

THE SHOPS AT LAVACA

5,420 SF BUILDING
418 FLORIDA STREET, SAN ANTONIO, TX



PROJECT TEAM

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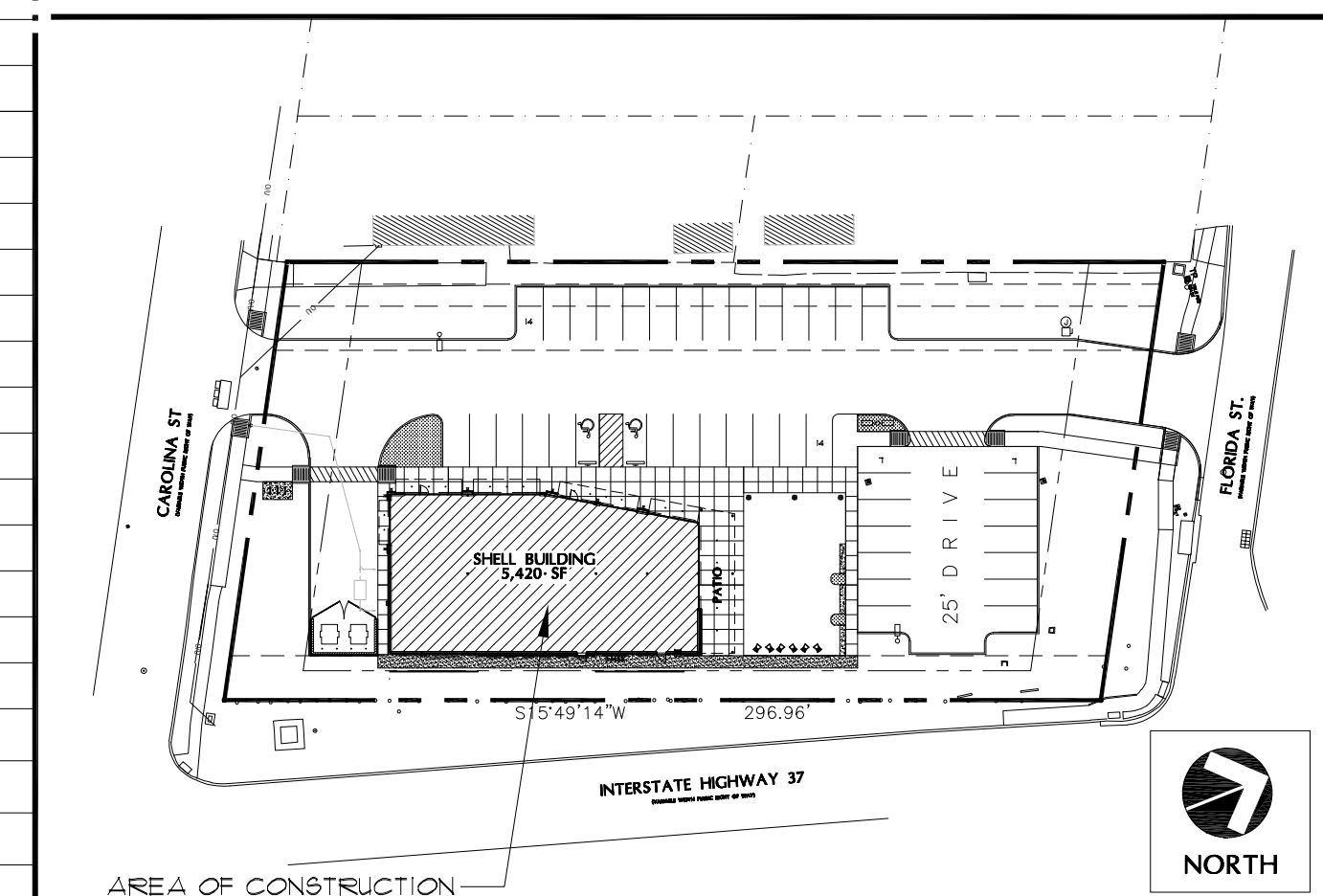
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VICINITY MAP



KEY MAP



SEAL
CLIENT
ITMCA
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CONSULTANT

CONSULTANT

THE SHOPS AT LAVACA

418 FLORIDA STREET,
BEXAR COUNTY, TX

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REV	REV DESCRIPTION	DATE
-	PERMIT SET	2026-03-24



DESIGN PROFESSIONAL SEAL

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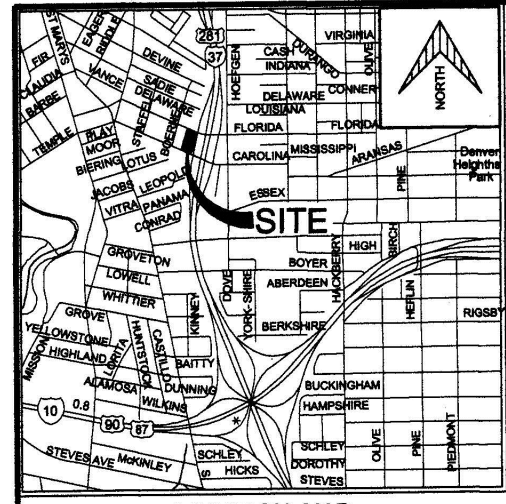
Drawn / Designed By: ARNA
Reviewed By: MDN
Project Number: KP-J-TX-25-0018

SHEET NAME: COVER SHEET

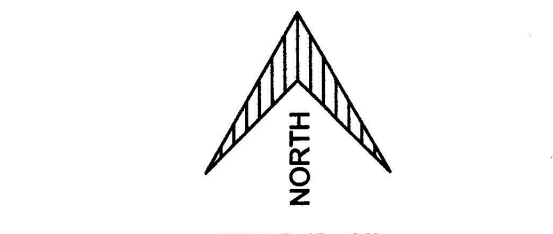
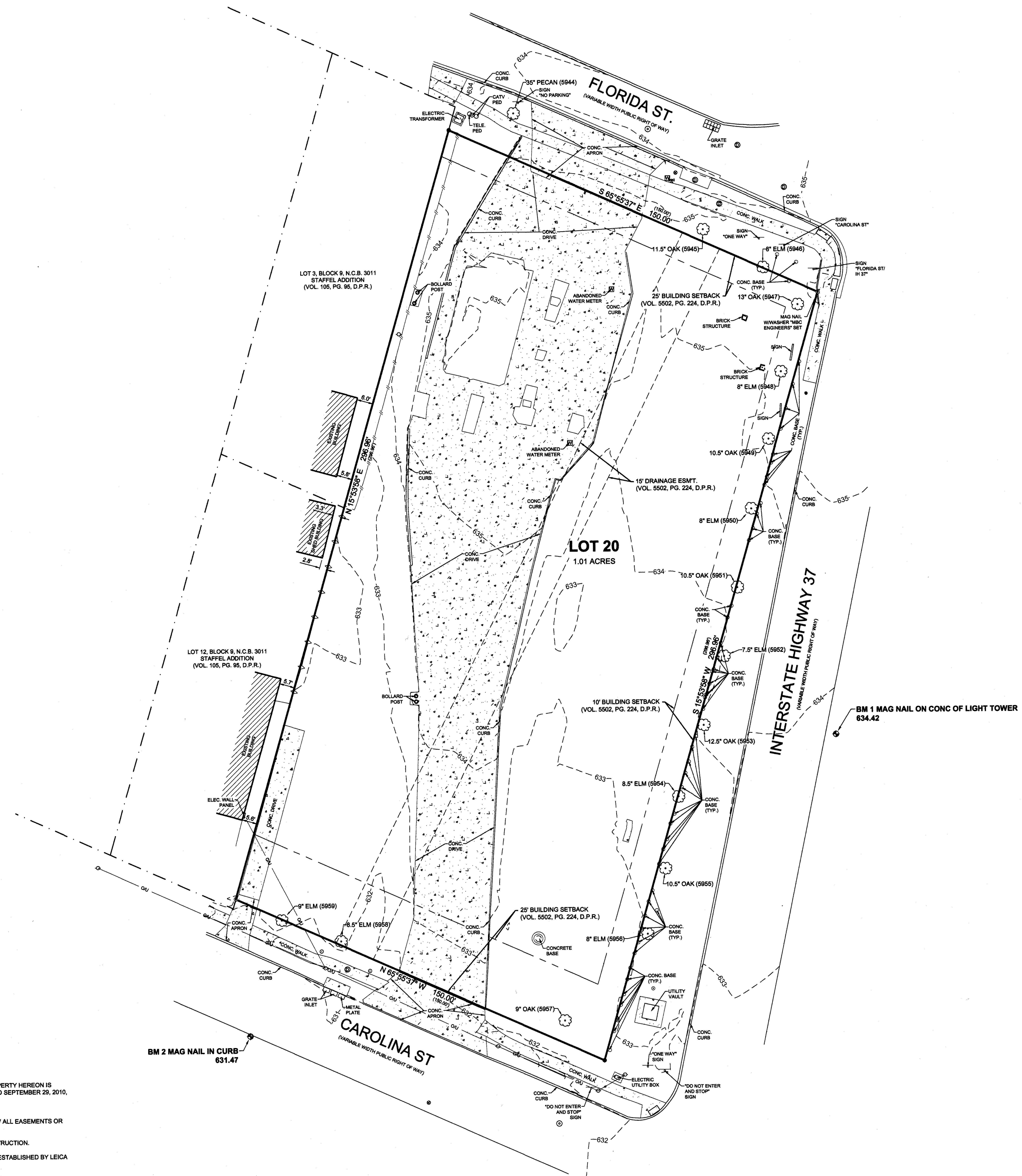
SHEET NUMBER:
G100



FLORIDA STREET RETAIL
418 FLORIDA STREET
SAN ANTONIO, TEXAS
EXISTING CONDITIONS PLAN



LOCATION MAP
NOT TO SCALE



LEGEND

- CONCRETE CURB
- WATER VALVE
- FIRE HYDRANT
- TRAFFIC SIGN
- LIGHT POLE
- GLY ANCHOR
- POWER POLE
- CLEAN OUT
- SANITARY SEWER MANHOLE
- DRAINAGE MANHOLE
- CHAIN-LINK FENCE
- WOOD FENCE
- WROUGHT IRON FENCE
- WATER METER
- GAS METER
- OVERHEAD UTILITY LINE
- 1/2" IRON ROD FOUND (UNLESS NOTED)
- 1/2" IRON ROD WITH CAP STAMPED "MBC ENGINEERS" SET (UNLESS NOTED)
- RECORD BOUNDARY DIMENSIONS (150.00)
- MEASURED BOUNDARY DIMENSIONS

TREE LEGEND

- TREE SYMBOL
 - TREE SIZE, SPECIES & TAG NUMBER
 - 12" HACKBERRY 1780
- TREE NOTE:
PROTECTED, SIGNIFICANT AND HERITAGE TREES AS DEFINED IN THE CITY OF SAN ANTONIO 2010 TREE ORDINANCE HAVE BEEN LOCATED AS PART OF THIS SURVEY. OTHER TREES EXIST BUT WERE NOT LOCATED IF NOT SHOWN HEREON.

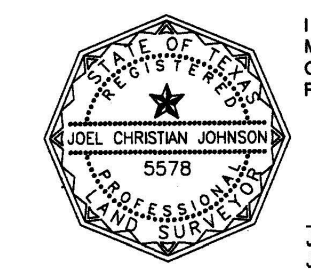
MBC
ENGINEERS
EST. 1975

MACINA • BOSE • COPENLAND & ASSOC., INC.
CONSULTING ENGINEERS AND LAND SURVEYORS
1035 Central Parkway North, San Antonio, Texas 78232
(210) 545-1122 Fax (210) 545-9302 www.mbcengineers.com
TEXAS FIRM REGISTRATION # ENGINEERING F-784 & SURVEYING 0011700

BOUNDARY, TREE AND TOPOGRAPHIC SURVEY OF
LOT 20, NEW CITY BLOCK 3011, THE 37TH SUBDIVISION, ACCORDING TO PLAT
RECORDED IN VOLUME 6502, PAGE 224, PLAT RECORDS, BEAR COUNTY, TEXAS.

NO.	DATE	DESCRIPTION

DRAWN: J.C.
CHECKED: J.C.J.
DATE: 01-16-2026
JOB NO.: 34067-1369
SHT.: 1 OF 1

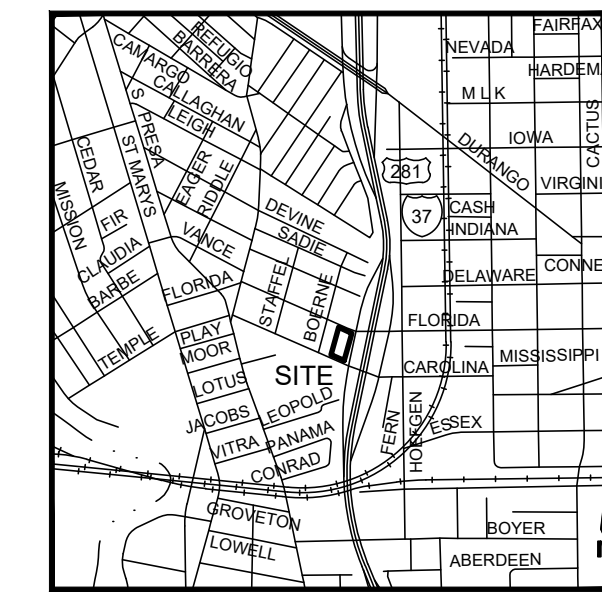


I HEREBY STATE THAT THE HEREON DESCRIBED PROPERTY WAS SURVEYED UNDER MY DIRECTION AND THAT THIS SURVEY IS A TRUE AND ACCURATE REPRESENTATION OF THAT PROPERTY AND THAT THIS SURVEY CONFORMS TO THE STANDARDS OF PRACTICE AS SET FORTH BY THE TEXAS BOARD OF PROFESSIONAL LAND SURVEYORS.

JOEL CHRISTIAN JOHNSON
R.P.L.S. NO. 5578
01-16-2026

SURVEYOR NOTES:
1) BASED ON A MAP TO MAP TRANSFER (BY VISUAL INSPECTION OR SCALING ONLY) THE SUBJECT PROPERTY HEREON IS SHOWN TO BE LOCATED IN ZONE "X" (UNSHADED) ON COMMUNITY PANEL NUMBER 46220415 G DATED SEPTEMBER 28, 2010, OF THE FEDERAL EMERGENCY MANAGEMENT AGENCY'S FLOOD INSURANCE RATE MAP. FOR MORE INFORMATION PLEASE CONSULT FLOOD MAP(S).
2) THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE COMMITMENT, AND MAY NOT SHOW ALL EASEMENTS OR OTHER MATTERS THAT AFFECT THIS PROPERTY.
3) ONLY VISIBLE UTILITY FEATURES SHOWN HEREON. CALL 811 FOR UTILITY LOCATES PRIOR TO CONSTRUCTION.
4) BEARINGS ARE BASED ON TEXAS STATE PLANE COORDINATE SYSTEM GRID SOUTH CENTRAL ZONE ESTABLISHED BY LEICA SMARTNET GPS NETWORK.
5) ELEVATIONS REFERENCED TO NAVD 88 DATUM AS ESTABLISHED BY LEICA SMARTNET GPS NETWORK.

Date: Jan 16, 2026 2:00pm User: J.Christian Johnson
File: P:\34067-1369\34067-1369.dwg Plot: 34067-1369.dwg Job: 34067-1369
Job Name: 34067-1369.dwg Job Date: 01/16/2026 Job Time: 2:00pm Job User: J.Christian Johnson
Job Path: P:\34067-1369\34067-1369.dwg Job Plot: 34067-1369.dwg Job Print: 34067-1369.dwg

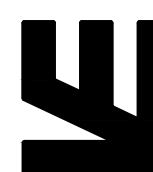


LOCATION MAP
NOT TO SCALE

REVISIONS:

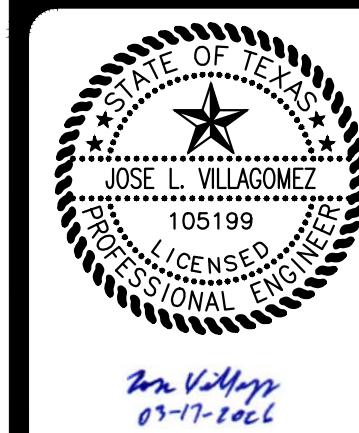
24105 IH-37, SUITE 217-708
SAN ANTONIO, TEXAS 78257
PHONE: 210.485.4226
FAX: 210.485.4232

VILLAGOMEZ
ENGINEERING
COMPANY



TEXAS BOARD OF PROFESSIONAL ENGINEERS, FIRM REGISTRATION # 13986

FLORIDA STREET RETAIL
418 FLORIDA STREET
SAN ANTONIO, TEXAS
DEMOLITION PLAN



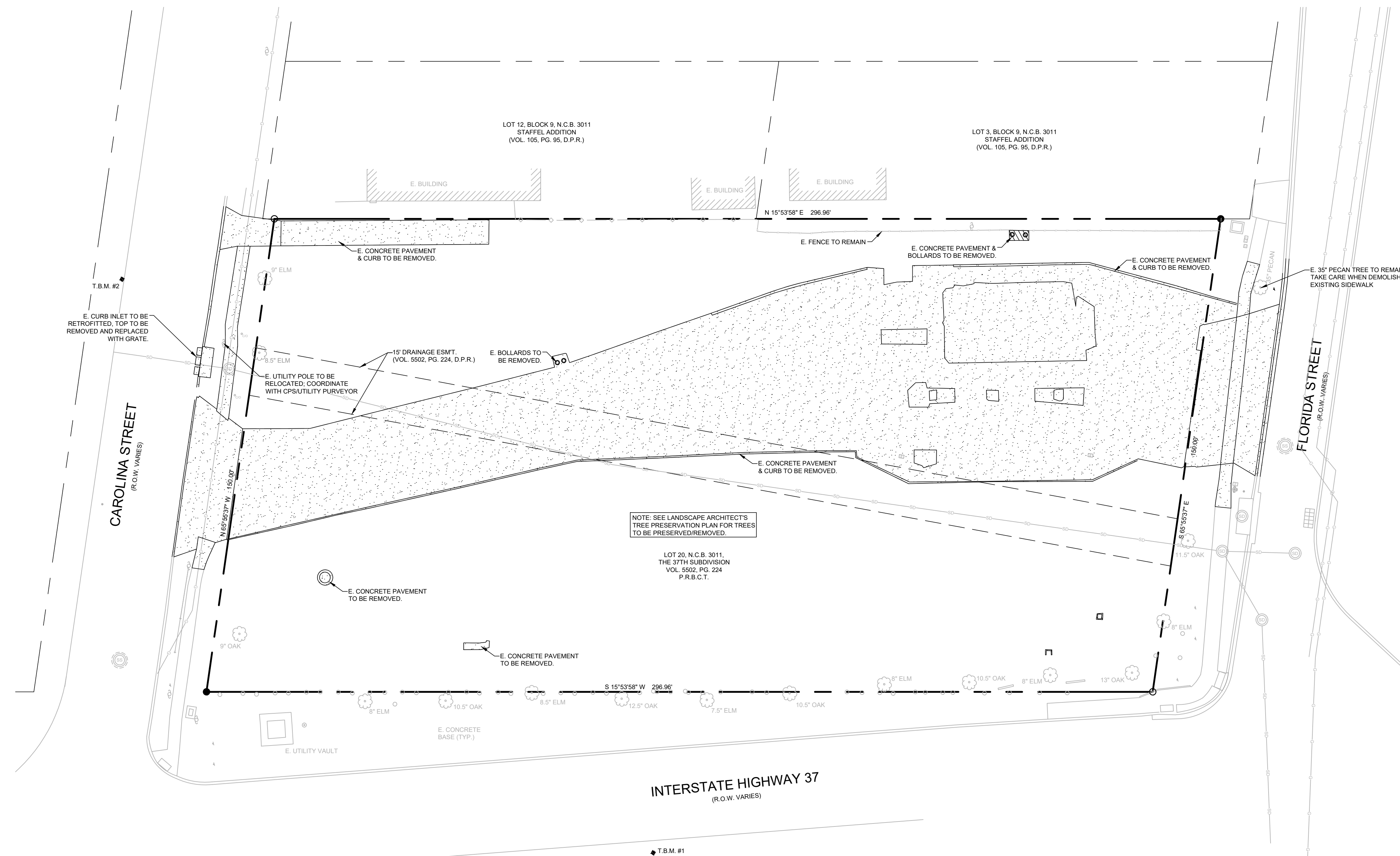
JOB NO.: 26-004

DATE: 03/17/26

DESIGNER: J.V.

DRAWN BY: V.R.

SHEET NO.: C1.1



DEMOLITION NOTES:

1. THE CONTRACTOR SHALL SAW CUT EXISTING PAVEMENT, CURBS AND SIDEWALKS AT LOCATIONS SHOWN ON THE PLANS. NO IRREGULAR CUTS IN PAVEMENT, CURBS OR SIDEWALK WILL BE ACCEPTED.
2. CONTRACTOR SHALL COMPLY WITH ALL LOCAL BUILDING CODES AND REGULATIONS, AS WELL AS OTHER SAFETY CODES AND INSPECTION PROVISIONS APPLICABLE TO THIS PROJECT.
3. CONTRACTOR SHALL SECURE ALL PERMITS REQUIRED FOR CONSTRUCTION AND SHALL NOTIFY ALL RESPECTIVE GOVERNMENTAL OR UTILITY AGENCIES AFFECTED BY CONSTRUCTION.
4. CONTRACTOR SHALL NOTIFY LINE LOCATOR FOR EACH RESPECTIVE UTILITY IN THE PROJECT AREA 48 HOURS PRIOR TO STARTING EXCAVATION.
5. CONTRACTOR TO CONTACT THE TELEPHONE COMPANY CABLE LOCATOR 48 HOURS PRIOR TO BEGINNING ANY EXCAVATION.
6. FOR LOCATION OF UNDERGROUND ELECTRIC, GAS, TELEPHONE AND WATER FACILITIES, CALL THE LOCAL UTILITY LOCATOR 48 HOURS BEFORE BEGINNING ANY EXCAVATION.
7. ALL UNDERGROUND UTILITIES ENCOUNTERED SHALL BE PROTECTED AND LEFT IN PLACE, UNLESS DETERMINED TO BE OUT OF SERVICE, IN WHICH CASE THE UTILITY SHOULD BE REMOVED.
8. REMOVE ALL SIGNS, POSTS, BOLLARDS WITHIN THE LIMITS OF WORK.
9. ALL EXISTING HARDSCAPE (ASPHALT, CONCRETE) SHOWN TO BE REMOVED SHALL BE DEMOLISHED AND DISPOSED OF OFF SITE.
10. ALL WASTE MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND IT SHALL BE HIS SOLE RESPONSIBILITY TO DISPOSE OF THIS MATERIAL OFF THE LIMITS OF THE SITE TO PROPERTY WHERE THE CONTRACTOR HAS THE CONSENT OF THE OWNERS. NO WASTE MATERIALS SHALL BE PLACED IN EXISTING LOWS THAT WILL BLOCK OR ALTER THE FLOW LIMITS OF EXISTING NATURAL DRAINAGE.
11. REFER TO GEOTECHNICAL REPORT FOR PREPARATION OF RESULTING SUBGRADE.

TRENCH EXCAVATION SAFETY PROTECTION:

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 CONTRACTORS' TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND/OR PROCEDURES. THE CONTRACTORS' 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.

UTILITY LOCATE NOTES:

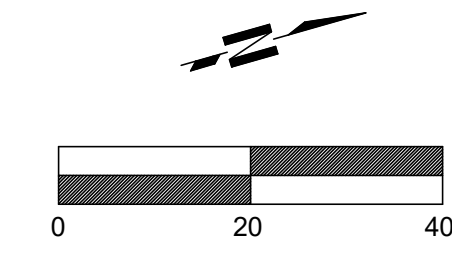
THE EXISTENCE AND LOCATION OF UNDERGROUND CABLE INDICATED ON THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR TO CONTACT THE TELEPHONE COMPANY CABLE LOCATOR 48 HOURS PRIOR TO EXCAVATION AT 1-800-545-6005. CONTRACTOR HAS THE RESPONSIBILITY TO PROTECT AND SUPPORT TELEPHONE COMPANY PLANT DURING CONSTRUCTION.

DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181 GAS COMPANIES MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA. THE CONTRACTOR SHALL NOTIFY THE GAS COMPANY LOCATOR AT 1-800-545-6005, 48 HOURS BEFORE BEGINNING ANY EXCAVATION.

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/ GEOTECHNICAL/SAFETY EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO DEVELOP THE CONTRACTOR'S PLANS TO IMPLEMENT THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S PLANS SHALL PROVIDE FOR ADEQUATE TRENCH SAFETY SYSTEMS THAT COMPLY WITH AS A MINIMUM O.S.H.A. STANDARDS FOR TRENCH EXCAVATIONS SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL DEVELOP AND IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH O.S.H.A. STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

LEGEND

	EXISTING OVERHEAD ELECTRIC
	EXISTING UNDERGROUND ELECTRIC
	EXISTING GAS LINE
	EXISTING STORM DRAIN LINE
	EXISTING SANITARY SEWER LINE
	EXISTING WATER LINE
	EXISTING WATER METER
	EXISTING WATER VALVE
	EXISTING FIRE HYDRANT
	EXISTING MANHOLE
	EXISTING POWER POLE
	EXISTING CLEAN OUT
	EXISTING ELEVATION
	PROPOSED ELEVATION
	EXISTING FLOW LINE
	PROPOSED FLOW LINE
	EXISTING STRUCTURES TO BE REMOVED
	EXISTING P.V.M.T. & CURB TO BE REMOVED
	EXISTING UTILITIES TO BE REMOVED

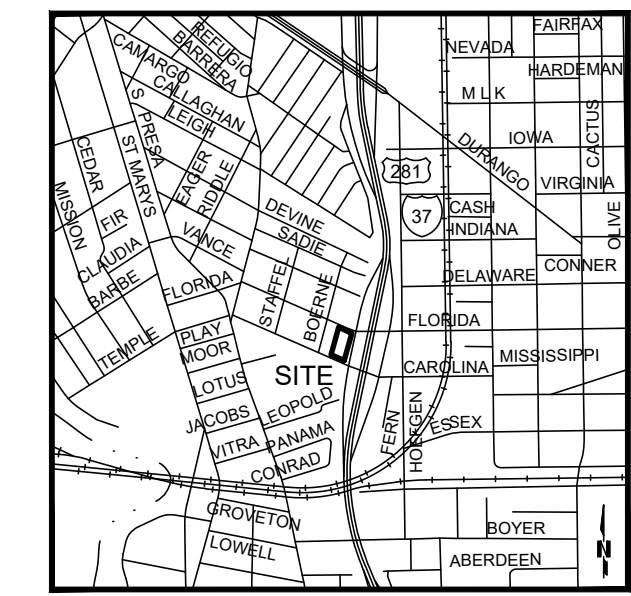


DEMOLITION PLAN

PARKING REQUIREMENTS	
RETAIL	- 2,720 SF
RESTAURANT	- 2,700 SF
RETAIL	- 1/300 SF MINIMUM (9) - 1/200 SF MAXIMUM (14)
RESTAURANT	- 1/100 SF MINIMUM (27) - 1/40 SF MAXIMUM (68)
TOTAL PROVIDED SPACES	= 42
REQUIRED BICYCLE SPACES	= 4
TOTAL PROVIDED BICYCLE SPACES	= 4

RIGHT OF WAY NOTE:

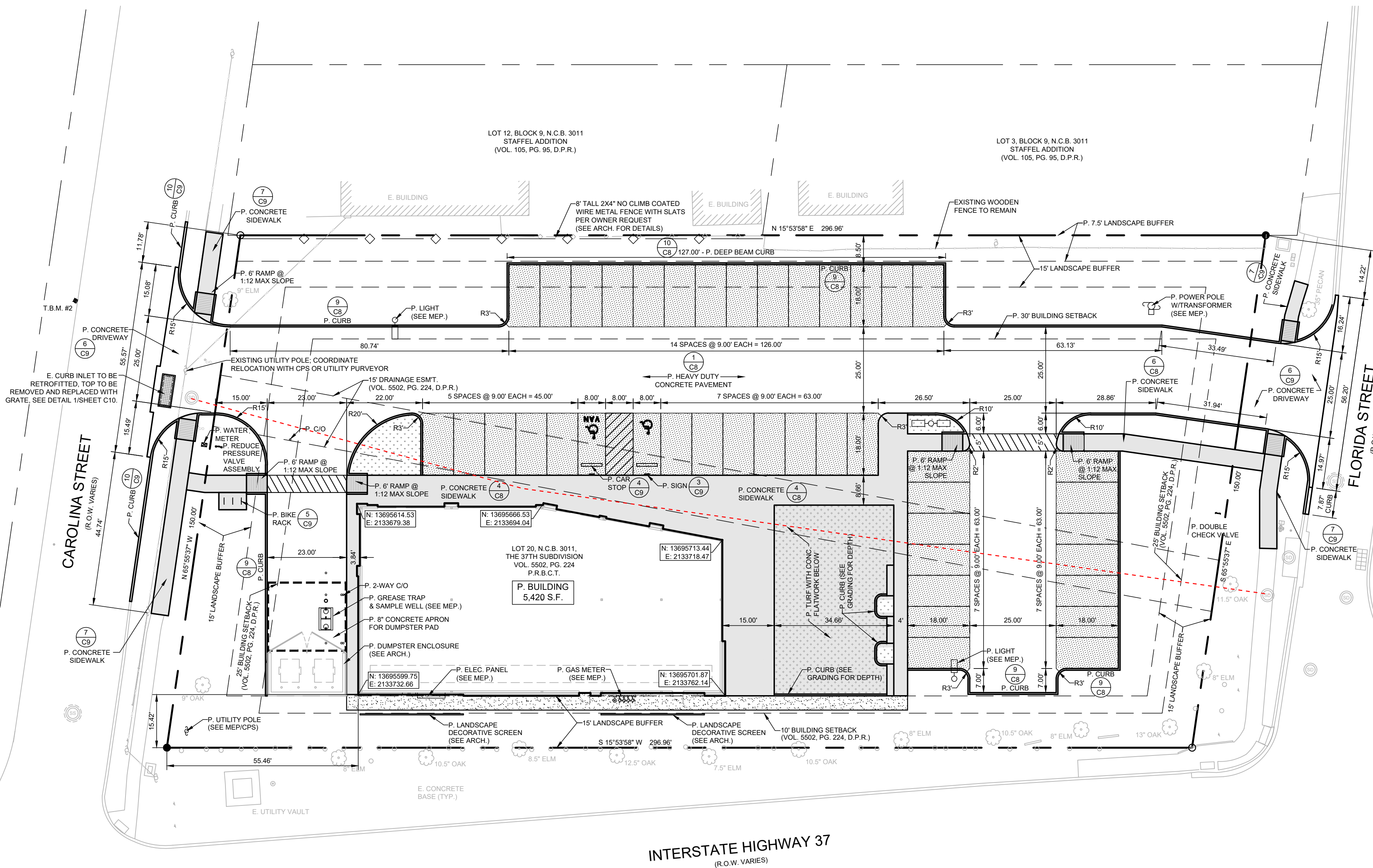
ALL SIDEWALKS, CURBS, RAMPS, AND DRIVE APPROACHES IN THE RIGHT OF WAY SHALL BE IN COMPLIANCE WITH CURRENT TEXAS ACCESSIBILITY STANDARDS AND CITY OF SAN ANTONIO DESIGN STANDARDS PRIOR TO FINAL INSPECTION APPROVAL.



LOCATION MAP
NOT TO SCALE

GENERAL NOTES:

- ALL PHASES OF WORK UNDER THIS CONTRACT SHALL BE IN STRICT ACCORDANCE WITH APPLICABLE ITEMS OF THE STATE DEPARTMENT OF HIGHWAYS AND PUBLIC TRANSPORTATION SPECIFICATIONS AND LOCAL STANDARD SPECIFICATIONS FOR CONSTRUCTION. FINAL DECISIONS OR JUDGEMENTS ON MATTERS NOT SPECIFICALLY COVERED BY THE ABOVE DOCUMENTS SHALL BE MADE BY THE ENGINEER.
- CONTRACTOR SHALL COMPLY WITH ALL LOCAL BUILDING CODES AND REGULATIONS, AS WELL AS OTHER SAFETY CODES AND INSPECTION PROVISIONS APPLICABLE TO THIS PROJECT.
- CONTRACTOR SHALL SECURE ALL PERMITS REQUIRED FOR CONSTRUCTION AND SHALL NOTIFY ALL RESPECTIVE GOVERNMENTAL OR UTILITY AGENCIES AFFECTED BY CONSTRUCTION.
- CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR THE 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, INDEMNIFY 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. EXCEPTIONS FROM LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.
- DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, NATURAL GAS PURVEYOR MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.
- BIDDERS ARE HEREBY NOTIFIED TO MAKE A THOROUGH REVIEW OF THE JOB SITE AND SOIL BORING INFORMATION PROVIDED BY OWNER. NO ADDITIONAL PAYMENT SHALL BE MADE FOR ROCK, SAND, GRAVEL, OR OTHER UNSTABLE CONDITIONS ENCOUNTERED IN ANY WORK IMPLIED BY THESE DRAWINGS.
- CONTRACTOR SHALL NOTIFY LINE LOCATOR FOR EACH RESPECTIVE UTILITY IN THE PROJECT AREA 48 HOURS PRIOR TO STARTING EXCAVATION.
- CONTRACTOR TO CONTACT THE TELEPHONE COMPANY CABLE LOCATOR 48 HOURS PRIOR TO BEGINNING ANY EXCAVATION.
- FOR LOCATION OF UNDERGROUND ELECTRIC, GAS, TELEPHONE AND WATER FACILITIES, CALL THE LOCAL UTILITY LOCATOR 48 HOURS BEFORE BEGINNING ANY EXCAVATION.
- ALL WASTE MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND IT SHALL BE HIS SOLE RESPONSIBILITY TO DISPOSE OF THIS MATERIAL OFF THE LIMITS OF THE SITE TO PROPERTY WHERE THE CONTRACTOR HAS THE CONSENT OF THE OWNERS. NO WASTE MATERIALS SHALL BE PLACED IN EXISTING LOWS THAT WILL BLOCK OR ALTER THE FLOW LIMITS OF EXISTING NATURAL DRAINAGE.
- CONTRACTOR IS REQUIRED TO VERIFY PROJECT ELEVATIONS. STARTING ANY WORK CONSTITUTES THE APPROVAL OF THE EXISTING CONDITIONS SHOWN.
- EXISTING ABOVE GROUND UTILITIES HAVE BEEN PLOTTED BY DIRECT FIELD INVESTIGATION (ON SURVEY PERFORMED BY OTHERS). UNDERGROUND UTILITIES HAVE BEEN COMPILED FROM VARIOUS SOURCES AND REQUIRE VERIFICATION BY THE CONTRACTOR TO ESTABLISH THEIR EXACT LOCATION AND DEPTH PRIOR TO SETTING ANY FINISH CONCRETE GRADE. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO EXISTING ABOVE GROUND OR UNDERGROUND UTILITIES, INCLUDING THOSE NOT SHOWN ON DRAWINGS. DEAD UTILITY LINES SHALL BE SUITABLY CAPPED.
- ANY EXISTING SITE IMPROVEMENT OR UTILITY REMOVED, DAMAGED OR UNDERCUT BY CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED AS DIRECTED BY THE OWNER AND APPROVED BY THE RESPECTIVE UTILITY AT THE CONTRACTOR'S EXPENSE.
- WHEN SEWER LINES ARE INSTALLED IN THE VICINITY OF WATER MAINS, SUCH INSTALLATION SHALL BE IN STRICT ACCORDANCE WITH THE DEPARTMENT OF HEALTH "RULES AND REGULATIONS FOR PUBLIC WATER SYSTEM" (LATEST REVISION)
- (A) HEAD-IN PARKING PLACES SHALL BE 9' X 18' WITH 4" WIDE WHITE LINE (B) PARALLEL PARKING PLACES SHALL BE 10' X 22' STRIPED WITH WHITE PAINT. UNLESS OTHERWISE SPECIFIED.
- ALL DIMENSIONS ARE TO BE MEASURED FROM FACE OF CURB. (UNLESS OTHERWISE SPECIFIED)
- BARRICADES AND WARNING SIGNS SHALL CONFORM TO THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND GENERALLY BE LOCATED TO AFFORD MAXIMUM PROTECTION TO THE PUBLIC AS WELL AS CONSTRUCTION PERSONNEL AND EQUIPMENT AND TO ASSURE AN EXPEDITIOUS TRAFFIC FLOW AT ALL TIMES DURING CONSTRUCTION. THE SIGNS SHALL BE COORDINATED WITH SEQUENCE OF CONSTRUCTION AND DETOUR PLAN. DURING THE PROGRESS OF THE WORK THE CONTRACTOR SHALL PROVIDE ACCESS FOR LOCAL TRAFFIC.
- CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION AND DIMENSIONS OF BUILDING DIMENSIONS AND INGRESS/EGRESS LOCATIONS.
- CONTRACTOR IS RESPONSIBLE FOR PROTECTION AND REPLACEMENT, IF NECESSARY, OF ALL DISTURBED PROPERTY CORNERS.
- CONTRACTOR SHALL COORDINATE CONSTRUCTION MATERIALS TESTING WITH THE SELECTED TESTING COMPANY. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO ENSURE ALL TESTS ARE COMPLETED AS SPECIFIED IN THE AGREEMENT BETWEEN THE OWNER AND TESTING COMPANY.



LEGEND

OHU	EXISTING OVERHEAD ELECTRIC
UG-E	EXISTING UNDERGROUND ELECTRIC
G	EXISTING GAS LINE
SD	EXISTING STORM DRAIN LINE
SS	EXISTING SANITARY SEWER LINE
W	EXISTING WATER LINE
WV	EXISTING WATER METER
WV	EXISTING WATER VALVE
WV	EXISTING FIRE HYDRANT
MS	EXISTING MANHOLE
PP	EXISTING POWER POLE
CCO	EXISTING CLEAN OUT
(000.10)	EXISTING ELEVATION
23.22	PROPOSED ELEVATION
E	EXISTING
P	PROPOSED
FL	FLOW LINE
[Pattern]	PROPOSED CONCRETE FLATWALK
[Pattern]	PROPOSED LIGHT-DUTY CONCRETE PAVEMENT
[Pattern]	PROPOSED TURF WITH CONCRETE BELOW
[Pattern]	PROPOSED DECOMPOSED GRANITE
[Pattern]	PROPOSED LANDSCAPE AREA

SCALE: 1" = 20'

DIMENSIONAL CONTROL PLAN

REVISIONS:

24165 IH-10W, SUITE 217-208
SAN ANTONIO, TEXAS 78257
PHONE: 214-343-1616
FAX: 214-343-0232

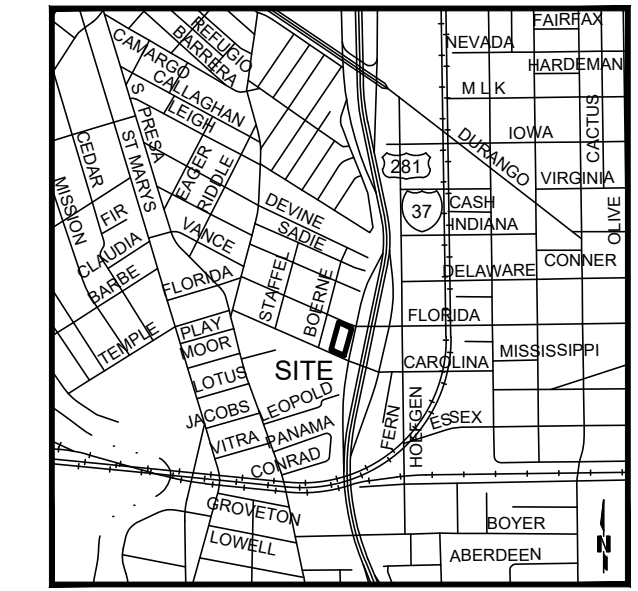
VILLAGOMEZ
ENGINEERING
COMPANY

TEXAS BOARD OF PROFESSIONAL ENGINEERS: FIRM REGISTRATION # 13986

FLORIDA STREET RETAIL
418 FLORIDA STREET
SAN ANTONIO, TEXAS
DIMENSIONAL CONTROL PLAN

JOSE L. VILLAGOMEZ
105199
LICENSED PROFESSIONAL ENGINEER

Job No.: 26-004
Date: 03/17/26
Designer: J.V.
Drawn By: V.R.
Sheet No.: C2

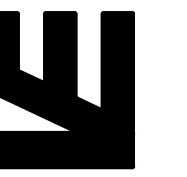


LOCATION MAP
NOT TO SCALE

REVISIONS:

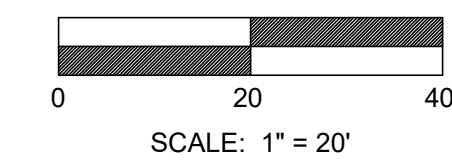
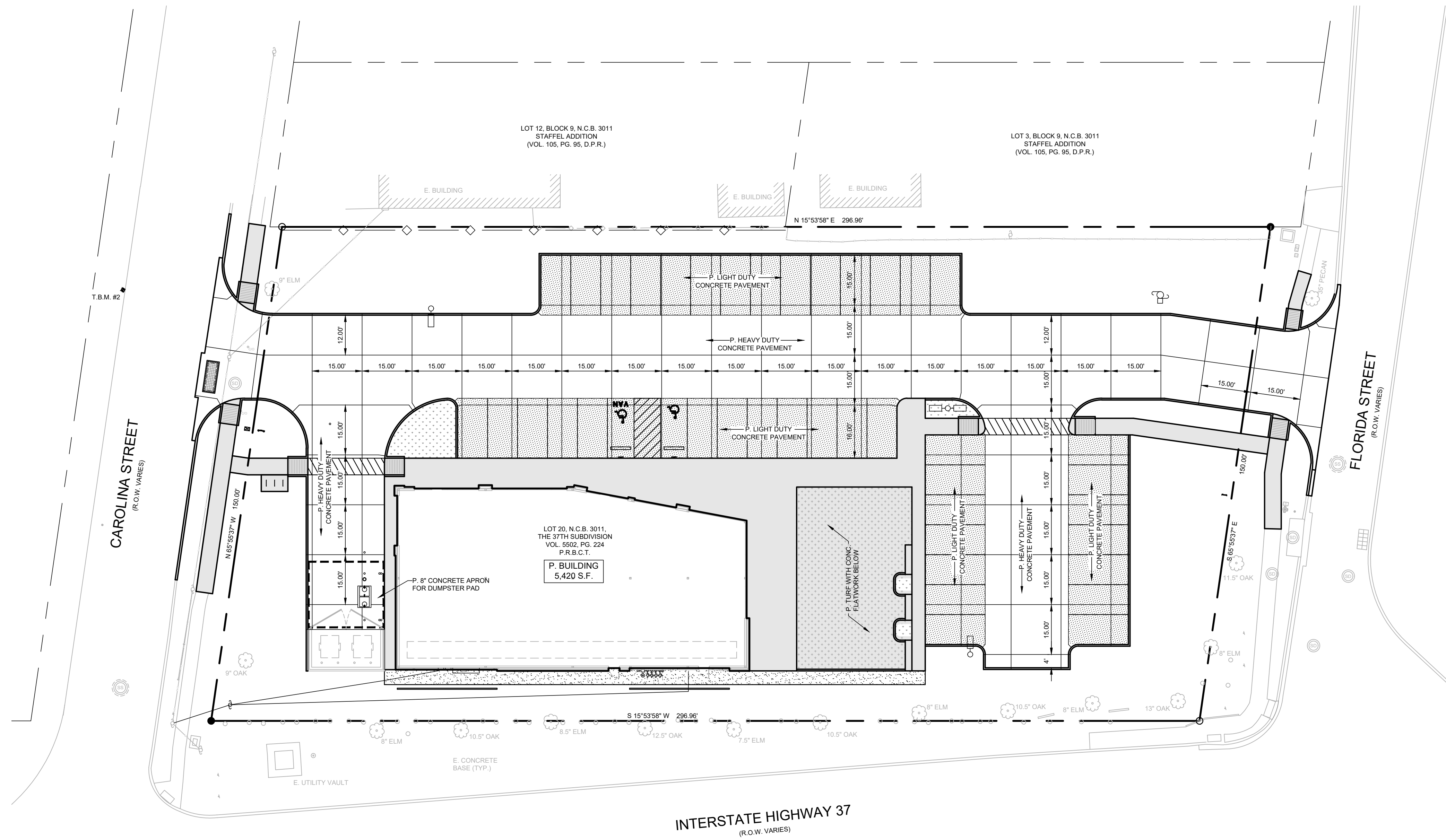
24165 IH-37W, SUITE 217-708
SAN ANTONIO, TEXAS 78257
PHONE: 210.483.4226
FAX: 210.483.4232

VILLAGOMEZ
ENGINEERING
COMPANY



TEXAS BOARD OF PROFESSIONAL ENGINEERS: FIRM REGISTRATION # 13886

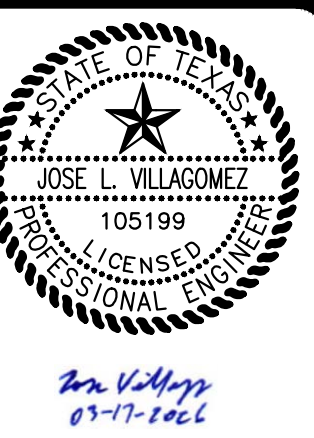
FLORIDA STREET RETAIL
418 FLORIDA STREET
SAN ANTONIO, TEXAS
PAVEMENT SITE PLAN



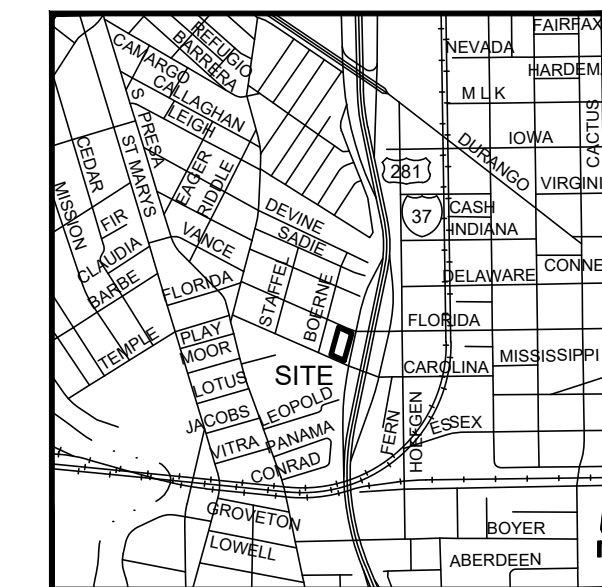
PAVEMENT SITE PLAN

LEGEND

— OHU —	EXISTING OVERHEAD ELECTRIC
— UGE —	EXISTING UNDERGROUND ELECTRIC
— G —	EXISTING GAS LINE
— SD —	EXISTING STORM DRAIN LINE
— SS —	EXISTING SANITARY SEWER LINE
— W —	EXISTING WATER LINE
— M —	EXISTING WATER METER
— V —	EXISTING WATER VALVE
— F —	EXISTING FIRE HYDRANT
— SS —	EXISTING MANHOLE
— P.P. —	EXISTING POWER POLE
— C/O —	EXISTING CLEAN OUT
— 23.22 —	EXISTING ELEVATION
— E —	EXISTING
— P —	PROPOSED
— F —	FLOW LINE
[Pattern]	PROPOSED CONCRETE FLATWORK
[Pattern]	PROPOSED LIGHT-DUTY CONCRETE PAVEMENT
[Pattern]	PROPOSED TURF WITH CONCRETE BELOW
[Pattern]	PROPOSED DECOMPOSED GRANITE
[Pattern]	PROPOSED LANDSCAPE AREA



JOB NO.: 26-004
DATE: 03/17/26
DESIGNER: J.V.
DRAWN BY: V.R.
SHEET NO.: C2.1

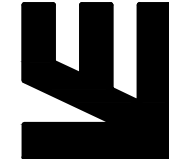


LOCATION MAP
NOT TO SCALE

REVISIONS:

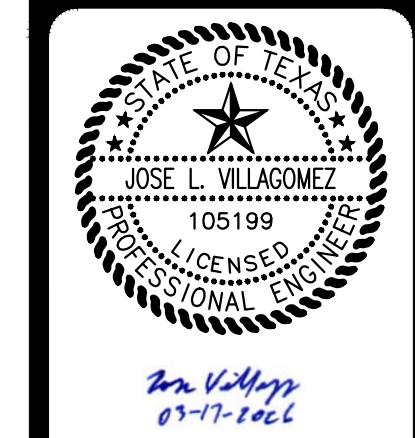
24165 IH-37W, SUITE 217-708
SAN ANTONIO, TEXAS 78257
PHONE: 214-521-1616
FAX: 214-521-0232

VILLAGOMEZ
ENGINEERING
COMPANY

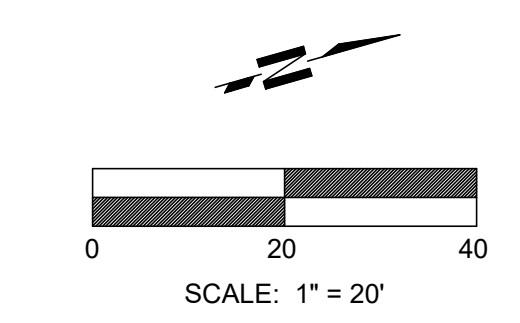
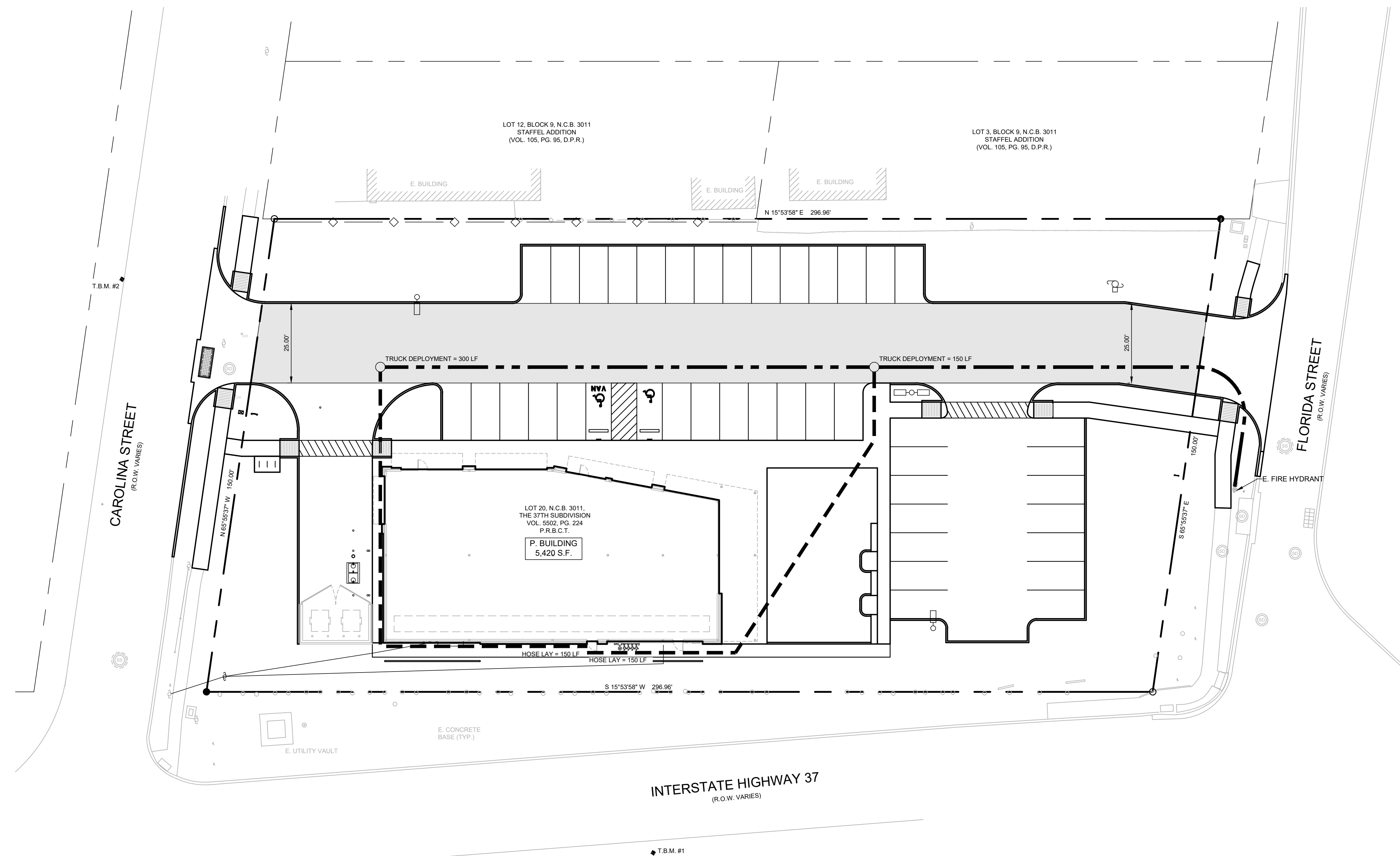


TEXAS BOARD OF PROFESSIONAL ENGINEERS, FIRM REGISTRATION # 13886

FLORIDA STREET RETAIL
418 FLORIDA STREET
SAN ANTONIO, TEXAS
FIRE PROTECTION PLAN



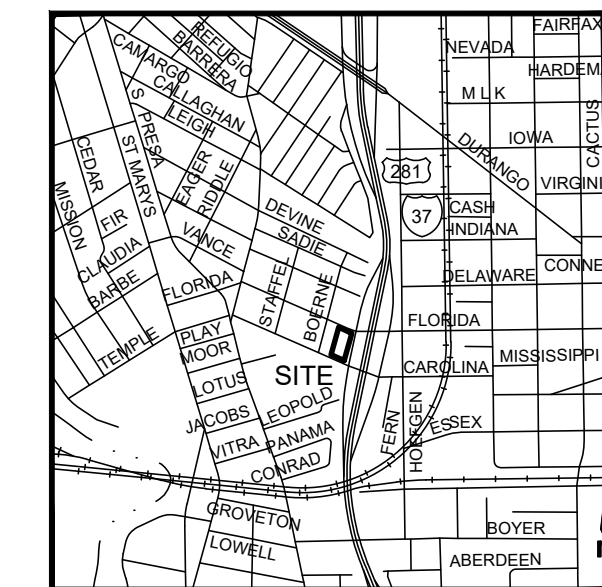
JOB NO.: 26-004
DATE: 03/17/26
DESIGNER: J.V.
DRAWN BY: V.R.
SHEET NO.: C3



FIRE PROTECTION PLAN

LEGEND

	TRUCK DEPLOYMENT
	HOSE LAY
	EXISTING C.A.T.V. LINE
	EXISTING OVERHEAD ELECTRIC
	EXISTING UNDERGROUND ELECTRIC
	EXISTING GAS LINE
	EXISTING STORM DRAIN LINE
	EXISTING SANITARY SEWER LINE
	EXISTING WATER LINE
	EXISTING WATER METER
	EXISTING WATER VALVE
	EXISTING FIRE HYDRANT
	EXISTING MANHOLE
	EXISTING POWER POLE
	EXISTING CLEAN OUT
	EXISTING
	PROPOSED
	FLOW LINE

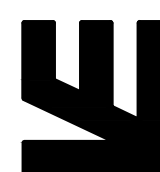


LOCATION MAP
NOT TO SCALE

REVISIONS:

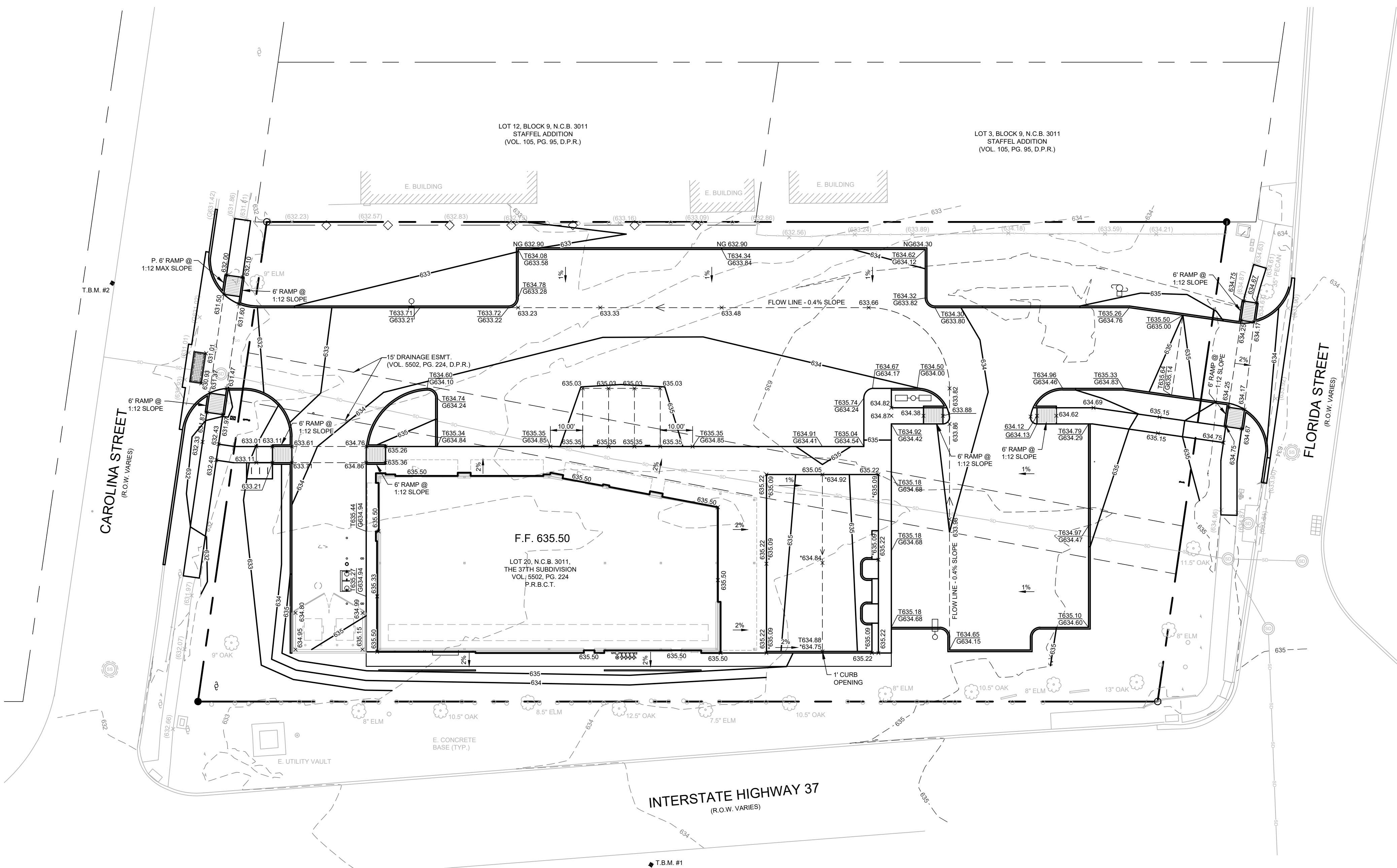
24165 IH-0W, SUITE 217-708
SAN ANTONIO, TEXAS 78257
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VILLAGOMEZ
ENGINEERING
COMPANY



TEXAS BOARD OF PROFESSIONAL ENGINEERS, FIRM REGISTRATION # 13986

FLORIDA STREET RETAIL
418 FLORIDA STREET
SAN ANTONIO, TEXAS
GRADING PLAN



GRADING NOTES:

1. MAXIMUM GRADE AT SIDEWALK RAMP IS 8.33% WITH A CROSS SLOPE OF 2.0% OR LESS AND SHALL COMPLY WITH ADA.
2. ACCESSIBLE PATH SHALL HAVE A RUNNING SLOPE OF NO GREATER THAN 5.0% WITH A CROSS SLOPE OF 2.0% OR LESS.
3. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT WHERE NOT SPECIFICALLY COVERED IN THE CONSTRUCTION DOCUMENTS SHALL CONFORM TO ALL APPLICABLE CODES AND REGULATIONS, INCLUDING, BUT NOT LIMITED TO THE CITY OF SAN ANTONIO AND BEXAR COUNTY.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL CONDITION ANY DAMAGE DONE TO EXISTING IMPROVEMENTS OR UTILITIES.
5. EARTHWORK FOR THE BUILDING FOUNDATION, CONCRETE SLABS AND CONCRETE AND ASPHALT PAVEMENT SHALL BE IN ACCORDANCE WITH THE GEOTECHNICAL REPORT.
6. ADJUST PAVEMENT, CURB ELEVATIONS AND/OR SIDEWALK ELEVATIONS AS NECESSARY TO ENSURE A CONTINUOUS GRADE WITH EXISTING ELEVATIONS.
7. EXISTING AND PROPOSED GRADE CONTOUR INTERVALS SHOWN AT ONE FOOT (1').
8. ALL UNSURFACED AREAS DISTURBED BY GRADING OPERATIONS SHALL RECEIVE FOUR (4) INCHES OF TOPSOIL.

UTILITY LOCATE NOTES:

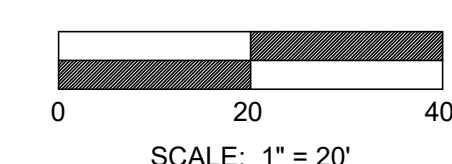
THE EXISTENCE AND LOCATION OF UNDERGROUND CABLE INDICATED ON THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR TO CONTACT THE TELEPHONE COMPANY CABLE LOCATOR 48 HOURS PRIOR TO EXCAVATION AT 1-800-545-6005. CONTRACTOR HAS THE RESPONSIBILITY TO PROTECT AND SUPPORT TELEPHONE COMPANY PLANT DURING CONSTRUCTION.

DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181 GAS COMPANIES MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA. THE CONTRACTOR SHALL NOTIFY THE GAS COMPANY LOCATOR AT 1-800-545-6005, 48 HOURS BEFORE BEGINNING ANY EXCAVATION.

CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO DEVELOP THE CONTRACTOR'S PLANS TO IMPLEMENT THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S PLANS SHALL PROVIDE FOR ADEQUATE TRENCH SAFETY SYSTEMS THAT COMPLY WITH AS A MINIMUM O.S.H.A. STANDARDS FOR TRENCH EXCAVATIONS SPECIFICALLY. CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL DEVELOP AND IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH O.S.H.A. STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

- BENCHMARK 1: MAG NAIL IN CONCRETE
ON LIGHT TOWER OFF OF INTERSTATE HIGHWAY 37
N: 13695663.19
E: 2133819.29
ELEV.: 634.42
- BENCHMARK 2: MAG NAIL IN CURB
OFF OF CAROLINA STREET
N: 13695552.19
E: 2133600.45
ELEV.: 631.47

LEGEND	
— CATV —	EXISTING C.A.T.V. LINE
— CHU —	EXISTING OVERHEAD ELECTRIC
— UGE —	EXISTING UNDERGROUND ELECTRIC
— G —	EXISTING GAS LINE
— SD —	EXISTING STORM DRAIN LINE
— SS —	EXISTING SANITARY SEWER LINE
— W —	EXISTING WATER LINE
— 600 —	EXISTING CONTOUR
— 603 —	PROPOSED CONTOUR
⊕	EXISTING WATER METER
⊕	EXISTING WATER VALVE
⊕	EXISTING FIRE HYDRANT
⊕	EXISTING MANHOLE
⊕	EXISTING POWER POLE
⊕	EXISTING CLEAN OUT
○ (600.00)	EXISTING ELEVATION
○ (600.00)	PROPOSED ELEVATION BELOW TURF
○ 23.22	PROPOSED ELEVATION
○ 23.22	PROPOSED ELEVATION
○ T 36.75	TOP OF CURB ELEVATION
○ G 36.25	GUTTER ELEVATION
E	EXISTING
P	PROPOSED
F	FLOW LINE



GRADING PLAN

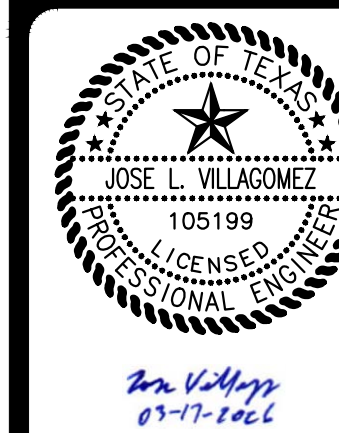
JOB NO.: 26-004

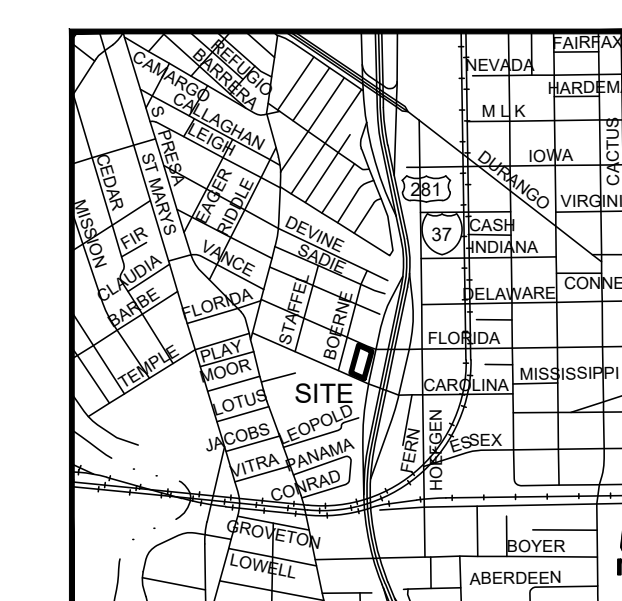
DATE: 03/17/26

DESIGNER: J.V.

DRAWN BY: V.R.

SHEET NO.: C4





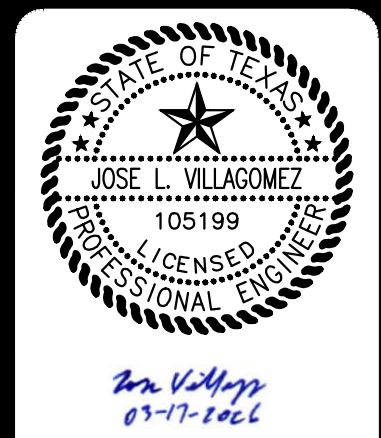
LOCATION MAP
NOT TO SCALE

REVISIONS:

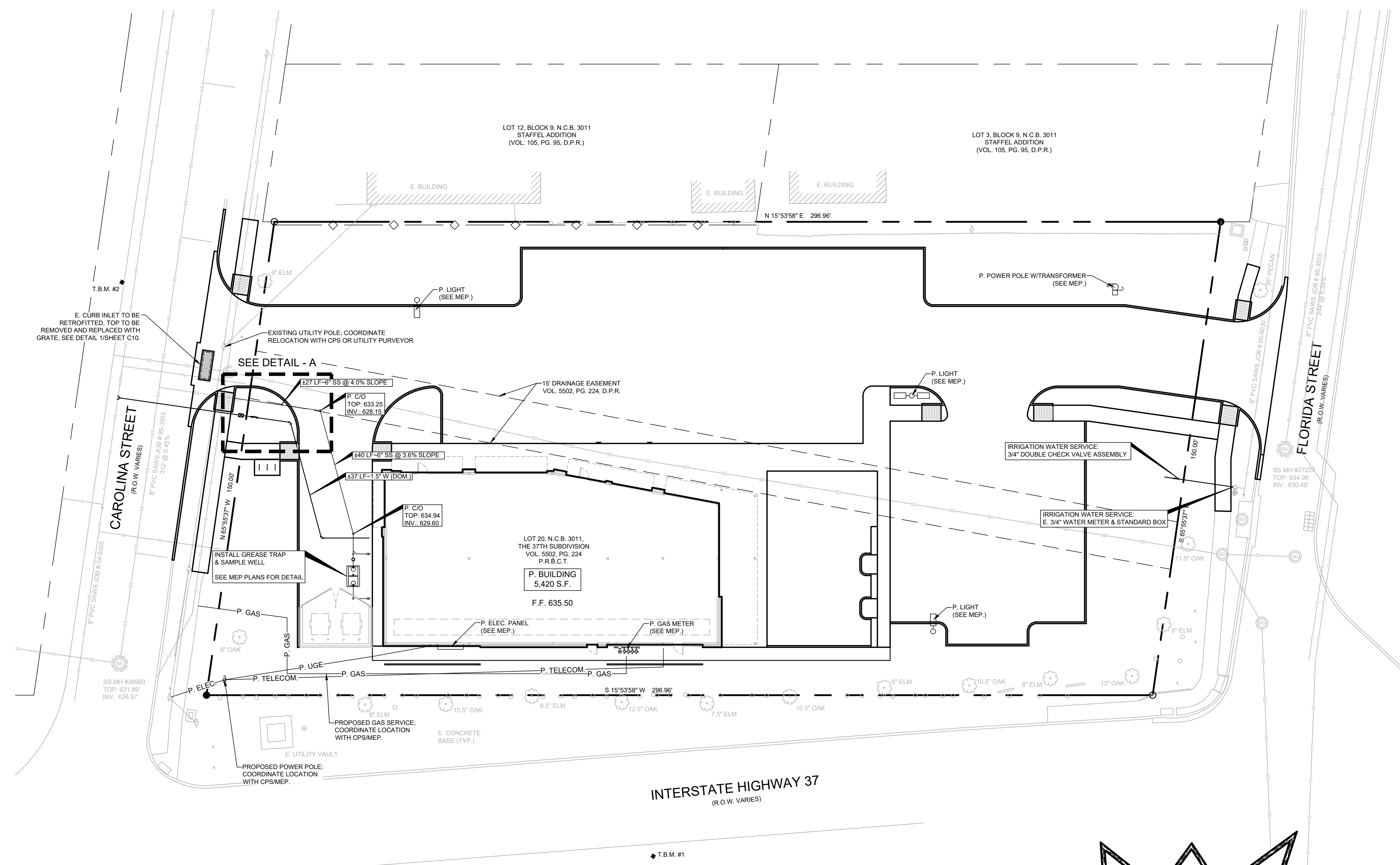
24165 IH-10W, SUITE 217-708
SAN ANTONIO, TEXAS 78257
PHONE: 214-343-1616
FAX: 214-343-0232



FLORIDA STREET RETAIL
418 FLORIDA STREET
SAN ANTONIO, TEXAS
UTILITY SITE PLAN



JOB NO.: 26-004
DATE: 03/17/26
DESIGNER: J.V.
DRAWN BY: V.R.
SHEET NO.: C5



GENERAL NOTES:

- ALL PHASES OF WORK UNDER THIS CONTRACT SHALL BE WITH STRICT ADHERENCE TO "STANDARD SPECIFICATION FOR PUBLIC WORKS CONSTRUCTION" PUBLISHED BY THE CITY OF SAN ANTONIO, TEXAS, DEPARTMENT OF PUBLIC WORKS. FINAL DECISIONS OR JUDGMENTS ON MATTERS NOT SPECIFICALLY COVERED BY THE ABOVE DOCUMENTS SHALL BE MADE BY THE ENGINEER.
- CONTRACTOR SHALL COMPLY WITH THE APPROPRIATE BUILDING CODE AND REGULATIONS, AS WELL AS OTHER SAFETY CODES AND INSPECTION PROVISIONS APPLICABLE TO THIS PROJECT.
- CONTRACTOR SHALL SECURE ALL PERMITS REQUIRED FOR CONSTRUCTION AND SHALL NOTIFY ALL RESPECTIVE GOVERNMENTAL OR UTILITY AGENCIES AFFECTED BY CONSTRUCTION.
- CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE CONSTRUCTION OF THE PROJECT, INCLUDING THE 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, INDEMNIFY AND HOLD THE OWNERS 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.
- DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, NATURAL GAS PURVEYOR MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.
- EXISTING ABOVE GROUND UTILITIES HAVE BEEN PLOTTED BY DIRECT FIELD INVESTIGATION. UNDERGROUND UTILITIES HAVE BEEN COMPILED FROM VARIOUS SOURCES AND REQUIRE VERIFICATION BY THE CONTRACTOR TO ESTABLISH THEIR EXACT LOCATION AND DEPTH. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO EXISTING ABOVE GROUND OR UNDERGROUND UTILITIES, INCLUDING THOSE NOT SHOWN ON DRAWINGS. DEAD UTILITY LINES SHALL BE SUITABLY CAPPED.
- ANY EXISTING SITE IMPROVEMENT OR UTILITY REMOVED, DAMAGED OR UNDERCUT BY CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED AS DIRECTED BY THE ENGINEER AND APPROVED BY THE RESPECTIVE UTILITY AT THE CONTRACTOR'S EXPENSE.
- ALL WASTE MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND IT SHALL BE HIS SOLE RESPONSIBILITY TO DISPOSE OF THIS MATERIAL OFF THE LIMITS OF THE RIGHT-OF-WAY AND TO PRIVATE PROPERTY WHERE THE CONTRACTOR HAS THE CONSENT OF THE OWNERS. NO WASTE MATERIAL SHALL BE PLACED IN EXISTING NATURAL DRAINAGE COURSES.
- BARRICADES AND WARNING SIGNS SHALL CONFORM TO THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND GENERALLY BE LOCATED TO AFFORD MAXIMUM PROTECTION TO THE PUBLIC AS WELL AS CONSTRUCTION PERSONNEL AND EQUIPMENT AND TO ASSURE AN EXPEDITIOUS TRAFFIC FLOW AT ALL TIMES DURING CONSTRUCTION. THE SIGNS SHALL BE COORDINATED WITH SEQUENCE OF CONSTRUCTION AND DETOUR PLAN. DURING THE PROGRESS OF THE WORK THE CONTRACTOR SHALL PROVIDE ACCESS FOR LOCAL TRAFFIC.
- CONTRACTOR SHALL NOTIFY LINE LOCATOR FOR EACH RESPECTIVE UTILITY IN THE PROJECT AREA 48 HOURS PRIOR TO STARTING EXCAVATION.
- FOR LOCATION OF UNDERGROUND ELECTRIC FACILITIES, CALL C.P.S. LOCATOR 48 HOURS PRIOR TO BEGINNING ANY EXCAVATION.
- CONTRACTOR TO CONTACT THE TELEPHONE COMPANY CABLE LOCATOR 48 HOURS PRIOR TO BEGINNING ANY EXCAVATION.
- ASBESTOS CEMENT (AC) PIPE, ALSO KNOWN AS TRANSITE PIPE, CONTAINS ASBESTOS-CONTAINING MATERIAL (ACM) AND IS LOCATED WITHIN THE PROJECT LIMITS. SPECIAL WASTE MANAGEMENT PROCEDURES AND HEALTH AND SAFETY REQUIREMENTS ARE APPLICABLE WHEN HANDLING, REMOVING AND DISPOSING OF THIS PIPE. SEE SWS SPECIAL SPECIFICATION ITEM NO 3000, "SPECIAL SPECIFICATION FOR HANDLING ASBESTOS CEMENT PIPE".
- IF NECESSARY, REPLACE ONE LENGTH OF ASBESTOS CEMENT PIPE TO MEET EPA REQUIREMENTS.
- ALL PIPE SHALL BE RESTRAINED BASED UPON CONDITIONS ENCOUNTERED DURING INSTALLATION SEE S.A.W.S. SPECIFICATIONS BOOK FOR RESTRAINED LENGTHS.

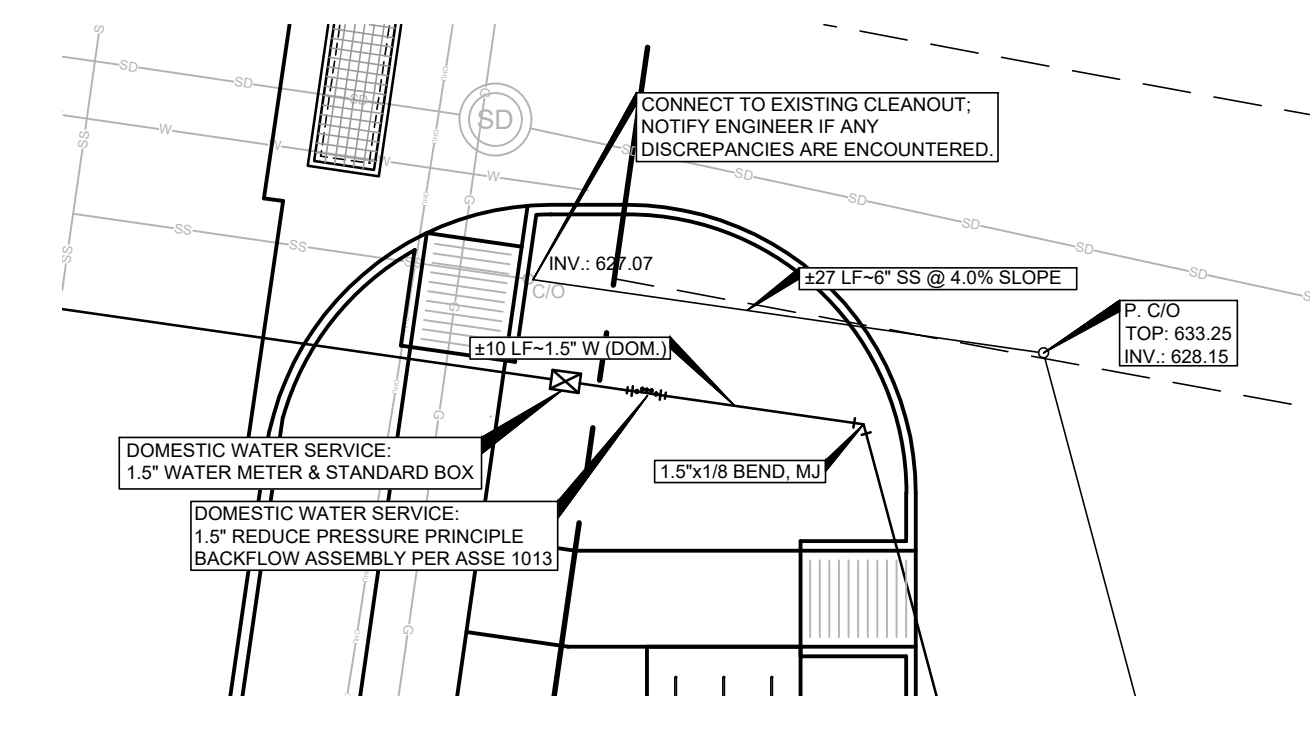
TRENCH EXCAVATION SAFETY PROTECTION:

CONTRACTOR AND/OR CONTRACTORS INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/ GEOTECHNICAL/SAFETY/EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES 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 SYSTEM'S 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 CONTRACTORS 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.

UTILITY LOCATE NOTES:

THE EXISTENCE AND LOCATION OF UNDERGROUND CABLE INDICATED ON THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR TO CONTACT THE TELEPHONE COMPANY CABLE LOCATOR 48 HOURS PRIOR TO EXCAVATION AT 1-800-545-6005. CONTRACTOR HAS THE RESPONSIBILITY TO PROTECT AND SUPPORT TELEPHONE COMPANY PLANT DURING CONSTRUCTION.

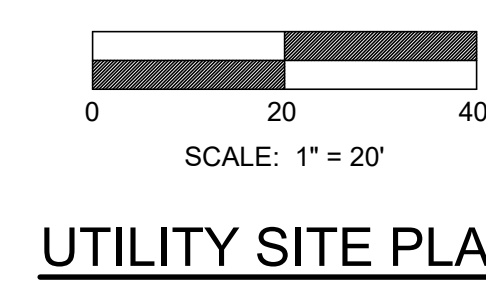
DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181 GAS COMPANIES MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA. THE CONTRACTOR SHALL NOTIFY THE GAS COMPANY LOCATOR AT 1-800-545-6005, 48 HOURS BEFORE BEGINNING ANY EXCAVATION.



DETAIL - A
SCALE: 1" = 10'

LEGEND

P. TELECOM	PROPOSED UNDERGROUND TELECOM.
P. UGE	PROPOSED UNDERGROUND ELECTRIC
P. GAS	PROPOSED GAS LINE
OHU	EXISTING OVERHEAD ELECTRIC
UGE	EXISTING UNDERGROUND ELECTRIC
G	EXISTING GAS LINE
SD	EXISTING STORM DRAIN LINE
SS	EXISTING SANITARY SEWER LINE
W	EXISTING WATER LINE
WM	EXISTING WATER METER
⊗	EXISTING WATER VALVE
⊙	EXISTING FIRE HYDRANT
⊙	EXISTING MANHOLE
⊙	EXISTING CLEAN OUT
⊙ (600.00)	EXISTING ELEVATION
23.22	PROPOSED ELEVATION
E	EXISTING
P	PROPOSED
⬇	FLOW LINE



SAWS CONSTRUCTION NOTES
COUNTER PERMIT AND GENERAL CONSTRUCTION PERMIT

GENERAL SECTION

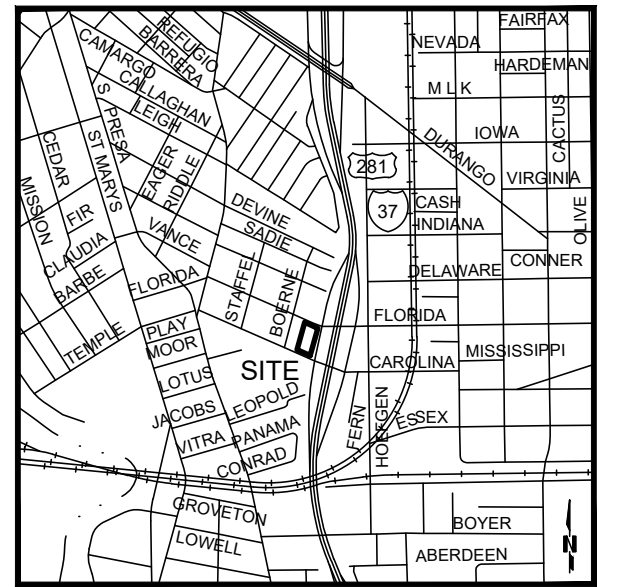
- ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL BE APPROVED BY THE SAN ANTONIO WATER SYSTEM (SAWS) AND COMPLY WITH THE PLANS, SPECIFICATIONS, GENERAL CONDITIONS AND WITH THE FOLLOWING AS APPLICABLE:
 - A. CURRENT TEXAS COMMISSION ON ENVIRONMENTAL QUALITY (TCEQ) DESIGN CRITERIA FOR DOMESTIC WASTEWATER SYSTEM, TEXAS ADMINISTRATIVE CODE (TAC) TITLE 30 PART 1 CHAPTER 217 AND "PUBLIC DRINKING WATER", TAC TITLE 30 PART 1 CHAPTER 200.
 - B. CURRENT TxDOT "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND DRAINAGE".
 - C. CURRENT SAN ANTONIO WATER SYSTEM STANDARD SPECIFICATIONS FOR WATER AND SANITARY SEWER CONSTRUCTION.
 - D. CURRENT CITY OF SAN ANTONIO "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION".
 - E. CURRENT CITY OF SAN ANTONIO "UTILITY EXCAVATION CRITERIA MANUAL" (UECM).
- THE CONTRACTOR SHALL NOT PROCEED WITH ANY PIPE INSTALLATION WORK UNTIL THEY OBTAIN A COPY OF THE APPROVED COUNTER PERMIT OR GENERAL CONSTRUCTION PERMIT (GCP) FROM THE CONSULTANT AND HAS BEEN NOTIFIED BY SAWS CONSTRUCTION INSPECTION DIVISION TO PROCEED WITH THE WORK AND HAS ARRANGED A MEETING WITH THE INSPECTOR AND CONSULTANT FOR THE WORK REQUIREMENTS. WORK COMPLETED BY THE CONTRACTOR WITHOUT AN APPROVED COUNTER PERMIT AND/OR A GCP WILL BE SUBJECT TO REMOVAL AND REPLACEMENT AT THE EXPENSE OF THE CONTRACTOR AND/OR THE DEVELOPER.
- THE CONTRACTOR SHALL OBTAIN THE SAWS STANDARD DETAILS FROM THE SAWS WEBSITE, HTTP://WWW.SAWS.ORG/BUSINESS_CENTERS/SPECS. UNLESS OTHERWISE NOTED WITHIN THE DESIGN PLANS.
- THE CONTRACTOR IS TO MAKE ARRANGEMENTS WITH THE SAWS CONSTRUCTION INSPECTION DIVISION AT (210) 233-2973, ON NOTIFICATION PROCEDURES THAT WILL BE USED TO NOTIFY AFFECTED HOME RESIDENTS AND/OR PROPERTY OWNERS 48 HOURS PRIOR TO BEGINNING ANY WORK.
- LOCATION AND DEPTH OF EXISTING UTILITIES AND SERVICE LATERALS SHOWN ON THE PLANS ARE UNDERSTOOD TO BE APPROXIMATE. ACTUAL LOCATIONS AND DEPTHS MUST BE FIELD VERIFIED BY THE CONTRACTOR AT LEAST 1 WEEK PRIOR TO CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITY SERVICE LINES AS REQUIRED FOR CONSTRUCTION AND TO PROTECT THEM DURING CONSTRUCTION AT NO COST TO SAWS.
- THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF UNDERGROUND UTILITIES AND DRAINAGE STRUCTURES AT LEAST 1-2 WEEKS PRIOR TO CONSTRUCTION WHETHER SHOWN ON PLANS OR NOT. PLEASE ALLOW UP TO 7 BUSINESS DAYS FOR LOCATES REQUESTING PIPE LOCATION MARKERS ON SAWS FACILITIES. THE FOLLOWING CONTACT INFORMATION ARE SUPPLIED FOR VERIFICATION PURPOSES:
 - SAWS UTILITY LOCATES: HTTP://WWW.SAWS.ORG/SERVICE/LOCATES
 - COSA DRAINAGE (210) 207-0724 OR (210) 207-6026
 - COSA TRAFFIC SIGNAL OPERATIONS (210) 208-8480
 - COSA TRAFFIC SIGNAL DAMAGES (210) 207-3951
 - TEXAS STATE WIDE ONE CALL LOCATOR 1-800-545-8005 OR 811
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING EXISTING FENCES, CURBS, STREETS, DRIVEWAYS, SIDEWALKS, LANDSCAPING AND STRUCTURES TO ITS ORIGINAL OR BETTER CONDITION IF DAMAGES ARE MADE AS A RESULT OF THE PROJECT'S CONSTRUCTION.
- ALL WORK IN TEXAS DEPARTMENT OF TRANSPORTATION (TxDOT) AND/OR BEXAR COUNTY RIGHT-OF-WAY SHALL BE DONE IN ACCORDANCE WITH RESPECTIVE CONSTRUCTION SPECIFICATIONS AND PERMIT REQUIREMENTS.
- THE CONTRACTOR SHALL COMPLY WITH CITY OF SAN ANTONIO OR OTHER GOVERNING MUNICIPALITY'S TREE ORDINANCES WHEN EXCAVATING NEAR TREES.
- THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIALS IN THE 100-YEAR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAN PERMIT.
- HOLIDAY WORK: CONTRACTORS WILL NOT BE ALLOWED TO PERFORM SAWS WORK ON SAWS RECOGNIZED HOLIDAYS. REQUEST SHOULD BE SENT TO CONSTWORKEG@SAWS.ORG.
- WEEKEND WORK: CONTRACTORS ARE REQUIRED TO NOTIFY THE SAWS INSPECTION CONSTRUCTION DEPARTMENT 48 HOURS IN ADVANCE TO REQUEST WEEKEND WORK. REQUEST SHOULD BE SENT TO CONSTWORKEG@SAWS.ORG.
- ANY AND ALL SAWS UTILITY WORK INSTALLED WITHOUT HOLIDAY/WEEKEND APPROVAL WILL BE SUBJECT TO BE UNCOVERED FOR PROPER INSPECTION.
- COMPACTION NOTE (ITEM 824): THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING THE COMPACTION REQUIREMENTS ON ALL TRENCH BACKFILL AND FOR PAYING FOR THE TESTS PERFORMED BY A THIRD PARTY. COMPACTION TESTS WILL BE DONE AT ONE LOCATION POINT RANDOMLY SELECTED, OR AS INDICATED BY THE SAWS INSPECTOR AND/OR THE TEST ADMINISTRATOR, PER EACH 12-INCH LOOSE LIFT PER 400 LINEAR FEET AT A MINIMUM. THIS PROJECT WILL NOT BE ACCEPTED AND FINALIZED BY SAWS WITHOUT THIS REQUIREMENT BEING MET AND VERIFIED BY PROVIDING ALL NECESSARY DOCUMENTED TEST RESULTS.
- A COPY OF ALL TESTING REPORTS SHALL BE FORWARDED TO SAWS CONSTRUCTION INSPECTION DIVISION.

SEWER SECTION

- THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT NO SANITARY SEWER OVERFLOW (SSO) OCCURS AS A RESULT OF THEIR WORK. ALL CONTRACTOR PERSONNEL RESPONSIBLE FOR SSO PREVENTION AND CONTROL SHALL BE TRAINED ON PROPER RESPONSE. SHOULD AN SSO OCCUR, THE CONTRACTOR SHALL:
 - A. IDENTIFY THE SOURCE OF THE SSO AND NOTIFY SAWS EMERGENCY OPERATIONS CENTER (EOC) IMMEDIATELY AT (210) 233-2014. PROVIDE THE ADDRESS OF THE SPILL AND AN ESTIMATED VOLUME OR FLOW.
 - B. ATTEMPT TO ELIMINATE THE SOURCE OF THE SSO.
 - C. CONTAIN SEWAGE FROM THE SSO TO THE EXTENT OF PREVENTING A POSSIBLE CONTAMINATION OF WATERWAYS.
 - D. CLEAN UP SPILL SITES, RETURN CONTAINED SEWAGE TO THE COLLECTION SYSTEM (IF POSSIBLE) AND PROPERLY DISPOSE OF CONTAMINATED SOLID MATERIALS.
 - E. CLEAN THE AFFECTED SEWER MAINS AND REMOVE ANY DEBRIS.
 - F. MEET ALL POST-SO REQUIREMENTS AS PER THE EPA CONSENT DECREE, INCLUDING LINE CLEANING AND TELEVISION OF THE AFFECTED SEWER MAINS (AT SAWS DIRECTION) WITHIN 24 HOURS.
- SHOULD THE CONTRACTOR FAIL TO ADDRESS AN SSO IMMEDIATELY AND TO SAWS SATISFACTION, THEY WILL BE RESPONSIBLE FOR ALL COSTS INCURRED BY SAWS, INCLUDING ANY FINES FROM EPA, TCEQ AND/OR ANY OTHER FEDERAL, STATE OR LOCAL AGENCIES.
- NO SEPARATE MEASUREMENT OR PAYMENT SHALL BE MADE FOR THIS WORK. ALL WORK SHALL BE DONE ACCORDING TO GUIDELINES SET BY THE TCEQ AND SAWS.
- IF BYPASS PUMPING IS REQUIRED, THE CONTRACTOR SHALL PERFORM SUCH WORK IN ACCORDANCE WITH SAWS STANDARD SPECIFICATION FOR WATER AND SANITARY SEWER CONSTRUCTION, ITEM NO. 804, "BYPASS PUMPING".
- PRIOR TO TIE-INS, ANY SHUTDOWNS OF EXISTING MAINS OF ANY SIZE MUST BE COORDINATED WITH THE SAWS CONSTRUCTION INSPECTION DIVISION AT (210) 233-2973 AT LEAST ONE WEEK IN ADVANCE OF THE SHUTDOWN. THE CONTRACTOR MUST ALSO PROVIDE A SEQUENCE OF WORK AS RELATED TO THE TIE-INS. THIS IS AT NO ADDITIONAL COST TO SAWS OR THE PROJECT AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SEQUENCE THE WORK ACCORDINGLY.
- SEWER PIPE WHERE WATER LINE CROSSES SHALL BE 160 PSI AND MEET THE REQUIREMENTS OF ASTM D2241, TAC 217.53 AND TCEQ 290.41E(4)(b)(8). CONTRACTOR SHALL CENTER A 20' JOINT OF 160 PSI PRESSURE RATED PVC AT THE PROPOSED WATER CROSSING.
- ELEVATIONS POSTED FOR TOP OF MANHOLES ARE FOR REFERENCE ONLY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAKE ALLOWANCES AND ADJUSTMENTS FOR TOP OF MANHOLES TO MATCH THE FINISHED GRADE OF THE PROJECT'S IMPROVEMENTS. (NSPI)
- SPILLS, OVERFLOWS, OR DISCHARGES OF WASTEWATER, ALL SPILLS, OVERFLOWS, OR DISCHARGES OF WASTEWATER, RECYCLED WATER, PETROLEUM PRODUCTS, OR CHEMICALS MUST BE REPORTED IMMEDIATELY TO THE SAWS INSPECTOR ASSIGNED TO THE COUNTER PERMIT OR GENERAL CONSTRUCTION PERMIT (GCP). THIS REQUIREMENT APPLIES TO EVERY SPILL, OVERFLOW, OR DISCHARGE REGARDLESS OF SIZE.
- MANHOLE AND ALL PIPE TESTING (INCLUDING THE TV INSPECTION) MUST BE PERFORMED AND PASSED PRIOR TO FINAL FIELD ACCEPTANCE BY SAWS CONSTRUCTION INSPECTION DIVISION, AS PER THE SAWS SPECIFICATIONS FOR WATER AND SANITARY SEWER CONSTRUCTION.
- ALL PVC PIPE OVER 14 FEET OF COVER SHALL BE EXTRA STRENGTH WITH MINIMUM PIPE STIFFNESS OF 115 PSI.

WATER SECTION

- PRIOR TO TIE-INS, ANY SHUTDOWNS OF EXISTING MAINS OF ANY SIZE MUST BE COORDINATED WITH THE SAWS CONSTRUCTION INSPECTION DIVISION AT LEAST ONE WEEK IN ADVANCE OF THE SHUTDOWN. THE CONTRACTOR MUST ALSO PROVIDE A SEQUENCE OF WORK AS RELATED TO THE TIE-INS. THIS IS AT NO ADDITIONAL COST TO SAWS OR THE PROJECT AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SEQUENCE THE WORK ACCORDINGLY.
 - FOR WATER MAINS 12" OR HIGHER, SAWS EMERGENCY OPERATIONS CENTER (210) 233-2014
- ASBESTOS CEMENT (AC) PIPE, ALSO KNOWN AS TRANSLITE PIPE, WHICH IS KNOWN TO CONTAIN ASBESTOS-CONTAINING MATERIAL (ACM), MAY BE LOCATED WITHIN THE PROJECT LIMITS. SPECIAL WASTE MANAGEMENT PROCEDURES AND HEALTH AND SAFETY REQUIREMENTS WILL BE APPLICABLE WHEN REMOVAL AND/OR DISTURBANCE OF THIS PIPE OCCURS. SUCH WORK IS TO BE MADE UNDER SPECIAL SPECIFICATION ITEM NO. 3000, "SPECIAL SPECIFICATION FOR HANDLING ASBESTOS CEMENT PIPE".
- VALVE REMOVAL: WHERE THE CONTRACTOR IS TO ABANDON A WATER MAIN, THE CONTROL VALVE LOCATED ON THE ABANDONING BRANCH WILL BE REMOVED AND REPLACED WITH A CAPPLUG. (NSPI)
- SUITABLE ANCHORAGE/THRUST BLOKING OR JOINT RESTRAINT SHALL BE PROVIDED AT ALL OF THE FOLLOWING MAIN LOCATIONS: DEAD ENDS, PLUGS, CAPS, TEES, CROSSES, VALVES, AND BENDS, IN ACCORDANCE WITH THE STANDARD DRAWINGS DD-839 SERIES AND ITEM NO. 839, IN THE SAWS STANDARD SPECIFICATIONS FOR CONSTRUCTION.
- ALL VALVES SHALL READ "OPEN RIGHT".
- PRVS REQUIRED: CONTRACTOR TO VERIFY THAT NO PORTION OF THE TRAC IS BELOW GROUND ELEVATION OF _____ FEET WHERE THE STATIC PRESSURE WILL NORMALLY EXCEED 80 PSI. AT ALL SUCH LOCATIONS WHERE THE GROUND LEVEL IS BELOW _____ FEET, THE DEVELOPER OR BUILDER SHALL INSTALL AT EACH LOT, ON THE CUSTOMER'S SIDE OF THE METER, AN APPROVED TYPE PRESSURE REGULATOR IN CONFORMANCE WITH THE PLUMBING CODE OF THE CITY OF SAN ANTONIO. NO DUAL SERVICES ALLOWED FOR ANY LOT(S). ONLY SINGLE SERVICE CONNECTIONS SHALL BE ALLOWED. NOTE: A PRESSURE REGULATOR IS ALSO KNOWN AS A PRESSURE REDUCING VALVE (PRV).
- PIPE DISINFECTION WITH DRY HTH FOR PROJECTS LESS THAN 800 LINEAR FEET. (ITEM NO. 847.3). MAINS SHALL BE DISINFECTED WITH DRY HTH WHERE SHOWN IN THE CONTRACT DOCUMENTS OR AS DIRECTED BY THE INSPECTOR, AND SHALL NOT EXCEED A TOTAL LENGTH OF 800 FEET. THIS METHOD OF DISINFECTION WILL ALSO BE FOLLOWED FOR MAIN REPAIRS. THE CONTRACTOR SHALL UTILIZE ALL APPROPRIATE SAFETY MEASURES TO PROTECT HIS PERSONNEL DURING DISINFECTION OPERATIONS.
- BACKFLOW PREVENTION DEVICES:
 - ALL IRRIGATION SERVICES WITHIN RESIDENTIAL AREAS ARE REQUIRED TO HAVE BACKFLOW PREVENTION DEVICES.
 - ALL COMMERCIAL BACKFLOW PREVENTION DEVICES MUST BE APPROVED BY SAWS PRIOR TO INSTALLATION.
- FINAL CONNECTION TO THE EXISTING WATER MAIN SHALL NOT BE MADE UNTIL THE WATER MAIN HAS BEEN PRESSURE TESTED, CHLORINATED, AND SAWS HAS RELEASED THE MAIN FOR TIE-IN AND USE.
- DIVISION VALVES: DIVISION VALVES SHOWN ON PLANS OR NOT SHOWN ON PLANS BUT FOUND IN THE FIELD SHALL ONLY BE OPERATED BY SAWS DISTRIBUTION AND COLLECTION STAFF. AND ONLY WITH PRIOR WRITTEN APPROVAL OF THE SAWS DIRECTOR OF PRODUCTION AND OPERATIONS AND PROPER COORDINATION WITH ALL SAWS DEPARTMENTS. CONTRACTOR SHALL PROVIDE WRITTEN NOTIFICATION TO THE INSPECTOR A MINIMUM OF TWO WEEKS IN ADVANCE TO START THE COORDINATION PROCESS AND WILL BE INFORMED BY THE INSPECTOR WHEN THE DIVISION VALVE WILL BE OPERATED BY THE SAWS DISTRIBUTION AND COLLECTION STAFF. THE DIVISION VALVE CAN ONLY BE OPERATED BY SAWS DISTRIBUTION AND COLLECTION STAFF MEMBER NOT THE INSPECTOR OR THE CONTRACTOR. OPERATION OF A DIVISION VALVE WITHOUT THE EXPRESS PRIOR WRITTEN APPROVAL OF THE SAWS DISTRIBUTION AND COLLECTION STAFF WILL CONSTITUTE A MATERIAL BREACH OF ANY WRITTEN SAWS CONTRACT OR PERMIT BY ADDITION TO SUBJECTING THE CONTRACTOR TO LIABILITY FOR ANY AND ALL FINES, FEES, OR OTHER DAMAGES, DIRECT OR CONSEQUENTIAL, THAT MAY ARISE FROM OR BE CAUSED BY THE OPERATION OF THE VALVE WITHOUT PRIOR WRITTEN PERMISSION. PLEASE BE INFORMED THAT THE APPROVAL OF THE OPERATION OR OPENING OR CLOSING OF A DIVISION VALVE CAN TAKE SEVERAL WEEKS FOR APPROVAL. DIVISION VALVES WILL ALSO HAVE A VALVE LD LABELED DIVISION VALVE AND A LOCKING MECHANISM INSTALLED WITH A KEY. THE LOCK AND KEY MECHANISM WILL BE PAID FOR BY THE CONTRACTOR BUT WILL BE INSTALLED BY SAWS DISTRIBUTION AND COLLECTION STAFF.



LOCATION MAP
NOT TO SCALE

GENERAL NOTES:

- ALL PHASES OF WORK UNDER THIS CONTRACT SHALL BE WITH STRICT ADHERENCE TO "STANDARD SPECIFICATION FOR PUBLIC WORKS CONSTRUCTION" PUBLISHED BY THE CITY OF SAN ANTONIO, TEXAS, DEPARTMENT OF PUBLIC WORKS. FINAL DECISIONS OR JUDGMENTS ON MATTERS NOT SPECIFICALLY COVERED BY THE ABOVE DOCUMENTS SHALL BE MADE BY THE ENGINEER.
- CONTRACTOR SHALL COMPLY WITH THE APPROPRIATE BUILDING CODE AND REGULATIONS, AS WELL AS OTHER SAFETY CODES AND INSPECTION PROVISIONS APPLICABLE TO THIS PROJECT.
- CONTRACTOR SHALL SECURE ALL PERMITS REQUIRED FOR CONSTRUCTION AND SHALL NOTIFY ALL RESPECTIVE GOVERNMENTAL OR UTILITY AGENCIES AFFECTED BY CONSTRUCTION.
- CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE SAFETY OF ALL PERSONS AND 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, INDEMNIFY AND HOLD THE OWNERS 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.
- DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, NATURAL GAS PURVEYOR MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.
- EXISTING ABOVE GROUND UTILITIES HAVE BEEN PLOTTED BY DIRECT FIELD INVESTIGATION. UNDERGROUND UTILITIES HAVE BEEN COMPILED FROM VARIOUS SOURCES AND REQUIRE VERIFICATION BY THE CONTRACTOR TO ESTABLISH THEIR EXACT LOCATION AND DEPTH. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO EXISTING ABOVE GROUND OR UNDERGROUND UTILITIES, INCLUDING THOSE NOT SHOWN ON DRAWINGS. DEAD UTILITY LINES SHALL BE SUITABLY CAPPED.
- ANY EXISTING SITE IMPROVEMENT OR UTILITY REMOVED, DAMAGED OR UNDERCUT BY CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED AS DIRECTED BY THE ENGINEER AND APPROVED BY THE RESPECTIVE UTILITY AT THE CONTRACTOR'S EXPENSE.
- ALL WASTE MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND IT SHALL BE HIS SOLE RESPONSIBILITY TO DISPOSE OF THIS MATERIAL OFF THE LIMITS OF THE RIGHT-OF-WAY AND TO PRIVATE PROPERTY WHERE THE CONTRACTOR HAS THE CONSENT OF THE OWNERS. NO WASTE MATERIAL SHALL BE PLACED IN EXISTING NATURAL DRAINAGE COURSES.
- BARRICADES AND WARNING SIGNS SHALL CONFORM TO THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES AND GENERALLY BE LOCATED TO AFFORD MAXIMUM PROTECTION TO THE PUBLIC AS WELL AS CONSTRUCTION PERSONNEL AND EQUIPMENT AND TO ASSURE AN EXPEDITIOUS TRAFFIC FLOW AT ALL TIMES DURING CONSTRUCTION. THE SIGNS SHALL BE COORDINATED WITH SEQUENCE OF CONSTRUCTION AND DETOUR PLAN. DURING THE PROGRESS OF THE WORK THE CONTRACTOR SHALL PROVIDE ACCESS TO LOCAL TRAFFIC.
- CONTRACTOR SHALL NOTIFY LINE LOCATOR FOR EACH RESPECTIVE UTILITY IN THE PROJECT AREA 48 HOURS PRIOR TO STARTING EXCAVATION.
- FOR LOCATION OF UNDERGROUND ELECTRIC FACILITIES, CALL C.P.S. LOCATOR 48 HOURS PRIOR TO BEGINNING ANY EXCAVATION.
- CONTRACTOR TO CONTACT THE TELEPHONE COMPANY CABLE LOCATOR 48 HOURS PRIOR TO BEGINNING ANY EXCAVATION.
- ASBESTOS CEMENT (AC) PIPE, ALSO KNOWN AS TRANSLITE PIPE, CONTAINS ASBESTOS-CONTAINING MATERIAL (ACM) AND IS LOCATED WITHIN THE PROJECT LIMITS. SPECIAL WASTE MANAGEMENT PROCEDURES AND HEALTH AND SAFETY REQUIREMENTS ARE APPLICABLE WHEN HANDLING, REMOVING AND DISPOSING OF THIS PIPE. SEE SAWS SPECIAL SPECIFICATION ITEM NO. 3000, "SPECIAL SPECIFICATION FOR HANDLING ASBESTOS CEMENT PIPE".
- IF NECESSARY, REPLACE ONE LENGTH OF ASBESTOS CEMENT PIPE TO MEET EPA REQUIREMENTS.
- ALL PIPE SHALL BE RESTRAINED BASED UPON CONDITIONS ENCOUNTERED DURING INSTALLATION SEE S.A.W.S. SPECIFICATIONS BOOK FOR RESTRAINED LENGTHS.

TRENCH EXCAVATION SAFETY PROTECTION:

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 SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS AND 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.

UTILITY LOCATE NOTES:

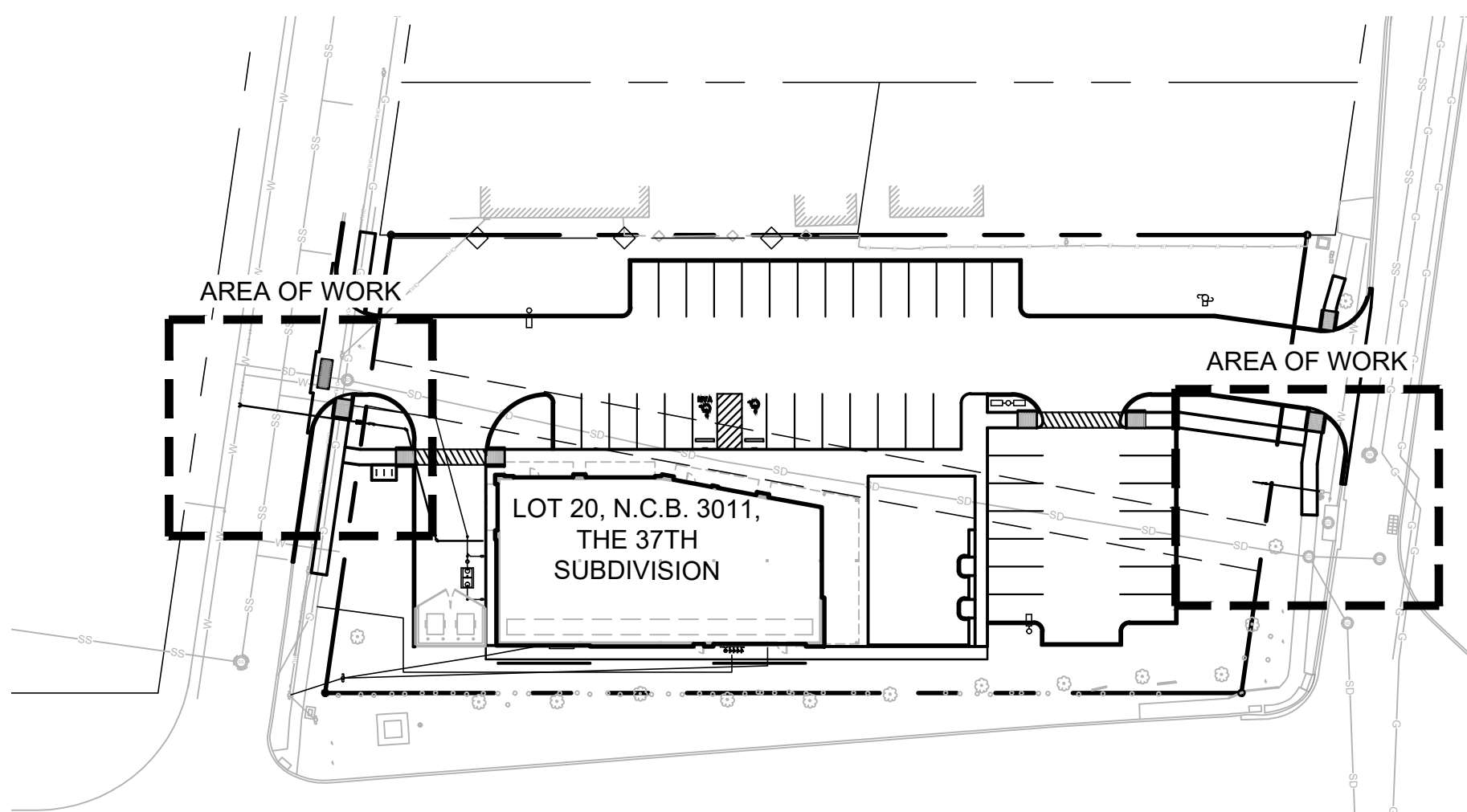
THE EXISTENCE AND LOCATION OF UNDERGROUND CABLE INDICATED ON THE PLANS ARE TAKEN FROM THE BEST RECORDS AVAILABLE AND ARE NOT GUARANTEED TO BE ACCURATE. CONTRACTOR TO CONTACT THE TELEPHONE COMPANY CABLE LOCATOR 48 HOURS PRIOR TO EXCAVATION AT 1-800-545-8006. CONTRACTOR HAS THE RESPONSIBILITY TO PROTECT AND SUPPORT TELEPHONE COMPANY PLANT DURING CONSTRUCTION.

DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181 GAS COMPANIES MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA. THE CONTRACTOR SHALL NOTIFY THE GAS COMPANY LOCATOR AT 1-800-545-8006, 48 HOURS BEFORE BEGINNING ANY EXCAVATION.

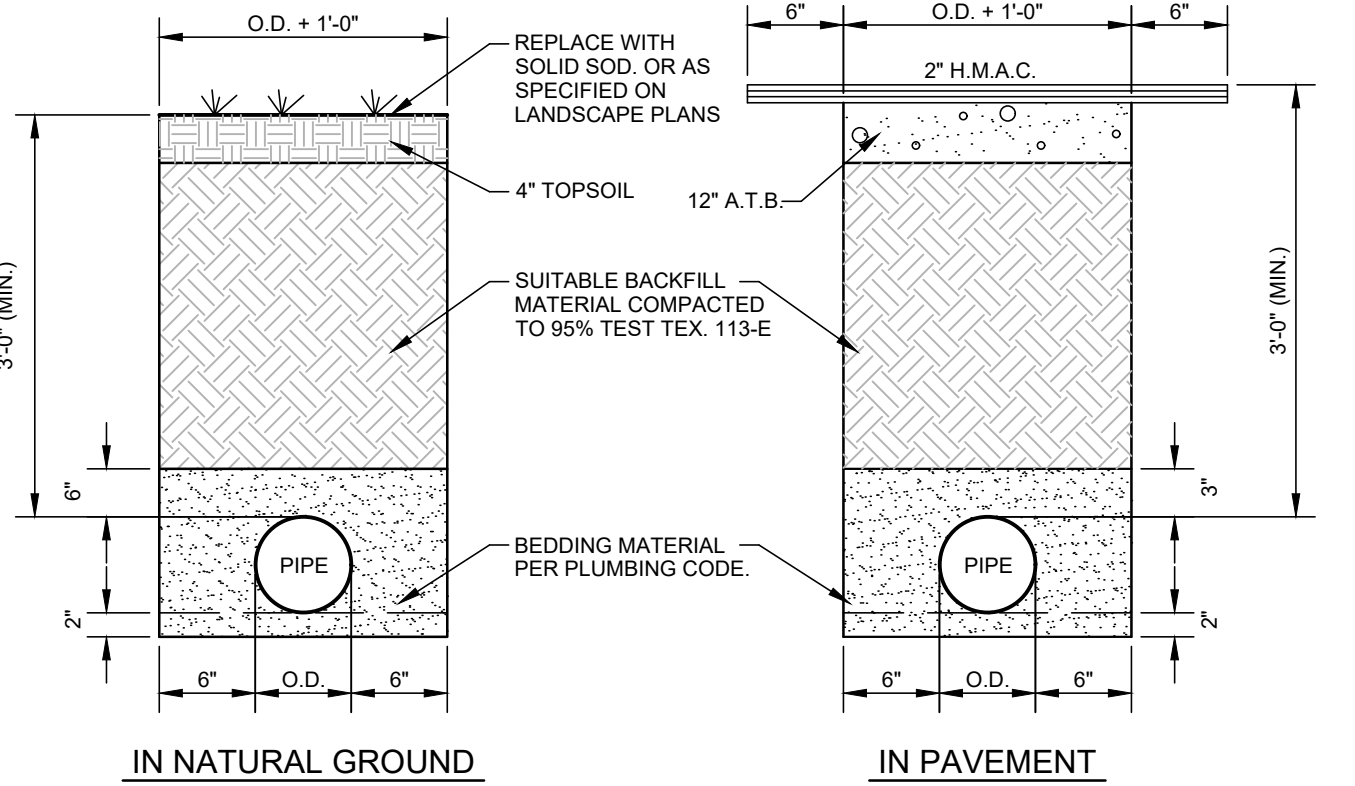
CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN/ GEOTECHNICAL SAFETY EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO DEVELOP THE CONTRACTOR'S PLANS TO IMPLEMENT THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S PLANS SHALL PROVIDE FOR ADEQUATE TRENCH SAFETY SYSTEMS THAT COMPLY WITH AS A MINIMUM O.S.H.A. STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND/OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL DEVELOP AND IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH O.S.H.A. STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

LEGEND

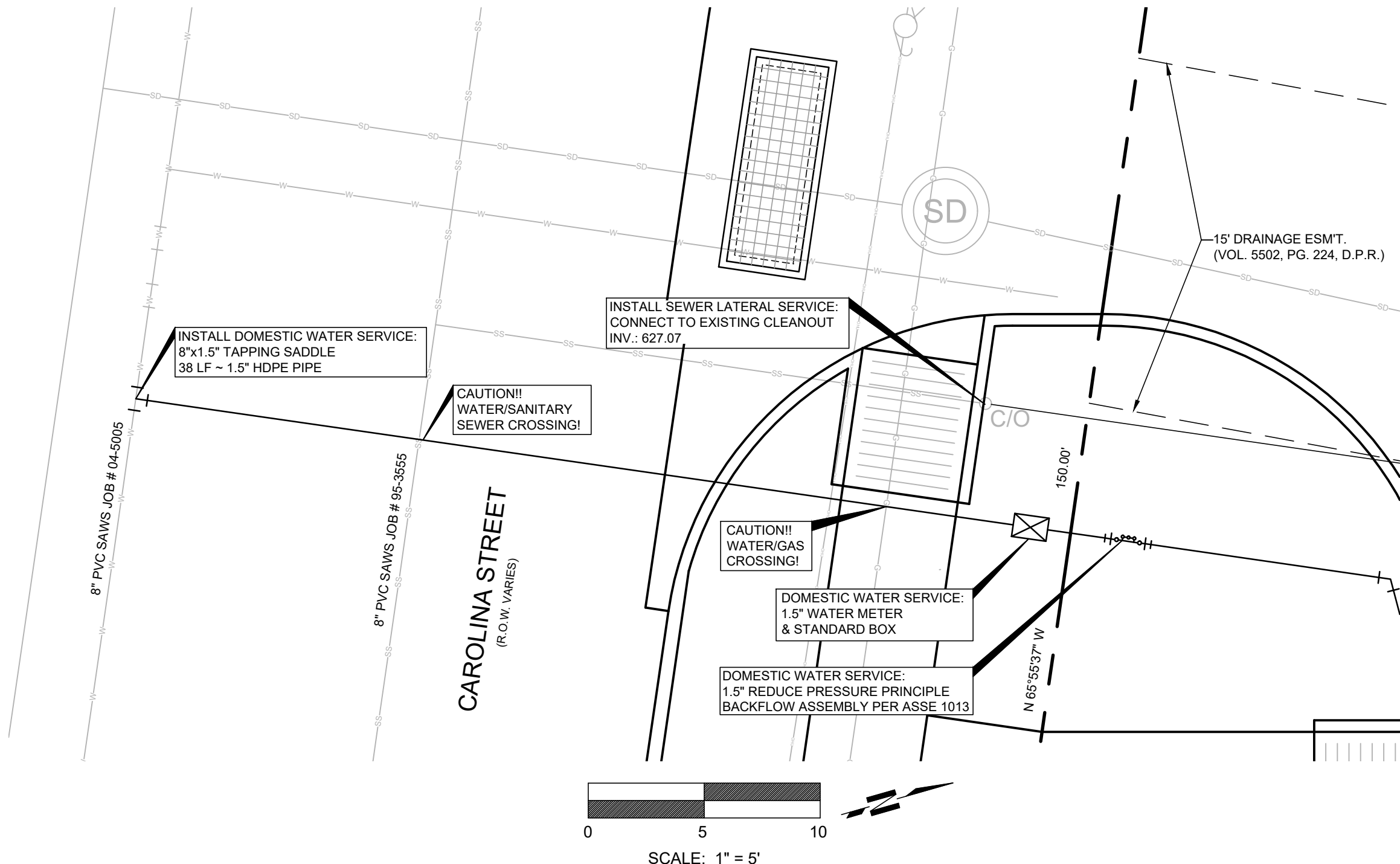
CATV	EXISTING C.A.T.V. LINE
OHU	EXISTING OVERHEAD ELECTRIC
UGE	EXISTING UNDERGROUND ELECTRIC
SD	EXISTING STORM DRAIN LINE
SS	EXISTING SANITARY SEWER LINE
W	EXISTING WATER LINE
600	EXISTING CONTOUR
603	PROPOSED CONTOUR
W	EXISTING WATER METER
W	EXISTING WATER VALVE
SS	EXISTING FIRE HYDRANT
SS	EXISTING MANHOLE
CP	EXISTING POWER POLE
CO	EXISTING CLEAN OUT
(601.00)	EXISTING ELEVATION
23.22	PROPOSED ELEVATION
T 36.75	TOP OF CURB ELEVATION
G 36.25	GUTTER ELEVATION
E	EXISTING CONTOUR
P	PROPOSED
E	FLOW LINE



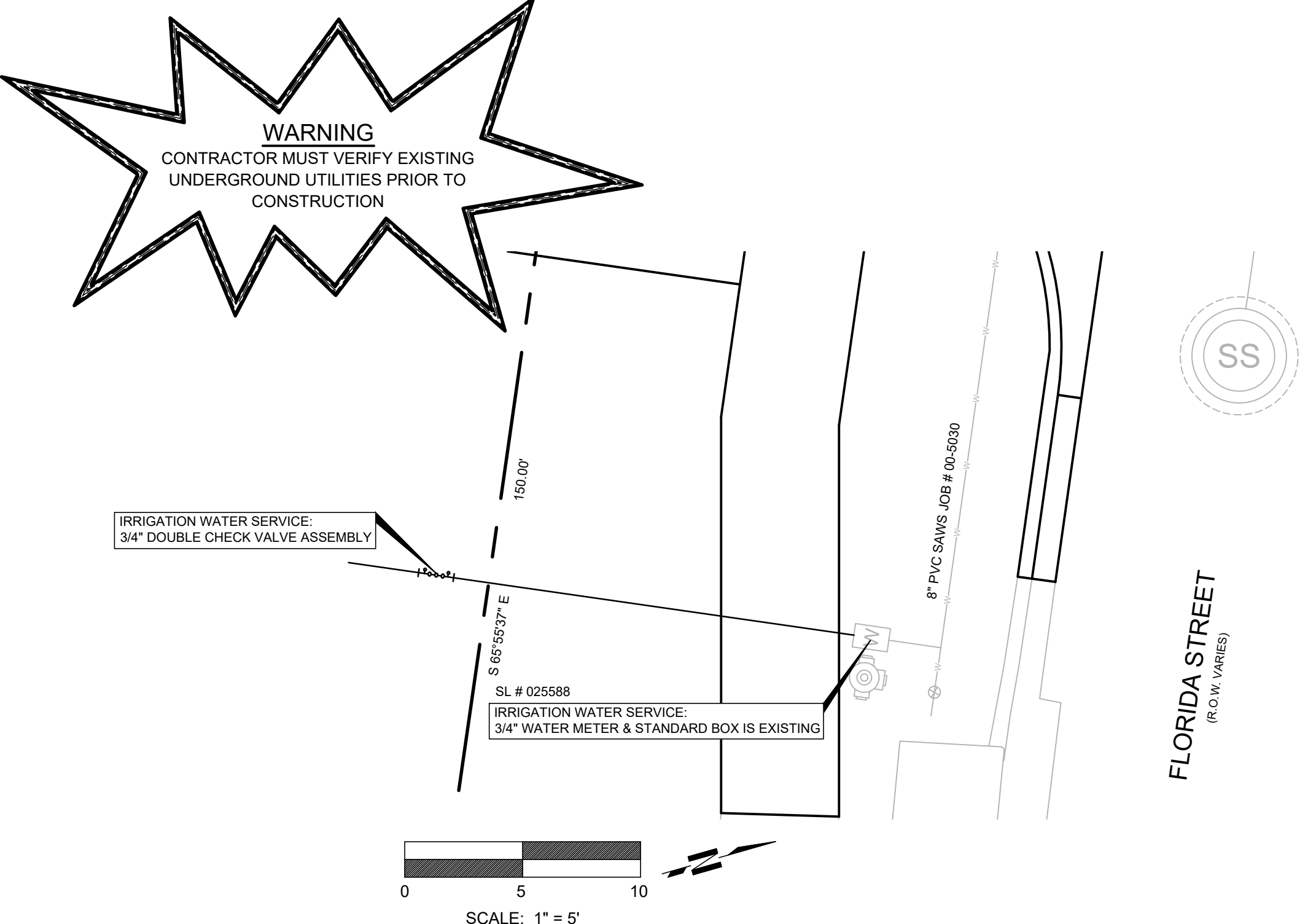
OVERALL SITE PLAN
SCALE: 1" = 50'



PIPE TRENCH
NOT TO SCALE



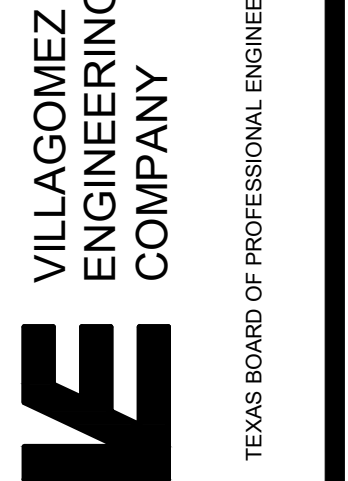
SEWER & WATER CONNECTION PLAN



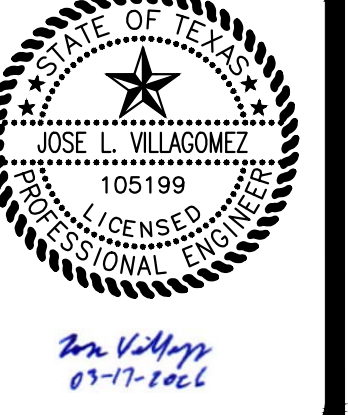
WATER CONNECTION PLAN

REVISIONS:

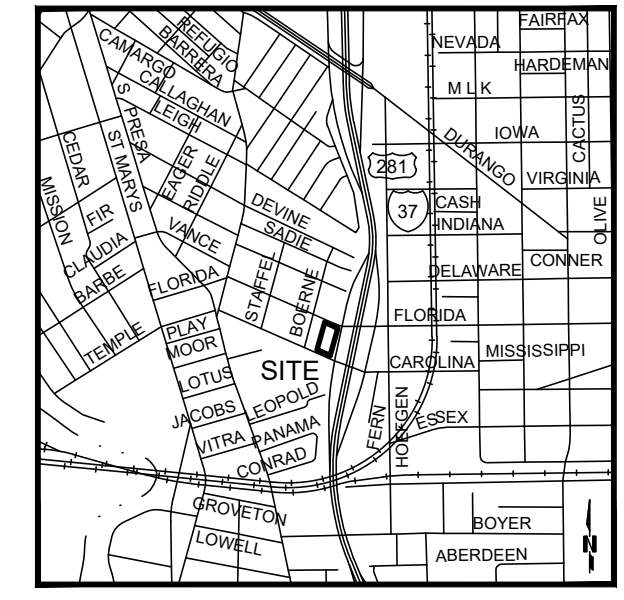
24165 IH-L0W, SUITE 217-708
SAN ANTONIO, TEXAS 78257
PHONE: 214-846-1616
FAX: 214-846-0232



FLORIDA STREET RETAIL
418 FLORIDA STREET
SAN ANTONIO, TEXAS
SAWS CONNECTION PLAN



JOB NO.: 26-004
DATE: 03/17/26
DESIGNER: J.V.
DRAWN BY: V.R.
SHEET NO.: C6

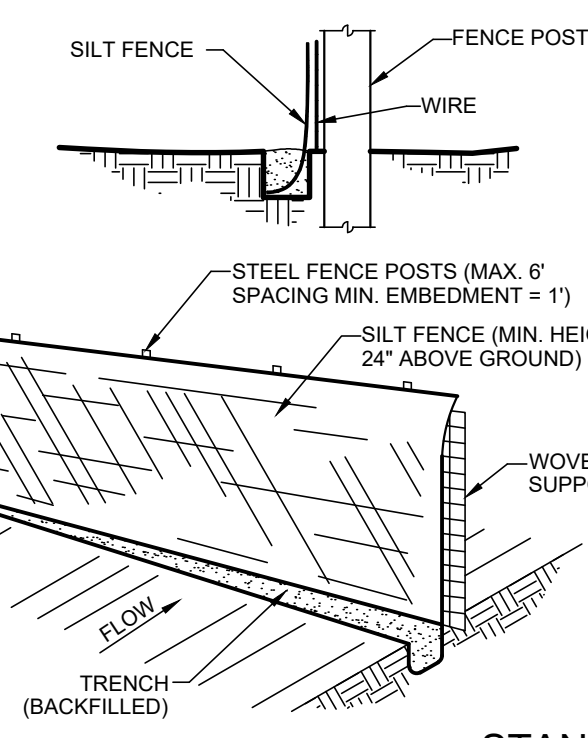


LOCATION MAP
NOT TO SCALE

SEQUENCE OF CONSTRUCTION:

1. PLACE SILT FENCE AND STABILIZED CONSTRUCTION ENTRANCE AS SHOWN.
2. PERFORM DEMOLITION, CLEARING, GRUBBING, AND EARTHWORK FOR THE SITE.
3. PERFORM INITIAL SITE GRADING AND BUILDING SUBGRADE PAD PREPARATION PER PLANS.
4. CONSTRUCTION OF PROPOSED BUILDING, WALKWAYS, DRIVEWAYS, AND PAVEMENT.
5. REMOVE TEMPORARY BMP'S AFTER PAVING IS IN PLACE AND/OR AFTER ESTABLISHING VEGETATION.

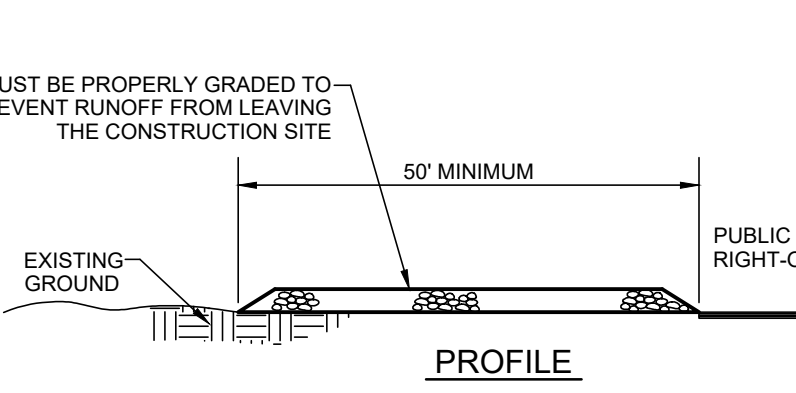
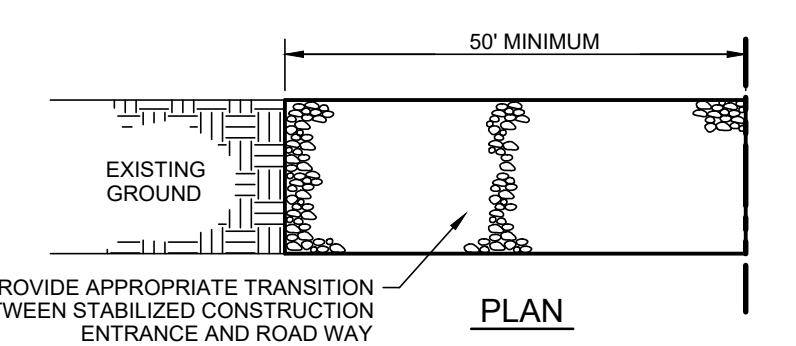
NOTE: IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THE TEMPORARY BMP'S ARE IN PLACE AND FUNCTIONING AT ALL TIMES. NOTIFY ENGINEER IF CITY OF SAN ANTONIO OR SAWS INSPECTION OFFICIALS REQUEST REVISIONS OR MODIFICATIONS TO THE PLAN.



STANDARD SILT FENCE
NOT TO SCALE

GENERAL NOTES:

1. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE.
2. THE TOP OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF THE FLOW.
3. THE TRENCH SHOULD BE A MINIMUM OF 6 INCHES DEEP AND A MINIMUM OF 6 INCHES WIDE TO ALLOW FOR THE SILT FENCE TO BE LAID IN THE GROUND AND BACKFILLED.
4. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POSTS.
5. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
6. SILT FENCE SHALL BE REMOVED WHEN IT HAS SERVED ITS USEFULNESS, SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
7. SEDIMENT TRAPPED BY THIS PRACTICE SHALL BE DISPOSED OF IN AN APPROVED SITE IN A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.
8. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 6 INCHES AND DISPOSED OF IN AN APPROVED SPOIL SITE OR AS IN NO. 7 ABOVE.



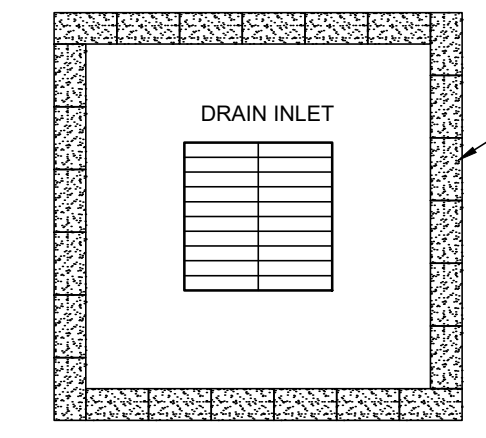
STABILIZED CONSTRUCTION ENTRANCE AND EXIT (SCE)
NOT TO SCALE

GENERAL NOTES:

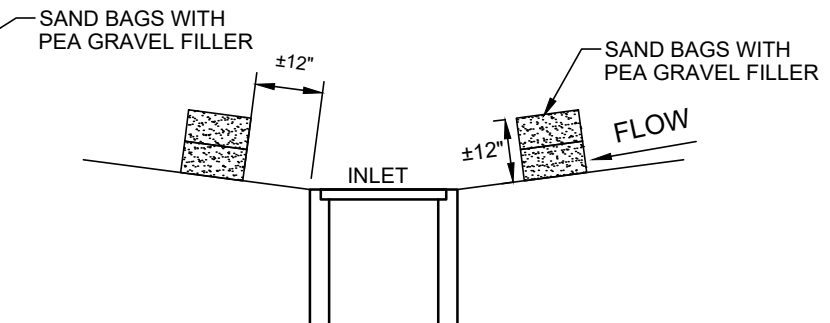
1. STONE SIZE - 4 TO 8 INCH WASHED STONE OVER A STABLE FOUNDATION AS SPECIFIED IN THE PLAN.
2. LENGTH - AS EFFECTIVE, BUT NOT LESS THAN 50 FEET.
3. THICKNESS - NOT LESS THAN 8 INCHES.
4. WIDTH - NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.
5. WASHING - WHEN NECESSARY, WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH, OR WATERCOURSE THROUGH USE OF SAND BAGS, GRAVEL, BOARDS OR OTHER APPROVED METHODS.
6. MAINTENANCE - THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.

GENERAL NOTES:

1. THE SANDBAGS SHALL BE FILLED WITH WASHED PEA GRAVEL AND STACKED TO FORM A CONTINUOUS BARRIER APPROX. 12" HIGH AROUND INLETS.
2. THE SANDBAGS SHALL BE PLACED AGAINST EACH OTHER TO PREVENT RUNOFF FROM FLOWING IN BETWEEN INDIVIDUAL BAGS. FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF THE FLOW.
3. INSPECTION SHOULD BE MADE WEEKLY AND AFTER EACH RAINFALL. CONTRACTOR IS RESPONSIBLE FOR REPAIRS AS REQUIRED.
4. REMOVE SEDIMENT WHEN BUILDUP REACHES 3 INCHES. REMOVED SEDIMENT SHOULD BE DISPOSED OF IN A SUITABLE AREA ACCORDING EPA AND LOCAL REGULATIONS.
5. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.



PLAN VIEW

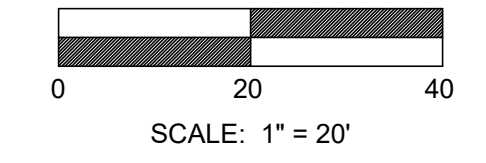


SIDE VIEW

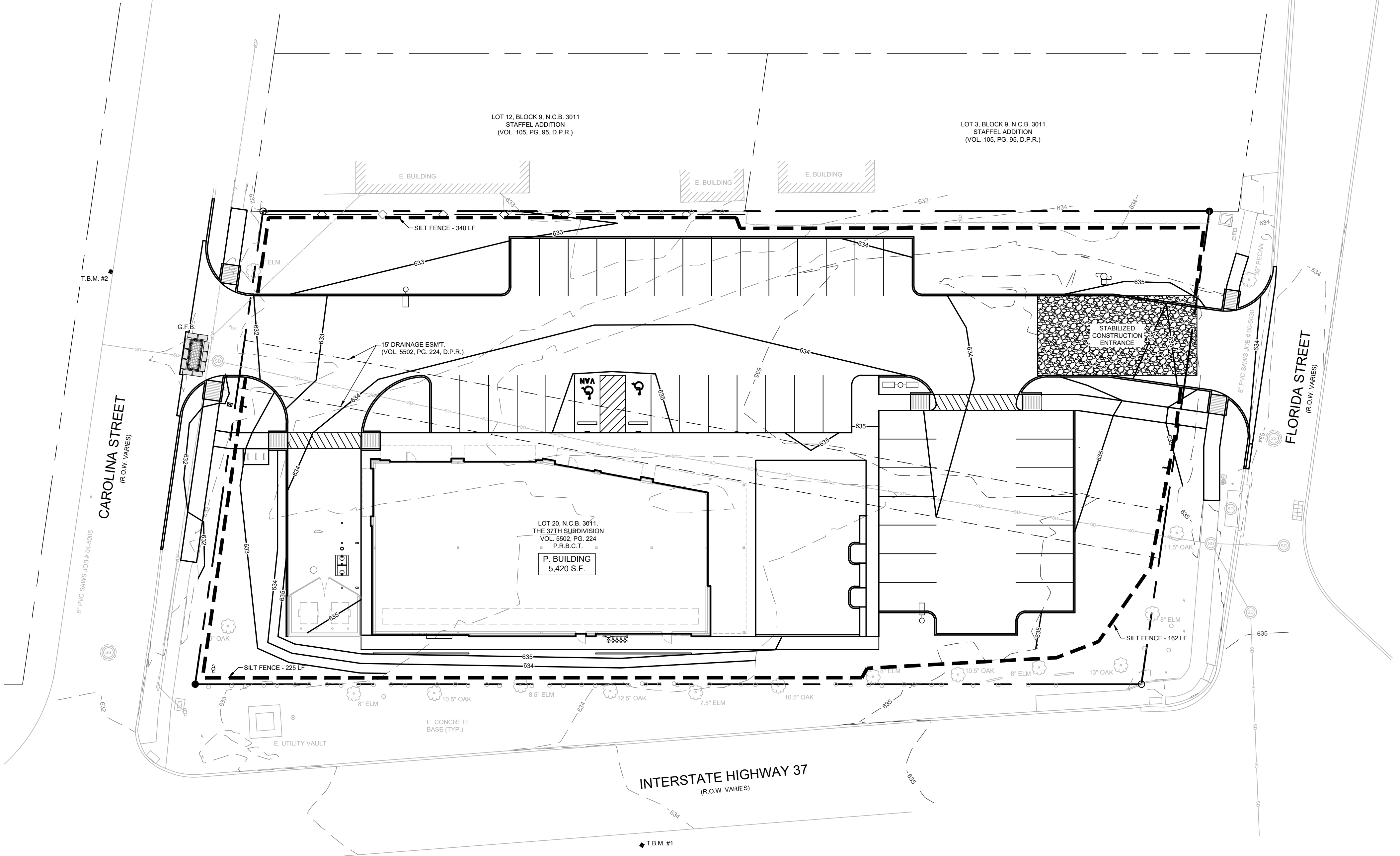
GRAVEL FILTER BAG DETAIL (G.F.B.)
NOT TO SCALE

LEGEND

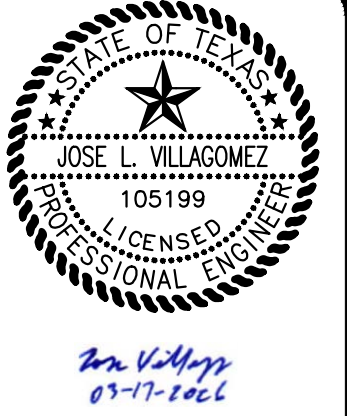
---	SILT FENCE
---	EXISTING C.A.T.V. LINE
---	EXISTING OVERHEAD ELECTRIC
---	EXISTING UNDERGROUND ELECTRIC
---	EXISTING GAS LINE
---	EXISTING STORM DRAIN LINE
---	EXISTING SANITARY SEWER LINE
---	EXISTING WATER LINE
---	EXISTING CONTOUR
---	PROPOSED CONTOUR
---	EXISTING WATER METER
---	EXISTING WATER VALVE
---	EXISTING FIRE HYDRANT
---	EXISTING MANHOLE
---	EXISTING POWER POLE
---	EXISTING CLEAN OUT
---	EXISTING ELEVATION
---	PROPOSED ELEVATION
---	TOP OF CURB ELEVATION
---	GUTTER ELEVATION
---	EXISTING
---	PROPOSED
---	FLOW LINE



EROSION CONTROL PLAN



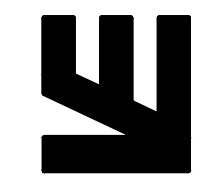
FLORIDA STREET RETAIL
 418 FLORIDA STREET
 SAN ANTONIO, TEXAS
 EROSION CONTROL PLAN



JOB NO.: 26-004
 DATE: 03/17/26
 DESIGNER: J.V.
 DRAWN BY: V.R.
 SHEET NO.: C7

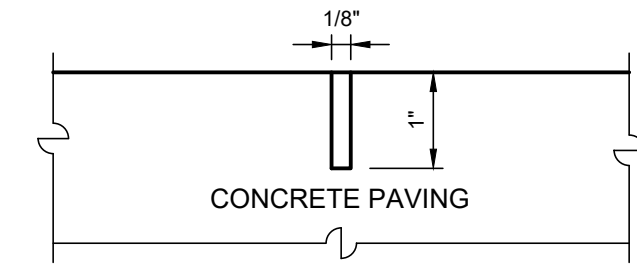
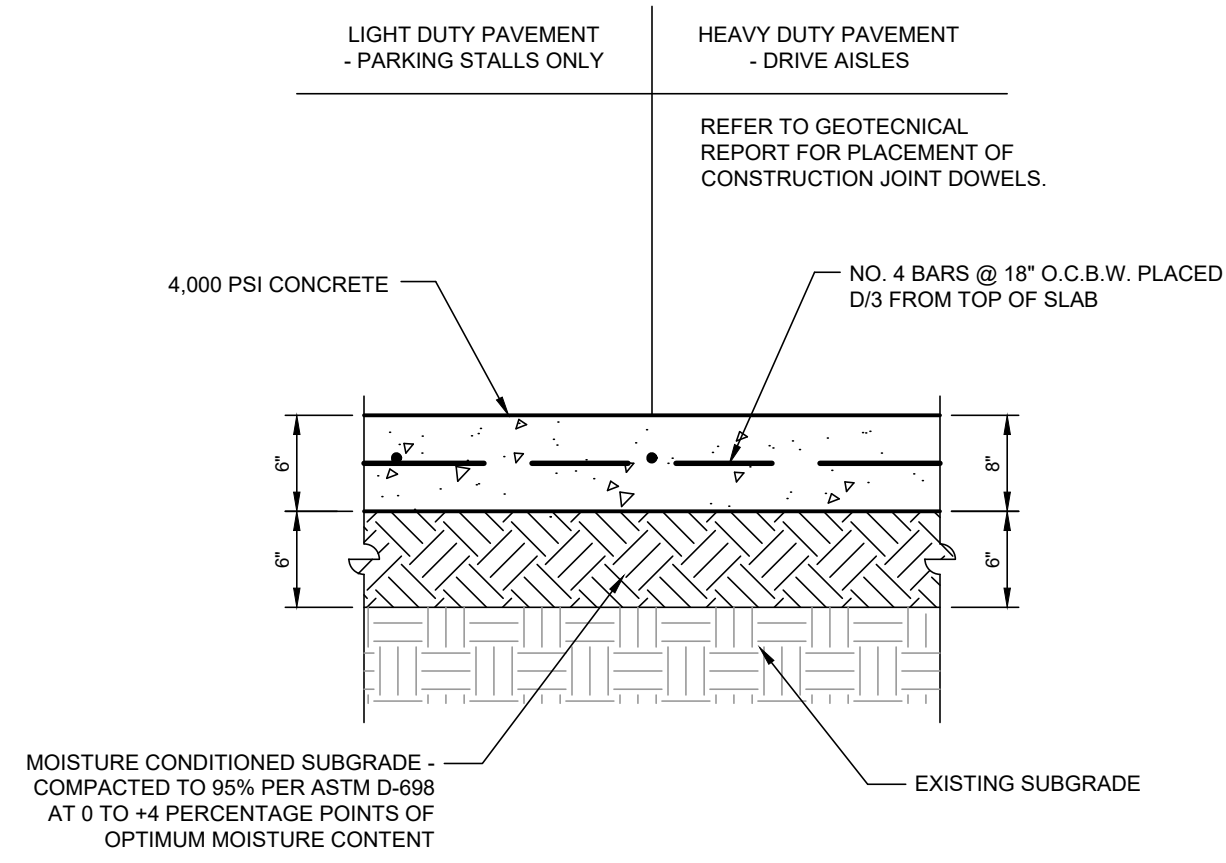
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 SAN ANTONIO, TEXAS 78257
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 FAX: 210.483.4222

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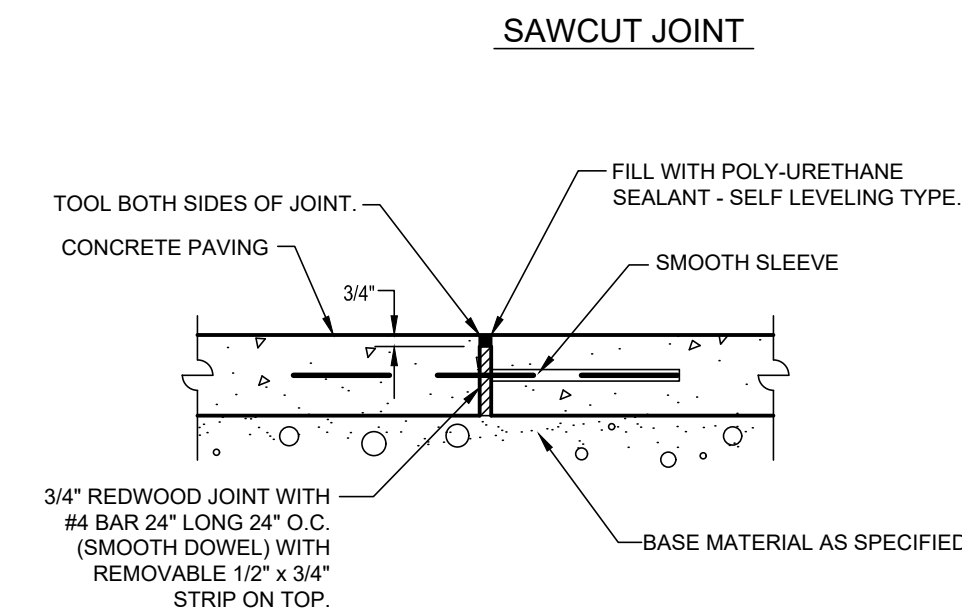


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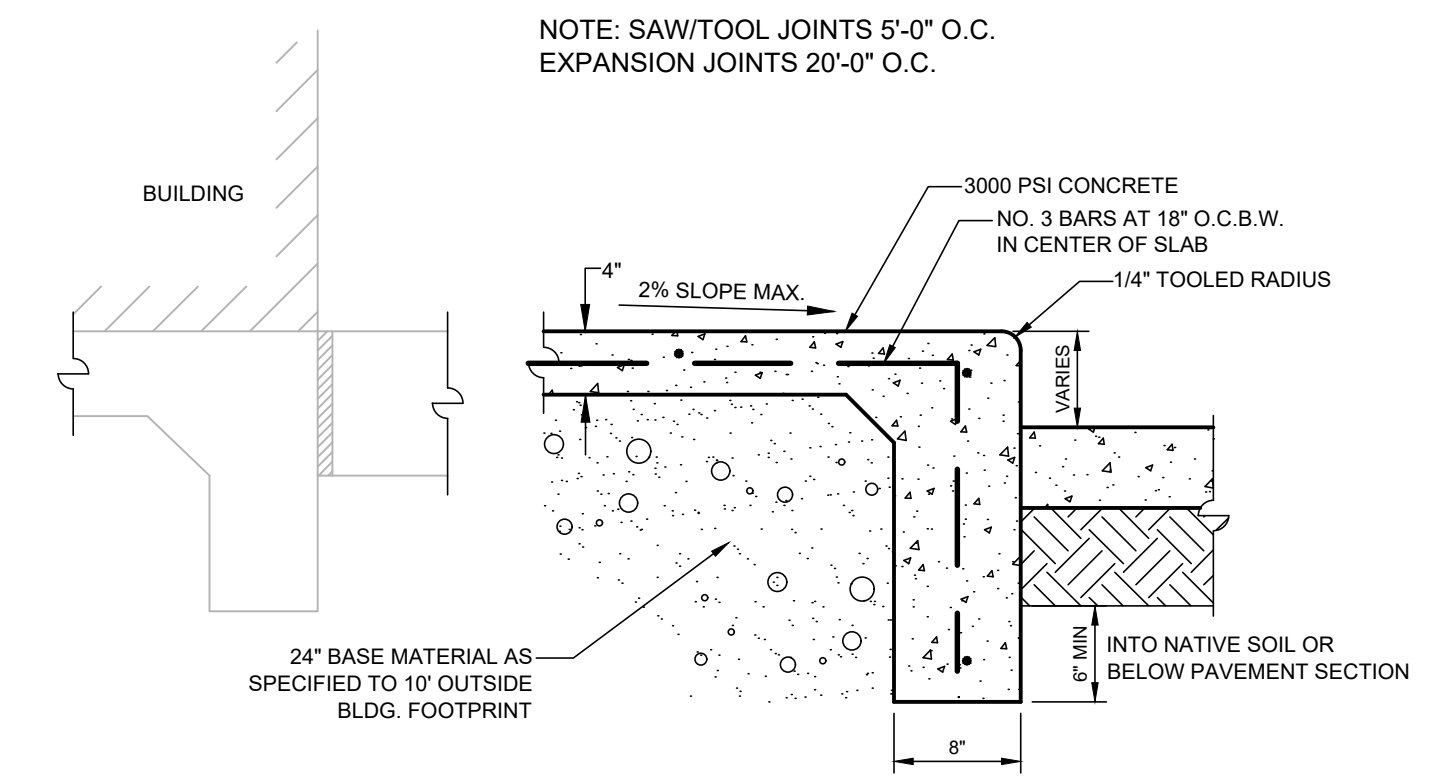
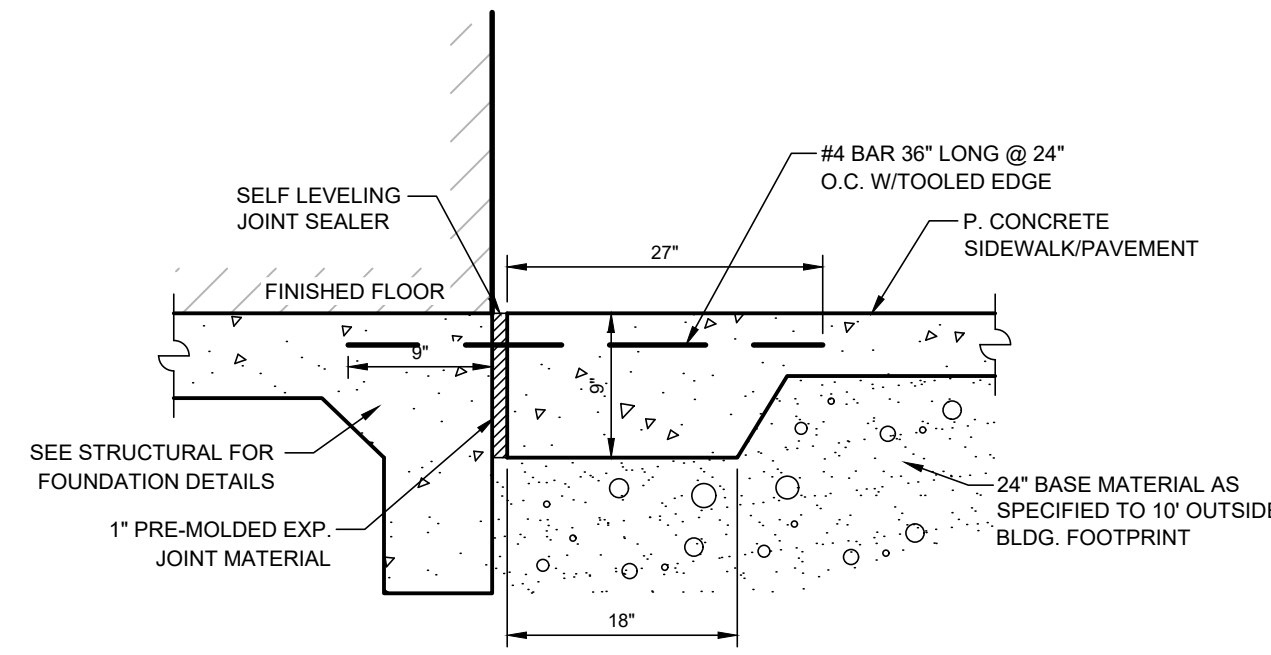
REFER TO GEOTECHNICAL REPORT NO. 0312-3759, BY INTERTEK PSI, DATED 01/28/2026 FOR SUITABLE MATERIALS AND TESTING REQUIREMENTS.



NOTES: SAW JOINTS SHOWN @ 15' SPACING. EXPANSION JOINTS ONLY USED AT INTERFACE WITH EXISTING CONCRETE GUTTER AT DRIVEWAY.
SAW CUT JOINTS BETWEEN 18 AND 30 HOURS AFTER CONCRETE POUR.



NOTES: SAW JOINTS SHOWN @ 15' SPACING.
EXPANSION JOINTS ONLY USED AT INTERFACE WITH EXISTING CONCRETE GUTTER AT DRIVEWAY.

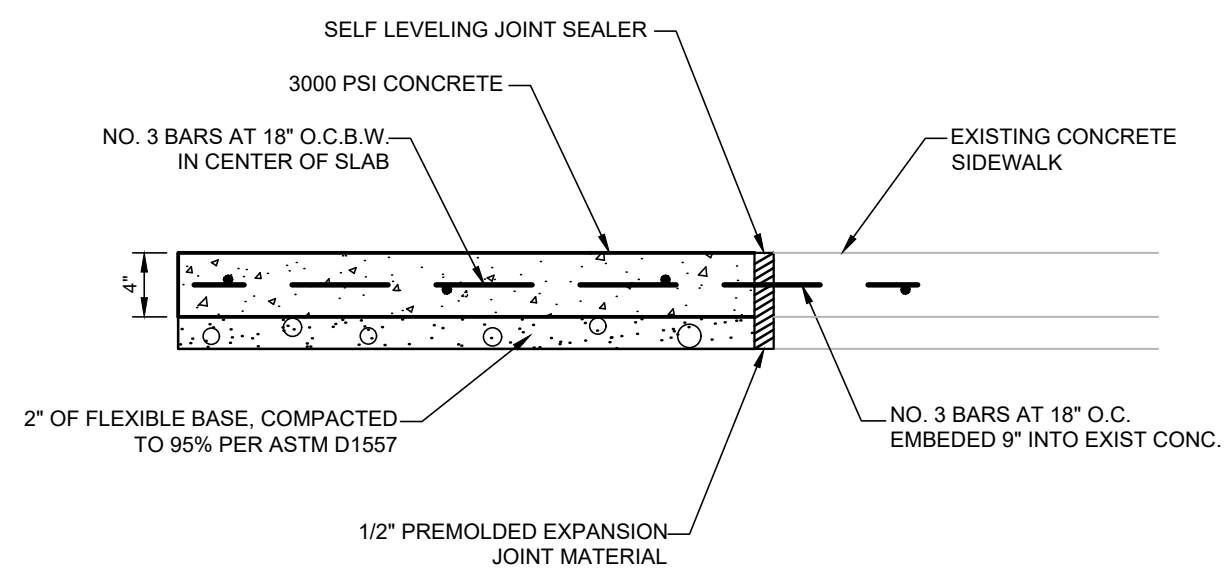
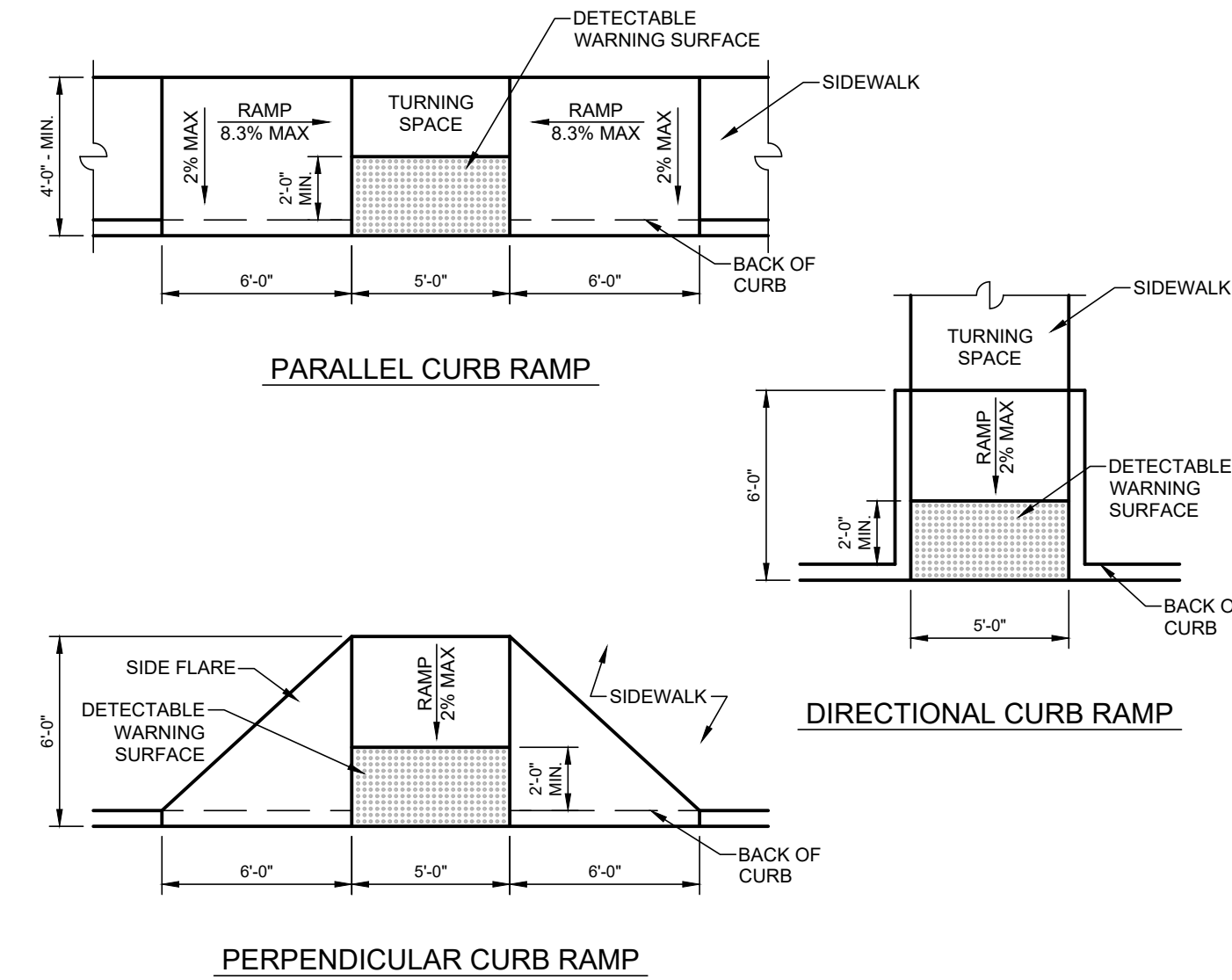
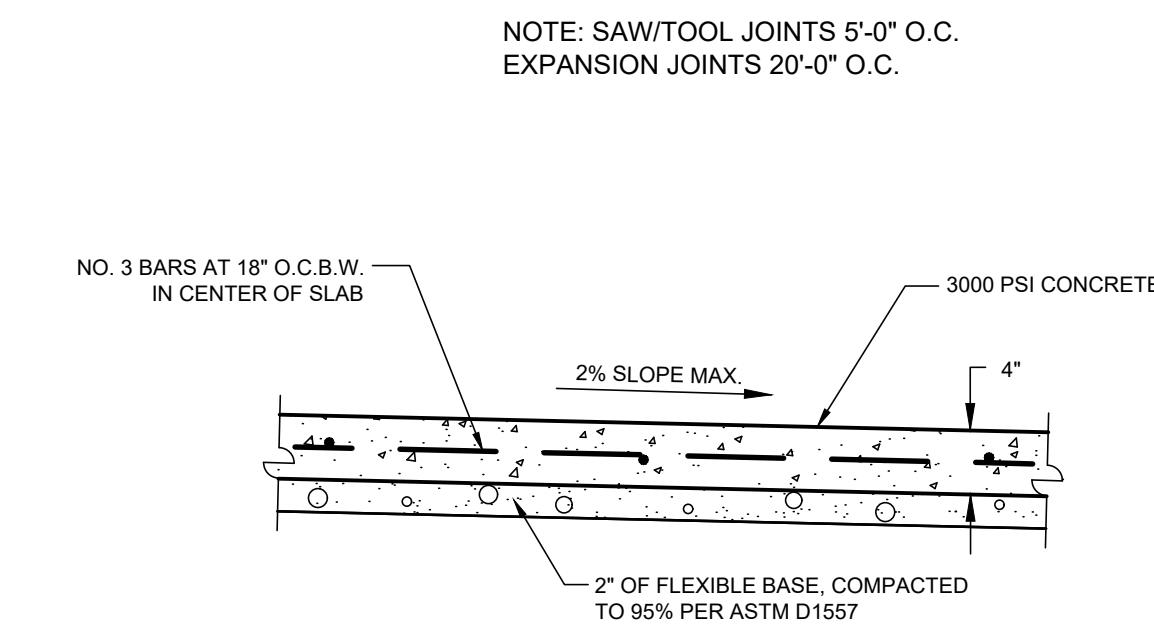
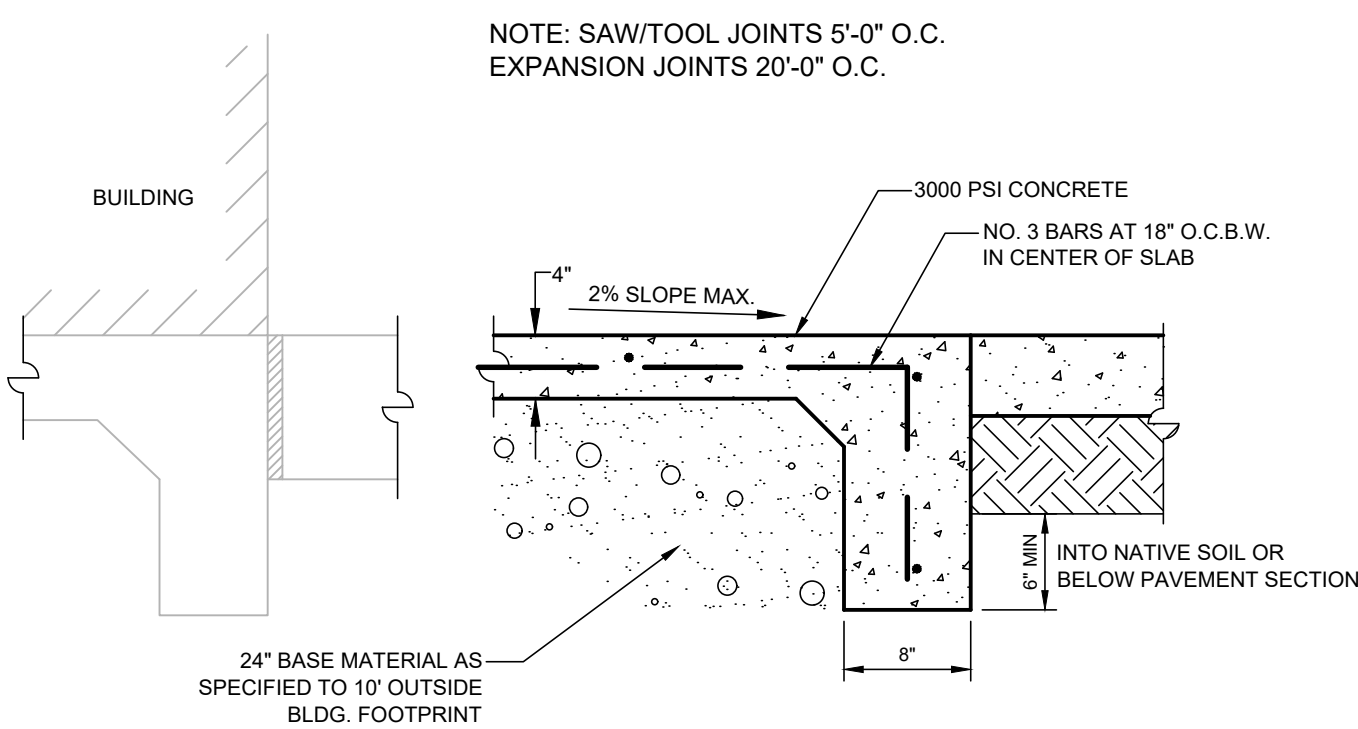


1 C8 CONCRETE PAVEMENT NOT TO SCALE

2 C8 JOINT DETAILS NOT TO SCALE

3 C8 EXPANSION JOINT AT BUILDING NOT TO SCALE

4 C8 BUILDING SIDEWALK AT PAVEMENT NOT TO SCALE



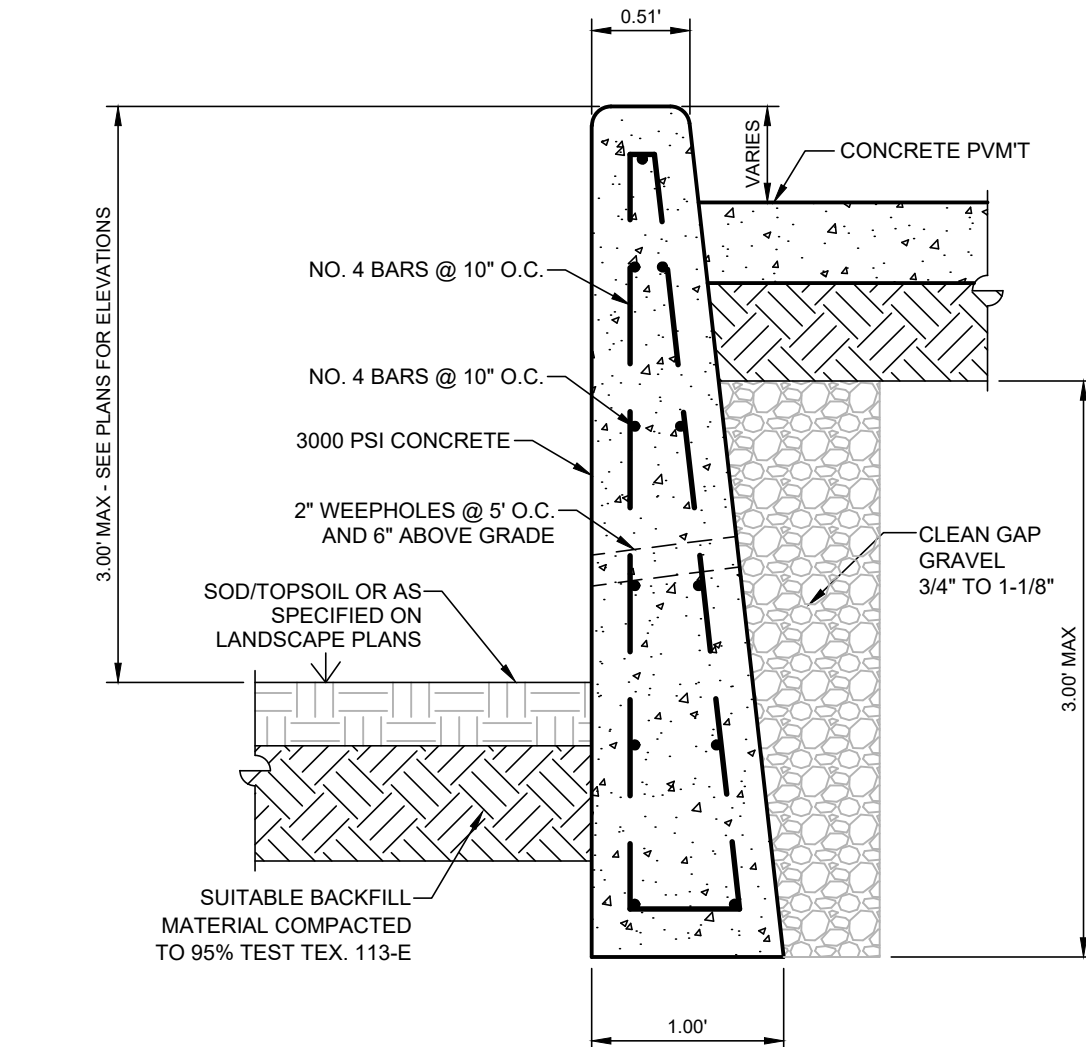
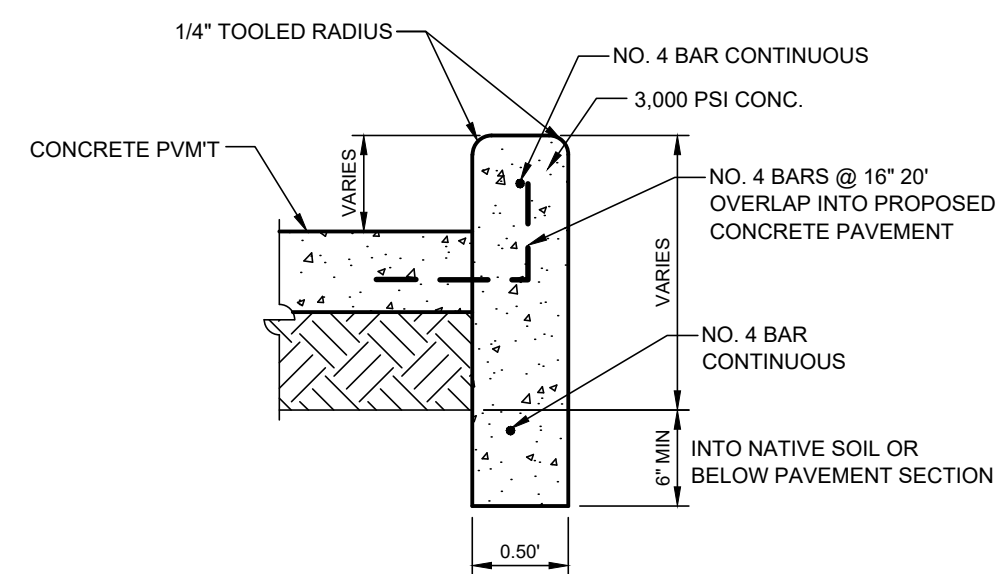
5 C8 BUILDING SIDEWALK AT PAVEMENT NOT TO SCALE

6 C8 CONCRETE SIDEWALK NOT TO SCALE

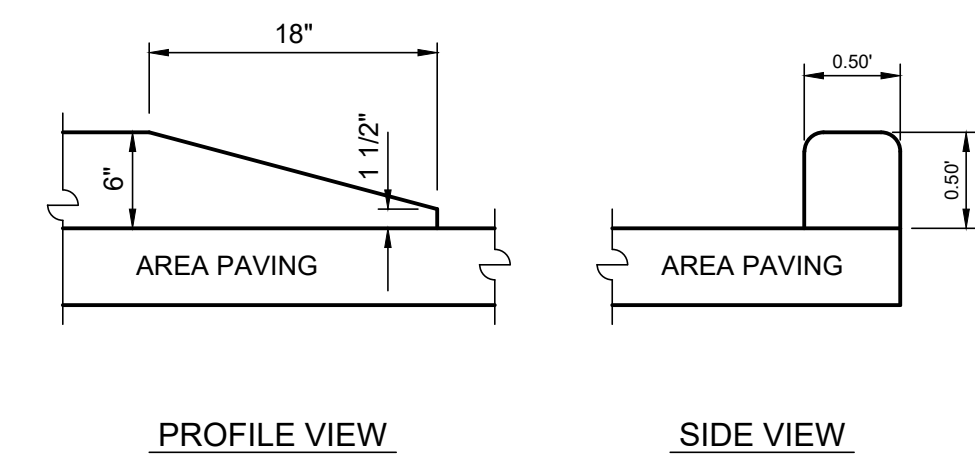
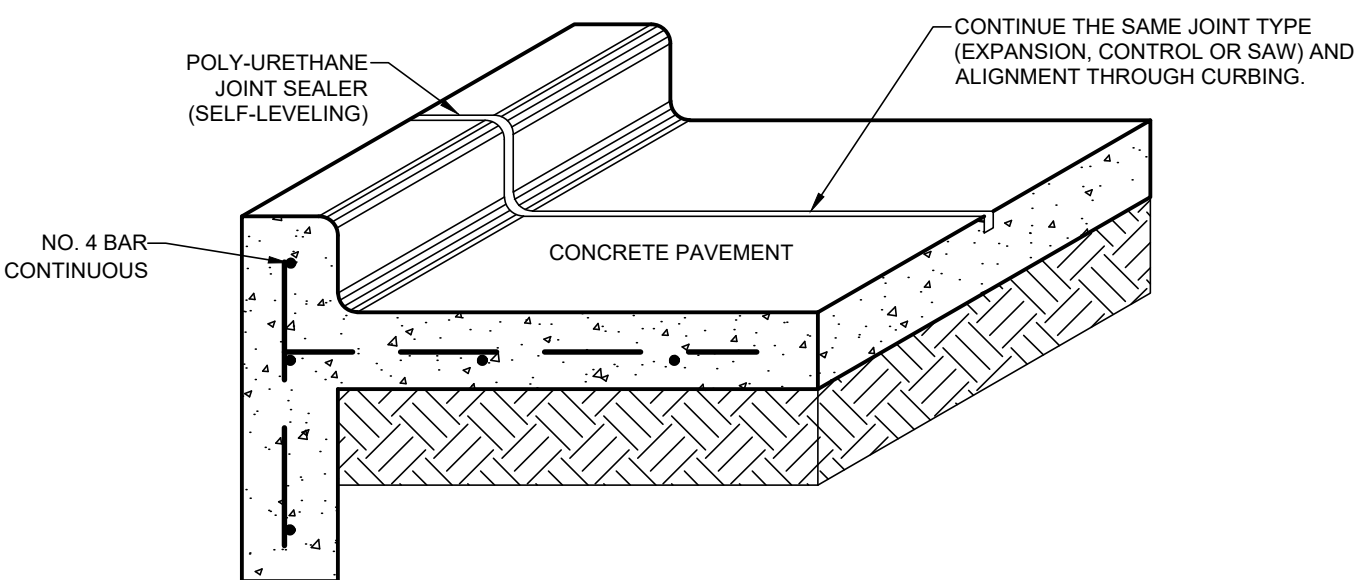
7 C8 CURB RAMP DETAILS NOT TO SCALE

8 C8 NEW SIDEWALK TO EXISTING SIDEWALK NOT TO SCALE

NOTE: SAW JOINTS 10' ON CENTER AND EXP. JOINTS AT 40' ON CENTER. WHERE CURB ABUTS SIDEWALK JOINTS SHALL MATCH.



NOTE: JOINTS THROUGH CURBING SHALL MAINTAIN DEPTHS FOR EACH JOINT TYPE AS SHOWN ON THIS DETAIL SHEET. ADEQUATE DEPTH SHALL BE MAINTAINED TO ACCOMMODATE SEALANT (MIN. 3/4").



9 C8 RAISED CURB NOT TO SCALE

10 C8 DEEP BEAM CURB NOT TO SCALE

11 C8 CONTINUOUS JOINT AT CURB NOT TO SCALE

12 C8 CURB TERMINAL NOT TO SCALE

REVISIONS:

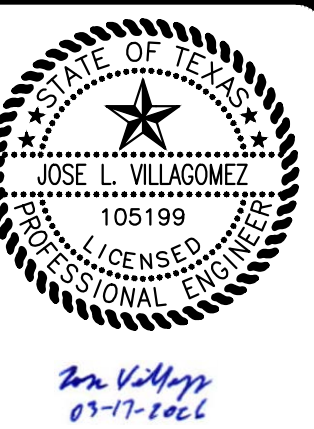
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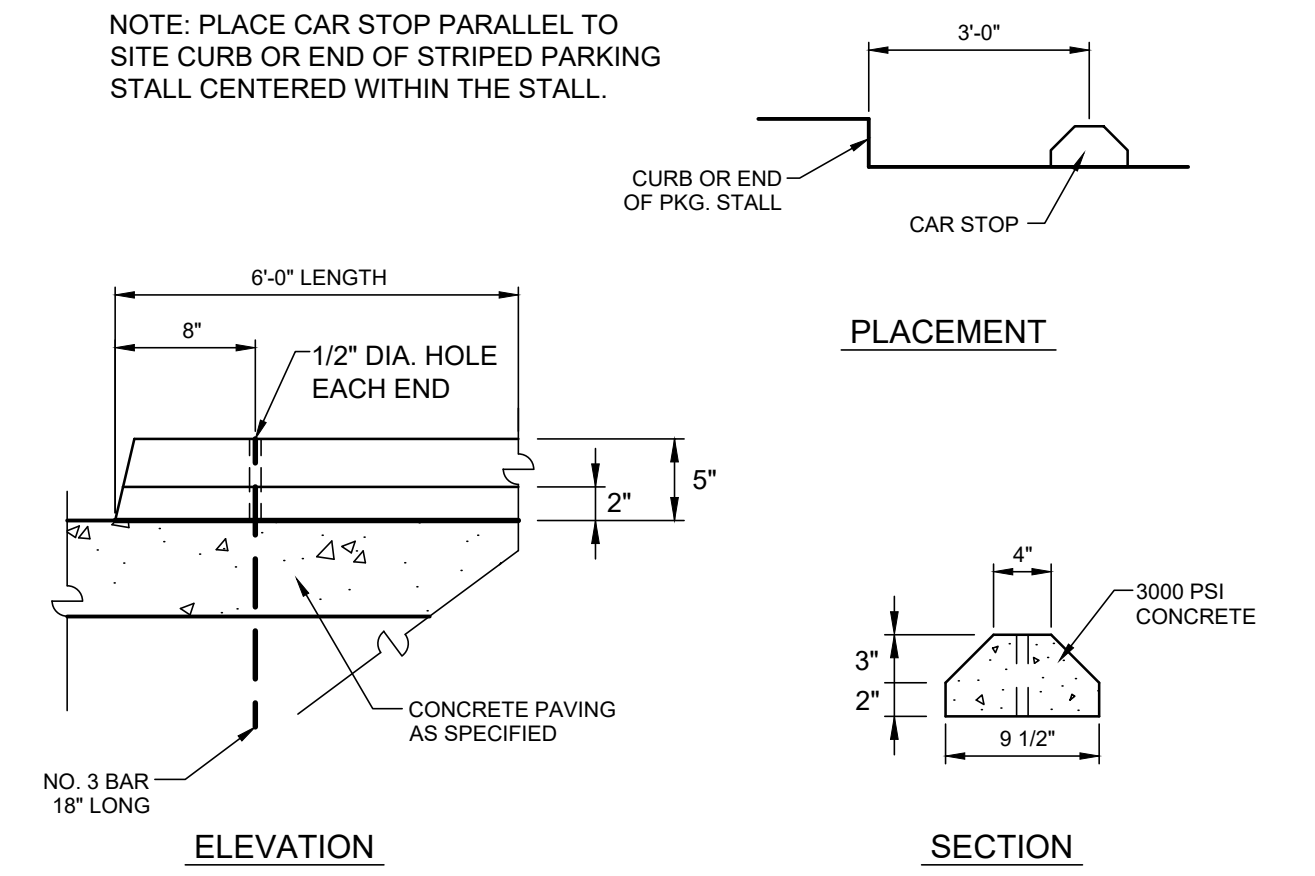
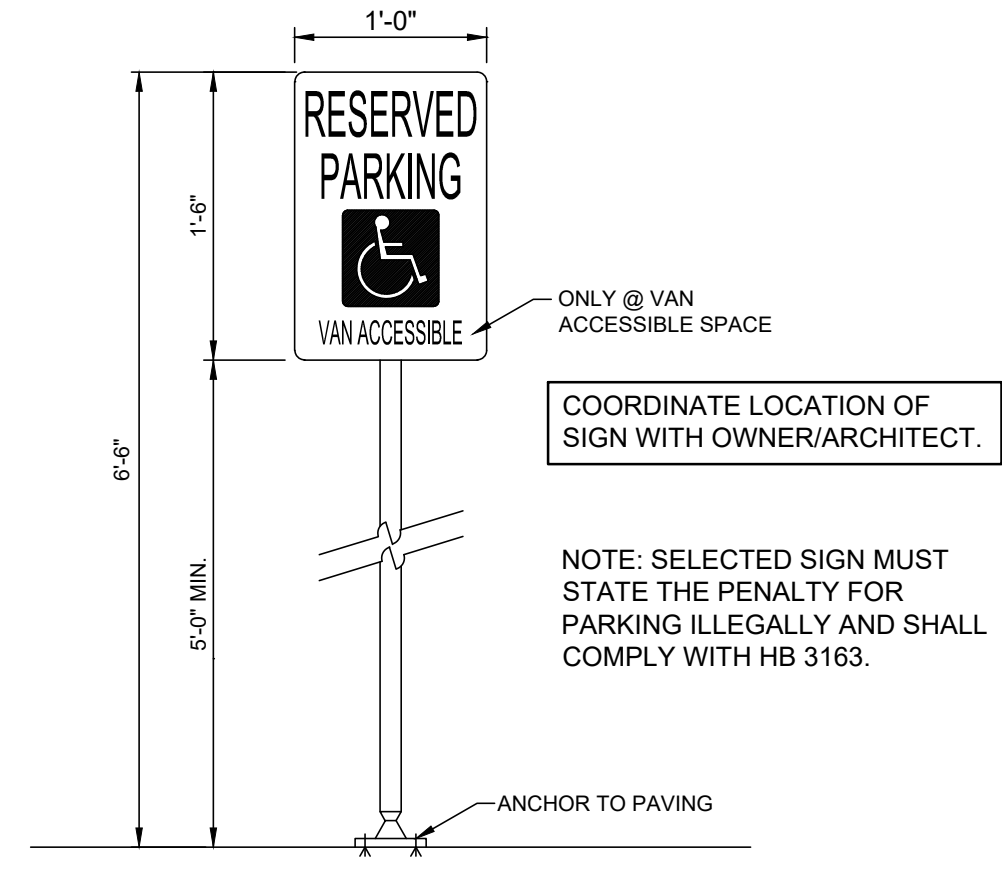
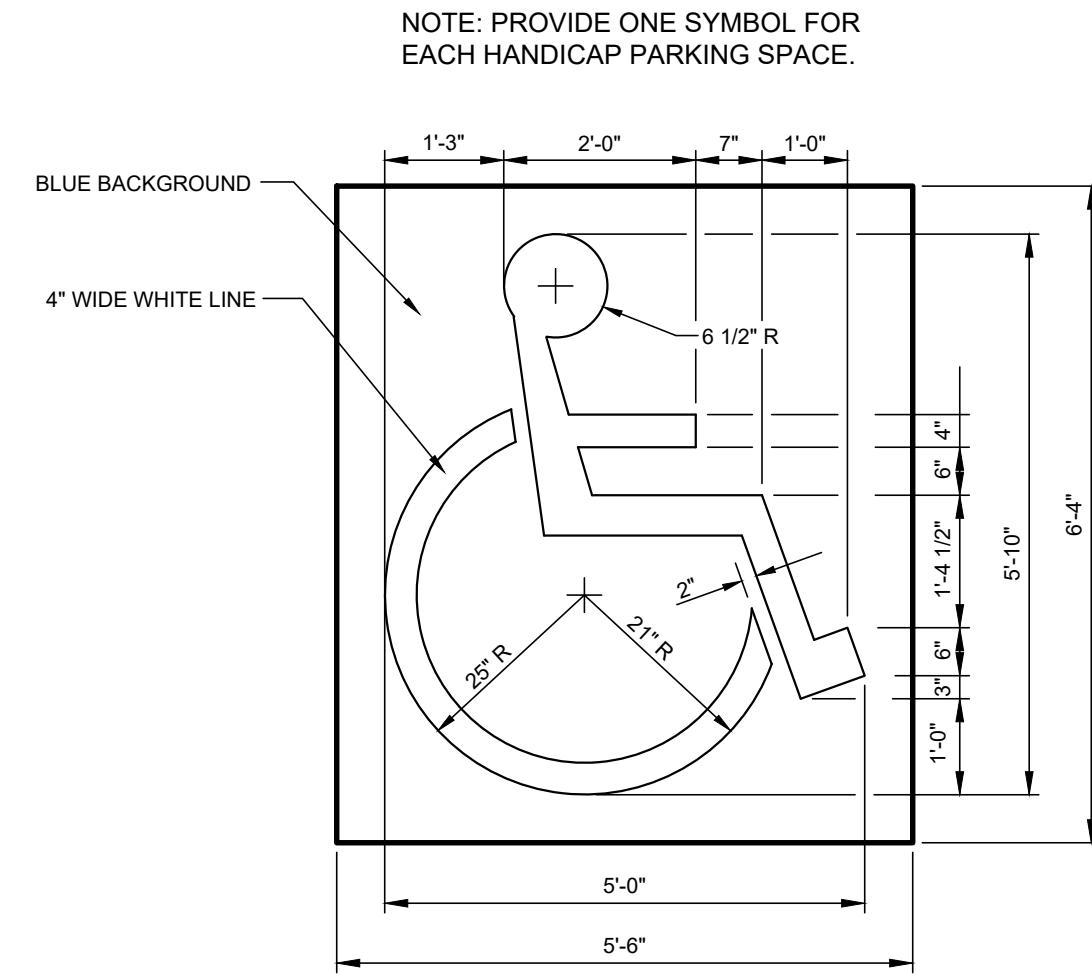
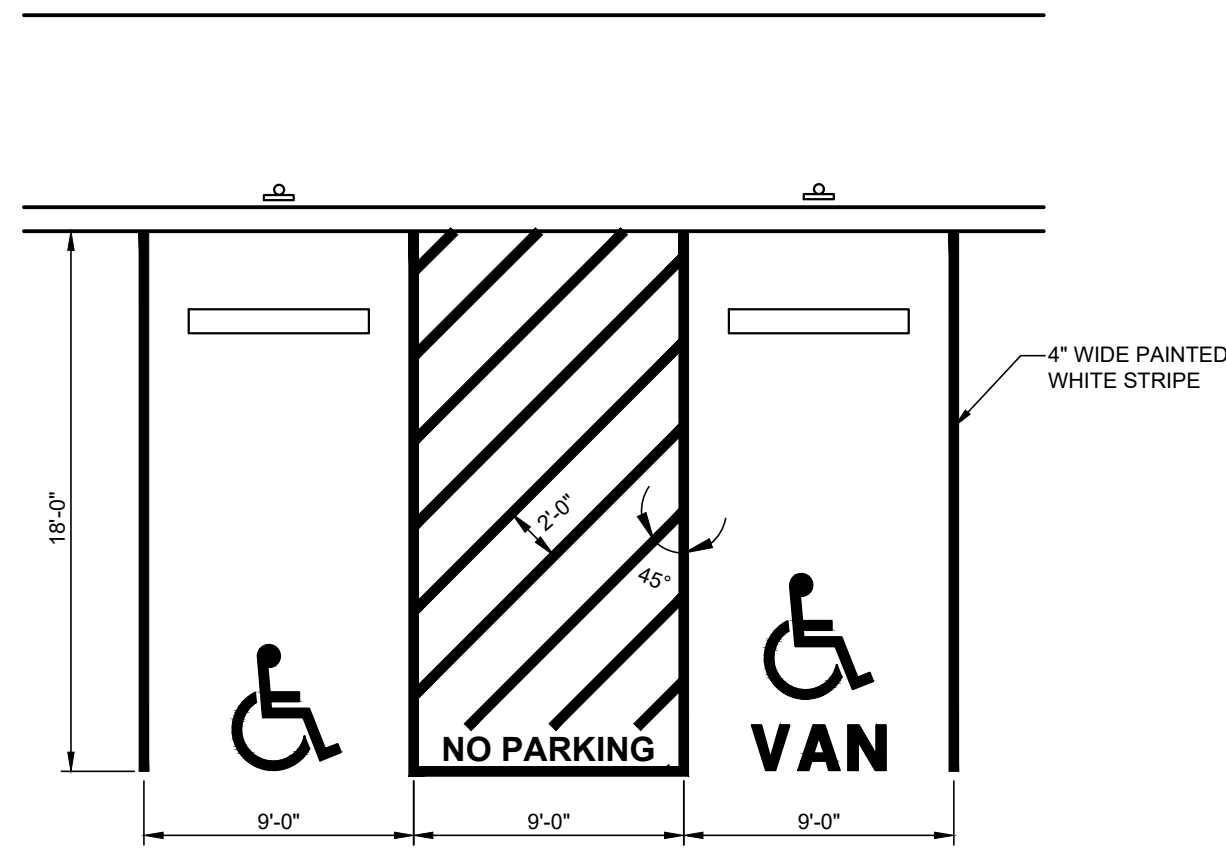


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FLORIDA STREET RETAIL
418 FLORIDA STREET
SAN ANTONIO, TEXAS
CIVIL DETAILS



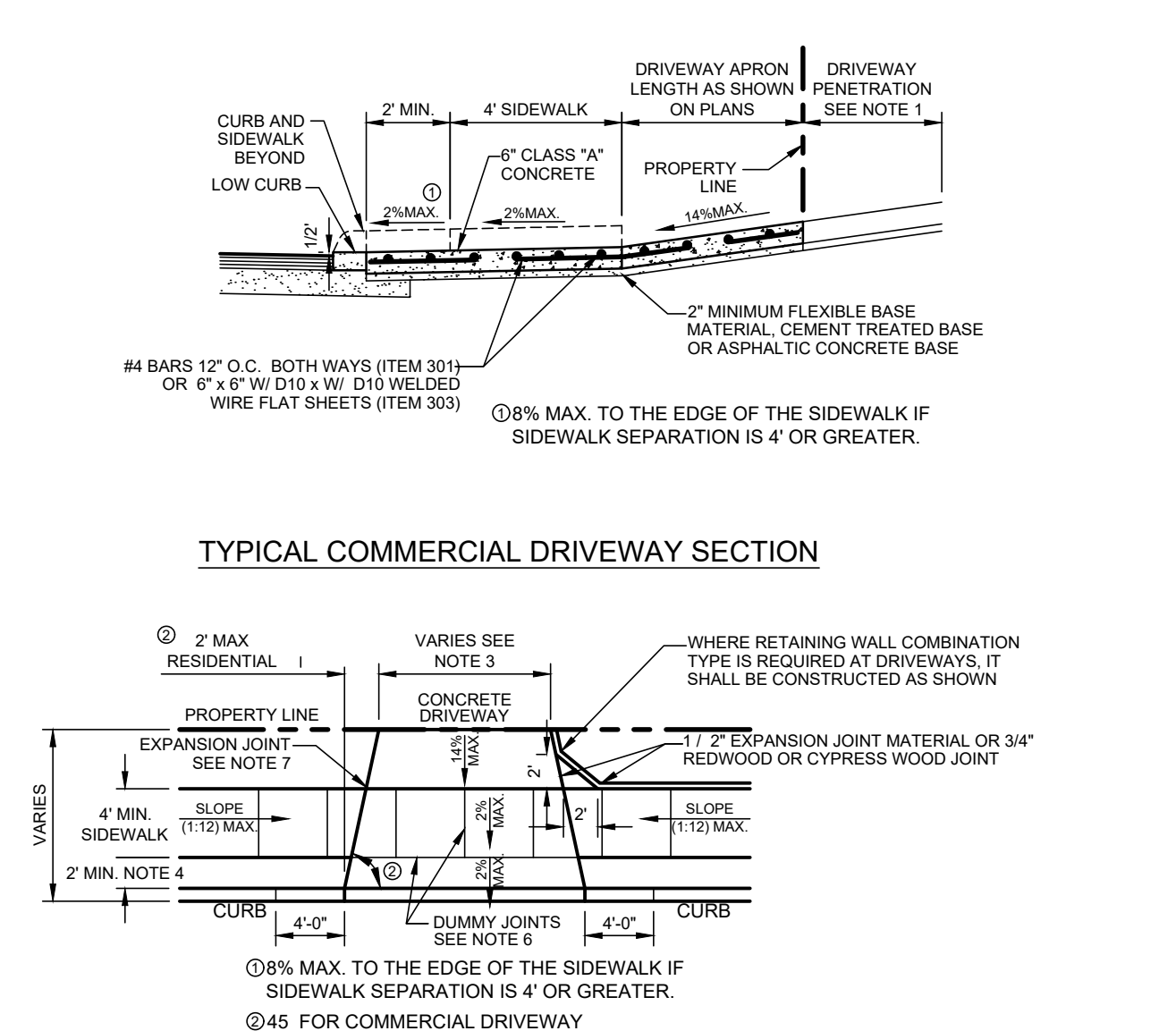
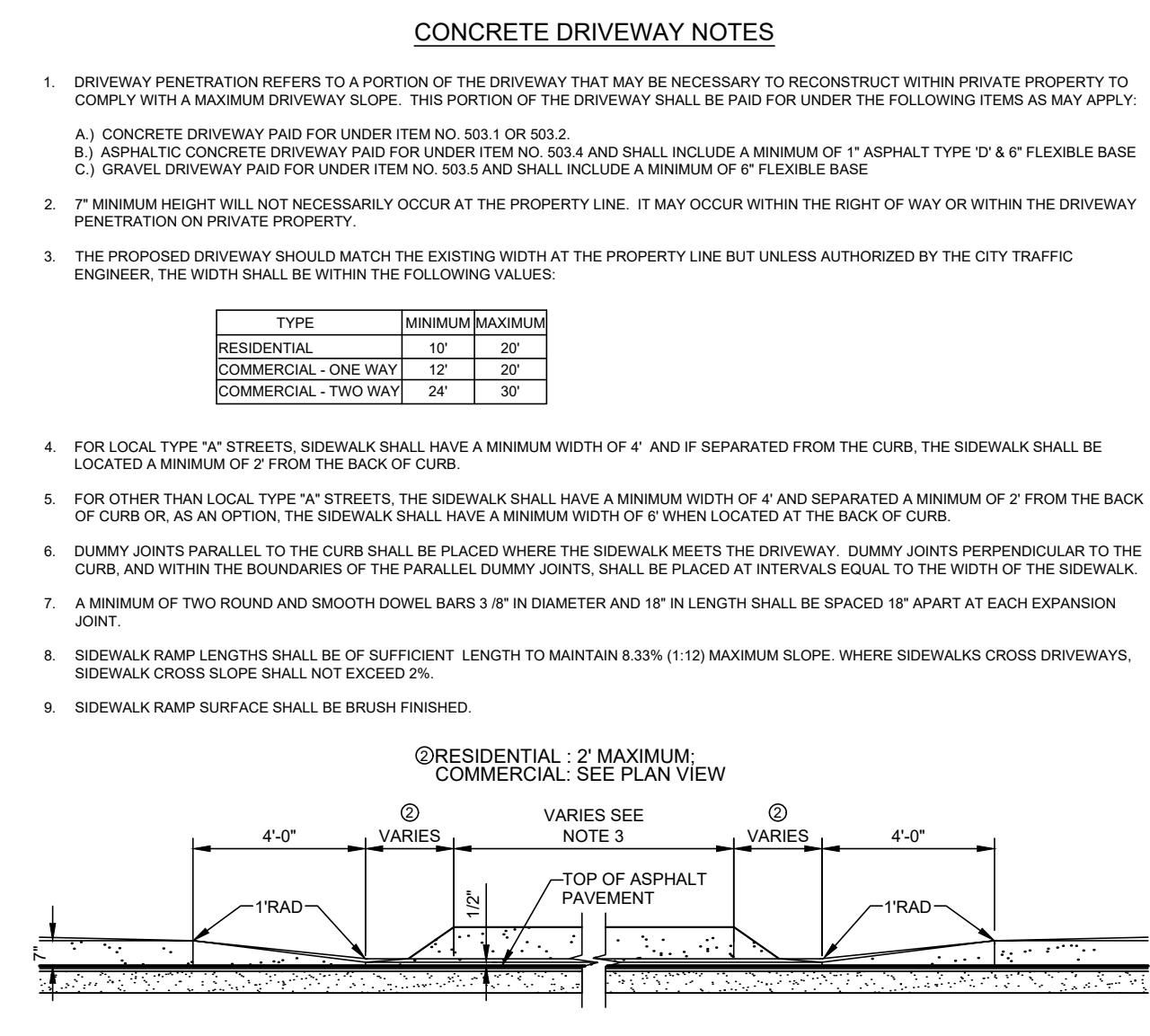
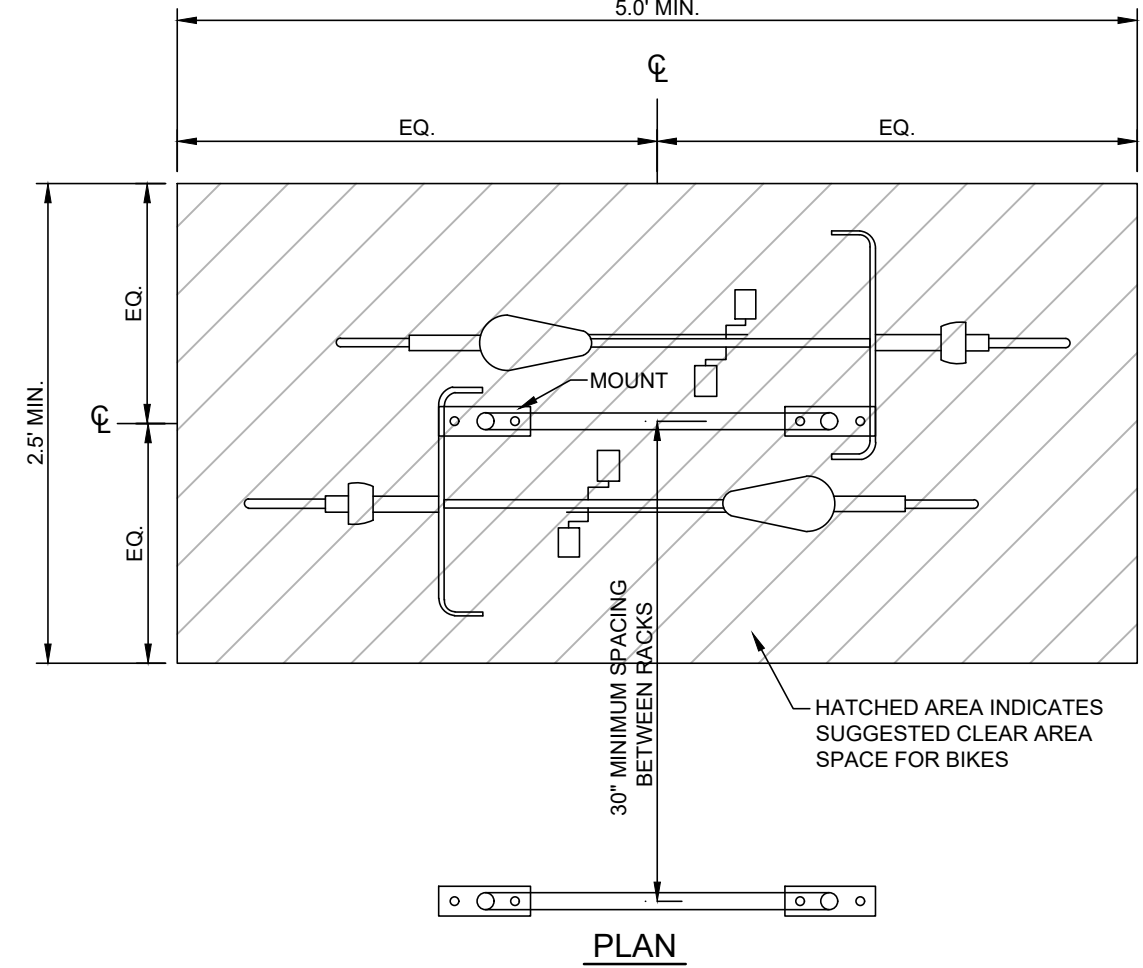
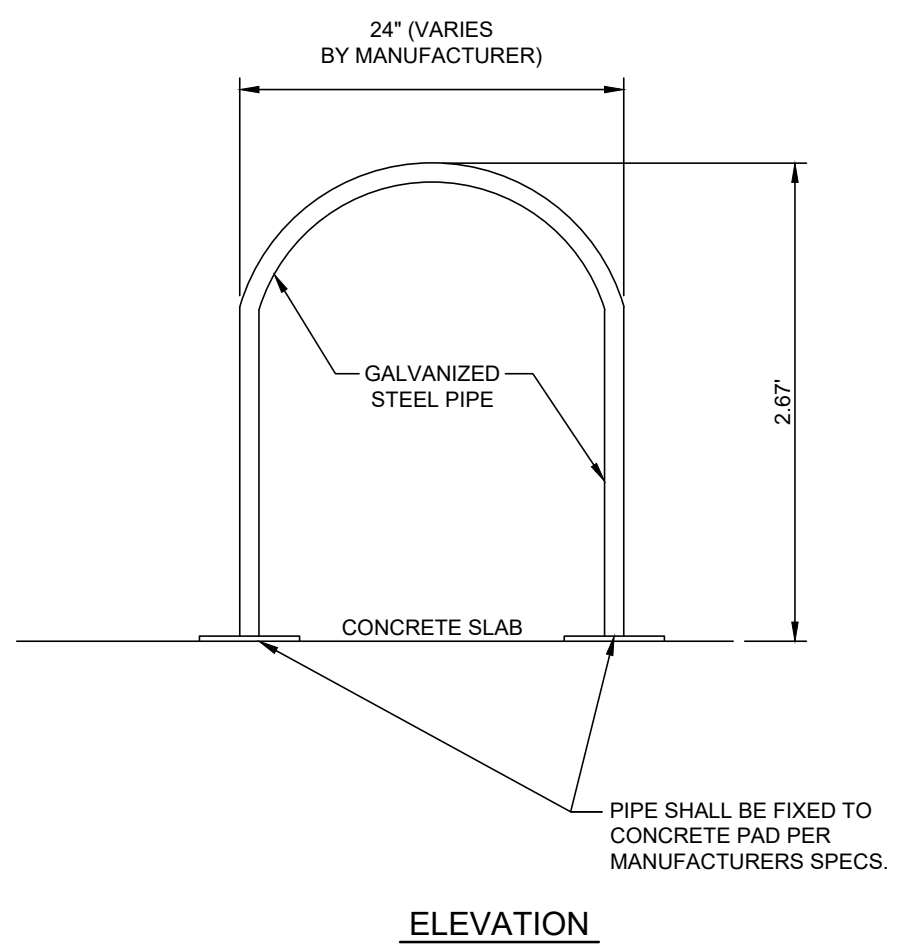
JOB NO.: 26-004
DATE: 03/17/26
DESIGNER: J.V.
DRAWN BY: V.R.
SHEET NO.: C8



1 ACCESSIBLE PARKING LAYOUT NOT TO SCALE
 2 PAINTED HANDICAP SYMBOL NOT TO SCALE

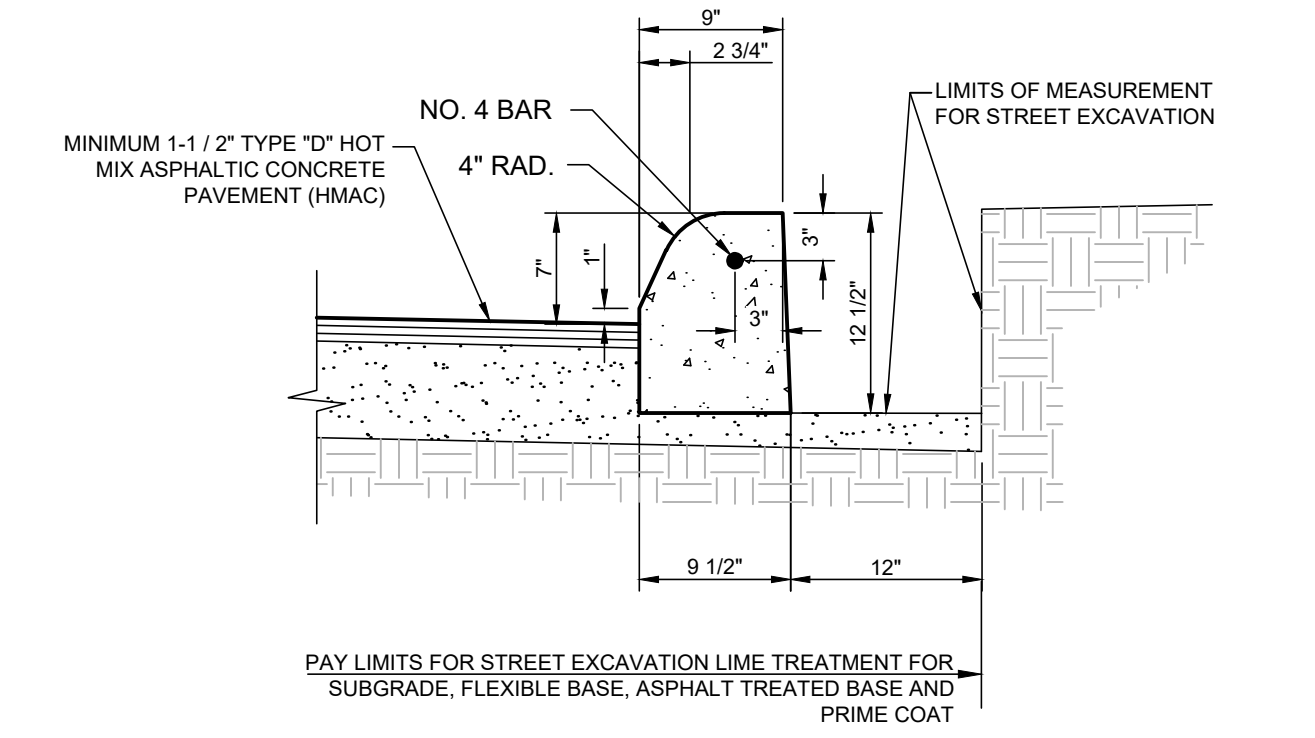
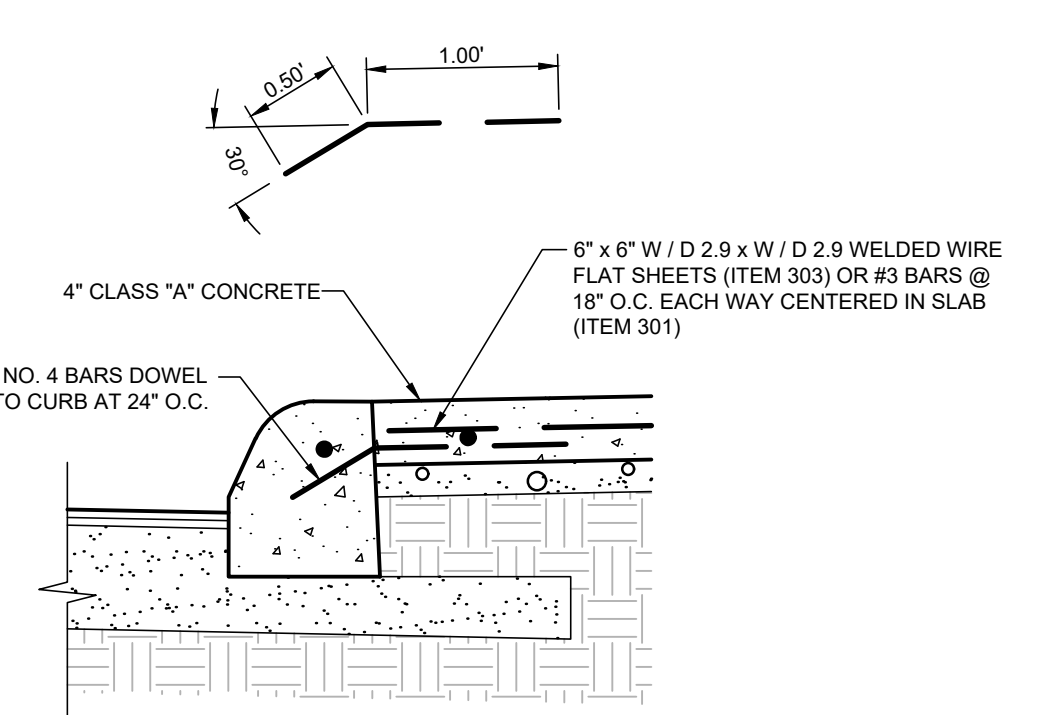
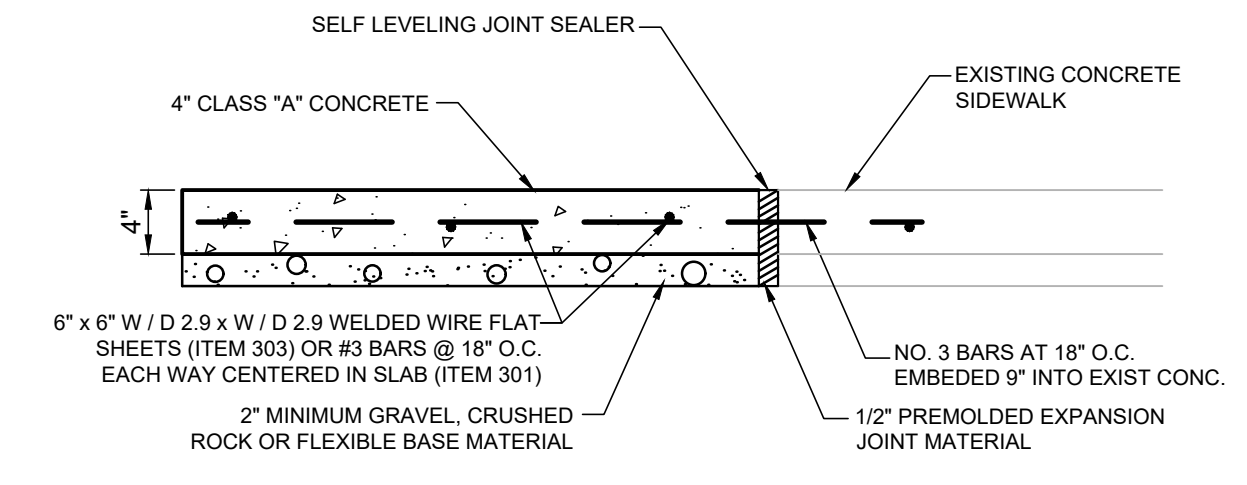
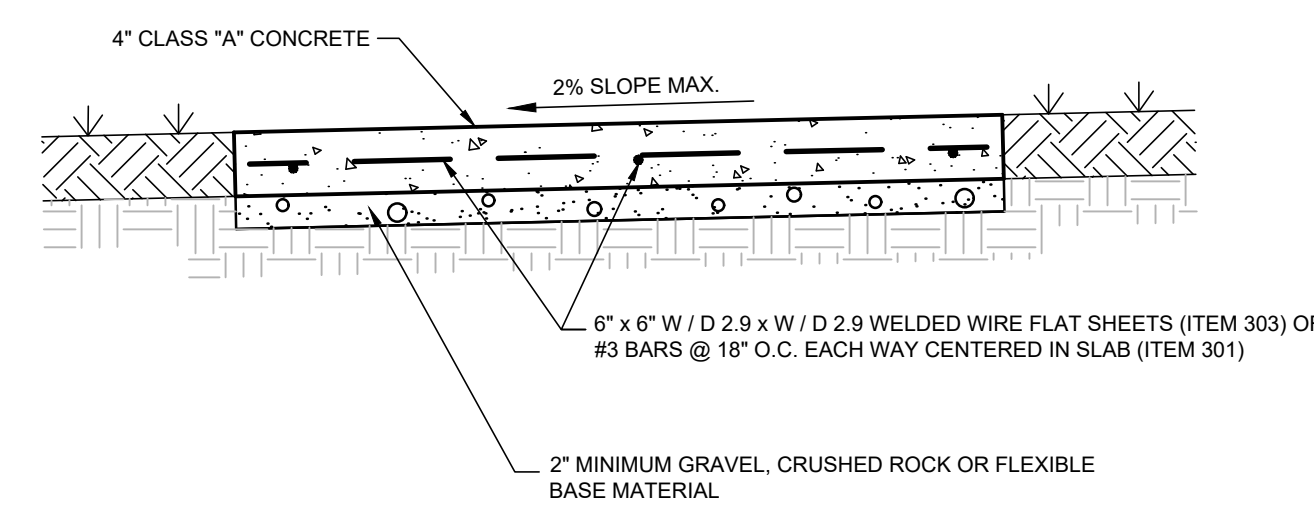
3 RESERVED PARKING SIGN NOT TO SCALE

4 CAR STOP NOT TO SCALE



5 INVERTED "U" BIKE RACK DETAIL NOT TO SCALE

6 COMMERCIAL DRIVEWAY - SIDEWALK SEPARATED FROM CURB NOT TO SCALE



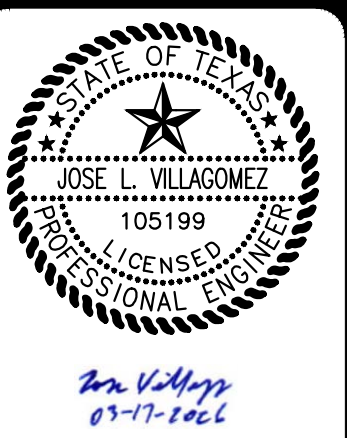
7 CONCRETE SIDEWALK SECTION (IN R.O.W.) NOT TO SCALE
 8 NEW SIDEWALK TO EXISTING SIDEWALK (IN R.O.W.) NOT TO SCALE

9 CURB ABUTTING SIDEWALK (IN R.O.W.) NOT TO SCALE

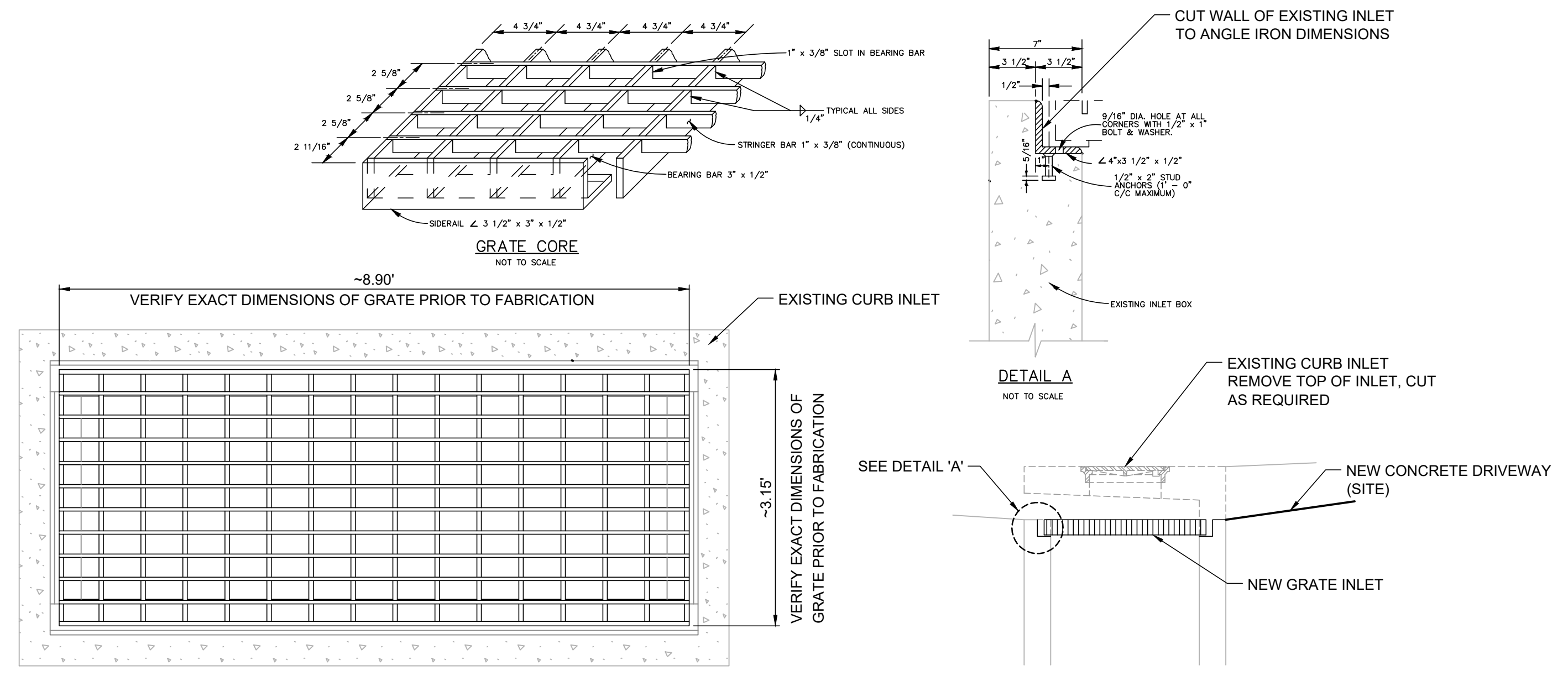
10 CONCRETE CURB (IN R.O.W.) NOT TO SCALE

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 FAX: 210-483-4232
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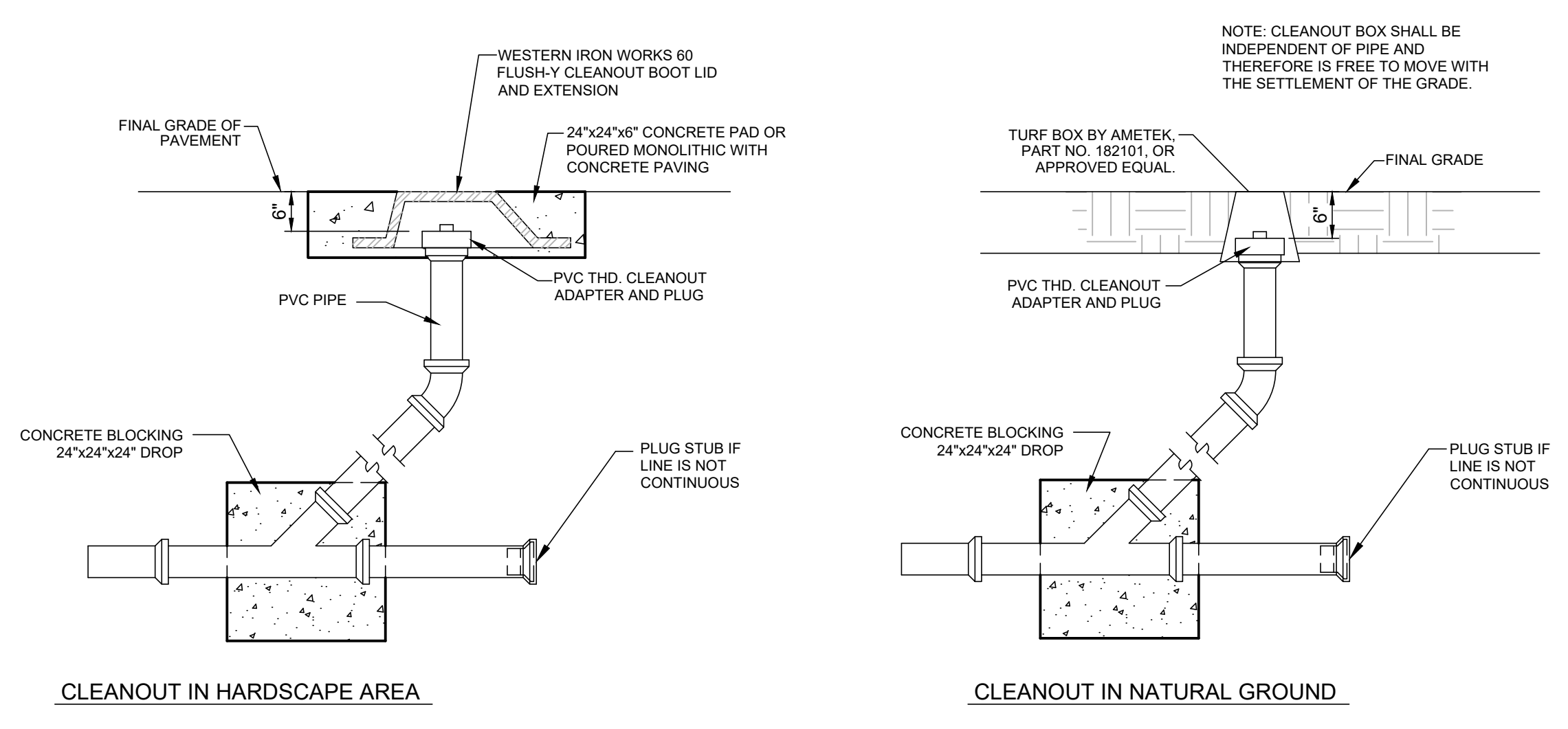
FLORIDA STREET RETAIL
 418 FLORIDA STREET
 SAN ANTONIO, TEXAS
 CIVIL DETAILS



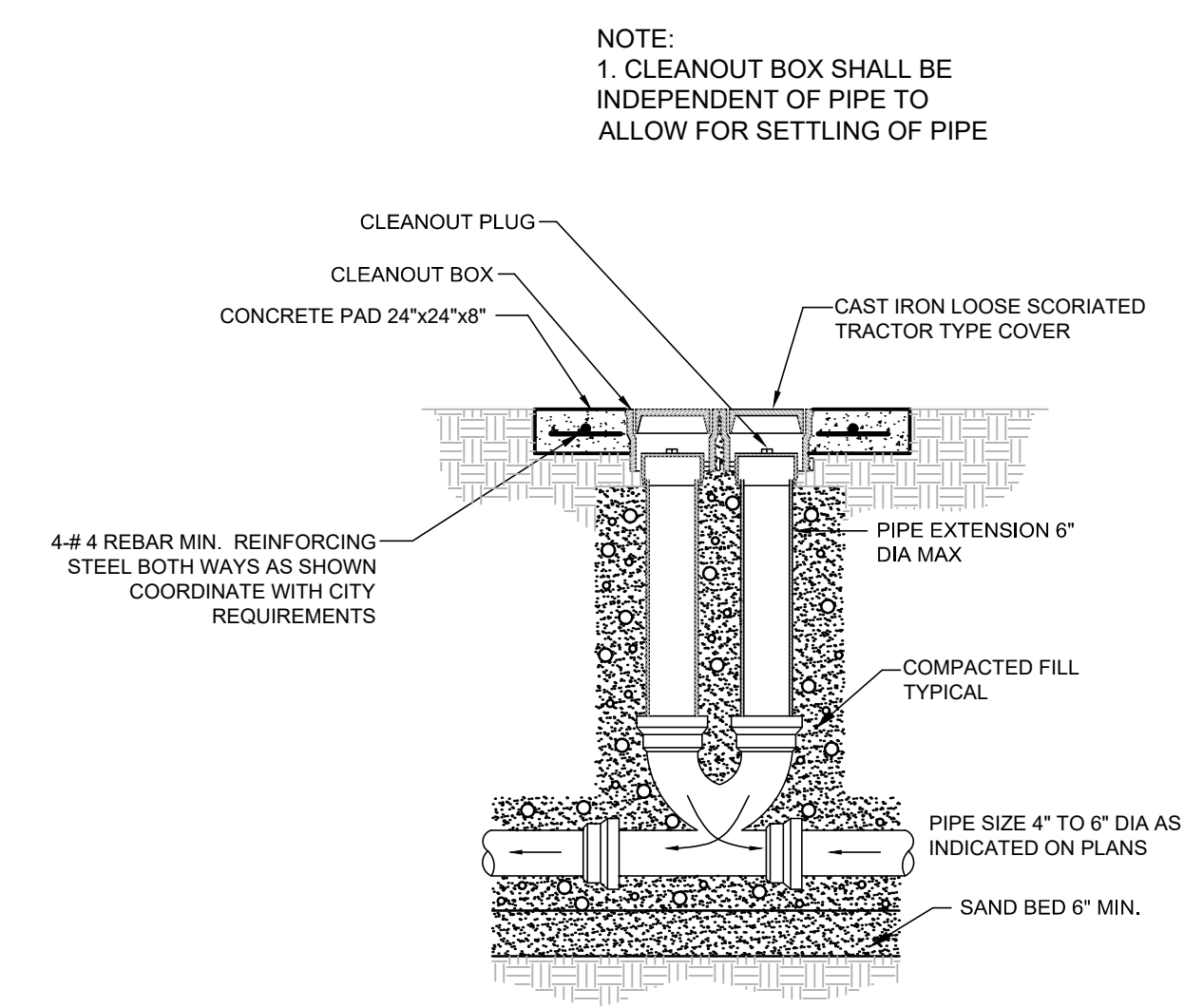
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 DATE: 03/17/26
 DESIGNER: J.V.
 DRAWN BY: V.R.
 SHEET NO.: C9



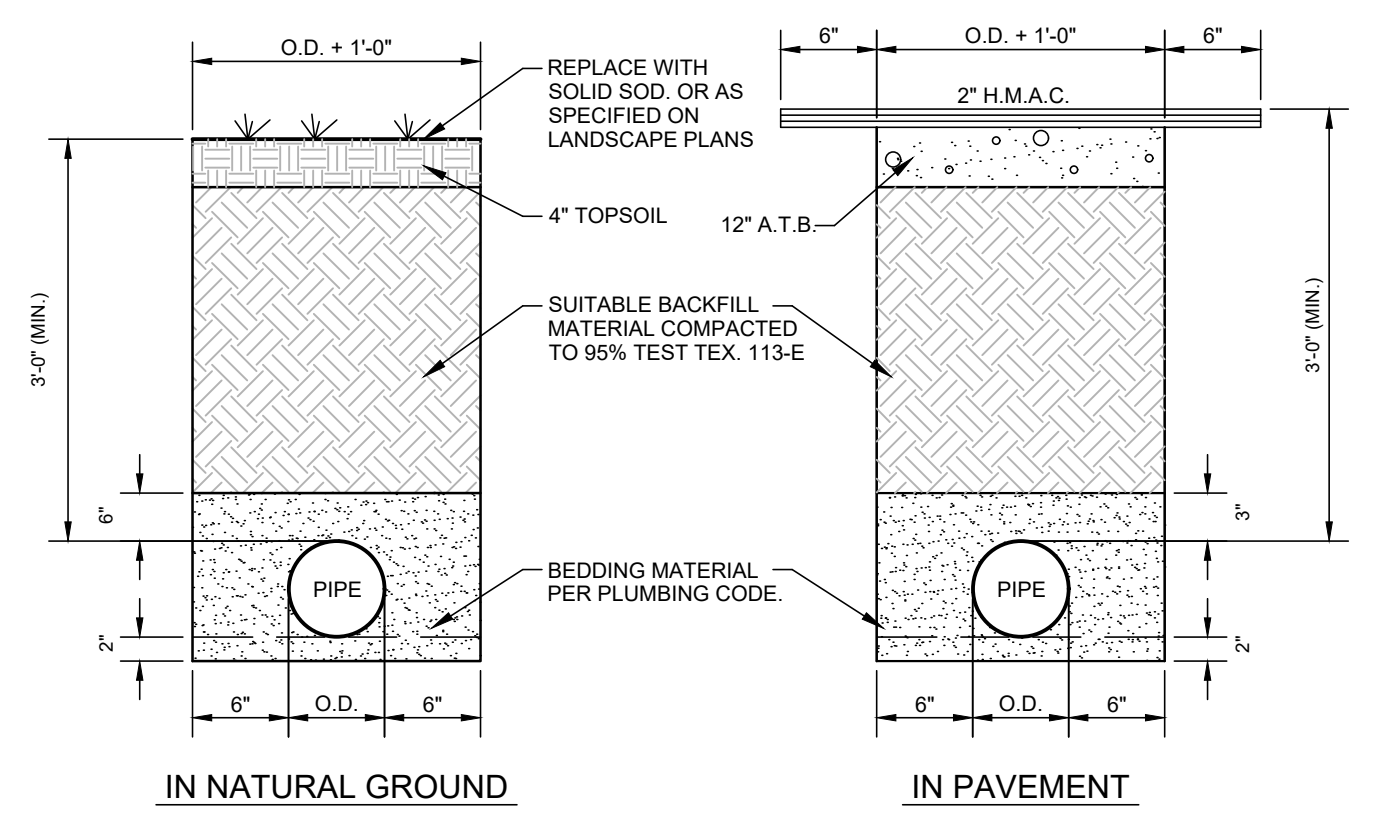
1
C10
NEW GRATE AT EXISTING CURB INLET
NOT TO SCALE



2
C10
ONE WAY CLEANOUT
NOT TO SCALE



3
C10
TWO WAY CLEANOUT
NOT TO SCALE



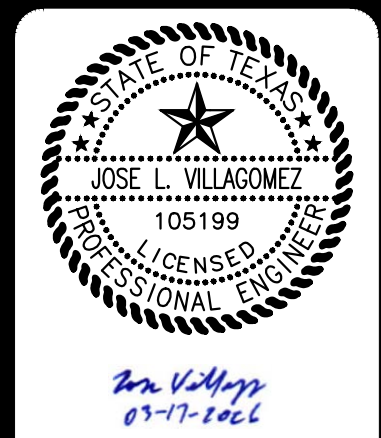
4
C10
PIPE TRENCH
NOT TO SCALE

REVISIONS:

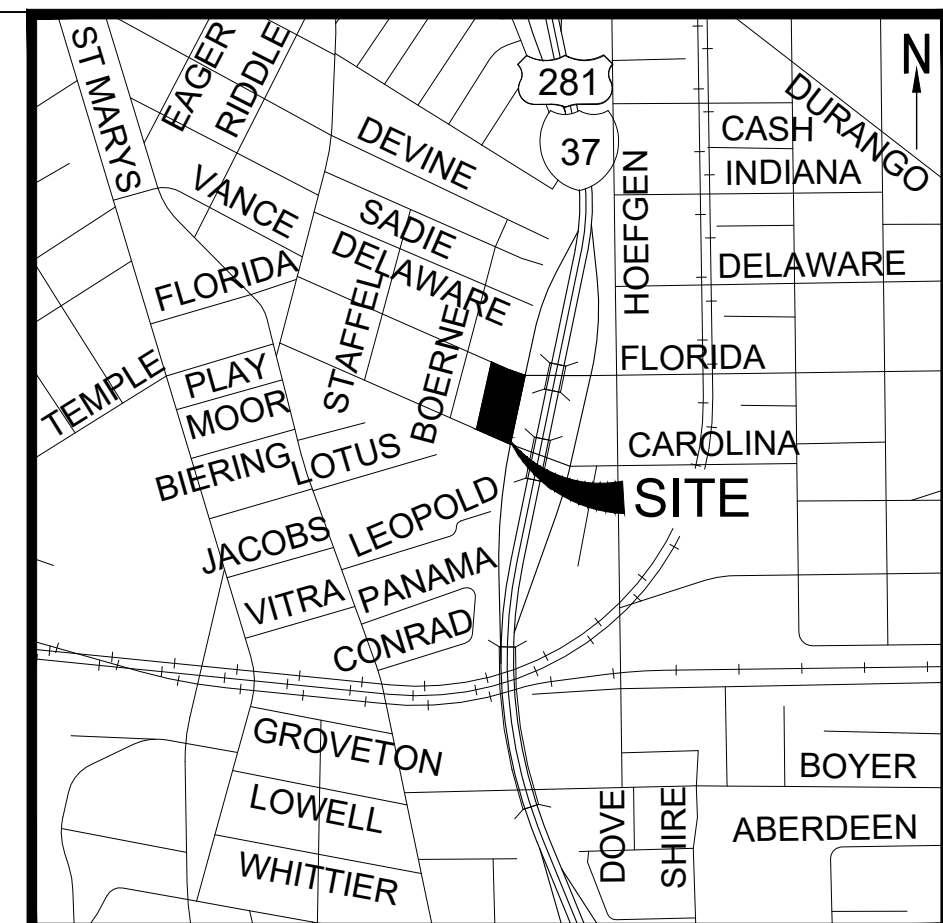
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FLORIDA STREET RETAIL
418 FLORIDA STREET
SAN ANTONIO, TEXAS
CIVIL DETAILS



JOB NO.: 26-004
DATE: 03/17/26
DESIGNER: J.V.
DRAWN BY: V.R.
SHEET NO.: C10



LOCATION MAP

SCALE: NTS

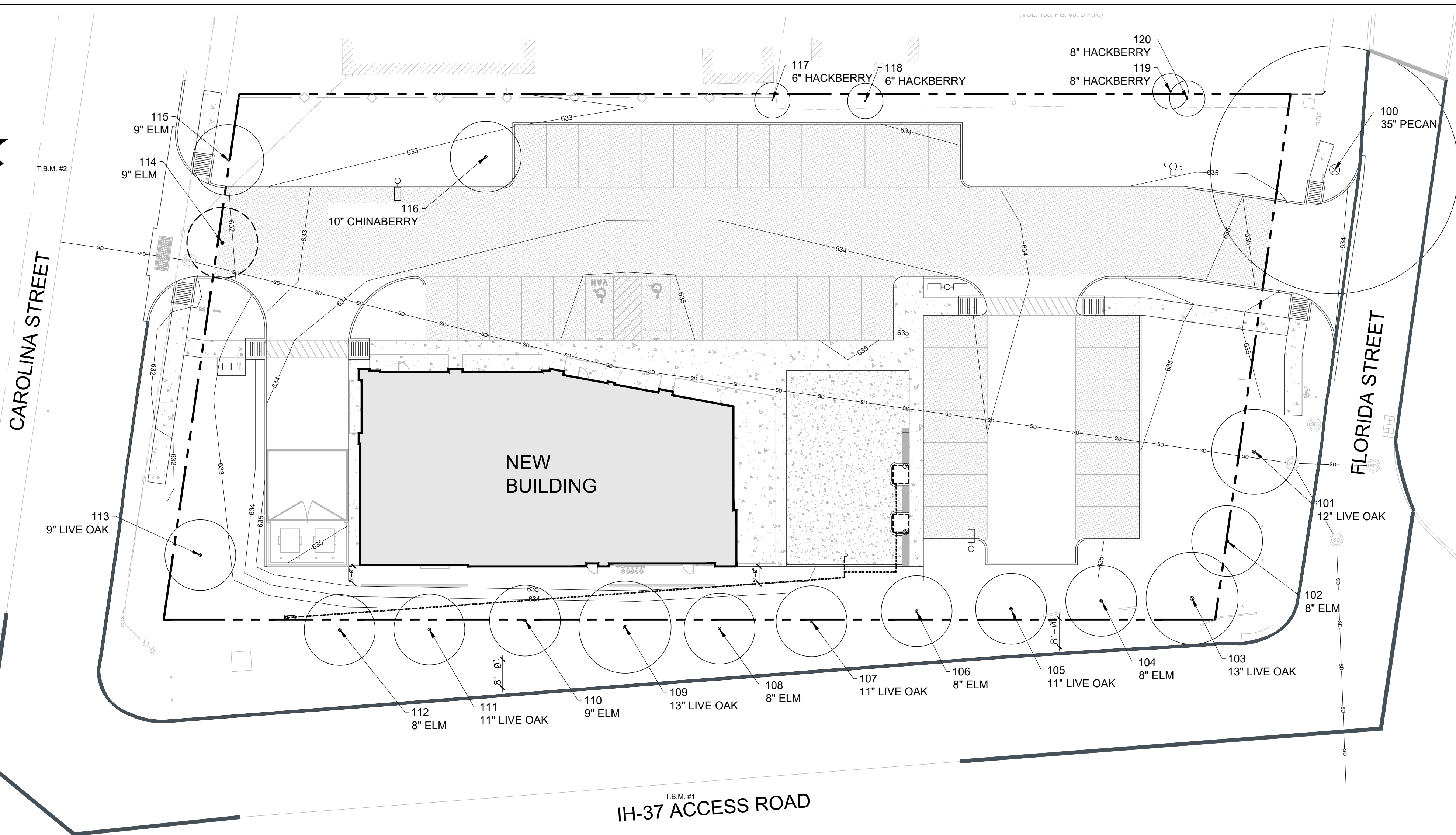
TREE PROTECTION GENERAL NOTES

- TREE PROTECTION TO BE ERECTED AROUND ALL PROTECTED SIZE TREES TO BE AFFECTED BY CONSTRUCTION ACTIVITY.
- ALL TREES SHALL REMAIN UNLESS NOTED ON THE CITY APPROVED PLANS.
- NO SITE PREPARATION WORK SHALL BEGIN IN AREAS WHERE TREE PRESERVATION AND PROTECTION MEASURES HAVE NOT BEEN COMPLETED AND APPROVED BY THE CITY INSPECTOR.
- TREE PROTECTION FENCING SHALL BE MAINTAINED AND REPAIRED BY THE CONTRACTOR DURING SITE CONSTRUCTION.
- THE CONTRACTOR SHALL AVOID CUTTING ROOTS LARGER THAN THREE INCHES (3") IN DIAMETER WHEN EXCAVATING NEAR EXISTING TREES. EXCAVATION IN THE VICINITY OF TREES SHALL PROCEED WITH CAUTION. THE CONTRACTOR SHALL CONTACT LANDSCAPE ARCHITECT IF ROOTS LARGER THAN THREE INCHES (3") WITHIN THE FIVE FOOT (5') ROOT PROTECTION ZONE NEED TO BE PRUNED. ALL ROOTS LARGER THAN ONE INCH (1") IN DIAMETER SHALL BE CLEANLY CUT BY HAND WITH BYPASS TYPE PRUNING SHEARS.
- THE ROOT PROTECTION ZONE IS THAT AREA SURROUNDING A TREE, AS MEASURED BY A RADIUS FROM THE TREE TRUNK, IN WHICH NO EQUIPMENT, VEHICLES OR MATERIALS MAY BE OPERATED OR BE STORED. THE REQUIRED RADIUS LENGTH IS ONE FOOT (1') PER DIAMETER INCH OF THE TREE. FOR EXAMPLE, A TEN INCH (10") DIAMETER TREE WOULD HAVE A TEN FOOT (10') RADIUS ROOT PROTECTION ZONE AROUND THE TREE.
- NO DISTURBANCE SHALL OCCUR CLOSER TO THE TRUNK THAN HALF THE ROOT PROTECTION ZONE AREA.
- TREES, SHRUBS, OR BUSHES TO BE CLEARED FROM PROTECTED ROOT ZONE AREAS SHALL BE REMOVED BY HAND.
- TREES DAMAGED OR LOST DUE TO CONTRACTOR'S NEGLIGENCE DURING CONSTRUCTION SHALL BE MITIGATED ON A 1:1 BASIS FOR SIGNIFICANT TREES AND 3:1 BASIS FOR HERITAGE SIZED TREES TO SATISFY THE OWNER AND CITY TREE ORDINANCE MITIGATION REQUIREMENTS. I.E. LOSS OF A 30" DIAMETER TREE WILL REQUIRE 90" OF MITIGATION. LOST TREES SHALL BE REMOVED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE WITHIN 14-DAYS NOTICE BY THE OWNER OR ARCHITECT.
- EXPOSED ROOTS SHALL BE COVERED AT THE END OF EACH DAY USING TECHNIQUES SUCH AS COVERING WITH SOIL, MULCH, OR WET BURLAP.
- ANY TREE REMOVAL SHALL BE APPROVED BY THE CITY ARBORIST OFFICE PRIOR TO ITS REMOVAL.
- ALL EXISTING TREES ARE TO BE MAINTAINED IN GOOD HEALTH THROUGHOUT THE DURATION OF CONSTRUCTION. CONTRACTOR IS TO ESTABLISH A DAILY OR AS NEEDED WATERING ROUTINE FOR ALL EXISTING TREES IMPACTED BY CONSTRUCTION. PROVIDE ONE APPLICATION OF ROOT STIMULATOR TO EXISTING TREES PRIOR TO START OF WORK.
- THE PROPOSED FINISHED GRADE WITHIN THE ROOT PROTECTION ZONE OF ANY TREE TO BE PRESERVED SHALL NOT BE RAISED OR LOWERED MORE THAN THREE INCHES (3").
- WHERE TREE FENCING WILL CONFLICT WITH NECESSARY CONSTRUCTION ACTIVITY THE FENCING SHALL BE ADJUSTED AND A 6" COARSE LAYER OF MULCH SHALL BE INSTALLED AND MAINTAINED OVER TREE ROOT PROTECTION ZONE. WHERE FENCING WILL ENCRITCH WITHIN FIVE FEET (5') OF EXISTING TREE, TREE-ARMOR IS TO BE INSTALLED.

TREE PRUNING GENERAL NOTES

- ALL PRUNING TO BE PERFORMED UNDER THE DIRECT SUPERVISION OF A LICENSED ARBORIST, IN ACCORDANCE WITH ANSI A-300.
 - PRUNE AND SHAPE TREES TO ESTABLISH MIN. CLEAR DISTANCE OF:
 - 8'-0" ABOVE FINISHED GRADE
 - 14'-0" ABOVE FIRE LANES AND DRIVES
 - 3'-0" FROM ANY PART OF NEW BUILDING.
- PRUNE UNIFORMLY AROUND TREE TO MAINTAIN A BALANCED SHAPE.
- ALLOW FOR HEALING COLLAR, BUT NO STUBS.
- ROOTS AND/OR BRANCHES THAT ARE IN CONFLICT WITH THE CONSTRUCTION SHALL BE CUT CLEANLY ACCORDING TO PROPER PRUNING METHODS.
- ALL ROOTS LARGER THAN ONE INCH (1") IN DIAMETER SHALL BE CLEANLY CUT BY HAND WITH BYPASS TYPE PRUNING SHEARS.
- ALL OAK WOUNDS SHALL BE PAINTED OVER WITH AN ASPHALTIC TREE WOUND SEALER, WITHIN TWENTY (20) MINUTES TO PREVENT OAK WILT.

NOTE: THE EXISTING TREE INFORMATION SHOWN ON THIS PLAN (LOCATION, SIZE & SPECIES) IS FROM A PLAN PROVIDED BY THE OWNER OR BY A CIVIL ENGINEERING COMPANY HIRED BY THE OWNER. CONTRACTOR SHALL VERIFY EXISTING TREE LOCATIONS.



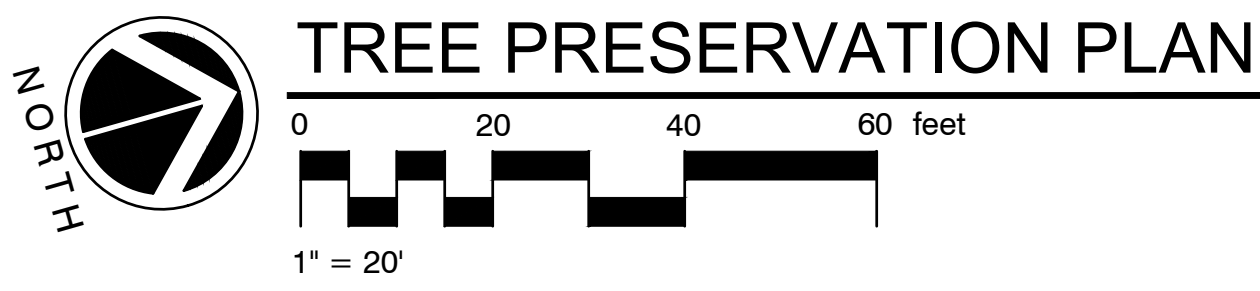
TREE CALCULATION TABLE

SIGNIFICANT - LARGE

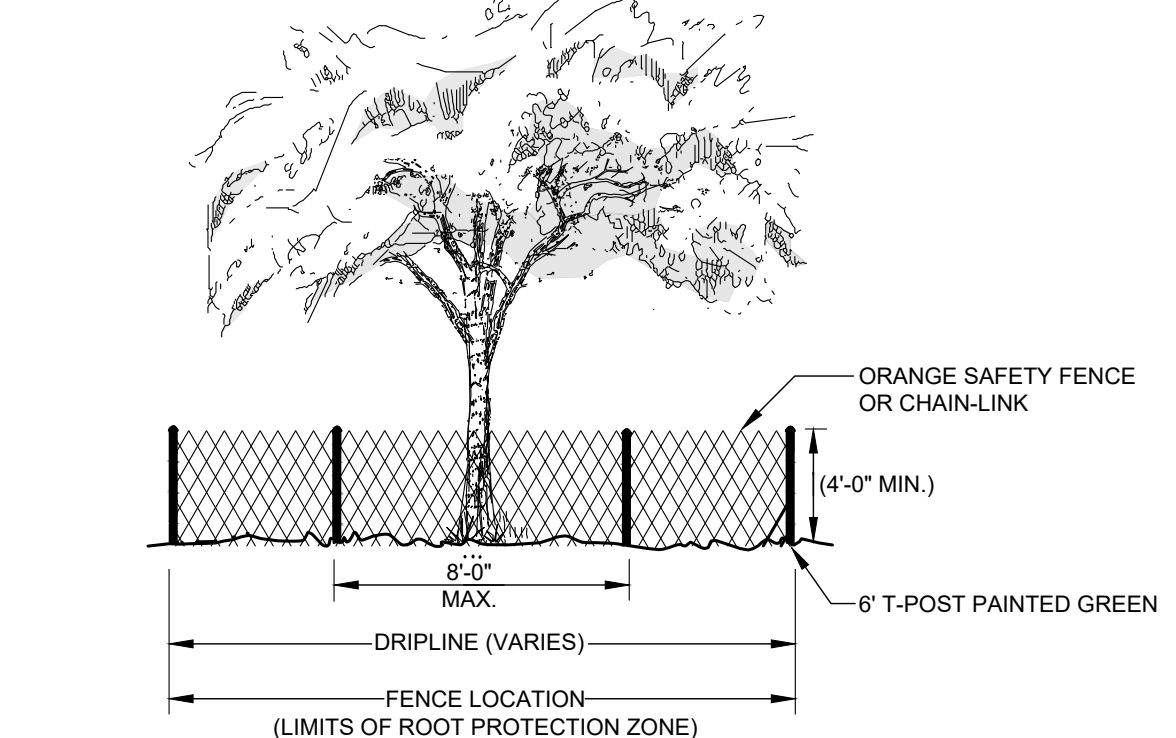
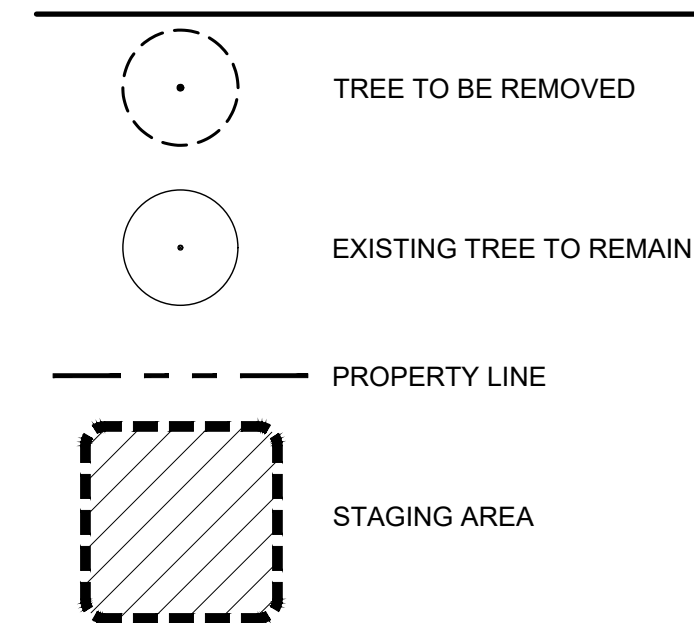
- 86" = TOTAL
- 86" = PRESERVED
- 0" = REMOVED
- 100% = PRESERVATION
- 0" = MITIGATION

TREE INVENTORY

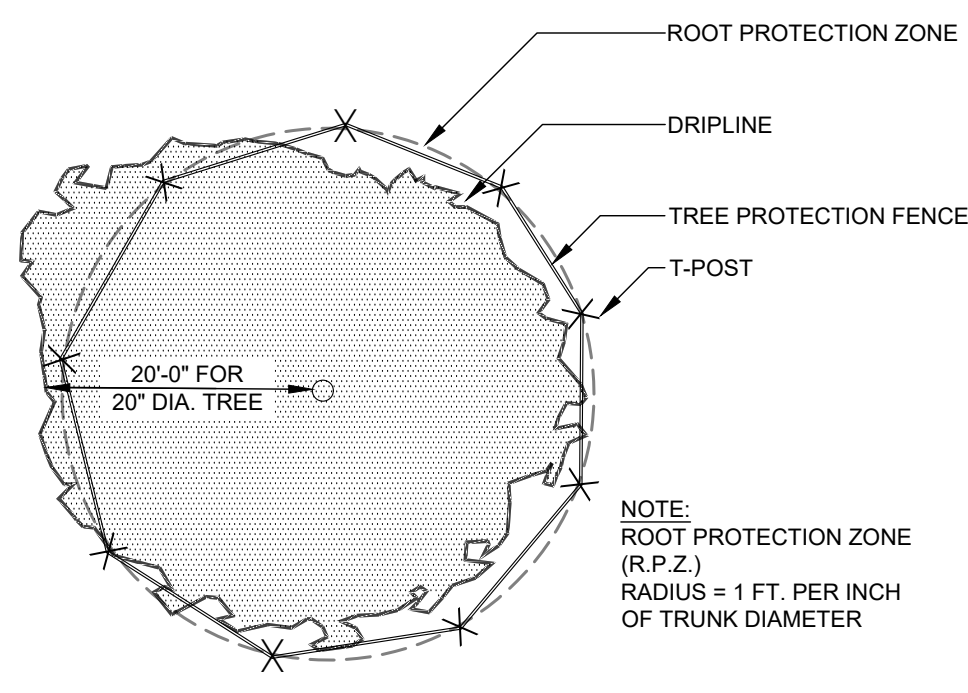
TAG #	DBH	SPECIES	PRESERVE	REMOVE	COMMENTS
100	35	PECAN	X		RIGHT OF WAY
101	12	LIVE OAK	X		RIGHT OF WAY
102	8	ELM	8		SIGNIFICANT
103	13	LIVE OAK	13		SIGNIFICANT
104	8	ELM	8		SIGNIFICANT
105	11	LIVE OAK	11		SIGNIFICANT
106	8	ELM	8		SIGNIFICANT
107	11	LIVE OAK	11		SIGNIFICANT
108	8	ELM	X		RIGHT OF WAY
109	13	LIVE OAK	X		RIGHT OF WAY
110	9	ELM	9		SIGNIFICANT
111	11	LIVE OAK	X		RIGHT OF WAY
112	8	ELM	X		RIGHT OF WAY
113	9	LIVE OAK	9		SIGNIFICANT
114	9	ELM		X	EASEMENT
115	9	ELM	9		SIGNIFICANT
116	10	CHINABERRY	X		INVASIVE
117	6	HACKBERRY	X		NON-SIGNIFICANT
118	6	HACKBERRY	X		NON-SIGNIFICANT
119	8	HACKBERRY	X		OFF SITE
120	8	HACKBERRY	X		NON-SIGNIFICANT



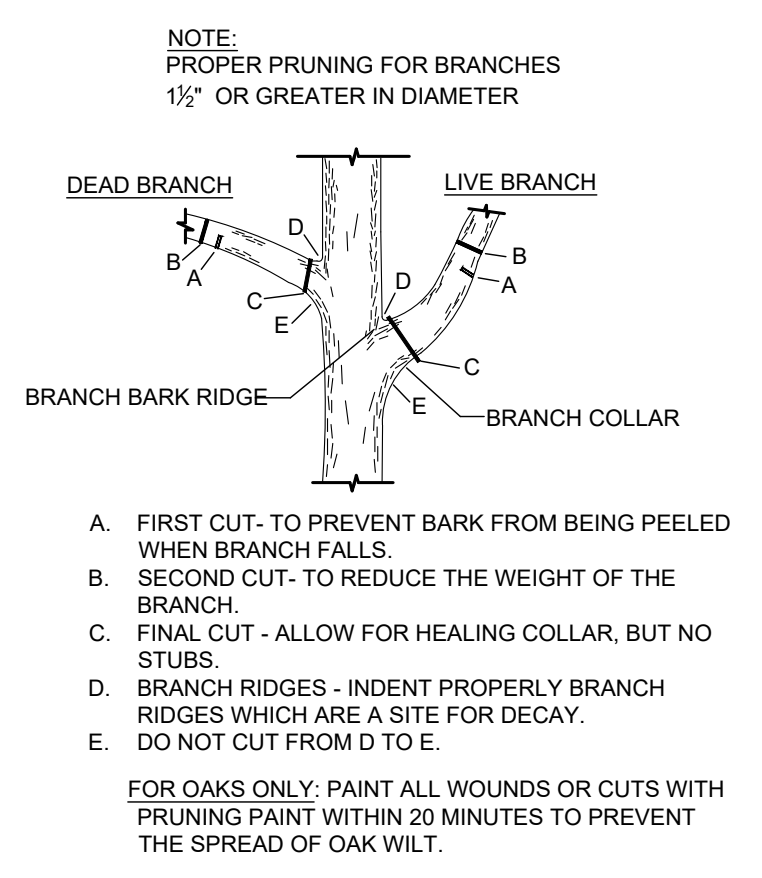
TREE PRESERVATION LEGEND



01 TREE PROTECTION - ELEVATION
N.T.S.



02 INDIVIDUAL TREE
N.T.S.



03 TREE PRUNING
N.T.S.

SEAL
CLIENT

VILLA PARK
A PART OF
KP&J ARCHITECTS ENGINEERS

300 W. BITTERS RD. SUITE 204
SAN ANTONIO, TX 78216
(210) 384-8900

CONSULTANT
COOPER LOCHTE
LANDSCAPE ARCHITECTURE LLC
418 FLORIDA STREET, SAN ANTONIO, TX 78254
CLLA PROJECT #26-008

NEW BUILDING

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SAN ANTONIO, TX 78254
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REV	REV DESCRIPTION	DATE

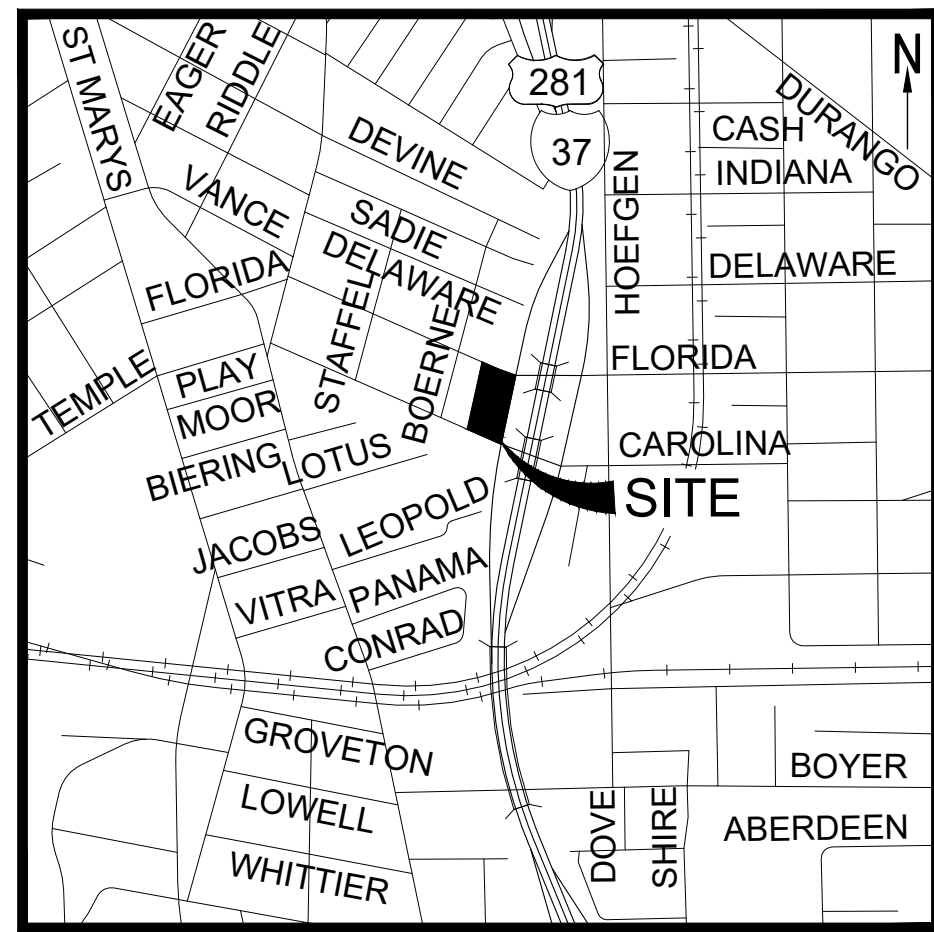


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Drawn / Designed By: BF
Reviewed By: BF
Project Number: KPJ-TX-26-XXXX

SHEET NAME:
TREE PRESERVATION PLAN

SHEET NUMBER:
L1



LOCATION MAP

SCALE: NTS

CITY OF SAN ANTONIO LANDSCAPE ORDINANCE REQUIREMENTS

TREE CANOPY SHADING

- 44,092 SF x 25% = 11,023 SF SHADING REQUIRED
- 05 TREE(S) PROVIDED @ 1200 x 90%
- 05 TREE(S) EXISTING @ 875 x 100%
- 03 TREE(S) PROVIDED @ 875 x 90%
- 04 TREE(S) PROVIDED @ 875 x 50%
- = 13,888 SF (31.5%) SHADING PROVIDED

70 LANDSCAPE POINTS REQUIRED

SCREENING OF SURFACE PARKING = 25 POINTS

(PS) PARKING LOT SHADING = 20 POINTS

- 13,508 SF x 25% = 3,402 SF SHADING REQUIRED
- 02 TREE(S) PROVIDED @ 1200 x 75%
- 02 TREE(S) EXISTING @ 875 x 100%
- = 3,550 SF (26%) SHADING PROVIDED

(ST) STREET TREES = 25 POINTS

TREES SHALL BE LOCATED NO MORE THAN 17 FEET FROM THE STREET RIGHT-OF-WAY LINE.

- IH-37 ACCESS ROAD 297 LF x 75% = 223 / 50 = 4.4 = (5) TREE(S) REQUIRED
- FLORIDA STREET 150 LF x 75% = 113 / 50 = 2.2 = (3) TREE(S) REQUIRED
- IH-37 ACCESS ROAD 150 LF x 75% = 113 / 30 (OHE) = 3.7 = (4) TREE(S) REQUIRED

TOTAL POINTS PER PLAN = 70 POINTS

BUFFERS

- TYPE 'B' 15' ADJOINING STREET BUFFER PROVIDED ALONG: IH-37 ACCESS ROAD - 297 LF

REQUIRED	PROVIDED
4,455 SF NET BUFFER YARD AREA REQUIRED	✓
06 LARGE SPECIES TREES REQUIRED	✓
06 SMALL SPECIES TREES REQUIRED	✓
24 LARGE SPECIES SHRUBS REQUIRED	✓
36 MEDIUM SPECIES SHRUBS REQUIRED	✓

- TYPE 'B' 15' ADJOINING STREET BUFFER PROVIDED ALONG: FLORIDA STREET - 150 LF

REQUIRED	PROVIDED
2,250 SF NET BUFFER YARD AREA REQUIRED	✓
03 LARGE SPECIES TREES REQUIRED	✓
03 SMALL SPECIES TREES REQUIRED	✓
12 LARGE SPECIES SHRUBS REQUIRED	✓
18 MEDIUM SPECIES SHRUBS REQUIRED	✓

- TYPE 'B' 15' ADJOINING STREET BUFFER PROVIDED ALONG: CAROLINA STREET - 150 LF

REQUIRED	PROVIDED
2,250 SF NET BUFFER YARD AREA REQUIRED	✓
03 LARGE SPECIES TREES REQUIRED	✓
03 SMALL SPECIES TREES REQUIRED	✓
12 LARGE SPECIES SHRUBS REQUIRED	✓
18 MEDIUM SPECIES SHRUBS REQUIRED	✓

IRRIGATION

- IRRIGATION SYSTEM PROVIDED REF. IRRIGATION DRAWING(S).

NOTE: THE SITE INFORMATION SHOWN ON THIS PLAN IS FROM A SITE PLAN PROVIDED BY THE OWNER, ARCHITECT, OR CIVIL ENGINEERING COMPANY HIRED BY THE OWNER. VERIFY ALL DIMENSIONS WITH THE DIMENSIONAL CONTROL PLAN AND COORDINATE WITH ALL OTHER CONTRACT DOCUMENTS ASSOCIATED WITH THIS PROJECT.

DRAINAGE LEGEND

- 3" PERFORATED PVC DRAIN PIPE
- ⊙ 3" SCH. 40 PVC RISER W/ ATRIUM GRATE/INLET
- 4" SOLID SCH. PVC CONVEYANCE PIPE

REFERENCE NOTES SCHEDULE

SYMBOL	DESCRIPTION
1	DRAINAGE FOR GRADE PLANTER - INSTALL 3" SCH. 40 PERFORATED DRAIN PIPE AS SHOWN AT THE BASE OF EACH EXISTING PLANTER. CONNECT SCH. 40 PVC FITTINGS AND PIPE TO AN ABOVE GROUND ATRIUM GRATE. CONTRACTOR TO COORDINATE CONNECTION OF SCH. 40 SOLID CONVEYANCE PIPE CONTINUATION FROM EACH COURTYARD PLANTING AREA TO THE CURB-OLET CURB DRAIN. REFERENCE SHEET L4 / DETAIL 01.

PLANTER DRAIN NOTES

1. PROVIDE 3" PERFORATED PVC DRAIN PIPE AS SHOWN. INSTALL WITH PERFORATIONS FACING DOWN. COVER PERFORATED PIPE WITH GRAVEL.
2. CONTRACTOR TO PROVIDE ALL FITTINGS, CONNECTIONS, AND MATERIALS TO PROVIDE A COMPLETE AND FUNCTIONAL SYSTEM.
3. SLOPE ALL DRAINAGE PIPE FOR POSITIVE DRAINAGE INTO COLLECTION TIE-IN POINTS. COORDINATE WITH OTHER TRADES THE FINAL LOCATIONS OF DRAIN TIE-INS / DAYLIGHTING.
4. SCH. 40 PVC INLET RISERS TO BE CONNECTED TO PERFORATED DRAINAGE PIPE WITH TEE AND/OR ELBOW. SET TOP OF INLET FLUSH WITH FINISHED PLANTER GRADE AND INSTALL PLASTIC ATRIUM GRATE.
5. CONNECT PERFORATED DRAIN PIPE TO COLLECTION CONVEYANCE TIE-IN POINTS USING SCH. 40 PVC PIPE.
6. SLOPE BASE OF PLANTER TOWARDS DRAIN PIPE. SLOPE CONVEYANCE PIPE TO THE CURB-OLET TO PROVIDE POSITIVE DRAINAGE.
7. CONNECT DRAIN UNDER SYNTHETIC TURF AND THE PLANTER DRAINS TOGETHER. PROVIDE 4" SCH. 40 SOLID CONVEYANCE PIPE ACROSS THE SITE WITH A .5% MINIMUM SLOPE. DAYLIGHT IN THE SOD AREA THROUGH A CONCRETE HEADWALL WITH A CURB-OLET PIPE SECUREMENT. CONTOUR THE CONCRETE HEADWALL WITH THE GRADE SO NOTHING IS PROTRUDING ABOVE THE SOIL.

PLANT SCHEDULE

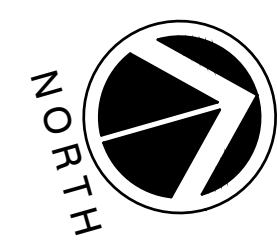
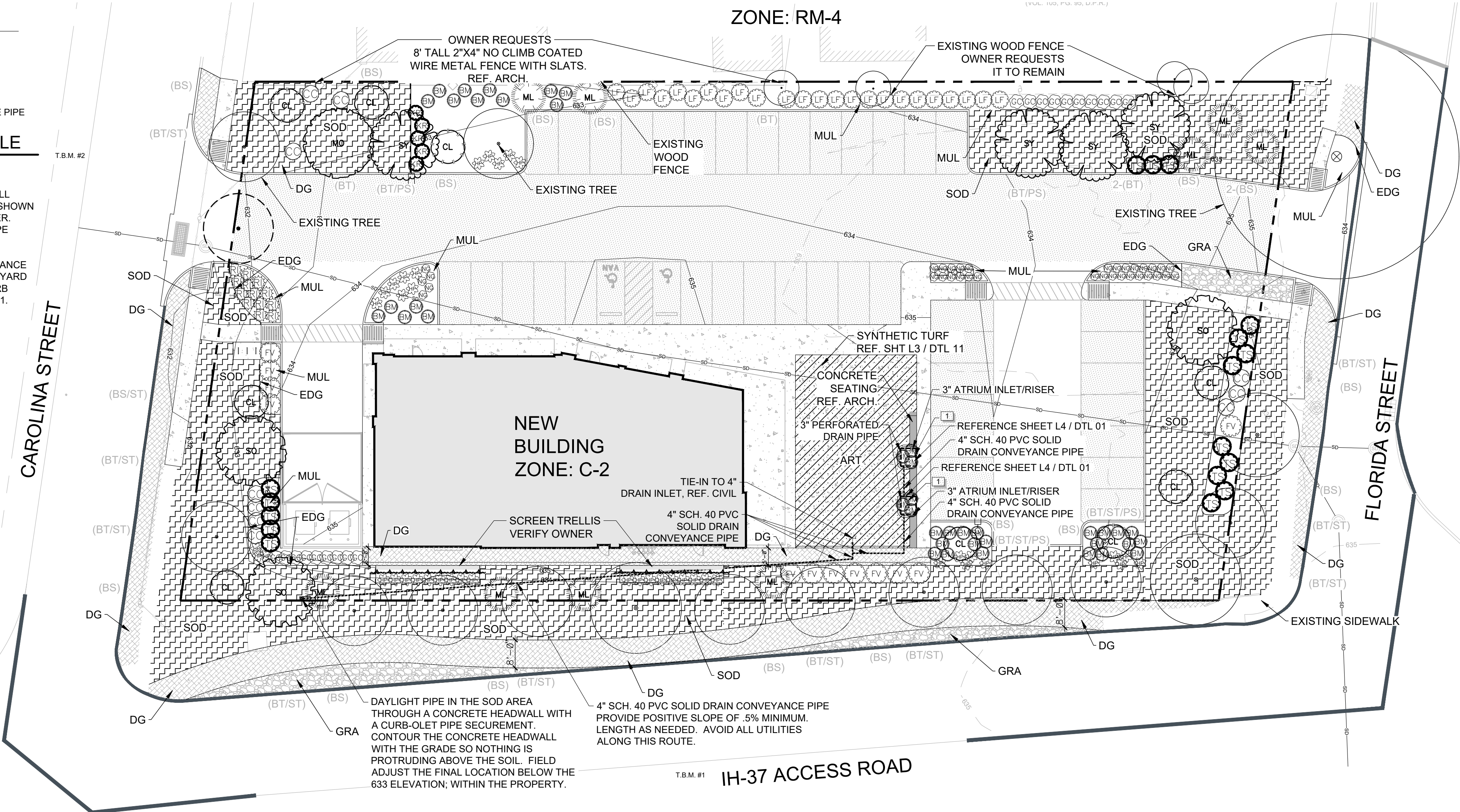
SYMBOL	CODE	QTY	COMMON / BOTANICAL NAME	CONT	CAL	SIZE
CL	CL	9	DESERT WILLOW / CHILOPSIS LINEARIS 'BURGUNDY' MULTI-TRUNK	CONT.	1.5" CAL	4'-6" H, 3'-4" S
SY	SY	4	MEXICAN SYCAMORE / PLATANUS MEXICANA MATCHING SPECIMENS	CONT.	2" CAL	8'-10" H, 4'-5" S
MO	MO	1	MONTEREY OAK / QUERCUS POLYMRORPHA 'MONTEREY' MATCHING SPECIMENS	CONT.	2" CAL	8'-10" H, 4'-5" S
SO	SO	3	SHUMARD RED OAK / QUERCUS SHUMARDII SINGLE STRAIGHT TRUNK, PARK QUALITY	CONT.	2" CAL	10'-12" H, 5'-6" S
ML	ML	9	TEXAS MOUNTAIN LAUREL / SOPHORA SECUNDIFLORA MULTI-TRUNK	CONT.	1.5" CAL	4'-6" H, 3'-4" S

LANDSCAPE MATERIAL SCHEDULE

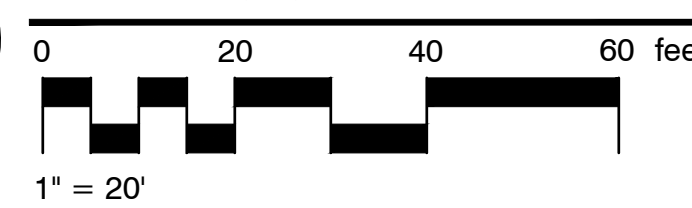
SYMBOL	CODE	DESCRIPTION	SIZE/ CONDITION
GRA	GRA	TEXAS BLEND RIVER GRAVEL ON 5oz. WEED BARRIER FABRIC	4" DEPTH, 2"-4" DIA., WASHED, WELL SORTED, AS SHOWN REFERENCE SHEET L3 / DETAIL 10
DG	DG	DECOMPOSED GRANITE TEXAS PINK GRANITE	3" DEPTH COMPACTED ON FILTER FABRIC, STABILIZER ADDITIVE REFERENCE SHEET L3 / DETAIL 09
EDG	EDG	EDGING ALUMINUM EDGER	3/16" x 4" STAKED, PAINTED GREEN AT GRASS AND BROWN AT DECOMPOSED GRANITE REFERENCE SHEET L3 / DETAIL 08
MUL	MUL	HARDWOOD MULCH DOUBLE SHREDDED	4" DEPTH

NOTE:

1. EACH NEW TREE IS TO BE GROWN IN A NURSERY (NOT FIELD DUG).
2. BID "UNIT" PRICES FOR ALL ITEMS
3. QUANTITIES ON THE PLANS ARE ESTIMATES ONLY. THE LANDSCAPE CONTRACTOR SHALL VERIFY ALL QUANTITIES AND IS RESPONSIBLE FOR INCLUDING IN THE BID THE PLANTING AND/OR INSTALLATION OF ALL ITEMS SHOWN ON THE PLAN IN ACCORDANCE WITH THE SPECIFICATION. ANY ERRORS ON THE PLAN OR QUANTITIES SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT, BY THE CONTRACTOR, PRIOR TO SUBMITTAL OF THIS BID.
4. ALL TREES TO HAVE SINGLE, STRAIGHT, UNICUT LEADER, UNLESS OTHERWISE NOTED.



LANDSCAPE PLAN



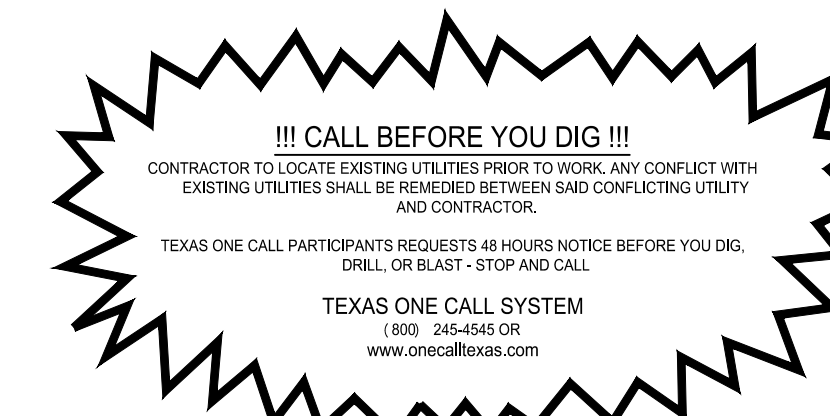
LEGEND

- ⊙ EXISTING TREE TO REMAIN

PLANT SCHEDULE

SYMBOL	CODE	QTY	COMMON / BOTANICAL NAME	CONT	SIZE
SHRUBS					
BM	BM	41	BIG MUHLY / MUHLENBERGIA LINDHEIMERI FULL, WELL ROOTED	5 GAL	18"-24" H, 18"-24" S
TC	TC	18	CAPE HONEYSUCKLE / TECOMARIA CAPENSIS FULL, WELL ROOTED	5 GAL	24"-36" H, 18"-24" S
GC	GC	19	GREY LEAF COTONEASTER / COTONEASTER GLAUCOPHYLLUS FULL, WELL ROOTED	5 GAL	18" H, 12"-18" S
RI	RI	13	IRENE TRAILING ROSEMARY / ROSMARINUS OFFICINALIS 'IRENE' FULL, WELL ROOTED	5 GAL	12"-18" H, 12"-18" S
KR	KR	5	KNOCKOUT ROSE / ROSA X 'KNOCKOUT' FULL, WELL ROOTED	3 GAL	18"-24" H, 18"-24" S
CC	CC	10	LEMON BOTTLEBRUSH MULTI-TRUNK / CALLISTEMON CITRINUS 'RED' FULL, WELL ROOTED	5 GAL	18"-24" H, 18"-24" S
NG	NG	34	NEW GOLD LANTANA / LANTANA X 'NEW GOLD' FULL, WELL ROOTED	1 GAL	8"-10" H - 8"-10" S
FV	FV	12	PINEAPPLE GUAVA / FEJOA SELLOWIANA FULL, WELL ROOTED	5 GAL	18"-24" H, 18"-24" S
HP	HP	43	RED YUCCA / HESPERALOE PARVIFLORA FULL, WELL ROOTED	5 GAL	18"-24" H, 18"-24" S
LF	LF	24	TEXAS SAGE / LEUCOPHYLLUM FRUTESCENS 'COMPACTA' FULL, WELL ROOTED	5 GAL	18"-24" H, 18"-24" S
TS	TS	17	YELLOW BELLS / TECOMA STANS FULL, WELL ROOTED	5 GAL	18"-24" H, 18"-24" S

SYMBOL	CODE	QTY	COMMON / BOTANICAL NAME	CONT
GROUND COVERS				
SOD	SOD	12,423 SF	BERMUDA GRASS VAR. TIFTUF / CYNODON DACTYLON FRESH CUT SOLID SOD, TIGHT SAND ROLLED JOINTS, WEEED FREE. SYNLAWN: SYNTIPEDE X43 / SYNTHETIC TURF OR PRIOR APPROVED EQUAL. PILE HEIGHT: 1-1/2". SBR CUSHION LAYER PER MANUFACTURERS CRITICAL FALL HEIGHT REQUIREMENTS. REF. SHT. L1.09 / DTL. 11	SOD
ART	ART	1,757 SF		ROLL



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COOPER LOCHTE
LANDSCAPE ARCHITECTURE LLC
CLA PROJECT #26-008

CONSULTANT
NEW BUILDING

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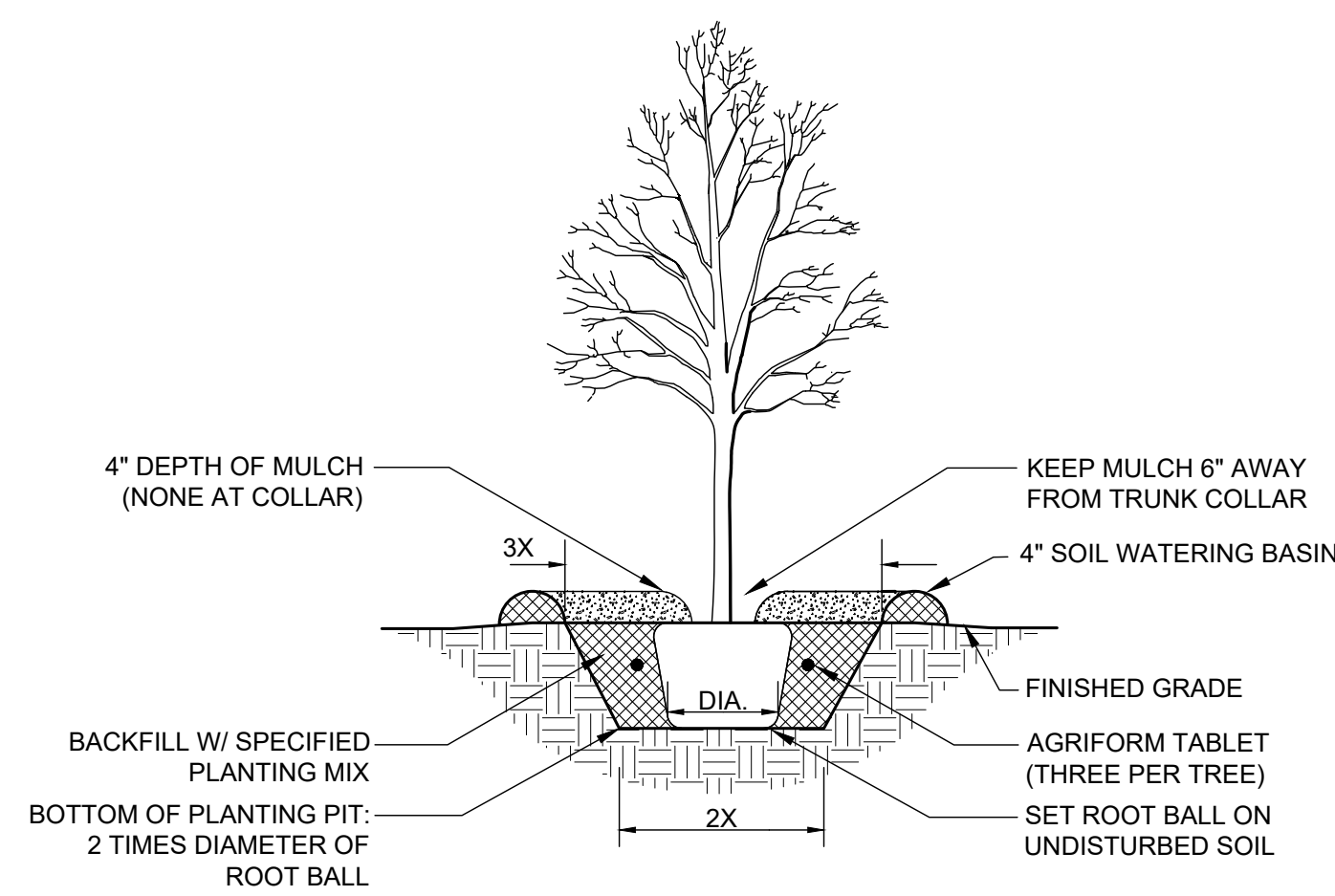


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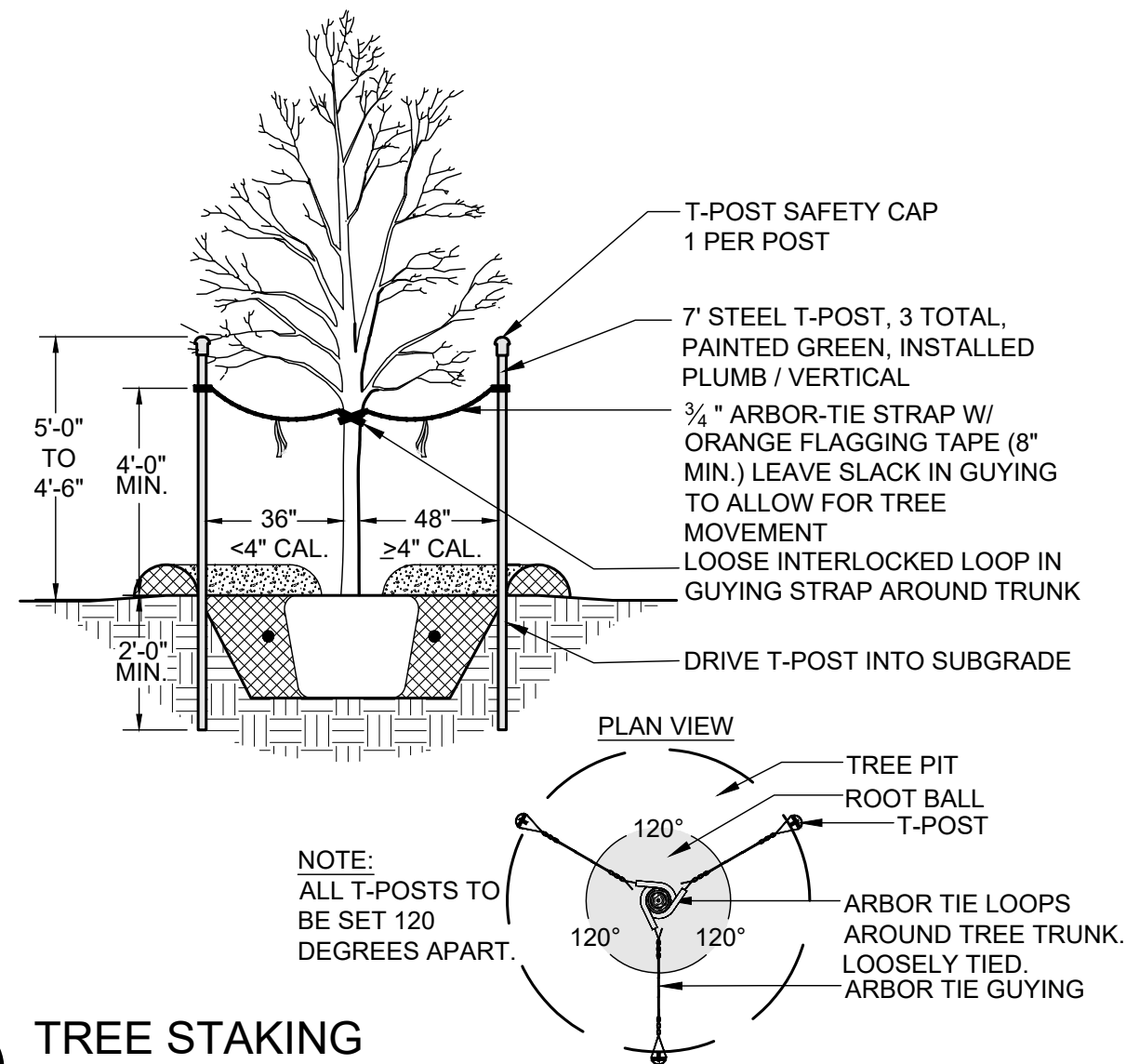
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Reviewed By: BF
Project Number: KPJ-TX-26-XXXX

SHEET NAME:
LANDSCAPE PLAN

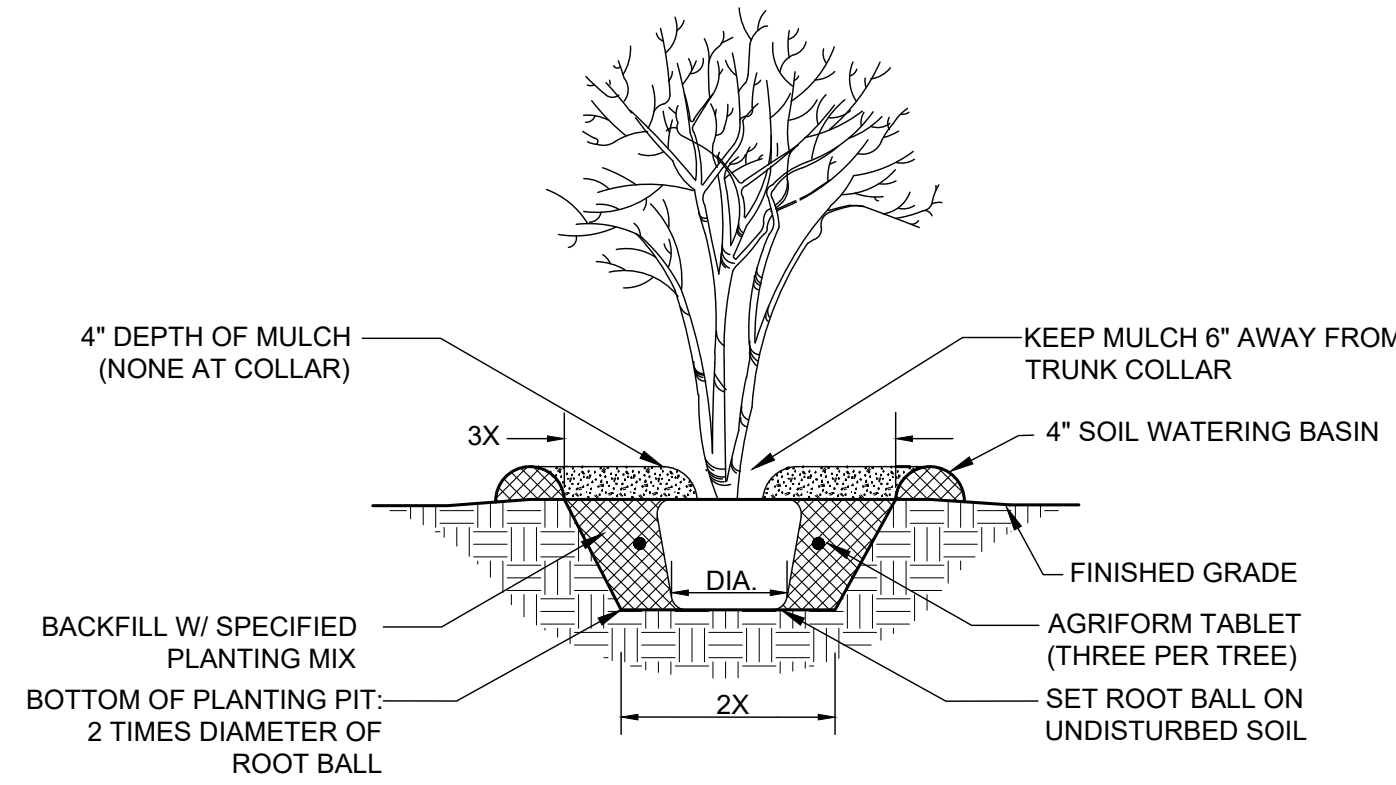
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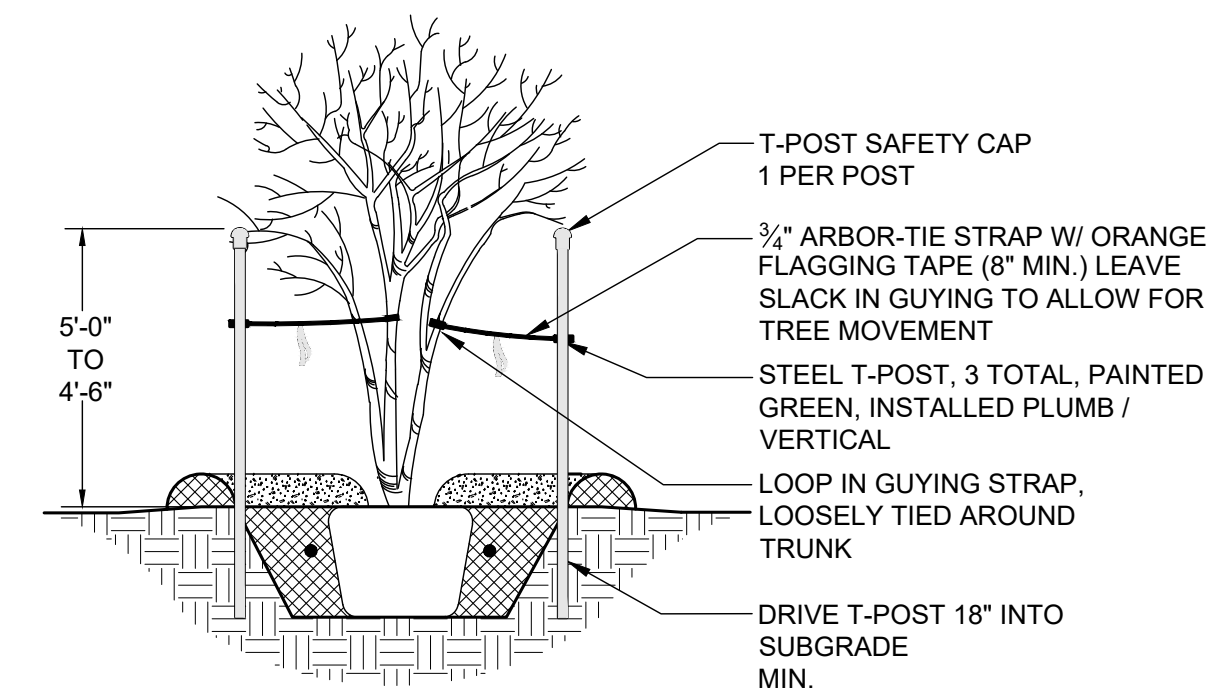
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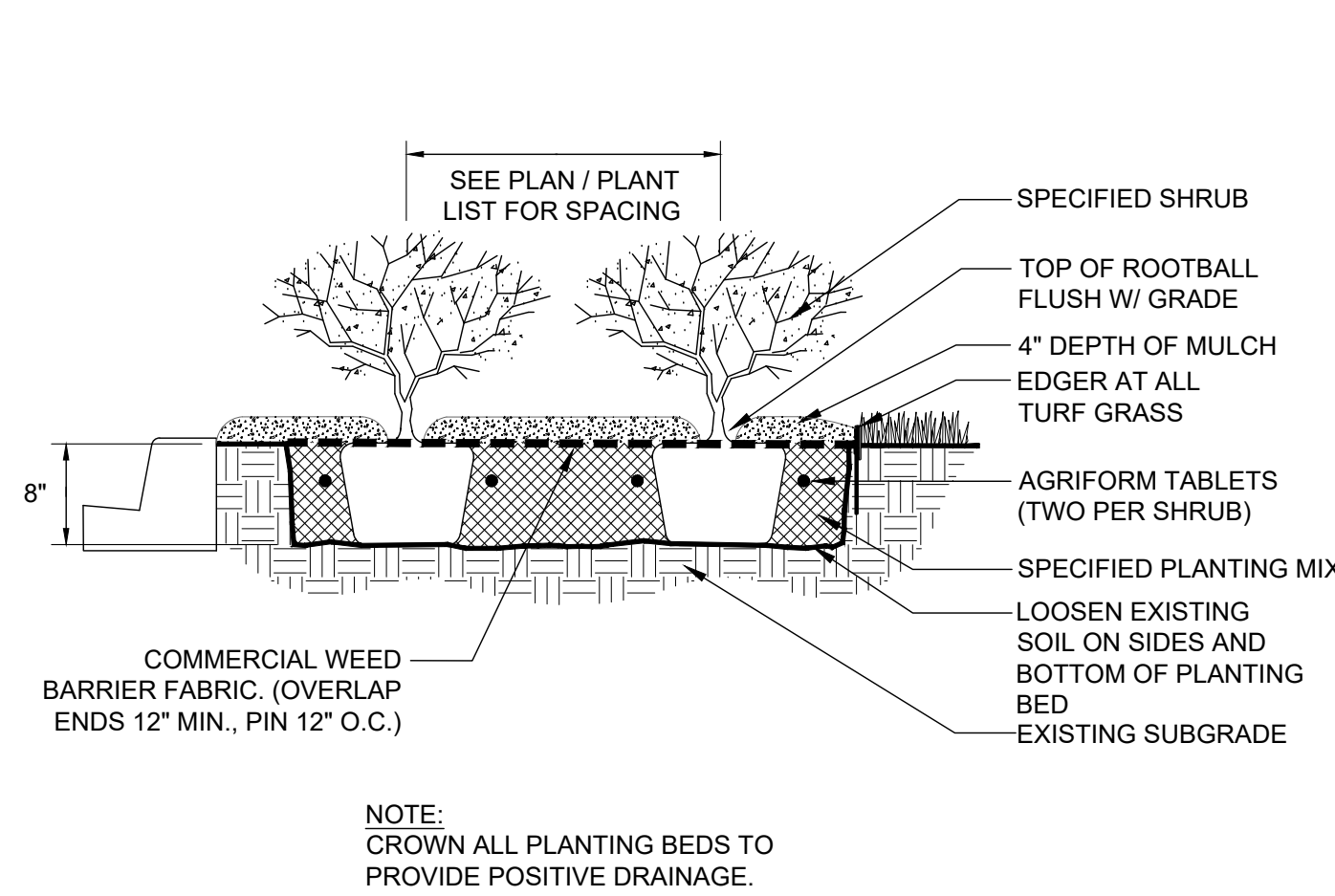
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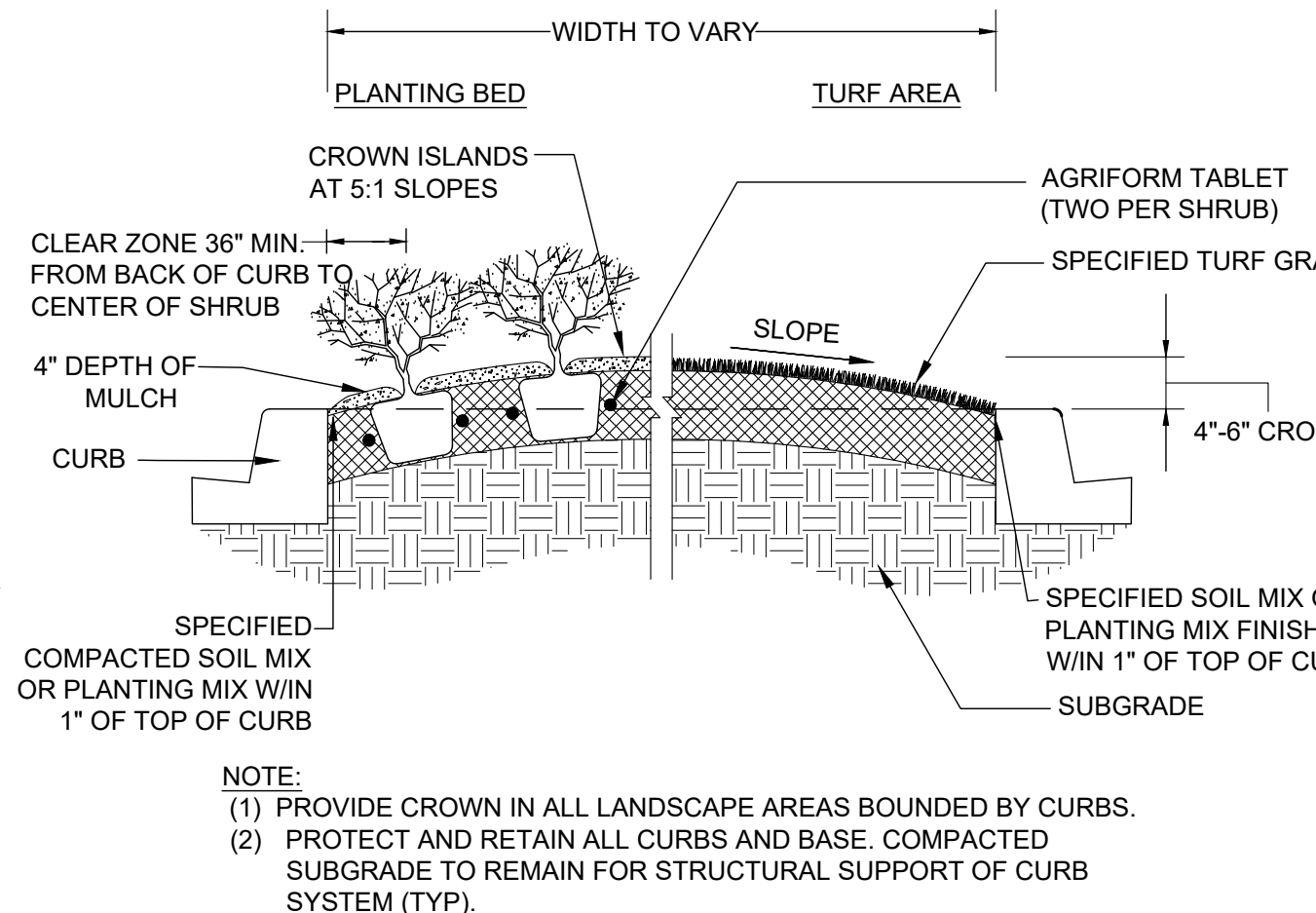
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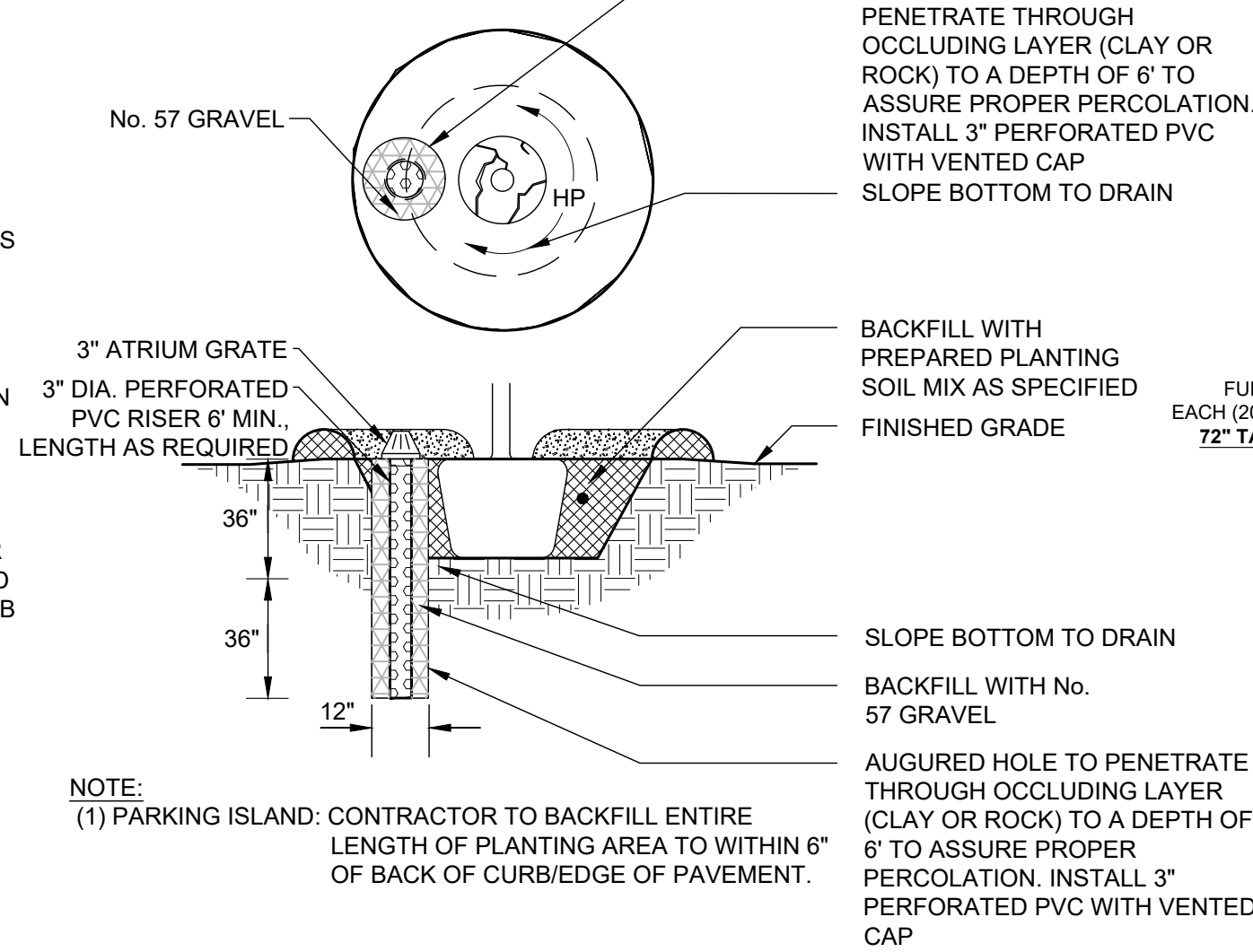
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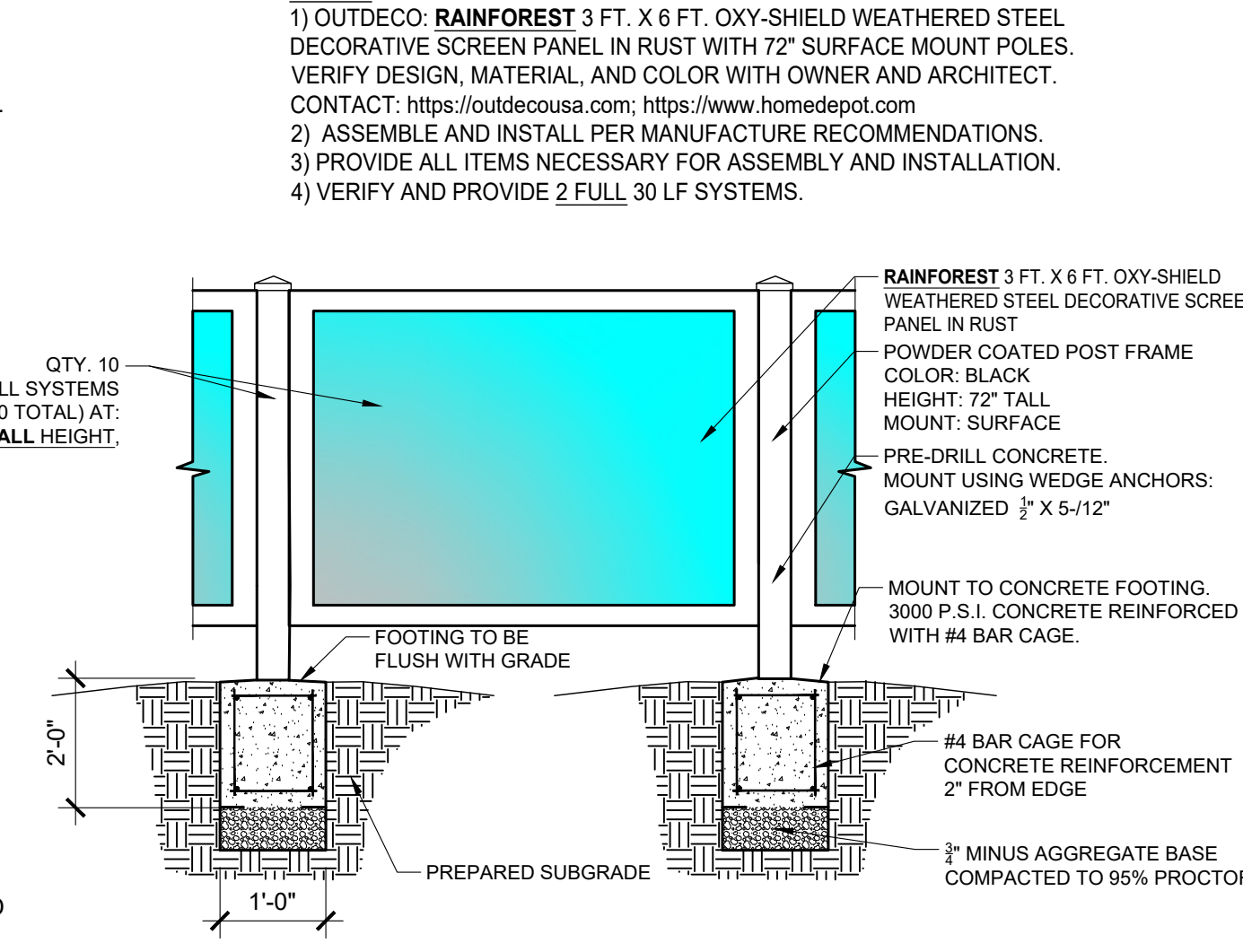
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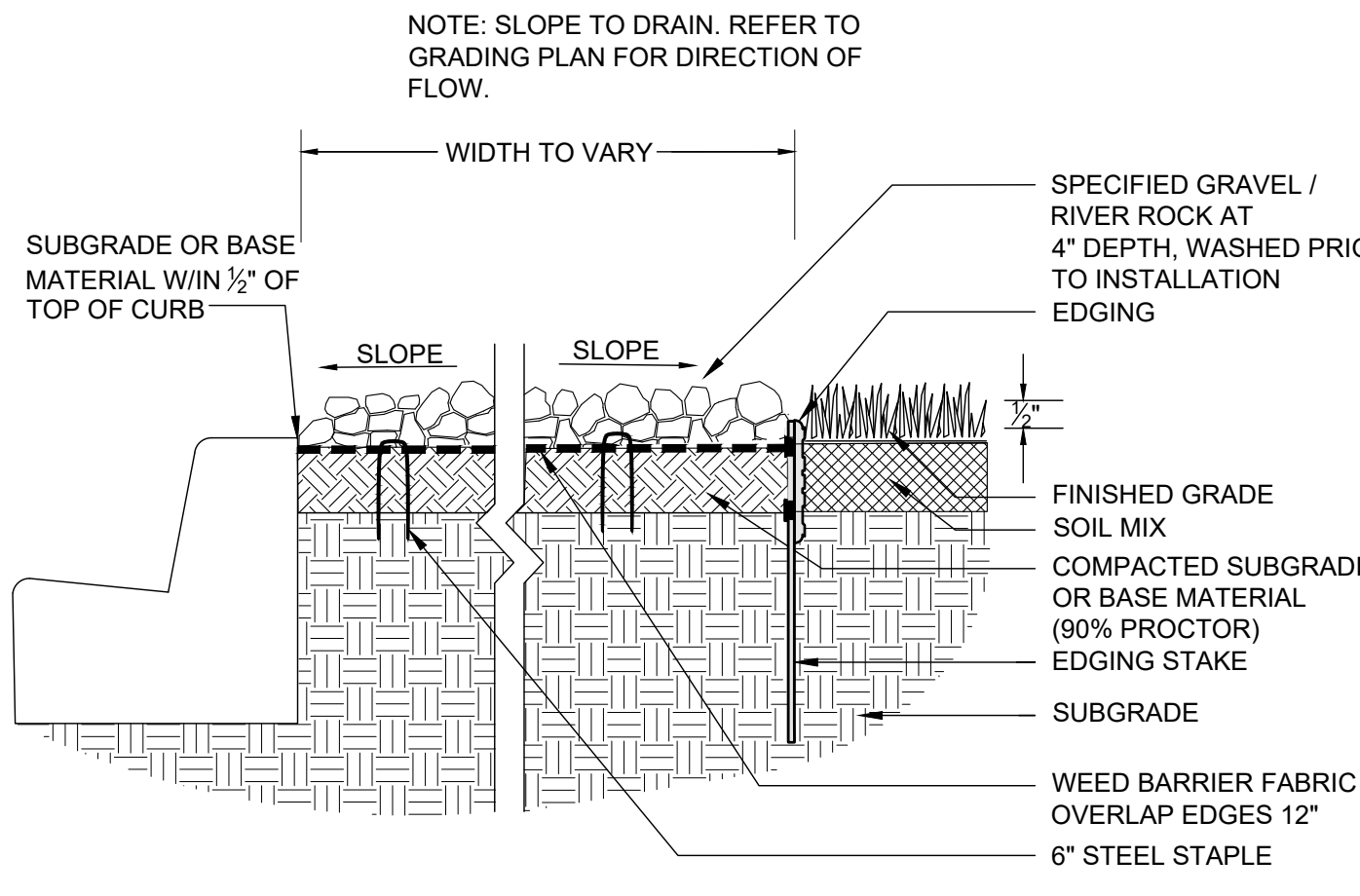
06 LANDSCAPE MEDIANS AND PARKING ISLANDS
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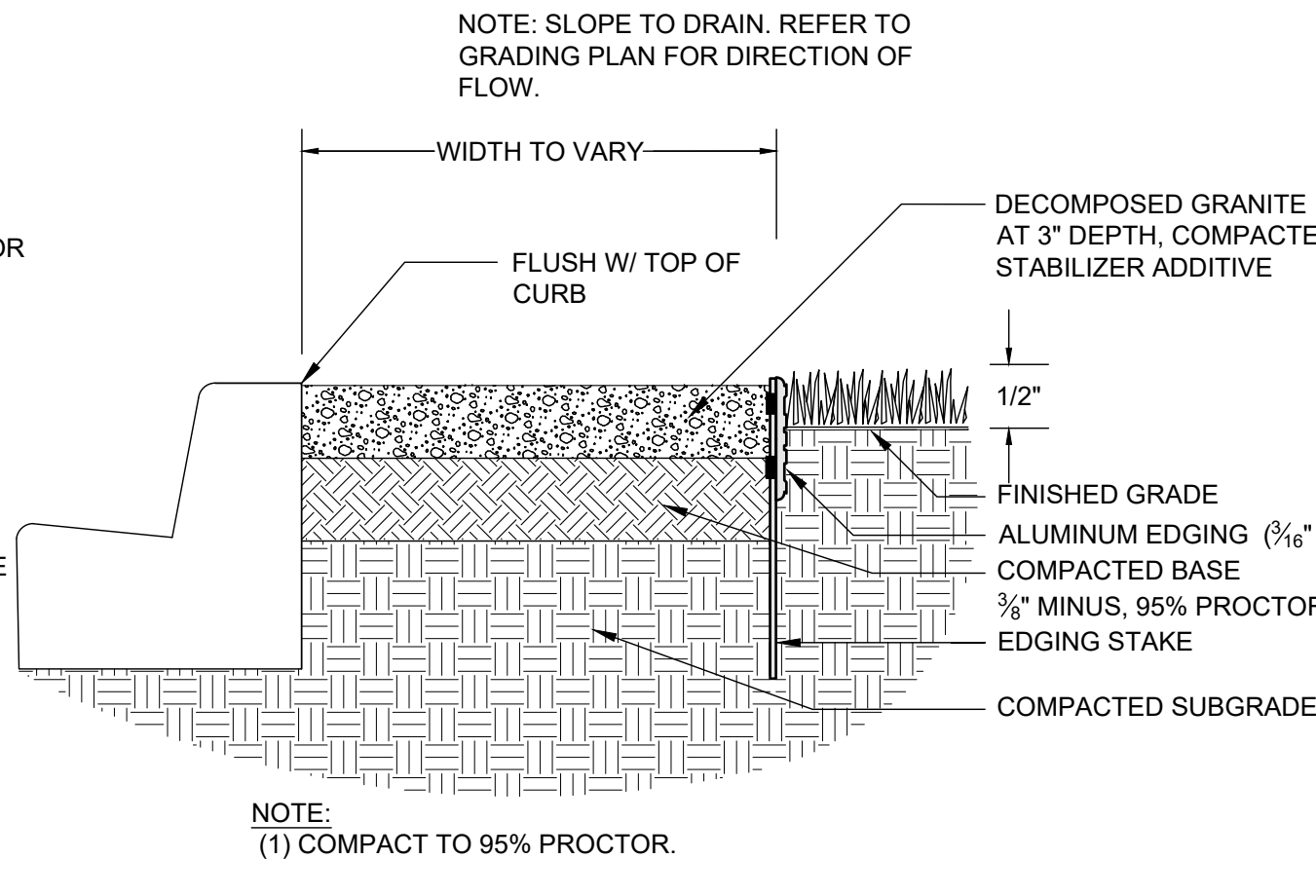
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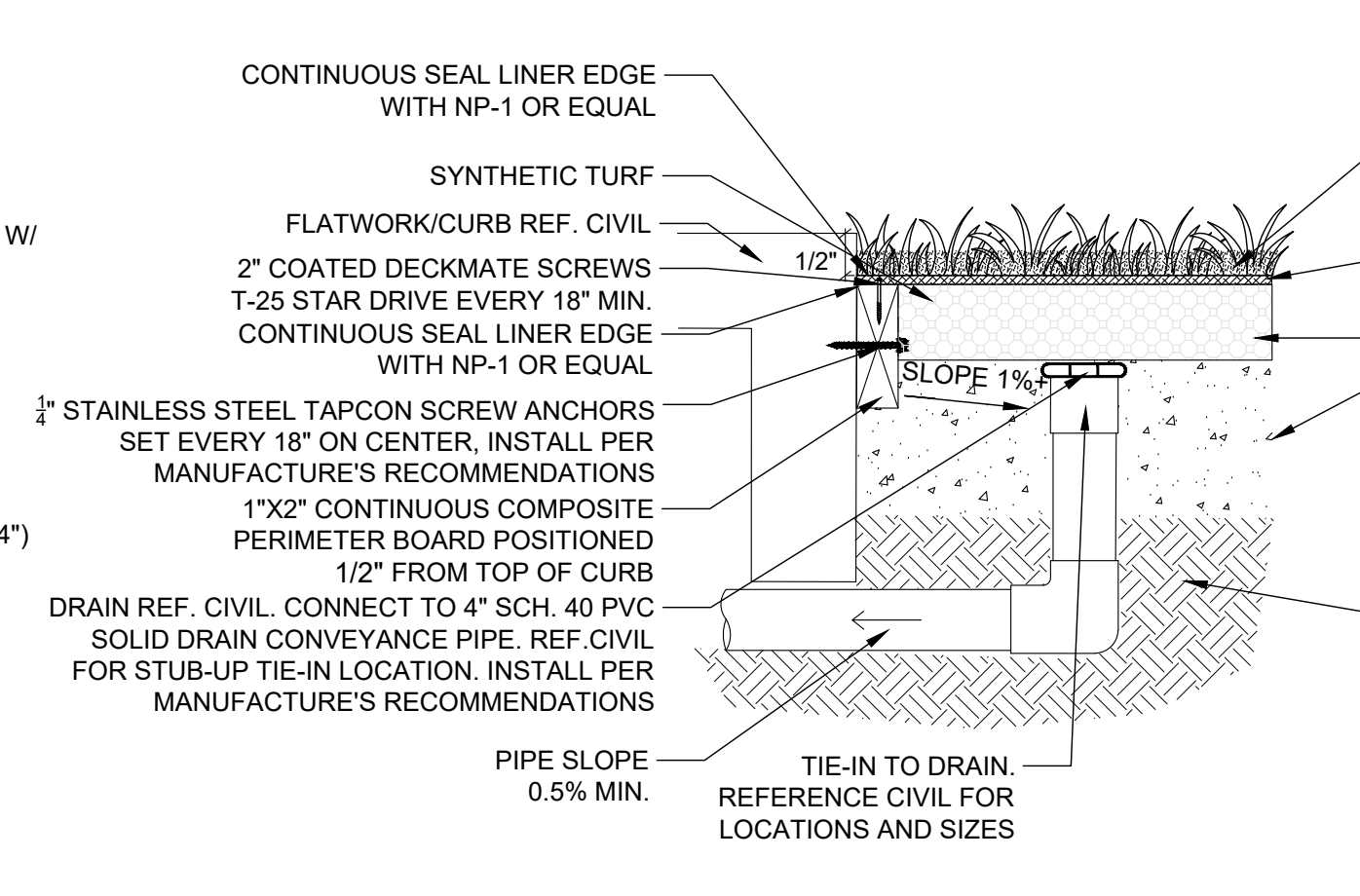
08 LANDSCAPE SCREEN WALLS
N.T.S.



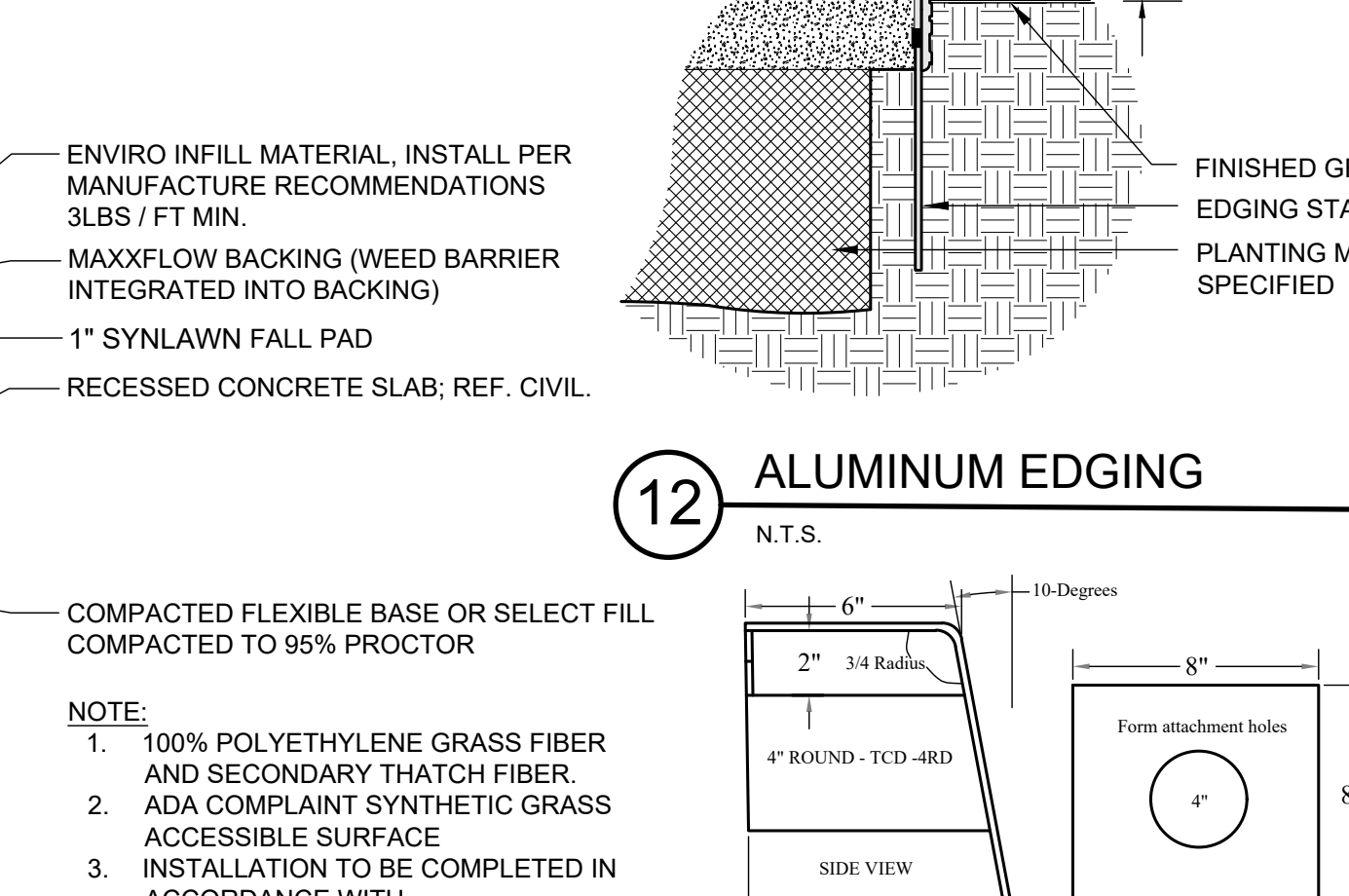
09 GRAVEL / RIVER ROCK AT CURB/ EDGER
N.T.S.



10 DECOMPOSED GRANITE
N.T.S.



11 SYNTHETIC TURF - AT SIDEWALK / CURB
N.T.S.



12 ALUMINUM EDGING
N.T.S.



13 CURB-O-LET - CURB DRAIN
N.T.S.

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CONSULTANT

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REV	REV DESCRIPTION	DATE

REGISTERED LANDSCAPE ARCHITECT
JASON S. LOCHTE
2518
STATE OF TEXAS
03/16/2026

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Reviewed By: BF
Project Number: KPJ-TX-26-XXXX

SHEET NAME:
LANDSCAPE DETAILS AND NOTES

SHEET NUMBER:
L3

GENERAL LANDSCAPE SPECIFICATIONS AND NOTES

A. SCOPE OF WORK

- 1. THE WORK CONSISTS OF: FURNISHING ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, TRANSPORTATION, AND ANY OTHER APPURTENANCES NECESSARY FOR THE COMPLETION OF THIS PROJECT AS SHOWN ON THE DRAWINGS, AS INCLUDED IN THE PLANT LIST, AND AS HEREIN SPECIFIED.
2. WORK SHALL INCLUDE MAINTENANCE AND WATERING OF ALL CONTRACT PLANTING AREAS UNTIL CERTIFICATION OF ACCEPTABILITY BY THE OWNER.

B. PROTECTION OF EXISTING STRUCTURES

ALL EXISTING BUILDINGS, WALKS, WALLS, PAVING, PIPING, OTHER SITE CONSTRUCTION ITEMS, AND PLANTING ALREADY COMPLETED OR ESTABLISHED SHALL BE PROTECTED FROM DAMAGE BY THE CONTRACTOR UNLESS OTHERWISE SPECIFIED. ALL DAMAGE RESULTING FROM NEGLIGENCE SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER, AT NO COST TO THE OWNER.

C. PROTECTION OF EXISTING PLANT MATERIALS OUTSIDE LIMIT OF WORK

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL UNAUTHORIZED CUTTING OR DAMAGE TO TREES AND SHRUBS EXISTING OR OTHERWISE, CAUSED BY CARELESS EQUIPMENT OPERATION, MATERIAL STOCKPILING, ETC. THIS SHALL INCLUDE COMPACTION BY DRIVING OR PARKING INSIDE THE DRIP-LINE AND SPILLING OIL, GASOLINE, OR OTHER ELECTRICAL MATERIALS WITHIN THE DRIP-LINE. NO MATERIALS SHALL BE BURNED WHERE HEAT WILL DAMAGE ANY PLANT. EXISTING TREES KILLED OR DAMAGED SO THAT THEY ARE MISSHAPE AND/OR UNSIGHTLY SHALL BE REPLACED AT THE COST TO THE CONTRACTOR OF TWO HUNDRED DOLLARS (\$200) PER D.B.H. INCH AND \$600 PER D.B.H. INCH FOR TREES 24 INCHES AND LARGER. D.B.H. SHALL BE MEASURED 48 INCHES ABOVE GROUND LEVEL.

D. MATERIALS

1. GENERAL

MATERIALS LISTED BELOW SHALL BE SUBMITTED FOR APPROVAL. UPON SUBMITTALS' APPROVAL, DELIVERY OF MATERIALS MAY COMMENCE.

Table with 2 columns: MATERIALS, SUBMITTAL. Rows include MULCH, TOPSOIL MIX, PLANTING MIX, PLANTS, FERTILIZER, HERBICIDE, STAKING/ GUYING ALTERNATE TO DETAILS, CLIENT REQUESTED TAGGING MAY SUBMITTEE PHOTOS.

2. PLANT MATERIALS INDICATE SIZE (HEIGHT/WIDTH) AND QUALITY PER SPEC.

A. PLANT SPECIES AND SIZE SHALL CONFORM TO THOSE INDICATED ON THE DRAWINGS. NOMENCLATURE SHALL CONFORM TO STANDARDIZED PLANT NAMES, 1942 EDITION. ALL NURSERY STOCK SHALL BE IN ACCORDANCE WITH GRADES AND STANDARDS FOR NURSERY STOCK FOR NURSERY PLANTS, LATEST EDITION, PUBLISHED BY THE AMERICAN STANDARD NURSERY STOCK. ALL PLANTS SHALL BE HEALTHY, VIGOROUS, SOUND, WELL-BRANCHED, AND FREE OF DISEASE AND INSECTS...

B. MEASUREMENTS: THE HEIGHT AND/OR WIDTH OF TREES SHALL BE MEASURED FROM THE GROUND OR ACROSS THE NORMAL SPREAD OF BRANCHES WITH THE PLANTS IN THEIR NORMAL POSITION. THIS MEASUREMENT SHALL NOT INCLUDE THE IMMEDIATE TERMINAL GROWTH PLANTS LARGER THAN SPECIFIED IN THE PLANT LIST MAY BE USED IF APPROVED BY THE OWNER.

C. INSPECTION: PLANTS SHALL BE SUBJECT TO INSPECTION AND APPROVAL AT THE PLACE OF GROWTH, OR UPON DELIVERY TO THE SITE, AS DETERMINED BY THE OWNER, FOR QUALITY, SIZE, AND VARIETY. SUCH APPROVAL SHALL NOT IMPAIR THE RIGHT OF INSPECTION AND REJECTION AT THE SITE DURING PROGRESS OF THE WORK OR AFTER COMPLETION FOR SIZE AND CONDITION OF ROOT BALLS OR ROOTS...

E. SOIL MIXTURE (PLANTING MEDIUM, PLANTING MIX, TOPSOIL MIX)

- 1. ALL PLANTING BED PIT BACKFILL AREAS TO BE PREPARED USING "4-WAY BEDDING MIX" BY NEW EARTH SOILS (OR APPROVED EQUAL).
2. EXISTING SOIL SHALL BE REASONABLY FREE OF STONES, LUMPS OR CLAY, ROOTS AND OTHER FOREIGN MATTER.
3. IF SOIL FAILS TO ACHIEVE THE AFOREMENTIONED PH AND ORGANIC COMPOSITION QUANTITIES, THE CONTRACTOR SHALL TILL AN ADEQUATE AMOUNT OF COMPOST INTO THE EXISTING SOIL UNTIL IT MEETS THE REQUIREMENTS THROUGHOUT THE PLANTING DEPTH.
4. ALL SOD AND SEED AREAS TO RECEIVE 4" DEPTH (MIN) "ENRICHED TOP SOIL" BY NEW EARTH SOILS (OR APPROVED EQUAL) PRIOR TO INSTALLATION.
5. THE CONTRACTOR SHALL REESTABLISH ANY ADDITIONAL DISTURBED AREAS NOT SHOWN ON THE PLANS WITH A FULL COVERING OF SOD OR SEED.
6. TREE PLANTING PITS SHALL BE BACKFILLED WITH "4-WAY PLANTING MIX" BY NEW EARTH SOILS (OR APPROVED EQUAL) WITH A PH RANGE OF 6.0-7.8 AND SHALL BE A MIXTURE OF COMPOST, SCREENED NATIVE SOIL AND SCREENED SHARP SAND.
7. CONTRACTOR TO SUBMIT SAMPLES OF SOIL MIXTURE FOR OWNER'S REPRESENTATIVE APPROVAL PRIOR TO PLANT INSTALLATION OPERATIONS COMMENCE.

F. WATER

WATER NECESSARY FOR PLANTING AND MAINTENANCE SHALL BE OF SATISFACTORY QUALITY TO SUSTAIN AN ADEQUATE PLANT GROWTH AND SHALL NOT CONTAIN HARMFUL, NATURAL OR MAN-MADE ELEMENTS DETRIMENTAL TO PLANTS, WATER MEETING THE ABOVE STANDARD SHALL BE OBTAINED ON THE SITE FROM THE OWNER, IF AVAILABLE, AND THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE ARRANGEMENTS FOR ITS USE BY HIS TANKS, HOSES, SPRINKLERS, ETC. IF SUCH WATER IS NOT AVAILABLE AT THE SITE, THE CONTRACTOR SHALL PROVIDE SATISFACTORY WATER FROM SOURCES OFF THE SITE AT NO ADDITIONAL COST TO THE OWNER.

*WATERING/IRRIGATION RESTRICTIONS MAY APPLY - REFER TO PROPERTY'S JURISDICTIONAL AUTHORITY.

G. FERTILIZER

CONTRACTOR SHALL PROVIDE FERTILIZER APPLICATION SCHEDULE TO OWNER, AS APPLICABLE TO SOIL TYPE, PLANT INSTALLATION TYPE, AND SITE'S PROPOSED USE. SUGGESTED FERTILIZER TYPES SHALL BE ORGANIC OR OTHERWISE NATURALLY - DERIVED.

H. MULCH

UNLESS NOTED OTHERWISE, ALL PLANTING BEDS TO BE TOP DRESSED WITH A MINIMUM OF 4" "HARDWOOD MULCH" BY NEW EARTH SOILS (OR APPROVED EQUAL) WITH A PH RANGE OF 6.5-8.5 AND SHALL BE FREE OF MAN-MADE FOREIGN MATTER, LUMBER, TREATED MATERIALS, PALLET, GRASS AND LEAVES. NO PARTICLE SIZE SHOULD EXCEED 3.5" IN LENGTH.

I. DIGGING AND HANDLING

- 1. PROTECT ROOTS OR ROOT BALLS OF PLANTS AT ALL TIMES FROM SUN, DRYING WINDS, WATER AND FREEZING.
2. BALLED AND BURLAPPED PLANTS (B&B) SHALL BE DUG WITH FIRM, NATURAL BALLS OF SOIL OF SUFFICIENT SIZE TO ENCOMPASS THE FIBROUS AND FEEDING ROOTS OF THE PLANTS.
3. PROTECTION OF PALMS (IF APPLICABLE): ONLY A MIN. OF FRONDS SHALL BE REMOVED FROM THE CROWN OF THE PALM TREES TO FACILITATE MOVING AND HANDLING.
4. EXCAVATION OF TREE PITS SHALL BE PERFORMED USING EXTREME CARE TO AVOID DAMAGE TO SURFACE AND SUBSURFACE ELEMENTS SUCH AS UTILITIES, HARDSCAPE ELEMENTS, FOOTERS AND PREPARED SUB BASES.

J. CONTAINER GROWN STOCK

- 1. ALL CONTAINER GROWN MATERIAL SHALL BE HEALTHY, VIGOROUS, WELL-ROOTED PLANTS ESTABLISHED IN THE CONTAINER IN WHICH THEY ARE SOLD.
2. AN ESTABLISHED CONTAINER GROWN PLANT SHALL BE TRANSPLANTED INTO A CONTAINER AND GROWN IN THAT CONTAINER SUFFICIENTLY LONG FOR THE NEW FIBROUS ROOTS TO HAVE DEVELOPED SO THAT THE ROOT MASS WILL RETAIN ITS SHAPE AND HOLD TOGETHER WHEN REMOVED FROM THE CONTAINER.
3. PLANT ROOTS BOUND IN CONTAINERS ARE NOT ACCEPTABLE.
4. SUBSTITUTION OF NON-CONTAINER GROWN MATERIAL FOR MATERIAL EXPLICITLY SPECIFIED TO BE CONTAINER GROWN WILL NOT BE PERMITTED WITHOUT WRITTEN APPROVAL OBTAINED FROM THE OWNER OR OWNER'S REPRESENTATIVE.

K. COLLECTED STOCK

WHEN THE USE OF COLLECTED STOCK IS PERMITTED AS INDICATED BY THE OWNER OR OWNER'S REPRESENTATIVE, THE MINIMUM SIZES OF ROOTBALLS SHALL BE EQUAL TO THAT SPECIFIED FOR THE NEXT LARGER SIZE OF NURSERY GROWN STOCK OF THE SAME VARIETY.

L. NATIVE STOCK

PLANTS COLLECTED FROM WILD OR NATIVE STANDS SHALL BE CONSIDERED NURSERY GROWN WHEN THEY HAVE BEEN SUCCESSFULLY RE-ESTABLISHED IN A NURSERY ROW AND GROWN UNDER REGULAR NURSERY CULTURAL PRACTICES FOR A MINIMUM OF TWO (2) GROWING SEASONS AND HAVE ATTAINED ADEQUATE ROOT AND TOP GROWTH TO INDICATE FULL RECOVERY FROM TRANSPLANTING INTO THE NURSERY ROW.

M. MATERIALS LIST

QUANTITIES NECESSARY TO COMPLETE THE WORK ON THE DRAWINGS SHALL BE FURNISHED BY THE CONTRACTOR. QUANTITY ESTIMATES HAVE BEEN MADE CAREFULLY, BUT THE LANDSCAPE ARCHITECT OR OWNER ASSUMES NO LIABILITY FOR OMISSIONS OR ERRORS. SHOULD A DISCREPANCY OCCUR BETWEEN THE PLANS AND THE PLANT LIST QUANTITY, THE LANDSCAPE ARCHITECT SHALL BE NOTIFIED FOR CLARIFICATION PRIOR TO BIDDING OR INSTALLATION.

N. FINE GRADING

- 1. FINE GRADING UNDER THIS CONTRACT SHALL CONSIST OF FINAL FINISHED GRADING OF LAWN AND PLANTING AREAS THAT HAVE BEEN ROUGH GRADED BY OTHERS.
2. THE CONTRACTOR SHALL FINE GRADE THE LAWN AND PLANTING AREAS TO BRING THE ROUGH GRADE UP TO FINAL FINISHED GRADE ALLOWING FOR THICKNESS OF SOD AND/OR MULCH DEPTH.
3. ALL PLANTING AREAS SHALL BE GRADED AND MAINTAINED FOR POSITIVE DRAINAGE TO SURFACE/SUBSURFACE STORM DRAIN SYSTEMS.
4. CONTRACTOR IS RESPONSIBLE TO REMOVE ALL EXISTING AND IMPORTED ROCK AND ROCK SUB-BASE FROM ALL TREE AND SHRUB PLANTING AREAS TO A MINIMUM DEPTH OF 36" CONTRACTOR IS RESPONSIBLE TO BACKFILL THESE PLANTING AREAS TO ROUGH FINISHED GRADE WITH CLEAN TOPSOIL FROM AN ON-SITE SOURCE OR AN IMPORTED SOURCE.

O. PLANTING PROCEDURES

- 1. CLEANING UP BEFORE COMMENCING WORK: THE CONTRACTOR SHALL CLEAN WORK AND SURROUNDING AREAS OF ALL RUBBISH OR OBJECTIONABLE MATTER.
2. VERIFY LOCATIONS OF ALL UTILITIES, CONDUITS, SUPPLY LINES AND CABLES.
3. SUBGRADE EXCAVATION: CONTRACTOR IS RESPONSIBLE TO REMOVE ALL EXISTING AND IMPORTED ROCK AND ROCK SUB-BASE FROM ALL TREE AND SHRUB PLANTING AREAS TO A MINIMUM DEPTH OF 36".
4. CONTRACTOR IS TO CONSTRUCT THE LANDSCAPE AND IRRIGATION IN A MANNER CONSISTENT WITH AND AS RECOMMENDED IN THE GEOTECHNICAL REPORT.
5. FURNISH NURSERY'S CERTIFICATE OF COMPLIANCE WITH ALL REQUIREMENTS AS HEREIN SPECIFIED AND REQUIRED.
6. GENERAL: COMPLY WITH APPLICABLE FEDERAL, STATE, COUNTY, AND LOCAL REGULATIONS GOVERNING LANDSCAPE MATERIALS AND WORK.
7. THE WORK SHALL BE COORDINATED WITH OTHER TRADES TO PREVENT CONFLICTS.
8. ALL PLANTING PITS SHALL BE EXCAVATED TO SIZE AND DEPTH IN ACCORDANCE WITH THE AMERICAN STANDARD FOR NURSERY STOCK.

PERCOLATION IS AVAILABLE. NO ALLOWANCE WILL BE MADE FOR LOST PLANTS DUE TO IMPROPER PERCOLATION. IF POOR PERCOLATION EXISTS, UTILIZE "POOR DRAINAGE CONDITION" PLANTING DETAIL. TREES SHALL BE SET PLUMB AND HELD IN POSITION UNTIL THE PLANTING PROCEDURES AND UNDER THE SUPERVISION OF A QUALIFIED LANDSCAPE FOREMAN.

- 9. TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO BUILDINGS AND BUILDING STRUCTURES WHILE INSTALLING TREES.
10. SOIL MIXTURE SHALL BE AS SPECIFIED IN SECTION E OF THESE SPECIFICATIONS.
11. TREES AND SHRUBS SHALL BE SET STRAIGHT AT AN ELEVATION THAT, AFTER SETTLEMENT, THE PLANT CROWN WILL STAND ONE (1) TO TWO (2) INCHES ABOVE GRADE.
12. FILL HOLE WITH SOIL MIXTURE, MAKING CERTAIN ALL SOIL IS SATURATED TO TO DO, FILL HOLE WITH WATER AND ALLOW TO SOAK MINIMUM TWENTY (20) MINUTES.
13. APPLY MEDINA PLUS ROOT ACTIVATOR MANUFACTURE BY MEDINA TO ALL NEWLY PLANTED TREES.
14. PRUNING: TREES SHALL BE PRUNED, AT THE DIRECTION OF THE OWNER OR OWNER'S REPRESENTATIVE.
15. SHRUBS AND GROUND COVER PLANTS SHALL BE EVENLY SPACED IN ACCORDANCE WITH THE DRAWINGS AND AS INDICATED ON THE PLANT LIST.
16. TREE GUYING AND BRACING SHALL BE INSTALLED BY THE CONTRACTOR IN ACCORDANCE WITH THE PLANS TO INSURE STABILITY AND MAINTAIN TREES IN AN UPRIGHT POSITION.
17. MULCHING: PROVIDE A FOUR (4) INCH (MINIMUM) LAYER OF SPECIFIED MULCH OVER THE ENTIRE AREA OF EACH SHRUB BED, GROUND COVER, VINE BED, AND TREE PIT PLANTED UNDER THIS CONTRACT.
18. HERBICIDE WEED CONTROL: ALL PLANT BEDS SHALL BE KEPT FREE OF NOXIOUS WEEDS UNTIL FINAL ACCEPTANCE OF WORK.
19. AFTER PLANTING BED PREPARATION, INSTALL WEED BARRIER FABRIC EQUAL TO DEWITT PRO-5, 5 OZ. WOVEN, NEEDLE-PUNCHED, POLYPROPYLENE FABRIC.
20. LAWN SODDING/SEEDING

- 1. THE WORK CONSISTS OF LAWN BED PREPARATION, SOIL PREPARATION, AND SODDING COMPLETE, IN STRICT ACCORDANCE WITH THE SPECIFICATIONS AND THE APPLICABLE DRAWINGS TO PRODUCE A TURF GRASS LAWN ACCEPTABLE TO THE OWNER.
2. LAWN BED PREPARATION: ALL AREAS THAT ARE TO BE SODDED SHALL BE CLEARED OF ANY ROUGH GRASS, WEEDS, AND DEBRIS, AND THE GROUND BROUGHT TO AN EVEN GRADE.
3. SOIL PREPARATION: PREPARE LOOSE BED FOUR (4) INCHES DEEP.
4. SODDING: A. THE CONTRACTOR SHALL SOD ALL AREAS ILLUSTRATED ON THE DRAWING AND ANY ADDITIONAL AREAS DISTURBED DURING CONSTRUCTION.
B. THE SOD SHALL BE CERTIFIED TO MEET AMERICAN STANDARD FOR NURSERY STOCK SPECIFICATIONS.
C. SOD PANELS SHALL BE LAID TIGHTLY TOGETHER SO AS TO MAKE A SOLID SODDED LAWN AREA.
D. CONTRACTOR SHALL REFERENCE PLANTING SCHEDULE FOR SEEDING VARIETY AND RATES.
E. IF SEED INSTALLATION FALLS BETWEEN SEPTEMBER 15TH AND MARCH 15TH, THE

CONTRACTOR SHALL INSTALL EITHER SOD OR A COLD SEASON VARIETY SEED MIX, SUCH AS WINTER RYE. IF A COOL SEASON VARIETY MIX IS INSTALLED BETWEEN SEPTEMBER 15TH AND MARCH 15TH, THE CONTRACTOR SHALL RESEED THE AREA WITH THE ORIGINAL SPECIFIED SEED MIX PER THE PLANS AND SPECIFICATIONS BETWEEN MARCH 16TH AND SEPTEMBER 14TH. DURING DELIVERY, PRIOR TO, AND DURING THE PLANTING OF THE LAWN AREAS, THE SOD PANELS SHALL AT ALL TIMES BE PROTECTED FROM EXCESSIVE DRYING AND UNNECESSARY EXPOSURE OF THE ROOTS TO THE SUN. ALL SOD SHALL BE STACKED SO AS NOT TO BE DAMAGED BY SWEATING OR EXCESSIVE HEAT AND MOISTURE.

6. LAWN MAINTENANCE:

- A. WITHIN THE CONTRACT LIMITS, THE CONTRACTOR SHALL PRODUCE A DENSE, WELL ESTABLISHED LAWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR AND RE-SODDING OF ALL ERODED, SUNKEN OR BARE SPOTS (LARGER THAN 12"X12") UNTIL CERTIFICATION OF ACCEPTABILITY BY THE OWNER'S REPRESENTATIVE.
B. CONTRACTOR RESPONSIBLE FOR ESTABLISHING AND MAINTAINING SOD/SEED/LAWN UNTIL ACCEPTANCE BY THE OWNER'S REPRESENTATIVE.
C. CONTRACTOR SHALL REESTABLISH 95% (MIN) COVERAGE FOR ALL DISTURBED AREAS OF VEGETATION WITHIN 90 DAYS OF SUBSTANTIAL COMPLETION.

Q. CLEANUP

UPON COMPLETION OF ALL PLANTING WORK AND BEFORE FINAL ACCEPTANCE, THE CONTRACTOR SHALL REMOVE ALL MATERIAL, EQUIPMENT, AND DEBRIS RESULTING FROM HIS WORK. ALL PAVED AREAS SHALL BE BROOM-CLEANED, AND THE SITE LEFT IN A NEAT AND ACCEPTABLE CONDITION AS APPROVED BY THE OWNER'S AUTHORIZED REPRESENTATIVE.

R. PLANT MATERIAL MAINTENANCE

ALL PLANTS AND PLANTING INCLUDED UNDER THIS CONTRACT SHALL BE MAINTAINED BY WATERING, CULTIVATING, SPRAYING, AND ALL OTHER OPERATIONS (SUCH AS RE-STAKING OR REPAIRING GUY SUPPORTS) NECESSARY TO INSURE A HEALTHY PLANT CONDITION BY THE CONTRACTOR UNTIL CERTIFICATION OF ACCEPTABILITY BY THE OWNER'S REPRESENTATIVE.

S. MAINTENANCE (ALTERNATE BID ITEM)

CONTRACTORS ARE REQUESTED TO PROVIDE A BID ESTIMATE FOR MAINTENANCE FOLLOWING THE INITIAL 90-DAY MAINTENANCE PERIOD ON A COST-PER-MONTH BASIS.

T. FINAL INSPECTION AND ACCEPTANCE WORK

FINAL INSPECTION AT THE END OF THE WARRANTY PERIOD SHALL BE ON PLANTING, CONSTRUCTION AND ALL OTHER INCIDENTAL WORK PERTAINING TO THIS CONTRACT. ANY REPLACEMENT AT THIS TIME SHALL BE SUBJECT TO THE SAME ONE (1) YEAR WARRANTY (OR AS SPECIFIED BY THE LANDSCAPE ARCHITECT OR OWNER IN WRITING) WITH THE TIME OF REPLACEMENT AND ENDING WITH THE SAME INSPECTION AND ACCEPTANCE HEREIN DESCRIBED.

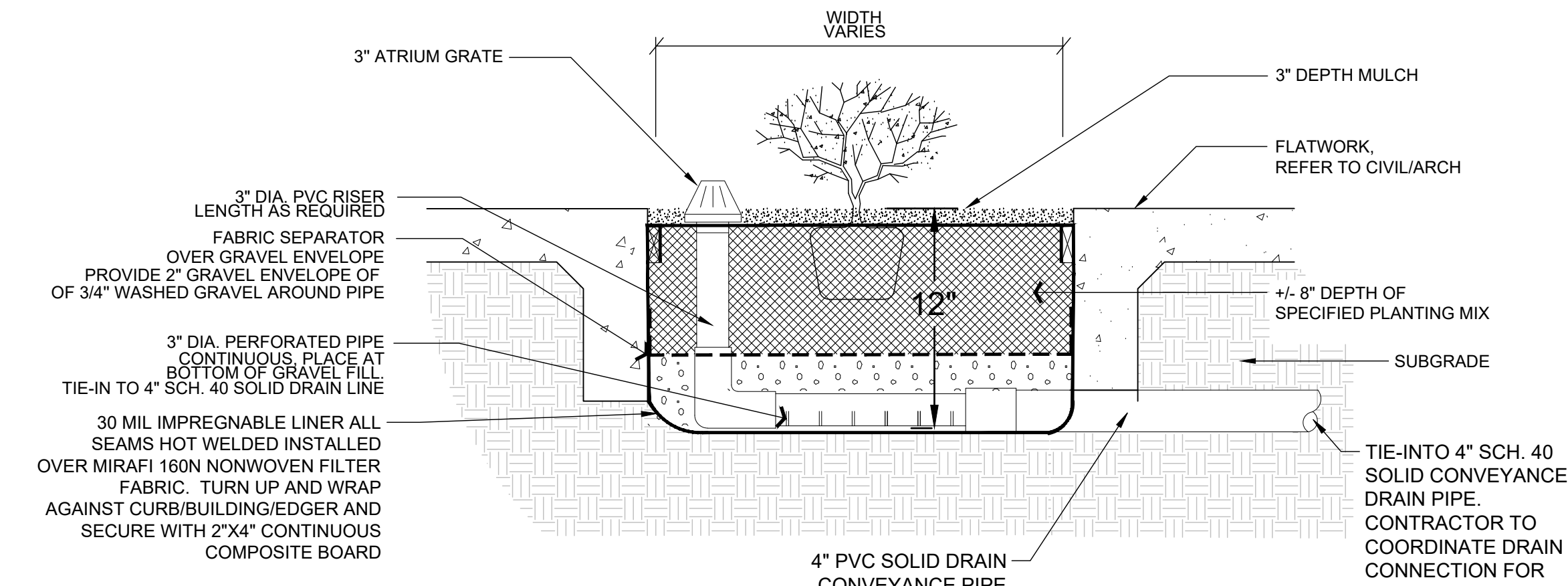
U. WARRANTY

- 1. THE LIFE AND SATISFACTORY CONDITION OF ALL 1 GALLON AND LARGER PLANT MATERIAL INSTALLED BY THE LANDSCAPE CONTRACTOR SHALL BE WARRANTED BY THE CONTRACTOR FOR A MINIMUM OF ONE (1) CALENDAR YEAR COMMENCING AT THE TIME OF CERTIFICATION OF ACCEPTABILITY BY THE OWNER'S REPRESENTATIVE.
2. THE LIFE AND SATISFACTORY CONDITION OF ALL OTHER PLANT MATERIAL (INCLUDING SOD) INSTALLED BY THE LANDSCAPE CONTRACTOR SHALL BE WARRANTED BY THE CONTRACTOR FOR A MINIMUM OF ONE (1) CALENDAR YEAR COMMENCING AT THE TIME OF CERTIFICATION OF ACCEPTABILITY BY THE OWNER'S REPRESENTATIVE.
3. REPLACEMENT: ANY PLANT NOT FOUND IN A HEALTHY GROWING CONDITION AT THE END OF THE WARRANTY PERIOD SHALL BE REMOVED FROM THE SITE AND REPLACED AS SOON AS WEATHER CONDITIONS PERMIT.
4. IN THE EVENT THE OWNER DOES NOT CONTRACT WITH THE CONTRACTOR FOR LANDSCAPE (AND IRRIGATION) MAINTENANCE, THE CONTRACTOR IS ENCOURAGED TO VISIT THE PROJECT SITE PERIODICALLY DURING THE ONE-YEAR WARRANTY PERIOD TO EVALUATE MAINTENANCE PROCEDURES OR CONDITIONS WHICH THREATEN VIGOROUS AND HEALTHY PLANT GROWTH.

V. STABILIZED CRUSHED GRANITE

- 1. STABILIZED CRUSHED GRANITE - EXCAVATE AREA ACCORDINGLY, CONSIDERING THE SUBBASE LAYER AND CRUSHED GRANITE LAYER. EXCAVATE SUBGRADE 4" TO 6" BELOW FINISH GRADE. USE A VIBRATORY PLATE COMPACTOR TO COMPACT NATIVE SUBGRADE IN 3-4 PASSES, OR AS NEEDED TO ACHIEVE 95% PROCTOR MIN. INSTALL 2"x4" OF 3/4" MINUS BASE MATERIAL AND COMPACT TO 95% PROCTOR MIN. APPLY LIGHT AMOUNT OF WATER IF MATERIAL IS DRY. INSTALL CRUSHED GRANITE MATERIAL AND GRADE CONSISTENTLY INTO PLACE. (DO NOT COMPACT UNTIL STABILIZER HAS BEEN APPLIED). GRADE TO APPROX. 3/4" ABOVE PLANNED FINISH GRADE TO ALLOW FOR COMPACTION. APPLY G3-CS LIQUID STABILIZER FOLLOWING MANUFACTURERS INSTRUCTIONS FOR APPLICATION RATES AND DRY TIMES.

NOTE: REFERENCE SITE PLAN FOR PLANTER LOCATIONS.



01 DRAINAGE FOR PLANTINGS AT GRADE N.T.S.

SEAL CLIENT CONSULTANT CONSULTANT. Includes logos for VILLA PARK ARCHITECTS, KP+j ARCHITECTS ENGINEERS, and COOPER LOCHTE LANDSCAPE ARCHITECTURE LLC.

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Table with 3 columns: REV, REV DESCRIPTION, DATE. Contains revision history entries.

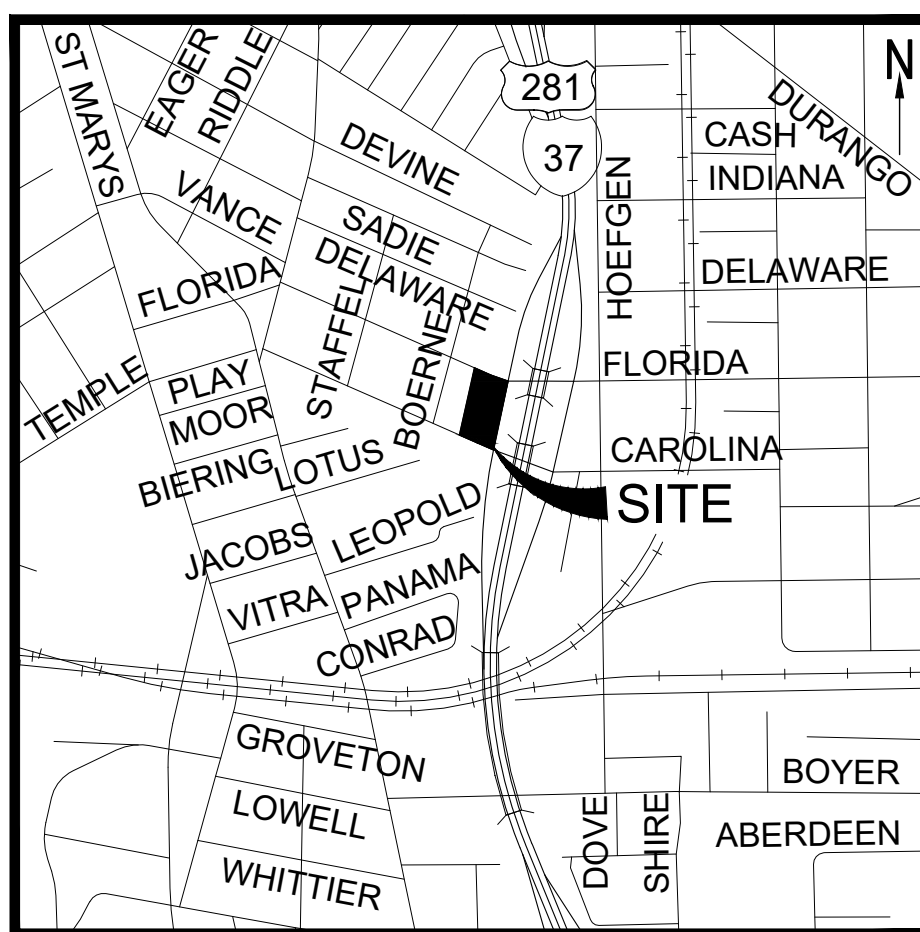
Professional seal and signature of Jason S. Lochte, State of Texas, dated 03/16/2026.

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Drawn / Designed By: BF Reviewed By: BF Project Number: KPJ-TX-26-XXXX

SHEET NAME: LANDSCAPE SPECIFICATIONS

SHEET NUMBER: L4



LOCATION MAP

SCALE: NTS

TO WHOM IT MAY CONCERN:

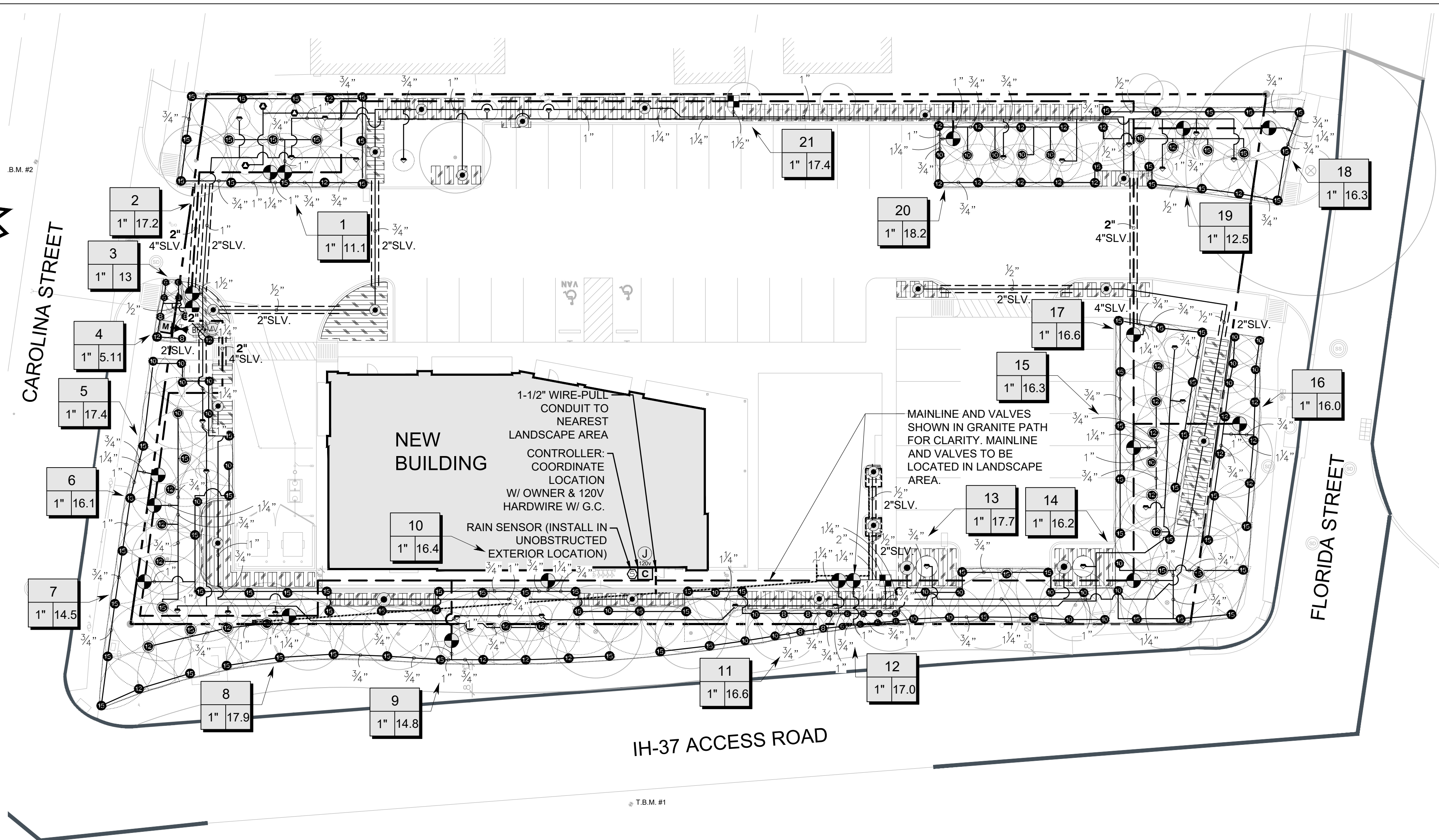
I, JASON S. LOCHE, A LICENSED IRRIGATOR IN THE STATE OF TEXAS DO CERTIFY THAT THE IRRIGATION PLAN SUBMITTED CONFORMS TO THE IRRIGATION DESIGN REQUIREMENTS AND EQUIPMENT STANDARDS OF CHAPTER 344 §§ 344.60, 344.61, & 344.62 OF THE TEXAS ADMINISTRATIVE CODE.

IF FURTHER INFORMATION IS NEEDED, PLEASE FEEL FREE TO CONTACT ME AT (210) 821-6570.

SINCERELY,

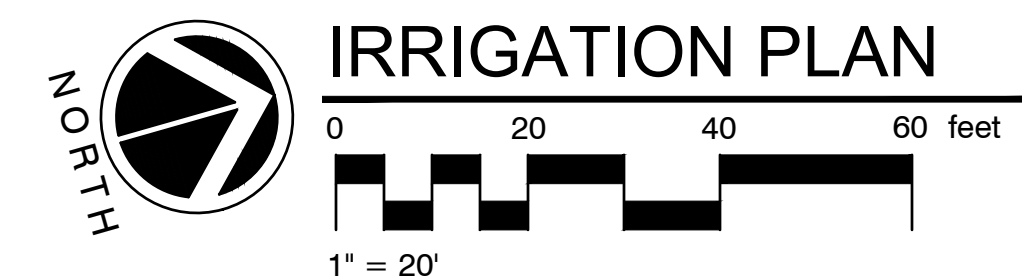
JASON S. LOCHE
TEXAS LICENSED IRRIGATOR NO. 11893

!!! CALL BEFORE YOU DIG !!!
CONTRACTOR TO LOCATE EXISTING UTILITIES PRIOR TO WORK. ANY CONFLICT WITH EXISTING UTILITIES SHALL BE REMEDIATED BETWEEN SAID CONFLICTING UTILITY AND CONTRACTOR.
TEXAS ONE CALL PARTICIPANTS REQUESTS 48 HOURS NOTICE BEFORE YOU DIG, DRILL, OR BLAST - STOP AND CALL
TEXAS ONE CALL SYSTEM
(800) 254-6609 OR
www.onecalltexas.com



SAWS WATERING HOURS		
DROUGHT STAGE	WATERING DAYS	WATERING TIMES
YEAR ROUND	ANY DAY DRIP IRRIGATION: ANY DAY	MIDNIGHT - 10 A.M. 9 P.M. - MIDNIGHT
STAGE 1	ONCE A WEEK ON YOUR DAY DRIP IRRIGATION: MONDAY, WEDNESDAY, FRIDAY	MIDNIGHT - 10 A.M. 9 P.M. - MIDNIGHT
STAGE 2	ONCE A WEEK ON YOUR DAY DRIP IRRIGATION: MONDAY & FRIDAY	5 A.M. - 10 A.M. 9 P.M. - MIDNIGHT
STAGE 3	ONCE A WEEK ON YOUR DAY DRIP IRRIGATION: MONDAY & FRIDAY	5 A.M. - 10 A.M. 9 P.M. - MIDNIGHT
STAGE 4	ONCE EVERY OTHER WEEK DRIP IRRIGATION: FRIDAY	5 A.M. - 10 A.M. 9 P.M. - MIDNIGHT

NOTE:
HAND DIG ALL IRRIGATION TRENCHES WITHIN DRIPLINE OF EXISTING TREES. MECHANICAL TRENCHING WITHIN DRIPLINES OF TREES IS PROHIBITED.



NOTE: THE SITE INFORMATION SHOWN ON THIS PLAN IS FROM A SITE PLAN PROVIDED BY THE OWNER, ARCHITECT, OR CIVIL ENGINEERING COMPANY HIRED BY THE OWNER. VERIFY ALL DIMENSIONS WITH THE DIMENSIONAL CONTROL PLAN AND COORDINATE WITH ALL OTHER CONTRACT DOCUMENTS ASSOCIATED WITH THIS PROJECT.

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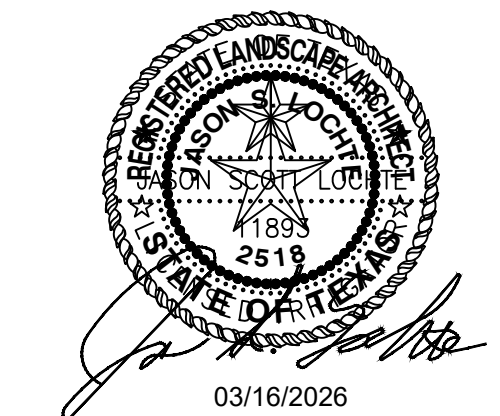
COOPER LOCHTE
LANDSCAPE ARCHITECTURE LLC
PO BOX 69688 SAN ANTONIO, TEXAS 78268-0968
CLLA PROJECT #26-008

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Drawn / Designed By: BF
Reviewed By: BF
Project Number: KPJ-TX-26-XXXX

SHEET NAME:
IRRIGATION PLAN

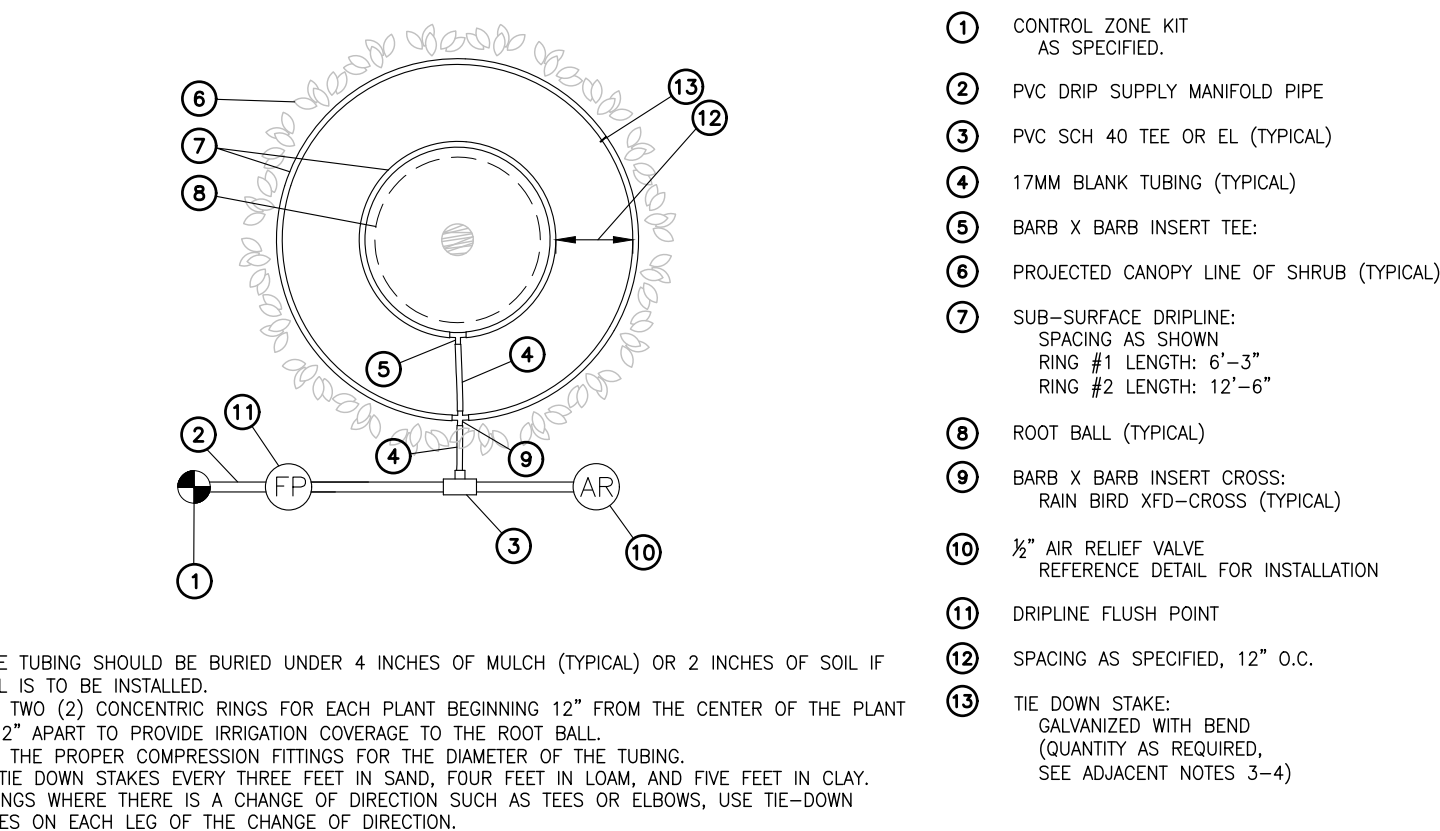
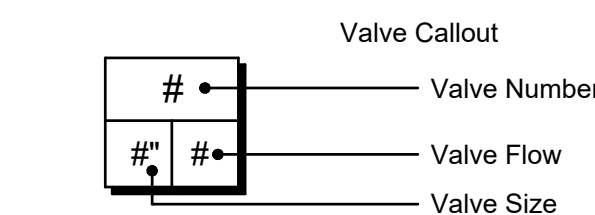
SHEET NUMBER:
L5

IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	PSI
	TURF SPRAY 10 SERIES MPR RAIN BIRD RD-04; TURF SPRAY, 4.0" POP-UP, SEAL-A-MATIC CHECK VALVE.	30
	TURF SPRAY 12 SERIES MPR RAIN BIRD RD-04; TURF SPRAY, 4.0" POP-UP, SEAL-A-MATIC CHECK VALVE.	30
	TURF SPRAY 15 SERIES MPR RAIN BIRD RD-04; TURF SPRAY, 4.0" POP-UP, SEAL-A-MATIC CHECK VALVE.	30
	TURF SPRAY ADJ RAIN BIRD RD-04; TURF SPRAY, 4.0" POP-UP, SEAL-A-MATIC CHECK VALVE.	30
	TURF SPRAY ADJ RAIN BIRD RD-04; TURF SPRAY, 4.0" POP-UP, SEAL-A-MATIC CHECK VALVE.	30
	RAIN BIRD 1806-SAM-PRS-1400 FLOOD 1401 FLOOD BUBBLER 6.0" POPUP WITH CHECK VALVE AND PRESSURE REGULATOR	30

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	RAIN BIRD XCZPGA-100-PRF MEDIUM FLOW, 3-15 GPM, WITH 1IN. PGA VALVE AND 1IN. PRESSURE REGULATING RBY FILTER AND 40PSI PRESSURE REGULATOR.
	PIPE TRANSITION POINT ABOVE GRADE PIPE TRANSITION POINT FROM PVC LATERAL TO DRIP HEADER WITH RISER TO ABOVE GRADE INSTALLATION.
	RAIN BIRD XFS-CV-06-12 DRIP RING RAIN BIRD XFS-CV-06-12 DRIFLINE WITH CHECK VALVE. 0.6 GPH EMITTERS AT 12" O.C. DRIFLINE LATERALS SPACED AT 18" APART, WITH EMITTERS OFFSET FOR TRIANGULAR PATTERN. 17MM.
	AREA TO RECEIVE DRIFLINE RAIN BIRD XF-CV-06-12 DRIFLINE WITH CHECK VALVE. 0.6 GPH EMITTERS AT 12" O.C. DRIFLINE LATERALS SPACED AT 18" APART, WITH EMITTERS OFFSET FOR TRIANGULAR PATTERN. 17MM.

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	RAIN BIRD PEB PLASTIC INDUSTRIAL VALVES. LOW FLOW OPERATING CAPABILITY, GLOBE CONFIGURATION. SIZE AS SHOWN.
	SHUT OFF VALVE SCH. 80 PVC BALL VALVE MANUFACTURED BY SPEARS.
	MASTER VALVE 1" RAIN BIRD PEB PLASTIC REMOTE CONTROL VALVE. LOW FLOW OPERATING CAPABILITY, GLOBE CONFIGURATION. SIZE AS NOTED.
	FEBCO 765 1" PRESSURE VACUUM BREAKER, BRASS WITH BALL VALVE SOV. INSTALL 12IN. ABOVE HIGHEST DOWNSTREAM OUTLET AND THE HIGHEST POINT IN THE DOWNSTREAM PIPING.
	RAIN BIRD ESPME MODULAR OUTDOOR CONTROLLER.
	RAIN BIRD WR2-RFC WIRELESS RAIN AND FREEZE SENSOR COMBO. INCLUDES 1 RECEIVER AND 1 RAIN/FREEZE SENSOR TRANSMITTER.
	WATER METER 1" IRRIGATION METER ONLY. REFER TO CIVIL.
	IRRIGATION LATERAL LINE: PVC CLASS 200 SDR 21 LATERALS 3/4" & LARGER LABELED W/ ALL OTHER BEING 1/2" CLASS 315 PVC.
	IRRIGATION MAINLINE: PVC SCHEDULE 40
	PIPE SLEEVE: PVC SCHEDULE 40



- CONTROL ZONE KIT AS SPECIFIED.
- PVC DRIP SUPPLY MANIFOLD PIPE
- PVC SCH 40 TEE OR EL (TYPICAL)
- 17MM BLANK TUBING (TYPICAL)
- BARB X BARB INSERT TEE
- PROJECTED CANOPY LINE OF SHRUB (TYPICAL)
- SUB-SURFACE DRIFLINE: SPACING AS SHOWN
RING #1 LENGTH: 6"-3"
RING #2 LENGTH: 12"-6"
- ROOT BALL (TYPICAL)
- BARB X BARB INSERT CROSS
- BARB BIRD XTD-CROSS (TYPICAL)
- 1/2" AIR RELIEF VALVE
REFERENCE DETAIL FOR INSTALLATION
- DRIFLINE FLUSH POINT
- SPACING AS SPECIFIED, 12" O.C.
- TIE DOWN STAKE: GALVANIZED WITH BEND
(QUANTITY AS REQUIRED, SEE ADJACENT NOTES 3-4)

DRIP SHRUB RING
N.T.S.

CRITICAL ANALYSIS

Generated: 2026-03-12 16:14
P.O.C. NUMBER: 01
Water Source Information: IRRIGATION METER ONLY. REFER TO CIVIL.

FLOW AVAILABLE
Water Meter Size: 1"
Flow Available: 18.2 GPM

PRESSURE AVAILABLE
Static Pressure at POC: 65 PSI
Elevation Change: 5.00 ft
Service Line Size: 1"
Length of Service Line: 20 ft
Pressure Available: 61 PSI

DESIGN ANALYSIS
Maximum Station Flow: 18.16 GPM
Flow Available at POC: 18.2 GPM
Residual Flow Available: 0.04 GPM

Critical Station: 21
Design Pressure: 30 PSI
Friction Loss: 1.58 PSI
Fittings Loss: 0.16 PSI
Elevation Loss: 0 PSI
Loss through Valve: 15.5 PSI
Pressure Req. at Critical Station: 47.2 PSI
Loss for Fittings: 0.04 PSI
Loss for Main Line: 0.36 PSI
Loss for POC to Valve Elevation: 0 PSI
Loss for Backflow: 3.94 PSI
Loss for Master Valve: 2.62 PSI
Loss for Water Meter: 1.68 PSI
Critical Station Pressure at POC: 55.9 PSI
Pressure Available: 61 PSI
Residual Pressure Available: 5.13 PSI

VALVE SCHEDULE

NUMBER	MODEL	SIZE	TYPE	GPM	PSI	PSI @ POC	PRECIP
1	RAIN BIRD PEB	1"	TURF SPRAY	11.1	32.6	39.0	0.88 in/h
2	RAIN BIRD PEB	1"	TURF SPRAY	17.24	34.3	42.7	1.23 in/h
3	RAIN BIRD PEB	1"	BUBBLER	11.5	34.7	41.2	1.7 in/h
4	RAIN BIRD PEB	1"	TURF SPRAY	5.11	32.2	37.3	2.84 in/h
5	RAIN BIRD PEB	1"	TURF SPRAY	17.35	34.7	43.1	0.87 in/h
6	RAIN BIRD PEB	1"	TURF SPRAY	16.09	33.5	41.4	0.84 in/h
7	RAIN BIRD PEB	1"	TURF SPRAY	14.46	34.0	41.3	0.92 in/h
8	RAIN BIRD PEB	1"	TURF SPRAY	17.92	34.4	43.2	0.85 in/h
9	RAIN BIRD PEB	1"	TURF SPRAY	14.76	33.9	41.4	0.78 in/h
10	RAIN BIRD PEB	1"	TURF SPRAY	16.4	34.0	42.2	1.0 in/h
11	RAIN BIRD PEB	1"	TURF SPRAY	16.62	34.1	42.4	1.27 in/h
12	RAIN BIRD PEB	1"	TURF SPRAY	17.01	34.2	42.7	1.03 in/h
13	RAIN BIRD XCZPGA-100-PRF	1"	AREA FOR DRIFLINE	17.71	46.8	55.6	1.18 in/h
14	RAIN BIRD PEB	1"	TURF SPRAY	16.21	33.2	41.3	1.4 in/h
15	RAIN BIRD PEB	1"	TURF SPRAY	16.3	33.6	41.8	0.98 in/h
16	RAIN BIRD PEB	1"	TURF SPRAY	16.04	33.4	41.5	1.69 in/h
17	RAIN BIRD PEB	1"	TURF SPRAY	16.62	34.2	42.5	1.14 in/h
18	RAIN BIRD PEB	1"	TURF SPRAY	16.26	34.4	42.6	1.25 in/h
19	RAIN BIRD PEB	1"	TURF SPRAY	12.54	32.8	39.7	1.0 in/h
20	RAIN BIRD PEB	1"	TURF SPRAY	18.15	34.6	43.6	1.8 in/h
21	RAIN BIRD XCZPGA-100-PRF	1"	AREA FOR DRIFLINE	17.41	47.2	55.9	1.04 in/h

WATERING SCHEDULE

NUMBER	MODEL	TYPE	PRECIP	IN./WEEK	MIN./WEEK	GAL./WEEK	GAL./DAY
1	RAIN BIRD PEB	TURF SPRAY	0.88 in/h	1	69	766	383
2	RAIN BIRD PEB	TURF SPRAY	1.23 in/h	1	49	845	422
3	RAIN BIRD PEB	BUBBLER	1.7 in/h	1	36	414	207
4	RAIN BIRD PEB	TURF SPRAY	2.84 in/h	1	22	112	56.2
5	RAIN BIRD PEB	TURF SPRAY	0.87 in/h	1	69	1,197	599
6	RAIN BIRD PEB	TURF SPRAY	0.84 in/h	1	72	1,158	579
7	RAIN BIRD PEB	TURF SPRAY	0.92 in/h	1	66	954	477
8	RAIN BIRD PEB	TURF SPRAY	0.85 in/h	1	71	1,272	636
9	RAIN BIRD PEB	TURF SPRAY	0.78 in/h	1	78	1,151	576
10	RAIN BIRD PEB	TURF SPRAY	1.0 in/h	1	61	1,000	500
11	RAIN BIRD PEB	TURF SPRAY	1.27 in/h	1	48	798	399
12	RAIN BIRD PEB	TURF SPRAY	1.03 in/h	1	59	1,003	502
13	RAIN BIRD XCZPGA-100-PRF	AREA FOR DRIFLINE	1.18 in/h	1	51	903	451
14	RAIN BIRD PEB	TURF SPRAY	1.4 in/h	1	43	697	349
15	RAIN BIRD PEB	TURF SPRAY	0.98 in/h	1	62	1,011	505
16	RAIN BIRD PEB	TURF SPRAY	1.69 in/h	1	36	577	289
17	RAIN BIRD PEB	TURF SPRAY	1.14 in/h	1	53	881	441
18	RAIN BIRD PEB	TURF SPRAY	1.25 in/h	1	49	797	398
19	RAIN BIRD PEB	TURF SPRAY	1.0 in/h	1	60	752	376
20	RAIN BIRD PEB	TURF SPRAY	1.8 in/h	1	34	617	309
21	RAIN BIRD XCZPGA-100-PRF	AREA FOR DRIFLINE	1.04 in/h	1	58	1,010	505
TOTALS:					1,146	17,918	8,959

IT WILL BE NECESSARY TO DIVIDE RUN TIMES INTO 2 TO 3 CYCLES TO MINIMIZE RUNOFF. A TYPICAL SCHEDULE WOULD ALLOW WATERING TO OCCUR TWO DAYS 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. CONTRACTOR IS TO PROGRAM RUN TIMES TO ADJUST THROUGHOUT THE YEAR AS NEEDED IN ORDER TO MAINTAIN PLANTS IN A HEALTHY CONDITION . IT IS ENCOURAGED TO USE THE CYCLE SOAK FEATURE ON THE IRRIGATION CONTROLLER TO REDUCE WATER RUNOFF. CONTRACTOR IS TO ADJUST RUN TIMES AS NOT TO ALLOW FOR IRRIGATION RUNOFF OR OVER-SATURATION OF THE SOIL. SHOULD THE MUNICIPALITY DESIGNATE A HIGHER STAGE OF WATER RESTRICTIONS, IT WILL BE NECESSARY FOR THE CONTRACTOR TO ADJUST THE RUN TIMES ACCORDINGLY. IT WILL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN PLANT MATERIAL IN A HEALTHY CONDITION DURING THIS TIME, PROVIDE SUPPLEMENTAL WATERING, SECURE VARIANCES AS NEEDED, AND PAY ANY PENALTY FEES ACCRUED.

PIPE SIZING REQUIREMENTS: (Based on Class 200 PVC laterals except 1/2" laterals to be Class 315 PVC)			
0.1 gpm	to	4.0 gpm	1/2" (Class 315)
4.1 gpm	to	8.0 gpm	3/4"
8.1 gpm	to	13.0 gpm	1"
13.1 gpm	to	23.0 gpm	1-1/4"
23.1 gpm	to	32.0 gpm	1-1/2"
32.1 gpm	to	53.0 gpm	2"
53.1 gpm	to	74.0 gpm	2- 1/2"

NOTE: SIZE LATERAL PIPE SUCH THAT NO TWO SPRAY HEADS WITHIN THE SAME ZONE MAY VARY BY MORE THAN 10% IN PSI. RULE-OF-THUMB PIPE SIZING IS NOT ACCEPTABLE NOR PERMITTED IN RUNS LONGER THAN 100'.

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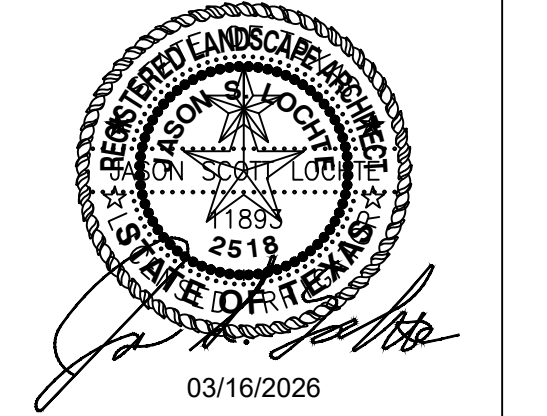
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Drawn / Designed By: BF
Reviewed By: BF
Project Number: KPJ-TX-26-XXXX

IRRIGATION SCHEDULES

SHEET NUMBER:
L6

IRRIGATION NOTES

- POINT OF CONNECTION - CONNECT DOWNSTREAM FROM AN IRRIGATION ONLY WATER METER. REFERENCE CIVIL DRAWINGS FOR LOCATION.
- STATIC PRESSURE - CONFIRM STATIC WATER PRESSURE OF 65 PSI AT LEAST SEVEN DAYS BEFORE BEGINNING WORK. IF STATIC PRESSURE IS LESS THAN STATED ABOVE, NOTIFY LANDSCAPE ARCHITECT IN WRITING AT LEAST SEVEN DAYS PRIOR TO COMMENCING WITH WORK. IF STATIC PRESSURE EXCEEDS 80 PSI, INSTALL A PRESSURE REDUCING DEVICE UPSTREAM FROM BACKFLOW DEVICE AT NO ADDITIONAL COST TO THE OWNER.
- SYSTEM LAYOUT - COORDINATE IRRIGATION LAYOUT WITH PLANTING PLAN AND SITE CONDITIONS TO PROVIDE COMPLETE COVERAGE WITH NO OVERSPRAY. THE IRRIGATION CONTRACTOR SHALL MAKE MINOR ADJUSTMENTS TO ENSURE PROPER COVERAGE AT NO ADDITIONAL COST TO THE OWNER. PRIOR TO SUBMISSION OF THE BID CONTRACTOR SHALL SATISFY HIMSELF AS TO THE CONDITIONS THEREOF.
- CONTRACTOR QUALIFICATIONS - INSTALLATION OF THE IRRIGATION SYSTEM SHALL BE UNDER THE ONSITE SUPERVISION OF A SUPERINTENDENT CURRENTLY LICENSED AS A LANDSCAPE IRRIGATOR IN THE STATE OF TEXAS.
- GUARANTEE - GUARANTEE THE UNDERGROUND SPRINKLER SYSTEM AGAINST DEFECTS IN THE MATERIALS AND WORKMANSHIP FOR ONE YEAR AFTER FINAL ACCEPTANCE.
- EXISTING UTILITIES - CONTRACTOR IS TO CONTACT APPROPRIATE AUTHORITIES FOR LOCATING ALL UTILITIES PRIOR TO CONSTRUCTION.
- CODES AND PERMITS - CONTRACTOR TO COMPLY WITH REQUIREMENTS OF THE INTERNATIONAL PLUMBING CODE AND ALL OTHER APPLICABLE CODES AS THEY SHALL PREVAIL OVER ANY DISCREPANCIES HEREIN. IRRIGATION CONTRACTOR SHALL SECURE ALL REQUIRED PERMITS, WATERING VARIANCES, AND PAY ALL ASSOCIATED FEES & PENALTIES UNLESS OTHERWISE DIRECTED. CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH MUNICIPAL DROUGHT/WATERING RESTRICTIONS.
- TRENCHING - PROTECT EXISTING PLANT MATERIAL. ROUTE EXCAVATION TRENCHES TO AVOID DAMAGE TO EXISTING TREES. COORDINATE CONFIGURATION OF PLANTING BEDS WITH LANDSCAPE CONTRACTOR TO ENSURE PROPER LOCATION OF TURF AND SHRUB IRRIGATION HEADS. STAKE ALL SPRINKLER HEAD LOCATIONS AND TRENCH TO A MINIMUM WIDTH OF 4" AND PROVIDE 16" OF COVER FOR MAIN SUPPLY LINE AND 10" OF COVER OVER ALL LATERALS AND WIRING.
- PIPING - ALL PIPING IS TO BE SIZED FOR A MAXIMUM WATER VELOCITY OF 5 FEET PER SECOND. SIZE LATERAL PIPE SUCH THAT NO TWO SPRAY HEADS WITHIN THE SAME ZONE MAY VARY BY MORE THAN 10% IN PSI. RULE-OF-THUMB PIPE SIZING IS NOT ACCEPTABLE NOR PERMITTED IN RUNS LONGER THAN 100'. LAY PIPE ON A 2" SAND CUSHION SUBBASE, UNIFORMLY SLOPED WITHOUT HUMPS AND DEPRESSIONS. KEEP PIPE INTERIOR CLEAN AT ALL TIMES.
- BACKFLOW PREVENTER - INSTALL BACKFLOW PREVENTER AS PER CITY CODES AND STANDARDS. INSTALL 17" X 30" PLASTIC ACCESS BOX FLUSH WITH GRADE AND BACKFILL WITH 3" OF GRAVEL IN BOTTOM OF BOX. PROVIDE WYE STRAINER AND SHUT-OFF VALVE UPSTREAM OF BACKFLOW DEVICE.
- VALVES - CLEAN AND TEST PRIOR TO INSTALLATION. INSTALL PLUMB AND STRAIGHT. INSTALL SAME SIZE BALL VALVE PRECEDING EACH VALVE. SET PLASTIC VALVE BOX FLUSH WITH GRADE ON MASONRY BRICKS WITH 3" GRAVEL SUMP AND STABILIZE WITH COMPACTED SOIL. USE 11" X 16" PLASTIC ACCESS VALVE BOXES FOR ELECTRIC VALVES AND QUICK COUPLING VALVES UNLESS OTHERWISE NOTED.
- BACKFILL - USE BACKFILL FREE FROM ROCKS AND OTHER UNSUITABLE MATERIALS WHICH COULD DAMAGE PIPE OR CREATE SETTLING PROBLEMS. APPLY BACKFILL MATERIAL IN 6" LAYERS AND TAMP EACH LAYER TO PREVENT SETTLING. USE TOPSOIL (NOT SUBSOIL) WITHIN THE TOP 6" OF BACKFILL. ACHIEVE FINISH GRADE AND REPAIR ALL DAMAGED EXISTING TURF AND PLANTINGS. REMOVE EXCESS EXCAVATION AND BACKFILL MATERIAL FROM THE SITE IMMEDIATELY. PROVIDE A 2" SAND CUSHION BELOW AND ABOVE ALL PIPE.
- SPRINKLER HEADS - FLUSH LATERAL LINES WITH FULL HEAD OF WATER AND INSTALL HEADS. LOCATE SPRINKLER HEADS TO MAINTAIN A DISTANCE OF 6" FROM WALLS AND 4" FROM OTHER BOUNDARIES. HEADS TO BE INSTALLED WITH IPS FLEX PIPE OR SCH. 80 SWING JOINTS. USE IN-HEAD CHECK VALVES TO ELIMINATE LOW HEAD DRAINAGE AT LOCATIONS OF EXCESSIVE LOW HEAD DRAINAGE. INSTALL HUNTER HCV CHECK VALVES BETWEEN HEAD AND SWING-JOINT. NO OVERSPRAY WILL BE ALLOWED ONTO IMPERVIOUS SURFACES SUCH AS DRIVES, WALKS, BUILDINGS, ROADS, ETC.
- WIRING - 14 AWG RATED FOR DIRECT BURIAL. LAY WIRING BESIDE PIPE IN TRENCHES. PROVIDE A MINIMUM COVERING OF 12" FOR WIRING LAID IN SEPARATE TRENCHES. WIRE SPLICES SHALL BE ENCASED IN A WATERPROOF COMPOUND OR GEL. BUNDLE AND TAPE MULTIPLE WIRES AT A MAXIMUM OF 10 FOOT INTERVALS. PROVIDE A 30" EXPANSION LOOP AT EACH ELECTRIC REMOTE CONTROL VALVE AND AT EVERY 100' INTERVAL. ALL FIELD SPLICES SHALL BE LOCATED IN A 10" ROUND VALVE BOX TO ALLOW FOR INSPECTION.
- AUTOMATIC CONTROLLER - PROVIDE 120 VOLT ELECTRICAL CURRENT TO THE CONTROLLER IN CONDUIT IN ACCORDANCE WITH LOCAL, STATE, AND NATIONAL CODES.
- CLEAN-UP - KEEP THE PREMISES AND PUBLIC STREETS FREE FROM ACCUMULATION OF WASTE MATERIAL. AT THE COMPLETION OF THE WORK REMOVE ALL WASTE, EXCESS MATERIAL, RUBBISH AND EQUIPMENT. LEAVE THE SITE CLEAN.
- FINAL ACCEPTANCE - PERFORM OPERATIONAL TEST WITH THE OWNER PRESENT AFTER SYSTEM IS COMPLETE AND IRRIGATION HEADS ADJUSTED TO FINAL POSITION. DEMONSTRATE TO OWNER THAT ENTIRE SYSTEM MEETS COVERAGE REQUIREMENTS AND FUNCTIONS PROPERLY. PROVIDE THE OWNER WITH COMPLETE WRITTEN INSTRUCTIONS FOR PROPER OPERATION AND MAINTENANCE OF THE SPRINKLER SYSTEM.
- UNSLEEVED PIPES AND VALVES MAY BE SHOWN UNDER PAVEMENT FOR GRAPHIC CLARITY ONLY. INSTALL THESE PIPES IN ADJACENT LANDSCAPE AREAS.
- AS BUILTS - PROVIDE OWNER WITH A COMPLETE SET OF AS-BUILTS DRAWINGS AT FINAL ACCEPTANCE.
- SENSORS - INSTALL FREEZE AND RAIN SHUT-OFF SENSORS IN ELEVATED AND EXPOSED EXTERIOR LOCATIONS CLEAR OF TREES AND OTHER OBSTRUCTIONS.
- IRRIGATION COVERAGE STATEMENT - 100% IRRIGATION COVERAGE HAS NOT BEEN PROVIDED FOR. REFERENCE IRRIGATION PLAN FOR AREAS OF COVERAGE.
- IRRIGATION EQUIPMENT - IRRIGATION COMPONENTS SHALL BE AS SPECIFIED OR APPROVED EQUAL MANUFACTURED BY HUNTER, RAIN BIRD, TORO, IRRITROL, OR WEATHERMATIC.

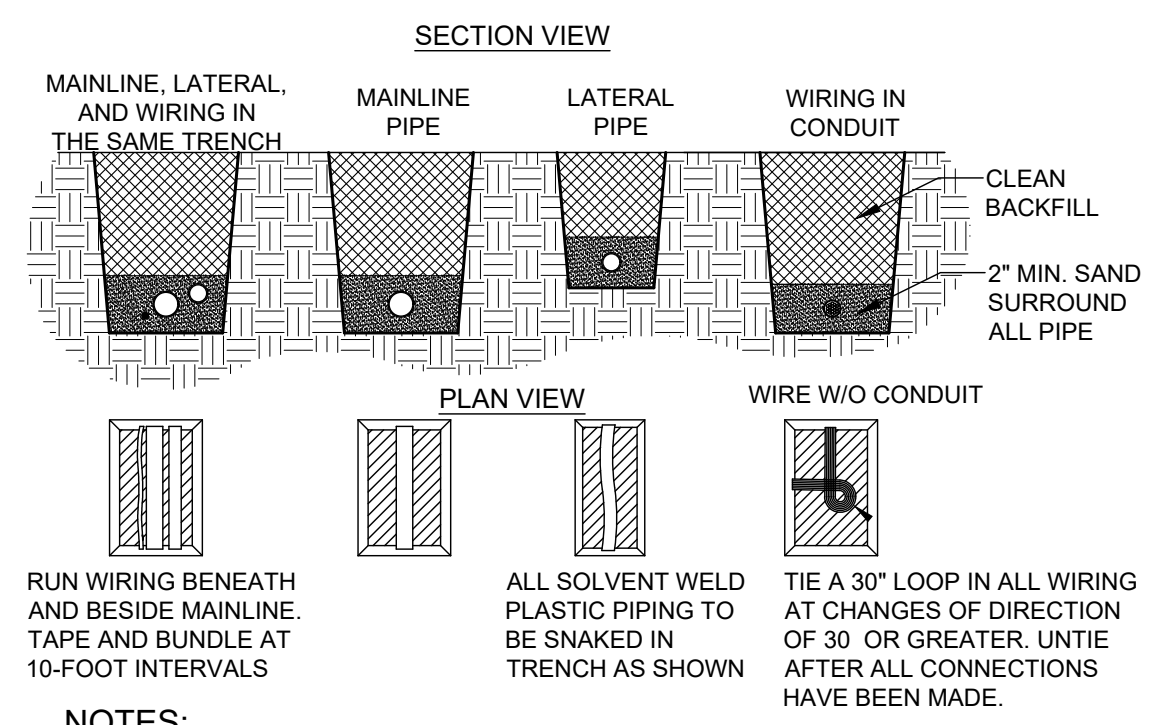
DRIP IRRIGATION NOTES

- LANDSCAPE IRRIGATION CONTRACTOR (L.I.C.) TO PROVIDE DISTRIBUTION TUBING, STAKES, EMITTERS, TRANSFER FITTINGS, DIFFUSER BUG CAP, CONTROL ZONE KITS, ETC. NECESSARY FOR PROPER INSTALLATION OF THE BEDS. ALL PVC HEADER AND FOOTER PIPING TO BE SIZED PER THE CHART BELOW.
- LANDSCAPE IRRIGATION CONTRACTOR (L.I.C.) TO INSERT ALL COMPRESSION FITTING 1-3/8" PER MANUFACTURER'S RECOMMENDATIONS. FITTINGS AND DRIP LINE TUBING TO BE OF THE SAME MANUFACTURER.
- ALL DRIP LINE AND DISTRIBUTION TUBING TO BE INSTALLED 4"-6" BELOW GRADE AT SOD AREAS AND 2"-4" BELOW SOIL AT MULCH AREAS. ALL DRIP LINE TO BE INSTALLED ON ONE FOOT ROW SPACING UNLESS OTHERWISE NOTED. TUBING TO BE STAKED WITH GALVANIZED TIE DOWN STAKES. INSTALL STAKES AT 3'-0" ON CENTER ALONG LENGTH OF TUBING AND A MINIMUM OF 36" FROM ANY FITTING.
- AIR RELIEF VALVE TO BE RAIN BIRD AR VALVE KIT INSTALLED IN 6" ROUND VALVE BOX AND GRAVEL SUMP. INSTALL AT HIGHEST POINT WITHIN ZONE.
- FLUSH VALVES TO BE RAIN BIRD EASY FIT FLUSH CAPS INSTALLED IN A 6" ROUND VALVE BOX AND GRAVEL SUMP. INSTALL AT LOWEST POINT WITHIN ZONE.
- INSTALL DRIP LINE TUBING ON TWO SIDES OF EACH PLANT MINIMUM. INSTALL DRIP LINE ON TOP OF FILTER FABRIC.
- DRIP IRRIGATION EQUIPMENT SHALL BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS.
- 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.
- STAGER EMITTER SPACING IN PARALLEL ROWS TO CREATE TRIANGULAR WETTING PATTERN.
- ALL DRIP LINE SHALL BE SECURED USING SOIL STAPLES AS SUPPLIED BY THE MANUFACTURER SPACED A MAXIMUM OF 3 FT ON CENTER.
- DRIP LATERALS SHOWN ON THE PLANS ARE USED TO INDICATE ZONING SIZES AND RELATIONSHIPS.
- RAIN BIRD SERIES DRIP LINE SHALL BE USED AS FOLLOWS:
 - A. BED AREAS: XFS-CV, ROWS SPACED AT 18 INCHES.
 - B. BED AREAS WITH SLOPE 3:1 OR MORE: XF-CV
- WHEN CONFLICTS OCCUR BETWEEN THESE DRAWINGS AND THE MANUFACTURER'S SPECIFICATIONS DEFER TO THE MANUFACTURER'S RECOMMENDED SPECIFICATIONS.
- EACH DRIP ZONE SHALL HAVE A DRIP SYSTEM OPERATION INDICATOR, AS MANUFACTURED BY RAIN BIRD. INSTALL PER RAIN BIRD RECOMMENDATIONS.

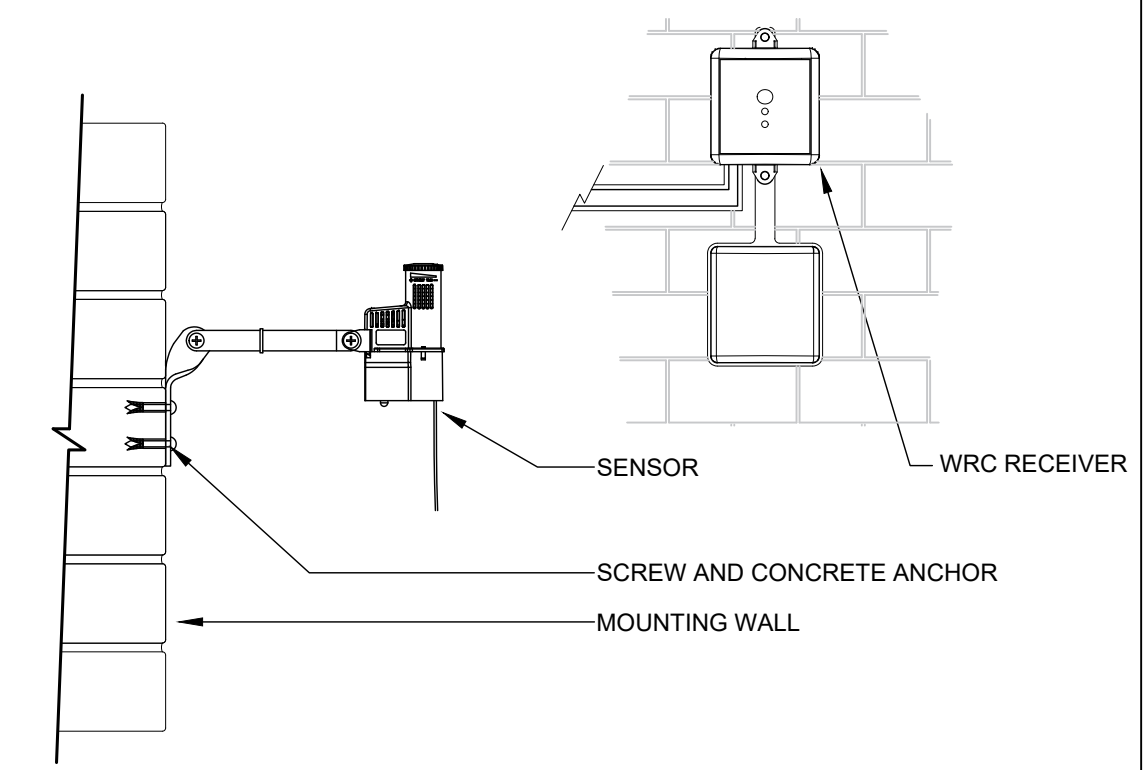
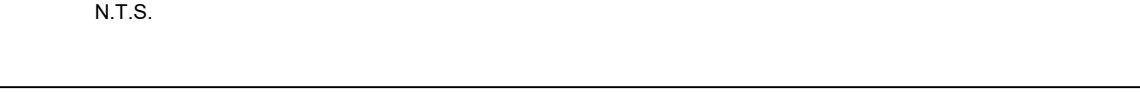
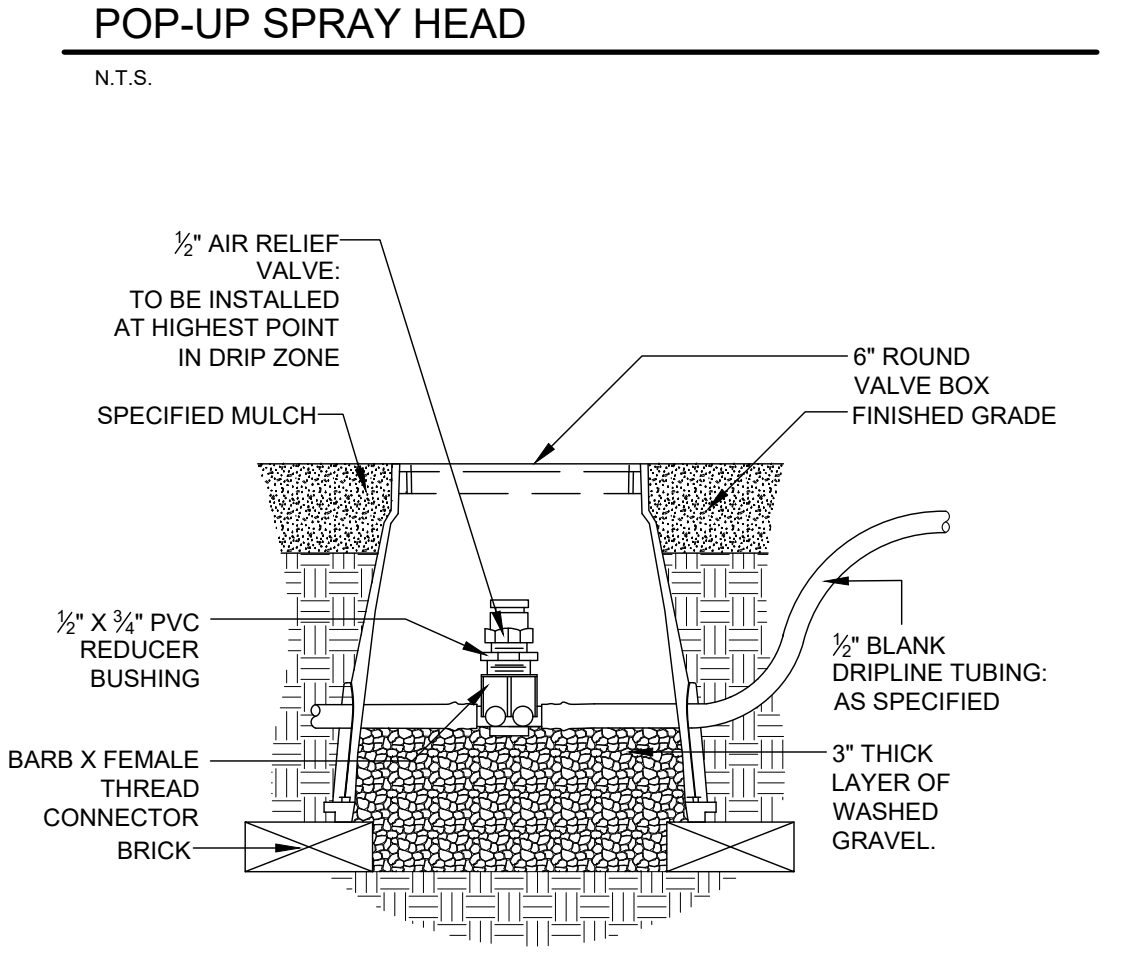
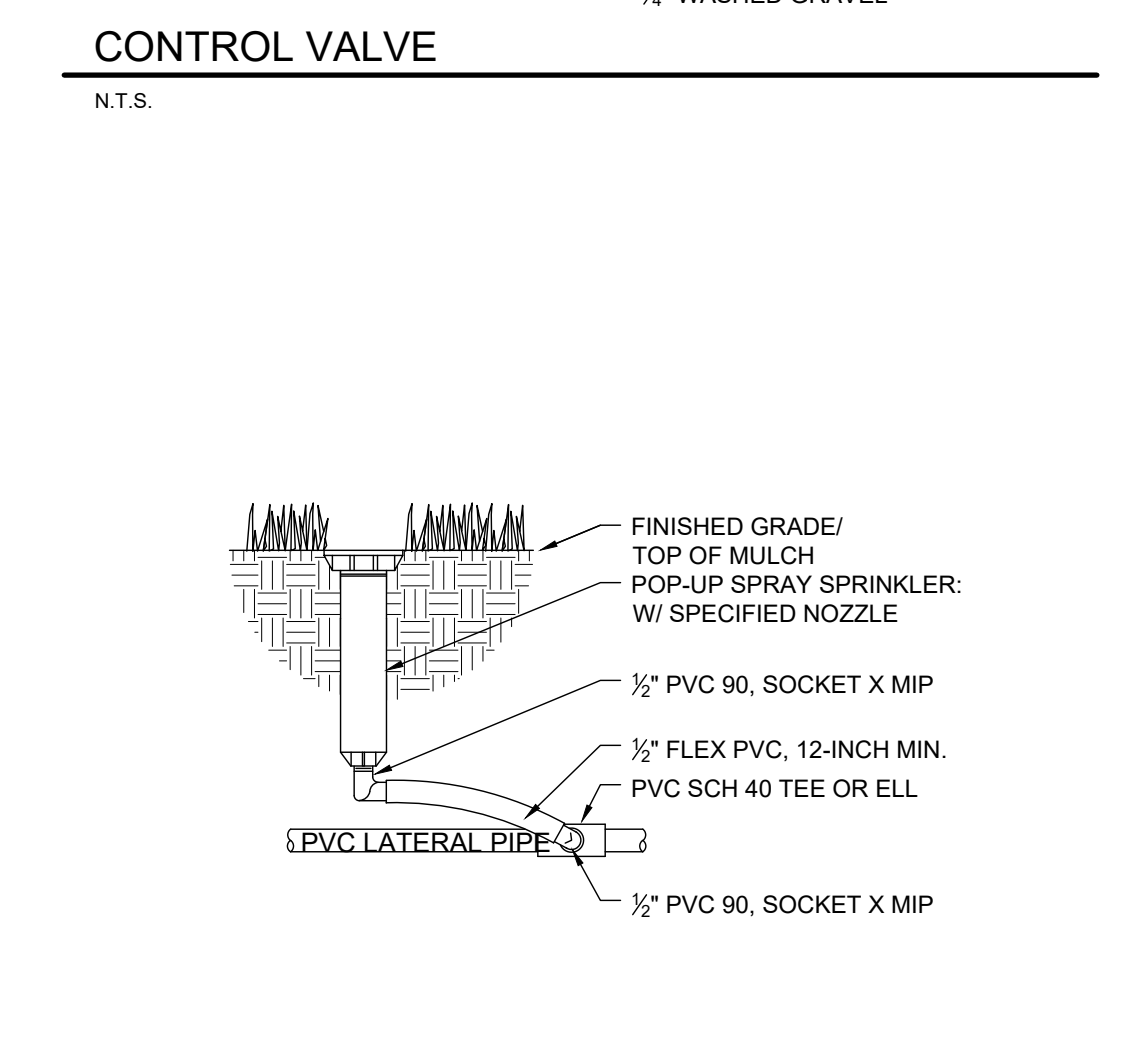
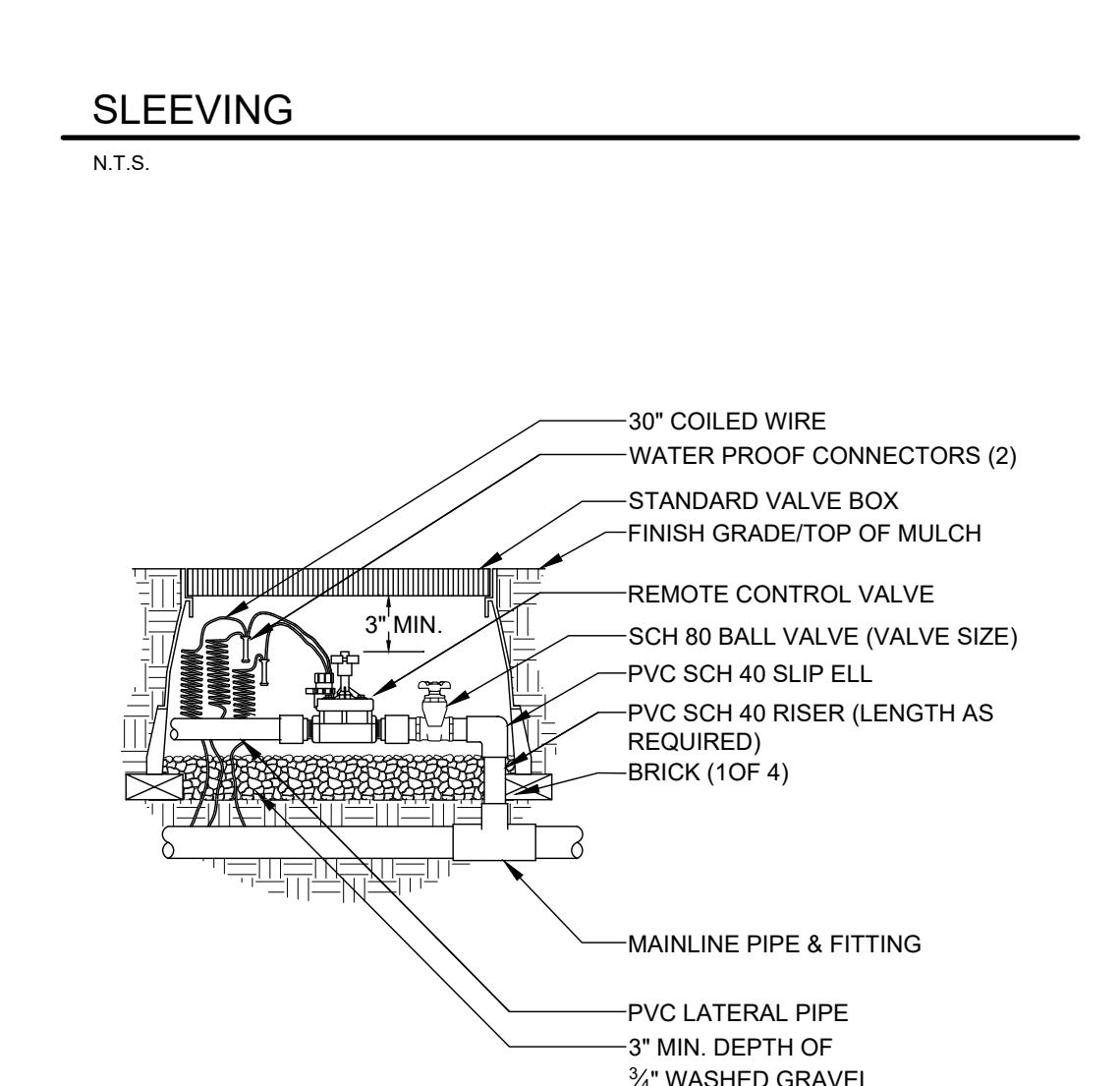
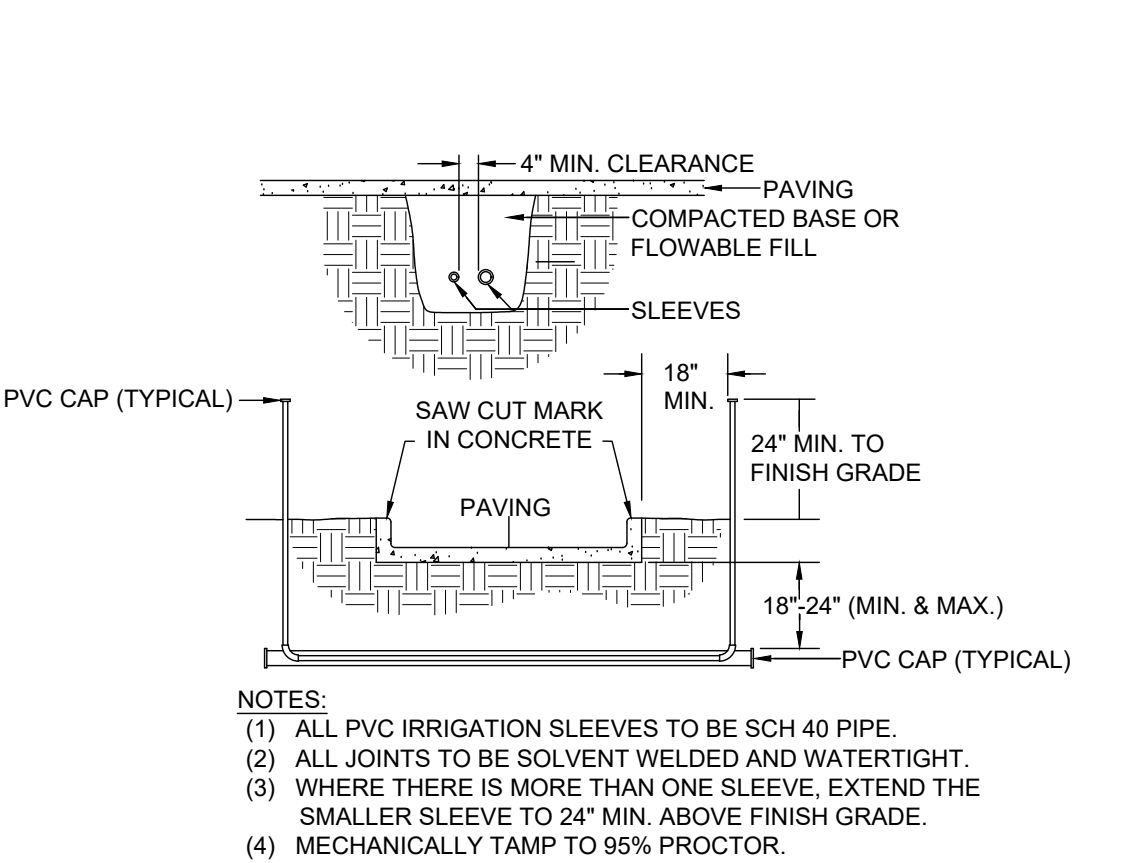
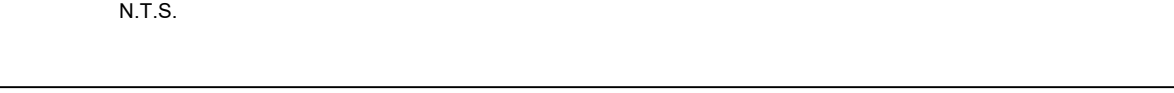
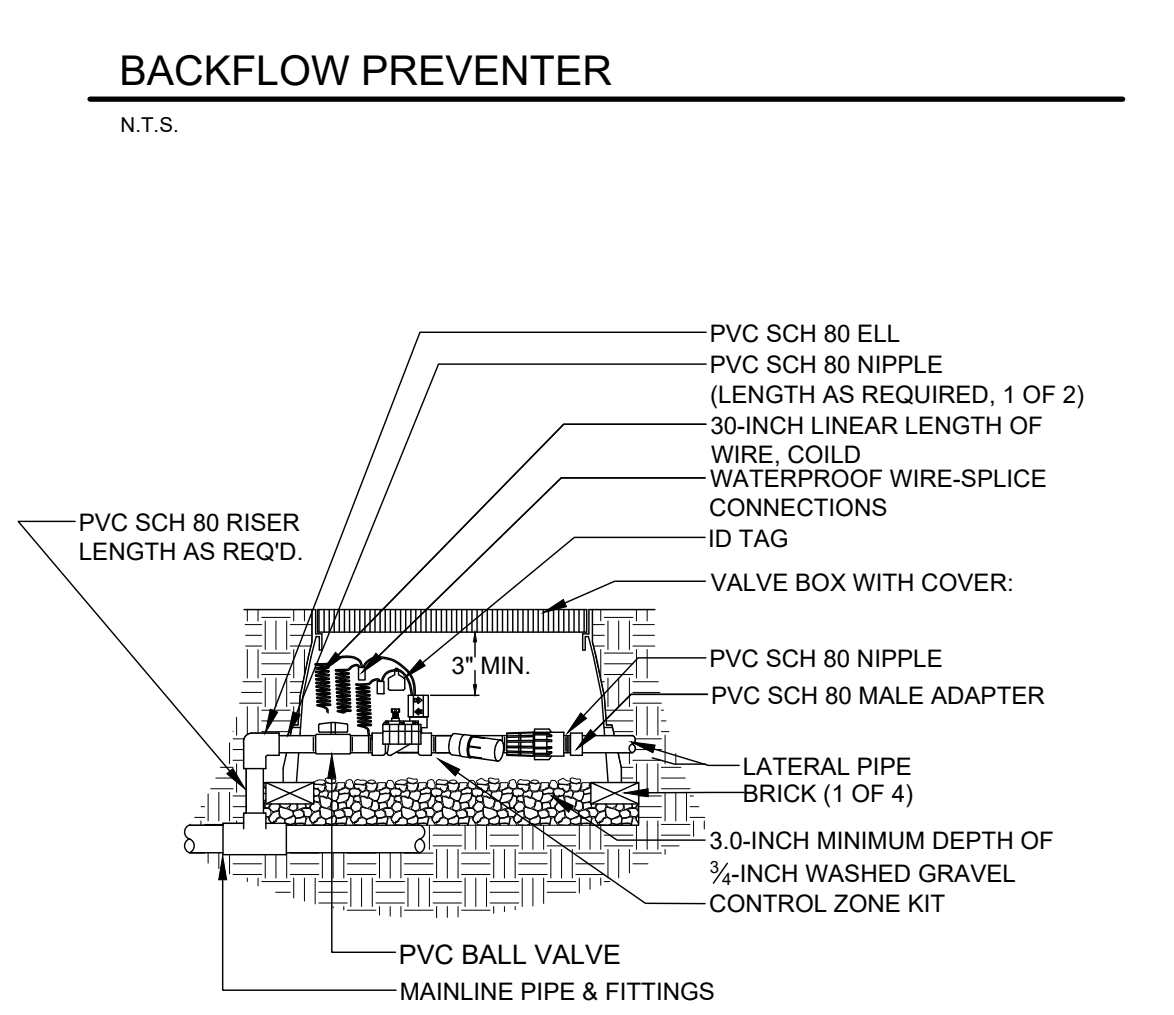
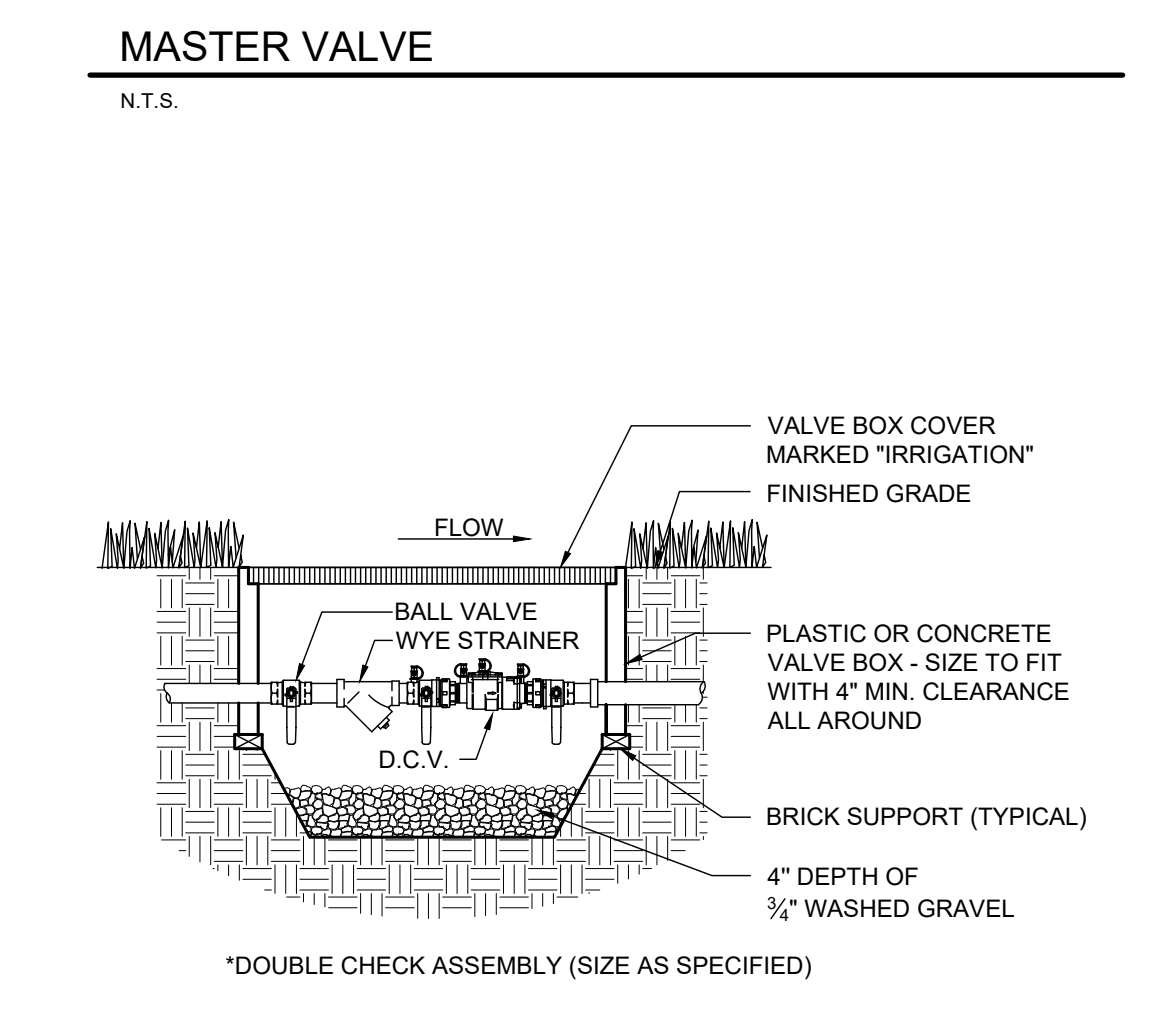
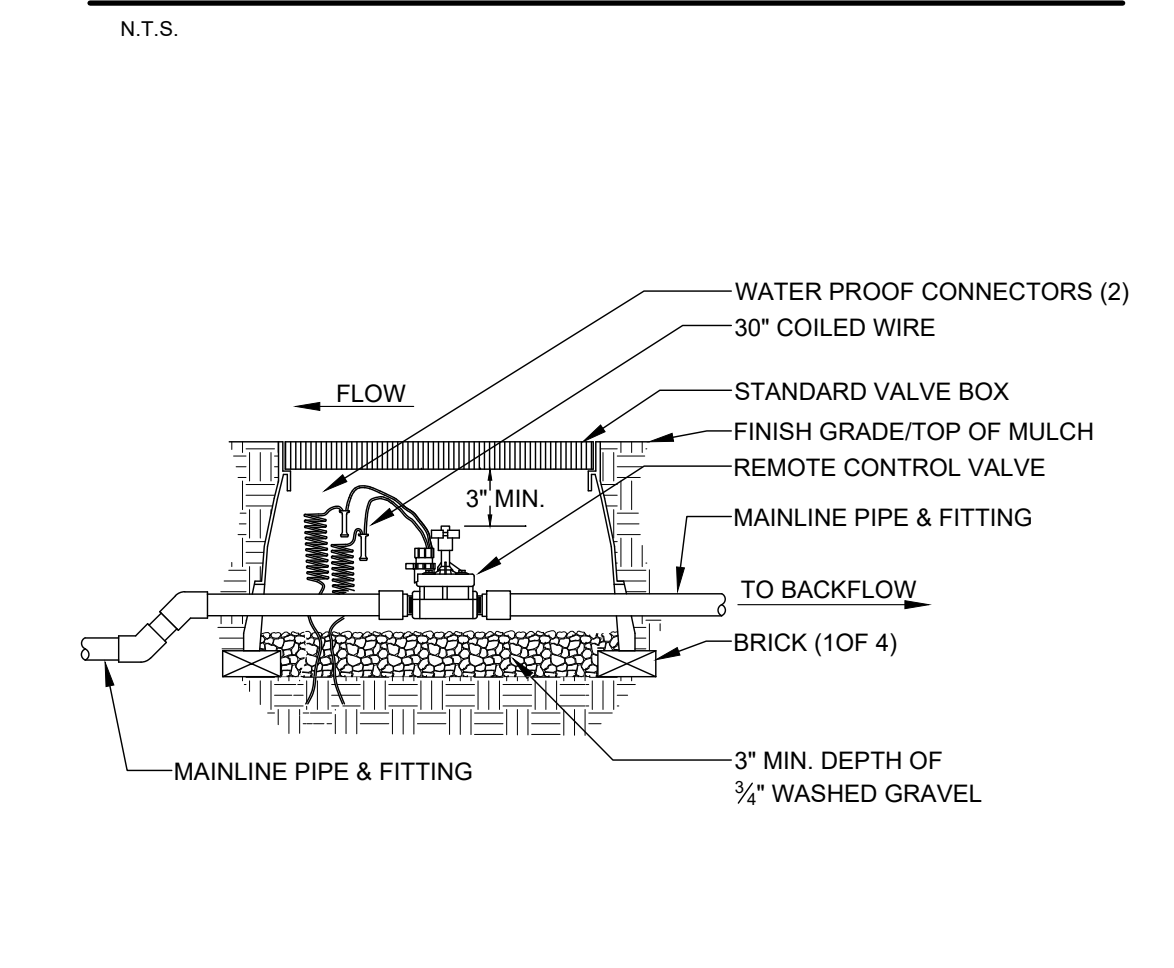
PROPER SIZING OF SUPPLY AND EXHAUST HEADERS (17MM XF-CV SERIES DRIP LINE)

TOTAL ZONE FLOW	
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 XF-CV SERIES DRIP LINE.

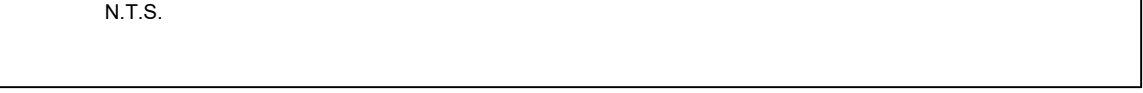
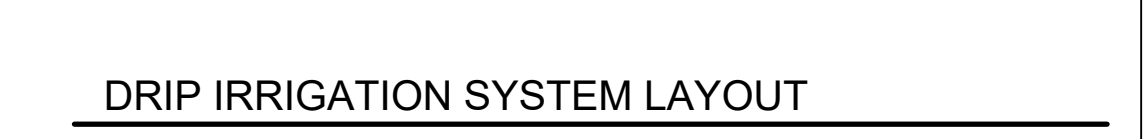
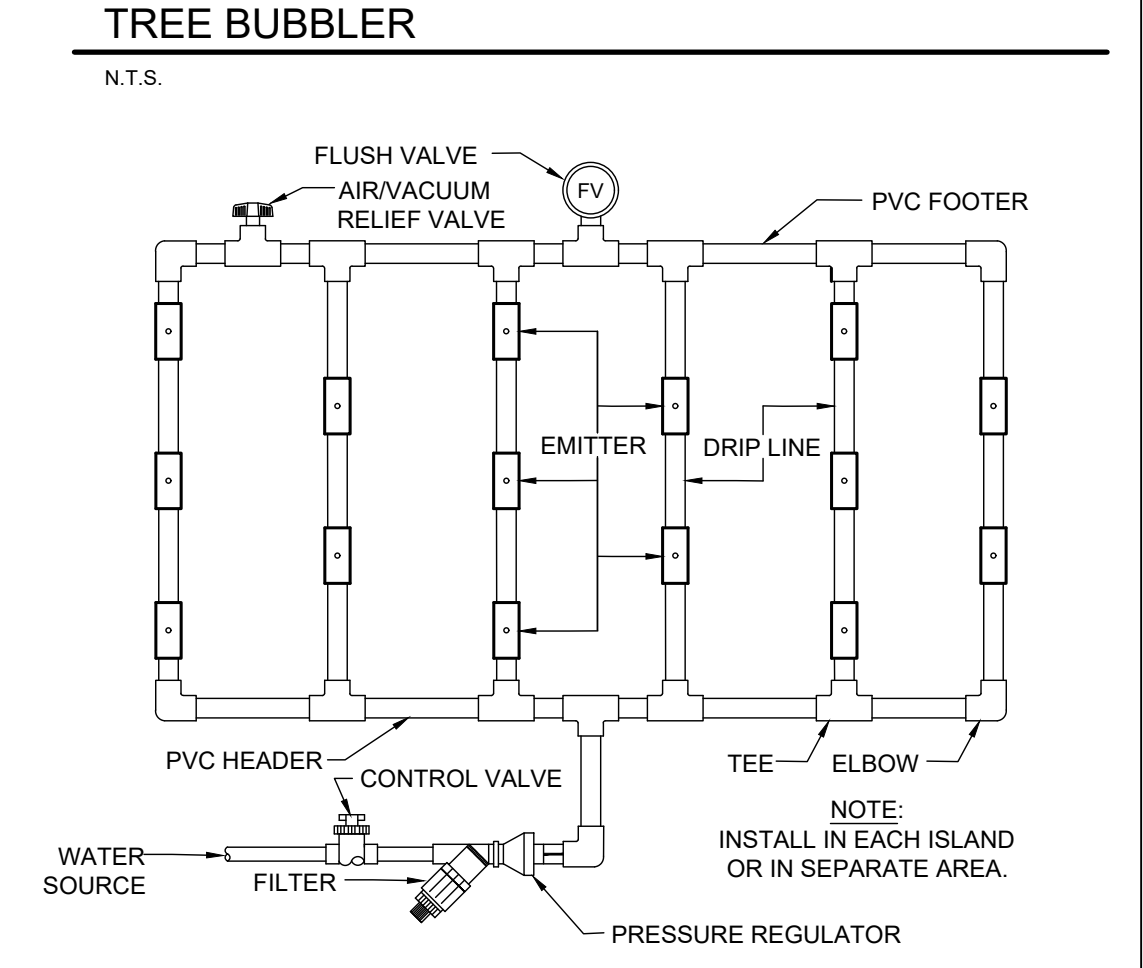
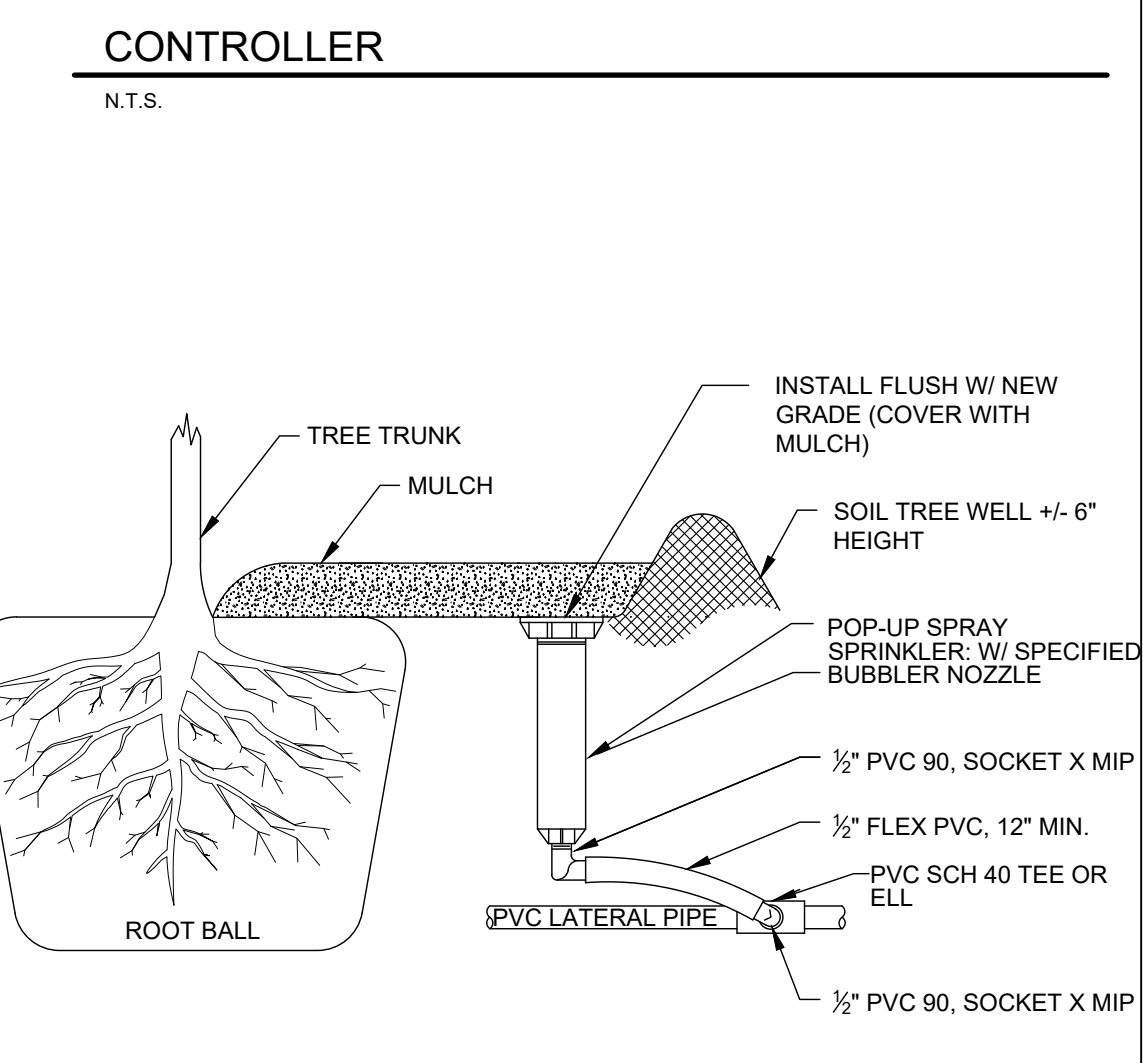
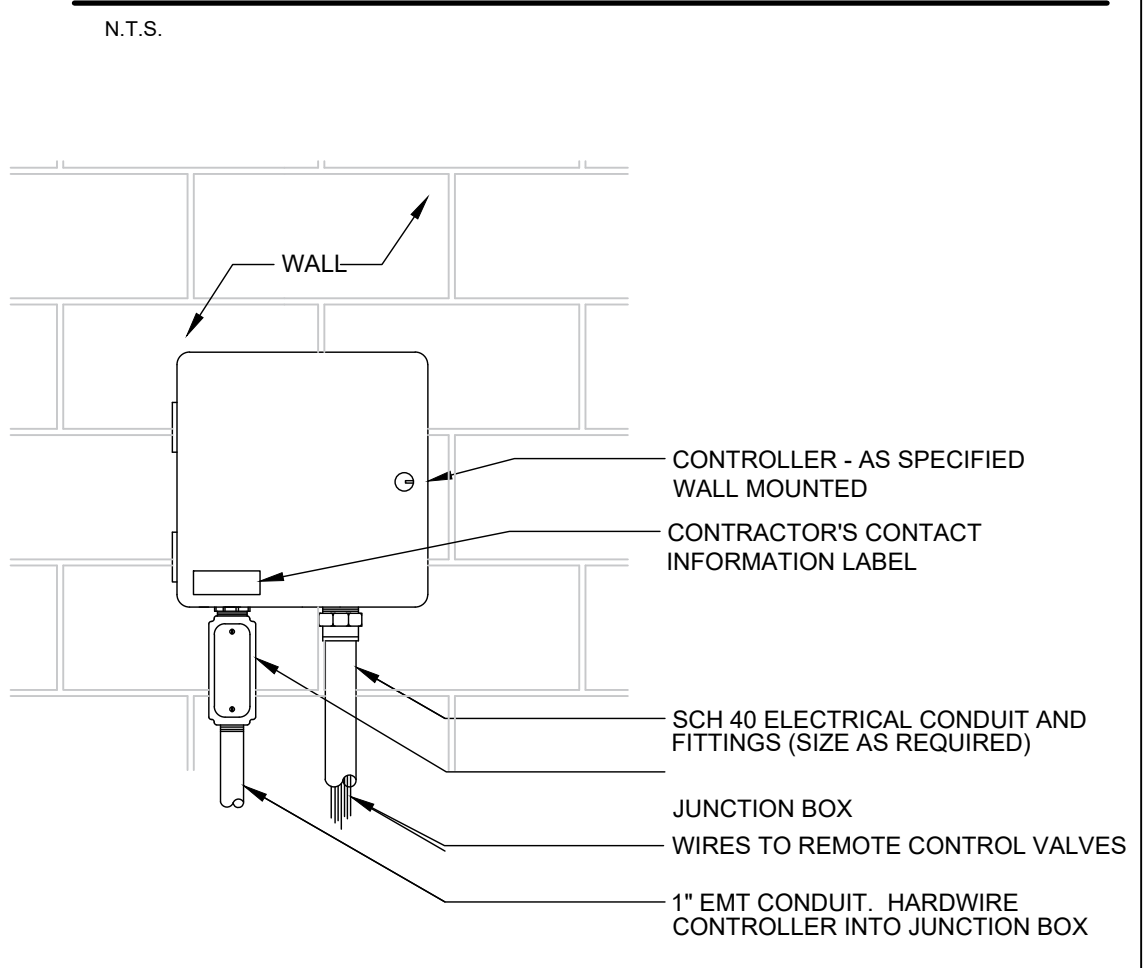


- NOTES:**
- SLEEVE BELOW ALL HARDSCAPE ELEMENTS WITH SCH. 40 PVC.
 - FOR PIPE AND WIRE BURIAL DEPTHS SEE SPECIFICATIONS.
 - INSTALL 2" SAND BEDDING IN TRENCHES PRIOR TO PIPE INSTALLATION.
 - PROVIDE 2" SAND ENVELOPE AROUND ALL PIPE. 2" SAND COVER MIN.
 - STACKING OF PIPE IS NOT ALLOWED. ALL PIPE TO HAVE 2" OF SEPARATION.
 - NO MATERIAL LARGER THAN 1" TO BE USED AS TRENCH BACKFILL.
 - COMPACT TRENCH BACKFILL TO 90%-85% PROCTOR. 95% UNDER HARDSCAPE.
- TRENCH DETAIL**
N.T.S.



NOTE: MOUNT SENSOR IN LOCATION WHERE IT WILL BE EXPOSED TO UNOBSTRUCTED RAINFALL, BUT NOT IN PATH OF SPRINKLER SPRAY, NO MORE THAN 1000" FROM RECEIVER UNIT. MOUNT RECEIVER UNIT NO FURTHER THAN 6" FROM CONTROLLER.

WIRELESS RAIN/FREEZE SENSOR
N.T.S.



SEAL

CLIENT

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LANDSCAPE ARCHITECTURE LLC
CLLA PROJECT #26-008

CONSULTANT

NEW BUILDING

418 FLORIDA STREET
SAN ANTONIO, TX 78254
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REV	REV DESCRIPTION	DATE

03/16/2026

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Drawn / Designed By: BF
Reviewed By: BF
Project Number: KPJ-TX-26-XXXX

SHEET NAME:
IRRIGATION DETAILS AND NOTES

SHEET NUMBER:
L7

CODE ANALYSIS

ZONING	C-2, H OVERLAY		
APPLICABLE CODES	Building Code:	2024 I.B.C.	
	Mechanical Code:	2024 I.M.C.	
	Plumbing Code:	2024 I.P.C.	
	Electrical Code:	2023 N.E.C.	
	Energy Code:	2021 I.E.C.C.	
	Fire Code:	2024 I.F.C.	
Accessibility:	2012 TEXAS ACCESSIBILITY STANDARDS		
PARKING	RE: CIVIL		
REGULATION	SECTION	COMMENTS	
CONSTRUCTION TYPE	602.2	TYPE IIB	
OCCUPANCY CLASSIFICATION	CHAPTER 3	MULTI-TENANT SPECULATIVE SHELL BLDG. (SPRINKLERED) "A-2" & "B" & "M"	
BUILDING HEIGHT	TABLE 504.3	ALLOWABLE A-2 15 FT. B 15 FT. M 15 FT.	ACTUAL 26'-0" FT MAX.
NUMBER OF STORIES ABOVE GRADE	TABLE 504.4	ALLOWABLE A-2 3-STORY B 4-STORY M 3-STORY	ACTUAL 1 STORY
AREA	TABLE 506.2	ALLOWABLE A-2 38,000 SF B 92,000 SF M 50,000 SF	ACTUAL 5,420 SF
SEPARATION OF OCCUPANCIES (HR5)	TABLE 508.4	"A" to "B/M" 1 hour 1-HR WALL BY FUTURE TENANTS	
FIRE PROTECTION -NOTE: FIRE SPRINKLER, FIRE ALARM, ERRC, AND FIRE LINE REQUIRE SEPARATE PERMITS			
SPRINKLER SYSTEM	903	NOT REQUIRED	PROVIDED G.C. TO INSTALL PER DEFERRED SUBMITTAL
STANDPIPES	905.3.1	NOT REQUIRED	PROVIDED
FIRE ALARM/DETECTION	907.2.2	NOT REQUIRED	PROVIDED IF REQUIRED INSTALLED BY FUTURE TENANT
FIRE SAFETY FUNCTIONS	907.3	DUCT SMOKE DETECTORS BY FUTURE TENANTS	
FIRE RESISTANCE RATING REQUIREMENTS FOR BLDG. ELEMENTS	TABLE 601	STRUCTURAL FRAME 0 HRS BEARING WALLS 0 HRS	NON-BEARING WALLS-EXTERIOR/INT. 0 HRS ROOF CONSTRUCTION 0 HRS
FIRE RESISTANCE RATING FOR EXT. WALLS SEPARATION DISTANCE	TABLE 602	NORTHEAST > 30 FT = 0 HRS SOUTHEAST > 30 FT = 0 HRS	SOUTHWEST > 30 FT = 0 HRS NORTHWEST > 30 FT = 0 HRS
MEANS OF EGRESS			
MINIMUM # OF EXITS	1006.3.1	3 PROVIDED	
EXIT ACCESS TRAVEL DISTANCE	TABLE 1012	NOT TO EXCEED 250 FT - W/ SPRINKLER SYSTEM	
DEAD-END CORRIDOR	1020.4	A B 4 M	NOT TO EXCEED 20 FT NOT TO EXCEED 50 FT
MEANS OF EGRESS ILLUMINATION	SECTION 1025	EXIT LIGHTS EMERGENCY POWER PROVIDE BATTERY BACK-UP	

GENERAL NOTES & REQUIREMENTS

- CONTRACTOR AGREES THAT, IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONTRACTOR SHALL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY, AND HOLD OWNERS AND ARCHITECT HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT.
- ALL WORK SHALL COMPLY WITH ALL APPLICABLE CODE, ORDINANCES, AND REGULATIONS OF ALL GOVERNING BODIES.
- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE APPLICABLE CODES, ORDINANCES AND STANDARD SPECIFICATIONS OF ALL AGENCIES THAT HAVE THE RESPONSIBILITY OF REVIEWING PLANS AND SPECIFICATIONS FOR CONSTRUCTION OF ALL ITEMS PER THESE PLANS AND SPECIFICATIONS IN THIS LOCALITY.
- THE CONTRACTOR SHALL OBTAIN ALL THE NECESSARY PERMITS AS REQUIRED FOR CONSTRUCTION OF THIS PROJECT.
- WHEN ANY EXISTING UTILITY REQUIRES ADJUSTMENT OR RELOCATION, THE CONTRACTOR SHALL NOTIFY THE PROPER UTILITY AND COORDINATE HIS WORK ACCORDINGLY. THERE SHALL BE NO CLAIM MADE BY THE CONTRACTOR AND ANY COSTS CAUSED BY DELAYS IN CONSTRUCTION DUE TO THE ADJUSTMENT OR RELOCATION OF UTILITIES.
- THE OWNER SHALL NOT BE HELD LIABLE FOR ANY CLAIMS RESULTING FROM ACCIDENTS OR DAMAGES CAUSED BY THE CONTRACTOR'S FAILURE TO COMPLY WITH TRAFFIC AND PUBLIC SAFETY REGULATIONS DURING THE CONSTRUCTION PERIOD.
- THE CONTRACTOR SHALL CONFINE HIS ACTIVITIES TO THE PROJECT SITE UNDER DEVELOPMENT OR THE EXISTING RIGHT-OF-WAYS, CONSTRUCTION AND PERMANENT EASEMENTS, AND SHALL NOT TRESPASS UPON OTHER PRIVATE PROPERTY WITHOUT THE CONSENT OF THE OWNER OF THE OTHER PROPERTY.
- THE CONTRACTOR SHALL DISPOSE OF ALL SURPLUS EXCAVATION PROPERLY AND PROVIDE ALL SUITABLE FILL MATERIAL AS APPROVED BY THEIR SOILS ENGINEER, AND THE COST SHALL BE INCLUDED IN THE PRICE BID FOR THE RELATED ITEMS.
- EROSION AND SEDIMENT CONTROL SHALL BE PROVIDED IN ACCORDANCE WITH LOCAL AND/OR STATE REQUIREMENTS. PROTECTIVE MEASURES SHALL BE TAKEN BY THE CONTRACTOR TO PROTECT ADJACENT PROPERTY AT ALL TIMES DURING CONSTRUCTION. PROTECTIVE MEASURES SHALL BE TAKEN BY THE CONTRACTOR SO AS NOT TO CAUSE ANY MUD, SILT, OR DEBRIS ONTO PUBLIC OR ADJACENT PROPERTY. ANY MUD OR DEBRIS ON PUBLIC PROPERTY SHALL BE REMOVED IMMEDIATELY.
- ALL WORK SHALL BE GUARANTEED BY THE CONTRACTOR TO BE FREE FROM DEFECTS IN WORKMANSHIP AND MATERIALS AND IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS AND THAT THE CONTRACTOR SHALL REPLACE OR REPAIR ANY WORK OR MATERIAL FOUND TO BE DEFECTIVE.
- CONTRACTOR SHALL VERIFY THAT THE PLANS THAT HE IS USING ARE THE VERY LATEST PLANS AND SPECIFICATIONS AND FURTHER SHALL VERIFY THAT THESE PLANS HAVE BEEN APPROVED BY ALL APPLICABLE PERMIT-ISSUING AGENCIES.
- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING CLARIFICATION OF CONFLICTS BETWEEN THESE PLANS AND SPECIFICATIONS, EITHER AMONG THEMSELVES OR WITH THE REQUIREMENTS OF ANY AND ALL REVIEWING AND PERMIT-ISSUING AGENCIES. HE SHALL SEEK CLARIFICATION IN WRITING FROM THE ARCHITECT BEFORE BID OR COMMENCEMENT OF CONSTRUCTION. FAILURE TO DO SO SHALL BE AT SOLE EXPENSE TO THE CONTRACTOR.
- THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES AND/OR STRUCTURES AT THE SITE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE OWNER OF UTILITIES OR STRUCTURES CONCERNED BEFORE STARTING WORK. THE CONTRACTOR SHALL NOTIFY THE PROPER UTILITY IMMEDIATELY UPON BREAK OR DAMAGE TO ANY UTILITY LINE OR APPURTENANCE, OR THE INTERRUPTION OF THEIR SERVICE. HE SHALL NOTIFY THE PROPER UTILITY INVOLVED, IF EXISTING UTILITY CONSTRUCTION CONFLICTS WITH REQUIREMENTS, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER SO THAT THE CONFLICT MAY BE RESOLVED.
- INSTALL ALL MANUFACTURED ITEMS, MATERIALS, AND EQUIPMENT IN STRICT ACCORDANCE WITH MANUFACTURER'S PRINTED INSTRUCTIONS, EXCEPT THAT THE SPECIFICATIONS, WHERE MORE STRINGENT, SHALL GOVERN.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL TAPS, EXTENSIONS, WATER, AND ELECTRICITY FOR ALL PROJECT FUNCTIONS, OFFICE, STORAGE, ETC.
- THE GENERAL CONTRACTOR SHALL PROVIDE ONE COPY OF AS-BUILT DRAWINGS TO THE OWNER AT THE COMPLETION OF THE PROJECT. AS-BUILT DRAWINGS SHALL BE KEPT ON THE JOB AT ALL TIMES AND UPDATED THROUGHOUT THE CONSTRUCTION PHASE.
- ALL PENETRATIONS THRU EXTERIOR WALLS SHALL BE SEALED AIR/WATER TIGHT AND CAULKED WITH SEALANT REQUIRED FOR THE AIR BARRIER ON EACH SIDE.

ARCHITECTURAL ENERGY SUMMARY SHEET

Description	Section of IECC	Comment	Required	Proposed
Provide the intended R-Value of roofs, walls and slabs	C402.1.3 Prescriptive Path Only	Insulation entirely above roof deck Mass Metal Framed	R-25cl R-5-Tcl R-13-R-5cl	R-25cl R-19-R-6.5cl
Provide the Assembly method U- Factors, C-Factors and/or F-Factors	C402.1.4 Prescriptive Path Only	Refer to Air Barrier Details		
Provide the Roof solar reflectance and thermal emittance (3-year), or Solar Reflectance Index (3-year) for low slope roofs	C402.3 Prescriptive Path Only	3-year aged solar reflectance index 3-year aged thermal emittance	55 0.75	
Provide the Percent of windows in each wall area	C402.4 Prescriptive Path Only		North 28% East 2% South 16% West 39%	
Provide the skylight area as a percentage of the roof area	C402.4 Prescriptive Path Only	Current IFO design information unknown		
Where skylights are required by C402.4.2 for certain spaces, provide daylight zones as a percentage of that floor area/space.	C402.4.2 Prescriptive Path Only	Current IFO design information unknown		
Provide maximum U-factor and SHGC for specified fenestration and for skylights	C402.4.3 Prescriptive Path Only	REQUIRED: U-Factor: 0.45 SHGC: 0.25	PROVIDED: SOLARBAN 90 CLEAR + CLEAR U-Factor: 0.24 SHGC: 0.22	
Indicate whether Air Leakage requirements will be met by Materials, Assemblies or by Testing during construction	C402.5.1.2 Always Required	Refer to Air Barrier Details		
Provide location of skylights and location and dimensions of daylight zones on floor plans	C403.2	Current IFO design information unknown		

MEP ENERGY SUMMARY SHEET

Provide a narrative of the lighting controls (occupant sensor function, time switch controls, light reduction controls, manual controls, daylight-responsive controls in daylight zones).	C405.2 Always Required	Refer to Electrical
Provide the total interior lighting power calculated under Equation 4-9 C405.4.1.	C405.4.1 Always Required	Refer to ComCheck
Provide the interior lighting power calculated under C405.4.2 - Building Area Method C405.4.2.1 or the Space by Space Method C405.4.2.2.	C405.4.2 Always Required	Refer to ComCheck
Provide the comparison of the two above calculated interior power - C405.4.1 vs C405.4.2	C405.4.1 and C405.4.2 Always Required	Refer to ComCheck
Provide summary of the total exterior lighting power	C405.5.1 Tables C405.5.2 (1) and (2) Always Required	Refer to ComCheck
Provide details of an Additional Energy Package chosen	C406 Only under the Prescriptive Path	Item #2 Using LED Lighting

AIR BARRIER DETAILS

C402.5.1.2.1 Material: Materials with an air permeability not greater than 0.004 cfm/ft ² (0.02 L/s · m ²) under a pressure differential of 0.3 inch water gauge (75 pa) when tested in accordance with ASTM E 2878 shall comply with this section. Materials in Items 1 through 16 shall be deemed to comply with this section, provided joints are sealed and materials are installed as air barriers in accordance with the manufacturers instructions.	YES	NO		YES	NO
1. Plywood with a thickness of not less than 3/8 inch (10 mm).			9. Built-up roofing membrane.		
2. Oriented strand board having a thickness of not less than 3/8 inch plywood with a thickness of not less than 3/8 inch (10 mm).			10. Modified bituminous roof membrane.		
3. Extruded polystyrene insulation board having a thickness of not less than 1/2 inch (12.7 mm).			11. Fully adhered single-ply roof membrane.		
4. Foil-back polyisocyanurate insulation board having a thickness of not less than 1/2 inch (12.7 mm).			12. A portland cement/sand parge, or gypsum plaster having a thickness of not less than 5/8 inch (15.8 mm).		
5. Closed-cell spray foam a minimum density of 1.5 pcf (2.4 kg/m ³) having a thickness of not less than 1 1/2 inches (38 mm).			13. Cast-in-place and precast concrete.		
6. Open-cell spray foam with a density between 0.4 and 1.5 pcf (0.6 and 2.4 kg/m ³) and having a thickness of not less than 4.5 inches (113 mm).			14. Fully grouted concrete block masonry.		
7. Exterior or interior gypsum board having a thickness of not less than 1/2 inch (12.7 mm).			15. Sheet steel or aluminum.		
8. Cement board having a thickness of not less than 1/2 inch (12.7 mm).			16. Solid or hollow masonry constructed of clay or shale masonry units.		
C402.5.1.2.2 Assemblies: Assemblies of materials and components with an average air leakage not greater than 0.04 cfm/ft ² (0.2 L/s · m ²) under a pressure differential of 0.3 inch of water gauge (75 pa) when tested in accordance with ASTM E 2878 shall comply with this section. Assemblies listed in items 1 through 3 shall be deemed to comply provided joints are sealed and the requirements of Section C402.5.1.1 are met.	YES	NO		YES	NO
1. Concrete masonry walls coated with either one application of block filler or two applications of a paint or sealer coating.					
2. Masonry walls constructed of clay or shale masonry units with a nominal width of 4 inches (102 mm) or more.					
3. A portland cement/sand parge, stucco or plaster not less than 1/2 inch (12.7 mm) in thickness.					

REQUIRED SPECIAL INSPECTIONS

IBC SECTION	SPECIAL INSPECTIONS	APPLICABLE	NOT APPLICABLE	QUALIFICATIONS OF INSPECTOR & FREQUENCY OF INSPECTIONS
1105.11	SPECIAL CASES			
1105.2	STEEL CONSTRUCTION			REGISTERED PROFESSIONAL ENGINEER/TBD
1105.3	CONCRETE CONSTRUCTION			REGISTERED PROFESSIONAL ENGINEER/TBD
1105.4	MASONRY CONSTRUCTION			
1105.5	WOOD CONSTRUCTION			
1105.6	SOILS			REGISTERED PROFESSIONAL ENGINEER/TBD
1105.7	DRIVEN DEEP FOUNDATIONS			
1105.8	CAST-IN-PLACE DEEP FOUNDATIONS			
1105.9	HELICAL FILE FOUNDATIONS			
1105.10	FABRICATED ITEMS			
1105.11	SPECIAL INSPECTION FOR WIND RESISTANCE			
1105.12	SPECIAL INSPECTION FOR SEISMIC RESISTANCE			
1105.13	TESTING & QUALIFICATION OF SEISMIC RESISTANCE			
1105.14	SPRAYED FIRE-RESISTANT MATERIALS			
1105.15	MASTIC AND INTUMESCENT FIRE-RESISTANT COATING			
1105.16	EXTERIOR INSULATION AND FINISH SYSTEMS (EIFS)			
1105.17	FIRE-RESISTANCE PENETRATION AND JOINT			
1105.18	TESTING FOR SMOKE CONTROL (SEE IB 185)			
1106	DESIGN STRENGTHS OF MATERIALS			
1107	ALTERNATIVE TEST PROCEDURES			
1108	IN-SITU LOAD TEST			
1109	PRECONSTRUCTION LOAD TESTS			

NOTE: ALL SPECIAL INSPECTORS ARE REQUIRED TO SUBMIT A WRITTEN "REPORT OF REQUIRED SPECIAL INSPECTIONS" TO THE ARCHITECT AFTER COMPLETION OF THE REQUIRED SPECIAL INSPECTION. REFER TO SPECIFICATIONS FOR CITY OF SAN ANTONIO REPORT TEMPLATES.

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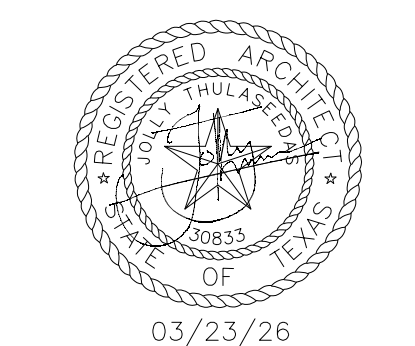
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THE SHOPS AT LAVACA

418 FLORIDA STREET, BEXAR COUNTY, TX

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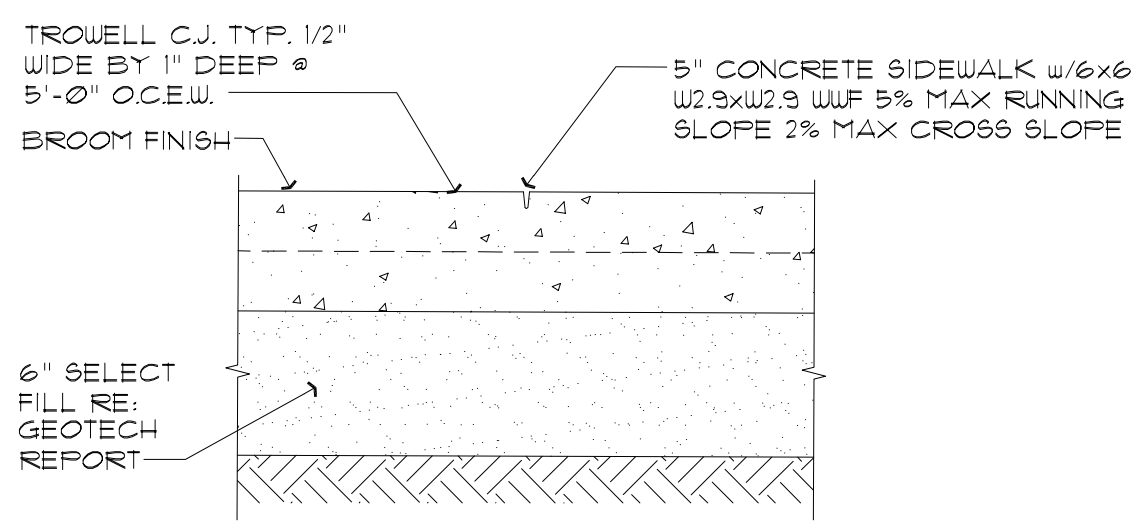
CODE ANALYSIS - NOTES

SHEET NUMBER:

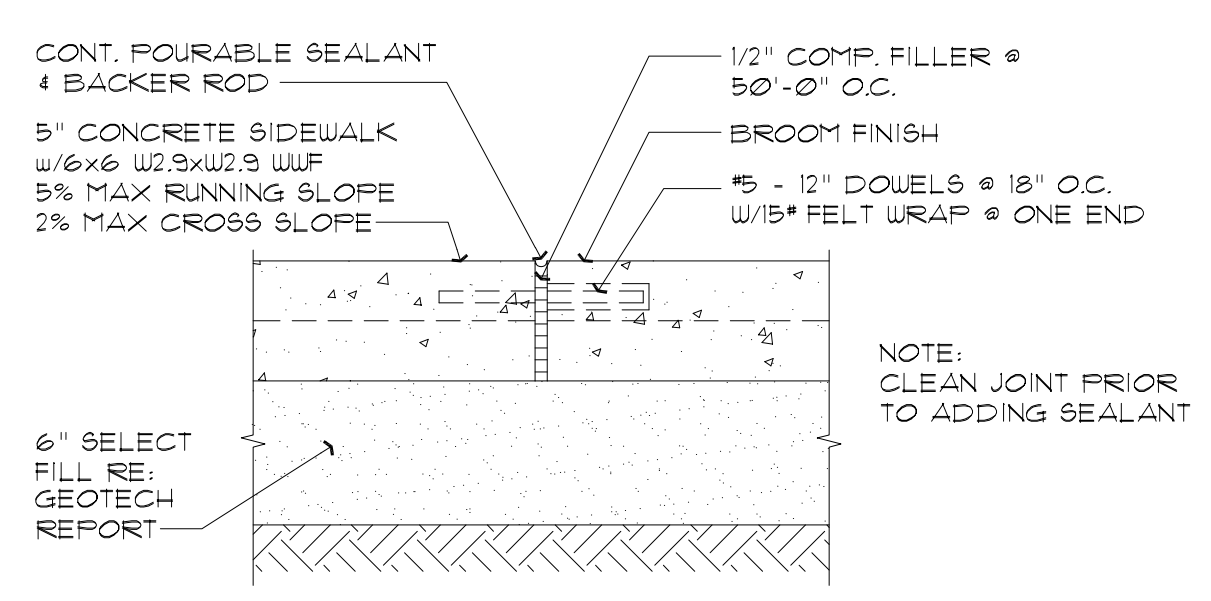
A101

- PROVIDE YELLOW CAUTION ON CURB WHERE CURB/PAVEMENT LEVEL IS LARGER THAN 6" AND SMALLER THAN 12"
- PROVIDE 42" TALL GUARDRAIL WHERE CURB/PAVEMENT LEVEL IS LARGER THAN 12", UNLESS NOTED DIFFERENT ON PLAN
- CONTRACTOR TO COORDINATE LOCATION OF MAILBOX
- CURB RAMP THAT ARE WITHIN THE PUBLIC RIGHT OF WAY SHALL BE PROVIDED WITH DETECTABLE WARNINGS TO COMPLY WITH TAB. THESE SHALL CONSIST OF TRUNCATED DOMES WITH 1/8" x 1/4" SPACED @ 2 3/8" x 2 3/8" O.C. EACH WAY, TRUNCATED DOME SURFACE AS PER TDLR - TECHNICAL MEMORANDUM TM 08-01
- REFERENCE MEP FOR LIGHT POLE LOCATIONS

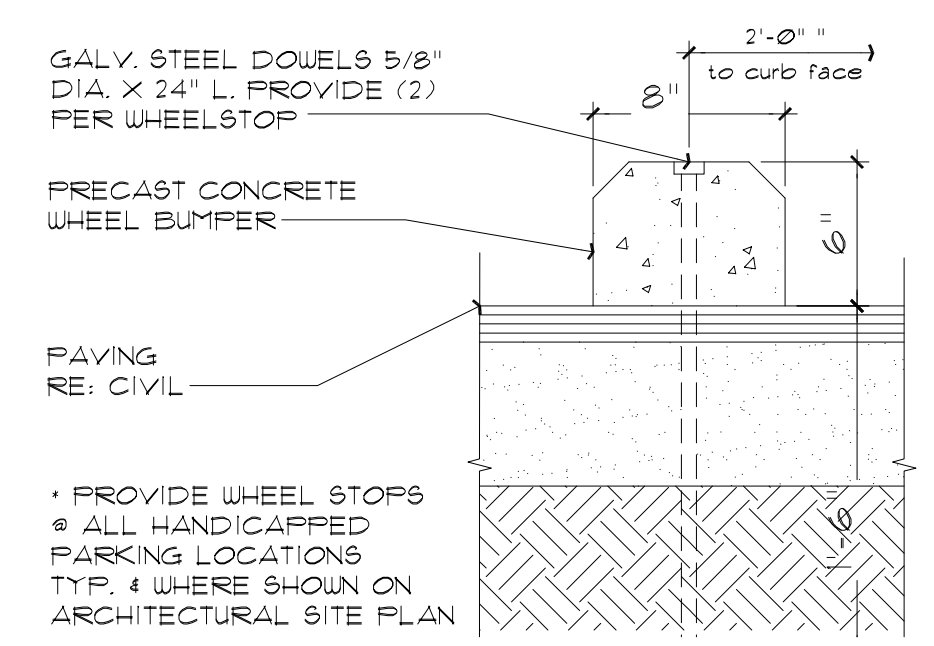
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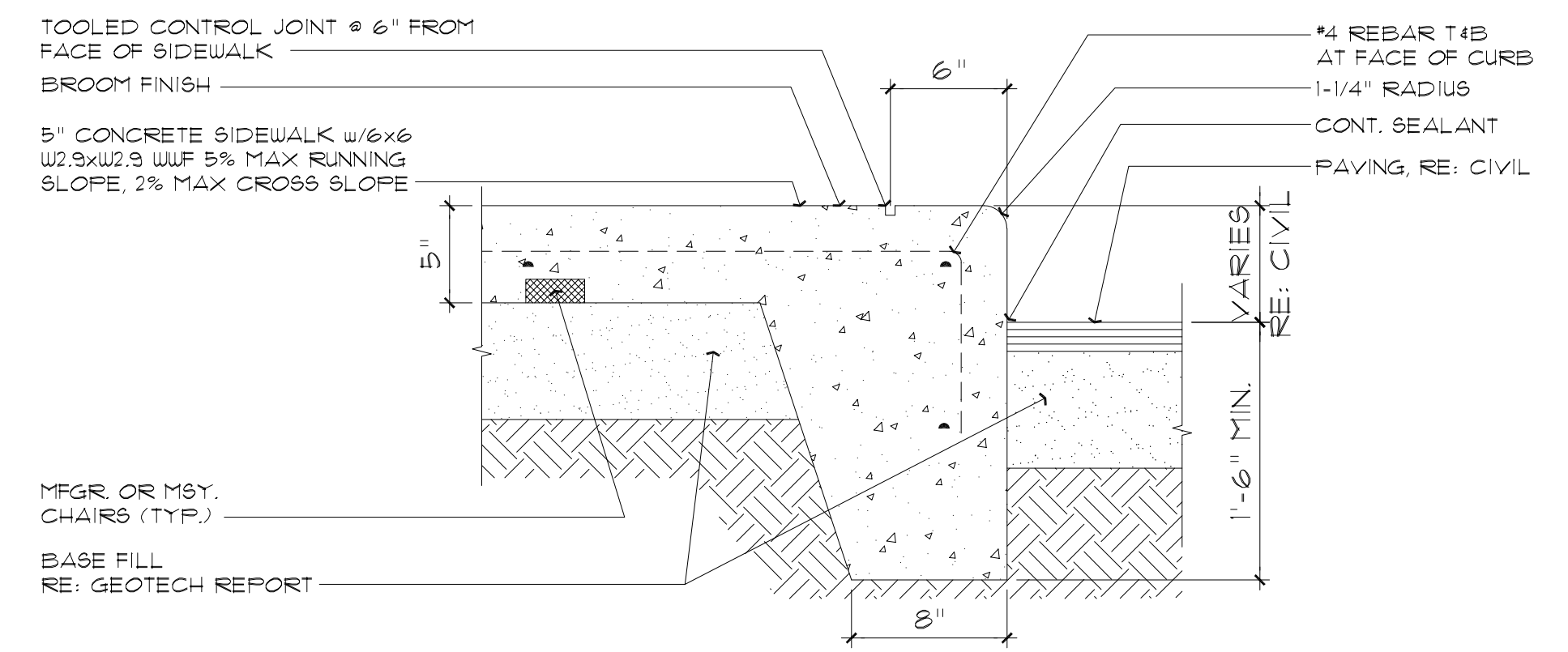
TYP. SIDEWALK
07 C.J. DETAIL AT 5'-0" O.C.
SCALE: 1 1/2" = 1'-0"



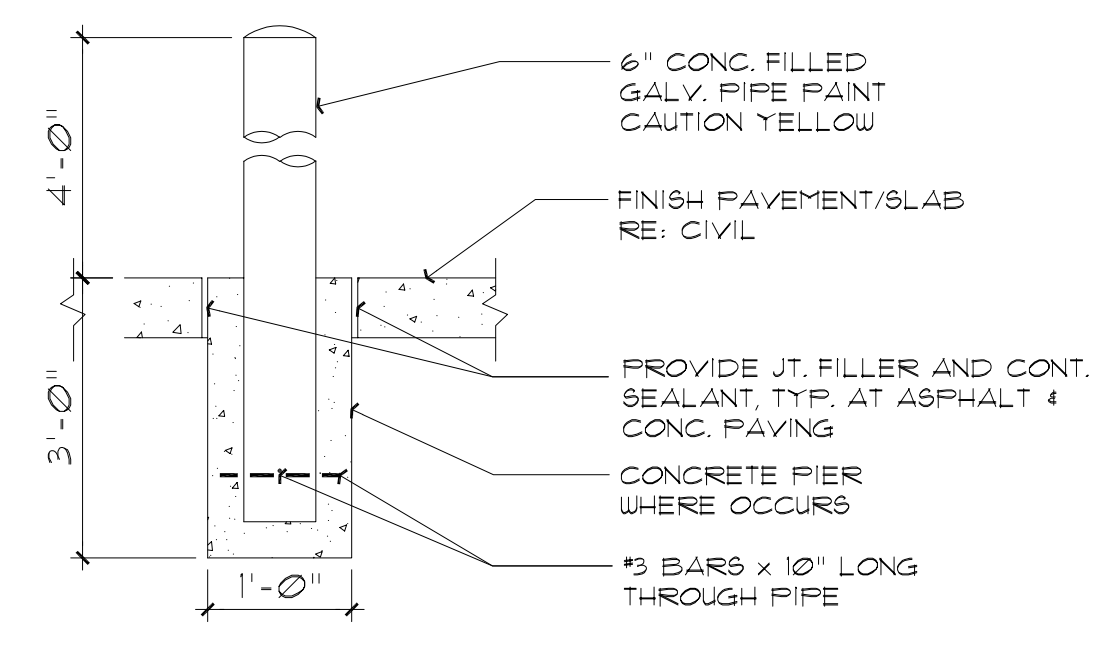
TYP. SIDEWALK
06 E.J. DETAIL AT 50'-0" O.C.
SCALE: 1 1/2" = 1'-0"



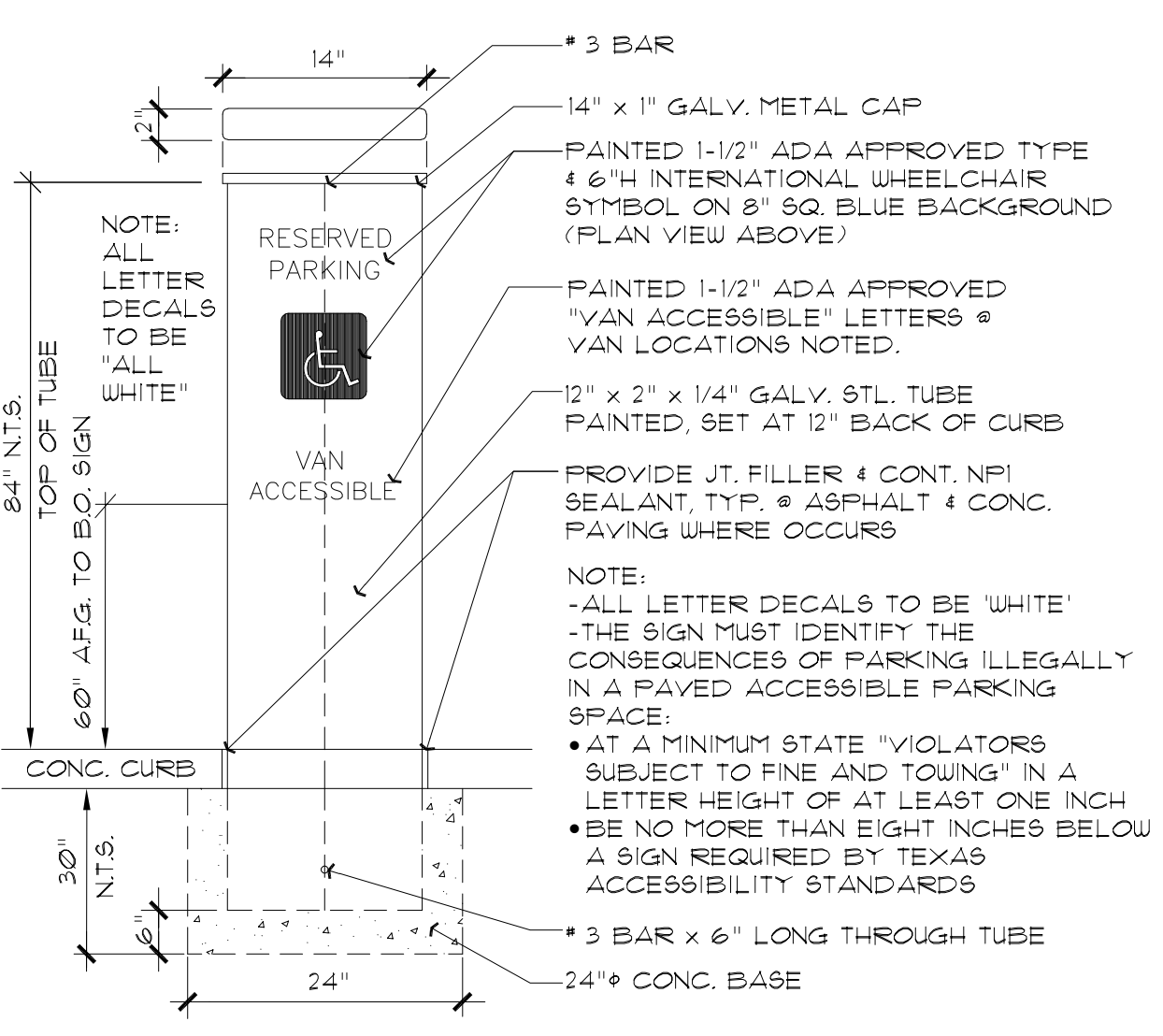
05 CONCRETE WHEEL STOP
SCALE: 1 1/2" = 1'-0"



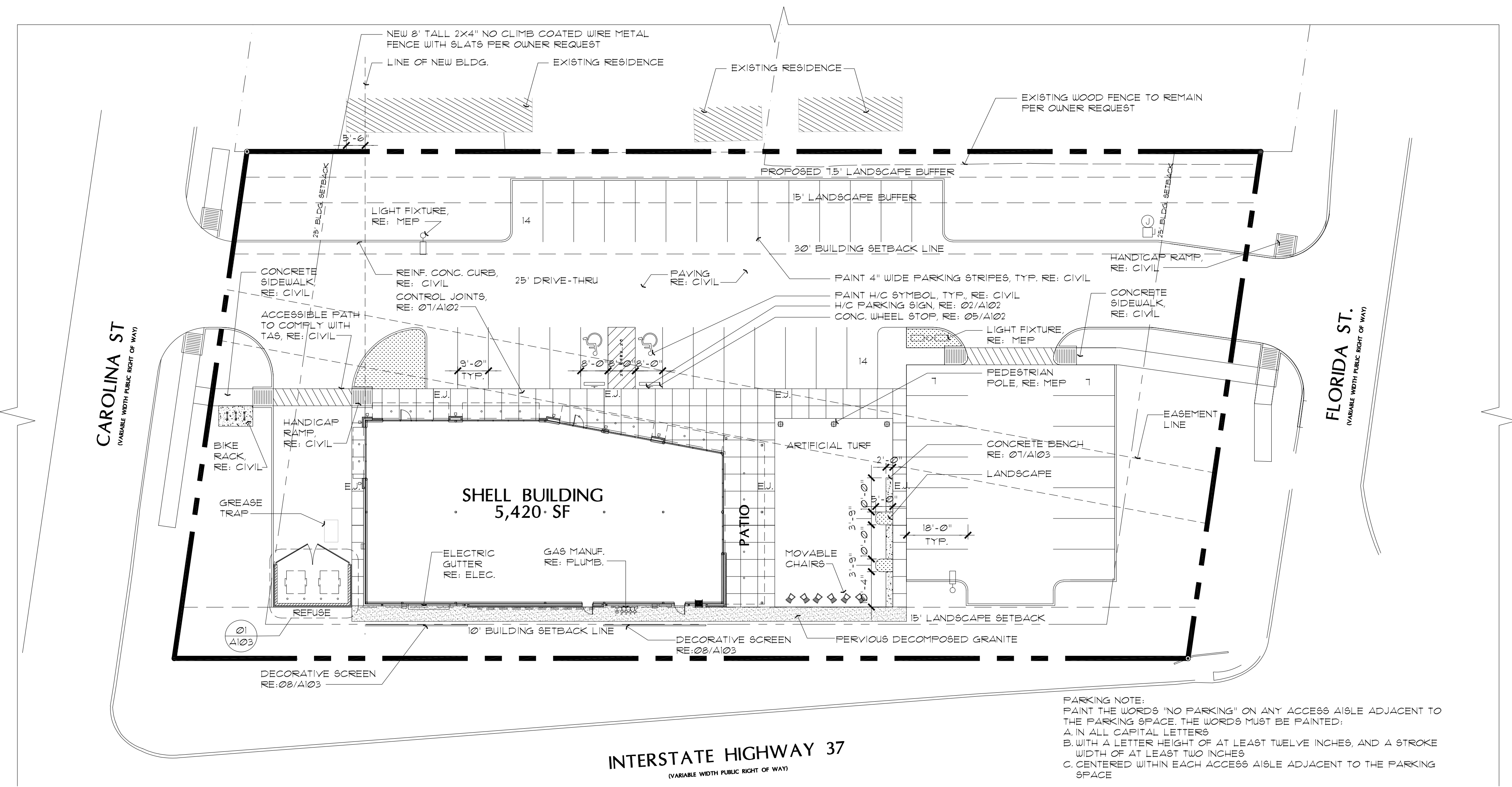
04 ARCH CONCRETE CURB DETAIL
SCALE: 1 1/2" = 1'-0"



03 CONCRETE BOLLARD
SCALE: N.T.S.



02 H/C PARKING SIGN DETAIL
SCALE: N.T.S.



01 ARCHITECTURAL SITE PLAN
SCALE: 1 1/2" = 1'-0"

PARKING NOTE:
PAINT THE WORDS "NO PARKING" ON ANY ACCESS AISLE ADJACENT TO THE PARKING SPACE. THE WORDS MUST BE PAINTED:
A. IN ALL CAPITAL LETTERS
B. WITH A LETTER HEIGHT OF AT LEAST TWELVE INCHES, AND A STROKE WIDTH OF AT LEAST TWO INCHES
C. CENTERED WITHIN EACH ACCESS AISLE ADJACENT TO THE PARKING SPACE

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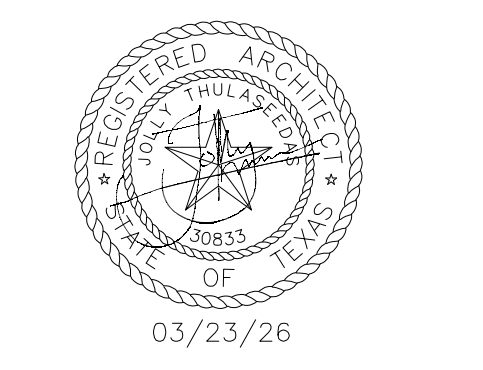
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THE SHOPS AT LAVACA

418 FLORIDA STREET, BEXAR COUNTY, TX

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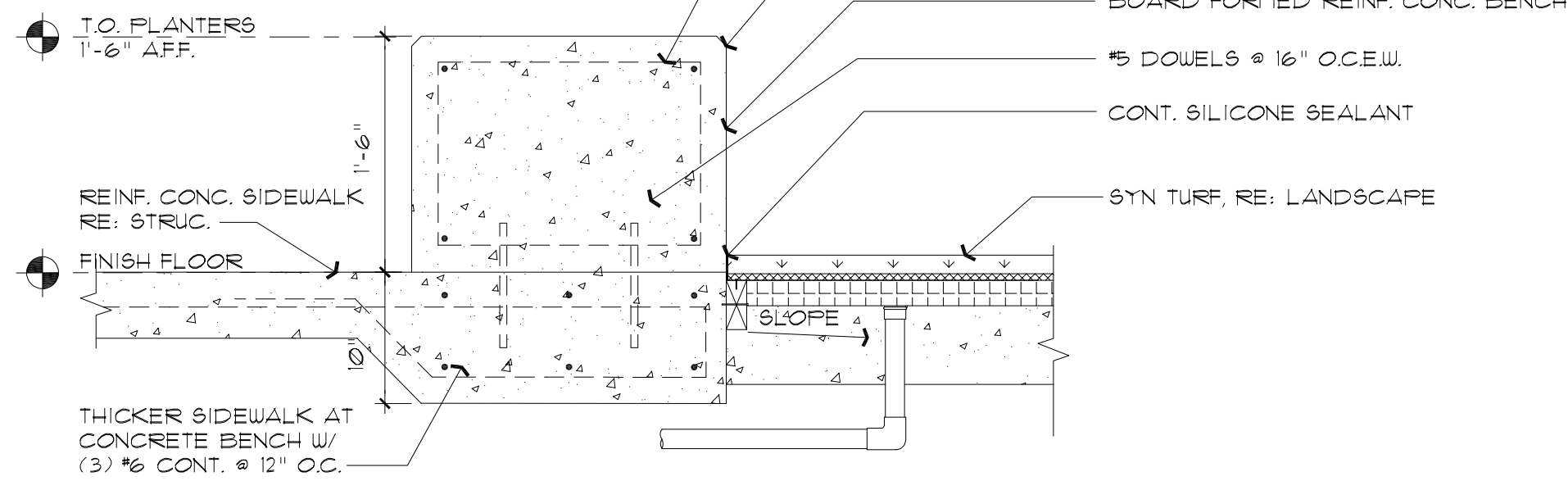
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Project Number: KPJ-TX-25-0018

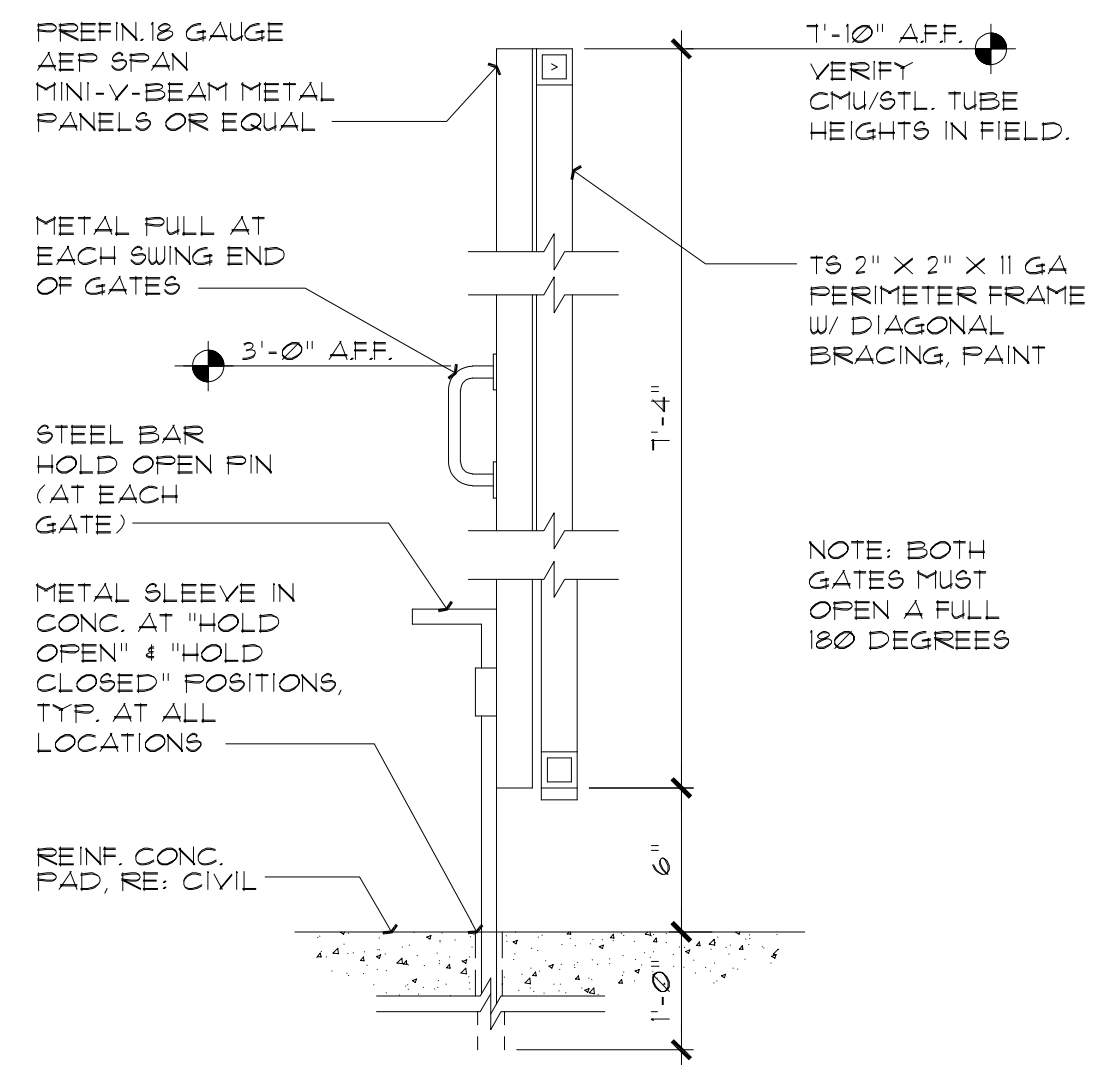
SHEET NAME
SITE PLAN

SHEET NUMBER:
A102

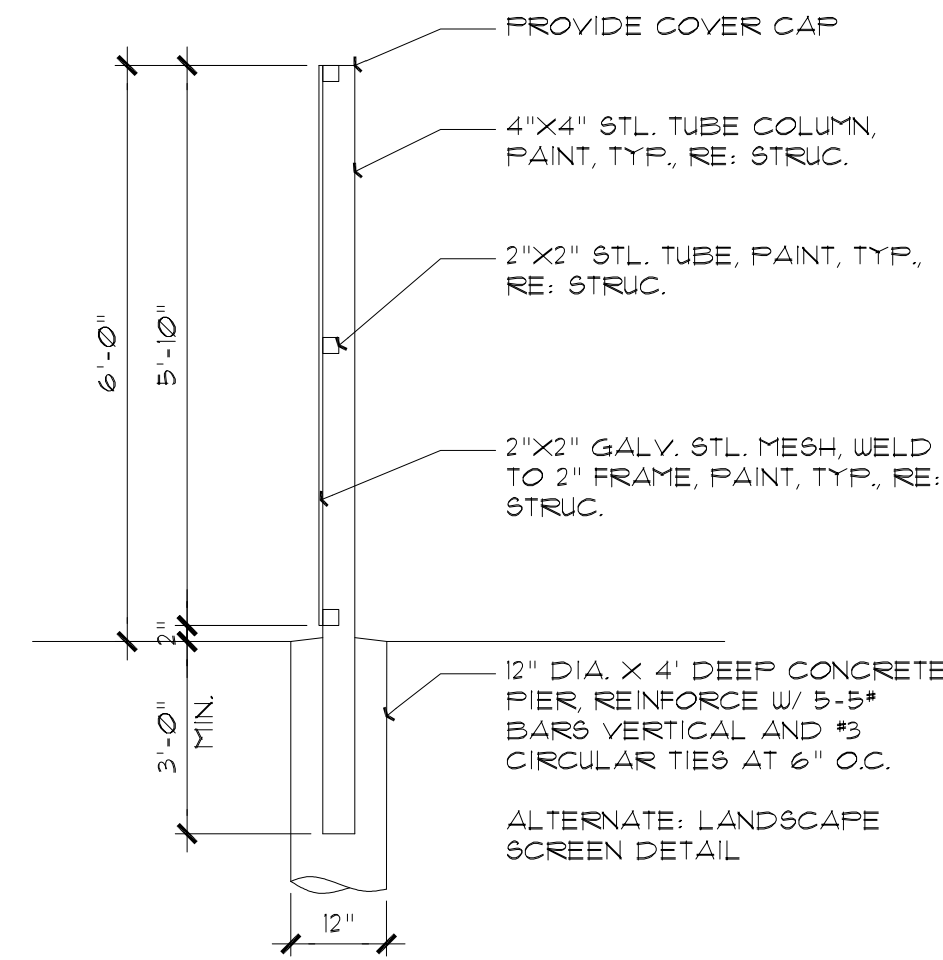




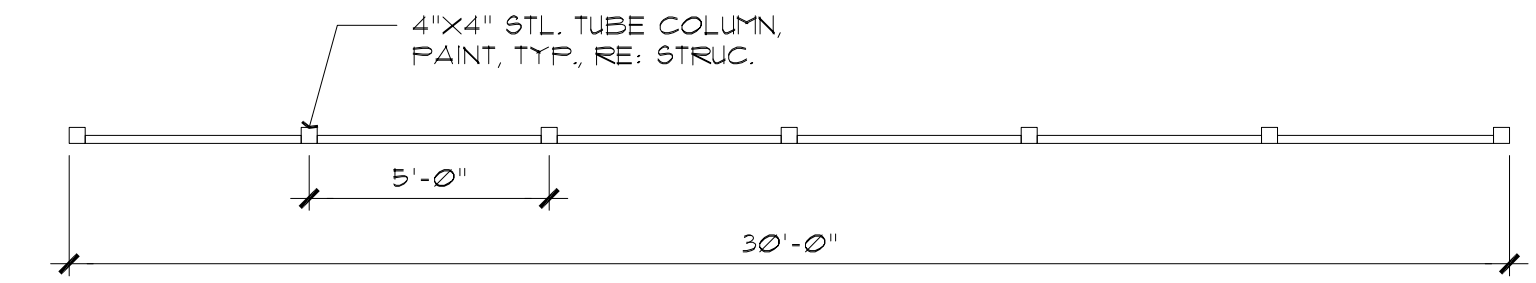
07 CONCRETE BENCH
SCALE: N.T.S.



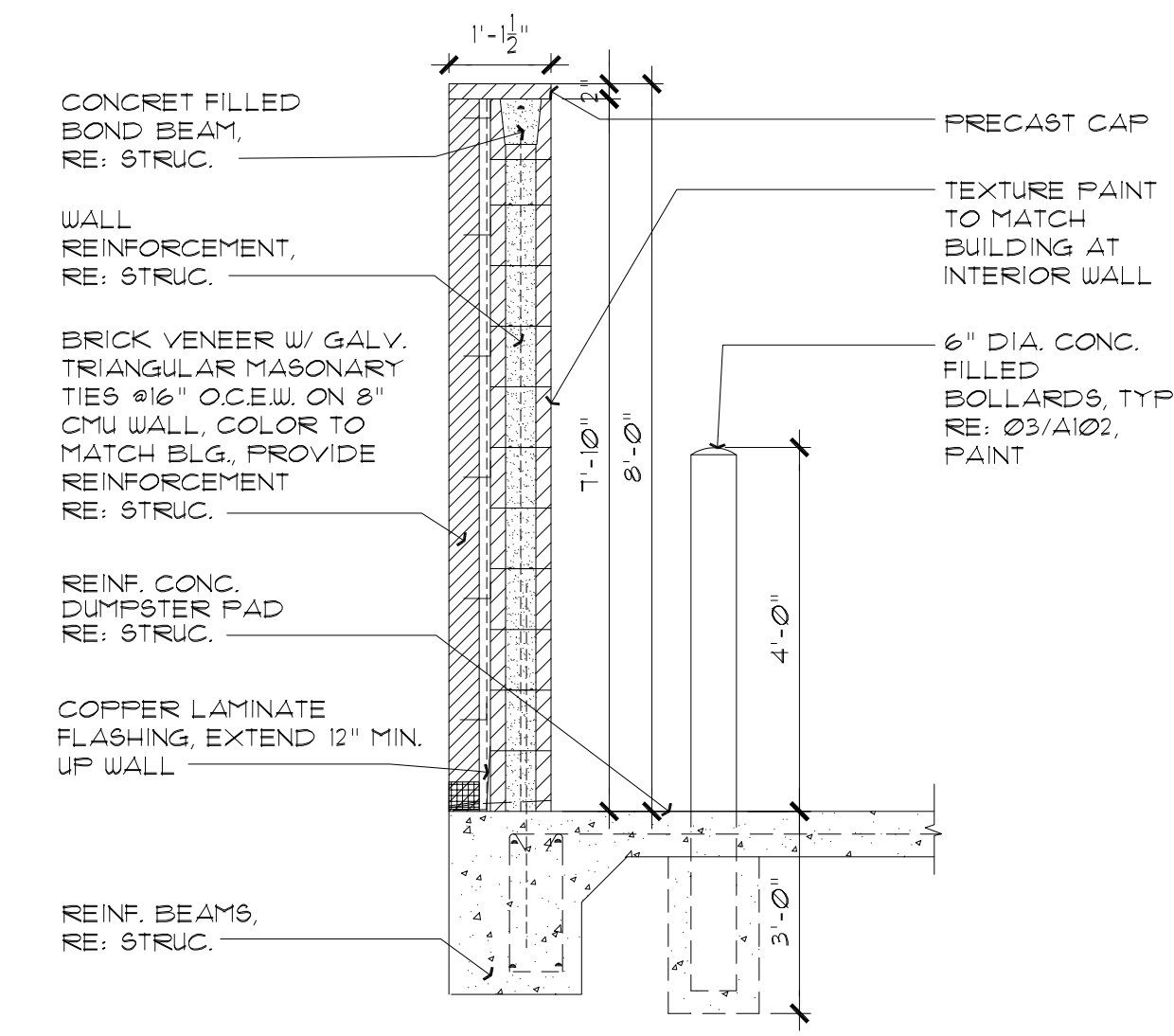
06 DUMPSTER GATE SECTION
SCALE: N.T.S.



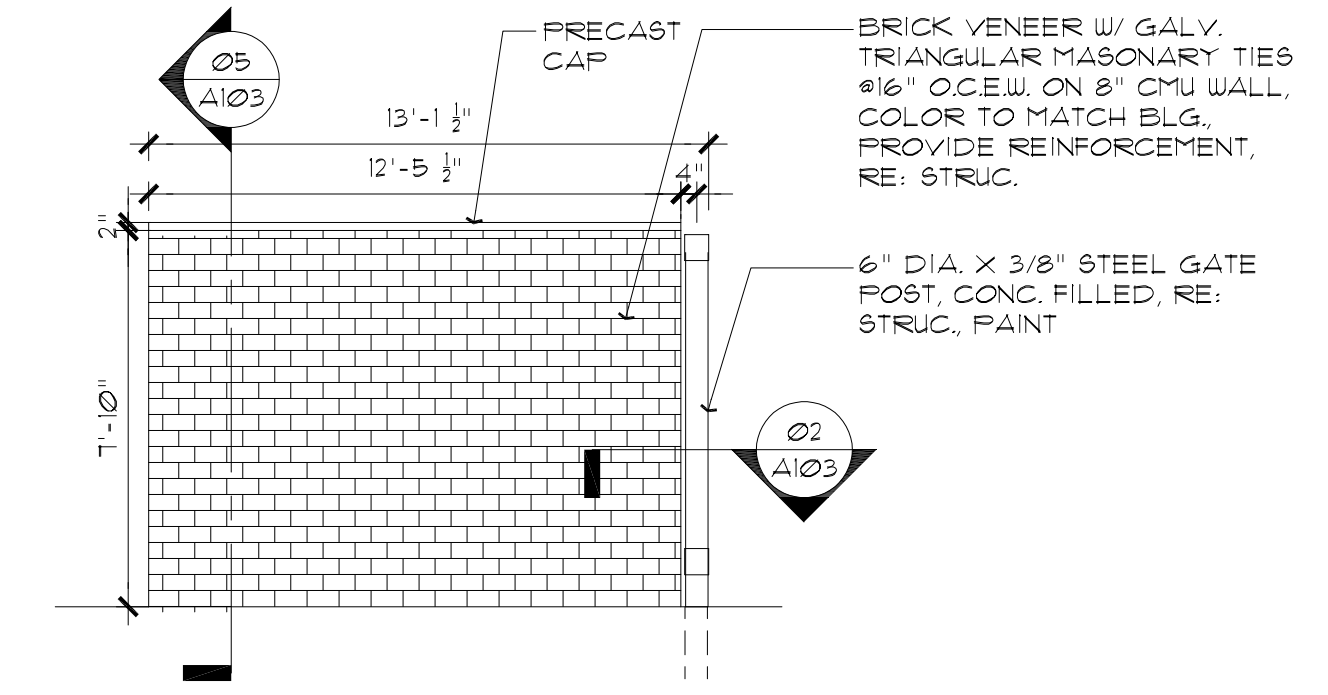
07 DETAIL @ DECORATIVE SCREEN
SCALE: 1/4" = 1'-0"



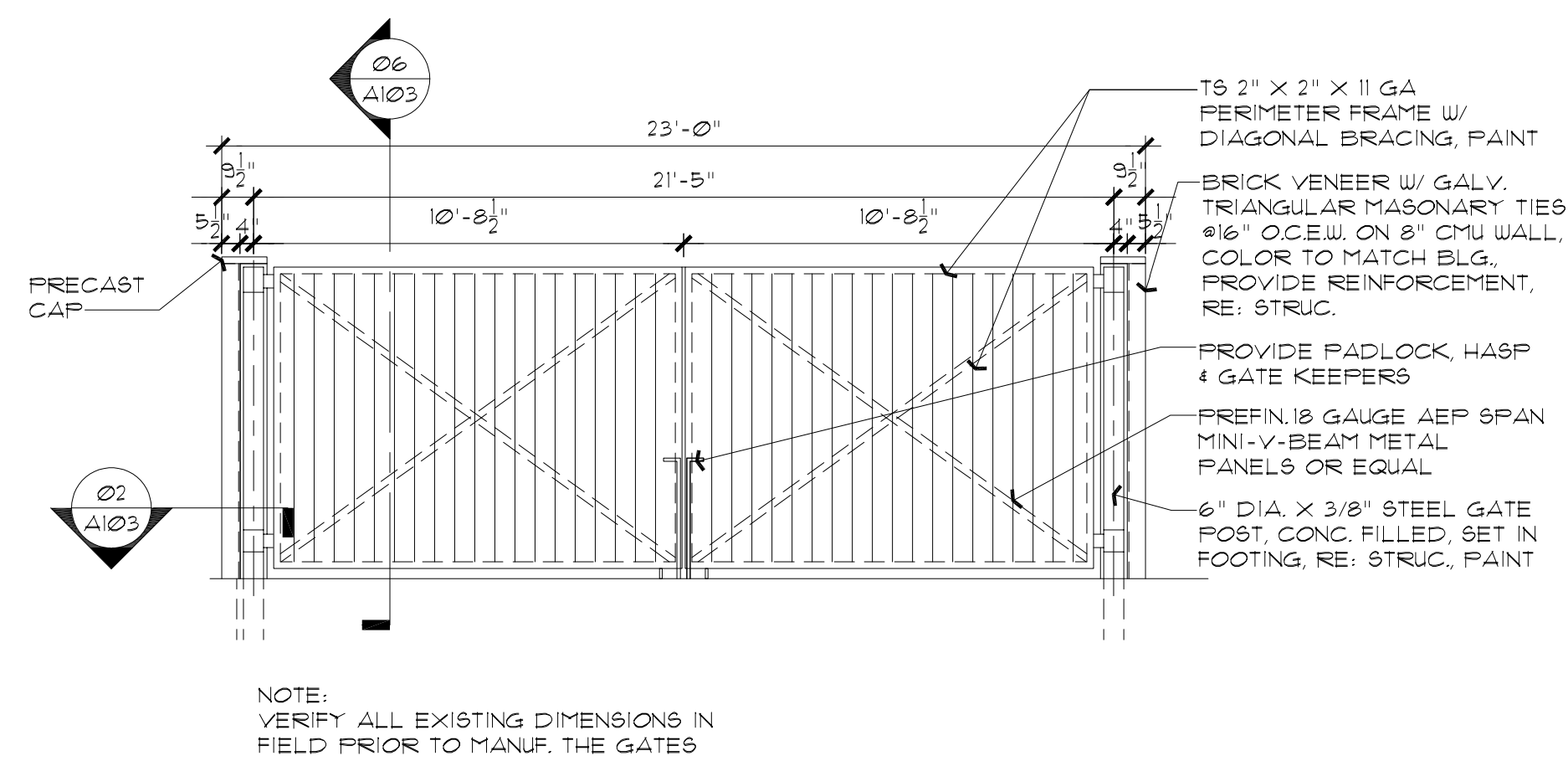
08 PLAN DETAIL @ DECORATIVE SCREEN
SCALE: 1/4" = 1'-0"



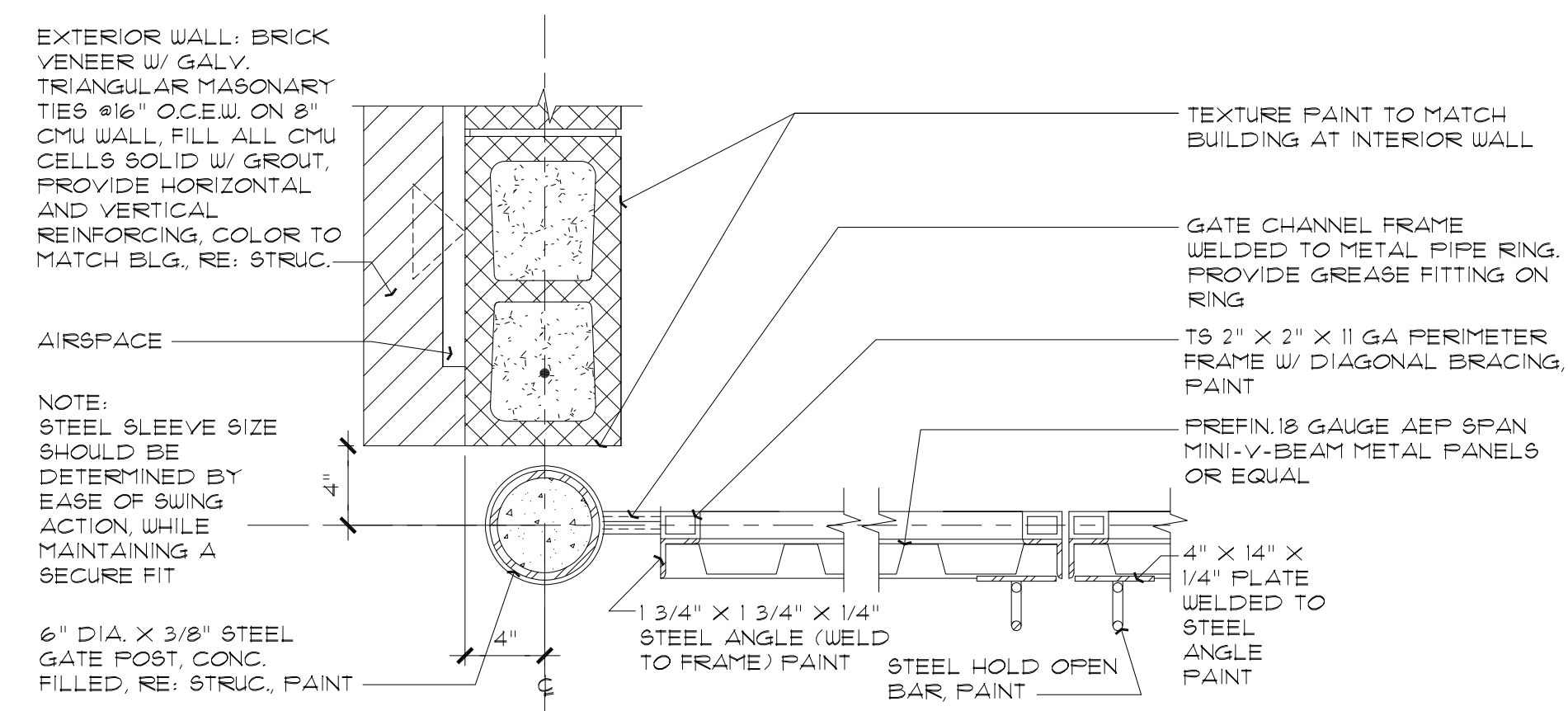
05 DUMPSTER WALL SECTION
SCALE: 1/2" = 1'-0"



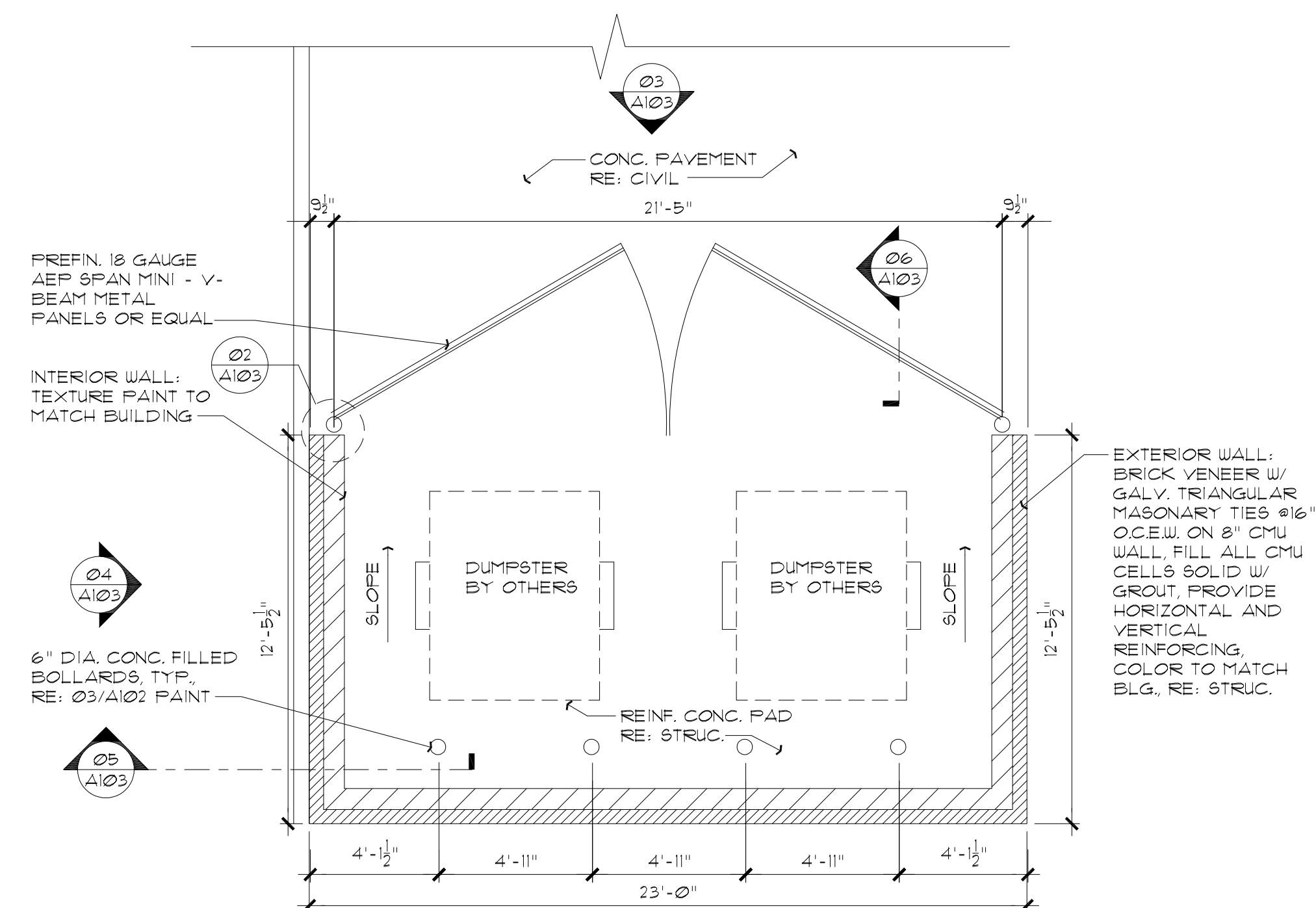
04 SIDE ELEVATION @ PAD DUMPSTER ENCLOSURE
SCALE: 1/4" = 1'-0"



03 FRONT ELEVATION @ PAD DUMPSTER ENCLOSURE
SCALE: 1/4" = 1'-0"



02 DUMPSTER ENCLOSURE DETAIL
SCALE: 1 1/2" = 1'-0"



01 ENLARGE DUMPSTER PAD
SCALE: 1/4" = 1'-0"

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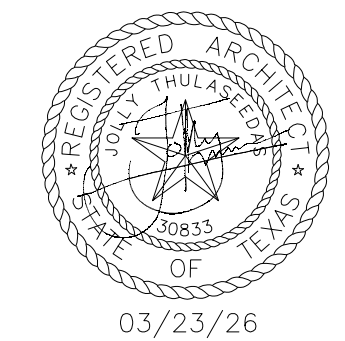
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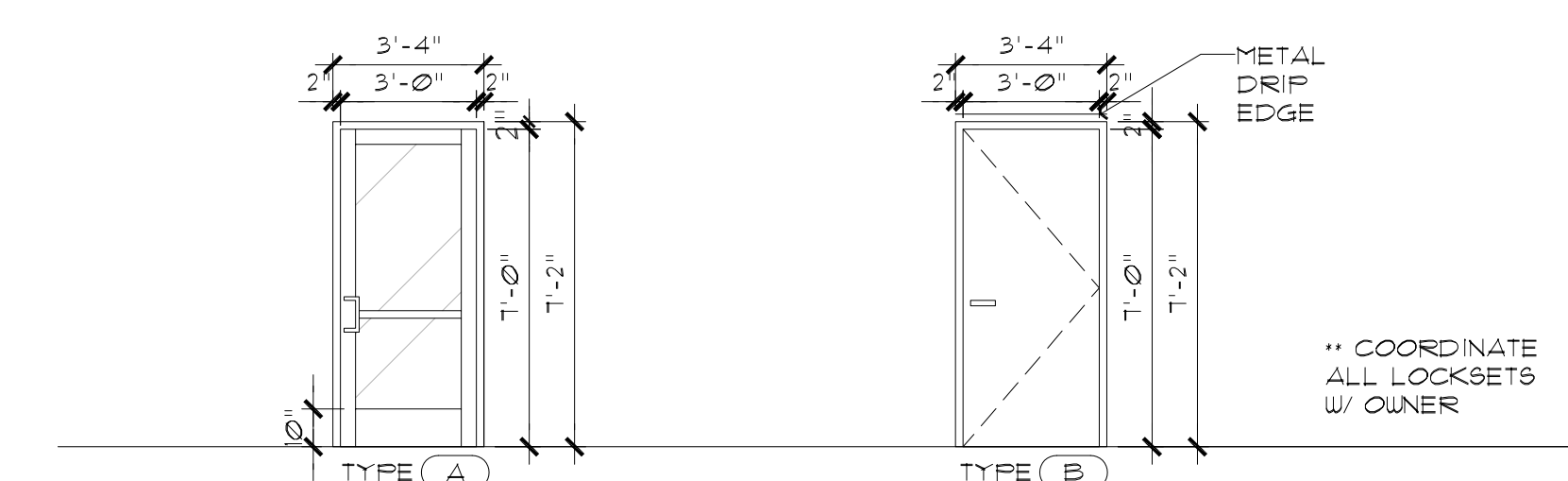
SHEET NAME:

**SITE PLAN
DETAILS**

SHEET NUMBER:

A103

WALL ASSEMBLY LEGEND:	1	2	3
	BRICK VENEER W/ GALV. TRIANGULAR MASONRY TIES @ 16" O.C.W. ON 1" R-6.5 CONT. RIGID INSULATION 'DOW THERMAX XARMOR'. SEAL ALL PENETRATIONS & SEAMS W/ LIQUIDAPLUMBER RE: SPECS. ON 5/8" EXT. 'DENS GLASS GOLD' SHEATHING. SEAL ALL JTS. & FASTENERS. ON 6" METAL STUDS @ 16" O.C. W/ R-19 BATT INSULATION. NOTE: REAR PARAPET ABOVE ROOF. HORIZONTAL PREFIN. MTL. WALL PANELS ON 3/8" EXT. 'DENS GLASS GOLD' SHEATHING. SEAL ALL JTS. & FASTENERS. ON 6" MTL. STUDS @ 16" O.C.	1/2" ONE-COAT 'FACADES XI' STUCCO SYSTEM (MOIST CURE AS SPEC'D) WITH CRACK RESISTANT LAYER ON STRUCTURALATH (ATTACHED TO STRUCTURE) ON GRADE 'D' ASPHALT PAPER ON TYVEK STUCCO WRAP ON 1" CONT. R-6.5 RIGID INSULATION 'DOW THERMAX XARMOR'. SEAL ALL PENETRATIONS & SEAMS WITH LIQUIDAPLUMBER RE: SPECS. ON 5/8" 'DENS GLASS GOLD' SHEATHING. SEAL ALL JTS. & FASTENERS. ON 6" METAL STUDS @ 16" O.C. W/ R-19 BATT INSULATION. NOTE: REAR PARAPET ABOVE ROOF. HORIZONTAL PREFIN. MTL. WALL PANELS ON 3/8" EXT. 'DENS GLASS GOLD' SHEATHING. SEAL ALL JTS. & FASTENERS. ON 6" MTL. STUDS @ 16" O.C.	WALL RETURN ABOVE ROOF. BRICK VENEER W/ GALV. TRIANGULAR MASONRY TIES @ 16" O.C.W. ON 5/8" EXT. 'DENS GLASS GOLD' SHEATHING. SEAL ALL JTS. & FASTENERS. ON 6" METAL STUDS @ 16" O.C. REAR. HORIZONTAL PREFIN. MTL. CORRUGATED WALL PANELS ON 5/8" EXT. 'DENS GLASS GOLD' SHEATHING. SEAL ALL JTS. & FASTENERS. ON 6" MTL. STUDS @ 16" O.C.

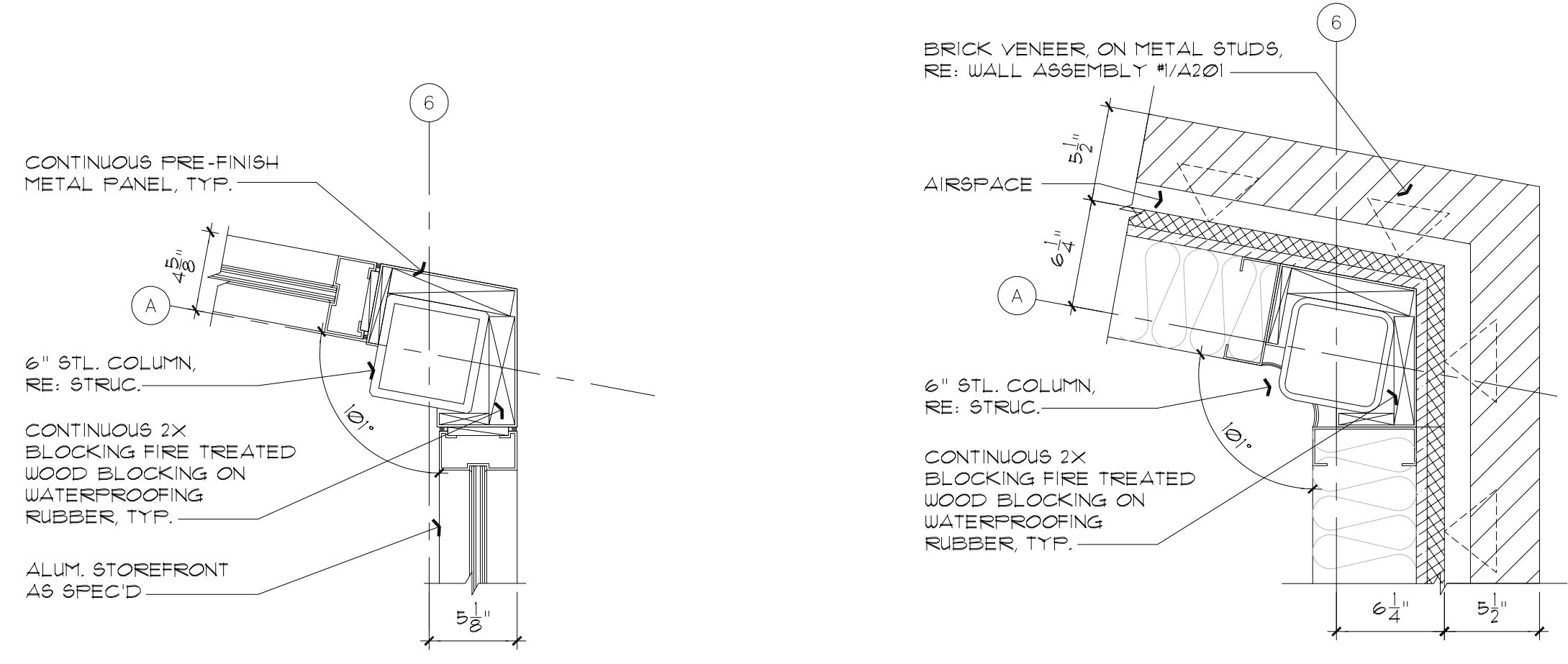


- DOOR TYPES**
SCALE: 1/4" = 1'-0"
- TYPE (A)**
STOREFRONT DOOR DARK BRONZE ANODIZED ALUMINUM FRAME W/ 1/4" CLR. TEMPERED GLAZING (MAXIMUM SHGC OF 0.31, MAXIMUM U-FACTOR OF 0.11) MEDIUM STILE. MAXIMUM AIR LEAKAGE RATE 1.00 FOR COMMERCIAL GLAZED SWINGING ENTRANCE DOORS. TEST PROCEDURE NFRC 400 OR ASTM E283 AT 151 P&F (15 PA).
PROVIDE:
-3 PIVOTS
-2 SURFACE CLOSER
-1 4" ALUMINUM THRESHOLD
-1 DOOR SWEEP
-1 WEATHERSTRIPPING
-1 KEY CYLINDER (EXTERIOR)
-1 THUMB TURN CYLINDER (INT.)
-1 PUSH/PULL SET
- TYPE (B)**
HEAVY-DUTY HOLLOW METAL DOOR (MAXIMUM U-FACTOR 0.31) W/ HOLLOW METAL FRAME. MAXIMUM AIR LEAKAGE RATE 0.20 FOR SWINGING DOORS. TEST PROCEDURE ΔAMA/UMDA CSA 10/1.5/A440 OR NFRC 400.
PROVIDE:
-3 HINGES W/ NON-REMOVABLE PINS
-1 SURFACE CLOSER
-1 4" ALUMINUM THRESHOLD
-1 DOOR SWEEP
-1 WEATHERSTRIPPING
-1 40" METAL DRIP EDGE
-1 LOCK SET W/ PANIC HARDWARE
-1 DOOR SILENCERS
- ** COORDINATE ALL LOCKSETS W/ OWNER

- GENERAL NOTES:**
- ALL EXTERIOR DIMENSIONS ARE FROM FACE OF STUCCO, STONE VENEER OR COLUMN UNLESS OTHERWISE NOTED.
 - ALL SEALANT TO BE SILICONE
 - SEALANT COLOR TO MATCH WALL COLOR. DO NOT PAINT.
 - PROVIDE CONTINUOUS SEALANT AT ALL DISSIMILAR MATERIALS, TYPICAL.
 - CONTRACTOR TO SUPPLY ALL FIRE EXTINGUISHERS, EMERGENCY SIGNAGE, AND KNOX BOX TO SATISFY LOCAL BUILDING CODES.
 - ALL BLOCKING/PLYWOOD TO BE F.R.T.

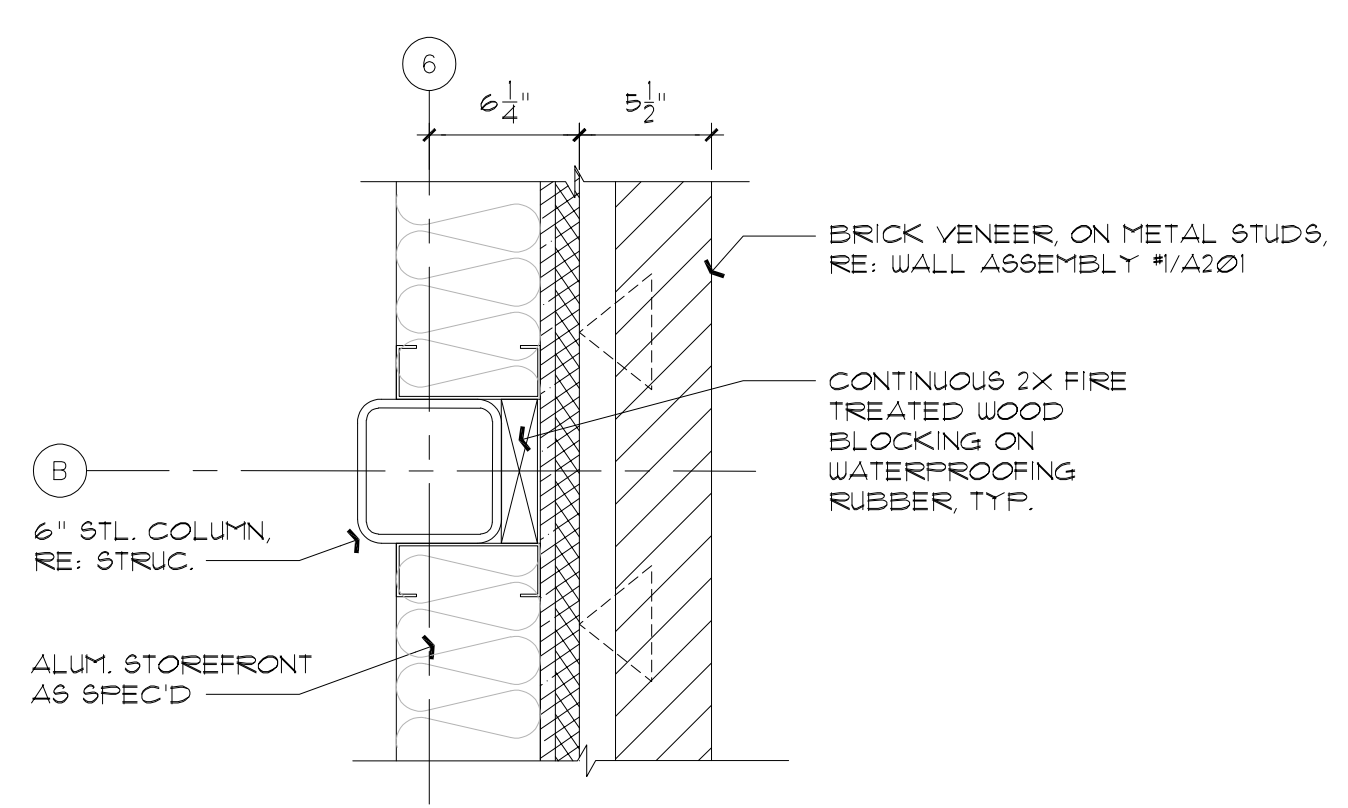
ELECTRICAL LEGEND:

○	RECESSED LIGHT FIXTURE @ SOFFIT, RE: ELEC.
⊗	DECORATIVE SCONCE LIGHT FIXTURE, RE: ELEC. TYP.
⊞	DECORATIVE WALL PACK, RE: ELEC.
⊞	LINEAR LIGHT FIXTURE HIGH AT MURAL, RE: ELEC.

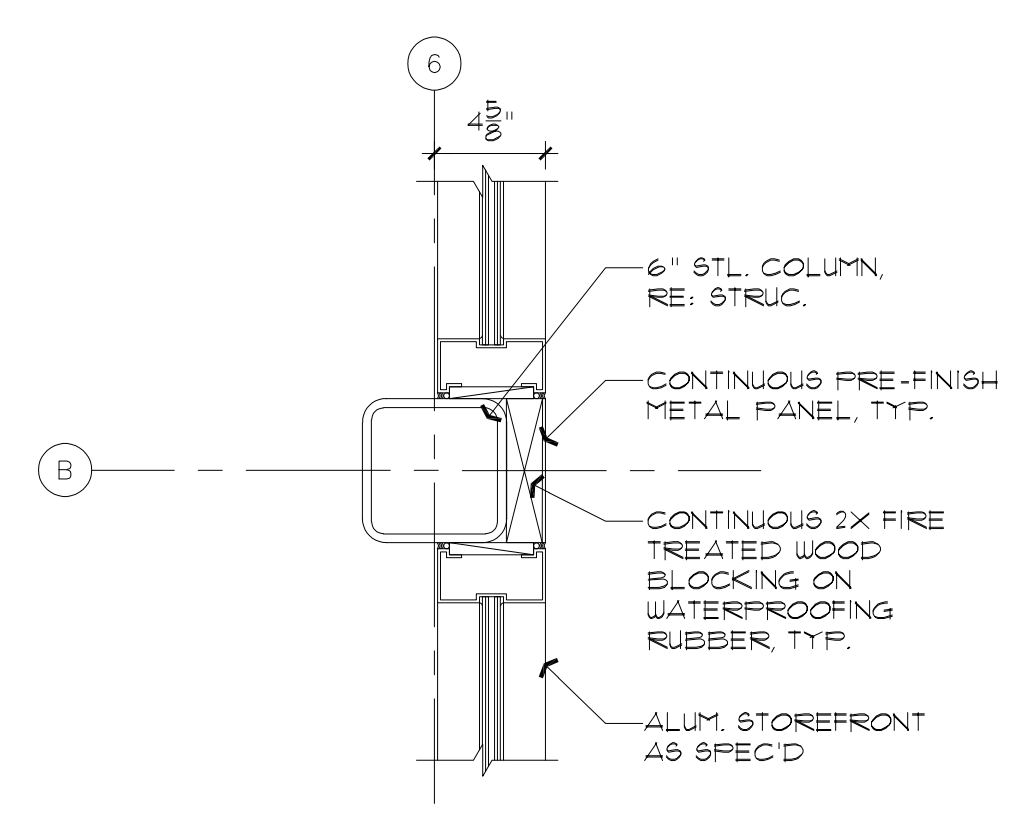


04 PLAN DETAIL AT COLUMN - LOW
SCALE: 1 1/2" = 1'-0"

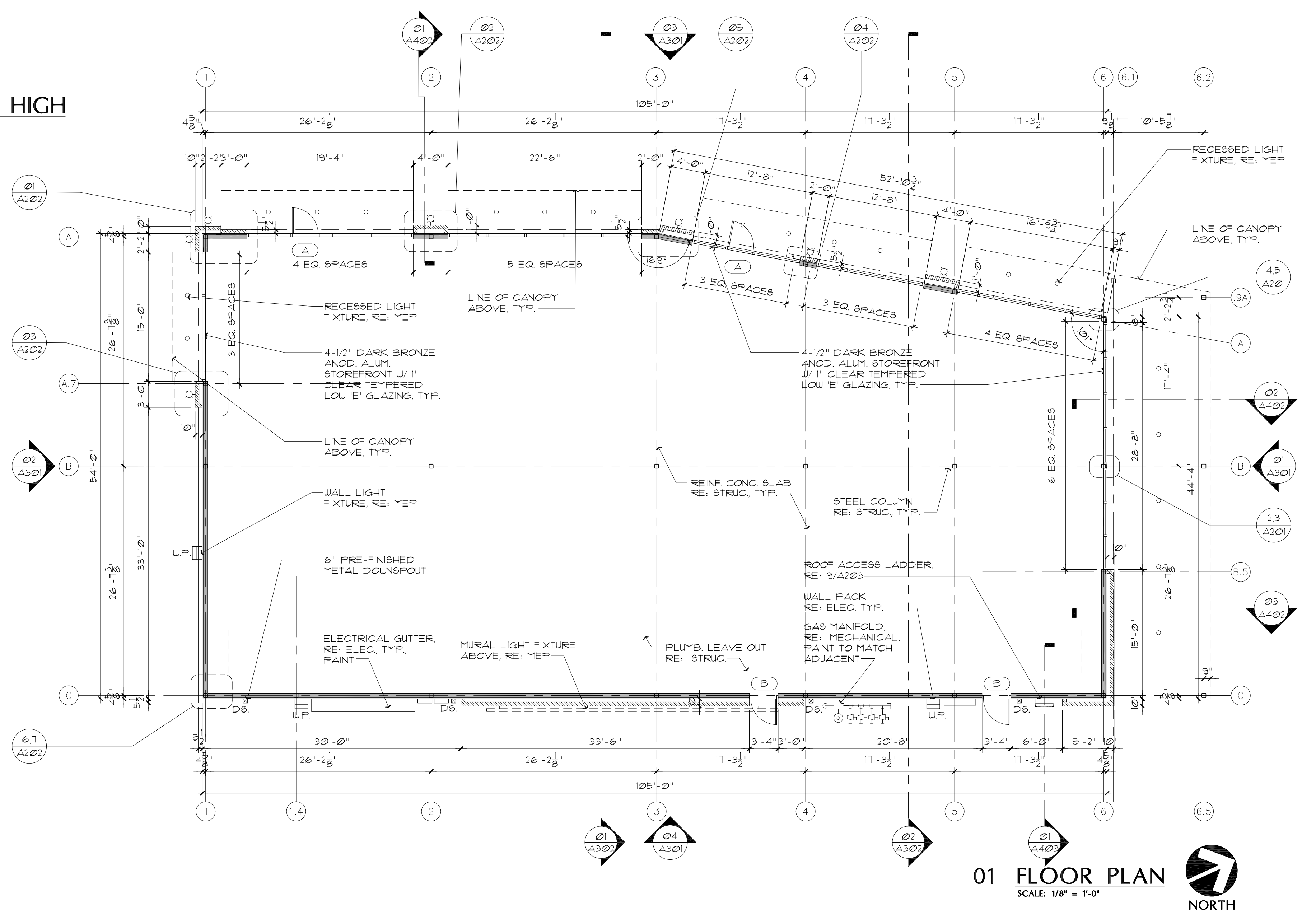
05 PLAN DETAIL AT COLUMN - HIGH
SCALE: 1 1/2" = 1'-0"



03 PLAN DETAIL AT COLUMN - HIGH
SCALE: 1 1/2" = 1'-0"



02 PLAN DETAIL AT COLUMN - LOW
SCALE: 1 1/2" = 1'-0"



01 FLOOR PLAN
SCALE: 1/8" = 1'-0"



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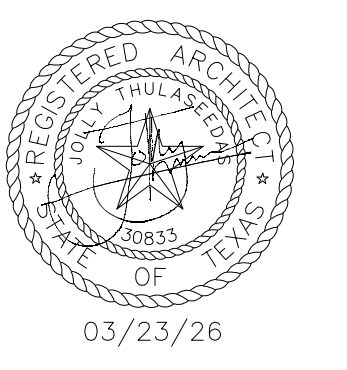
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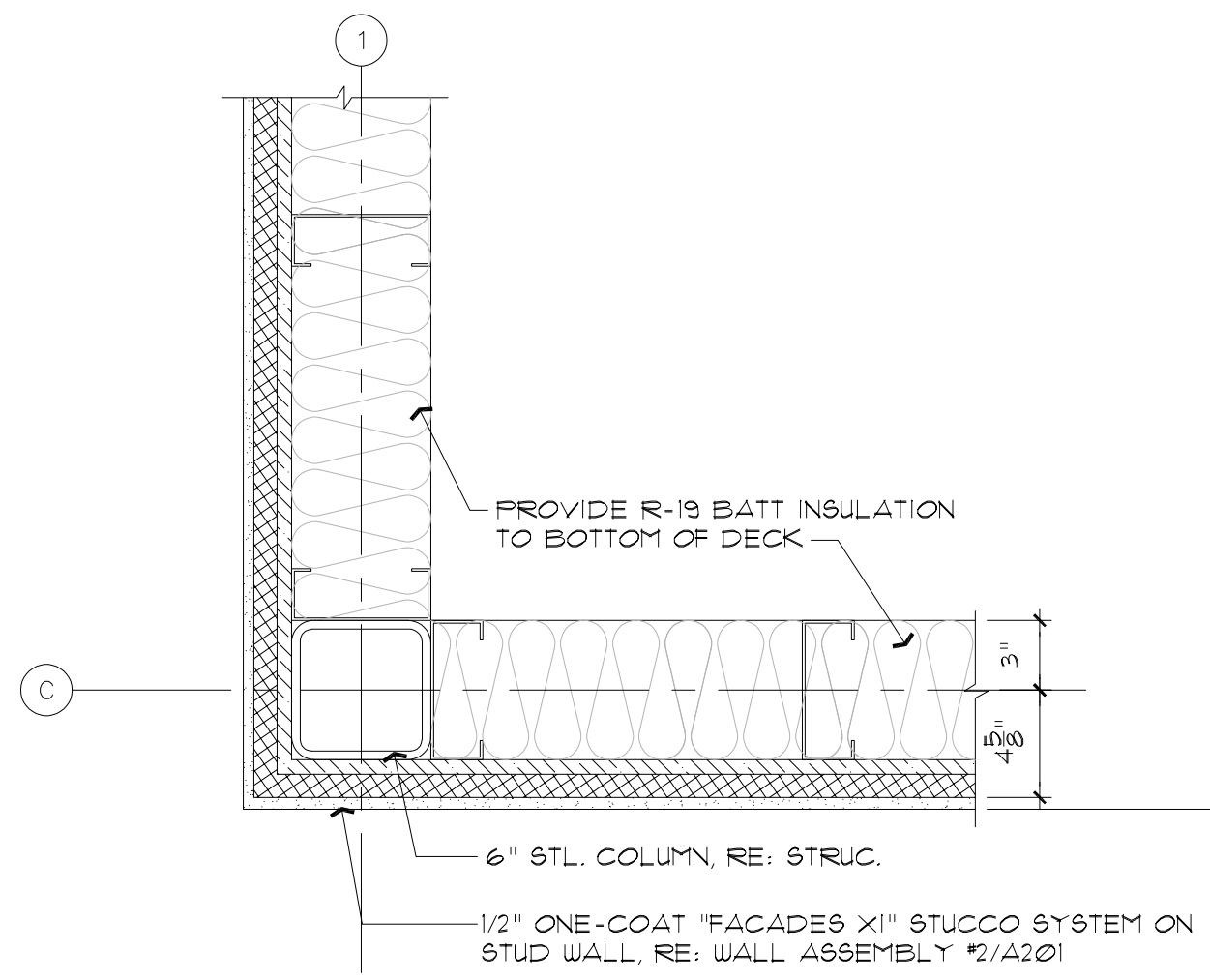


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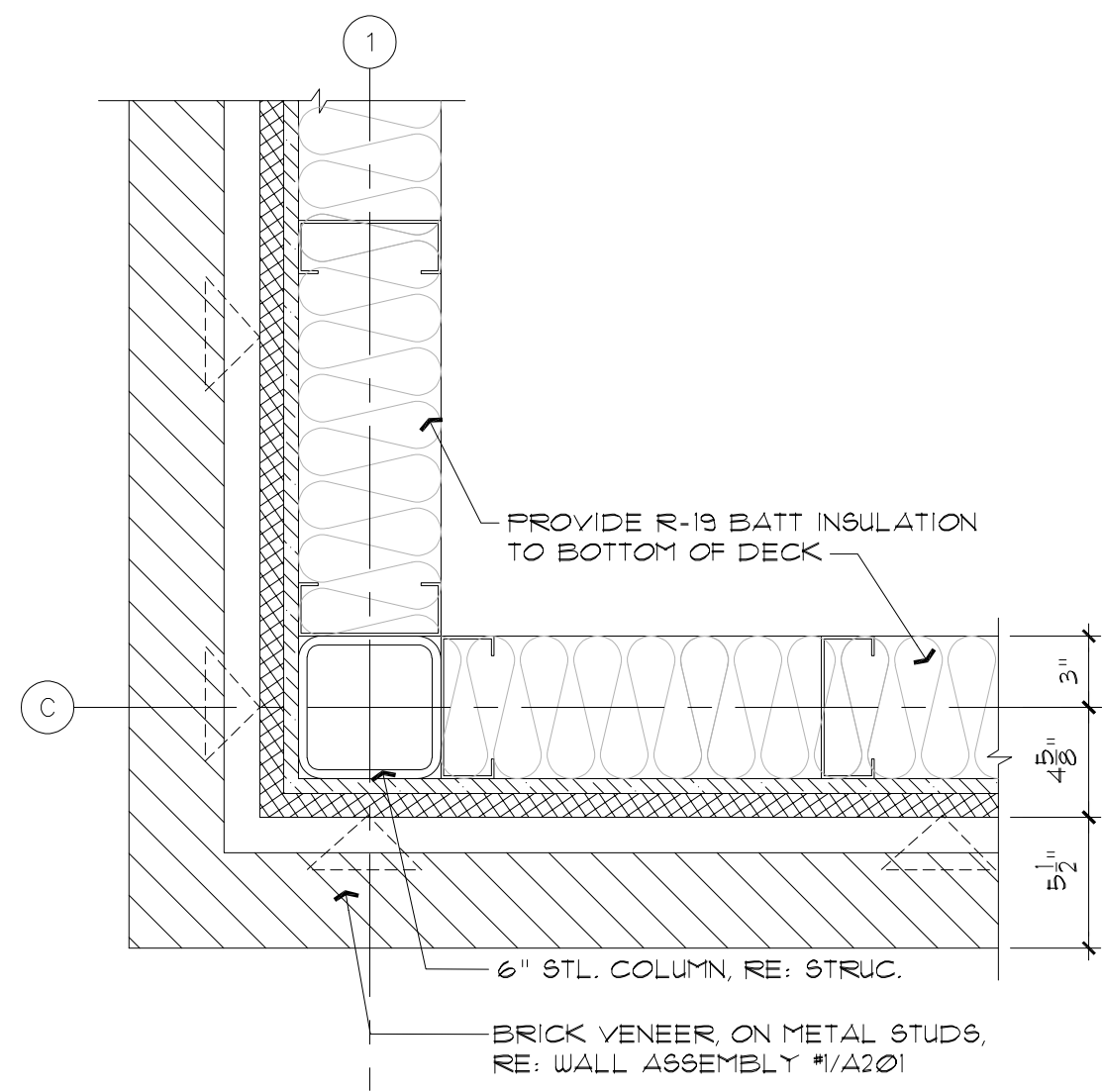
Drawn / Designed By: ARNA
Reviewed By: MDN
Project Number: KP-J-TX-25-0018

**SHEET NAME:
FLOOR PLAN & ENLARGED
PLAN DETAILS**

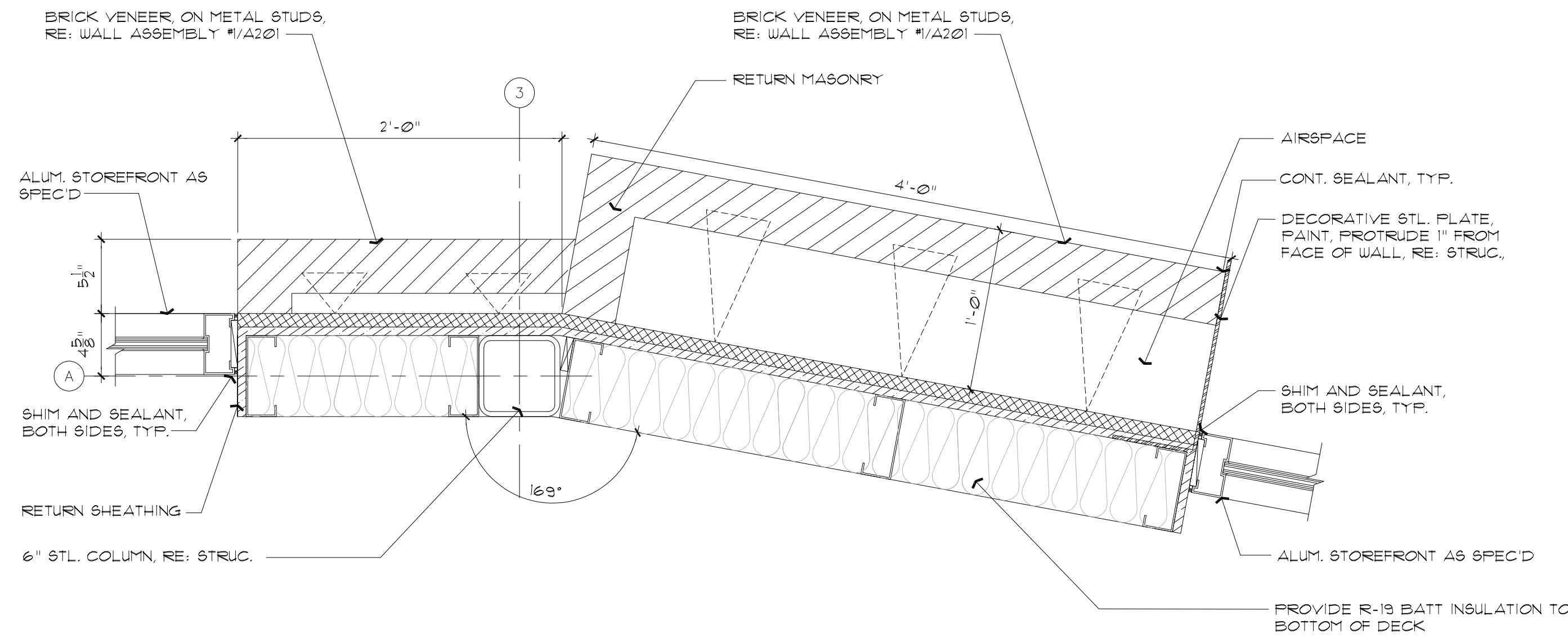
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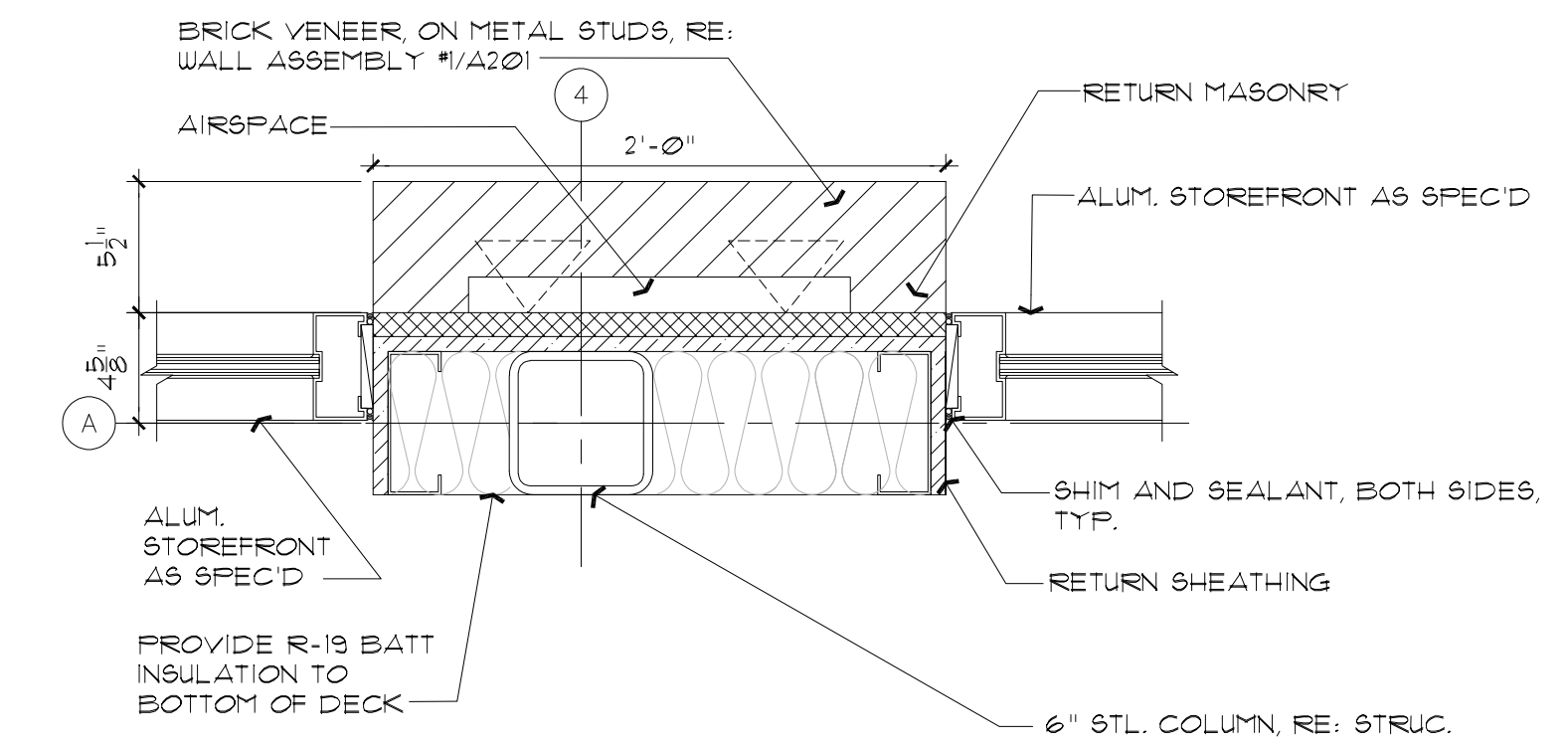
07 PLAN DETAIL AT WALL CORNER - HIGH
SCALE: 1 1/2" = 1'-0"



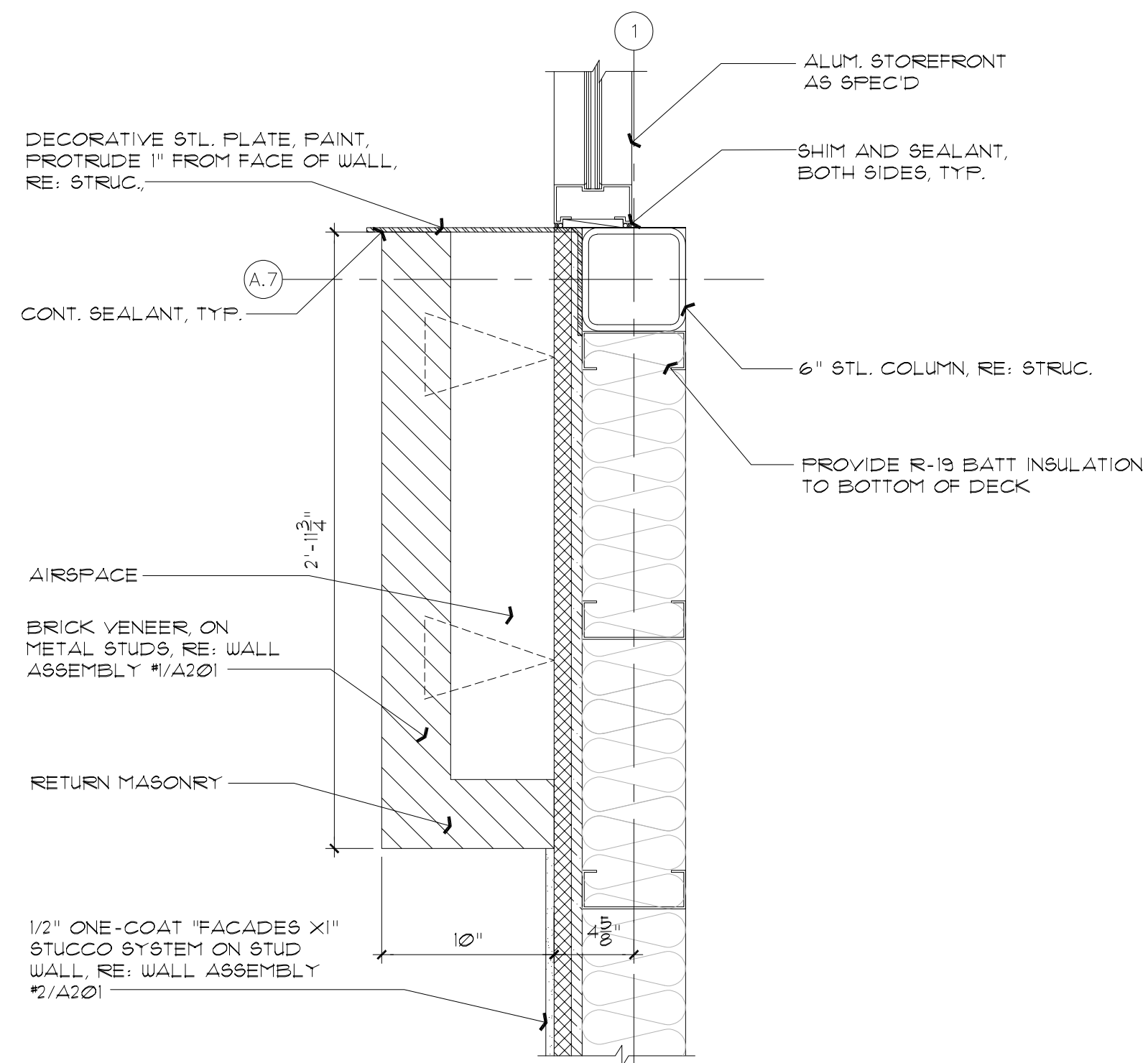
06 PLAN DETAIL AT WALL CORNER - LOW
SCALE: 1 1/2" = 1'-0"



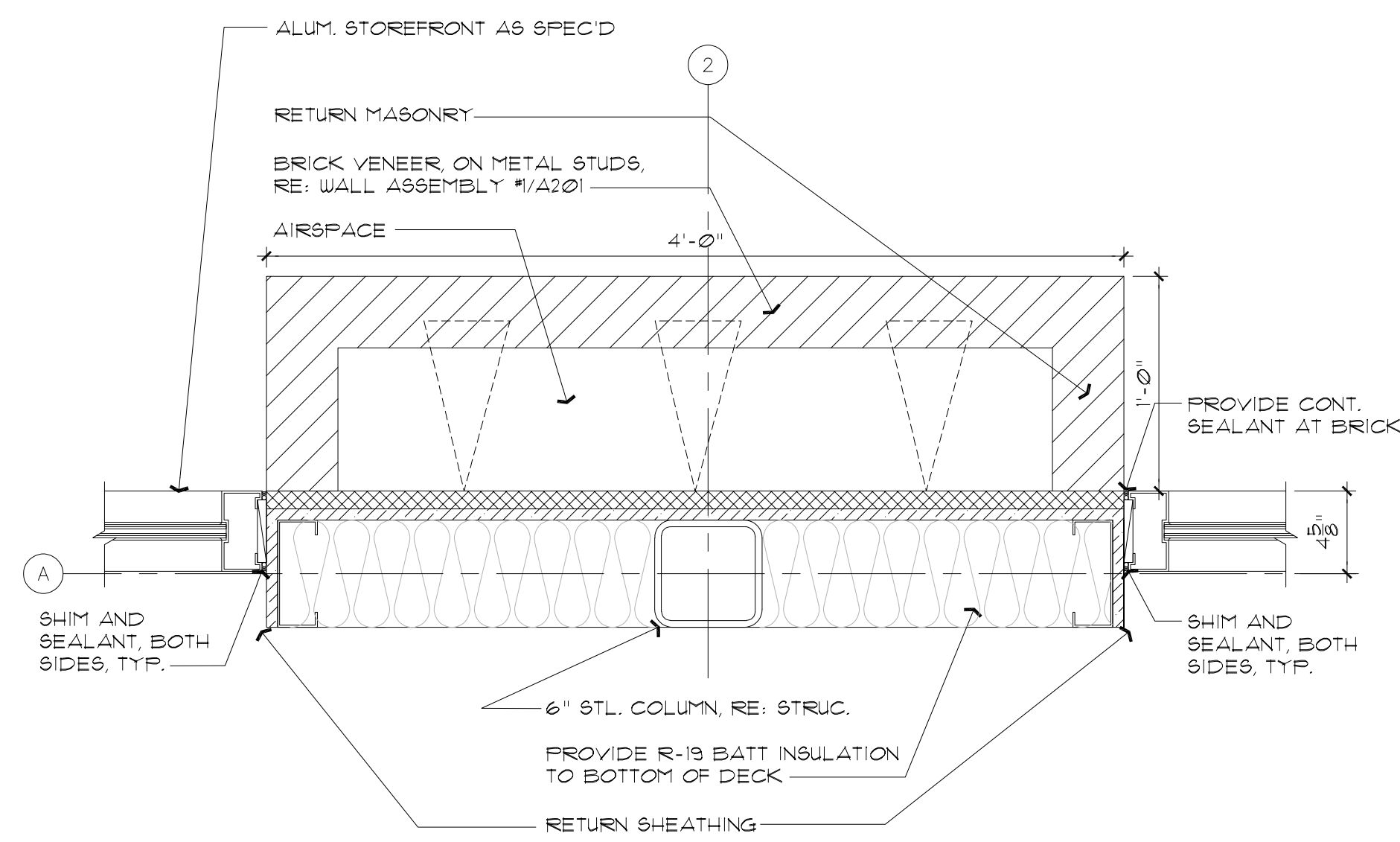
05 PLAN DETAIL AT BUILDING ANGLE
SCALE: 1 1/2" = 1'-0"



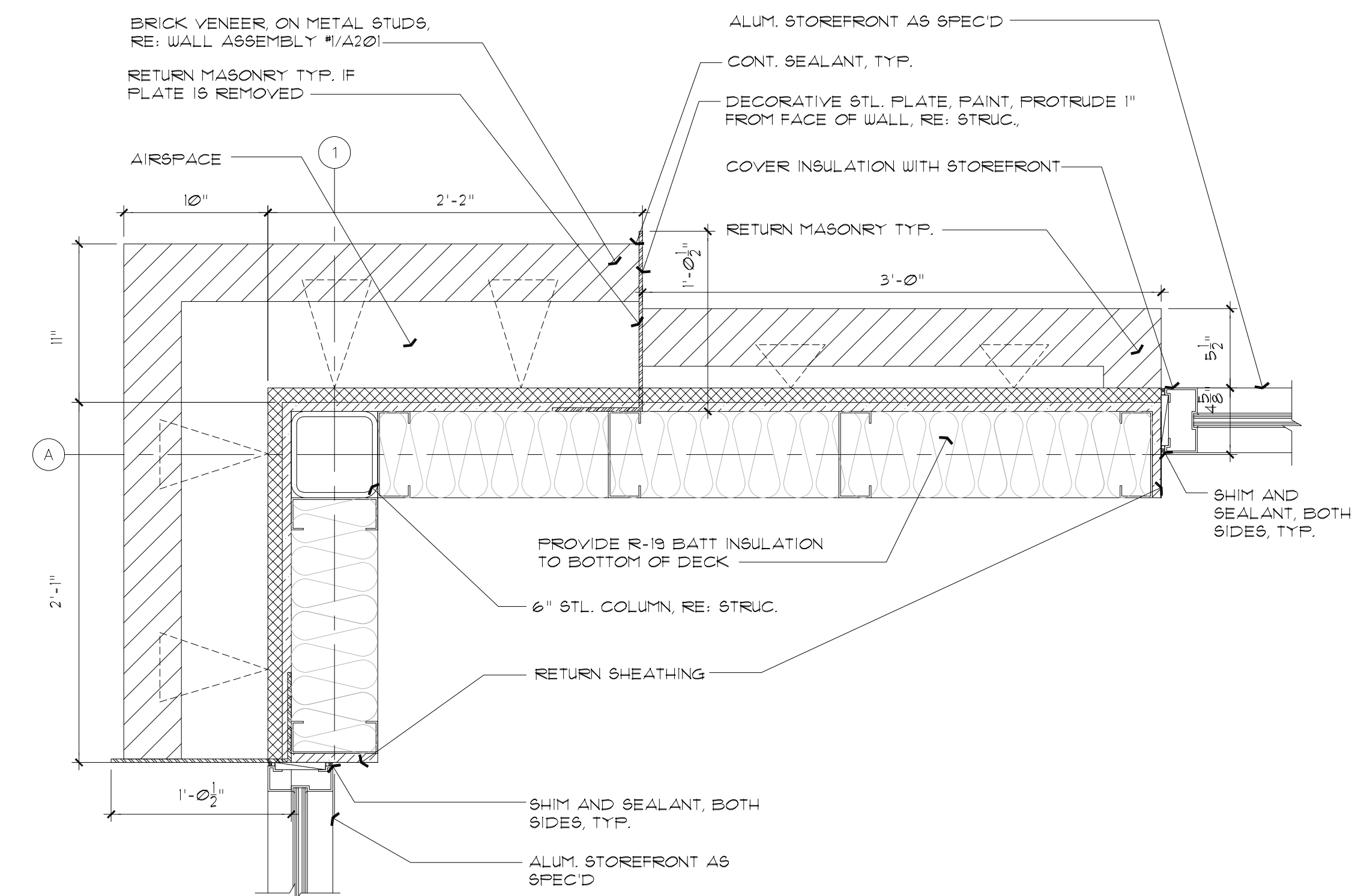
04 PLAN DETAIL AT BRICK PILASTER
SCALE: 1 1/2" = 1'-0"



03 PLAN DETAIL AT SIDE PILASTER
SCALE: 1 1/2" = 1'-0"



02 PLAN DETAIL AT WALL RETURN
SCALE: 1 1/2" = 1'-0"



01 PLAN DETAIL AT CORNER
SCALE: 1 1/2" = 1'-0"

SEAL

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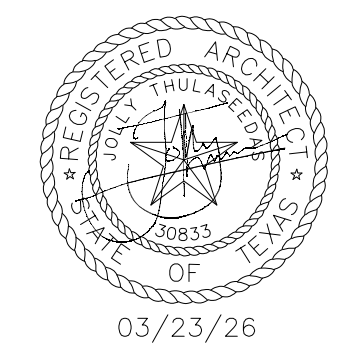
CONSULTANT

**THE SHOPS AT
LAVACA**

418 FLORIDA STREET,
BEXAR COUNTY, TX

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REV	REV DESCRIPTION	DATE
-	PERMIT SET	2026-03-24



DESIGN PROFESSIONAL SEAL

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Drawn / Designed By: ARNA
Reviewed By: MDN
Project Number: KP-JX-25-0018

SHEET NAME:

**ENLARGED
PLAN DETAILS**

SHEET NUMBER:

A202

FINISH SCHEDULE

ALUM-1	ALUMINUM STOREFRONT SYSTEM - DARK BRONZE
GL-1	1" CLEAR TEMPERED DOUBLE GLAZING - MAXIMUM SHGC OF 0.25 WITH A PROJECTOR FACTOR (PF (Ø2) - SOLARBANØØ (2) CLEAR-CLEAR OR EQ. MAXIMUM AIR LEAKAGE RATE 0.6 FOR STOREFRONT GLAZING, TEST PROCEDURE NFRC 400 OR ASTM E283 AT 151 PSF (15 PA)
MC-1	PREFIN. METAL COPING - COLOR DARK GRAY
P-1	STUCCO PAINT - SW 6005 FOLKSTONE
P-2	MURAL BY LOCAL ARTIST
BCK-1	BRICK VENEER, RED - YANKEE HILL SALMON SMOOTH
BCK-2	BRICK VENEER, ENDICOTT GRAY BLEND SMOOTH
BCK-3	BRICK VENEER, BLACK SOLDIER STACK - YANKEE HILL CAPITAL IRONSPOT SMOOTH
STL-1	EXPOSED STEEL PAINT - TRICORN BLACK
SFT-1	VICWEST BELLARA PLANK STEEL SIDING, WARM ROSEWOOD

NOTE: PRELIMINARY COLOR SELECTION-REQUEST FINAL COLORS PRIOR TO FIELD MOCK-UP VERIFY WITH OWNER, PROVIDE SCALED MOCK-UP

- NOTE:**
1. ALL PAINT/ FINISH/ MATERIAL COLORS SUBJECT TO FIELD MOCK-UP APPROVAL.
 2. ALL PAINT TO BE TEXTURED PAINT.
 3. PAINT ALL BACK OF PARAPETS.
 4. GRIND ALL WELDS SMOOTH, PRIME & PAINT
 5. ELECTRIC GUTTER PAINT TO MATCH ADJACENT WALL, RE: ELEC.
 6. GAS MANIFOLD PAINT TO MATCH ADJACENT WALL, RE: PLUMB.
 7. ALL MASONRY TIES TO BE GALVANIZED TRIANGULAR WALL TIES
 8. EXPOSED BOLT: HEAD ONLY-NO HEX NUT
 9. ALL BLOCKING/ FLYWOOD TO BE FRG.
 10. MITER JOINTS AT ALL CANOPY CORNERS
 11. ALTERNATES TO BE INSTALLED BY MANUFACTURER'S INSTRUCTIONS
 12. NO ASBESTOS USE

EXTERIOR "ARCHITECTURAL FINISH" STRUCTURAL STEEL PAINT SPECIFICATION

EXPOSED STRUCTURAL STEEL MEMBERS SHALL BE CONSTRUCTED AS ARCHITECTURALLY EXPOSED STRUCTURAL STEEL AND SHALL COMPLY WITH SECTION 10, AISC 303-05, CATEGORY 3

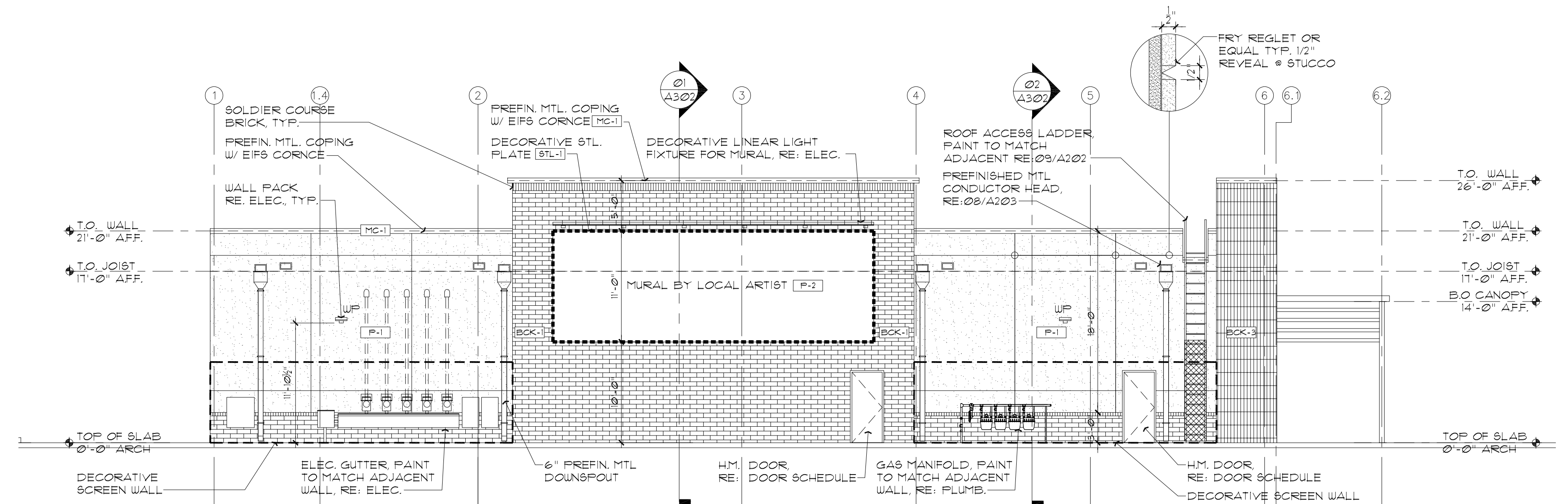
- PREPARATION AND APPLICATION**
- CLEAN SUBSTRATES OF SUBSTANCES THAT COULD IMPAIR BOND OF PAINTS INCLUDING DIRT, OIL, GREASE, DUST, MILL SCALE, RUST, AND INCOMPATIBLE PAINTS AND ENCAPSULANTS.
 - REMOVE INCOMPATIBLE PRIMERS AND REPRIME SUBSTRATE WITH COMPATIBLE PRIMERS AS REQUIRED TO PRODUCE PAINT SYSTEMS INDICATED.
 - APPLY PAINTS TO PRODUCE SURFACE FILMS WITHOUT CLOUDINESS, SPOTTING, HOLIDAYS, LAPS, BRUSH MARKS, ROLLER TRACKING, RUNS, SAGS, ROFINESSE, OR OTHER SURFACE IMPERFECTIONS, CUT IN SHARP LINES AND COLOR BREAKS.
 - PROTECT WORK OF OTHER TRADES AGAINST DAMAGE FROM PAINT APPLICATION, CORRECT DAMAGE TO WORK OF OTHER TRADES BY CLEANING, REPAIRING, REPLACING, AND REFINISHING, AS APPROVED BY ARCHITECT AND LEAVE IN AN UNDAMAGED CONDITION.
 - AT COMPLETION OF CONSTRUCTION ACTIVITIES OF OTHER TRADES, TOUCH UP AND RESTORE DAMAGED OR DEFACED PAINTED SURFACES.

- BASE BID EXPECTATIONS**
EXPOSED STEEL FRAMING AND WELDED CONNECTIONS TO BE PAINTED SHALL GENERALLY COMPLY WITH AESS CATEGORY 3 (HIGH PROFILE CONDITIONS THAT ARE OUT OF REACH TO TOUCH AND CAN BE VIEWED IN CLOSE PROXIMITY WITHIN 20 FEET) FOR THE PURPOSE OF BASE BID, WE DEFINE THE FOLLOWING EXPECTATIONS:
1. USE SPECIAL CARE IN PROCESSING THESE MEMBERS
 2. WELDS SHALL BE CONTOURED AND BLENDED
 3. WELDS SHALL BE GRIND SMOOTH
 4. SURFACE DEFECTS ELIMINATED
 5. MILL MARKS REMOVED
 6. ROLLED MEMBERS MINIMIZE DISTORTION
 7. FIELD WELDING AIDS REMOVED
 1. (GC MAY PROVIDE A DEDUCT ALTERNATE WITH DETAILED EXPLANATION OF WHAT THE OWNER CAN EXPECT IF THESE REASONABLE STEEL CONSTRUCTION EXPECTATIONS ARE NOT PROVIDED.)

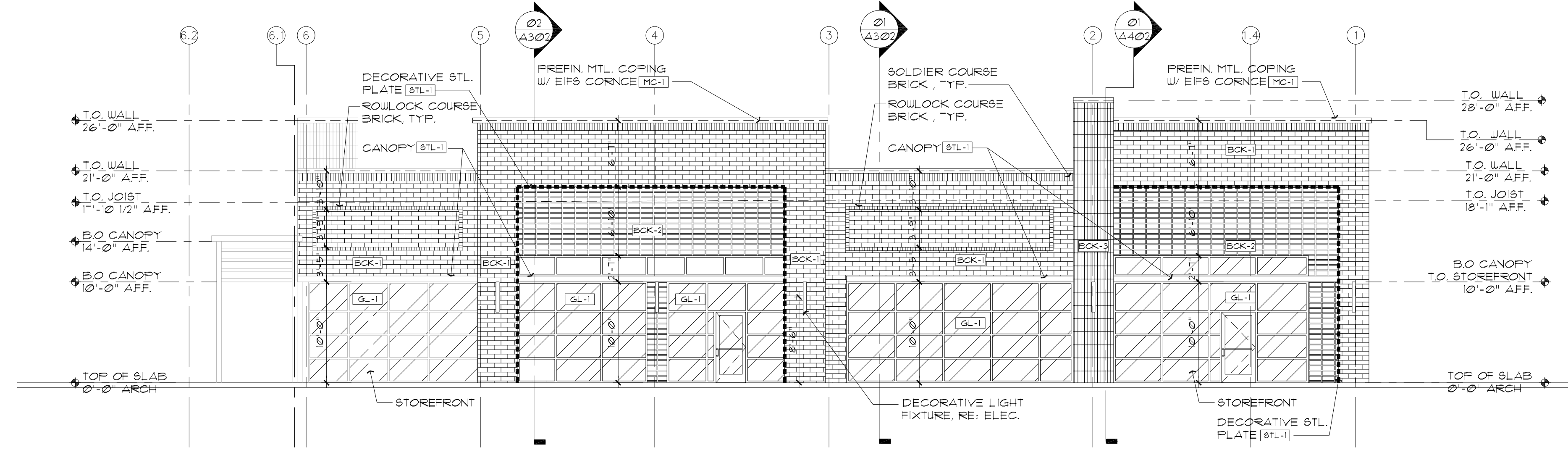
PAINT OPTIONS

PITTSBURGH PAINTS CO. SYSTEM
 FULL PRIME COAT: PITTSBURGH PAINTS AMERLOCK 600 HIGH SOLIDS EPOXY COATING
 INTERMEDIATE COAT: PITTSBURGH PAINTS PITHANE ULTRA GLOSS URETHANE 95-812
 FINISH COAT: PITTSBURGH PAINTS PITHANE ULTRA GLOSS URETHANE, 95-812

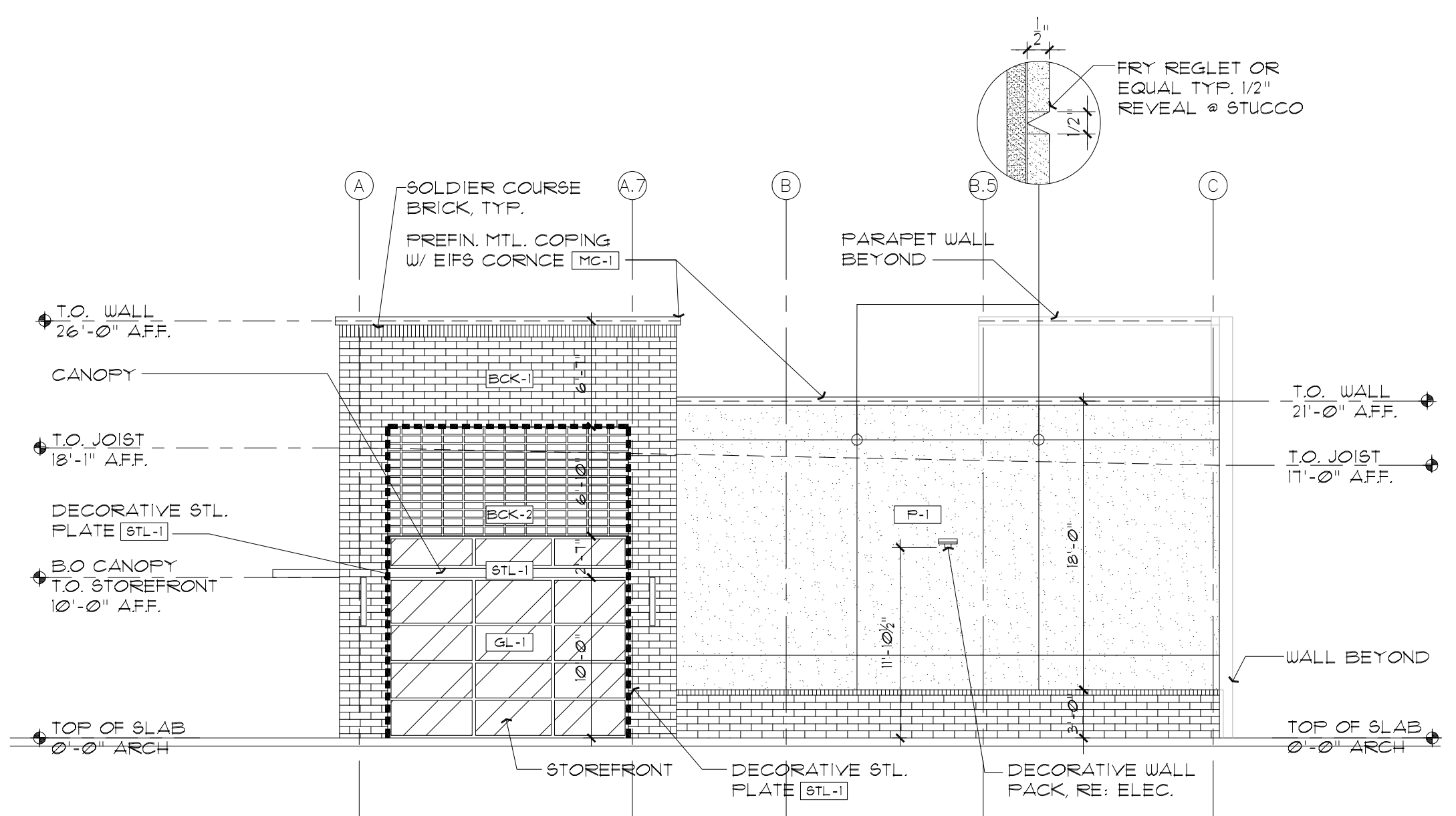
SHERWIN WILLIAMS PAINT SYSTEM
 FULL PRIME COAT: MACROPOXY 646-100 FAST CURE EPOXY
 INTERMEDIATE COAT: ACROLON 218 H5 ACRYLIC POLYURETHANE
 FINISH COAT: ACROLON 218 H5 ACRYLIC POLYURETHANE



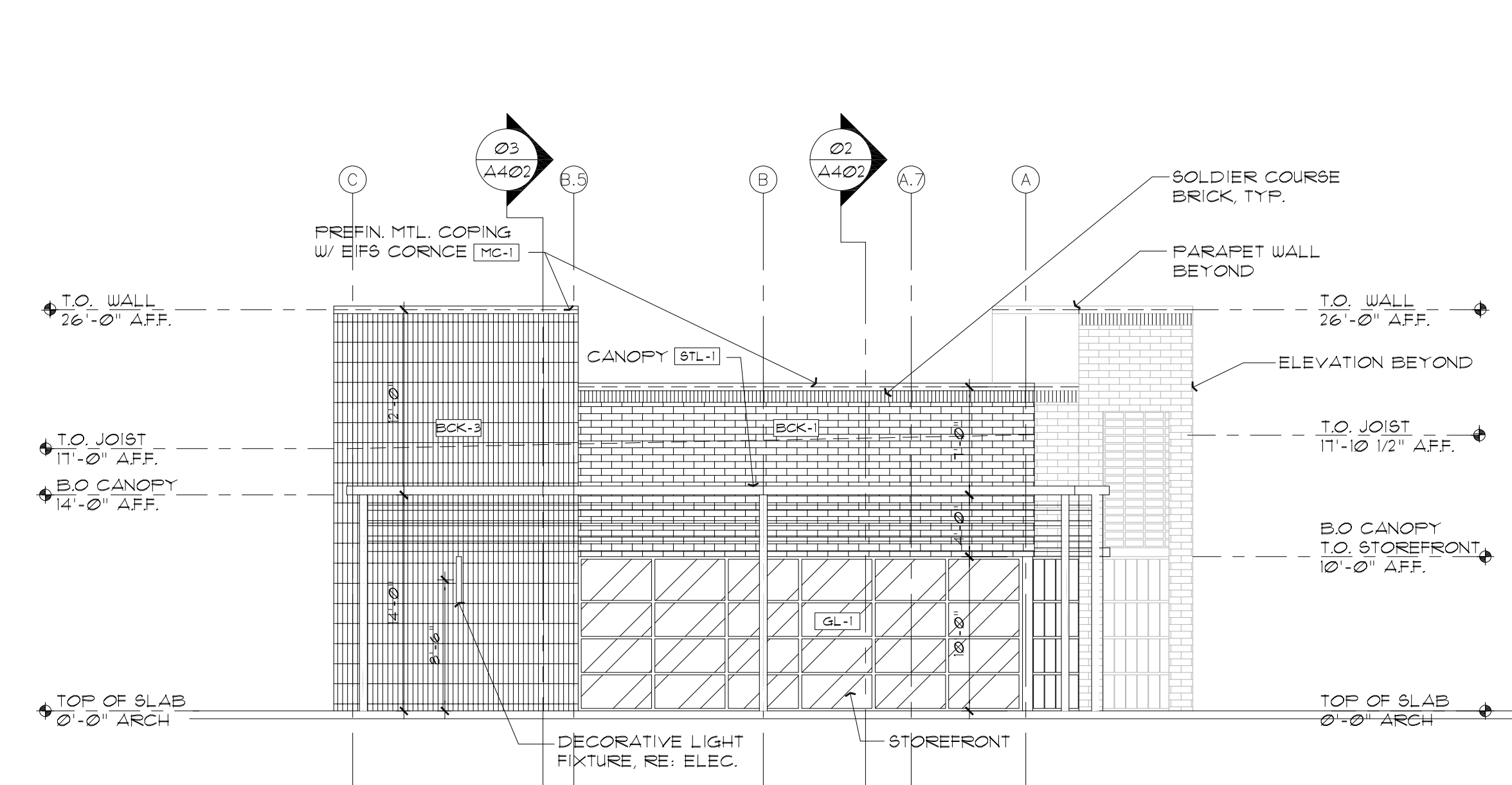
04 EAST ELEVATION
SCALE: 1/8" = 1'-0"



03 WEST ELEVATION
SCALE: 1/8" = 1'-0"



02 SOUTH ELEVATION
SCALE: 1/8" = 1'-0"



01 NORTH ELEVATION
SCALE: 1/8" = 1'-0"

CLIENT
 ITHCA
 NAME: PAUL COVEY
 PH: (210) 675-6444
 EMAIL: PAUL@GRAYSTREET.COM

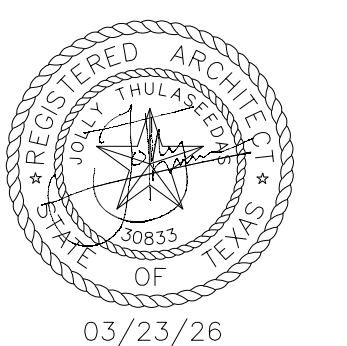


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THE SHOPS AT LAVACA

418 FLORIDA STREET, BEXAR COUNTY, TX

REV	REV DESCRIPTION	DATE
-	PERMIT SET	2026-03-24

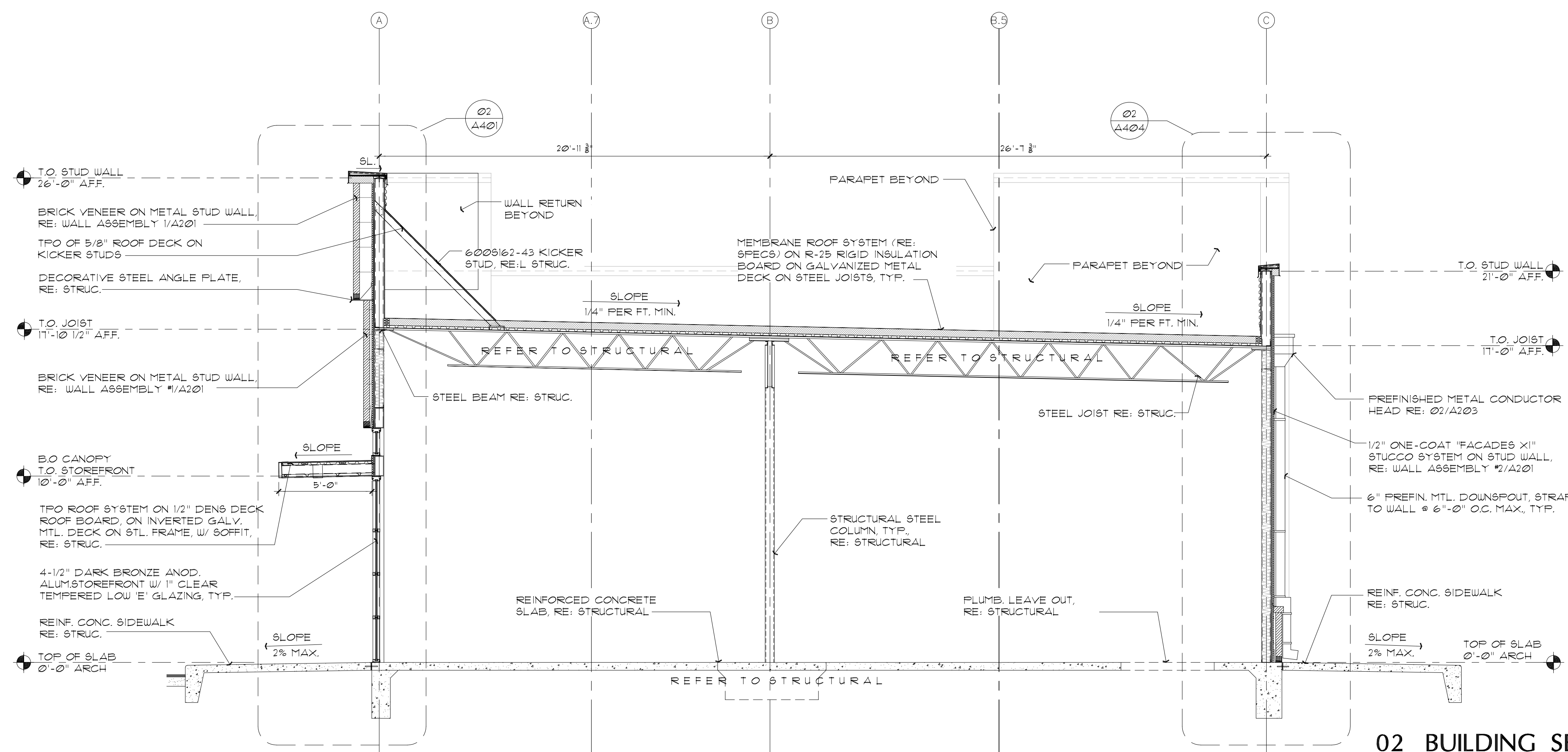


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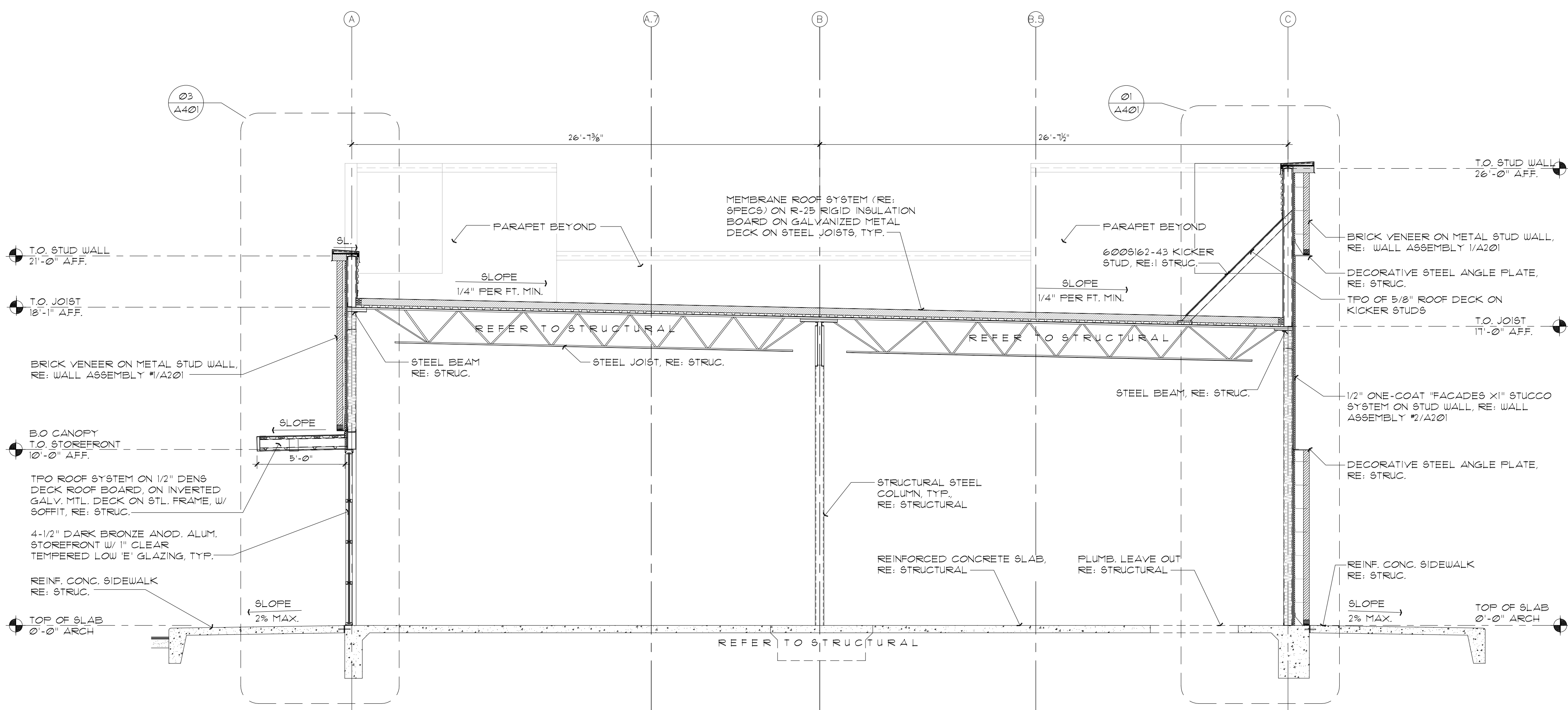
Drawn / Designed By: ARNA
 Reviewed By: MDN
 Project Number: KP-J-TX-25-0018

SHEET NAME: ELEVATIONS

SHEET NUMBER:
A301



02 BUILDING SECTION
SCALE: 1/4" = 1'-0"



01 BUILDING SECTION
SCALE: 1/4" = 1'-0"

SEAL

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LAVACA**

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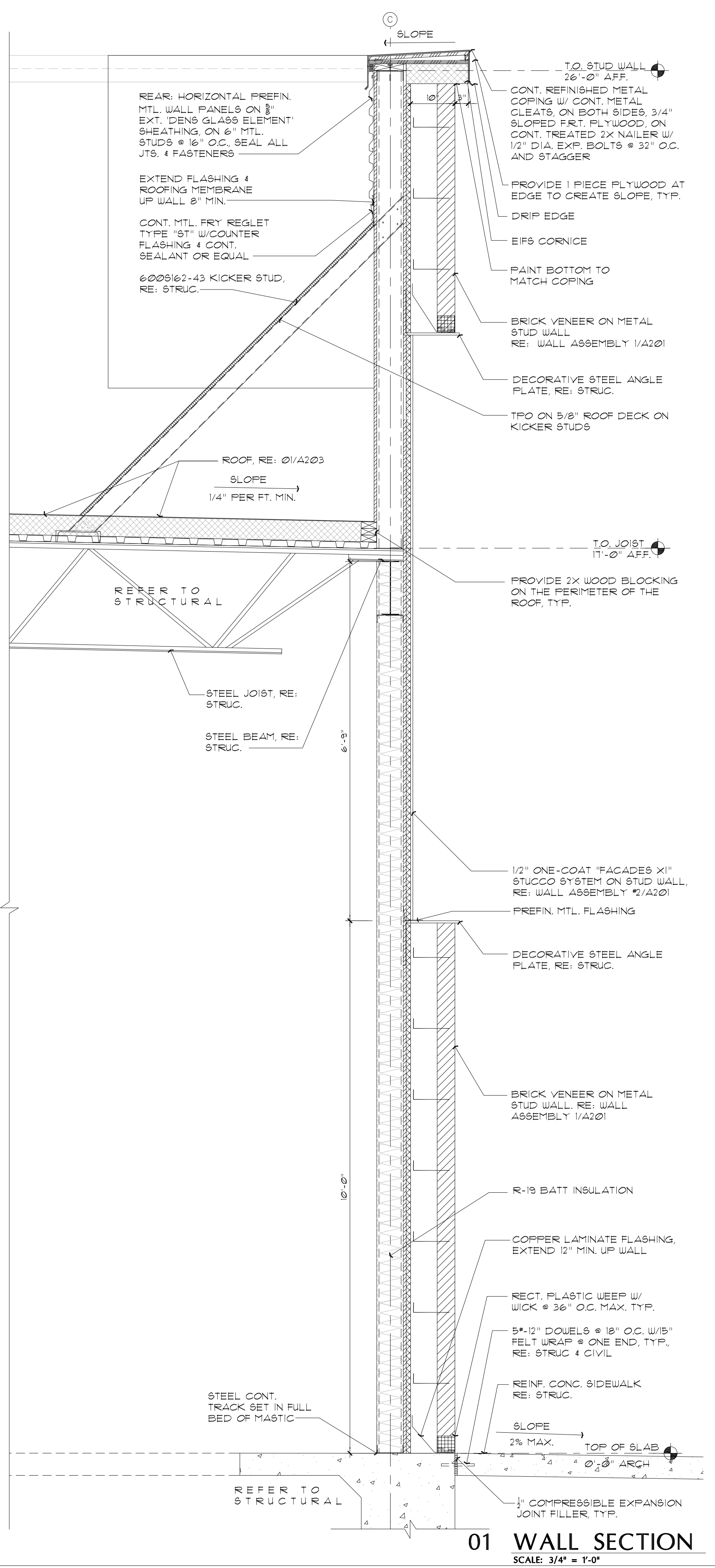
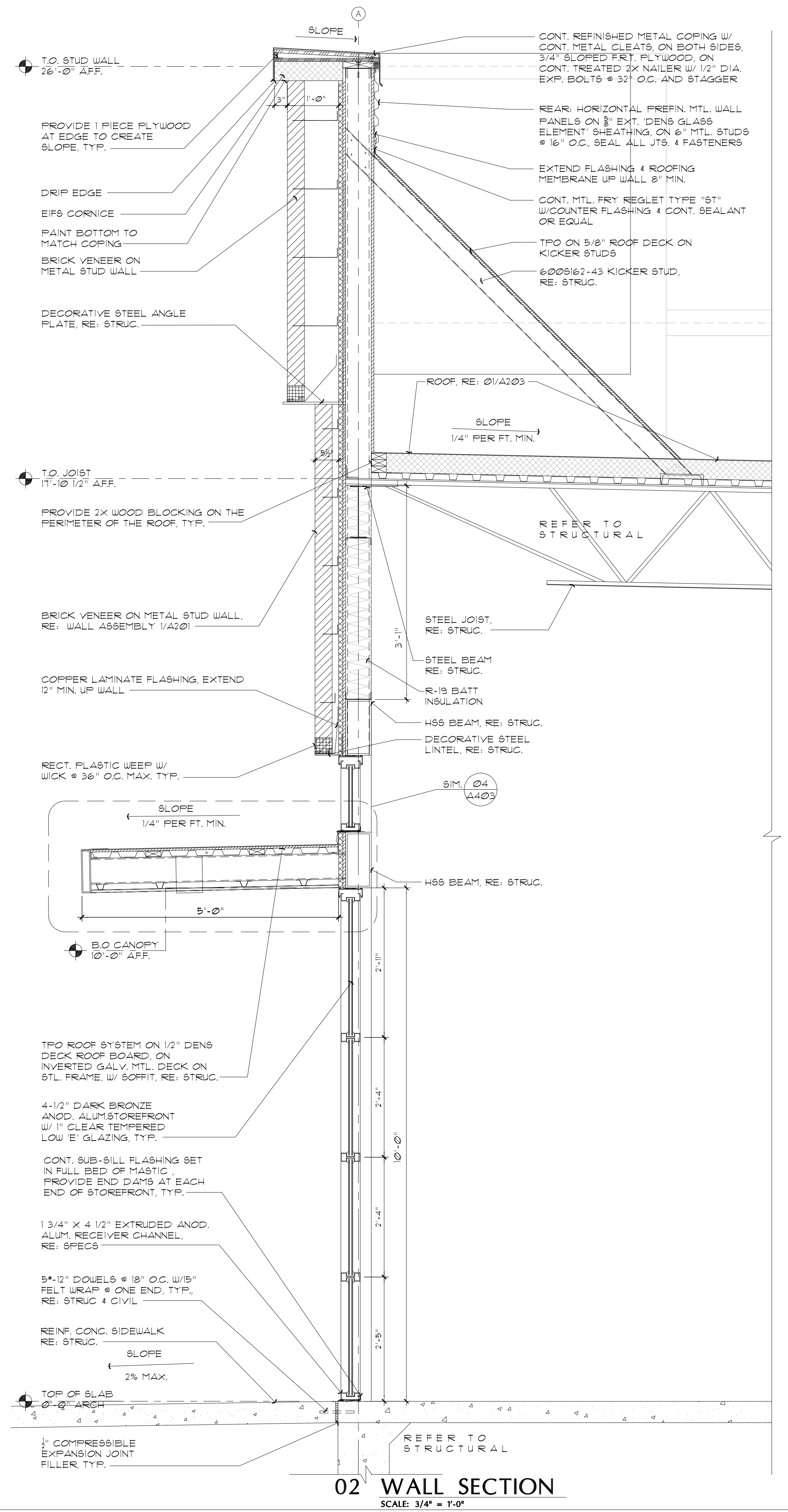
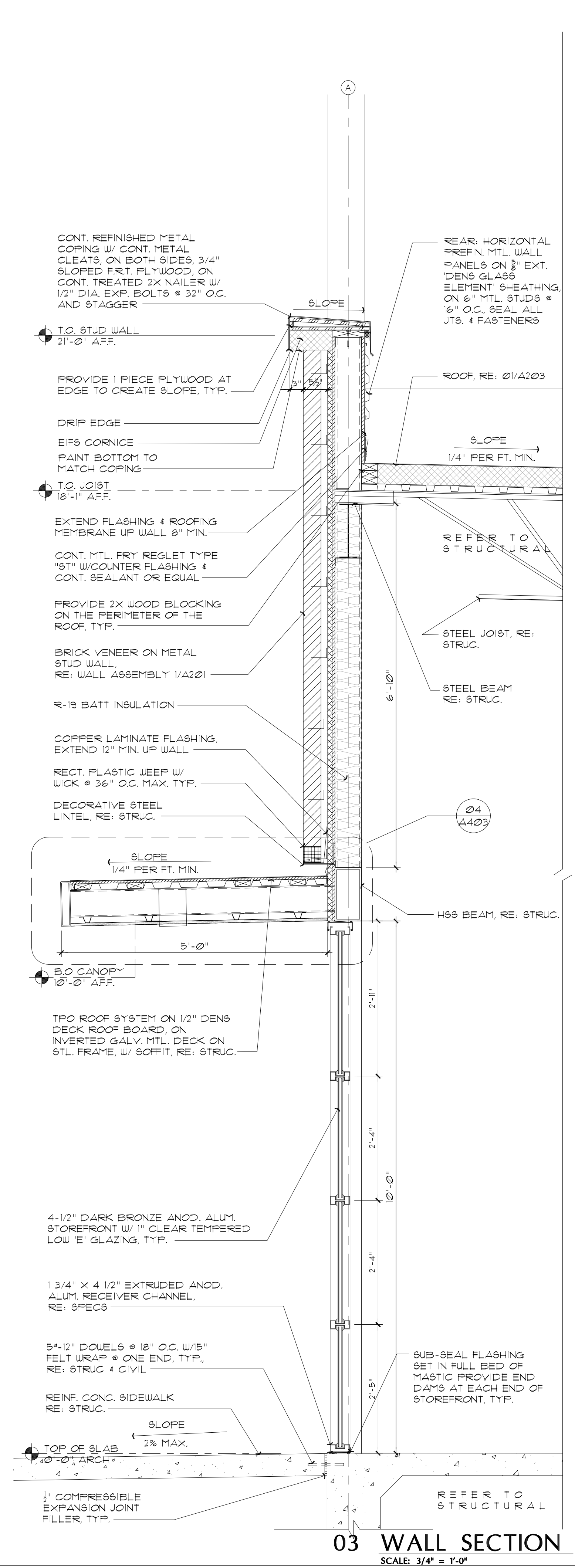
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Drawn / Designed By: ARNA
Reviewed By: MDN
Project Number: KP-J-TX-25-0018

**SHEET NAME:
BUILDING
SECTIONS**

SHEET NUMBER:

A302



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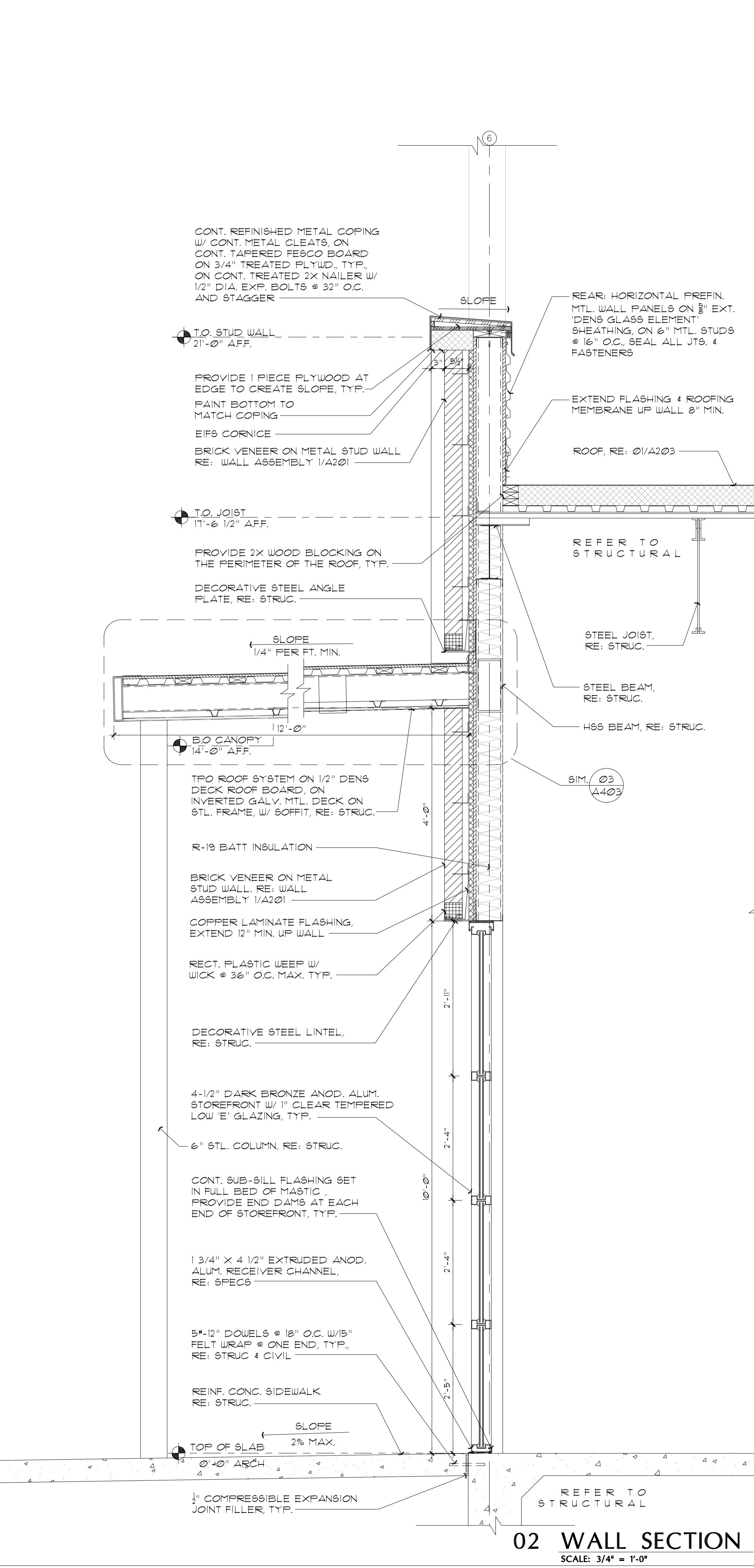
WALL SECTIONS

SHEET NUMBER:

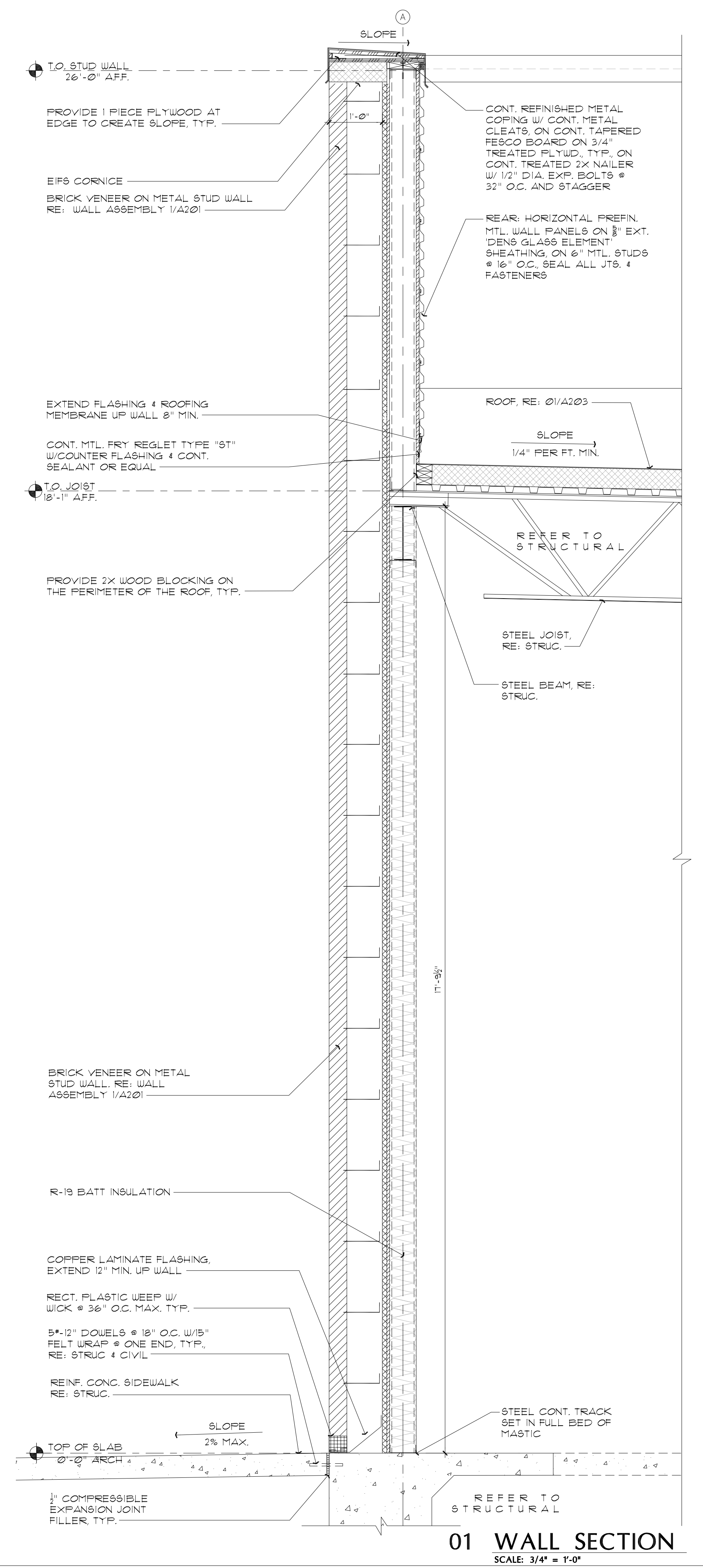
A401



03 WALL SECTION
SCALE: 3/4" = 1'-0"



02 WALL SECTION
SCALE: 3/4" = 1'-0"



01 WALL SECTION
SCALE: 3/4" = 1'-0"

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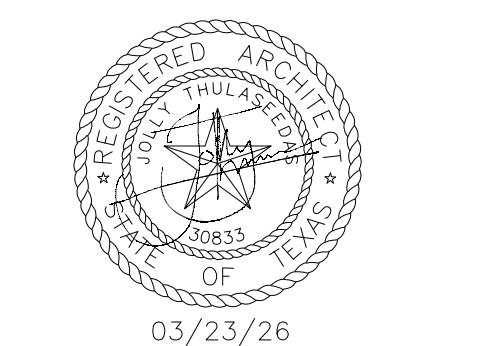
CONSULTANT

CONSULTANT

THE SHOPS AT LAVACA

418 FLORIDA STREET,
 BEXAR COUNTY, TX

REV	REV DESCRIPTION	DATE
1	PERMIT SET	2026-03-24



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Drawn / Designed By: ARNA
 Reviewed By: MDN
 Project Number: KPJ-TX-25-0018

**SHEET NAME:
 WALL SECTIONS**

SHEET NUMBER:
A402

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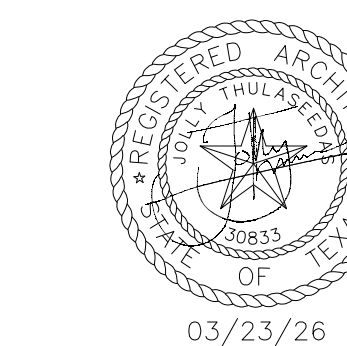
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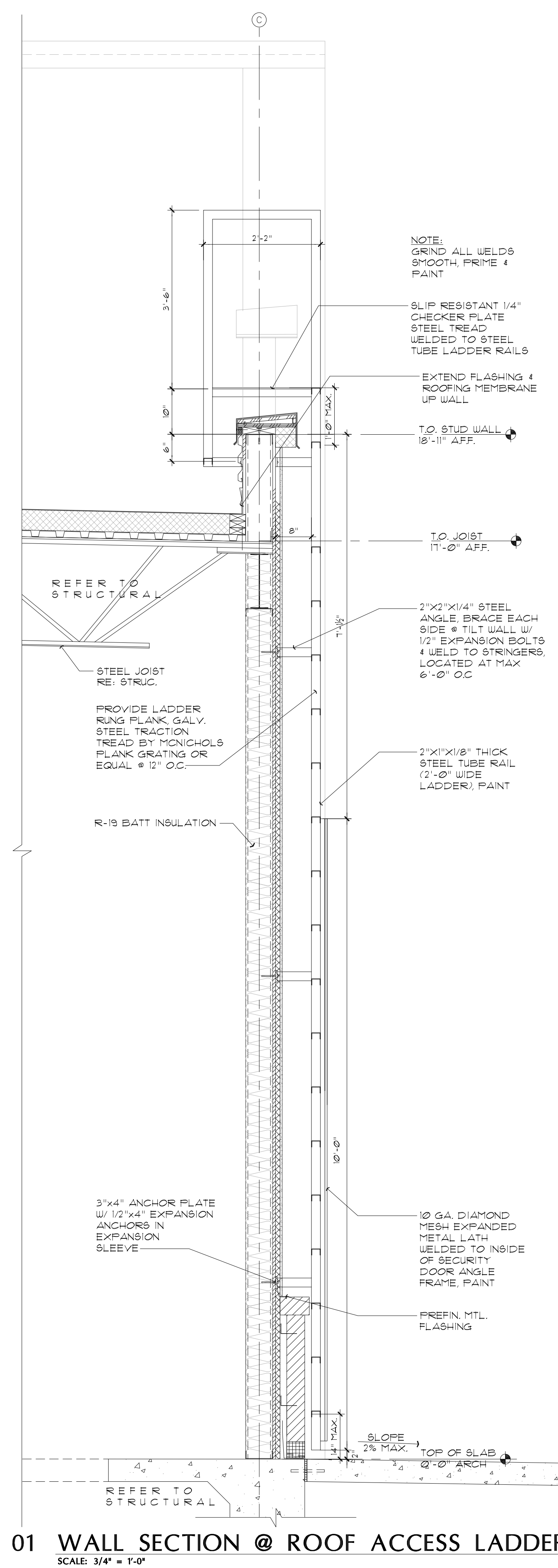
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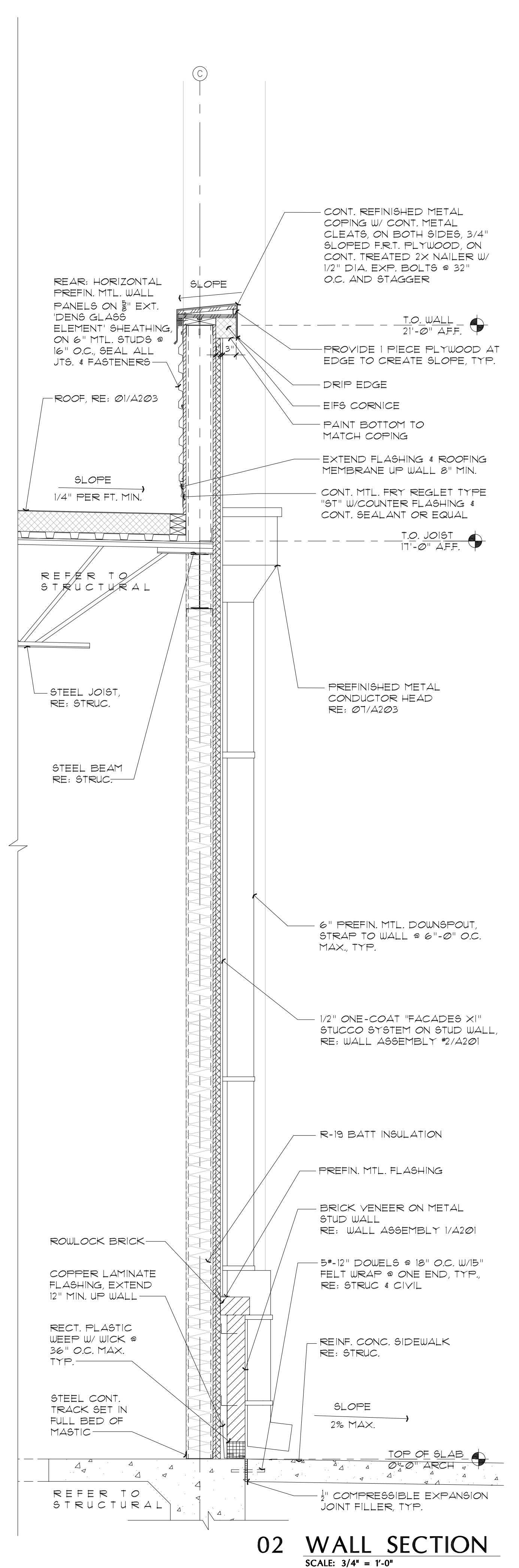
SHEET NAME:
**WALL
 SECTIONS
 AND DETAILS**

SHEET NUMBER:

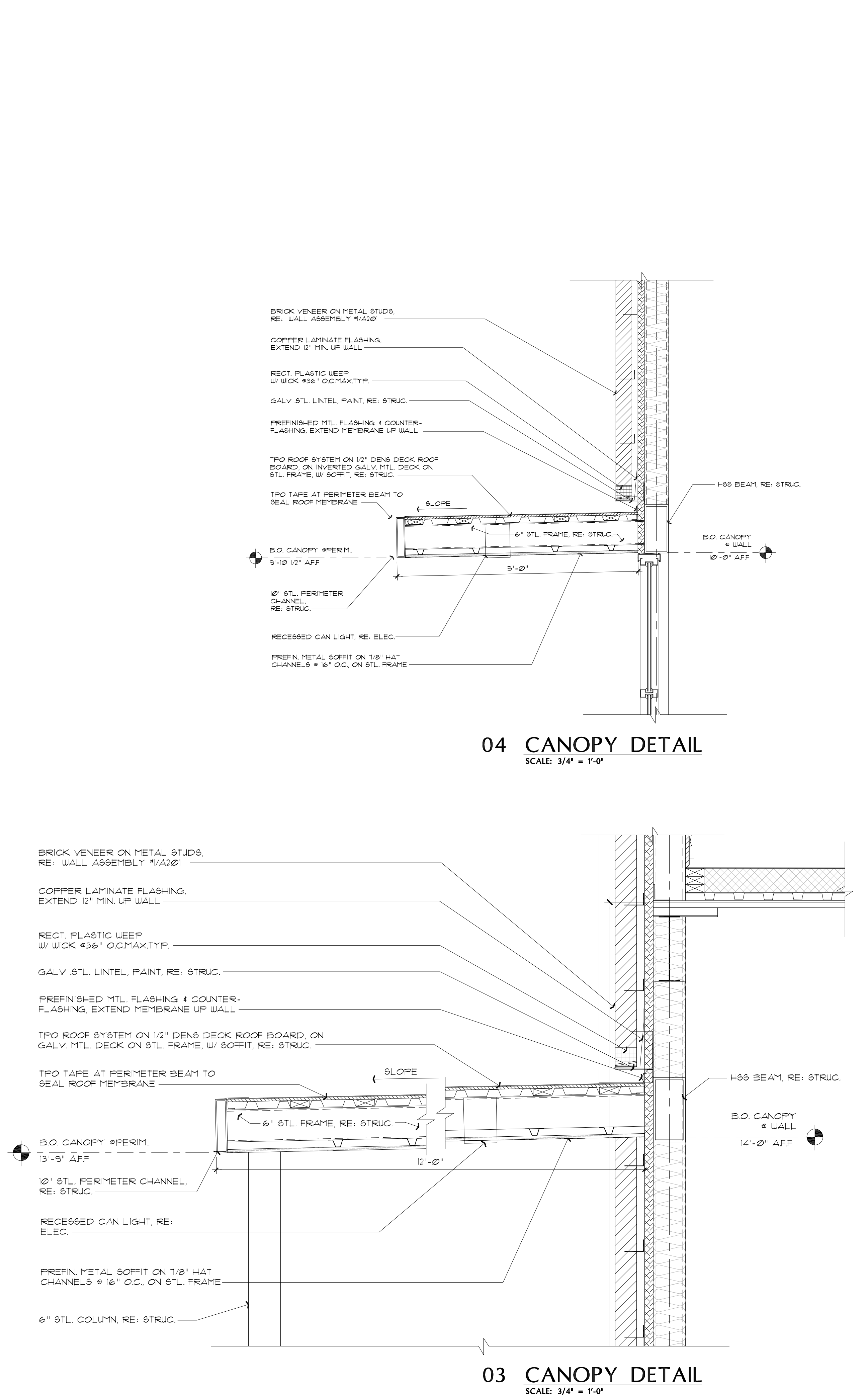
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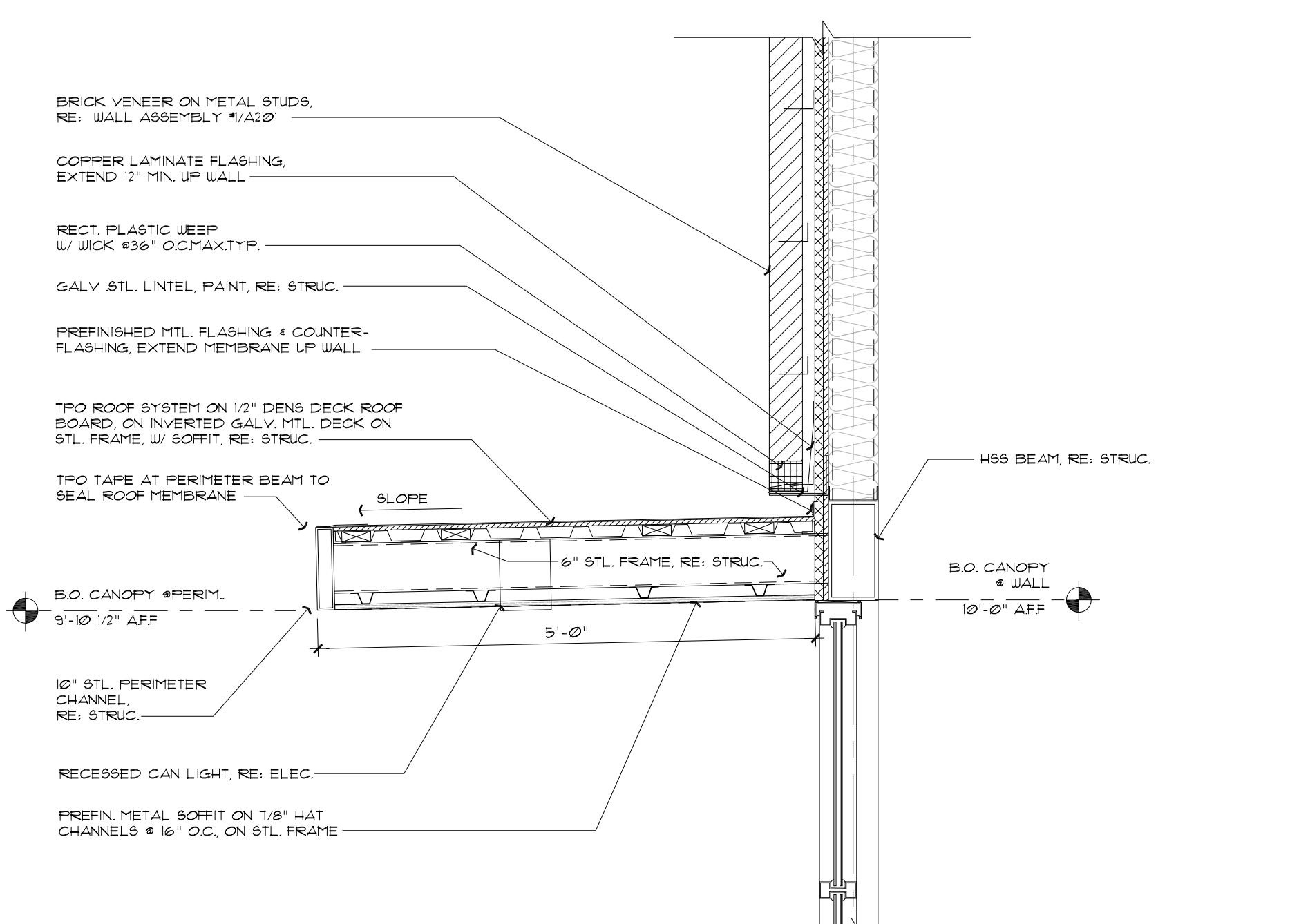
01 WALL SECTION @ ROOF ACCESS LADDER
 SCALE: 3/4" = 1'-0"



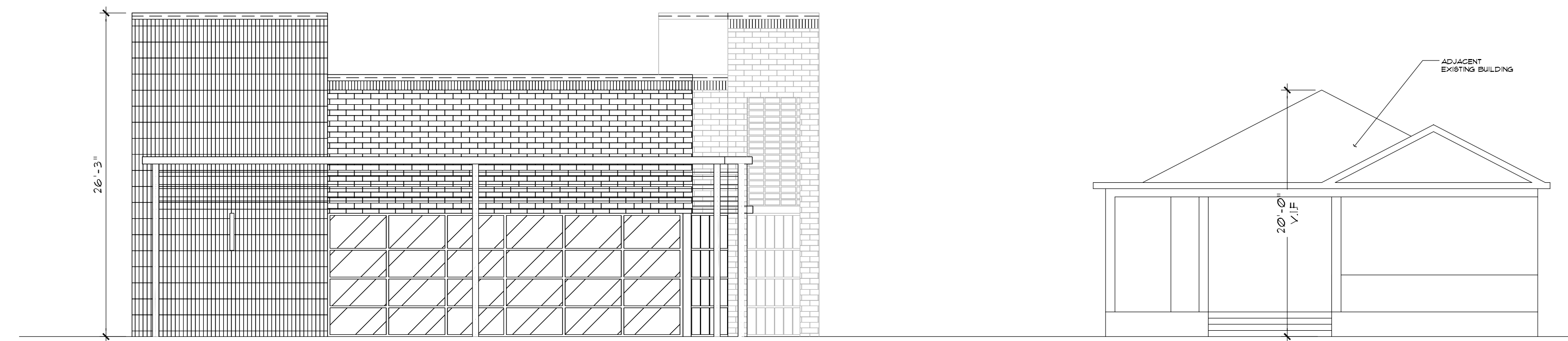
02 WALL SECTION
 SCALE: 3/4" = 1'-0"



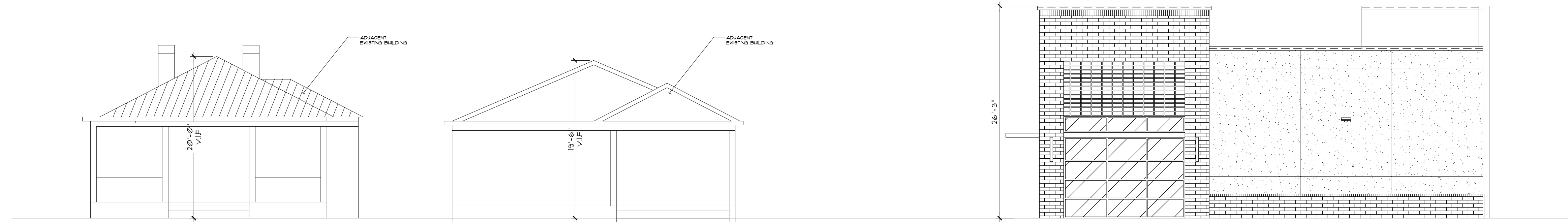
03 CANOPY DETAIL
 SCALE: 3/4" = 1'-0"



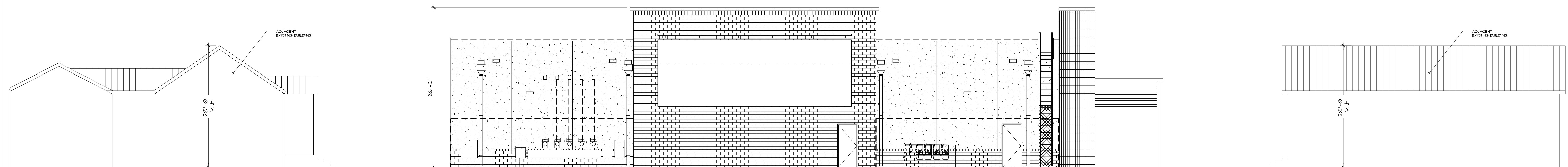
04 CANOPY DETAIL
 SCALE: 3/4" = 1'-0"



03 FLORIDA STREET ELEVATION
SCALE: 1/8" = 1'-0"



02 CAROLINA STREET ELEVATION
SCALE: 1/8" = 1'-0"



01 1-37 HIGHWAY ELEVATION
SCALE: 1/8" = 1'-0"

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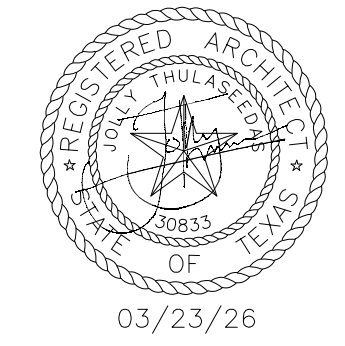
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Drawn / Designed By: AR/NA
Reviewed By: MDN
Project Number: KPJ-TX-25-0018

STREET ELEVATIONS

SHEET NUMBER:

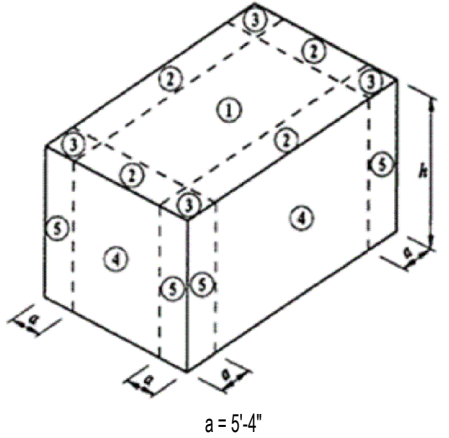
A404

GENERAL STRUCTURAL NOTES

- 10. ALL CONSTRUCTION SHALL CONFORM TO THE INTERNATIONAL BUILDING CODE 2024. REFERENCE TO OTHER STANDARD SPECIFICATIONS OR CODES SHALL MEAN THE LATEST STANDARD OR CODE ADOPTED AND PUBLISHED.
- 11. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS, DIMENSIONS AND ELEVATIONS BEFORE STARTING WORK OR FABRICATION. NOTIFY THE ENGINEER OF RECORD OF ANY DISCREPANCIES. ALL WORK COMPLETED THAT DOES NOT CONFORM TO THE STRUCTURAL DRAWINGS SHALL BE CONSIDERED AT RISK.
- 12. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE DESIGN, ADEQUACY, AND SAFETY OF ERECTION BRACING, SHORING, AND TEMPORARY SUPPORTS. THE STRUCTURAL ELEMENTS ARE NOT STABLE UNTIL THE STRUCTURE IS COMPLETE.
- 13. ALL WORK SHALL CONFORM TO APPLICABLE FEDERAL, STATE AND LOCAL LAWS.
- 14. THE CONTRACTOR SHALL LOCATE ALL UTILITIES PRIOR TO DIGGING, BORING OR EXCAVATING SOILS OR DRILLING, BORING OR CUTTING CONCRETE.
- 15. DIMENSIONS ON STRUCTURAL DRAWINGS ARE TO BE CHECKED AGAINST ARCHITECTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS AS WELL AS AGAINST FIELD CONDITIONS BY CONTRACTORS.
- 16. UNLESS NOTED OTHERWISE, DETAILS, SECTIONS, AND NOTES ON THE DRAWINGS ARE INTENDED TO BE TYPICAL FOR SIMILAR CONDITIONS.
- 17. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE LOCATION AND PLACEMENT OF INSERTS, HANGERS, SLEEVES, DUCTWORK, PADS, AND ANCHOR RODS THAT ARE REQUIRED BY MECHANICAL EQUIPMENT.
- 18. IF DISCREPANCIES APPEAR ON THE CONTRACT DOCUMENTS, OR BETWEEN THE CONTRACT DOCUMENTS AND EXISTING CONDITIONS, THE CONTRACTOR SHALL REQUEST AN INTERPRETATION FROM THE ARCHITECT BEFORE BIDDING. IF THE CONTRACTOR FAILS TO MAKE SUCH REQUEST, IT IS PRESUMED THAT BOTH PROVISIONS WERE INCLUDED IN THE BID AND THE ARCHITECT SHALL DETERMINE WHICH OF THE CONFLICTING REQUIREMENTS SHALL GOVERN. THE CONTRACTOR SHALL PERFORM THE WORK AT NO ADDITIONAL COST TO THE OWNER IN ACCORDANCE WITH THE ARCHITECT'S DETERMINATION.
- 19. REVIEW OF SHOP DRAWINGS AND OTHER SUBMITTALS BY THE STRUCTURAL ENGINEER DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO REVIEW AND CHECK SHOP DRAWINGS BEFORE SUBMITTAL TO THE STRUCTURAL ENGINEER. THE CONTRACTOR REMAINS SOLELY RESPONSIBLE FOR ERRORS AND OMISSIONS ASSOCIATED WITH THE PREPARATION OF SHOP DRAWINGS AS THEY PERTAIN TO MEMBER SIZES, DETAILS AND DIMENSIONS SPECIFIED IN THE CONTRACT DOCUMENTS.
- 20. PLAN AND SPECIFICATIONS SHALL BE PROVIDED FOR REVIEW AND APPROVAL FOR PRE-ENGINEERED ROOF AND BUILDING SYSTEMS, WHICH ARE SEALED BY A LICENSED STRUCTURAL ENGINEER IN THE STATE WHERE THE PROJECT IS LOCATED PRIOR TO THE ERECTION OF THE STRUCTURES, AS DEFERRED SUBMITTAL.

LOCATION	SAN ANTONIO, TX
RISK CATEGORY	II
DEAD LOAD: SLAB ON GRADE ROOF DEAD LOAD INCLUDING ROOFING/INSULATION ROOF COLLATERAL DEAD LOAD	75 PSF 10 PSF 10 PSF
LIVE LOAD: SLAB ON GRADE ROOF LIVE LOAD	125 PSF 20 PSF
SNOW LOAD: GROUND SNOW LOAD (P _s) IMPORTANCE FACTOR (I _s)	9 PSF 1.0
RAIN LOAD: 60-MINUTE RAINFALL INTENSITY PER 100-YEAR HOURLY RAINFALL RATE	4.28"HR
WIND DESIGN: ULTIMATE WIND SPEED, 3 SECOND GUST IMPORTANCE FACTOR (I _w) EXPOSURE	V = 105 MPH 1 = 1.0 B
COMPONENT & CLADDING DESIGN WIND PRESSURE	

ZONE	TRIBUTARY AREA (FT²)		
	A=10	A=50	A=100
WALLS	+19.20	+17.18	+16.18
	+19.25	+17.21	+16.19
ROOF	+16.32	+16.27	+16.25
	+19.43	+17.36	+16.34
	+19.43	+17.36	+16.34



ALL PRESSURES ARE PROVIDED IN PSF
 *+ INDICATES POSITIVE PRESSURE (TOWARD THE SURFACE) &
 ** INDICATES NEGATIVE PRESSURE (AWAY FROM THE SURFACE)

SEISMIC DESIGN: IMPORTANCE FACTOR (I _s)	1.0
SITE CLASS	D
SEISMIC DESIGN CATEGORY	A
S _s	0.051
S ₁	0.023
S _{2p}	0.054
S _{p1}	0.036
SEISMIC FORCE RESISTING SYSTEM: STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE	
R	3.0
C ₁	3.0
C ₂	3.0
SEISMIC RESPONSE COEFFICIENT (C _s)	0.018

ANALYSIS PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE

FOUNDATION DESIGN:
 FOUNDATION TYPE: SPREAD/CONTINUOUS FOOTING (NON-EXPANSIVE SITE CONDITION)
 ALLOWABLE BEARING PRESSURE OVER COMPACTED SELECTED FILL OR RECONDITIONED FILL:

FOR SLAB ON GRADE	3000 PSF
FOR CONTINUOUS FOOTING	3000 PSF
FOR SPREAD FOOTING	3000 PSF

A GEOTECHNICAL EXPLORATION OF SUBSURFACE CONDITIONS, CONTAINING TEST BORINGS, LABORATORY TEST, ENGINEERING ANALYSIS AND FOUNDATION RECOMMENDATIONS, PERFORMED BY INTERTEK PSI PROFESSIONAL SERVICE INDUSTRIES, INC. ON MARCH 19, 2026, PROJECT NO. 0312-3799 - R1

DEFLECTION CRITERIA: ROOF FRAMING	
LIVE LOAD DEFLECTION	L/360
TOTAL LOAD DEFLECTION	L/240
STEEL BEAM SUPPORTING CMU/BRICK VENEER	L/600

FOUNDATION & SLAB ON GRADE

- 20. A GEOTECHNICAL ENGINEER LICENSED IN THE PROJECT STATE SHALL INSPECT THE CONDITION AND ASSURE THE ADEQUACY OF ALL SUB GRADES, FILLS AND BACK FILLS BEFORE PLACEMENT OF FOUNDATIONS, FOOTINGS, SLABS, AND WALLS. KP&J ARCHITECTS AND ENGINEERS, LLC SHALL BE NOTIFIED IMMEDIATELY OF ANY NON-COMFORMING WORK.
- 21. WHEN FOOTING STEPS ARE REQUIRED, THEY SHALL BE NO STEEPER THAN ONE (1) VERTICAL TO TWO HORIZONTAL.
- 22. PROVIDE 15 MIL THICK POLYOLEFIN VAPOR BARRIER. TYPE RECOMMENDED TO BE IN CONTACT WITH THE SOIL OR FILL UNDER A CONCRETE SLAB. LISTED IN ASTM 1745 CLASS A WITH A PERMEANCE LESS THAN 0.01 BEFORE AND AFTER MANDATORY CONDITIONING TEST PER ASTM E1745 SECTION 7 (7.1.1-7.1.5) AS DETERMINED BY ASTM E96 OR F1289. POLYETHYLENE IS NOT ACCEPTABLE. INSTALL VAPOR BARRIER SLOUJLY WITHIN AND BELOW SLAB SURFACE WITH JOINTS LAPPED AT LEAST 6 INCHES AND TAPED CONTINUOUSLY WITH RECOMMENDED PRESSURE-SENSITIVE TAPE. EXTEND VAPOR BARRIER DOWN THE SIDES OF THE BEAM TRENCHES AND TERMINATE SO THAT IT DOES NOT EXTEND ACROSS THE TRENCH BOTTOM. CONTRACTOR AND ARCHITECT (NOT STRUCTURAL ENGINEER) SHALL VERIFY WITH MANUFACTURERS REPRESENTATIVE THAT VAPOR BARRIER SELECTED IS INSTALLED IN ACCORDANCE WITH ASTM E1943-19A. ACCEPTABLE MANUFACTURERS INCLUDE STEGO, REFLEX INDUSTRIES, AND FORTIFIBER ONLY WITH NO ALTERNATIVE SUBMITTALS PERMITTED.

FOUNDATION & SLAB ON GRADE (CONT.)

- 23. BACKFILL SHALL NOT BE PLACED AGAINST RETAINING WALLS UNTIL THE WALLS HAVE ACHIEVED THEIR DESIGN STRENGTH AND THEIR LATERAL SUPPORT ELEMENTS ARE INSTALLED.
- 24. CONTROL JOINTS SHALL BE SAWCUT AFTER CONCRETE SURFACE HAS HARDENED ENOUGH SO THAT IT WILL NOT BE EASILY MARRED OR RAVELED. THE IDEAL TIME TO SAWCUT TYPICALLY OCCURS WITHIN 4 TO 12 HOURS AFTER CONCRETE FINISHING HAS BEEN COMPLETED. SAWCUT TIMING DEPENDS ON NUMEROUS FACTORS SUCH AS WEATHER CONDITION AND IS BEST DETERMINED ON-SITE. TRIAL SAWCUTS MAY BE PERFORMED TO DETERMINE IF CONCRETE IS READY. SAWCUTTING TOO EARLY CAUSES RAVELING, OR THE DISLODGING OF AGGREGATE, WHICH RESULTS IN JOINT SPALLS. SAWCUTTING TOO LATE RESULTS IN UNCONTROLLED CRACKING. BEGIN SAWCUTTING AS SOON AS RAVELING STOPS DURING TRIAL CUTS.
- 25. ALL SOIL SUPPORTED FOOTINGS SHALL BE FOUNDED UPON UNDISTURBED, NATURAL SOIL SUBGRADE OR ON THOROUGHLY TESTED AND APPROVED FILL BY GEOTECHNICAL ENGINEER. THE FOOTING ELEVATIONS AND SOIL BEARING CAPACITIES AS SHOWN ON THE DRAWINGS ARE ESTIMATED. FINAL, EXACT ELEVATIONS AND SOIL BEARING CAPACITIES SHALL BE FIELD DETERMINED AND VERIFIED BY THE OWNER'S SOIL TESTING LABORATORY AND REVIEWED BY THE ARCHITECT/ENGINEER DURING CONSTRUCTION.
- 26. THE SOIL SUBGRADE FOR ALL FOOTINGS AND SLABS SHALL BE INSPECTED AND APPROVED BY THE OWNER'S TESTING LABORATORY IMMEDIATELY PRIOR TO PLACING CONCRETE.
- 27. ALL FOOTING AND SLAB SUBGRADES, INCLUDING PIT SLABS, SHALL BE COMPACTED TO 95 PERCENT OF STANDARD PROCTOR (ASTM D699) MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT, AS REQUIRED.
- 28. ALL ORGANIC AND/OR UNSUITABLE MATERIALS SHALL BE REMOVED FROM SUBGRADE AND BACK FILL AREAS AND BACKFILLED WITH SELECT FILL, PERCENT OF STANDARD PROCTOR (ASTM D699) MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT.
- 29. DO NOT UNDERMINE EXISTING CONSTRUCTION.
- 210. PLACE BACKFILL SIMULTANEOUSLY ON BOTH SIDES OF FOUNDATION WALLS.
- 211. NO MID SLABS, FOOTINGS, OR SLABS SHALL BE PLACED ONTO OR AGAINST SUBGRADE CONTAINING FREE WATER, FROST, OR ICE.
- 212. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY MEASURES TO PREVENT ANY FROST OR ICE FROM PENETRATING ANY FOOTING OR SLAB SUBGRADE BEFORE AND AFTER PLACING OF CONCRETE UNTIL SUCH SUBGRADES ARE FULLY PROTECTED BY THE PERMANENT BUILDING STRUCTURE. SUCH PROTECTION IS ADDITIONAL SCOPE.
- 213. THE CONCRETE FOR EACH ISOLATED FOOTING SHALL BE PLACED IN ONE (1) CONTINUOUS PLACEMENT.
- 214. ALL PERIMETER WALL AND COLUMN FOOTINGS SHALL BEAR A MINIMUM OF 2'-0" BELOW GRADE.
- 215. TEST PITS ARE REQUIRED FOR SOIL CLASSIFICATION AND TO LOCATE GROUND-WATER TABLE, AND VALUES USED AS THE BASIS FOR DESIGN DO NOT EXCEED THE PRESUMPTIVE VALUES IN TABLE 1906.2 (1) (I) OF BUILDING CODE AS LISTED IN 1.0.
- 216. WHERE QUESTIONABLE SOIL CONDITIONS ARE ENCOUNTERED, THE BUILDING OFFICIAL SHALL REQUIRE THAT THE NECESSARY INVESTIGATIONS BE MADE BY A GEOTECHNICAL ENGINEER IN ACCORDANCE WITH THE BUILDING CODE. A REPORT SHALL BE PROVIDED TO THE BUILDING OFFICIAL AS DESCRIBED IN BUILDING CODE AS LISTED IN 1.0.
- 217. EARTHWORK BELOW THE BUILDING SHALL CONSIST OF CONSTRUCTION OF A BUILDING PAD OF SELECT COMPACTED FILL MATERIAL THAT WILL CLASSIFY THE SOIL AS NOT CONSIDERED EXPANSIVE (IBC 1808.6.3 AND 1808.6.4) ACCORDING TO THE GEOTECHNICAL ENGINEER'S REPORT. FINISH FLOOR ELEVATION SHALL BE CONFIRMED WITH CIVIL ENGINEERING FINAL PLANS BEFORE BIDDING AND CONSTRUCTION. REFER TO THE GEOTECHNICAL REPORT FOR EARTHWORK REQUIREMENTS, REFER TO THE REPORT FOR FURTHER REQUIREMENTS. ALSO, THE GENERAL CONTRACTOR SHALL CONVENIE A PRE-CONSTRUCTION PRE-BID MEETING WITH THE GEOTECHNICAL ENGINEER TO DISCUSS THE SOILS AND INTERPRETATION OF THE GEOTECHNICAL REPORT TO CONSTRUCT A PAD WITH NON-EXPANSIVE SITE CONDITION.

REINFORCED CONCRETE

- 30. ALL WORK SHALL CONFORM TO ACI 301, "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS". DESIGN IS BASED ON ACI 318 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE.
- 31. UNLESS NOTED OTHERWISE, ALL CONCRETE SHALL HAVE THE FOLLOWING MINIMUM 28 DAY COMPRESSIVE STRENGTHS:

FOUNDATIONS & WALLS EXPOSED TO FREEZE THAW CYCLE	4500 PSI (NORMAL WEIGHT)
FOUNDATIONS & WALLS NOT EXPOSED TO FREEZE THAW CYCLE	4000 PSI (NORMAL WEIGHT)
SLAB ON-GRADE	4000 PSI (NORMAL WEIGHT)
ELEVATED SLABS	4000 PSI (LIGHTWEIGHT- 115 LBS/CF MAXIMUM DENSITY)
- 32. THE PROPOSED MATERIALS AND MIX DESIGN SHALL BE FULLY DOCUMENTED AND BE PROVIDED TO KP&J ARCHITECTS & ENGINEERS, LLC OR OWNER UPON REQUEST. THE CONTRACTOR HAS THE SOLE RESPONSIBILITY OF OBTAINING THE REQUIRED DESIGN STRENGTH.
- 33. USE OF CALCIUM CHLORIDE, CHLORIDE IONS, OR OTHER SALTS IN CONCRETE IS NOT PERMITTED.
- 34. UNLESS NOTED OTHERWISE, SAMPLES FOR STRENGTH TESTS OF EACH CLASS OF CONCRETE PLACED EACH DAY SHALL BE TAKEN BY THE TESTING AGENCY NOT LESS THAN ONCE A DAY, NOR LESS THAN ONCE FOR EACH 100 CUBIC YARDS OF CONCRETE, NOR LESS THAN ONCE FOR EACH 5000 SQUARE FEET OF SURFACE AREA FOR SLABS AND FOUNDATIONS. SAMPLE CONCRETE IN ACCORDANCE WITH ASTM C172. PERFORM THE FOLLOWING TESTS IN ACCORDANCE WITH THE INDICATED STANDARD.

SUMP:	ASTM C143
AIR CONTENT:	ASTM C173
COMPRESSIVE STRENGTH:	ASTM C39 (ONE CYLINDER AT 7 DAYS, 2 CYLINDERS AT 28 DAYS, AND ONE SPECIMEN HELD IN RESERVE)
- 35. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60 UNLESS NOTED OTHERWISE.
- 36. WELDED WIRE FABRIC (MESH) SHALL CONFORM TO ASTM A185 AND SHALL BE PROVIDED IN FLAT SHEETS (ROLLS ARE NOT PERMITTED), LAP TWO SQUARES AT SPLICES.
- 37. TIE ALL REINFORCING STEEL AND EMBEDMENTS SECURELY IN PLACE PRIOR TO PLACING CONCRETE. PROVIDE SUFFICIENT SUPPORTS TO MAINTAIN THE POSITION OF REINFORCEMENT WITHIN SPECIFIED TOLERANCES DURING ALL CONSTRUCTION ACTIVITIES. "STICKING" DOWELS OR REBAR INTO WET CONCRETE IS NOT PERMITTED.
- 38. PROVIDE CONTINUOUS REINFORCEMENT WHEREVER POSSIBLE. SPLICE ONLY AS SHOWN OR APPROVED. STAGGER SPLICES WHERE POSSIBLE. USE CLASS "B" TENSION SPLICE UNLESS NOTED OTHERWISE. DOWELS SHALL MATCH THE SIZE AND SPACING OF THE SPECIFIED REINFORCEMENT AND SHALL BE LAPPED WITH CLASS "B" TENSION SPLICES UNLESS NOTED OTHERWISE. LAP LENGTHS EXPRESSED AS NUMBER OF BAR DIAMETERS SHALL BE AS FOLLOWS:

BAR SIZE	NORMAL WEIGHT CONCRETE, F _c (PSI)				
	CLASS	3000	4000	5000	6000
#6 OR SMALLER	A	44 DIA.	38 DIA.	34 DIA.	31 DIA.
	B	57 DIA.	50 DIA.	45 DIA.	41 DIA.
#7 OR GREATER	A	55 DIA.	48 DIA.	43 DIA.	39 DIA.
	B	72 DIA.	62 DIA.	56 DIA.	51 DIA.

BAR SIZE	NORMAL WEIGHT CONCRETE, F _c (PSI)				
	CLASS	3000	4000	5000	6000
#6 OR SMALLER	A	44 DIA.	38 DIA.	34 DIA.	31 DIA.
	B	57 DIA.	50 DIA.	45 DIA.	41 DIA.
#7 OR GREATER	A	55 DIA.	48 DIA.	43 DIA.	39 DIA.
	B	72 DIA.	62 DIA.	56 DIA.	51 DIA.

- 39. REINFORCING STEEL SHALL HAVE THE FOLLOWING CONCRETE COVER UNLESS NOTED OTHERWISE:

CONCRETE CAST AGAINST EARTH (NOT FORMED)	3"
FORMED CONCRETE EXPOSED TO EARTH OR WEATHER:	2"
CONCRETE NOT EXPOSED TO EARTH OR WEATHER:	
SLABS & WALLS	1 1/2"
BEAM STRIRLUPS & COLUMN TIES	1 1/2"
- 310. DO NOT PLACE PIPES OR DUCTS EXCEEDING ONE-THIRD THE SLAB OR WALL THICKNESS WITHIN THE SLAB OR WALL UNLESS SPECIFICALLY SHOWN AND DETAILED IN STRUCTURAL DRAWINGS.
- 311. DO NOT WELD OR TACK WELD REINFORCING STEEL UNLESS APPROVED OR DIRECTED BY THE STRUCTURAL ENGINEER.
- 312. REINFORCING STEEL PLACEMENT SHALL BE INSPECTED IN ACCORDANCE WITH ACI 318, SECTION 1.3 BY A QUALIFIED OWNER'S REPRESENTATIVE.
- 313. NO SLAB SHALL HAVE COLD JOINTS IN A HORIZONTAL PLANE.
- 314. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE LOCATION AND PLACEMENT OF INSERTS, EMBEDDED PLATES, MASONRY ANCHORS, REGLETS, SLEEVES, DUCTWORK, PADS, AND ANCHOR RODS. THE INSERTS, EMBEDDED PLATES, ETC. SHALL NOT INTERFERE WITH CONCRETE REINFORCEMENT LOCATION.
- 315. NO OPENING SHALL BE MADE IN ANY STRUCTURAL MEMBER WITHOUT THE WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD.
- 316. EXPOSED EXTERNAL CONCRETE CORNERS SHALL BE CHAMFERED 3/4 INCHES, UNLESS SHOWN OR NOTED OTHERWISE.
- 317. ARRANGEMENT AND DETAILS FOR REINFORCEMENT, INCLUDING BAR SUPPORTS AND SPACERS, SHALL BE IN ACCORDANCE WITH THE "A.C.I. DETAILING MANUAL (ACI SP-86)".
- 318. CONSTRUCT FORMWORK TO MAINTAIN TOLERANCES AS OUTLINED IN ACI 347. RELEASE FORMWORK ACCORDING TO ACI 347. EXTEND FORMWORK AT LEAST SIX (6) INCHES BELOW THE FINISH GRADE ELEVATION ON PERIMETER BEAMS. CUT TEMPORARY PORT OPENINGS IN ORDER TO DRAIN EXPOSED TRENCHES DURING CONSTRUCTION IN CASE OF INCONVENIENT WEATHER.

REINFORCED CONCRETE (CONT.)

- 319. TRENCH GRADE BEAMS IN ORDER TO PROVIDE THE BEAMS CROSS SECTION INDICATED. BEAM AND SLAB DEPTH AND WIDTHS INDICATED ARE MINIMUM ACCEPTABLE SIZES. LARGER SIZE BEAMS AND SLABS FORMED BY LESS ACCURATE TRENCHING MAY REQUIRE ADDITIONAL REINFORCING NOT SHOWN WHICH SHALL BE DETERMINED BY THE STRUCTURAL ENGINEER DURING CONSTRUCTION REVIEW. ALL LOOSE DIRT FROM SIDES AND BOTTOMS OF TRENCHES SHALL BE REMOVED. CUT HAUNCHES ON EACH SIDE OF TRENCHES OF ADEQUATE SIZE TO MAINTAIN THE VERTICAL SIDES OF THE TRENCH.
- 320. TRENCH BELOW THE SLAB THICKNESS FOR PLACING ELECTRICAL CONDUIT AND PLUMBING LINES. BURY ELECTRICAL CONDUIT AND PLUMBING LINES BELOW THE SLAB THICKNESS AND OUTSIDE OF THE GRADE BEAM TRENCHES. DO NOT PLACE CONDUIT OR PLUMBING PIPES UNDER AND PARALLEL TO GRADE BEAMS. WRAP ANY SEWER, STORM, WATER OR ELECTRICAL PIPING LINES CROSSING GRADE BEAMS WITH PVC SLEEVES FOR PROTECTION FROM GROUND MOVEMENTS. EXTEND SLEEVES AT LEAST 6 INCHES PAST THE TRENCH WIDTH. ISOLATE CONCRETE-ENCASED GROUNDING ELECTRODE FROM STRUCTURAL REINFORCING.
- 321. PROVIDE SYNVO-FLEX PREFORMED PLASTIC WATERSTOPS IN CONCRETE CONSTRUCTION JOINTS BELOW GRADE AS PER MANUFACTURER'S RECOMMENDATIONS.
- 322. FLOWABLE FILL MIX SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 300 PSI AT 28 DAYS AND COMPLY WITH THE REQUIREMENTS OF ACI 222R.
 - MIX SHALL BE DESIGNED FOR PLACEMENT WITHOUT CONSOLIDATION. WHEN NECESSARY, THE USE OF SPECIALTY ADMIXTURES IS ACCEPTABLE TO ENHANCE FLOWABILITY, REDUCE SHRINKAGE AND SEGREGATION BY MAINTAINING SOLIDS IN SUSPENSION. FOLLOW ADMIXTURE MANUFACTURERS RECOMMENDATIONS FOR PROPORTIONING.
 - FLOWABLE FILL IS A HYDRAULIC MIX AND THE CONTRACTOR SHALL ENSURE ALL FORMWORK IS ADEQUATELY BRACED AGAINST DISPLACEMENT AND MOVEMENT.
 - BEFORE PLACEMENT OF ANY FLOWABLE FILL CONCRETE, SUBMIT CONCRETE MIX DESIGN (S) TO BE USED ON THE PROJECT.

STRUCTURAL STEEL

- 40. ALL STRUCTURAL STEEL CONSTRUCTION SHALL CONFORM TO THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION INC., "STEEL CONSTRUCTION MANUAL".
- 41. UNLESS NOTED OTHERWISE, STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING:

STEEL SHAPE (AISC)	TYPE OF STEEL (ASTM)
ANGLES & PLATES	A36
S, M, C, MC	A36 OR A572 GRADE 50
HP	A572 GRADE 50
W	A992
PIPE	A53 GRADE B
HSS	A500 GRADE B OR C
TIE ROD	A36 OR A307A
- 42. ALL BOLT HOLES SHALL BE STANDARD SIZE (BOLT D + 1/16") UNLESS NOTED OTHERWISE ON DRAWINGS.
- 43. STRUCTURAL STEEL WORK SHALL CONFORM TO THE AISC "ALLOWABLE STRESS DESIGN" SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, AND THE AISC "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES".
- 44. ANCHOR RODS SHALL BE ASTM F1554 3/4" DIAMETER WITH 4" HOOKS AND 9" EMBEDMENT, UNLESS NOTED OTHERWISE.
- 45. HIGH STRENGTH BOLTING SHALL BE DONE IN ACCORDANCE WITH AISC "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR ASTM A490 BOLTS."
- 46. BOLTS, NUTS, AND WASHERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A325. BOLTS SHALL BE 3/4 INCH DIAMETER MINIMUM.
- 47. WELDING SHALL BE DONE BY CERTIFIED WELDERS AND SHALL CONFORM TO AWS D1.1 "STRUCTURAL WELDING CODE-STEEL". ALL WELDING ELECTRODES SHALL BE E70XX.
- 48. THE FABRICATOR/ERECTOR SHALL SUBMIT TO THE ARCHITECT FOR REVIEW, ENGINEERED AND CHECKED DRAWINGS SHOWING SHOP FABRICATION DETAILS, FIELD ASSEMBLY DETAILS, AND ERECTION DIAGRAMS FOR ALL STRUCTURAL STEEL.
- 49. UNLESS NOTED OTHERWISE, CONNECTIONS SHALL BE EITHER AISC SINGLE PLATE OR DOUBLE ANGLE SHEAR CONNECTIONS USING A325 BOLTS IN SHEAR BEARING TYPE CONNECTIONS.
- 410. ALL STRUCTURAL BOLTS SHALL BE SNUG-TIGHTENED JOINTS PER RCSC. ALL BOLTS SHALL BE TIGHTENED SUFFICIENTLY TO PREVENT THE TURNING OF THE NUTS WITHOUT THE USE OF A WRENCH AND CREATE FRIM CONTACT BETWEEN THE CONNECTING ELEMENTS.
- 411. ALL BOLTS SHALL BE INSTALLED PER RCSC "SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS".
- 412. FIELD CONNECTIONS, EXCEPT WHERE SHOWN TO BE WELDED, SHALL BE BOLTED.
- 413. CONNECTIONS SHALL BE DESIGNED BY STRUCTURAL ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS LOCATED FOR THE BEAM REACTION INDICATED ON THE DRAWINGS. CALCULATIONS MUST BE SUBMITTED WITH THE SHOP DRAWING FOR REVIEW AND APPROVAL. IN CASES WHERE REACTIONS ARE NOT INDICATED PROVIDE AT LEAST ONE-HALF (1/2) OF THE UNIFORM LOAD CARRYING CAPACITY OF BEAM. THE MINIMUM NUMBER OF BOLTS FOR ANY CONNECTIONS SHALL BE TWO (2).
- 414. BEAMS AND JOISTS SHALL BE FABRICATED WITH THE NATURAL CAMBER UP. PROVIDE CAMBERS AS INDICATED ON THE DRAWINGS.
- 415. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL OF ALL ERECTION PROCEDURES AND SEQUENCES WITH RELATION TO TEMPERATURE DIFFERENTIALS, ESPECIALLY WITH RESPECT TO STRUCTURAL STEEL FRAMING INTO CONCRETE WALLS, BEAMS, OR COLUMNS.
- 416. THERE SHALL BE NO FIELD CUTTING OF STRUCTURAL STEEL MEMBERS FOR THE WORK OF OTHER TRADES WITHOUT THE PRIOR WRITTEN APPROVAL OF THE ARCHITECT.
- 417. ERECT AND MAINTAIN TEMPORARY BRACING TO INSURE THE ALIGNMENT AND STABILITY OF THE STRUCTURE DURING ERECTION UNTIL PERMANENT CONNECTIONS HAVE BEEN COMPLETED.
- 418. ALL STRUCTURAL STEEL EXPOSED TO VIEW IN THE FINISHED BUILDING SHALL CONFORM TO THE AISC "CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES, SECTION 10." ARCHITECTURAL EXPOSED STRUCTURAL STEEL."
- 419. ALL EXTERIOR STRUCTURAL STEEL SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A123 AND ASTM A835. FIELD WELDS SHALL BE GROUND SMOOTH AND TOUCH UP IN ACCORDANCE WITH ASTM A780.
- 420. ALL STAIRWAYS, PLATFORMS AND LANDINGS SHALL BE ADEQUATE TO SUPPORT A LIVE LOAD OF 100 POUNDS PER SQUARE FOOT AND A CONCENTRATED LOAD OF 300 POUNDS. THE FABRICATOR/ERECTOR SHALL SUBMIT TO THE ARCHITECT FOR REVIEW, ENGINEERED AND CHECKED DRAWING SHOWING SHOP FABRICATION DETAILS, AND ERECTION DIAGRAMS FOR ALL STAIRWAYS PLATFORMS AND LANDINGS. THE CONTRACTOR SHALL SUBMIT CERTIFICATE OF APPROVAL OF THE STEEL FABRICATOR AS DEFERRED SUBMITTAL.
- 421. STRUCTURAL STEEL MEMBERS FRAMING THE CANOPY'S SHALL BE CONSTRUCTED AS ARCHITECTUREALLY EXPOSED STRUCTURAL STEEL AND SHALL COMPLY WITH SECTION 10, AISC 303, CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES. AISC CATEGORY 3 IS BASE CATEGORY FOR PROJECT. CONTRACTOR SHALL CONSULT ARCHITECT FOR FINAL CATEGORY REQUIREMENTS FOR AISC COMPONENTS MEMBERS BEFORE BIDDING.

STRUCTURAL METAL DECK

- 50. THE MANUFACTURE AND ERECTION OF STEEL DECK AND ITS ANCHORAGE, SHALL AT A MINIMUM, BE IN ACCORDANCE WITH "DESIGN MANUAL FOR COMPOSITE DECKS, FLOOR DECKS AND ROOF DECKS" OF THE STEEL DECK INSTITUTE (SDI). METAL DECK SHALL BE DESIGNED FOR THE SPANS AND LOADING CONDITIONS SHOWN ON THE DRAWINGS, AND/OR IN THE METAL DECK SCHEDULE.
- 51. METAL DECK SECTION PROPERTIES SHALL BE COMPUTED IN ACCORDANCE WITH AISI "SPECIFICATION FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS." METAL DECKING SHALL BE FABRICATED FROM STEEL TYPE ASTM A445, GRADE A, HAVING A MINIMUM YIELD STRENGTH OF 40,000 PSI. METAL ROOF DECK AND COMPOSITE FLOOR DECK SHALL BE GALVANIZED.
- 52. PROVIDE ENGINEERED AND CHECKED SHOP DRAWINGS INDICATING LOCATION, GAGE, AND SIZE OF EACH PIECE OF DECKING. THE SHOP DRAWINGS SHALL CLEARLY SHOW WELDING DETAILS TO STRUCTURAL FRAMING AND SIDE LAP CONNECTION DETAILS. SUBMIT SHOP DRAWING CALCULATIONS, SIGN & SEALED BY AN ENGINEER REGISTERED IN THE STATE WHERE THE PROJECT IS LOCATED.
- 53. PROVIDE, AS REQUIRED, RIDGE AND VALLEY PLATES, COLUMN CLOSURES, CANT STRIPS, SUMP PLATES AT PIPING PENETRATIONS AND RECESSED SUMP PANS AT ROOF DRAINS. PROVIDE SUPPLEMENTAL FRAMING AT OPENINGS AS REQUIRED FOR SUPPORT OF THE METAL DECK. OPENINGS SHALL BE COORDINATED WITH ARCHITECTURAL AND MECHANICAL DRAWINGS.
- 54. ANY METAL DECK OPENING THAT IS 12-INCH DIAMETER OR LARGER OR ANY GROUP OF OPENINGS THAT PENETRATE MORE THAN ONE METAL DECK RIB SHALL BE FRAMED WITH SUPPLEMENTAL STEEL FRAMING AS ACCEPTABLE TO THE STRUCTURAL ENGINEER OF RECORD.
- 55. NO LOADS SHALL BE PERMITTED TO BE HUNG DIRECTLY FROM METAL ROOF DECK OR FROM DECK.
- 56. DECK SHALL HAVE A MINIMUM EXTERIOR BEARING LENGTH OF 2' AND A MINIMUM INTERIOR BEARING LENGTH OF 4'.
- 57. STEEL DECK ATTACHMENTS UTILIZING WELDS SHALL BE IN CONFORMANCE WITH AWS D1.1 AND AWS D1.3 "SPECIFICATION FOR WELDING SHEET STEEL IN STRUCTURES".
- 58. UNLESS NOTED OTHERWISE, STEEL DECKING SHALL BE INSTALLED PERPENDICULAR TO STEEL SUPPORT BEAMS/BAR JOISTS.
- 59. ALL METAL DECKS HAVE BEEN DESIGNED TO ACT AS SHEAR DIAPHRAGMS AND PROVIDE BRACING AND LATERAL STABILITY FOR THE BUILDING. TEMPORARY ERECTION BRACING MUST BE PROVIDED UNTIL METAL DECKS ARE IN PLACE AND FULLY CONNECTED.
- 510. METAL DECKING SHALL BE WELDED AT 12 INCHES MAXIMUM ON CENTER TO THE SUPPORTING STEEL, INCLUDING EDGES. END SUPPORTS AND INTERMEDIATE SUPPORTS WITH A 6-INCH DIAMETER RIVULET. SEEL LAPS SHALL BE A MIN. OF #10 TEE SCREWS AT 12 INCHES MAXIMUM ON CENTER, NO WELD OR FASTENER SPACING SHALL BE GREATER THAN THAT RECOMMENDED BY THE DECK MANUFACTURER. METAL DECK SHALL BE CAPABLE OF RESISTING 375 PLF OF DECK SHEAR.
- 511. THE METAL DECK SHALL BE DESIGNED TO BE CONTINUOUS OVER THREE (3) SPANS IN THE DIRECTION INDICATED. SINGLE AND DOUBLE SPANS, IF REQUIRED, SHALL SATISFY LOAD AND DEFLECTION REQUIREMENTS.
- 512. ROOF METAL DECK SHALL BE CAPABLE OF RESISTING A NET WIND UPLIFT PRESSURE OF 21 PSF.

ABBREVIATIONS

8	=	AND
Ø	=	AT
A	=	ALTERNATE
APPROX.	=	APPROXIMATE
BLDG.	=	BUILDING
BM.	=	BEAM
BRG.	=	BEARING
BSMT.	=	BASEMENT
BTWN.	=	BETWEEN
B/	=	BOTTOM OF
BOT.	=	BOTTOM
BLKG.	=	BLOCKING
BLK.	=	BLOCK
CFMF.	=	COLD FORMED METAL FRAMING
CFS.	=	COLD-FORMED STEEL
CJ.	=	CONTROL, OR CONSTRUCTION JOINT
CL.	=	CENTER LINE
CLG.	=	CILING
CMU.	=	CONC. MASONRY UNIT
COL.	=	COLUMN
CONC.	=	CONCRETE
CONT.	=	CONTINUOUS
CONST.	=	CONSTRUCTION
DTL.	=	DETAIL
DIA.	=	DIAMETER
DIM.	=	DIMENSION
DN.	=	DOWN
DR.	=	DOOR
DWG.	=	DRAWING
DBL.	=	DOUBLE
EA.	=	EACH
E.F.	=	EACH FACE
EL.	=	ELEVATION
EQU.	=	EQUIL
EOP.	=	EQUIPMENT
E.W.	=	EACH WAY
EX.	=	EXISTING
EXT.	=	EXTERIOR
EXP.	=	EXPANSION
F.D.	=	FLOOR DRAIN
F.F.	=	FINISH FLOOR
FL.	=	FLOOR
FDN.	=	FOUNDATION
F.O.	=	FACE OF
F.S.	=	FAR SIDE
FT.	=	FOOT
FTG.	=	FOOTING
GA.	=	GAUGE
GALV.	=	GALVANIZED
GYP.BD.	=	GYP.SUM BOARD
HDR.	=	HEADER
HORIZ.	=	HORIZONTAL
HST.	=	HEIGHT
I.D.	=	INSIDE DIAMETER
INSUL.	=	INSULATION
INT.	=	INTERIOR
JT.	=	JOINT
LG.	=	LONG
LVLV.	=	LONG-LEG VERTICAL
L.T.	=	LIGHT
L.W.	=	LONG WAY
MANUF.	=	MANUFACTURER
MAS.	=	MASONRY
MAX.	=	MAXIMUM
MESH.	=	MECHANICAL
MTL.	=	METAL
MIN.	=	MINIMUM
MISC.	=	MISCELLANEOUS
N.I.C.	=	NOT IN CONTRACT
NO.	=	NUMBER
NOM.	=	NOMINAL
N.T.S.	=	NOT TO SCALE
O.C.	=	ON CENTER
O.D.	=	OUTSIDE DIAMETER
OPNG.	=	OPENING
OPT.	=	OPTIONAL

GENERAL

- ALL SPECIAL INSPECTIONS SHALL BE PERFORMED IN ACCORDANCE WITH CHAPTER 17 OF THE BUILDING CODE AS LISTED IN 1.0, INCLUDING ADOPTED AMENDMENTS. SPECIAL INSPECTIONS ARE IN ADDITION TO INSPECTIONS REQUIRED BY SECTION 110 OF THE BUILDING CODE AS LISTED IN 1.0.
- THE SPECIAL INSPECTOR SHALL OBSERVE THE INDICATED WORK FOR COMPLIANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTOR FOR CORRECTION AND NOTED IN THE INSPECTION REPORTS.
- THE SPECIAL INSPECTOR AND GEOTECHNICAL ENGINEER SHALL FURNISH INSPECTION REPORTS FOR EACH INSPECTION TO THE BUILDING OFFICIAL, STRUCTURAL ENGINEER, ARCHITECT, CONTRACTOR, AND OWNER. THE SPECIAL INSPECTION AGENCY SHALL SUBMIT A FINAL REPORT STATING THAT THE WORK REQUIRING SPECIAL INSPECTION WAS INSPECTED AND IS IN CONFORMANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS AND THAT ALL DISCREPANCIES NOTED IN THE INSPECTION REPORTS HAVE BEEN CORRECTED.
- INSPECTION TYPES:
 CONTINUOUS: THE FULL-TIME OBSERVATION OF WORK REQUIRING SPECIAL INSPECTION BY AN APPROVED SPECIAL INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK IS BEING PERFORMED.
 PERIODIC: THE PART-TIME OR INTERMITTENT OBSERVATION OF WORK REQUIRING SPECIAL INSPECTION BY AN APPROVED SPECIAL INSPECTOR WHO IS PRESENT IN THE AREA WHERE THE WORK HAS BEEN OR IS BEING PERFORMED AND AT THE COMPLETION OF THE WORK.
 OBSERVE: OBSERVE THESE FUNCTIONS ON A RANDOM, DAILY BASIS. OPERATIONS NEED NOT BE DELAYED PENDING OBSERVATIONS.
 PERFORM: INSPECTIONS SHALL BE PERFORMED PRIOR TO THE FINAL ACCEPTANCE OF THE ITEM.

MATERIALS

- NEW MATERIALS:** NEW BUILDING MATERIALS, EQUIPMENT, APPLIANCES, SYSTEMS OR METHODS OF CONSTRUCTION NOT PROVIDED FOR IN THIS CODE, AND ANY MATERIAL QUESTIONED SUITABILITY PROPOSED FOR USE IN THE CONSTRUCTION OF A BUILDING OR STRUCTURE, SHALL BE SUBJECT TO THE TESTS PRESCRIBED IN THIS CHAPTER AND IN THE APPROVED RULES TO DETERMINE CHARACTER, QUALITY AND LIMITATIONS OF USE.
- USED MATERIALS:** THE USE OF SECOND HAND MATERIALS THAT MEET THE MINIMUM REQUIREMENTS OF THE BUILDING CODE AS LISTED IN 1.0. FOR NEW MATERIALS SHALL BE PERMITTED.

APPROVALS

- APPROVED AGENCY:** AN APPROVED AGENCY SHALL PROVIDE ALL INFORMATION AS NECESSARY FOR THE BUILDING OFFICIAL TO DETERMINE THAT THE AGENCY MEETS THE APPLICABLE REQUIREMENTS SPECIFIED IN SECTIONS 1703.1.1 THROUGH 1703.1.3 OF THE BUILDING CODE AS LISTED IN 1.0.
 - INDEPENDENCE:** AN APPROVED AGENCY SHALL BE OBJECTIVE, COMPETENT AND INDEPENDENT FROM THE CONTRACTOR RESPONSIBLE FOR THE WORK BEING INSPECTED. THE AGENCY SHALL DISCLOSE TO THE BUILDING OFFICIAL AND THE REGISTERED DESIGN PROFESSIONAL, IN RESPONSIBLE CHARGE, POSSIBLE CONFLICTS OF INTEREST SO THAT OBJECTIVITY CAN BE CONFIRMED.
 - EQUIPMENT:** AN APPROVED AGENCY SHALL HAVE ADEQUATE EQUIPMENT TO PERFORM REQUIRED TESTS. THE EQUIPMENT SHALL BE PERIODICALLY CALIBRATED.
 - PERSONNEL:** AN APPROVED AGENCY SHALL EMPLOY EXPERIENCED PERSONNEL EDUCATED IN CONDUCTING, SUPERVISING, AND EVALUATING TESTS AND SPECIAL INSPECTIONS.
- WRITTEN APPROVAL:** ANY MATERIAL, APPLIANCE, EQUIPMENT, SYSTEM OR METHOD OF CONSTRUCTION MEETING THE REQUIREMENTS OF THIS CODE SHALL BE APPROVED IN WRITING AFTER SATISFACTORY COMPLETION OF THE REQUIRED TESTS AND SUBMISSION OF REQUIRED TEST REPORTS.
- RECORD OF APPROVAL:** FOR ANY MATERIAL, APPLIANCE, EQUIPMENT, SYSTEM OR METHOD OF CONSTRUCTION THAT HAS BEEN APPROVED, A RECORD OF SUCH APPROVAL, INCLUDING THE CONDITIONS AND LIMITATIONS OF THE APPROVAL, SHALL BE KEPT ON FILE IN THE BUILDING OFFICIALS OFFICE AND SHALL BE AVAILABLE FOR PUBLIC REVIEW AT APPROPRIATE TIMES.
- PERFORMANCE:** SPECIFIC INFORMATION CONSISTING OF TEST REPORTS CONDUCTED BY AN APPROVED AGENCY IN ACCORDANCE WITH THE APPROPRIATE REFERENCED STANDARDS, OR OTHER SUCH INFORMATION AS NECESSARY, SHALL BE PROVIDED FOR THE BUILDING OFFICIAL TO DETERMINE THAT THE PRODUCT, MATERIAL OR ASSEMBLY MEETS THE APPLICABLE CODE REQUIREMENTS.
 - RESEARCH AND INVESTIGATION:** SUFFICIENT TECHNICAL DATA SHALL BE SUBMITTED TO THE BUILDING OFFICIAL TO SUBstantiate THE PROPOSED USE OF ANY PRODUCT, MATERIAL OR ASSEMBLY. IF IT IS DETERMINED THAT THE EVIDENCE SUBMITTED IS SATISFACTORY PROOF OF PERFORMANCE FOR THE USE INTENDED, THE BUILDING OFFICIAL SHALL APPROVE THE USE OF THE PRODUCT, MATERIAL OR ASSEMBLY SUBJECT TO THE REQUIREMENTS OF THIS CODE. THE COST REPORTS AND INVESTIGATIONS REQUIRED UNDER THESE PROVISIONS SHALL BE PAID BY THE OWNER OR THE OWNERS AUTHORIZED AGENT.
 - RESEARCH REPORTS:** SUPPORTING DATA, WHERE NECESSARY TO ASSIST IN THE APPROVAL OF PRODUCTS, MATERIALS OR ASSEMBLIES NOT SPECIFICALLY PROVIDED FOR IN THIS CODE, SHALL CONSIST OF VALID RESEARCH REPORTS FROM APPROVED SOURCES.
- LABELING:** PRODUCTS, MATERIALS OR ASSEMBLIES REQUIRED TO BE LABELED IN ACCORDANCE WITH THE PROCEDURES SET FORTH IN SECTIONS 1703.5.1 THROUGH 1703.5.4 OF THE BUILDING CODE AS LISTED IN 1.0.
 - TESTING:** AN APPROVED AGENCY SHALL TEST A REPRESENTATIVE SAMPLE OF THE PRODUCT, MATERIAL OR ASSEMBLY BEING LABELED TO THE RELEVANT STANDARD OR STANDARDS. THE APPROVED AGENCY SHALL MAINTAIN A RECORD OF THE TESTS PERFORMED. THE RECORD SHALL PROVIDE SUFFICIENT DETAIL TO VERIFY COMPLIANCE WITH THE TEST STANDARD.
 - INSPECTION AND IDENTIFICATION:** THE APPROVED AGENCY SHALL PERIODICALLY PERFORM AN INSPECTION, WHICH SHALL BE IN-PLACE IF NECESSARY, OF THE PRODUCT OR MATERIAL THAT IS TO BE LABELED. THE INSPECTION SHALL VERIFY THAT THE LABELED PRODUCT, MATERIAL OR ASSEMBLY IS REPRESENTATIVE OF THE PRODUCT, MATERIAL OR ASSEMBLY TESTED.
 - LABEL INFORMATION:** THE LABEL SHALL CONTAIN THE MANUFACTURER'S IDENTIFICATION, MODEL NUMBER, SERIAL NUMBER OR DEFINITIVE INFORMATION DESCRIBING THE PERFORMANCE CHARACTERISTICS OF THE PRODUCT, MATERIAL OR ASSEMBLY IDENTIFICATION.
 - METHOD OF LABELING:** INFORMATION REQUIRED TO BE PERMANENTLY IDENTIFIED ON THE PRODUCT, MATERIAL OR ASSEMBLY SHALL BE ACID ETCHED, SAND BLASTED, CERAMIC FIRED, LASER ETCHED, EMBOSSED OR OF A TYPE THAT, ONCE APPLIED, CANNOT BE REMOVED WITHOUT BEING DESTROYED.
- EVALUATION AND FOLLOW-UP INSPECTION SERVICES:** WHERE STRUCTURAL COMPONENTS OR OTHER ITEMS REGULATED BY THIS CODE ARE NOT VISIBLE FOR INSPECTION AFTER COMPLETION OF A PREFABRICATED ASSEMBLY, THE OWNER OR THE OWNERS AUTHORIZED AGENT SHALL SUBMIT A REPORT OF EACH PREFABRICATED ASSEMBLY. THE REPORT SHALL INDICATE THE COMPLETE DETAILS OF THE ASSEMBLY, INCLUDING A DESCRIPTION OF THE ASSEMBLY AND ITS COMPONENTS, THE BASIS UPON WHICH THE ASSEMBLY IS BEING EVALUATED, TEST RESULTS AND SIMILAR INFORMATION AND OTHER DATA AS NECESSARY FOR THE BUILDING OFFICIAL TO DETERMINE CONFORMANCE TO THIS CODE. SUCH A REPORT SHALL BE APPROVED BY THE BUILDING OFFICIAL.
 - FOLLOW-UP INSPECTIONS:** THE OWNER OR THE OWNERS AUTHORIZED AGENT SHALL PROVIDE FOR SPECIAL INSPECTIONS OF FABRICATED ITEMS IN ACCORDANCE WITH SECTION 1704.2.5 OF THE BUILDING CODE AS LISTED IN 1.0.
 - TEST AND INSPECTION RECORDS:** COPIES OF NECESSARY TEST AND SPECIAL INSPECTION RECORDS SHALL BE FILED WITH THE BUILDING OFFICIAL.

SPECIAL INSPECTIONS AND TESTS, CONTRACTOR RESPONSIBILITY AND STRUCTURAL OBSERVATION

- GENERAL:** SPECIAL INSPECTIONS AND TESTS, STATEMENTS OF SPECIAL INSPECTIONS, RESPONSIBILITIES OF CONTRACTORS, SUBMITTALS TO THE BUILDING OFFICIAL AND STRUCTURAL OBSERVATIONS SHALL MEET THE APPLICABLE REQUIREMENTS OF THIS SECTION.
- SPECIAL INSPECTIONS AND TESTS:** WHERE APPLICATION IS MADE TO THE BUILDING OFFICIAL FOR CONSTRUCTION AS SPECIFIED IN SECTION 1105 OF THE BUILDING CODE AS LISTED IN 1.0, THE OWNER OR THE OWNERS AUTHORIZED AGENT, OTHER THAN THE CONTRACTOR, SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PROVIDE SPECIAL INSPECTIONS AND TESTS DURING CONSTRUCTION ON THE TYPES OF WORK SPECIFIED IN SECTION 1105 OF THE BUILDING CODE AS LISTED IN 1.0 AND IDENTIFY THE APPROVED AGENCIES TO THE BUILDING OFFICIAL. THESE SPECIAL INSPECTIONS AND TESTS ARE IN ADDITION TO THE INSPECTIONS BY THE BUILDING OFFICIAL THAT ARE IDENTIFIED IN SECTION 110 OF THE BUILDING CODE AS LISTED IN 1.0.
 - EXCEPTIONS:
 - SPECIAL INSPECTIONS AND TESTS ARE NOT REQUIRED FOR CONSTRUCTION OF A MINOR NATURE OR AS WARRANTED BY CONDITIONS IN THE JURISDICTION AS APPROVED BY THE BUILDING OFFICIAL.
 - UNLESS OTHERWISE REQUIRED BY THE BUILDING OFFICIAL, SPECIAL INSPECTIONS AND TESTS ARE NOT REQUIRED FOR GROUP U OCCUPANCIES THAT ARE ACCESSORY TO RESIDENTIAL OCCUPANCY INCLUDING, BUT NOT LIMITED TO, THOSE LISTED IN SECTION 312.1 OF THE BUILDING CODE AS LISTED IN 1.0.
 - SPECIAL INSPECTIONS AND TESTS ARE NOT REQUIRED FOR PORTIONS OF STRUCTURES DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE COLD-FORMED STEEL LIGHT-FRAME CONSTRUCTION PROVISIONS OF SECTION 2211.1.2 OF THE BUILDING CODE AS LISTED IN 1.0 OR THE CONVENTIONAL LIGHT-FRAME CONSTRUCTION PROVISIONS OF SECTION 2308 OF THE BUILDING CODE AS LISTED IN 1.0.
 - THE CONTRACTOR IS PERMITTED TO EMPLOY THE APPROVED AGENCIES WHERE THE CONTRACTOR IS ALSO THE OWNER.
- SPECIAL INSPECTOR QUALIFICATIONS:** PRIOR TO THE START OF THE CONSTRUCTION, THE APPROVED AGENCIES SHALL PROVIDE WRITTEN DOCUMENTATION TO THE BUILDING OFFICIAL DEMONSTRATING THE COMPETENCE AND RELEVANT EXPERIENCE OR TRAINING OF THE SPECIAL INSPECTORS WHO WILL PERFORM THE SPECIAL INSPECTIONS AND TESTS DURING CONSTRUCTION. EXPERIENCE OR TRAINING SHALL BE CONSIDERED TO BE RELEVANT WHERE THE DOCUMENTED EXPERIENCE OR TRAINING IS RELATED IN COMPLEXITY TO THE SAME TYPE OF SPECIAL INSPECTION OR TESTING ACTIVITIES FOR PROJECTS OF SIMILAR COMPLEXITY AND MATERIAL QUALITIES. THESE QUALIFICATIONS ARE IN ADDITION TO QUALIFICATIONS SPECIFIED IN OTHER SECTIONS OF THIS CODE. THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE AND ENGINEERS OF RECORD INVOLVED IN THE DESIGN OF THE PROJECT ARE PERMITTED TO ACT AS THE APPROVED AGENCY AND THEIR PERSONNEL ARE PERMITTED TO ACT AS SPECIAL INSPECTORS FOR THE WORK DESIGNED BY THEM, PROVIDED THEY QUALIFY AS SPECIAL INSPECTORS.

- ACCESS FOR SPECIAL INSPECTION:** THE CONSTRUCTION OR WORK FOR WHICH SPECIAL INSPECTION OR TESTING IS REQUIRED SHALL REMAIN ACCESSIBLE AND EXPOSED FOR SPECIAL INSPECTION OR TESTING PURPOSES UNTIL COMPLETION OF THE REQUIRED SPECIAL INSPECTIONS OR TESTS.
- STATEMENT OF SPECIAL INSPECTIONS:** THE APPLICANT SHALL SUBMIT A STATEMENT OF SPECIAL INSPECTIONS IN ACCORDANCE WITH SECTION 107.1 OF THE BUILDING CODE AS LISTED IN 1.0 AS A CONDITION FOR PERMIT ISSUANCE. THIS STATEMENT SHALL BE IN ACCORDANCE WITH SECTION 1704.3 OF THE BUILDING CODE AS LISTED IN 1.0.
- REPORT REQUIREMENT:** APPROVED AGENCIES SHALL KEEP RECORDS OF SPECIAL INSPECTIONS AND TESTS. THE APPROVED AGENCY SHALL SUBMIT REPORTS OF SPECIAL INSPECTIONS AND TESTS TO THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. REPORTS SHALL INDICATE WHAT WORK INSPECTED OR TESTED WAS OR WAS NOT COMPLETED IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THEY ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE PRIOR TO THE COMPLETION OF THAT PHASE OF THE WORK. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND TESTS, AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS OR TESTS, SHALL BE SUBMITTED AT A POINT IN TIME AGREED UPON PRIOR TO THE START OF WORK BY THE OWNER OR THE OWNERS AUTHORIZED AGENT TO THE BUILDING OFFICIAL.
- SPECIAL INSPECTION OF FABRICATED ITEMS:** WHERE FABRICATION OF STRUCTURAL LOAD-BEARING OR LATERAL LOAD-RESISTING MEMBERS OR ASSEMBLIES IS BEING CONDUCTED ON THE PREMISES OF A FABRICATOR'S SHOP, SPECIAL INSPECTIONS OF THE FABRICATED ITEMS SHALL BE PERFORMED DURING FABRICATION, EXCEPT WHERE THE FABRICATOR HAS BEEN APPROVED TO PERFORM WORK WITHOUT SPECIAL INSPECTIONS IN ACCORDANCE WITH SECTION 1704.2.5.1 OF THE BUILDING CODE AS LISTED IN 1.0.
- FABRICATOR APPROVAL:** SPECIAL INSPECTIONS DURING FABRICATION ARE NOT REQUIRED WHERE THE WORK IS DONE ON THE PREMISES OF A FABRICATOR APPROVED TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTION. APPROVAL SHALL BE BASED ON REVIEW OF THE FABRICATOR'S WRITTEN FABRICATION PROCEDURES AND QUALITY CONTROL MANUALS THAT PROVIDE A BASIS FOR CONTROL OF MATERIALS AND WORKMANSHIP, WITH PERIODIC AUDITING OF FABRICATION AND QUALITY CONTROL PRACTICES BY AN APPROVED AGENCY OR THE BUILDING OFFICIAL. AT COMPLETION OF FABRICATION, THE APPROVED FABRICATOR SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE OWNER OR THE OWNERS AUTHORIZED AGENT FOR SUBMITTAL TO THE BUILDING OFFICIAL AS SPECIFIED IN SECTION 1704.5 OF THE BUILDING CODE AS LISTED IN 1.0 STATING THAT THE WORK WAS PERFORMED IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.

- STATEMENT OF SPECIAL INSPECTIONS:** WHERE SPECIAL INSPECTIONS OR TESTS ARE REQUIRED BY SECTION 1105 OF THE BUILDING CODE AS LISTED IN 1.0, THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE SHALL PREPARE A STATEMENT OF SPECIAL INSPECTIONS IN ACCORDANCE WITH SECTION 1704.3.1 OF THE BUILDING CODE AS LISTED IN 1.0 FOR SUBMITTAL BY THE APPLICANT IN ACCORDANCE WITH SECTION 1704.2.3 OF THE BUILDING CODE AS LISTED IN 1.0.

EXCEPTIONS: THE STATEMENT OF SPECIAL INSPECTIONS IS PERMITTED TO BE PREPARED BY A QUALIFIED PERSON APPROVED BY THE BUILDING OFFICIAL FOR CONSTRUCTION NOT DESIGNED BY A REGISTERED DESIGN PROFESSIONAL.

- CONTENT OF STATEMENT OF SPECIAL INSPECTIONS:** THE STATEMENT OF SPECIAL INSPECTIONS SHALL IDENTIFY THE FOLLOWING:
 - THE MATERIALS, SYSTEMS, COMPONENTS AND WORK REQUIRED TO HAVE SPECIAL INSPECTIONS OR TESTS BY THE BUILDING OFFICIAL OR BY THE REGISTERED DESIGN PROFESSIONAL RESPONSIBLE FOR EACH PORTION OF THE WORK.
 - THE TYPE AND EXTENT OF EACH SPECIAL INSPECTION.
 - ADDITIONAL REQUIREMENTS FOR SPECIAL INSPECTIONS OR TESTS FOR SEISMIC OR WIND RESISTANCE AS SPECIFIED IN SECTIONS 1705.11, 1705.12 AND 1705.13 OF THE BUILDING CODE AS LISTED IN 1.0.
 - FOR EACH TYPE OF SPECIAL INSPECTION, IDENTIFICATION AS TO WHETHER IT WILL BE CONTINUOUS SPECIAL INSPECTION, PERIODIC SPECIAL INSPECTION OR PERFORMED IN ACCORDANCE WITH THE NOTATION USED IN THE REFERENCED STANDARD WHERE THE INSPECTIONS ARE DEFINED.
- SEISMIC REQUIREMENTS IN THE STATEMENT OF SPECIAL INSPECTIONS:** WHERE SECTION 1705.12 OR 1705.13 OF THE BUILDING CODE AS LISTED IN 1.0 SPECIFIES SPECIAL INSPECTIONS OR TESTS FOR SEISMIC RESISTANCE, THE STATEMENT OF SPECIAL INSPECTIONS SHALL IDENTIFY THE DESIGNATED SEISMIC SYSTEMS AND SEISMIC FORCE-RESISTING SYSTEMS THAT ARE SUBJECT TO THE SPECIAL INSPECTIONS OR TESTS.
- WIND REQUIREMENTS IN THE STATEMENT OF SPECIAL INSPECTIONS:** WHERE SECTION 1105.11 OF THE BUILDING CODE AS LISTED IN 1.0 SPECIFIES SPECIAL INSPECTION FOR WIND RESISTANCE, THE STATEMENT OF SPECIAL INSPECTIONS SHALL IDENTIFY THE MAIN WINDFORCE-RESISTING SYSTEMS AND WIND-RESISTING COMPONENTS THAT ARE SUBJECT TO SPECIAL INSPECTIONS.

- CONTRACTOR RESPONSIBILITY:** EACH CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF A MAIN WIND- OR SEISMIC FORCE-RESISTING SYSTEM, DESIGNATED SEISMIC SYSTEM OR A WIND- OR SEISMIC FORCE-RESISTING COMPONENT LISTED IN THE STATEMENT OF SPECIAL INSPECTIONS SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND THE OWNER OR THE OWNERS AUTHORIZED AGENT PRIOR TO THE COMMENCEMENT OF WORK ON THE SYSTEM OR COMPONENT. THE CONTRACTOR'S STATEMENT OF RESPONSIBILITY SHALL CONTAIN ACKNOWLEDGEMENT OF AWARENESS OF THE SPECIAL REQUIREMENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTIONS.
- SUBMITTALS TO THE BUILDING OFFICIAL:** IN ADDITION TO THE SUBMITTAL OF REPORTS OF SPECIAL INSPECTIONS AND TESTS IN ACCORDANCE WITH SECTION 1704.2.4 OF THE BUILDING CODE AS LISTED IN 1.0, REPORTS AND CERTIFICATES SHALL BE SUBMITTED BY THE OWNER OR THE OWNERS AUTHORIZED AGENT TO THE BUILDING OFFICIAL FOR EACH OF THE FOLLOWING IN ACCORDANCE WITH SECTION 1704.5 OF THE BUILDING CODE AS LISTED IN 1.0.
 - STRUCTURAL OBSERVATIONS FOR STRUCTURES:** STRUCTURAL OBSERVATIONS SHALL BE PROVIDED FOR THOSE STRUCTURES WHERE ONE OR MORE OF THE FOLLOWING CONDITIONS EXIST:
 - THE STRUCTURE IS CLASSIFIED AS RISK CATEGORY IV.
 - THE STRUCTURE IS A HIGH-RISE BUILDING.
 - SUCH OBSERVATION IS REQUIRED BY THE REGISTERED DESIGN PROFESSIONAL RESPONSIBLE FOR THE STRUCTURAL DESIGN.
 - SUCH OBSERVATION IS SPECIFICALLY REQUIRED BY THE BUILDING OFFICIAL.
 - STRUCTURAL OBSERVATIONS FOR SEISMIC RESISTANCE:** STRUCTURAL OBSERVATIONS SHALL BE PROVIDED FOR THOSE STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY D, E OR F WHERE ONE OR MORE OF THE FOLLOWING CONDITIONS EXIST:
 - THE STRUCTURE IS CLASSIFIED AS RISK CATEGORY III OR IV.
 - THE STRUCTURE IS ASSIGNED TO SEISMIC DESIGN CATEGORY E, IS CLASSIFIED AS RISK CATEGORY I OR II, AND IS GREATER THAN TWO STORES ABOVE THE GRADE PLANE.
 - STRUCTURAL OBSERVATIONS FOR WIND RESISTANCE:** STRUCTURAL OBSERVATIONS SHALL BE PROVIDED FOR THOSE STRUCTURES SITED WHERE V IS 130 MPH (58 MISC) OR GREATER AND THE STRUCTURE IS CLASSIFIED AS RISK CATEGORY III OR IV.

REQUIRED SPECIAL INSPECTIONS AND TESTS

- GENERAL:** SPECIAL INSPECTIONS AND TESTS OF ELEMENTS AND NONSTRUCTURAL COMPONENTS OF BUILDINGS AND STRUCTURES SHALL MEET THE APPLICABLE REQUIREMENTS OF THIS SECTION.
- STEEL CONSTRUCTION:** THE SPECIAL INSPECTIONS AND NONDESTRUCTIVE TESTING OF STEEL CONSTRUCTION IN BUILDINGS, STRUCTURES, AND PORTIONS THEREOF SHALL BE IN ACCORDANCE WITH THIS SECTION.
 - EXCEPTIONS: SPECIAL INSPECTIONS OF THE STEEL FABRICATION PROCESS SHALL NOT BE REQUIRED WHERE THE FABRICATION PROCESS FOR THE ENTIRE BUILDING OR STRUCTURE DOES NOT INCLUDE ANY WELDING, THERMAL CUTTING OR HEATING OPERATION OF ANY KIND. IN SUCH CASES, THE FABRICATOR SHALL BE REQUIRED TO SUBMIT A DETAILED PROCEDURE FOR MATERIAL CONTROL THAT DEMONSTRATES THE FABRICATOR'S ABILITY TO MAINTAIN SUITABLE RECORDS AND PROCEDURES SUCH THAT, AT ANY TIME DURING THE FABRICATION PROCESS, THE MATERIAL SPECIFICATION AND GRADE FOR THE MAIN STRESS-CARRYING ELEMENTS ARE CAPABLE OF BEING DETERMINED. MILL TEST REPORTS SHALL BE IDENTIFIABLE TO THE MAIN STRESS-CARRYING ELEMENTS WHERE REQUIRED BY THE APPROVED CONSTRUCTION DOCUMENTS.
- STRUCTURAL STEEL:** SPECIAL INSPECTIONS AND NONDESTRUCTIVE TESTING OF STRUCTURAL STEEL ELEMENTS IN BUILDINGS, STRUCTURES AND PORTIONS THEREOF SHALL BE IN ACCORDANCE WITH THE QUALITY ASSURANCE INSPECTION REQUIREMENTS OF AISC 360.
 - EXCEPTIONS: SPECIAL INSPECTION OF RAILING SYSTEMS COMPOSED OF STRUCTURAL STEEL ELEMENTS SHALL BE LIMITED TO WELDING INSPECTION OF WELDS AT THE BASE OF CANTILEVERED RAIL POSTS.
- COLD-FORMED STEEL DECK:** SPECIAL INSPECTIONS AND QUALIFICATION OF WELDING SPECIAL INSPECTORS FOR COLD-FORMED STEEL FLOOR AND ROOF DECK SHALL BE IN ACCORDANCE WITH THE QUALITY ASSURANCE INSPECTION REQUIREMENTS OF SDI 0400.
- OPEN-WEB STEEL JOISTS AND JOIST GIRDERS:** SPECIAL INSPECTIONS OF OPEN-WEB STEEL JOISTS AND JOIST GIRDERS IN BUILDINGS, STRUCTURES AND PORTIONS THEREOF SHALL BE IN ACCORDANCE WITH TABLE 1705.2.3 OF THE BUILDING CODE AS LISTED IN 1.0.
 - EXCEPTIONS: SPECIAL INSPECTIONS AND TESTS SHALL NOT BE REQUIRED FOR:
 - ISOLATED SPREAD CONCRETE FOOTINGS OF BUILDINGS THREE STORES OR LESS ABOVE GRADE PLANE THAT ARE FULLY SUPPORTED ON EARTH OR ROCK.
 - CONTINUOUS CONCRETE FOOTINGS SUPPORTING WALLS OF BUILDINGS THREE STORES OR LESS ABOVE GRADE PLANE THAT ARE FULLY SUPPORTED ON EARTH OR ROCK WHERE:
 - THE FOOTINGS ARE DESIGNED IN ACCORDANCE WITH TABLE 1809.7 OF THE BUILDING CODE AS LISTED IN 1.0.
 - THE STRUCTURAL DESIGN OF THE FOOTING IS BASED ON A SPECIFIED COMPRESSIVE STRENGTH, f'_c , NOT MORE THAN 2,500 POUNDS PER SQUARE INCH (PSI) (17.2 MPa), REGARDLESS OF THE COMPRESSIVE STRENGTH SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS OR USED IN THE FOOTING CONSTRUCTION.
 - NONSTRUCTURAL CONCRETE SLABS SUPPORTED DIRECTLY ON THE GROUND, INCLUDING PRESTRESSED SLABS ON GRADE, WHERE THE EFFECTIVE PRESTRESS IN THE CONCRETE IS LESS THAN 150 PSI (1.03 MPa).
 - CONCRETE FOUNDATION WALLS CONSTRUCTED IN ACCORDANCE WITH TABLE 1807.6.2 OF THE BUILDING CODE AS LISTED IN 1.0.
 - CONCRETE PATIOS, DRIVEWAYS AND SIDEWALKS, ON GRADE.
- WELDING OF REINFORCING BARS:** SPECIAL INSPECTIONS OF WELDING AND QUALIFICATIONS OF SPECIAL INSPECTORS FOR REINFORCING BARS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF AWS D1.4 FOR SPECIAL INSPECTION AND OF AWS D1.4 FOR SPECIAL INSPECTOR QUALIFICATION.
- MATERIAL TESTS:** IN THE ABSENCE OF SUFFICIENT DATA OR DOCUMENTATION PROVIDING EVIDENCE OF CONFORMANCE TO QUALITY STANDARDS FOR MATERIALS IN CHAPTERS 19 AND 20 OF ACI 318, THE BUILDING OFFICIAL SHALL REQUIRE TESTING OF MATERIALS IN ACCORDANCE WITH THE APPROPRIATE STANDARDS AND CRITERIA FOR THE MATERIAL IN CHAPTERS 19 AND 20 OF ACI 318.
 - EXCEPTIONS: WHERE SECTION 1803 OF THE BUILDING CODE AS LISTED IN 1.0 DOES NOT REQUIRE REPORTING OF MATERIALS AND PROCEDURES FOR FILL PLACEMENT, THE SPECIAL INSPECTOR SHALL VERIFY THAT THE IN-PLACE DRY DENSITY OF THE COMPACTED FILL IS NOT LESS THAN 90 PERCENT OF THE MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT DETERMINED IN ACCORDANCE WITH ASTM D1557.

- CONCRETE CONSTRUCTION:** SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THIS SECTION AND TABLE 1705.3 OF THE BUILDING CODE AS LISTED IN 1.0.

EXCEPTIONS: SPECIAL INSPECTIONS AND TESTS SHALL NOT BE REQUIRED FOR:

- ISOLATED SPREAD CONCRETE FOOTINGS OF BUILDINGS THREE STORES OR LESS ABOVE GRADE PLANE THAT ARE FULLY SUPPORTED ON EARTH OR ROCK.
- CONTINUOUS CONCRETE FOOTINGS SUPPORTING WALLS OF BUILDINGS THREE STORES OR LESS ABOVE GRADE PLANE THAT ARE FULLY SUPPORTED ON EARTH OR ROCK WHERE:
 - THE FOOTINGS ARE DESIGNED IN ACCORDANCE WITH TABLE 1809.7 OF THE BUILDING CODE AS LISTED IN 1.0.
 - THE STRUCTURAL DESIGN OF THE FOOTING IS BASED ON A SPECIFIED COMPRESSIVE STRENGTH, f'_c , NOT MORE THAN 2,500 POUNDS PER SQUARE INCH (PSI) (17.2 MPa), REGARDLESS OF THE COMPRESSIVE STRENGTH SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS OR USED IN THE FOOTING CONSTRUCTION.
 - NONSTRUCTURAL CONCRETE SLABS SUPPORTED DIRECTLY ON THE GROUND, INCLUDING PRESTRESSED SLABS ON GRADE, WHERE THE EFFECTIVE PRESTRESS IN THE CONCRETE IS LESS THAN 150 PSI (1.03 MPa).
 - CONCRETE FOUNDATION WALLS CONSTRUCTED IN ACCORDANCE WITH TABLE 1807.6.2 OF THE BUILDING CODE AS LISTED IN 1.0.
 - CONCRETE PATIOS, DRIVEWAYS AND SIDEWALKS, ON GRADE.

- WELDING OF REINFORCING BARS:** SPECIAL INSPECTIONS OF WELDING AND QUALIFICATIONS OF SPECIAL INSPECTORS FOR REINFORCING BARS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF AWS D1.4 FOR SPECIAL INSPECTION AND OF AWS D1.4 FOR SPECIAL INSPECTOR QUALIFICATION.
- MATERIAL TESTS:** IN THE ABSENCE OF SUFFICIENT DATA OR DOCUMENTATION PROVIDING EVIDENCE OF CONFORMANCE TO QUALITY STANDARDS FOR MATERIALS IN CHAPTERS 19 AND 20 OF ACI 318, THE BUILDING OFFICIAL SHALL REQUIRE TESTING OF MATERIALS IN ACCORDANCE WITH THE APPROPRIATE STANDARDS AND CRITERIA FOR THE MATERIAL IN CHAPTERS 19 AND 20 OF ACI 318.

SOILS: SPECIAL INSPECTIONS AND TESTS OF EXISTING SITE SOIL CONDITIONS, FILL PLACEMENT AND LOAD-BEARING REQUIREMENTS SHALL BE PERFORMED IN ACCORDANCE WITH THIS SECTION AND TABLE 1705.6 OF THE BUILDING CODE AS LISTED IN 1.0. THE APPROVED GEOTECHNICAL REPORT AND THE CONSTRUCTION DOCUMENTS PREPARED BY THE REGISTERED DESIGN PROFESSIONALS SHALL BE USED TO DETERMINE COMPLIANCE. DURING FILL PLACEMENT, THE SPECIAL INSPECTOR SHALL VERIFY THAT PROPER MATERIALS AND PROCEDURES ARE USED IN ACCORDANCE WITH THE PROVISIONS OF THE APPROVED GEOTECHNICAL REPORT.

EXCEPTIONS: WHERE SECTION 1803 OF THE BUILDING CODE AS LISTED IN 1.0 DOES NOT REQUIRE REPORTING OF MATERIALS AND PROCEDURES FOR FILL PLACEMENT, THE SPECIAL INSPECTOR SHALL VERIFY THAT THE IN-PLACE DRY DENSITY OF THE COMPACTED FILL IS NOT LESS THAN 90 PERCENT OF THE MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT DETERMINED IN ACCORDANCE WITH ASTM D1557.

1705.2.1 Structural Steel Construction

MATERIAL / ACTIVITY	SERVICE	EXTENT
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	Each submittal
2. Material verification of structural steel	Shop (3) and field inspection	Periodic
3. Structural steel welding: <ol style="list-style-type: none"> 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) Inspection tasks During Welding (Observe, or perform for each welded joint or member, the QA tasks listed in AISC 360, Table N5.4-2) Inspection tasks After Welding (Observe, or perform for each welded joint or member, the QA tasks listed in AISC 360, Table N5.4-3) Nondestructive testing (NDT) of welded joints: see <i>Commentary</i> 	Shop (3) and field inspection	Observe or Perform as noted (4)
1) Complete penetration groove welds 5/16" or greater in risk category III or IV	Shop (3) or field ultrasonic testing - 100%	Periodic
2) Complete penetration groove welds 5/16" or greater in risk category II	Shop (3) or field ultrasonic testing - 10% of welds minimum	Periodic
3) Welded joints subject to fatigue when required by AISC 360, Appendix 3, Table A-3.1	Shop (3) or field radiographic or Ultrasonic testing	Periodic
4) Fabricator's NDT reports when fabricator performs NDT	Verify reports	Each submittal (5)
4. Structural steel bolting: <ol style="list-style-type: none"> 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) Inspection tasks During Bolting (Observe the QA tasks listed in AISC 360, Table N5.6-2) <ol style="list-style-type: none"> Pre-tensioned and slip-critical joints <ol style="list-style-type: none"> Turn-of-nut with matching markings Direct tension indicator Twist-off type tension control bolt Turn-of-nut without matching markings Calibrated wrench Snug-tight joints 	Shop (3) and field inspection	Observe or Perform as noted (4)
c. Inspection tasks After Bolting (Perform tasks for each bolted connection in accordance with QA tasks listed in AISC 360, Table N5.6-3)		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 (3) or field inspection	Periodic
6. Embedments (Verify diameter, grade, type, length, embedment. See 1705.3 for anchors)	Field inspection	Periodic

NOTES:

- THE INSPECTION AND TESTING AGENT(S) SHALL BE ENGAGED BY THE OWNER OR THE OWNERS AGENT, AND NOT BY THE CONTRACTOR OR SUBCONTRACTOR WHOSE WORK IS TO BE INSPECTED OR TESTED. ANY CONFLICT OF INTEREST MUST BE DISCLOSED TO THE BUILDING OFFICIAL PRIOR TO COMMENCING WORK. THE QUALIFICATIONS OF THE SPECIAL INSPECTOR(S) AND/OR TESTING AGENCIES MAY BE SUBJECT TO THE APPROVAL OF THE BUILDING OFFICIAL AND/OR THE DESIGN PROFESSIONAL.
- THE LIST OF SPECIAL INSPECTORS MAY BE SUBMITTED AS A SEPARATE DOCUMENT, IF NOTED SO ABOVE.
- SHOP INSPECTIONS OF FABRICATED ITEMS ARE NOT REQUIRED WHERE THE FABRICATOR IS APPROVED IN ACCORDANCE WITH IBC SECTION 1704.2.5.1 AND LISTED IN ACTIVITY 1709.2.
- OBSERVE: OBSERVE ON A RANDOM BASIS. OPERATIONS NEED NOT BE DELAYED PENDING THESE INSPECTIONS. PERFORM: THESE TASKS SHALL BE PERFORMED FOR EACH WELDED JOINT, BOLTED CONNECTION, OR STEEL ELEMENT.
- NOT OF WELDS COMPLETED IN AN APPROVED FABRICATOR'S SHOP MAY BE PERFORMED BY THAT FABRICATOR WHEN APPROVED BY THE A.H.J. REFER TO AISC 360, N6.

1705.2.3 Required special inspections of open-web steel joists and joist girders

MATERIAL / ACTIVITY	SERVICE	EXTENT	REFERENCE STANDARD
1. Installation of open-web steel joists and joist girders.			3-13 Specifications listed in Section 2202.1
a. End connections—welding or bolted.	Field inspection	Periodic	
b. Bridging—horizontal or diagonal.	Field inspection	Periodic	SJI specifications listed in Section 2207.1.
1. Standard bridging			
2. Bridging that differs from the SJI specifications listed in Section 2207.1.	Field inspection	Periodic	-

1705.3 Concrete Construction

MATERIAL / ACTIVITY	SERVICE	EXTENT	REFERENCE STANDARD	IBC REFERENCE
1. Inspection and placement verification of reinforcing steel and prestressing tendons.	Shop (3) and field inspection	Periodic	ACI 318: Ch. 20, 25.2, 25.3, 26.6.1-26.6.3	-
2. Reinforcing bar welding: <ol style="list-style-type: none"> Verification of weldability of bars other than ASTM A706. Inspection of single-pass fillet welds 5/16" or less in size. Inspection of all other welds. 		Periodic	AWS D1.4 ACI 318: 26.4	-
3. Inspection of anchors cast in concrete.	Shop (3) and field inspection	Periodic	ACI 318: 17.8.2	-
4. 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 clearing procedures, anchor spacing, edge distances, concrete minimum thickness, anchor embedment and tightening torque	Field inspection	Periodic or as required by the research report issued by an approved source	ACI 318: 17.8.2.4 ACI 318: 17.8.2	-
a. Adhesive anchors installed in horizontal or upward-inclined orientation that resist sustained tension loads.		Continuous		-
b. Mechanical and adhesive anchors note defined in 4a.		Periodic		-
5. Verify use of approved design mix	Shop (3) and field inspection	Periodic	ACI 318: Ch. 19, 26.4.3, 26.4.4	1904.1, 1904.2
6. Prior to placement, fresh concrete sampling, perform slump and air content tests and determine temperature of concrete and perform any other tests as specified in construction documents.	Shop (3) and field inspection	Continuous	ASTM C172 ASTM C311 ACI 318: 26.5, 26.12	1908.10
7. Inspection of concrete and shotcrete placement for proper application techniques	Shop (3) and field inspection	Continuous	ACI 318: 26.5	1908.6, 1908.7, 1908.8
8. Verify maintenance of specified curing temperature and techniques	Shop (3) and field inspection	Periodic	ACI 318: 26.5.3-26.5.5	1908.9
9. Inspection of prestressed concrete: <ol style="list-style-type: none"> Application of prestressing force Grouting of bonded prestressing tendons 	Shop (3) and field inspection	Continuous	ACI 318: 26.10	-
10. Inspect erection of precast concrete members		Periodic	ACI 318: 26.9	-
11. Verification of in-situ concrete strength prior to stressing of tendons in post tensioned concrete and prior to removal of shores and forms from beams and structural slabs	Review field testing and laboratory reports	Periodic	ACI 318: 26.13.1.3 ACI 550.5	-
12. Inspection of formwork for shape, lines, location and dimensions	Field inspection	Periodic	ACI 318: 26.11.2	-
13. Concrete strength testing and verification of compliance with construction documents	Field testing and review of laboratory reports	Periodic	ACI 318: 26.11.1.2(b)	-

1705.6 Soils

MATERIAL / ACTIVITY	SERVICE	EXTENT
1. Verify materials below shallow foundations are adequate to achieve the design bearing capacity.	Field inspection	Periodic
2. Verify excavations are extended to proper depth and have reached proper material.	Field inspection	Periodic
3. Perform classification and testing of compacted fill materials.	Field inspection	Continuous
4. Verify use of proper materials, densities, and lift thicknesses during placement and compaction of compacted fill.	Field inspection	Periodic
5. Prior to placement of compacted fill, inspect subgrade and verify that site has been prepared properly.	Field inspection	Periodic

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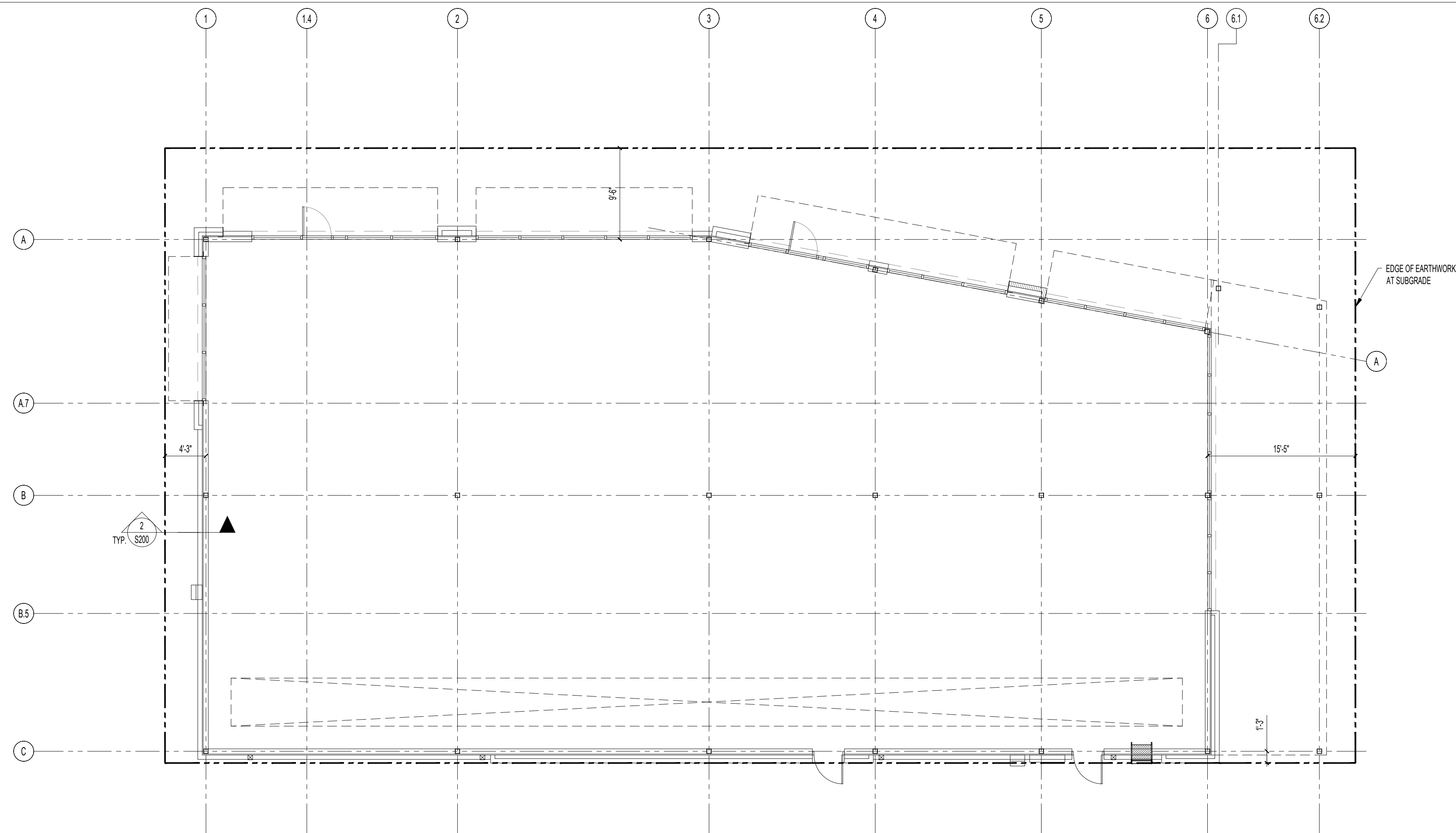
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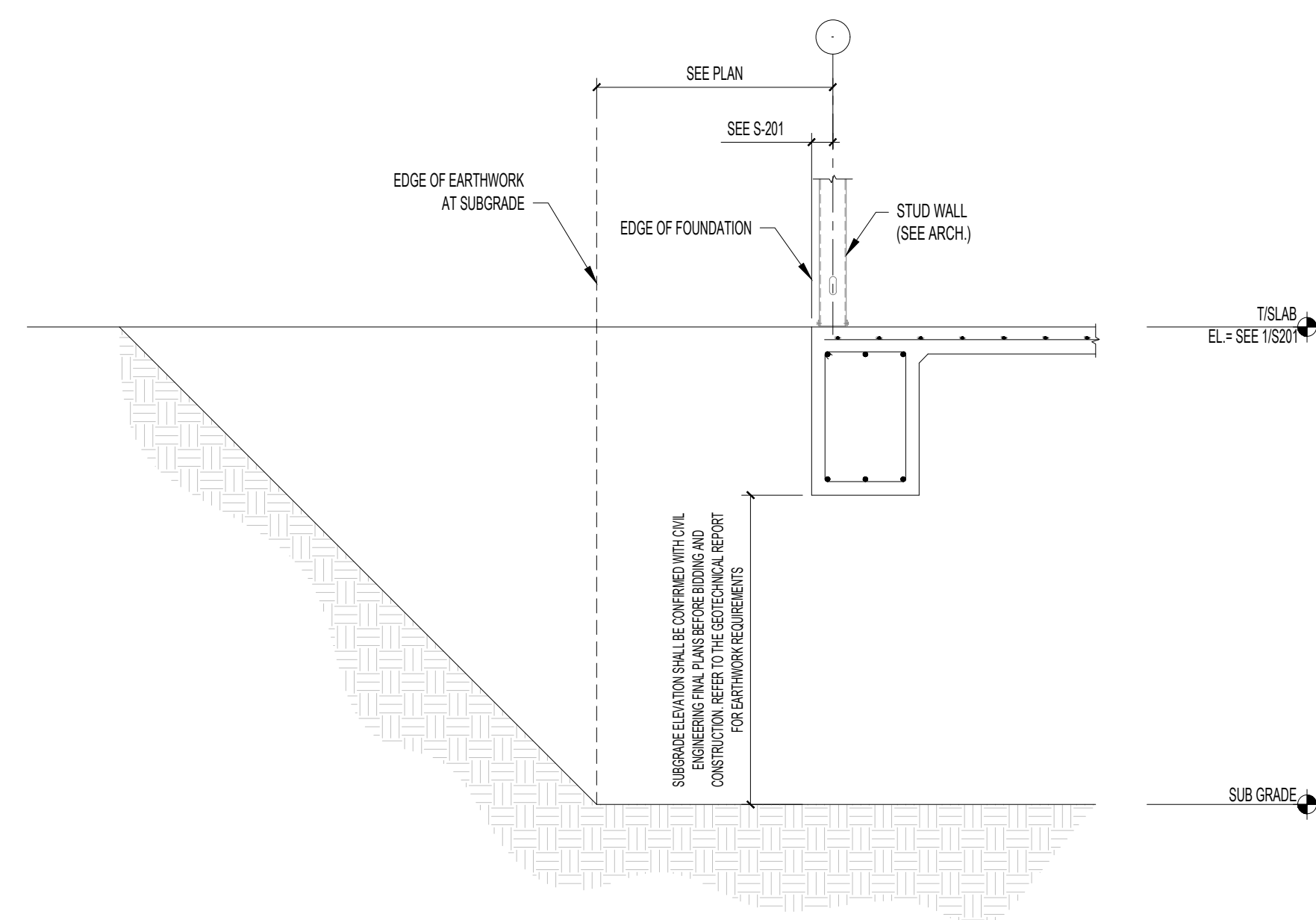
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1 EARTH WORK LIMIT PLAN
SCALE: 1/8" = 1'-0"



2 TYPICAL EDGE OF EARTH WORK TO FOUNDATION DETAIL
SCALE: 3/8" = 1'-0"

NOTES:

- EARTHWORK LIMITS SHOWN ON THIS PLAN ARE LOCATED BASED ON WHAT WE BELIEVE IS THE MOVEMENT SENSITIVE FLATWORK AROUND THE PERIMETER OF EACH BUILDING. CONTRACTOR SHALL VERIFY WITH OWNER/ ARCHITECT FOR VERIFICATION OF OVERALL LIMITS SHOWN AND ADJUST PER THEIR DIRECTION.

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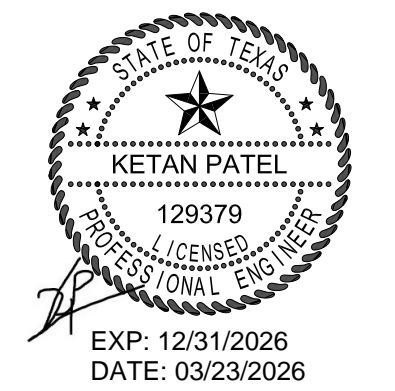
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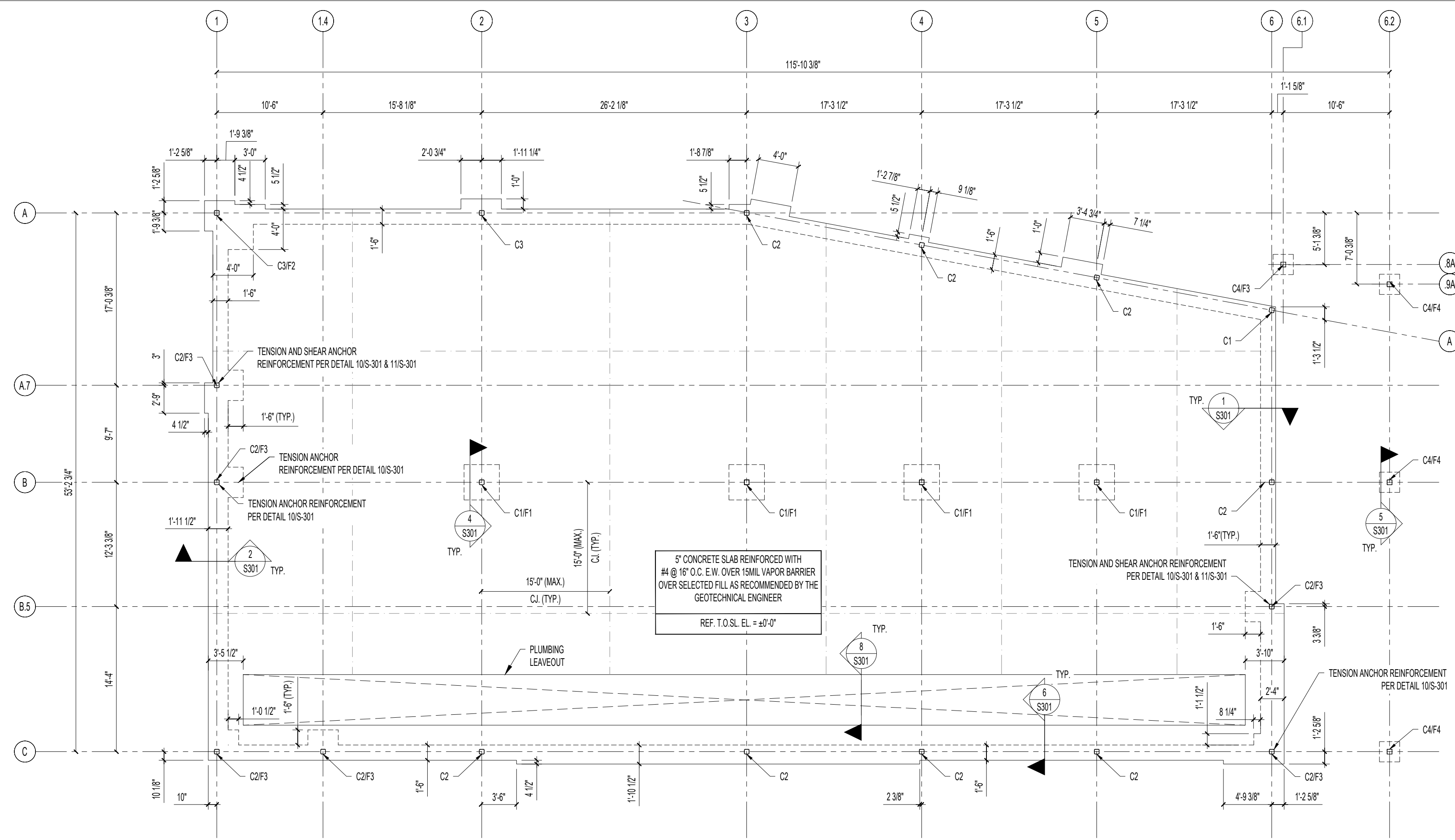
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Approved by: KP
Project Number: KPJ-TX-25-0018

SHEET NAME:

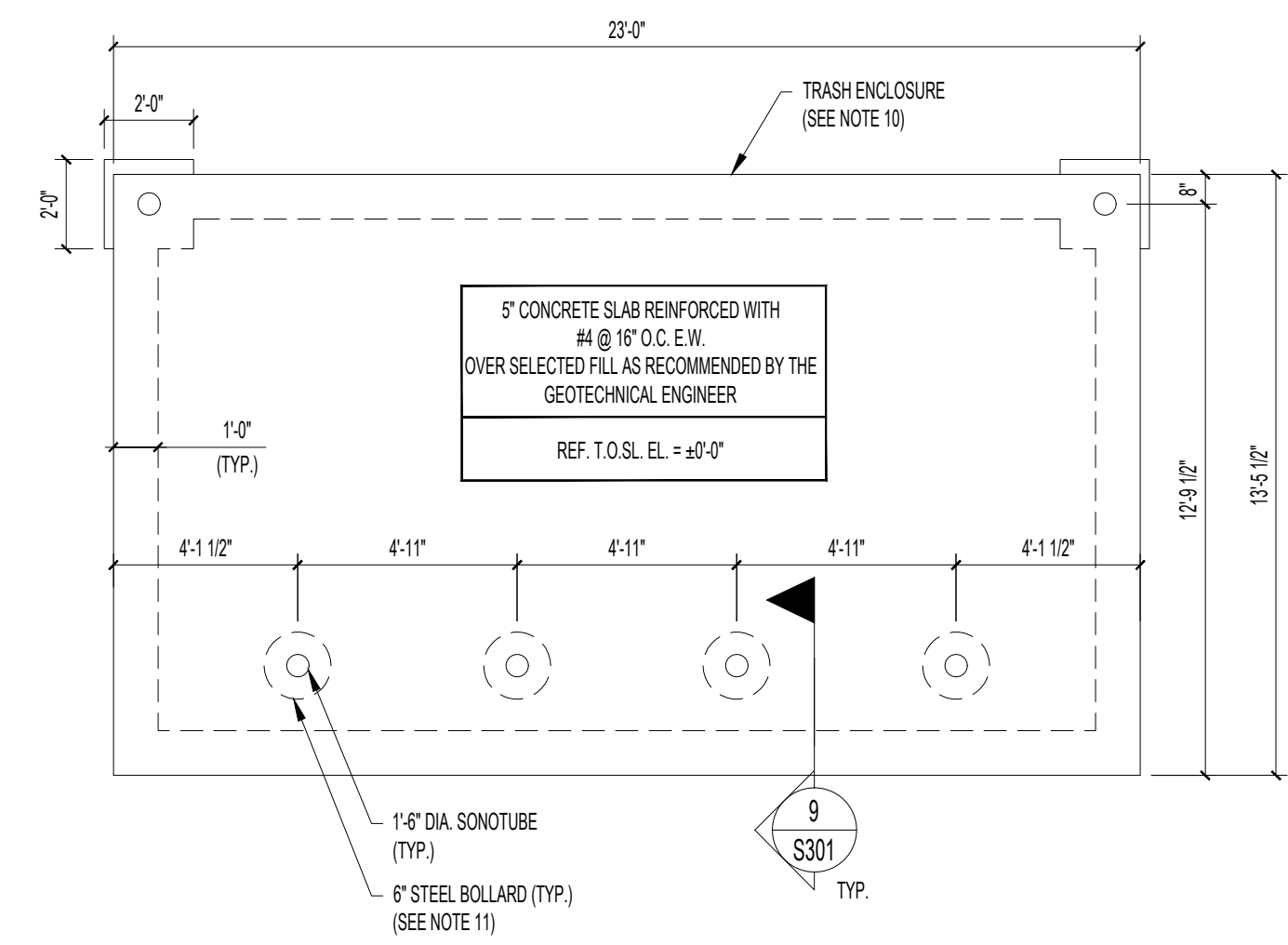
EARTH WORK LIMIT PLAN

SHEET NUMBER:

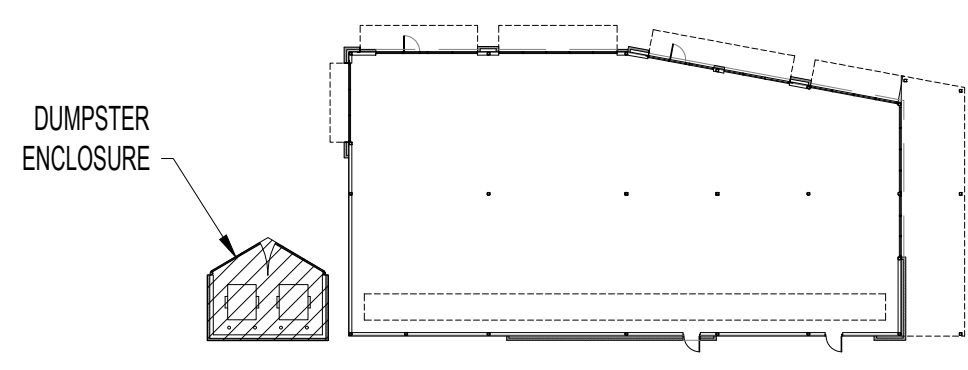
S-200



1 FOUNDATION PLAN (T.O.S.L. EL. = SEE PLAN)
SCALE: 1/8" = 1'-0"



2 FOUNDATION PLAN (T.O.S.L. EL. = SEE PLAN)
SCALE: 1/4" = 1'-0"

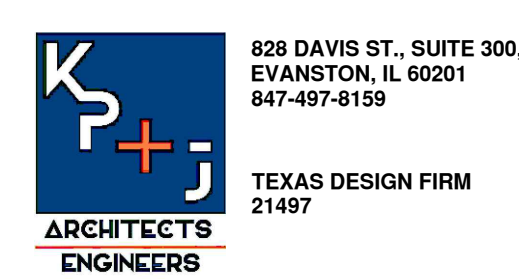


3 KEY PLAN
SCALE: N.T.S.

FOUNDATION MARK	SIZE			TOP OF FOOTING EL.	REINFORCEMENT	DETAIL
	WIDTH	LENGTH	THICKNESS			
F1	3'-6"	3'-6"	1'-6"	0'-0"	(5) #6 BARS BOTTOM E.W.	4IS301
F2	4'-0"	4'-0"	3'-0"	0'-0"	(5) #6 BARS BOTTOM E.W.	182/S301
F3	3'-0"	3'-0"	3'-0"	-0'-0"	(4) #5 BARS BOTTOM E.W.	182/S301
F4	2'-0"	2'-0"	1'-0"	-1'-0"	(4) #5 BARS BOTTOM E.W.	5/S301

- NOTES:**
- SEE S-101 & S-103 FOR GENERAL NOTES & SPECIAL INSPECTION NOTES.
 - SEE SHEETS S-301 FOR TYPICAL FOUNDATION DETAILS.
 - FX INDICATES FOOTING MARK. SEE FOOTING SCHEDULE.
 - CX INDICATES STEEL COLUMN MARK. SEE SHEET S-401 FOR COLUMN SCHEDULE & BASE PLATE DETAILS.
 - THE SUBGRADE SHALL BE PROOFROLLED AND SOFT SOILS SHALL BE REMOVED AND REPLACED AS REQUIRED UNDER THE SUPERVISION OF A QUALIFIED GEOTECHNICAL ENGINEER.
 - CONTROL JOINTS ARE SHOWN IN SLAB ON GRADE TO MINIMIZE COSMETIC SHRINKAGE CRACKS. SPACING OF CONTROL JOINT IN SLAB IS 15'-0" (MAX.) O.C. (SEE GENERAL NOTES).
 - CONTRACTOR SHALL VERIFY THE QUALITY OF THE FOUNDATION AND ANY DEFECT IN THE FOUNDATION SHALL BE NOTIFIED TO KP&J ARCHITECTS & ENGINEERS.
 - SEE CIVIL DRAWINGS FOR FINISH FLOOR ELEVATIONS.
 - CONCRETE-ENCASED ELECTRODE WITH CONNECTION CONVENIENT TO THE ELECTRICAL ROOMS DETAILS & LOCATIONS SHALL BE COORDINATED WITH ELECTRICAL CONTRACTOR PRIOR CONCRETE FOOTING INSTALLATION.
 - TRASH ENCLOSURE SHOWN ON THE DRAWING ARE APPROXIMATE LOCATION. LOCATION SHALL BE COORDINATED WITH CIVIL CONTRACTORS.
 - GENERAL CONTRACTOR TO COORDINATE THE INSTALLATION OF BOLLARD DURING THE INSTALLATION OF FOUNDATION FOR CMU WALL.

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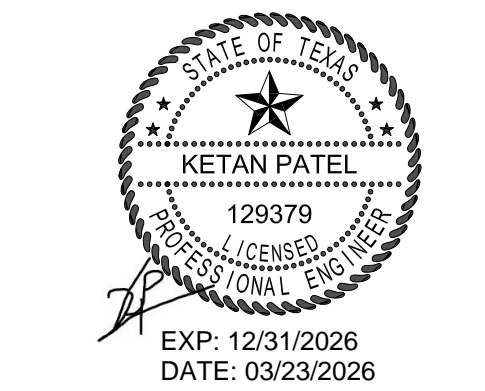
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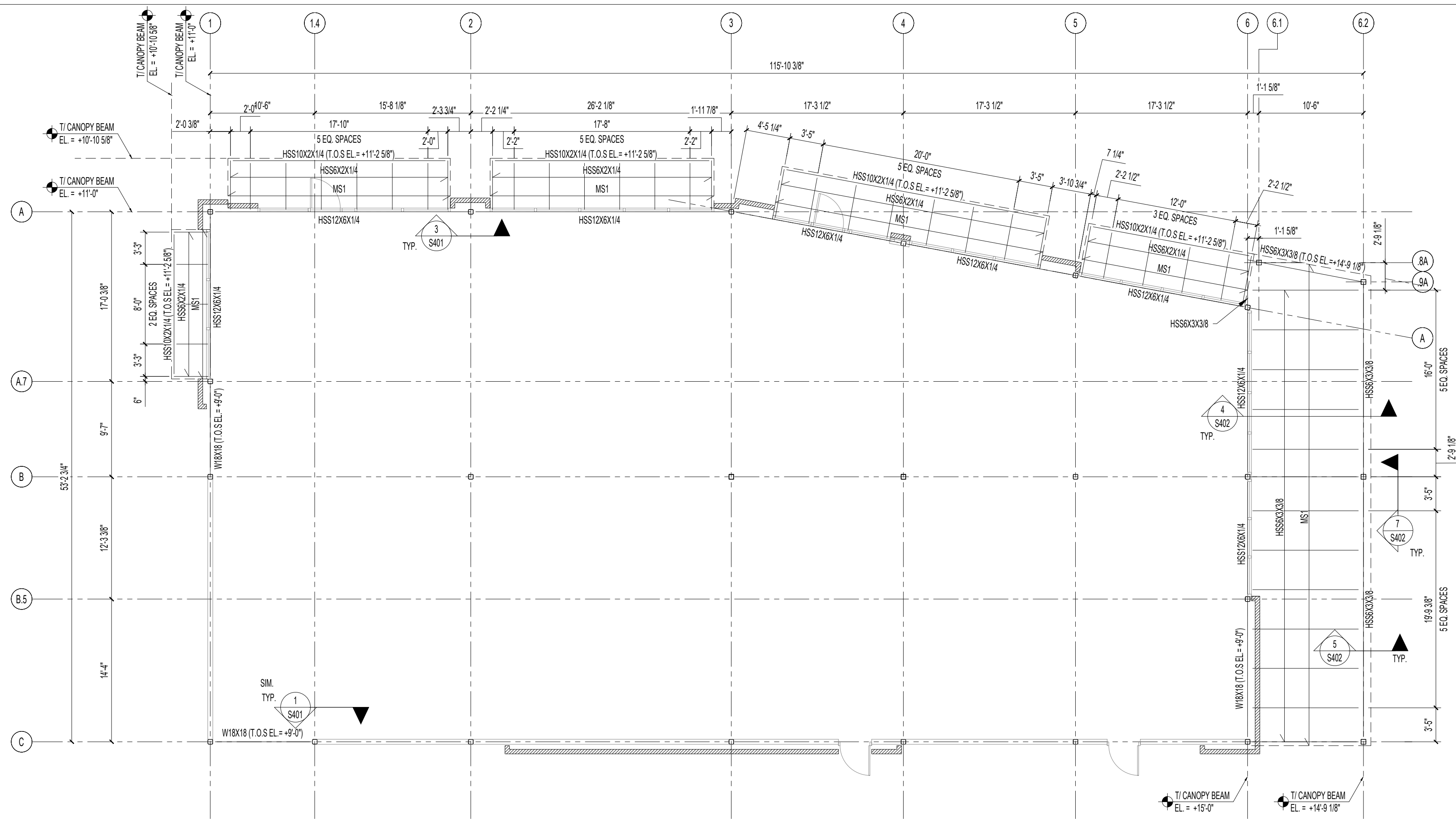


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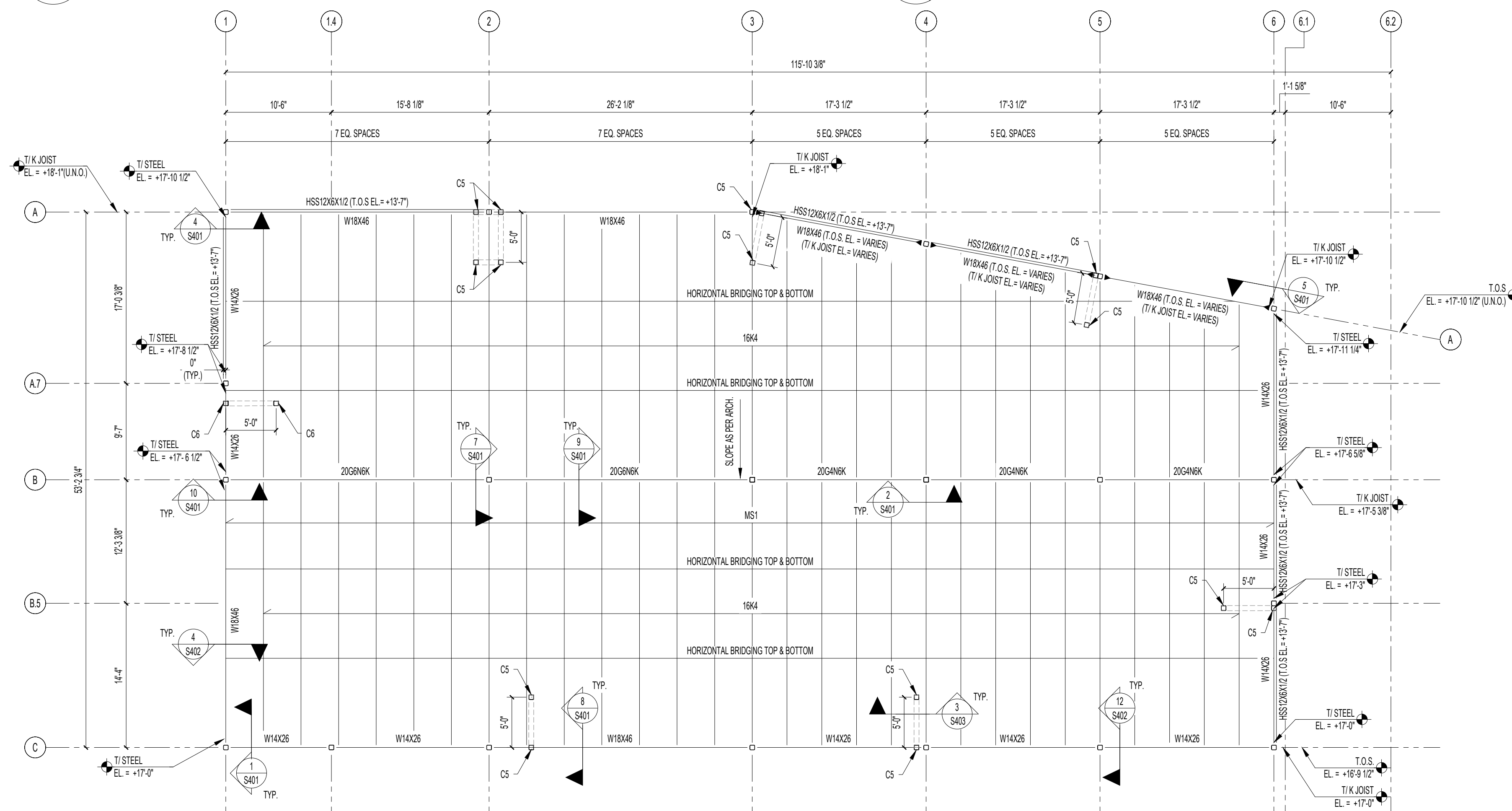
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Project Number: KPJ-TX-25-0018

FOUNDATION PLAN

SHEET NAME:
S-201
SHEET NUMBER:



1 CANOPY FRAMING PLAN (T.O.S EL.= SEE PLAN (U.N.O))
SCALE: 1/8" = 1'-0"



**2 ROOF FRAMING PLAN (T.O.S EL.= SEE PLAN)
(JOIST BRG.EL.= SEE PLAN)**
SCALE: 1/8" = 1'-0"

BEAM END REACTION SCHEDULE		
BEAM/JOIST	ASD SHEAR (KIPS)	ASD MOMENT (KIP-FT) (FOR MOMENT CONNECTION ONLY)
W8x18	5	-
W14x26	15	-
W18x46	20	85
18K4	5	-
20G6NK	20	-

- LEGENDS:**
- BRICKSTONE VENEER (SEE ARCH.)
 - INDICATES SPAN DIRECTION OF METAL ROOF DECK TYPE B 1 1/2" (22 GA. MN.) W/ 5/8" P.W. @ 367 PATTERN WIDTH) #10 TEK SIDE LAP FASTENERS
 - INDICATES MOMENT CONNECTION
- NOTES:**
- SEE S-101 & S-103 FOR GENERAL NOTES AND SPECIAL INSPECTION NOTES.
 - SEE SHEET S-401 FOR COLUMN SCHEDULE.
 - SEE SHEET S-401, S-402 & S-403 FOR STEEL DETAILS.
 - SEE SHEET S-501, S-502 & S-503 FOR COLD FORMED STEEL DETAILS.
 - A PLUS (+) OR MINUS (-) WHICH INDICATES DISTANCE ABOVE OR BELOW TYPICAL T.O.S. EL.
 - OPENINGS SHOWN ON THE DRAWING ARE APPROXIMATE LOCATION. SEE ARCHITECTURAL DRAWINGS FOR WALL LOCATIONS AND DOOR OPENINGS.
 - ROOF JOIST IS DESIGNED ONLY FOR GRAVITY (STATIC) LOADS INDICATED. ADDITIONAL LOAD FROM MECHANICAL UNITS) SHALL BE SUPPORT BY SPECIAL JOIST PROFILE AND SHALL BE REQUIRED ADDITIONAL STRUCTURAL ANALYSIS. ANY RTUS LOCATION SHALL BE COORDINATED WITH MEP DRAWINGS AND CONTRACTORS.
 - THE JOIST DESIGN INCLUDES ONE (OR SUM OF FUTURE RTUS) WEIGHING 2,000LBS (MAX.) SUPPORTED BY AT LEAST TWO JOISTS PER BAY. (ADJACENT BAY LOADING PATTERN IS NOT CONSIDERED) HEAVIER UNITS) REQUIRED SHALL BE SUPPORT BY SPECIAL JOIST PROFILE AND SHALL BE REQUIRED ADDITIONAL STRUCTURAL ANALYSIS. GIRDER PANEL LOAD NOTED ON ROOF FRAMING PLAN INCLUDES THE 2000LBS FUTURE RTU LOAD. ANY RTUS LOCATION SHALL BE COORDINATED WITH MEP DRAWINGS AND CONTRACTORS. SEE S-402 FOR OPENING DETAILS.
 - SEE ARCHITECTURAL DRAWINGS FOR REQUIRED SLOPE FOR THE ROOF.

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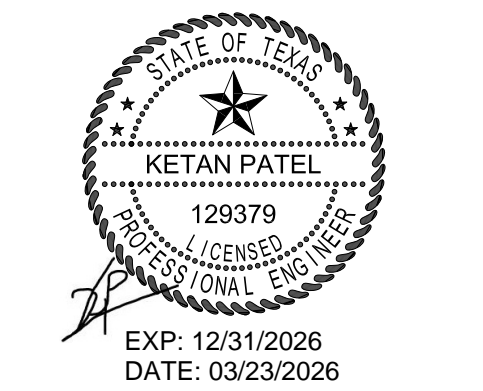


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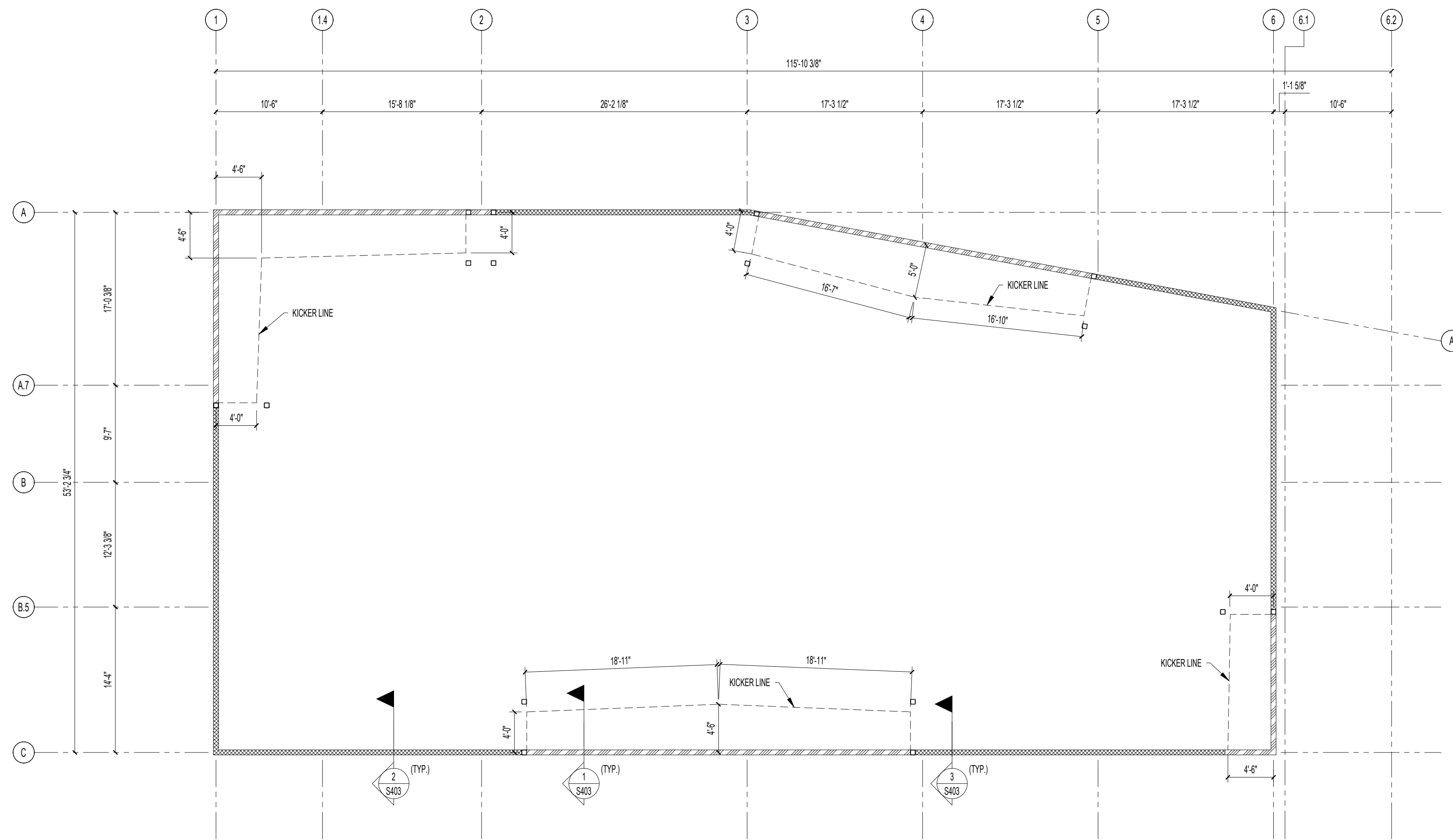


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 Project Number: KPJ-TX-25-0018

**SHEET NAME:
 CANOPY & ROOF FRAMING PLAN**

SHEET NUMBER:
S-202



1 PARAPET FRAMING PLAN

SCALE: 1/8" = 1'-0"

LEGENDS:

- INDICATES 6" CFS STUD WALL, (2) 600S162-43 BACK-TO-BACK EACH END, 600S162-43 @ 16" O.C. INTERMEDIATE STUD, 600T200-43 TOP & BOTTOM TRACK
- INDICATES CSX6.7 @ 4'-0" (MAX.) WITH 600S162-43 STUD @ 16" O.C. CFS INFILL WALL WITH 600T250-54 TOP TRACK AND 600T125-43 BOTTOM TRACK

NOTES:

1. SEE S-101 & S-103 FOR GENERAL NOTES AND SPECIAL INSPECTION NOTES.
2. SEE SHEET S-401, S-402 & S-403 FOR STEEL DETAILS.
3. SEE SHEET S-501, S-502 & S-503 FOR COLD FORMED STEEL DETAILS.

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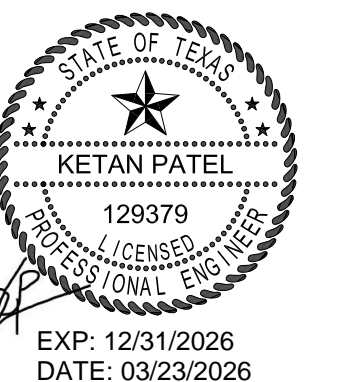
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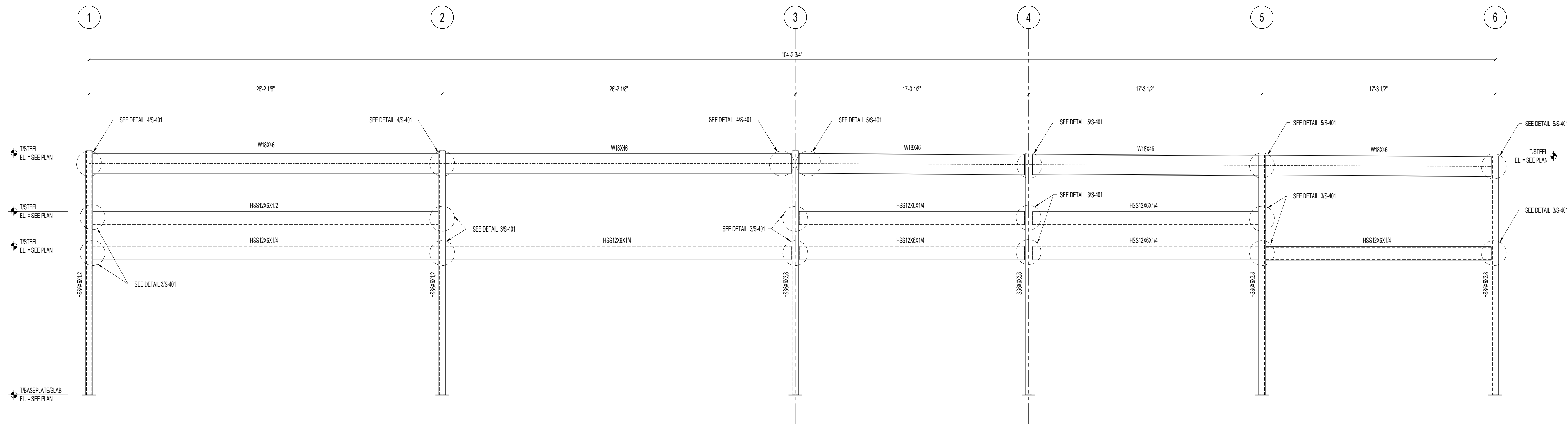
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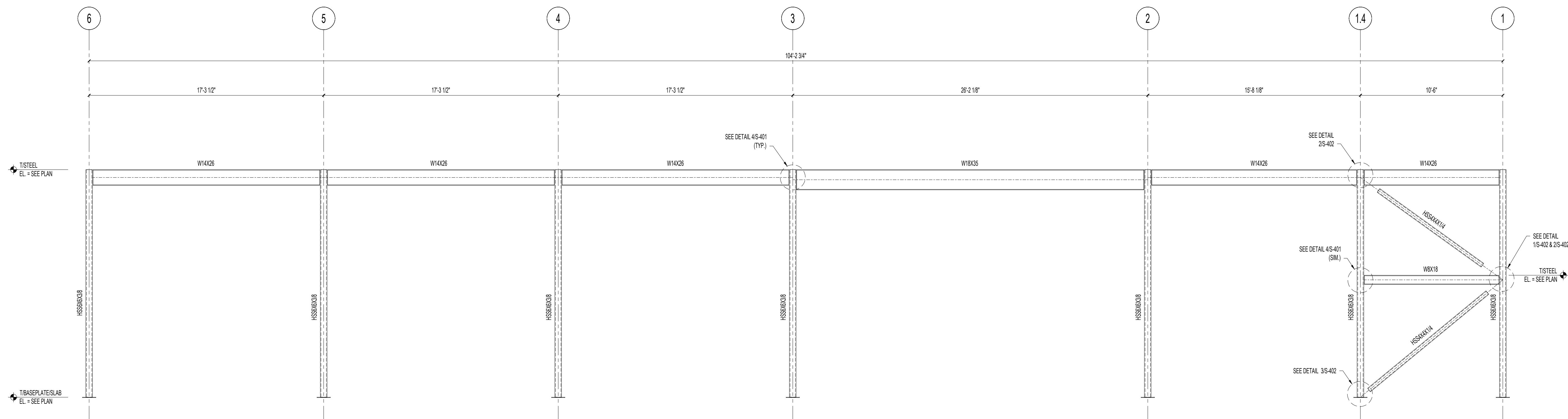
PARAPET FRAMING PLAN

SHEET NUMBER:

S-203



1 ELEVATION ALONG GRID A
SCALE: 1/4" = 1'-0"



2 ELEVATION ALONG GRID C
SCALE: 1/4" = 1'-0"

DIAGONAL AXIAL LOADS SCHEDULE	
BEAM	ASD AXIAL (KIPS)
HSS4x4x14	±30

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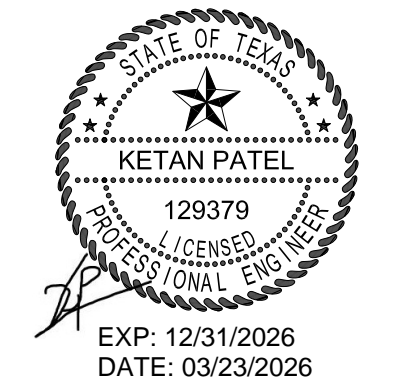
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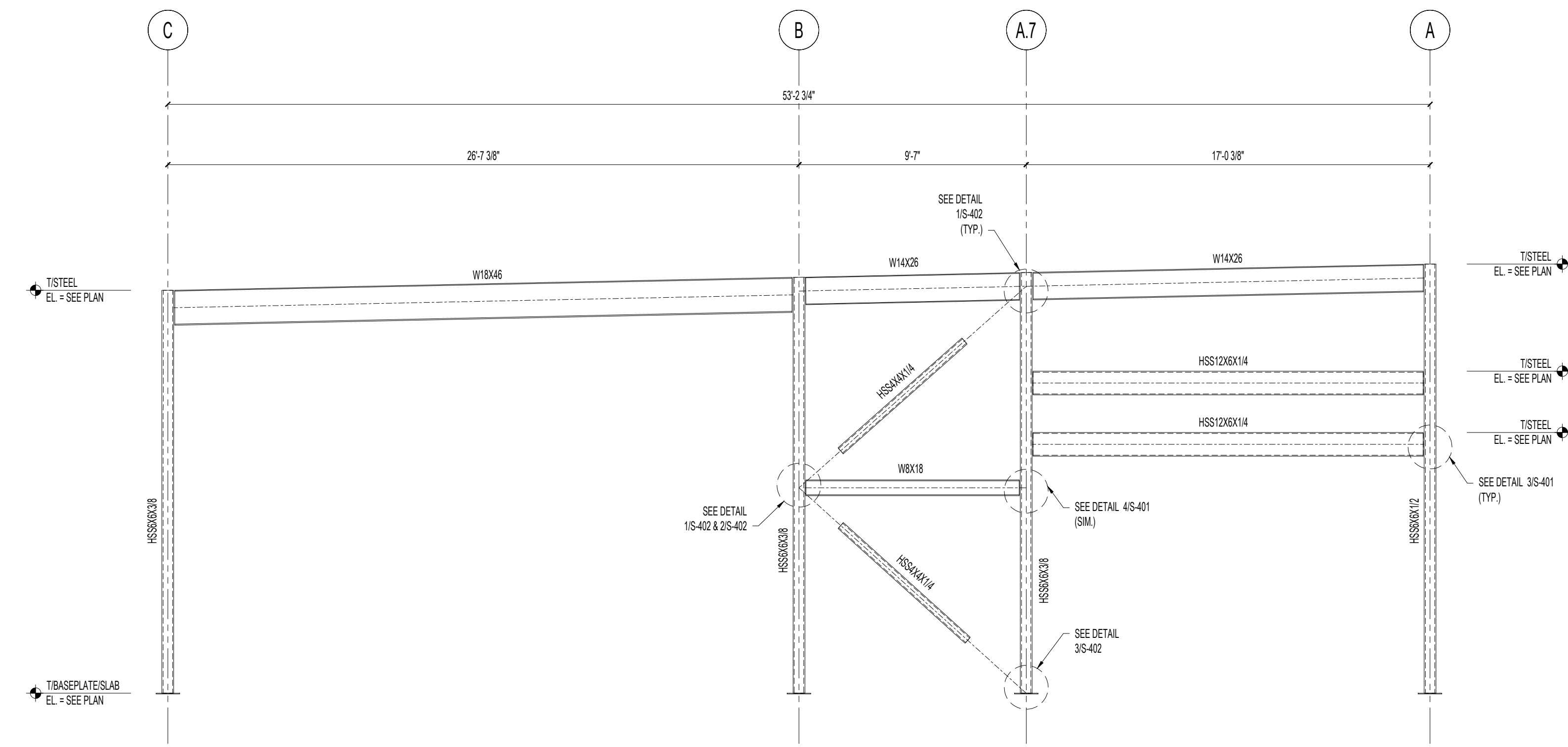
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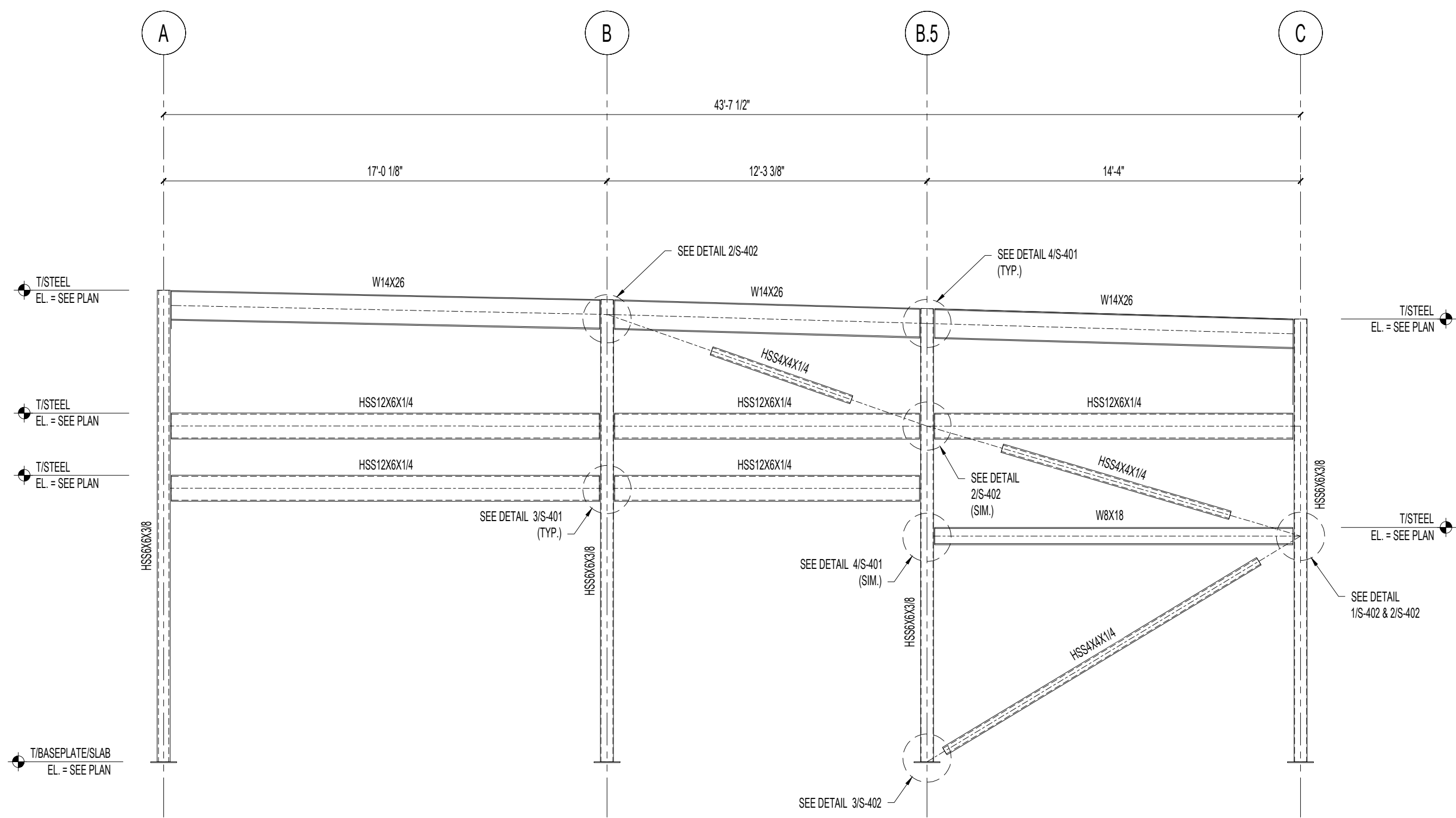
ELEVATIONS

SHEET NUMBER:

S-204



1 ELEVATION ALONG GRID 1
SCALE: 1/4" = 1'-0"



2 ELEVATION ALONG GRID 6
SCALE: 1/4" = 1'-0"

DIAGONAL AXIAL LOADS SCHEDULE	
BEAM	ASD AXIAL (KIPS)
HSS4X4X1/4	±30

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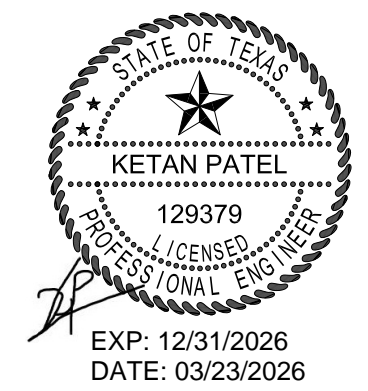
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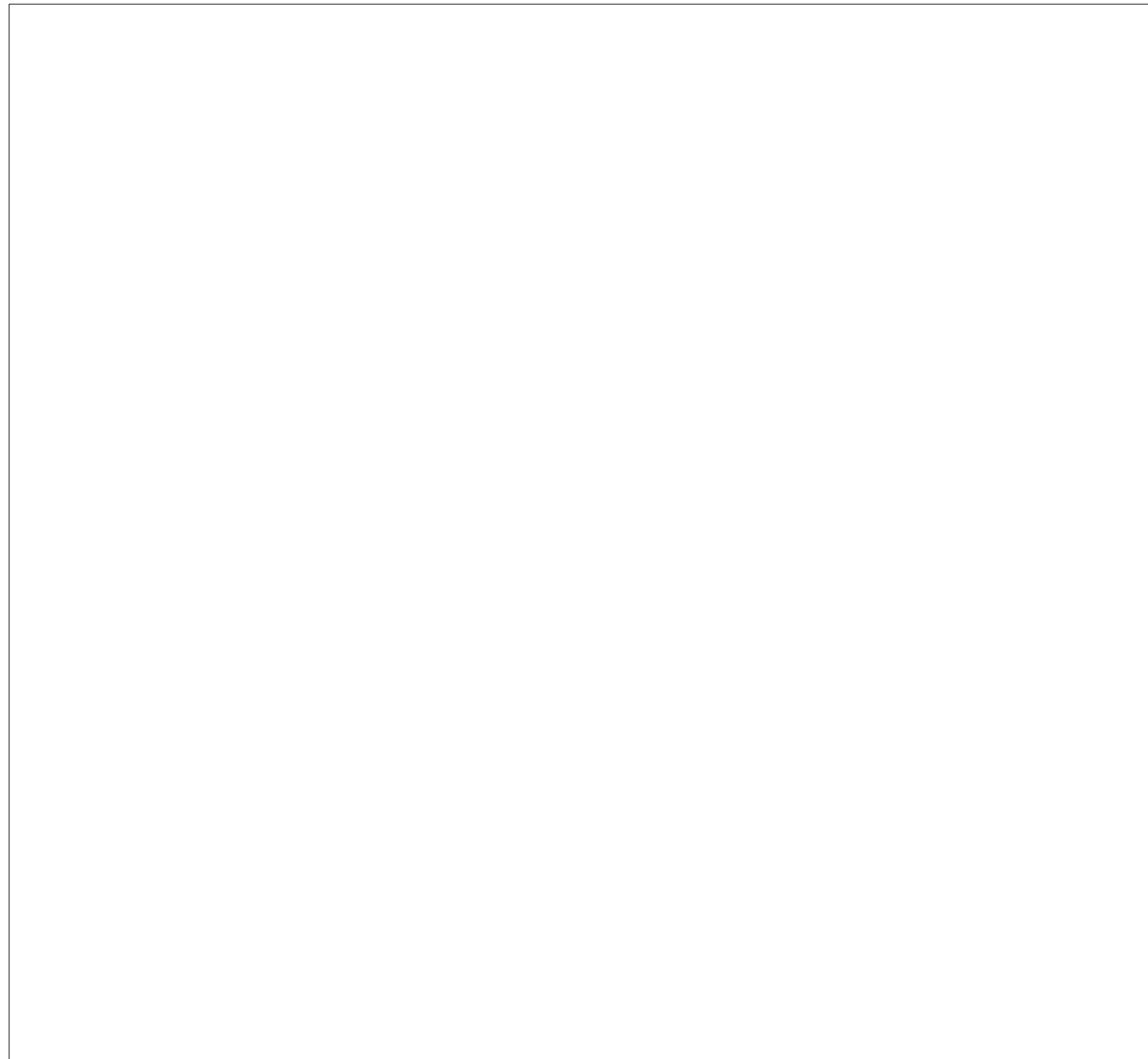
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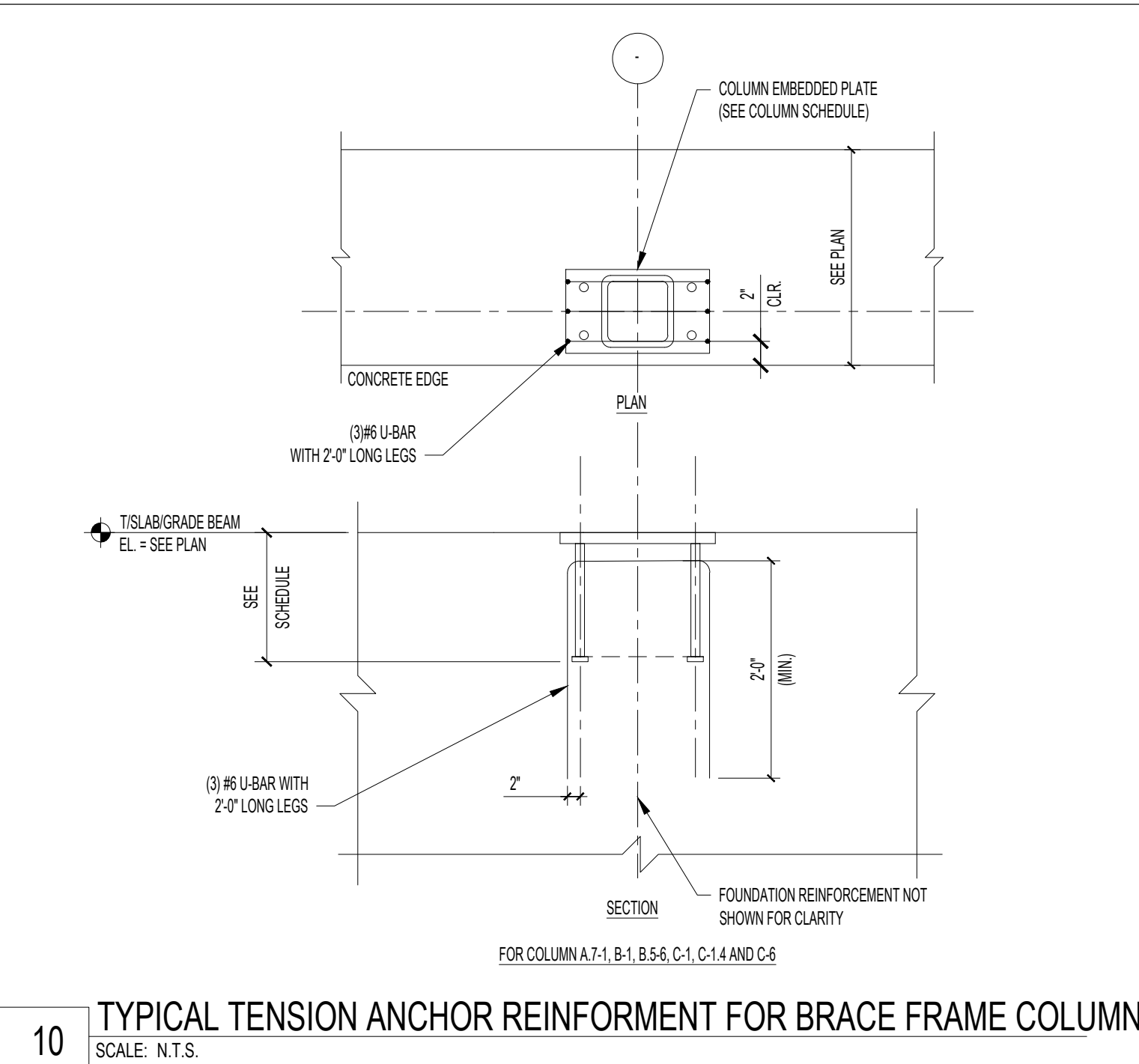
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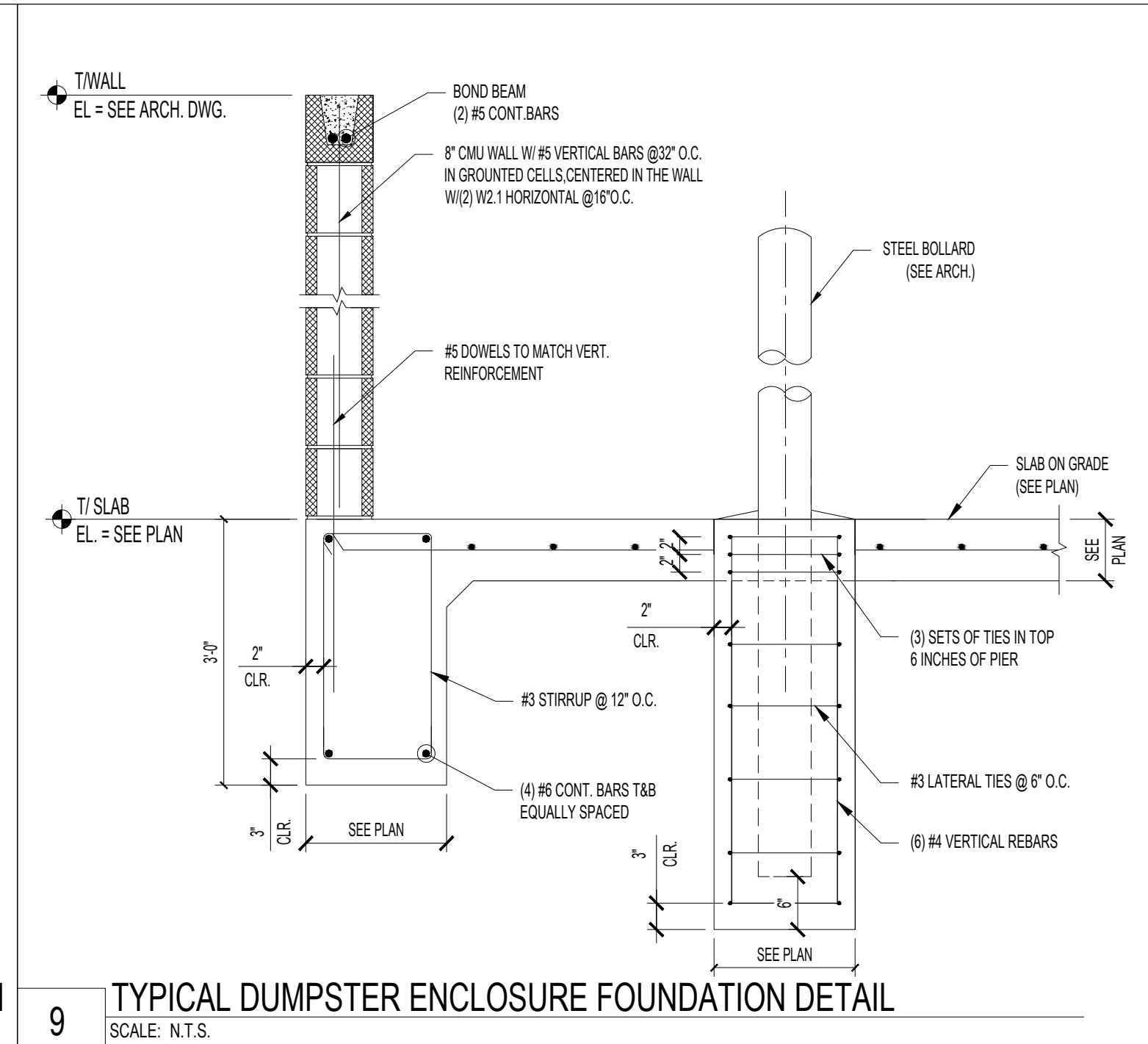
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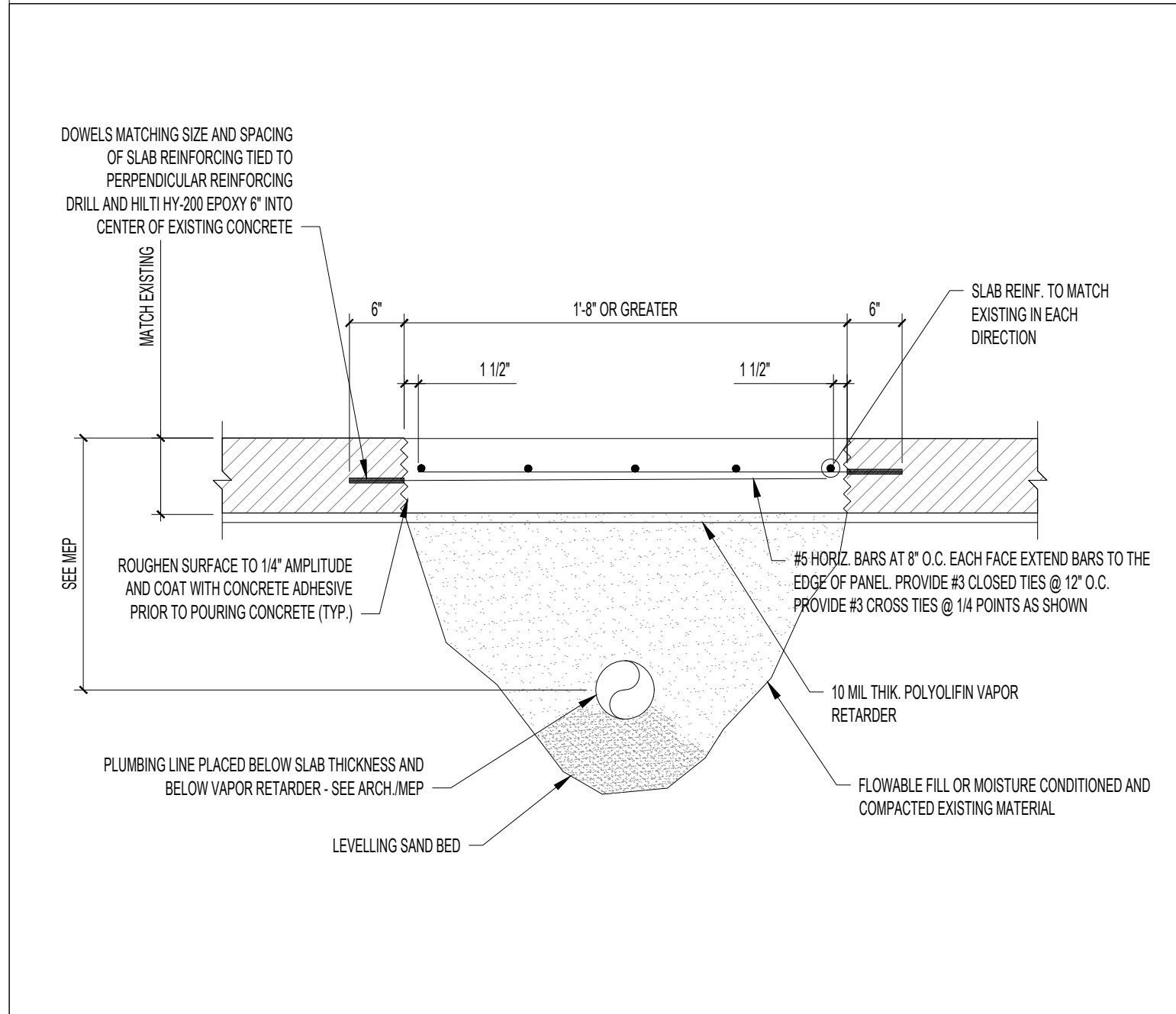
11 TYPICAL SHEAR ANCHOR REINFORCEMENT FOR BRACE FRAME COLUMN
SCALE: N.T.S.



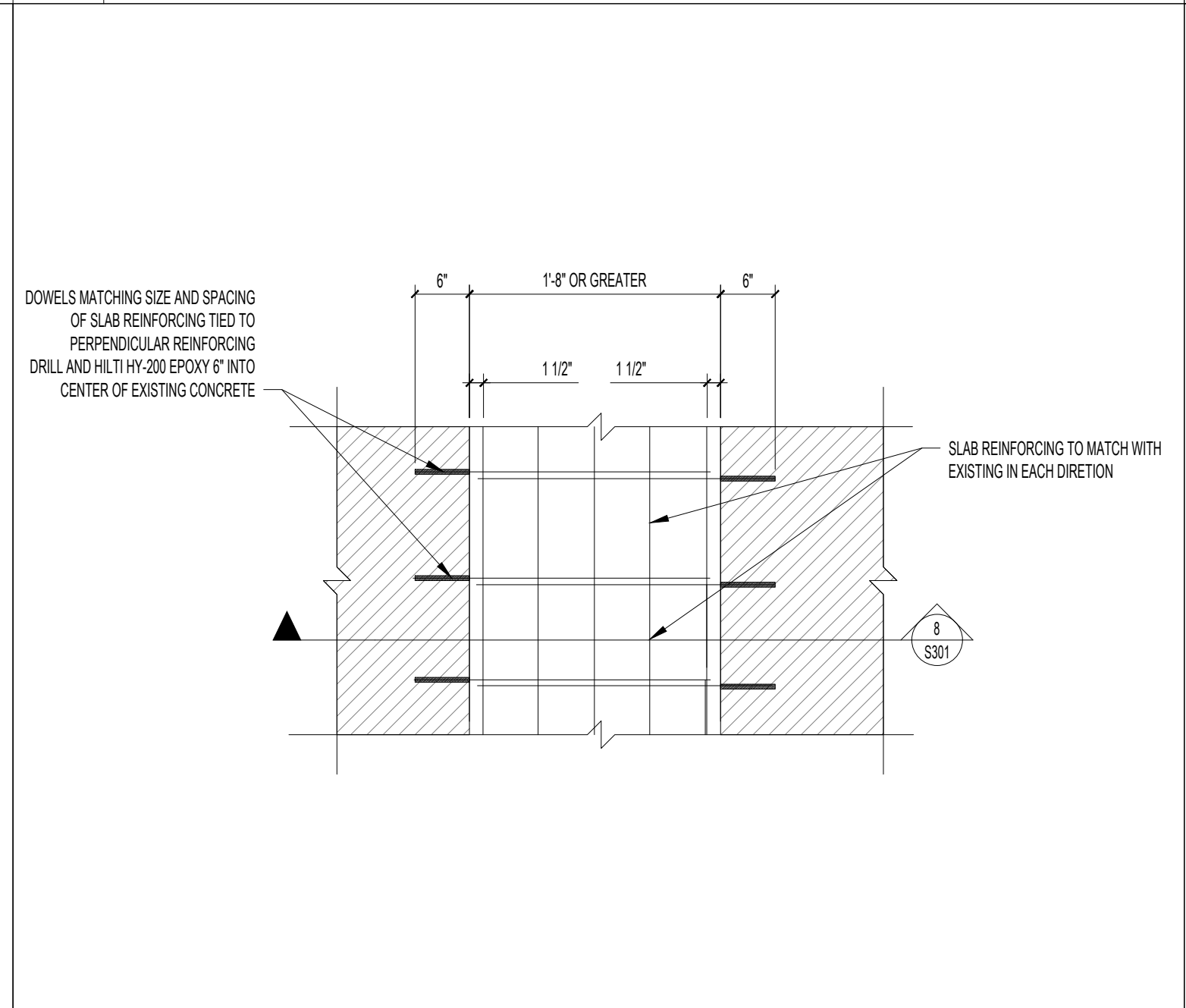
10 TYPICAL TENSION ANCHOR REINFORCEMENT FOR BRACE FRAME COLUMN
SCALE: N.T.S.



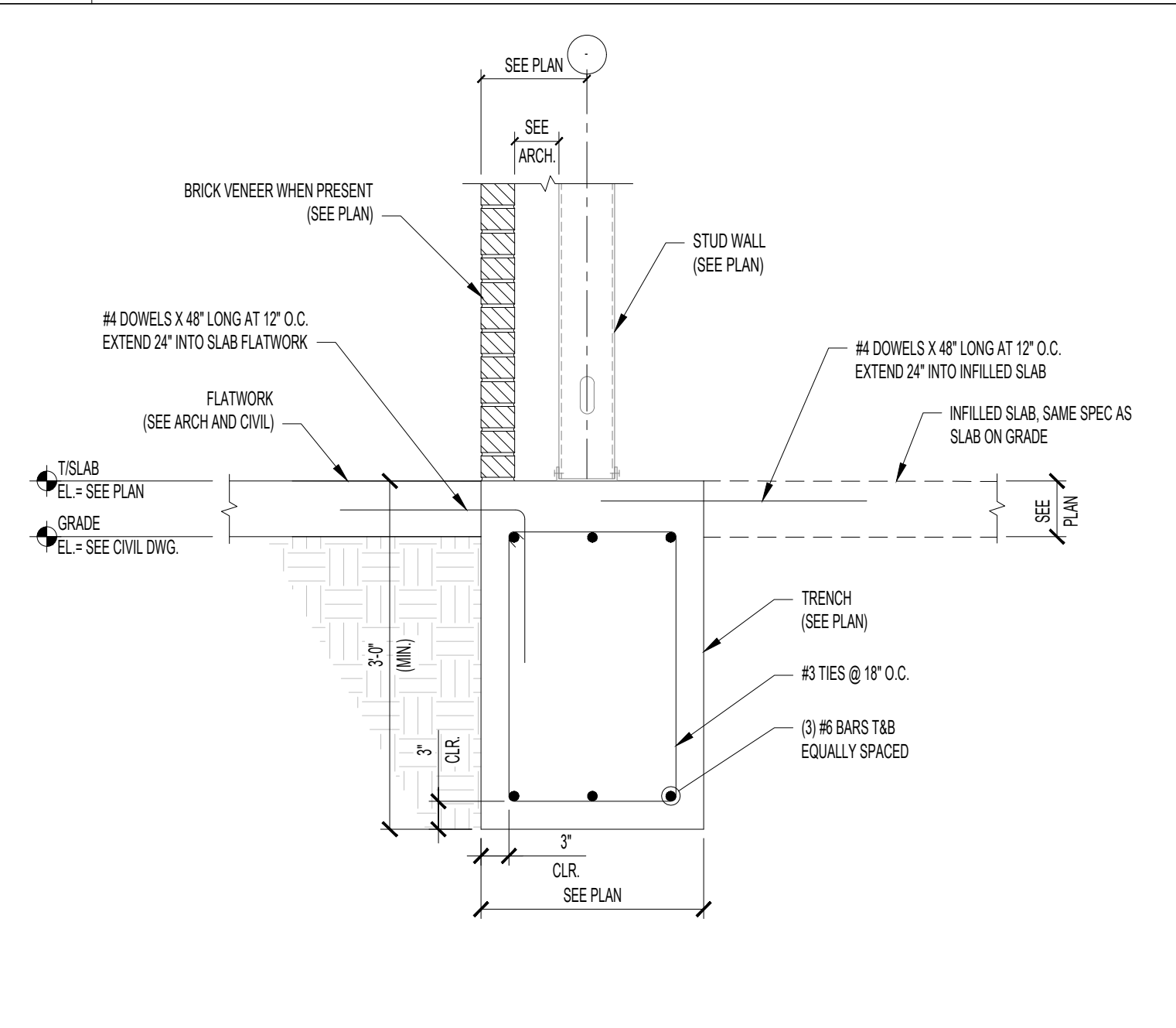
9 TYPICAL DUMPSTER ENCLOSURE FOUNDATION DETAIL
SCALE: N.T.S.



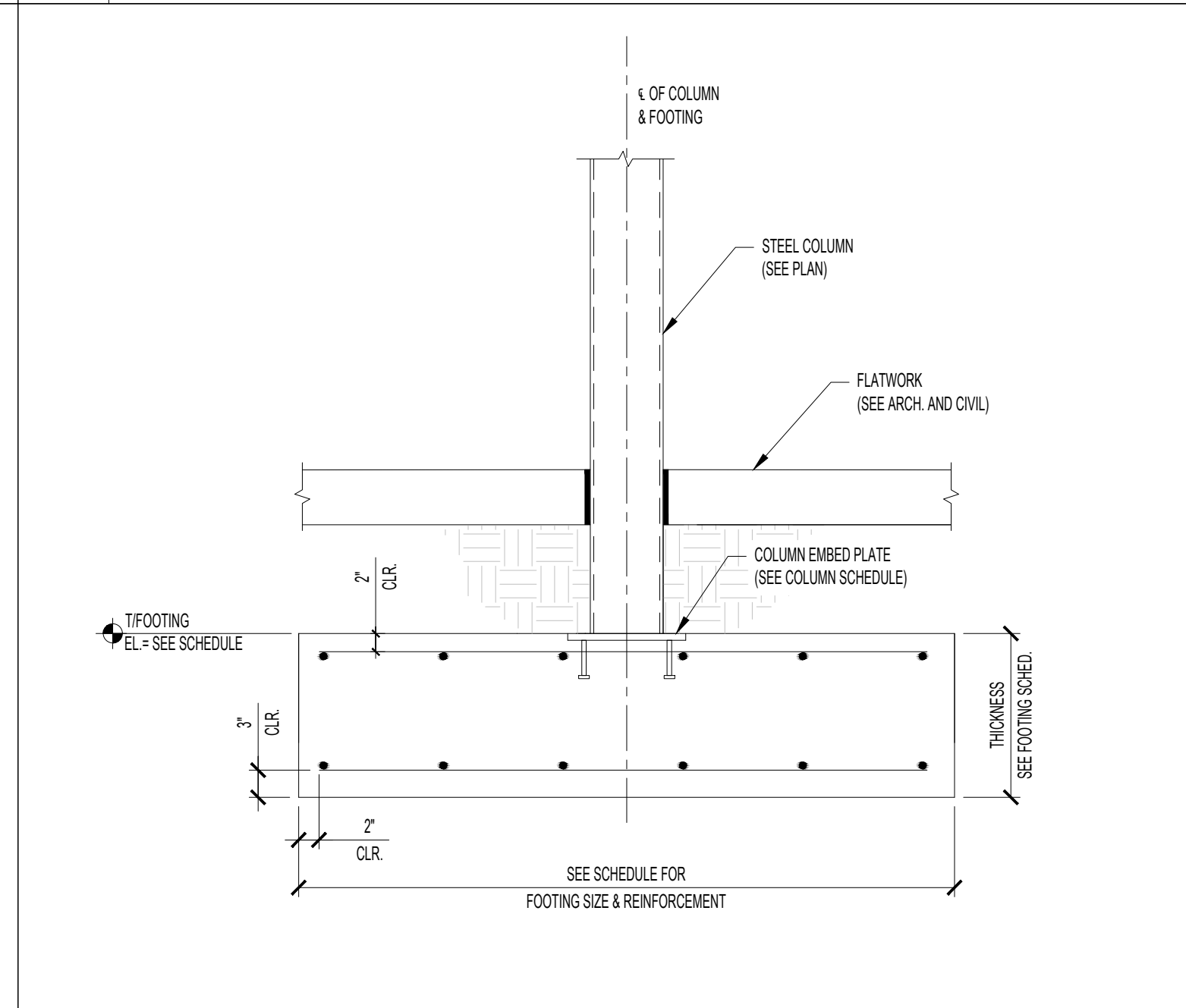
8 SLAB REPAIR AT PLUMBING CUT-OUT
SCALE: N.T.S.



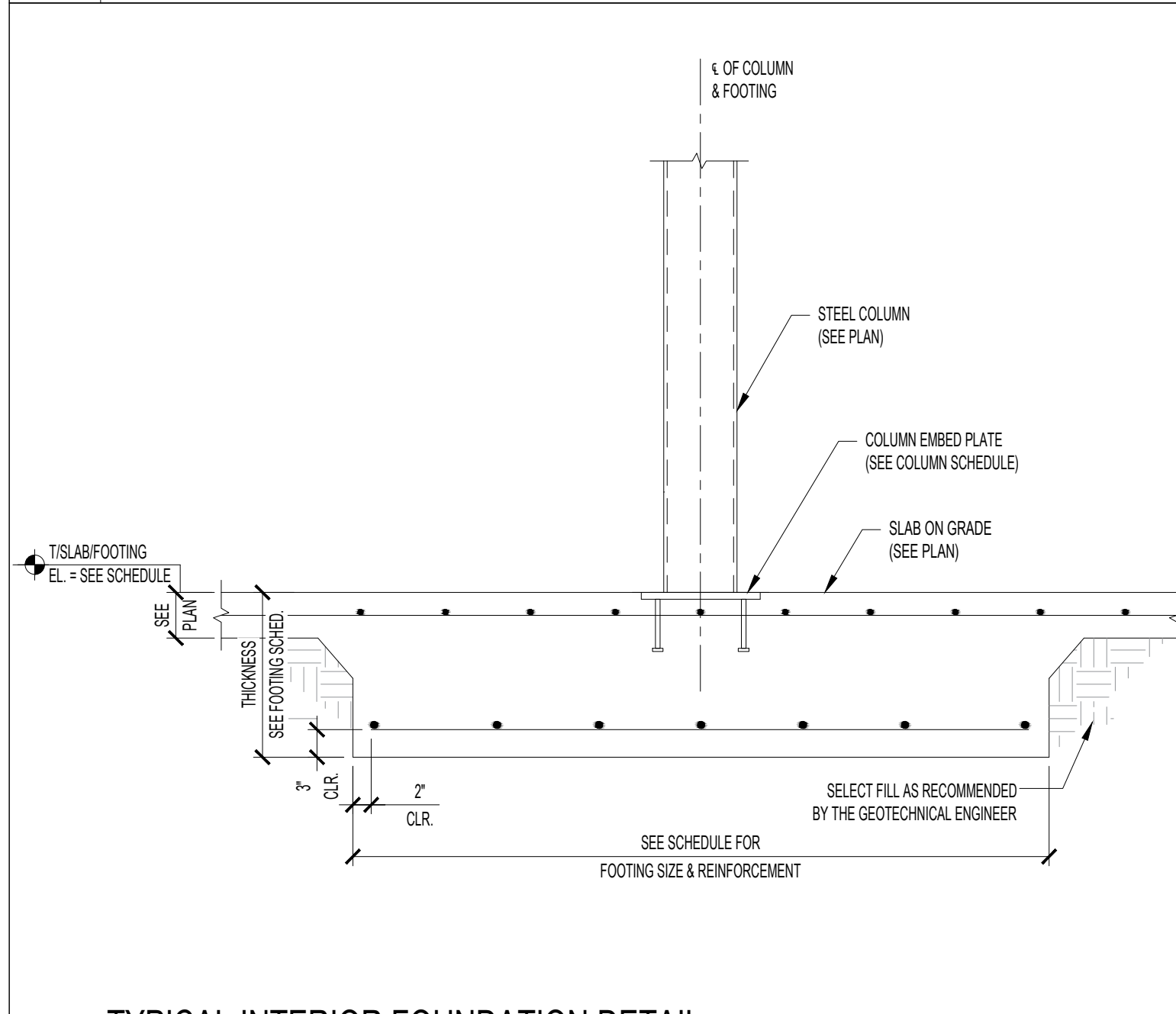
7 SLAB REPAIR AT PLUMBING CUT-OUT
SCALE: N.T.S.



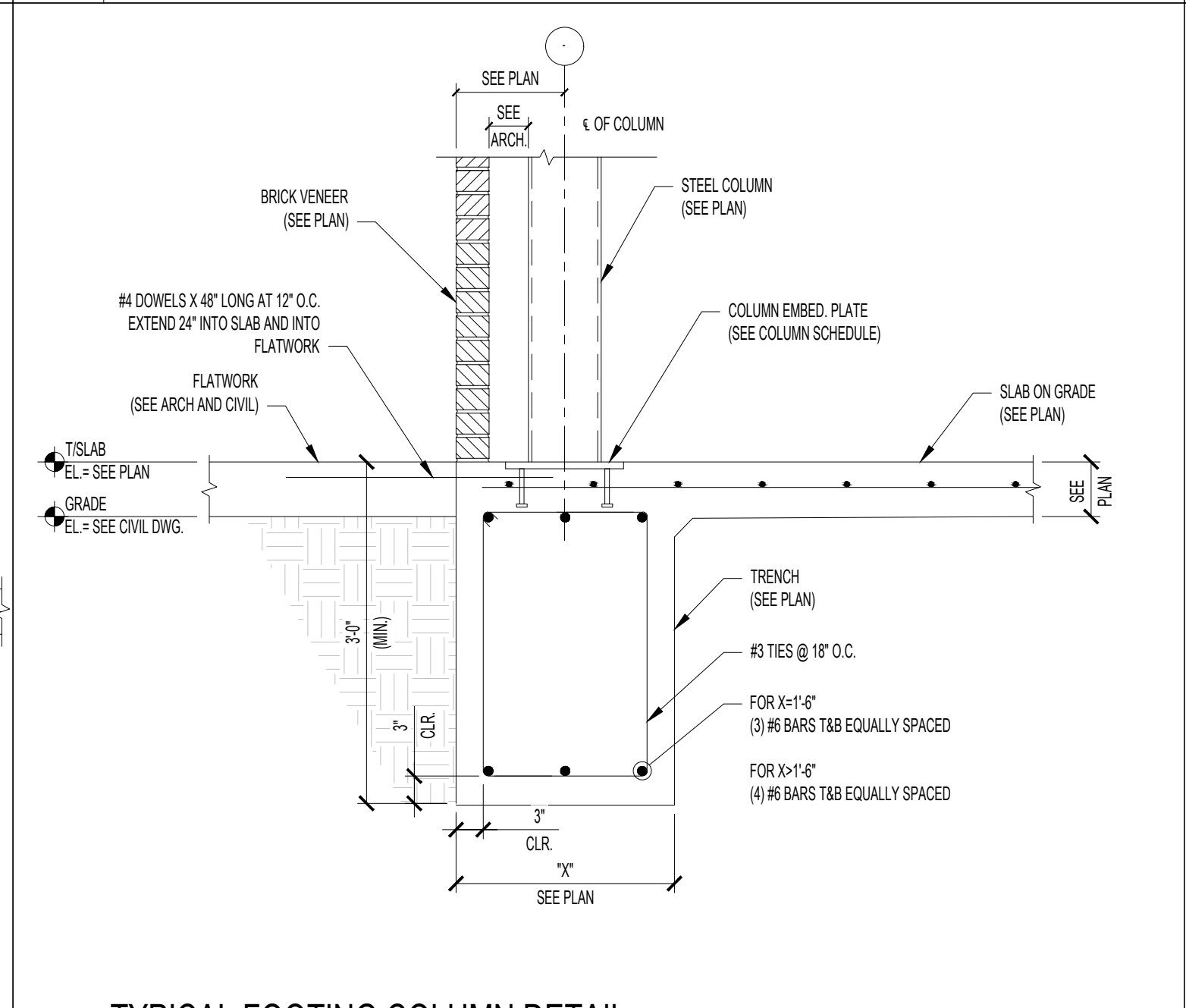
6 TYPICAL FOOTING DETAIL FOR PLUMBING LEAVE OUT AREA
SCALE: 3/4\"/>



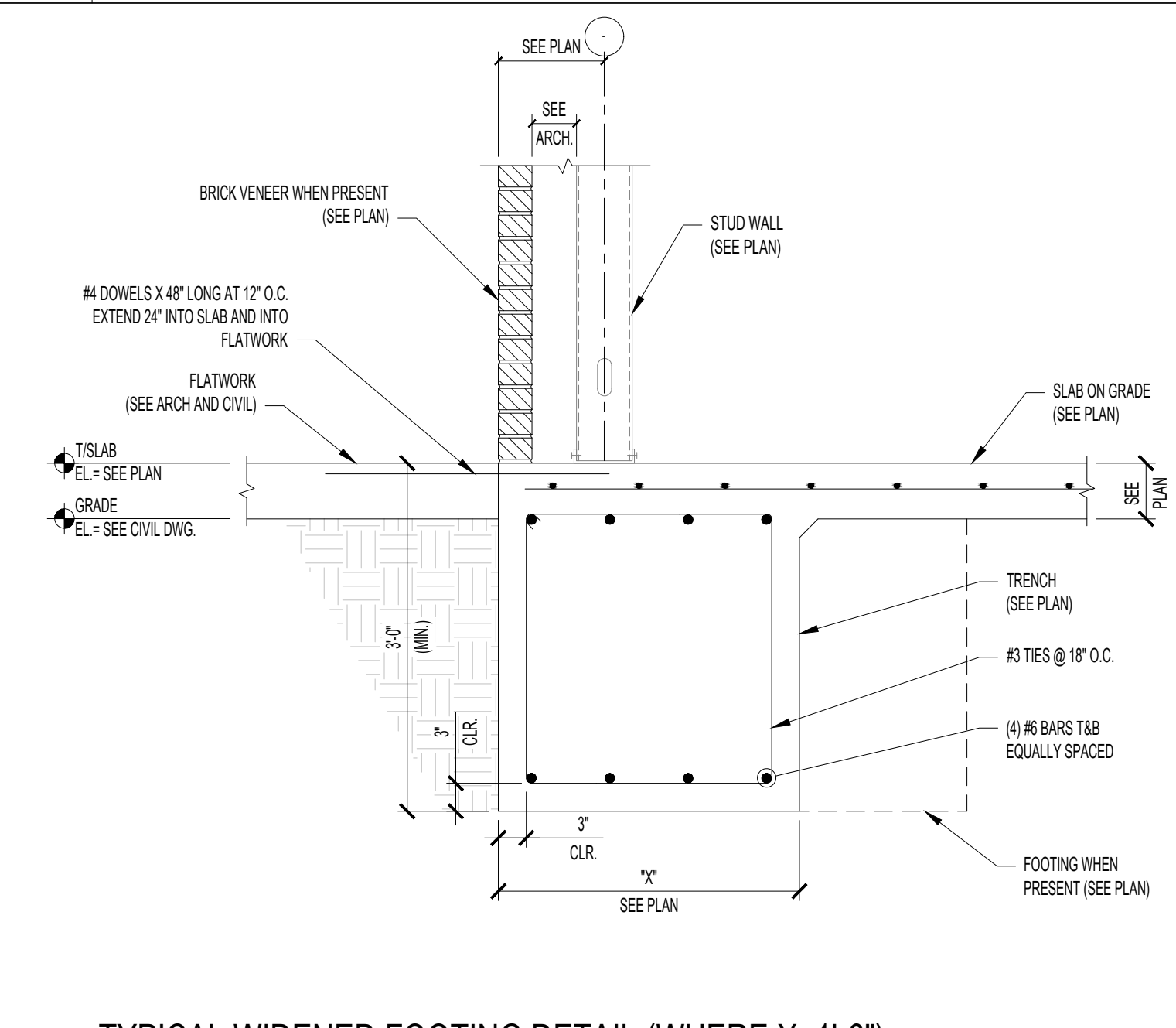
5 TYPICAL EXTERIOR FOUNDATION DETAIL
SCALE: 3/4\"/>



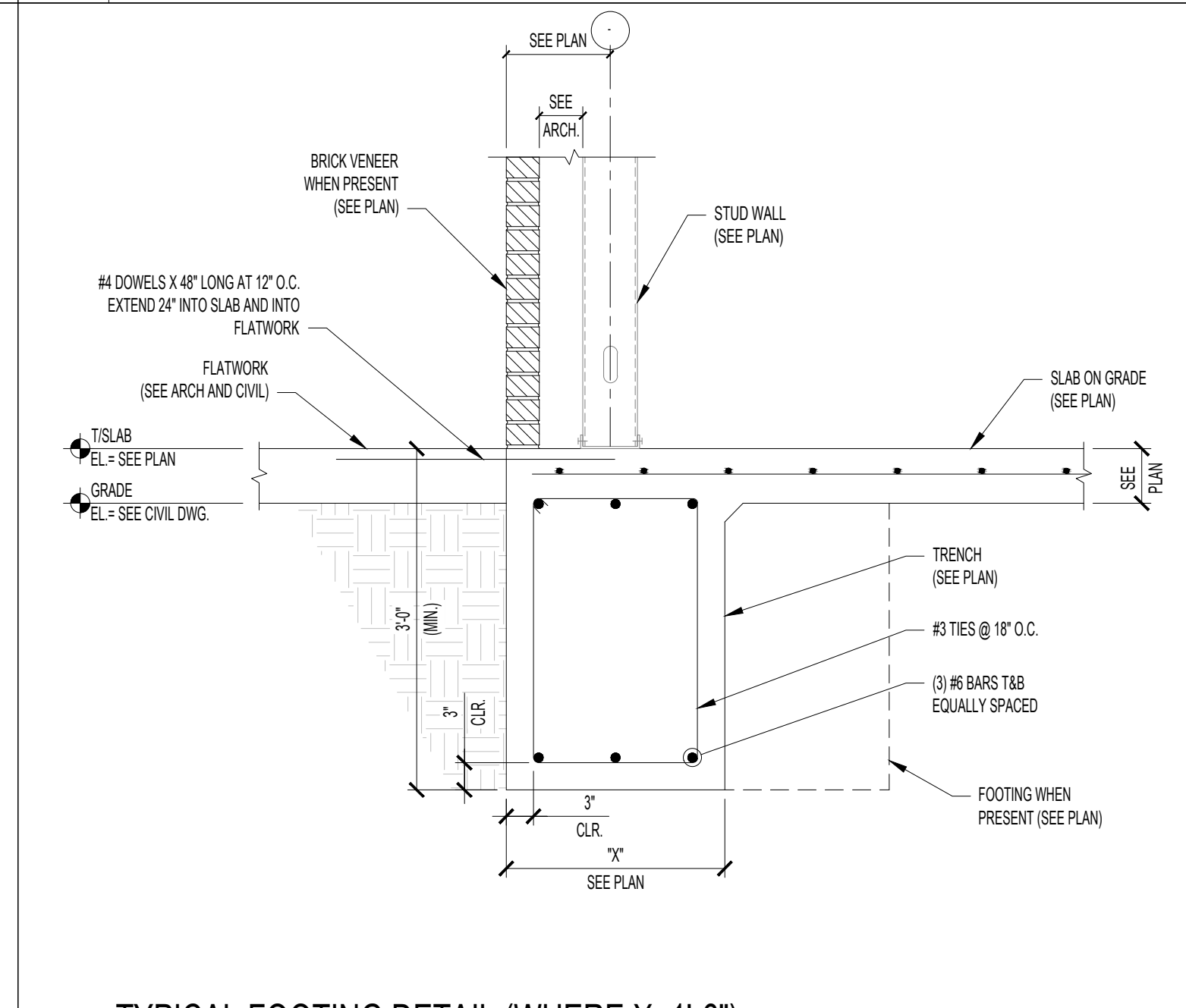
4 TYPICAL INTERIOR FOUNDATION DETAIL
SCALE: 3/4\"/>



3 TYPICAL FOOTING COLUMN DETAIL
SCALE: 3/4\"/>



2 TYPICAL WIDENED FOOTING DETAIL (WHERE X > 1'-6\"/>



1 TYPICAL FOOTING DETAIL (WHERE X = 1'-6\"/>

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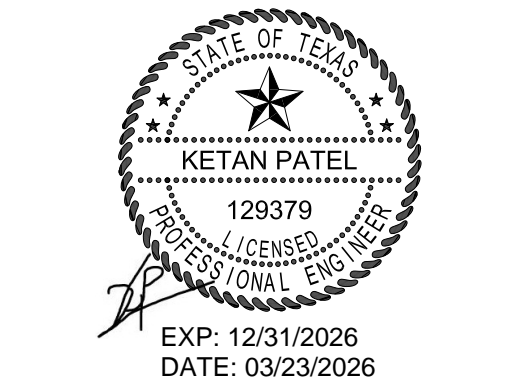
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Drawn / Designed by: RND/DT
Reviewed by: RU
Approved by: KP
Project Number: KPJ-TX-25-0018

SHEET NAME:
**FOUNDATION
DETAILS**

SHEET NUMBER:
S-301

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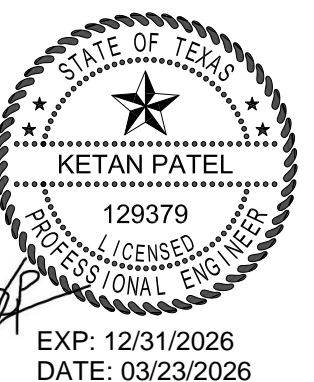
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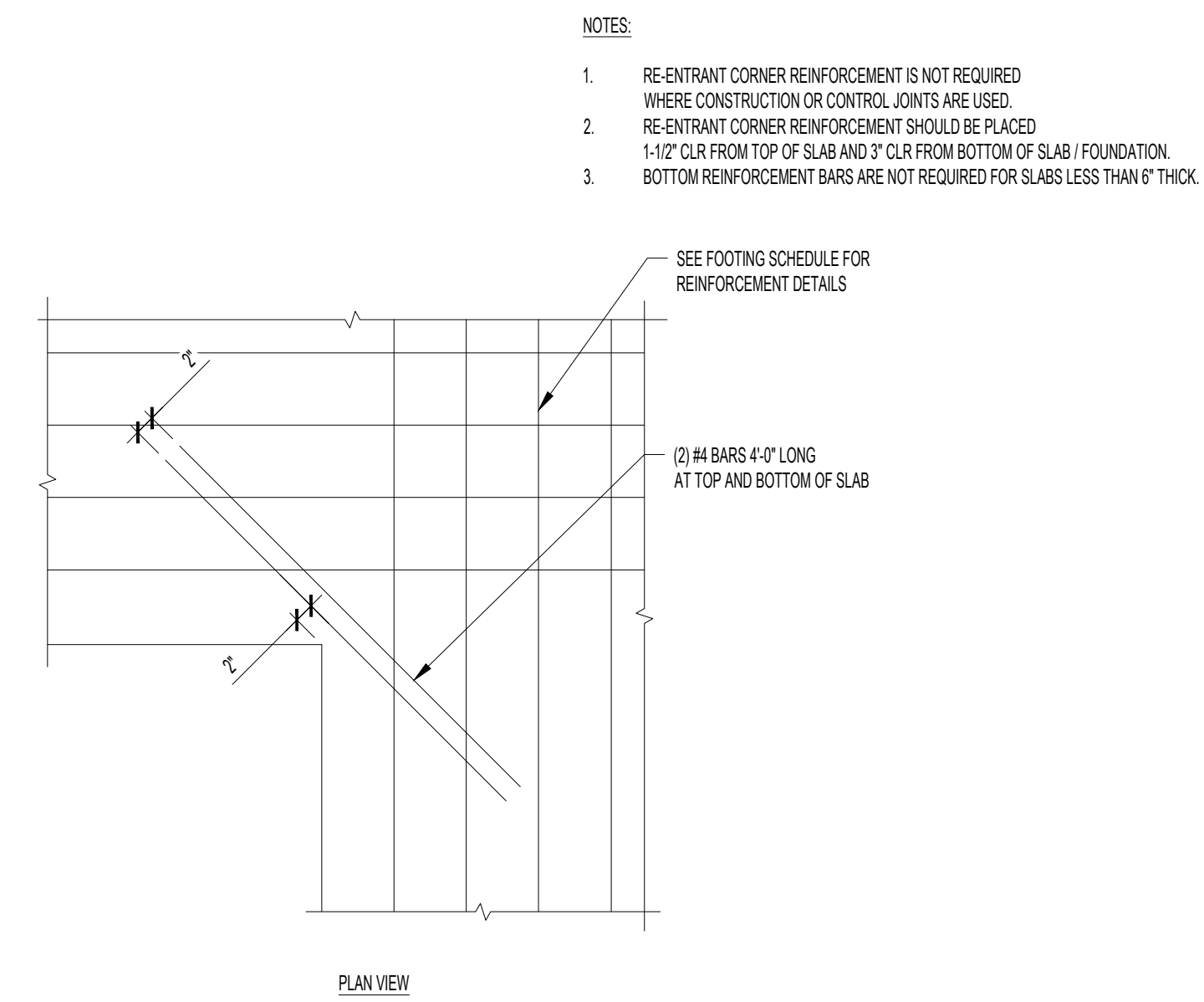
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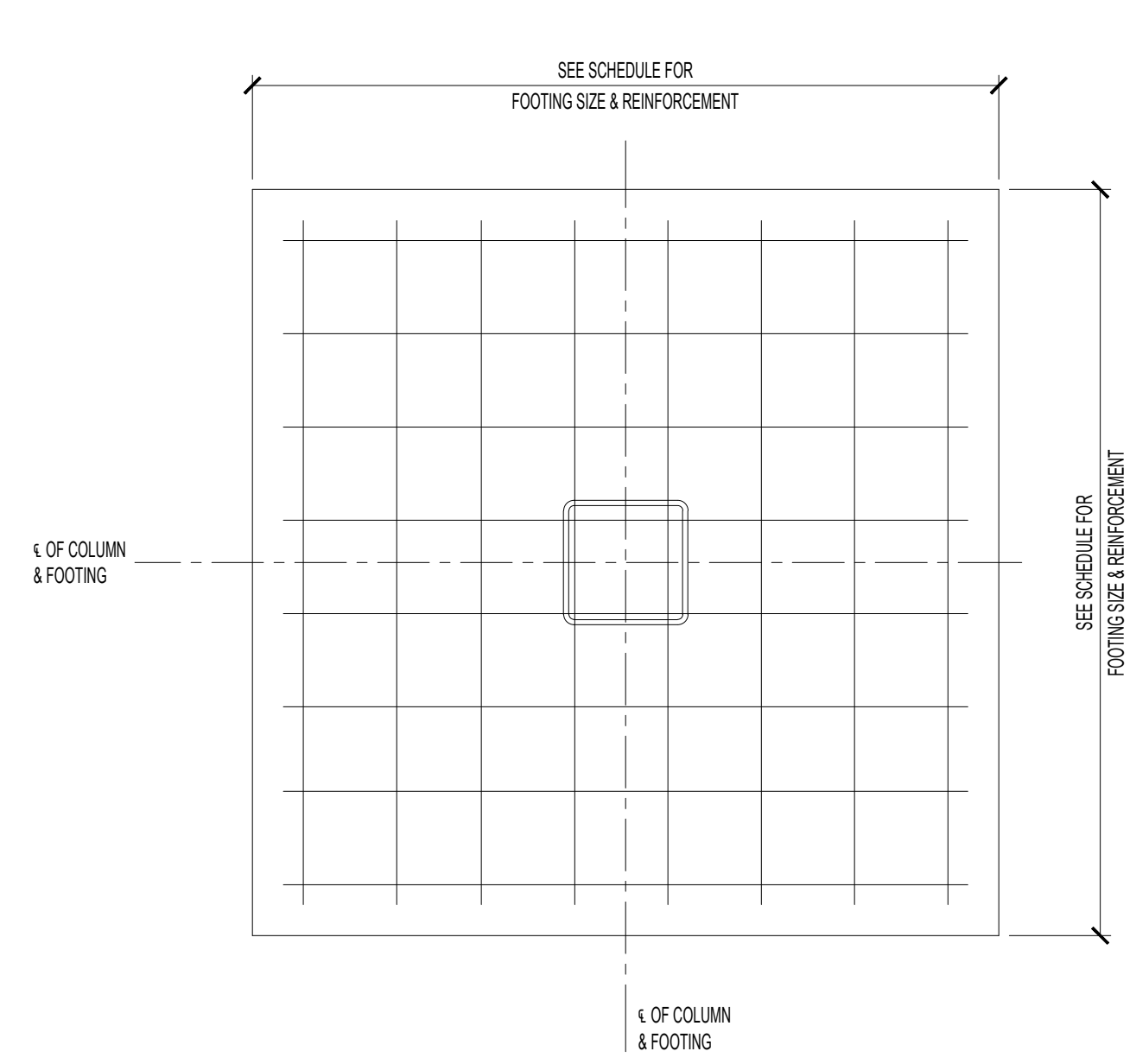
Drawn / Designed by: RNDT
Reviewed by: RU
Approved by: KP
Project Number: KPJ-TX-25-0018

SHEET NAME:
FOUNDATION DETAILS

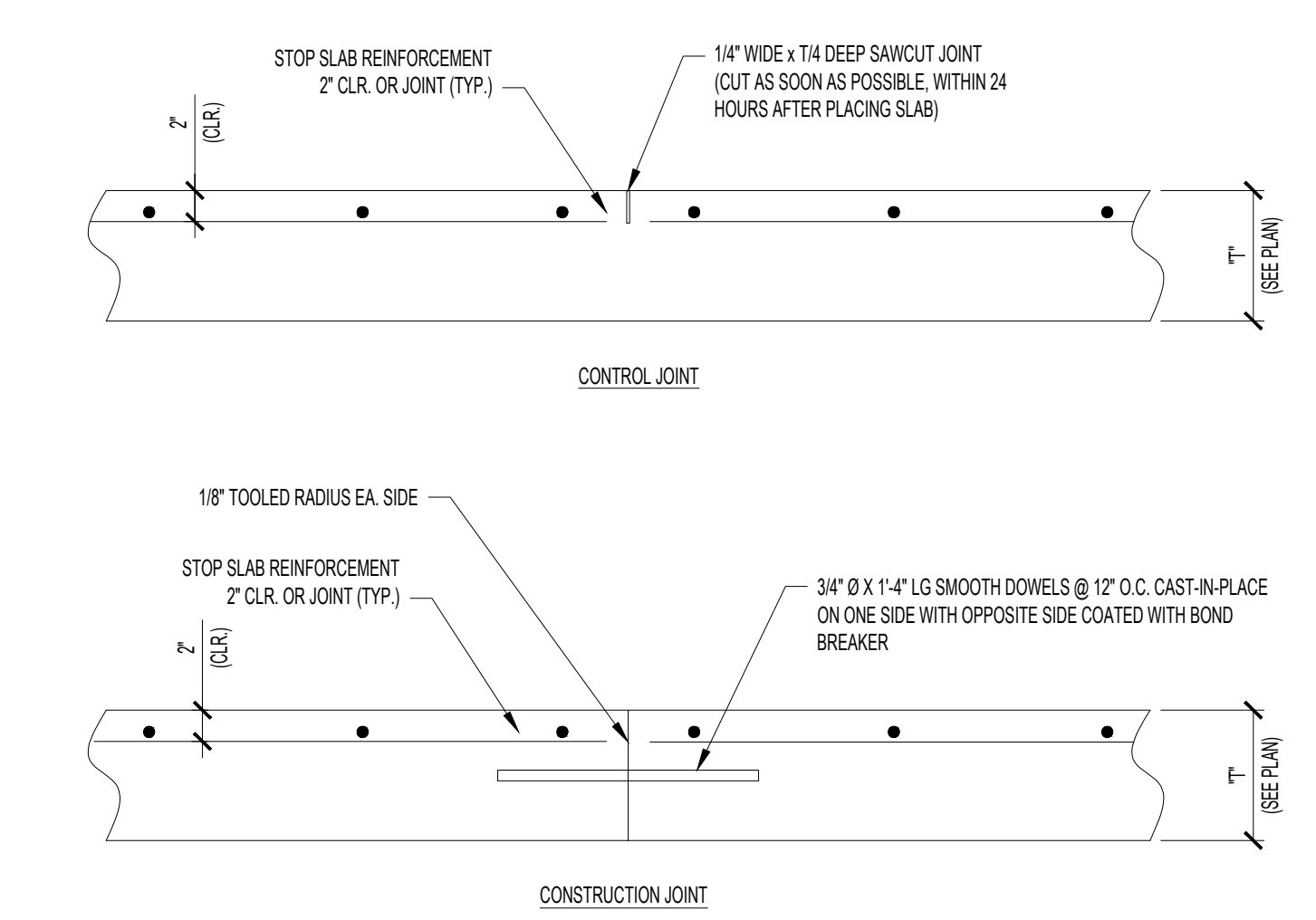
SHEET NUMBER:
S-302



3 TYPICAL SLAB RE-ENTRANT CORNER REINFORCEMENT



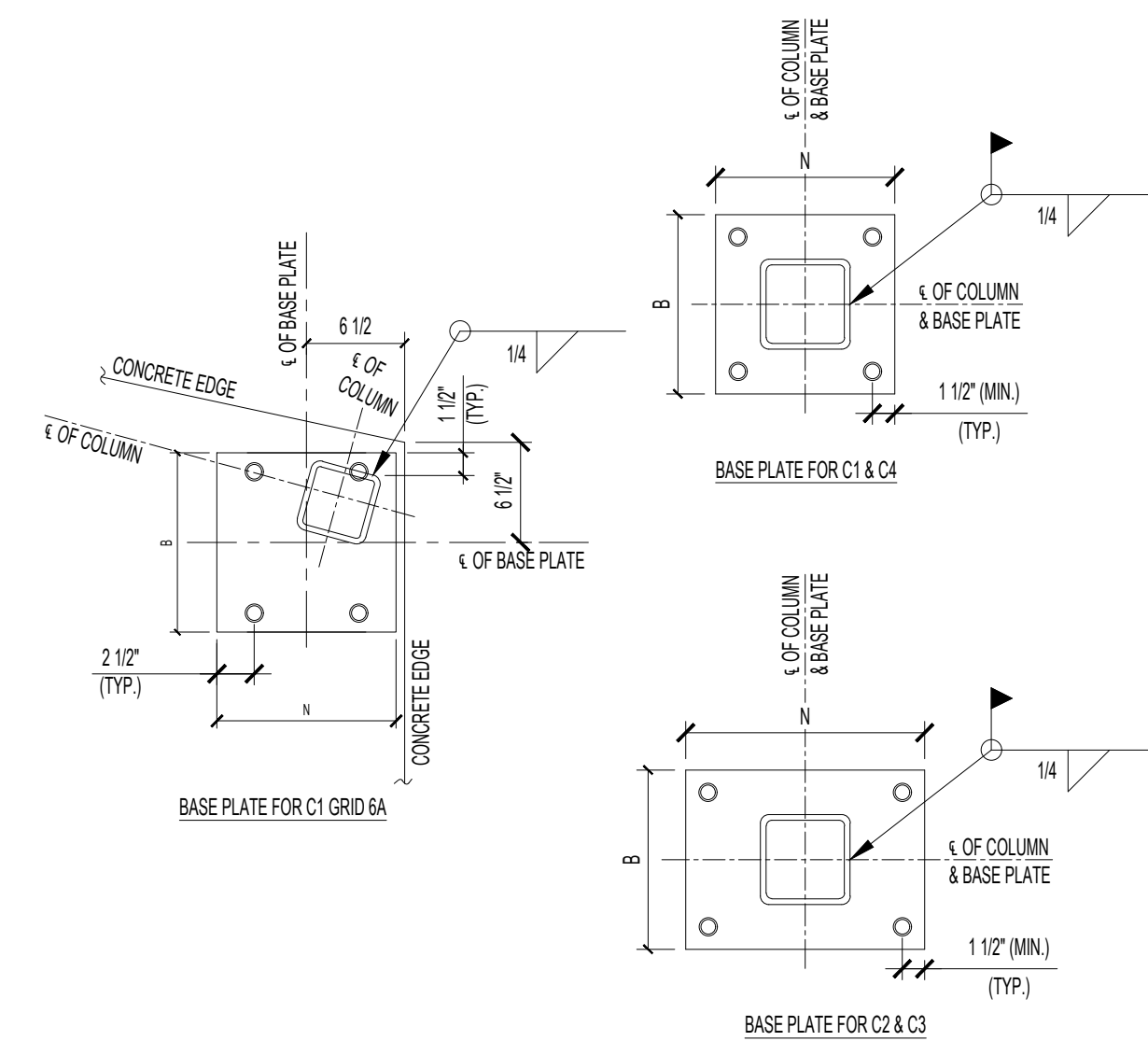
2 FOUNDATION REINFORCEMENT ARRANGEMENT PLAN



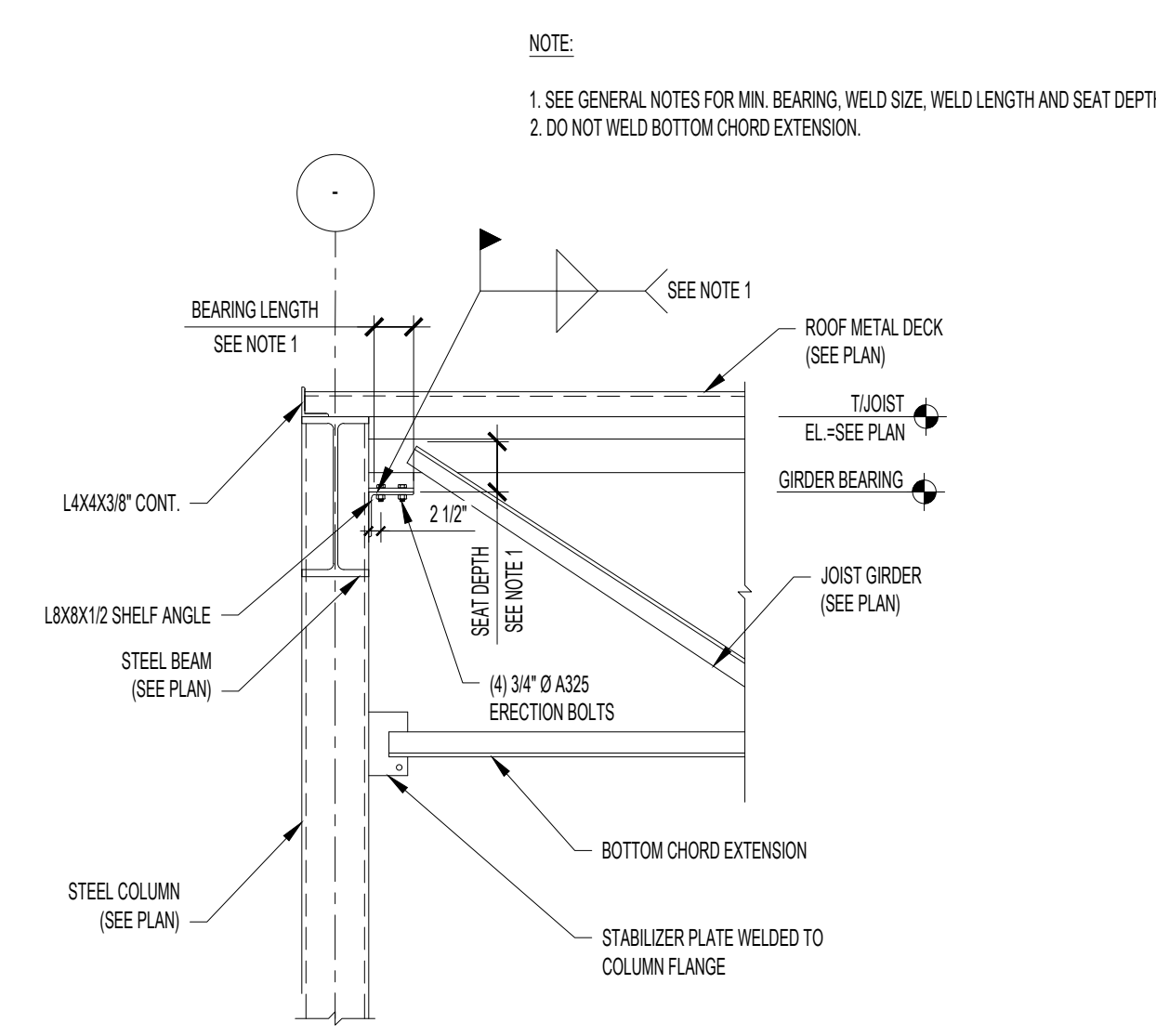
1 TYPICAL SLAB ON GRADE DETAIL

COLUMN SCHEDULE (min Fy=48ksi)					
COLUMN MARK	C1	C2	C3	C4	C5
LEVEL					HSS80x14
ROOF LEVEL EL.=SEE PLAN					
CANOPY LEVEL 2 EL.=SEE PLAN	HSS80x14	HSS80x14	HSS80x14	HSS80x14	
CANOPY LEVEL 1 EL.=SEE PLAN	HSS80x14	HSS80x14	HSS80x14	HSS80x14	
FOUNDATION LEVEL EL.=SEE PLAN					
BASE PLATE 1x N x B	12'x12'x3/4"	7'x12'x3/4"	7'x12'x3/4"	12'x12'x3/4"	
ANCHOR BOLTS	(4) 3/4" Ø HCA STUD x 9" LONG	(4) 3/4" Ø HCA STUD x 9" LONG	(4) 3/4" Ø HCA STUD x 9" LONG	(4) 3/4" Ø HCA STUD x 9" LONG	

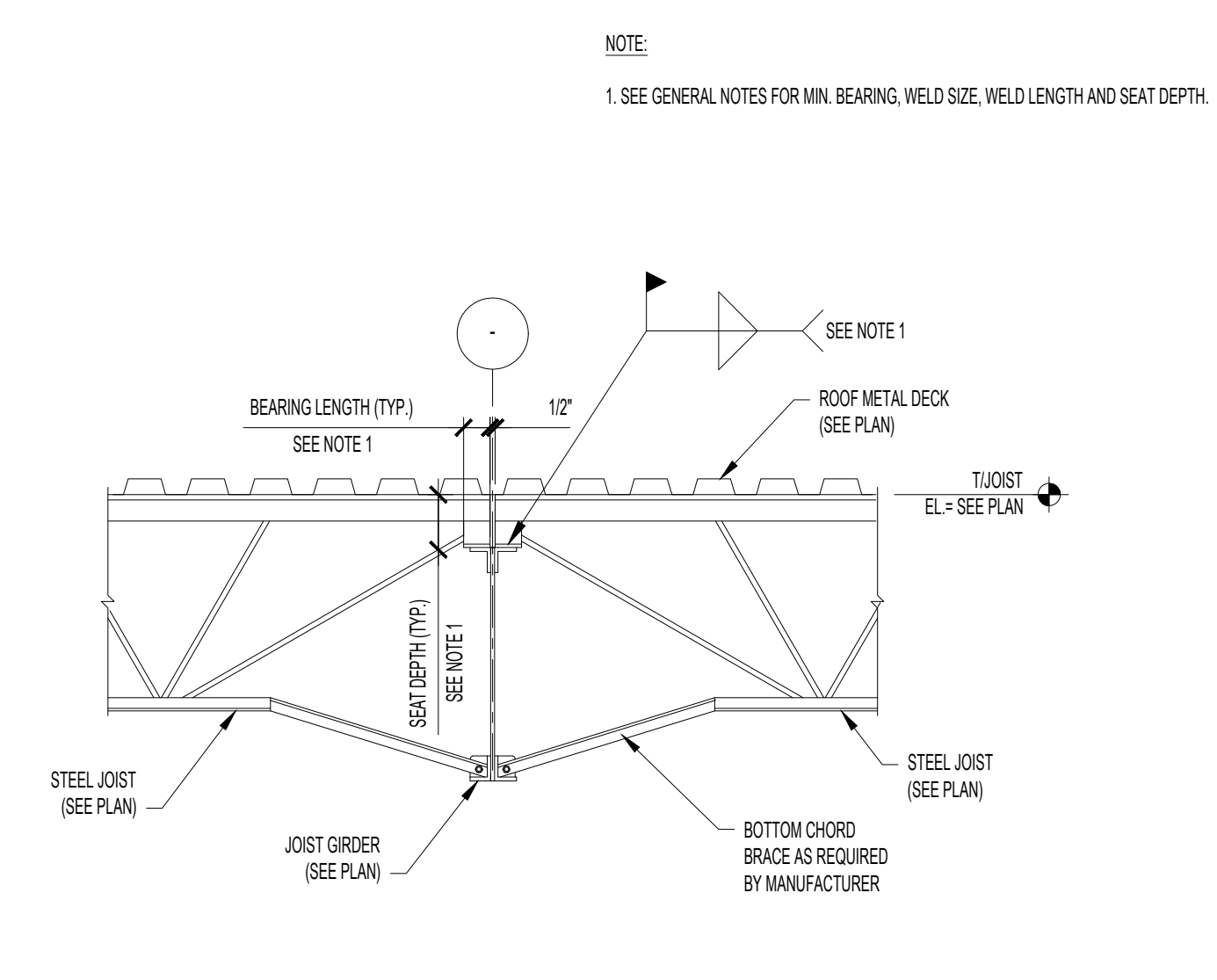
12 COLUMN SCHEDULE
SCALE: N.T.S.



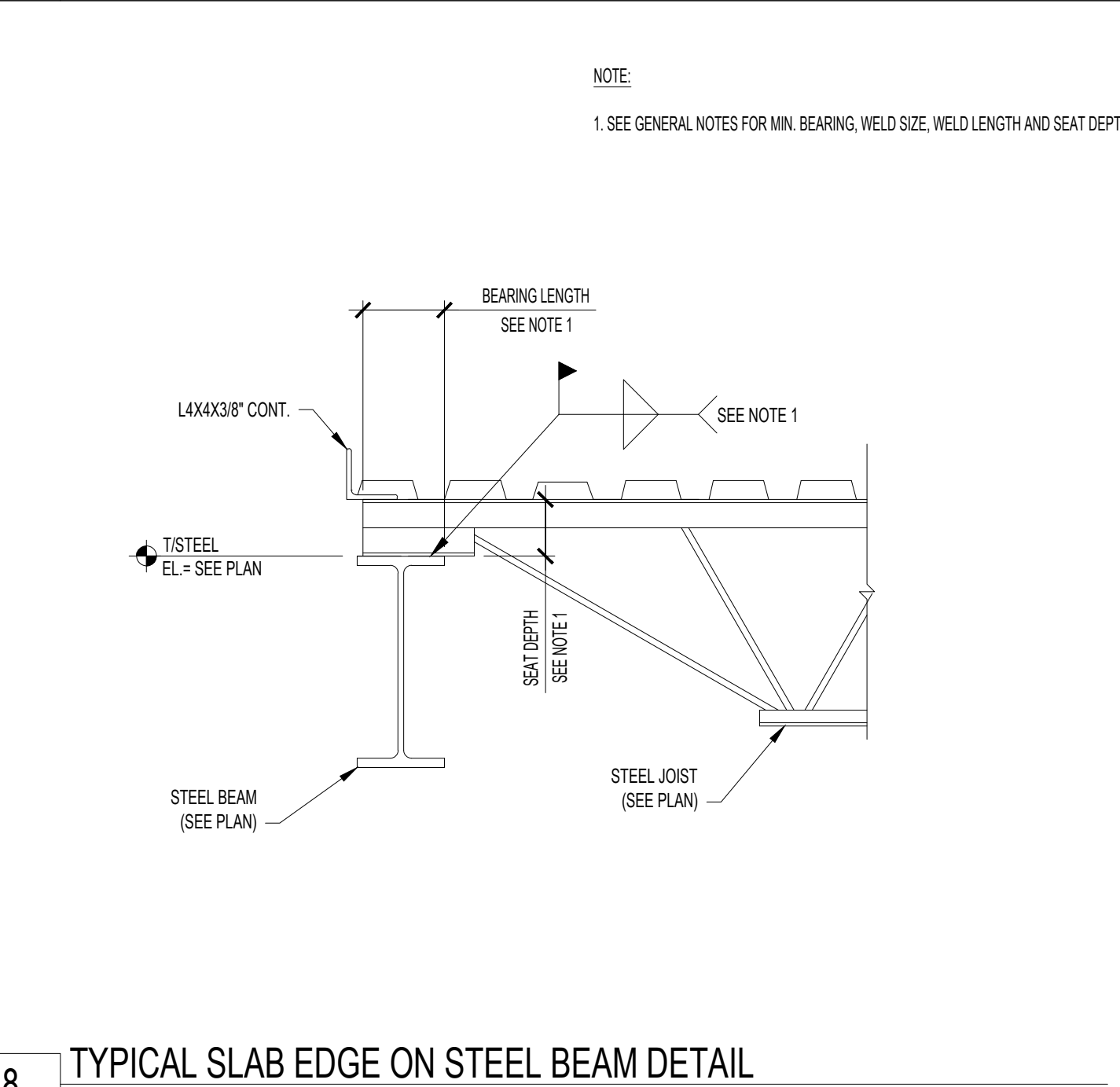
11 TYPICAL BASE PLATE DETAIL
SCALE: N.T.S.



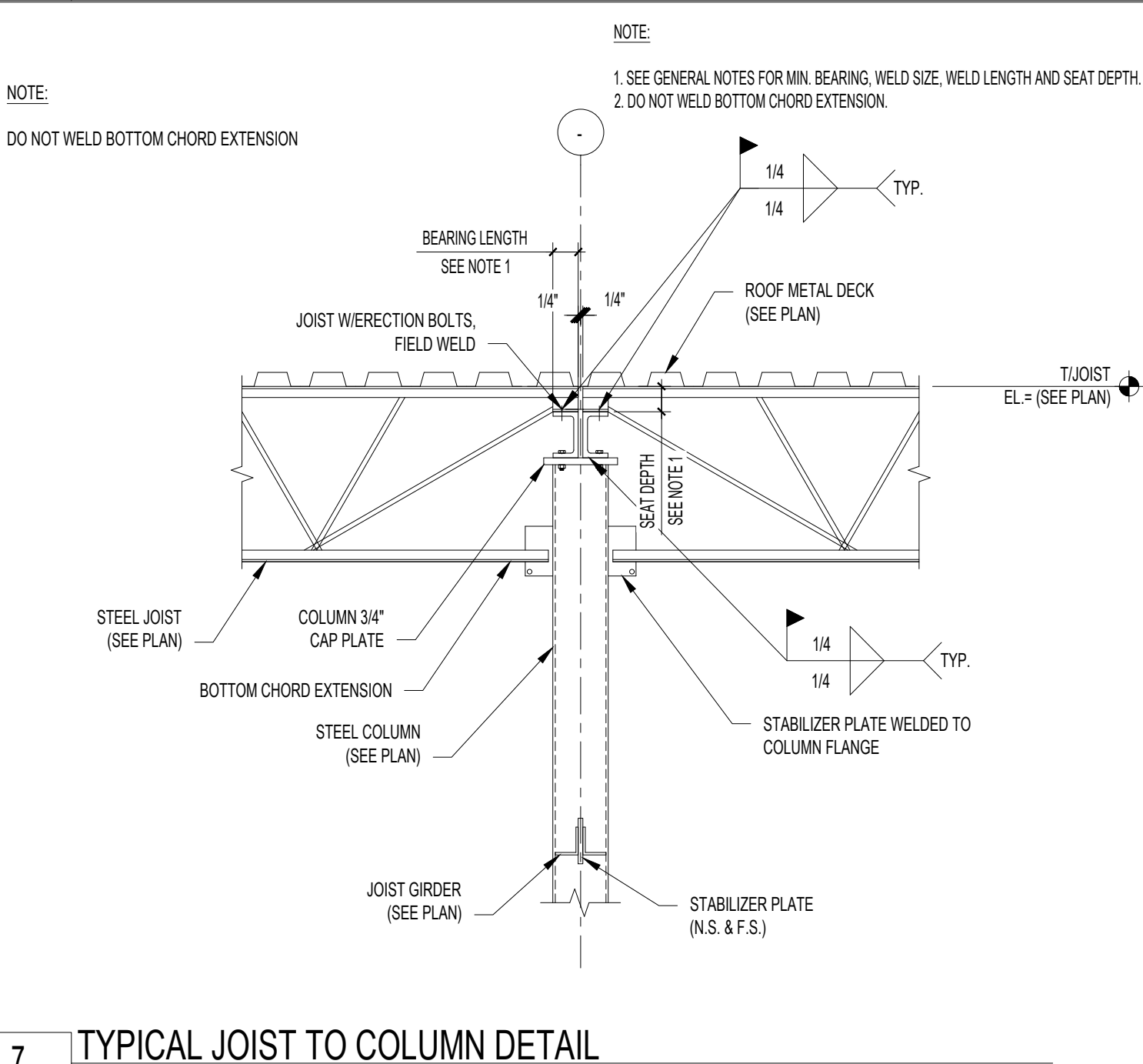
10 TYPICAL JOIST GIRDER TO COLUMN DETAIL
SCALE: N.T.S.



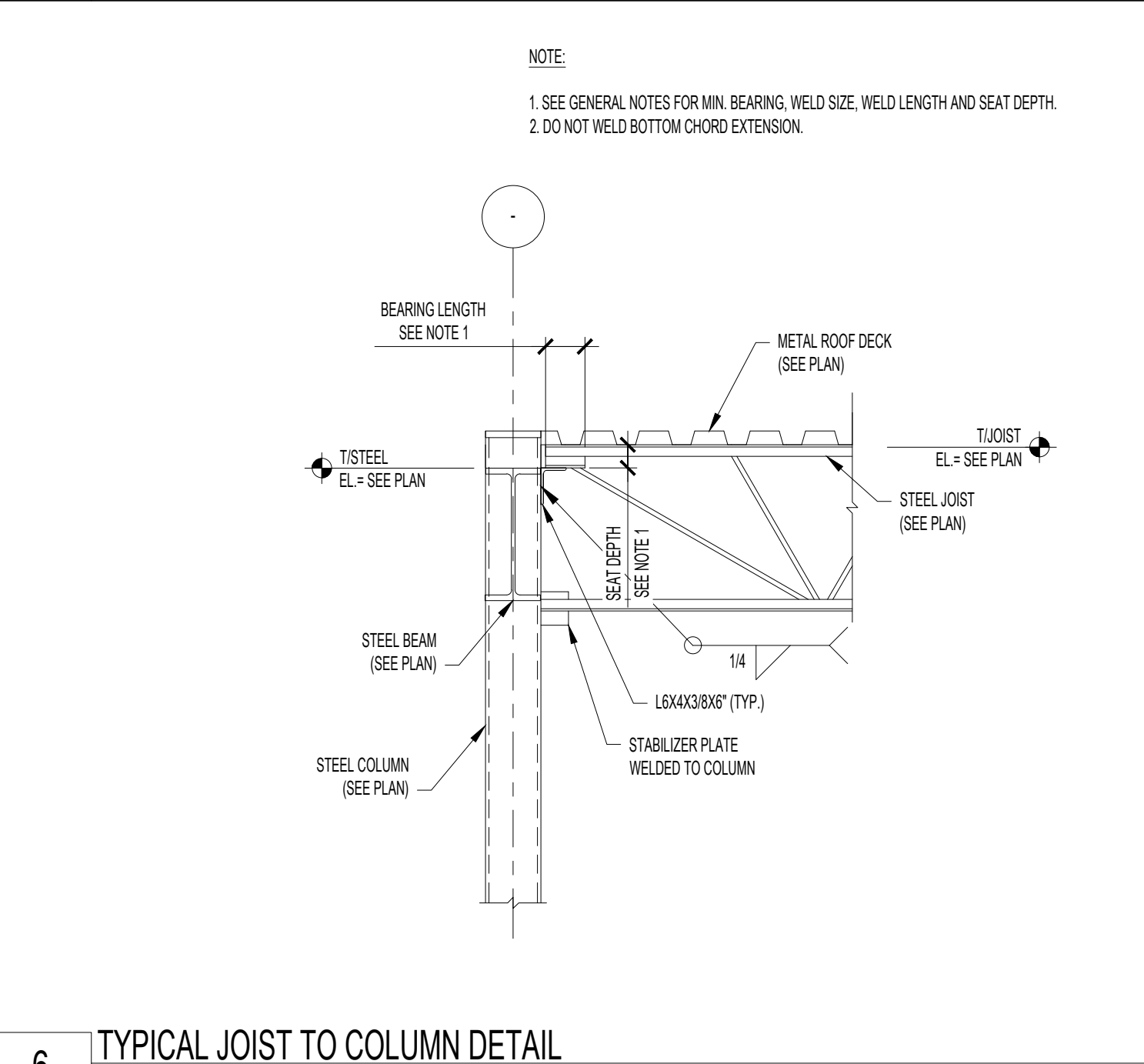
9 TYPICAL JOIST TO JOIST GIRDER DETAIL
SCALE: N.T.S.



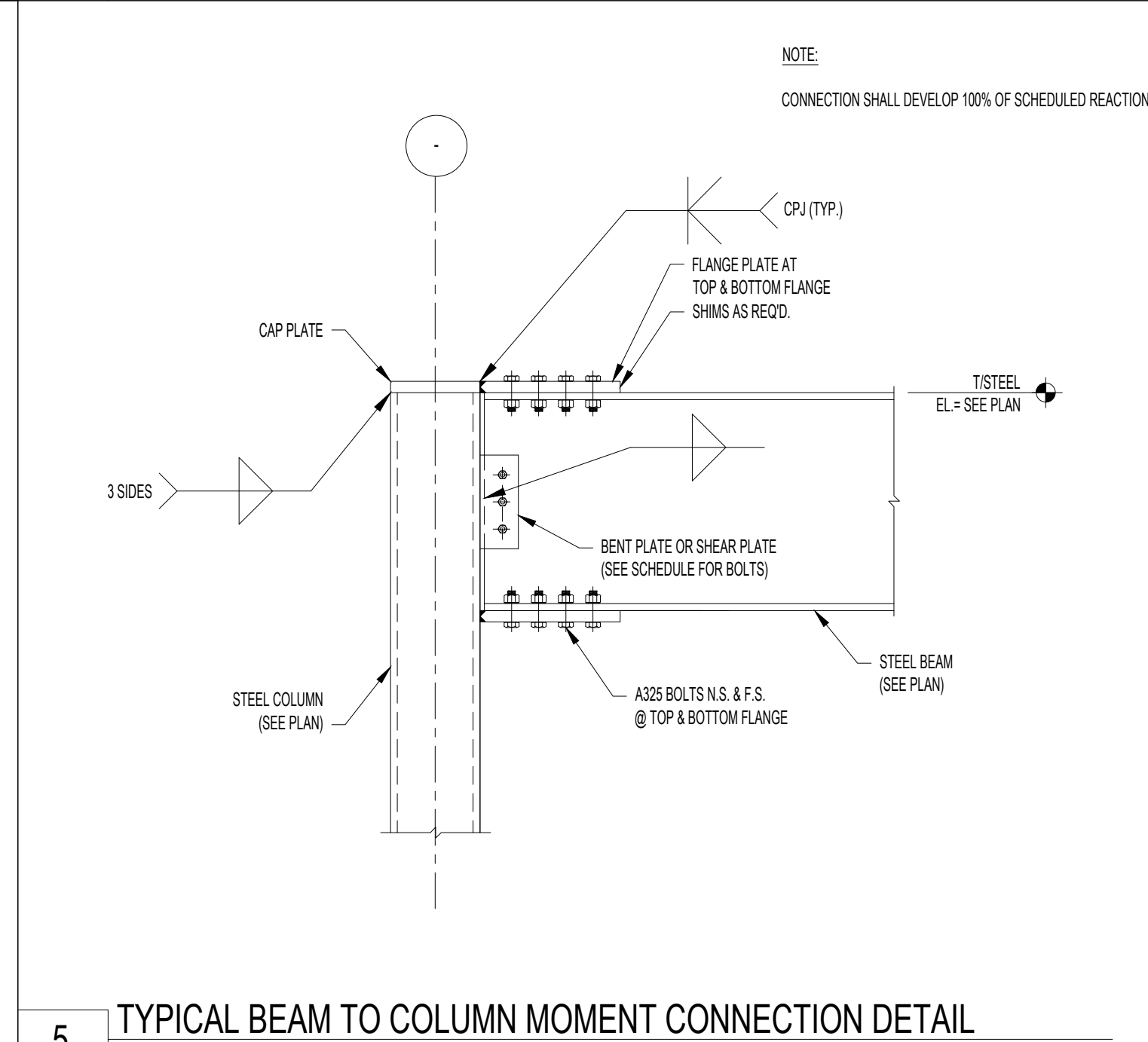
8 TYPICAL SLAB EDGE ON STEEL BEAM DETAIL
SCALE: N.T.S.



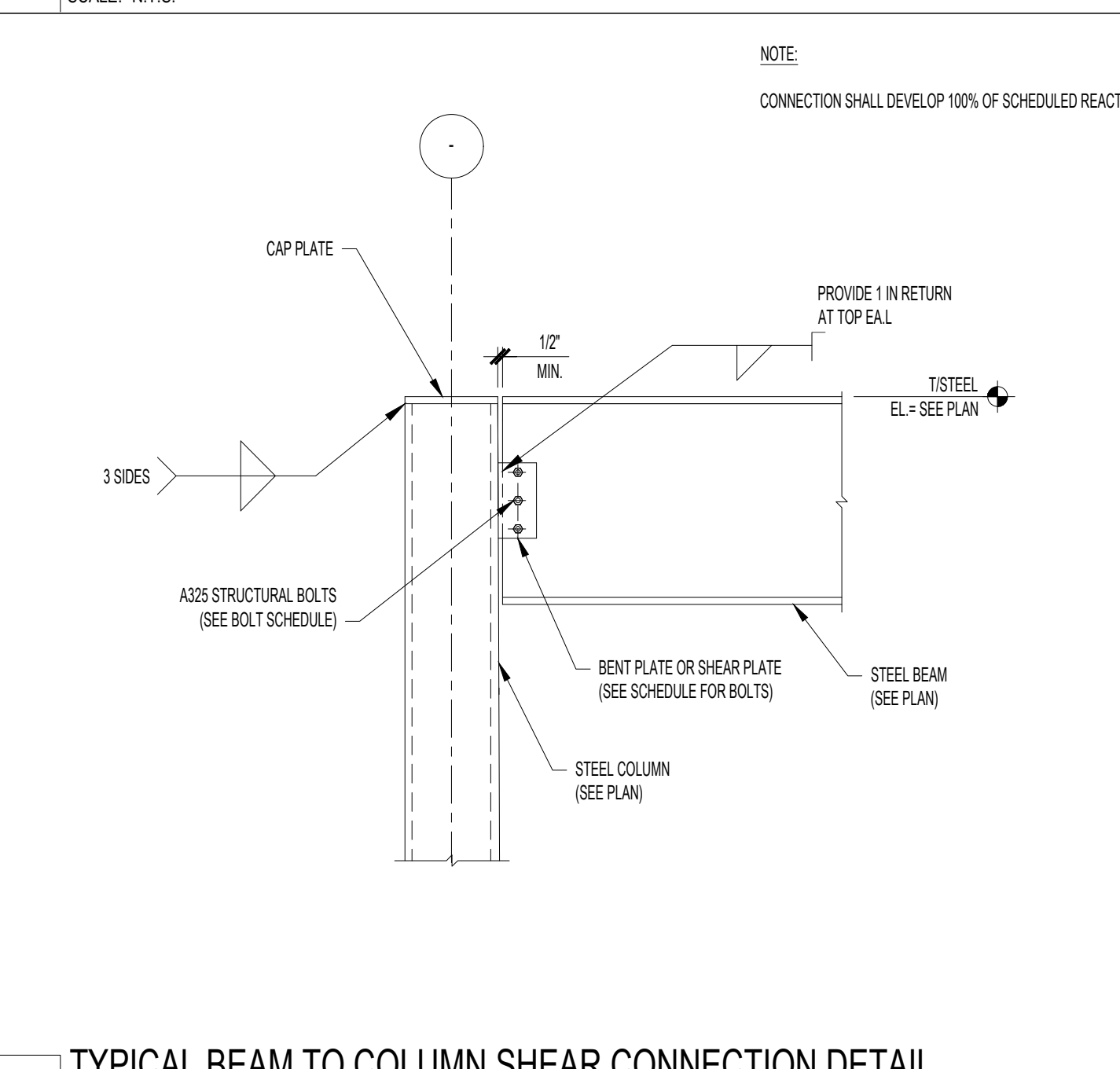
7 TYPICAL JOIST TO COLUMN DETAIL
SCALE: 3/4" = 1'-0"



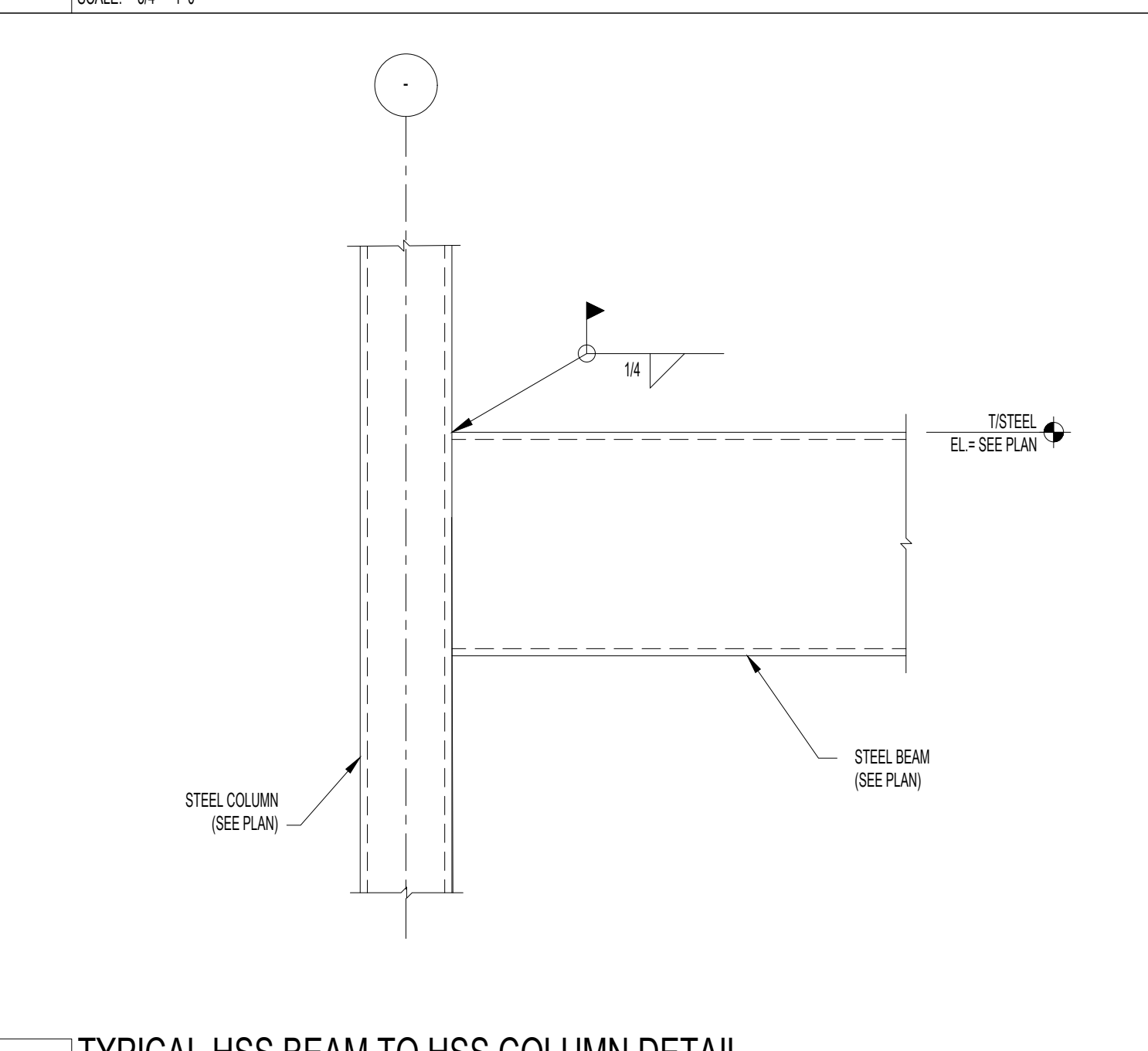
6 TYPICAL JOIST TO COLUMN DETAIL
SCALE: N.T.S.



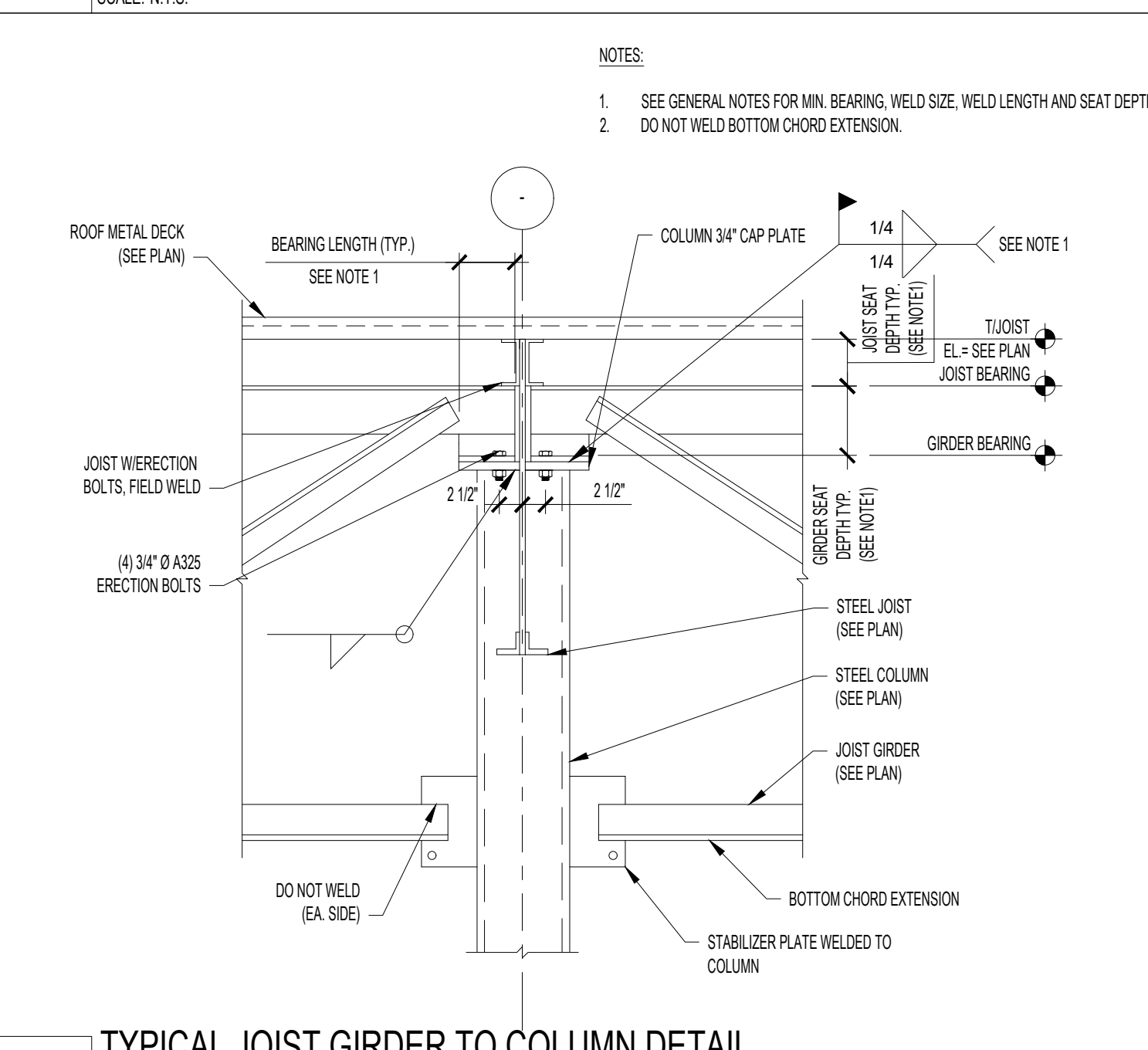
5 TYPICAL BEAM TO COLUMN MOMENT CONNECTION DETAIL
SCALE: N.T.S.



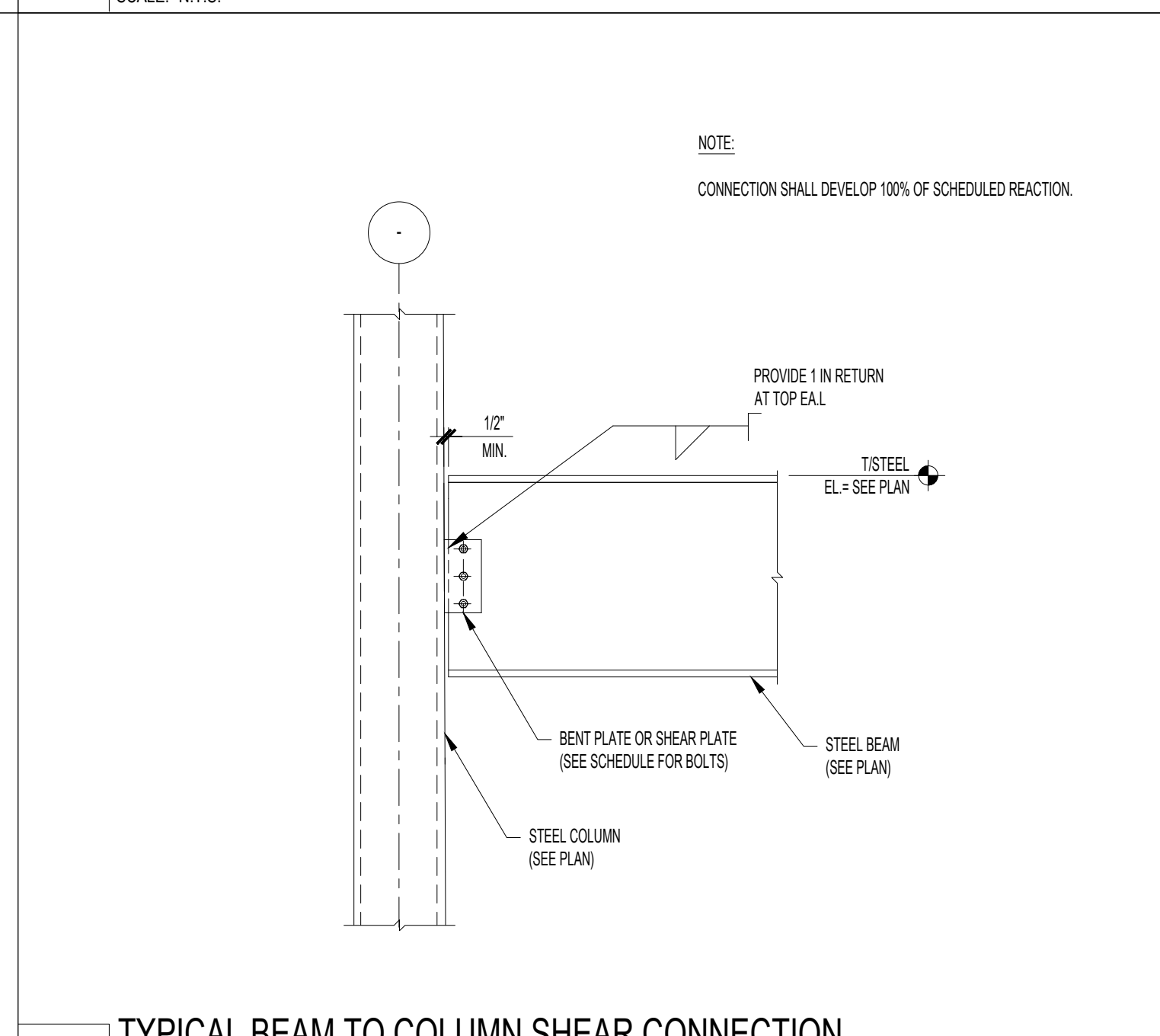
4 TYPICAL BEAM TO COLUMN SHEAR CONNECTION DETAIL
SCALE: N.T.S.



3 TYPICAL HSS BEAM TO HSS COLUMN DETAIL
SCALE: N.T.S.

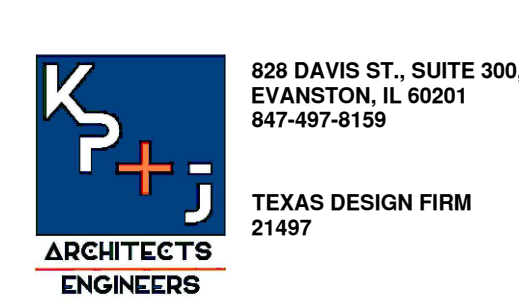


2 TYPICAL JOIST GIRDER TO COLUMN DETAIL
SCALE: N.T.S.



1 TYPICAL BEAM TO COLUMN SHEAR CONNECTION
SCALE: N.T.S.

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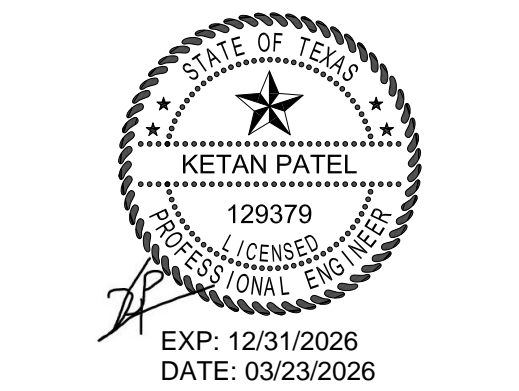
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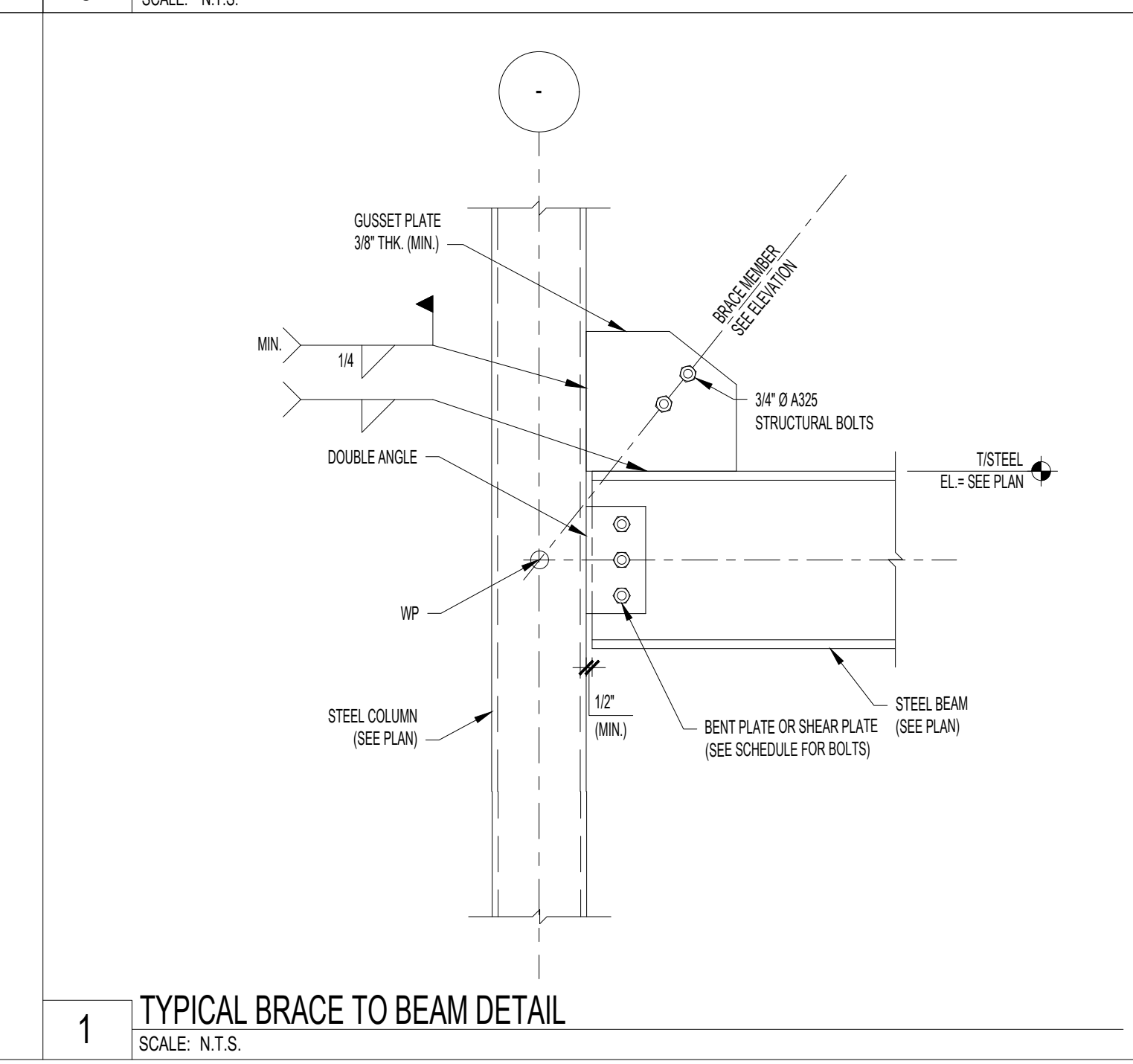
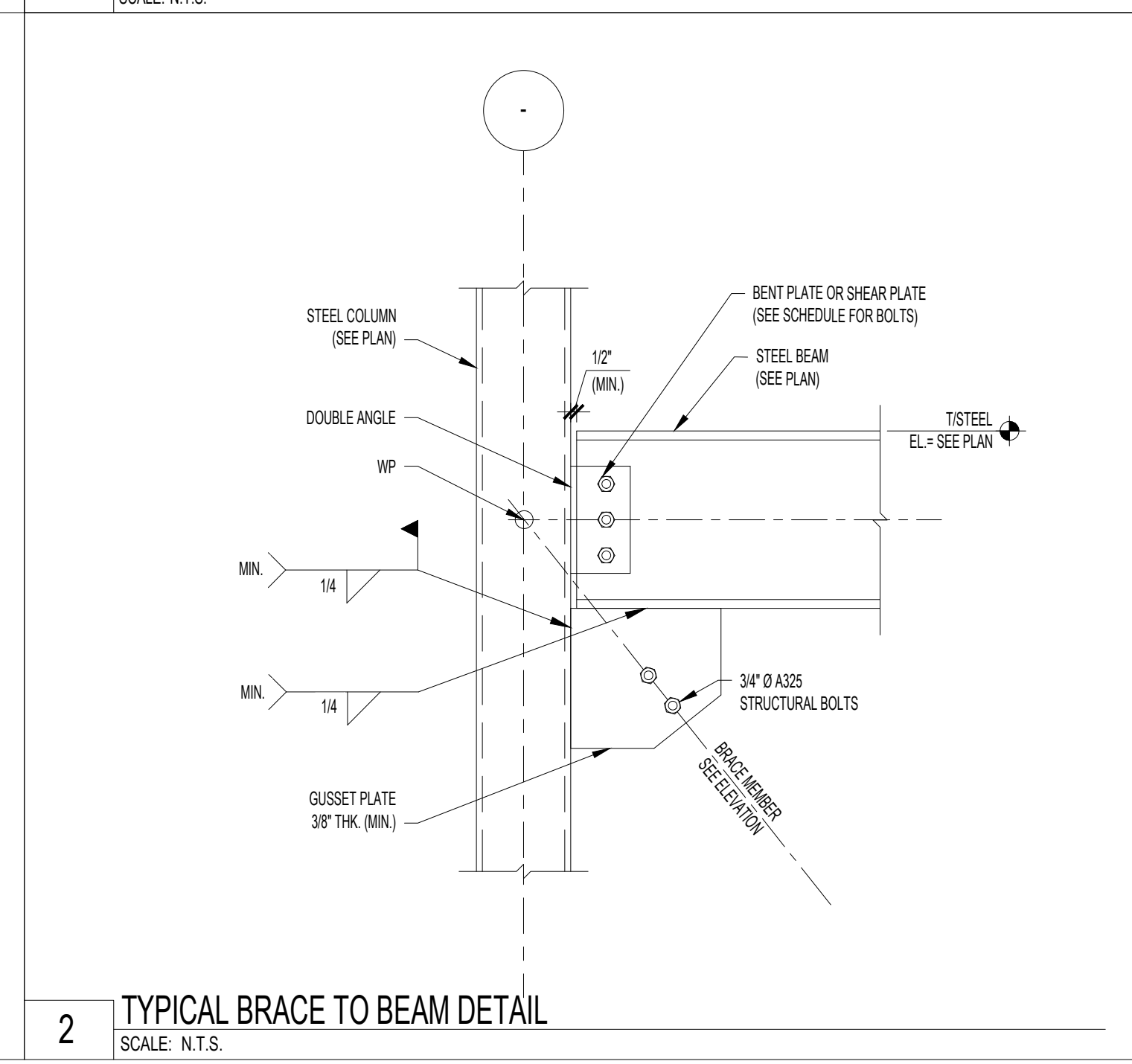
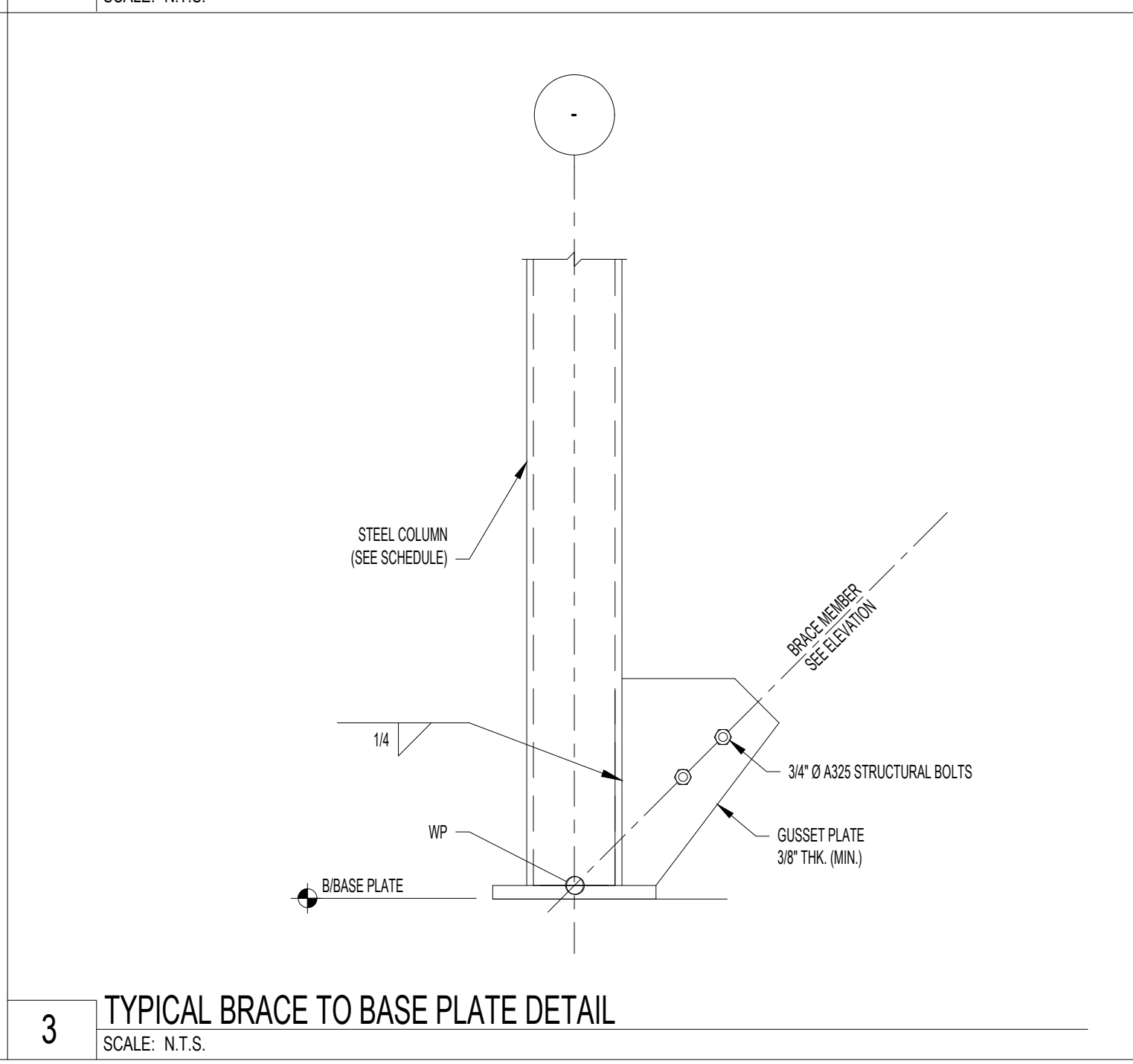
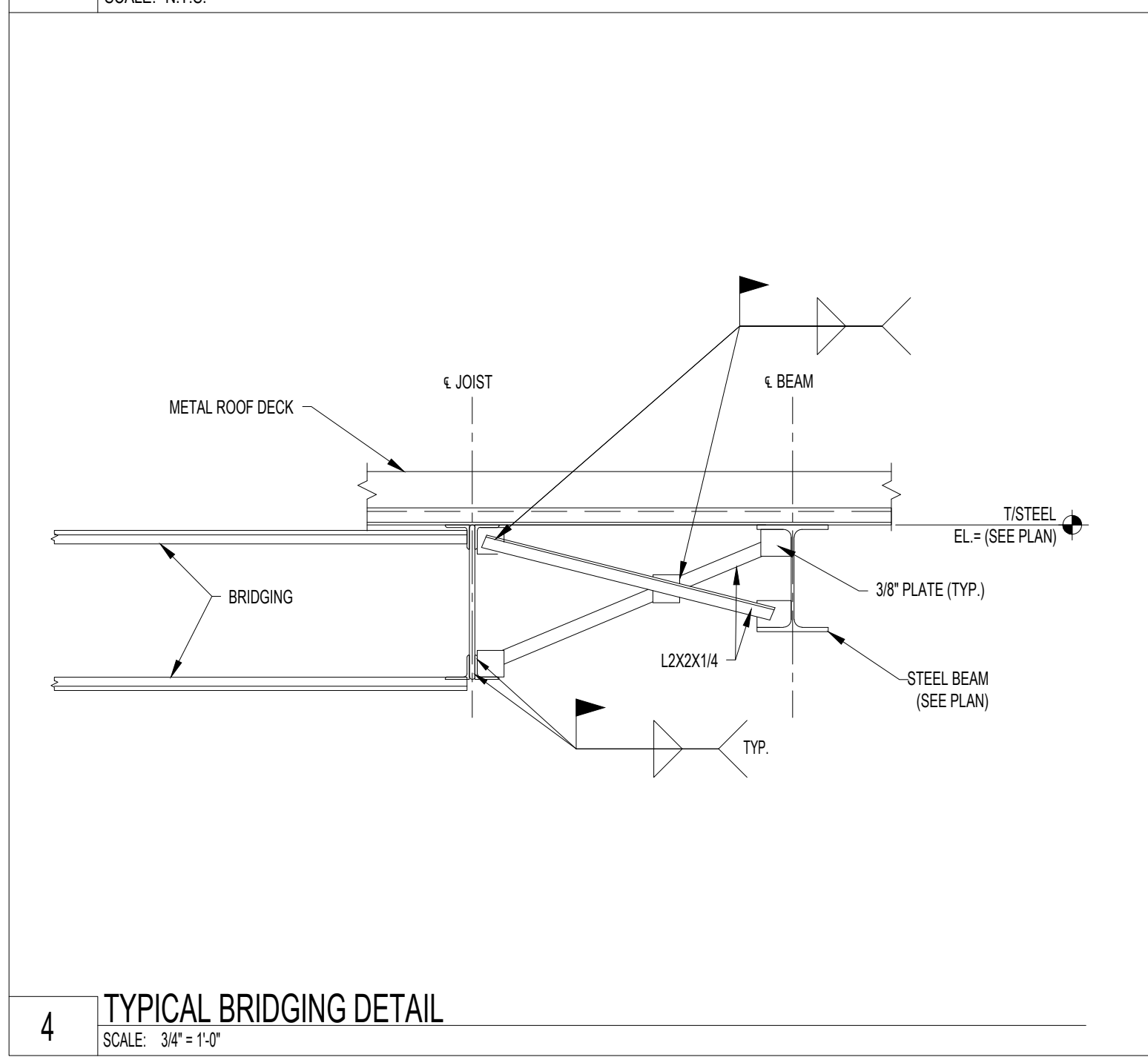
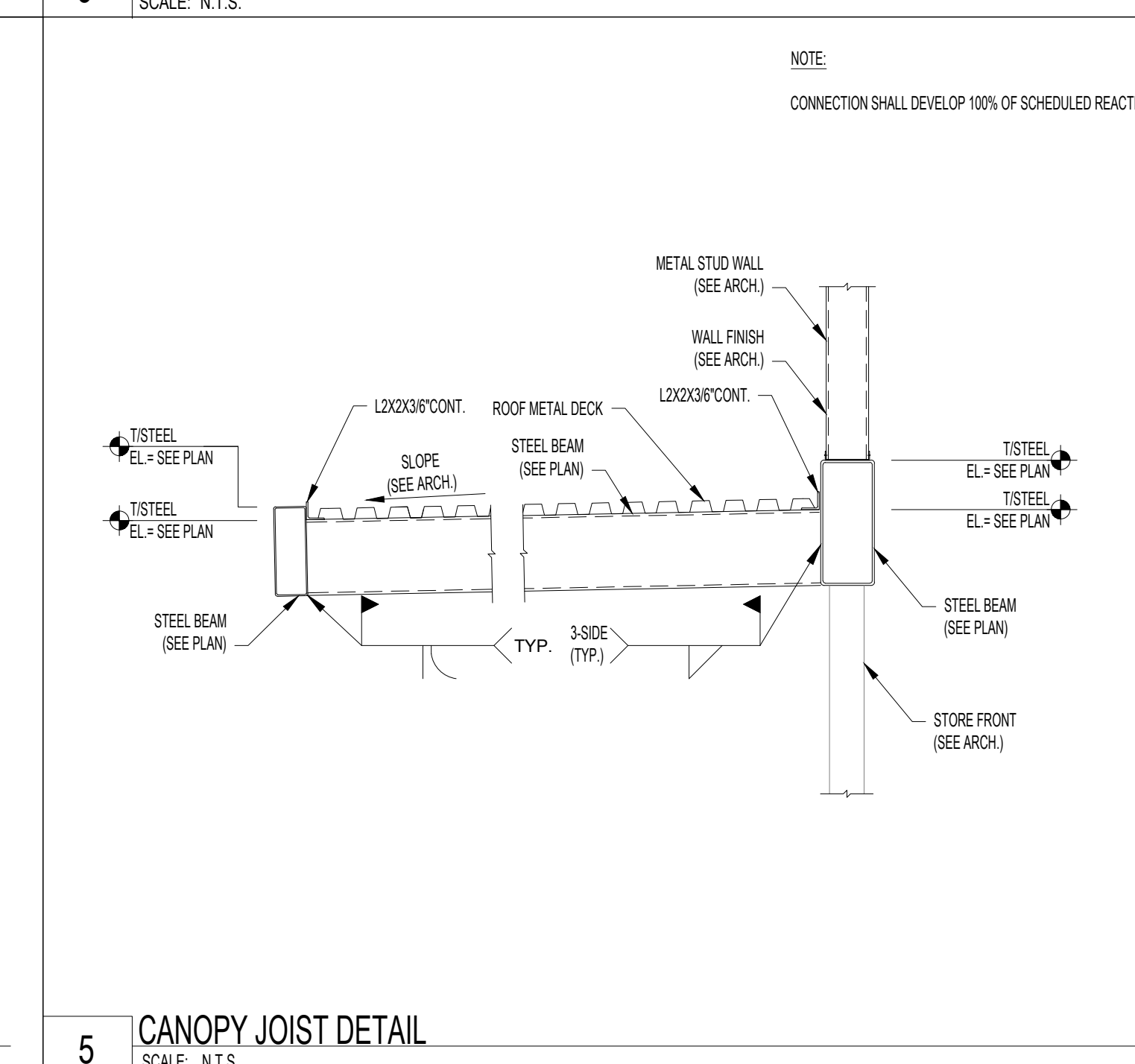
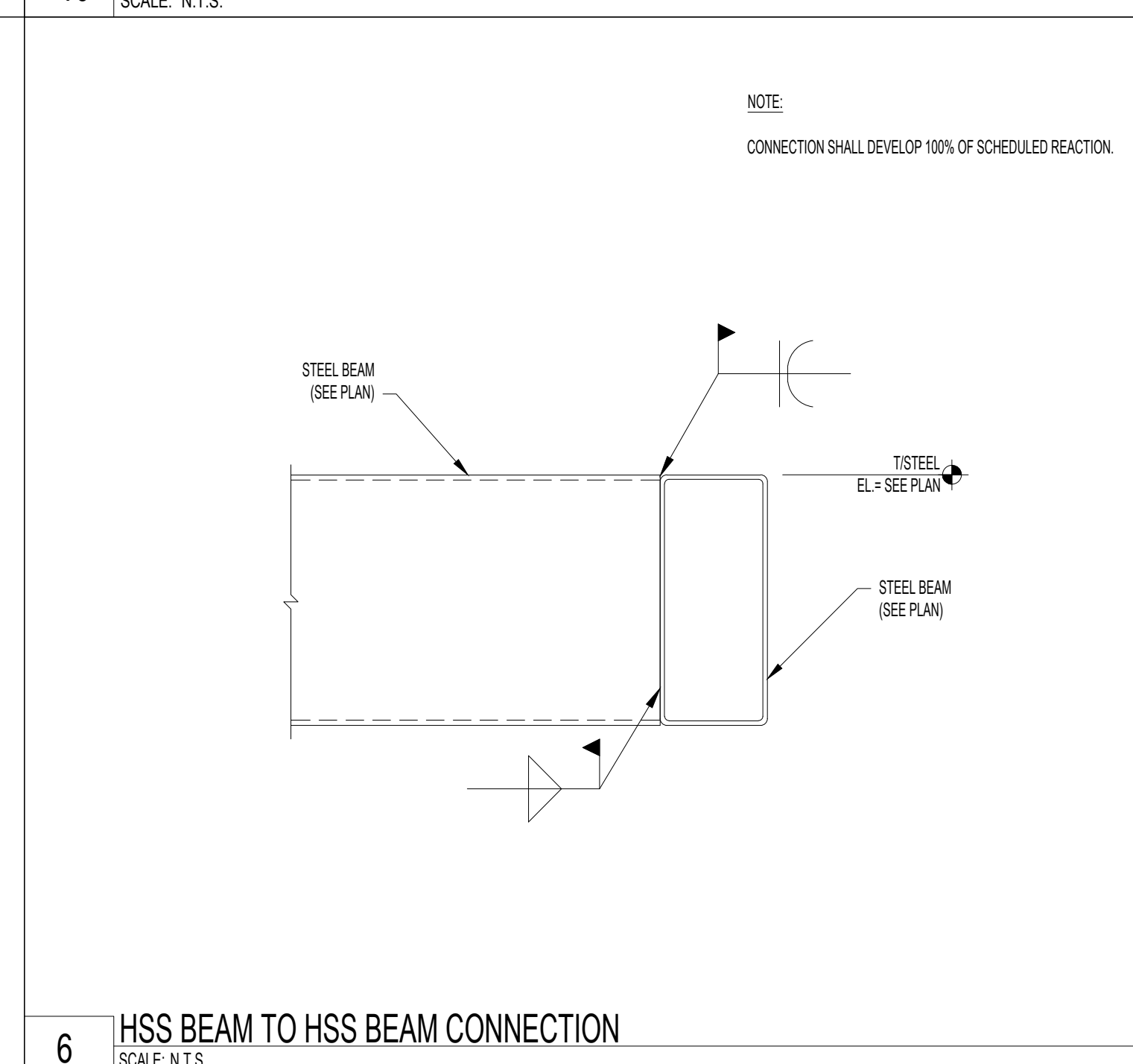
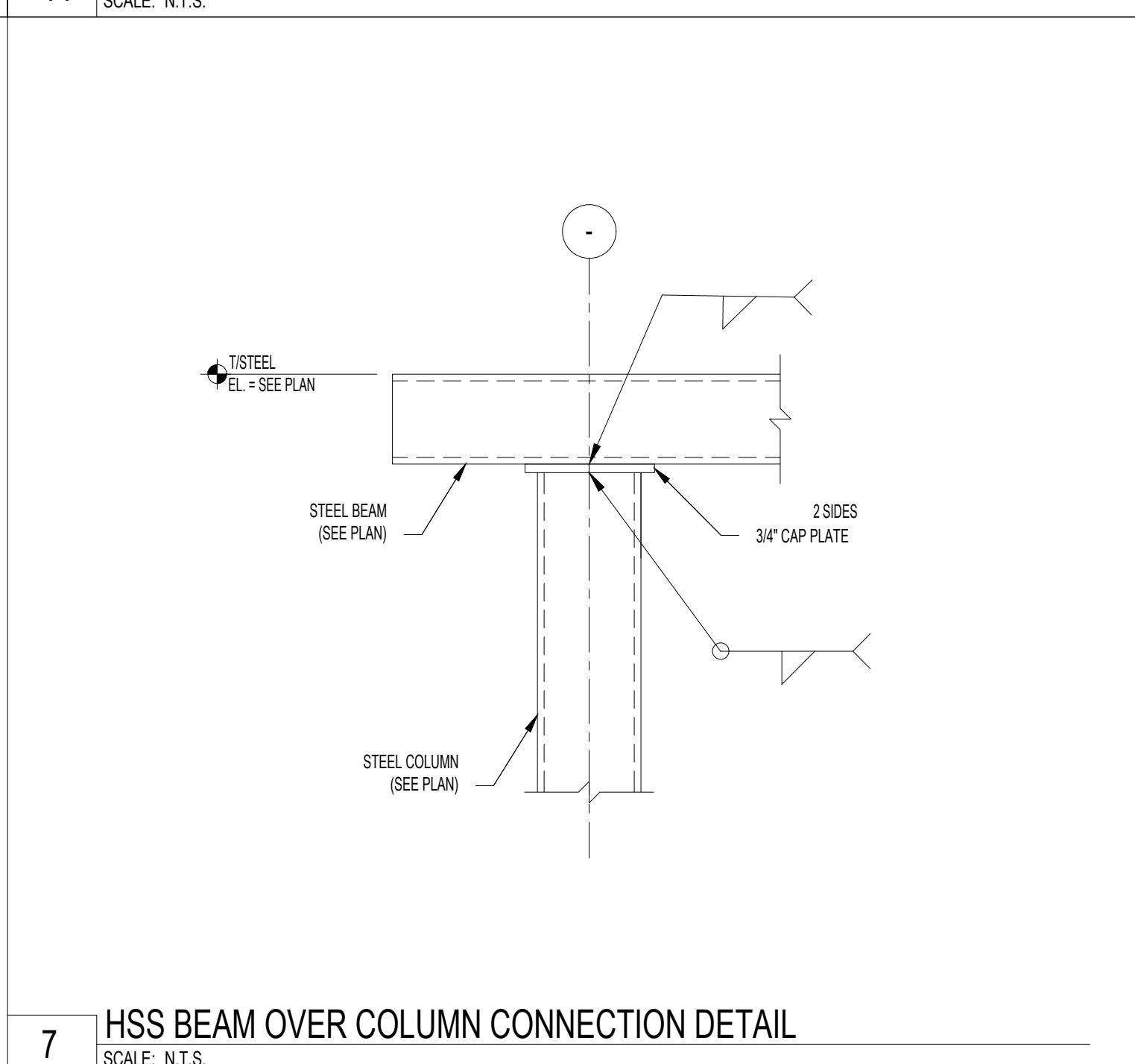
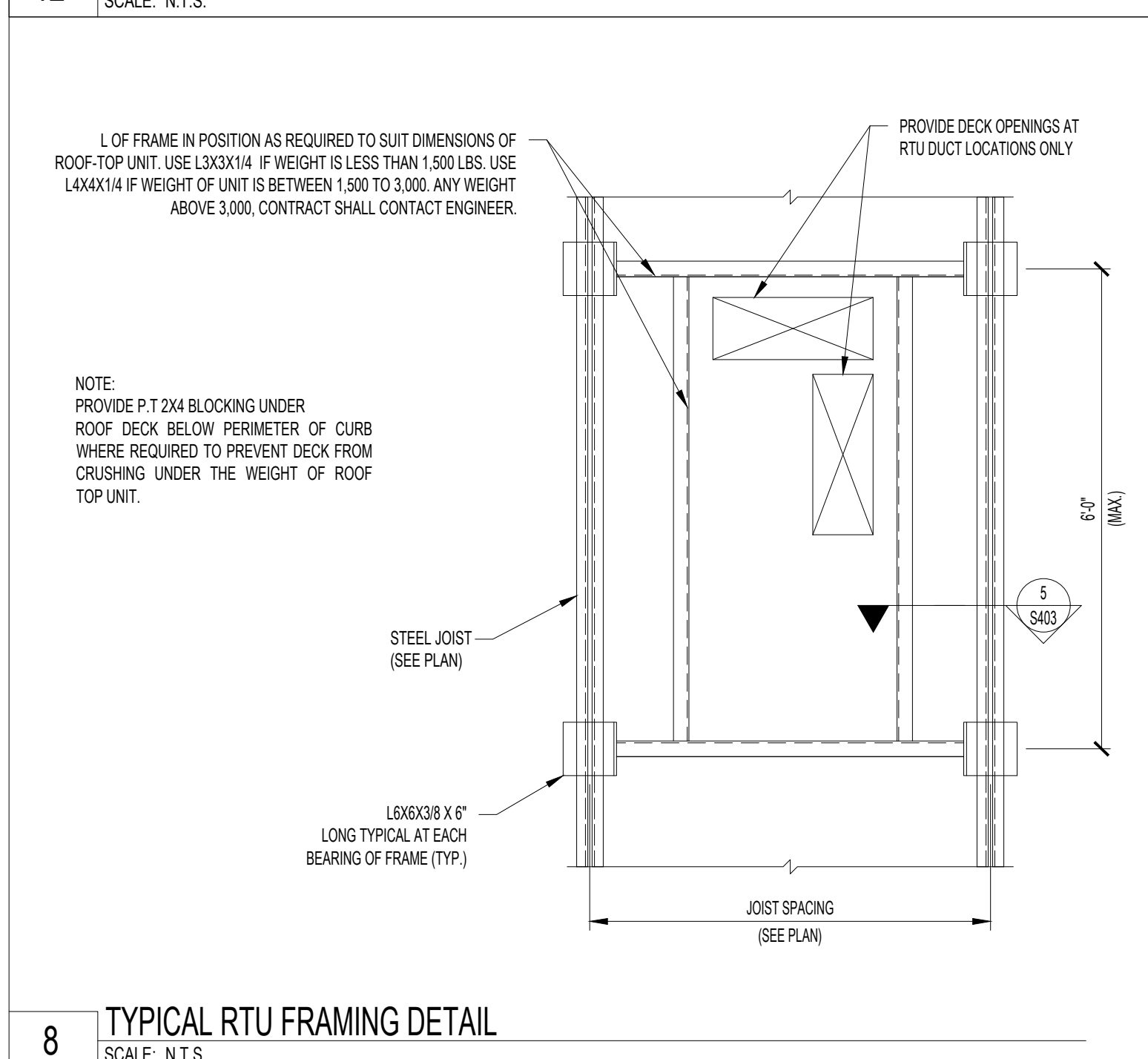
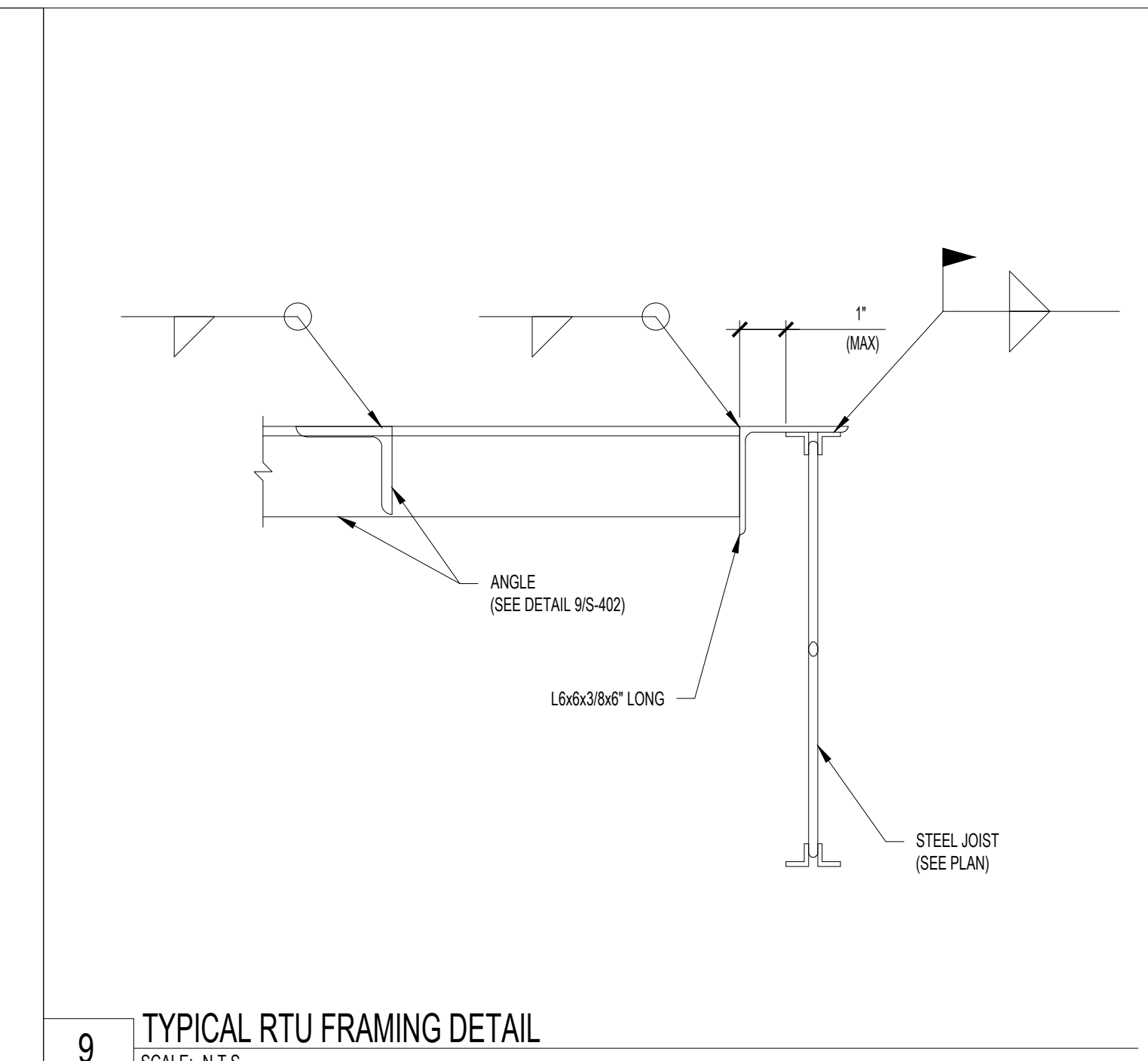
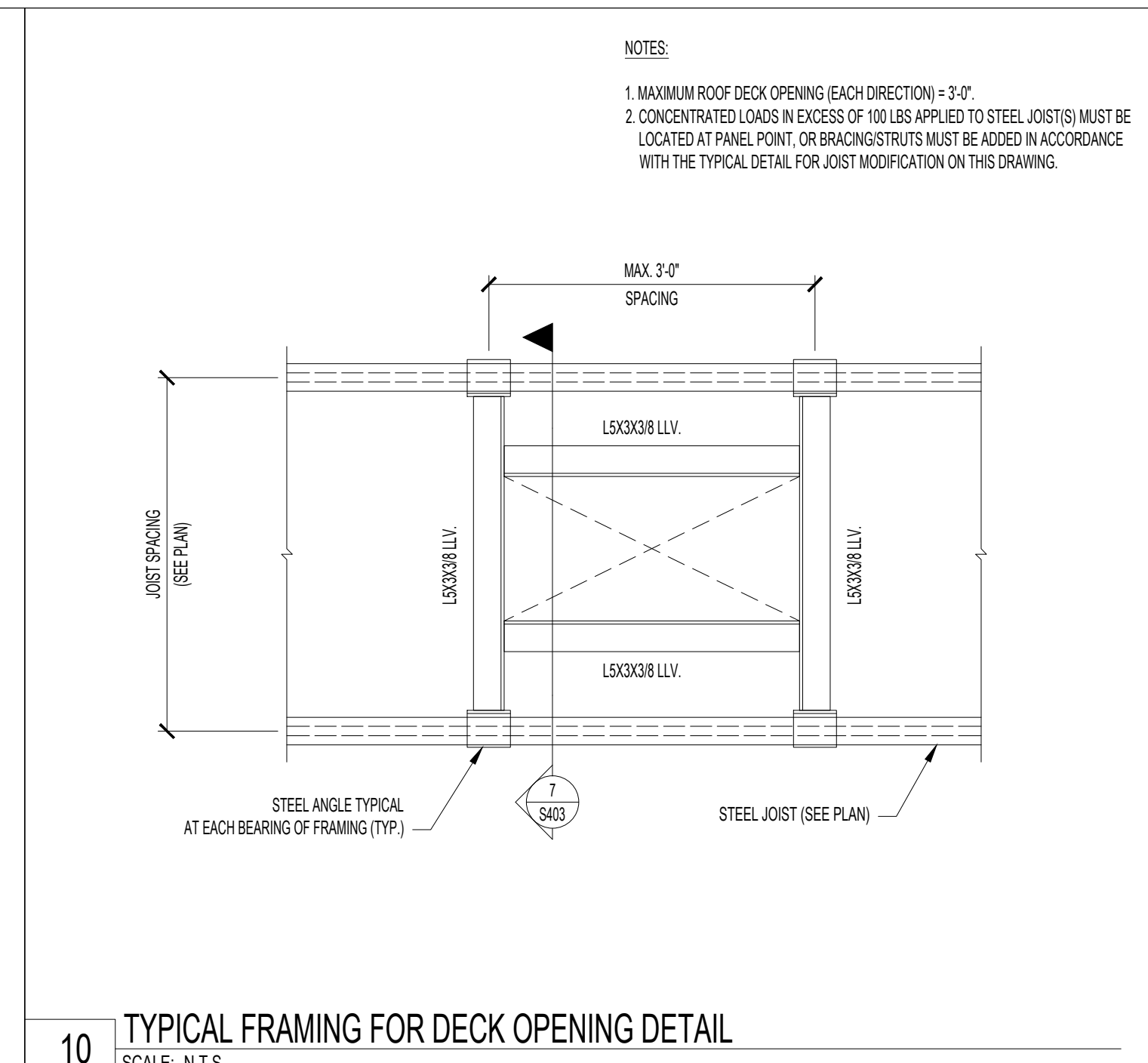
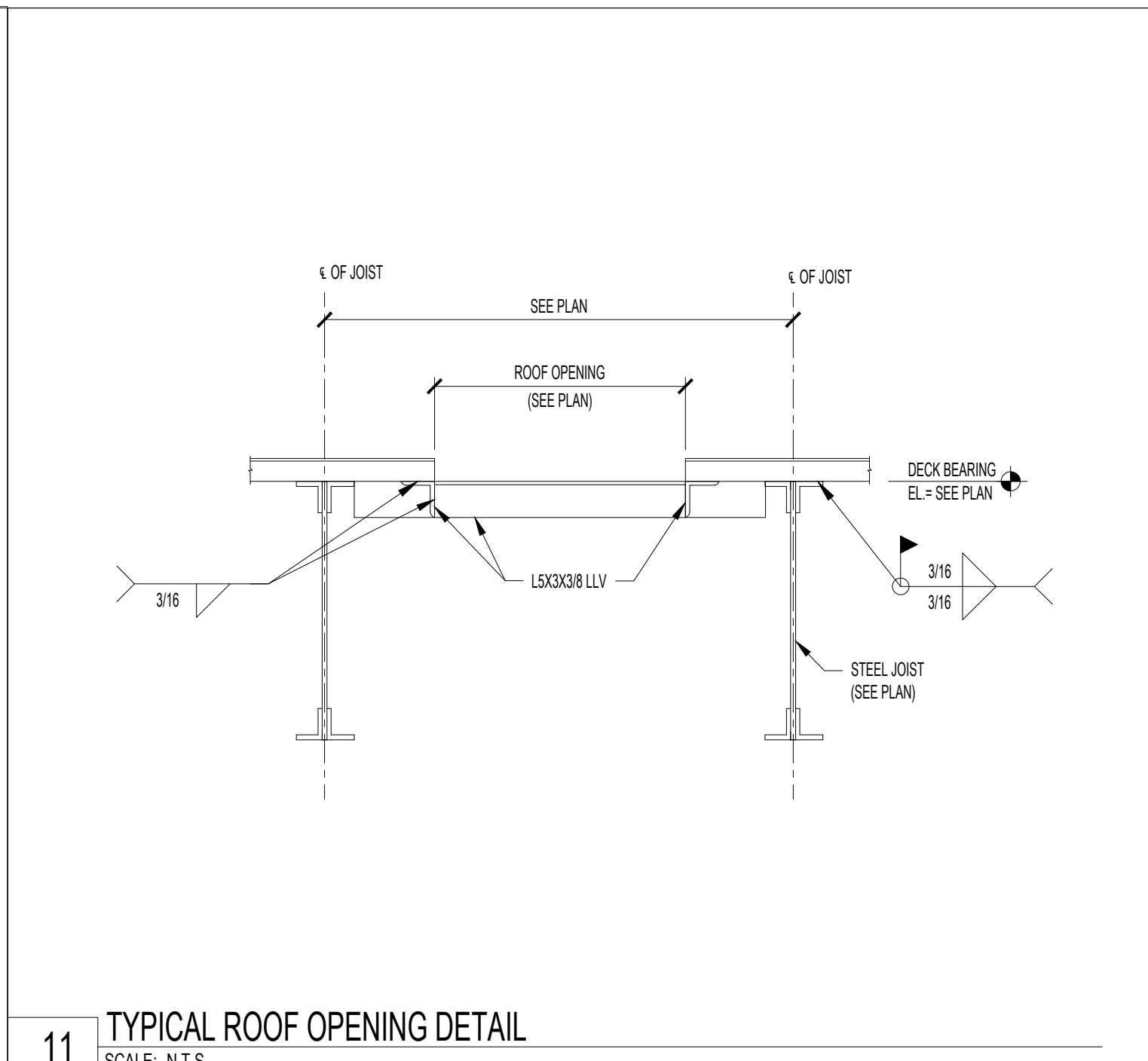
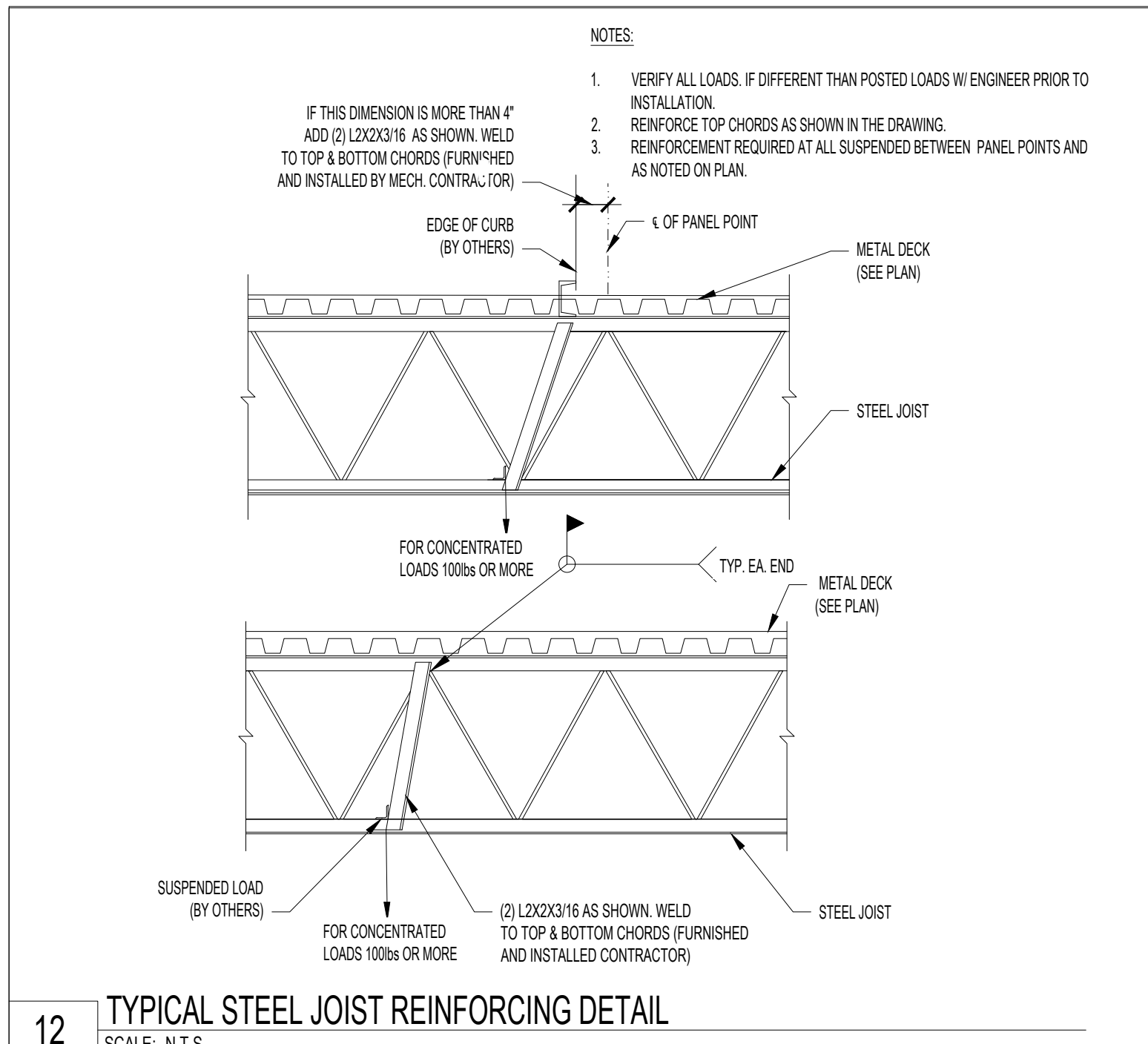


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Drawn / Designed by: RNDT
Reviewed by: RU
Approved by: KP
Project Number: KPJ-TX-25-0018

SHEET NAME: STEEL DETAILS

SHEET NUMBER:
S-401



4 TYPICAL BRIDGING DETAIL
SCALE: 3/4" = 1'-0"

3 TYPICAL BRACE TO BASE PLATE DETAIL
SCALE: N.T.S.

2 TYPICAL BRACE TO BEAM DETAIL
SCALE: N.T.S.

1 TYPICAL BRACE TO BEAM DETAIL
SCALE: N.T.S.

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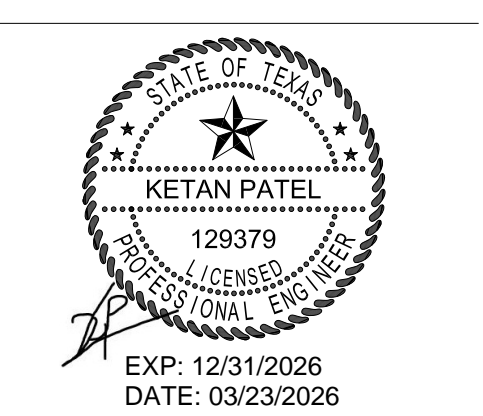
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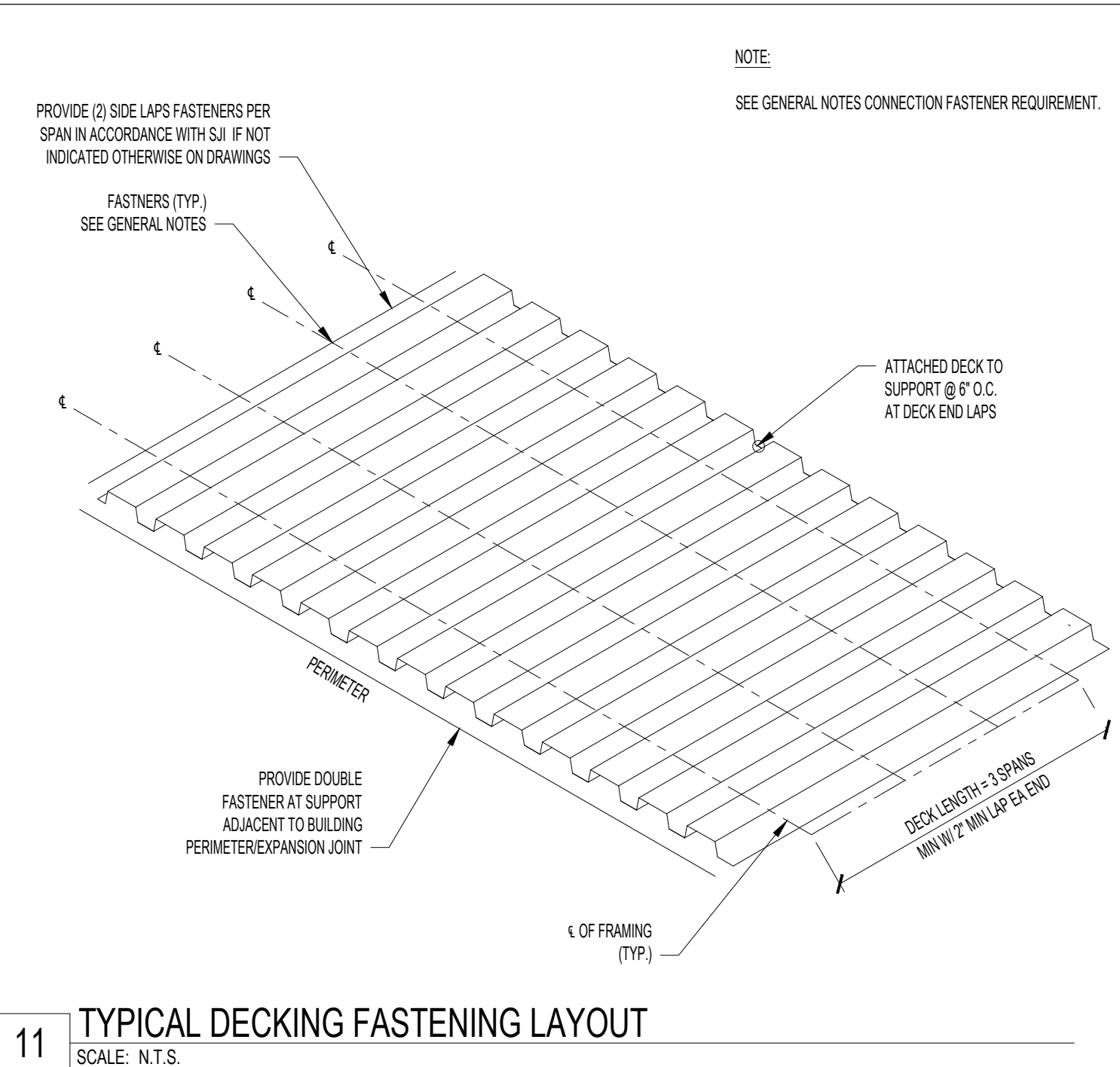
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Reviewed by: RU
Approved by: KP
Project Number: KPJ-TX-25-0018

SHEET NAME:
**STEEL
DETAILS**

SHEET NUMBER:
S-402

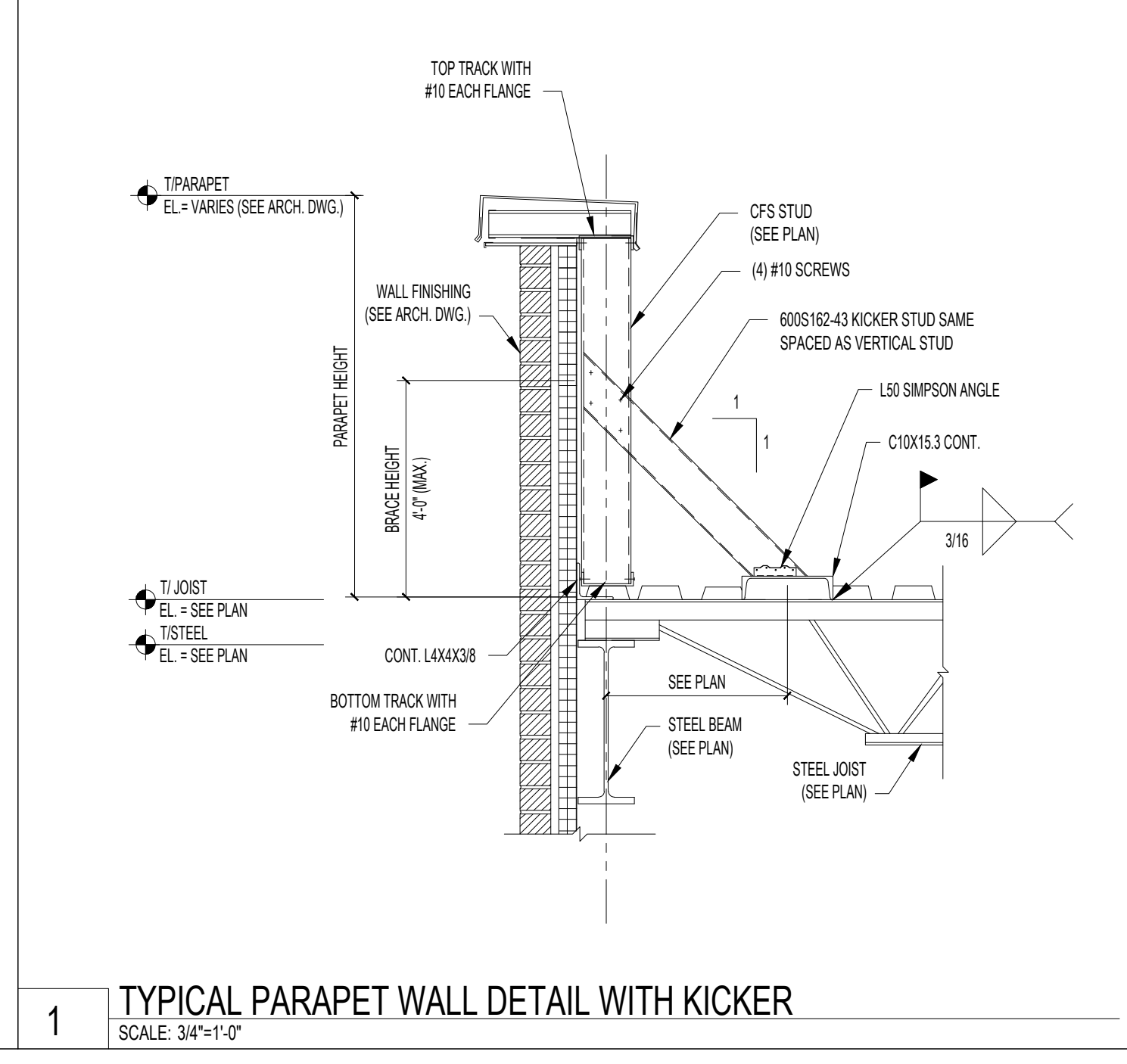
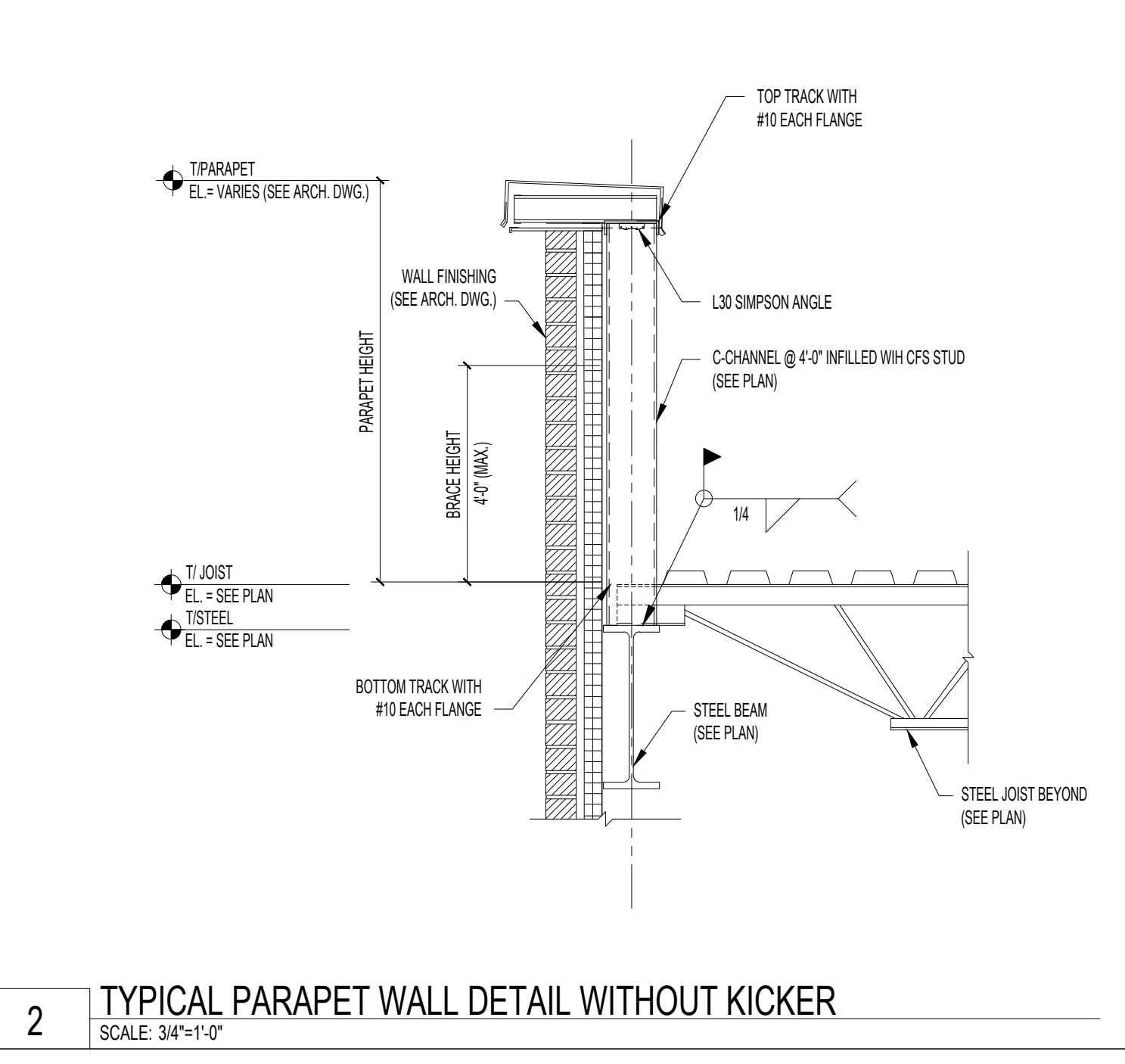
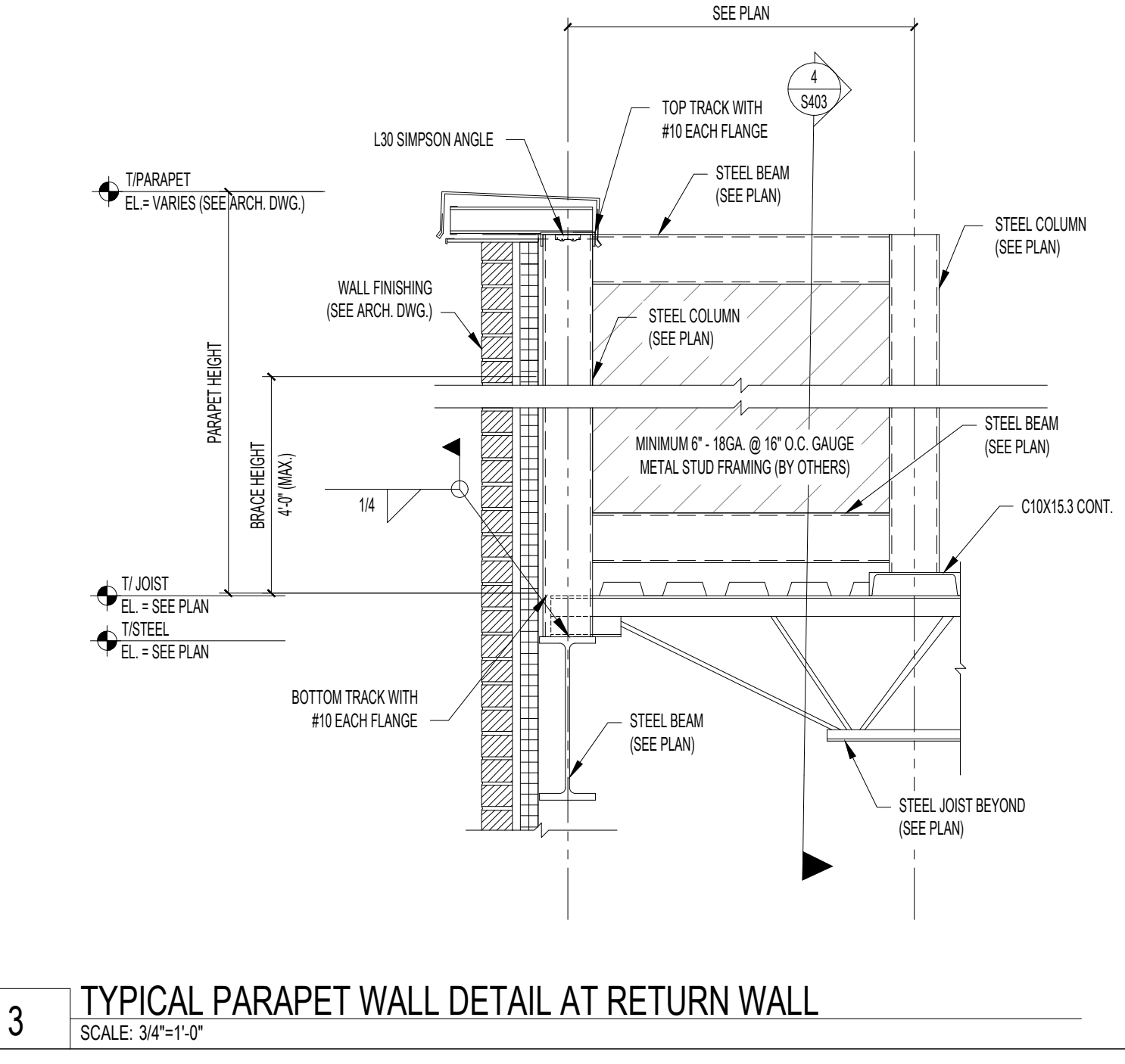
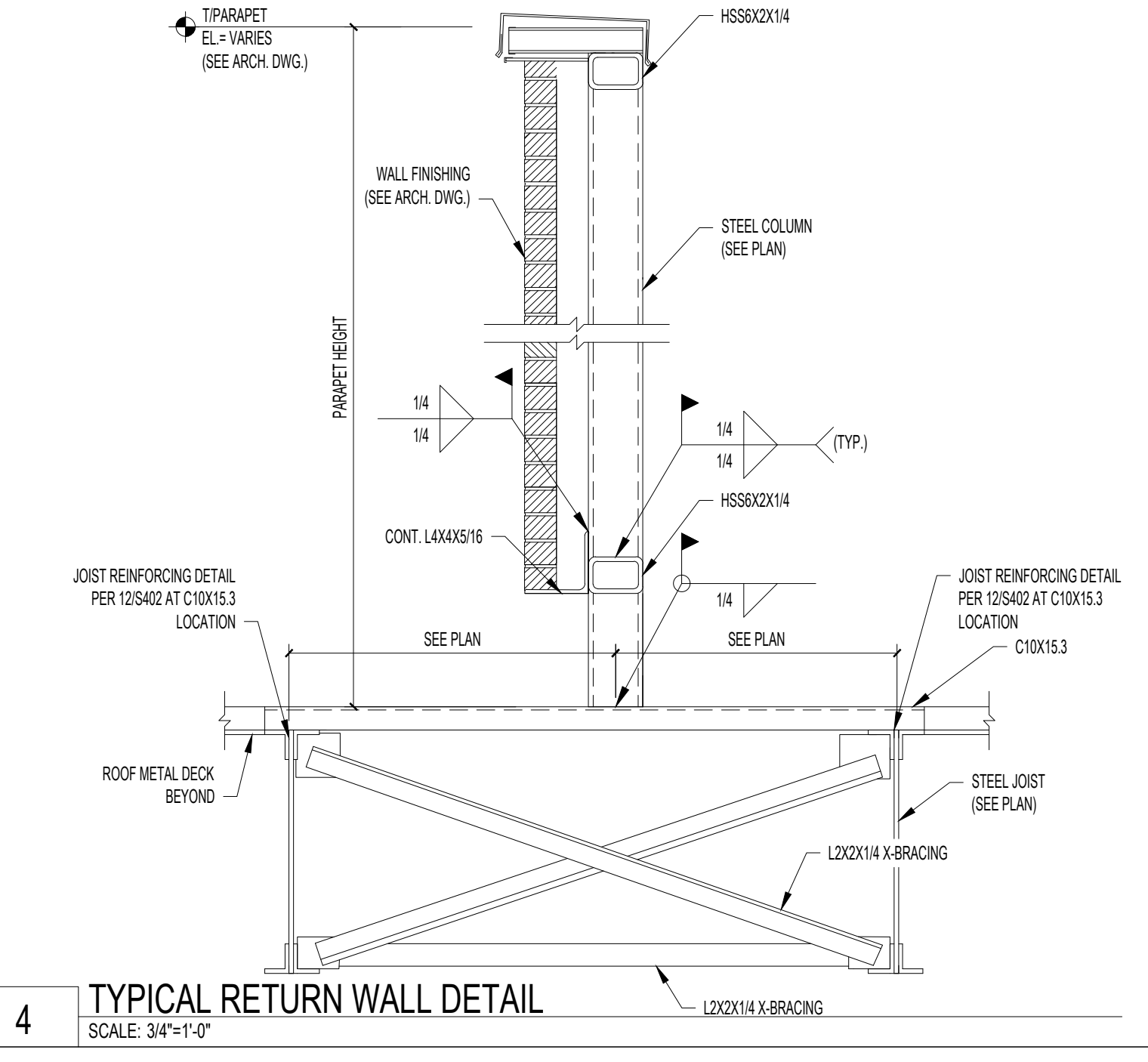
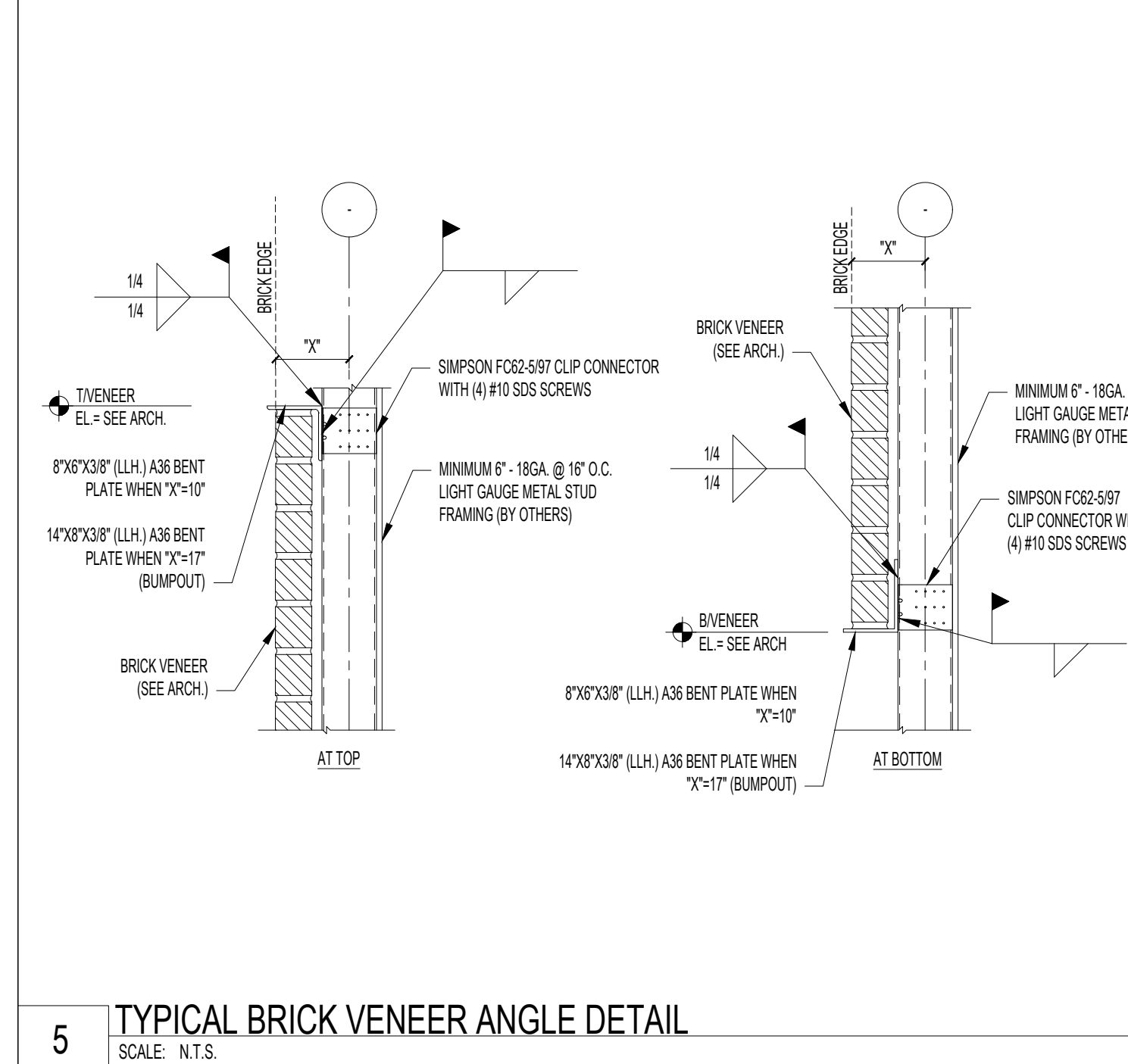
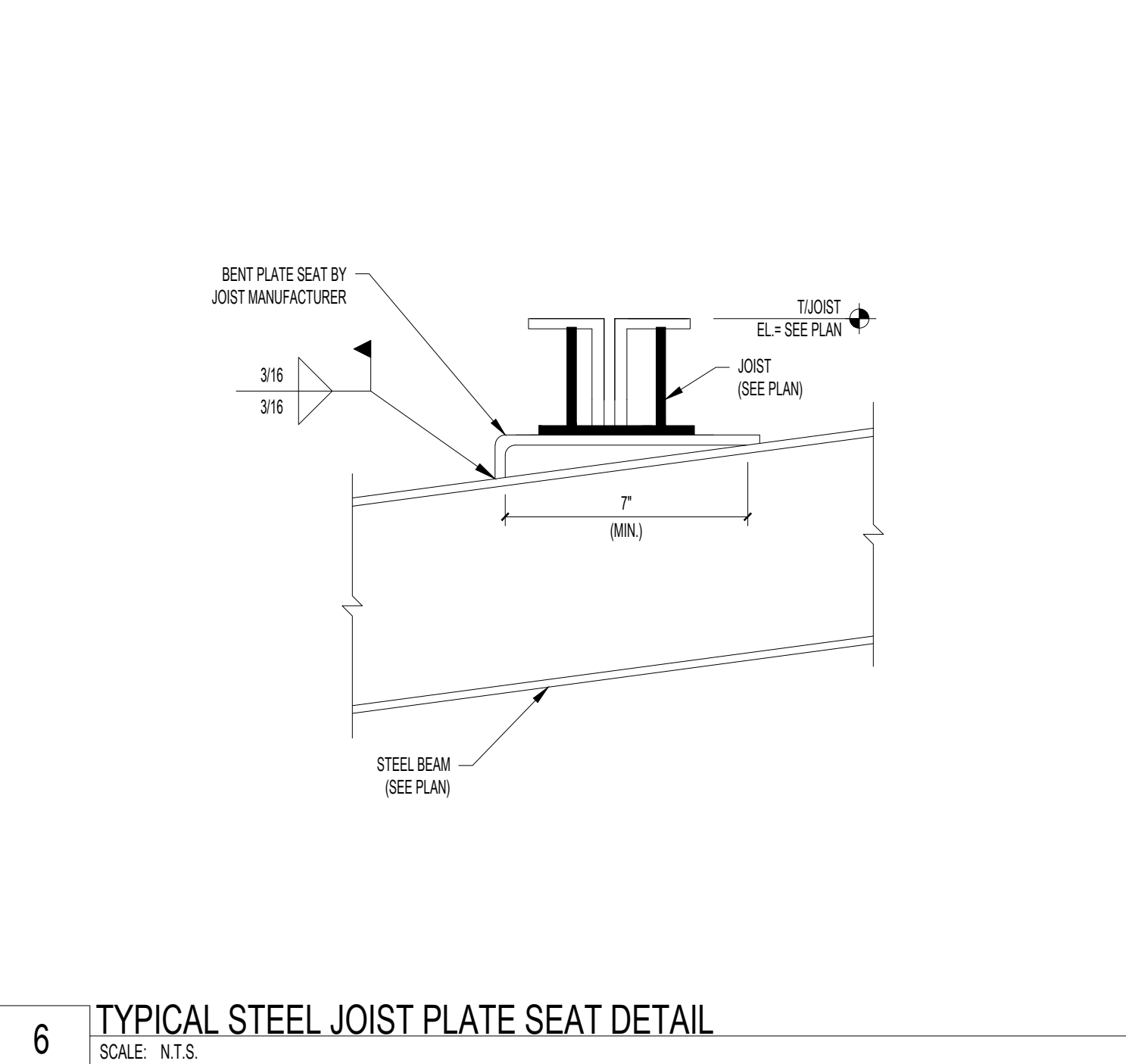
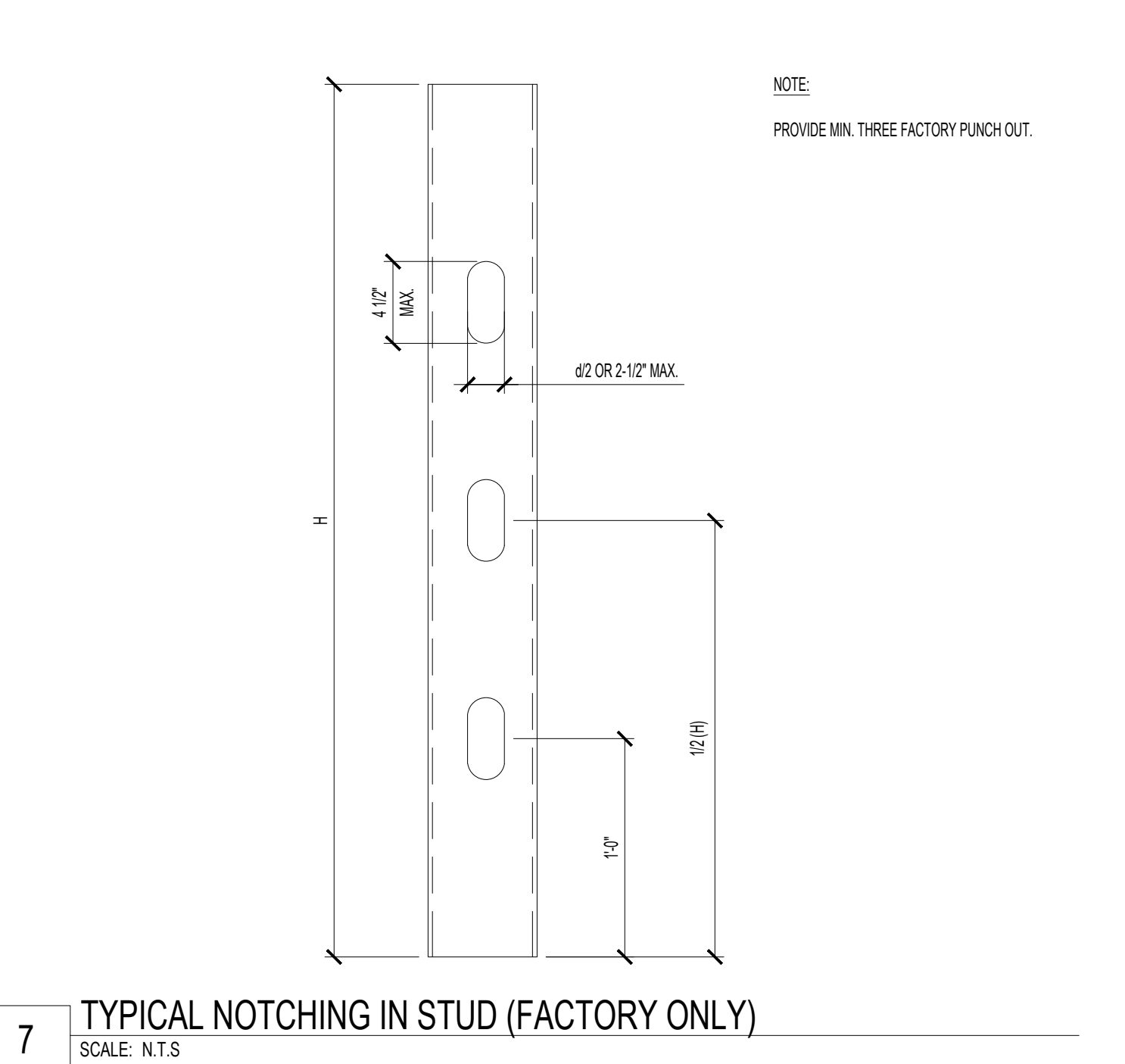
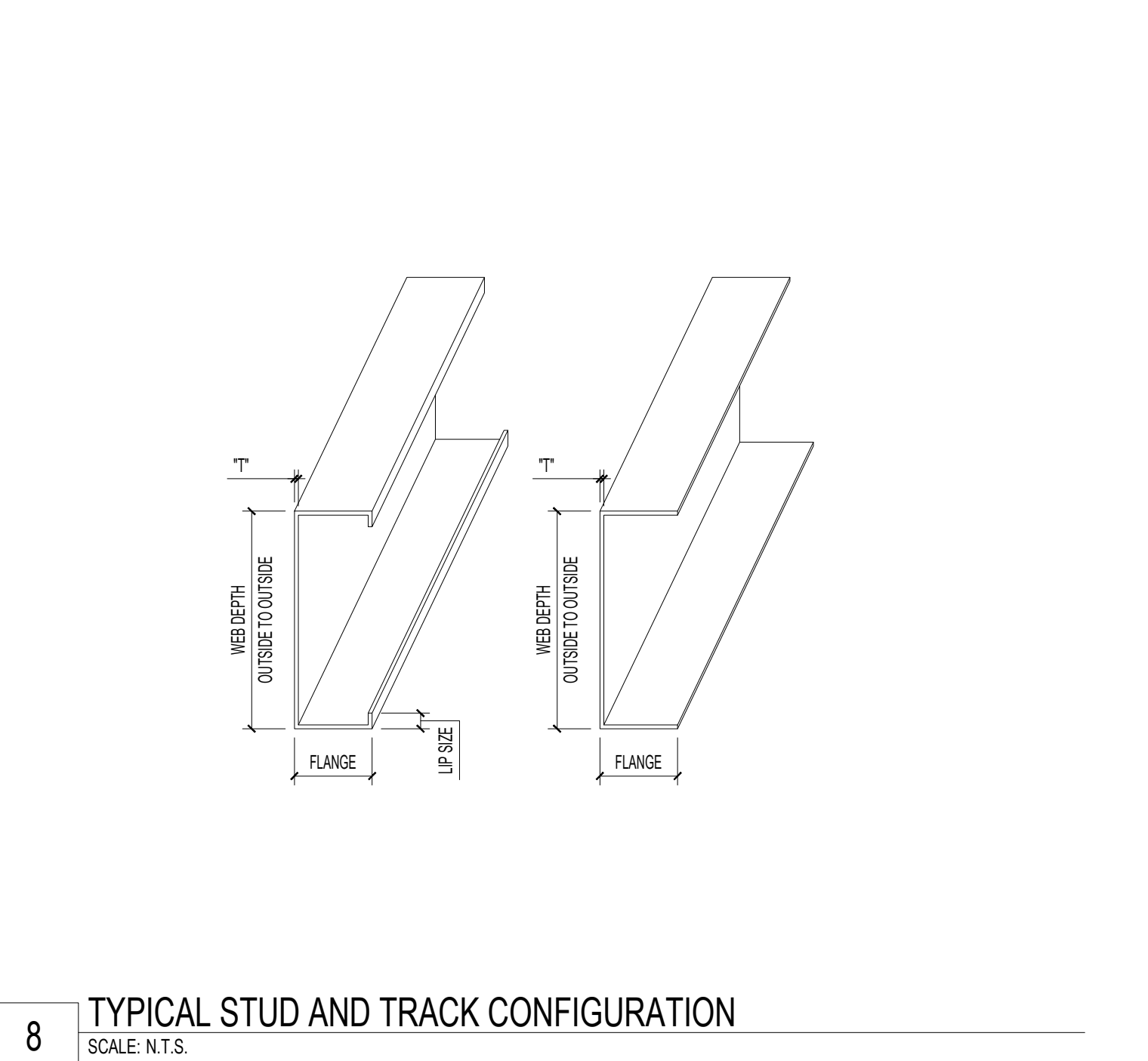


NOTE:
SEE GENERAL NOTES CONNECTION FASTENER REQUIREMENT.

PROVIDE (2) SIDE LAPS FASTENERS PER SPAN IN ACCORDANCE WITH SJI IF NOT INDICATED OTHERWISE ON DRAWINGS.

NOTE:
1. NUMBER OF BOLTS SHOWN ARE MINIMUM.
2. CONNECTION SHALL BE DESIGNED PER GENERAL NOTES.

BOLT SCHEDULE		
BEAM DEPTH	ANGLE THICKNESS/PLATE THICKNESS	MIN NO. 3/4" Ø A325 BOLTS
8"	1/4"	2
10"	5/16"	2
12"	5/16"	3
14"	5/16"	3
16"	5/16"	4
18"	5/16"	5
21"	5/16"	6
24"	3/8"	6
27"	3/8"	7
30"	3/8"	8



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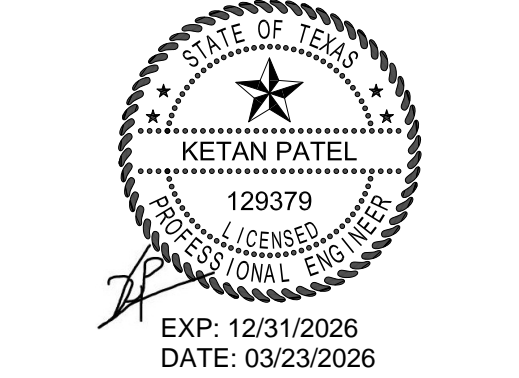
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Reviewed by: RU
Approved by: KP
Project Number: KPJ-TX-25-0018

STEEL DETAILS

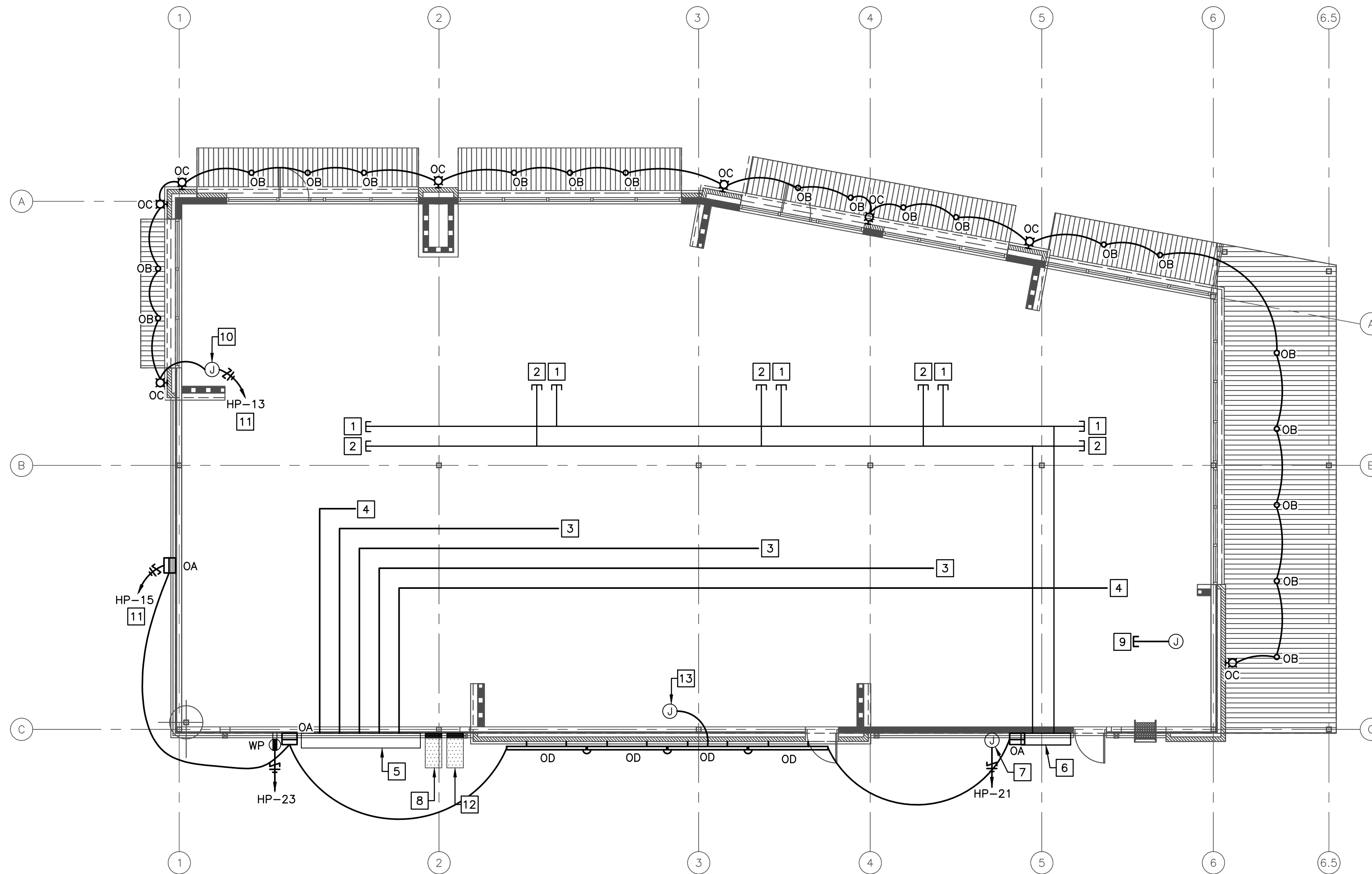
SHEET NUMBER:
S-403

GENERAL NOTES:

- A. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS AT THE JOB SITE BEFORE COMMENCING ANY PHASE OF THE WORK. ADJUSTMENTS FOR FIT AND COORDINATION SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER. NOTIFY ENGINEER OF ANY CONFLICTS, DISCREPANCIES OR OMISSIONS PRIOR TO COMMENCEMENT OF THE CONTRACT WORK.
- B. CONTRACTOR SHALL REVIEW ALL ARCHITECTURAL, CIVIL, MECHANICAL & STRUCTURAL DRAWINGS AND SPECIFICATIONS FOR ANY ADDITIONAL REQUIREMENTS.
- C. CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER TRADES.
- D. ALL CONDUIT SHALL BE AS STRAIGHT AS POSSIBLE AND PARALLEL OR PERPENDICULAR TO BUILDING LINES.
- E. ALL WORK SHALL COMPLY WITH CURRENTLY ADOPTED VERSION OF NATIONAL ELECTRICAL CODE.
- F. SEAL ALL WALL, ROOF, AND FLOOR PENETRATIONS WITH UL LISTED FIRE SEALANT.
- G. ALL CONDUIT SHALL BE ROUTED CONCEALED WITHIN WALLS AND/OR ABOVE CEILINGS. WHERE APPLICABLE
- H. REFER TO DETAIL #1/SHEET E4.1 FOR EXACT MOUNTING HEIGHTS OF ALL DEVICES.

ELECTRICAL FLOOR PLAN KEYNOTES:

- 1 TYPICAL: PROVIDE (1) 2" CONDUIT W/PULL CORD FOR FUTURE TELEPHONE WIRING BY TENANT. CAP AND LABEL CONDUIT.
- 2 TYPICAL: PROVIDE (1) 2" CONDUIT W/PULL CORD FOR FUTURE CABLE TELEVISION WIRING BY TENANT. CAP AND LABEL CONDUIT.
- 3 TYPICAL: PROVIDE 2" CONDUIT W/PULL CORD FOR FUTURE POWER WIRING BY TENANT. CAP AND LABEL CONDUIT.
- 4 TYPICAL: PROVIDE (1) 3" CONDUIT W/PULL CORD FOR FUTURE POWER WIRING BY TENANT. CAP AND LABEL CONDUIT.
- 5 APPROXIMATE LOCATION OF ELECTRICAL SERVICE GUTTER. SEE ONE-LINE DIAGRAM ON SHEET E2.1 FOR ADDITIONAL INFORMATION.
- 6 ELECTRICAL COMMUNICATIONS RISER. SEE DETAIL #4/E4.1 FOR ADDITIONAL INFORMATION.
- 7 IRRIGATION CONTROLLER: PROVIDE WEATHER PROOF JUNCTION BOX AND CIRCUIT. FIELD COORDINATE EXACT LOCATION AND REQUIREMENTS PRIOR TO INSTALLATION.
- 8 PANEL 'HP'
- 9 PROVIDE SURFACE MOUNTED JUNCTION BOX ABOVE ROOF FOR FUTURE TENANT SIGNAGE. LABEL CONDUIT AND JUNCTION BOX. REFERENCE ARCHITECTURAL DETAILS FOR ROUGH-IN REQUIREMENTS. SEE DETAIL #6/E4.1 FOR ADDITIONAL INFORMATION.
- 10 PROVIDE MYERS INVERTER MODEL #LV-3-R-1-B2001-RT. ROUTE LIGHTING CIRCUIT THRU INVERTER.
- 11 ROUTE VIA LIGHTING CONTRACTOR. REFERENCE LIGHTING SCHEDULE ON SHEET E2.1 FOR ADDITIONAL INFORMATION.
- 12 LIGHTING CONTROL PANEL
- 13 PROVIDE WEATHERPROOF JUNCTION BOX FOR BUILDING SIGNAGE. CONNECT TO BACK LIGHTING CIRCUIT ON HOUSE PANEL.



1 ELECTRICAL FLOOR PLAN
SCALE 1/8" = 1'-0"

SENSOR LAYOUT IS BASED ON ACUITY COVERAGE PATTERNS. ADJUST QUANTITIES AND LOCATIONS FOR APPROVED SUBSTITUTION.

ALL SENSORS SHALL BE LINE VOLTAGE, WITH PROVIDED HOT, NEUTRAL AND GROUND CONDUCTORS AS REQUIRED. PROVIDE COPIES OF SENSOR OPERATION INSTRUCTIONS TO OWNER.

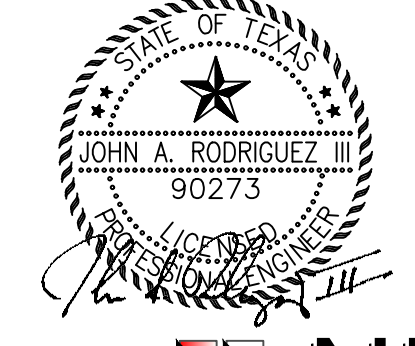
SET TIME DELAY TO 15-20 MINUTES FOR ALL OCCUPANCY SENSORS. SINGLE RELAY WALL SWITCH AND CEILING MOUNTED SENSORS TO BE SET TO MANUAL ON, AUTO OFF. REST ROOMS AND CORRIDORS SET THE SENSORS TO AUTO ON/AUTO OFF. DUAL RELAY WALL SWITCH SHALL BE SET TO MANUAL ON MODE RELAY 1, AUTO ON RELAY 2.

TIME BASED LIGHTING CONTROL SHALL BE ACCOMPLISHED BY USE OF AN ARP DIGITAL RELAY PANEL OR EQUIVALENT.

PROVIDE DIGITAL OUTDOOR PHOTOSENSOR, INSTALLED PER DETAIL #X ON SHEET XXXX. CONNECT PHOTOCELL TO RELAY PANEL PER MANUFACTURERS INSTRUCTIONS. EXTERIOR LIGHTS SHALL BE TURNED ON BY PHOTOCELL, AND TURNED OFF BY TIME CLOCK. EXTERIOR SECURITY LIGHTS SHALL BE CONTROLLED BY PHOTOCELL ONLY. SEE LIGHTING CONTROLS WIRING DIAGRAM. SEE LIGHTING CONTROL SCHEDULE FOR ON/OFF SCHEDULE.

VERIFY TIME SETTINGS WITH OWNER REPRESENTATIVE. PROVIDE COPY OF OPERATING INSTRUCTIONS TO OWNER. PROVIDE COPY INSIDE RELAY PANEL.

3/23/2026



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Drawn / Designed By: JAG
Reviewed By: JAR
Project Number: .

SHEET NAME:

ELECTRICAL FLOOR PLAN

SHEET NUMBER:
E1.1

ELECTRICAL LEGEND table with columns: SYMBOL, DESCRIPTION, SYMBOL, DESCRIPTION, SYMBOL, DESCRIPTION, SYMBOL, DESCRIPTION. Includes symbols for conductors, switches, receptacles, and various equipment.

ELECTRICAL ABBREVIATIONS table with columns: SYMBOL, DESCRIPTION, SYMBOL, DESCRIPTION. Lists abbreviations for floor types, ceiling types, conduit, breakers, and various electrical equipment.

LIGHTING CONTROL NARRATIVE:
• IECC 2021 C405.2.1 - OCCUPANT SENSOR CONTROLS SHALL BE UTILIZED THROUGHOUT FOR INTERIOR LIGHTING CONTROL, EXCEPT IN AREAS FOR WHICH EXCEPTIONS APPLY.
• THE LIGHTS SHALL BE MANUAL OR CONTROLLED TO AUTOMATICALLY TURN ON TO NOT MORE THAN 30 PERCENT POWER.

ELECTRICAL SYSTEM SECTION 16000

THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND DISMANTLING OF TEMPORARY POWER USED FOR CONSTRUCTION AND ALL COSTS INCURRED AS A RESULT OF THIS WORK. COORDINATE ALL TEMPORARY ELECTRICAL SERVICE WORK WITH LOCAL UTILITY COMPANY PRIOR TO COMMENCING WORK.

WORK UNDER THIS CONTRACT INCLUDES MODIFICATIONS TO ANY EXISTING ELECTRICAL SYSTEM AND ALSO PROVIDING NEW MATERIALS, DEVICES, AND ACCESSORIES NECESSARY FOR A COMPLETE FUNCTIONING ELECTRICAL SYSTEM. THE WORK ALSO INCLUDES FINAL CONNECTIONS TO FOOD SERVICE EQUIPMENT ITEMS PROVIDED BY OTHERS. ALL WORK SHALL BE IN ACCORDANCE WITH LOCAL AND NATIONAL ELECTRICAL CODES, ALL LOCAL APPLICABLE ORDINANCES AND LAWS, AS WELL AS, SUBJECT TO INSPECTION.

THE INTENT OF THESE DRAWINGS ARE TO INDICATE THE GENERAL EXTENT OF WORK REQUIRED FOR THE PROJECT. THE DRAWINGS FOR ELECTRICAL WORK ARE DIAGRAMMATIC, SHOWING THE LOCATION, TYPE, DEVICES, AND EQUIPMENT REQUIRED. THE DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENTS. PROVIDE ALL DEVICE ACCESSORIES, OFFSETS, AND MATERIALS NECESSARY TO FACILITATE THE PROPER OPERATION OF ALL SYSTEMS AND THEIR ASSOCIATED EQUIPMENT AS INDICATED BY THE DESIGN ON THESE PLANS.

COORDINATE WITH THE WORK OF ALL OTHER SECTIONS. VERIFY ALL EXISTING CONDITIONS PRIOR TO BID. REFER TO ARCHITECTURAL PLANS, AS WELL AS, KITCHEN EQUIPMENT PLANS FOR ADDITIONAL INFORMATION REGARDING RELATED EQUIPMENT, CASEWORK, AND ELECTRICAL CONNECTIONS REQUIRED THEREIN.

COMPLY WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE, NFPA, OSHA, LIFE SAFETY CODES, AND ALL APPLICABLE LAWS IN EFFECT AT THE TIME OF THIS PROPOSAL. IN THE CASE OF CONFLICT, THEN THE STRICTER INTERPRETATION SHALL TAKE PRECEDENCE. ALL MATERIALS USED SHALL BE NEW AND SHALL CONFORM TO THE STANDARDS ESTABLISHED BY THE UNDERWRITER'S LABORATORIES INC.

VERIFY VOLTAGE DROPS, A.I.C. RATINGS FOR ALL EQUIPMENT CONNECTED, AND VERIFY SIZE OF ALL CIRCUIT BREAKERS, CONDUIT, ETC. PRIOR TO INSTALLATION.

ROOF PENETRATIONS SHALL COMPLY WITH SMACNA, NRCA STANDARDS, AS WELL AS, ALL REQUIREMENTS OF THE OWNER AND ROOF METHODS AND MATERIALS WARRANTY. SUB-CONTRACT ROOFING PENETRATION WORK TO AN ENTITY APPROVED FOR USE BY THE OWNER AND ROOF MANUFACTURER.

PANELBOARDS: SHALL BE AS MANUFACTURED BY SQUARE D, EATON, OR SIEMENS. ALL EQUIPMENT SHALL BE U.L. LISTED AND MEET OR EXCEED ALL OF THE LATEST APPLICABLE U.L. AND NEMA STANDARDS. BUSSING SHALL BE COPPER WITH SILVER PLATING. PROVIDE SOLID NEUTRAL BAR.

DISCONNECT SWITCHES: SHALL BE HEAVY-DUTY TYPE AS MANUFACTURED BY SQUARE D, EATON, OR SIEMENS. ALL EQUIPMENT SHALL BE U.L. LISTED AND MEET OR EXCEED ALL OF THE LATEST APPLICABLE U.L. AND NEMA STANDARDS. DO NOT MOUNT DISCONNECT SWITCHES TO ANY HVAC UNIT. LOCATION TO BE COORDINATED WITH MECHANICAL CONTRACTOR.

TRANSFORMERS: SHALL BE AS MANUFACTURED BY SQUARE D, EATON, OR SIEMENS. ALL EQUIPMENT SHALL BE U.L. LISTED AND MEET OR EXCEED ALL OF THE LATEST APPLICABLE U.L. AND NEMA STANDARDS.

CIRCUIT BREAKERS: THERMAL MAGNETIC TYPE, QUICK-MAKE, QUICK-BREAK, BOLT-ON TYPE OF SINGLE UNIT CONSTRUCTION. TWO AND THREE POLE BREAKERS SHALL BE SINGLE UNIT COMMON TRIP TYPE. BREAKERS USED AS A SWITCH FOR 120 VOLT LIGHTING CIRCUITS SHALL BE APPROVED FOR THAT USE AND MARKED "SWD". BREAKERS USED FOR PROTECTING HVAC EQUIPMENT SHALL BE RATED "HACK".

SURGE PROTECTION DEVICE (SPD): SPDs SHALL BE UL1449 4TH EDITION LISTED AND MANUFACTURED BY THOR SQUARE D, EATON OR SIEMENS. SPDs SHALL HAVE STANDARD 7-MODE PROTECTION AND SERVICE ENTRANCE & INTERMEDIATE DISTRIBUTION UNITS SHALL BE UL LABELED WITH 20KA 1-NOMINAL SURGE CURRENT CAPABILITY FOR SERVICE ENTRANCE DEVICES SHALL BE 300KA PER PHASE, 200KA PER PHASE FOR INTERMEDIATE DISTRIBUTION OR ROOF MOUNTED BRANCH PANELS, AND 100KA FOR BRANCH PANELS. SPDs SHALL BE EXTERNAL TO EQUIPMENT UNLESS NOTED OTHERWISE ON DRAWING.

CABINETS: SHALL BE ONE PIECE GAGE GALVANIZED STEEL WITH MOUNTING STUDS, WIRING GUTTERS OF AMPLE SIZE AND KNOCKOUTS FOR CONDUIT CONNECTIONS AS REQUIRED. BUS BARS SHALL BE 98% CONDUCTIVE COPPER, ALUMINUM, OR COPPER-CLAD ALUMINUM. FRONTS SHALL BE ONE PIECE CODE GAGE FURNITURE STEEL WITH ADJUSTABLE FASTENERS. PROVIDE FLUSH MOUNT UNITS UNLESS OTHERWISE INDICATED. PROVIDE A PLASTIC COVERED TYPEWRITTEN SCHEDULE IDENTIFYING ALL BRANCH CIRCUITS INSIDE EACH CABINET.

GROUNDING SYSTEM: PERMANENTLY AND EFFECTIVELY GROUND ALL METALLIC CONDUIT, SUPPORTS, CABINETS, PANELBOARDS AND SYSTEM NEUTRAL CONDUCTORS. MAINTAIN CONTINUITY OF EQUIPMENT GROUND THROUGHOUT THE SYSTEM. GROUND CLAMPS SHALL BE APPROVED TYPE, SPECIFICALLY DESIGNED FOR GROUNDING. WHERE GROUNDING CONDUCTORS ARE ENCLOSED IN CONDUIT, GROUND CLAMPS SHALL BE OF A TYPE WHICH GROUND BOTH CONDUCTOR AND CONDUIT. ALL CIRCUITS IN FLEXIBLE METAL OR PLASTIC CONDUIT SHALL INCLUDE A GROUND WIRE SIZE IN ACCORDANCE WITH NEC TABLE 250.

ELECTRIC MOTORS
• IECC 2021 C405.8 - ELECTRIC MOTORS SHALL MEET THE MINIMUM EFFICIENCY REQUIREMENTS OF TABLES C405.8(1) THROUGH C405.8(4) WHEN TESTED AND RATED IN ACCORDANCE WITH THE DOE 10 CFR 431. THE EFFICIENCY SHALL BE VERIFIED THROUGH CERTIFICATION UNDER AN APPROVED CERTIFICATION PROGRAM OR, WHERE A CERTIFICATION PROGRAM DOES NOT EXIST, THE EQUIPMENT EFFICIENCY RATINGS SHALL BE SUPPORTED BY DATA FURNISHED BY THE MOTOR MANUFACTURER. EXCEPT FOR THE FOLLOWING MOTORS.
• AIR-OVER ELECTRIC MOTORS.
• COMPONENT SETS OF AN ELECTRIC MOTORS.
• LIQUID-COOLED ELECTRIC MOTORS.
• SUBMERSIBLE ELECTRIC MOTORS.
• INVERTER-ONLY ELECTRIC MOTORS.
• ALL ELECTRIC MOTORS SHALL COMPLY PER SECTION 2021 IECC-C405.8. REFERENCE MECHANICAL AND PLUMBING CONSTRUCTION DOCUMENTS FOR EFFICIENCIES AND ADDITIONAL INFORMATION.

CONDUIT: SHALL BE SIZED TO COMPLY WITH NEC FOR NUMBER AND SIZE OF CONDUCTORS INSTALLED, MINIMUM OF 24" BELOW GRADE. PROVIDE SCHEDULE 40 PVC PLASTIC OR RIGID STEEL CONDUIT BELOW GRADE, MINIMUM SIZE 3/4". PROVIDE RIGID STEEL ELBOWS WHEN UNDERGROUND CONDUIT PENETRATES THE FLOOR SLAB. PROVIDE ELECTRICAL METALLIC TUBING (EMT) MEETING FSW-C563, ARMOR CABLE, OR FLEXIBLE CONDUIT (IN LENGTHS 6' OR LESS) FOR INTERIOR LOCATIONS. EMT CONNECTORS AND COUPLINGS 2" AND SMALLER SHALL BE COMPRESSION TYPE. CLAMP CONDUIT TO BOXES WITH BUSSING INSIDE AND LOCKNUT OUTSIDE.

- 1. RIGID STEEL CONDUIT: ANSI C80.1
2. INTERMEDIATE STEEL CONDUIT: UL 1242
3. ELECTRICAL METALLIC TUBING AND FITTINGS: ANSI C80.3
4. FLEXIBLE METAL CONDUIT: ZINC COATED STEEL
5. LIQUID-TIGHT FLEXIBLE METAL CONDUIT AND FITTINGS: UL 360. FITTINGS TO BE SPECIFICALLY APPROVED FOR USE WITH THIS RACEWAY.
6. MC CABLE IS APPROVED FOR INSTALLATION ONLY AT THE END OF A RIGID CONDUIT RUN AND IS ONLY TO ORIGINATE FROM AN APPROVED JUNCTION BOX AND FEED DIRECTLY DOWN TO DEVICE.

CONDUCTORS: INSULATED SOFT ANNEALED 98% PURE COPPER WITH COLOR CODING, B AND S GAGE, #12 TO BE SOLID OR STRANDED, #10 AND LARGER TO BE STRANDED, MINIMUM #12, UNLESS OTHERWISE INDICATED. ALL EQUIPMENT TO BE PROVIDED WITH CU/AL 75° DEGREE C. TERMINAL LUGS. CONDUCTORS WITH "THIN" INSULATION MAY NOT BE USED UNDERGROUND AT SERVICE ENTRANCES, OUTSIDE, OR IN WET LOCATIONS. ALL INSULATION TO BE RATED FOR 90° DEGREE C OR 600 VOLT AND TYPES AS FOLLOWS:

Table with 2 columns: BRANCH CIRCUITS, FEEDERS, SERVICE ENTRANCE and 2 columns: THHN, THWN2, THWN2, XHHW, XHHW2

DEVICES & COVERPLATES: PUBLIC AREAS: ALL DEVICES AND COVERPLATES SHALL BE STAINLESS STEEL. STANDARD DUPLEX RECEPTACLES SHALL BE GROUNDING TYPE, 20 AMP, NEMA 5-20R, SIDE OR BACK WIRED.

SINGLE RECEPTACLE: 15 AMP, 125 VOLT, 2-POLE, 3-WIRE, GROUNDING TYPE WITH NEMA CONFIGURATION 5-15R. HUBBELL #5251-#. (DEVICE COLOR IS DEPENDENT ON AREA OF BUILDING).

DUPLEX RECEPTACLE: 20 AMP, 125 VOLT, 2-POLE, 3-WIRE, GROUNDING TYPE WITH NEMA CONFIGURATION 5-20R. HUBBELL #5342-#. (DEVICE COLOR IS DEPENDENT ON AREA OF BUILDING).

GROUND-FAULT INTERRUPTER RECEPTACLE: 20 AMP, 125 VOLT, 2-POLE, 3-WIRE, GROUNDING TYPE WITH NEMA CONFIGURATION 5-20R. FEED-THRU TYPE CAPABLE OF PROTECTING CONNECTED DOWNSTREAM RECEPTACLES. UL RATED CLASS A, GROUP 1, SOLID STATE GROUND-FAULT SENSING LEVEL WITH 5 ma GROUND-FAULT TRIP LEVEL. HUBBELL #1G5362#. (DEVICE COLOR IS DEPENDENT ON AREA OF BUILDING).

WEATHERPROOF RECEPTACLE: SHALL BE A GROUND-FAULT INTERRUPTER WITH STAINLESS STEEL, GASKETED LIDS AND PLATE. PLATE TO CONSIST OF TWO SPRING LOADED LIDS HINGED AT TOP.

PLUG FILLERS: PROVIDE FLUSH RECEPTACLE COVERS AT ALL DUPLEX RECEPTACLES IN PUBLIC AREAS. COLOR OF FILLERS TO MATCH COLOR OF RECEPTACLE AND COVERPLATE.

LIGHTING FIXTURES: ALL LIGHTING FIXTURES AND ASSOCIATED LAMPS AND BALLASTS SHALL BE FURNISHED AND INSTALLED BY THE ELECTRICAL CONTRACTOR.

LAYOUT BRANCH CIRCUIT WIRING AND ARRANGE HOMERUNS FOR MAXIMUM ECONOMY AND EFFICIENCY. INCREASE WIRE AND CONDUIT SIZE ACCORDINGLY IF VOLTAGE DROP EXCEEDS 3% OR LENGTH OF RUN EXCEEDS 100 FEET.

CONCEAL WIRING SYSTEM ABOVE SUSPENDED CEILINGS OR IN WALL OR FLOOR CONSTRUCTION WHERE POSSIBLE. INSTALL CONDUIT PARALLEL OR PERPENDICULAR TO ALL BUILDING LINES, SUCH THAT ALL OPENINGS, DEPRESSIONS, PIPES, DUCTS, STRUCTURE, ETC. ARE AVOIDED.

INSTALL CONDUIT CONTINUOUS BETWEEN BOXES AND CABINETS WITH NO MORE THAN FOUR (4) 90° DEGREE BENDS, SECURELY FASTEN IN PLACE WITH STRAPS, HANGERS AND STEEL SUPPORTS AS REQUIRED. DO NOT SUPPORT CONDUIT FROM SUSPENDED CEILING GRID OR SUSPENSION WIRES. REAM CONDUIT ENDS AND THOROUGHLY CLEAN BEFORE INSTALLATION. OPENINGS SHALL BE PLUGGED OR COVERED TO KEEP CONDUIT FREE OF DEBRIS. SWITCHES AND OUTLETS SHALL NOT BE USED TO "FEED THRU" TO THE NEXT SWITCH OR OUTLET. THE DISCONNECTION OR REMOVAL OF A RECEPTACLE, FIXTURE OR OTHER DEVICE FED FROM A BOX SHALL NOT INTERFERE WITH OR INTERRUPT THE CONDUCTOR CONTINUITY.

ADJUSTING AND TESTING: ALL ELECTRICAL EQUIPMENT SHALL BE ADJUSTED AND TESTED FOR PROPER OPERATION. COMPLETED WIRING SYSTEM SHALL BE FREE OF SHORT CIRCUITS.

TOUCH-UP OR REFINISH DAMAGED SURFACES OF FIXTURES AND EQUIPMENT, EXPOSED TO VIEW, TO PRESENT A "NEW" APPEARANCE.

ALL CONDUIT AND JUNCTION BOXES LOCATED WITHIN AN EXPOSED STRUCTURAL SYSTEM SHALL BE PAINTED TO MATCH THE COLOR OF THE STRUCTURE (COLOR TO BE VERIFIED WITH ARCHITECT).

ALL LAMPS, FIXTURES AND ASSOCIATED HOUSINGS, LENSES, AND LOUVERS SHALL BE CLEANED PRIOR TO OWNER ACCEPTANCE.

TOGGLE TYPE SWITCH: 20 AMP, 120/277 VOLT AC SINGLE-POLE, QUIET TYPE, WITH MOUNTING YOKE INSTALLED FROM MECHANISM, EQUIPPED WITH PLASTER EARS, SIDE-WIRED SCREW TERMINALS. HUBBELL #HBL 1221I.

A. 2-POLE, 3-WAY & 4-WAY SWITCHES SHALL BE OF THE SAME MAKE AS FOR SINGLE-POLE.

PILOT TYPE TOGGLE SWITCH: INSTALL SWITCH DEVICE WITH 1/25 WATT NEON PILOT INTEGRAL WITH TOGGLE HANDLE, RATED 120/277 VOLT AC. PILOT LIGHT GLOWS IN THE "ON" POSITION. HUBBELL #HBL 1221PL.

ELECTRICAL EQUIPMENT IDENTIFICATION: A. ENGRAVED PLASTIC-LAMINATE NAMEPLATES: SHALL BE ENGRAVING STOCK MELAMINE PLASTIC LAMINATE 1/16" THICK, 1-1/2" HIGH (2" HIGH FOR 2 LINES OF TEXT) WITH 1/2" HIGH ENGRAVER'S STYLE LETTERS. COLOR SHALL BE BLACK WITH WHITE LETTERING. NAMEPLATE SHALL BE PUNCHED FOR MECHANICAL FASTENING WITH SELF-TAPPING STAINLESS STEEL SCREWS, UNLESS ADHESIVE MOUNTING IS NECESSARY DUE TO SUBSTRATE MATERIAL.

B. UNDERGROUND-TYPE PLASTIC LINE MARKER: SHALL BE PERMANENT, BRIGHT COLORED, CONTINUOUS-PRINTED PLASTIC TAPE, INTENDED FOR DIRECT BURIAL SERVICE, NOT LESS THAN 6" WIDE x 4 MILS THICK. PROVIDE TAPE WITH WORDED PRINT WHICH MOST ACCURATELY DESCRIBES THE TYPE OF SERVICE FOR BURIED CABLE.

C. CABLE/CONDUCTOR IDENTIFICATION BANDS: SHALL BE VINYL-CLOTH, SELF-ADHESIVE, WRAP-AROUND TYPE MARKER; EITHER PRE-NUMBERED PLASTIC COATED TYPE OR WRITE-ON TYPE WITH CLEAR PLASTIC SELF-ADHESIVE COVER FLAP; NUMBERED TO SHOW CIRCUIT IDENTIFICATION.

GENERAL ROOF PLAN NOTES:

- 1. CONTRACTOR SHALL CAREFULLY REVIEW CONTRACT DOCUMENTS INCLUDING DRAWINGS AND PROJECT MANUAL. INFORMATION REGARDING WORK OF THE VARIOUS TRADES AND SUBCONTRACTORS ARE DISPERSED THROUGHOUT THE DOCUMENTS AND CANNOT BE ACCURATELY DETERMINED WITHOUT REFERENCE TO THE FULL SET OF DOCUMENTS.
2. CONTRACTOR SHALL COORDINATE INSTALLATION OF UTILITIES ABOVE THE CEILING TO PROVIDE GREATEST POSSIBLE CLEARANCE FOR INSTALLATION OF AND FUTURE CHANGES IN MECHANICAL EQUIPMENT. CONDUIT AND PIPE TO BE RUN THROUGH TRUSSES. COORDINATE SERVICE AND ACCESS POINTS ABOVE CEILING TO MINIMIZE REQUIRED ACCESS.
3. VERIFY EXACT LOCATION OF ALL HVAC EQUIPMENT WITH HVAC CONTRACTOR PRIOR TO COMMENCING ANY WORK.
4. ALL EQUIPMENT (RECEPTACLES, DISC. SWITCHES, ETC.) SHALL BE WEATHERPROOF.
5. ALL FUSES FOR HVAC UNITS SHALL BE SIZED AS REQUIRED BY MANUFACTURER'S NAMEPLATE ON EQUIPMENT. FUSES SHALL BE CURRENT LIMITING, TIME DELAY BUSSMAN FRN-R OR EQUAL BY GOULD SHAWMUT.
6. ALL CONDUIT SHALL BE RUN CONCEALED BELOW ROOF. PROVIDE WATERTIGHT PITCH POCKETS AS REQUIRED.
7. REFER TO HVAC DRAWINGS FOR ADDITIONAL ELECTRICAL REQUIREMENTS. PROVIDE ALL CONTROL CONDUIT AND WIRING AS REQUIRED FOR INTERLOCKING FANS, MOTORS, ETC. AS INDICATED ON THE HVAC DRAWINGS.
8. ALL DEVICES INSTALLED ON ROOF TOP EQUIPMENT SHALL BE MOUNTED ON A NON-REMOVABLE PANEL OF THE EQUIPMENT. THIS LOCATION SHALL BE COORDINATED WITH THE MECHANICAL OR PLUMBING CONTRACTOR PRIOR TO ROUGH-IN.
9. ROOF DECK PENETRATIONS: CONTRACTOR SHALL SECURE LANDLORD APPROVAL FOR ALL BUILDING ROOF DECK PENETRATIONS. REQUESTS SHALL BE ON A SCALED ROOF PLAN SHOWING EXACT LOCATION & SIZE OF PENETRATION & INCLUDE DETAILS OF MOUNTING, FLASHING & SEALING. CONTRACT WITH THE LANDLORD'S ROOFING CONTRACTOR TO PERFORM ALL WORK AT THIS CONTRACTOR'S SOLE EXPENSE. CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL ROOFTOP EQUIPMENT, NEW ROOF PENETRATIONS, REMOVAL OF EXISTING ROOFTOP EQUIPMENT & INSTALLATION OF ALL ROOFTOP EQUIPMENT WITH THE LANDLORD.

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Table with 3 columns: REV, REV DESCRIPTION, DATE

DESIGN PROFESSIONAL SEAL, THIS DRAWING IS AN INSTRUMENT OF SERVICE. IS AND SHALL REMAIN THE PROPERTY OF PK&J ARCHITECTS AND ENGINEERS LLC AND SHALL NOT BE REPRODUCED, PUBLISHED OR USED IN ANY WAY WITHOUT THE PERMISSION OF PK&J ARCHITECTS AND ENGINEERS.

Drawn / Designed By: JAG, Reviewed By: JAR, Project Number:

ELECTRICAL SPECIFICATIONS

SHEET NUMBER: E3.1

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PLUMBING SPECIFICATIONS

SECTION 22 05 00 - COMMON WORK RESULTS FOR PLUMBING

- THE PLUMBING SYSTEMS WILL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH THE INCLUDING ANY STATE OR LOCAL AMENDMENTS.
- ALL PERMITS (FEES BY CONTRACTOR), AND INSPECTIONS WILL BE OBTAINED AS REQUIRED BY ALL LEGAL AUTHORITIES OF WORK INCLUDED IN THESE DOCUMENTS. MATERIAL WHICH ARE SPECIFIED BY REFERENCE TO FEDERAL, STATE, OR OWNER INSURANCE PROVIDERS, SPECIFICATION (I.E., ASTM, ASM, ANSI, T&S, FM, GLOBAL, FGI OR AWWA SPECIFICATIONS), FEDERAL STANDARDS, OR OTHER STANDARD SPECIFICATIONS MUST COMPLY WITH THE LATEST EDITIONS UNLESS OTHERWISE NOTED WITHIN THE CONTRACT DOCUMENTS OR OTHER SPECIFICATION SECTIONS.
- ALL MATERIALS AND EQUIPMENT WILL BE NEW AND WILL BE INSTALLED IN ACCORDANCE WITH INDUSTRY STANDARDS.
- SUBMITTALS WILL BE PREPARED FOR ALL MATERIALS AND EQUIPMENT INDICATING PERFORMANCE DATA, CATALOG INFORMATION, INSTALLATION DETAILS, ETC. IN ADDITION, SOME AREAS WILL BE DETAILED ON SHOP DRAWINGS AND USED FOR COORDINATION. ALL SUBMITTALS AND SHOP DRAWINGS WILL BE REVIEWED AND APPROVED BY THE DESIGN ENGINEER.
- AT THE COMPLETION OF THE WORK, BOUND SETS OF OPERATIONS AND MAINTENANCE MANUALS WILL BE PROVIDED. THESE MANUALS WILL INCLUDE EQUIPMENT PERFORMANCE DATA, INSTALLATION DETAILS, MAINTENANCE AND SERVICE INSTRUCTIONS, PARTS LISTS, WIRING AND CONTROLS DIAGRAMS.
- A SET OF PLUMBING DRAWINGS WILL BE MAINTAINED AT THE JOB SITE A SEPARATE SET OF CLEAN CONTRACT DRAWINGS FOR THE SOLE PURPOSE OF RECORDING THE "AS-BUILT" CHANGES AND DIAGRAMS OF THOSE PORTIONS OF WORK IN WHICH ACTUAL CONSTRUCTION IS DIFFERENT FROM THE CONTRACT DOCUMENTS. AT THE END OF THE PROJECT, OBTAIN WITHOUT COST TO THE OWNER, A SET OF THE ORIGINAL PLUMBING DRAWINGS/CAD FILES INDICATING ALL CHANGES FROM THE CONTRACT DOCUMENTS FOR THE OWNERS RECORDS. DELIVERY OF THE AS-BUILT PRINTS AND CAD FILES IS A CONDITION OF FINAL ACCEPTANCE OF THE WORK COMPLETED.
- COORDINATION WILL TAKE PLACE WITH OTHER TRADES DURING CONSTRUCTION. ANY INTERFERENCES FOUND DUE TO OTHER TRADES WILL BE BROUGHT TO THE ATTENTION OF THE GENERAL CONTRACTOR OR CONSTRUCTION MANAGER.
- UPON COMPLETION OF THE WORK, AND AT TIMES DURING THE INSTALLATION, RUBBISH AND DEBRIS RESULTING FROM THE SCOPE OF THIS WORK WILL BE REMOVED TO A LOCATION ON SITE PROVIDED BY THE GENERAL CONTRACTOR AND THE AREA WILL BE LEFT IN A NEAT, ALL FLOOR DRAINS AND PLUMBING FIXTURE/EQUIPMENT SHALL BE CLEANED TO LIKE NEW CONDITIONS.
- ALL EQUIPMENT AND MATERIALS FURNISHED AND INSTALLED UNDER THIS SCOPE OF WORK WILL BE GUARANTEED TO BE FREE FROM DEFECTS OF MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR AFTER THE DATE OF EQUIPMENT START-UP. ANY OPENINGS REQUIRED THROUGH STRUCTURAL WALLS, FLOORS AND ROOFS WILL BE IDENTIFIED ON BLOCK OUT DRAWINGS AND PROVIDED TO THE GENERAL CONTRACTOR. ALL FORMING, CUTTING AND FRAMING TO THESE OPENINGS WILL BE BY THE GENERAL CONTRACTOR.
- ARCHITECTURAL ACCESS DOORS REQUIRED IN CEILINGS AND WALLS WILL BE PROVIDED AND INSTALLED BY THE GENERAL CONTRACTOR.
- PIPE SLEEVES WILL BE PROVIDED WHERE PIPING PASSES THROUGH WALLS AND FLOORS. SLEEVES WILL BE 18 GAUGE GALVANIZED STEEL FOR WALLS AND STEEL PIPE FOR FLOORS. FIRE STOP WILL BE PROVIDED WHERE THE FLOOR OR WALLS ARE FIRE RATED. SLEEVES WILL BE EXTENDED 2 INCHES ABOVE THE FLOOR IN "WET" AREAS.

13. EXECUTION:

- INSTALLATION OF PIPING, VALVES AND EQUIPMENT
 - PITCH: HORIZONTAL SANITARY AND DRAIN PIPING WILL BE RUN AT AN UNIFORM GRADE OF 1/4" PER FOOT FOR 2'-1/2" AND LESS PIPE SIZES, 1/8" PER FOOT FOR 3" AND ABOVE PIPE SIZE. CONTRACTOR SHALL INSTALL PLUMBING SYSTEM SLOPE PER CODE AND AUTHORITIES HAVING JURISDICTION.
 - WATER PIPING WITHIN WALLS AND ROUGH-INS FOR FIXTURES AND EQUIPMENT: COPPER PLATED STEEL SUPPORT SYSTEM SOLDERED TO PIPING AND SECURED TO BUILDING CONSTRUCTION SO THAT PIPES CANNOT BE DISPLACED. (HOLDRITE OR EQUIVALENT). HOT WATER PIPING INSULATION WITH STANDARD JACKETS, WITH OR WITHOUT VAPOR BARRIER, FACTORY APPLIED OR FIELD APPLIED. FITTINGS, JOINTS, AND VALVES WILL BE INSULATED WITH LIKE MATERIAL AND THICKNESS AS ADJOINING PIPE. PROVIDE REMOVABLE INSULATION AND COVER FOR ALL VALVES AND UNIONS.
 - WASTE AND VENT PIPING WITHIN WALLS AND ROUGH-INS FOR FIXTURES AND EQUIPMENT: COPPER PLATED STEEL SUPPORT SYSTEM FOR COPPER DWV PIPING OR GALVANIZED STEEL SUPPORT SYSTEM FOR CAST IRON OR GALVANIZED PIPING. SUPPORTS TO PIPING AND BUILDING CONSTRUCTION WILL BE SECURED SO THAT PIPES CANNOT BE DISPLACED. FELT STRIP ISOLATION WILL BE PROVIDED BETWEEN DISSIMILAR METALS. (HOLDRITE OR EQUIVALENT)
 - UNDERGROUND PIPING: NO-HUB SOIL PIPE NOT PERMITTED.
 - UNION AND FLANGES: ON PIPING TO INLET AND OUTLET OF ALL APPARATUS AND EQUIPMENT TO FACILITATE REMOVAL OF EQUIPMENT, AND DOWNSTREAM OF ALL SHUTOFF VALVES.
 - WATER HAMMER ARRESTERS: WATER HAMMER ARRESTERS WILL BE INSTALLED AT ALL QUICK CLOSING VALVES SUCH AS FLUSH VALVES, FOOT CONTROL VALVES, FLOAT VALVES, SOLENOID VALVES, ETC. WATER HAMMER ARRESTERS WILL BE SIZED AND LOCATED AS RECOMMENDED BY PDI MANUAL, VH 201.
 - ALL VALVES SHALL BE INSTALLED ON HORIZONTAL PIPE WITH THE VALVE STEM UPRIGHT OR HORIZONTAL. INSTALLATION WITH VALVE STEM FACING DOWN IS UNACCEPTABLE.

- CLEANOUTS WILL BE PROVIDED AND INSTALLED PER CPC SECTION 707.0 AND 719.0.
- LABELS AND IDENTIFICATION VALVE TAGS, PIPING SYSTEMS AND EQUIPMENT IDENTIFICATIONS AS SPECIFIED IN PLUMBING IDENTIFICATION.
- PIPING SYSTEM LEAK TESTS:
 - POTABLE WATER PIPING WILL BE HYDROSTATICALLY PRESSURE TESTED FOR A DURATION OF FOUR HOURS AT A TEST PRESSURE OF 120 PSIG.
 - SANITARY DRAINAGE PIPING: ALL ABOVE GROUND PIPING WILL BE TESTED HYDROSTATICALLY BY CLOSING ALL OPENINGS IN THE PIPING SYSTEM, EXCEPT THE HIGHEST OPENING ABOVE THE ROOF, AND BY FILLING THE SYSTEM TO THE POINT OF OVERFLOWING. THE PRESSURE EXERTED ON THE SYSTEM WILL BE NO LESS THAN 10 FEET OF HEAD.

SECTION 22 14 29 - HANGERS AND SUPPORTS FOR PLUMBING PIPING AND EQUIPMENT

- SINGLE PIPE HANGERS WILL BE MALLEABLE IRON OR CARBON STEEL, ADJUSTABLE SWIVEL SPLIT RING FOR PIPE SIZES UP TO 1 INCHES AND CARBON STEEL, ADJUSTABLE CLEVIS HANGERS FOR PIPE SIZES 2 INCHES AND OVER.
- PROVIDE COPPER HANGERS OR WONDER TAPE AT ALL HANGERS FOR DISSIMILAR METALS.
- MULTIPLE OR TRAPEZE HANGERS WILL BE UNISTRUT STEEL CHANNELS WITH UNISTRUT CLAMPS AND ALL-THREAD HANGER RODS AND DOUBLE NUTS. WHERE REQUIRED, UNISTRUT CHANNELS MAY BE REPLACED WITH STRUCTURAL STEEL CHANNELS OR I-BEAMS TO MEET STRUCTURAL LOADING.
- WALL SUPPORTS WILL BE UNISTRUT BOLTED TO THE WALL WITH UNISTRUT PIPE CLAMPS FOR PIPE SIZES UP TO 3 INCHES AND WELDED STEEL BRACKETS AND STEEL CLAMPS FOR PIPE SIZES GREATER THAN 4 INCHES.
- VERTICAL PIPE WILL BE SUPPORTED WITH STEEL RISER CLAMPS FOR STEEL PIPE AND COPPER RISER CLAMPS FOR COPPER PIPE.
- GALVANIZED STEEL PIPE INSULATION SHIELDS WILL BE PROVIDED FOR PIPE SIZES UP TO 2 INCH. PRE-FABRICATED PIPE INSERTS AND SHIELDS WILL BE USED FOR PIPES SIZES OVER 2 INCHES.
- ALL PIPING WILL BE BRACED IN ACCORDANCE WITH NFPA 13, ASME B31.1, ASCO 705, AND ASCE 7-10 STANDARDS FOR THE APPROPRIATE SEISMIC HAZARD LEVEL.
- INSERTS WILL BE USED TO SUPPORT PIPING FROM CONCRETE STRUCTURES. WHERE INSERTS ARE NOT USED DRILL-IN EXPANSION BOLTS WILL BE USED. LOW VELOCITY SHOT PIN FASTENERS WILL ALSO BE USED WHERE PERMITTED. APPROPRIATE DRILL-IN ANCHORS WILL BE USED ON POST TENSION SLABS.
- HORIZONTAL PIPE WILL BE SUPPORTED WITH THE MAXIMUM SPACING:

PIPE SIZE (INCH)	COPPER PIPE (FT.)	CAST IRON PIPE (FT.)	PVC PIPE (FT.)	CPVC PIPE (FT.)	PEX PIPE (FT.)	STEEL PIPE (FT.)
1/2"	6'	5'	4'	3'	2.67'	6'
3/4" TO 1"	6'	5'	4'	3'	2.67'	8'
1-1/4" TO 1-1/2"	6'	5'	4'	4'	2.67'	10'
2"	10'	5'	4'	4'	4'	10'
2-1/2" TO 4"	10'	5'	4'	4'	4'	10'
6" TO 8"	10'	5'	4'	4'	4'	10'

SLEEVES FOR PLUMBING PIPING AND EQUIPMENT

- SLEEVES FOR PIPES THROUGH NON-FIRE RATED FLOORS: FORM WITH 18 GAUGE GALVANIZED STEEL, TACK WELDED TO FORM A UNIFORM FLOOR.
- SLEEVES FOR PIPES THROUGH NON-FIRE RATED BEAMS, WALLS, FOOTINGS, AND POTENTIALLY WET FLOORS: FORM WITH STEEL PIPE, SCHEDULE 40.
- SLEEVES FOR PIPE THROUGH FIRE RATED AND FIRE RESISTIVE FLOORS AND WALLS, AND FIRESTOPPING: PREFABRICATED FIRE RATED STEEL SLEEVES INCLUDING SLEES, U.L. LISTED.
- FIRE STOPPING INSULATION: GLASS FIBER TYPE, NON-COMBUSTIBLE, U.L. LISTED.
- CAULK: PAINTABLE 25 YEAR ACRYLIC SEALANT.
- PIPE ALIGNMENT GUIDES: FACTORY FABRICATED, OF CAST SEMI-STEEL OR HEAVY FABRICATED STEEL, CONSISTING OF BOLTED, TWO-SECTION OUTER CYLINDER AND BASE WITH TWO-SECTION GUIDING SPIDER THAT BOLTS TIGHTLY TO PIPE. LENGTH OF GUIDES SHALL BE AS RECOMMENDED BY MANUFACTURER TO ALLOW INDICATED TRAVEL.
- SIZE SLEEVES LARGE ENOUGH TO ALLOW FOR MOVEMENT DUE TO EXPANSION AND CONTRACTION. PROVIDE FOR CONTINUOUS INSULATION WRAPPING.
- SET SLEEVES IN POSITION IN FORMWORK. PROVIDE REINFORCING AROUND SLEEVES.
- EXTEND SLEEVES THROUGH FLOORS MINIMUM ONE INCH ABOVE FINISHED FLOOR LEVEL. CAULK SLEEVES FULL DEPTH WITH FIRE RATED THERMFIBER AND 3M CAULKING AND PROVIDE FLOOR PLATE.
- WHERE PIPING PENETRATES FLOOR, CEILING, OR WALL, CLOSE OFF SPACE BETWEEN PIPE AND ADJACENT WORK WITH U.L. LISTED FIRE STOPPING INSULATION AND CAULK SEAL AIR TIGHT. PROVIDE CLOSE FITTING METAL COLLAR OR ESCUTCHEON COVERS AT BOTH SIDES OF PENETRATION.
- FIRE PROTECTION SLEEVES MAY BE FLUSH WITH FLOOR OF STAIRWAYS.

SECTION 22 19 53 - IDENTIFICATION FOR PLUMBING PIPING AND EQUIPMENT:

- PIPING:
 - PIPE LABEL MANUFACTURERS: BRIMAR INDUSTRIES, INC., CRAFTMARK PIPE MARKERS., IDENTIFICATION PRODUCTS.
 - GENERAL REQUIREMENTS FOR MANUFACTURED PIPE LABELS: PREPRINTED, COLOR-CODED, WITH LETTERING INDICATING SERVICE, AND SHOWING FLOW DIRECTION ACCORDING TO ASME A13.1. PROVIDE PIPE MARKERS EVERY 20 FEET. IDENTIFY SERVICE AND FLOW DIRECTION. INSTALL IN CLEAR VIEW AND ALIGN WITH AXIS OF PIPING.
 - PRETENSIONED PIPE LABELS: PRECOILED, SEMIRIGID PLASTIC FORMED TO PARTIALLY COVER CIRCUMFERENCE OF PIPE AND TO ATTACH TO PIPE WITHOUT FASTENERS OR ADHESIVE.
 - SELF-ADHESIVE PIPE LABELS: PRINTED PLASTIC WITH CONTACT-TYPE, PERMANENT-ADHESIVE BACKING.
 - PIPE LABEL CONTENTS: INCLUDE IDENTIFICATION OF PIPING SERVICE USING SAME DESIGNATIONS OR ABBREVIATIONS AS USED ON DRAWINGS; ALSO INCLUDE PIPE SIZE AND AN ARROW INDICATING FLOW DIRECTION.
 - FLOW-DIRECTION ARROWS: INTEGRAL WITH PIPING SYSTEM SERVICE LETTERING TO ACCOMMODATE BOTH DIRECTIONS OR AS SEPARATE UNIT ON EACH PIPE LABEL TO INDICATE FLOW DIRECTION, LETTERING SIZE: SIZE LETTERS ACCORDING TO ASME A13.1 FOR PIPING.
 - UNDERGROUND PIPES: PROVIDE WARNING TAPE ABOVE PIPE FOR ENTIRE LENGTH. FOR NON-METALLIC PIPES PROVIDE TRACED WIRE ABOVE AND PARALLEL TO ENTIRE LENGTH AND STUBBED OUT ABOVE GRADE AT ONE END.
 - WARNING-TAGS: HOSE BIBBS RECEIVING NON-POTABLE WATER SHALL BE MARKED WITH WARNING SIGNAGE BEARING THE WORDS "CAUTION: NONPOTABLE WATER. DO NOT DRINK" AND A PICTORIAL REPRESENTATION OF THE "BARRED CIRCLE" OVER A HOSE BIBB ABOVE A PARTIALLY FILLED WATER GLASS.
 - PIPE LABEL COLOR SCHEDULE: MARKERS SHALL BE IDENTIFIED IN ACCORDANCE WITH THE BACKGROUND AND LETTER COLORS ISSUED BY THE AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI). MARKERS SHALL BE MANUFACTURED BY CHAMPION AMERICA, INC., BRADY, SETON, OR EQUAL.
 - DOMESTIC WATER PIPING:
 - BACKGROUND: SAFETY GREEN
 - LETTER COLORS: WHITE
 - SANITARY WASTE AND STORM DRAINAGE PIPING:
 - BACKGROUND: SAFETY BLACK
 - LETTER COLORS: WHITE
- VALVE TAGS:
 - MANUFACTURERS: BRIMAR INDUSTRIES, INC., CRAFTMARK PIPE MARKERS., SETON IDENTIFICATION PRODUCTS.
 - DESCRIPTION: STAMPED OR ENGRAVED WITH 1/4-INCH LETTERS FOR PIPING SYSTEM ABBREVIATION AND 1/2-INCH NUMBERS. NUMBER TAGS CONSECUTIVELY BY LOCATION.
 - TAG MATERIAL: BRASS, 0.032-INCH MINIMUM THICKNESS, AND HAVING PREDRILLED OR STAMPED HOLES FOR ATTACHMENT HARDWARE. FASTENERS: BRASS WIRE-LINK CHAIN.
 - MAIN VALVES IN EQUIPMENT ROOMS WILL BE IDENTIFIED WITH BRASS TAGS ATTACHED BY CHAIN.
 - VALVE TAG CHART WILL BE PROVIDED INDICATING THE SYSTEM AND SERVICE OF EACH VALVE IDENTIFIED IN PREVIOUS STATEMENT. VALVE TAG CHART SHALL BE TYPEWRITTEN LETTER SIZE LIST IN ANODIZED ALUMINUM FRAME OR PLASTIC LAMINATED.
 - VALVE-TAG SIZE AND SHAPE: COLD & HOT WATER - 2 INCHES. ROUND.
 - VALVE-TAG COLORS: COLD WATER - SAFETY GREEN; HOT WATER - SAFETY YELLOW.
 - LETTER COLORS: WHITE.

SECTION 22 28 19 - PLUMBING PIPING INSULATION

- SUMMARY
 - PERFORM ALL WORK REQUIRED TO PROVIDE AND INSTALL PIPING INSULATION, JACKETS AND ACCESSORIES INDICATED BY THE CONTRACT DOCUMENTS WITH SUPPLEMENTARY ITEMS NECESSARY FOR PROPER INSTALLATION.
- SECTION INCLUDES:
 - PIPE INSULATION
 - JACKETS AND ACCESSORIES.
- QUALITY ASSURANCE:
 - ALL PIPING REQUIRING INSULATION SHALL BE INSULATED HEREIN AND AS REQUIRED FOR A COMPLETE SYSTEM. IN EACH CASE, THE INSULATION SHALL BE EQUIVALENT TO THAT SPECIFIED AND MATERIAL APPLIED AND FINISHED AS DESCRIBED IN THESE SPECIFICATIONS.
 - ALL INSULATION, JACKET, ADHESIVES, MASTICS, SEALERS, ECT., UTILIZED IN THE FABRICATION OF THOSE SYSTEM SHALL MEET NFPA FOR FIRE RESISTANT RATINGS (MAXIMUM OF 25 FLAME SPREAD AND 50 SMOKE DEVELOPED RATING) AND SHALL BE APPROVED BY THE INSULATION MANUFACTURER FOR GUARANTEED PERFORMANCE WHEN INCORPORATED INTO THEIR INSULATION SYSTEM, UNLESS A SPECIFIC PRODUCT IS SPECIFIED FOR A SPECIFIC APPLICATION AND IS STATED AS AN EXCEPTION TO THIS REQUIREMENT. CERTIFICATES TO THIS EFFECT SHALL BE SUBMITTED ALONG WITH CONTRACTOR'S SUBMITTAL DATA FOR THIS SECTION OF THE SPECIFICATIONS. NO MATERIAL SHALL BE USED THAT, WHEN TESTED BY THE ASTM E84-99 TEST METHOD, IS FOUND TO MELT, DRIP OR DELAMINATE TO SUCH A DEGREE THAT THE CONTINUITY OF THE FLAME FRONT IS DESTROYED, THEREBY RESULTING IN AN ARTIFICIALLY LOW FLAME SPREAD RATING.
 - APPLICATION COMPANY QUALIFICATIONS: COMPANY PERFORMING THE WORK OF THIS SECTION SHALL HAVE A MINIMUM OF THREE (3) YEARS OF EXPERIENCE SPECIALIZING IN THE TRADE.
 - ALL INSULATION SHALL BE APPLIED BY MECHANICS SKILLED IN THIS PARTICULAR WORK AND REGULARLY ENGAGED IN SUCH OCCUPATION.
 - UNSATISFACTORY, INADEQUATE, OR SLOPPY WORK WILL NOT BE ACCEPTABLE AND ALL SUCH WORK SHALL BE REMOVED AND REPLACE AS MANY TIMES AS NECESSARY TO ACHIEVE AN ACCEPTABLE INSTALLATION.
- PIPE INSULATION WILL BE PROVIDED ON COLD WATER FIRST (20 FEET) TWENTY FEET, HOT WATER AND STORM PIPING.
 - INSULATION TYPE A: FIBERGLASS
 - ACCEPTABLE PRODUCTS: OWENS CORNING SSL II OR EQUAL GLASS FIBER PIPING INSULATION.
 - THERMAL CONDUCTIVITY: K-VALUE OF 0.23 BTU-IN/HR.-DEGREE F OR LESS AT 75 DEGREE F AND 0.32 BTU-IN/HR.-DEGREE F OR LESS AT 250 DEGREE F.
 - RATED MAXIMUM SERVICE TEMPERATURE: 1000 DEGREE F.
 - DENSITY: 3.5-5 LBS/FT³
 - RATED AS MAXIMUM 25 FLAME SPREAD AND MAXIMUM 50 SMOLE DEVELOPED WHEN TESTED IN ACCORDANCE WITH ASTM E84, UL 723, CAN/ULC-S102-M88 OR NFPA 255.
 - CERTIFIED TO MEET THE REQUIREMENTS OF ASTM C795 FOR USE OVER STAINLESS STEEL.
 - RATED AS NON-COMBUSTIBLE WHEN TESTED IN ACCORDANCE WITH ASTM E136.
 - INSULATION TREATED WITH WATER RESISTANT RESIN ON THE SURFACE AND WITHIN EACH LAYER OF THE INSULATION.
 - SHALL MEET OR EXCEED REQUIREMENTS OF ASTM C552, CLASS 1.
 - PAPER FREE ALL-SERVICE JACKET WITH DOUBLE ADHESIVE LAP SEAL AND A TWO-PART BUTT STRIP SEAL.

- TYPE B: CLOSE CELL ELASTOMERIC
 - ACCEPTABLE PRODUCTS: ARMAFLEX AP AS MANUFACTURED BY ARMACELL OR EQUAL.
 - THERMAL CONDUCTIVITY: K-VALUE OF 0.28 BTU-IN/HR. DEGREE F OR LESS AT 75 F.
 - MAXIMUM SERVICE TEMPERATURE OF 300 DEGREE F.
 - RATED AS 26 FLAME SPREAD AND 50 SMOKE DEVELOPED WHEN TESTED IN ACCORDANCE WITH SATM E84, UL 723, CAN/ULC-S102-M88 OR NFPA 255.
 - CERTIFIED TO MEET THE REQUIREMENTS OF ASTM C795 FOR USE OVER STAINLESS STEEL.
 - RATED AS NON-COMBUSTIBLE WHEN TESTED IN ACCORDANCE WITH ASTM E136.
 - ELASTOMERIC PRODUCTS SHALL BE SUPPLIED IN A PRE-SLIT TUBULAR FORM WITH A PRESSURE SENSITIVE ADHESIVE SYSTEM FOR CLOSURE AND VAPOR SEALING OF THE LONGITUDINAL JOINT.
 - SHALL MEET OR EXCEED REQUIREMENTS OF ASTM C534, TYPE I, TUBULAR GRADE.
- FITTINGS
 - PROVIDE PRE-MOLDED FITTING AND ELBOWS MOLDED IN TWO MATCHING HALF SECTIONS OF SAME INSULATION THICKNESS AS ADJOINING PIPING. AS AN ALTERNATIVE, PROVIDE MITERED SECTIONS OF INSULATION EQUIVALENT IN THICKNESS AND COMPOSITION TO THAT INSTALLED ON STRAIGHT PIPE RUNS. NO INSERT OR BLANKET INSULATION ALLOWED.
- ALUMINIUM JACKETING
 - PIPING: FURNISH FOR FINISHING EXTERIOR INSULATED PIPE, A PREFABRICATED JACKET OF ASTM B209 ALUMINUM, 0.016-INCH THICK, WITH FACTORY-APPLIED 2-MIL CONTACT SURFACE FINISH.
- VALVES, FITTINGS AND FLANGES, PROVIDE COMPLETE COVERAGE OF ALL VALVES, FITTINGS AND FLANGES, PROVIDE ALUMINIUM COVERS, 0.016 INCH THICK, ASTM B209 ALUMINIUM.
- STRAP AND SEALS: FURNISH 1 INCH x 0.010 INCH, ASTM B209 ALUMINIUM STRAPPING AND SEALS FOR APPLYING ALUMINIUM JACKET AND COVERS TO PROVIDE COMPLETELY WEATHER TIGHT COVERING OF ALL INSULATION INCLUDING CAPS, FLANGE AND END OF LINES.

INSULATION THICKNESS (IN.) FOR NOMINAL PIPE SIZES						
SYSTEM	TEMPERATURE RANGE (F)	1" AND LESS	1-1/4" TO 2"	2-1/2" TO 4"	6"	8" AND UP
DOMESTIC WATER	ALL	1"	1"	1"	1-1/2"	1-1/2"

SECTION 22 41 00 - DOMESTIC WATER PIPING

- COPPER TUBE AND FITTINGS:
 - UNDERGROUND: ASTM B-88 TYPE K SEAMLESS COPPER TUBING, SOFT ANNEALED, COATED AND WRAPPED WITH EXTRUDED HIGH DENSITY POLYETHYLENE TAPE. ABOVE GROUND: ASTM B-88 TYPE L SEAMLESS COPPER TUBING, HARD TEMPER, COLD DRAWN. PEX-a, ASTM F 876/877, SDR 9, CTS, ENGEL METHOD.
 - ABOVE GROUND: ASTM B-88 TYPE L SEAMLESS COPPER TUBING, HARD TEMPER, COLD DRAWN. PEX-a, ASTM F 876/877, SDR 9, CTS, ENGEL METHOD.
 - CONDENSATE DRAINS FROM COOLING COILS: SEAMLESS COPPER TUBING, TYPE M, COLD DRAWN, HARD TEMPER, ASTM B-88.
- FITTINGS
 - COPPER TUBING: ANSI B16.22 WROUGHT COPPER SOLDER SWEAT TYPE.
 - CAST-COPPER, SOLDER-JOINT FITTINGS: PRESSURE FITTINGS.
 - WROUGHT-COPPER, SOLDER-JOINT FITTINGS: WROUGHT-COPPER PRESSURE FITTINGS.
 - BRASS: ANSI B16.15 85% RED BRASS, CAST IRON PATTERNS. SCREWED TYPE MAY BE USED WHERE CLOSE FITTING IS REQUIRED.
 - ADAPTERS WILL BE USED WHERE COPPER TUBING CONNECTS TO IRON PIPE SIZE BRASS PIPING.
 - PEX-a: ENGINEERED POLYMER OR LEAD-FREE BRASS ASTM F 1960 COLD EXPANSION WITH PEX-a REINFORCING RING.
 - FLANGES: VICTAULIC MECHANICAL GROOVED COUPLINGS.
 - COPPER UNIONS:
 - CAST-COPPER ALLOY, HEXAGONAL-STOCK BODY; BALL-AND-SOCKET.
 - METAL-TO-METAL SEATING SURFACES; THREADED ENDS OR PROPPRESS.
 - COPPER PRESSURE-SEAL-JOINT FITTINGS:
 - MANUFACTURERS: VIEGA LLC.
 - FITTINGS FOR NPS 2 AND SMALLER: WROUGHT-COPPER FITTING WITH EPDM-RUBBER, O-RING SEAL IN EACH END.
 - FITTINGS FOR NPS 2-1/2 TO NPS 4: CAST-BRONZE OR WROUGHT-COPPER FITTING WITH EPDM-RUBBER, O-RING SEAL IN EACH END.
 - COPPER-TUBE, EXTRUDED-TEE CONNECTIONS:
 - MANUFACTURERS: T-DRILL INDUSTRIES INC.
 - TEE FORMED IN COPPER TUBE ACCORDING TO ASTM F 2014.
 - APPURTENANCES FOR GROOVED-END COPPER TUBING:
 - MANUFACTURERS: VICTAULIC COMPANY.
 - BRONZE FITTINGS FOR GROOVED-END, COPPER TUBING: ASTM B 75 COPPER TUBE OR BRONZE CASTINGS.
 - MECHANICAL COUPLINGS FOR GROOVED-END COPPER TUBING:
 - COPPER-TUBE DIMENSIONS AND DESIGN SIMILAR TO AWWA C606.; FERROUS HOUSING SECTIONS; EPDM-RUBBER GASKETS SUITABLE FOR HOT AND COLD WATER; BOLTS AND NUTS; MINIMUM PRESSURE RATING: 300 PSIG.
- PIPING JOINING MATERIALS:
 - PIPE-FLANGE GASKET MATERIALS:
 - RUBBER, FLAT FACE, 1/8 INCH THICK OR NONMETALLIC AND ASBESTOS FREE UNLESS OTHERWISE INDICATED;
 - FULL-FACE OR RING TYPE UNLESS OTHERWISE INDICATED.
 - METAL, PIPE-FLANGE BOLTS AND NUTS: CARBON STEEL UNLESS OTHERWISE INDICATED.
 - SOLDER FILLER METALS: LEAD-FREE ALLOYS.
 - FLUX: WATER FLUSHABLE.
 - BRAZING FILLER METALS: BCUP SERIES, COPPER-PHOSPHORUS ALLOYS FOR GENERAL-DUTY BRAZING UNLESS OTHERWISE INDICATED.
- TRANSITION FITTINGS:
 - SAME SIZE AS PIPES TO BE JOINED; PRESSURE RATING AT LEAST EQUAL TO PIPES TO BE JOINED; END CONNECTIONS COMPATIBLE WITH PIPES TO BE JOINED.
 - FITTING-TYPE TRANSITION COUPLINGS: MANUFACTURED PIPING COUPLER OR SPECIFIED PIPING SYSTEM FITTING. FITTINGS FOR FPS 1-1/2" AND SMALLER.
 - SLEEVE-TYPE TRANSITION COUPLING: MANUFACTURERS: JAY R. SMITH MFG. CO. FITTINGS FOR NPS 2" AND LARGER.
- DIELECTRIC FITTINGS:
 - ASSEMBLY OF COPPER ALLOY AND FERROUS MATERIALS WITH SEPARATING NONCONDUCTIVE INSULATING MATERIAL. INCLUDE END CONNECTIONS COMPATIBLE WITH PIPES TO BE JOINED.
 - DIELECTRIC UNIONS:
 - MANUFACTURERS: ZURN INDUSTRIES, LLC.
 - STANDARD: ASSE 1079.
 - PRESSURE RATING: 150 PSIG.
 - END CONNECTIONS: SOLDER-JOINT COPPER ALLOY AND THREADED FERROUS.
 - DIELECTRIC FLANGES:
 - MANUFACTURERS: WATTS, WILKINS, ZURN INDUSTRIES, LLC.
 - STANDARD: ASSE 1079.
 - FACTORY-FABRICATED, BOLTED, COMPANION-FLANGE ASSEMBLY.
 - PRESSURE RATING: 150 PSIG.
 - END CONNECTIONS: SOLDER-JOINT COPPER ALLOY AND THREADED FERROUS; THREADED SOLDER-JOINT COPPER ALLOY AND THREADED FERROUS.
- DIELECTRIC FITTINGS FOR NPS 2-1/2 AND LARGER.
 - DIELECTRIC FITTINGS FOR NPS 2-1/2 AND LARGER.
 - DIELECTRIC-FLANGE INSULATING KITS:
 - MANUFACTURERS: CALPICO, INC., CENTRAL PLASTICS COMPANY, PIPELINE SEAL AND INSULATOR, INC.
 - NONCONDUCTIVE MATERIALS FOR FIELD ASSEMBLY OF COMPANION FLANGES.
 - PRESSURE RATING: 150 PSIG.
 - GASKET: NEOPRENE OR PHENOLIC.
 - BOLT SLEEVES: PHENOLIC OR POLYETHYLENE.
 - WASHERS: PHENOLIC WITH STEEL BACKING WASHERS.
- DIELECTRIC NIPPLES:
 - MANUFACTURERS: VICTAULIC COMPANY.
 - ELECTROPLATED STEEL NIPPLE.
 - PRESSURE RATING AND TEMPERATURE: 300 PSIG AT 225 DEG F.
 - DIELECTRIC FITTINGS FOR NPS 2 AND SMALLER.

SECTION 22 41 00 - SANITARY WASTE AND VENT AND STORM PIPING

- MANUFACTURERS SHALL BE ISO 9001 ACCREDITED.
- PIPE AND FITTINGS ABOVE GROUND: CSPI 310 OR ASTM C 1277, CAST IRON NO-HUB SOIL PIPE AND FITTINGS WITH STAINLESS STEEL NO-HUB COUPLINGS. ALL CAST IRON SOIL PIPE AND FITTINGS SHALL BE MARKED WITH THE COLLECTIVE TRADEMARK OF THE CAST IRON SOIL PIPE INSTITUTE AND BE LISTED BY NSF INTERNATIONAL®.
- INDIRECT DRAIN: TYPE M, ASTM B-88, SEAMLESS HARD TEMPER, COLD DRAWN COPPER TUBING WITH ANSI B16.29 WROUGHT COPPER SOLDER SWEAT DRAINAGE FITTINGS.
- CAST IRON SOIL PIPE NO-HUB COUPLINGS: CONFORMING TO ASTM C 1540, HEAVY DUTY, 24 GAUGE, TYPE 304 STAINLESS STEEL SHIELD AND CLAMP ASSEMBLY WITH ASTM C 654 NEOPRENE SEALING SLEEVE TORQUED TO A MINIMUM OF 100 INCH.LBS. COUPLING WILL BE FACTORY MUTUAL APPROVED PER STANDARD 1680, CLASS I. (HUSKY 4000 OR EQUIVALENT)
- PVC PIPE AND FITTINGS BELOW GROUND: SOLID-WALL PVC PIPE ASTM D 2665 AND ASTM D1785, DRAIN, WASTE, AND VENT. ALL BURIED PVC PIPING SYSTEMS SHALL BE INSTALLED PER ASTM D2321.
- PVC SOCKET FITTINGS: ASTM D 2665, MADE TO ASTM D 3311, DRAIN, WASTE, AND VENT PATTERNS AND TO FIT SCHEDULE 40 PIPE.
- ADHESIVE PRIMER: ASTM F 656
 - ADHESIVE PRIMER SHALL HAVE A VOC OF 550G/L OR LESS WHEN CALCULATED ACCORDING TO 40 CFR 59, SUBPART D (EPA METHOD 24).
- ADHESIVE PRIMER *STANDARD PRACTICE FOR THE TESTING OF VOLATILE ORGANIC EMISSIONS FROM VARIOUS SOURCES USING SMALL-SCALE ENVIRONMENTAL CHAMBERS*.
 - ADHESIVE PRIMER SHALL HAVE A VOC OF 550G/L OR LESS WHEN CALCULATED ACCORDING TO 40 CFR 59, SUBPART D (EPA METHOD 24).
- ADHESIVE PRIMER *STANDARD PRACTICE FOR THE TESTING OF VOLATILE ORGANIC EMISSIONS FROM VARIOUS SOURCES USING SMALL-SCALE ENVIRONMENTAL CHAMBERS*.
 - ADHESIVE PRIMER SHALL HAVE A VOC OF 550G/L OR LESS WHEN CALCULATED ACCORDING TO 40 CFR 59, SUBPART D (EPA METHOD 24).
- BUILDING SEWERS SHALL BE AT LEAST TWELVE (12) INCHES DEEP, UNLESS PHYSICAL CONDITIONS EXIST WHICH MAKE MAINTAINING THIS DEPTH IMPRACTICAL. THE MINIMUM SIZE OF ANY BUILDING DRAIN OR BUILDING SEWER SERVING THREE (3) OR MORE WATER CLOSETS SHALL BE FOUR (4) INCHES.
- THE MINIMUM SIZE OF THE MAIN SANITARY SEWER SHALL BE THREE (3) INCHES. ALL OPEN VENT PIPES FOR SANITARY SEWER SYSTEMS, WHICH EXTEND THROUGH THE ROOF SHALL BE TERMINATED AT LEAST EIGHT (8) INCHES ABOVE ROOFS, WHICH HAVE NO OTHER USE THAN WEATHER PROTECTION. AIR ADMITTANCE VALVES SHALL NOT BE USED IN NEW CONSTRUCTION.

SECTION 22 41 23.12 - BALL VALVES FOR PLUMBING PIPING

- BRASS:
 - PRODUCTS: TWO-PIECE BRASS BALL VALVES WITH FULL PORT AND STAINLESS-STEEL TRIM.
 - MANUFACTURERS: NIBCO, KITZ CORPORATION, MILWAUKEE VALVE COMPANY.
 - DESCRIPTION: STANDARD: MSS SP-110, SWP RATING: 150 PSIG, CWP RATING: 600 PSIG, BODY DESIGN: TWO PIECE, BODY MATERIAL: FORGED BRASS, ENDS: THREADED, SEATS: PTFE, STEM: STAINLESS STEEL, BALL: STAINLESS STEEL, VENTED, PORT: FULL.
- BRONZE:
 - PRODUCTS: TWO-PIECE LEAD FREE BRONZE BALL VALVES WITH FULL PORT AND STAINLESS-STEEL TRIM.
 - MANUFACTURERS: NIBCO, KITZ CORPORATION, WATTS.
 - DESCRIPTION: STANDARD: MSS SP-110, SWP RATING: 150 PSIG, CWP RATING: 600 PSIG, BODY DESIGN: TWO PIECE, BODY MATERIAL: FORGED BRONZE, ENDS: THREADED, SEATS: PTFE, STEM: STAINLESS STEEL, BALL: STAINLESS STEEL, VENTED, PORT: FULL.
- SELECT VALVES WITH THE FOLLOWING END CONNECTIONS:
 - FOR COPPER TUBING: NPS 2 AND SMALLER. THREADED ENDS EXCEPT WHERE SOLDER-JOINT VALVE END OPTION IS INDICATED IN VALVE SCHEDULES BELOW.
 - FOR STEEL PIPING, NPS 2 AND SMALLER: THREADED ENDS.

SECTION 22 41 23.14 - CHECK VALVES FOR PLUMBING PIPING

- SOURCE LIMITATIONS FOR VALVES: OBTAIN EACH TYPE OF VALVE FROM SINGLE SOURCE FROM SINGLE MANUFACTURER.
- COMPLY WITH ASME. COMPLY WITH AWWA C606 FOR GROOVED-END CONNECTIONS. NSF 61 ANNEX G AND NSF 372 FOR VALVE MATERIALS FOR POTABLE-WATER SERVICE.
- BRONZE VALVES SHALL BE MADE WITH DEZINCIFICATION-RESISTANT MATERIALS. BRONZE VALVES MADE WITH COPPER ALLOY (BRASS) CONTAINING MORE THAN 15 PERCENT ZINC ARE NOT PERMITTED. VALVE PRESSURE-TEMPERATURE RATINGS: NOT LESS THAN INDICATED AND AS REQUIRED FOR SYSTEM PRESSURES AND TEMPERATURES. VALVE SIZES: SAME AS UPSTREAM PIPING UNLESS OTHERWISE INDICATED. VALVE BYPASS AND DRAIN CONNECTIONS: MSS SP-45.
- BRONZE SWING CHECK VALVES:
 - CLASS 125, BRONZE, SWING CHECK VALVES WITH BRONZE DISC.
 - MANUFACTURERS: NIBCO INC., WATTS.
 - DESCRIPTION: STANDARD: MSS SP-80, TYPE 3, CWP RATING: 300 PSIG, BODY DESIGN: HORIZONTAL FLOW, BODY MATERIAL: ASTM B 62, BRONZE, ENDS: THREADED OR SOLDERED. SEE VALVE SCHEDULE ARTICLES, DISC: BRONZE.

SEAL

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REV	REV DESCRIPTION	DATE

DESIGN PROFESSIONAL SEAL

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Drawn / Designed By: KNR

Reviewed by: SMR

Project Number: .

SHEET NAME:

PLUMBING SPECIFICATIONS

SHEET NUMBER:

P0.1



3/23

PLUMBING LEGEND		
DISREGARD LEGEND ITEMS NOT INDICATED ON DRAWINGS		
SYMBOL	DESCRIPTION	ABBR.
	SOIL OR WASTE PIPING B.G.	SS
	SOIL OR WASTE PIPING A.G.	SS
	GREASE WASTE PIPING	GW
	VENT PIPING	V
	STORM DRAIN PIPING	SD
	OVERFLOW STORM DRAIN PIPING	OD
	GAS LINE	G
	FIRE OR SPRINKLER LINE	F
	DOMESTIC COLD WATER	CW
	DOMESTIC HOT WATER	HW
	DOMESTIC HOT WATER RETURN	HWR
	TEMPERED DOMESTIC HOT WATER	TW
	GATE VALVE	GV
	GLOBE VALVE	GLV
	BALL VALVE	BV
	CHECK VALVE	CKV
	BALANCING VALVE	BAV
	BUTTERFLY VALVE	BTV
	PLUG VALVE	PLV
	PRESSURE REDUCING VALVE	PRV
	PRESSURE RELIEF VALVE	T&P
	STRAINER	STR
	UNION	UN
	THERMOMETER WELL	TW
	PRESSURE GAUGE	PG
	THERMOMETER	THRM
	CONDENSATE OR INDIRECT DRAIN	D
	BRANCH CONNECTION, TOP	--
	BRANCH CONNECTION, BOTTOM	--
	ELBOW UP	--
	ELBOW DOWN	--
	FLOOR CLEANOUT (INTERIOR)	FCO
	CLEANOUT AT GRADE (EXTERIOR)	COG
	WALL CLEANOUT	WCO
	FLOOR DRAIN	FD
	FLOOR SINK	FS
	HOSE BIBB	HB
	WALL HYDRANT	WH
	NEW TO EXISTING PIPE CONNECTION	--
	PLUMBING RISER IDENTIFICATION	P/X
	DOWNSPOUT RISER IDENTIFICATION	DS/X
	FIRE RISER IDENTIFICATION	F/X
ABBREVIATIONS		ABBR.
--	ABOVE FINISHED FLOOR	AFF
--	ACCESS PANEL	AP
--	BELOW FINISHED FLOOR	BFF
--	BOTTOM OF PIPE	BOP
--	INDIRECT DRAIN	D
--	EXISTING TO REMAIN	(E)
--	EXISTING TO BE DEMOLISHED	(D)
--	EXISTING TO BE RELOCATED	(R)
--	FINISHED	FIN
--	FLOOR	FLR
--	INVERT ELEVATION	INV. EL.
--	NORMALLY CLOSED	NC
--	SOFT WATER	SW
--	TRAP PRIMER	TP
--	TYPICAL	TYP
--	VENT THRU ROOF	VTR
NOT ALL SYMBOLS MAY BE USED		

GENERAL NOTES:

- CONTRACTOR TO FIELD VERIFY ELEVATIONS AND DIMENSIONS OF FINISHED FLOORS AND WALLS. TRUE ALL DRAINS, ROUGH-INS AND CARRIERS IN ACCORDANCE WITH THE PROPOSED ELEVATIONS AND FINISHED SURFACES.
- MOUNTING HEIGHT ELEVATION OF ALL WALL HUNG OR COUNTER MOUNTED FIXTURES SHALL BE COORDINATED WITH THE ARCHITECT PRIOR TO INSTALLATION OF ROUGH-IN WORK.
- FOR ALL FIXTURES AND EQUIPMENT WITH ASSOCIATED TRIM OR COMPONENT ACCESSORIES, PROVIDE UNDER SEPARATE DIVISIONS AND REQUIRING PLUMBING CONNECTIONS; THIS CONTRACTOR SHALL FIELD COORDINATE EXACT REQUIREMENTS OF, MAKE PROVISIONS FOR, AND SUPPLY ALL MATERIALS AND LABOR FOR MAKING FINAL CONNECTIONS.
- CONTRACTOR SHALL REFER TO SHOP DRAWINGS OF EQUIPMENT TO BE SUPPLIED FOR FINAL COORDINATION OF ALL ROUGH-IN OPENINGS BEFORE BEGINNING WORK.
- ALL FIXTURE AND EQUIPMENT STUB-OUTS SHALL BE PROVIDED WITH A STOP VALVE. ALL FIXTURE STOPS SHALL BE SOLID BRASS, LOOSE KEY OPERATED, CHROME PLATED (WHERE EXPOSED), AND FITTED TIGHT TO CHROME PLATED BRASS WALL ESCUTCHEON PLATES. SUPPLY RISERS SHALL BE TYPE "L" TUBING, CHROME PLATED. PROVIDE 1/2" FIP X 3/8" OD COMPRESSION FITTINGS FOR ALL SINKS, LAVATORIES, AND SIMILAR FIXTURES.
- ALL P-TRAPS WITHIN THE BUILDING, ABOVE GRADE AND EXPOSED TO INSPECTION SHALL BE CHROME PLATED ADJUSTABLE, CAST BRASS WITH CLEANOUT PLUG. PROVIDE C.P. CAST BRASS SLIP NUTS AND WASHERS, 1" GAGE SEAMLESS TUBULAR BRASS DRAIN TO WALL AND WALL FLANGE. PROVIDE 1-1/4" P-TRAP FOR ALL LAVATORIES AND SIMILAR FIXTURES. PROVIDE 1-1/2" P-TRAP FOR ALL SINKS AND SIMILAR FIXTURES. MCGUIRE OR EQUAL.
- ALL ROUGH-IN OPENINGS SHALL BE FITTED WITH CHROME PLATED, WROUGHT BRASS DEEP BELL OR BOX ESCUTCHEON PLATES FITTED TIGHT TO PIPE AND FLUSH TO WALL. STEEL ESCUTCHEON PLATES ARE NOT ACCEPTED.
- ALL EXPOSED BRASS SHALL BE CHROME PLATED.
- ALL HANDICAPPED ACCESSIBLE FIXTURES SHALL BE OF APPROVED TYPES AND WITH REQUIRED CONTROLS INSTALLED TO HEIGHTS AND CLEARANCES, AS PRESCRIBED BY THE AMERICANS WITH DISABILITIES ACT (ADA) AND THE TEXAS ACCESSIBILITY STANDARDS (TAS). FIXTURES SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL ACCESSIBILITY CODE REQUIREMENTS. PROVIDE FIXTURES WITH DEPTHS AT MAXIMUM PERMITTED AND AVAILABLE FOR INTENDED FUTURE USE.
- INSULATE ALL EXPOSED WATER AND DRAIN LINES ON ADA/TAS ACCESSIBLE LAVATORIES AND SINKS WITH MCGUIRE WRAP OR EQUAL. PROVIDE OFFSET DRAIN FITTINGS WHERE REQUIRED TO PROVIDE MINIMUM CLEARANCES.
- ALL ADA/TAS SINKS SHALL BE STAMPED WITH DRAIN OUTLET AT THE REAR OF THE BOWL.
- PLUMBING FIXTURES SHALL BE OF WATER CONSERVATION TYPE IN ACCORDANCE WITH IPC 604.4 FOR WATER SAVING PERFORMANCE. LAVATORY AND SINK FAUCETS SHALL INCLUDE 0.5 GPM AND 2.2 GPM FLOW CONTROL RESPECTIVELY.
- ORIENT ADA/TAS WATER CLOSET FLUSH VALVE WITH OPERATOR ON LARGE SIDE OF ENCLOSURE AND BELOW GRAB BARS.
- SEAL ALL SPACES BETWEEN PLUMBING FIXTURES AND MOUNTING SURFACES WITH WHITE LATEX CAULK WIPED SMOOTH AND FLUSH WITH FIXTURE.
- FLOOR DRAINS SHALL BE INSTALLED AT LOW POINTS OF UNIFORMLY SLOPED FLOOR. CONTRACTOR SHALL FIELD COORDINATE WITH STRUCTURE FLOORS AND FINISHES. UNIFORMLY SLOPED ACROSS ENTIRE TOILET ROOMS OR OVER AS WIDE AN AREA AS PRACTICAL FOR OPEN AREA FLOOR DRAINS. CONVEX FLOOR SLOPE IN THE IMMEDIATE VICINITY OF THE FLOOR DRAIN IS NOT ACCEPTABLE.
- EQUIVALENT MANUFACTURERS OF CHINA FIXTURES ARE KOHLER, AND AMERICAN STANDARD. EQUIVALENT MANUFACTURERS OF STAINLESS FIXTURES ARE JUST, ELKAY, AND ADVANCE TABCO.
- WATER HEATER SHALL BE PROVIDED WITH CODE APPROVED VACUUM BREAKER AND BRASS ASME TEMPERATURE AND PRESSURE RELIEF VALVE. ROUTE TPR DRAIN LINE FULL SIZED TO THE EXTERIOR OF BUILDING AND TERMINATE 6" ABOVE FINISHED GRADE, OR AS INDICATED ON PLANS.
- ROOF PENETRATIONS SHALL BE DONE IN STRICT COMPLIANCE WITH THE ARCHITECTS SPECIFICATIONS AND SHALL BE LEAK PROOF.
- FIELD VERIFY ALL EXISTING CONDITIONS AND LOCATION OF STUB OUTS. NOTIFY THE ARCHITECT OF ANY DISCREPANCIES IMMEDIATELY WHICH MAY AFFECT THE INTENDED DESIGN.
- ALL PLUMBING WORK SHALL BE DONE IN STRICT COMPLIANCE WITH ALL STATE AND LOCAL CODES.
- THE PLUMBING CONTRACTOR SHALL GUARANTEE THE COMPLETE PLUMBING SYSTEM TO BE FREE OF DEFECTS IN WORKMANSHIP AND MATERIALS FOR A PERIOD OF 12 MONTHS FROM DATE OF FINAL ACCEPTANCE.
- ALL WATER HEATER SUPPLY CONNECTIONS SHALL HAVE HEAT TRAP NIPPLE CONNECTIONS. HEAT TRAP NIPPLES NOT REQUIRED IF HOT WATER RECIRCULATION SYSTEM IS PROVIDED.
- NO HUB COUPLINGS SHALL BE HEAVY DUTY 4 BAND COUPLINGS WITH STAINLESS STEEL SHIELD.
- INSULATE CONCEALED ROOF DRAIN BODIES, VERTICAL LEAD AND HORIZONTAL PIPING WITH R-6 FLEXIBLE BLANKET INSULATION. EXPOSED ROOF DRAIN BODIES AND PIPES SHALL BE INSULATED WITH AN R-6 RIGID INSULATION AND PAINTABLE CANVAS JACKET.
- ALL VALVES SHALL BE INSTALLED ON HORIZONTAL PIPE WITH THE VALVE STEM UPRIGHT OR HORIZONTAL. INSTALLATION WITH VALVE STEM FACING DOWN IS UNACCEPTABLE.

GENERAL ROOF PLAN NOTES:

- CONTRACTOR SHALL CAREFULLY REVIEW CONTRACT DOCUMENTS INCLUDING DRAWINGS AND PROJECT MANUAL. INFORMATION REGARDING WORK OF THE VARIOUS TRADES AND SUBCONTRACTORS ARE DISPersed THROUGHOUT THE DOCUMENTS AND CANNOT BE ACCURATELY DETERMINED WITHOUT REFERENCE TO THE FULL SET OF DOCUMENTS.
- CONTRACTOR SHALL COORDINATE INSTALLATION OF UTILITIES ABOVE THE CEILING TO PROVIDE GREATEST POSSIBLE CLEARANCE FOR INSTALLATION OF AND FUTURE CHANGES IN MECHANICAL EQUIPMENT. CONDUIT AND PIPE TO BE RUN THROUGH TRUSSES. COORDINATE SERVICE AND ACCESS POINTS ABOVE CEILING TO MINIMIZE REQUIRED ACCESS.
- ALL DEVICES INSTALLED ON ROOF TOP EQUIPMENT SHALL BE MOUNTED ON A NON-REMOVABLE PANEL OF THE EQUIPMENT. THIS LOCATION SHALL BE COORDINATED WITH THE MECHANICAL OR PLUMBING CONTRACTOR PRIOR TO ROUGH-IN.
- ROOF DECK PENETRATIONS: CONTRACTOR SHALL SECURE LANDLORD APPROVAL FOR ALL BUILDING ROOF DECK PENETRATIONS. REQUESTS SHALL BE ON A SCALED ROOF PLAN SHOWING EXACT LOCATION & SIZE OF PENETRATION & INCLUDE DETAILS OF MOUNTING, FLASHING & SEALING. CONTRACT WITH THE LANDLORD'S ROOFING CONTRACTOR TO PERFORM ALL WORK AT THIS CONTRACTOR'S SOLE EXPENSE. CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL ROOFTOP EQUIPMENT, NEW ROOF PENETRATIONS, REMOVAL OF EXISTING ROOFTOP EQUIPMENT & INSTALLATION OF ALL ROOFTOP EQUIPMENT WITH THE LANDLORD.

PLUMBING NARRATIVE:

ELECTRIC WATER HEATERS LESS THAN 12 KW SHALL HAVE A PERFORMANCE RATING OF 0.97.

THE HOT WATER HEATING SYSTEM SHALL BE BY AN ELECTRIC WATER HEATER WITH A RECIRCULATION LINE AND PUMP. THE RE-CIRC PUMP SHALL BE CONTROLLED BY AN AQUASTAT AND TIME CLOCK. THE TIME CLOCK SHALL ENABLE THE PUMP TO OPERATE FROM 6AM TO 8PM (ADJ.) AND SHUT OFF THE PUMP FROM 8PM TO 6AM (ADJ.).

AND/OR

THE HOT WATER HEATING SYSTEM SHALL BE BY WATER HEATER WITH A MAXIMUM OF 6'-0" OF 1/4" TUBING, 3'-0" OF 3/8" TUBING TO LAVATORIES AND 43'-0" OF 1/2" TUBING, 21'-0" OF 3/4" TUBING TO ALL OTHER FIXTURES.

REFER TO THE 2021 IECC SECTION C404 SERVICE WATER HEATING FOR OTHER REQUIREMENTS.

THE PLUMBING CONTRACTOR SHALL REVIEW THE SYSTEM COMMISSIONING SPECIFICATION ON THIS SHEET FOR REQUIREMENTS AND PARTICIPATION IN THE COMMISSIONING PROCESS. FAILURE TO COMPLY OR PARTICIPATE MAY INCUR ADDITIONAL COST TO THE CONTRACTOR.

GENERAL ENERGY NOTES:

INSULATION SHALL BE PROVIDED FOR PIPING AS NOTED IN THE TABLE BELOW. PIPING INSULATION SHALL BE PROVIDED FOR RETURN CIRCULATION HOT WATER SYSTEM WITH 1" OR R-4 INSULATION. THE FIRST 8' OF PIPING IN NONCIRCULATING SYSTEMS SERVED BY EQUIPMENT W/0 INTEGRAL HEAT TRAPS SHALL BE INSULATED WITH 1-1/2" OR R-4 INSULATION.

WATER HEATING EQUIPMENT NOT SUPPLIED WITH INTEGRAL HEAT TRAPS AND SERVING NONCIRCULATING SYSTEMS SHALL BE PROVIDED WITH HEAT TRAPS ON THE SUPPLY AND DISCHARGE PIPING AS ASSOCIATED WITH EQUIPMENT.

AUTOMATIC CIRCULATING HOT WATER SYSTEMS OR HEAT TRACE SHALL HAVE TIME SWITCHES THAT ARE CAPABLE OF BEING SET TO TURN OFF THE SYSTEM.

MINIMUM PIPE INSULATION THICKNESS (in inches)

FLUID	CONDUCTIVITY	MEAN TEMP °F	NOMINAL PIPE DIA.			
			< 1"	1 < 1.5"	1.5" TO 4"	4 TO < 8"
DOM. COLD WATER	0.23	75	1/2	1	1	1
HOT WATER	0.24	100	1	1	1-1/2	1-1/2
LOW PSI STEAM	0.28	200	2-1/2	2-1/2	2-1/2	3
H PSI STEAM	0.34	300	3	4	4-1/2	4-1/2
ROOF DRAIN	0.23	75	1/2	1	1	1

SAN ANTONIO BUILDING CODES:

ON JANUARY 30, 2025, THE CITY COUNCIL ADOPTED THE 2024 INTERNATIONAL CODE COUNCIL (ICC) CODES AND THE 2024 SAN ANTONIO PROPERTY MAINTENANCE CODE (SAPMC). THE 2024 ICC CODES INCLUDE THE FOLLOWING:

- INTERNATIONAL BUILDING CODE (IBC)
- INTERNATIONAL EXISTING BUILDING CODE (IEBC)
- INTERNATIONAL FIRE CODE (IFC)
- INTERNATIONAL FUEL GAS CODE (IFGC)
- INTERNATIONAL MECHANICAL CODE (IMC)
- INTERNATIONAL PLUMBING CODE (IPC)
- INTERNATIONAL RESIDENTIAL CODE (IRC)
- INTERNATIONAL SWIMMING POOL AND SPA CODE (ISPSA)
- NATIONAL ELECTRICAL CODE (NEC)

2021 INTERNATIONAL ENERGY CONSERVATION CODE

PLUMBING EQUIPMENT SCHEDULE

SYMB.	PLAN MARK	MINIMUM ROUGH-IN SIZES					DESCRIPTION
		WST & VENT	DRAIN	CW	HW		
	DOUBLE CLEANOUT DCO	4"	----	----	----	----	WADE 8000-12 (MIFAB C1100-4-R-P)(ZURN Z1400)(SMITH 4240)(JOSAM 55000-5) EXTERIOR CLEANOUT: ADJUSTABLE C.I. CLEANOUT AND HOUSING, ABS TAPER PLUG, SPECIAL DUTY ROUND SCORLATED DUCTILE IRON TOP, NON-TILT TRACTOR COVER, ANCHOR IN CONCRETE PAD 42"x18"x6" DEEP, FLUSH WITH GRADE OR SET FLUSH WITH SIDEWALK.
	EXTERIOR CLEANOUT ECO	4"	----	----	----	----	WADE 8000-12 (MIFAB C1100-4-R-P)(ZURN Z1400)(SMITH 4240)(JOSAM 55000-5) EXTERIOR CLEANOUT: ADJUSTABLE C.I. CLEANOUT AND HOUSING, ABS TAPER PLUG, SPECIAL DUTY ROUND SCORLATED DUCTILE IRON TOP, NON-TILT TRACTOR COVER, ANCHOR IN CONCRETE PAD 18"x18"x6" DEEP, FLUSH WITH GRADE OR SET FLUSH WITH SIDEWALK.
	FLOOR CLEANOUT FCO1 PVC	SEE PLAN	SEE PLAN	SEE PLAN	----	----	SIoux CHIEF 852-4PNRV "PVC" FLOOR CLEANOUT: 4" PVC HUB, ROUND SCORLATED NICKEL BRONZE MEDIUM DUTY TOP, VANDAL-PROOF SCREWS, THREADED PVC PLUG; MOUNT COVER FLUSH WITH FLOOR.
	FLOOR CLEANOUT FCO2 CAST IRON	SEE PLAN	SEE PLAN	SEE PLAN	----	----	WADE 8000-175 INTERIOR CLEANOUT: C.I. CLEANOUT AND ADJUSTABLE HOUSING, BRASS TAPER PLUG, ROUND SCORLATED NICKEL BRONZE TOP, SET FLUSH WITH FINISHED FLOOR.
	GREASE TRAP GT1	6"	2"	----	----	----	PARK USA NO. GT-02-2000: 2000 GALLON PRE-CAST CONCRETE GREASE INTERCEPTOR, CLASS III MONOLITHIC CONSTRUCTION, 6" WALLS AND FLOOR, 8" TOP SLAB, 4,500 PSI CONCRETE, 6" PVC FITTINGS, GRADE 60 BARS CONFORMING TO ASTM A615 IN TANK SECTION AND TOP SLAB, MANHOLE FRAME AND COVERS CONFORMING TO ASTM A48-76 ENGINEERED TO EXCEED H-20 LOADING.
	SAMPLE WELL (SEWER VIEWER) SW	6"	----	----	----	----	SAMPLING WELL: PARK USA NO. SWB-E8-WB; 15" R.C.P. FOR 6'-0" OR LESS DEPTH, 24" R.C.P. FOR GREATER THAN 6'-0" DEPTH. CAST IRON FRAME AND COVER.
	WALL CLEANOUT WCO	SEE PLAN	SEE PLAN	SEE PLAN	----	----	ZURN NO. ZS1469-7-VP ROUND STAINLESS STEEL ACCESS COVER COMPLETE WITH SECURING SCREW, MIN 5" DIA.. PROVIDE CLEANOUT PLUG TO MATCH PIPE MATERIAL.
	WALL HYDRANT IN BOX NON-FREEZE WHNF	----	----	----	3/4"	----	WOODFORD MODEL #B67, AUTOMATIC DRAINING, FREEZELESS WALL HYDRANT W/ ANTI-SIPHON VACUUM BREAKER ENCLOSED IN A BRASS FLUSH WALL BOX.

PLUMBING PIPE MATERIALS SCHEDULE

PIPING SYSTEM	PIPING MATERIAL
SANITARY SEWER BELOW GRADE	SCHEDULE 40 DWV PVC
SANITARY DRAIN AND VENTS ABOVE GRADE	SCHEDULE 40 DWV PVC *
GREASE WASTE BELOW GRADE	CAST IRON HUB & SPIGOT SERV.
GREASE WASTE AND VENTS ABOVE GRADE	SCHEDULE 40 DWV PVC *
DOMESTIC HOT & COLD WATER BELOW GRADE	COPPER, TYPE "K" SOFT
DOMESTIC HOT & COLD WATER ABOVE GRADE	COPPER, TYPE "L" HARD DRAWN
NATURAL GAS	SCHEDULE 40 BLACK STEEL
HOT & COLD WATER PIPE INSULATION	1" RIGID FIBER GLASS

* SCHEDULE 40 DWV PVC SHALL NOT BE USED IN RETURN AIR PLENUMS. WHERE CEILING PLENUMS ARE USED FOR RETURN AIR, CONTRACTOR SHALL ONLY USE BELL AND SPIGOT SERVICE WEIGHT CAST IRON PIPE. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

GREASE INTERCEPTOR SIZING

Sizing calculation: Slope: 1/4

STEP 1: GPM* Based on 1/2 full pipe

PIPE SIZE PER PLAN: MAX DFU: PEAK GPM:

4 216 53.4

STEP 2: Calculate Grease Capacity**

FORMULA: PEAK GPM x 30 MINUTE RETENTION = CAPACITY

53.4 x 30 = 1602 Gal.

GPM MINUTES GREASE CAPACITY

Grease Interceptor Selection:

PARK EQUIPMENT - GREASE TROOPER

Model No.	Size US Gal.	GREASE CAPACITY (LBS).
GT-2000	2000 Gal.	4600 lbs.

*ASPE HANDBOOK: TABLE 1-5, APPROXIMATE DISCHARGE RATES IN SLOPING DRAINS

**GRAVITY GREASE INTERCEPTOR SIZED PER IPC 2021; 1003.3.6, GRAVITY GREASE INTERCEPTORS

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CONSULTANT

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THE SHOPS AT LAVACA

418 FLORIDA STREET,
BEXAR COUNTY, TX

REV	REV DESCRIPTION	DATE

DESIGN PROFESSIONAL SEAL

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Reviewed By: SMR
Project Number: -

SHEET NAME:

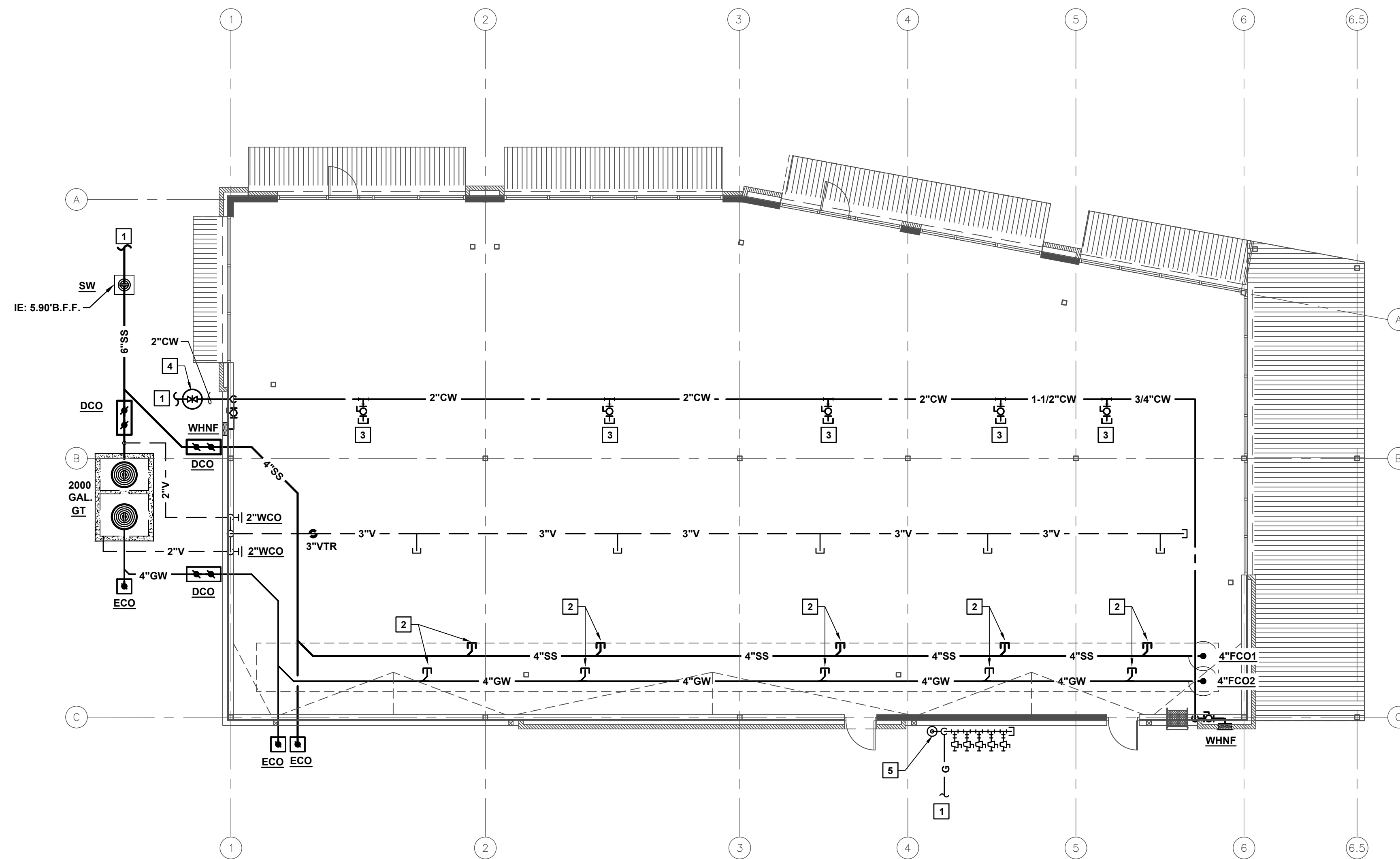
PLUMBING LEGEND, SCHEDULES, AND NOTES

SHEET NUMBER:

P0.2



8' 4" 0 8'
SCALE: 1/8"=1'-0"



PLUMBING GENERAL NOTES:

1. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS AT THE JOB SITE BEFORE COMMENCING ANY PHASE OF THE WORK. ADJUSTMENTS FOR FIT AND COORDINATION SHALL BE MADE AT NO ADDITIONAL COST TO THE OWNER. NOTIFY ENGINEER OF ANY CONFLICTS, DISCREPANCIES OR OMISSIONS PRIOR TO COMMENCEMENT OF THE CONTRACT WORK.
2. CONTRACTOR SHALL REVIEW ALL ARCHITECTURAL, CIVIL, MECHANICAL & STRUCTURAL DRAWINGS AND SPECIFICATIONS FOR ANY ADDITIONAL REQUIREMENTS.
3. CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER TRADES.
4. SEAL ALL WALL, ROOF, AND FLOOR PENETRATIONS WITH UL LISTED FIRE SEALANT.
5. IF INCOMING WATER PRESSURE IS ABOVE 80 PSI, INSTALL A PRESSURE REDUCING VALVE. INSTALL IN FIRE RISER/MECHANICAL ROOM OR AS HIGH AS POSSIBLE NEAR THE BAR JOIST WHEN NO ROOM IS AVAILABLE.
6. REMOVE AND CAP ABOVE CEILING LEVEL ALL DOMESTIC WATER AND VENT PIPING LOCATED IN WALLS THAT ARE TO BE DEMOLISHED.
7. WHERE PLUMBING FIXTURES ARE TO BE REMOVED AND RELOCATED OR REPLACED, THE CONTRACTOR SHALL CUT AND REPAIR EXISTING WALLS, FLOORS, AND CEILING AS NECESSARY TO MATCH NEW CONDITIONS.

PLUMBING KEYED NOTES

- 1 REFER TO CIVIL PLANS FOR CONTINUATION.
- 2 4"SS AND 4"GW STUB-UP FOR FUTURE TENANT USE. (TYPICAL EACH BAY)
- 3 1-1/2" BALL VALVE AND CAP FOR FUTURE TENANT USE TYPICAL. ROUTE CW LINE AS HIGH AS POSSIBLE ABOVE CEILING.
- 4 GATE VALVE IN BOX FLUSH WITH GRADE.
- 5 NATURAL GAS LINE BY LOCAL GAS COMPANY, GAS METER, REGULATOR, VALVES, WALL BRACKETS, ETC, AS REQUIRED BY LOCAL GAS COMPANY. SEE DETAIL SHEET FOR INSTALLATION. PROVIDE 2 PSI HEADER LARGE ENOUGH FOR FIVE GAS METERS. GAS REGULATOR VENT SHALL BE A MINIMUM OF 3 FOOT FROM ANY OPENING.

1 PLUMBING FLOOR PLAN
SCALE: 1/8" = 1'-0"



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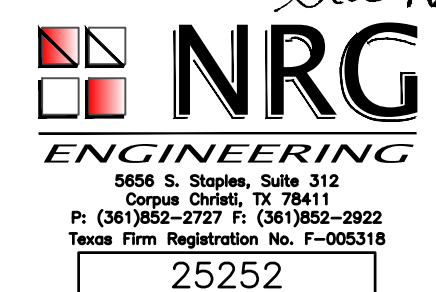
SHEET NAME:

PLUMBING FLOOR PLAN

SHEET NUMBER:

P1.1

3/23/2026



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Texas Firm Registration No. F-005318
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Mar 23, 2026 - 4:47pm
25252_PLUMB.dwg

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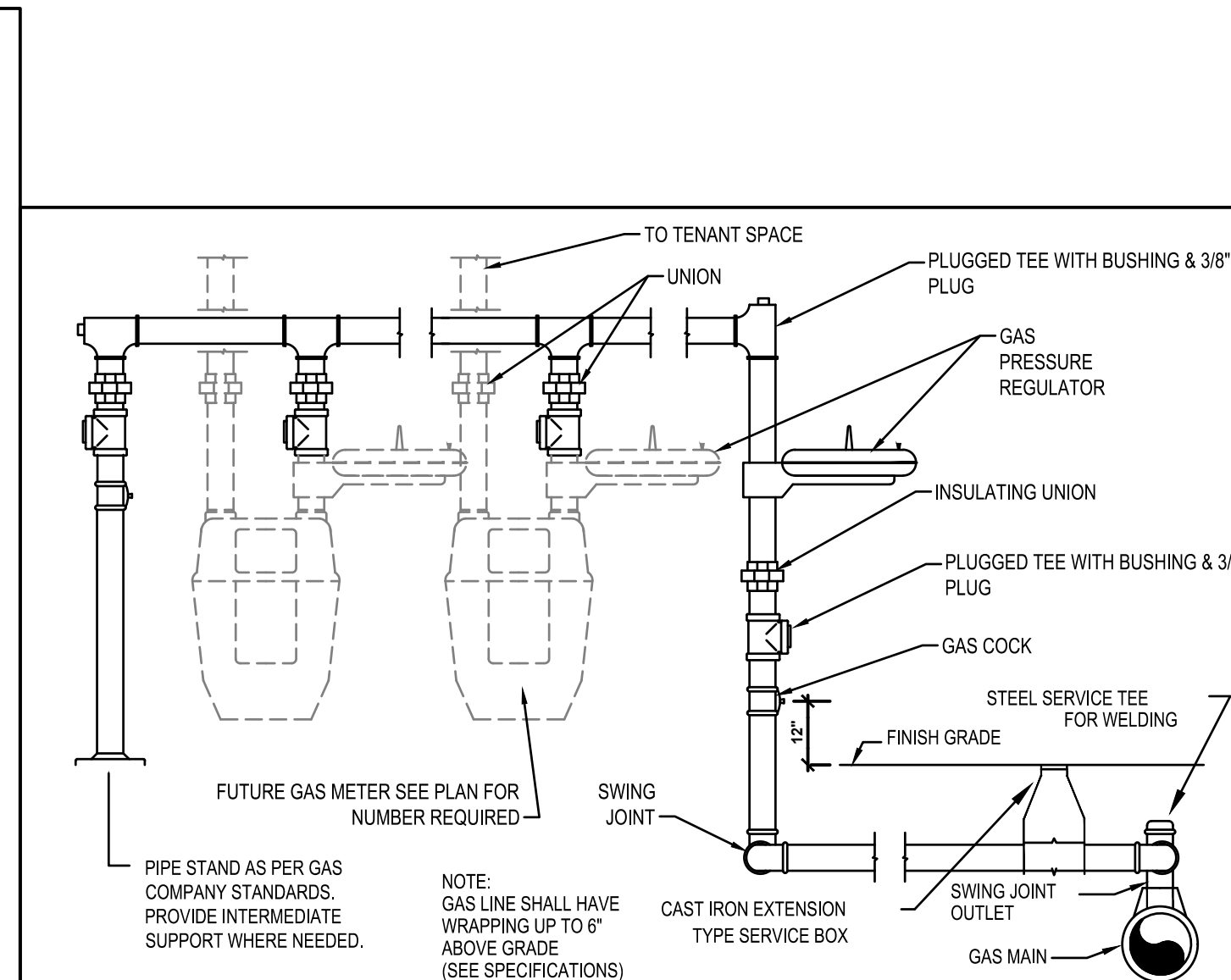
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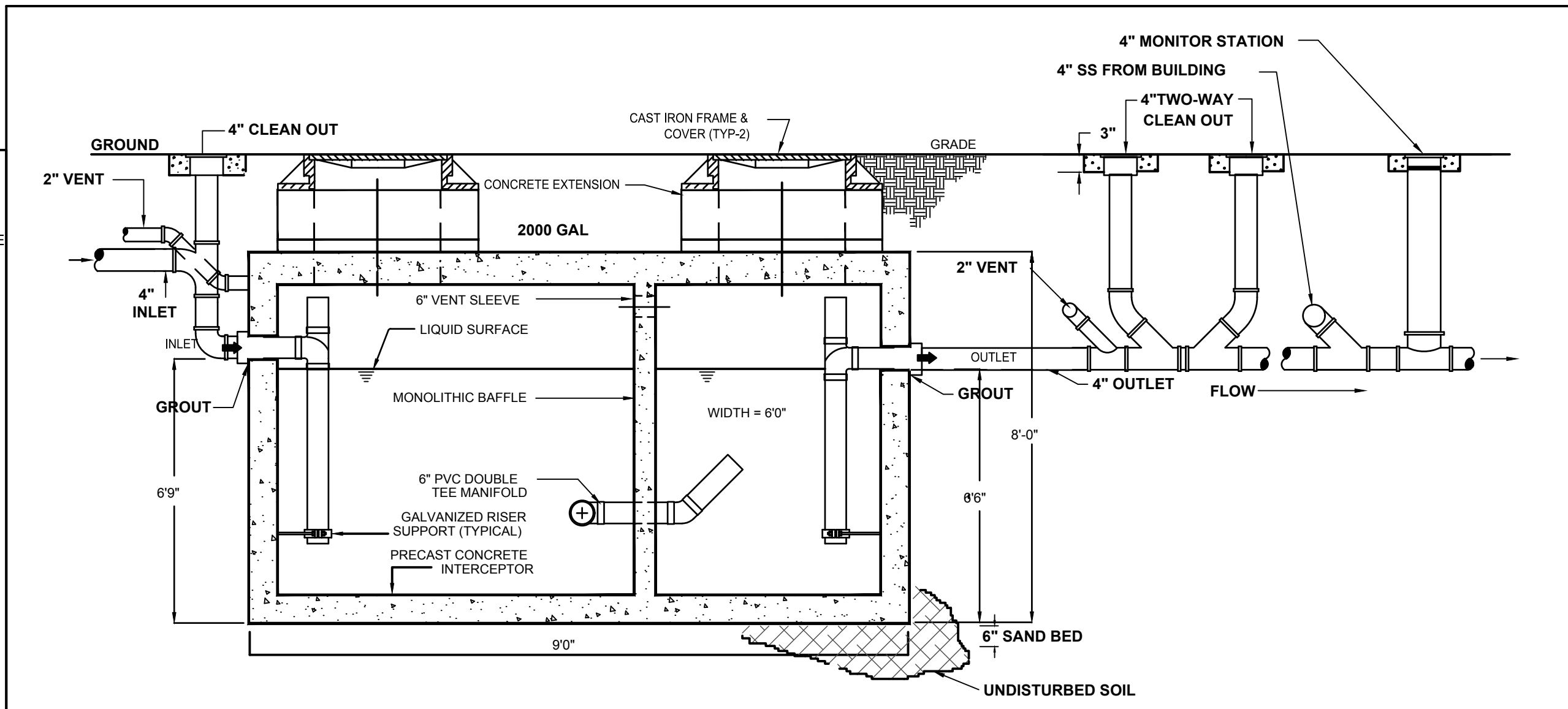
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3/23/2026

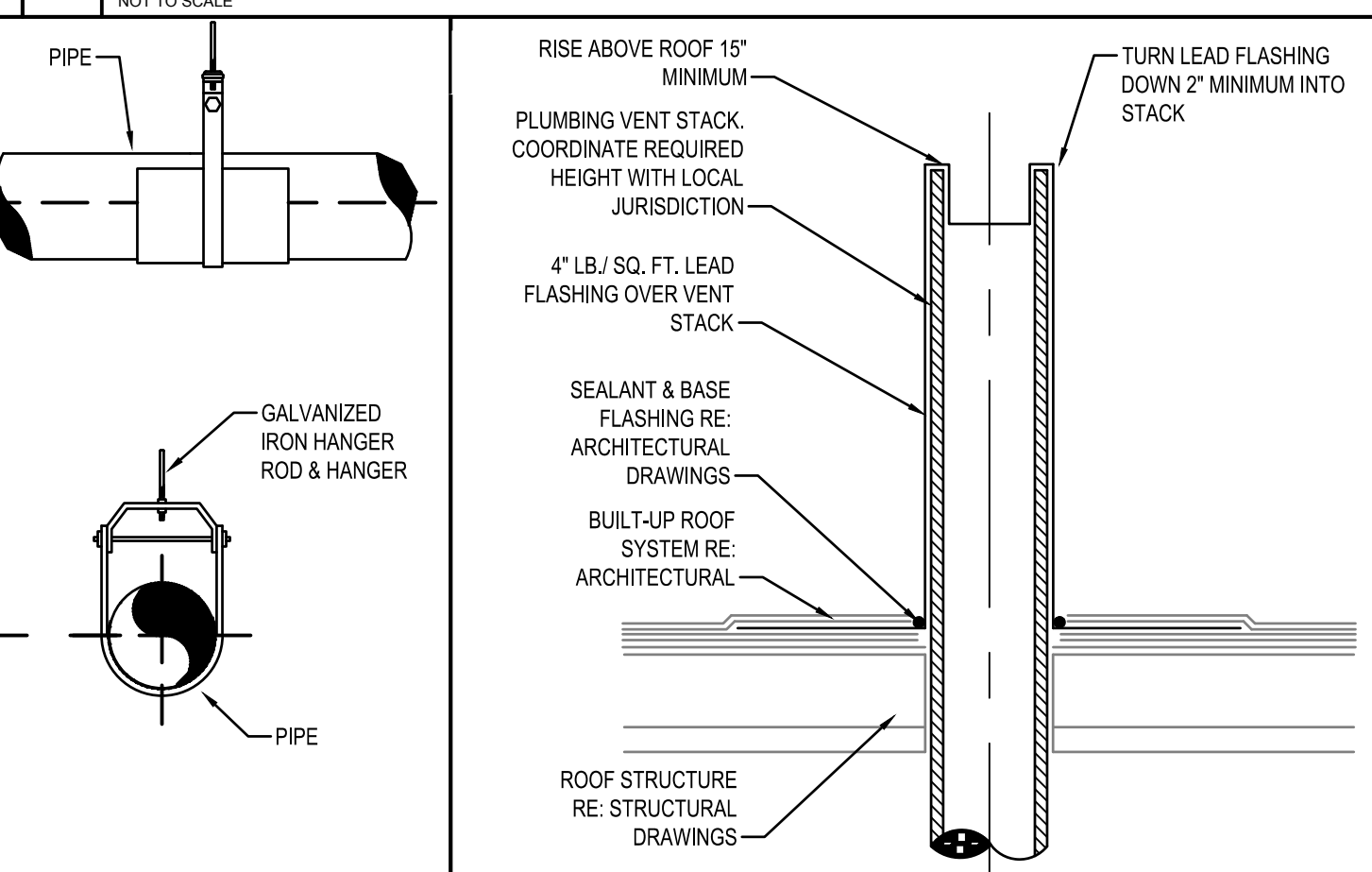
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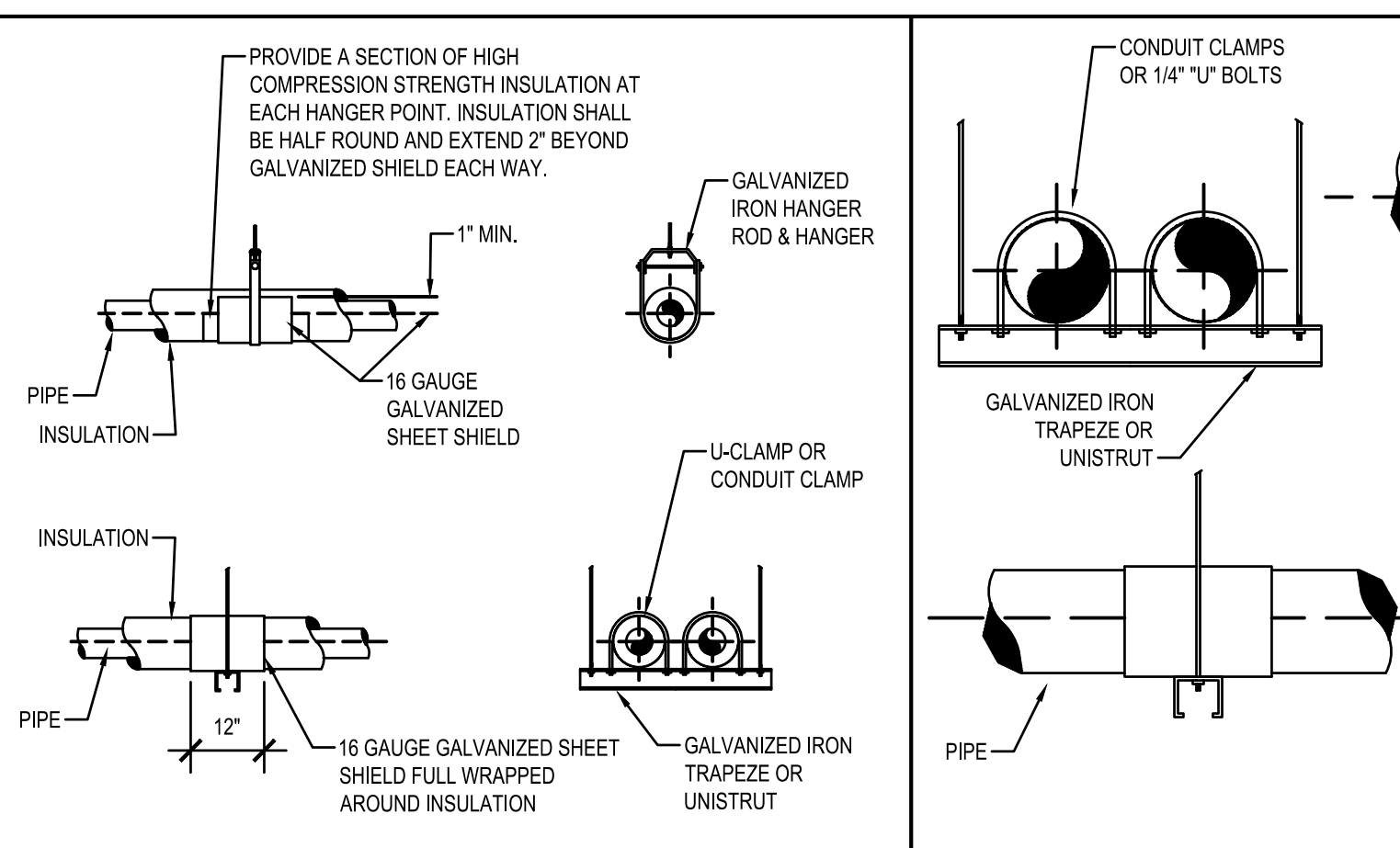
9 SAMPLE WELL DETAIL
 NOT TO SCALE
 PWT401



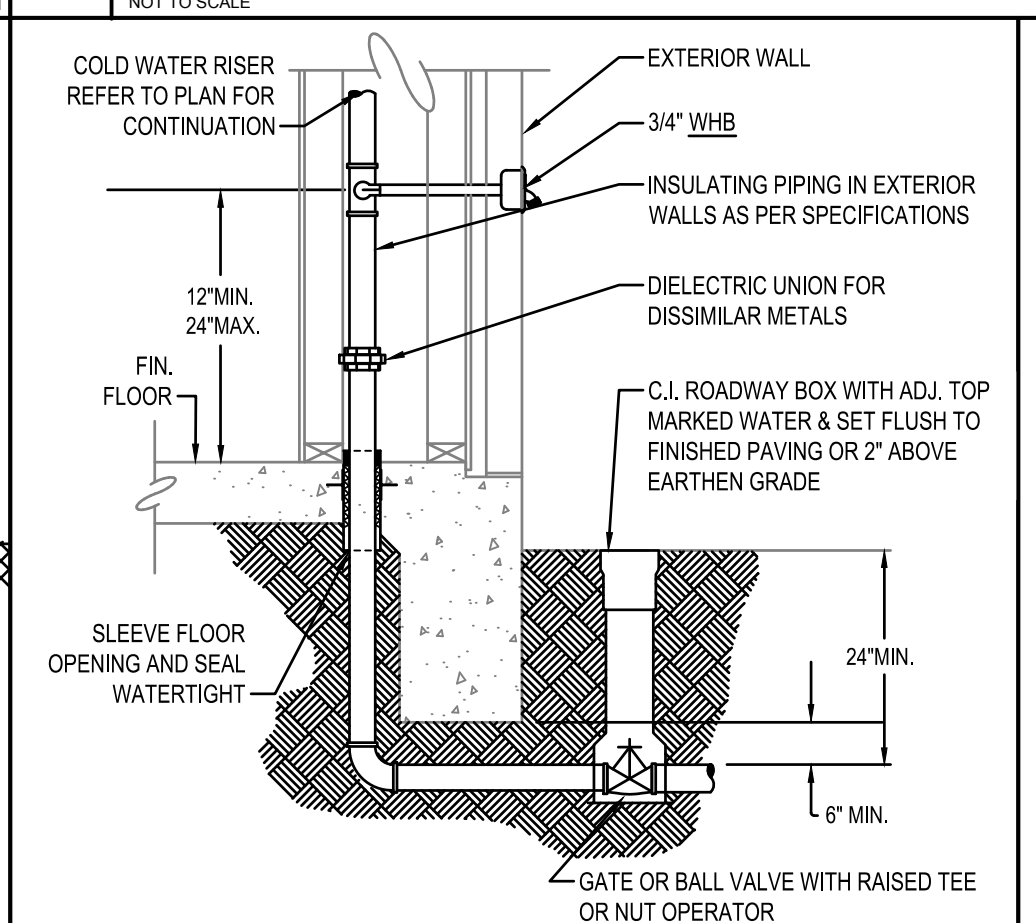
10 GREASE TRAP DETAIL - 2000 GAL.
 NOT TO SCALE



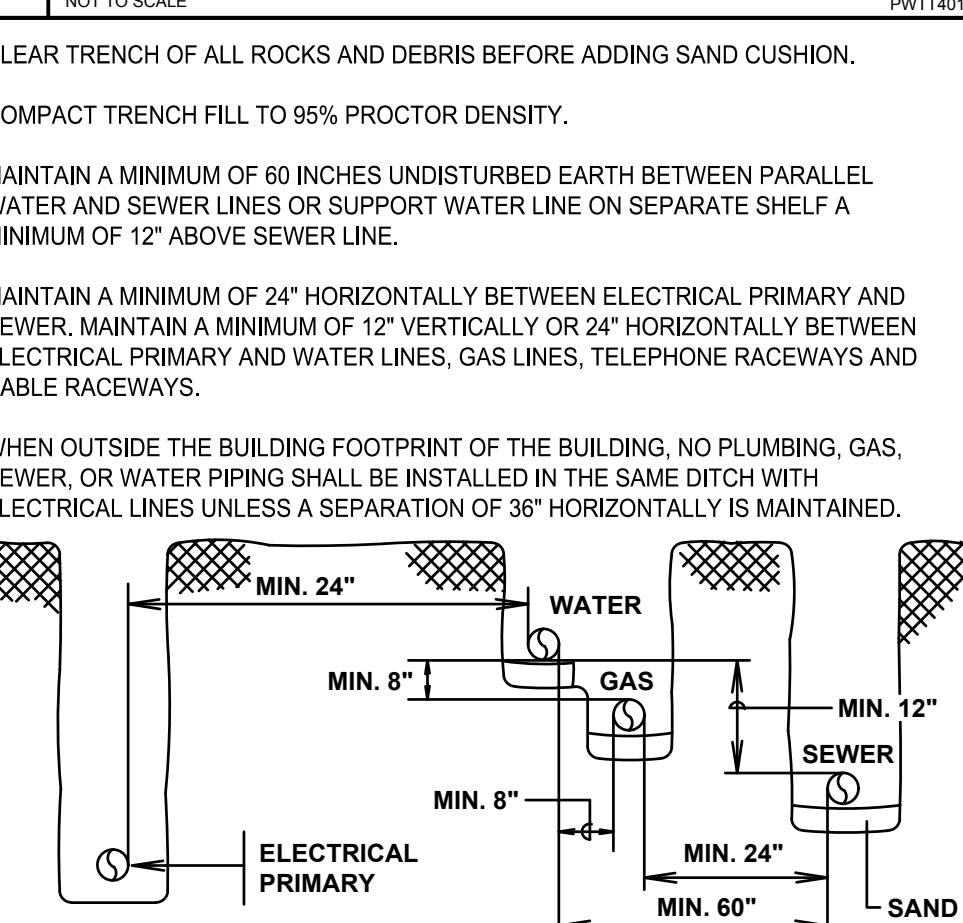
11 GAS SERVICE CONNECTION DETAIL
 NOT TO SCALE



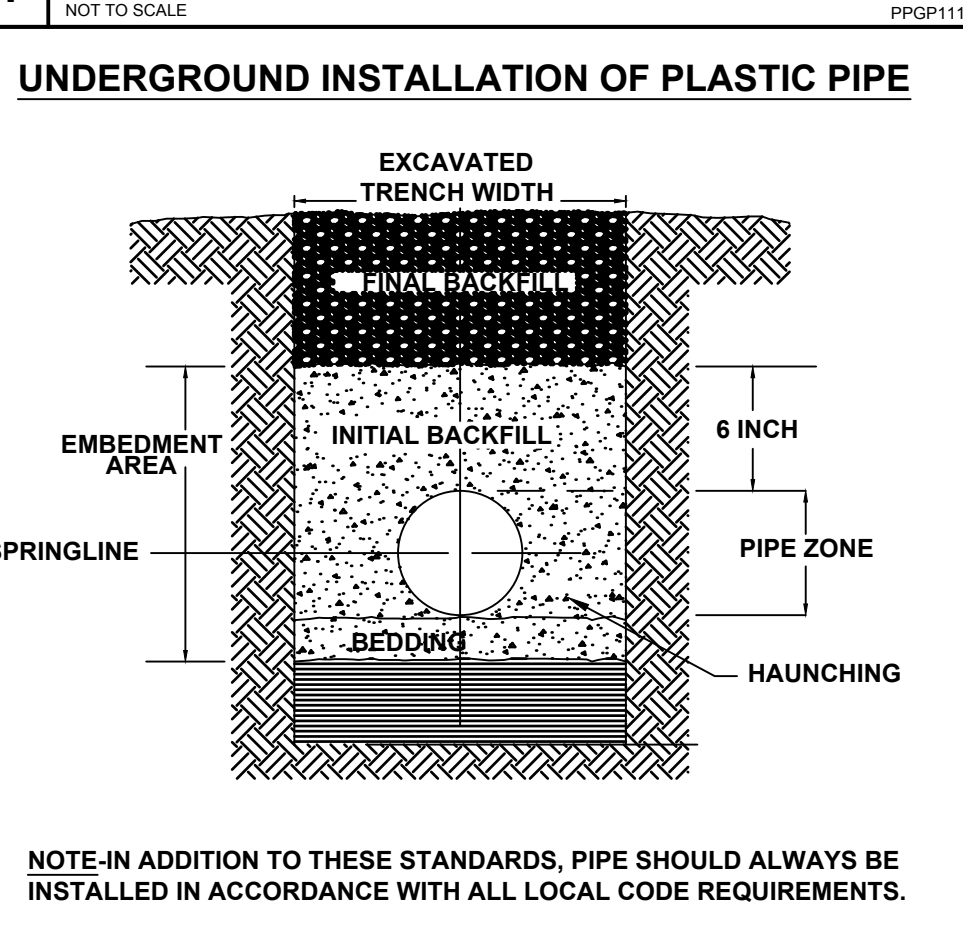
6 PIPE HANGER FOR INSUL. PIPE
 NOT TO SCALE
 PPGP109



5 WATER PIPE ENTRY DETAIL
 NOT TO SCALE
 PWR103



4 TRENCH PIPE SEPARATION DETAIL
 NOT TO SCALE
 PPGP111



1 UNDERGROUND INSTALLATION DETAIL OF PLASTIC PIPING SYSTEMS
 NOT TO SCALE

UNDERGROUND INSTALLATION

2 TWO-WAY CLEANOUT DETAIL
 NOT TO SCALE
 PFWW100

3 CLEANOUT DETAIL
 NOT TO SCALE
 PFWW100

UNDERGROUND INSTALLATION OF PLASTIC PIPE

EXCAVATED TRENCH WIDTH
 INITIAL BACKFILL
 6 INCH
 PIPE ZONE
 HAUNCHING
 BEDDING
 SPRINGLINE
 EMBEDMENT AREA

NOTE: IN ADDITION TO THESE STANDARDS, PIPE SHOULD ALWAYS BE INSTALLED IN ACCORDANCE WITH ALL LOCAL CODE REQUIREMENTS.

PLASTIC PIPE SHOULD ALWAYS BE BURIED IN STRICT ACCORDANCE WITH THE ASTM STANDARD RELEVANT TO THE TYPE OF PLASTIC PIPING SYSTEM BEING INSTALLED. THOSE STANDARDS ARE:

ASTM D2321 STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY-FLOW APPLICATIONS.

ASTM D2774 STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PRESSURE PIPING.

- THE MINIMUM WIDTH OF THE TRENCH SHOULD BE THE PIPE OD (OUTSIDE DIAMETER) PLUS 16 INCHES OR THE PIPE OUTSIDE DIAMETER TIMES 1.25 PLUS 12 INCHES. THIS WILL ALLOW ADEQUATE ROOM FOR JOINING THE PIPE, SNAKING THE PIPE IN THE TRENCH TO ALLOW FOR EXPANSION AND CONTRACTION WHERE APPROPRIATE AND SPACE FOR BACKFILLING AND COMPACTION OF BACKFILL. THE SPACE BETWEEN THE PIPE AND TRENCH WALL MUST BE WIDER THAN THE COMPACTION EQUIPMENT USED TO COMPACT THE BACKFILL.
- PROVIDE A MINIMUM OF 4 INCHES OF FIRM, STABLE AND UNIFORM BEDDING MATERIAL IN THE TRENCH BOTTOM. IF ROCK OR UNYIELDING MATERIAL IS ENCOUNTERED, A MINIMUM OF 6 INCHES OF BEDDING SHALL BE USED. BLOCKING SHOULD NOT BE USED TO CHANGE PIPE GRADE OR TO INTERMITTENTLY SUPPORT PIPE OVER LOW SECTIONS IN THE TRENCH.
- PIPE SHOULD BE SURROUNDED WITH AGGREGATE MATERIAL WHICH CAN BE EASILY WORKED AROUND THE SIDES OF THE PIPE. BACKFILLING TO BE PERFORMED IN LAYERS OF 6 INCHES WITH EACH LAYER BEING SUFFICIENTLY COMPACTED TO 85% TO 95% COMPACTION.
- A MECHANICAL TAMPER IS RECOMMENDED FOR COMPACTING SAND AND GRAVEL. THESE MATERIALS CONTAIN FINE-GRAINS, SUCH AS SILT AND CLAY. IF A TAMPER IS NOT AVAILABLE, COMPACTING SHOULD BE DONE BY HAND.
- THE TRENCH SHOULD BE COMPLETELY FILLED. THE BACKFILL SHOULD BE PLACED AND SPREAD IN UNIFORM LAYERS TO PREVENT ANY UNFILLED SPACES OR VOIDS. LARGE ROCKS, STONES, FROZEN CLOUDS, OR OTHER LARGE DEBRIS SHOULD BE REMOVED. STONE BACKFILL SHALL PASS THROUGH AN 1-1/2" SIEVE. ROCK SIZE SHOULD BE ABOUT ONE-TENTH OF THE PIPE OUTSIDE DIAMETER. HEAVY TAMPERS OR ROLLING EQUIPMENT SHOULD ONLY BE USED TO CONSOLIDATE THE FINAL BACKFILL.
- TO PREVENT DAMAGE TO THE PIPE AND DISTURBANCE TO PIPE EMBEDMENT, A MINIMUM DEPTH OF BACKFILL ABOVE THE PIPE SHOULD BE MAINTAINED. PIPE SHOULD ALWAYS BE INSTALLED BELOW THE FROST LEVEL. TYPICALLY, IT IS NOT ADVISABLE TO ALLOW VEHICULAR TRAFFIC OR HEAVY CONSTRUCTION EQUIPMENT TO TRAVERSE THE PIPE TRENCH.