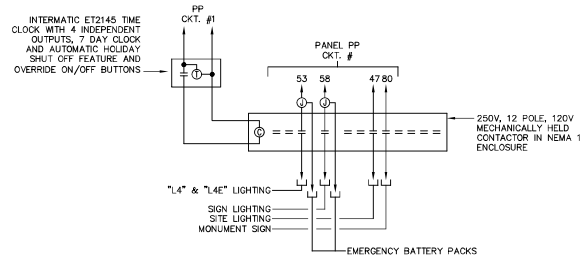
DETAIL
ARC FLASH HAZARD WARNING LABEL
NOT TO SCALE

NOTES:

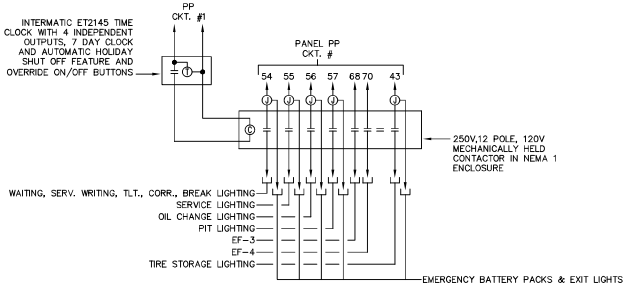
1. 48"x48" FREE STANDING TELEPHONE BACKBOARD. PROVIDE ACCESS AND WORK SPACE CLEARANCE AS REQUIRED BY LOCAL TELECOM UTILITY COMPANY.
2. CONDUIT ELBOWS SHALL BE SWEEPING WITH NO HARD ANGLES.



SINGLE LINE DIAGRAM
AUXILIARY
NOT TO SCALE



WIRING DIAGRAM
CONTACTOR C-2
NOT TO SCALE



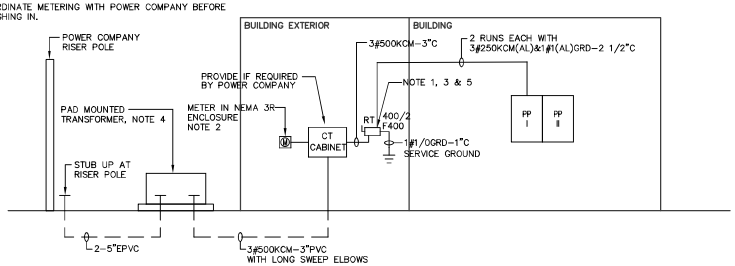
WIRING DIAGRAM
CONTACTOR C-1
NOT TO SCALE

GENERAL NOTES:

1. COORDINATE SERVICE SECONDARY FROM UTILITY TRANSFORMER TO METER WITH POWER COMPANY BEFORE BID AND PRICING. PROVIDE PER POWER COMPANY REQUIREMENTS.
2. EQUIPMENT WITH ALUMINUM FEEDERS SHALL BE PROVIDED WITH DUAL RATED TERMINALS.
3. PROVIDE 120/240V, 1Ø, 400A, UNDERGROUND SERVICE.

NOTES:

1. SERVICE ENTRANCE RATED DISCONNECT SWITCH, NEMA 3R ENCLOSURE
2. COORDINATE METERING WITH POWER COMPANY BEFORE ROUGHING IN.
3. PROVIDE 2"X3" ENGRAVED LABEL WITH BLUE LETTERING INDICATING MAXIMUM AVAILABLE FAULT CURRENT AND DATE OF CALCULATION.
4. UTILITY PAD MOUNTED TRANSFORMER. FURNISH AND INSTALL CONCRETE PAD PER POWER COMPANY REQUIREMENTS. CONTACT UTILITY COMPANY FOR PAD SPECIFICATIONS AND REQUIRED TERMINATIONS AT TRANSFORMER BEFORE BID AND PRICING. INCLUDE COSTS IN BID. COORDINATE EXACT LOCATION OF TRANSFORMER, PROVIDE CLEARANCES AS REQUIRED BY POWER COMPANY.
5. SERVICE DISCONNECT SHALL BE MOUNTED SUCH THAT CENTER OF OPERATING HANDLE SHALL NOT BE LESS THAN 4' AND NOT MORE THAN 6'-7" ABOVE GRADE.



SINGLE LINE DIAGRAM
POWER
NOT TO SCALE

PANEL LOAD SUMMARY

Panel: PP (SECTION I)

Equipment	LIGHT	RCPT	O/M	CB SIZE	CIRCUIT #	PHASE A	PHASE B	CIRCUIT #	CB SIZE	LIGHT	RCPT	O/M	Equipment
CONTACTOR C-1 & C-2			100	20/1	1	100		2	20/1				SPARE
OUTDOOR RECEPTACLE		200		20/1	3		800	4	20/1		600		SERVICE WRITING RECEP.
WAITING ROOM RECEP.		800		20/1	5	1600		6	20/1		800		MANAGER RECEPTACLE
TLT/CORR/BREAK RECEP.		800		20/1	7		1000	8	20/1		200		BREAK RECEPTACLE
SERVICE RECEPTACLE		400		20/1 (GFCI)	9	600		10	20/1		200		BREAK RECEPTACLE
SERVICE RECEPTACLE		400		20/1	11		600	12	20/1		200		BREAK FRIDGE RECEPTACLE
MANAGERS RECEPTACLE		400		20/1	13	800		14	20/1		400		SERVICE RECEPTACLE
SERVICE RECEPTACLE		400		20/1	15		1200	16	20/1		800		COFFEE MAKER
TIRE CHANGER		900		20/2	17	3600		18	30/2		3000		ALIGNMENT LIFT
		900			19		3600	20			3000		
10K LIFT		1440		20/2	21	2880		22	20/2		1440		10K LIFT
		1440			23		2880	24			1440		
10K LIFT		1440		20/2	25	2880		26	20/2		1440		10K LIFT
		1440			27		2880	28			1440		
12K LIFT		1440		20/2	29	2640		30	20/2		1200		WHEEL BALANCER
		1440			31		2640	32			1200		
AIR COMPRESSOR		3360		60/2	33	3360		34	20/1		200		EQUIPMENT PLATFORM RECEP.
		3360			35		3760	36	20/1		400		SERVICE DESK RECEPT.
IRRIGATION CONTROLLER		200		20/1	37	400		38	20/1(GFCI)		200		SERVICE RECEPTACLE
OIL CHANGE RECEPTACLE		600		20/1	39		1200	40	20/1		600		OIL CHANGE RECEPTACLE
PIT SUMP PUMP		200		20/1	41	400		42	20/1		200		OIL CHANGE DESK RECEP.
Sub-Total	0	21560	100			19760	20960			0	18960	0	Sub-Total

TOTAL CONNECTED LOAD PER PHASE		
	Phase A	Phase B
LOAD TYPE		
LIGHTING	0.00	0.00
RECEPTACLES	19660.00	20860.00
MOTORS/OTHER	100.00	0.00
TOTAL	19760.00	20860.00

TOTAL CONNECTED LIGHTING LOAD	0.00	KVA
TOTAL CONNECTED RECEPTACLE LOAD	40.52	KVA
TOTAL CONNECTED MOTOR/OTHER LOAD	0.10	KVA
TOTAL CONNECTED LOAD	40.62	KVA

* Diversified per NEC Table 220.44.

ENCLOSURE	NEMA 1
MOUNTING	SURFACE
MAIN TYPE	ML
SIZE	400A
FEED THRU	YES
FEED	BOTTOM
BUS RATING	400A
SERVICE RATED	NO
MIN FULL EQUIP AIC RATING	22
TYPE	LOAD CENTER
MANUFACTURER	
OTHER	
VOLTS 120/ 240	V 1 Phase, 3 Wire & Grd Bus Bar

PANEL LOAD SUMMARY

Panel: PP (SECTION II)

Equipment	LIGHT	RCPT	O/M	CB SIZE	CIRCUIT #	PHASE A	PHASE B	CIRCUIT #	CB SIZE	LIGHT	RCPT	O/M	Equipment
STORAGE LIGHTING	800			20/1	43	1000		44	20/1		200		OIL CHANGE DESK RECEP.
OIL CHANGE DESK RECEP.		200		20/1	45		400	46	20/1		200		OIL CHANGE DESK RECEP.
SITE LIGHTING	400			20/1	47	400		48	20/1				SPARE
PIT RECEPTACLE		600		20/1	49		800	50	20/1		200		PIT RECEPTACLE
ELECTRIC DRAIN SYSTEM		400		20/1	51	800		52	20/1		400		TSB RECEPTACLE
EXTERIOR LIGHTING	150			20/1	53		470	54	20/1	320			OIL CHANGE/LIGHTING
SERVICE LIGHTING	1638			20/1	55	2366		56	20/1	728			OIL CHANGE/LIGHTING
PIT LIGHTING	540			20/1	57		1890	58	20/1	1350			SIGN LIGHTING
SPARE	400			20/1	59	400		60	20/1				SPARE
FUTURE EV CHARGER				50/2	61		50	62	60/1			50	SPC-1
					63	1680		64	25/2			1680	CHP-1
SPARE	500			20/1	65		2100	66				1680	
EWH-1			2250	25/2	67	3906		68	20/1			1656	EF-3
			2250		69		3906	70	20/1			1656	EF-4
RH-2 & RH-3			100	20/1	71	200		72	20/1		200		EXTERIOR RECEPTACLE
RH-1			100	20/1	73		8100	74	15/1			8000	AHU-1
DRINKING FOUNTAIN		200		20/1	75	8200		76	20/1			8000	
SPARE				20/1	77		400	78	20/1		400		LOT BELL
SPARE				20/1	79	100		80	20/1		100		MONUMENT SIGN
LIFT RECEPTACLE		600		20/1	81		900	82	20/1				SPARE
LIFT RECEPTACLE		600		20/1	83			84	20/1				SPARE
Sub-Total	4428	2600	4700			19162	18796			2398	1600	22822	Sub-Total

TOTAL CONNECTED LOAD PER PHASE				DEMAND LOAD (VA)		
	Phase A	Phase B		DEMAND FACTOR	Phase A	Phase B
LOAD TYPE						
LIGHTING	3966.00	3860.00		1.25	4957.50	3575.00	
RECEPTACLES	21060.00	23060.00		"	13030.00	14630.00	
MOTORS/OTHER	13866.00	13736.00		1.00	13866.00	13736.00	TOTAL DEMAND LOAD
TOTAL	38912.00	39656.00			31873.50	31341.00	SUPPLY VOLTAGE

TOTAL CONNECTED LIGHTING LOAD	6.83	KVA
TOTAL CONNECTED RECEPTACLE LOAD	4.26	KVA
TOTAL CONNECTED MOTOR/OTHER LOAD	27.52	KVA
TOTAL CONNECTED LOAD	38.58	KVA

* Diversified per NEC Table 220.44.

WIRE SIZE CALCULATIONS		
LARGEST PHASE (AMPS)	31.87	KVA
NO. OF PHASES	2.00	
DEMAND LOAD	63.75	KVA
	265.61	AMPS
DEMAND AMPS	265.61	AMPS
MINIMUM CCT AMPS	265.61	AMPS
VOLTS 120/ 240		V 1 Phase, 3 Wire & Grd Bus Bar

ENCLOSURE	NEMA 1
MOUNTING	SURFACE
MAIN TYPE	ML
SIZE	400A
FEED THRU	YES
FEED	TOP
BUS RATING	400A
SERVICE RATED	NO
MIN FULL EQUIP AIC RATING	22
TYPE	LOAD CENTER
MANUFACTURER	
OTHER	

EQUIPMENT ELECTRICAL REQUIREMENTS SCHEDULE

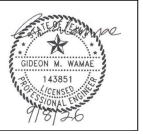
EQUIPMENT	LOCATION	KW	HP	AMP	CIRCUIT BREAKER	DISCONNECT SWITCH/FUSE	CONDUCTORS & CONDUIT	VOLTAGE	CONNECTION
(4) 10K LIFT	SERVICE 9	–	2	12.0	20/2	–	2#12&1#12GRD–3/4"C	240V,1Ø	HARDWIRED
12K LIFT	SERVICE 9	–	2	12.0	20/2	–	2#12&1#12GRD–3/4"C	240V,1Ø	HARDWIRED
AIR COMPRESSOR	STORAGE 12	–	5	28.0	60/2	60/2, F40	2#8&1#10GRD–3/4"C	240V,1Ø	HARDWIRED
TIRE CHANGER	SERVICE 9	–	–	6.0	20/2	30/2	2#12&1#12GRD–3/4"C	240V,1Ø	HARDWIRED
WHEEL BALANCER	SERVICE 9	–	–	20.0	20/2	30/2	2#12&1#12GRD–3/4"C	240V,1Ø	HARDWIRED
ALIGNMENT LIFT	SERVICE 9	–	–	26.0	30/2	30/2, F30	2#10&1#10GRD–3/4"C	240V,1Ø	HARDWIRED

NOTES:

1. CONTRACTOR SHALL COORDINATE REQUIREMENTS SHOWN HERE WITH OWNER BEFORE ROUGHING IN. PROVIDE ELECTRICAL PER OWNER EQUIPMENT VENDOR REQUIREMENTS.

GW ENGINEERING, LLC
FIRM # 23595
4120 OVELOOK CIRCLE, TRUSSVILLE, AL 35173
GWAMAE@GWAMAE.COM | 205.413.4112
TH@GWENGINEERING.COM | 205.317.2969

AHO ARCHITECTS, LLC
www.ahoarch.com



Express Oil Change & Tire Engineers
Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage
Seguin, Texas

FINAL

No.	Description	Date
IFB-1	Iss. for Bid 1 AHJ Rev.	08/05/2026
IFB-2	Iss. for Bid 2 AHJ Rev.	09/08/2026

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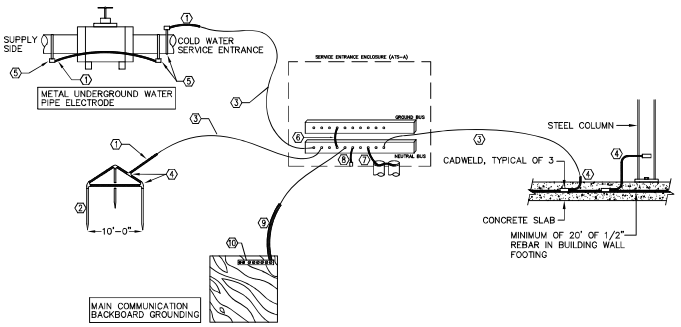
Single Line Diagram & Panelboard Schedules

Project number	26014
Date	08/05/26
Drawn by	TH
Checked by	GW

E102

Scale NO SCALE

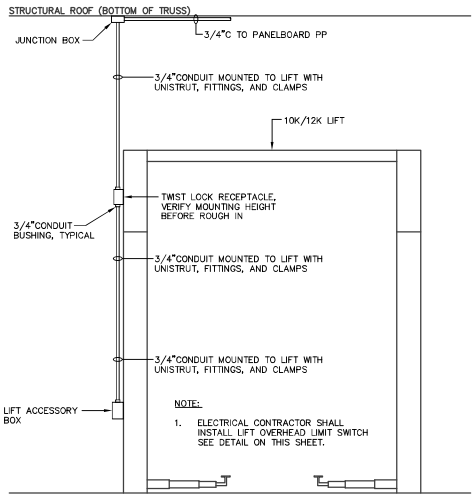
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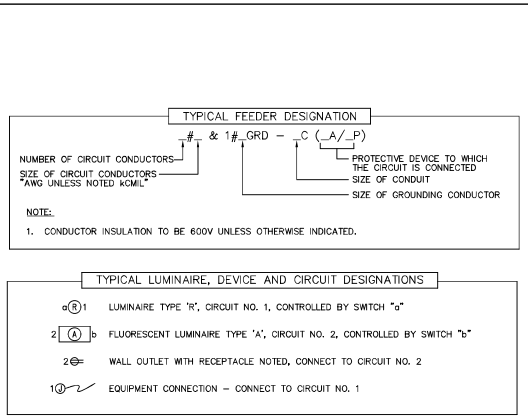
GROUNDING SYSTEM DETAIL
NOT TO SCALE

GROUNDING SYSTEM DETAIL – KEY NOTES

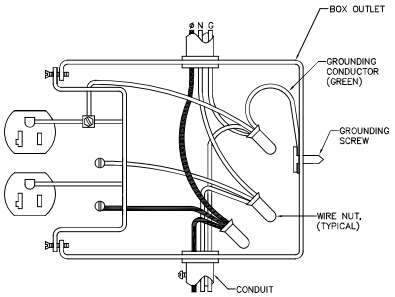
1. 4/0 BARE GROUNDING ELCTRODE CONDUCTOR.
2. 3/4"x10'-0" CLAD STEEL GROUND ROD, DRIVEN 24" BELOW GRADE, MINIMUM.
3. 4/0 BARE GROUNDING ELECTRODE CONDUCTOR IN 2"PVC-40.
4. EXOTHERMIC WELD CONNECTOR:
   TWO CABLES TO GROUND ROD, CADWELD #GT OR #GY
   CABLE TO CABLE TEE, CADWELD #TA
   ONE CABLE TO GROUND ROD, CADWELD #GR
5. CAST BRONZE, UL LISTED GROUND CLAMP, O-Z/GEDNEY TYPE-G.
6. BONDING JUMPER, SIZED BY EQUIPMENT MANUFACTURER PER NEC 250-66.
7. BONDING JUMPER TO GROUNDING BUSHING, AND BONDING JUMPERS FROM CONDUIT TO CONDUIT. ALL CONDUIT CONNECTED TO THE SERVICE ENTRANCE ENCLOSURE SHALL BE BONDED, SIZED PER NEC 250.
8. MAIN BONDING JUMPER, SIZED BY MANUFACTURER PER 250-66.
9. 4/0 BARE BONDING JUMPER.
10. 6 CONDUCTOR GROUND BUS, COPPER OR ALUMINUM RATED, ILSCO #PDE.



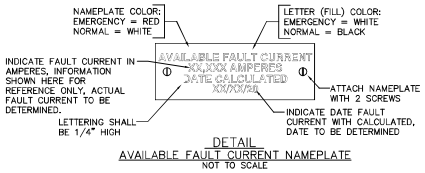
ELEVATION
LIFT POWER DETAIL
NOT TO SCALE



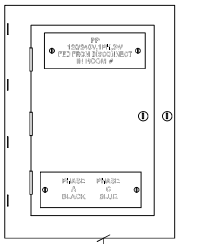
DETAIL
WIRING DESIGNATION
NOT TO SCALE



DETAIL
RECEPTACLE INSTALLATION
NOT TO SCALE



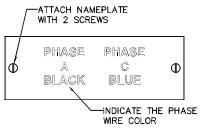
DETAIL
AVAILABLE FAULT CURRENT NAMEPLATE
NOT TO SCALE



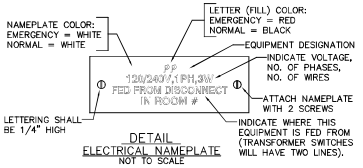
24"

FINISHED FLOOR

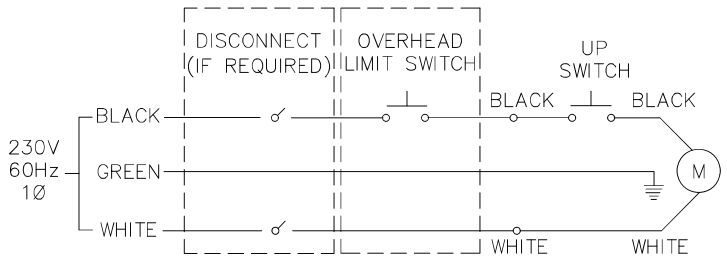
DETAIL
120/240V PANELBOARD INSTALLATION & NAMEPLATE DETAIL
NOT TO SCALE



DETAIL
120/240V PANELBOARD
ELECTRICAL NAMEPLATE
NOT TO SCALE



DETAIL
ELECTRICAL NAMEPLATE
NOT TO SCALE



LIFT LIMIT SWITCH
WIRING DETAIL
NOT TO SCALE

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143851
LICENSED
PROFESSIONAL ENGINEER
9/8/26

Express Oil Change & Tire Engineers
Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage
Seguin, Texas

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Details

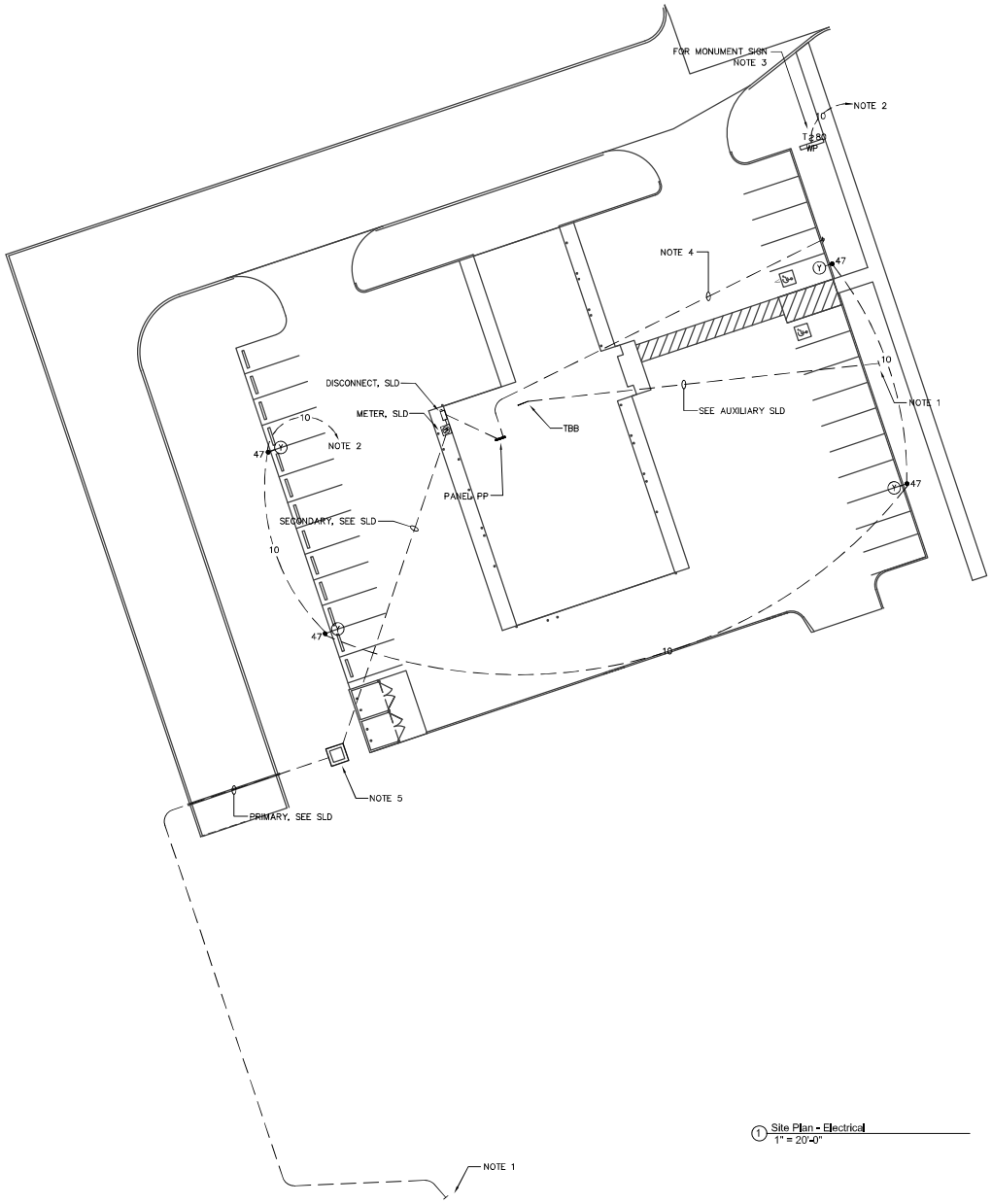
Project number	26014
Date	08/05/26
Drawn by	TH
Checked by	GW

E103

Scale NO SCALE

GW ENGINEERING, LLC
FIRM # 22595
4120 OVELOOK CIRCLE, TRUSSVILLE, AL 35173
GWAMAE@GWENG.COM | 205.413.4112
TH@GWENGINEERING.COM | 205.317.2969

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1 Site Plan - Electrical
1" = 20'-0"

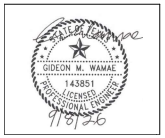


NOTES:

1. VERIFY EXACT LOCATION OF STUB UP BEFORE ROUGH IN.
2. HOMERUN TO PANELBOARD PP THROUGH LIGHTING CONTACTOR C-2.
3. LOCATION OF MONUMENT SIGN SHOWN HERE IS FOR CIRCUIT INFORMATION ONLY. VERIFY EXACT LOCATION OF MONUMENT SIGN WITH CIVIL AND OWNER PRIOR TO ROUGH IN.
4. PROVIDE 1-1" EMPTY CONDUIT. HOMERUN TO PANEL PP FOR FUTURE EV CHARGING STATION. VERIFY EXACT LOCATION OF CHARGING STATION AND STUB UP WITH ARCHITECT AND CIVIL PRIOR TO INSTALLATION.
5. UTILITY PAD MOUNTED TRANSFORMER. FURNISH AND INSTALL CONCRETE PAD PER POWER COMPANY REQUIREMENTS. CONTACT UTILITY COMPANY FOR PAD SPECIFICATIONS AND REQUIRED TERMINATIONS AT TRANSFORMER BEFORE BID AND PRICING. INCLUDE COST IN BID.

GW ENGINEERING, LLC
FIRM # 23595
4120 OVELOOK CIRCLE, TRUSSVILLE, AL 35173
GWAMAE@GWENG.COM | 205.413.4112
TH@GWENGINEERING.COM | 205.317.2969

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Site Plan - Electrical

Project number	26014
Date	08/05/26
Drawn by	TH
Checked by	GW

E104

Scale 1" = 20'-0"

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GENERAL NOTES:

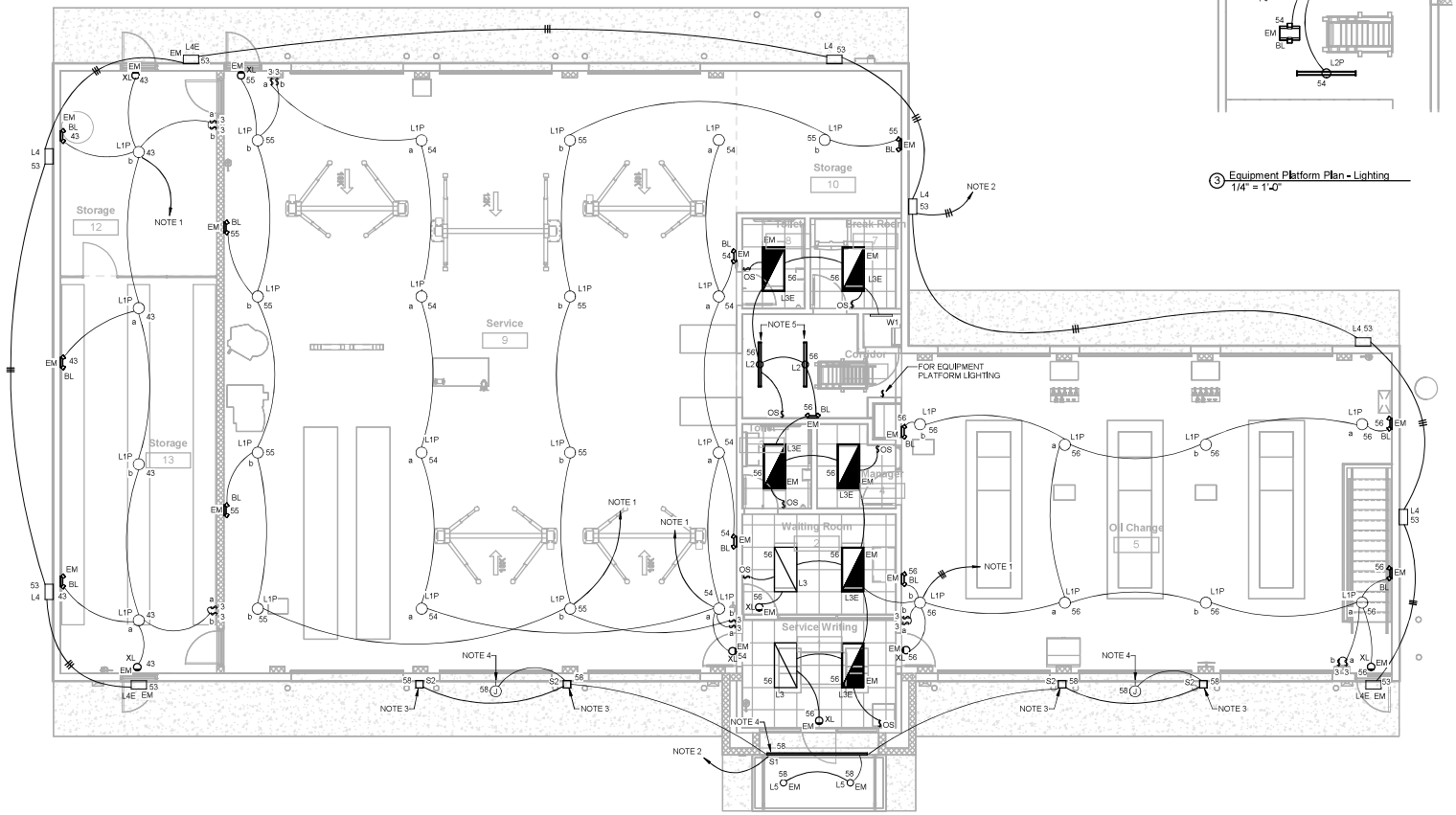
1. CONNECT ALL "BL", "XL" AND EMERGENCY BATTERY PACKS IN FIXTURES MARKED "EM" TO UNSWITCHED HOT LEG OF CIRCUIT.
2. ENSURE LIGHTING FIXTURES L1 AND L2 DO NOT CONFLICT WITH OVERHEAD DOORS.
3. FOR THE LIGHTING PACKAGE PRICING CONTACT THE FOLLOWING:

   MIKE MCMAKEN
   REXEL ENERGY SOLUTIONS
   (M) 906 - 235 - 2979
   MIKE.MCMAKEN@REXELENERGY.COM

   STEPHEN MITCHELL
   MAXLITE
   (M) 908-256-3115
   SMITCHELL@MAXLITE.COM
4. ALL CONDUIT CROSSING OVERHEAD DOORS SHALL BE MOUNTED AS TIGHT TO THE STRUCTURE AS POSSIBLE TO AVOID CONFLICT WITH THE OVERHEAD DOOR TRACK.
5. OIL CHANGE BUILDING IS A MINOR REPAIR GARAGE AND IS UNCLASSIFIED. SEE MECHANICAL DRAWINGS FOR PROVIDED VENILATION.
6. ALL L1P FIXTURES SHALL BE INSTALLED SO THAT THE FIXTURES HANG JUST BELOW THE OVERHEAD DOOR TRACK WHILE THEY ARE OPEN. COORDINATE EXACT LOCATION OF FIXTURES TO ENSURE FIXTURES ARE NOT MOUNTED ABOVE HEATERS.

NOTES:

1. HOMERUN TO 20A, 1POLE CIRCUIT BREAKER IN PANELBOARD PP THROUGH LIGHTING CONTACTOR C-1. SEE DETAIL ON SHEET E102.
2. HOMERUN TO 20A, 1POLE CIRCUIT BREAKER IN PANELBOARD PP THROUGH LIGHTING CONTACTOR C-2. SEE DETAIL ON SHEET E102.
3. JUNCTION BOX FOR SIGN COMPANY PROVIDED FIXTURE SHALL BE MOUNTED FLUSH WITH EXTERIOR FACE OF WALL AT 60" ABOVE GRADE ON CENTER.
4. JUNCTION BOX FOR SIGN COMPANY PROVIDED FIXTURE SHALL BE MOUNTED ON EXTERIOR FACE OF WALL AT 17'AFF. COORDINATE EXACT LOCATION WITH SIGN LIGHTING INSTALLER BEFORE ROUGHING IN.
5. SURFACE MOUNT FIXTURE TO CEILING IN THIS AREA.
6. CONNECT TO LIGHTING BRANCH CIRCUIT ON MAIN LEVEL. CONNECT TO LIGHT SWITCH ON MAIN LEVEL.



1 Main Level Plan - Lighting
3/16" = 1'-0"

3 Equipment Platform Plan - Lighting
1/4" = 1'-0"

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9/8/26

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Main Level Plan - Lighting

Project number	26014
Date	08/05/26
Drawn by	TH
Checked by	GW

E200

Scale: As indicated

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FIRM # 21556
4120 OVELOOK CIRCLE, TRUSSVILLE, AL 35173
GWAMAE@GWMENG.COM | 205.413.4112
THOMAS@THWM@GMAIL.COM | 205.217.2989

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GENERAL NOTES:

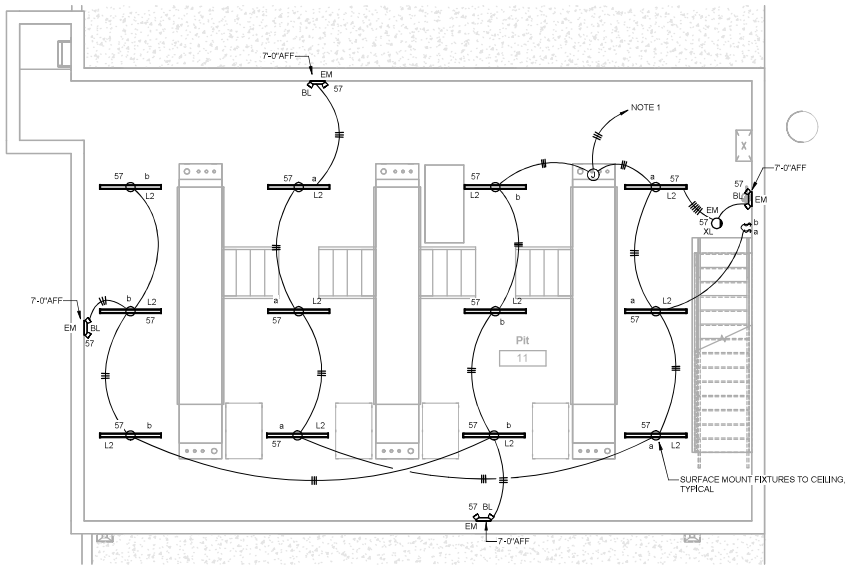
1. CONNECT ALL "BL", "XL" AND EMERGENCY BATTERY PACKS IN FIXTURES MARKED "EM" TO UNSWITCHED HOT LEG OF CIRCUIT.
2. FOR THE LIGHTING PACKAGE PRICING CONTACT THE FOLLOWING:

   MIKE MCMAKEN
   REXEL ENERGY SOLUTIONS
   (M) 906 - 235 - 2979
   MIKE.MCMAKEN@REXELENERGY.COM

   STEPHEN MITCHELL
   MAXLITE
   (M) 908-256-3115
   SMITCHELL@MAXLITE.COM
3. OIL CHANGE BUILDING IS A MINOR REPAIR GARAGE AND IS UNCLASSIFIED. SEE MECHANICAL DRAWINGS FOR PROVIDED VENILATION.
4. ADJUST LIGHT FIXTURES AS NEEDED TO AVOID CONFLICT WITH STRUCTURAL STEEL.

NOTES:

1. HOMERUN TO 20A, 1POLE CIRCUIT BREAKER IN PANELBOARD PP THROUGH LIGHTING CONTACTOR C-1.



1 Pit Level Plan - Lighting
1/4" = 1'-0"

PLAN NORTH

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Pit Level Plan - Lighting

Project number	26014
Date	08/05/26
Drawn by	TH
Checked by	GW

E201

Scale 1/4" = 1'-0"

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FIRM # 21556
4120 OVELOOK CIRCLE, TRUSSVILLE, AL 35173
GWAMAE@GWMENG.COM | 205.413.4112
THOMAS@THWM@GMAIL.COM | 205.217.2989

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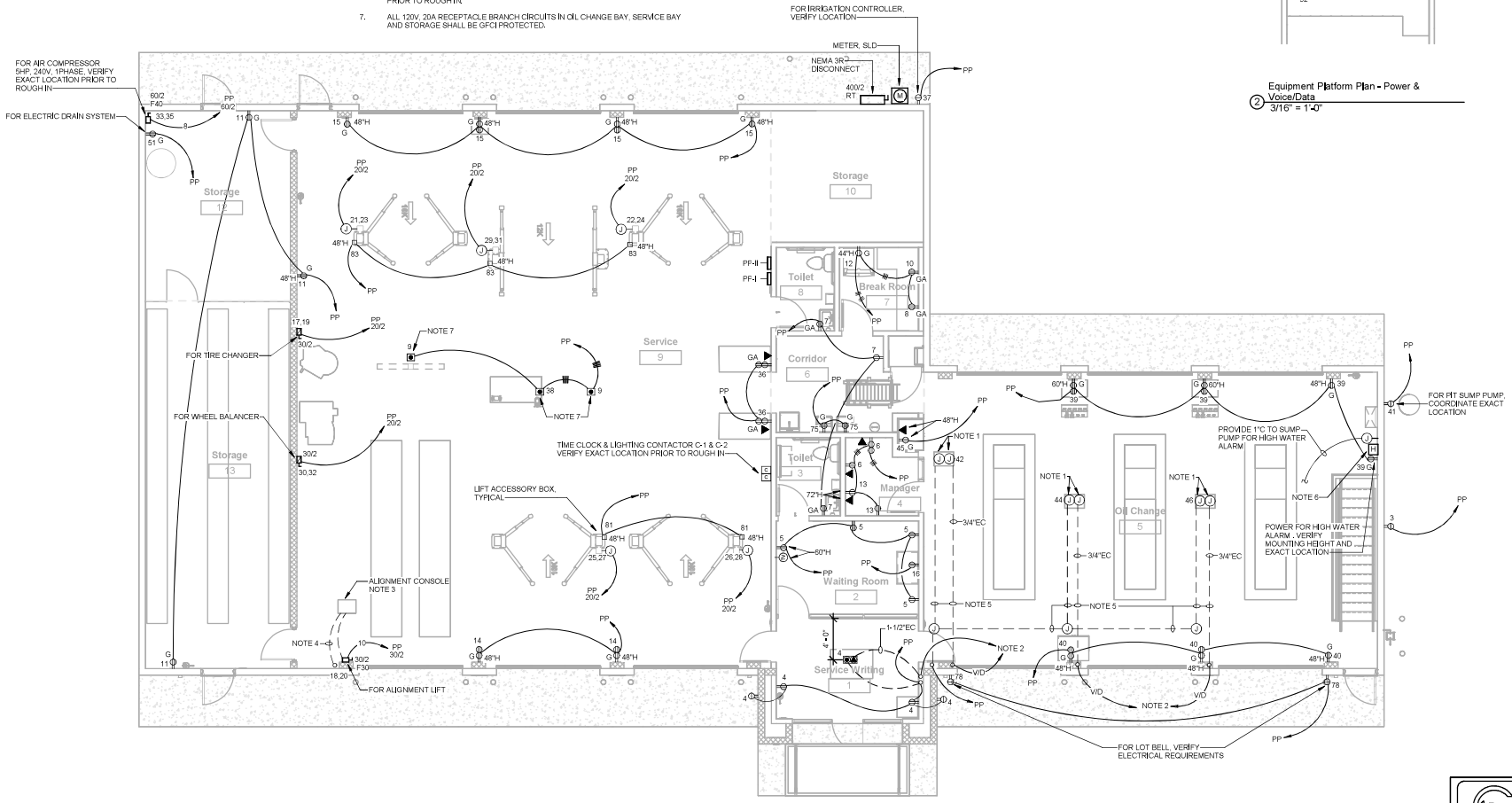
NOTES:

1. 3/4" CONDUIT STUBBED UP 18" INTO WORK PEDESTAL BASE POST. PROVIDE FLEXIBLE CONDUIT INTO WORK PEDESTAL CABINET. COORDINATE OUTLET REQUIREMENTS PRIOR TO ROUGH IN.
2. HOMERUN 3/4"EC TO TELEPHONE BACKBOARD.
3. LOCATIONS SHOWN HERE ARE APPROXIMATE. FIELD COORDINATE EXACT LOCATION OF CONSOLE & CONDUIT WITH OWNER & ALIGNMENT LIFT SHOP DRAWINGS BEFORE ROUGH-IN.
4. PROVIDE 1 1/2" EMPTY CONDUIT FROM CONSOLE, STUBBED 8" UP ON INSIDE FACE OF EXTERIOR WALL.
5. CONDUIT FOR WORK PEDESTALS IN OIL CHANGE AREA SHALL BE MOUNTED/ROUTED ON THE CEILING OF THE PIT IN LIEU OF IN THE SLAB.
6. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ZOELLER - Z CONTROL APAK INDOOR ALARM WITH MECHANICAL FLOAT, MODEL # 10-4014. SEE MANUFACTURERS INSTALLATION INSTRUCTIONS PRIOR TO ROUGH IN. PROVIDE BATTERIES.
7. CONTRACTOR SHALL PROVIDE UNISTRUT SPANNING BETWEEN BAR JOISTS FOR MOUNTING OF CEILING RECEPTACLES.
8. COORDINATE EXACT LOCATION OF TELEPHONE BACKBOARD PRIOR TO INSTALLATION. ENSURE TBB DOES NOT CONFLICT WITH MECHANICAL EQUIPMENT AND PIPING.

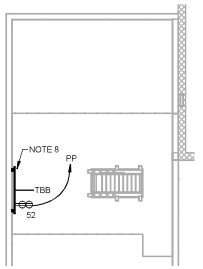
GENERAL NOTES:

1. CONTRACTOR SHALL VERIFY/COORDINATE LOCATION OF ALL POWER & DATA OUTLETS FOR EQUIPMENT. OBTAIN OWNER'S APPROVAL BEFORE ROUGH IN. NO EXCEPTIONS. NO ADDITIONAL COMPENSATION SHALL BE AWARDED FOR ANY ADDITIONAL WORK REQUIRED TO RELOCATE OUTLETS DUE TO CONTRACTOR'S FAILURE TO COORDINATE WITH OWNER.
2. ALL HORIZONTAL CONDUIT RUNS SHALL BE A MINIMUM OF 8' ABOVE FINISHED FLOOR EXCEPT FOR DROPS. ENSURE CONDUIT DOES NOT CONFLICT WITH OVERHEAD DOOR.
3. OIL CHANGE BUILDING IS A MINOR REPAIR GARAGE AND IS UNCLASSIFIED. SEE MECHANICAL DRAWINGS FOR PROVIDED VENILATION.
4. EXPRESS OIL CHANGE HAS OBTAINED EQUIPMENT AVALABILITY AND SPECIAL VOLUME PRICING ON POWER EQUIPMENT AND LIGHTING CONTROL PACKAGES FROM REXEL. SEE CONTACT. BELOW FOR PRICING AND INFORMATION:

   MIKE MCMAKEN
   REXEL ENERGY SOLUTIONS
   (M) 906-235-2979
   MIKE.MCMAKEN@REXELENERGY.COM
5. ALL CONDUIT CROSSING OVERHEAD DOORS SHALL BE MOUNTED AS TIGHT AS POSSIBLE TO THE STRUCTURE TO AVOID CONFLICT WITH THE OVERHEAD DOOR TRACK.
6. FINAL EQUIPMENT CONNECTIONS - CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL LABOR AND MATERIALS REQUIRED TO MAKE FINAL ELECTRICAL CONNECTIONS TO ALL EQUIPMENT FURNISHED BY THIS CONTRACTOR AND/OR FURNISHED BY OTHERS. VERIFY ALL ELECTRICAL REQUIREMENTS WITH EQUIPMENT SUPPLIER PRIOR TO ROUGH IN.
7. ALL 120V, 20A RECEPTACLE BRANCH CIRCUITS IN OIL CHANGE BAY, SERVICE BAY AND STORAGE SHALL BE GFCI PROTECTED.



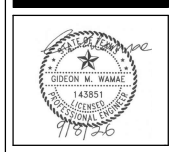
1 Main Level Plan - Power & Voice/Data
3/16" = 1'-0"



2 Equipment Platform Plan - Power & Voice/Data
3/16" = 1'-0"

PLAN NORTH

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Express Oil Change & Tire Engineers

Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

Seguin, Texas

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Main Level Plan - Power & Voice/Data

Project number	26014
Date	08/05/26
Drawn by	TH
Checked by	GW
Scale	3/16" = 1'-0"

E300

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FIRM # 21556
4120 OVELOOK CIRCLE, TRUSSVILLE, AL 35173
GWAMAE@GWENG.COM | 205.413.4112
THOMAS@THWM@GMAIL.COM | 205.217.2989

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GENERAL NOTES:

1. OIL CHANGE BUILDING IS A MINOR REPAIR GARAGE AND IS UNCLASSIFIED. SEE MECHANICAL DRAWINGS FOR PROVIDED VENILATION.

4. EXPRESS OIL CHANGE HAS OBTAINED EQUIPMENT AVALABILITY AND SPECIAL VOLUME PRICING ON POWER EQUIPMENT AND LIGHTING CONTROL PACKAGES FROM REXEL. SEE CONTACTS BELOW FOR PRICING AND INFORMATION:

JEFFREY PARKER
REXEL
(M) 508-916-7758
JEFFREY.PARKER@REXELUSA.COM

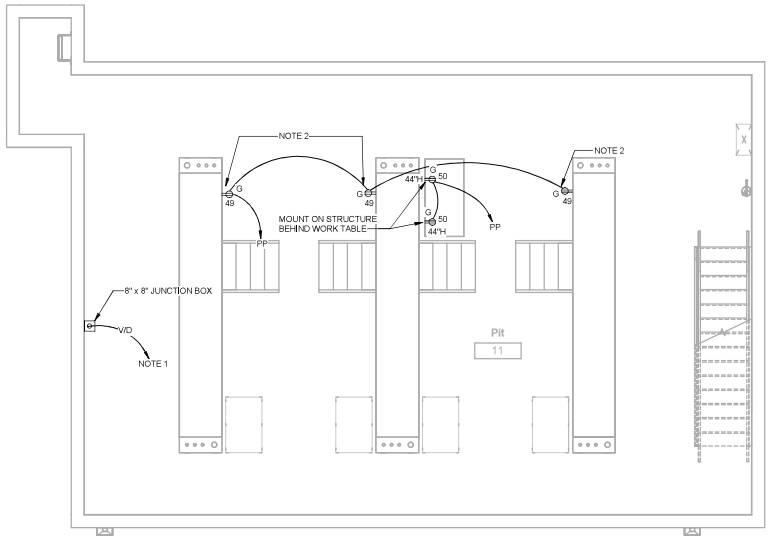
COLIN BLACK
REXEL
COLIN.BLACK@REXELUSA.COM

MIKE MCMAKEN
REXEL ENERGY SOLUTIONS
(M) 905-296-2979
MIKE.MCMAKEN@REXELENERGY.COM

NOTES:

1. 2"EC HOMERUN TO TELEPHONE BACKBOARD ON EQUIPMENT PLATFORM.

2. MOUNT RECEPTACLES ONTO STRUCTURAL COLUMN.



1 Pit Level Plan - Power & Voice/Data
1/4" = 1'-0"

PLAN NORTH

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143851
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Pit Level Plan - Power & Voice/Data

Project number	26014
Date	08/05/26
Drawn by	TH
Checked by	GW
Scale	1/4" = 1'-0"

E301

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FIRM # 21556
4120 OVELOOK CIRCLE, TRUSSVILLE, AL 35173
GWAMAE@GWENG.COM | 205.413.4112
THOMAS@THWM@GWHOLDCO.COM | 205.217.2989

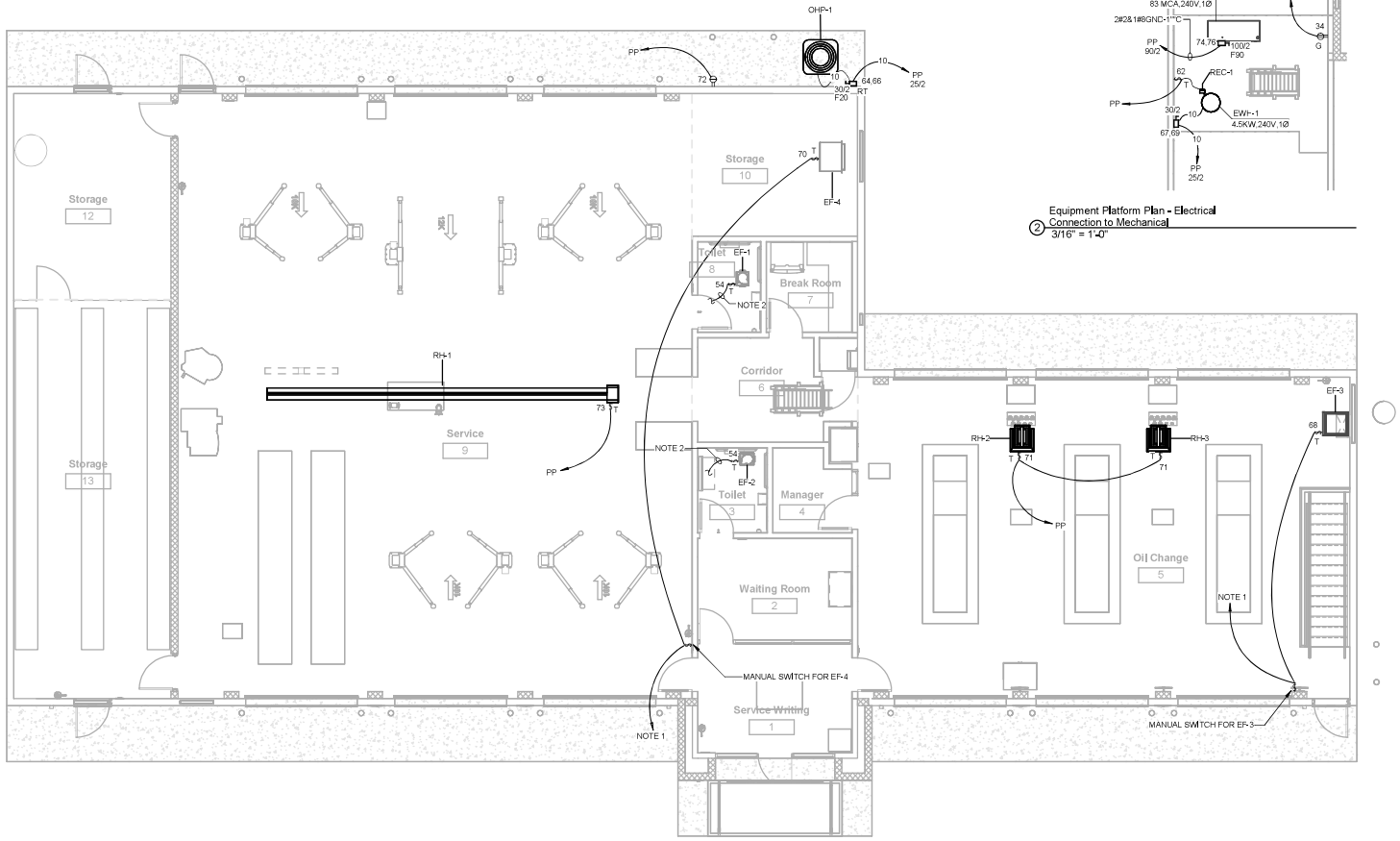
9/11/2025 10:06:02 AM

GENERAL NOTES:

1. OIL CHANGE BUILDING IS A MINOR REPAIR GARAGE AND IS UNCLASSIFIED. SEE MECHANICAL DRAWINGS FOR PROVIDED VENILATION.

NOTES:

1. CONNECT TO 20A, 1POLE CIRCUIT BREAKER IN PANELBOARD PP THROUGH LIGHTING CONTACTOR C-1. SEE WIRING DIAGRAM ON SHEET E102 FOR MORE INFORMATION.
2. CONNECT TO LIGHTING CIRCUIT AND CONTROLS IN THIS AREA.

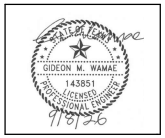


Main Level Plan - Electrical Connection to Mechanical
3/16" = 1'-0"

Equipment Platform Plan - Electrical Connection to Mechanical
3/16" = 1'-0"

PLAN NORTH

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Main Level Plan - Elec. Conn. to Mech.

Project number	26014
Date	08/05/26
Drawn by	TH
Checked by	GW

E400

Scale 3/16" = 1'-0"

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FIRM # 21556
4120 OVELOOK CIRCLE, TRUSSVILLE, AL 35173
GWAMAE@GWENG.COM | 205.413.4112
THOMAS@THWM@GWHD.COM | 205.217.2989

9/11/2025 10:06:10 AM

SECTION 16010 - ELECTRICAL SPECIFICATIONS

GENERAL REQUIREMENTS

A. Carefully examine General Conditions, other specification Sections, and other drawings (in addition to electrical). In order to be fully acquainted with their effect on electrical work.

B. Do all work in compliance with laws and ordinances and local authorities having jurisdiction and, where applicable, utility companies. Obtain and pay for any and all required permits, inspections, certificates of inspections and approval, and the like, and deliver such certificates to the Architect.

C. Cooperate with other trades and contractors at job. Perform work in such manner and at such times as not to delay work of other trades. Complete all work as soon as the condition of the structure and installation of equipment will permit. Patch, in a satisfactory manner and by the proper craft, any work damaged by electrical work.

D. All equipment (wiring devices, light fixtures, panelboards, disconnect switches, conductors, raceways, boxes, cabinets, circuit breakers, low voltage equipment, auxiliary systems, motors, machines, etc.) used for this project shall be tested by Underwriter's Laboratories, Inc and have "UL" name/plate.

E. Coordinate placement of equipment above ceiling to facilitate proper clearance for serving of equipments.

F. Take finish dimensions at the job site in preference to scale dimensions.

G. Obtain from manufacturer's data on all equipment, the dimensions of which may affect electrical work. Use this data to coordinate proper service characteristics, entry locations, etc., and to ensure minimum clearances are maintained.

H. The electrical contractor shall have had experience of at least the same size and scope as this project, on at least two other projects, within the last 5 years in order to be qualified to bid this project. This qualification shall also apply to his subcontractors.

I. Workmen shall be experienced in their respective trade. Workmanship of installed work shall be first class and will be so judged by the Architect/Engineer. Substandard work shall be removed and replaced.

J. The Bidders shall visit the site to thoroughly familiarize themselves with existing conditions prior to submitting their bid. No allowances will be made for lack of knowledge of existing conditions.

K. Provide one-Year warranty of conformance with drawings and specifications. In addition to the foregoing warranty, Contractor shall and does hereby warrant all materials and equipment furnished under this Division of the Specifications to be free from defects and to function or operate satisfactorily for one year after final acceptance of the work, and that any items not meeting this requirement will be made good by him without cost to owner, provided such defects or failures are not due to abuse, neglect, or lack of reasonable and ordinary maintenance.

L. Unless otherwise specified, provide only new, standard first grade materials throughout, conforming to standards established by Underwriter's Laboratories, Inc., and so marked and labeled, together with manufacturer's brand or trademark. All equipment subject to approval of Architect/Engineer before installation. All like items shall be of one manufacture.

M. Any equipment or materials shown on the drawings to be removed and reinstalled shall be cleaned and, if necessary repaired to like new condition prior to reinstallation.

N. Where shown on the drawings or specified herein, furnish and install electrical equipment. Furnish all materials, hardware, equipment, labor and services required for the installation of complete and properly working installations as shown on the drawings and described herein.

O. All work shall be executed in a workmanlike manner and shall present a neat and mechanical appearance upon completion. Care shall be exercised that all items are plumb, straight, level.

P. Equipment grounding conductors shall be bonded at each enclosure and pole base. All equipment grounding conductors shall be connected to a common bus, bonded to the equipment enclosure.

Q. An equipment grounding jumper shall be installed from the receptacle ground terminal to the outlet box.

CONDUITS

A. Conduit: Rigid and IMC shall be galvanized outside and inside by hot dipping. EMT shall be Electro_Galvanized. Conduit shall be as manufactured by Republic, Wheatland, Triangle, Pittsburgh Standard, Youngstown, or Allied.

B. Sealtight flexible metal conduit shall consist of flexible galvanized steel tubing with a liquidtight jacket of PVC. All flexible conduit shall have a copper bonding conductor wound into conduit body.

C. Couplings and connectors on rigid and IMC shall be standard threaded type, galvanized outside and inside by hot dipping. Clamp type and threadless are not acceptable. Couplings and connectors, for rigid and IMC shall be as manufactured by Raco or Appleton.

D. EMT connectors shall be steel, set screw unless required by code to be compression type, equipped with insulating throats. Connectors couplings shall be O-Z/Gedney 7000ST or 7000RST series. T & B 5123 - 5623 series, Midwest Electric series 1650, or equal series of Raco. Cast metal couplings will not be approved for any location.

E. EMT couplings shall be steel, set screw unless required by code to be compression type. Couplings shall be O-Z/Gedney 6000S or 6000RS series, T & B 5120 - 5620 series, Midwest Electric series 660, or equal series of Raco. Cast metal connectors will not be approved for any location.

F. Connectors raintight: Meyers or approved equal.

G. Bushings on rigid and IMC shall be threaded malleable iron with integral noncombustible insulator. Rigid and IMC bushings shall be O-Z/Gedney "BC" series, T & B BM series, Midwest Electric series 1031 - 1043 or equal by Penn Union. Grounding bushings shall be O-Z/Gedney "BC-L" series, T & B 3870 - 3999 series, Midwest Electric GLL series or equal by Penn Union.

H. Watertight Flex Connectors: O-Z/Gedney, Raco, or Midwest Electric with insulating throat.

I. EMT conduit with set screw shall be used for all branch circuits, power feeders, auxiliary, signaling and controls circuits in none hazardous dry locations for 2" and smaller, EMT may be used exposed where not subject to physical damage, EMT with compression fitting may be used in damp locations up to the 2" limit. Otherwise use rigid or intermediate hot dipped galvanized inside and out steel, threaded for screwed fitting only conduits unless specified on the drawings otherwise.

J. Conduits shall be sized in accordance with the latest National Electrical Code except that conduits containing more than two conductors shall be sized based on 35% fill and 3/4" conduit shall contain no wire larger than #10 and no more than 6#12 or 4#10 wires. Conduit shall be sized larger than required above when so shown on the drawings or when required by local Code. Minimum size conduit shall be 3/4".

K. Where conduit enters boxes, they shall be secured in place with approved insulating fittings.

L. The use of running threads is absolutely prohibited. All conduit shall be jointed with approved conduit couplings. All couplings on IMC and rigid conduit shall be threaded.

M. All conduits shall be supported within 3 feet of each coupling, fitting, outlet box, junction box, cabinet or equipment enclosure Conduit supports shall be independent of ducts, plumbing piping, ceiling supports, etc. Conduits shall not be supported by junction boxes, pull boxes, fixtures, etc.

N. All exposed conduit threads, metal supports, etc., exposed to the elements or exterior of building shall be painted with rust preventive paint.

CONDUCTORS

A. Conductors for general use, sized #10 and smaller, shall be solid copper. Conductors #8 and larger, and any size to motors or vibrating equipment shall be stranded copper.

B. All conductor insulation shall be 600 volt THHN/THWN.

C. Wire connections, #10 and smaller connections shall be made with insulated wire connectors with steel spring connector threads. Wire connectors shall be "Twister" Wire-Nut series as manufactured by Ideal Industries, Inc. or approved equal.

D. On wire larger than #10, shall be made with approved solderless connectors and covered with Scotch #33 electrical tape so that the insulation is equal to conductor insulation.

E. Connection of stranded conductors, #6 and larger, to bus bars in switchboards, panelboards, equipment enclosures, junction boxes, etc., shall be made with individual lugs, size as required by conductor, bolted to bus bar with full size bolts and nuts with lock washers.

F. Conductors and conduits shall be continuous between outlets.

G. No conductor shall be pulled until conduit is cleaned of all foreign matter.

H. Where installed in panelboards, cabinets, wireways, switches and equipment wire and cable shall be neatly formed and tied.

I. Conductors sized #10 AWG and below shall have permanently colored insulation. Conductors sized #8 AWG and above shall be color coded by either permanently colored insulation or by means of colored tape applied to the conductor within 12" of each termination and in each enclosure, junction box, etc.

JUNCTION BOXES

A. Shall be standard type, with knockouts, made of hot dipped galvanized steel, Steel City, Raco, Appleton, or Bowers.

B. Ceiling outlet boxes shall be 4" octagon 1-1/2" deep or larger as required due to number of wires.

C. Boxes shall be provided with approved 3/8" fixture studs when required to support stem mounted light fixtures.

D. Except when located in exposed concrete block, switch and receptacle boxes shall be 4" square with trim ring for single gang installation. Appropriate gang boxes shall be used for mounting ganged switches.

E. When installed in exposed concrete block, switch and receptacle boxes shall be square type designed for exposed block installation.

F. Outlet boxes shall be securely fastened to structural members and shall not be supported by dry wall, gypsum board, plaster, etc. The device or plate installed in conjunction with the outlet box shall not be used for support. There shall be no more knockouts opened in any outlet box than are required. Boxes shall be sealed during construction.

G. Under no circumstances shall through-the-wall boxes be used. Back to back boxes shall be staggered at least 3 inches, except in fire rated partitions, in which case, back to back boxes shall be staggered at least 24 inches.

H. Outlet boxes two gangs and wider shall not be supported by attachment clips or any means which supports the boxes from less than two opposite sides of the box. Such outlet boxes in stud walls shall be supported securely by support members spanning between studs.

I. Outlet boxes installed in fire rated partitions shall be boxed in with wall board or other suitable fire rated material as required to maintain or restore the fire rating of the assembly.

WIRING DEVICES

A. Manufacturers' Names: Shortened versions (shown in parentheses) of the following manufacturers' names are used in other Part 2 articles:

1. Cooper Wiring Devices; a division of Cooper Industries, Inc. (Cooper).
2. Hubbell Incorporated; Wiring Device-Kellems (Hubbell).
3. Leviton Mfg. Company Inc. (Leviton).
4. Pass & Seymour/Legrand; Wiring Devices & Accessories (Pass & Seymour).

B. Convenience Receptacles, 125 V, 20 A: Comply with NEMA WD 1, NEMA WD 6 configuration 5-20R, and UL 498.

1. Products: Subject to compliance with requirements, provide one of the following:
   a. Cooper; 5351 (single), 5352 (duplex).
   b. Hubbell; HBL5351 (single), CR5352 (duplex).
   c. Leviton; 5891 (single), 5352 (duplex).
   d. Pass & Seymour; 5381 (single), 5352 (duplex).

C. Duplex GFCI Convenience Receptacles, 125 V, 20 A:

1. Products: Subject to compliance with requirements, provide one of the following:
   a. Cooper; GF20.
   b. Pass & Seymour; 2084.

A. Switches, 120/277 V, 20 A:

1. Products: Subject to compliance with requirements, provide one of the following:
   a. Cooper; 2221 (single pole), 2222 (two pole), 2223 (three way), 2224 (four way).
   b. Hubbell; CS1221 (single pole), CS1222 (two pole), CS1223 (three way), CS1224 (four way).
   c. Leviton; 1221-2 (single pole), 1223-2 (two pole), 1223-2 (three way), 1224-2 (four way).
   d. Pass & Seymour; 20AC1 (single pole), 20AC2 (two pole), 20AC3 (three way), 20AC4 (four way).

B. Single and combination plate types to match corresponding wiring devices.

1. Plate-Securing Screws: Metal with head color to match plate finish.
2. Material for Finished Spaces: stainless steel, 302 0.04-inch- (1-mm-) thick.
3. Material for Unfinished Spaces: Galvanized steel.
4. Material for Damp Locations: Cast aluminum with spring-loaded lift cover, and listed and labelled for use in "wet locations."

F. Wet Location, Weatherproof Cover Plates: NEMA 250, complying with type 3R weather-resistant, extra duty, die-cast aluminum with lockable in-use cover.

G. Color: Wiring device catalog numbers in Section Text do not designate device color.

1. Wiring Devices Connected to Normal Power System: Gray unless otherwise indicated or required by NFPA 70 or device listing.
2. Wiring Devices Connected to Emergency Power System: Red.

H. Comply with NECA 1, including the mounting heights listed in that standard, unless otherwise noted.

I. Coordination with Other Trades:

1. Take steps to insure that devices and their boxes are protected. Do not place wall finish materials over device boxes and do not cut holes for boxes with routers that are guided by riding against outside of the boxes.
2. Keep outlet boxes free of plaster, drywall joint compound, mortar, cement, concrete, dust, paint, and other material that may contaminate the raceway system, conductors, and cables.
3. Install device boxes in brick or block walls so that the cover plate does not cross a joint unless the joint is troweled flush with the face of the wall.
4. Install wiring devices after all wall preparation, including painting, is complete.

J. Conductors:

1. Do not strip insulation from conductors until just before they are spliced or terminated on devices.
2. Strip insulation evenly around the conductor using tools designed for the purpose. Avoid scoring or nicking of solid wire or cutting strands from stranded wire.
3. The length of free conductors at outlets for devices shall meet provisions of NFPA 70, Article 300, without pigtails.
4. Existing Conductors:
   a. Cut back and pigtail, or replace all damaged conductors.
   b. Straighten conductors that remain and remove corrosion and foreign matter.
   c. Pigtailing existing conductors is permitted provided the outlet box is large enough.

K. Device Installation:

1. Replace all devices that have been in temporary use during construction or that show signs that they were installed before building finishing operations were complete.
2. Keep each wiring device in its package or otherwise protected until it is time to connect conductors.
3. Do not remove surface protection, such as plastic film and smudge covers, until the last possible moment.
4. Connect devices to branch circuits using pigtails that are not less than 6 inches (152 mm) in length.
5. When there is a choice, use side wiring with binding-head screw terminals. Wrap solid conductor tightly clockwise, 2/3 to 3/4 of the way around terminal screw.
6. Use a torque screwdriver when a torque is recommended or required by the manufacturer.
7. When conductors larger than No. 12 AWG are installed on 15- or 20-A circuits, splice No. 12 AWG pigtails for device connections.
8. Tighten unused terminal screws on the device.
9. When mounting into metal boxes, remove the fiber or plastic washers used to hold device mounting screws in yokes, allowing metal-to-metal contact.

L. Receptacle Orientation:

10. Install ground pin of vertically mounted receptacles up, and on horizontally mounted receptacles to the right.
11. Install hospital-grade receptacles in patient-care areas with the ground pin or neutral blade at the top.

M. Device Plates: Do not use oversized or extra-deep plates. Repair wall finishes and remount outlet boxes when standard device plates do not fit flush or do not cover rough wall opening.

N. Dimmers:

1. Install dimmers within terms of their listing.
2. Verify that dimmers used for fan speed control are listed for that application.
3. Install unshared neutral conductors on line and load side of dimmers according to manufacturers' device listing conditions in the written instructions.

O. Arrangement of Devices: Unless otherwise indicated, mount flush, with long dimension vertical and with grounding terminal of receptacles on top. Group adjacent switches under single, multigang wall plates.

P. Adjust locations of door service outlets and service poles to suit arrangement of partitions and furnishings.

PANELBOARDS

A. Product Data: For each type of panelboard, switching and overcurrent protective device, transient voltage suppression device, accessory, and component indicated, include dimensions and manufacturers' technical data on features, performance, electrical characteristics, ratings, and finishes.

B. Source Limitations: Obtain panelboards, overcurrent protective devices, components, and accessories from single source from single manufacturer.

1. Comply with NEMA PB 1 including handling requirements.

D. Comply with NFPA 70.

E. Coordinate layout and installation of panelboards and components with other construction that penetrates walls or is supported by them, including electrical and other types of equipment, raceways, piping, encumbrances to workspace clearance requirements, and adjacent surfaces. Maintain required workspace clearances and required clearances for equipment access doors and panels.

F. Enclosures: Flush-and surface-mounted cabinets as shown on drawings.

1. Rated for environmental conditions at installed location.
   a. Outdoor Locations: NEMA 250, Type 4X (stainless steel).
   b. Indoor location NEMA 1 with hinged Front Cover: Entire front trim hinged to box and with standard door within hinged trim cover.
2. Finishes:
   a. Back Boxes: Stainless Steel.
3. Directory Card: Inside panelboard door, mounted in transparent card holder.

G. Phase, Neutral, and Ground Buses:

1. Material: Hard-drawn copper, 98 percent conductivity.
2. Equipment Ground Bus: Adequate for feeder and branch-circuit equipment grounding conductors bonded to box.

H. Future Devices: Mounting brackets, bus connections, filler plates, and necessary appurtenances required for future installation of devices.

I. Panelboard Short-Circuit Current Rating: Fully rated to interrupt symmetrical short-circuit current available at terminals. See drawings for rating.

J. Manufacturers: Subject to compliance with requirements, provide products by either: Eaton, General Electric Company; Siemens, and Square D.

K. Branch Overcurrent Protective Devices for Circuit-Breaker Frame Sizes Larger Than 125 A: Bolt-on circuit breakers; plug-in circuit breakers where individual positive-locking device requires mechanical release for removal. Branch circuit breakers shall be HACR type. Molded-Case Circuit Breaker (MCCB): Comply with UL 489, with interrupting capacity to meet available fault currents.

L. Examine panelboards before installation. Reject panelboards that are damaged or rusted or have been subjected to water saturation.

M. Examine elements and surfaces to receive panelboards for compliance with installation tolerances and other conditions affecting performance of the Work.

N. Proceed with installation only after unsatisfactory conditions have been corrected.

O. Install panelboards and accessories according to NEMA PB 1.1.

P. Mount panelboard cabinet plumb and rigid without distortion of box. Mount recessed panelboards with fronts uniformly flush with wall finish and mating with back box.

Q. Install filler plates in unused spaces.

R. Arrange conductors in gutters into groups and bundle and wrap with wire ties after completing load balancing.

TEMPORARY POWER

A. The electrical contractor shall provide temporary electrical wiring for construction. The temporary service shall be single phase, three wire, 120/240 volts fused at main disconnect. All receptacles on this temporary service shall be protected by ground fault interruptible circuit breakers.

GW ENGINEERING, LLC
FIRM # 22595
4120 OVELOOK CIRCLE, TRUSSVILLE, AL 35173
GWAHAE@GWENG.COM | 205.413.4112
THOMAS@GWENG.COM | 205.317.2969

AHO ARCHITECTS, LLC
www.ahoarch.com

GIDEON M. WAMAE
143851
LICENSED
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Express Oil Change & Tire Engineers

Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

Seguin, Texas

FINAL

No.	Description	Date
FB-1	Iss. for Bid 1 AHJ Rev.	08/05/2026
FB-2	Iss. for Bid 2 AHJ Rev.	09/08/2026

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Specifications

Project number	26014
Date	08/05/26
Drawn by	TH
Checked by	GW

E500

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COMcheck Software Version COMcheckWeb

Interior Lighting Compliance Certificate

Project Information

Energy Code: 2021 IECC
Project Title: Express Oil Change & Tire Engineers - Seguin, TX
Project Type: New Construction

Construction Site: Seguin, Texas
Owner/Agent: Express Oil Change & Tire Engineers Birmingham, Alabama
Designer/Contractor: Taylor Higginbotham GW Engineering TRUSSVILLE, Alabama

Additional Efficiency Package(s)
Credits: 10.0 Required 26.0 Proposed
Reduced lighting power, 26.0 credit

Allowed Interior Lighting Power

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts
1 Automotive Facility	6613	0.75	4960
		Total Allowed Watts =	4960

Proposed Interior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watts	E (C X D)
1 Automotive Facility				
1SD: L1P: Other:	1	29	90	2610
1SD: L2/L2P: Other:	1	16	35	560
1SD: L3/L3E: Other:	1	8	38	304
1SD: W1: Other	1	1	30	30
		Total Proposed Watts =		3504

Interior Lighting PASSES: Design 29% better than code

Interior Lighting Compliance Statement
Compliance Statement: The proposed interior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 2021 IECC requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Taylor Higginbotham — Taylor Higginbotham — 08/06/2026
Name - Title — Signature — Date

COMcheck Software Version COMcheckWeb

Exterior Lighting Compliance Certificate

Project Information

Energy Code: 2021 IECC
Project Title: Express Oil Change & Tire Engineers - Seguin, TX
Project Type: New Construction
Exterior Lighting Zone: 4 (High activity metropolitan commercial district (LZ4))

Construction Site: Seguin, Texas
Owner/Agent: Express Oil Change & Tire Engineers Birmingham, Alabama
Designer/Contractor: TaylorHigginbotham GW Engineering TRUSS/ILLE, Alabama

Allowed Exterior Lighting Power

A Area/Surface Category	B Quantity	C Allowed Watts /	D Tradable Wattage	E Allowed Watts (B X C)
Entry canopy	60 ft2	0.4	Yes	24
Illuminated area of facade wall or surface	2150 ft2	0.13	No	162
Parking area	23735 ft2	0.08	Yes	1899
		Total Tradable Watts (a) =		3923
		Total Allowed Watts =		2185
		Total Allowed Supplemental Watts (b) =		900

(a) Wattage tradeoffs are only allowed between tradable areas/surfaces.
(b) A supplemental allowance equal to 900 watts may be applied toward compliance of both non-tradable and tradable areas/surfaces.

Proposed Exterior Lighting Power

A Fixture ID : Description / Lamp / Wattage Per Lamp , Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watts	E (C X D)
Entry canopy (60 ft2): Tradable Wattage				
LED: L4EA5: Other:	1	5	25	125
Illuminated area of facade wall or surface (1750 ft2): Non-tradable Wattage				
LED: L4U4E: Other:	1	6	25	150
Parking area (23735 ft2): Tradable Wattage				
LED: T: Other:	1	4	75	300
		Total Tradable Proposed Watts =		425

Exterior Lighting PASSES: Design 85% better than code

Exterior Lighting Compliance Statement
Compliance Statement: The proposed exterior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed exterior lighting systems have been designed to meet the 2021 IECC requirements in COMcheck Version COMcheckWeb and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Taylor Higginbotham — Taylor Higginbotham — 08/06/2026
Name - Title — Signature — Date

COMcheck Software Version COMcheckWeb

Inspection Checklist

Energy Code: 2021 IECC

Requirements: 0.0% were addressed directly in the COMcheck software

Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided

Section & Req. ID	Plan Review	Complies?	Comments/Assumptions
C202.2 (PR6)[1]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the interior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include interior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	☐Complies ☐Does not ☐Not Observable ☐Not Applicable	
C202.2 (PR6)[1]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the exterior lighting and electrical systems and equipment and document where exceptions to the standard are claimed. Information provided should include exterior lighting power calculations, wattage of bulbs and ballasts, transformers and control devices.	☐Complies ☐Does not ☐Not Observable ☐Not Applicable	
C406 (HP9)[1]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the additional energy efficiency package options.	☐Complies ☐Does not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section & Req. ID	Construction Inspection	Complies?	Comments/Assumptions
C405.2.3.1 (IT22)[1]	Spaces required to have light-reduction controls have a manual control that allows the occupant to reduce the lighting power by at least a minimum uniform illumination pattern >= 50 percent.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.1.1 C405.2.1.2 (IE118)[1]	Occupancy sensors installed in classrooms/lecture/training rooms, conference/meeting/multipurpose rooms copy/print rooms, lounges/breakrooms,enclosed offices, open plan office areas, restrooms, locker rooms, corridors, storage rooms, warehouses/stockrooms areas, and other spaces <=300 sqft that are enclosed by floor-to-ceiling height partitions. Referencesection language in C405.2.1.1 for exceptions for warehouses and section C405.2.1.3 for open plan office spaces.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.1.2 (IL119)[1]	Occupancy sensors control function in warehouses: In warehouses, the lighting in aisleways and open areas is controlled with occupant sensors that automatically reducelighting power by 50% or more within 20 minutes of the last detected occupant activity. The occupant sensors control lighting in each aisleway independently and do not control lighting beyond the aisleway being controlled by the sensor. Lights not turned off by occupant sensors is one so by time-switch.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.1.3 (IL120)[1]	Occupancy sensor control function in open plan office areas: Occupant sensor controls in open office spaces >= 300 sq.ft. have controls 1) configured so that general lighting can be controlled separately in control zones that are no larger than 600 sqft within the space, 2) general lighting in each zone permitted to turn on upon occupancy in controlzone, 3) automatically turn of general lighting in all control zones within 20 minutes after all occupants have left the space, and 4) ensure that the total general lighting power in each control zone is reduced by >= 80% of the full zone general lightingpower within 20 minutes of all occupants leaving that control zone.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.2 C405.2.2 (IL213)[1]	Each area not servedby occupancy sensor, per C405.2 .1, have time-switch controls and function detailed in sections C405.2.2.:	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section & Req. ID	Construction Inspection	Complies?	Comments/Assumptions
C405.2.4.1 C405.2.4.2 C405.2.4.3 (IL123)[1]	Daylight zones provided with individual controls that control the lights independent of general area lighting in the daylight zone per C405.2.4.3 Daylight-responsive controls for applicable spaces. C405.2.3.1 Daylight responsive control function and section C405.2.3.2 Sidelit zone.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.5 (IL127)[1]	Additional interior lighting power allowed for special functions per the approved lighting plans and is automatically controlled and separate from general lighting.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.2.7 (IL128)[1]	Automatic lighting shutoff for exterior lighting installed. Controls will be daylight controlled, set based on business operation time-of-day, or reduce connected lighting > 30%.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.7 (IL230)[1]	Low-voltage dry-typedistribution electric transformermeet the minimum efficiency requirements o Table C405.6.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.8 (IL127)[1]	Electric motors meetthe minimum efficiency requirements of Tables C405.7(1) through C405.7(4). Efficiency verified though certification under an approved certification program or the equipment efficiency rating can be provided by motor manufacturer (if certification programs do not exist).	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.9.1, C405.9.2 (IE128)[1]	Escalators and moving walks comply with ASME-A17.1/CSA B44 and have automatic controls configured to reduce speed to the minimum permitted speed in accordance with ASME-A17.1/CSA B44 or applicable local code when not conveying passengers.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.10 (IL279)[1]	Total voltage drop across the combination of feeders and branch circuits <= 5%.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.11 (IL150)[1]	At least 50% of dwelling unit permanently installed lighting shall have lamp efficacy >= 65 lm/W or luminaires with efficacy >= 45 lm/W or comply with C405.2.4 or C405.3.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.11.1 C405.11.1 (IL151)[1]	50% of 15/20 amp receptacles installed in enclosed offices, conference rooms, copy rooms, break rooms, classrooms and workstations are >= 25w luminaire circuit feeders and >= 25w furniture mounted automatic receptacle controls in accordance with C405.11.1.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

Section & Req. ID	Final Inspection	LOP'ified?	Comments/Assumptions
C103.3, C408.2.5 (FI17)[1]	Furnished O&M instructions or systems and equipment to the building owner or designated representative.	☐Complies ☐Does Not ☐Not Observable ☐Not Applicable	
C405.5.1 (FI19)[1]	Exterior lighting power is consistent with what is shown on the approvec lighting plans demonstrating proposed watts are less than or equal to allowed watts.	☐Complies ☐Does not ☐Not Observable ☐Not Applicable	See the Exterior Lighting fixture schedule for values.
C406.3 (FI67)[1]	Reduced lighting power - 0% credit) Lighting power using connectedlighting powerd is >= 10% more efficient than 2021 IECC requirements.	☐Complies ☐Does not ☐Not observable ☐Not Applicable	
C408.1.1 (FI67)[1]	Building operations and maintenance documents will be provided to the owner. Documents will cover the following: equipment specifications, programming procedures and means of illustrative to owner how building, equipment and systems are intended to be installed, maintained, and operated.	☐Complies ☐Does not ☐Not Observable ☐Not Applicable	
C408.2.5 (FI43)[1]	Furnished as-built drawings for electric power systems within 90 days of system acceptance.	☐Complies ☐Does not ☐Not Observable ☐Not Applicable	
C408.3 (FI03)[1]	Lighting systems have been tested to ensure proper calibration, adjustment, programming, and operation.	☐Complies ☐Does not ☐Not Observable ☐Not Applicable	

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

GW ENGINEERING, LLC
FIRM # 23595
4120 OVELOOK CIRCLE, TRUSSVILLE, AL 35173
GWMAKE@GWENG.COM | 205.413.4112
TH@GWENGINEERING.COM | 205.317.2969

AHO ARCHITECTS, LLC
www.ahoarch.com

GIDEON M. WAMAE 143851 LICENSED PROFESSIONAL ENGINEER 08/05/26

Express Oil Change & Tire Engineers

Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

Seguin, Texas

FINAL

No.	Description	Date
FEB-1	Res. for Bid 1 AHJ Rev.	08/05/2026
FEB-2	Res. for Bid 2 AHJ Rev.	09/08/2026

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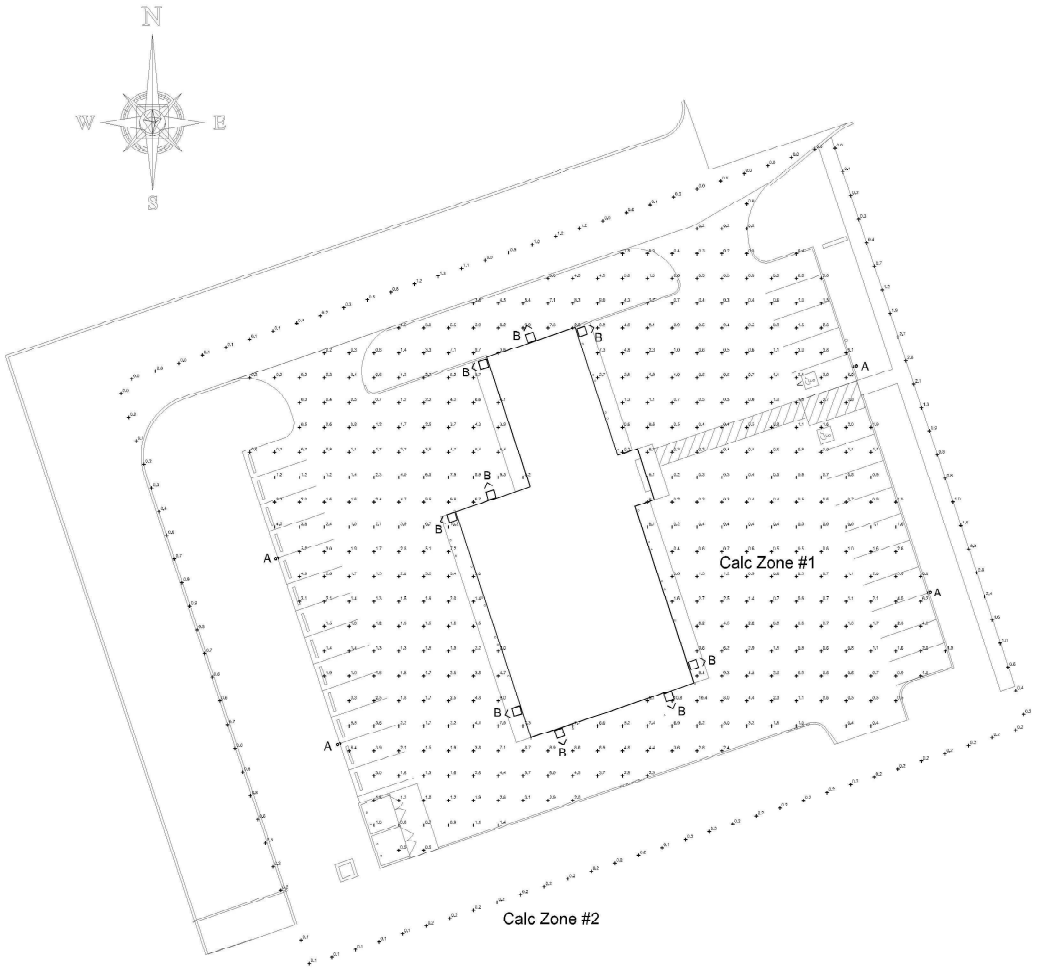
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Project number	26014
Date	08/05/26
Drawn by	TH
Checked by	GW

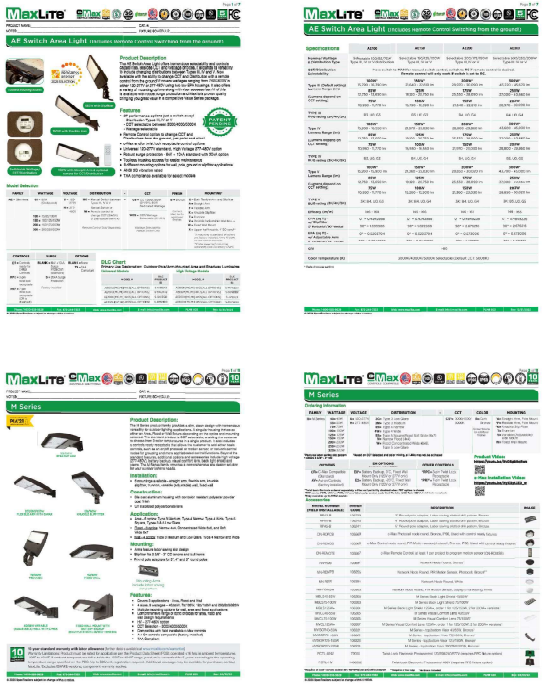
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1 Site Plan - Photometrics
1" = 20'-0"



2 Light Fixture Cutsheets
N.T.S.

Schedule

Symbol	Label	Image	QTY	Manufacturer	Catalog	Mounting Height	Number Lamps	Lamp Output	LLF	Input Power
	A		2	Maxlite Inc.	AF100LIT4-WCS-4000K	18'AFF	1	11000	0.9	75
	B		9	MaxLite	M55UC4W-CSBWCR	10'AFF	1	4591	0.9	30

Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Calc Zone #1	+	2.4 fc	10.8 fc	0.0 fc	N/A	N/A
Calc Zone #2	+	0.5 fc	2.8 fc	0.0 fc	N/A	N/A

AHO ARCHITECTS, LLC
www.ahoarch.com
GIDEON M. WAMAE
143851
LICENSED
PROFESSIONAL ENGINEER
08/05/26

Express Oil Change & Tire Engineers

Single Building / Right Hand Oil Change / Front Enter / Side Tire Storage

Seguin, Texas

FINAL

No	Description	Date
RFB-1	Iss. for Bid 1 All Rev.	09/07/2026
RFB-2	Iss. for Bid 2 All Rev.	09/08/2026

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Site Plan - Photometrics

Project number	26014
Date	08/05/26
Drawn by	TH
Checked by	GW

E700

Scale 1" = 20'-0"

GW ENGINEERING, LLC
FIRM # 22566
4120 OAKLOCK CIRCLE, HUNTSVILLE, AL 35173
GWAMAE@GWENG.COM | 205.413.4112
THIGGINBOTHAM@GWENG.COM | 205.317.3363

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