PROJECT DIRECTORY

OWNER / DEVELOPER
TM CROWLEY
501 PENNSYLVANIA PARKWAY SUITE 160
INDIANAPOLIS, IN 46280
(317) 705-8800

CIVIL ENGINEER
PREMIER DESIGN GROUP
100 MIDLAND PARK DRIVE
WENTZVILLE, MO 63385
314-925-7444
CONTACT: MATT FOGARTY

MUNICIPALITY
CITY OF LEE'S SUMMIT
200 SE GREEN
LEE'S SUMMIT, MO 64063
(816) 969-1200
CONTACT: DEVELOPMENT
SERVICES DEPARTMENT

EXISTING LEGEND	
○	FOUND IRON PIPE
⊙	SET IRON PIPE
▪	FOUND STONE MONUMENT
FH	FIRE HYDRANT
WV	WATER VALVE
W	WATER METER VAULT
ICV	IRRIGATION CONTROL VALVE
GV	GAS VALVE
G	GAS METER
	LIGHT STANDARD
CO	CLEAN OUT
S	SANITARY SEWER MANHOLE
•	STORM SEWER MANHOLE
	STORM SEWER INLET
PB	PIPE BOLLARD
	SIGN
	BUSH
	TREE
TSB	TRAFFIC SIGNAL BOX
MW	MONITORING WELL
TH	TEST HOLE
PS	PEDESTRIAN SIGNAL
E	ELECTRIC METER
	STORM CURB INLET
	STORM DOUBLE CURB INLET
AC	AIR CONDITIONER
DS	DOWN SPOUT
TP	TELEPHONE PEDESTAL
B.O.C.	BACK OF CURB

PROPOSED LEGEND	
	UTILITY POLE
	FIRE HYDRANT
	WATER VALVE
	WATER METER VAULT
	GAS METER
	LIGHT STANDARD
	CLEAN OUT
	MONITORING WELL
	SANITARY SEWER MANHOLE
	STORM SEWER MANHOLE
	GRATE INLET
	DOUBLE CURB INLET
	PIPE BOLLARD
	SIGN
	ELECTRIC METER
—UgE—	UNDERGROUND ELECTRIC
—UgT—	UNDERGROUND TELEPHONE
—OHE—	OVERHEAD ELECTRIC/PHONE
—2"W—	2" WATER MAIN
—6"W—	6" WATER MAIN
—8"W—	8" WATER MAIN
—X" GAS—	GAS LINE
—507—	CONTOUR LINE

"Little MO" says
CALL BEFORE YOU DIG!
1-800-DIG-RITE

UNDERGROUND UTILITIES AND OSHA SAFETY NOTE:

Underground utilities and structures have been plotted from available information and therefore, their location must be considered approximate only. It is the responsibility of the individual contractors to notify the utility companies before actual construction. All O.S.H.A rules and regulations established for the type of construction required by these plans shall be strictly followed (ie. trenching, blasting, etc.)

UTILITY PROVIDERS

WATER
CITY OF LEE'S SUMMIT WATER
1200 SE HAMBLEN RD
LEE'S SUMMIT, MO 64081
(816) 969 1900
CONTACT: T.B.D.

ELECTRIC
EVERGY
1351 NW WARD RD
LEE'S SUMMIT, MO 64086
(888) 471-5275
CONTACT: RON DEJARNETTE

GAS
SPIRE
1117 S. PLEASANT ST
INDEPENDENCE, MO 64050
(800) 582-1234
CONTACT: T.B.D.

TELEPHONE
AT&T BUSINESS COMMUNICATION SERVICES
(618) 346-6400
CONTACT: T.B.D.

FIRE DEPARTMENT
CITY OF LEE'S SUMMIT FIRE PROTECTION
207 E. DOUGLAS BLVD
LEE'S SUMMIT, MO 64063
(816) 969-1313
CONTACT: MIKE SNIDER - FIRE CHIEF

SANITARY SEWER
CITY OF LEE'S SUMMIT SEWER
1200 SE HAMBLEN ROAD
LEE'S SUMMIT, MO 64081
(816) 969 1900
CONTACT: T.B.D.

CABLE
SPECTRUM
188 NW OLDHAM PKWY
LEE'S SUMMIT, MO 64081
(874) 874 2389
CONTACT: T.B.D.

FINAL DEVELOPMENT PLAN
FOR

DUTCH BROS Coffee

500 NW CHIPMAN RD.

ALL OF LOT 4C, SUMMIT ORCHARD, LOT 4C-1, 4C-2 AND 4C-3, CORRECTED SUMMIT ORCHARD, LOTS 4A-4E, A SUBDIVISION IN LEE'S SUMMIT, JACKSON COUNTY, MISSOURI.

LOCATION MAP
1" = 250'

DISTURBED AREA = 0.73 ACRES

COORDINATE DATA:

PER ST. JACKSON COUNTY REGULATIONS, COORDINATE VALUE ARE SHOWN IN U.S. FEET AND ALL BEARINGS ARE GRID BEARINGS. ALL DISTANCES ARE GROUND DISTANCES.
N: X,XXX,XXX.XXX USft. (in U.S. FEET)
E: XXX,XXX.XXX USft. (IN U.S. FEET)
PER MISSOURI COORDINATE SYSTEM 1983, WEST ZONE (ZONE NO. 2403)
GRID FACTORS = 0.99899480

BEARINGS ADOPTED:

BASIS OF BEARINGS IS THE STATE PLANE COORDINATE SYSTEM (SPCS) NAD 83 (2011) WEST ZONE

ELEVATION ADOPTED:

THE ELEVATIONS WERE ESTABLISHED USING THE MISSOURI DEPARTMENT OF TRANSPORTATION'S VRS, RTK SYSTEM AND IS REFERENCED TO THE NAVD 88 DATUM WITH GEOID 18.

PREMIER
DESIGN GROUP
100 MIDLAND PARK DRIVE
WENTZVILLE, MO 63385

SHEET INDEX

PROPERTY DATA

OVERALL SITE ACREAGE	±0.828 ACRES
ADDRESS	500 NW CHIPMAN RD.
PARCEL ID#	52-900-03-42-00-0-00-000
EXISTING ZONING	PMIX - PLANNED MIXED USE
CURRENT LAND USE	VACANT COMMERCIAL PROPERTY
PROPOSED LAND USE	COMMERCIAL

LEGAL DESCRIPTION:

ALL OF LOT 4C, SUMMIT ORCHARD, LOT 4C-1, 4C-2 AND 4C-3, CORRECTED SUMMIT ORCHARD, LOTS 4A-4E, A SUBDIVISION IN LEE'S SUMMIT, JACKSON COUNTY, MISSOURI.

SITE COVERAGE CALCULATIONS

SITE AREA = ±0.828 ACRES / 36,067.68 S.F.
FLOOR TO AREA RATIO
950/36,068 = 0.026 FAR

EXISTING IMPERVIOUS AREA PARKING LOT AND BUILDING
0.046 ACRES OF PAVEMENT
0.00 ACRES OF BUILDING

EXISTING GREEN SPACE
0.782 ACRES

EXISTING PERCENT OF IMPERVIOUS AREA COVERAGE = 5.56%

PROPOSED IMPERVIOUS AREA PARKING LOT AND BUILDING
0.540 ACRES OF PAVEMENT
0.022 ACRES OF BUILDING

PROPOSED GREEN SPACE
0.266 ACRES OF GREEN SPACE

PROPOSED PERCENT OF IMPERVIOUS AREA COVERAGE = 67.87%

ELECTRONIC DRAWING NOTE:
ELECTRONIC MEDIA OR DIGITAL DRAWINGS ARE INSTRUMENT OF PROFESSIONAL SERVICES. OWNERSHIP OF SUCH WILL BE RETAINED BY THE CIVIL ENGINEER AND MAY NOT BE RELEASED TO CONTRACTORS. CONTRACTORS ARE ADVISED TO CREATE BIDS BASED ON THE USE OF PAPER COPIES OF THE PLANS.

PREMIER DESIGN GROUP
100 MIDLAND PARK DRIVE
WENTZVILLE, MO 63385
MISSOURI CERTIFICATE OF AUTHORITY #2006000031
KANSAS CERTIFICATE OF AUTHORITY #CA2002849

STATE OF MISSOURI
STEVE D. MARION
NUMBER PE2006007195
PROFESSIONAL ENGINEER

ENGINEERS AUTHENTICATION
The responsibility for professional engineering liability on this project is hereby limited to the set of plans authenticated by the seal, signature, and date hereunder attached. Responsibility is disclaimed for all other engineering plans contained herein unless specifically excludes revisions after this date are not authenticated.
STEVEN D. MARION P.E.
PROFESSIONAL ENGINEER
PE 2006007195

DUTCH BROS
LEE'S SUMMIT, MO
500 NW CHIPMAN RD.
LEE'S SUMMIT, MO 64086
TM CROWLEY
501 PENNSYLVANIA PARKWAY SUITE 160
INDIANAPOLIS, IN 46280

Project

Date 9-30-2021

#	Revision Date	Description of Changes

Sheet Title: COVER SHEET

Sheet Number: C-000

Project No.	2109720
Drawn By	A. JONES
Checked By	M. FOGARTY

NOT RELEASED FOR CONSTRUCTION

PAVING, GRADING, AND DRAINAGE NOTES:

1. ALL PAVING, CONSTRUCTION MATERIALS, AND WORKMANSHIP WITHIN CITY RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH THE CITY OF LEE'S SUMMIT.
2. ALL AREAS IN EXISTING RIGHTS-OF-WAY DISTURBED BY SITE CONSTRUCTION SHALL BE RE-GRADED AND LANDSCAPED OR PAVED, (WHATEVER WAS THERE BEFORE DISTURBANCE). ALL DISTURBED AREAS SHALL BE REPAIRED TO THE PREVIOUS CONDITION OR BETTER THAN BEFORE AREA WAS DISTURBED.
3. TRAFFIC CONTROL ON ALL STATE, CITY AND COUNTY RIGHTS-OF-WAY SHALL MEET THE REQUIREMENTS OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (U.S. DOT/FHA) AND THE REQUIREMENTS OF THE STATE AND ANY LOCAL AGENCY HAVING JURISDICTION . IN THE EVENT THAT THE CONTRACT DOCUMENTS AND THE JURISDICTIONAL AGENCY REQUIREMENTS ARE NOT IN AGREEMENT, THE MOST STRINGENT SHALL GOVERN.
4. THE CONTRACTOR SHALL GRADE THE SITE TO THE ELEVATIONS INDICATED AND SHALL RE-GRADE ANY WASHOUTS WHERE THEY OCCUR AFTER EVERY RAINFALL EVENT UNTIL SOIL IS STABILIZED.
5. ALL AREAS INDICATED AS PAVEMENT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE TYPICAL PAVEMENT SECTIONS AS INDICATED ON THE DRAWINGS AND THE PROJECT SPECIFICATIONS.
6. WHERE EXISTING PAVEMENT IS INDICATED TO BE REMOVED AND REPLACED, THE CONTRACTOR SHALL SAW CUT TO FULL DEPTH OF EXISTING PAVEMENT. CONTRACTOR SHALL PREPARE A SMOOTH, SOUND, VERTICAL FACE AND MATCH THE EXISTING PAVEMENT ELEVATION UNLESS OTHERWISE NOTED. CONTRACTOR SHALL INSTALL LONGITUDINAL BUTT JOINTS WHEN CONNECTING TO EXISTING CONCRETE PAVEMENT.
7. THE CONTRACTOR SHALL ENSURE THAT ALL PLANTING AREAS ARE NOT OVERLY COMPACTED AND DO NOT CONTAIN LIMEROCK. THE CONTRACTOR SHALL EXCAVATE AND REMOVE ALL UNDESIRABLE MATERIAL FROM ALL AREAS ON THE SITE TO BE PLANTED.
8. ALL DRAINAGE STRUCTURES SHALL BE DE-SILTED AS REQUIRED DURING AND AT THE END OF CONSTRUCTION TO PROVIDE POSITIVE DRAINAGE FLOWS.
9. STRIP TOPSOIL AND ORGANIC MATTER AND PAVING MATERIAL FROM ALL AREAS UNDER BUILDING. TOPSOIL MAY BE STOCKPILED ON SITE FOR REPLACEMENT IN GREEN AREAS.
10. FIELD DENSITY TESTS SHALL BE TAKEN AT A FREQUENCY AS REQUIRED IN THE PROJECT SPECIFICATIONS.
11. BEFORE PLACING PAVEMENT, CONTRACTOR SHALL VERIFY THAT SUITABLE HANDICAPPED ROUTES (PER A.D.A. REQUIREMENTS) EXIST TO AND FROM EVERY ACCESSIBLE DOOR. IN NO CASE SHALL HANDICAP RAMP SLOPES EXCEED 1 VERTICAL TO 12 HORIZONTAL. IN NO CASE SHALL SIDEWALK CROSS SLOPES EXCEED 2.0 PERCENT. IN NO CASE SHALL LONGITUDINAL SIDEWALK SLOPES EXCEED 5.0 PERCENT. CONTRACTOR SHALL CONTACT ARCHITECT AND CIVIL ENGINEER PRIOR TO PAVING IF ANY EXCESSIVE SLOPES ARE ENCOUNTERED. NO CONTRACTOR CHANGE ORDERS WILL BE ACCEPTED FOR A.D.A. COMPLIANCE ISSUES.
12. CONTRACTOR ADJUSTMENT TO SPOT GRADES TO MAINTAIN POSITIVE DRAINAGE IS ALLOWED, ONLY WITH THE PRIOR APPROVAL OF THE CIVIL ENGINEER. CONTRACTOR SHALL CONTACT THE CIVIL ENGINEER PRIOR TO PAVING IF ANY AREAS OF POOR DRAINAGE ARE ENCOUNTERED.
13. SPOT ELEVATIONS SHOWN ARE TO TOP OF PAVING SURFACE OR FINISHED EARTH GRADE UNLESS NOTED OTHERWISE. WHERE APPLICABLE, ADD 0.50 FEET TO SPOT GRADES SHOWN FOR TOP OF CURB ELEVATIONS.
14. THE CONTRACTOR TAKE ALL MEASURES NECESSARY TO CONTROL TURBIDITY, INCLUDING BUT NOT LIMITED TO, THE INSTALLATION OF BMP'S AT ALL LOCATIONS WHERE THE POSSIBILITY OF TRANSFERRING SUSPENDED SOLIDS INTO THE RECEIVING WATER BODY EXISTS DUE TO THE PROPOSED WORK. BMP'S MUST BE MAINTAINED IN EFFECTIVE CONDITION AT ALL LOCATIONS UNTIL CONSTRUCTION IS COMPLETED AND DISTURBED SOIL AREAS ARE STABILIZED. THEREAFTER, THE CONTRACTOR MUST REMOVE THE TEMPORARY BARRIERS, AT NO TIME SHALL THERE BE ANY OFF-SITE DISCHARGE WHICH VIOLATES LOCAL, STATE, OR FEDERAL WATER QUALITY STANDARDS.
15. THE CONTRACTOR MUST REVIEW AND MAINTAIN A COPY OF THE STORM WATER PERMIT COMPLETE WITH ALL CONDITIONS, ATTACHMENTS, EXHIBITS, AND PERMIT MODIFICATIONS, IN GOOD CONDITION, AT THE CONSTRUCTION SITE. THE COMPLETE PERMIT MUST BE AVAILABLE FOR REVIEW UPON REQUEST BY JURISDICTIONAL AGENCIES.
16. IF ANY EXISTING STRUCTURES, FACILITIES, OR IMPROVEMENTS (PUBLIC OR PRIVATE) TO REMAIN ARE DAMAGED DURING CONSTRUCTION, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR AND/OR REPLACE THE EXISTING STRUCTURE, FACILITY, OR IMPROVEMENT AS NECESSARY TO RETURN IT TO EXISTING CONDITIONS OR BETTER.
17. REFERENCE THE SWPPP INCLUDED IN THIS PLAN SET AND IN THE PROJECT SPECIFICATIONS FOR THIS PROJECT.
18. CONTRACTOR SHALL REFERENCE ARCHITECT AND ELECTRICAL PLANS AND PROVIDE CONDUIT NEEDED FOR LOT LIGHTING AND SIGNAGE PRIOR TO SITE PAVING.
19. PAVING LINE AND GRADE SHALL "FLUSHOUT" ALONG ALL CONNECTIONS TO EXISTING PAVING.
20. ALL BENDS LESS THAN 42" DIAMETER MUST BE FACTORY MANUFACTURED BENDS.
21. ALL WORK SHALL BE DONE IN COMPLIANCE WITH THE PROJECT GEOTECHNICAL SERVICE REPORT FOR THIS SITE.
22. PAVING CONTRACTOR IS RESPONSIBLE FOR ALL LAY DOWN CURBS AT INTERSECTIONS WHERE BARRIER FREE RAMPS ARE TO BE CONSTRUCTED.
23. REFERENCE DETAIL SHEETS FOR PAVEMENT JOINT SPACING AND REQUIREMENTS. ALL SAWCUT AND JOINT LOCATIONS WILL BE AS REQUIRED BY THE CITY OF LEE'S SUMMIT INSPECTOR.
24. PRIVATE STORM PIPE MATERIAL SHALL BE PER CITY OF LEE'S SUMMIT SPECIFICATIONS.
25. ALL ELEVATIONS SHOWN ON THE GRADING PLAN ARE TO TOP OF PAVEMENT OR FINISHED GROUND UNLESS NOTED OTHERWISE. ELEVATIONS TO POINTS OTHER THAN THE TOP OF PAVEMENT ARE NOTED AS FOLLOWS:

    TP=TOP OF PAVEMENT
    TC=TOP OF CURB
    TW=TOP OF WALL
    BW=FINISHED GROUND AT FACE OF WALL
    GRND=FINISHED GROUND AT YARD DRAINS, TOP OF FINISHED GRADE IN NON-PAVEMENT AREAS

GRADING PLAN NOTES:

1. THE CONTRACTOR SHALL RESTORE OFFSITE CONSTRUCTION AREAS TO AN EQUAL OR BETTER CONDITION THAN EXISTED PRIOR TO COMMENCEMENT OF CONSTRUCTION.
2. ALL GRADES SHALL BE WITHIN 0.1 FEET MORE OR LESS OF THOSE SHOWN ON THE GRADING PLAN.
3. NO SLOPE SHALL BE GREATER THAN 3:1 AND SHALL BE EITHER SODDED OR SEEDED AND MULCHED UNLESS OTHERWISE NOTED OR DETAILED.
4. THE CONTRACTOR SHALL FIELD INVESTIGATE THE ENTIRE SITE PRIOR TO HIS BID SUBMITTAL NOTING THE EXISTING VEGETATION, PAVEMENT AREAS, BUILDING MATERIALS, BUILDING MATERIAL TYPES, PARKING LIGHTING, UTILITIES AND TREES. THE REMOVAL AND DISPOSAL OF ALL ITEMS SHALL BE INCLUDED IN THE BID.
5. NO AREA SHALL BE CLEARED WITHOUT PERMISSION OF THE OWNER/DEVELOPER. SILTATION CONTROL WILL BE PROVIDED AS REQUIRED TO PREVENT RUN-OFF. REFER TO THE EROSION CONTROL PLAN(S) AND DETAILS.
6. ALL TRASH, DEBRIS, ORGANIC MATERIAL, REFUSE, FROZEN EARTH, ETC., SHALL BE REMOVED FROM FILL AREAS PRIOR TO THE PLACEMENT OF CONTROLLED FILL. ALL FILLS AND BACKFILLS SHALL BE MADE OF SELECTED EARTH MATERIALS, FREE FROM BROKEN MASONRY, ROCK, FROZEN EARTH, RUBBISH, ORGANIC MATERIAL AND DEBRIS.
7. THE CONTRACTOR SHALL PROVIDE EROSION CONTROL PER THE EROSION CONTROL PLAN(S) AND MAY BE REQUIRED TO PROVIDE ADDITIONAL MEASURES AS REQUESTED BY THE CITY OF LEE'S SUMMIT, SHOULD THE EROSION CONTROL PLAN AND DETAILS PROVE TO BE INSUFFICIENT DUE TO UNFORESEEN CIRCUMSTANCES.
8. CARE SHALL BE EXERCISED IN COMPACTION OF BACKFILL MATERIALS OVER THE TOP OF STRUCTURES OR PIPES IN ORDER TO PREVENT DAMAGE TO THE WATERPROOFING MEMBRANES, JOINTS, SEALS AND/OR THE PIPES AND STRUCTURES THEMSELVES. COMPACTION AND PLACING OF BACKFILL AND FILL MATERIALS SHALL BE PERFORMED UNDER THE CONTINUOUS SUPERVISION OF AN APPROVED TESTING LABORATORY. FILL SHALL NOT BE PLACED ON FROZEN GROUND, NOR SHALL FILLING OPERATIONS CONTINUE WHEN THE TEMPERATURE IS SUCH AS TO PERMIT THE LAYER UNDER PLACEMENT TO FREEZE.
9. ALL CITY, COUNTY, AND STATE ROADS SHALL BE KEPT FREE OF DIRT DAILY.
10. FINAL GRADES SHALL MATCH EXISTING ELEVATIONS AT THE LAND DISTURBANCE LIMITS UNLESS OTHERWISE SHOWN.
11. THE DEVELOPER IS REQUIRED TO PROVIDE ADEQUATE STORM WATER SYSTEMS IN ACCORDANCE WITH THE CITY OF LEE'S SUMMIT AND EPA STANDARDS.
12. ALL GRADING AND DRAINAGE TO BE IN CONFORMANCE WITH THE CITY OF LEE'S SUMMIT AND EPA STANDARDS.
13. INTERIM STORM WATER DRAINAGE CONTROL IN THE FORM OF SILTATION CONTROL MEASURES ARE REQUIRED.
14. ANY LAND DISTURBANCE ACTIVITY INVOLVING ONE (1) ACRE OR MORE OF LAND IS A MAJOR LAND DISTURBANCE (MLD) AND A LAND DISTURBANCE FOR THE MLD MUST BE OBTAINED FROM THE DEPARTMENT OF PUBLIC WORKS. ANY LAND DISTURBANCE ACTIVITY INVOLVING LESS THAN ONE (1) ACRE IS AN ORDINARY LAND DISTURBANCE AND THE APPROPRIATE PERMIT(S) MUST BE OBTAINED FROM THE DEPARTMENT OF PUBLIC WORKS.
15. G.C. TO BE AWARE THAT A LAND DISTURBANCE PERMIT WILL BE REQUIRED. SITE PLAN/PLAT APPROVAL IS NOT TO BE CONSTRUED AS APPROVAL OF A LAND DISTURBANCE PERMIT.
16. ALL WORK SHALL BE IN COMPLIANCE WITH THE PROJECT GEOTECHNICAL SERVICES REPORT FOR THIS PROJECT.
17. ANY DISTURBED SIDEWALK OR CONCRETE PAVEMENT AREAS SHALL BE REPAIRED BY FULL SLAB REPLACEMENT UNLESS SPECIFICALLY AUTHORIZED BY THE DEVELOPER OR MUNICIPALITY HAVING JURISDICTION.
18. ALL UTILITY SPOILS SHALL BE INCLUDED IN THE GENERAL CONTRACTOR'S BID. GENERAL CONTRACTOR SHALL COORDINATE WITH THE EXCAVATOR AND UTILITY INSTALLER.

ADA COMPLIANCE NOTES:

1. CONTRACTOR SHALL CONFIRM ALL EXISTING SLOPES FOR ACCESSIBLE ROUTES AS WELL AS THE ACCESSIBLE PARKING STALLS AND ACCESSIBLE AISLES WITH A SLOPE METER TO CONFIRM MAXIMUM SLOPES ARE NOT EXCEEDED.
2. CONTRACTOR IS REQUIRED TO PROVIDE AS-BUILT SPOT ELEVATIONS ALONG THE ACCESSIBLE ROUTES SHOWN ON THIS PLAN EVERY 10 FEET IN ORDER TO CONFIRM MAXIMUM (2%) CROSS-SLOPE AND MAXIMUM (5%) SLOPES IN THE DIRECTION OF TRAVEL. IN ADDITION, SPOT ELEVATIONS ARE REQUIRED ON ALL CORNERS AND MIDPOINTS OF ACCESSIBLE PARKING STALLS AND ACCESSIBLE AISLES TO CONFIRM MAXIMUM 2% SLOPES ARE NOT EXCEEDED IN ALL DIRECTIONS. THIS INFORMATION SHALL BE PROVIDED, A MINIMUM OF 2 WEEKS BEFORE STORE TURNOVER.
3. THE GENERAL AND CONCRETE CONTRACTOR SHALL FIELD VERIFY ADA SLOPES DURING CONCRETE POUR. A 2' SMART LEVEL WITH AN ACCURACY TO .029 PERCENT SHALL BE USED FOR VERIFYING SLOPES. ANY SLOPES IN THE ADA AREAS THAT EXCEED A 2% CROSS SLOPE ALONG THE BUILDING, ADA STALLS AND/OR SIDEWALK, 5% RUNNING SLOPE FOR SIDEWALKS AWAY FROM THE PROPOSED PETSUITES BUILDING, AND EXCEED 8.3% ON RAMPS SHALL BE REMOVED AND REPLACED AT THE CONCRETE CONTRACTOR'S EXPENSE. THE SURVEYOR FOR STAKING CAN PROVIDE A REFERENCE FOR ELEVATION HOWEVER CONFIRMATION IS REQUIRED BY SLOPE LEVEL DURING CONSTRUCTION.

ABBREVIATIONS:

AI............ AREA INLET (OPEN 4 SIDES UNLESS NOTED OTHERWISE)
DAI.......... DOUBLE AREA INLET (OPEN 6 SIDES UNLESS NOTED OTHERWISE.)
MH.......... MANHOLE
CI.......... CURB INLET
DCI.......... DOUBLE CURB INLET
GSI.......... GRATE INLET WITH SIDE INTAKE. (ELEVATION OF INLET TOP IS TO THE TOP OF GRATE, ADD 0.50' FOR TOP OF SIDE INTAKE.)
2GSI........ 2 GRATE INLET WITH SIDE INTAKE. (ELEVATION OF INLET TOP IS TO THE TOP OF GRATE, ADD 0.50' FOR TOP OF SIDE INTAKE.)
DME........ ADS DOME
EP............ END OF PIPE
FES............ FLARED END SECTION
IMH......... INTERCEPTOR MANHOLE
TD........... TRENCH DRAIN
ATG......... ADJUST TO GRADE
*.............. DENOTES HYDRAULIC GRADE JUMP
TBR.......... TO BE REMOVED
TBR&R..... TO BE REMOVED & REPLACED

UNDERGROUND UTILITIES AND OSHA SAFETY NOTE:

Underground utilities and structures have been plotted from available information and therefore, their location must be considered approximate only. It is the responsibility of the individual contractors to notify the utility companies before actual construction. All O.S.H.A rules and regulations established for the type of construction required by these plans shall be strictly followed (ie. trenching, blasting, etc.)

GENERAL NOTES:

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF LEE'S SUMMIT SPECIFICATIONS, CITY OF LEE'S SUMMIT "STANDARD DETAILS", LATEST EDITION, THE PROJECT SPECIFICATIONS BOOK, AND THESE CONSTRUCTION PLANS. IN CASE OF CONFLICTING SPECIFICATIONS FOR DETAILS, THE CIVIL ENGINEER SHALL BE CONTACTED PRIOR TO CONSTRUCTION, GENERALLY, THE MOST STRINGENT SPECIFICATION SHALL APPLY.
2. DURING THE CONSTRUCTION OF THESE IMPROVEMENTS, ANY INTERPRETATION OF THE STANDARD SPECIFICATIONS, AND ANY MATTER WHICH REQUIRES THE APPROVAL OF THE OWNER, MUST BE APPROVED BY THE CITY OF LEE'S SUMMIT DEVELOPMENT ENGINEER BEFORE ANY CONSTRUCTION INVOLVING THAT DECISION COMMENCES. ASSUMPTIONS ABOUT WHAT THESE DECISIONS MIGHT BE WHICH ARE MADE DURING THE BIDDING PHASE WILL HAVE NO BEARING ON THE DECISION.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING ALL MATERIAL AND LABOR TO CONSTRUCT THE FACILITY AS SHOWN AND DESCRIBED IN THE CONSTRUCTION DOCUMENTS IN ACCORDANCE WITH THE APPROPRIATE APPROVING AUTHORITIES, SPECIFICATIONS AND REQUIREMENTS. CONTRACTOR SHALL VISIT THE SITE PRIOR TO BIDDING TO DETERMINE EXISTING CONDITIONS.
4. ALL EXISTING UTILITIES SHOWN ARE LOCATED ACCORDING TO THE INFORMATION AVAILABLE TO THE ENGINEER AT THE TIME THE DRAWINGS WERE PREPARED AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR THE ENGINEER. GUARANTEE IS NOT MADE THAT ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN OR THAT THE LOCATION OF THOSE SHOWN ARE ACCURATE. THE LOCATIONS SHOWN ARE FOR BIDDING PURPOSES ONLY. FINDING THE ACTUAL LOCATION OF ANY EXISTING UTILITIES IS THE CONTRACTOR'S RESPONSIBILITY AND SHALL BE DONE BEFORE HE COMMENCES ANY WORK (INCLUDING ORDERING OF MATERIALS) IN THE VICINITY. FURTHERMORE, THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES DUE TO THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. THE OWNER OR CEC WILL ASSUME NO LIABILITY FOR ANY DAMAGES SUSTAINED OR COST INCURRED BECAUSE OF THE OPERATIONS IN THE VICINITY OF EXISTING UTILITIES OR STRUCTURES, NOR FOR TEMPORARY BRACING AND SHORING OF SAME. IF IT IS NECESSARY TO SHORE, BRACE, SWING OR RELOCATE A UTILITY, THE UTILITY COMPANY OR DEPARTMENT AFFECTED SHALL BE CONTACTED BY THE CONTRACTOR AND THEIR PERMISSION OBTAINED REGARDING THE METHOD TO USE FOR SUCH WORK.
5. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE VARIOUS UTILITY COMPANIES WHICH MAY HAVE BURIED OR AERIAL UTILITIES WITHIN OR NEAR THE CONSTRUCTION AREA BEFORE COMMENCING WORK. THE CONTRACTOR SHALL PROVIDE 72 HOURS MINIMUM NOTICE TO ALL UTILITY COMPANIES PRIOR TO BEGINNING CONSTRUCTION. A LIST OF THE UTILITY COMPANIES WHICH THE CONTRACTOR MUST CALL BEFORE COMMENCING WORK IS PROVIDED ON THE COVER SHEET OF THESE CONSTRUCTION PLANS. THIS LIST SERVES AS A GUIDE ONLY AND IS NOT INTENDED TO LIMIT THE UTILITY COMPANIES WHICH THE CONTRACTOR MAY WISH TO NOTIFY.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED CONSTRUCTION PERMITS, 3-WAY CONTRACTS, AND BONDS PRIOR TO CONSTRUCTIONS.
7. THE CONTRACTOR SHALL HAVE AVAILABLE AT THE JOB SITE AT ALL TIMES ONE COPY OF THE CONTRACT DOCUMENTS INCLUDING PLANS, SPECIFICATIONS AND SPECIAL CONDITIONS, COPIES OF ANY REQUIRED CONSTRUCTION PERMITS, AND EROSION CONTROL PLANS AND INSPECTION REPORTS (SWPPP).
8. ANY DISCREPANCIES ON THE DRAWINGS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER & CIVIL ENGINEER BEFORE COMMENCING WORK. NO FIELD CHANGES OR DEVIATIONS FROM DESIGN ARE TO BE MADE WITHOUT PRIOR APPROVAL TO THE OWNER AND NOTIFICATION TO THE ENGINEER. NO CONSIDERATION WILL BE GIVEN TO CHANGE ORDERS FOR WHICH THE OWNER AND CIVIL ENGINEER WERE NOT CONTACTED PRIOR TO CONSTRUCTION OF THE AFFECTED ITEM.
9. ALL COPIES OF COMPACTION, CONCRETE AND OTHER REQUIRED TEST RESULTS ARE TO BE SENT TO THE CIVIL ENGINEER OF RECORD AND THE CITY OF LEE'S SUMMIT DEVELOPMENT ENGINEER DIRECTLY FROM THE TESTING AGENCY.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING TO THE CIVIL ENGINEER AND TO CITY A CERTIFIED RECORD SURVEY SIGNED AND SEALED BY A PROFESSIONAL LAND SURVEYOR REGISTERED IN THE STATE OF MISSOURI DEPICTING THE ACTUAL FILED LOCATION OF ALL CONSTRUCTED IMPROVEMENTS THAT ARE REQUIRED BY THE JURISDICTIONAL AGENCIES FOR THE CERTIFICATION PROCESS. ALL SURVEY COSTS WILL BE THE CONTRACTORS RESPONSIBILITY.
11. ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES, JURISDICTIONAL AGENCIES AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO ANNOUNCED BUILDING POSSESSION AND THE FINAL CONNECTION OF SERVICES.
12. CONTRACTORS SHALL VERIFY BENCHMARKS AND DATUMS PRIOR TO COMMENCING CONSTRUCTION OR STAKING OF IMPROVEMENTS.
13. CONTRACTOR SHALL THOROUGHLY CHECK COORDINATION OF CIVIL, LANDSCAPE, MEP, ARCHITECTURAL, AND OTHER PLANS PRIOR TO COMMENCING CONSTRUCTION. OWNER AND CIVIL ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCY PRIOR TO COMMENCING WITH CONSTRUCTION.
14. CONTRACTOR SHALL REFER TO THE ARCHITECTURAL PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF VESTIBULES, SLOPE PAVING, SIDEWALKS, EXIT PORCHES, TRUCK DOCKS, PRECISE BUILDING DIMENSIONS, AND EXACT BUILDING UTILITY ENTRANCE LOCATIONS.
15. ALL DIMENSIONS GIVEN ARE TO FACE OF CURB AND/OR BUILDING. DIMENSIONS FOR PIPES AND STRUCTURES ARE TO THE CENTERLINE, UNLESS OTHERWISE NOTED ON PLANS.
16. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING RELOCATIONS AND INSTALLATIONS OF FRANCHISE UTILITIES NECESSARY FOR ON- AND OFF-SITE CONSTRUCTION.
17. ON-SITE AND PERIMETER TRUCK ROUTE AND OTHER DIRECTIONAL SIGNAGE SHALL BE LOCATED OUT OF THE PEDESTRIAN, AUTOMOBILE, AND TRUCK ROUTES AND SHALL BE LOCATED BETWEEN THREE TO FIVE FEET BEHIND THE NEAREST BACK OF CURB UNLESS INDICATED OTHERWISE ON PLANS. SIGN HEIGHT, LOCATION, AND STRUCTURE SHALL BE SUCH THAT THE SIGNS POSE NO THREAT TO PUBLIC SAFETY.
18. ON-SITE AND PERIMETER TRUCK ROUTE AND OTHER DIRECTIONAL SIGNS SHALL BE ORIENTED SO THEY ARE READILY VISIBLE TO THE ONCOMING TRAFFIC FOR WHICH THEY ARE INTENDED. FIELD ADJUSTMENTS OF LOCATION AND ORIENTATION OF THE SIGNS ARE TO BE MADE TO ACCOMPLISH THIS.
19. CONTRACTOR SHALL REPLACE ANY FENCING, CURBING, ETC. THAT IS DESTROYED OR DAMAGED DUE TO THE CONSTRUCTION ACTIVITIES.
20. CONTRACTOR IS RESPONSIBLE FOR TRAFFIC CONTROL DEVICES AND PLANS FOR ANY STREET WORK.
21. ALL CONTRACTORS MUST CONFINE THEIR ACTIVITIES TO THE WORK AREA. NO ENCROACHMENTS ONTO DEVELOPED OR UNDEVELOPED AREAS WILL BE ALLOWED. ANY DAMAGE RESULTING THEREFROM SHALL BE CONTRACTOR'S RESPONSIBILITY TO REPAIR.
22. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING A TRENCH SAFETY PLAN TO THE DEVELOPER AT THE TIME OF THE PRE-CONSTRUCTION MEETING, OR PRIOR TO BEGINNING CONSTRUCTION OF THESE IMPROVEMENTS. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TRENCH SAFETY REQUIREMENTS IN ACCORDANCE WITH MISSOURI STATE LAW AND O.S.H.A. STANDARDS FOR ALL EXCAVATION IN EXCESS OF FIVE FEET IN DEPTH. NO OPEN TRENCHES WILL BE ALLOWED OVERNIGHT. ONSITE SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
23. LIGHT POLES AND SIGNS SHALL NOT BE PLACED IN ADA ACCESSIBLE ROUTES, ACCESSIBLE ACCESS AISLES, AND/OR REINFORCED ZONES BEHIND RETAINING WALLS.
24. TO THE MAXIMUM EXTENT PRACTICAL, CONSTRUCTION STAGING, WORKER PARKING, AND ANY OTHER POTENTIALLY NOISY OR OFFENSIVE CONSTRUCTION ACTIVITY SHOULD BE LOCATED AS FAR FROM THE RESIDENTIAL NEIGHBORS AS POSSIBLE.
25. CONTRACTOR SHALL KEEP THE CONSTRUCTION SITE SECURE FROM TRESPASSERS AT ALL TIMES.
26. CONTRACTOR SHALL CONTACT CITY BUILDING OFFICIAL TO LEARN OF ANY UNUSUAL CONSTRUCTION SEQUENCING REQUIREMENTS THAT THE CITY MAY REQUIRE. THE CONTRACTOR IS CAUTIONED THAT THIS AND PERHAPS OTHER SUCH REQUIREMENTS MAY EXIST AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO INVESTIGATE AND COMPLY WITH THEM.
27. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY NECESSARY FENCE OR WALL PERMITS FROM THE CITY.
28. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ADEQUATE TRAFFIC CONTROL PER CITY OF LEE'S SUMMIT STANDARDS.
29. CONTRACTOR SHALL INCLUDE ALL ITEMS THAT ARE LISTED FROM THE EXHIBIT B WORK LETTER BETWEEN THE DEVELOPER AND PETSUITES IN THEIR BID. ANY DEVIATIONS FROM THE WORK LETTER WILL REQUIRE DEVELOPER APPROVAL FOR EACH ITEM.

UTILITY PLAN NOTES:

1. ALL FILL MATERIAL SHALL BE IN PLACE AND COMPACTED BEFORE INSTALLATION OF PROPOSED UTILITIES.
2. CONTRACTOR SHALL NOTIFY THE UTILITY AUTHORITIES INSPECTORS 72 HOURS BEFORE CONNECTING TO ANY EXISTING LINE.
3. CONTRACTOR SHALL MAINTAIN A MINIMUM OF 3'-6' COVER ON ALL WATERLINES AND 3'-6' ON ALL SANITARY SEWER LINES.
4. CONNECTION FROM THE METER TO SITE UTILITY LINES SHALL BE MADE BY BUILDING CONTRACTOR.
5. EXISTING UTILITIES SHALL BE VERIFIED IN FIELD PRIOR TO INSTALLATION OF ANY NEW LINES.
6. REFER TO MECHANICAL, ELECTRIC AND PLUMBING DRAWINGS FOR ACTUAL TIE-IN LOCATIONS FOR UTILITIES.
7. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
8. ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO THE FINAL CONNECTION OF SERVICE.
9. ALL UTILITY SEWER TRENCH BACKFILL SHALL HAVE GRANULAR BACKFILL AND BE MECHANICALLY COMPACTED.
10. THE CONTRACTOR SHALL VERIFY THE LOCATION, CONDITION AND ELEVATION OF ALL PROPOSED SEWER CONNECTION POINTS PRIOR TO THE START OF CONSTRUCTION. ANY DISCREPANCIES THAT WOULD INTERFERE WITH THE PROPOSED SEWER DESIGN SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
11. ALL PERMIT FEES AND COSTS ASSOCIATED WITH BRINGING UTILITY, SEWER AND WATER SERVICES TO THE BUILDING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. ALL FEES AND COSTS SHALL BE INCLUDED IN THE CONTRACTORS BID.
12. G.C. IS TO PROVIDE TRENCH, WIRE, AND CONDUIT FOR TELEPHONE AND ELECTRICAL SERVICES, BACKFILL AND GRADE SMOOTH FOR A COMPLETE TELEPHONE AND ELECTRIC INSTALLATION.
13. G.C. SHALL BE RESPONSIBLE FOR ANY TAPS TO BE MADE UNDER THE SUPERVISION OF THE CITY WATER DIVISION.
14. ANY DISTURBED SIDEWALK SHALL BE FULL SLAB REPLACEMENT.
15. EXISTING SANITARY SEWER AND WATER SERVICE SHALL NOT BE INTERRUPTED.
16. THE CONTRACTOR SHALL INCLUDE THE COST ESTIMATE PROVIDED BY EVERGY IN HIS/HER BID FOR THE RELOCATION/REMOVAL OF ANY OVERHEAD ELECTRIC OR GUY WIRES.
17. THE REMOVAL AND REPLACEMENT, OR REHABILITATION OF THE EXISTING STRUCTURE(S) WILL BE DETERMINED BY THE CITY OF LEE'S SUMMIT DEVELOPMENT ENGINEER FIELD INSPECTOR. IF THE STRUCTURE IS DETERMINED TO REMAIN IN PLACE, THEN THE TOP SHALL BE ADJUSTED TO GRADE, IF NEEDED.
18. ALL STORM SEWER CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CITY OF LEE'S SUMMIT STANDARD SPECIFICATIONS AND CONSTRUCTION DETAILS.
19. ALL LATERAL SEWER CONSTRUCTION METHODS TO CONFORM TO LATEST STANDARDS AND SPECIFICATIONS FOR THE CITY OF LEE'S SUMMIT SEWER STANDARD SPECIFICATIONS AND CONSTRUCTION DETAILS.
20. ALL CONNECTIONS TO PUBLIC WATER SHALL BE AS REQUIRED BY THE CITY OF LEE'S SUMMIT WATER UTILITIES.
21. CONNECTION TO PUBLIC SEWER MAINS SHALL BE AS REQUIRED BY THE CITY OF LEE'S SUMMIT SEWER SANITARY. CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING THE PROVIDER PRIOR TO CONNECTION TO PUBLIC SEWERS.
22. ALL TRENCHES UNDER AREAS TO BE PAVED AND UNDER EXISTING PAVING SHALL BE GRANULARLY FILLED WITH 3/4" MINUS CRUSHED LIMESTONE ONLY. BACKFILL SHALL BE PLACED IN ACCORDANCE WITH CITY OF LEE'S SUMMIT STANDARDS.
23. TYPE "C" BEDDING PER CITY OF LEE'S SUMMIT STANDARDS REQUIRED FOR PIPES IN ROCK.
24. ALL TRENCH BACKFILLS UNDER PAVEMENT WITHIN PUBLIC RIGHT-OF-WAY SHALL BE GRANULAR BACKFILLED. TRENCH BACKFILLS UNDER PAVED AREAS, OUTSIDE OF PUBLIC RIGHT-OF-WAY SHALL BE GRANULAR BACKFILL IN LIEU OF THE EARTH BACKFILL COMPACTED TO 90 PERCENT OF THE STANDARD AASHTO T-180 COMPACTION TEST A.S.T.M. D-1557.
25. ALL CONCRETE PIPE SHALL BE REINFORCED, AND CONFORM TO A.S.T.M. DESIGNATION C76-80 CLASS III UNLESS OTHERWISE NOTED.
26. ALL DIMENSIONS ARE TO THE CENTERLINE OF STRUCTURE EXCEPT FOR END OF PIPES OR FLARED ENDS. FLARED END DIMENSIONS VARY. CONTRACTOR SHALL VERIFY LENGTHS FOR FLARED END SECTIONS PER PROPOSED TYPE OF FLARED END SUBMITTED. REFER TO THE CORRESPONDING SEWER PROFILE SHEET FOR EXACT DIMENSIONS IF APPLICABLE.
27. PLUMBING CONTRACTOR AND SURVEYOR SHALL CONFIRM STRUCTURES PROPOSED ON THESE PLANS MATCH THE PROPOSED STRUCTURES THAT ARE ONSITE. DUE TO CHANGE OF ELEVATIONS, AND LOCATIONS DEPENDING ON THE STRUCTURE AND TYPE, THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ISSUES FOR PROPOSING A DIFFERENT TYPE OF STRUCTURE OR PIPE THAN WHAT IS ON THESE PLANS. GENERAL CONTRACTOR SHALL REIMBURSE CIVIL ENGINEER FOR ANY TIME AND MATERIALS TO ADDRESS CHANGES TO STRUCTURES OR DESIGN FROM WHAT HAS BEEN APPROVED TO REDUCE OVERALL CONSTRUCTION COSTS.
28. STANDARDS AND DETAILS FROMCITY OF LEE'S SUMMIT STANDARDS PLANS SHALL SUPERCEDE THESE REQUIREMENTS

PREMIER
DESIGN GROUP
100 MIDLAND PARK DRIVE
WENTZVILLE, MO 63385

STATE OF MISSOURI
STEVE
MARION
NUMBER
PE2006007195
PROFESSIONAL ENGINEER
10/5/2021

ENGINEERS AUTHENTICATION
The responsibility for professional engineering liability on this project is hereby limited to the set of plans authenticated by the seal, signature, and date hereunder attached. Responsibility is disclaimed for all other engineering plans involved in this project and specifically excludes revisions after this date unless reauthenticated.
STEVEN D. MARION P.E.
PROFESSIONAL ENGINEER
PE 2006007195

Project
DUTCH BROS
LEE'S SUMMIT, MO
500 NW CHIPMAN RD.
LEE'S SUMMIT, MO 64086
TM CROWLEY
501 PENNSYLVANIA PARKWAY SUITE 160
INDIANAPOLIS, IN 46280

Date 9-30-2021

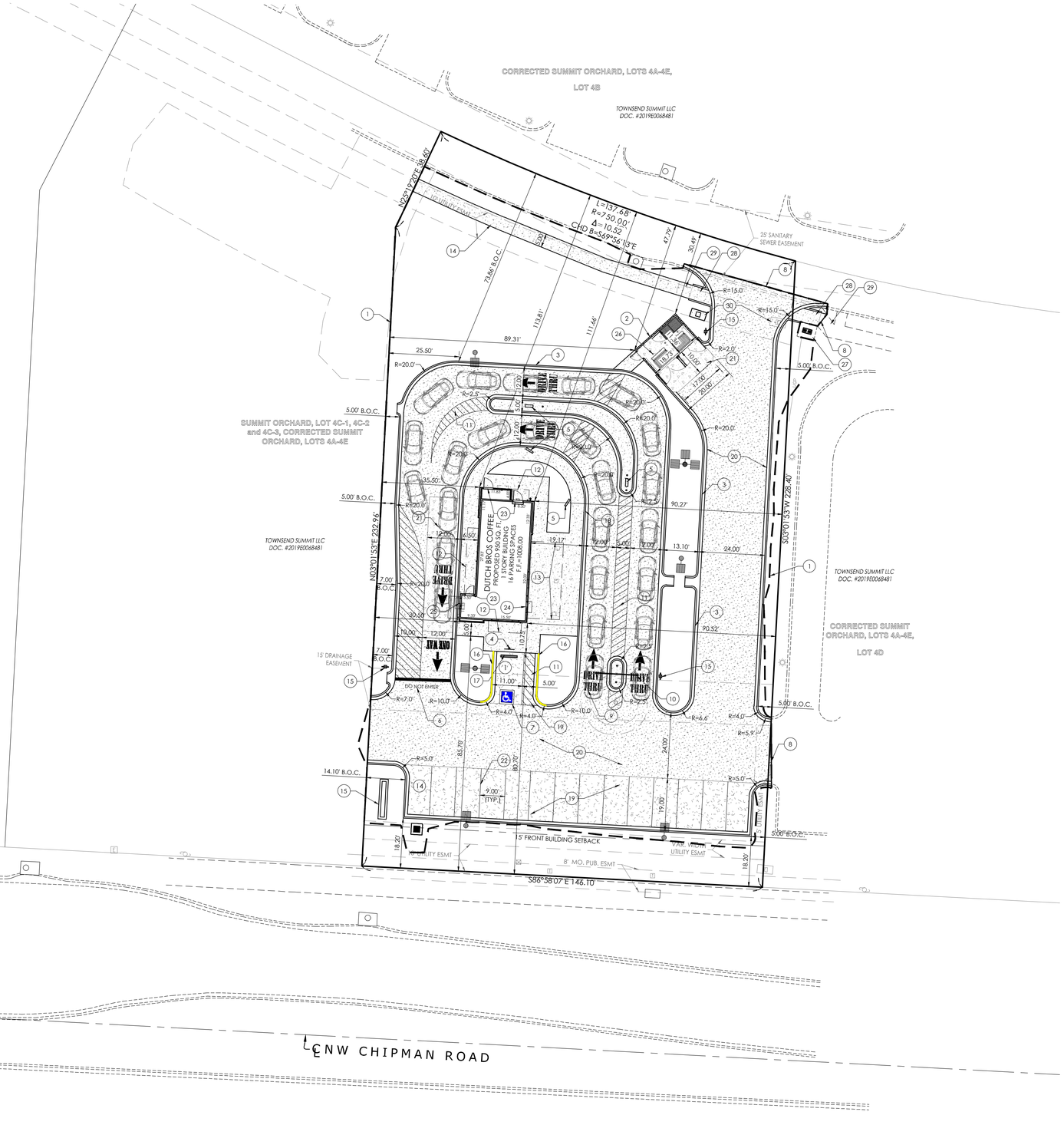
#	Revision Date	Description of Changes

Sheet Title
GENERAL NOTES

Sheet Number
C-001

Project No.	2109720
Drawn By	A. JONES
Checked By	M. FOGARTY

NOT RELEASED FOR CONSTRUCTION



REFERENCE NOTES SCHEDULE

CODE	DESCRIPTION	DETAIL
1	LAND DISTURBANCE LIMITS	
2	PROPOSED DUMPSTER ENCLOSURE. REFER TO ARCHITECTURAL PLANS FOR DESIGN AND DETAILS	
3	PROPOSED CG-1 CONCRETE CURB AND GUTTER (TYPICAL)	10/C-600
4	PROPOSED VAN ACCESSIBLE PARKING SIGN	15/C-600
5	PROPOSED MENU BOARD. REFER TO ARCHITECTURAL PLANS FOR DETAILS	
6	PROPOSED "DO NOT ENTER" STRIPING	14/C-600
7	PROPOSED PAINTED INTERNATIONAL SYMBOL OF ACCESSIBILITY	17/C-600
8	SAW CUT AND MATCH EXISTING CURB AND/OR PAVEMENT ELEVATION AT NEAREST JOINT	
9	PROPOSED DRIVE-THRU PAVEMENT MARKING	14/C-600
10	PROPOSED DRIVE-THRU CLEARANCE BAR. REFER TO ARCHITECTURAL PLANS FOR DETAILS	
11	PROPOSED CROSS STRIPING	16/C-600
12	PROPOSED CANOPY. REFER TO ARCHITECTURAL PLANS FOR DETAIL.	
13	PROPOSED AWNING. REFER TO ARCHITECTURAL PLANS FOR DETAIL.	
14	PROPOSED CONCRETE SIDEWALK	7/C-600
15	PROPOSED SIGN. REFER TO ARCHITECTURAL PLANS FOR TYPE AND SIZE.	
16	TRANSITION CURB FROM 6" TALL TO FLUSH CURB	13/C-600
17	PROPOSED WHEEL STOP	9/C-600
18	PROPOSED INTEGRAL CONCRETE CURB AND SIDEWALK	11/C-600
19	LIGHT DUTY ASPHALT PAVEMENT	6/C-600
20	MEDIUM DUTY ASPHALT PAVEMENT	5/C-600
21	HEAVY DUTY CONCRETE PAVEMENT	4/C-600
22	PROPOSED 4" DOUBLE ROLLED STRIPE, PAINTED WHITE (TYPICAL)	
23	INGRESS/EGRESS DOOR LOCATION	
24	PICK-UP WINDOW LOCATION	
25	DRIVE-THRU WINDOW LOCATION	
26	PROPOSED 4" BOLLARD(S)	
27	EXISTING TRANSFORMER (PROTECT)	
28	PROPOSED ADA ACCESSIBLE RAMP. RAMP SHALL NOT EXCEED 2% CROSS SLOPE AND 8.33% LONGITUDAL SLOPE.	
29	PROPOSED ACCESSIBLE LANDING. LANDING SHALL BE 5'X5' AT THE TOP OF THE RAMP.	
30	PROPOSED LOCATION OF EXISTING TRANSFORMER TO BE RELOCATED	

PROJECT NOTES:

1. BASIS OF BEARINGS: THIS SURVEY WAS ADOPTED FROM THE MISSOURI STATE PLANE COORDINATE SYSTEM, NAD 1983 - WEST ZONE
2. CURRENT ZONING: PMIX - PLANNED MIXED USE
3. SURROUNDING ZONING: PMIX - PLANNED MIXED USE
4. SITE AREA = ±0.828 ACRES
5. PROPOSED USE - COFFEE SHOP
6. PROPOSED BUILDING HEIGHT - REFER TO ARCHITECTURAL PLANS
7. PARKING SETBACK:
   NONE PER RECORDED PLAT
8. BUILDING SETBACKS:
   FRONT BUILDING SETBACK: 15' ALONG NW CHIPMAN ROAD
   SIDE BUILDING SETBACK: NONE PER RECORDED PLAT
   REAR BUILDING SETBACK: NONE PER RECORDED PLAT
9. FLOOR AREA RATIO - 950/36,068 = 0.026 FAR
10. IMPERVIOUS COVERAGE - SITE = 67.75%
11. PARKING AND LOADING REQUIREMENTS
    REQUIRED PARKING: TWO PLUS 1 PER EMPLOYEE ON MAX. SHIFT
    2 + 10 EMPLOYEES = 12 PARKING SPACE REQUIRED
    PROVIDED PARKING= 15 PARKING SPACES
12. PER FEMA FIRM PANEL #29095C0417G, EFFECTIVE ON 01/20/2017 THE PROPERTY IS ZONE X (UNSHADED), AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN.
13. THIS PROPERTY IS LOCATED WITHIN THE LITTLE CEDAR CREEK WATERSHED.
14. OIL AND GAS WELL LOCATIONS: BASED ON MIODNR STATE OIL AND GAS COUNCIL, THERE ARE NO ACTIVE WELLS AS OF JUNE 2, 2020. ALL EXISTING OIL AND GAS WELLS FOR THIS SECTION-TOWNSHIP-RANGE HAVE BEEN ABANDONED OR PLUGGED.

PAVEMENT NOTES

1. PAVEMENT THICKNESS SHALL BE AS FOLLOWS: (UNLESS NOTED OTHERWISE ON PLAN)

LIGHT DUTY ASPHALT PAVEMENT
1.5" TYPE "2.01" ASPHALT SURFACE COURSE
4" TYPE "2.01" ASPHALT BASE COURSE
6" MODOT TYPE 5 AGGREGATE WITH GEOGRID OR/
6" MODOT TYPE 5 AGGREGATE WITH 6" STABILIZED BASE

MEDIUM DUTY ASPHALT PAVEMENT (DRIVE AISLE)
2" TYPE "2.01" ASPHALT SURFACE COURSE
7.5" TYPE "2.01" ASPHALT BASE COURSE
12" MODOT TYPE 5 AGGREGATE WITH GEOGRID OR/
6" MODOT TYPE 5 AGGREGATE WITH 9" STABILIZED BASE

HEAVY DUTY CONCRETE PAVEMENT
(TRASH ENCLOSURE PAD & DRIVE-THRU PAD)
8" NON-REINFORCED PORTLAND CEMENT CONCRETE
4" MODOT TYPE 5 AGGREGATE BASE

CONCRETE SIDEWALKS
4" PORTLAND CEMENT CONCRETE
4" MODOT TYPE 5 AGGREGATE BASE

"Little MO" says
CALL BEFORE YOU DIG!
1-800-DIG-RITE

UNDERGROUND UTILITIES AND OSHA SAFETY NOTE:

Underground utilities and structures have been plotted from available information and therefore, their location must be considered approximate only. It is the responsibility of the individual contractors to notify the utility companies before actual construction. All O.S.H.A rules and regulations established for the type of construction required by these plans shall be strictly followed (ie. trenching, blasting, etc.)

PREMIER DESIGN GROUP
100 MIDLAND PARK DRIVE
WENTZVILLE, MO 63385
MISSOURI CERTIFICATE OF AUTHORITY #LC2002000031
KANSAS CERTIFICATE OF AUTHORITY #CA-2002007849

STATE OF MISSOURI
STEVE D. MARION
NUMBER PE2006007195
PROFESSIONAL ENGINEER

ENGINEERS AUTHENTICATION
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STEVEN D. MARION P.E.
PROFESSIONAL ENGINEER
PE 2006007195

Project
DUTCH BROS
LEE'S SUMMIT, MO
500 NW CHIPMAN RD.
LEE'S SUMMIT, MO 64086
TM CROWLEY
501 PENNSYLVANIA PARKWAY SUITE 160
INDIANAPOLIS, IN 46280

Date 9-30-2021

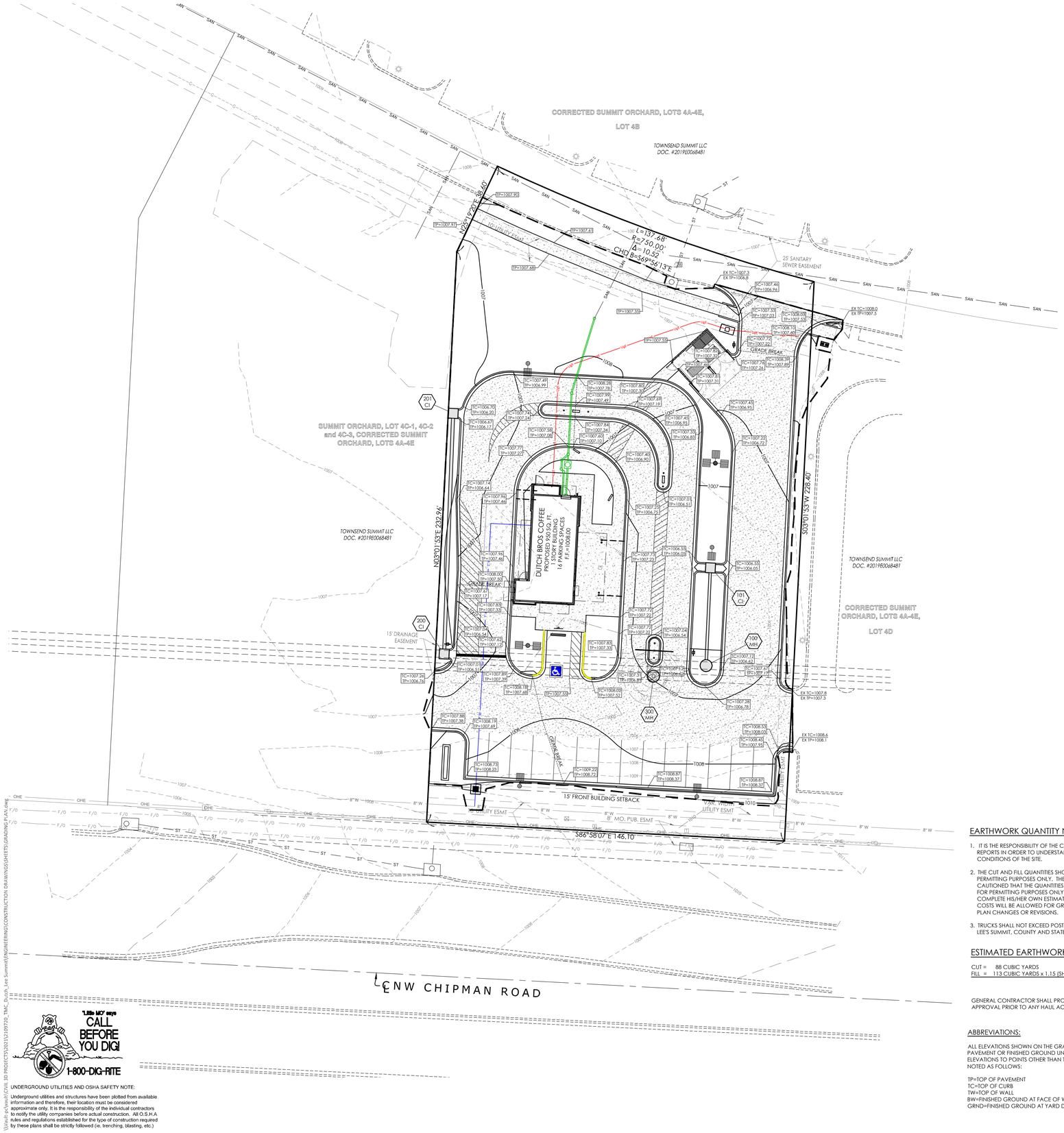
#	Revision Date	Description of Changes

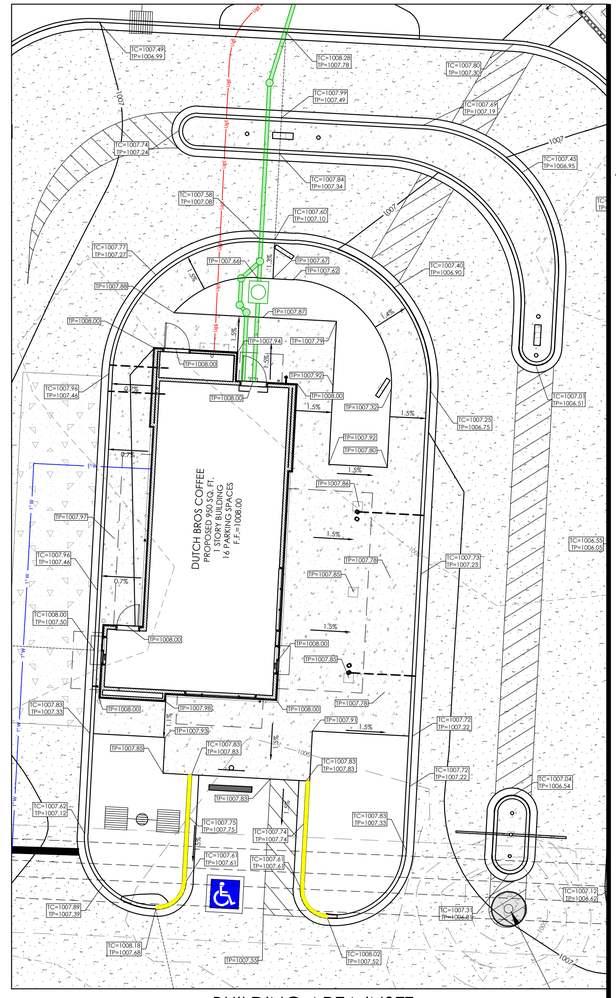
Sheet Title: SITE PLAN

Sheet Number
C-100

Project No.	2109720
Drawn By	A. JONES
Checked By	M. FOGARTY

NOT RELEASED FOR CONSTRUCTION





BUILDING AREA INSET

SCALE: 1" = 10'

"Little MO" says
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UNDERGROUND UTILITIES AND OSHA SAFETY NOTE:

Underground utilities and structures have been plotted from available information and therefore, their location must be considered approximate only. It is the responsibility of the individual contractors to notify the utility companies before actual construction. All O.S.H.A. rules and regulations established for the type of construction required by these plans shall be strictly followed (ie. trenching, blasting, etc.)

EARTHWORK QUANTITY NOTES:

1. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO READ ALL APPLICABLE REPORTS IN ORDER TO UNDERSTAND THE SOIL AND GROUNDWATER CONDITIONS OF THE SITE.
2. THE CUT AND FILL QUANTITIES SHOWN ON THIS PLAN ARE FOR PERMITTING PURPOSES ONLY. THE GRADING CONTRACTOR IS CAUTIONED THAT THE QUANTITIES SHOWN ARE THE ENGINEER'S ESTIMATE FOR PERMITTING PURPOSES ONLY. THE GRADING CONTRACTOR SHALL COMPLETE HIS/HER OWN ESTIMATE WHEN BIDDING. NO ADDITIONAL COSTS WILL BE ALLOWED FOR GRADING WITHOUT JUSTIFICATION DUE TO PLAN CHANGES OR REVISIONS.
3. TRUCKS SHALL NOT EXCEED POSTED WEIGHT LIMITS FOR THE CITY OF LEE'S SUMMIT, COUNTY AND STATE BRIDGES DURING HAUL OPERATIONS.

ESTIMATED EARTHWORK QUANTITIES:

CUT = 88 CUBIC YARDS
FILL = 113 CUBIC YARDS x 1.15 (SHRINKAGE) = 130 CUBIC YARDS
IMPORT = 42 CUBIC YARDS

GENERAL CONTRACTOR SHALL PROVIDE A PROPOSED HAUL ROUTE FOR APPROVAL PRIOR TO ANY HAUL ACTIVITIES

ABBREVIATIONS:

ALL ELEVATIONS SHOWN ON THE GRADING PLAN ARE TO TOP OF PAVEMENT OR FINISHED GROUND UNLESS NOTED OTHERWISE. ELEVATIONS TO POINTS OTHER THAN THE TOP OF PAVEMENT ARE NOTED AS FOLLOWS:

TP=TOP OF PAVEMENT
TC=TOP OF CURB
TW=TOP OF WALL
BW=FINISHED GROUND AT FACE OF WALL
GRND=FINISHED GROUND AT YARD DRAINS

CONSTRUCTION OF ADA ACCESSIBLE ROUTES NOT IN COMPLIANCE WITH THE PLANS AND ADA GUIDELINES SHALL BE REMOVED AND CORRECTED AT THE EXPENSE OF THE CONTRACTOR. A VERIFICATION SURVEY SHALL BE COMPLETED BY THE ENGINEER FOR CERTIFICATION TO OWNER AFTER CONSTRUCTION HAS BEEN COMPLETED.

1" = 20'

20 10 0 20 40

SCALE IN FEET

PREMIER DESIGN GROUP
100 MIDLAND PARK DRIVE
WENTZVILLE, MO 63385
MISSOURI CERTIFICATE OF AUTHORITY #LC2006000031
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STATE OF MISSOURI
STEVE MARION
NUMBER PE2006007195
PROFESSIONAL ENGINEER

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PROFESSIONAL ENGINEER
PE 2006007195

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500 NW CHIPMAN RD.
LEE'S SUMMIT, MO 64086
TM CROWLEY
501 PENNSYLVANIA PARKWAY SUITE 60
INDIANAPOLIS, IN 46280

Date 9-30-2021

#	Description of Changes	Date

Sheet Title: GRADING PLAN

Sheet Number
C-200

Project No.	2109720
Drawn By	A. JONES
Checked By	M. FOGARTY

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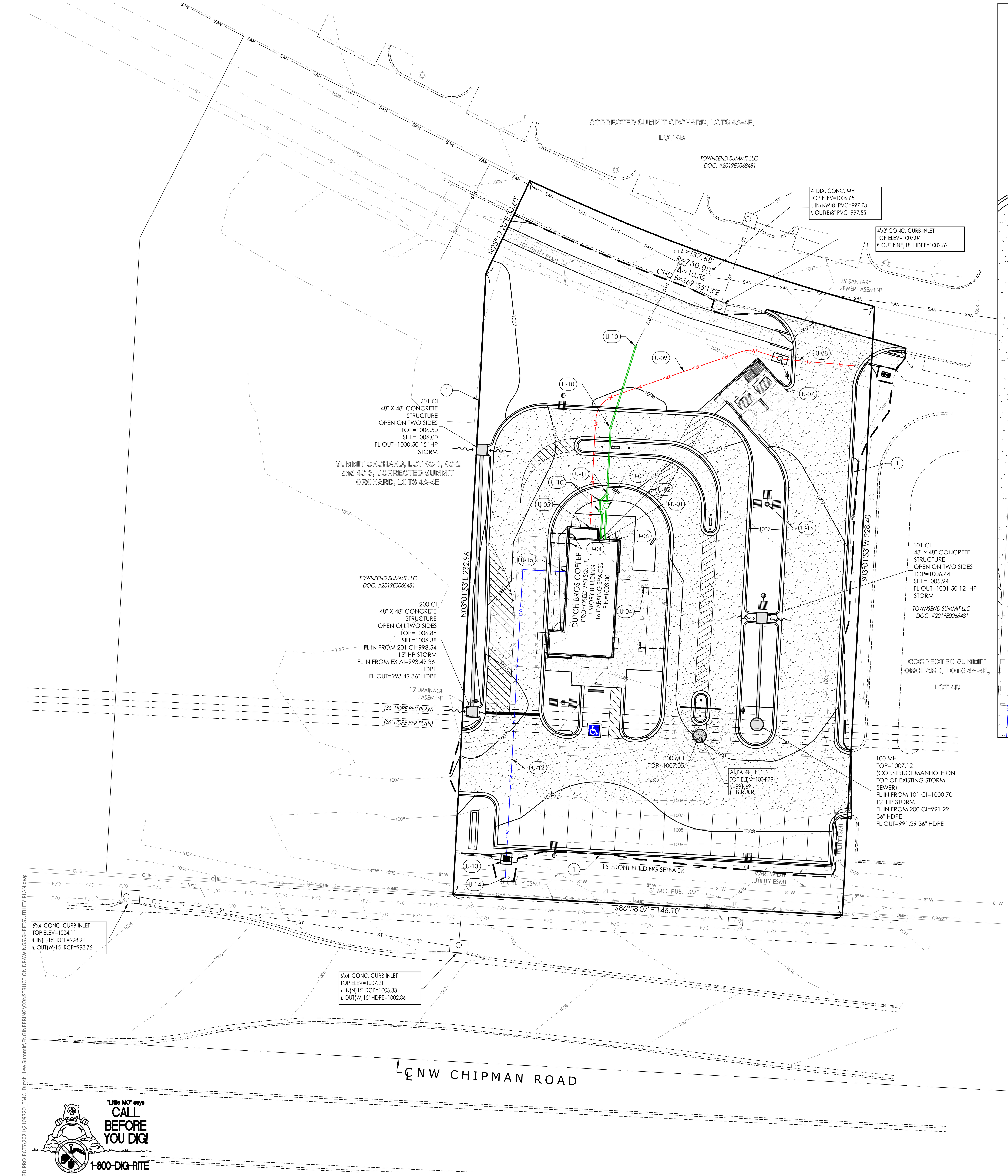
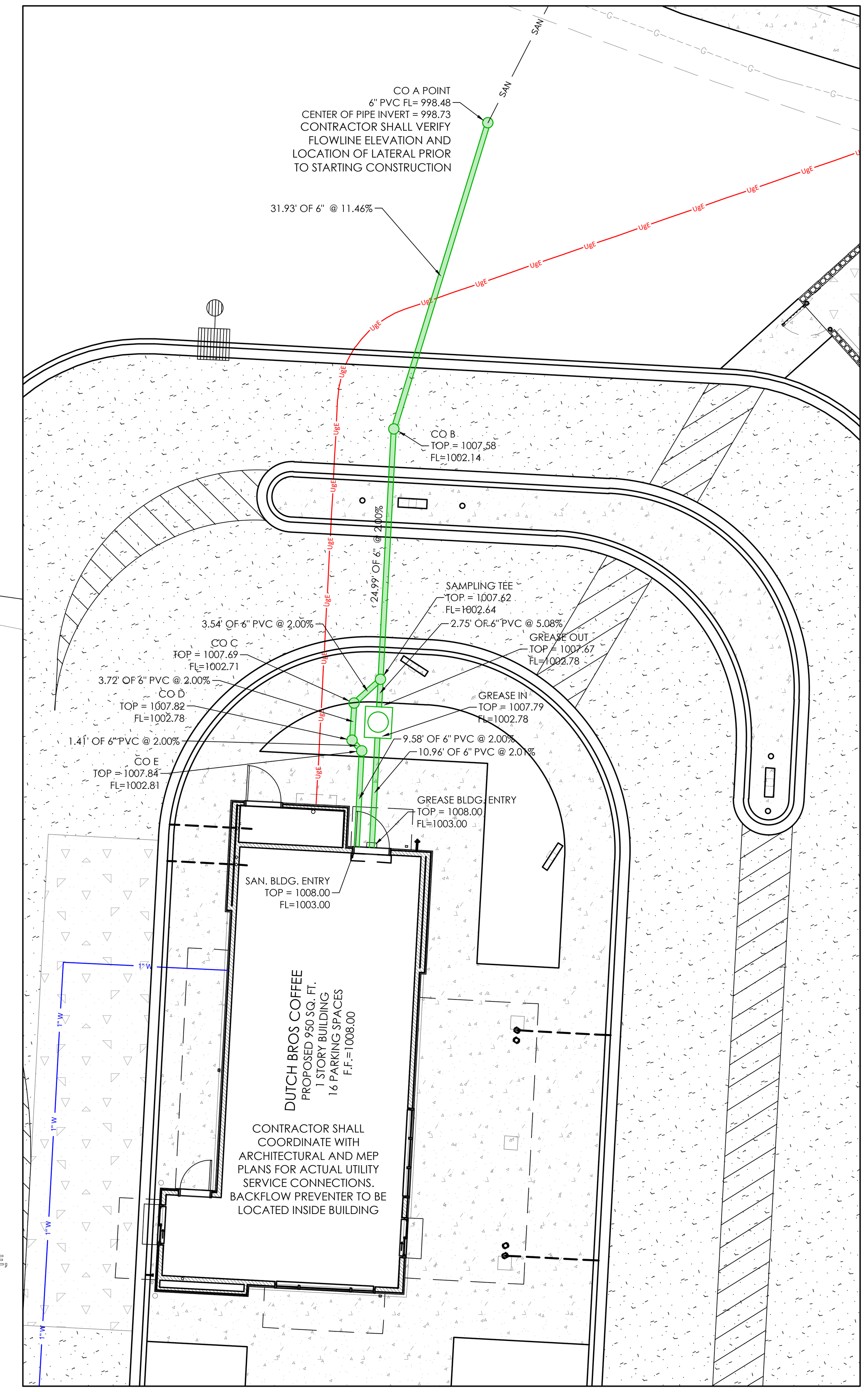


UNDERGROUND UTILITIES AND OSHA SAFETY NOTE:

Underground utilities and structures have been plotted from available information and therefore, their location must be considered approximate only. It is the responsibility of the individual contractors to notify the utility companies before actual construction. All O.S.H.A rules and regulations established for the type of construction required by these plans shall be strictly followed (ie. trenching, blasting, etc.)



BUILDING AREA INSET

SCALE: 1" = 10'

UTILITY PLAN NOTES:

1. ALL FILL MATERIAL IS TO BE IN PLACE AND COMPACTED BEFORE INSTALLATION OF PROPOSED UTILITIES.
2. CONTRACTOR SHALL NOTIFY THE UTILITY AUTHORITIES INSPECTORS 72 HOURS BEFORE CONNECTING TO ANY EXISTING LINE.
3. CONTRACTOR SHALL MAINTAIN A MINIMUM OF 3'-6' COVER ON ALL WATERLINES AND 3'-6' ON ALL SANITARY SEWER LINES.
4. CONTRACTOR SHALL COORDINATE WITH BUILDING ARCHITECT AND TELEPHONE COMPANY FOR EXACT LOCATIONS OF TELEPHONE ENTRY TO THE BUILDING. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY CONDUITS, PULL WIRES, TRENCHING, BACKFILL, ETC. REQUIRED BY TELEPHONE COMPANY.
5. CONNECTION FROM THE METER TO SITE UTILITY LINES SHALL BE MADE BY BUILDING CONTRACTOR.
6. EXISTING UTILITIES SHALL BE VERIFIED IN FIELD PRIOR TO INSTALLATION OF ANY NEW LINES.
7. REFER TO INTERIOR MECHANICAL, ELECTRIC AND PLUMBING DRAWINGS FOR TIE-IN OF ALL UTILITIES.
8. THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
9. ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY SERVICE COMPANIES SHALL BE PERFORMED PRIOR TO ANNOUNCED BUILDING POSSESSION AND THE FINAL CONNECTION OF SERVICE.
10. CONTRACTOR SHALL COORDINATE WITH BUILDING ARCHITECT AND SPIRE FOR EXACT LOCATION OF GAS ENTRY. G.C. TO INCLUDE IN BID FOR CONTRACTOR ANY GAS PIPING, CONDUITS, TRENCHING, BACKFILLING, ETC. REQUIRED BY SPIRE .
11. CONTRACTOR SHALL COORDINATE WITH BUILDING ARCHITECT AND EVERGY FOR EXACT LOCATION OF ELECTRIC ENTRY. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY CONDUITS, TRENCHING, BACKFILLING, CABLES, ETC. REQUIRED BY ELECTRIC COMPANY.
12. REFER TO MEP PLANS FOR GAS SERVICE SIZING.
13. ALL UTILITY SEWER TRENCH BACKFILL SHALL HAVE GRANULAR BACKFILL AND BE MECHANICALLY COMPACTED.
14. THE CONTRACTOR SHALL VERIFY THE LOCATION, CONDITION AND ELEVATION OF ALL PROPOSED SEWER CONNECTION POINTS PRIOR TO THE START OF CONSTRUCTION. ANY DISCREPANCIES THAT WOULD INTERFERE WITH THE PROPOSED SEWER DESIGN SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
15. ALL PERMIT FEES AND COSTS ASSOCIATED WITH BRINGING UTILITY, SEWER AND WATER SERVICES TO THE BUILDING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. ALL FEES AND COSTS SHALL BE INCLUDED IN THE CONTRACTORS BID.
16. ALL CONSTRUCTION MATERIALS USED SHALL CONFORM TO THE CURRENT VERSION OF THE CITY OF LEE'S SUMMIT AND STATE OF MISSOURI SPECIFICATIONS.
17. G.C. IS TO PROVIDE TRENCH PULL WIRE AND CONDUIT FOR TELEPHONE AND ELECTRICAL SERVICES, BACKFILL AND GRADE SMOOTH FOR A COMPLETE TELEPHONE AND ELECTRIC INSTALLATION SHALL BE BY THE GENERAL CONTRACTOR.
18. GENERAL CONTRACTOR IS TO PROVIDE TRENCH, BACKFILL AND GRADE SMOOTH FOR A COMPLETE WATER LINE INSTALLATION.
19. ANY DISTURBED SIDEWALK OR CONCRETE PAVEMENT SHALL BE FULL SLAB REPLACEMENT.
20. EXISTING SANITARY SEWER SERVICE SHALL NOT BE INTERRUPTED.
21. ALL WATER LINES GREATER THAN 3" SHALL BE C-900 PVC PIPE. WATER LINES SMALLER THAN 3" SHALL BE TYPE "K" COPPER.
22. ALL CONNECTIONS TO PUBLIC WATER SHALL BE AS REQUIRED BY CITY OF LEE'S SUMMIT WATER CODES. WATER TAP AND METERS UNDER 2" SHALL BE INSTALLED BY CITY OF LEE'S SUMMIT WATER UP TO THE RIGHT-OF-WAY LINES. WATER TAP AND METERS OVER 2" SHALL BE INSTALLED BY THE CONTRACTOR. CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING CITY OF LEE'S SUMMIT TO SCHEDULE CONNECTION TO PUBLIC WATER.
23. SANITARY LINES SHALL BE PVC MEETING ASTM D-3034 SDR 26 EXCEPT FOR PIPES THAT CROSS ABOVE WATER MAINS, THIS PIPE SHALL BE AWA C900 UNLESS WATER MAIN IS CASED. CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING CITY OF LEE'S SUMMIT SEWER TO SCHEDULE CONNECTION TO PUBLIC SEWER.
24. CONTRACTOR SHALL COORDINATE WITH ADJACENT PROPERTY OWNERS FOR ANY DISRUPTIONS TO EXISTING UTILITY SERVICES.
25. CONTRACTOR IS RESPONSIBLE FOR PAVEMENT REPAIR AND REPLACEMENT REQUIRED FOR ALL UTILITY CONNECTIONS AND INSTALLATIONS.
26. THE OWNER/DEVELOPER WILL BE RESPONSIBLE FOR ANY AND ALL APPLICABLE TAP AND SERVICE FEES AS LISTED IN THE MOST CURRENT EDITION OF CITY OF LEE'S SUMMIT RULES AND REGULATIONS FOR CUSTOMER SERVICE.
27. COORDINATION WITH THE ELECTRIC, TELEPHONE AND CATV COMPANIES SHALL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR AND SHALL BE CONDUCTED IN A MANNER THAT RESULTS IN AN EFFICIENT AND TIMELY RELOCATION AND REMOVAL OF THE EXISTING FACILITIES.
28. GROUND ELEVATIONS SHALL BE WITHIN 6" OF THE FINAL PROPOSED ELEVATIONS PRIOR THE START OF ELECTRIC, TELEPHONE AND CATV RELOCATIONS OR INSTALLATIONS OF NEW SERVICE.
29. CONTRACTOR SHALL REFERENCE ELECTRICAL PLANS FOR FURTHER INFORMATION AND FOR CONDUIT ROUTING TO LIGHT STANDARDS AND ANY GROUND MOUNTED SIGNS.
30. ALL UTILITY IMPROVEMENTS (SERVICES, EXTENSIONS, CONNECTIONS, ETC.) TO BE "PRIVATE".
31. BUILDING SEWER STUBS BEING DISCONNECTED FROM THE SEWER MAIN SHALL BE DISCONNECTED BY THE WATER UTILITIES DEPARTMENT, AFTER THE CONTRACTOR HAS PROVIDED ACCESS TO THE SEWER MAIN VIA AN OSHA COMPLIANT EXCAVATION WITH PROPER SHORING AS NECESSARY. WATER UTILITIES STAFF RESERVE THE RIGHT TO NOT ENTER ANY TRENCH DETERMINED TO BE UNSAFE.

REFERENCE NOTES SCHEDULE

CODE	DESCRIPTION
1	LAND DISTURBANCE LIMITS
	UTILITY PLAN
CODE	DESCRIPTION
U-01	PROPOSED 6" GREASE WASTE CONNECTION, INVERT=1003.00, REFERENCE MEP PLANS
U-02	PROPOSED 6" SANITARY SEWER CONNECTION, INVERT=1003.00, REFERENCE MEP PLANS
U-03	PROPOSED GB-50 GREASE TRAP, REFER TO ARCHITECTURAL PLANS
U-04	ROOF DRAINS, REFER TO ARCH. PLANS FOR EXACT LOCATION AND DISCHARGE DETAIL
U-05	PROPOSED ELECTRIC ENTRY, REFERENCE MEP PLANS FOR CONTINUATION
U-06	PROPOSED WALL HYDRANT, REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION.
U-07	RELOCATED GROUND MOUNTED TRANSFORMER PER EVERGY MISSOURI WEST STANDARDS
U-08	PROPOSED PRIMARY UNDERGROUND ELECTRIC SERVICE
U-09	PROPOSED SECONDARY UNDERGROUND ELECTRIC SERVICE
U-10	PROPOSED SANITARY LATERAL CLEANOUT
U-11	PROPOSED SANITARY LATERAL SAMPLING TEE
U-12	PROPOSED 1" DOMESTIC WATER LINE PER CITY OF LEE`S SUMMIT SPECIFICATIONS
U-13	PROPOSED 1" DOMESTIC WATER METER AND PIT PER THE CITY OF LEE`S SUMMIT WATER SPECIFICATIONS
U-14	P.O.C. CONNECTION TO EX. 8" WATER MAIN INSTALL: (1) 8"X8"X1" TEE (1) 1" DOMESTIC METER PER CITY OF LEE`S SUMMIT WATER SPECIFICATIONS
U-15	PROPOSED 1" DOMESTIC WATER ENTRY, REFERENCE MEP PLANS FOR CONTINUATION
U-16	PROPOSED LIGHT STANDARDS, REFERENCE PHOTOMETRIC PLAN E0.01

THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO SUBMITTAL OF HIS/HER BIDS TO CONFIRM THAT THE SITE CONDITIONS ARE AS SHOWN ON THESE PLANS. ANY CONDITION THAT IS DIFFERENT THAN WHAT IS SHOWN ON THESE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO SUBMITTAL OF BIDS.

1" = 20'

20 10 0 20 40

SCALE IN FEET

PREMIER DESIGN GROUP
100 MIDLAND PARK DRIVE
WENTZVILLE, MO 63385

STATE OF MISSOURI — STEVE MARION — NUMBER PE2006007195 — PROFESSIONAL ENGINEER

ENGINEERS AUTHENTICATION
STEVEN D. MARION P.E.
PROFESSIONAL ENGINEER
PE 2006007195

Project: DUTCH BROS
LEE'S SUMMIT, MO
500 NW CHIPMAN RD.
LEE'S SUMMIT, MO 64086
TM CROWLEY
501 PENNSYLVANIA PARKWAY SUITE 160
INDIANAPOLIS, IN 46280

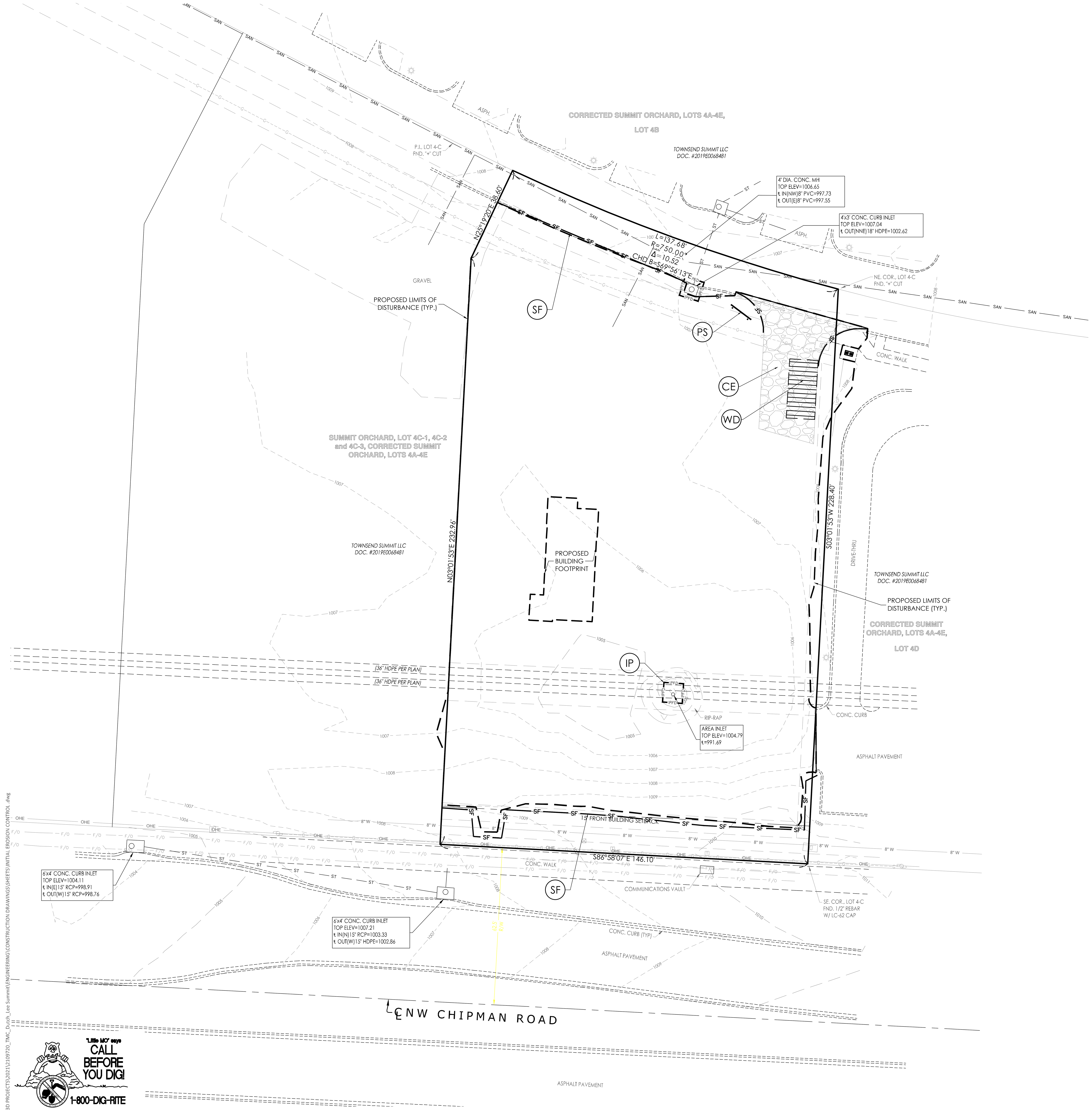
Date: 9-30-2021

Sheet Title: UTILITY PLAN

Sheet Number: C-300

Project No.	2109720
Drawn By	A. JONES
Checked By	M. FOGARTY

NOT RELEASED FOR CONSTRUCTION



UNDERGROUND UTILITIES AND OSHA SAFETY NOTE:

Underground utilities and structures have been plotted from available information and therefore, their location must be considered approximate only. It is the responsibility of the individual contractors to notify the utility companies before actual construction. All O.S.H.A rules and regulations established for the type of construction required by these plans shall be strictly followed (ie. trenching, blasting, etc.)

\\Vault-pc\vault\CIVIL 3D PROJECTS\2021\2109720_TMC_Dutch_Lee Summit\ENGINEERING\CONSTRUCTION DRAWINGS\SHEETS\INITIAL EROSION CONTROL.dwg

EROSION CONTROL SYMBOL LEGEND

- LEASE LINE/PROPERTY LINE
- STORM PIPE
- EXISTING CONTOUR
- PROPOSED CONTOUR
- (LD) LIMITS OF ANTICIPATED DISTURBED AREA / CONSTRUCTION LIMITS
- (SF) SILT FENCE (REFERENCE DRAWING 806-70.00 ON SHEET C-402)
- (GB) GRAVEL OR SAND BAG PROTECTION (REFERENCE DRAWING 806-45.08 ON SHEET C-402)
- (CE) CONSTRUCTION EXIT (REFERENCE DRAWING 806-46.01 ON SHEET C-402)
- (WD) CONSTRUCTION WASHDOWN STATION (REFERENCE DRAWING 806-46.00 ON SHEET C-402)
- (SD) SEEDING / SOD
- (IP) INLET PROTECTION (REFERENCE DRAWING 806-45.12 ON SHEET C-402)
- (PS) PERMIT SIGN (REFERENCE DETAIL SHEET C-402)

CONSTRUCTION SEQUENCING ACTIVITIES:

- INSTALL PROJECT SIGN & POST PERMITS
- INSTALL SILT & CONSTRUCTION FENCING
- INSTALL INLET PROTECTION
- INSTALL CONSTRUCTION ENTRANCE / EXIT
- INSTALL VEHICULAR WASH DOWN AREA
- BEGIN EXCAVATION & SITE DEMOLITION
- BEGIN BUILDING FOOTINGS & FOUNDATIONS
- BEGIN UTILITY TRENCHING & EXCAVATION
- PARKING & DRIVE AREA PAVING
- FINISHED GRADING & LANDSCAPING
- SEEDING & SOD WORK
- REMOVAL OF EROSION CONTROL AND OTHER BMP's

NOTES:

1. REFER TO THE EROSION CONTROL DETAIL SHEET & STORMWATER POLLUTION PREVENTION NARRATIVE FOR ADDITIONAL NOTES AND REQUIREMENTS.
2. THE GENERAL CONTRACTOR SHALL OBTAIN A COPY OF THE NPDES PERMIT ISSUED FOR THE SITE AND POST IT AT THE PROJECT SITE PRIOR TO ANY LAND DISTURBING ACTIVITIES. REFER TO SITE SIGN DETAIL ON THE EROSION CONTROL DETAIL SHEET.
3. CONTRACTOR SHALL INSTALL BMP'S NOTED ON THIS PLAN PRIOR TO BEGINNING ANY LAND DISTURBING, DEMOLITION, OR TREE REMOVAL ACTIVITIES.
4. THE CONTRACTOR SHALL INSTALL CONSTRUCTION ENTRANCE/EXIT AND MAINTAIN THESE ENTRANCES DURING CONSTRUCTION.
5. THE JOB SITE TRAILER, DUMPSTER, FUELING AREA, STORAGE & LAY-DOWN AREA SHALL BE LOCATED BY THE GENERAL CONTRACTOR AT THE START OF CONSTRUCTION. THESE ITEMS MUST BE NOTED BY THE CONTRACTOR ON THE SWPPP DRAWINGS.
6. SOIL STOCKPILES AND DEMOLITION DEBRIS STOCKPILES SHALL HAVE SILT FENCES INSTALLED IF LEFT ON SITE & UNDISTURBED FOR MORE THAN 13 DAYS.

ALL PROJECT SITES ARE REQUIRED TO COMPLY WITH REQUIREMENTS OF THE "CLEAN WATER ACT" ESTABLISHED BY THE US ENVIRONMENTAL PROTECTION AGENCY.

THE EPA's NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) PROGRAM REQUIRES PERMITS TO BE ISSUED BY REGULATORY AGENCIES WHEN PROJECT SITES DISTURB 1 ACRE OR MORE.

1" = 20'

20 10 0 20 40

SCALE IN FEET

PREMIER DESIGN GROUP
100 MIDLAND PARK DRIVE
WENTZVILLE, MO 63385
MISSOURI CERTIFICATE OF AUTHORITY #E-2011000031
MISSOURI CERTIFICATE OF AUTHORITY #LS-2012007849

STATE OF MISSOURI — STEVE MARION — NUMBER PE2006007195 — PROFESSIONAL ENGINEER

ENGINEERS AUTHENTICATION

The responsibility for professional engineering liability on this project is hereby limited to the set of plans authenticated by the seal, signature, and date hereunder attached. Responsibility is disclaimed for all other engineering plans involved in this project and specifically excludes revisions after this date unless reauthenticated.

STEVEN D. MARION P.E.
PROFESSIONAL ENGINEER
PE 2006007195

Project: DUTCH BROS
LEE'S SUMMIT, MO
500 NW CHIPMAN RD.
LEE'S SUMMIT, MO 64086
TM CROWLEY
501 PENNSYLVANIA PARKWAY SUITE 160
INDIANAPOLIS, IN 46280

Date: 9-30-2021

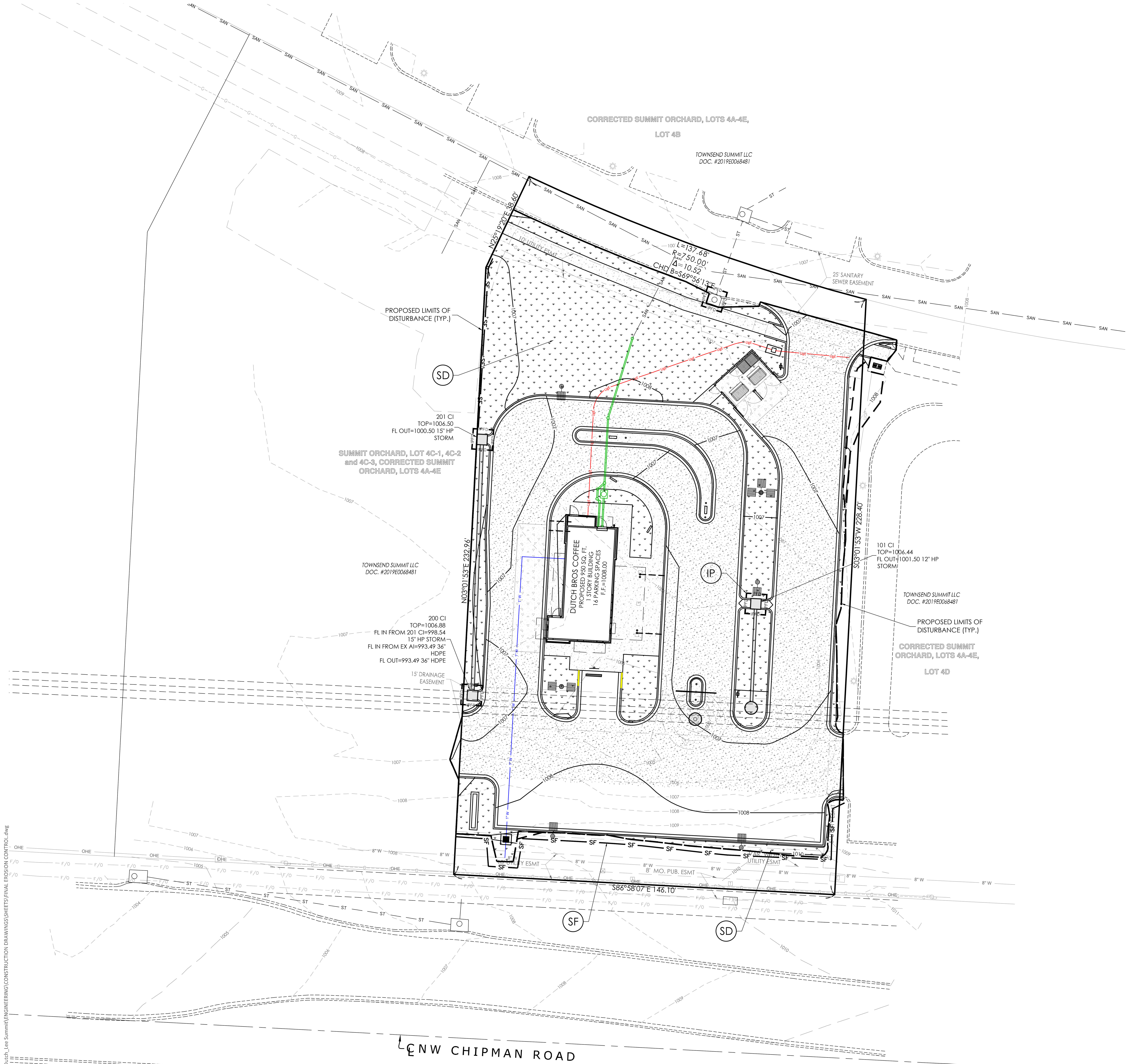
#	Revision Date	Description of Changes

Sheet Title: INITIAL EROSION CONTROL PLAN

Sheet Number: C-400

Project No.	2109720
Drawn By	A. JONES
Checked By	M. FOGARTY

NOT RELEASED FOR CONSTRUCTION



EROSION CONTROL SYMBOL LEGEND

Symbol	Description
	LEASE LINE/PROPERTY LINE
	STORM PIPE
	EXISTING CONTOUR
	PROPOSED CONTOUR
LD	LIMITS OF ANTICIPATED DISTURBED AREA / CONSTRUCTION LIMITS
SF	SILT FENCE (REFERENCE DRAWING 806-70.00 ON SHEET C-402)
GB	GRAVEL OR SAND BAG PROTECTION (REFERENCE DRAWING 806-45.08 ON SHEET C-402)
CE	CONSTRUCTION EXIT (REFERENCE DRAWING 806-46.01 ON SHEET C-402)
WD	CONSTRUCTION WASHDOWN STATION (REFERENCE DRAWING 806-46.00 ON SHEET C-402)
SD	SEEDING / SOD/MULCH
IP	INLET PROTECTION (REFERENCE DRAWING 806-45.12 ON SHEET C-402)
PS	PERMIT SIGN (REFERENCE DETAIL SHEET C-402)

CONSTRUCTION SEQUENCING ACTIVITIES:

- INSTALL PROJECT SIGN & POST PERMITS
- INSTALL SILT & CONSTRUCTION FENCING
- INSTALL INLET PROTECTION
- INSTALL CONSTRUCTION ENTRANCE / EXIT
- INSTALL VEHICULAR WASH DOWN AREA
- BEGIN EXCAVATION & SITE DEMOLITION
- BEGIN BUILDING FOOTINGS & FOUNDATIONS
- BEGIN UTILITY TRENCHING & EXCAVATION
- PARKING & DRIVE AREA PAVING
- FINISHED GRADING & LANDSCAPING
- SEEDING & SOD WORK
- REMOVAL OF EROSION CONTROL AND OTHER BMP's

NOTES:

1. REFER TO THE EROSION CONTROL DETAIL SHEET & STORMWATER POLLUTION PREVENTION NARRATIVE FOR ADDITIONAL NOTES AND REQUIREMENTS.
2. THE GENERAL CONTRACTOR SHALL OBTAIN A COPY OF THE NPDES PERMIT ISSUED FOR THE SITE AND POST IT AT THE PROJECT SITE PRIOR TO ANY LAND DISTURBING ACTIVITIES. REFER TO SITE SIGN DETAIL ON THE EROSION CONTROL DETAIL SHEET.
3. CONTRACTOR SHALL INSTALL BMP'S NOTED ON THIS PLAN PRIOR TO BEGINNING ANY LAND DISTURBING, DEMOLITION, OR TREE REMOVAL ACTIVITIES.
4. THE CONTRACTOR SHALL INSTALL CONSTRUCTION ENTRANCE/EXIT AND MAINTAIN THESE ENTRANCES DURING CONSTRUCTION.
5. THE JOB SITE TRAILER, DUMPSTER, FUELING AREA, STORAGE & LAY-DOWN AREA SHALL BE LOCATED BY THE GENERAL CONTRACTOR AT THE START OF CONSTRUCTION. THESE ITEMS MUST BE NOTED BY THE CONTRACTOR ON THE SWPPP DRAWINGS.
6. SOIL STOCKPILES AND DEMOLITION DEBRIS STOCKPILES SHALL HAVE SILT FENCES INSTALLED IF LEFT ON SITE & UNDISTURBED FOR MORE THAN 13 DAYS.

ALL PROJECT SITES ARE REQUIRED TO COMPLY WITH REQUIREMENTS OF THE "CLEAN WATER ACT" ESTABLISHED BY THE US ENVIRONMENTAL PROTECTION AGENCY.

THE EPA's NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NPDES) PROGRAM REQUIRES PERMITS TO BE ISSUED BY REGULATORY AGENCIES WHEN PROJECT SITES DISTURB 1 ACRE OR MORE.

"Little MO" says CALL BEFORE YOU DIG! 1-800-DIG-RITE

UNDERGROUND UTILITIES AND OSHA SAFETY NOTE:
Underground utilities and structures have been plotted from available information and therefore, their location must be considered approximate only. It is the responsibility of the individual contractors to notify the utility companies before actual construction. All O.S.H.A rules and regulations established for the type of construction required by these plans shall be strictly followed (i.e. trenching, blasting, etc.)

1" = 20'
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SCALE IN FEET

PREMIER DESIGN GROUP
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MISSOURI CERTIFICATE OF AUTHORITY #E-2011000031
MISSOURI CERTIFICATE OF AUTHORITY #LS-2012007849

STATE OF MISSOURI — STEVE MARION — NUMBER PE2006007195 — PROFESSIONAL ENGINEER — 10/5/2021

ENGINEERS AUTHENTICATION
The responsibility for professional engineering liability on this project is hereby limited to the set of plans authenticated by the seal, signature, and date hereunder attached. Responsibility is disclaimed for all other engineering plans involved in this project and specifically excludes revisions after this date unless reauthenticated.
STEVEN D. MARION P.E.
PROFESSIONAL ENGINEER
PE 2006007195

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LEE'S SUMMIT, MO 64086
TM CROWLEY
501 PENNSYLVANIA PARKWAY SUITE 160
INDIANAPOLIS, IN 46280

Date: 9-30-2021

#	Revision Date	Description of Changes

Sheet Title: FINAL EROSION CONTROL PLAN

Sheet Number: C-401

Project No.	2109720
Drawn By	A. JONES
Checked By	M. FOGARTY

NOT RELEASED FOR CONSTRUCTION

GENERAL EROSION AND SEDIMENTATION CONTROL NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING A COPY OF THE LAND DISTURBANCE PERMIT FOR THIS SITE PRIOR TO THE START OF CONSTRUCTION. A LAND DISTURBANCE PERMIT FROM THE MISSOURI DEPARTMENT OF NATURAL RESOURCES WILL BE REQUIRED. A GRADING PERMIT FROM THE CITY OF CITY OF LEE'S SUMMIT WILL BE REQUIRED.
2. THE CONTRACTOR SHALL KEEP & MAINTAIN A COPY OF THE LAND DISTURBANCE PERMIT(S), EROSION CONTROL PLANS, AND STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AT THE PROJECT SITE DURING CONSTRUCTION.
3. ALL EROSION CONTROL MEASURES MUST MEET LOCAL REQUIREMENTS AND THE "PROTECTING WATER QUALITY, A FIELD GUIDE TO EROSION, SEDIMENT AND STORM WATER BEST MANAGEMENT PRACTICES FOR DEVELOPMENT SITES IN MISSOURI AND KANSAS". THE DOCUMENT IS AVAILABLE FROM THE MISSOURI DEPARTMENT OF NATURAL RESOURCES AND CAN BE DOWNLOADED FROM THE DNR WEBSITE AT HTTP:/WWW.DNR.MO.GOV/ENV/WPP/WPCP-GUIDE.HTM.
4. PRIOR TO THE START OF ANY LAND DISTURBING ACTIVITIES, EROSION AND SEDIMENT CONTROL MEASURES AND APPLICABLE BMPS SHALL BE INSTALLED.
5. THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEER A MINIMUM OF 48 HOURS PRIOR TO THE START OF GRADING SO THAT SITE BMPS CAN BE VERIFIED.
6. THE GENERAL CONTRACTOR SHALL HAVE ULTIMATE CONTROL OF THE SITE AND REQUIRE THAT ALL SUBCONTRACTORS, UTILITY COMPANIES, AND ANY PERSON PERFORMING LAND DISTURBING ACTIVITIES CONFORM TO THE REQUIREMENTS OF THE PERMITS ISSUED FOR THE SITE. THIS INCLUDES CONFORMANCE TO THE STORM WATER POLLUTION PLAN PREPARED & MAINTAINED FOR THE SITE.
7. THE CONTRACTOR IS RESPONSIBLE FOR MANAGING STORM WATER RUNOFF AND EROSION THROUGHOUT CONSTRUCTION.
8. THIS EROSION CONTROL PLAN HAS BEEN PREPARED AS A BEGINNING POINT AND SHOULD EVOLVE AS SITE CONDITIONS WARRANT. THE GENERAL CONTRACTOR SHALL IMPLEMENT ADDITIONAL BMPS AS DEEMED NECESSARY TO ADEQUATELY RETAIN SEDIMENT ON-SITE.
9. THE CONTRACTOR SHALL MAINTAIN AND PROTECT EXISTING TREES AND VEGETATION.
10. CONSTRUCTION MATERIAL STORAGE AND LAY-DOWN AREAS ARE TO BE AWAY FROM DRAINAGE COURSES AND LOW AREAS.
11. PROVIDE CONTAINERS FOR THE DISPOSAL OF WASTE PAINTS, SOLVENTS, CLEANING COMPOUNDS, ETC.
12. PROVIDE TRASH CONTAINERS ONSITE AND PERFORM REGULAR SITE CLEAN UP FOR PROPER DISPOSAL OF SOLID WASTE. SOLID WASTE SHALL INCLUDE, BUT NOT BE LIMITED TO, SCRAP BUILDING MATERIALS, PRODUCT/MATERIAL PACKAGING, FOOD AND DRINK CONTAINERS.
13. THE CONTRACTOR SHALL INSTALL CONTAINMENT BERMS & DRIP PANS AT PETROLEUM PRODUCT & LIQUID STORAGE TANK AREAS.
14. THE CONTRACTOR SHALL PROVIDE CONCRETE WASH OUT AREAS. CONCRETE TRUCKS SHALL NOT DISCHARGE SURPLUS CONCRETE OR WASH WATER ON THE GROUND OR INTO DITCHES. CONCRETE WASH-OUT AREAS SHALL BE DESIGNED TO ENSURE CONCRETE PARTICLES WILL NOT BE RELEASED FROM THE CONSTRUCTION SITE.
15. THE CONTRACTOR SHALL IMPLEMENT DUST CONTROL MEASURES IF CONDITIONS WARRANT. DUST CONTROL MAY INCLUDE WATERING/IRRIGATION, WIND BARRIERS, SPRAY ON ADHESIVES, TILLING, OR CHEMICAL TREATMENT. ANY CLEANUP TO ADJACENT PROPERTIES DUE TO INADEQUATE DUST CONTROL WILL BE THE CONTRACTOR'S RESPONSIBILITY.
16. THE CONTRACTOR SHALL PROVIDE FOR SOLID WASTE/TRASH COLLECTION. THE CONSTRUCTION SITE SHALL BE KEPT CLEAN AND ORDERLY.
17. THE CONTRACTOR SHALL PROVIDE FOR SANITARY WASTE COLLECTION DURING CONSTRUCTION. PORTA POTTIES SHALL BE LOCATED BY THE CONTRACTOR AND NOTED ON THE DRAWINGS.

CONSTRUCTION SWPPP LOG

1. THE CONTRACTOR SHALL DEVELOP A CONSTRUCTION SWPPP LOG AT THE START OF CONSTRUCTION. THE CONSTRUCTION SWPPP LOG SHALL INCLUDE INSTALLATION DATES OF BMP'S, MAINTENANCE RECORDS, RAINFALL RECORDS, AND ANY ITEM THAT ADDRESSES THE MANAGEMENT OF STORM WATER POLLUTION PREVENTION MEASURES AT THE PROJECT SITE.
2. REFER TO THE SWPPP DOCUMENT/NARRATIVE FOR FORMS AND OTHER DETAILED INFORMATION REGARDING STORM WATER POLLUTION PREVENTION PRACTICES.
3. THE SWPPP LOG SHALL BE KEPT ON THE JOB SITE AND SHALL BE MADE AVAILABLE FOR REVIEW AT THE REQUEST OF APPLICABLE GOVERNING AUTHORITIES.
4. BMP's SHALL BE INSPECTED ONCE A WEEK AND WITHIN 24 HRS OF RAIN EVENTS OF 1/2" OR GREATER. INSPECTIONS ARE TO BE DOCUMENTED IN THE SWPPP LOG. REPAIR AND MAINTENANCE TO BMP'S SHALL BE DONE IMMEDIATELY.
5. THE CONTRACTOR SHALL SUBMIT AN INSPECTION REPORT WITHIN 72 HOURS AFTER EVERY STORM EVENT TO THE CITY ENGINEER.
6. THE CONTRACTOR SHALL ENSURE THE SITE CONFORMS TO THE REQUIREMENTS OF THE LAND DISTURBANCE PERMIT AND INSTALL ADDITIONAL BMP'S SHOULD SITE CONDITIONS WARRANT.
7. AFTER CONSTRUCTION, THE CONSTRUCTION SWPPP LOG SHALL BE RETAINED BY THE CONTRACTOR FOR A MINIMUM OF 3 YEARS.

FINAL SITE STABILIZATION

1. ONCE GRADED AREAS ARE CONSTRUCTED TO FINAL GRADES, PERMANENT STABILIZATION SHALL BE ESTABLISHED.
2. THE CONTRACTOR SHALL RESTORE OFF-SITE AREAS DAMAGED BY CONSTRUCTION TO A CONDITION, EQUAL TO, OR BETTER THAN THE CONDITION PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
3. ALL EROSION CONTROL BMP's SHALL REMAIN IN PLACE UNTIL THE SITE HAS BEEN PERMANENTLY STABILIZED.
4. ONCE THE SITE HAS REACH FINAL STABILIZATION, THE CONTRACTOR IS TO CLEAN AND REMOVE DEBRIS FROM BMP'S AND STORM WATER COLLECTION AREAS. BMP'S ARE THEN TO BE REMOVED.

POTENTIAL POLLUTANTS THAT MAY BE FOUND ON SITE DURING CONSTRUCTION:

Material Trade Name	Chemical/Physical Description	Storm Water Pollutants
Erosion	Solid Particles	Soil, sediment
Fertilizer	Liquid or solid grains	Nitrogen, phosphorus
Pesticides (insecticides, fungicides, herbicides, rodenticides)	Various colored to colorless liquid, powder, pellets, or grains	Chlorinated hydrocarbons, organophosphates, carbonates, arsenic
Asphalt	Black solid	Oil, petroleum distillates
Concrete	White solid	Limestone, sand
Plaster	White granules or powder	Calcium Sulphate, calcium carbonate, sulfuric acid
Glue, adhesives	White or yellow liquid	Polymers, epoxies
Paints	Various colored liquid	Metal oxides, Stoddard solvent, talc, calcium carbonate, arsenic
Curing compounds	Creamy white liquid	Naphtha
Wood preservatives	Clear amber or dark brown liquid	Stoddard solvent, petroleum distillates, arsenic, copper, chromium.
Hydraulic oil/fluids	Brown oily petroleum hydrocarbon	Mineral oil
Gasoline	Colorless, pale brown or pink petroleum hydrocarbon	Benzene, ethyl benzene, toluene, xylene, MTBE
Diesel Fuel	Clear, blue-green to yellow liquid	Petroleum distillate, oil & grease, naphthalene, xylenes
Antifreeze/coolant	Clear green/yellow liquid	Ethylene glycol, propylene glycol, heavy metals (copper, lead, zinc)

MATERIALS STORED ON SITE:

1. ALL MATERIALS STORED ON-SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR APPROPRIATE CONTAINERS. IF POSSIBLE, MATERIALS SHALL BE STORED UNDER A ROOF OR OTHER ENCLOSURE.
2. PRODUCTS SHALL BE KEPT IN THEIR ORIGINAL CONTAINERS WITH THE MANUFACTURER'S LABEL. SUBSTANCES SHALL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER. WHENEVER POSSIBLE, ALL OF THE PRODUCT SHALL BE USED UP BEFORE DISPOSING OF THE CONTAINER. THE MANUFACTURER'S RECOMMENDATIONS FOR THE PROPER USE AND DISPOSAL OF THEIR PRODUCTS SHALL BE FOLLOWED. THE CONSTRUCTION MANGER SHALL INSPECT THE ON-SITE MATERIALS DAILY TO ENSURE THE PROPER USE AND DISPOSAL.
3. HAZARDOUS PRODUCTS SHALL BE KEPT IN RESEALABLE CONTAINERS. ORIGINAL LABELS AND MATERIAL SAFETY DATA SHALL BE RETAINED. ALL FEDERAL, STATE AND CITY REGULATIONS SHALL BE FOLLOWED WHEN DISPOSING OF ANY HAZARDOUS WASTE.

"Little MO" says CALL BEFORE YOU DIG! 1-800-DIG-RITE

UNDERGROUND UTILITIES AND OSHA SAFETY NOTE:

Underground utilities and structures have been plotted from available information and therefore, their location must be considered approximate only. It is the responsibility of the individual contractors to notify the utility companies before actual construction. All O.S.H.A rules and regulations established for the type of construction required by these plans shall be strictly followed (ie. trenching, blasting, etc.)

MAINTENANCE OF EROSION AND SEDIMENTATION CONTROLS:

1. SILT FENCING SHALL BE INSPECTED DAILY DURING PERIODS OF RAINFALL, IMMEDIATELY AFTER EACH SIGNIFICANT RAINFALL EVENT, AND WEEKLY DURING PERIODS OF NO RAINFALL. REPAIRS TO SILT FENCES SHALL BE DONE IMMEDIATELY. SEDIMENT SHALL BE REMOVED FROM THE SILT FENCES WHEN THE SEDIMENT REACHES ONE-HALF THE HEIGHT OF THE SILT FENCE.
2. THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE INSPECTED REGULARLY, AFTER EVERY RAINFALL EVENT, AND DURING HIGH VOLUMES OF TRAFFIC. REPAIRS TO THE CONSTRUCTION ENTRANCE SHALL BE MADE IMMEDIATELY. ALL SEDIMENTS, AND ALL OTHER MATERIALS, TRACKED ONTO PUBLIC ROADWAYS SHALL BE REMOVED IMMEDIATELY.
3. SELECT STOCKPILE LOCATION TO AVOID SLOPES AND NATURAL DRAINAGE WAYS, AVOIDING TRAFFIC ROUTES. ON LARGE SITES, RE-SPREADING IS EASIER AND MORE ECONOMICAL WHERE TOPSOIL IS STOCKPILED IN SMALL PILES LOCATED NEAR AREAS WHERE THEY WILL BE USED.
4. INSPECT AND MAINTAIN ALL BMPS LOCATED DOWN HILL OF AREA BEING GRADED, AS INDICATED. ADDITIONAL BMPS SHOULD BE CONSTRUCTED IF IT IS OBSERVED THAT THE PROPOSED BMPS ARE NOT EFFECTIVELY LIMITING SEDIMENT TRANSPORT FROM THE SITE. TYPICAL BMPS THAT MIGHT BE UTILIZED INCLUDE, BUT ARE NOT LIMITED TO:
   - SEDIMENT BARRIERS - USE SILT FENCES, STRAW BALE SEDIMENT TRAPS OR OTHER BARRIERS WHERE NECESSARY TO RETAIN SEDIMENT
   - TEMPORARY SEEDING - PROTECT TOPSOIL STOCKPILES BY TEMPORARILY SEEDING AS SOON AS POSSIBLE, NO MORE THAN 14 CALENDAR DAYS AFTER THE FORMATION OF THE STOCKPILE
   - PERMANENT VEGETATION - IF STOCKPILES WILL NOT BE USED WITHIN 12 MONTHS, THEY MUST BE STABILIZED WITH PERMANENT VEGETATION TO CONTROL EROSION AND WEED GROWTH

SPILL CONTROL OF POLLUTANTS:

1. ALL ON-SITE VEHICLES SHALL BE MONITORED FOR LEAKS AND SHALL RECEIVE REGULAR PREVENTATIVE MAINTENANCE TO REDUCE THE CHANCE OF LEAKAGE.
2. CONCRETE TRUCKS SHALL ONLY WASH-OUT OR DISCHARGE SURPLUS CONCRETE, OR DRUM-WASH WATER, AT DEDICATED CONCRETE TRUCK WASH-OUT AREAS. NO EXCESS CONCRETE OR DRUM WASH WATER SHALL BE RELEASED FROM THE SITE.
3. PETROLEUM PRODUCTS SHALL BE STORED IN TIGHTLY SEALED CONTAINERS WHICH ARE CLEARLY LABELED.
4. ALL ASPHALTIC SUBSTANCES USED ON-SITE SHALL BE APPLIED ACCORDING TO THE MANUFACTURERS RECOMMENDATIONS.
5. FERTILIZERS SHALL BE APPLIED ONLY IN THE MINIMUM AMOUNTS RECOMMENDED BY THE MANUFACTURER. ONCE APPLIED, FERTILIZER SHALL BE WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORM WATER. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER SHALL BE TRANSFERRED TO A SEALABLE PLASTIC CONTAINER TO AVOID SPILLS.
6. ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY. THE MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP SHALL BE RELAYED TO SITE PERSONNEL AND THEY SHALL BE MADE AWARE OF THE LOCATION OF THE CLEANUP SUPPLIES. MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP SHALL BE STORED ON-SITE. IN CASE OF A SPILL, THE SPILL AREA SHALL BE KEPT WELL VENTILATED AND CLEANUP PERSONNEL SHALL WEAR THE APPROPRIATE CLOTHING TO PREVENT INJURY FROM CONTACT WITH THE HAZARDOUS SUBSTANCE. SPILLS OF TOXIC AND HAZARDOUS MATERIAL, REGARDLESS OF THE SIZE OF THE SPILL, SHALL BE REPORTED TO THE APPROPRIATE STATE AND LOCAL GOVERNMENT AGENCIES IMMEDIATELY AFTER DISCOVERY.

CONSTRUCTION ENTRANCE (CE)

1. THE LOCATION OF A CONSTRUCTION ENTRANCE/EXIT HAS BEEN SHOWN ON THE EROSION CONTROL PLAN(S). THE CONTRACTOR SHALL INSTALL OR ESTABLISH A DESIGNATED CONSTRUCTION ENTRANCE/EXIT AT THE START OF CONSTRUCTION. IN THE EVENT THE ENTRANCE IS LOCATED IN A DIFFERENT LOCATION, THE CONTRACTOR SHALL UPDATE THE EROSION CONTROL PLAN.
2. A PERMIT SIGN SHALL BE INSTALLED AT OR NEAR THE CONSTRUCTION ENTRANCE FOR POSTING RELEVANT CONSTRUCTION PERMITS FOR THE PROJECT.
3. AS PART OF THE CONSTRUCTION ENTRANCE, THE CONTRACTOR SHALL INSTALL A VEHICLE WASH DOWN AREA. THE WASH DOWN AREA IS TO PREVENT THE TRACKING OF MUD AND DEBRIS FROM THE PROJECT SITE.
4. TRACKING IS NOT PERMISSIBLE. ANY TRACKING OF MUD AND/OR DEBRIS ONTO OFF-SITE ROADS SHALL BE CLEANED IMMEDIATELY.
5. LOCATION AND FINAL DIMENSIONS OF THE CONSTRUCTION ENTRANCE, WASH DOWN AREA AND STAGING AREAS SHALL BE ESTABLISHED BY THE GENERAL CONTRACTOR.
6. ALL CONSTRUCTION TRAFFIC LEAVING THE PROJECT SITE SHALL UTILIZE THE CONSTRUCTION ENTRANCE/EXIT.

SILT FENCE (SF)

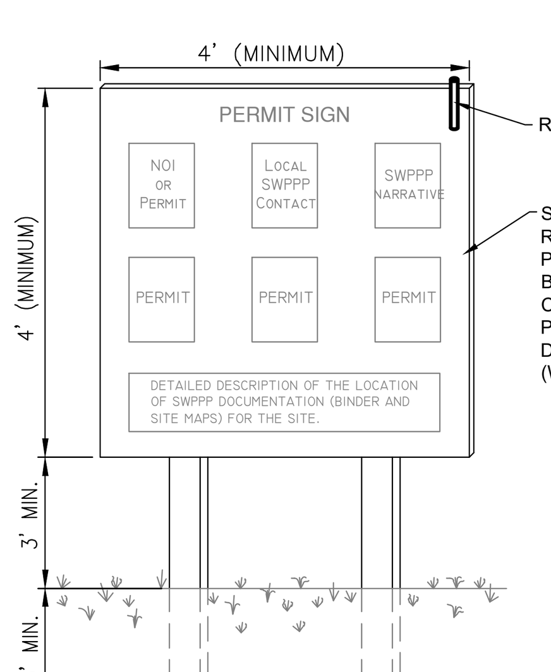
7. SILT FENCE TO BE ADJUSTED AS NECESSARY FOR CONSTRUCTION ACTIVITY.
8. UNLESS NOTED OTHERWISE, SILT FENCE SHALL BE A WOVEN GEOTEXTILE FABRIC SUCH AS MIRAFI 100X OR EQUAL.
9. REFER TO THE SILT FENCE DETAIL FOR INSTALLATION REQUIREMENTS.
10. SILT FENCES SHALL ONLY BE USED FOR STORM WATER SHEET FLOW CONDITIONS.
11. SILT FENCES SHALL FOLLOW CONTOURS AND UTILIZE "J" HOOKS TO HELP TRAP SEDIMENT.
12. SILT FENCES SHALL BE INSPECTED REGULARLY FOR RIPS, TEARS, OR DETERIORATION. DAMAGED FENCE SHALL BE REPLACED.
13. WHEN SEDIMENT BUILDS UP TO ONE HALF THE HEIGHT OF THE FENCE, IT SHALL BE CLEANED AND REINSTALLED.

INLET PROTECTION (IP)

1. REFER TO THE INLET PROTECTION DETAILS FOR VARIOUS TYPES OF INLET PROTECTION. THE CONTRACTOR SHALL HAVE THE OPTION OF UTILIZING ANY TYPES SHOWN OR ACCEPTABLE ALTERNATE.
2. INLET PROTECTION DEVICES SHALL BE INSTALLED IMMEDIATELY AROUND EACH INLET ONCE INLET CONSTRUCTION IS COMPLETED. INLET PROTECTION SHALL REMAIN IN PLACE AND BE MAINTAINED UNTIL THE SITE HAS BEEN CONSIDERED STABLE.

SOD OR SEEDING, MULCHING AND FERTILIZING (SD) (SM)

1. ALL DISTURBED AREAS WHICH REMAIN UNWORKED FOR 14 DAYS, SHALL BE TEMPORARILY STABILIZED.
2. ALL TEMPORARY DIVERSION BERMS, DIVERSION DITCHES AND SOIL STOCKPILE AREAS SHALL BE SEEDED AND MULCHED IMMEDIATELY AFTER GRADING.
3. ALL AREAS DISTURBED DURING CONSTRUCTION, WHICH WILL NOT BE PAVED, SHALL HAVE A MINIMUM OF 4" OF TOPSOIL INSTALLED.
4. GRASSED AREAS SHALL BE EITHER SODDED OR SEEDED AND MULCHED. REFER TO THE SITE AND LANDSCAPING PLANS FOR LOCATIONS OF EACH.
5. ALL RIGHT-OF-WAYS SHALL HAVE SOD INSTALLED. SOD SHALL MEET THE REQUIREMENTS OF THE LOCAL JURISDICTION AND/OR THE DEPARTMENT OF TRANSPORTATION.
6. SOD SHALL BE DROUGHT RESISTANT FESCUE.
7. TEMPORARY IRRIGATION MAY BE REQUIRED TO HELP ESTABLISH SODDED/SEEDED AREAS.
8. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING SODDED AND SEEDED AREAS UNTIL A HEALTHY STAND OF GRASS IS ESTABLISHED.
9. FINAL STABILIZATION MUST MEET THE LAND DISTURBANCE PERMIT REQUIREMENTS.



4' (MINIMUM)
PERMIT SIGN
NOI OR PERMIT
LOCAL SWPPP CONTACT
SWPPP NARRATIVE
PERMIT
PERMIT
PERMIT
DETAILED DESCRIPTION OF THE LOCATION OF SWPPP DOCUMENTATION (BINDER AND SITE MAPS) FOR THE SITE.
4' (MINIMUM)
3' MIN.
3' MIN.
RAIN GAUGE
SIGN TO BE CONSTRUCTED OF A RIGID MATERIAL, SUCH AS PLYWOOD OR OUTDOOR SIGN BOARD. SIGN MUST BE CONSTRUCTED IN A MANNER TO PROTECT DOCUMENTS FROM DAMAGE DUE TO WEATHER (WIND, SUN, MOISTURE, ETC.).

PERMIT SIGN DETAIL

(NOT TO SCALE)

NOTES:

1. THE SWPPP INFORMATION SIGN MUST BE LOCATED NEAR THE CONSTRUCTION EXIT OF THE SITE, SUCH THAT IT IS ACCESSIBLE AND VIEWABLE BY THE GENERAL PUBLIC, BUT NOT OBSTRUCTING VIEWS AS TO CAUSE A SAFETY HAZARD.
2. ALL POSTED DOCUMENTS MUST BE MAINTAINED IN A CLEARLY READABLE CONDITION AT ALL TIMES THROUGHOUT CONSTRUCTION AND UNTIL THE PERMIT HAS BEEN TERMINATED.
3. CONTRACTOR SHALL POST OTHER STORMWATER AND/OR EROSION AND SEDIMENT CONTROL RELATED PERMITS ON THE SIGN AS REQUIRED BY THE GOVERNING AGENCY.
4. SIGN SHALL BE LOCATED OUTSIDE OF PUBLIC RIGHT-OF-WAY AND EASEMENTS UNLESS APPROVED BY THE GOVERNING AGENCY.
5. CONTRACTOR IS RESPONSIBLE FOR ENSURING STABILITY OF THE SWPPP INFORMATION SIGN.

SEEDING REQUIREMENTS

Dates for Seeding

Permanent Seeding	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec
Tall Fescue			O	O	O			O	O			
Smooth Brome			O	O	O			O	O			
Fescue & Brome			O	O	O	O		O	O			
Fescue, Rye & Bluegrass	A	A	O	O	O	P	P	O	O	P	P	A

Temporary Seeding	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec
Rye or Sudan	A	A	O	O	O	O	O	O	O	O	A	A
Oats		A	O	O	O	O	O	O	O			

O = Optimum seeding dates
A = Acceptable seeding dates
P = Permitted seeding dates with reseeding 2 months later - Initially use 50% of seed and 75% of fertilizer. Reseed with additional 75% seed and remaining fertilizer.

Minimum Fertilizer and Seeding Rates

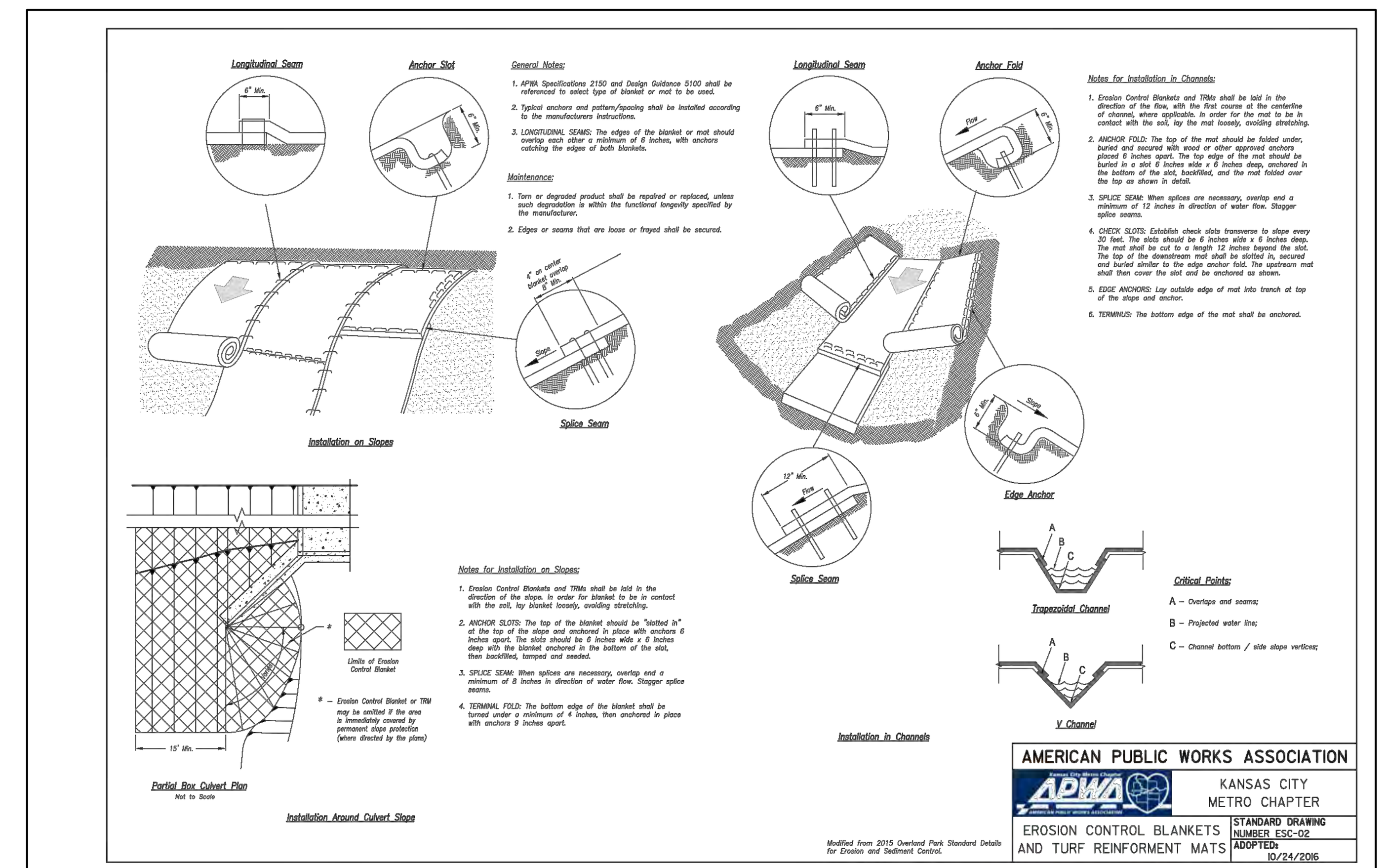
Permanent Seeding*	Pounds per acre	Pounds Per 1000 sq. ft.
Tall Fescue	300	7.0
Smooth Brome	200	4.6
Mixture # 1	250	5.7
Mixture # 2	210	4.8

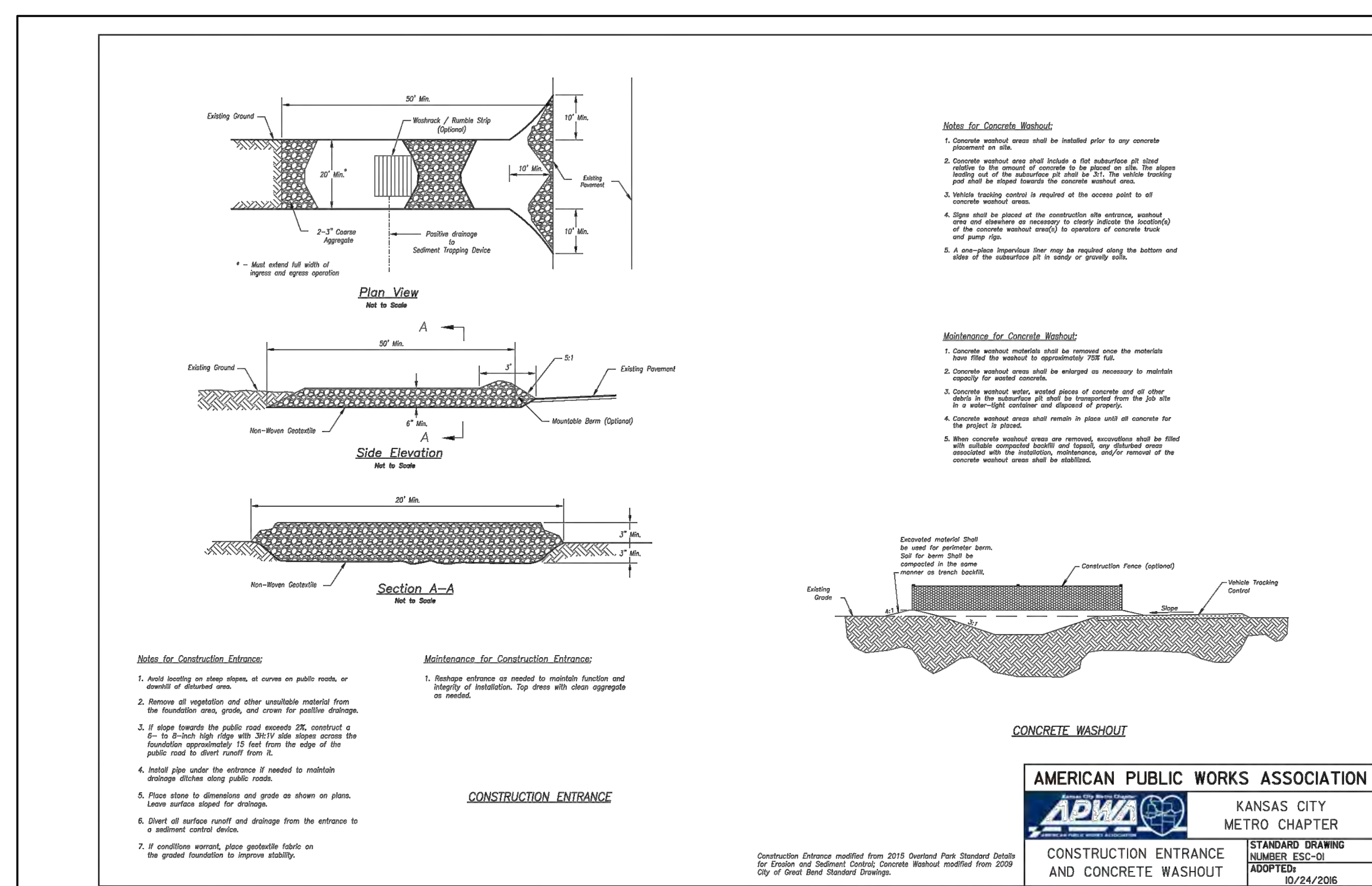
Mixture # 1 = Tall Fescue @ 150 pounds per acre and Brome @ 100 pounds per acre.
Mixture # 2 = Tall Fescue @ 100 pounds per acre; Perennial Rye grass @ 100 pounds per acre; and Kentucky Blue grass @ 10 pounds per acre.
* = Seeding rate for slopes in excess of 20% (5:1), shall be 10 pounds per 1000 sq. ft.

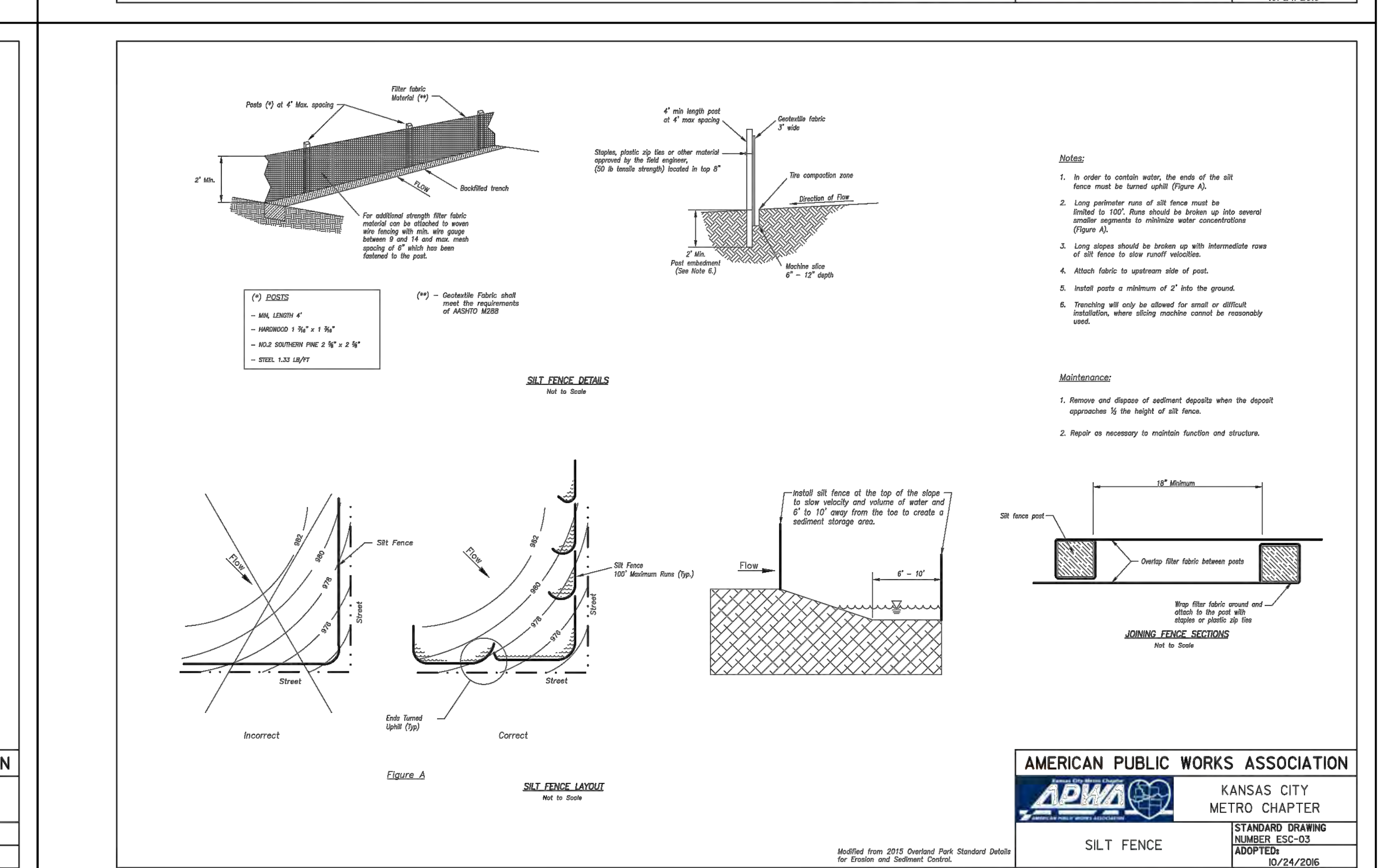
Temporary Seeding	Pounds per acre	Pounds Per 1000 sq. ft.
Rye or Sudan	150	3.5
Oats	200	2.5

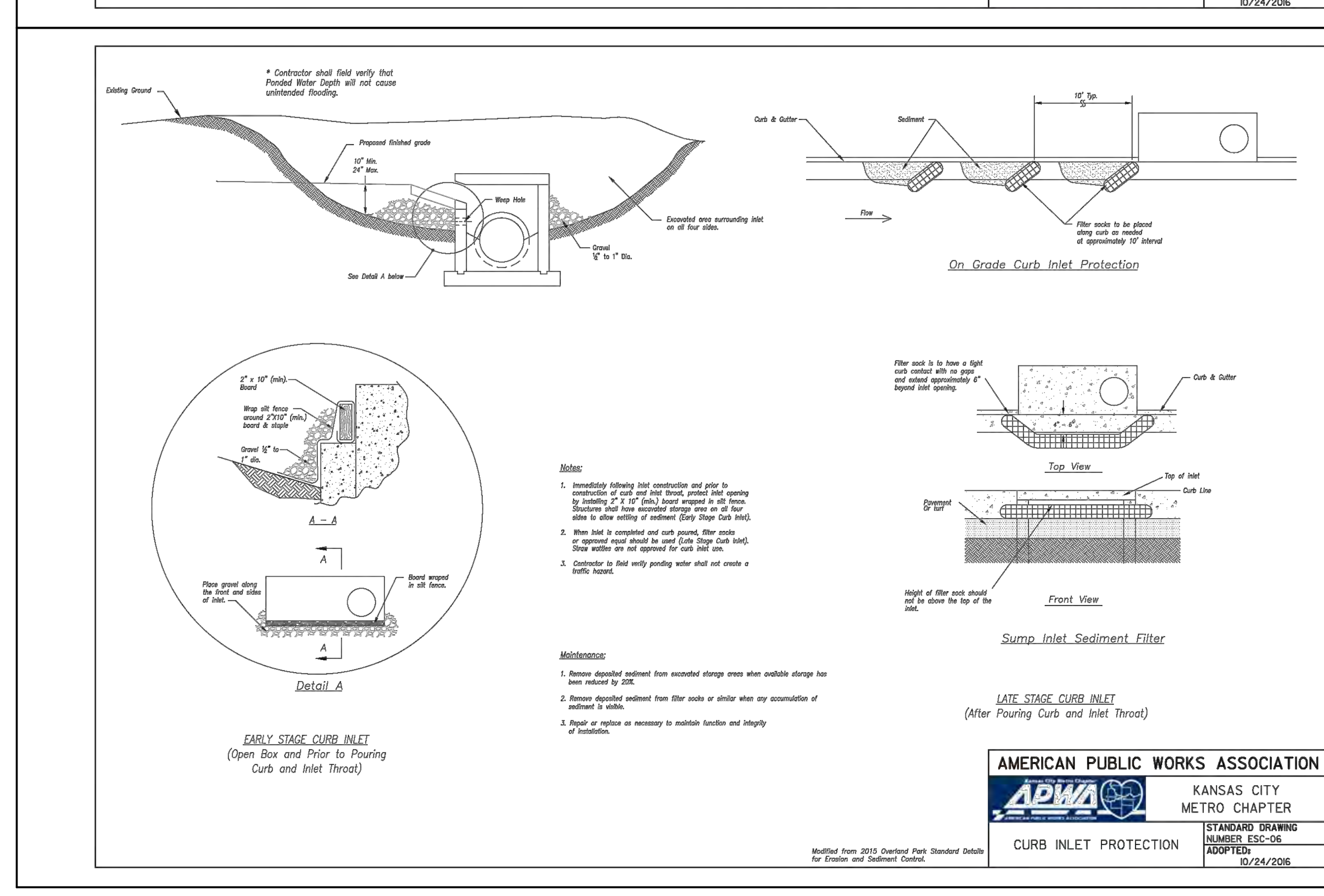
Fertilizer	Permanent Seeding (pounds per acre)	Temporary Seeding (pounds per acre)
Nitrogen	45	30
Phosphate	65	30
Potassium	65	30
Lime - ENM	600	600

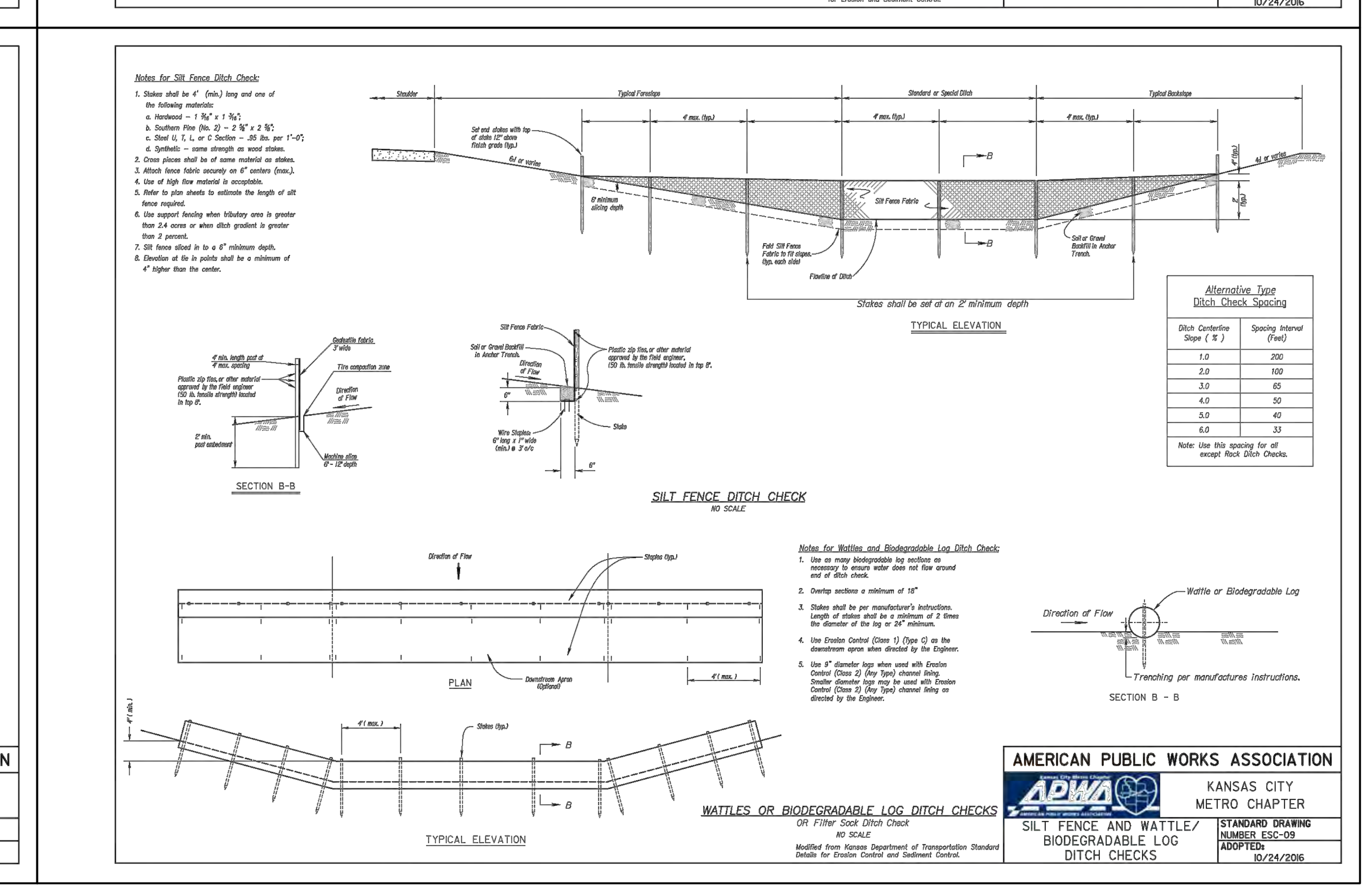
ENM = Effective neutralizing material per State evaluation of quarried rock.











TYPICAL ELEVATION
SILT FENCE DITCH CHECK
WATTLES OR BIODEGRADABLE LOG DITCH CHECKS
AMERICAN PUBLIC WORKS ASSOCIATION
KANSAS CITY METRO CHAPTER
SILT FENCE AND WATTLES/BIODEGRADABLE LOG DITCH CHECKS
STANDARD DRAWING NUMBER ESC-09
ADOPTED: 10/24/2016

PREMIER DESIGN GROUP
100 MIDLAND PARK DRIVE
WENTZVILLE, MO 63385
MISSOURI CERTIFICATE OF AUTHORITY #1-2011000031
MISSOURI CERTIFICATE OF AUTHORITY #LS-2012007849
MISSOURI CERTIFICATE OF AUTHORITY #LA-2016007538

STATE OF MISSOURI / STEVE MARION / NUMBER PE2006007195 / PROFESSIONAL ENGINEER

ENGINEERS AUTHENTICATION
The responsibility for professional engineering liability on this project is hereby limited to the set of plans authenticated by the seal, signature, and date hereunder attached. Responsibility is disclaimed for all other engineering plans involved in this project and specifically excludes revisions after this date unless reauthenticated.
STEVEN D. MARION P.E.
PROFESSIONAL ENGINEER
PE 2006007195

Project: DUTCH BROS
LEE'S SUMMIT, MO
500 NW CHIPMAN RD.
LEE'S SUMMIT, MO 64086
TM CROWLEY
501 PENNSYLVANIA PARKWAY SUITE 160
INDIANAPOLIS, IN 46280

Date: 9-30-2021

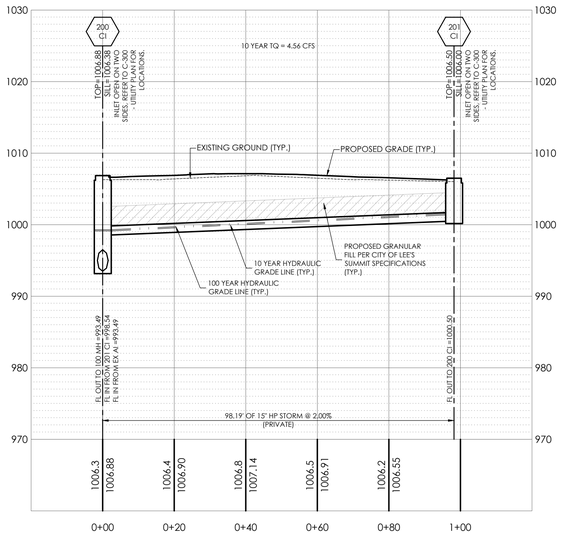
#	Revision Date	Description of Changes

Sheet Title: EROSION CONTROL DETAILS

Sheet Number: C-402

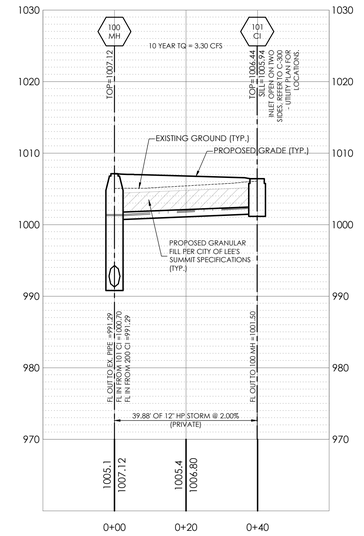
Project No.	2109720
Drawn By	A. JONES
Checked By	M. FOGARTY

NOT RELEASED FOR CONSTRUCTION



STORM SEWER PROFILE
201 CI TO 200 CI

1"=20' HORIZONTAL
1"=10' VERTICAL



STORM SEWER PROFILE
101 MH TO 100 CI

1"=20' HORIZONTAL
1"=10' VERTICAL

10 YEAR STORM HYDRAULICS

LineNo.	LineID	InletID	LineLength	LineSize	InvertUp	InvertDn	LineSlope	Grnd/RimElev Up	Grnd/RimElev Dn	DepthUp	HGLUp	HGLDn	Rim-Hw	Defl.Angle	VelDn	VelHd Dn	J-LossCoeff	EnergyLoss	MinorLoss	CapacityFull	KnownQ	FlowRate	CrossSlope, Sx	InletEff	QCaptured	QBypass	QCarryover	BypassDepth
			(ft)	(in)	(ft)	(ft)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(Deg)	(ft/s)	(ft)		(ft)	(ft)	(cfs)	(cfs)	(cfs)	(ft/ft)	(%)	(cfs)	(cfs)	(cfs)	(ft)
1	101-100	101 CI	39.877	12	1001.5	1000.7	2	1006.44	1007.12	0.78**	1002.28	1001.26	4.16	-87.458	7.28	0.39	1.00 z	0	n/a	5.46	3.3	3.3	0.02	100	3.3	0	0	n/a
2	104-103	104 CI	98.19	15	1000.5	998.54	2	1006.5	1006.88	0.86**	1001.37	999.14	5.14	-87.844	7.89	0.39	1.00 z	0	0.39	9.88	4.56	4.56	0.02	100	4.56	0	0	n/a

100 YEAR STORM HYDRUALICS

LineNo.	LineID	InletID	LineLength	LineSize	InvertUp	InvertDn	LineSlope	Grnd/RimElev Up	Grnd/RimElev Dn	DepthUp	HGLUp	HGLDn	Rim-Hw	Defl.Angle	VelDn	VelHd Dn	J-LossCoeff	EnergyLoss	MinorLoss	CapacityFull	KnownQ	FlowRate	CrossSlope, Sx	InletEff	QCaptured	QBypass	QCarryover	BypassDepth
			(ft)	(in)	(ft)	(ft)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(Deg)	(ft/s)	(ft)		(ft)	(ft)	(cfs)	(cfs)	(cfs)	(ft/ft)	(%)	(cfs)	(cfs)	(cfs)	(ft)
1	101-100	101 CI	39.877	12	1001.5	1000.7	2	1006.44	1007.12	0.91**	1002.41	1001.45	4.03	-87.458	7.88	0.67	1.00 z	0	n/a	5.46	4.95	4.95	0.02	100	4.95	0	0	n/a
2	104-103	104 CI	98.19	15	1000.5	998.54	2	1006.5	1006.88	1.05**	1001.55	999.3	4.95	-87.844	8.69	0.6	1.00 z	0	n/a	9.88	6.84	6.84	0.02	100	6.84	0	0	n/a

UNDERGROUND UTILITIES AND OSHA SAFETY NOTE:

Underground utilities and structures have been plotted from available information and therefore, their location must be considered approximate only. It is the responsibility of the individual contractors to notify the utility companies before actual construction. All O.S.H.A rules and regulations established for the type of construction required by these plans shall be strictly followed (ie. trenching, blasting, etc.)

1" = 20'

20 10 0 20 40

SCALE IN FEET

PREMIER
DESIGN GROUP
100 MIDLAND PARK DRIVE
WENTZVILLE, MO 63385
MISSOURI CERTIFICATE OF AUTHORITY #: 2012000031
MISSOURI CERTIFICATE OF AUTHORITY #: C-2012007849

STATE OF MISSOURI
STEVE
MARION
NUMBER
PE2006007195
PROFESSIONAL ENGINEER

ENGINEERS AUTHENTICATION

The responsibility for professional engineering liability on this project is hereby limited to the set of plans authenticated by the seal, signature, and date hereunder attached. Responsibility is disclaimed for all other engineering plans, unless otherwise agreed to specifically excludes revisions made after the date seal is indicated.

STEVEN D. MARION P.E.
PROFESSIONAL ENGINEER
PE: 2006007195

Project
DUTCH BROS
LEE'S SUMMIT, MO
500 NW CHIPMAN RD.
LEE'S SUMMIT, MO 64086
TIM CROWLEY
501 PENNSYLVANIA PARKWAY SUITE 160
INDIANAPOLIS, IN 46280

Date 9-30-2021

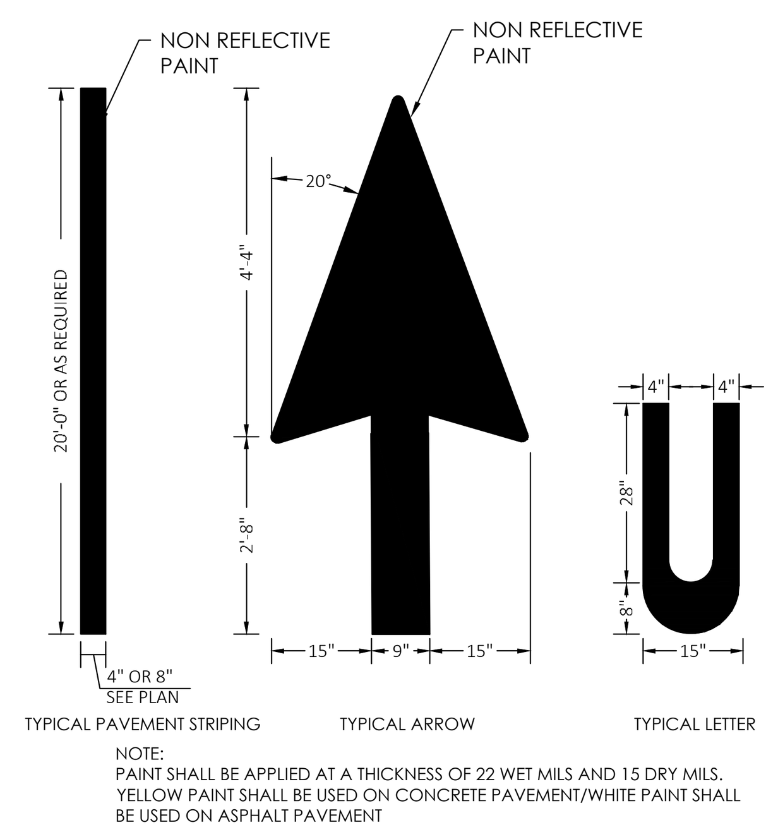
#	Revision Date	Description of Changes

Sheet Title
STORM SEWER PROFILES

Sheet Number
C-500

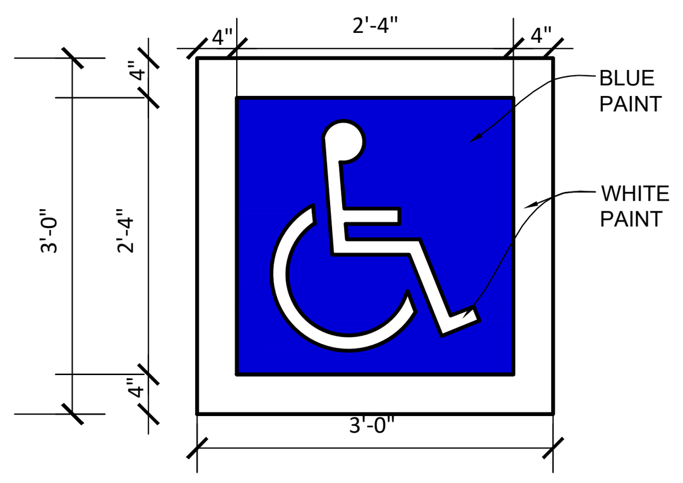
Project No.	2109720
Drawn By	A. JONES
Checked By	M. FOGARTY

NOT RELEASED FOR CONSTRUCTION



14 TYPICAL PAVEMENT MARKINGS DETAIL

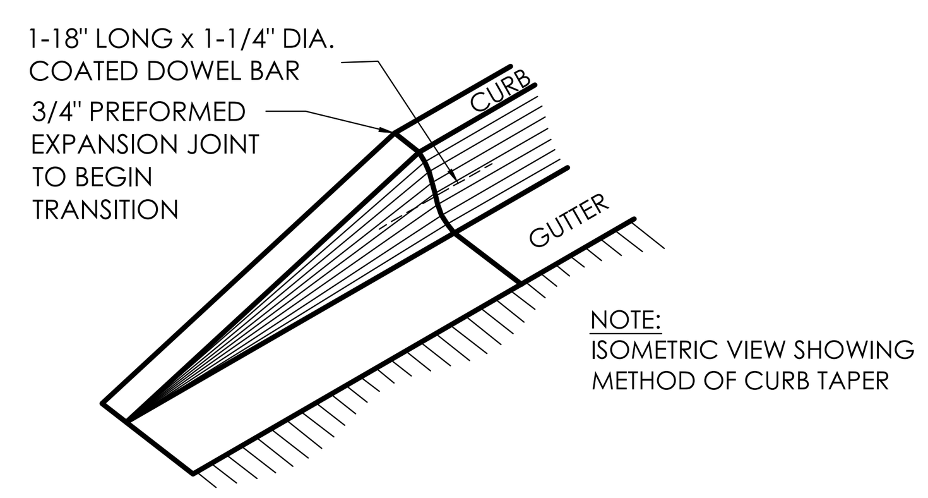
NTS — P-2021-DBL-13



NOTE:
PAVEMENT-MARKING PAINT: ALKYD-RESIN TYPE, LEAD AND CHROMATE FREE, READY MIXED, COMPLYING WITH AASHTO M 248; COLORS COMPLYING WITH FS TT-P-1952.
COLOR: BLUE OR AS REQUIRED BY INSPECTOR/CITY ENGINEER VERIFY PRIOR TO PAINTING

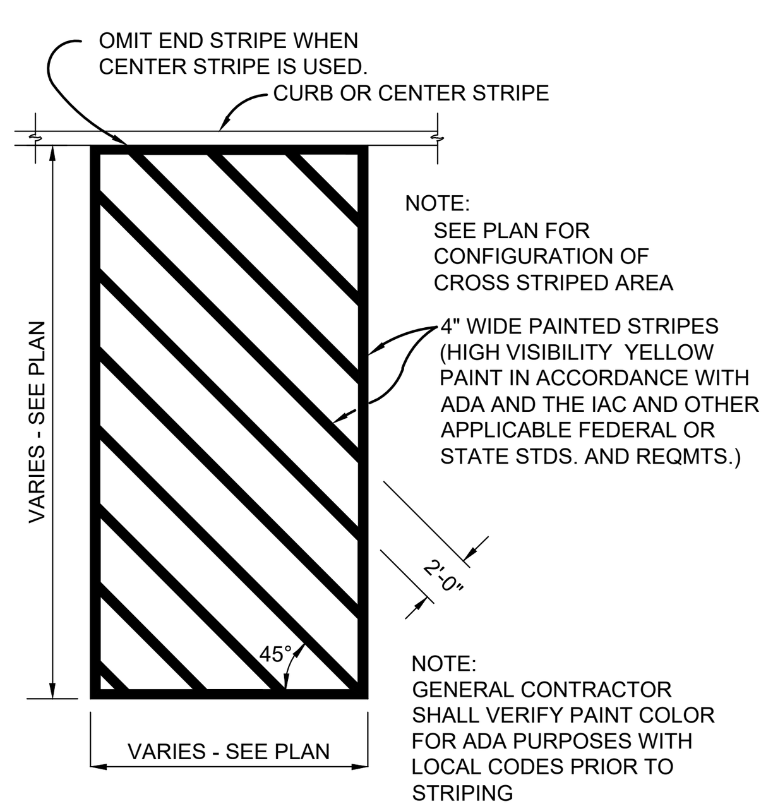
17 ACCESSIBLE PARKING SYMBOL

NTS — P-2021-DBL-16



13 CURB TERMINATION DETAIL

N.T.S. — P-2021-DBL-12

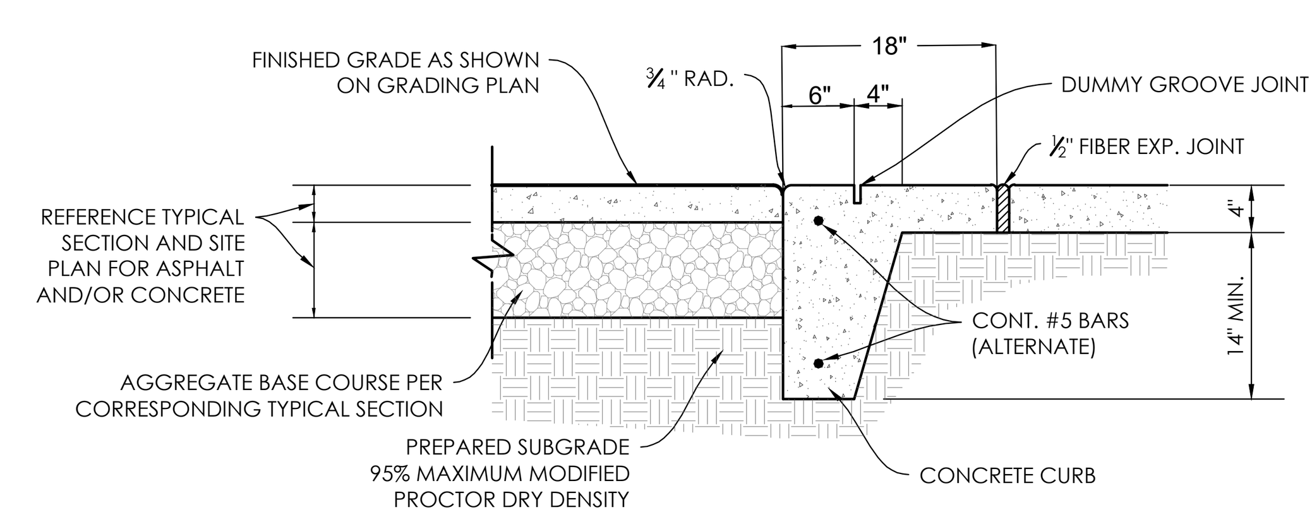


STRIPING AND SIGNAGE NOTES:

1. PAVEMENT-MARKING PAINT: ALKYD-RESIN TYPE, LEAD AND CHROMATE FREE, READY MIXED, COMPLYING WITH FS TT-P-115, TYPE I OR AASHTO M 248, TYPE N.
2. NEW ACCESSIBLE STRIPING FOR STALLS AND ACCESS AISLES SHALL BE MARKED USING HIGH VISIBILITY YELLOW PAINT IN ACCORDANCE WITH ADA AND THE IAC AND OTHER APPLICABLE FEDERAL OR STATE STANDARDS AND REQUIREMENTS. STRIPING VENDOR SHALL VERIFY LOCAL CODE.
3. DO NOT APPLY PAVEMENT-MARKING PAINT UNTIL LAYOUT, COLORS, AND PLACEMENT HAVE BEEN VERIFIED WITH REGISTERED DESIGN PROFESSIONAL. A COLOR SAMPLE AND SKETCH IS TO BE PROVIDED TO DESIGN PROFESSIONAL.
4. SWEEP AND CLEAN SURFACE TO ELIMINATE LOOSE MATERIAL AND DUST DAILY.
5. APPLY PAINT WITH MECHANICAL EQUIPMENT TO PRODUCE PAVEMENT MARKINGS WITH UNIFORM STRAIGHT EDGES. APPLY AT MANUFACTURER'S RECOMMENDED RATES TO PROVIDE MINIMUM WET FILM THICKNESS OF 15 MILS (0.4 MM)
6. 4" WIDE STRIPES IN ACCESS AISLES SHALL BE 2' ON CENTER.

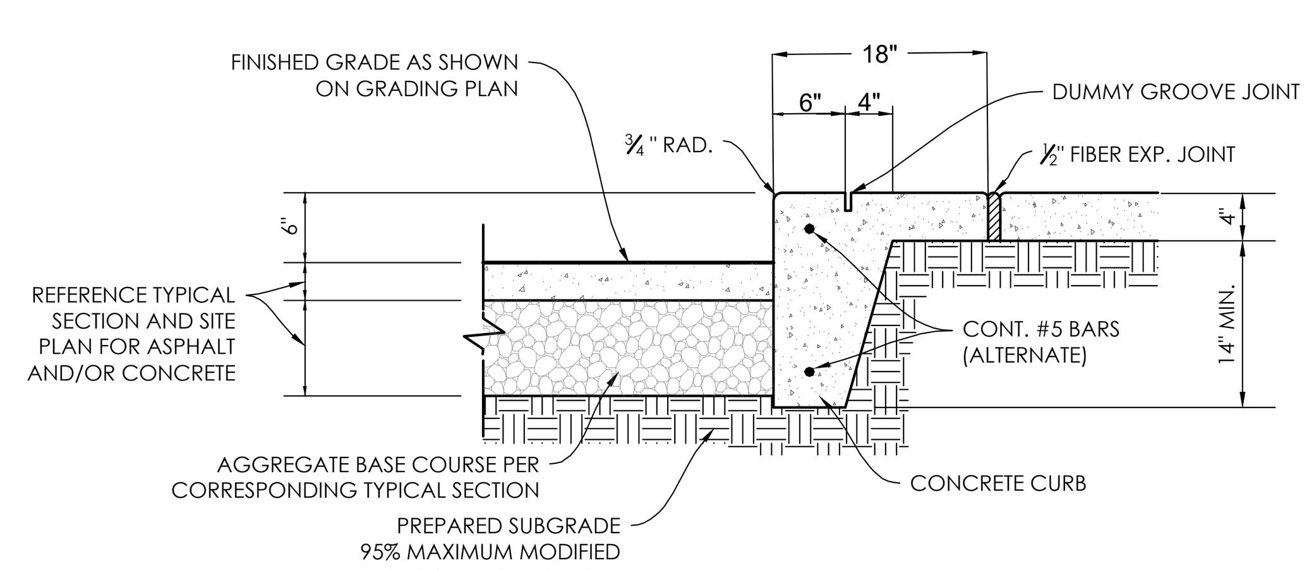
16 CROSS STRIPING DETAIL

NTS — P-2021-DBL-15



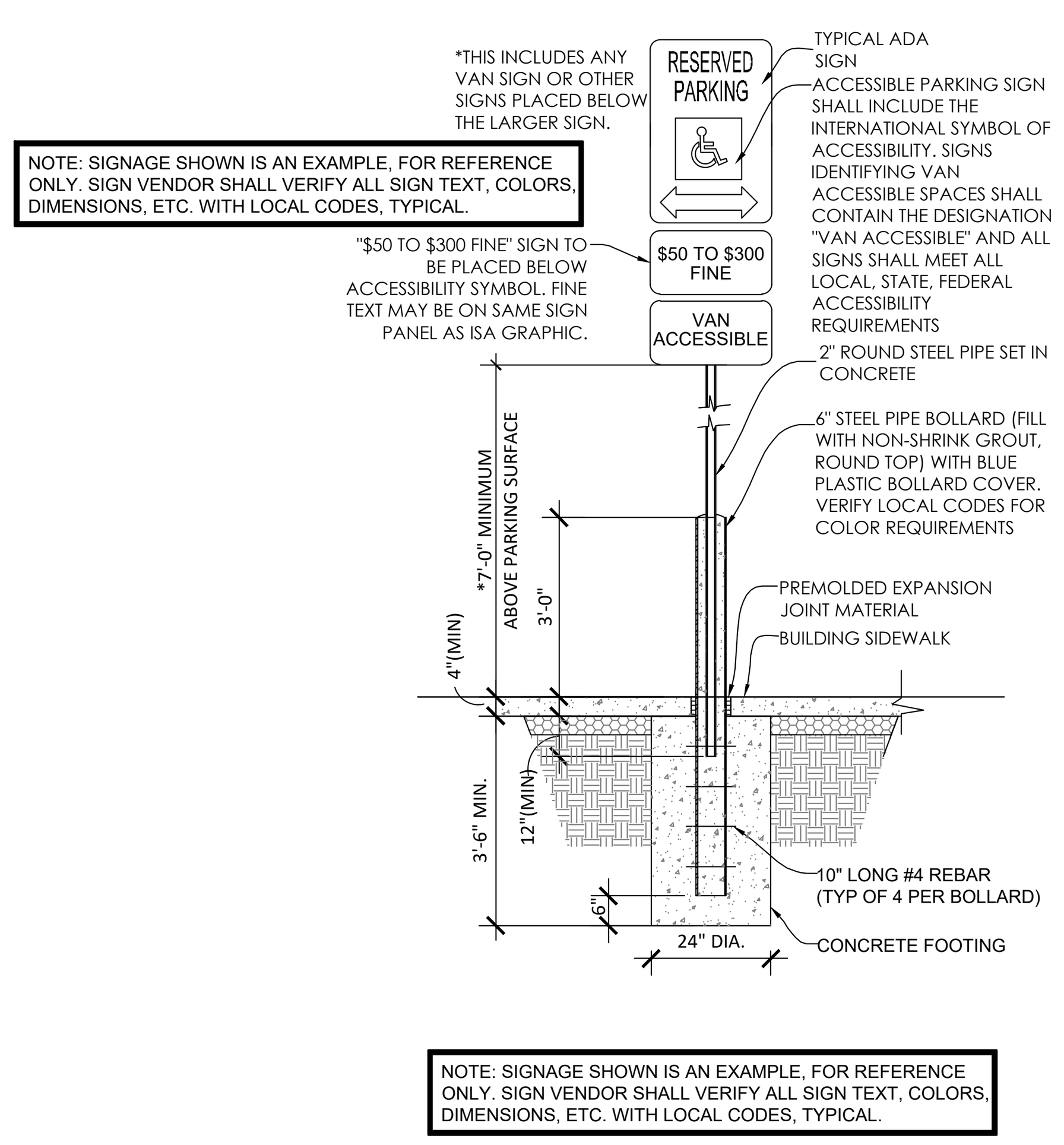
12 FLUSH PAVEMENT AT SIDEWALK DETAIL

N.T.S. — P-2021-DBL-11



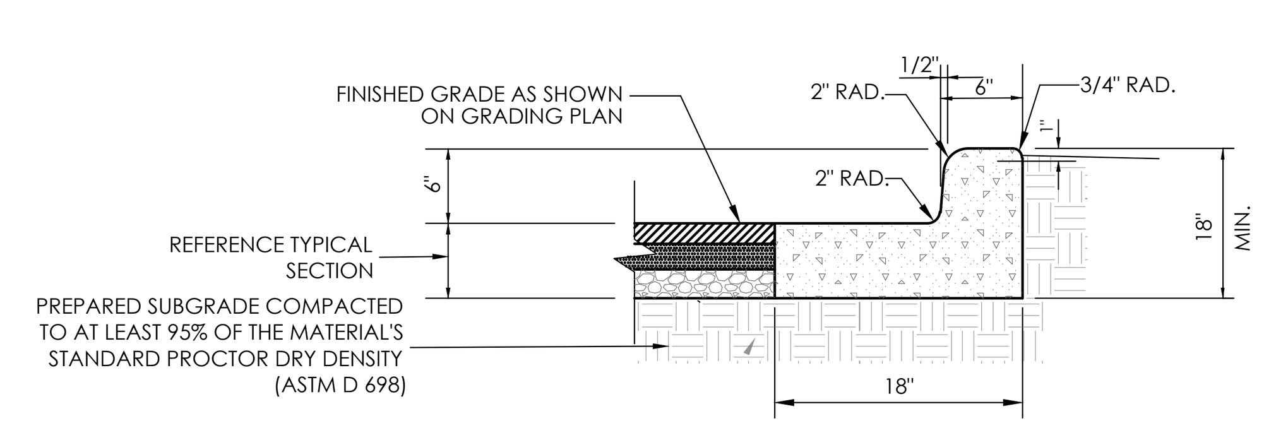
11 6" VERTICAL CONCRETE CURB WITH SIDEWALK DETAIL

N.T.S. — P-2021-DBL-10



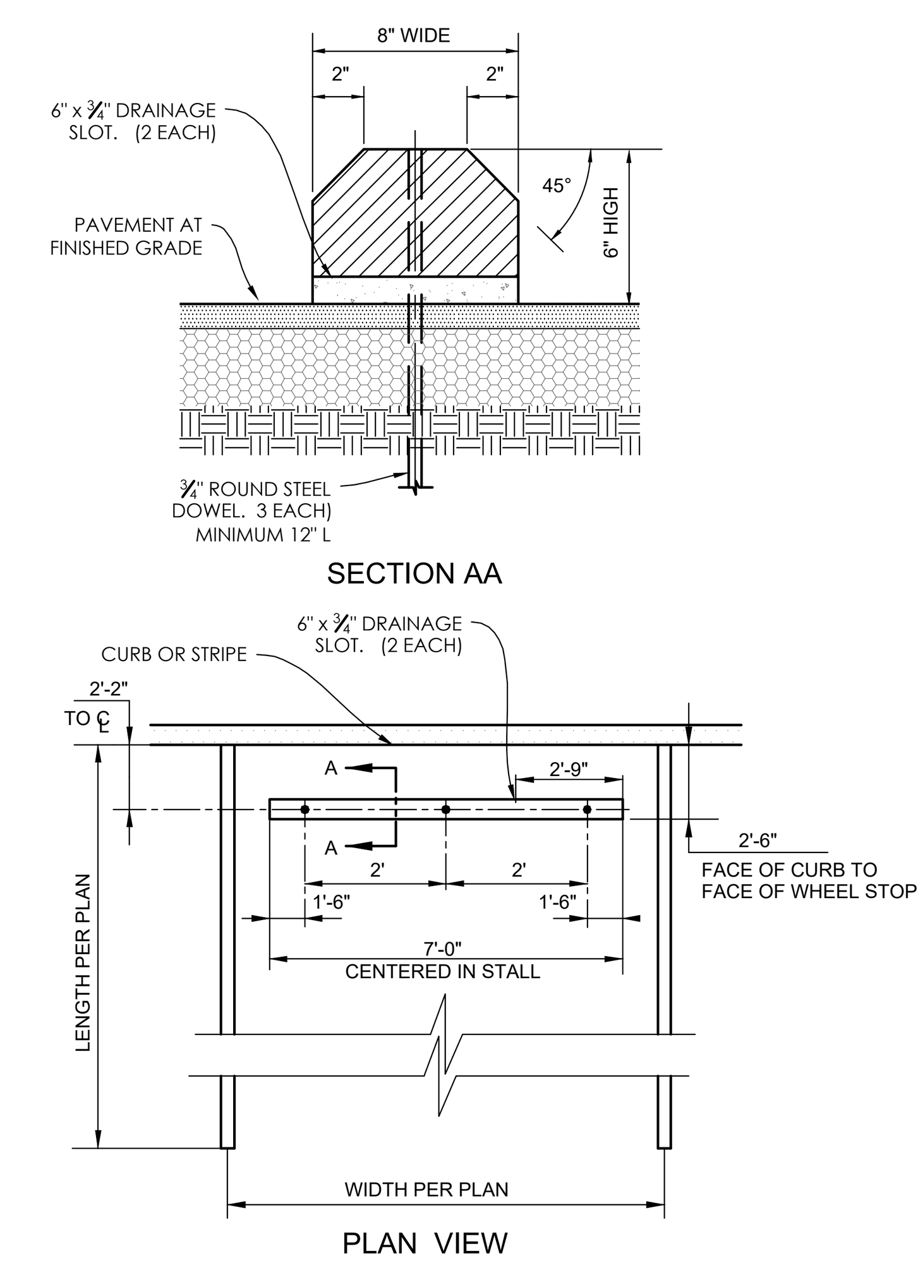
15 ACCESSIBLE PARKING SIGN

NTS — P-2021-DBL-14



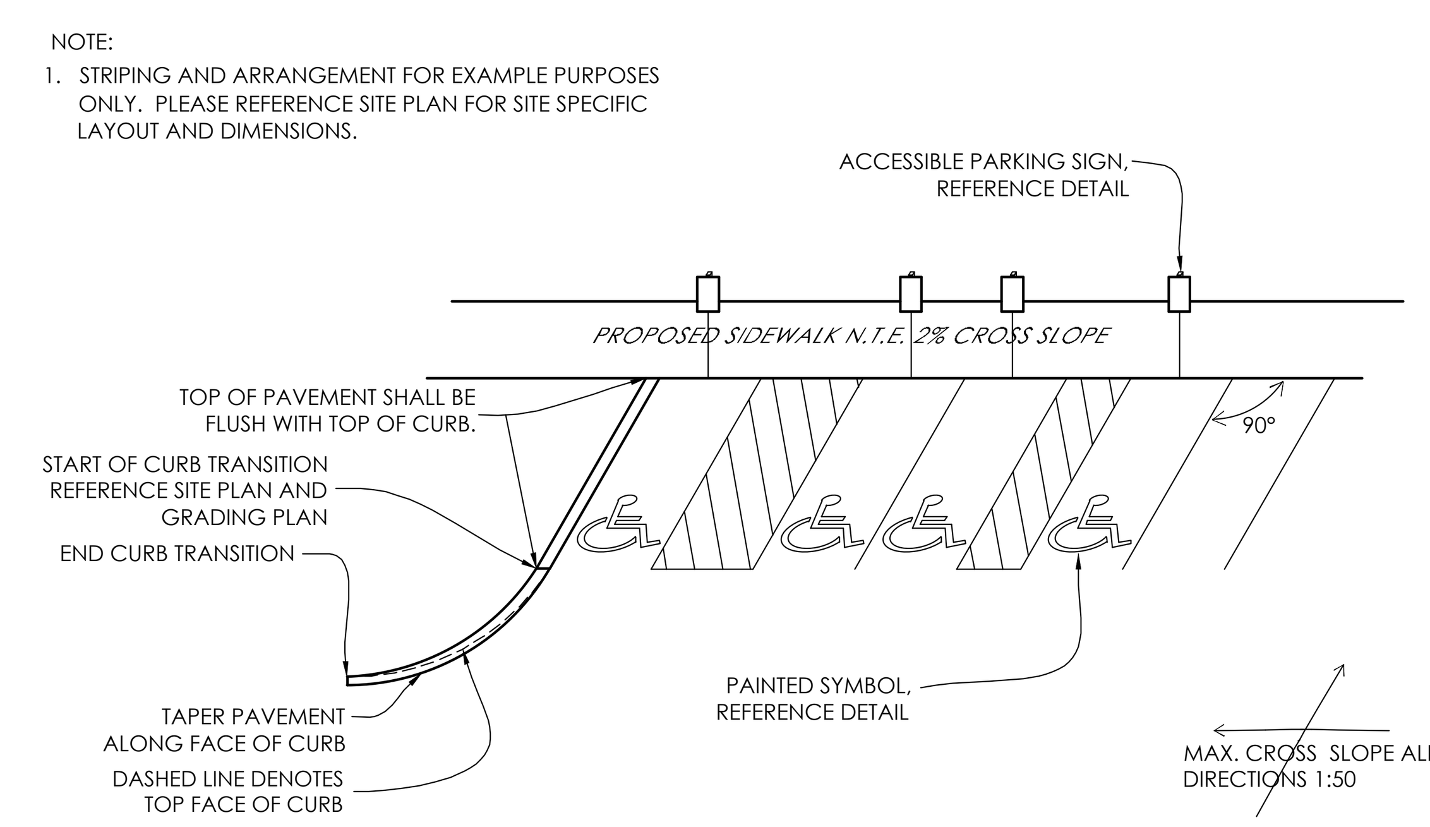
10 CONCRETE CURB AND GUTTER DETAIL

NTS — P-2021-DBL-07



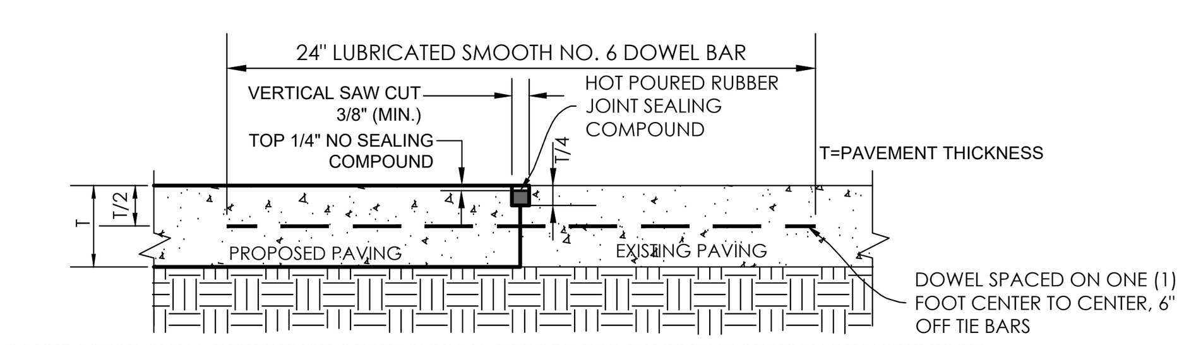
9 PRECAST WHEEL STOP

N.T.S. — P-2021-DBL-09



8 CURB TRANSITION DETAIL

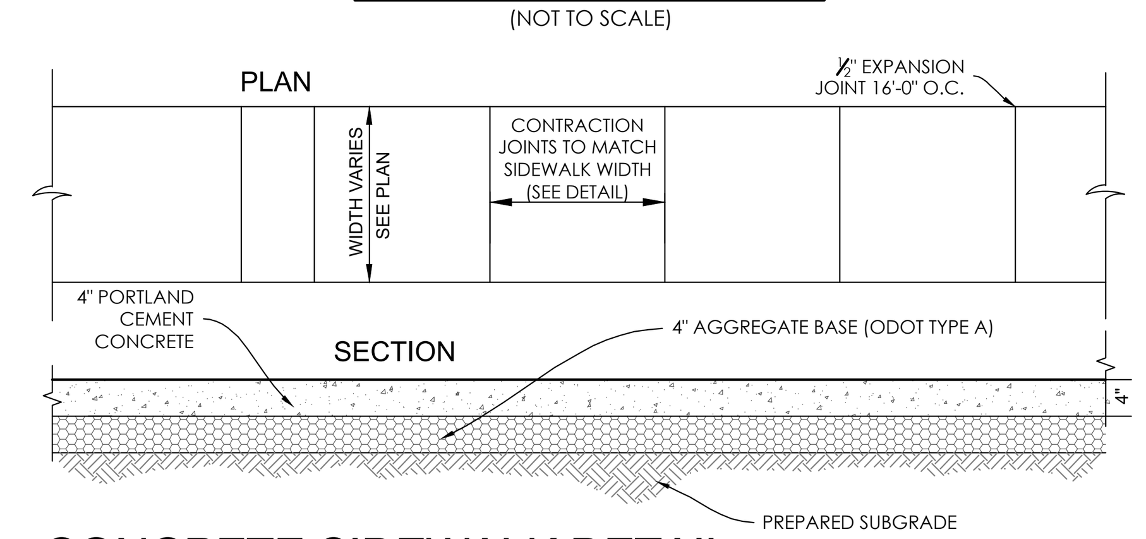
N.T.S. — P-2021-DBL-08



NOTES:

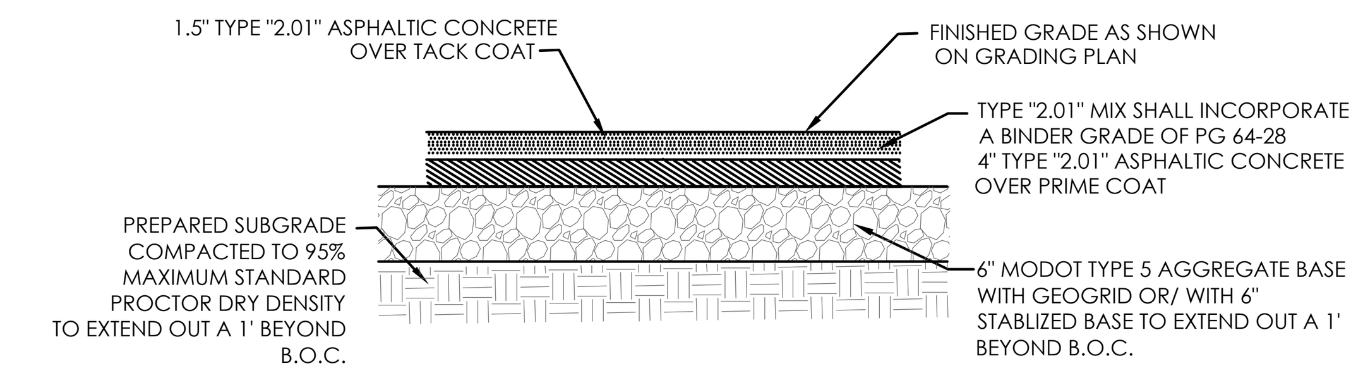
1. GENERAL CONTRACTOR SHALL REFERENCE GEOTECHNICAL REPORT FOR PAVEMENT SECTION REQUIREMENTS.
2. NO. 5 SMOOTH DOWEL BAR MAY BE USED IN 5 INCH AND 6 INCH PAVEMENT THICKNESS.
3. LONGITUDINAL BUTT CONSTRUCTION MAY BE UTILIZED IN PLACE OF LONGITUDINAL HINGED (KEYWAY) JOINT AT CONTRACTORS OPTION.
4. DOWEL BARS SHALL BE DRILLED INTO PAVEMENT HORIZONTALLY BY USE OF MECHANICAL RIG.
5. DRILLING BY HAND IS NOT ACCEPTABLE, PUSHING DOWEL BARS INTO GREEN CONCRETE NOT ACCEPTABLE.

LONGITUDINAL BUTT JOINT
(NOT TO SCALE)



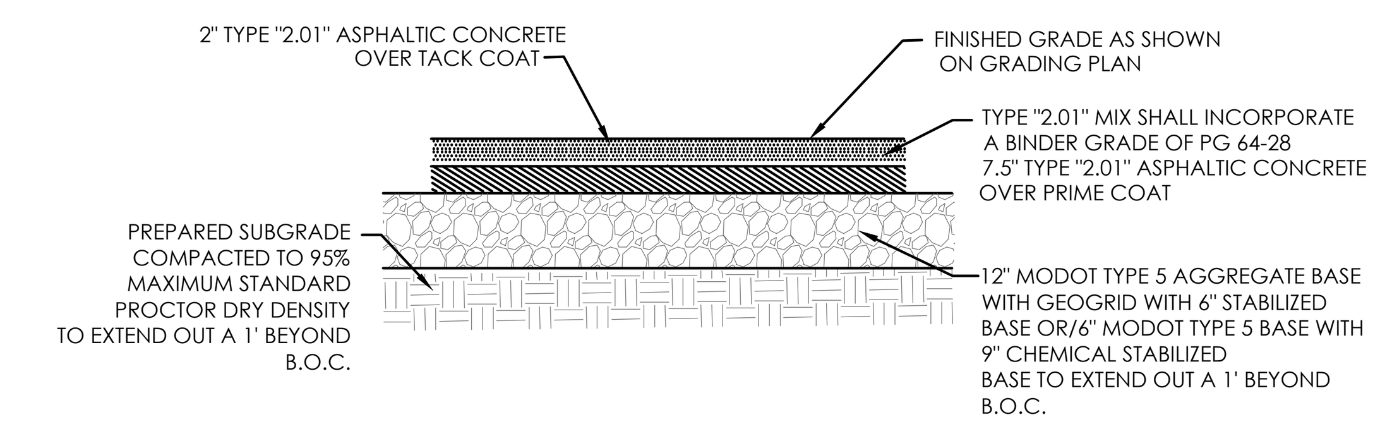
7 CONCRETE SIDEWALK DETAIL

NTS — P-2021-DB-08



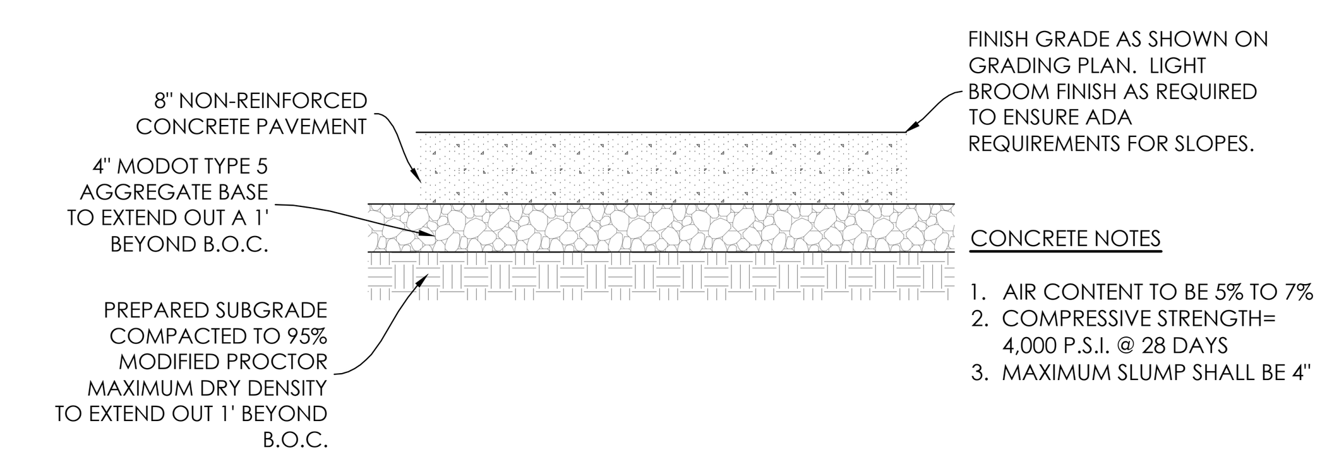
6 ASPHALT PAVEMENT DETAIL (LIGHT DUTY)

N.T.S. — P-2021-DBL-06



5 ASPHALT PAVEMENT DETAIL (MEDIUM DUTY)

N.T.S. — P-2021-DBL-05

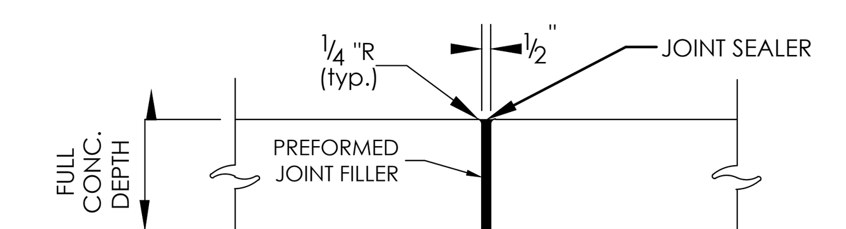


CONCRETE NOTES

1. AIR CONTENT TO BE 5% TO 7%
2. COMPRESSIVE STRENGTH= 4,000 P.S.I. @ 28 DAYS
3. MAXIMUM SLUMP SHALL BE 4"

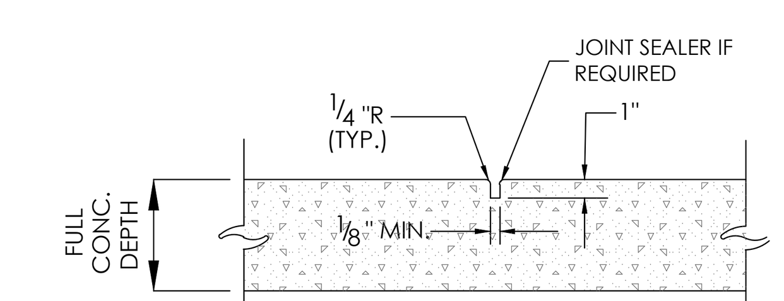
4 HEAVY DUTY CONCRETE PAVEMENT DETAIL

N.T.S. — P-2021-DBL-04



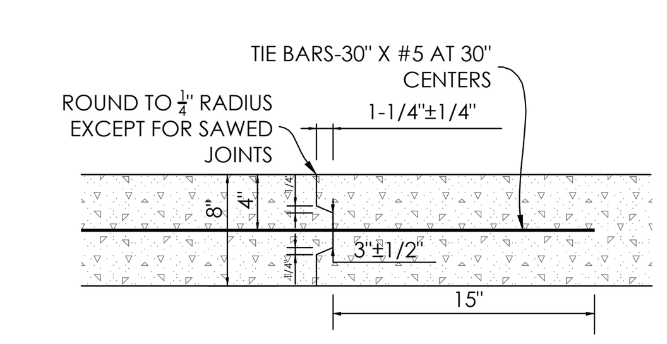
3 EXPANSION JOINT FOR SIDEWALK DETAIL

N.T.S. — P-2021-DBL-03



2 CONCRETE PAVEMENT CONSTRUCTION JOINT DETAIL

N.T.S. — P-2021-DBL-02



1 KEYWAY FOR CONCRETE PAVEMENT DETAIL

N.T.S. — P-2021-DBL-01

PREMIER DESIGN GROUP
100 MIDLAND PARK DRIVE
WENTZVILLE, MO 63385
MISSOURI CERTIFICATE OF AUTHORITY #: 2010000031
MISSOURI CERTIFICATE OF AUTHORITY #LS-2020007819

STATE OF MISSOURI
STEVE MARION
NUMBER PE2006007195
PROFESSIONAL ENGINEER

ENGINEERS AUTHENTICATION
The responsibility for professional engineering liability on this project is hereby limited to the set of plans authenticated by the seal, signature, and date hereunder attached. Responsibility is disclaimed for all other engineering plans involved in this project and specifically excludes revisions after this date unless reauthenticated.
STEVEN D. MARION P.E.
PROFESSIONAL ENGINEER
PE 2006007195

Project: DUTCH BROS
LEE'S SUMMIT, MO
500 NW CHIPMAN RD.
LEE'S SUMMIT, MO 64086
TM CROWLEY
501 PENNSYLVANIA PARKWAY SUITE 160
INDIANAPOLIS, IN 46280

Date: 9-30-2021

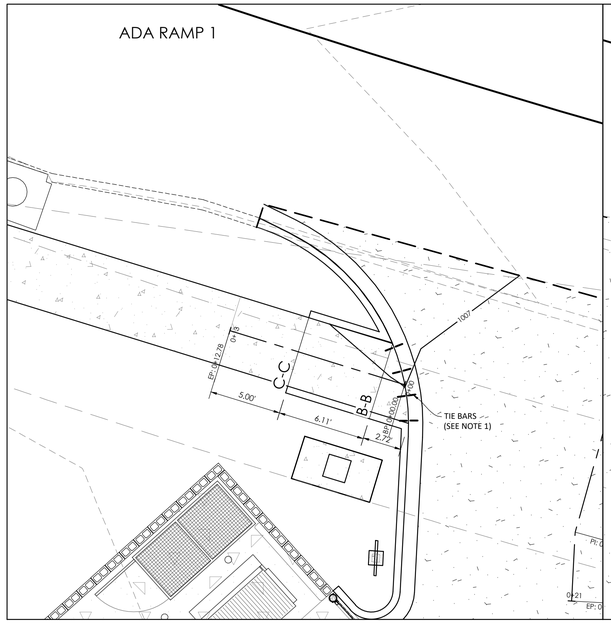
#	Revision Date	Description of Changes

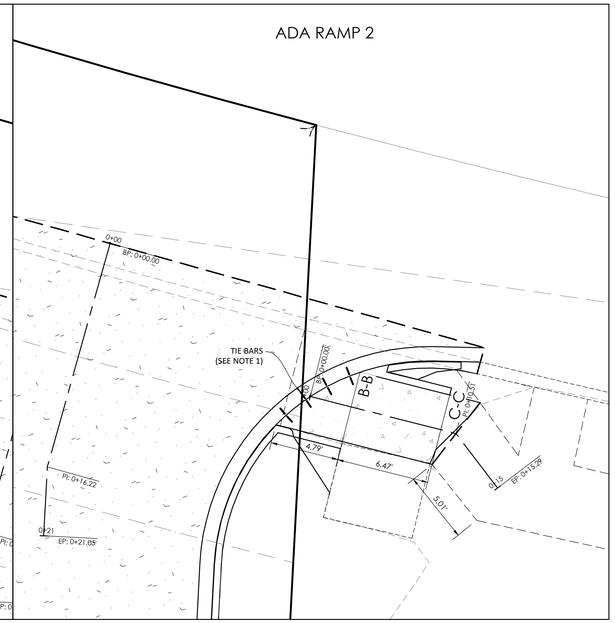
Sheet Title: CONSTRUCTION DETAILS

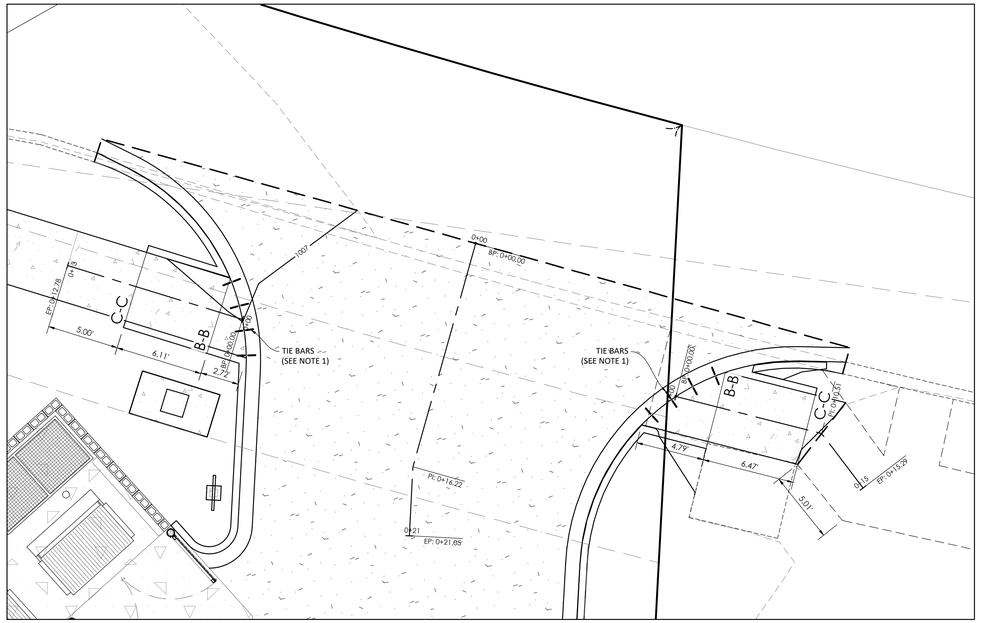
Sheet Number: C-600

Project No.	2109720
Drawn By	A. JONES
Checked By	M. FOGARTY

NOT RELEASED FOR CONSTRUCTION

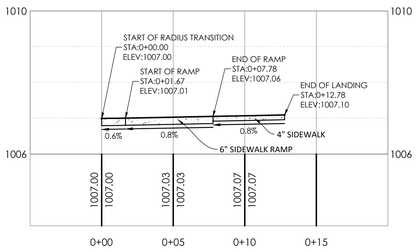


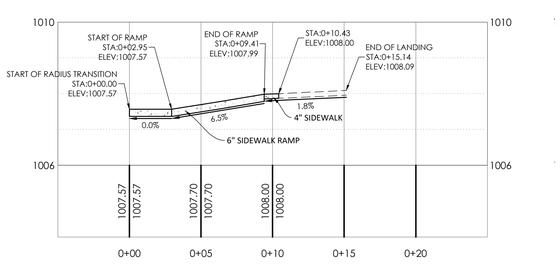


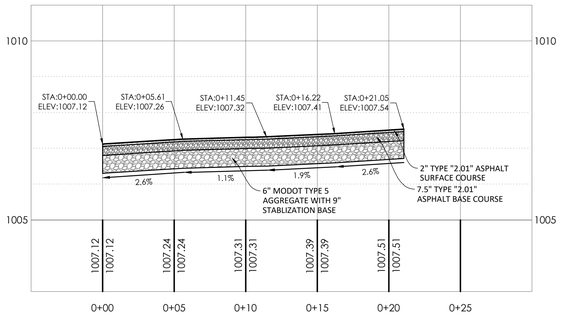


SECTION A-A

SECTION A-A







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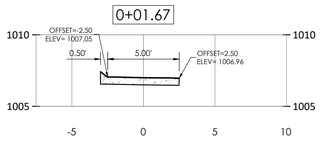

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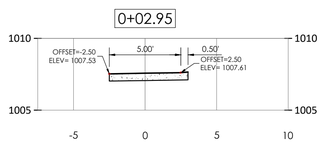

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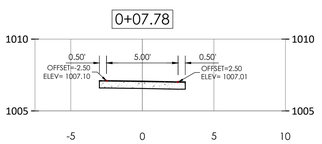

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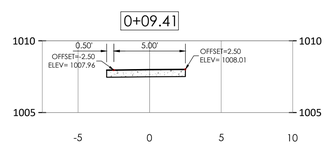
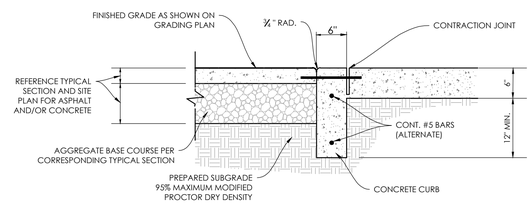


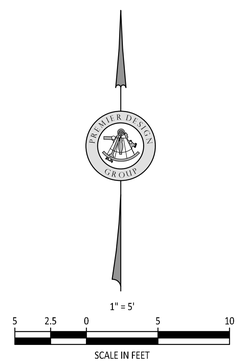
SIDEWALK/SHARED-USE PATH & SIDEWALK/SHARED-USE RAMP NOTES:

1. USE 18" LONG #4 EPOXY COATED TIE BARS @ 24" O.C. EMBED TIE BARS 9" IN EACH DIRECTION
2. ADA MAXIMUM RAMP SLOPE = 8.33%
3. ADA MAXIMUM CROSS SLOPE = 2.0%



FLUSH PAVEMENT AT SIDEWALK RAMP

N.T.S.



UNDERGROUND UTILITIES AND OSHA SAFETY NOTE:

Underground utilities and structures have been plotted from available information and therefore, their location must be considered approximate only. It is the responsibility of the individual contractors to notify the utility companies before actual construction. All O.S.H.A. rules and regulations established for the type of construction required by these plans shall be strictly followed (ie. trenching, blasting, etc.)

PREMIER DESIGN GROUP
100 MIDLAND PARK DRIVE
WENTZVILLE, MO 63385
MISSOURI CERTIFICATE OF AUTHORITY #LC2006000031
MISSOURI CERTIFICATE OF AUTHORITY #CA2002007849

STATE OF MISSOURI
STEVE
MARION
NUMBER
PE2006007195
PROFESSIONAL ENGINEER

ENGINEERS AUTHENTICATION

The responsibility for professional engineering liability on this project is hereby limited to the set of plans authenticated by the seal, signature, and date hereunder attached. Responsibility is disclaimed for all other engineering plans and documents and specifically excludes revisions after this date, unless authenticated.

STEVEN D. MARION P.E.
PROFESSIONAL ENGINEER
PE 2006007195

Project
DUTCH BROS
LEE'S SUMMIT, MO
500 NW CHIPMAN RD.
LEE'S SUMMIT, MO 64086
TM CROWLEY
501 PENNSYLVANIA PARKWAY SUITE 160
INDIANAPOLIS, IN 46280

Date 9-30-2021

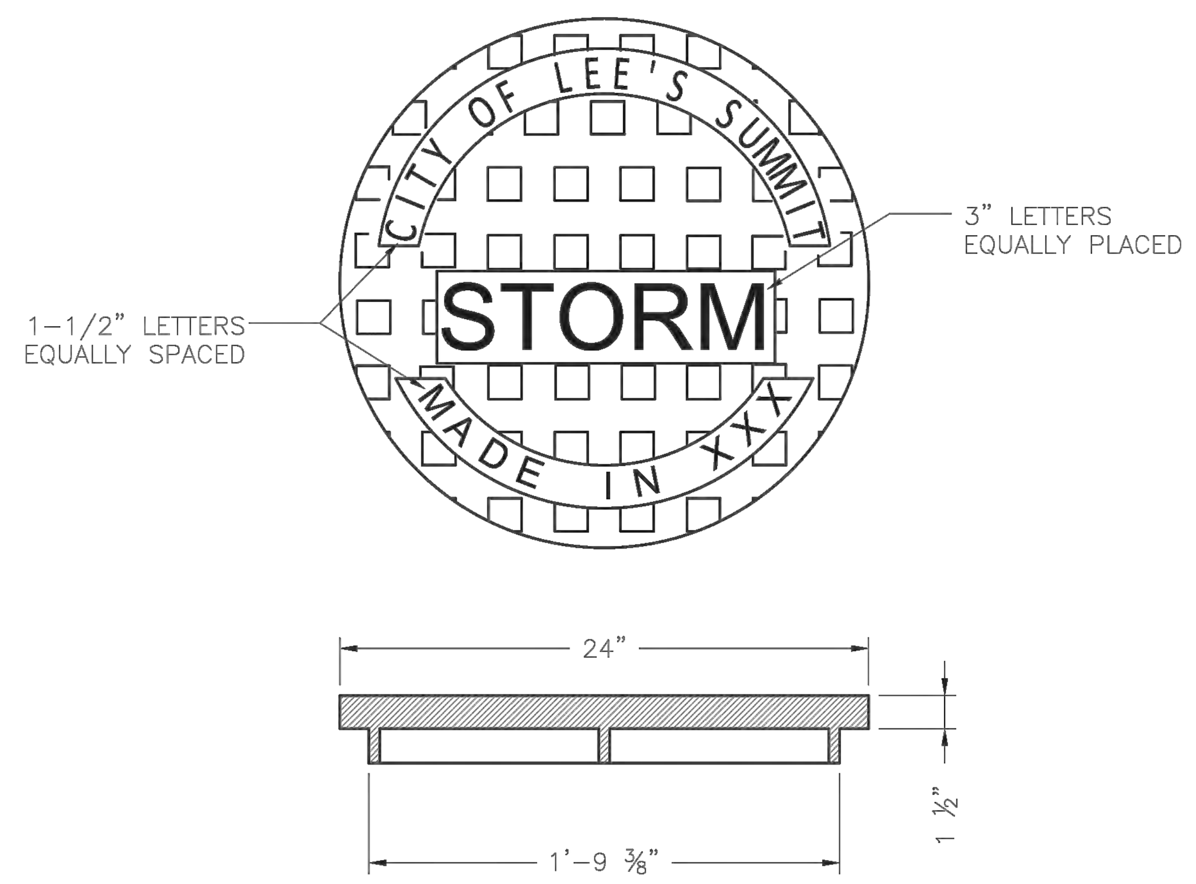
#	Revision Date	Description of Changes

Sheet Title
CONSTRUCTION DETAILS

Sheet Number
C-601

Project No.	2109720
Drawn By	A. JONES
Checked By	M. FOGARTY

NOT RELEASED FOR CONSTRUCTION



STANDARD 24" MANHOLE COVER
MINIMUM WEIGHT = 160 LB
NOTE: PICK HOLES NOT SHOWN

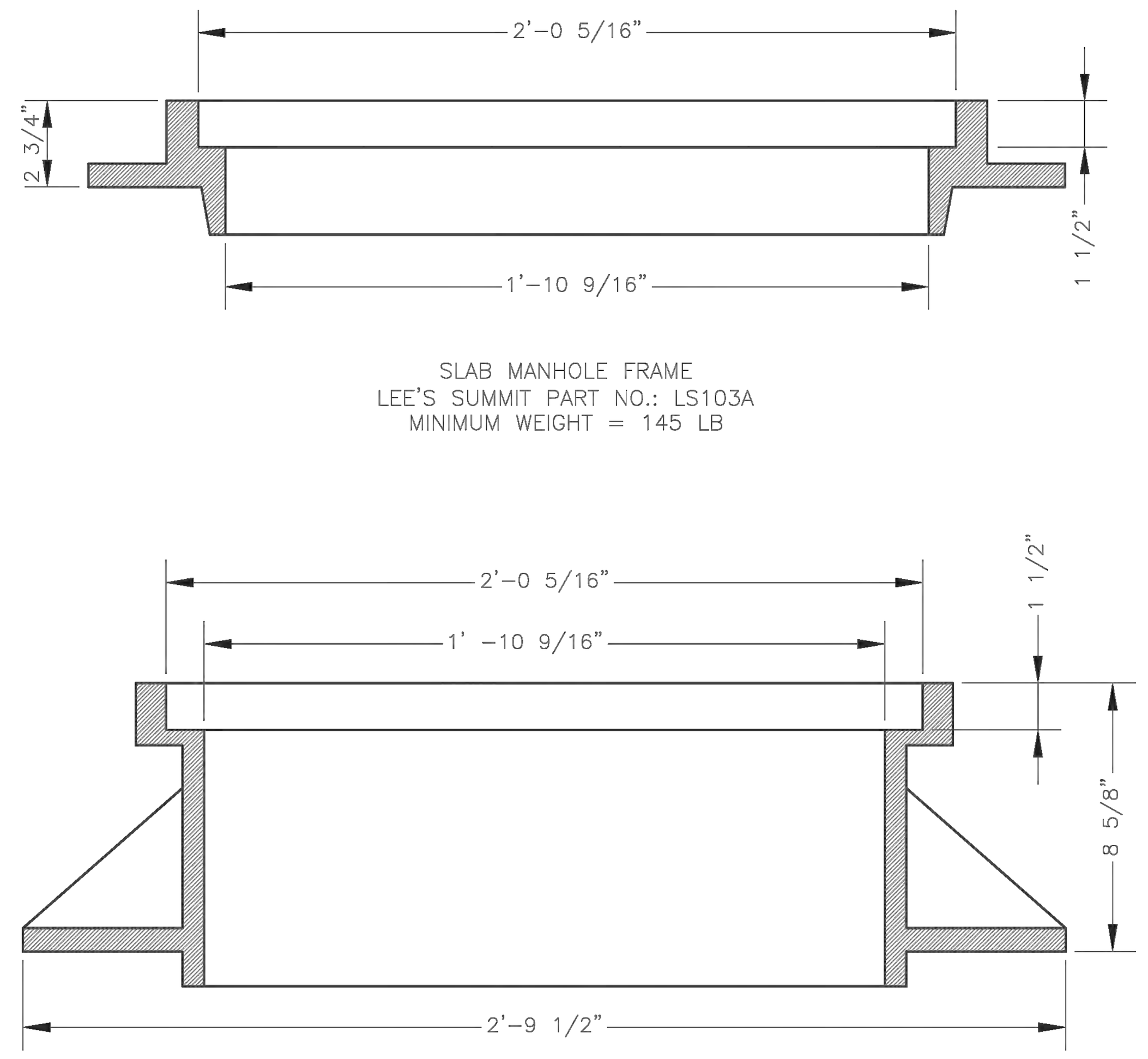
*COVER AND FRAME MODEL INFORMATION REFER TO THE STORMWATER APPROVED PRODUCT LIST.

LEE'S SUMMIT
MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

STORM MANHOLE COVER DETAIL

Date: 05/2021
Drawn By: MJF
Checked By: DL

STM-6



SLAB MANHOLE FRAME
LEE'S SUMMIT PART NO.: LS103A
MINIMUM WEIGHT = 145 LB

STANDARD 24" MANHOLE FRAME
LEE'S SUMMIT PART NO.: LS101A
MINIMUM WEIGHT = 250 LB

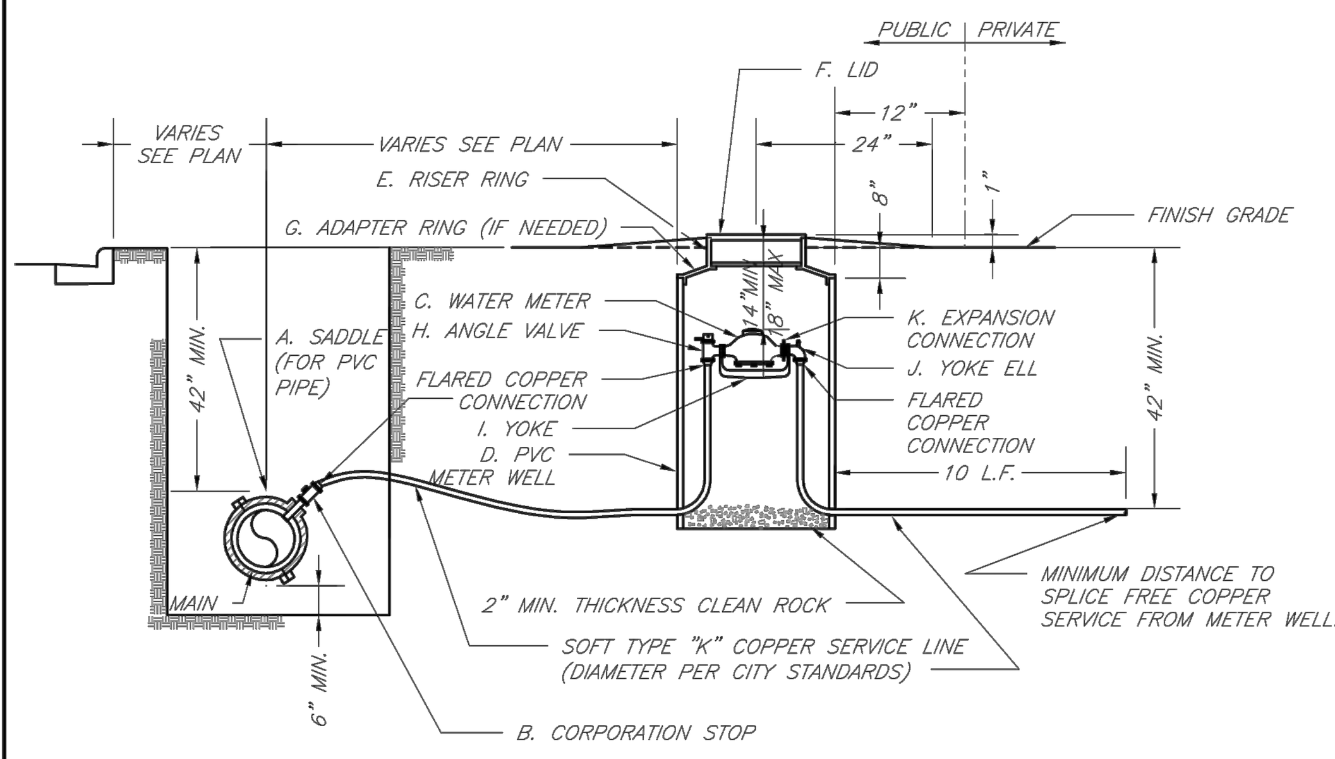
*COVER AND FRAME MODEL INFORMATION REFER TO THE STORMWATER APPROVED PRODUCTS LIST.

LEE'S SUMMIT
MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

STORM MANHOLE FRAME DETAIL

Date: 05/2021
Drawn By: MJF
Checked By: DL

DWG-7



TYPICAL METER INSTALLATION – 2" AND SMALLER
NOT TO SCALE

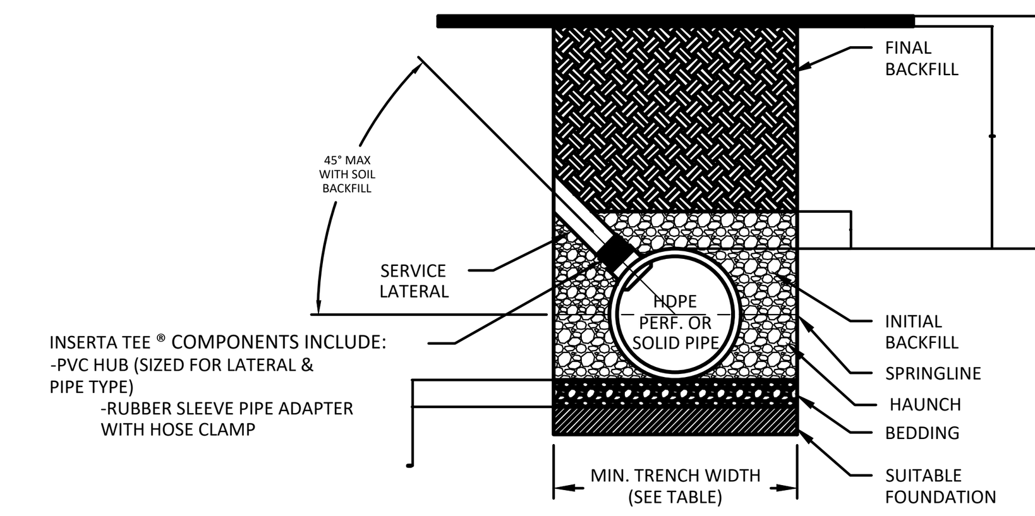
NOTES:

1. METER INSTALLATION SHALL NOT BE LOCATED IN AREAS SUBJECT TO VEHICULAR TRAFFIC OR IN CONCRETE PAVEMENT WITHOUT CITY APPROVAL.
2. IF METER IS TO BE LOCATED OTHER THAN IN FRONT OF PROPERTY LINE, CITY APPROVAL SHALL BE OBTAINED.
3. CITY TO FURNISH ITEMS A–K.
4. NO OTHER EQUIPMENT SHALL BE INSTALLED IN THIS PIT.
5. 42" MINIMUM BURY DEPTH FOR ALL SERVICE LINES.
6. EXCAVATION FOR TAP TO EXPOSE 4 LINEAR FEET OF MAIN.
7. NO SPLICES ALLOWED BETWEEN METER AND MAIN.
8. SERVICE CONNECTION TAP AT APPROXIMATELY 45 DEGREES.
9 LID AND RISER RING SHALL BE SET SO THAT GROUND WATER WILL DRAIN AWAY FROM THE WELL.
10. CONTACT WATER UTILITIES, 816–969–1900, FOR REQUIREMENTS OF A METER LARGER THAN 2"

LEE'S SUMMIT
MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

SERVICE CONNECTION/METER WELL

Date: 02/13
Drawn By: JN
Checked By: DL
FILE: WAT-11
Rev: 1/14
Rev:



RECOMMENDED MINIMUM TRENCH WIDTHS

PIPE DIAM.	MIN. TRENCH WIDTH
4" (100mm)	21" (533mm)
6" (150mm)	23" (584mm)
8" (200mm)	26" (660mm)
10" (250mm)	28" (711mm)
12" (300mm)	30" (762mm)
15" (375mm)	34" (864mm)
18" (450mm)	39" (991mm)
24" (600mm)	48" (1219mm)
30" (750mm)	56" (1422mm)
36" (900mm)	64" (1626mm)
42" (1050mm)	72" (1829mm)
48" (1200mm)	80" (2032mm)
54" (1350mm)	88" (2235mm)
60" (1500mm)	96" (2438mm)

NOTES:

1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST ADDITION

2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.

3. THE INSERTA TEE® CONNECTION SHOULD NOT BE PLACED AT AN ANGLE EXCEEDING 45° FROM THE SPRINGLINE. GREATER ANGLES ARE SUBJECT TO DESIGN ENGINEER APPROVAL AND MAY REQUIRE PREMIUM BACKFILL.

4. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER. AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.

5. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II OR III. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"-24" (100mm-600mm); 6" (150mm) FOR 30"-60" (750mm-1500mm).

6. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II OR III IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.

7. MINIMUM COVER: MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOTATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" UP TO 48" DIAMETER PIPE AND 24" OF COVER FOR 54"-60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.

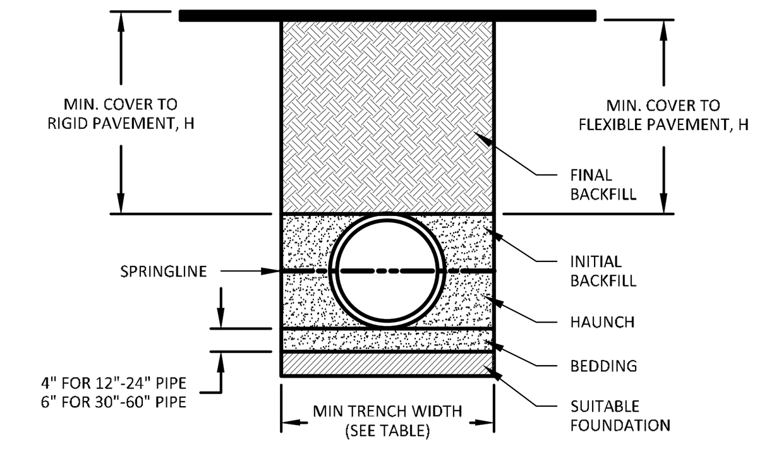
REV.	DESCRIPTION	BY	MM/DD/YY	CHK'D
2	REV. DRAWING NAME OR NUMBER	TJR	01/28/16	

INSERTA TEE DETAIL (HDPE)
DRAWING NUMBER: STD-101I

ADVANCED DRAINAGE SYSTEMS, INC.
4640 TRUEMAN BLVD
HILLIARD, OHIO 43026

JLE
11/5/10
NTS
1 OF 1

HP STORM TRENCH INSTALLATION DETAIL



NOTES:

1. ALL PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST ADDITION, WITH THE EXCEPTION THAT THE INITIAL BACKFILL MAY EXTEND TO THE CROWN OF THE PIPE. SOIL CLASSIFICATIONS ARE PER THE LATEST VERSION OF ASTM D2321. CLASS IVB MATERIALS (MH, CH) AS DEFINED IN PREVIOUS VERSIONS OF ASTM D2321 ARE NOT APPROPRIATE BACKFILL MATERIALS.
2. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
3. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER. AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
4. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II, III, OR IV. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. COMPACTION SHALL BE SPECIFIED BY THE ENGINEER IN ACCORDANCE WITH TABLE 3 FOR THE APPLICABLE FILL HEIGHTS LISTED. UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 12"-24" (300mm-600mm) DIAMETER PIPE; 6" (150mm) FOR 30"-60" (750mm-1500mm) DIAMETER PIPE. THE MIDDLE 1/3 BENEATH THE PIPE INVERT SHALL BE LOOSELY PLACED. PLEASE NOTE, CLASS IV MATERIAL HAS LIMITED APPLICATION AND CAN BE DIFFICULT TO PLACE AND COMPACT; USE ONLY WITH THE APPROVAL OF A SOIL EXPERT.
5. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II, III, OR IV IN THE PIPE ZONE EXTENDING TO THE CROWN OF THE PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION. COMPACTION SHALL BE SPECIFIED BY THE ENGINEER IN ACCORDANCE WITH TABLE 3 FOR THE APPLICABLE FILL HEIGHTS LISTED. PLEASE NOTE, CLASS IV MATERIAL HAS LIMITED APPLICATION AND CAN BE DIFFICULT TO PLACE AND COMPACT; USE ONLY WITH THE APPROVAL OF A SOIL EXPERT.
6. MINIMUM COVER: MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" (300mm) FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOTATION. FOR TRAFFIC APPLICATIONS; CLASS I OR II MATERIAL COMPACTED TO 90% SPD AND CLASS III COMPACTED TO 95% SPD IS REQUIRED. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" (300mm) UP TO 48" (1200mm) DIAMETER PIPE AND 24" (600mm) OF COVER FOR 60" (1500mm) DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.
7. FOR ADDITIONAL INFORMATION SEE TECHNICAL NOTE 2.04.

TABLE 1, RECOMMENDED MINIMUM TRENCH WIDTHS

PIPE DIAM.	MIN. TRENCH WIDTH
12" (300mm)	30" (762mm)
15" (375mm)	34" (864mm)
18" (450mm)	39" (991mm)
24" (600mm)	48" (1219mm)
30" (750mm)	56" (1422mm)
36" (900mm)	64" (1626mm)
42" (1050mm)	72" (1829mm)
48" (1200mm)	80" (2032mm)
60" (1500mm)	96" (2438mm)

TABLE 2, MINIMUM RECOMMENDED COVER BASED ON VEHICLE LOADING CONDITIONS

	SURFACE LIVE LOADING CONDITION	
PIPE DIAM.	H-25	HEAVY CONSTRUCTION (75T AXLE LOAD) *
12" - 48" (300mm - 1200mm)	12" (305mm)	48" (1219mm)
60" (1500mm)	24" (610mm)	60" (1524mm)

* VEHICLES IN EXCESS OF 75T MAY REQUIRE ADDITIONAL COVER

TABLE 3, MAXIMUM COVER FOR ADS HP STORM PIPE, ft

	CLASS I	CLASS II			CLASS III		CLASS IV
PIPE DIA	COMPACTED	95%	90%	85%	95%	90%	95%
12" (300mm)	41 (12.5m)	28 (8.5m)	21 (6.4m)	16 (4.9m)	20 (6.1m)	16 (4.9m)	16 (4.9m)
15" (375mm)	42 (12.8m)	29 (8.8m)	21 (6.4m)	16 (4.9m)	21 (6.4m)	16 (4.9m)	16 (4.9m)
18" (450mm)	44 (13.4m)	30 (9.1m)	21 (6.4m)	16 (4.9m)	22 (6.7m)	17 (5.2m)	16 (4.9m)
24" (600mm)	37 (11.3m)	26 (7.9m)	18 (5.5m)	14 (4.3m)	19 (5.8m)	14 (4.3m)	14 (4.3m)
30" (750mm)	39 (11.9m)	27 (8.2m)	19 (5.8m)	14 (4.3m)	19 (5.8m)	15 (4.6m)	14 (4.3m)
36" (900mm)	28 (8.5m)	20 (6.1m)	14 (4.3m)	10 (3.0m)	14 (4.3m)	11 (3.4m)	10 (3.0m)
42" (1050mm)	30 (9.1m)	21 (6.4m)	14 (4.3m)	10 (3.0m)	15 (4.6m)	11 (3.4m)	10 (3.0m)
48" (1200mm)	29 (8.8m)	20 (6.1m)	14 (4.3m)	9 (2.7m)	14 (4.3m)	10 (3.0m)	10 (3.0m)
60" (1500mm)	29 (8.8m)	20 (6.1m)	14 (4.3m)	9 (2.7m)	14 (4.3m)	10 (3.0m)	9 (2.7m)

FILL HEIGHT TABLE GENERATED USING AASHTO SECTION 12, LOAD RESISTANCE FACTOR DESIGN (LRFD) PROCEDURE WITH THE FOLLOWING ASSUMPTIONS:
NO HYDROSTATIC PRESSURE
UNIT WEIGHT OF SOIL (γs) = 120 PCF

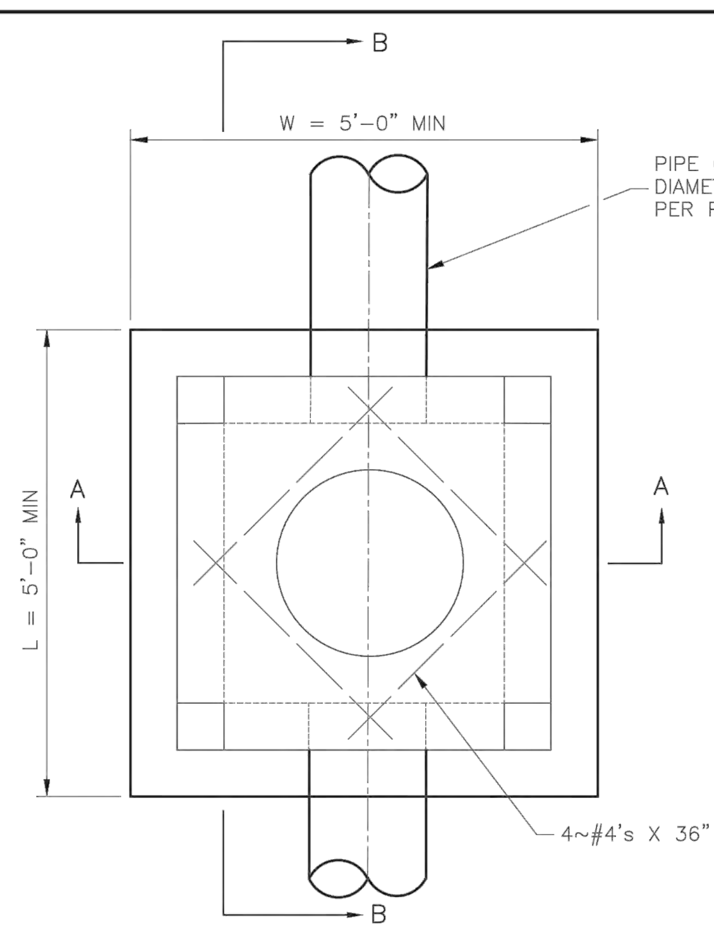
REV.	DESCRIPTION	BY	MM/DD/YY	CHK'D
6	REV. MAXIMUM COVER HEIGHTS	RWD	01/11/17	

ADVANCED DRAINAGE SYSTEMS, INC. ("ADS") HAS PREPARED THIS DETAIL BASED ON INFORMATION PROVIDED TO ADS. THIS DRAWING IS INTENDED TO DEPICT THE COMPONENTS AS REQUESTED. ADS HAS NOT PERFORMED ANY ENGINEERING OR DESIGN SERVICES FOR THIS PROJECT, NOR HAS ADS INDEPENDENTLY VERIFIED THE INFORMATION SUPPLIED. THE INSTALLATION DETAILS PROVIDED HEREIN ARE GENERAL RECOMMENDATIONS AND ARE NOT SPECIFIC FOR THIS PROJECT. THE DESIGN ENGINEER SHALL REVIEW THESE DETAILS PRIOR TO CONSTRUCTION. IT IS THE DESIGN ENGINEERS RESPONSIBILITY TO ENSURE THE DETAILS PROVIDED HEREIN MEETS OR EXCEEDS THE APPLICABLE NATIONAL, STATE, OR LOCAL REQUIREMENTS AND TO ENSURE THAT THE DETAILS PROVIDED HEREIN ARE ACCEPTABLE FOR THIS PROJECT.

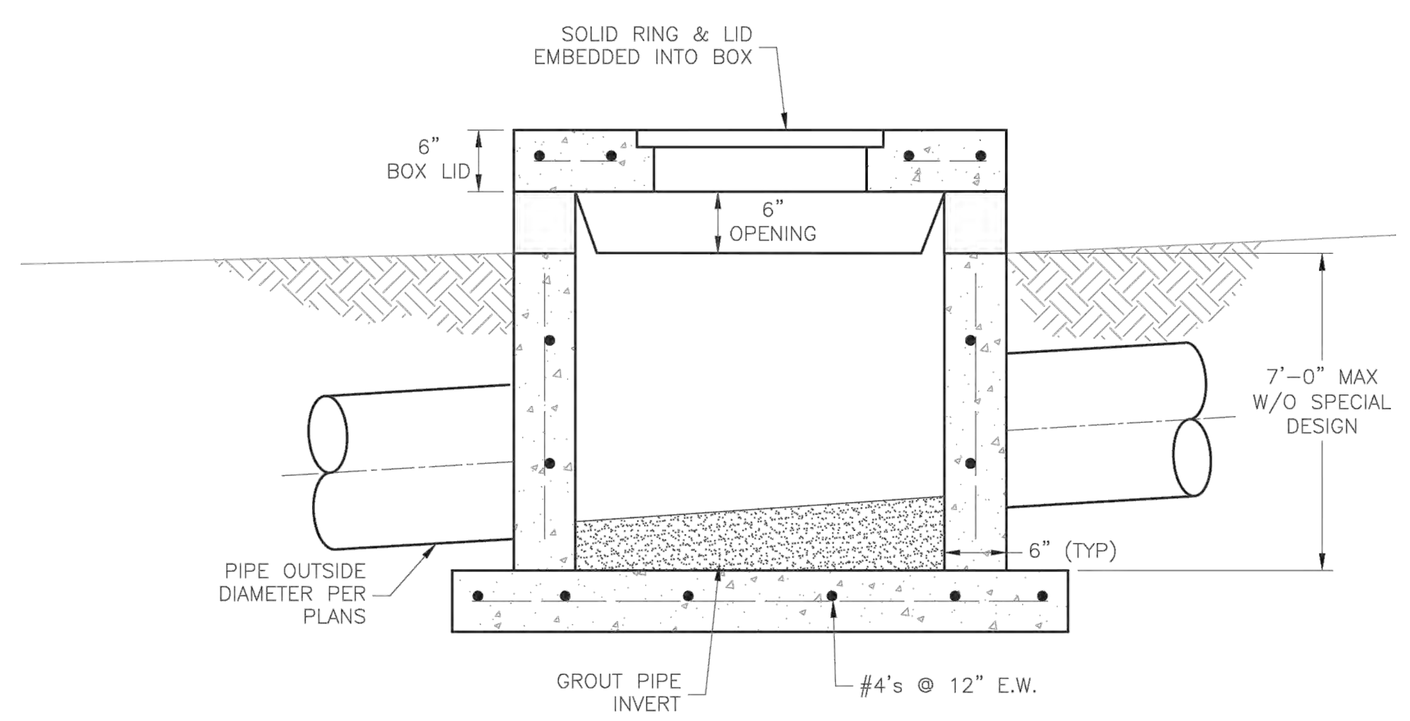
TRENCH INSTALLATION DETAIL (HP STORM)
DRAWING NUMBER: STD-101D

ADVANCED DRAINAGE SYSTEMS, INC.
4640 TRUEMAN BLVD
HILLIARD, OHIO 43026

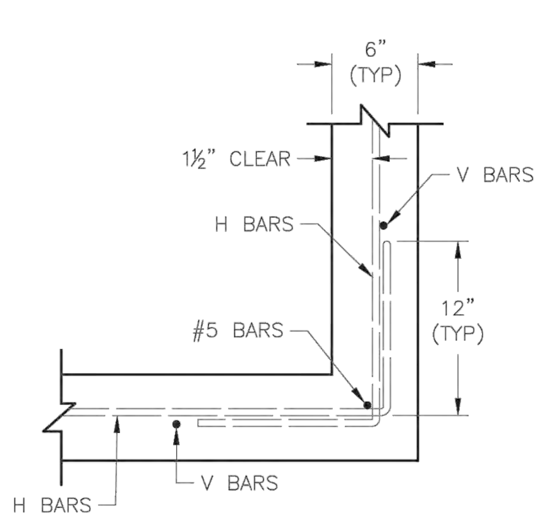
JAB
01/29/09
NTS
1 OF 1



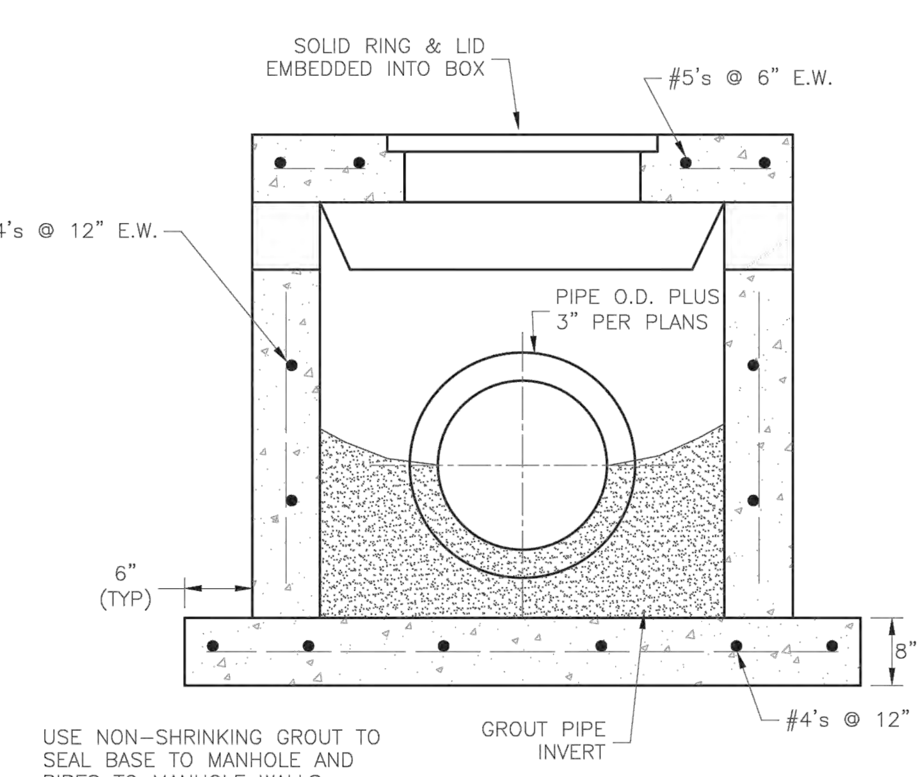
PLAN VIEW



SECTION B–B



WALL CORNER DETAIL



SECTION A–A

GENERAL NOTES:

1. LOCATE RING AND COVER OVER OUTLET ON BLANK WALL.
2. USE ¾" CHAMFER ON ALL EXPOSED CONCRETE CORNERS.
3. FLOOR OF INLET GROUTED AND SHAPED TO MATCH PIPE INVERT TO PROVIDE SMOOTH FLOW.
4. STEPS REQUIRED AT 16" O.C. WHEN DEPTH FROM TOP OF CASTING TO INVERT EXCEEDS 3' ON BLANK WALL IF POSSIBLE.
5. BOXOUTS WILL NOT BE ALLOWED TO PROJECT THROUGH THE CORNERS OF THE STRUCTURE.
6. THE MINIMUM REINFORCING SHALL BE 1 H–BAR OVER A CAST–IN–PLACE PIPE AND 2 H–BARS OVER A PRECAST BOXOUT.
7. SHOW FIELD INLET ORIENTATION ON PLANS PLUS NUMBER AND SIDE OF OPENINGS.
8. PRECAST LIDS SHALL BE PINNED, SEALED WITH NON–SHRINKABLE GROUT AND REMOVABLE FOR FUTURE MAINTENANCE.
9. FOR RING AND COVER SEE THE STORMWATER APPROVED PRODUCT LIST.

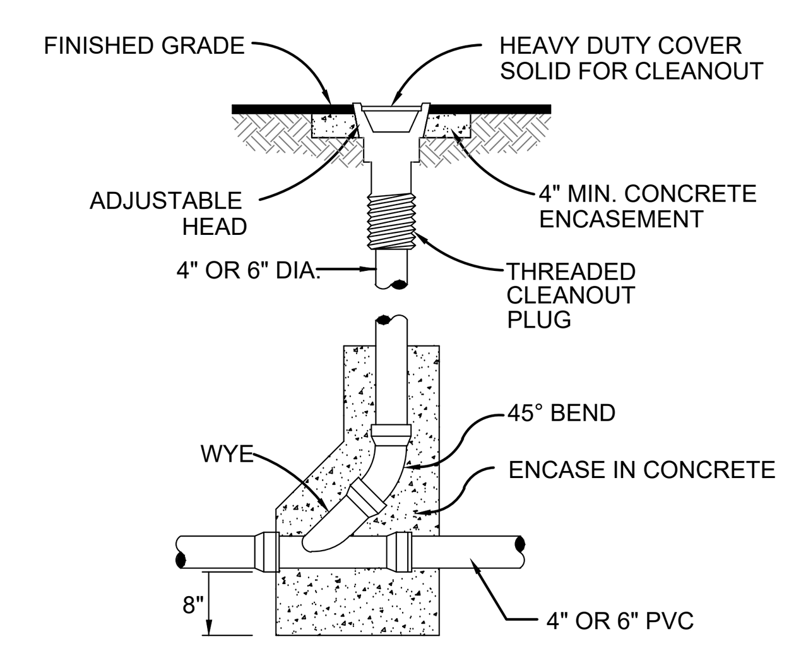
LEE'S SUMMIT
MISSOURI
PUBLIC WORKS ENGINEERING DIVISION | 220 SE GREEN STREET | LEE'S SUMMIT, MO 64063

Project: STANDARD DETAILS
CITY OF LEE'S SUMMIT, MO
LEE'S SUMMIT, JACKSON COUNTY, MO

Sheet Name: FIELD INLET DETAIL

Drawn By: MJF
Checked By: DL
Date: 05/2021
Proj. #:

STM-2



CLEANOUT DETAIL
(NOT TO SCALE)

PREMIER DESIGN GROUP
100 MIDLAND PARK DRIVE
WENTZVILLE, MO 63385
MISSOURI CERTIFICATE OF AUTHORITY #E-2011000031
MISSOURI CERTIFICATE OF AUTHORITY #LS-2012007849
MISSOURI CERTIFICATE OF AUTHORITY #LA-2016007538

STATE OF MISSOURI
STEVE MARION
NUMBER PE2006007195
PROFESSIONAL ENGINEER
10/5/2021

ENGINEERS AUTHENTICATION
The responsibility for professional engineering liability on this project is hereby limited to the set of plans authenticated by the seal, signature, and date hereunder attached. Responsibility is disclaimed for all other engineering plans involved in this project and specifically excludes revisions after this date unless reauthenticated.
STEVEN D. MARION P.E.
PROFESSIONAL ENGINEER
PE 2006007195

Project
DUTCH BROS
LEE'S SUMMIT, MO
500 NW CHIPMAN RD.
LEE'S SUMMIT, MO 64086
TM CROWLEY
501 PENNSYLVANIA PARKWAY SUITE 160
INDIANAPOLIS, IN 46280

Date 9-30-2021

#	Revision Date	Description of Changes

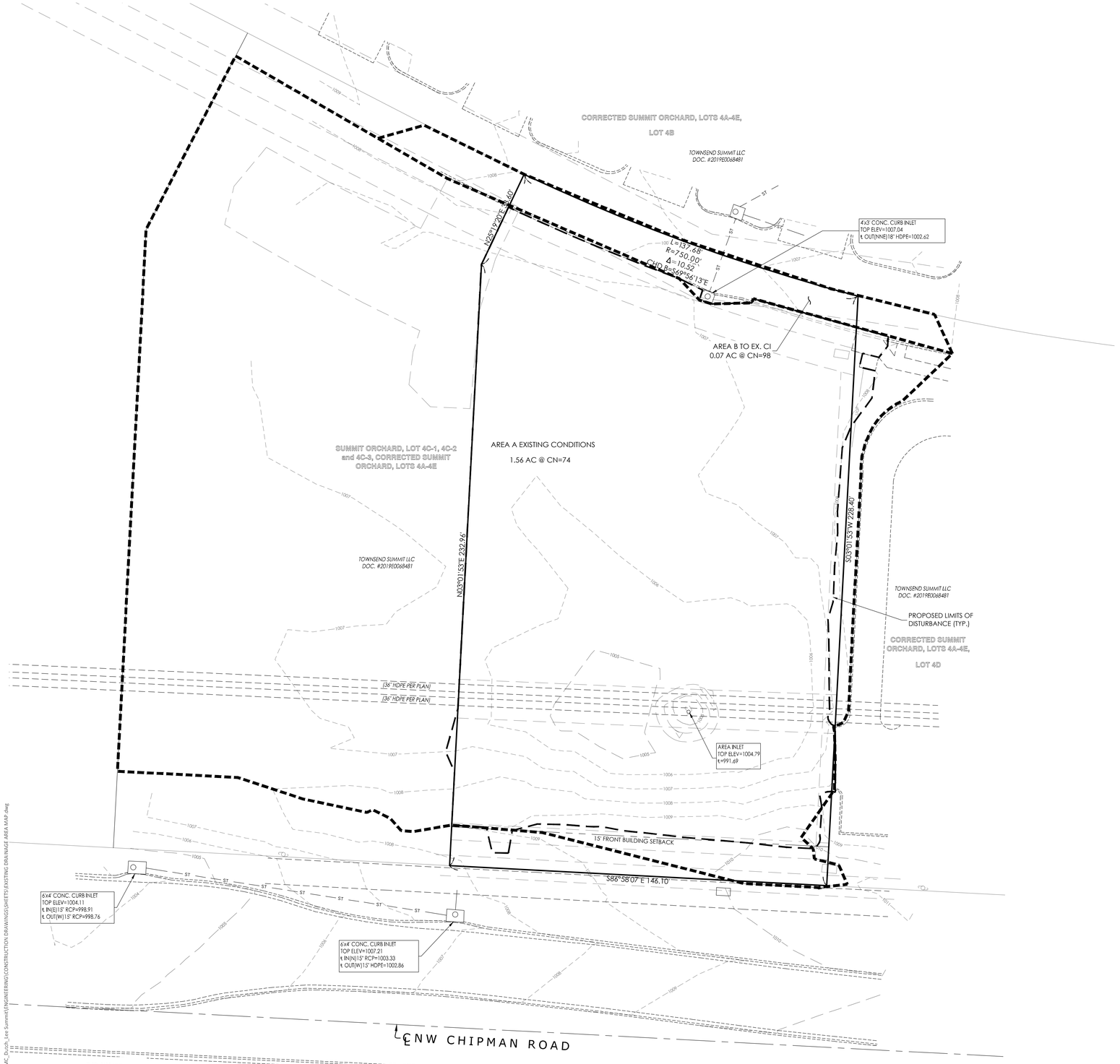
Sheet Title
UTILITY DETAILS

Sheet Number
C-700

Project No. 2109720
Drawn By A. JONES
Checked By M. FOGARTY

NOT RELEASED FOR CONSTRUCTION

\\Vault-pc\vault\CIVIL 3D PROJECTS\2021\2109720_TMC_Dutch_Lee Summit\ENGINEERING\CONSTRUCTION DRAWINGS\SHEETS\C-801 UTILITY DETAILS.dwg



THIS PLAN IS FOR DRAINAGE PURPOSES AND REFERENCE ONLY. DO NOT USE FOR CONSTRUCTION.

MINIMUM TIME OF CONCENTRATION = 5 MINUTES
EXISTING SOILS TYPE = C
CN PVMT = 98
CN GRASS = 74
CN COMMERCIAL AREAS = 94

MASTER DRAINAGE PLAN NOTES

1. MBOE - (MINIMUM BUILDING OPENING ELEVATION) ELEV = 1008.00
2. THE INDIVIDUAL LOT OWNER(S) SHALL NOT CHANGE OR OBSTRUCT THE OVERALL DRAINAGE FLOW LINES OR PATHS ON THE LOT AS SHOWN ON THE MASTER DRAINAGE PLAN, UNLESS SPECIFIC APPLICATION IS MADE AND APPROVED BY THE CITY ENGINEER.

EXISTING RUNOFF TABLE

ID	EXISTING Q (CFS)
AREA A	
2-Year	3.46
10-Year	7.31
100-Year	12.87
AREA B	
2-Year	0.39
10-Year	0.59
100-Year	0.86

"Little MO" says
CALL BEFORE YOU DIG!
1-800-DIG-RITE

UNDERGROUND UTILITIES AND OSHA SAFETY NOTE:

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1" = 20'
20 10 0 20 40
SCALE IN FEET

PREMIER DESIGN GROUP
100 MIDLAND PARK DRIVE
WENTZVILLE, MO 63385
MISSOURI CERTIFICATE OF AUTHORITY #LC2002000031
KANSAS CERTIFICATE OF AUTHORITY #CA-2002007849

STATE OF MISSOURI
STEVE MARION
NUMBER PE2006007195
PROFESSIONAL ENGINEER

ENGINEERS AUTHENTICATION
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STEVEN D. MARION P.E.
PROFESSIONAL ENGINEER
PE 2006007195

Project
DUTCH BROS
LEE'S SUMMIT, MO
500 NW CHIPMAN RD.
LEE'S SUMMIT, MO 64086
TM CROWLEY
501 PENNSYLVANIA PARKWAY SUITE 160
INDIANAPOLIS, IN 46280

Date 9-30-2021

#	Revision Date	Description of Changes

Sheet Title
EXISTING DRAINAGE AREA MAP

Sheet Number
C-500

Project No.	2109720
Drawn By	A. JONES
Checked By	M. FOGARTY

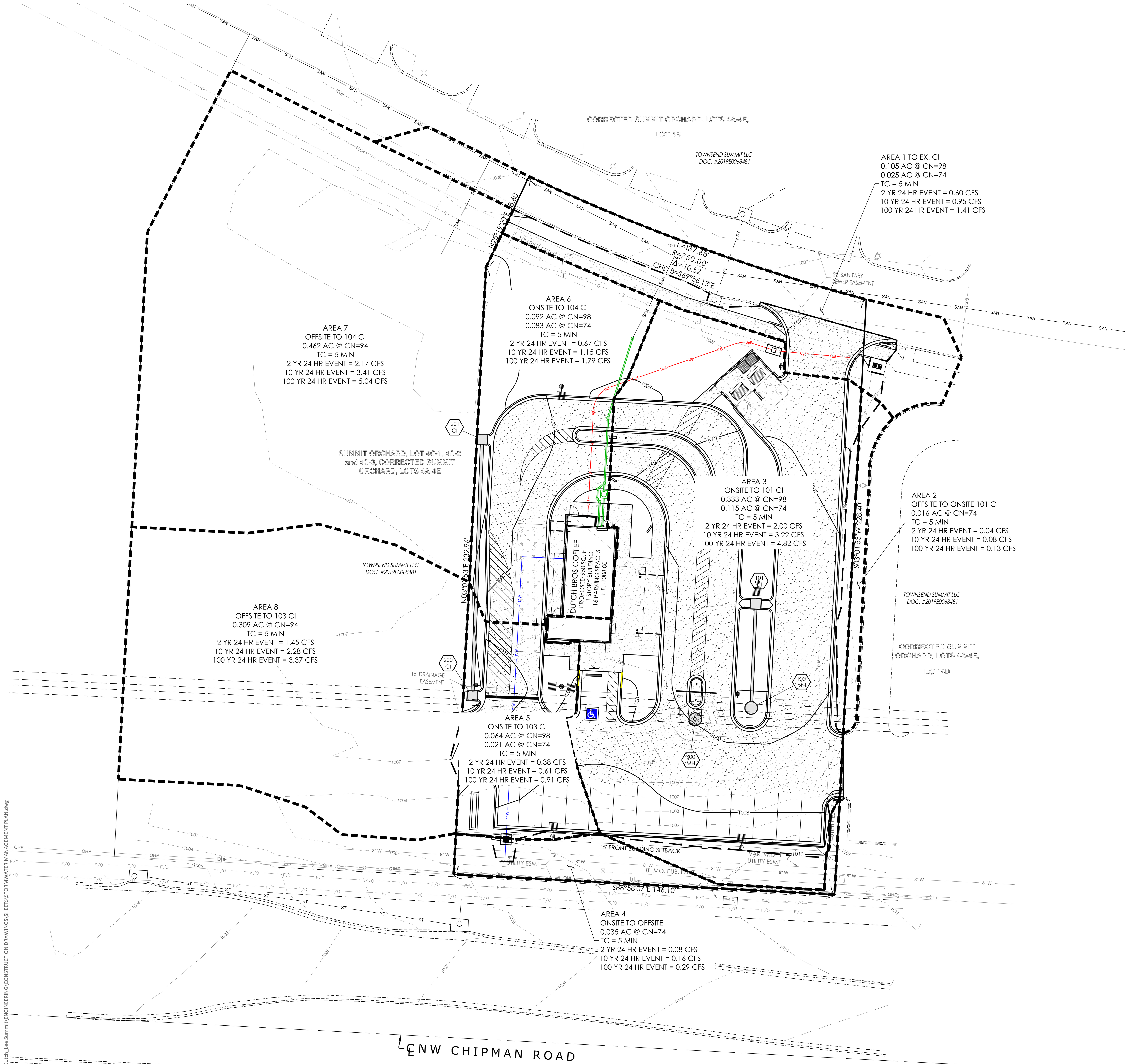
NOT RELEASED FOR CONSTRUCTION

\\Ad-fs\vault\CIVIL 3D PROJECTS\2021\2109720_TMC_Dutch_Lee Summit\ENGINEERING\CONSTRUCTION DRAWINGS\SHEETS\EXISTING DRAINAGE AREA MAP.dwg

MINIMUM TIME OF CONCENTRATION = 5 MINUTES
EXISTING SOILS TYPE = C
CN PVMT = 98
CN GRASS = 74
CN COMMERCIAL AREAS = 94

MASTER DRAINAGE PLAN NOTES

1. MBOE - (MINIMUM BUILDING OPENING ELEVATION) ELEV = 1008.00
2. THE INDIVIDUAL LOT OWNER(S) SHALL NOT CHANGE OR OBSTRUCT THE OVERALL DRAINAGE FLOW LINES OR PATHS ON THE LOT AS SHOWN ON THE MASTER DRAINAGE PLAN, UNLESS SPECIFIC APPLICATION IS MADE AND APPROVED BY THE CITY ENGINEER.



Row Labels	Peak Runoff (cfs)	Impervious Area	Pervious Area	Total Area	Composite CN	TC
AREA 1						
2-Year	0.60	0.105	0.025	0.13	93	5
10-Year	0.95	0.105	0.025	0.13	93	5
100-Year	1.41	0.105	0.025	0.13	93	5
AREA 2						
2-Year	0.04	0	0.016	0.016	74	5
10-Year	0.08	0	0.016	0.016	74	5
100-Year	0.13	0	0.016	0.016	74	5
AREA 3						
2-Year	2.00	0.333	0.115	0.448	92	5
10-Year	3.22	0.333	0.115	0.448	92	5
100-Year	4.82	0.333	0.115	0.448	92	5
AREA 4						
2-Year	0.08	0	0.035	0.035	74	5
10-Year	0.16	0	0.035	0.035	74	5
100-Year	0.29	0	0.035	0.035	74	5
AREA 5						
2-Year	0.38	0.064	0.021	0.085	92	5
10-Year	0.61	0.064	0.021	0.085	92	5
100-Year	0.91	0.064	0.021	0.085	92	5
AREA 6						
2-Year	0.67	0.092	0.083	0.175	87	5
10-Year	1.15	0.092	0.083	0.175	87	5
100-Year	1.79	0.092	0.083	0.175	87	5
AREA 7						
2-Year	2.17	0.462	0	0.462	94	5
10-Year	3.41	0.462	0	0.462	94	5
100-Year	5.04	0.462	0	0.462	94	5
AREA 8						
2-Year	1.45	0.309	0	0.309	94	5
10-Year	2.28	0.309	0	0.309	94	5
100-Year	3.37	0.309	0	0.309	94	5

"Little MO" says CALL BEFORE YOU DIG! 1-800-DIG-RITE

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1" = 20'
SCALE IN FEET

PREMIER DESIGN GROUP
100 MIDLAND PARK DRIVE
WENTZVILLE, MO 63385

ENGINEERS AUTHENTICATION
STEVEN D. MARION P.E.
PROFESSIONAL ENGINEER
PE 2006007195

Project
DUTCH BROS
LEE'S SUMMIT, MO
500 NW CHIPMAN RD.
LEE'S SUMMIT, MO 64086
TM CROWLEY
501 PENNSYLVANIA PARKWAY SUITE 160
INDIANAPOLIS, IN 46280

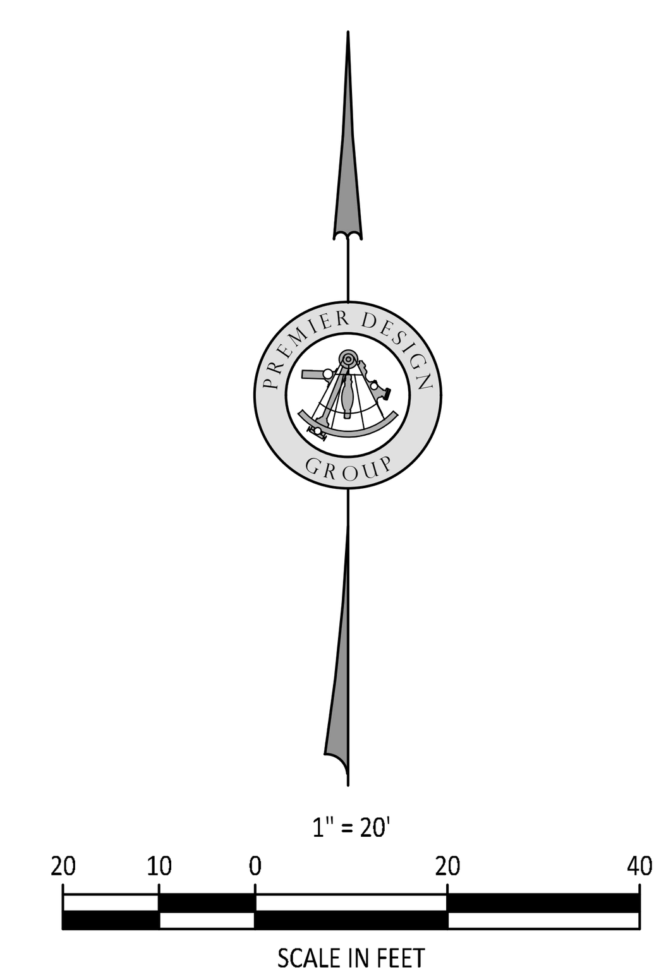
Date 9-30-2021

Sheet Title
STORMWATER MANAGEMENT PLAN

Sheet Number
C-801

Project No.	2109720
Drawn By	A. JONES
Checked By	M. FOGARTY

NOT RELEASED FOR CONSTRUCTION



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LANDSCAPE PLAN NOTES:

GENERAL:
1. ALL LANDSCAPE MATERIAL SHALL CONFORM TO THE CITY OF LEE'S SUMMIT STANDARDS.
2. ALL NATURAL VEGETATION SHALL BE MAINTAINED WHERE IT DOES NOT INTERFERE WITH CONSTRUCTION OR THE PERMANENT PLAN OF OPERATION. EVERY EFFORT POSSIBLE SHALL BE MADE TO PROTECT EXISTING VEGETATION OR STRUCTURES FROM DAMAGE DUE TO EQUIPMENT USAGE. CONTRACTOR SHALL AT ALL TIMES PROTECT ALL MATERIALS AND WORK AGAINST INJURY TO THE PUBLIC.
3. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COORDINATION WITH OTHER SITE RELATED WORK BEING PERFORMED BY OTHER CONTRACTORS. REFER TO ARCHITECTURAL DRAWINGS FOR FURTHER COORDINATION OF WORK TO BE DONE.
4. UNDERGROUND FACILITIES, STRUCTURES AND UTILITIES MUST BE CONSIDERED APPROXIMATE ONLY. THERE MAY BE OTHERS NOT PRESENTLY SHOWN OR KNOWN. IT SHALL BE THE LANDSCAPE CONTRACTOR'S RESPONSIBILITY TO DETERMINE OR VERIFY THE EXISTENCE OF AND EXACT LOCATION OF ALL UTILITIES. (CALL MISSOURI ONE CALL, 1-800-DIG-RITE)
5. PLANT MATERIAL ARE TO BE PLANTED IN THE SAME RELATIONSHIP TO GRADE AS WAS GROWN IN NURSERY CONDITIONS. ALL PLANTING BEDS SHALL BE CULTIVATED TO A DEPTH OF 6" MINIMUM AND GRADED SMOOTH IMMEDIATELY BEFORE PLANTING OF PLANTS. PLANT GROUNDCOVER TO WITHIN 12" OF TRUNK OF TREES OR SHRUBS PLANTED WITHIN THE AREA.
6. IT SHALL BE THE LANDSCAPE CONTRACTOR'S RESPONSIBILITY TO:
   A. VERIFY ALL EXISTING AND PROPOSED FEATURES SHOWN ON THE DRAWINGS PRIOR TO COMMENCEMENT.
   B. REPORT ALL DISCREPANCIES FOUND WITH REGARD TO EXISTING CONDITIONS OR PROPOSED DESIGN TO THE ENGINEER OF RECORD IMMEDIATELY FOR A DECISION.
   C. STAKE THE LOCATIONS OF ALL PROPOSED PLANT MATERIAL AND OBTAIN THE APPROVAL OF THE OWNER'S REPRESENTATIVE OR LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
7. ITEMS SHOWN ON THIS DRAWING TAKE PRECEDENCE OVER THE MATERIAL LIST. IT SHALL BE THE LANDSCAPE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL QUANTITIES AND CONDITIONS PRIOR TO IMPLEMENTATION OF THIS PLAN. NO SUBSTITUTIONS OF TYPES OR SIZE OF PLANT MATERIALS WILL BE ACCEPTED WITHOUT WRITTEN APPROVAL FROM THE LANDSCAPE ARCHITECT.
8. PROVIDE SINGLE-STEM TREES UNLESS OTHERWISE NOTED IN PLANT SCHEDULE.
9. ALL PLANT MATERIAL SHALL COMPLY WITH THE RECOMMENDATIONS AND REQUIREMENTS OF ANSI Z60.1 "AMERICAN STANDARDS FOR NURSERY STOCK".
10. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE FOR INSPECTION OF THE PLANT MATERIAL BY THE LANDSCAPE ARCHITECT PRIOR TO ACCEPTANCE. PLANTS NOT CONFORMING EXACTLY TO THE PLANT LIST WILL NOT BE ACCEPTED AND SHALL BE REPLACED AT THE LANDSCAPE CONTRACTOR'S EXPENSE.
11. ALL BIDS ARE TO HAVE UNIT PRICES LISTED. THE OWNER HAS THE OPTION TO DELETE ANY PORTION OF THE CONTRACT PRIOR TO SIGNING THE CONTRACT OR BEGINNING WORK. THIS WILL BE A UNIT PRICE CONTRACT.
12. ALL PLANT MATERIAL TO BE TRANSPLANTED SHALL BE IN ACCORDANCE TO GUIDELINES SET BY AAN STANDARDS. TRANSPLANTED MATERIAL WILL NOT BE GUARANTEED BY THE LANDSCAPE CONTRACTOR.

INSURANCE:
1. THE LANDSCAPE CONTRACTOR SHALL SUBMIT CERTIFICATES OF INSURANCE FOR WORKMAN'S COMPENSATION AND GENERAL LIABILITY.

MULCH:
1. ALL MULCH TO BE SHREDDED OAK BARK MULCH AT 3" DEPTH AFTER COMPACTION(UNLESS OTHERWISE NOTED). MULCH SHALL BE CLEAN AND FREE OF ALL FOREIGN MATERIALS, INCLUDING WEEDS, MOLD, DELETERIOUS MATERIALS, ETC. PROVIDE 4' DIAMETER MULCH RING AROUND ALL NEW TREES WITH MIN. 3" DEPTH OF SHREDDED OAK BARK MULCH.
2. MIRAFI FABRIC SHALL BE USED BENEATH ALL GRAVEL MULCH BEDS.
3. LANDSCAPE BEDS NOT BORDERED BY CONCRETE CURBING OR WALKS SHALL BE SPADE CUT EDGE.

MAINTENANCE:
1. LANDSCAPE CONTRACTOR SHALL PROVIDE A SEPARATE PROPOSAL TO MAINTAIN ALL PLANTS, SHRUBS, GROUNDCOVER, PERENNIALS AND ANNUALS FOR A PERIOD OF 12 MONTHS AFTER ACCEPTANCE.
2. CONTRACTOR SHALL ENSURE THAT ONLY COMPETENT AND TRAINED PERSONNEL SHALL PROVIDE SUCH SERVICES AND THAT SUCH SERVICES BE PROVIDED IN A TIMELY MANNER.

TOPSOIL:
1. TOPSOIL MIX FOR ALL PROPOSED LANDSCAPE PLANTINGS SHALL BE FIVE (5) PARTS WELL-DRAINED SCREENED ORGANIC TOPSOIL TO ONE (1) PART CANADIAN SPHAGNUM PEAT MOSS AS PER PLANTING DETAILS. ROTO-TILL TOPSOIL MIX TO A DEPTH OF 6" MINIMUM AND GRADE SMOOTH.
2. PROVIDE A SOIL ANALYSIS, AS REQUESTED, MADE BY AN INDEPENDENT SOIL-TESTING AGENCY OUTLINING THE PERCENTAGE (%) OF ORGANIC MATTER, INORGANIC MATTER, DELETERIOUS MATERIAL, PH AND MINERAL CONTENT.
3. ANY FOREIGN TOPSOIL USED SHALL BE FREE OF ROOTS, STUMPS, WEEDS, BRUSH, STONES (LARGER THAN 1"), LITTER OR ANY OTHER EXTRANEOUS OR TOXIC MATERIAL.
4. LANDSCAPE CONTRACTOR TO APPLY PRE-EMERGENT HERBICIDE TO ALL PLANTING BEDS UPON COMPLETION OF PLANTING OPERATIONS AND BEFORE APPLICATION OF SHREDDED OAK BARK MULCH.
   MISC. MATERIAL:

PROVIDE STAKES AND DEADMAN OF SOUND, NEW HARDWOOD, FREE OF KNOTHOLES AND DEFECTS.
1. TREE WRAP TAPE SHALL BE 4" MINIMUM, DESIGNED TO PREVENT BORER DAMAGE AND WINTER FREEZING. ADDITIONALLY, ONLY 3-PLY TYING MATERIAL SHALL BE USED.

TURF:
1. ALL DISTURBED LAWN AREAS TO BE SODDED UNLESS NOTED OTHERWISE WITH A TURF-TYPE KENTUCKY BLUE GRASS-FESCUE MIX. LAWN AREAS SHALL BE UNCONDITIONALLY WARRANTED FOR A PERIOD OF 90 DAYS FROM DATE OF FINAL ACCEPTANCE.
2. ANY POINTS CARRYING CONCENTRATED WATER LOADS AND ALL SLOPES OF 4:1 OR GREATER SHALL BE SODDED AND THE SOD SHALL HAVE STAKES PLACED.
3. ALL SOD SHALL BE PLACED A MAXIMUM OF 24 HOURS AFTER HARVESTING.
4. RECONDITION EXISTING LAWN AREAS DAMAGED BY CONTRACTOR'S OPERATIONS INCLUDING EQUIPMENT/ MATERIAL STORAGE AND MOVEMENT OF VEHICLES.
5. SOD CONTRACTOR TO ENSURE SOD IS PLACED BELOW SIDEWALK AND ALL PAVED AREA ELEVATIONS TO ALLOW FOR PROPER DRAINAGE.
6. OFF-SITE LAND DISTURBED SHALL BE SODDED AND RESTORED TO A CONDITION BETTER THAN EXISTING.

SIGHT TRIANGLES:
1. NO LANDSCAPE MATERIAL OR OTHER OBSTRUCTIONS SHALL BE PLACED OR BE MAINTAINED WITHIN THE SIGHT DISTANCE AREA SO AS NOT TO IMPEDE THE VISION BETWEEN A HEIGHT OF THIRTY INCHES (30") AND TEN FEET (10') ABOVE THE ADJACENT STREET OR PAVING SURFACES.
2. THE TRIANGLE ADJACENT TO STREET INTERSECTIONS SHALL BE FORMED BY MEASURING FROM THE POINT OF INTERSECTION OF THE FRONT AND SIDE LOT LINES A DISTANCE OF 20' MINIMUM ALONG SAID FRONT AND SIDE LOT LINES AND CONNECTING THE POINTS SO ESTABLISHED TO FORM THE SIGHT TRIANGLE AREA.
3. SIGHT TRIANGLES AT THE INTERSECTION OF A PUBLIC STREET AND A PRIVATE ACCESS WAY (EXCEPT FOR SINGLE FAMILY RESIDENCES) SHALL ALSO BE FORMED AS OUTLINED IN NOTE #2 ABOVE.

WARRANTY:
1. ALL PLANT MATERIAL (EXCLUDING GROUND COVER, PERENNIALS AND ANNUALS) ARE TO BE WARRANTED FOR A PERIOD OF 12 MONTHS AFTER INSTALLATION AT 100% OF THE INSTALLED PRICE.
2. ANY PLANT MATERIAL FOUND TO BE DEFECTIVE SHALL BE REMOVED AND REPLACED WITHIN 30 DAYS OF NOTIFICATION OR IN GROWTH SEASON DETERMINED TO BE BEST FOR THE PLANT.
3. ONLY ONE REPLACEMENT PER TREE OR SHRUB SHALL BE REQUIRED AT THE END OF THE WARRANTY PERIOD, UNLESS LOSS IS DUE TO FAILURE TO COMPLY WITH WARRANTY.
4. LAWN ESTABLISHMENT PERIOD WILL BE IN EFFECT ONCE THE LAWN HAS BEEN MOWED THREE TIMES. PLANT ESTABLISHMENT PERIOD SHALL COMMENCE ON THE DATE OF ACCEPTANCE AND 100% COMPLETION.

LANDSCAPE PLAN REQUIREMENTS

1. REQUIRED FRONT YARD LANDSCAPING
   A. ONE TREE SHALL BE PLANTED FOR EACH 30 FEET OF STREET FRONTAGE
   B. ONE SHRUB REQUIRED FOR EACH 20 FEET OF STREET FRONTAGE

2. REQUIRED OPEN YARD LANDSCAPING
   A. ONE TREE FOR EVERY 5,000 SQ. FT. OF LOT AREA NOT COVERED BY BUILDINGS/STRUCTURES
   B. TWO SHRUBS PER 5,000 SQ. FT. OF TOTAL LOT AREA

3. REQUIRED TRASH STORAGE CONTAINER LANDSCAPING
   A. REFER TO LANDSCAPE PLAN FOR SCREENING OF TRASH ENCLOSURE.

1. PROVIDED FRONT YARD LANDSCAPING
   A. TREES PROVIDED - 283.78' OF STREET FRONTAGE / 30 FEET = 10 TREES
   B. SHRUBS PROVIDED- 283.78' OF STREET FRONTAGE / 20 FEET = 14 SHRUBS

2. PROVIDED OPEN YARD LANDSCAPING
   A. TREES PROVIDED- 36,068 SQ. FT. - 950 BLDG SQ. FT. = 35,118 SQ. FT. / 5,000 SQ. FT. = 7 TREES
   B. SHRUBS PROVIDED- 36,068 SQ. FT. / 5,000 SQ. FT = 7.2 x 2 = 15 SHRUBS

3. REQUIRED TRASH STORAGE CONTAINER LANDSCAPING
   A. REFER TO LANDSCAPE PLAN - 7 EMERALD ARBORVITAE PROVIDED

SEED AND MULCH WITH GUARANTEE FOR ESTABLISHMENT OF GRASS WTIHIN 3-6 MONTHS.

PLANT SCHEDULE

TREES	QTY	BOTANICAL NAME	COMMON NAME	CONT	CAL.	SIZE
CH	10	CARPINUS BETULUS `COLUMNARIS`	COLUMNAR EUROPEAN HORNBEAM	B & B	3"CAL	6` TALL MIN.
TH	7	THUJA OCCIDENTALIS `EMERALD`	EMERALD ARBORVITAE	15 GAL		6` TALL MIN.
TS	7	TILIA CORDATA `SPRING GLOW`	LITTLELEAF LINDEN	B & B	3"CAL	6` TALL MIN.

SHRUBS	QTY	BOTANICAL NAME	COMMON NAME	SIZE
BG	6	BUXUS X `GREEN MOUND`	GREEN MOUND BOXWOOD	3 GAL
CA	27	CALAMAGROSTIS X ACUTIFLORA `KARL FOERSTER`	FEATHER REED GRASS	3 GAL
EC	7	EUONYMUS ALATUS `COMPACTUS`	COMPACT BURNING BUSH	3 GAL
PD	2	PHYSOCARPUS OPULIFOLIUS `DIABLO`	DIABLO NINEBARK	3 GAL
RG	10	RHUS AROMATICA `GRO-LOW`	GRO-LOW FRAGRANT SUMAC	3 GAL
SY	1	SYRINGA MEYERI `PALIBIN`	DWARF KOREAN LILAC	3 GAL
VI CA	9	VIBURNUM CARLESII `COMPACTUM`	KOREAN SPICE VIBURNUM	3 GAL

PREMIER
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STATE OF MISSOURI
STEVE MARION
NUMBER
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INDIANAPOLIS, IN 46280

Date: 9-30-2021

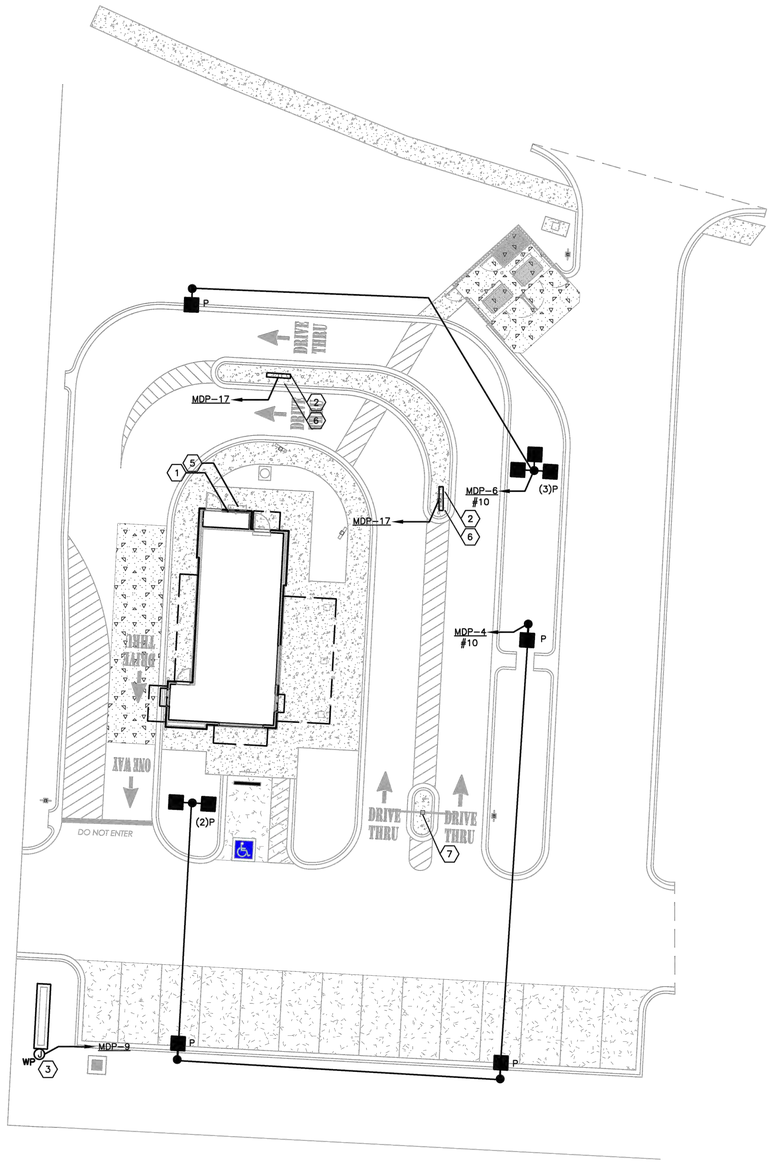
#	Revision Date	Description of Changes

Sheet Title: LANDSCAPE PLAN

Sheet Number: L-100

Project No.	2109720
Drawn By	A. JONES
Checked By	M. FOGARTY

NOT RELEASED FOR CONSTRUCTION

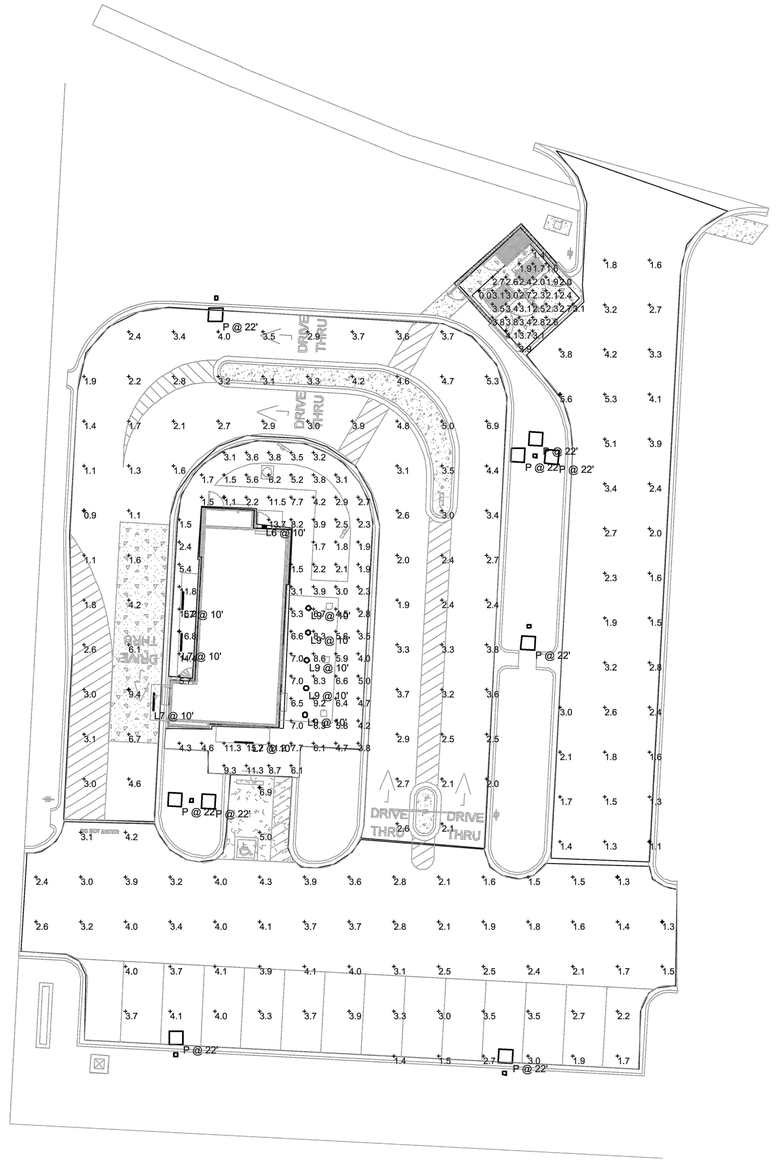


PLAN NORTH

1 ELECTRICAL SITE PLAN

1/16" = 1'-0"

0 8' 16' 32'



PLAN NORTH

2 SITE PHOTOMETRIC PLAN

1/16" = 1'-0"

0 8' 16' 32'

KEYED NOTES

1. LOCATION OF UTILITY METER DISCONNET SWITCH AND CT CABINET. REFER TO "RISER DIAGRAM" ON SHEET E3.01.
2. PROVIDE 120V ELECTRICAL CONNECTION WITH (2)#8 & (1)#8G. IN 2" PVC ROUTED BELOW GRADE FOR DRIVE-THRU BACKLIT MENU BOARD PER MANUFACTURER'S INSTRUCTIONS. CONDUIT SHALL COME UP IN CENTER OF POST. SIGN COMPANY REPRESENTATIVE TO GIVE EXACT LOCATIONS/DIMENSIONS FOR GC TO MATCH. CONTRACTOR SHALL REPAIR EXISTING PARKING SURFACES FROM TRENCHING TO MATCH PREVIOUS CONDITIONS.
3. PROVIDE 120V ELECTRICAL CONNECTION WITH (2)#8 & (1)#8G. IN 2" PVC ROUTED BELOW GRADE FOR NEW MONUMENT SIGN PER REPRESENTATIVE PRIOR TO ROUGH-IN. CONTRACTOR SHALL REPAIR EXISTING PARKING SURFACES FROM TRENCHING TO MATCH PREVIOUS CONDITIONS.
4. NOT USED.
5. LOCATION OF CABLE INTERNET DEMARC
6. PROVIDE 2" CONDUIT W/ PULL STRING 24" BEHIND MENU BOARD TO CHRISTY BOX FOR FUTURE DIGITAL MENU BOARD UPGRADE . COORDINATE W/ SIGN MANUFACTURER.
7. PROVIDE 2" CONDUIT W/ PULL STRING TO CHRISTY BOX BETWEEN "CHOOSE LANE" DIRECTIONAL SIGNAGE AND CLEARANCE BAR FOR FUTURE DRIVE THRU SENSORS.

MIN. DUTCH BROS REQUIREMENTS:
- 5FTC AT BUILDING
- 5FTC AT SITE/PARKING
- 5FTC AT TRASH ENCLOSURE

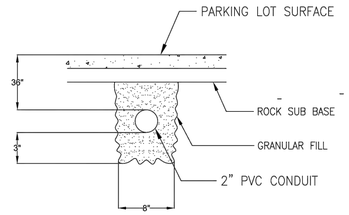
SEE S1.4 FOR POLE BASE DETAIL

GENERAL NOTES

1. FOR UTILITY TRANSFORMER, TELEPHONE SERVICE, GAS, WATER, AND SANITARY SEWER LOCATIONS; SEE CIVIL SITE PLAN.
2. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR COORDINATION AND COMPLIANCE WITH ALL UTILITY COMPANIES REQUIREMENTS. INCOMING POWER AND TELEPHONE SERVICES IS EXISTING TO REMAIN. VERIFY REQUIREMENTS WITH UTILITIES PRIOR TO INSTALLATION.

SITE NOTES

WATER LINES, CONDUITS FOR ELECTRICAL, OR OTHER UTILITIES SHALL BE LOCATED SO AS TO NOT CONFLICT WITH REQUIRED TREE LOCATIONS FOR STREETS AND PARKING LOTS.



3 E100 TRENCHING DETAIL

SCALE: N.T.S.

Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Building	+	5.7 fc	16.8 fc	1.1 fc	15.3:1	5.2:1
Drive Thru	+	3.2 fc	9.4 fc	0.9 fc	10.4:1	3.6:1
Drive Way	+	2.7 fc	5.6 fc	1.1 fc	5.1:1	2.5:1
Parking	+	3.0 fc	6.9 fc	1.3 fc	5.3:1	2.3:1
Trash	+	2.7 fc	4.1 fc	0.0 fc	N/A	N/A

Schedule

Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Number Lamps	Lumens Per Lamp	Light Loss Factor	Wattage
	L6	1	RAB LIGHTING INC.	WPLED26-WPLED26/D10 (WALLPACK) - ALED26-ALED26/D10 (AREA LIGHTER)	CAST FINNED METAL HOUSING, MACHINED METAL HEAT SINK, 1 CIRCUIT BOARD WITH 1 LED, MOLDED PLASTIC REFLECTOR WITH SEMI-SPECULAR FINISH, CLEAR FLAT GLASS LENS IN CAST BROWN PAINTED METAL FRAME.	1	3474	0.92	30
	L7	4	Self	WPLED26-WPLED26/D10 (WALLPACK) - ALED26-ALED26/D10 (AREA LIGHTER)	CROWN-L90-277V 830_BA110	1	4200	0.92	40
	L9	5	DMF LIGHTING	DRD5S-4R-10930	DRD5S-4R-10930	1	1015	0.92	11.8
	P	9	NLS Lighting	NV-1-T4-48L-1-40K-UNV-HSS	T4 OPTICS WITH BLACK HSS	1	9674	0.92	156

ARCHITECT
CORALIC, LLC
EDIN CORALIC
2643 CAROUSEL DRIVE,
ST. LOUIS, MO 63125
p: 314.578.4953
edin@coralicarchitecture.com

STRUCTURAL ENGINEER
JAMES C. KREHER
JIM KREHER
208 N. MAIN STREET,
COLUMBIA, IL 62236
p: 618.281.8505
jimk@kreherengineering.com

MEP ENGINEER
Case Engineering
DARRELL R. CASE
796 MERUS CT.,
FENTON, MO 63026
T. 636.349.1600 F. 636.349.1730
dcase@caseengineeringinc.com

XX.XX.XX

Project No: MO0102

Dutch Bros Coffee - New Freestanding Store

500 NW Chipman Road, Lee's Summit, Missouri 64086
for: Dutch Bros Coffee
110 SW 4th St.
Grants Pass, OR 97526

ISSUED FOR PERMIT: 10.8.2021

REV:	DATE:	DESCRIPTION:

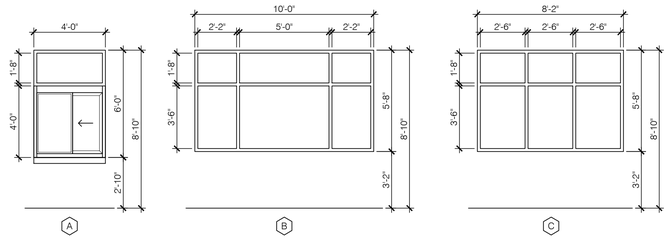
SHEET NAME:

ELECTRICAL SITE & PHOTOMETRIC PLAN

SHEET NUMBER:

E0.01

WINDOW SCHEDULE

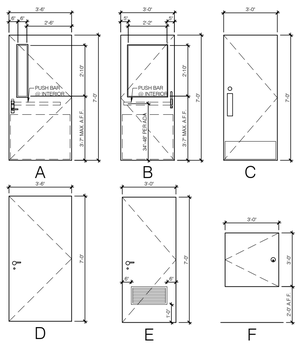


NOTES:
- U-FACTOR - FIXED: 0.38
- U-FACTOR - OPERABLE: 0.48
- STOREFRONT SYSTEMS SHALL HAVE A CLEAR ANODIZED ALUMINUM FACTORY FINISH
- PROVIDE IMPACT GLASS (HURRICANE GLASS OR SIM.), SEE SPECS.

DOOR NOTES

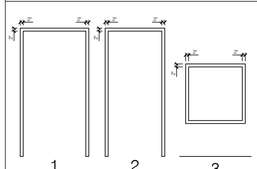
1. THIS PLAN IS ISSUED SO THAT THE CONTRACTOR CAN MAINTAIN FULL COMPLIANCE WITH THE INTERNATIONAL BUILDING CODE FOR WHEELCHAIR MANEUVERABILITY AT DOORS. THIS DETAIL INDICATES PARTIAL REQUIREMENTS OF THE CODE. IT IS ADVISED THAT THE CONTRACTOR OBTAIN A COMPLETE COPY OF THESE CODES FOR REFERENCE.
2. THE DIMENSIONS SHOWN ARE CRITICAL FOR COMPLIANCE WITH THE CODES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSURE PROPER CLEARANCES FOR WHEELCHAIR MANEUVERABILITY. IF CONFLICTS OCCUR, BRING TO DESIGNERS ATTENTION IMMEDIATELY.
3. FOR FULL SWING DOORS A MINIMUM 2'-10" WIDE DOOR IS REQUIRED FOR CLEARANCE. FOR 90° SWING DOORS A MINIMUM 3'-0" WIDE DOOR IS REQUIRED FOR CLEARANCE.
4. IN ORDER TO ACHIEVE THE REQUIRED 12" OR 18" MINIMUM CLEARANCES AT DOOR AND A MINIMUM PASSAGE WIDTH, THE DOOR FRAME AT HINGE SIDE MAY HAVE TO BE AGAINST THE ADJACENT WALL.
5. THE MAXIMUM EFFORT FOR BOTH INTERIOR AND EXTERIOR DOORS IS 5 LBS. CLOSING SPEED IS 5 SEC MIN. FROM 90° TO 12°.
6. 1/2" MAXIMUM HIGH THRESHOLD (ABOVE FLOOR AND LANDING ON BOTH SIDES) AT BUILDING ENTRANCES AND ALL DOORS.
7. DOOR HARDWARE AT ALL EXIT DOORS TO BE OPENED FROM THE INSIDE WITHOUT KEY, SPECIAL KNOWLEDGE OR EFFORT PER APPROPRIATE CODE.
8. SIGNAGE FOR ONLY MAIN ENTRY DOORS ALLOWED TO HAVE KEY LOCKING DEVICES TO STATE, *"THIS DOOR TO REMAIN UNLOCKED WHEN BUILDING IS OCCUPIED"*
9. 10" HIGH KICK PLATE AT BOTTOM OF GLAZED AND STOREFRONT DOORS.
10. ALL DOORS EQUIPPED WITH SINGLE-EFFORT, NON-GRASPING TYPE HARDWARE BETWEEN 34" MIN. AND 44" MAX. ABOVE THE FINISHED FLOOR.
11. WIDTH OF DOORS TO BE A MINIMUM OF 36" TO PROVIDE REQUIRED 32" NET CLEARANCE WIDTH BETWEEN THE FACE OF THE DOOR AND THE JAMB
12. ALL DOORS TO BE KEYED ALIKE; GC TO PROVIDE A TOTAL OF 6 KEYS.

DOOR TYPE SCHEDULE



NOTES:	
1	REFERENCE DOOR SCHEDULE FOR SIZES AND MATERIALS (TYP.)
2	DOOR HARDWARE, CLOSERS, KICKPLATES, PANIC HARDWARE AND THRESHOLDS SHALL BE LOCATED AND INSTALLED PER ACCESSIBILITY AND LOCAL REQUIREMENTS.

DOOR FRAME TYPE SCHEDULE



NOTES:	
1	REFERENCE DOOR SCHEDULE FOR SIZES AND MATERIALS (TYP.)

NOTE: HAND-ACTIVATED DOOR-OPENING HARDWARE SHALL BE LOCATED 30 MIN. AND 44 MAX. INCHES ABOVE THE FLOOR. LATCHING AND LOCKING DOORS THAT ARE HAND-ACTIVATED AND WHICH ARE IN A PATH OF TRAVEL SHALL BE OPERABLE WITH A SINGLE EFFORT BY LEVER-TYPE HARDWARE, PANIC BARS, PUSH-PULL ACTIVATING BARS, OR OTHER HARDWARE DESIGNED TO PROVIDE PASSAGE WITHOUT REQUIRING THE ABILITY TO GRASP THE OPENING HARDWARE.

DOOR SCHEDULE

#	SIZE		TYPE		GLASS	MATERIAL		HARDWARE	NOTES:
	WIDTH	HEIGHT	DR.	FR.		DR.	FR.		
01	3'-6"	7'-0"	A	1	TEMP.	HM	HMD	GROUP 1	A,B,C,D,E,F
02	3'-0"	7'-0"	B	2	TEMP.	HM	HMD	GROUP 2	A,B,C,D,E,F
03	3'-0"	7'-0"	C	2	-	HM	HMD	GROUP 3	B,D,F
04	3'-6"	7'-0"	D	1	-	HM	HMD	GROUP 4	B
05	3'-0"	7'-0"	E	1	-	HM	HMD	GROUP 5	B
06	3'-0"	3'-0"	F	3	-	HM	HMD	GROUP 6	B

NOTES:	
HM: HOLLOW METAL, 16 GA.	
HMD: HOLLOW METAL WELDED & DIMPLED	
A	ENSURE EMERGENCY HARDWARE IS IN WORKING CONDITION.
B	DOOR & FRAME SHALL BE PAINT GRADE & PAINTED PT-2
C	DOOR TO HAVE SIGN POSTED ABOVE THAT STATES: "THIS DOOR TO REMAIN UNLOCKED WHILE BUILDING IS OCCUPIED."
D	CLOSER SHALL BE BOLTED THROUGH DOOR LEAF & ARM MOUNTED USING HEAD-JAMB MOUNT.
E	PROVIDE ADA COMPLIANT THRESHOLD SET IN SILICONE SEALANT.
F	THE MAX PULL/ PUSH EFFORT TO OPERATE DOORS SHALL NOT EXCEED 5 LBS. W/ EFFORT APPLIED TO RIGHT ANGLES TO HINGED DOORS.

HARDWARE GROUPS:

GROUP 1:
1 EA. HINGE - MARKAR, FM300, 84"
1 EA. LOCKSET - TRILOGY, T2 ETDL2700, WATERPROOF, US26D
1 EA. PANIC PUSH HARDWARE - VON DUPRIN 99, 626
1 EA. DOOR CLOSER - SARGENT 1431 RUO EN, US26D
1 EA. THRESHOLD - PEMKO 2716A
1 EA. DOOR SHOE - PEMKO 211APK
1 EA. DOOR SEAL - PEMKO AM88BL
1 EA. FLOOR STOP & HOLDER - IVES FS43, US26D,
1 EA. KICK PLATE - HAGER 190S, 40"x30", INTERIOR, US32D

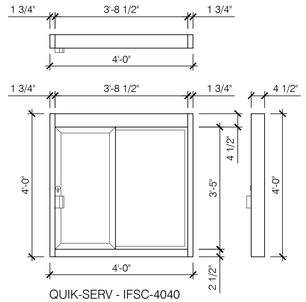
GROUP 2:
1 EA. HINGE - MARKAR, FM300, 84"
1 EA. LOCKSET - TRILOGY, T2 ETDL2700, WATERPROOF, US26D
1 EA. PANIC PUSH HARDWARE - VON DUPRIN 99, 626
1 EA. DOOR CLOSER - SARGENT 1431 RUO EN, US26D
1 EA. THRESHOLD - PEMKO 2716A
1 EA. DOOR SHOE - PEMKO 211APK
1 EA. DOOR SEAL - PEMKO AM88BL
1 EA. FLOOR STOP & HOLDER - IVES FS43, US26D
1 EA. KICK PLATE - HAGER 190S, 34"x30", INTERIOR, US32D

GROUP 3:
3 EA. HINGES - McKINNEY T2714 4.5x4.5 NRP, US26D
1 EA. DEADBOLT - SCHLAGE B571 INDICATOR, 626
1 EA. PUSH PLATE - IVES, 8200, 6"x16", US26D
1 EA. HANDLE PULL - IVES, 8303, 6"x16", US26D
1 EA. DOOR CLOSER - SARGENT 1431 RUO EN, US26D
1 EA. KICK PLATE - HAGER 190S, 34"x12", US32D FINISH

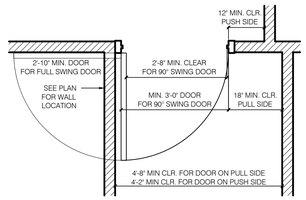
GROUP 4:
3 EA. HINGES - MCKINNEY T2714 4.5 X 4.5 NRP, US26D
1 EA. LOCKSET - SCHLAGE L9453 ENTRANCE LOCK SCHLAGE 06 STANDARD HANDLE SATIN FINISH FULL FACE, ESCUTCHLE0N L583-363 EZ TURN
1 EA. LATCH GUARD - STAINLESS STEEL, 7"
1 EA. THRESHOLD - PEMKO 175A-72
1 EA. DOOR SHOE - PEMKO 211APK
1 EA. DOOR SEAL - PEMKO AM88BL
1 EA. KICK DOWN - IVES FS555, 5", BLK FINISH

GROUP 5:
3 EA. HINGES - MCKINNEY T2714 4.5 X 4.5 NRP, US26D
1 EA. LOCKSET - SCHLAGE L9453 ENTRANCE LOCK SCHLAGE 06 STANDARD HANDLE SATIN FINISH FULL FACE, ESCUTCHLE0N L583-363 EZ TURN
1 EA. DOOR VENT - ROCKWOOD, LV-Y, 24"x12"
1 EA. KICK DOWN - IVES FS555 5" BLK FINISH

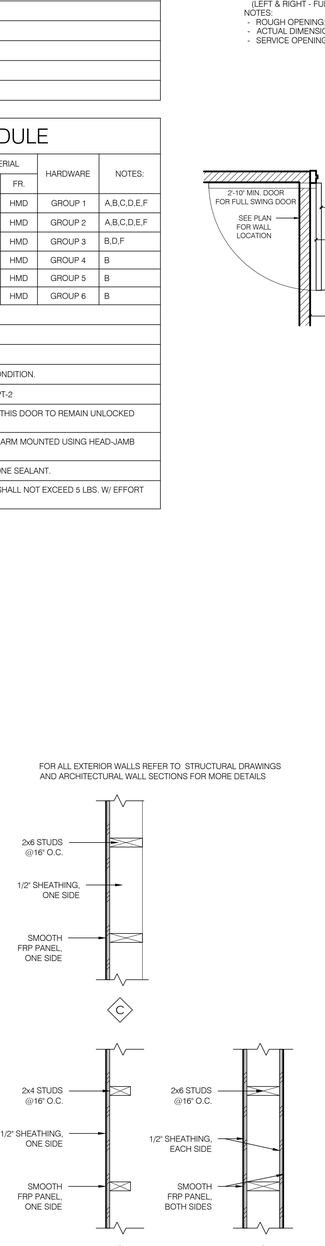
GROUP 6:
2 EA. HINGES - MCKINNEY T2714 4.5 X 4.5 NRP, US26D FINISH
1 EA. DEAD BOLT - SCHLAGE JD60630
1 EA. DOOR SEAL - PEMKO AM88BL



QUIK-SERV - IFSC-4040
(LEFT & RIGHT - FULLY AUTOMATIC)
NOTES:
- ROUGH OPENING: 48-3/8"(W) x 48-3/8"(H)
- ACTUAL DIMENSIONS: 48"(W) x 48"(H)
- SERVICE OPENING: 20-1/4"(W) x 41"(H)



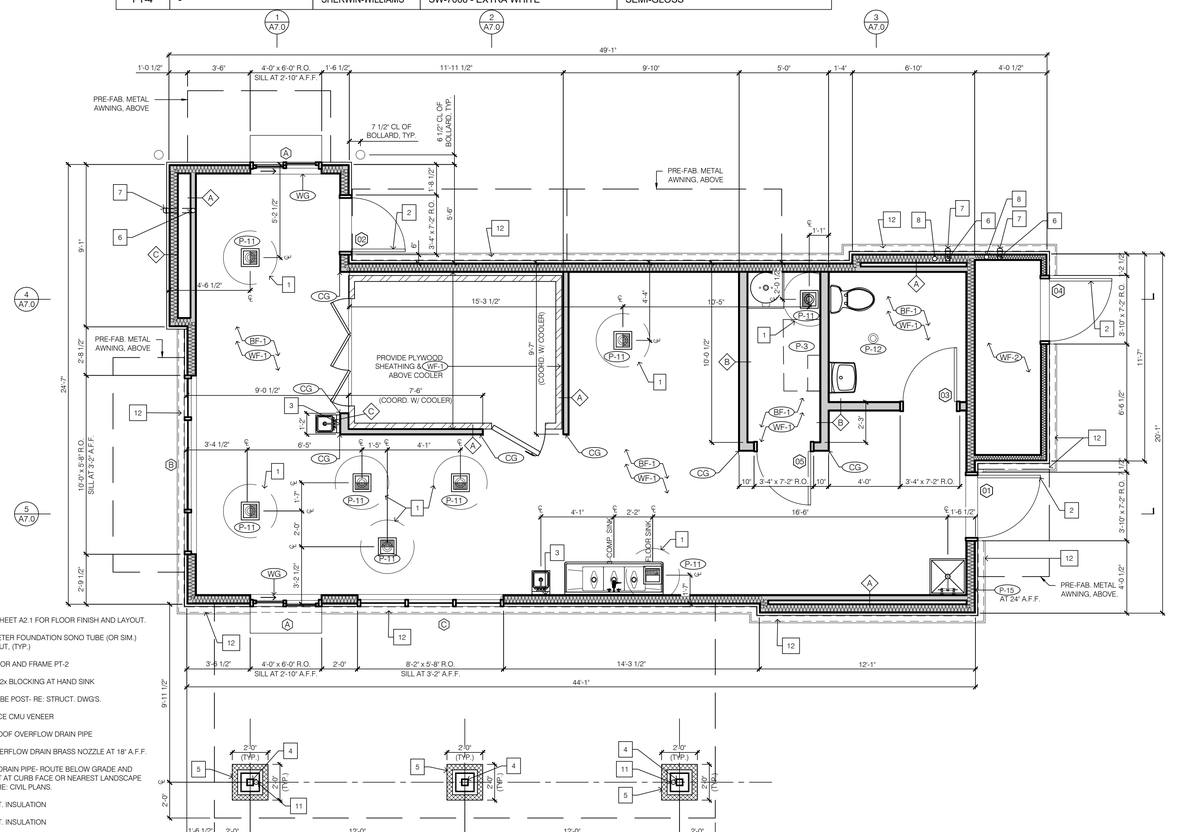
FOR ALL EXTERIOR WALLS REFER TO STRUCTURAL DRAWINGS AND ARCHITECTURAL WALL SECTIONS FOR MORE DETAILS



2 INTERIOR WALL ASSEMBLY TYPES
NO T TO SCALE

FINISH SCHEDULE

TAG	FIN. DESCRIPTION	MFR.	MODEL	REMARKS
FLOOR				
FF-1	FLOOR TILE - TEXTURED	BEDROSIANS	6"x6" DOTTI DIAMOND - ANTHRACITE R9 - MATTE	PRODUCTION AREA FIELD TILE
FF-2	FLOOR TILE - SMOOTH	BEDROSIANS	6"x6" DOTTI DIAMOND - ANTHRACITE R12 - MATTE	PROVIDE UNDER EQUIPMENT
TILE SUBSTRATE	EPOXY GROUT	LATICRETE	IG 2000 IND. EPOXY GROUT #2 KIT BLACK	JOB PACK
		LATICRETE	STECTRALOCK IG 2000 PART A/B EPOXY GROUT	
		LATICRETE	STECTRALOCK PART C COLOR PACKET	
		LATICRETE	PERMACOLOR GROUT	
	BOND COAT	LATICRETE	4-XLT GRAY	
	CAULKING	LATICRETE	LATASIL CAULKING	
	WATERPROOFING	LATICRETE	HYDRO BAN WATERPROOF/ ANTIFRACTURE	
FF-3	CONC. SLAB	-	-	-
BASE				
BF-1	WALL BASE - COVE	BEDROSIANS	4"x8" SMOOTH COVE - ANTHRACITE	SANITARY COVE
WALL				
WF-1	(FRP) FIBERGLASS REINFORCED PANEL	MARLITE	S 100G - 4'x10' PANELS	COLOR: WHITE; PROVIDE ALL NECESSARY TRIM PIECES
WF-2	1/2" CDX	-	-	COLOR: OUTDOOR LATEX WHITE PAINT
GUARDS				
CG	CORNER GUARD	AIS INDUSTRIES	CUSTOM	120" LONG W/ 2" WINGS, DRILLED, 90 DEGREE SHARP CORNER, BRUSHED FINISH
WG	WALL GUARD	AIS INDUSTRIES	CUSTOM	48" WIDE, WRAP FROM SERVICE WINDOW SILL TO TOP OF COVE BASE, BRUSHED FINISH
CEILING				
CLG-1	VINYL FACED ACT	USG	3260 - SHEETROCK BRAND LAY-IN CEILING PANEL	FLAT WHITE, SMOOTH
CLG-2	FRP OVER 1/2" CDX	MARLITE	S 100G - 4'x10' PANELS	COLOR: WHITE; PROVIDE ALL NECESSARY TRIM PIECES; PROVIDE ADHESIVE AND PAN HEAD SCREWS AT 24" O.C., E.W.
PAINT				
PT-1	BLDG DB LIGHT GRAY	SHERWIN-WILLIAMS	TBD	-
PT-2	BLDG DB DARK GRAY	SHERWIN-WILLIAMS	TBD	-
PT-3	BLDG DB BLUE	SHERWIN-WILLIAMS	TBD	-
PT-4	-	SHERWIN-WILLIAMS	SW-7006 - EXTRA WHITE	SEMI-GLOSS



NOTES:
- REFERENCE SHEET A2.1 FOR FLOOR FINISH AND LAYOUT.

1. 36" DIAMETER FOUNDATION SONO TUBE (OR SIM.) BLOCK OUT, (TYP.)
2. PAINT DOOR AND FRAME PT-2
3. PROVIDE 2x BLOCKING AT HAND SINK
4. STEEL TUBE POST- RE: STRUCT. DWGS.
5. SPLIT-FACE CMU VENEER
6. 3" MIN. ROOF OVERFLOW DRAIN PIPE
7. ROOF OVERFLOW DRAIN BRASS NOZZLE AT 18" A.F.F.
8. 4" ROOF DRAIN PIPE- ROUTE BELOW GRADE AND DAYLIGHT AT CURB FACE OR NEAREST LANDSCAPE ISLAND- RE: CIVIL PLANS.
9. R-19 BATT. INSULATION
10. R-13 BATT. INSULATION
11. INTERNAL ROOF DRAIN (AT LARGE CANOPY)- ROUTE BELOW GRADE TO DAYLIGHT.
12. STACKED BOND/ PATTERN SPLIT-FACE CMU VENEER BELOW SHOWN DASHED W/ CAST STONE CAP ABOVE.

1 FLOOR PLAN
SCALE: 1/4" = 1'-0"
0' 2' 4' 6'

GENERAL NOTES:

1. ALL DIMENSIONS FROM SLAB EDGE/ EXTERIOR FACE OF SHEATHING TO FACE OF STUD TO CENTERLINE OF FIXTURES UNLESS OTHERWISE NOTED. SLAB EDGE AND EXTERIOR FACE OF WALL SHEATHING ARE ALIGNED.
2. G.C. TO VERIFY ALL DIMENSIONS IN THE FIELD BEFORE COMMENCING CONSTRUCTION.
3. ALL INTERIOR FINISHES SHALL COMPLY WITH SECTION 803. INTERIOR FINISH MATERIALS APPLIED TO WALL AND CEILINGS SHALL BE TESTED AS SPECIFIED IN SECTION 803.

   FLAME SPREAD RATINGS:
   WALL TILE - CLASS A - <25
   WALL PAINT - CLASS A - <5
   PLASTIC LAMINATE - CLASS A - <25
   FRP PANELS - CLASS A - <25
   STAINLESS STEEL CORNER GUARDS - CLASS A - <25
   CEILING TILE - CLASS A - <25
4. FIRE BLOCKING MUST BE PROVED IN ACCORDANCE WITH SECTION 718.2 AT THE FOLLOWING LOCATIONS:
   a. IN CONCEALED SPACES OF STUD WALLS AND PARTITIONS, INCLUDING FURRED SPACES, AT THE CEILING AND FLOOR LEVELS.
   b. IN CONCEALED SPACES OF STUD WALLS AND PARTITIONS, INCLUDING FURRED SPACES, AT 10-FOOT INTERVALS ALONG THE LENGTH OF THE WALL.
   c. AT THE INTERCONNECTIONS BETWEEN CONCEALED VERTICAL AND HORIZONTAL SPACES SUCH AS OCCUR AT SOFFITS, DROP CEILINGS AND COVE CEILINGS.
   d. IN CONCEALED SPACES BETWEEN STAIR STRINGERS AT THE TOP AND BOTTOM OF THE RUN AND BETWEEN STUDS ALONG AND IN LINE WITH THE RUN OF STAIRS IF THE WALL UNDER STAIRS IS UNFINISHED.
   e. IN OPENINGS AROUND VENTS, PIPES, DUCTS, CHIMNEYS, FIREPLACES AND SIMILAR OPENINGS WHICH AFFORD A PASSAGE FOR FIRE AT CEILINGS AND FLOOR LEVELS, WITH NONCOMBUSTIBLE MATERIALS.

PARTITION KEY

- CMU VENEER
- INTERIOR AND EXTERIOR WALL FRAMING
- NEW PRE-FAB WALK-IN COOLER
- BATT INSULATION

DUTCH BROS COFFEE

CORALIC ARCHITECTURE

ARCHITECT
CORALIC, LLC
EDIN CORALIC
9700 MACKENZIE ROAD, STE. 222,
ST. LOUIS, MO 63123
p: 314.578.4953
e: edin@coralicarchitecture.com

STRUCTURAL ENGINEER
JAMES C. KREHER
JIM KREHER
208 N. MAIN STREET,
COLUMBIA, IL 62236
p: 618.281.8505
jimk@kreherengineering.com

MEP ENGINEER
Case Engineering
DARRELL R. CASE
796 MERUS CT.,
FENTON, MO 63026
T. 636.349.1600 F. 636.349.1730
dcase@caseengineeringinc.com

EDIN CORALIC ARCHITECT
A-2013031004 - EXP. 12-31-2021

STATE OF MISSOURI
EDIN CORALIC
NUMBER A-2013031004
ARCHITECT
10.08.2021

MISSOURI CERTIFICATE OF AUTHORITY NO. 2013041393

Project No: MO0102
Dutch Bros Coffee - New Freestanding Store
500 NW Chipman Road. Lee's Summit, Missouri 64086
for: Dutch Bros Coffee
110 SW 4th St.
Grants Pass, OR 97526

ISSUED FOR PERMIT:
10.8.2021

REV:	DATE:	DESCRIPTION:

SHEET NAME:

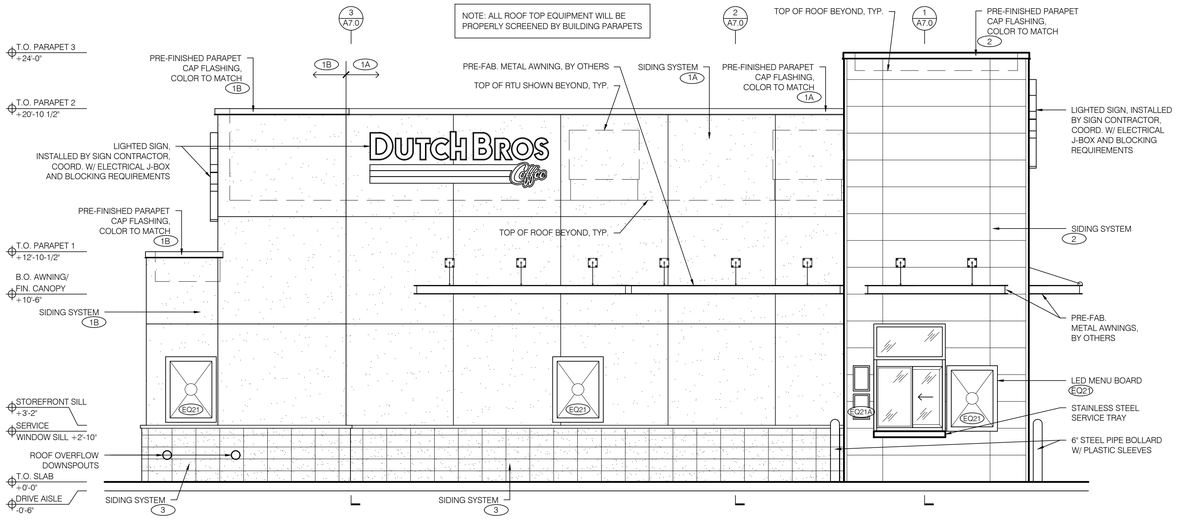
FLOOR PLAN/ DETAILS/ SCHEDULES

SHEET NUMBER:

A2.0

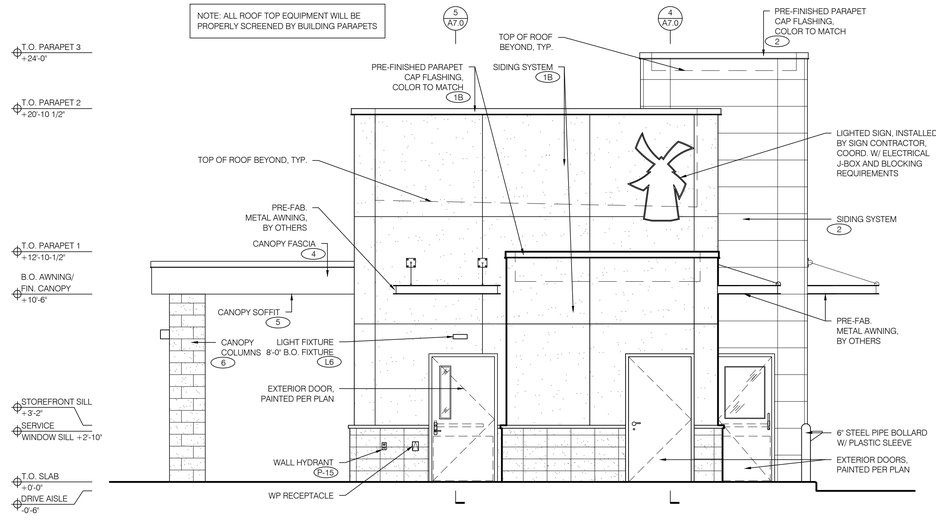
SIDING SCHEDULE - ALTERNATE w/ CANOPY

ID TAG	MATERIAL	MANUFACTURER	MODEL	REMARKS
ZONE 1 (BODY)				
1A	EIFS	BASF/ SENERGY	CHANNELED ADHESIVE CI DESIGN SYSTEM	COLOR: BLDG DB DARK GRAY
1B	EIFS	BASF/ SENERGY	CHANNELED ADHESIVE CI DESIGN SYSTEM	COLOR: BLDG DB LIGHT GRAY
ZONE 2 (TOWER)				
2	FIBER CEMENT SIDING	NICHIHA	ILLUMINATION, AWP 1818 w/ FACTORY OUTSIDE CORNERS	COLOR: BLDG DB BLUE
ZONE 3 (BASE)				
3	CMU VENEER AND SILL	WILLAMETTE GRAYSTONE OR APPROVED OTHER	4-8-16,SPLIT FACE	COLOR: CHARCOAL - REVIEW FINAL COLOR SELECTION W/ DB
ZONE 4 (FRAMED CANOPY)				
4	FASCIA	-	METAL FASCIA; FLAT	3 SIDES; COLOR: BLDG DB DARK GRAY
5	SOFFIT	HEWN ELEMENTS	NATURAL NORTHWESTERN SPRUCE	1x8, T&G, 1/8" REVEAL
6	COLUMS	WILLAMETTE GRAYSTONE OR APPROVED OTHER	4-8-16,SPLIT FACE	COLOR: CHARCOAL - REVIEW FINAL COLOR SELECTION W/ DB



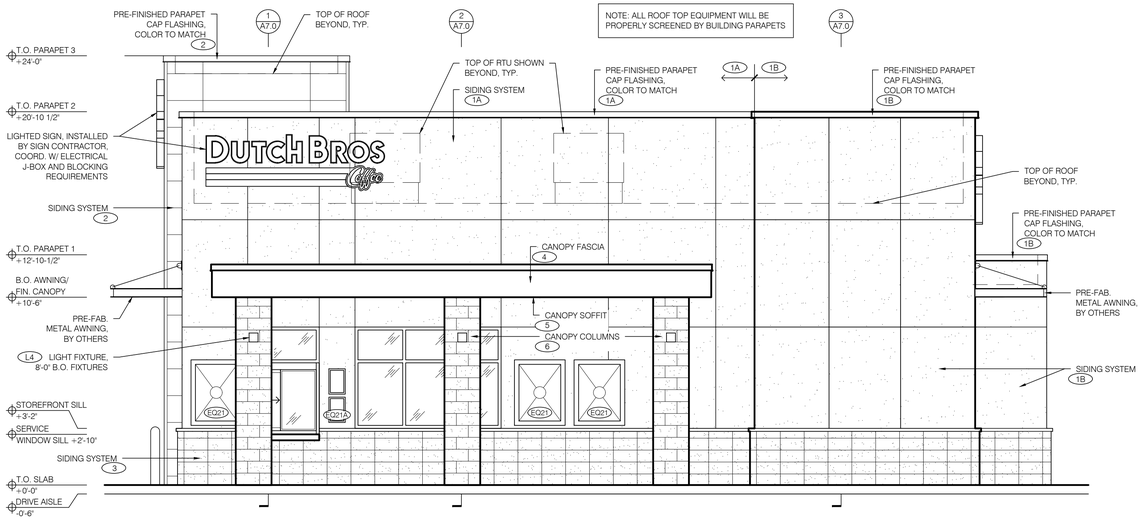
4 WEST ELEVATION - DRIVE-THRU WINDOW

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



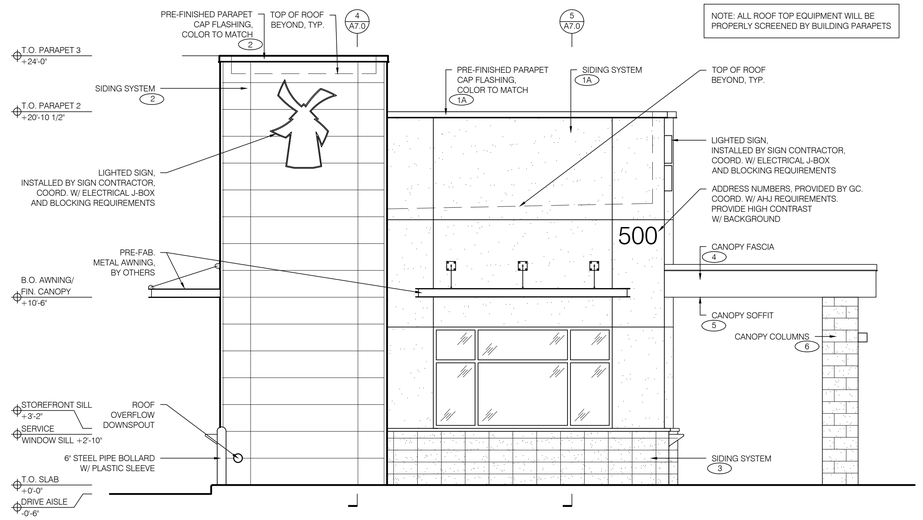
3 NORTH ELEVATION

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



2 EAST ELEVATION - WALK-UP WINDOW

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



1 SOUTH ELEVATION

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

ARCHITECT
CORALIC, LLC
EDIN CORALIC
9700 MACKENZIE ROAD, STE. 222,
ST. LOUIS, MO 63123
p: 314.578.4953
e: edin@coralicarchitecture.com

STRUCTURAL ENGINEER
JAMES C. KREHER
JIM KREHER
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COLUMBIA, IL 62236
p: 618.281.8505
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Case Engineering
DARRELL R. CASE
796 MERUS CT.,
FENTON, MO 63026
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ISSUED FOR PERMIT:
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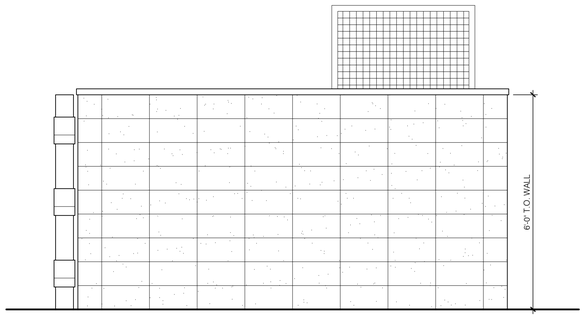
REV:	DATE:	DESCRIPTION:

SHEET NAME:

BUILDING ELEVATIONS

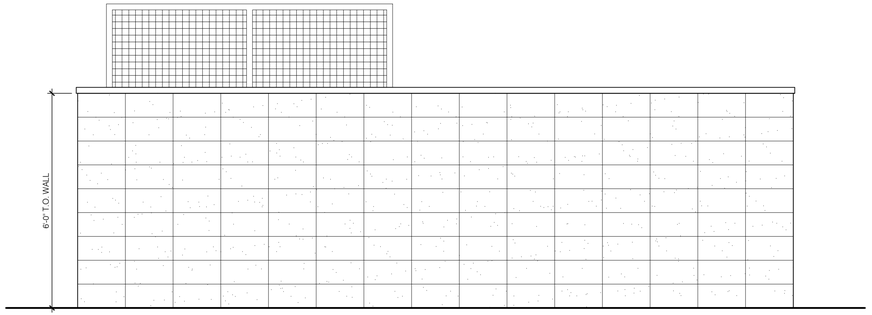
SHEET NUMBER:

A6.0



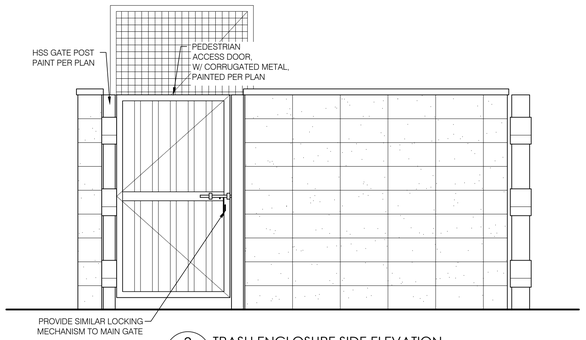
5 TRASH ENCLOSURE SIDE ELEVATION

SCALE: 1/2" = 1'-0"



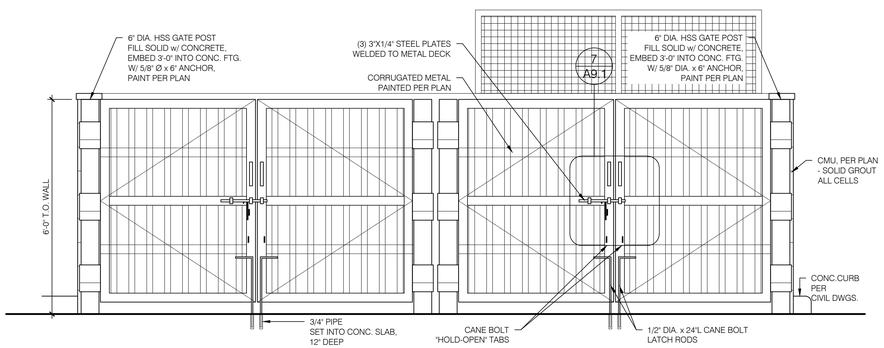
4 TRASH ENCLOSURE SIDE ELEVATION

SCALE: 1/2" = 1'-0"



3 TRASH ENCLOSURE SIDE ELEVATION

SCALE: 1/2" = 1'-0"



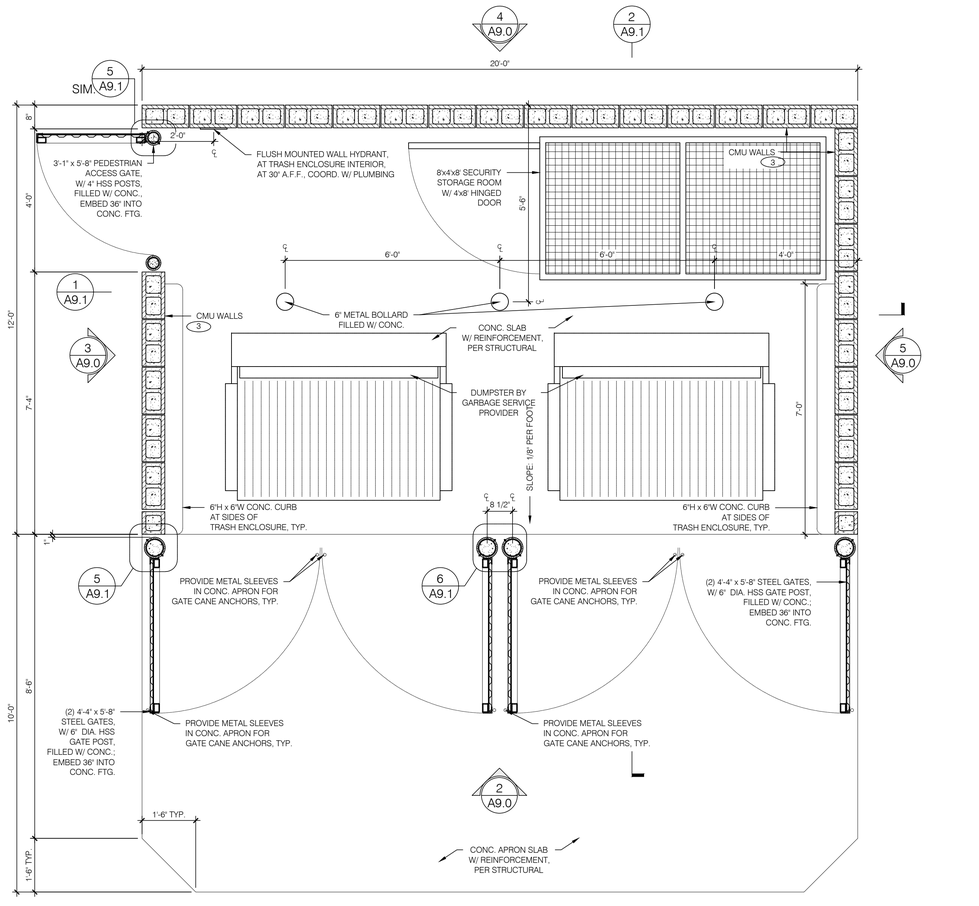
2 TRASH ENCLOSURE FRONT ELEVATION

SCALE: 1/2" = 1'-0"

TRASH ENCLOSURE GENERAL NOTES:

1. REFER TO STRUCTURAL FOR MASONRY, CONCRETE, STRUCTURAL STEEL AND REINFORCING STEEL FOR SPECIFICATIONS.
2. PROVIDE LOCKING MECHANISM ON GATES AND PEDESTRIAN GATE
3. PROVIDE SITE LIGHTING AT TRASH ENCLOSURE. MIN. 5 FOOT CANDLE.
4. GATES TO BE BUILT WITH 3"x2" SQUARE STEEL TUBING WITH ALL JOINTS FULLY WELDED TOGETHER AND 1 CROSS MEMBER PER GATE. FRAME TO BE PRIMED AND PAINTED PER PLAN.

TRASH ENCLOSURE MATERIALS				
ID	MATERIAL	MANUFACTURER	COLOR	NOTES
3	CMU BLOCK	WILLAMETTE-GRAYSTONE	CHARCOAL	SPLIT FACE, 8x16x8; 8x8x8 AS NECESARY
	CMU CAP	WILLAMETTE-GRAYSTONE	CHARCOAL	12x16x2
PT-2	PAINT	SHERWIN-WILLIAMS	-	BLDG DB DARK GRAY, GATES BODY
PT-3	PAINT	SHERWIN-WILLIAMS	-	BLDG DB BLUE, GATE FRAMES & POSTS



1 TRASH ENCLOSURE PLAN

SCALE: 1/2" = 1'-0"

ARCHITECT
CORALIC, LLC
EDIN CORALIC
9700 MACKENZIE ROAD, STE. 222,
ST. LOUIS, MO 63123
p: 314.578.4953
e: edin@coralicarchitecture.com

STRUCTURAL ENGINEER
JAMES C. KREHER
JIM KREHER
208 N. MAIN STREET,
COLUMBIA, IL 62236
p: 618.281.8505
jimk@kreherengineering.com

MEP ENGINEER
Case Engineering
DARRELL R. CASE
796 MERUS CT. ,
FENTON, MO 63026
T. 636.349.1600 F. 636.349.1730
dcase@caseengineeringinc.com

EDIN CORALIC ARCHITECT
A-2013031004 - EXP. 12-31-2021

STATE OF MISSOURI
EDIN CORALIC
NUMBER A-2013031004
ARCHITECT
10.08.2021

MISSOURI CERTIFICATE OF
AUTHORITY NO. 2013041393

Project No: MO0102

Dutch Bros Coffee - New Freestanding Store

500 NW Chipman Road. Lee's Summit, Missouri 64086
for: Dutch Bros Coffee
110 SW 4th St.
Grants Pass, OR 97526

ISSUED FOR PERMIT:
10.8.2021

REV:	DATE:	DESCRIPTION:

SHEET NAME:

TRASH ENCLOSURE
PLAN/ ELEVATIONS

SHEET NUMBER:

A9.0

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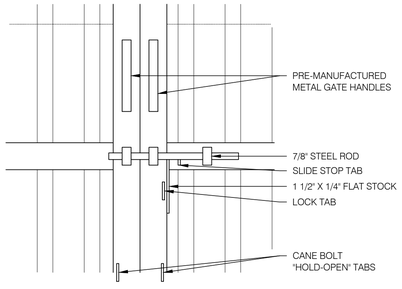
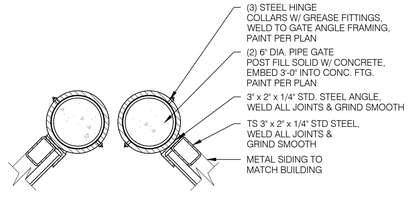
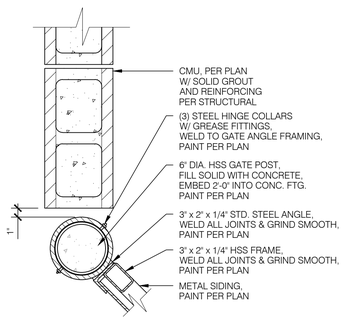


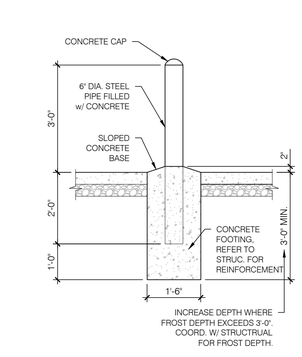
7 TRASH ENCLOSURE GATE LOCKING HANDLE
SCALE: 1-1/2" = 1'-0"



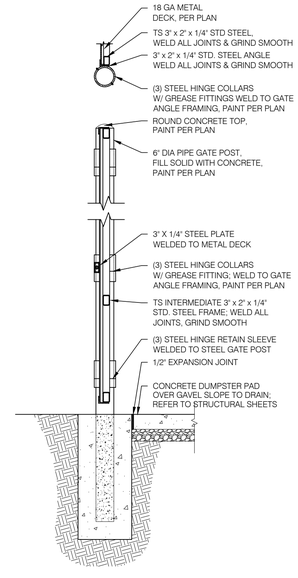
6 TRASH ENCLOSURE GATE JAMB DETAIL
SCALE: 1-1/2" = 1'-0"



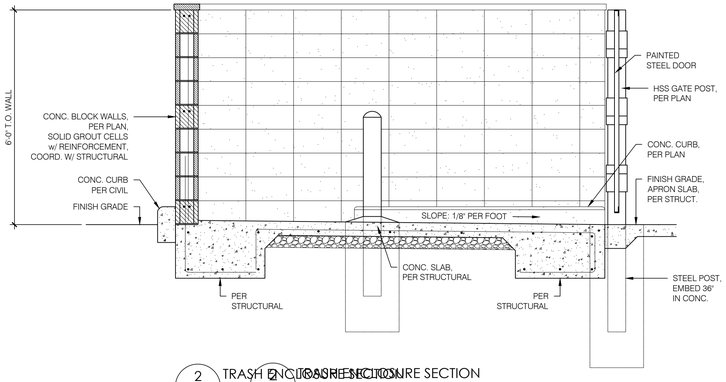
5 TRASH ENCLOSURE GATE JAMB DETAIL
SCALE: 1-1/2" = 1'-0"



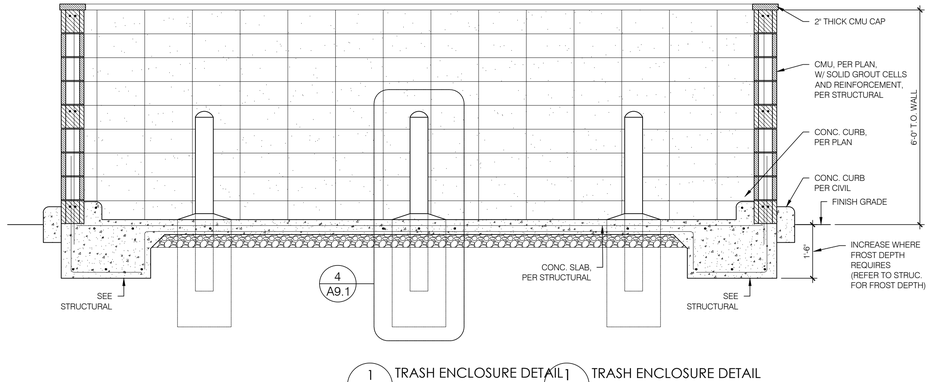
4 BOLLARD DETAIL
SCALE: 1/2" = 1'-0"



3 TRASH ENCLOSURE GATE JAMB DETAIL
SCALE: 1/2" = 1'-0"



2 TRASH ENCLOSURE SECTION
SCALE: 1/2" = 1'-0"



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

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ARCHITECT
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ST. LOUIS, MO 63123
p: 314.578.4953
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Case Engineering
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796 MERUS CT. ,
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ISSUED FOR PERMIT:
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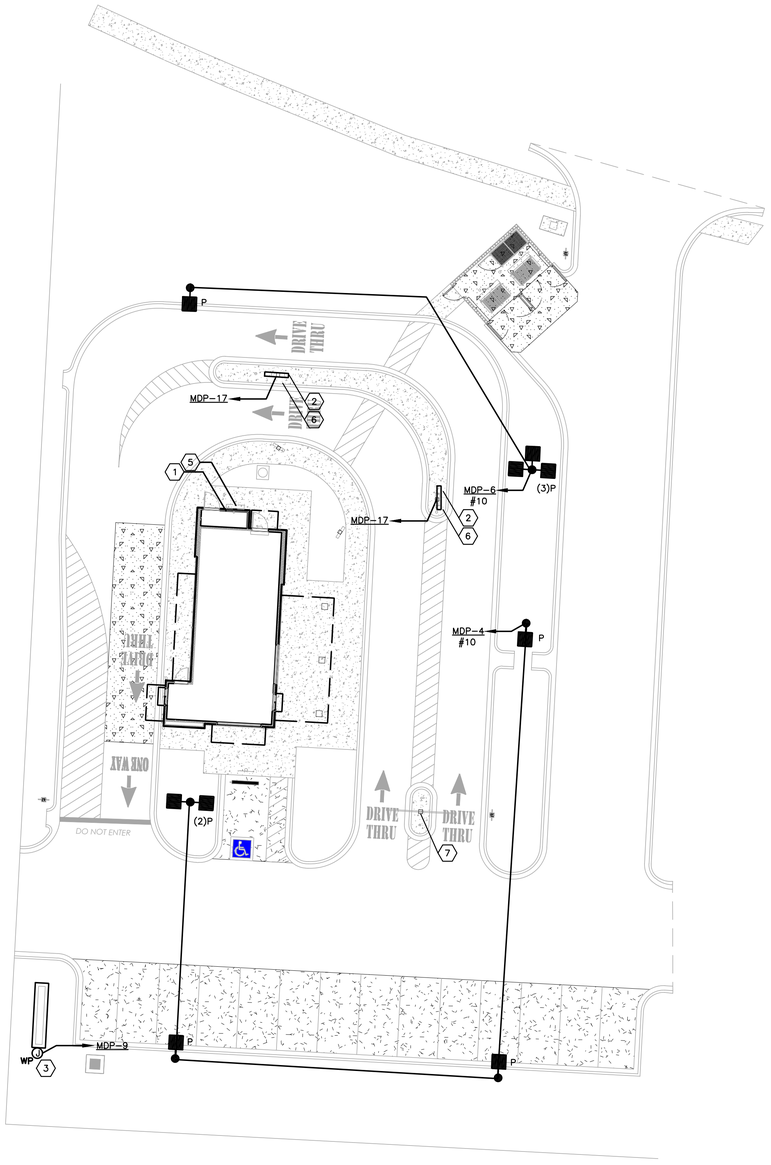
REV:	DATE:	DESCRIPTION:

SHEET NAME:

TRASH ENCLOSURE DETAILS

SHEET NUMBER:

A9.1

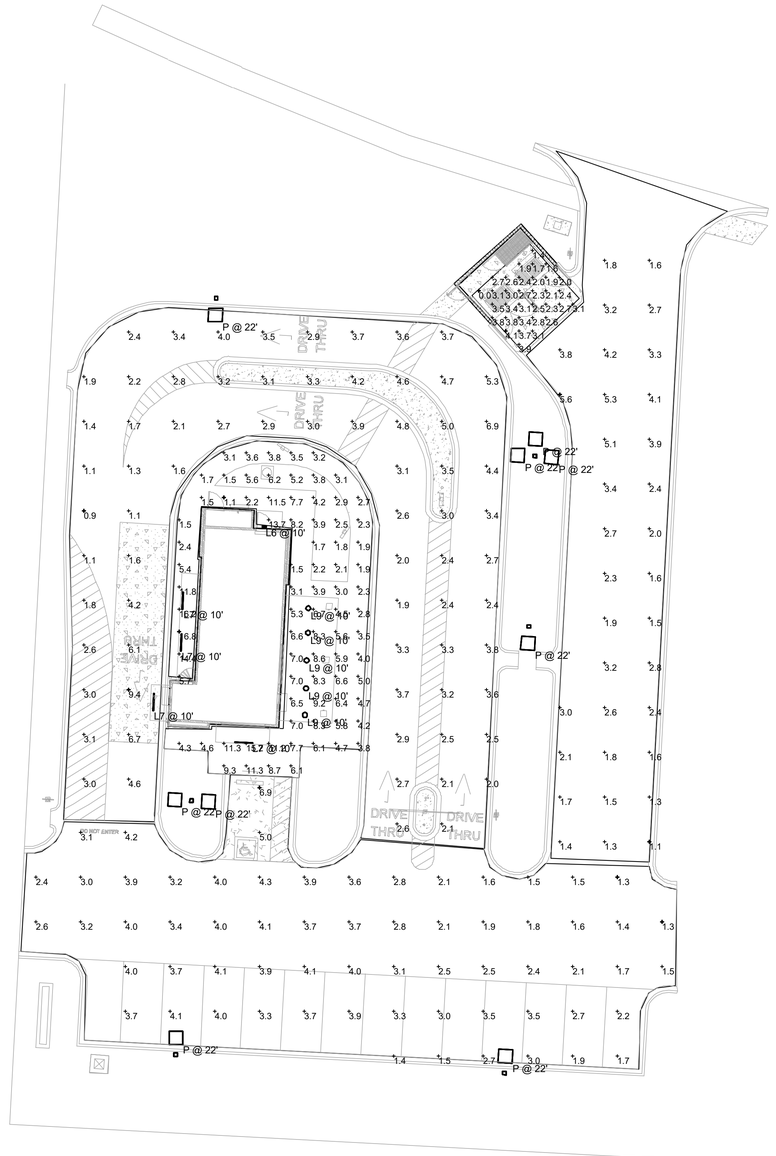


PLAN NORTH

1 ELECTRICAL SITE PLAN

1/16" = 1'-0"

0 8' 16' 32'



PLAN NORTH

2 SITE PHOTOMETRIC PLAN

1/16" = 1'-0"

0 8' 16' 32'

Statistics						
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Building	+	5.7 fc	16.8 fc	1.1 fc	15.3:1	5.2:1
Drive Thru	+	3.2 fc	9.4 fc	0.9 fc	10.4:1	3.6:1
Drive Way	+	2.7 fc	5.6 fc	1.1 fc	5.1:1	2.5:1
Parking	+	3.0 fc	6.9 fc	1.3 fc	5.3:1	2.3:1
Trash	+	2.7 fc	4.1 fc	0.0 fc	N/A	N/A

Schedule

Symbol	Label	Quantity	Manufacturer	Catalog Number	Description	Number Lamps	Lumens Per Lamp	Light Loss Factor	Wattage
▭	L6	1	RAB LIGHTING INC.	WPLED26-WPLED26/D10 (WALLPACK) - ALED26-ALED26/D10 (AREA LIGHTER)	CAST FINNED METAL HOUSING, MACHINED METAL HEAT SINK, 1 CIRCUIT BOARD WITH 1 LED, MOLDED PLASTIC REFLECTOR WITH SEMI-SPECULAR FINISH, CLEAR FLAT GLASS LENS IN CAST BROWN PAINTED METAL FRAME.	1	3474	0.92	30
|	L7	4	Self	WPLED26-WPLED26/D10 (WALLPACK) - ALED26-ALED26/D10 (AREA LIGHTER)	CROWN-L90-277V 830_BA110	1	4200	0.92	40
◯	L9	5	DMF LIGHTING	DRDSS-4R-10930	DRD5S-4R-10930	1	1015	0.92	11.8
□	P	9	NLS Lighting	NV-1-T4-48L-1-40K-UNV-HSS	T4 OPTICS WITH BLACK HSS	1	9674	0.92	156

KEYED NOTES

1. LOCATION OF UTILITY METER DISCONNET SWITCH AND CT CABINET. REFER TO "RISER DIAGRAM" ON SHEET E3.01.
2. PROVIDE 120V ELECTRICAL CONNECTION WITH (2)#8 & (1)#8G. IN 2" PVC ROUTED BELOW GRADE FOR DRIVE-THRU BACKLIT MENU BOARD PER MANUFACTURER'S INSTRUCTIONS. CONDUIT SHALL COME UP IN CENTER OF POST. SIGN COMPANY REPRESENTATIVE TO GIVE EXACT LOCATIONS/DIMENSIONS FOR GC TO MATCH. CONTRACTOR SHALL REPAIR EXISTING PARKING SURFACES FROM TRENCHING TO MATCH PREVIOUS CONDITIONS.
3. PROVIDE 120V ELECTRICAL CONNECTION WITH (2)#8 & (1)#8G. IN 2" PVC ROUTED BELOW GRADE FOR NEW MONUMENT SIGN PER REPRESENTATIVE PRIOR TO ROUGH-IN. CONTRACTOR SHALL REPAIR EXISTING PARKING SURFACES FROM TRENCHING TO MATCH PREVIOUS CONDITIONS.
4. NOT USED.
5. LOCATION OF CABLE INTERNET DEMARC
6. PROVIDE 2" CONDUIT W/ PULL STRING 24" BEHIND MENU BOARD TO CHRISTY BOX FOR FUTURE DIGITAL MENU BOARD UPGRADE . COORDINATE W/ SIGN MANUFACTURER.
7. PROVIDE 2" CONDUIT W/ PULL STRING TO CHRISTY BOX BETWEEN "CHOOSE LANE" DIRECTIONAL SIGNAGE AND CLEARANCE BAR FOR FUTURE DRIVE THRU SENSORS.

MIN. DUTCH BROS REQUIREMENTS:
- 5FTC AT BUILDING
- 1FTC AT SITE/PARKING
- 0FTC AT TRASH ENCLOSURE

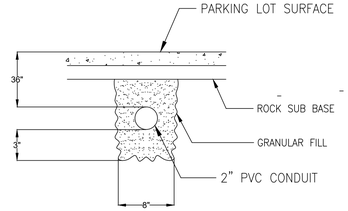
SEE S1.4 FOR POLE BASE DETAIL

GENERAL NOTES

1. FOR UTILITY TRANSFORMER, TELEPHONE SERVICE, GAS, WATER, AND SANITARY SEWER LOCATIONS; SEE CIVIL SITE PLAN.
2. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR COORDINATION AND COMPLIANCE WITH ALL UTILITY COMPANIES REQUIREMENTS. INCOMING POWER AND TELEPHONE SERVICES IS EXISTING TO REMAIN. VERIFY REQUIREMENTS WITH UTILITIES PRIOR TO INSTALLATION.

SITE NOTES

WATER LINES, CONDUITS FOR ELECTRICAL, OR OTHER UTILITIES SHALL BE LOCATED SO AS TO NOT CONFLICT WITH REQUIRED TREE LOCATIONS FOR STREETS AND PARKING LOTS.



3 E100 TRENCHING DETAIL

SCALE: N.T.S.

ARCHITECT
CORALIC, LLC
EDIN CORALIC
2643 CAROUSEL DRIVE,
ST. LOUIS, MO 63125
p: 314.578.4953
edin@coralicarchitecture.com

STRUCTURAL ENGINEER
JAMES C. KREHER
JIM KREHER
208 N. MAIN STREET,
COLUMBIA, IL 62236
p: 618.281.8505
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MEP ENGINEER
Case Engineering
DARRELL R. CASE
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FENTON, MO 63026
T. 636.349.1600 F. 636.349.1730
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XX.XX.XX

Project No: MO0102

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110 SW 4th St.
Grants Pass, OR 97526

ISSUED FOR PERMIT: 10.8.2021

REV:	DATE:	DESCRIPTION:

SHEET NAME:

ELECTRICAL SITE & PHOTOMETRIC PLAN

SHEET NUMBER:

E0.01

NLS LIGHTING

NV-1

AREA LIGHTING

FORM AND FUNCTION

- Sleek, low profile housing
- Spec grade performance
- Engineered for optimum thermal management
- Low depreciation rate
- Reduces energy consumption and costs up to 65%
- Exceeds IES foot candle levels utilizing the least number of poles and fixtures per project
- Optical system designed for:
  - Parking Lots
  - Auto Dealerships
  - General Area Lighting

CONSTRUCTION

- Die Cast Aluminum
- External cooling fins, Finite Element Analysis (FEA) designed
- Corrosion resistant external hardware
- One-piece silicone gasket ensures IP-65 seal for electronics compartment
- One-piece Optics Plate™ mounting silicone Micro Optics
- Two-piece silicone Micro Optic system ensures IP-67 level seal around each PCB
- Grade 2 Clear Anodized Optics Plate™ standard

FINISH

- 3-5 mils electrostatic powder coat.
- NLS' standard high-quality finishes prevent corrosion protects against and extreme environmental conditions

WARRANTY

Five-year limited warranty for drivers and LEDs.

LISTINGS

- Certified to UL 1598
- UL 8750
- CSA C22.2 No. 250.0
- DesignLights Consortium® (DLC)
- DesignLights Consortium Premium® (DLCP)
- IP65/ IP67 Rated
- 3G Vibration Rated per ANSI C136.31-2010

LED WATTAGE CHART

	16L	32L	48L	64L
350 milliamps	18w	-	-	-
530 milliamps	28w	-	-	-
700 milliamps	36w	71w	104w	136w
1050 milliamps	56w	106w	156w	205w

Project Name:

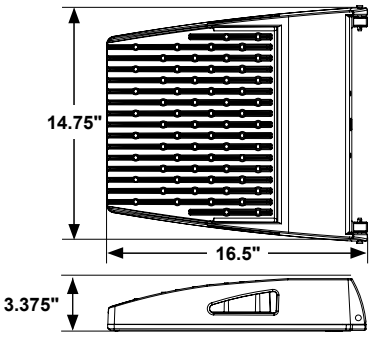
Type:

Cat #	Light Dist.	No. of LEDs	Milliamps	Kelvin	Volts	Mounting	Color	Options
NV	Type 2 **(T2)**	16 **(16L)**	350 **(35)**	3000K **(30K)**	120-277 **(UNV)**	**Direct Pole**	Bronze **(BRZ)**	Bird Deterrant **(BD)**
Size 1 **(NV-1)**	Type 3 **(T3)**	32 **(32L)**	530 **(53)**	4000K **(40K)**	347-480 **(HV)**	Single, D180 3" **(DPS3)**	White **(WHT)**	Marine Grade Finish **(MGF)**
	Type 4 **(T4)**	48 **(48L)**	700 **(7)**	5000K **(50K)**		D90, T90, T120, QD 7" **(DPS7)**	Silver **(SVR)**	Optic Plate Painted to Match Fixture **(OPP)**
	Type 5 **(T5)**	64 **(64L)**	1050 **(1)**			Knuckle Mount **(KM)**	Black **(BLK)**	Nema 7-Pin Receptacle **(PE7)**
	Nema 2 24° Narrow Beam **(N2)**					Wall Mount **(WM)**	Graphite **(GPH)**	Photocell + Receptacle **(PCR)**
	Nema 3 30° Narrow Beam **(N3)**					Trunnion Mount **(TM)**	Grey **(GRY)**	Receptacle + Shorting Cap **(PER)**
						**Standard finish is stainless steel. Can be painted to match fixture*	Custom **(CS)**	FSP-211 with Motion Sensor (UNV Voltage) **(FSP-20)** **9'-20" Heights* **(FSP-40)** **21'-40' Heights*
						Tennis Arm **(TA)**		Quick Mount Bracket **(QMB)**
						**See next page for Arm Configurations *For Round Pole, please specify RPA4 or RPA5*		Retrofit Mount Bracket **(RQMB)**
								Round Pole Adaptor 3"- 4" Pole **(RPA4)**
								Round Pole Adaptor 5"- 6" Pole **(RPA5)**
								Rotated Optic Left **(ROL)**
								Rotated Optic Right **(ROR)**
								Automotive House Side Shield **(AHS)**
								House Side Shield **(HSS)**
								**HSS not applicable with N2 - NEMA 24° Optics*
								**HSS not applicable with N3 - NEMA 30° Optics*

NV-1	T4	48L	1	40K	UNV	DPS3	BRZ	HSS

ELECTRICAL

- 120-277 Volts (UNV) or 347-480 Volts (HV)
- 0-10V dimming driver by Philips Advance
- Driver power factor at maximum load is ≥ .95, THD maximum load is 15%
- All internal wiring UL certified for 600 VAC and 105°C
- All drivers, controls, and sensors housed in enclosed IP-65 compartment
- Lumileds Luxeon MX LED's
- CRI >70
- Color temperatures: 3000K, 4000K, 5000K
- Surge Protection: 20KVA supplies as standard.

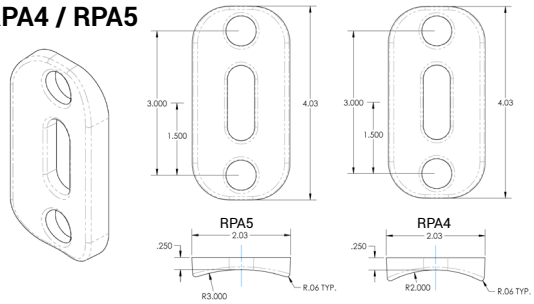


Weight: 24 lbs

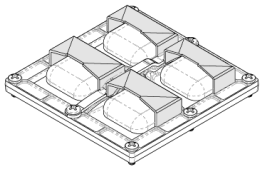
OPTIONS

- **BIRD DETERRANT (BD)**—offers effective and humane deterrent for larger bird species and provides cost-effective long-term solution to nuisance bird infestations and protect your property.
- **MARINE GRADE FINISH (MGF)**—A multi-step process creating protective finishing coat against harsh environments.
  - Chemically washed in a 5 stage cleaning system.
  - Pre-baked
  - Powder coated 3-5 mils of Zinc Rich Super Durable Polyester Primer.
  - 1-2 feet inside pole coverage top and bottom.
  - Oven Baked.
  - Finished Powder Coating of Super Durable Polyester Powder Coat 3-5 mil thickness.
- **SHIELDS (HSS, AHS)**—House Side Shield (HSS) is designed for full property line cut-off. Automotive House Side Shield (AHS) is a single-sided shield allowing partial cut-off on either side or front of luminaire.
- **ROUND POLE ADAPTER (RPA)–** When using round poles, specify Round Pole Adapter (RPA). Specify RPA4 when installing on 3"-4" round poles, and RPA5 when installing on 5"-6" round poles.

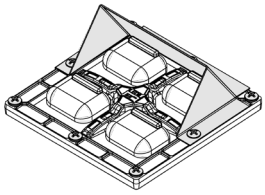
RPA4 / RPA5



HOUSE SIDE SHIELD



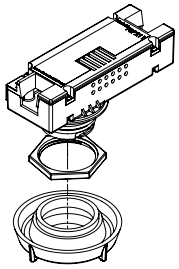
AUTOMOTIVE HOUSE SIDE SHIELD



CONTROLS

- **FSP-211 (FSP-X)**—Passive infrared (PIR) sensor providing multi-level control based on motion/daylight contribution.
  - All control parameters adjustable via wireless configuration remote storing and transmitting sensor profiles.
  - FSP-20 mounting heights 9-20 feet
  - FSP-40 mounting heights 21-40 feet.
  - Includes 5 dimming event cycles, 0-10V dimming with motion sensing, reprogrammable in the field.
- **NEMA 7-PIN RECEPTACLE (PE7)**—An ANSI C136.41-2013 receptacle provides electrical and mechanical interconnection between photo control cell and luminaire. Dimming receptacle available two or four dimming contacts supports 0-10 VDC dimming methods or Digital Addressable Lighting Interface (DALI), providing reliable power interconnect.

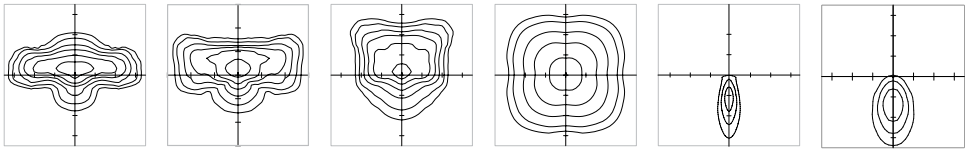
FSP-211



OPTICS

Silicone optics high photothermal stability and light output provides higher powered LEDs with minimized lumen depreciation LED life. UV and thermal stability with scratch resistance increases exterior application durability.

- IES Types



TYPE II (T2) TYPE III (T3) TYPE IV (T4) TYPE V (T5) NEMA 2 (N2) NEMA 3 (N3)

NLS LIGHTING
701 Kingshill Place, Carson, CA 90746
Call Us Today (310) 341-2037
nlslighting.com

LUMENS

PART NUMBER	N2	LM/W	N3	LM/W	T2	LM/W	DLC	T3	LM/W	DLC	T3 HSS	LM/W	T4	LM/W	DLC	T4 AHS	LM/W	T4 HSS	LM/W	T5	LM/W	DLC	W
NV-1-16L-35-30K	1944	108	2016	112	2106	117	P	2106	117	P	1134	63	2187	116	P	1296	72	1116	62	2231	118	P	18
NV-1-16L-35-40K	2016	112	2088	116	2268	126	P	2286	127	P	1206	67	2250	125	P	1368	76	1188	66	2304	128	P	18
NV-1-16L-35-50K	2088	116	2160	120	2376	132	P	2394	133	P	1278	71	2358	131	P	1440	80	1260	70	2412	134	P	18
NV-1-16L-53-30K	3024	108	3136	112	3192	114	P	3220	115	P	1764	63	3119	113	P	2016	72	1736	62	3248	116	P	28
NV-1-16L-53-40K	3136	112	3248	116	3472	124	P	3472	124	P	1876	67	3444	123	P	2128	76	1848	66	3500	125	P	28
NV-1-16L-53-50K	3248	116	3360	120	3612	129	P	3640	130	P	1988	71	3584	128	P	2240	80	1960	70	3668	131	P	28
NV-1-16L-7-30K	3888	108	4032	112	3960	110	P	3960	110	P	2268	63	3973	109	P	2592	72	2232	62	3996	111	P	36
NV-1-16L-7-40K	4032	112	4176	116	4428	123	P	4284	119	P	2412	67	4212	117	P	2736	76	2376	66	4320	120	P	36
NV-1-16L-7-50K	4176	116	4320	120	4644	129	P	4500	125	P	2556	71	4428	123	P	2880	80	2520	70	4500	125	P	36
NV-1-16L-1-30K	6048	108	6272	112	6160	110	S	6384	114	P	3528	63	6232	112	P	4032	72	3472	62	6440	115	P	56
NV-1-16L-1-40K	6272	112	6496	116	6832	122	P	6888	123	P	3752	67	6776	121	P	4256	76	3696	66	6944	124	P	56
NV-1-16L-1-50K	6496	116	6720	120	7168	128	P	7224	129	P	3976	71	7112	127	P	4480	80	3920	70	7280	130	P	56
NV-1-32L-7-30K	7668	108	7952	112	7810	110	S	7810	110	S	4473	63	7739	109	S	5112	72	4402	62	7881	111	S	71
NV-1-32L-7-40K	7952	112	8236	116	9017	127	P	8449	119	P	4757	67	8307	117	P	5396	76	4686	66	8520	120	P	71
NV-1-32L-7-50K	8236	116	8520	120	9159	129	P	8875	125	P	5041	71	8733	123	P	5680	80	4970	70	8946	126	P	71
NV-1-32L-1-30K	11448	108	11872	112	11660	110	S	12084	114	S	6678	63	11820	112	S	7632	72	6572	62	12190	115	S	106
NV-1-32L-1-40K	11872	112	12296	116	12932	122	P	13038	123	P	7102	67	12826	121	P	8056	76	6996	66	13144	124	P	106
NV-1-32L-1-50K	12296	116	12720	120	13568	128	P	13674	129	P	7526	71	13462	127	P	8480	80	7420	70	13780	130	P	106
NV-1-48L-7-30K	11232	108	11648	112	11440	110	S	11440	110	S	6552	63	11336	109	S	7488	72	6448	62	11544	111	S	104
NV-1-48L-7-40K	11648	112	12064	116	13208	127	P	12376	119	P	6968	67	12168	117	P	7904	76	6864	66	12480	120	P	104
NV-1-48L-7-50K	12064	116	12480	120	13520	130	P	13000	125	P	7384	71	12792	123	P	8320	80	7280	70	13104	126	P	104
NV-1-48L-1-30K	16848	108	17472	112	17160	110	S	17784	114	S	9828	63	17472	112	S	11232	72	9672	62	17940	115	S	156
NV-1-48L-1-40K	17472	112	18096	116	19032	122	P	19188	123	P	10452	67	18876	121	P	11856	76	10296	66	19344	124	P	156
NV-1-48L-1-50K	18096	116	18720	120	19968	128	P	20124	129	P	11076	71	19812	127	P	12480	80	10920	70	20280	130	P	156
NV-1-64L-7-30K	14688	108	15232	112	14960	110	S	14960	110	S	8568	63	14824	109	S	9792	72	8432	62	15096	111	S	136
NV-1-64L-7-40K	15232	112	15776	116	17272	127	P	16184	119	P	9112	67	15912	117	P	10336	76	8976	66	16320	120	P	136
NV-1-64L-7-50K	15776	116	16320	120	17680	130	P	17000	125	P	9656	71	16728	123	P	10880	80	9520	70	17136	126	P	136
NV-1-64L-1-30K	22140	108	22960	112	22550	110	S	23370	114	S	12915	63	22960	112	S	14760	72	12710	62	23575	115	S	205
NV-1-64L-1-40K	22960	112	23780	116	25010	122	P	25215	123	P	13735	67	24805	121	P	15580	76	13530	66	25420	124	P	205
NV-1-64L-1-50K	23780	116	24600	120	26240	128	P	26445	129	P	14555	71	26035	127	P	16400	80	14350	70	26650	130	P	205

***DLC** S= Standard P= Premium

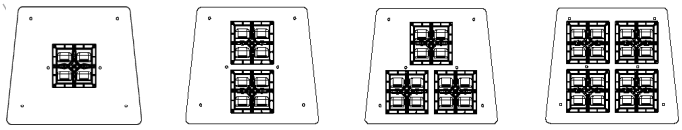
BUG RATINGS

PART NUMBER	N2	T2	T3	T3 HSS	T4	T4 HSS	T5
NV-1-16L-35-30K	B2-U0-G0	B1-U0-G1	B1-U0-G1	B0-U0-G0	B1-U0-G1	B0-U0-G0	B2-U0-G0
NV-1-16L-35-40K	B2-U0-G0	B1-U0-G1	B1-U0-G1	B0-U0-G0	B1-U0-G1	B0-U0-G0	B2-U0-G0
NV-1-16L-35-50K	B2-U0-G0	B1-U0-G1	B1-U0-G1	B0-U0-G0	B1-U0-G1	B0-U0-G0	B2-U0-G2
NV-1-16L-53-30K	B3-U0-G1	B1-U0-G1	B1-U0-G1	B0-U0-G1	B1-U0-G1	B0-U0-G1	B2-U0-G1
NV-1-16L-53-40K	B3-U0-G1	B1-U0-G1	B1-U0-G1	B0-U0-G1	B1-U0-G1	B0-U0-G1	B2-U0-G1
NV-1-16L-53-50K	B2-U0-G1	B1-U0-G1	B1-U0-G1	B0-U0-G1	B1-U0-G1	B0-U0-G1	B2-U0-G1
NV-1-16L-7-30K	B3-U0-G1	B1-U0-G1	B1-U0-G1	B0-U0-G1	B1-U0-G1	B0-U0-G1	B3-U0-G1
NV-1-16L-7-40K	B3-U0-G1	B1-U0-G1	B1-U0-G1	B0-U0-G1	B1-U0-G1	B0-U0-G1	B3-U0-G1
NV-1-16L-7-50K	B3-U0-G1	B1-U0-G1	B1-U0-G1	B0-U0-G1	B1-U0-G1	B0-U0-G1	B3-U0-G1
NV-1-16L-1-30K	B3-U0-G1	B1-U0-G1	B1-U0-G1	B0-U0-G1	B1-U0-G1	B0-U0-G1	B3-U0-G1
NV-1-16L-1-40K	B3-U0-G1	B1-U0-G1	B2-U0-G2	B0-U0-G1	B2-U0-G2	B0-U0-G1	B3-U0-G2
NV-1-16L-1-50K	B4-U0-G1	B1-U0-G2	B2-U0-G2	B0-U0-G1	B2-U0-G2	B0-U0-G1	B3-U0-G2
NV-1-32L-7-30K	B4-U0-G1	B1-U0-G2	B2-U0-G2	B0-U0-G1	B2-U0-G2	B0-U0-G1	B3-U0-G2
NV-1-32L-7-40K	B4-U0-G1	B1-U0-G2	B2-U0-G2	B0-U0-G1	B2-U0-G2	B0-U0-G2	B3-U0-G2
NV-1-32L-7-50K	B4-U0-G1	B2-U0-G2	B2-U0-G2	B0-U0-G2	B2-U0-G2	B0-U0-G2	B3-U0-G2
NV-1-32L-1-30K	B4-U0-G1	B2-U0-G2	B2-U0-G2	B0-U0-G2	B2-U0-G2	B0-U0-G2	B4-U0-G2
NV-1-32L-1-40K	B4-U0-G1	B2-U0-G2	B2-U0-G2	B0-U0-G2	B3-U0-G2	B0-U0-G2	B4-U0-G2
NV-1-32L-1-50K	B4-U0-G1	B2-U0-G2	B3-U0-G3	B0-U0-G2	B3-U0-G3	B0-U0-G2	B4-U0-G2
NV-1-48L-7-30K	B4-U0-G1	B2-U0-G2	B2-U0-G2	B0-U0-G2	B2-U0-G2	B0-U0-G2	B4-U0-G2
NV-1-48L-7-40K	B4-U0-G1	B2-U0-G2	B2-U0-G2	B0-U0-G2	B2-U0-G2	B0-U0-G2	B4-U0-G2
NV-1-48L-7-50K	B4-U0-G1	B2-U0-G2	B3-U0-G3	B0-U0-G2	B2-U0-G2	B0-U0-G2	B4-U0-G2
NV-1-48L-1-30K	B5-U0-G1	B3-U0-G3	B3-U0-G3	B1-U0-G2	B3-U0-G3	B1-U0-G2	B4-U0-G2
NV-1-48L-1-40K	B5-U0-G1	B3-U0-G3	B3-U0-G3	B1-U0-G2	B3-U0-G3	B1-U0-G2	B5-U0-G3
NV-1-48L-1-50K	B5-U0-G1	B3-U0-G3	B3-U0-G3	B1-U0-G2	B3-U0-G3	B1-U0-G2	B5-U0-G3
NV-1-64L-7-30K	B5-U0-G1	B2-U0-G2	B3-U0-G3	B0-U0-G2	B3-U0-G3	B1-U0-G2	B4-U0-G2
NV-1-64L-7-40K	B5-U0-G1	B3-U0-G3	B3-U0-G3	B0-U0-G2	B3-U0-G3	B1-U0-G2	B4-U0-G2
NV-1-64L-7-50K	B5-U0-G1	B3-U0-G3	B3-U0-G3	B1-U0-G2	B3-U0-G3	B1-U0-G2	B4-U0-G2
NV-1-64L-1-30K	B5-U0-G1	B3-U0-G3	B3-U0-G3	B1-U0-G2	B3-U0-G3	B1-U0-G3	B5-U0-G3
NV-1-64L-1-40K	B5-U0-G1	B3-U0-G3	B3-U0-G3	B1-U0-G3	B3-U0-G4	B1-U0-G3	B5-U0-G3
NV-1-64L-1-50K	B5-U0-G1	B3-U0-G3	B3-U0-G3	B1-U0-G3	B3-U0-G4	B1-U0-G3	B5-U0-G3

OPTICAL CONFIGURATIONS

Rotatable Optics (ROR) Rotated Right, (ROL) Rotated Left options available. Optics field and factory rotatable.

(OPP)



NV-1 / 16L **NV-1 / 32L** **NV-1 / 48L** **NV-1 / 64L**

*** OPTIC PLATE PAINTED TO MATCH FIXTURE FINISH (OPP)**– Optic Plate standard clear anodized, Grade 2. When (OPP) specified, Optic Plate finish will match fixture finish.

EPA

EPA	SGL	D90	D180	T90	T120	QD
NV-1-DP	0.46	1.14	0.92	1.34	1.37	1.34
NV-1-KM	0.54	N/A	1.08	N/A	N/A	N/A
NV-1-ASA	0.75	1.29	1.50	1.99	2.05	1.99

L70/L90 DATA

TEMP.	NV-1	
	L70 (64L-1050mA)	L90 (64L-1050mA)
25°C	483,000	160,000

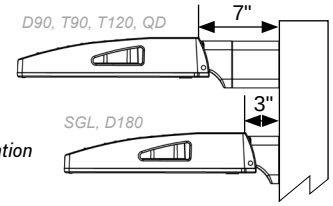
DPX ARM LENGTH

DPX ARM LENGTH	SGL	D90	D180	T90	T120	QD
NV-1	3"	7"	3"	7"	7"	7"

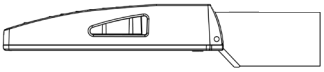
MOUNTING OPTIONS

DIRECT POLE (DP)

Standard mounting arm is extruded aluminum in lengths of 3" and 7".
**Arm lengths may vary depending on configuration*



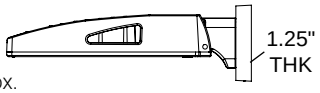
TENNIS ARM (TA)



Steel fitter slips over 3.5" x 1.5" rectangular arm.
**See Tennis Arm Spec Sheet for details*

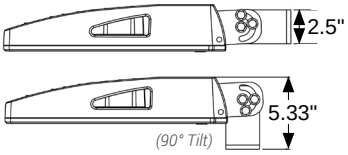
WALL MOUNT (WM)

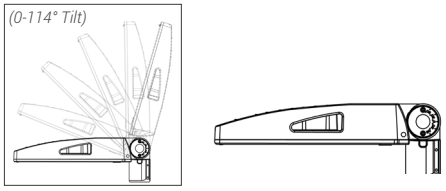
Cast Aluminum Plate for direct wall mount. 3" extruded aluminum arm mounts directly to a cast wall mount box.



TRUNNION MOUNT (TM)

Steel, bolt-on-mounting for adjustable installation with a maximum uplift of 90 degrees.
**Unpainted stainless steel is standard*





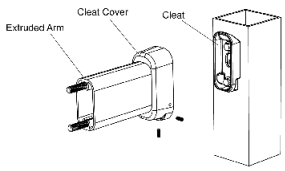
KNUCKLE MOUNT (KM)

Die Cast Knuckle great for adjustable installation on 2-3/8" OD vertical or horizontal tenon.

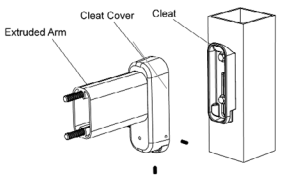
- Max Uptilt of 114 degrees
- Adjustable in 6 degree increments

OPTIONAL

Optional Cast Aluminum Bracket, **Quick Mount Bracket (QMB)** and **Retrofit Quick Mount Bracket (RQMB)**, designed for quick mounting on Direct Square or Round Poles. Cleat mounts directly to pole for easily hung fixtures.



QMB



Longer slot to accommodate existing drill pattern.

RQMB

NLS LIGHTING
701 Kingshill Place, Carson, CA 90746
Call Us Today (310) 341-2037
nlslighting.com

VEX WALL SCONCE

TECH LIGHTING

L4

The Vex Outdoor LED Wall Sconce is a minimalist profile featuring up and down lighting and delivers a wide range of optical control and illumination options. Independently controlled beam angles range from 10° - 120° achieved with a simple tool-free adjustment. Beams are lockable and can be set symmetric or asymmetric in both directions. Angle markers ensure consistency and precision from fixture to fixture. Vex is ideal for indoor or outdoor accent lighting, ambient lighting and wayfinding where beam angle is critical.

Key features

- Tool-free, independent, up/down beam angle adjustment 10° - 120°
- Asymmetric or Symmetric Beam Shaping
- Lockable
- Angle markers for consistent and precise aiming

SPECIFICATIONS

DELIVERED LUMENS	554.3
WATTS	18.7
VOLTAGE	Universal 120V - 277V
DIMMING	0-10V, ELV, TRAC, CL
LIGHT DISTRIBUTION	Symmetric or Asymmetric depending on barn doors position
MOUNTING OPTIONS	Wall
OPTICS	Adjustable beam spread
CCT	2700K, 3000K or 4000K
CRI	90+
COLOR BINNING	3-Step
BUG RATING	B0-U3-G0
DARK SKY	Non-Compliant
WET LISTED	IP65
GENERAL LISTING	ETL, ADA
CALIFORNIA TITLE 24	Can be used to comply with CEC 2019 Title 24 Part 6 for outdoor use. Registration with CEC Appliance Database not required.
START TEMP	-30°C
FIELD SERVICEABLE LED	Yes
CONSTRUCTION	Aluminum
HARDWARE	Stainless Steel
FINISH	Powder Coat
LED LIFETIME	L70; >60,000 Hours
WARRANTY*	5 years
WEIGHT	2.4 lbs.

*Visit techlighting.com for specific warranty limitations and details.
Ships with optional acrylic cover for protection against outdoor debris.

VEX
shown in black

VEX
shown in bronze

VEX
shown in charcoal

VEX
shown in white

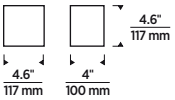
ORDERING INFORMATION

PRODUCT	CRI/CCT	LENGTH	FINISH	FUNCTION	INPUT VOLTAGE
700OWVEX	**927** 90 CRI, 2700K	**4** 4"	**H** CHARCOAL	UPLIGHT AND DOWNLIGHT	**UNV** UNV 120V-277V
	930 90 CRI, 3000K		**Z** BRONZE	**DO** DOWNLIGHT ONLY	
	940 90 CRI, 4000K		**W** WHITE		
			B BLACK		

SHIPS WITH OPTIONAL ACRYLIC COVER FOR PROTECTION AGAINST OUTDOOR DEBRIS.

VEX WALL SCONCE

TECH LIGHTING



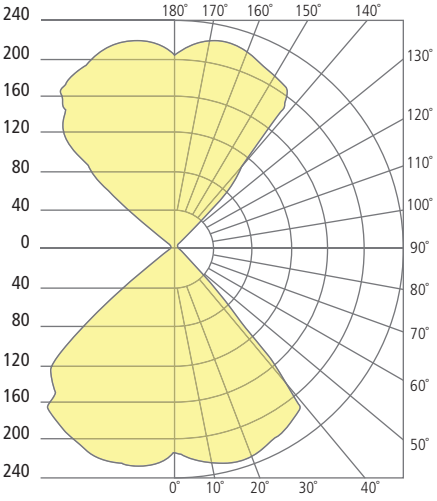
Vex Wall Sconce

PHOTOMETRICS*

*For latest photometrics, please visit www.techlighting.com/OUTDOOR

VEX

Total Lumen Output:	554.3
Total Power:	18.7
Luminaire Efficacy:	29.6
Color Temp:	3000K
CRI:	90+
BUG Rating:	B0-U3-G0



PROJECT INFO

FIXTURE TYPE & QUANTITY

JOB NAME & INFO

NOTES

TECH LIGHTING
VISUAL COMFORT & CO.
7400 Linder Avenue, Skokie, Illinois 60077
T 847.410.4400

WPLED26

Color: Bronze

Weight: 7.2 lbs

Project:	**Type:** L6
Prepared By:	**Date:**

Driver Info

Type	Constant Current
120V	0.22A
208V	0.13A
240V	0.11A
277V	0.10A
Input Watts	28.7W

LED Info

Watts	26W
Color Temp	5000K (Cool)
Color Accuracy	70 CRI
L70 Lifespan	100,000 Hours
Lumens	3,851
Efficacy	134.2 lm/W

Technical Specifications

Compliance

UL Listed:

Suitable for wet locations. Suitable for mounting within 1.2m (4ft) of the ground.

DLC Listed:

This product is listed by Design Lights Consortium (DLC) as an ultra-efficient premium product that qualifies for the highest tier of rebates from DLC Member Utilities. Designed to meet DLC 5.1 requirements.
DLC Product Code: P0000170I

Performance

Lifespan:

100,000-Hour LED lifespan based on IES LM-80 results and TM-21 calculations

Construction

IP Rating:

Ingress protection rating of IP66 for dust and water

Finish:

Formulated for high durability and long-lasting color

Ambient Temperature:

Suitable for use in up to 40°C (104°F)

Cold Weather Starting:

Minimum starting temperature is -40°C (-40°F)

Green Technology:

Mercury and UV free. RoHS-compliant components.

Electrical

Driver:

Constant Current, Class 2, 120-277V, 50/60Hz, 120V: 0.22A, 208V: 0.13A, 240V: 0.11A, 277V 0.10A

Dimming Driver:

Driver includes dimming control wiring for 0-10V dimming systems. Requires separate 0-10V DC dimming circuit. Dims down to 10%.

THD:

10.68% at 120V, 10.68% at 277V

Power Factor:

95.4% at 120V, 95.4% at 277V

LED Characteristics

Color Consistency:

7-step MacAdam Ellipse binning to achieve consistent fixture-to-fixture color

Color Stability:

LED color temperature is warrantied to shift no more than 200K in color temperature over a 5-year period

Technical Specifications (continued)

LED Characteristics

Color Uniformity:

RAB's range of Correlated Color Temperature follows the guidelines of the American National Standard for Specifications for the Chromaticity of Solid State Lighting (SSL) Products, ANSI C78.377-2017.

Other

Patents:

The WPLED design is protected by U.S. Pat. D634878, Canada Pat 134878, China Pat. CN301649064S.

Equivalency:

Equivalent to 150W Metal Halide

Buy American Act Compliance:

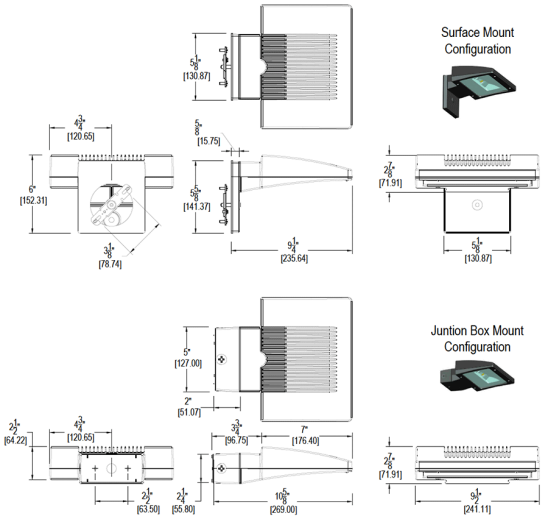
RAB values USA manufacturing! Upon request, RAB may be able to manufacture this product to be compliant with the Buy American Act (BAA). Please contact customer service to request a quote for the product to be made BAA compliant.

Optical

BUG Rating:

B1 U0 G0

Dimensions



Features

- Maintains 70% of initial lumens at 100,000-hours
- Weatherproof high temperature silicone gaskets
- Superior heat sinking with die cast aluminum housing and external fins
- 100 up to 277 Volts
- 5-Year, No-Compromise Warranty

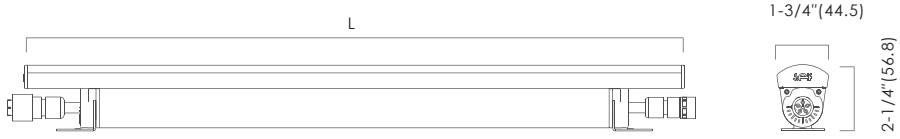
CROWN

L7

Outdoor Cove Lighting
CROWN

- Quick connection
- Dimmable, 1-10V dimming to 10%-100%
- Linkable, max. linkable length: 72' @120VAC, 156' @277VAC
- Lockable, precision aiming adjustment: ±85°vertical rotation
- IP rating: IP66 (for wet locations)
- Lifetime: 50,000hrs (ta=95°F, 35°C)
- Ta: -13°F~122°F (-25°C～50°C)
- 10W/ft, 1050lm/ft
- Material: Aluminum alloy
- Other color temp available

Dimensions: (inches/mm)



How to order using our catalog numbers
Example: CROWN-1230K110SS

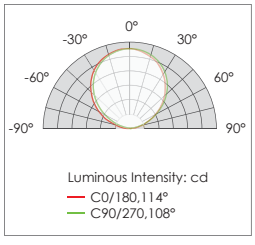
Series	Length	CCT (K)	Beam Angle	Finish	Installation
CROWN	**12** - 11.8"(300mm) **47** - 47"(1120mm) **70** - 70"(1778mm)	**30K** - 3000K **40K** - 4000K	**110** - 110°	**S** - Silver	**S** - Screw Mounting

Specifications

Catalog No.	Model	Rated Input (VAC)	Ra	Power (W)	Luminous flux (TYP@4000K)lm
CROWN-1230K110SS CROWN-1240K110SS	CROWN-L24-277V	120-277	85	10	1050
CROWN-4730K110SS CROWN-4740K110SS	CROWN-L90-277V	120-277	85	40	4200
CROWN-7030K110SS CROWN-7040K110SS	CROWN-L144-277V	120-277	85	60	6300

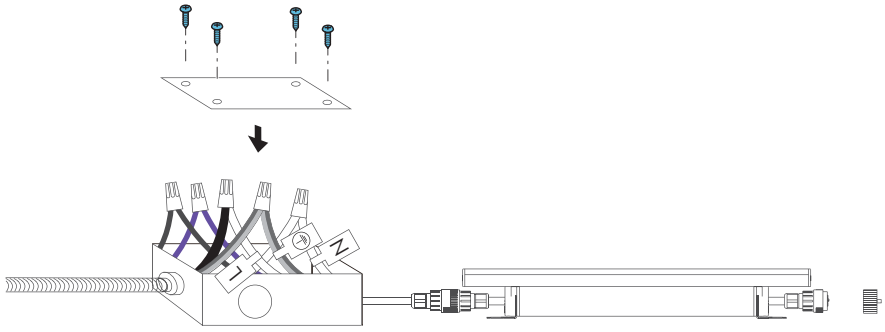
* Included: 1 pc LED fixture, 2pcs screws, 1pc cable end cap.

Photometrics



CROWN/CROWN NARROW

Wiring Diagram

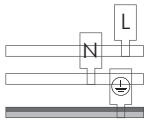


AC connection :

Black: " L "

White: " N "

Yellow/green: "⏚"

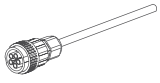


Dimming connection :

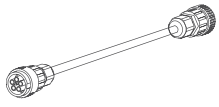
Violet: " + "

Gray: " - "

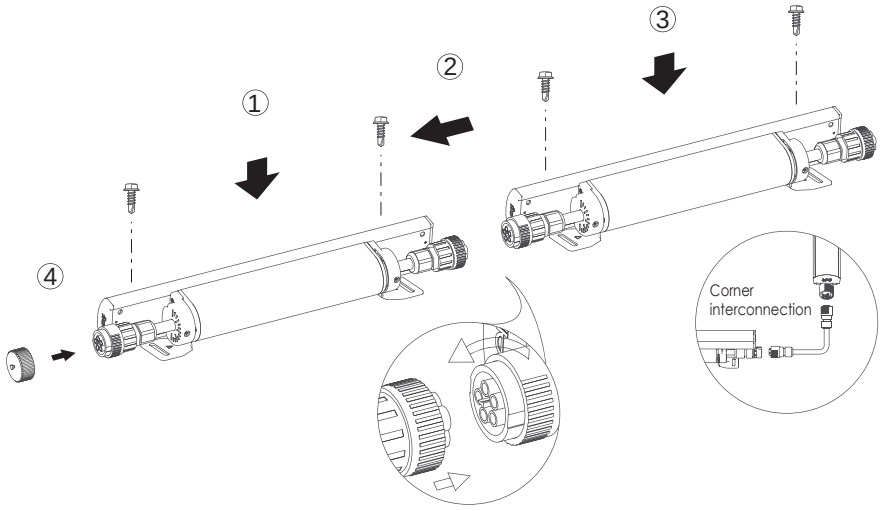
Accessories

Catalog No.	Description	Length (inch)
IC-CROWN-59	 Input cable	59"

Accessories(optional)

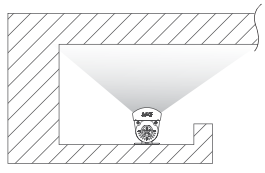
Catalog No.	Description	Length (inch)
SC-CROWN-12	 Soft connector	12"

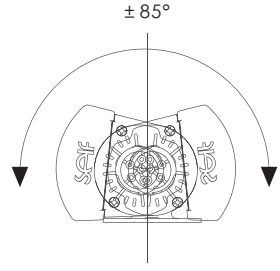
Installation



Application

1





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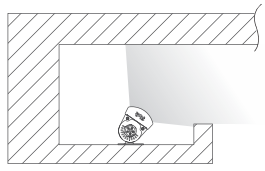

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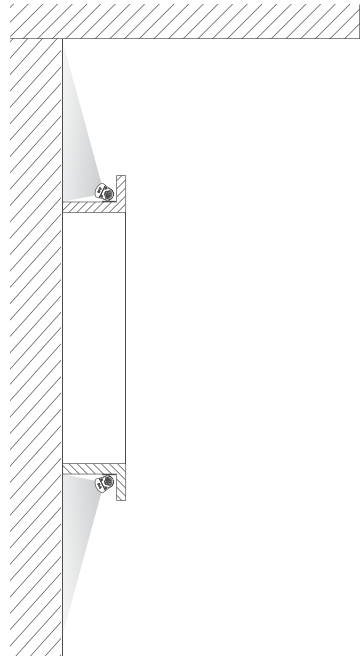

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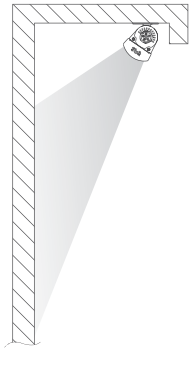


DRD5S & SurfaceFrame

Surface Mount LED Downlight

New Construction

DRDHNJO Octagonal Junction Box

Project:	Type: L9
Product Code:	Date:

Spec Sheet V- 09.23.21

- Thinnest-in-class DRD5S delivers the pure, smooth light and the elegant look of a high-end recessed downlight
- Features multiple ratings to meet the demands of a wide range of situations
- Ultra-low profile allows it to install in as little as 2" of ceiling space when 5/8" drywall is used

Application
New Construction

Aperture
4" Octagonal Junction Box

Delivered Lumens
750 lm (9.0W), 1000 lm (12.0W)

Color Quality
90+ CRI, < 3-step SDCM

Color Temperature
2700K | 3000K | 3500K

Optics
General

Input Voltage
120/277V

Dimming
TRIAC/ELV 5%
0-10V 1%

Emergency Lighting
Optional Emergency LED Driver with integrated Test Switch for lighting up to 90 minutes in event of power failure

Shape
Round, Square

Finish
White

Module Ratings
- UL Closet Rating Compliant *(750 lm only)*
- UL Listed for Wet Location

Housing Ratings
- Code compliant for use in appropriate fire-rated assemblies up to a maximum of 2-hours
- STC/IIC Sound Rated
- ASTM E283 Certified Air Tight
- IC (Insulation Contact) Rated

Standards
JA8 TITLE 24 | ENERGY STAR | c UL us LISTED

Guarantee
50,000 hrs | 5 years

Additional Options
- Non-Conductive Dead Front

PRODUCT BUILDER

HOUSING

PRODUCT CODE		APPLICATION		APERTURE		OPTION	
DRDH	Housing	**N**	New Construction	**JO**	SurfaceFrame Octagonal Junction Box	**[Blank]**	Integrated Driver
						7OSEM	EM Driver[1], 0-10V, 750 lm
						10OSEM	EM Driver[1], 0-10V, 1000 lm

LED MODULE

PRODUCT CODE		APERTURE		SHAPE		LUMENS		CRI		CCT		DRIVER	
DRD5S	Module	**4**	4" Aperture	**R**	Round	**07**	750 lm	**9**	90+ CRI	**27**	2700K	**[Blank]**	Integrated TRIAC/ELV
				S	Square	**10**	1000 lm			**30**	3000K	**O**	Integrated 0-10V
										35	3500K	**DF**	Integrated TRIAC/ELV, Non-Conductive[2]
												ODF	Integrated 0-10V, Non-Conductive[2]
												EM	Emergency[1] w/ Test Switch

[1] EM option (housing) and Emergency driver (module) must be selected together
[2] Only available for Round shape, 750 lm, 2700K or 3000K CCT

HOUSING

SurfaceFrame

New Construction Octagonal Junction Box
DRDHNJO

SUMMARY

JUNCTION BOX: Equipped with (4) ½" trade size knockouts (two side, two top) to allow straight conduit runs. Approved for 6 (three in, three out) #12 AWG 70°C through wiring conductors.

MOUNTING: Pre-installed mounting brackets allow vertical adjustment of bar hangers up to 1"

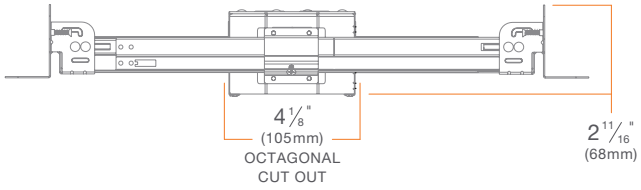
CEILING: ½" up to 1 ¾"

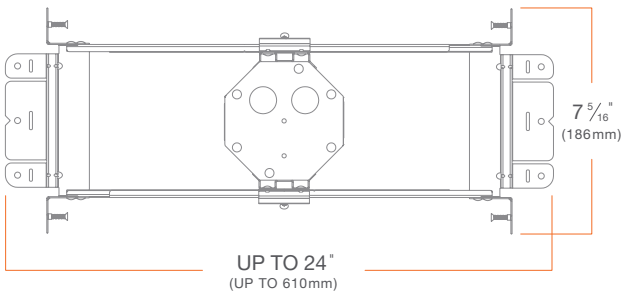
CUTOUT: 4 ⅛" (105mm) octagonal opening

LISTINGS: Metallic outlet box certified UL514A, code compliant for use in appropriate fire-rated assemblies for up to 2-hours, STC/IIC Sound Rated, ASTM E283 certified Air Tight, IC (Insulation Contact) rated

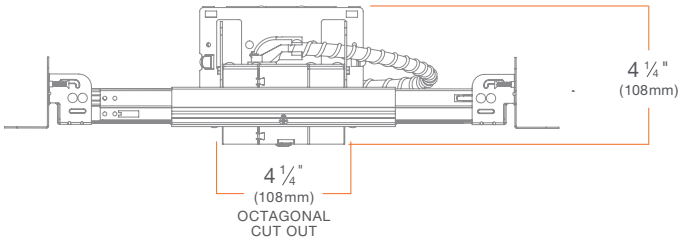
WARRANTY: 5 year limited warranty

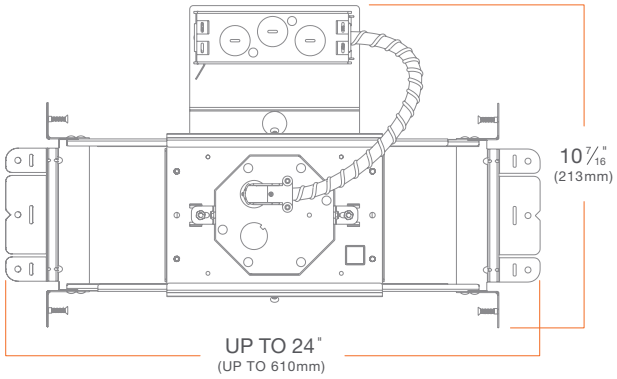
SurfaceFrame
DRDHNJO

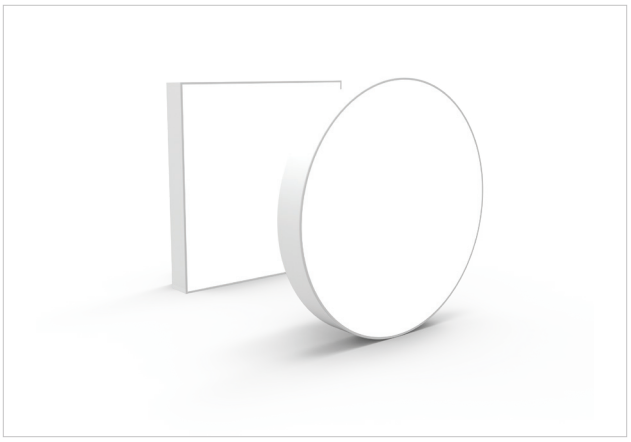




SurfaceFrame w/ Emergency Lighting
DRDHNJO EM







DRD5S

Surface Mount LED Module

DRD5S

SUMMARY

LED: Optimized LED array

SHAPE: 4" Round, 4" Square

MODULE LUMENS: 750 lm (9.0W), 1000 lm (12.0W)

COLOR QUALITY: 90+ CRI, less than 3-step SDCM

CCT: 2700K, 3000K, 3500K

INPUT VOLTAGE: 120/277V

DIMMING: Down to less than 5% for TRIAC/ELV at 120V, 1% for 0-10V at 120/277V

MAX INPUT CURRENT (120V): 0.075 amps, 0.1047 amps

MAX INPUT CURRENT (277V): 0.034 amps, 0.047 amps

POWER FACTOR: Greater than 0.9

TOTAL HARMONIC DISTORTION: Less than 20%

AMBIENT OPERATING TEMPERATURE: -20°C to 40°C

EMERGENCY LIGHTING: Optional Emergency LED Driver with Integrated Test Switch for lighting up to 90 minutes in event of power failure

PHOTOMETRIC TESTING: Tested in accordance to IESNA LM-79-2008

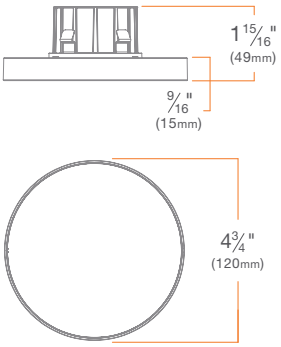
LISTINGS: ENERGY STAR® qualified, California Title 24 2019 JA8 compliant, UL Listed for Wet Location, UL Closet Rating compliant (750 lm only), cULus Listed

LIFETIME: 50,000 hours at 70% lumen maintenance

WARRANTY: 5 year limited warranty

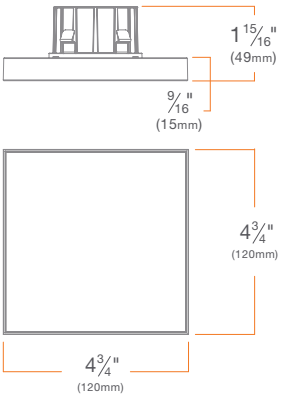
4" Round

DRD5S4R



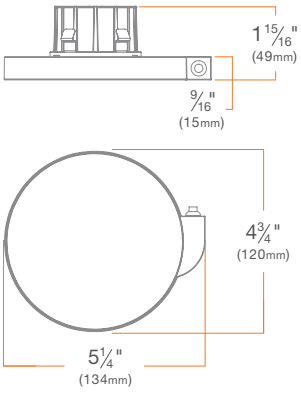
4" Square

DRD5S4S



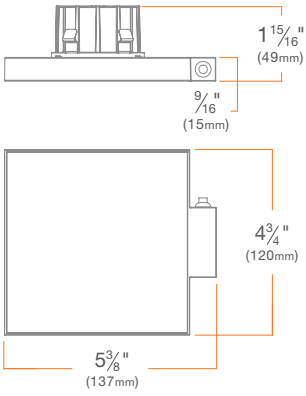
4" Round w/ EM Test Switch

DRD5S4R EM



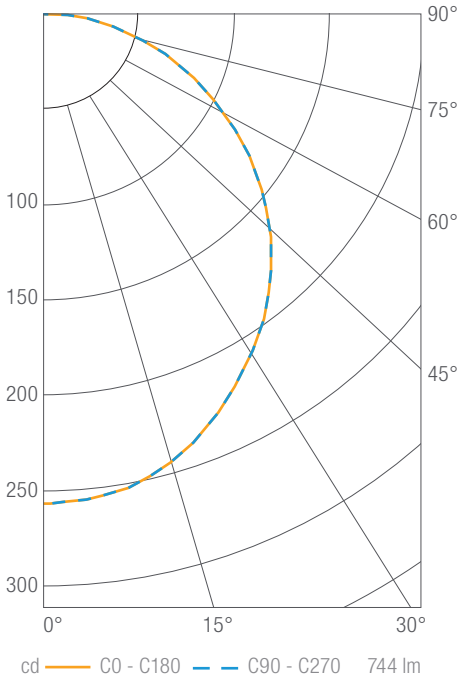
4" Square w/ EM Test Switch

DRD5S4S EM



PHOTOMETRY

DRD5S 4" Round, 750 lm, 90 CRI, 3000K DRD5S4R07930



Luminous Intensity

Gamma	C 0˚
0º	258
5º	256
10º	253
15º	247
20º	237
25º	226
30º	213
35º	200
40º	185
45º	169
50º	151
55º	132
60º	113
65º	93
70º	73
75º	54
80º	35
85º	18
90º	6

Values in candela

Zonal Lumen Summary

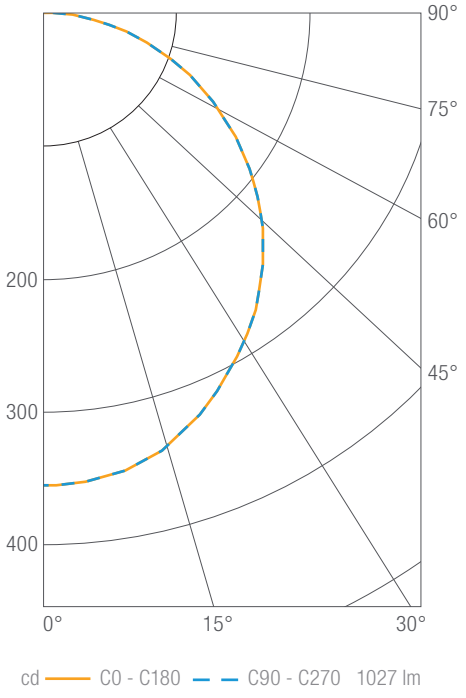
Zone	Lumens	Luminaire %
0-30	199	27
0-40	324	44
0-60	573	77
0-90	744	100
0-180	744	100

Illuminance Chart

Distance from LED	Foot Candles	Diameter
3.0'	29	8.8'
6.0'	7	17.7'
9.0'	3	26.5'
12.0'	2	35.3'

Beam Angle: 70°

DRD5S 4" Round, 1000 lm, 90 CRI, 3000K DRD5S4R10930



Luminous Intensity

Gamma	C 0˚
0º	356
5º	354
10º	349
15º	340
20º	327
25º	312
30º	294
35º	276
40º	255
45º	233
50º	209
55º	183
60º	155
65º	128
70º	101
75º	74
80º	48
85º	25
90º	9

Values in candela

Zonal Lumen Summary

Zone	Lumens	Luminaire %
0-30	274	27
0-40	447	44
0-60	790	77
0-90	1027	100
0-180	1027	100

Illuminance Chart

Distance from LED	Foot Candles	Diameter
3.0'	40	8.8'
6.0'	10	17.7'
9.0'	4	26.5'
12.0'	2	35.3'

Beam Angle: 63°

DIMMER COMPATIBILITY

Recommended Phase-control Dimmers (Dims down to 5% nominal measured light output)

Brand	Series	Model Number	Max Load 750lm DRD5S4R07	Max Load 1000lm DRD5S4R10
Cooper	Aspire	9573	29	23
Leviton	Vizia	VPE06	64	48
Lutron	CL Series	AYCL-253, DVCL-253	26	20
	Grafik Eye 3000	QSGR-3P, QSGR-6P	31	24
	Grafik Sys / Homeworks	RPM-4U	44	35
	Maestro CL	MACL-153M, MSCL-OP153M, MSCL-VP153M	16	12

Compatible Phase-control Dimmers[1] (Dims down to 20% nominal measured light output)

Brand	Series	Model Number	Max Load 750lm DRD5S4R07	Max Load 1000lm DRD5S4R10
Cooper	Aspire	9573	29	23
	Decorator	DLC03P, DAL06P	29	23
Legrand	Adorne	ADTP703	48	38
	Digital Light Management	LMRC-221	250	195
Leviton	IllumaTech	IPE04	32	25
	Vizia	VPE04	42	32
	Vizia	VPE06	64	48
Lutron	CL Series	AYCL-153, CTCL-153, DVCL-153, LGCL-513, SCL-153, TGCL-513	15	11
	CL Series	AYCL-253, DVCL-253	26	20
	Grafik Eye 3000	QSGR-3P, QSGR-6P	31	24
	Grafik Sys / Homeworks	RPM-4U	44	35
	Maestro CL	MACL-153M, MSCL-OP153M, MSCL-VP153M	16	12
	Maestro Wireless	MRF2-6ELV, MRF2-6CL	15	12
	Radio RA	RRD-6NA, RRD-6CL, RRD-6D	15	12
	Skylark Contour CL	CTCL-153P	15	12

[1] *Dimmer compatibility reflects performance compatibility only. Please reference your local codes for application.*

DIMMER COMPATIBILITY

Recommended 0-10V Dimmers (Dims down to 1% nominal measured light output)

Brand	Series	Model Number	Max Load 750lm DRD5S4R07	Max Load 1000lm DRD5S4R10
Legrand	Titan	CD4FB	200	150
Leviton	IllumaTech	IP710-DLZ	120	90
Lithonia	Synergy	ISD BC	120	90
Lutron	Diva	DVTV	100	75
	Nova	NFTV	200	150
	Nova	NTSTV-DV	100	75
	Vive-PowPak	RMJS-8T-DV-B	60	45
Watt Stopper	Micro-Decorator	DCLV1	60	45
	DLM	LMRC-211	100	75

SurfaceFrame Options

Shallow Recessed LED Downlight

DRD2 & SurfaceFrame
DRDHNJO Octagonal Junction Box

DRD2 & SurfaceFrame Alt/EM
Alternate Dimming and/or Emergency Lighting
DRDHNJO Octagonal Junction Box

Apex Series Shallow Recessed LED Downlight

DRD2X & SurfaceFrame
DRDHNJO Octagonal Junction Box

DRD2X & SurfaceFrame Alt/EM
Alternate Dimming and/or Emergency Lighting
DRDHNJO Octagonal Junction Box

Surface Mount LED Downlight

DRD5S & SurfaceFrame
DRDHNJO Octagonal Junction Box

SUMMARY DRAWING

SUMMARY - BUILDING SIGNS & MENUS

DRAWING #:

32956

CLIENT:

DUTCH BROS - M00102
CHIPMAN & WARD
LEE'S SUMMIT, MO 64063

DATE OF SHOP DRAWING:

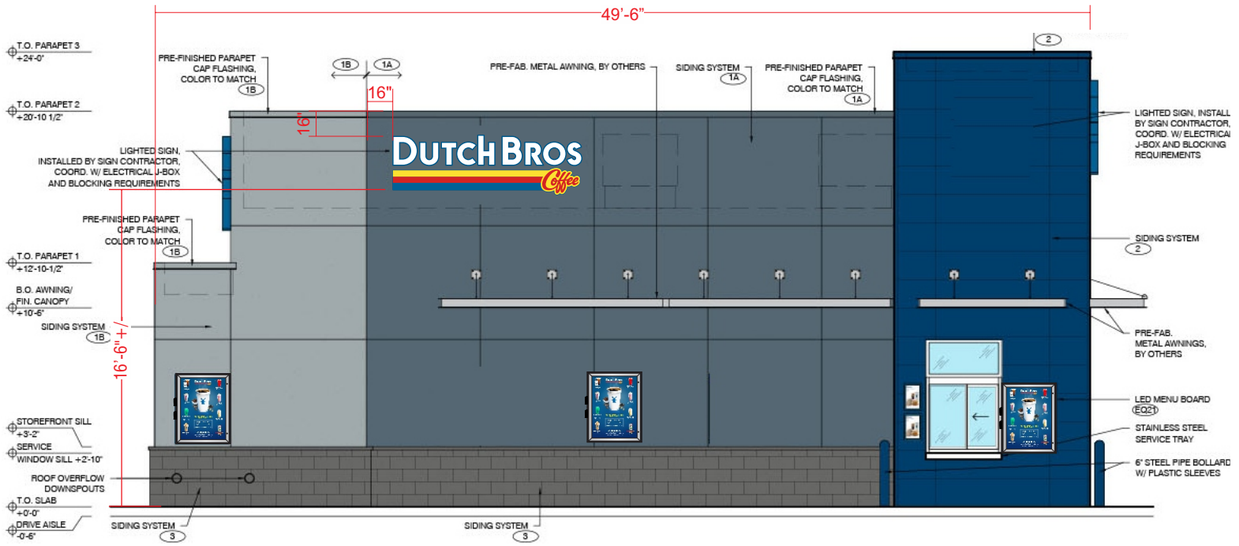
7/22/21

SHOP REVISIONS:

9.9.21 REMOVE WINDMILL OFF WEST & CL'S OFF SOUTH ELEVATION.
MOVE DT'S BEHIND EASEMENT LINE.
ADD MONUMENT SIGN.
9.17.21 UPDATED ELEVATIONS & SITE PLAN.

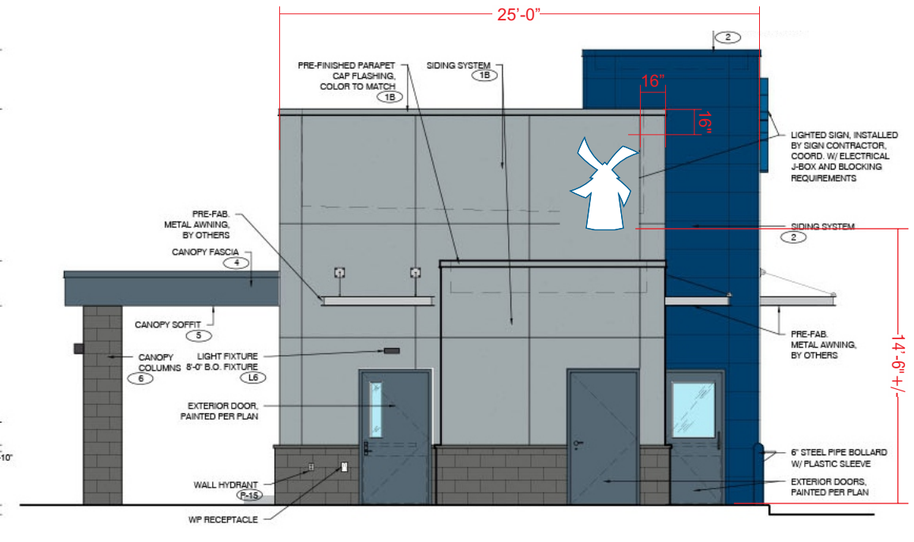
SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	1 of 2

ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813



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

DBCL10 @ 31.5 SF

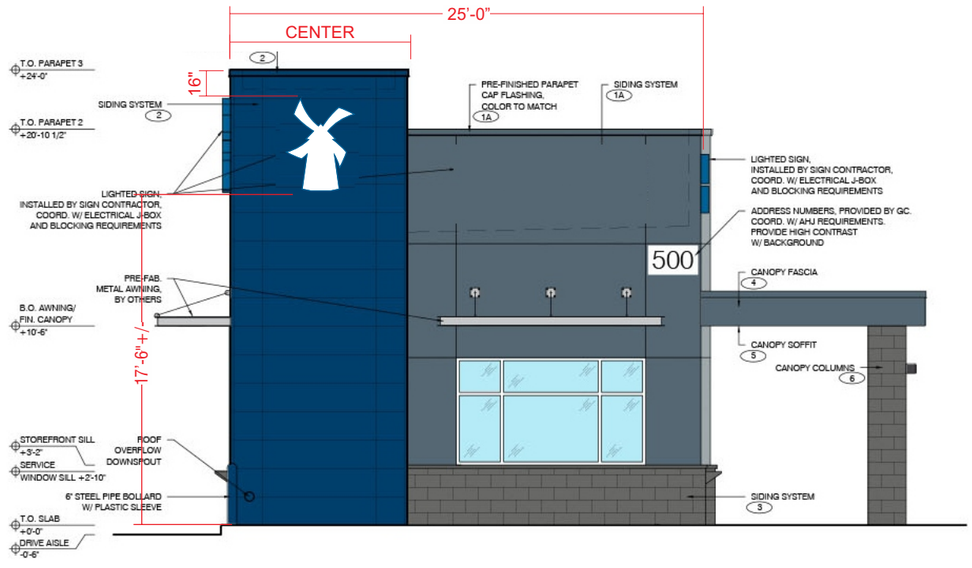


NORTH ELEVATION
SCALE: 1/8"=1'-0"

DBW13 @ 18.4 SF

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

DBCL10 @ 31.5 SF



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

DBW13 @ 18.4 SF

SUMMARY DRAWING

DRAWING #:

32956

CLIENT:

DUTCH BROS - M00102
CHIPMAN & WARD
LEE'S SUMMIT, MO 64063

DATE OF SHOP DRAWING:

7/22/21

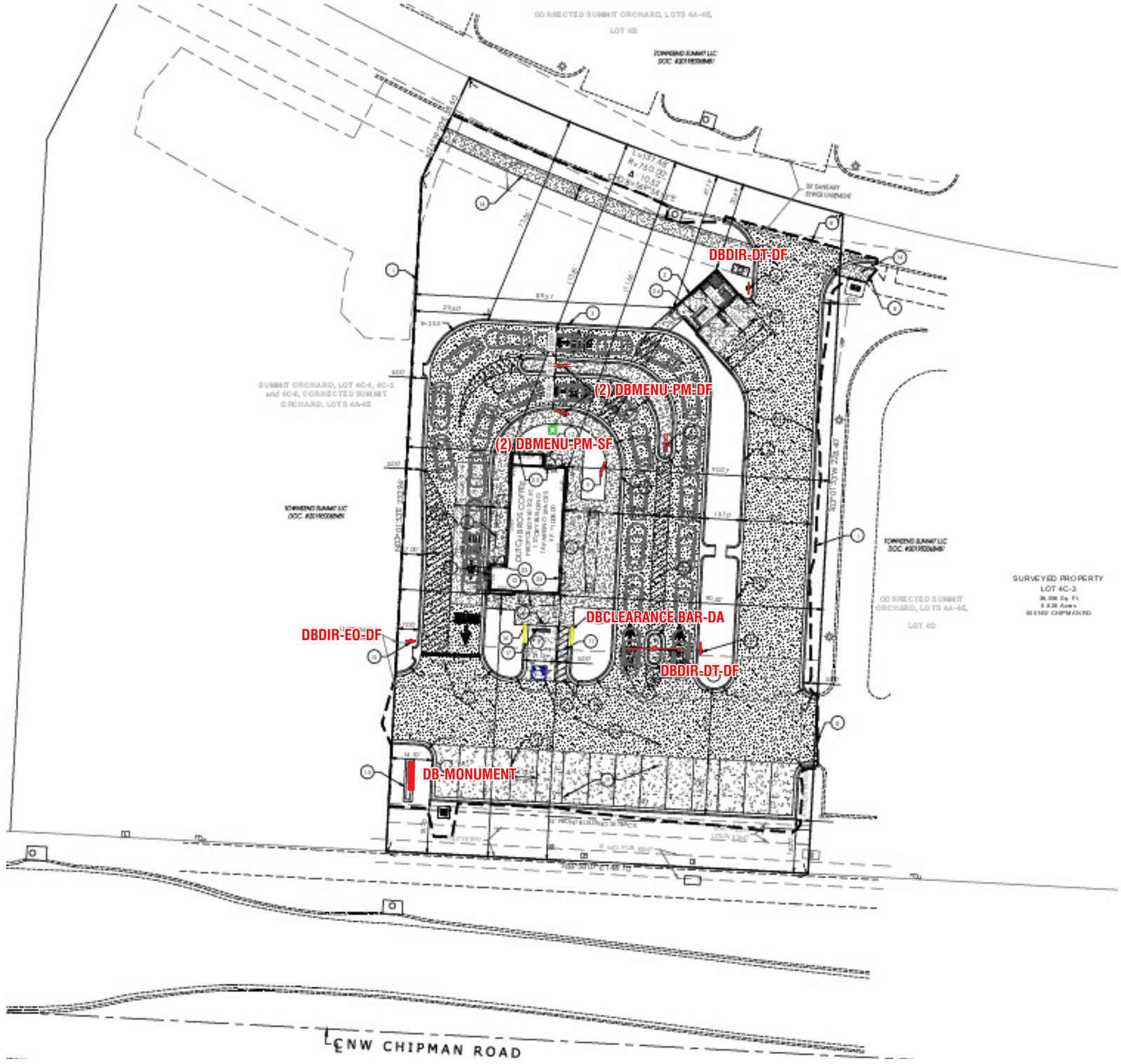
SHOP REVISIONS:

9.9.21 REMOVE WINDMILL OFF WEST & CL'S OFF SOUTH ELEVATION. MOVE DT'S BEHIND EASEMENT LINE. ADD MONUMENT SIGN.
9.17.21 UPDATED ELEVATIONS & SITE PLAN.

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	2 of 2

ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813

SUMMARY - FREESTANDING SIGNS & MENUS



FACTORY DRAWING

SHOP DRAWING #:
32956A1

CLIENT:
DUTCH BROS - M00102
CHIPMAN & WARD
LEE'S SUMMIT, MO 64063

DATE OF SHOP DRAWING:
7/22/21

SHOP REVISIONS:
9.9.21 REMOVED ONE.

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	1 of 1

ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813

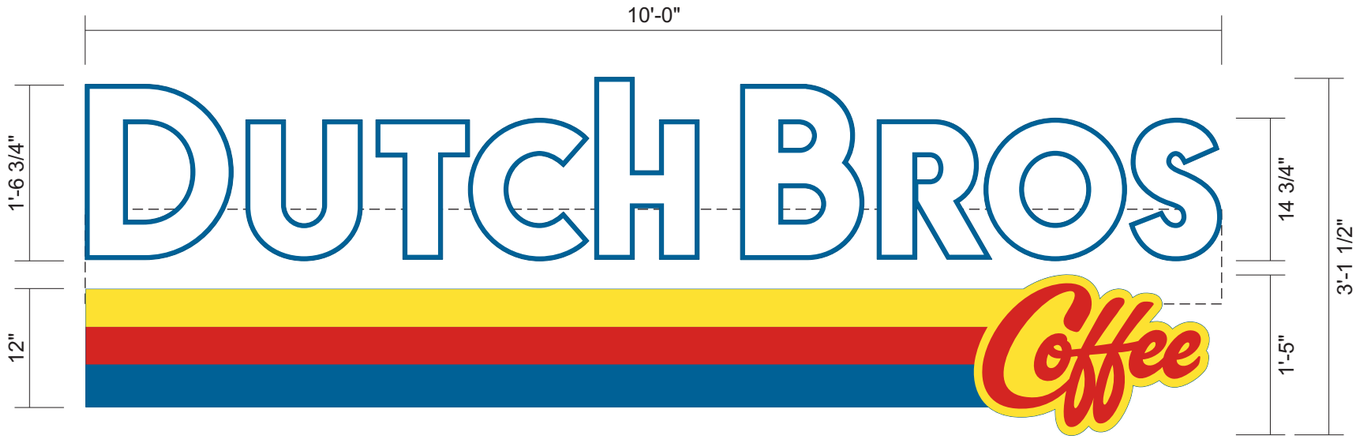
COLOR CODE

- 230-015 YELLOW PSV
- 230-33 RED PSV
- 230-127 INTENSE BLUE PSV
- WHITE

SCOPE OF WORK: MANUFACTURE & INSTALL (2) SETS OF ILLUMINATED CHANNEL LETTERS WITH REMOTE RACEWAYS

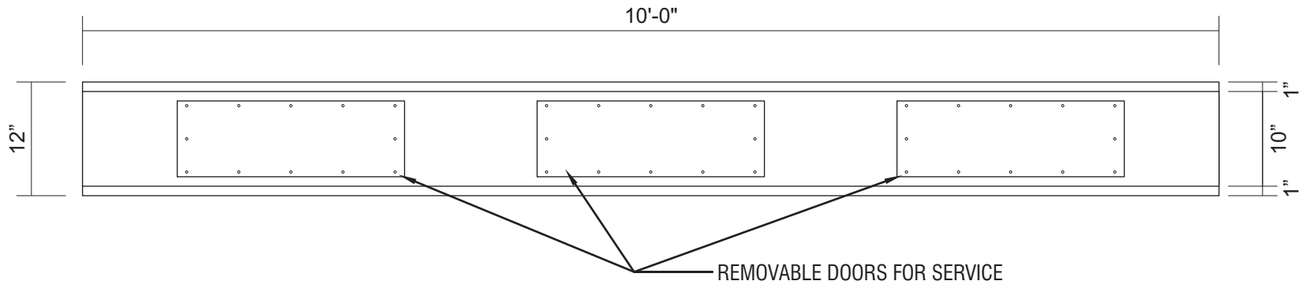
LEVEL A FINISH

DBCL10-REMOTE RW
SCALE: 3/4"=1'-0"



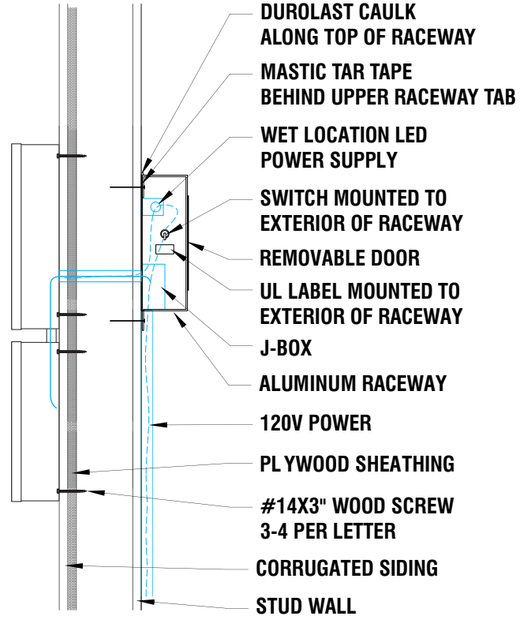
SIDE VIEW

FABRICATED REMOTE RACEWAY
.040 PRE-COAT WHITE ALUMINUM



INTERNALLY ILLUMINATED FACE-LIT FLUSH MOUNTED CHANNEL LETTERS
5" DEEP CHANNEL LETTERS.
RETURNS & TRIM CAP PAINTED TO MATCH PANTONE 7691 C "INTENSE BLUE".
WHITE ACRYLIC FACES.
230-127 INTENSE BLUE PSV, 230-015 YELLOW PSV, 230-33 RED PSV.
LED ILLUMINATION.
FLUSH MOUNTED CHANNEL LETTERS WITH REMOTE MOUNTED RACEWAY.

ATTACHMENT DETAIL
SCALE: 3/4"=1'-0"
CHANNEL LETTERS WITH REMOTE RACEWAY



FACTORY DRAWING

SCOPE OF WORK: MANUFACTURE & INSTALL (2) ILLUMINATED WINDMILL LOGOS

LEVEL A FINISH

SHOP DRAWING #:
32956B1

CLIENT:
DUTCH BROS - M00102
CHIPMAN & WARD
LEE'S SUMMIT, MO 64063

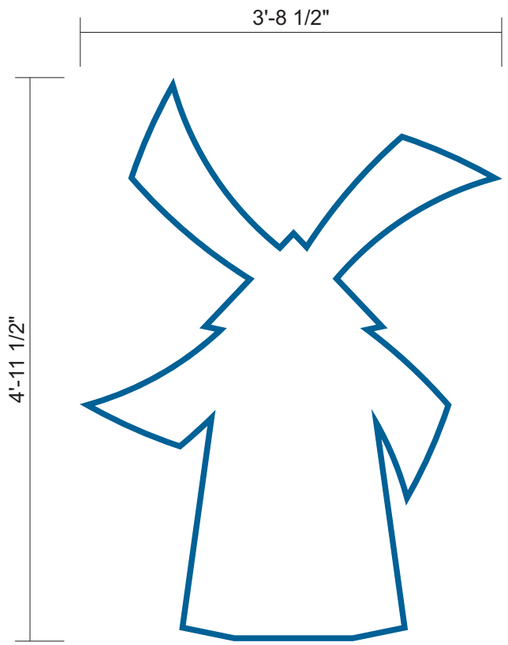
DATE OF SHOP DRAWING:
7/22/21

SHOP REVISIONS:
9.9.21 REMOVED ONE.

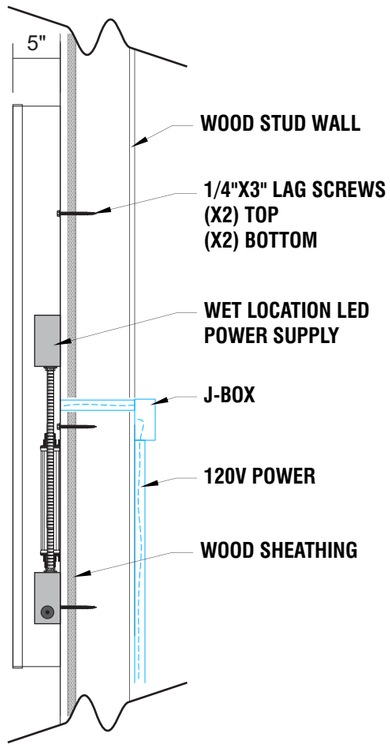
SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	1 of 1

ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813

DBW13
SCALE: 3/4"=1'-0"

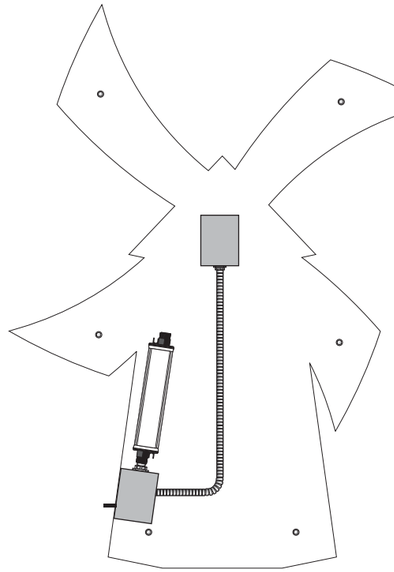


ATTACHMENT DETAIL



Side View

SELF CONTAINED CHANNEL LOGO



INTERNALLY ILLUMINATED FACE-LIT FLUSH MOUNTED CHANNEL WRAP LOGO
5" DEEP CHANNEL WRAP.
RETURNS & TRIM CAP PAINTED TO MATCH PANTONE 7691 C "INTENSE BLUE".
WHITE ACRYLIC FACE.
230-127 INTENSE BLUE PSV OUTLINE.
LED ILLUMINATION.
FLUSH MOUNTED SELF CONTAINED INSTALLATION.

COLOR CODE

- 230-127 INTENSE BLUE PSV
- WHITE

FACTORY DRAWING

SHOP DRAWING #:
32956C

CLIENT:
DUTCH BROS - M00102
CHIPMAN & WARD
LEE'S SUMMIT, MO 64063

DATE OF SHOP DRAWING:
7/22/21

SHOP REVISIONS:

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	1 of 1

ES&A SIGN & AWNING
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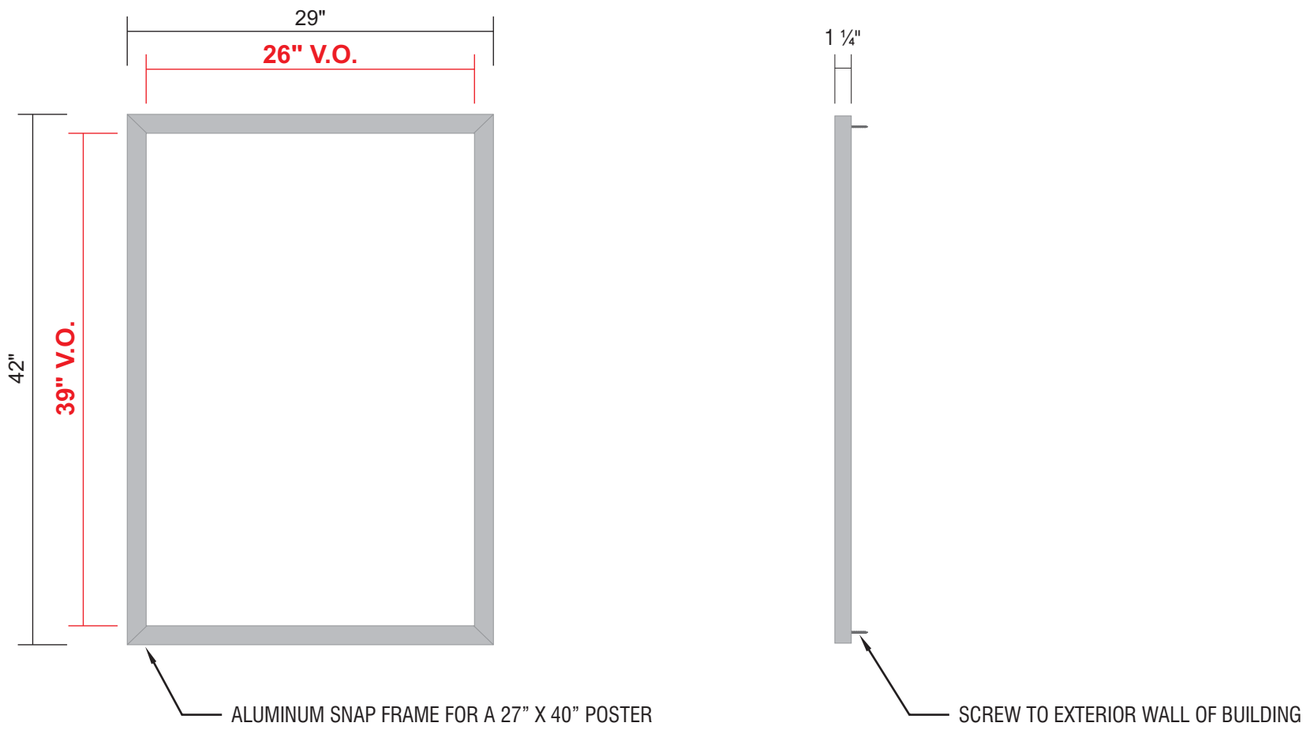
P 541.485.5546 | F 541.485.5813

COLOR CODE

SILVER

SCOPE OF WORK: PROVIDE (2) NON-ILLUMINATED SNAP FRAME MENUS

LEVEL A FINISH



SCALE: 1"=1'-0"

FACTORY DRAWING

SHOP DRAWING #:
32956D

CLIENT:
DUTCH BROS - M00102
CHIPMAN & WARD
LEE'S SUMMIT, MO 64063

DATE OF SHOP DRAWING:
7/22/21

SHOP REVISIONS:

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	1 of 1

ES&A SIGN & AWNING
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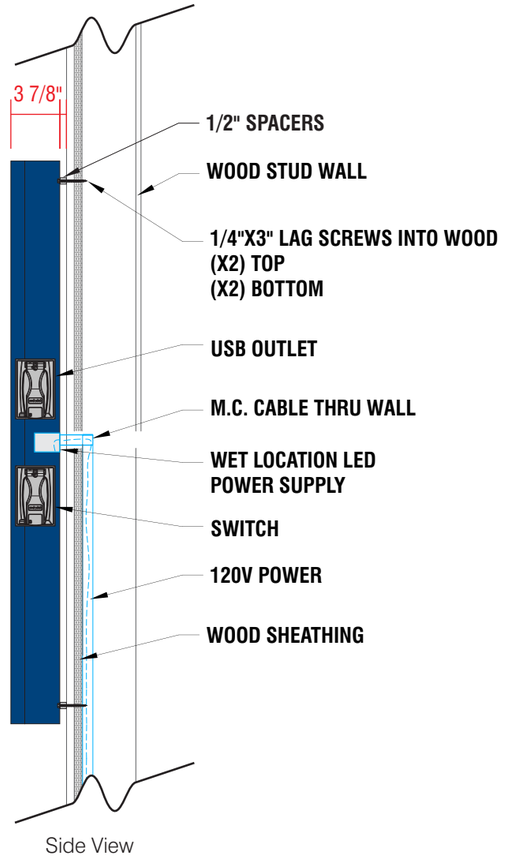
P 541.485.5546 | F 541.485.5813

SCOPE OF WORK: PROVIDE (4) ILLUMINATED MENU SIGNS V5 - WALL-MOUNTED

ATTACHMENT DETAIL
ILLUMINATED WALL MOUNTED MENU



A **WALL-MOUNTED, BACKLIT MENU SIGN**
- PRINTED MENU PANEL NOT INCLUDED
- LED OUTDOOR LIGHT BOX
- LOCKABLE HINGED DOOR
- ALUMINUM CONSTRUCTION

B **PRINTED LIGHT GUIDE PANEL**
- AS SEPARATE ORDER

COLOR CODE
- DIGITAL PRINT
- POWDER COATED DB CUSTOM DARK BLUE
- POWDER COATED SILVER

SCALE: 1"=1'-0"

FACTORY DRAWING

SCOPE OF WORK: PROVIDE (2) S/F ILLUMINATED MENU SIGNS V5 - PLATE-MOUNTED

LEVEL A FINISH

SHOP DRAWING #:
32956E

CLIENT:
DUTCH BROS - M00102
CHIPMAN & WARD
LEE'S SUMMIT, MO 64063

DATE OF SHOP DRAWING:
7/22/21

SHOP REVISIONS:

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	1 of 1

ES&A SIGN & AWNING
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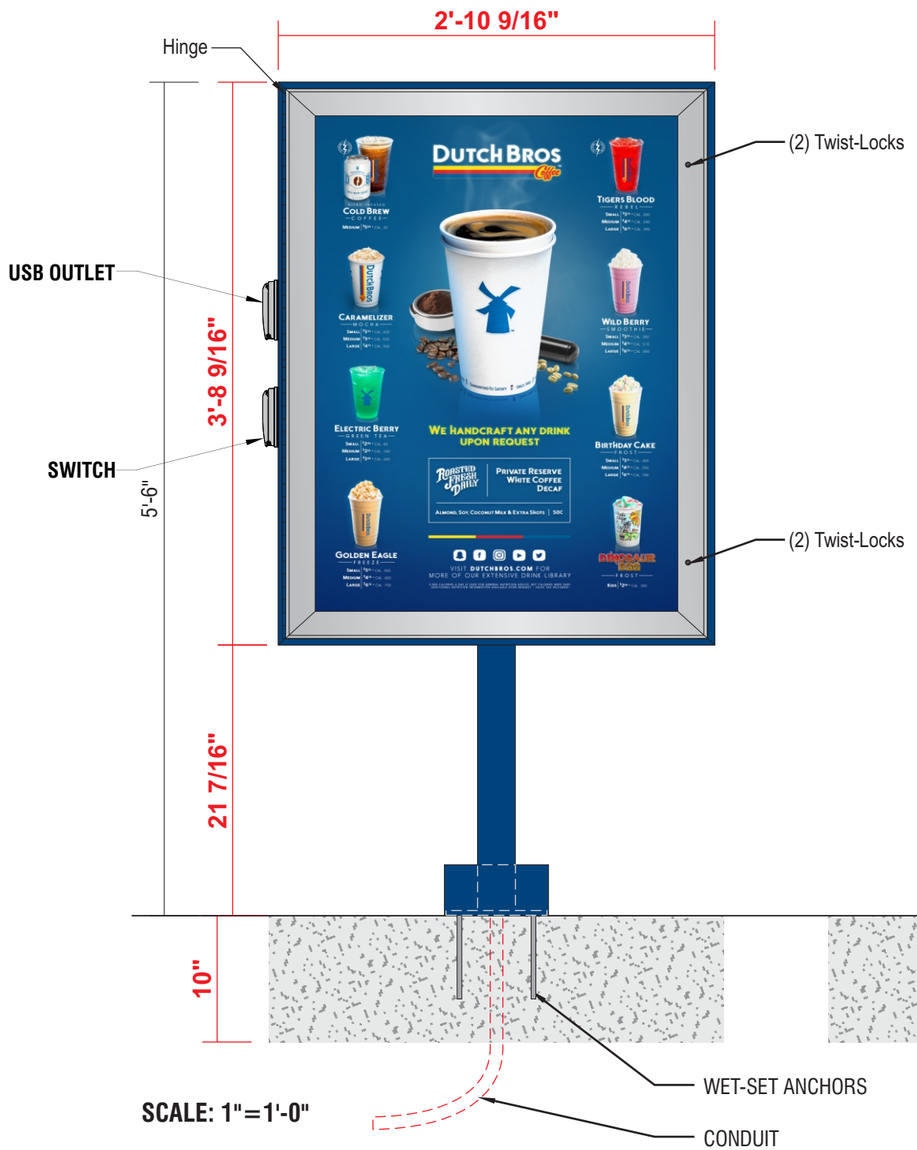
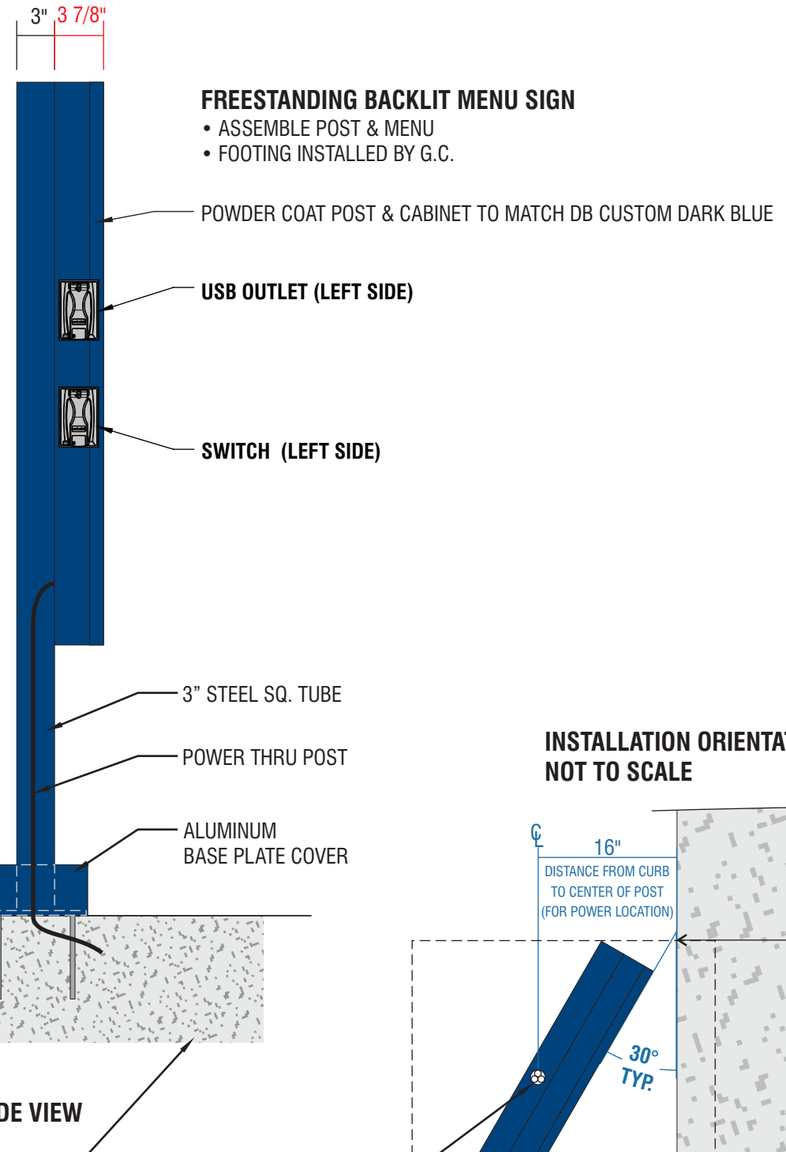
P 541.485.5546 | F 541.485.5813





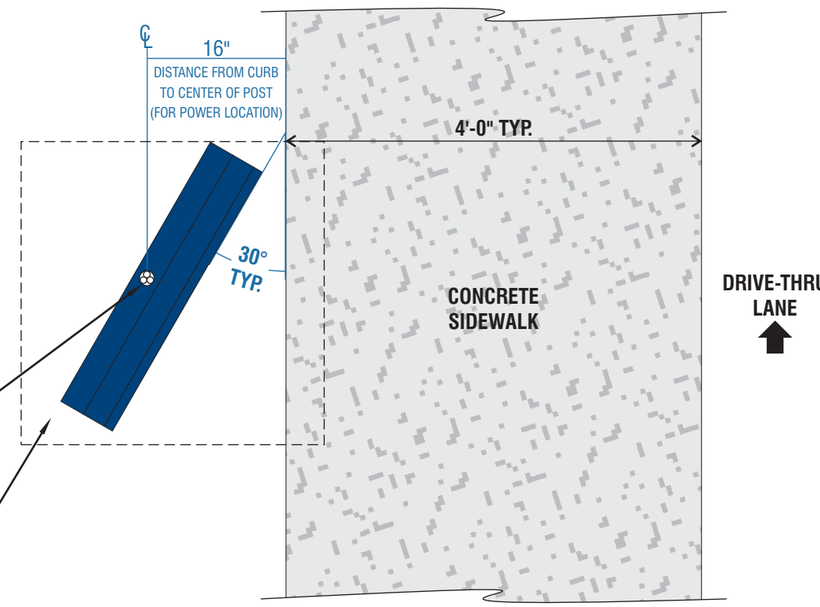
FREESTANDING BACKLIT MENU SIGN
- ASSEMBLE POST & MENU
- FOOTING INSTALLED BY G.C.

POWDER COAT POST & CABINET TO MATCH DB CUSTOM DARK BLUE

USB OUTLET (LEFT SIDE)

SWITCH (LEFT SIDE)

INSTALLATION ORIENTATION DETAIL
NOT TO SCALE



COLOR CODE
- DIGITAL PRINT
- POWDER COATED DB CUSTOM DARK BLUE
- POWDER COATED SILVER

FACTORY DRAWING

SCOPE OF WORK: PROVIDE (2) D/F ILLUMINATED MENU SIGNS V5 - PLATE-MOUNTED

LEVEL A FINISH

SHOP DRAWING #:
32956F

CLIENT:
DUTCH BROS - M00102
CHIPMAN & WARD
LEE'S SUMMIT, MO 64063

DATE OF SHOP DRAWING:
7/22/21

SHOP REVISIONS:

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	1 of 1

ES&A SIGN & AWNING
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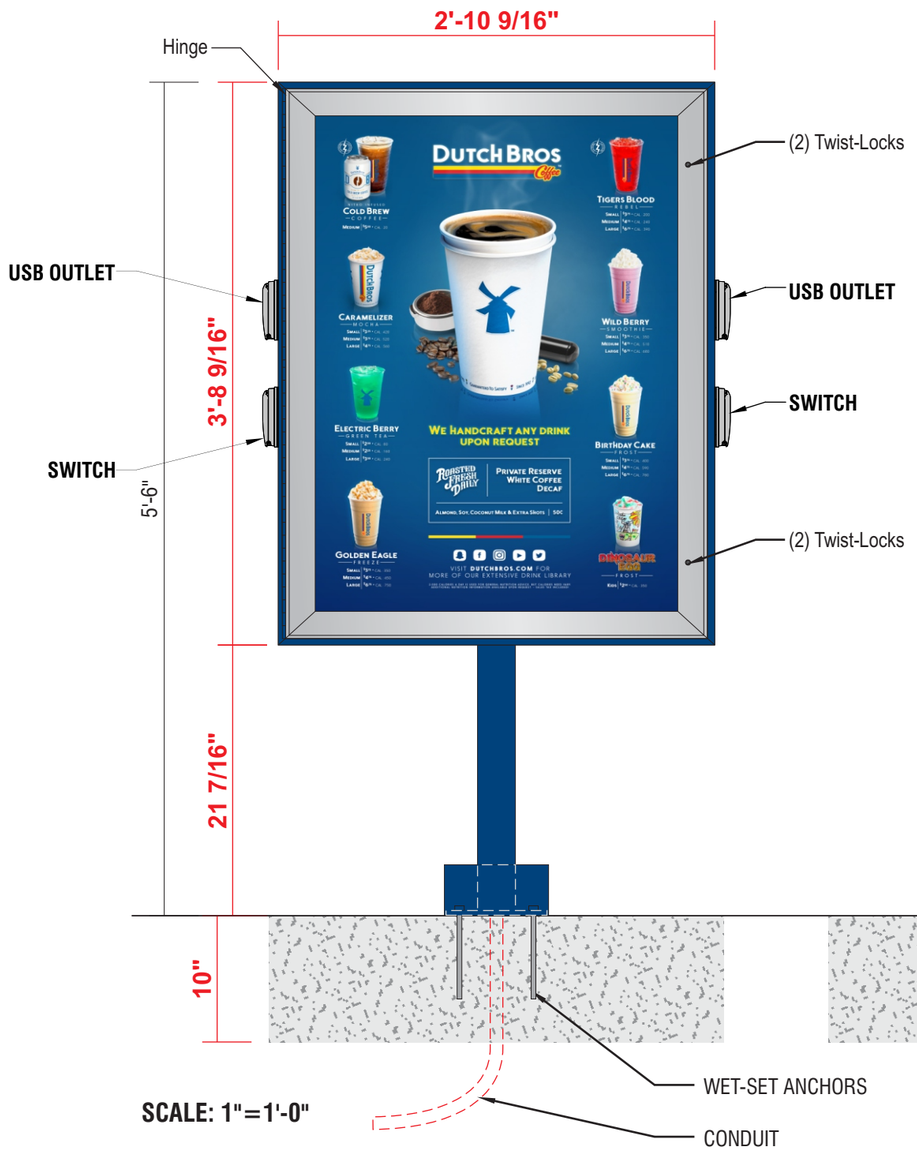
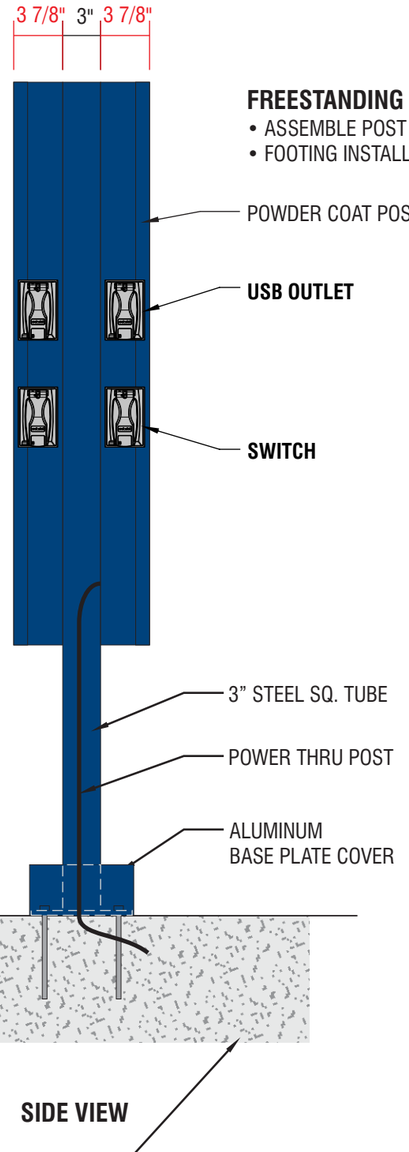




FREESTANDING BACKLIT MENU SIGN
- ASSEMBLE POST & MENU
- FOOTING INSTALLED BY G.C.

POWDER COAT POST & CABINET TO MATCH DB CUSTOM DARK BLUE

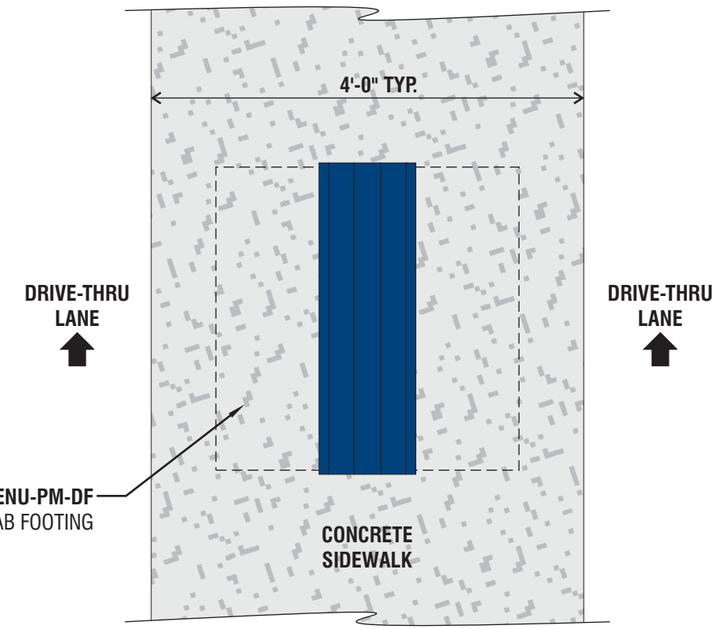
USB OUTLET

SWITCH

3' X 3' X 10" CONCRETE SLAB FOOTING INSTALLED BY GC WITH ELECTRICAL CONDUIT IN THE CENTER OF THE PIER.

COLOR CODE
- DIGITAL PRINT
- POWDER COATED DB CUSTOM DARK BLUE
- POWDER COATED SILVER

INSTALLATION ORIENTATION DETAIL
NOT TO SCALE



FACTORY DRAWING

SHOP DRAWING #:
32956G

CLIENT:
DUTCH BROS - M00102
CHIPMAN & WARD
LEE'S SUMMIT, MO 64063

DATE OF SHOP DRAWING:
7/22/21

SHOP REVISIONS:

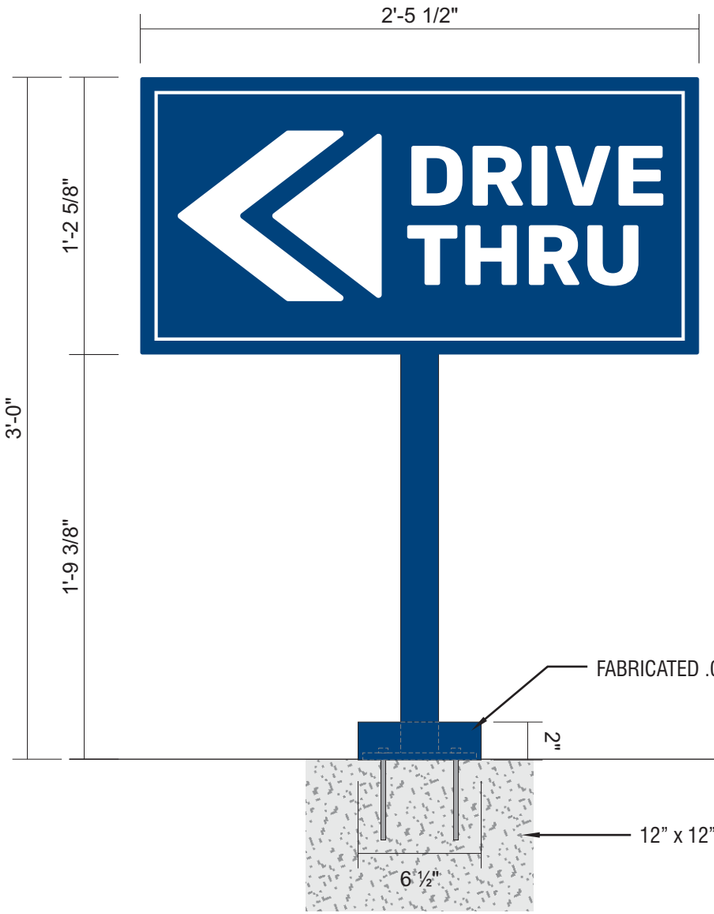
SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	1 of 1

ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813

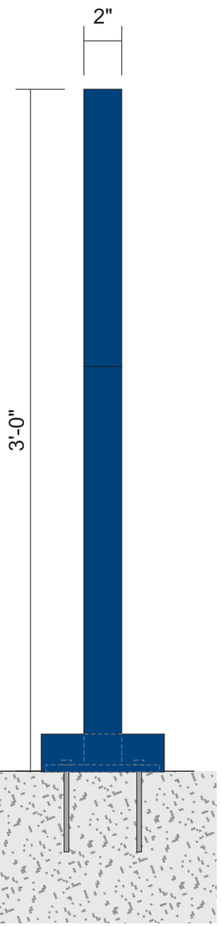
SCOPE OF WORK: MANUFACTURE & INSTALL (2) D/F NON-ILLUMINATED 'DRIVE THRU' SIGNS

LEVEL A FINISH

LAYOUT
SCALE: 1 1/2"=1'-0"



SIDE VIEW



DIAMOND GRADE REFLECTIVE WHITE VINYL WITH DIGITALLY PRINTED PMS 541 C BLUE BACKGROUND
2" X 2" SQUARE TUBE ALUMINUM FRAME & POST WITH ALUMINUM FACES & 3/8" X 6" X 6" PLATE
FABRICATED .090 ALUMINUM BOLT COVER
PAINT PMS 541 C
INSTALL PLATE-MOUNT SIGN WITH HILTI KWIK BOLTS
PAD FOOTING INSTALLED BY GC

COLOR CODE

- PMS 541 C
- WHITE

FACTORY DRAWING

SHOP DRAWING #:
32956H

CLIENT:
DUTCH BROS - M00102
CHIPMAN & WARD
LEE'S SUMMIT, MO 64063

DATE OF SHOP DRAWING:
7/22/21

SHOP REVISIONS:

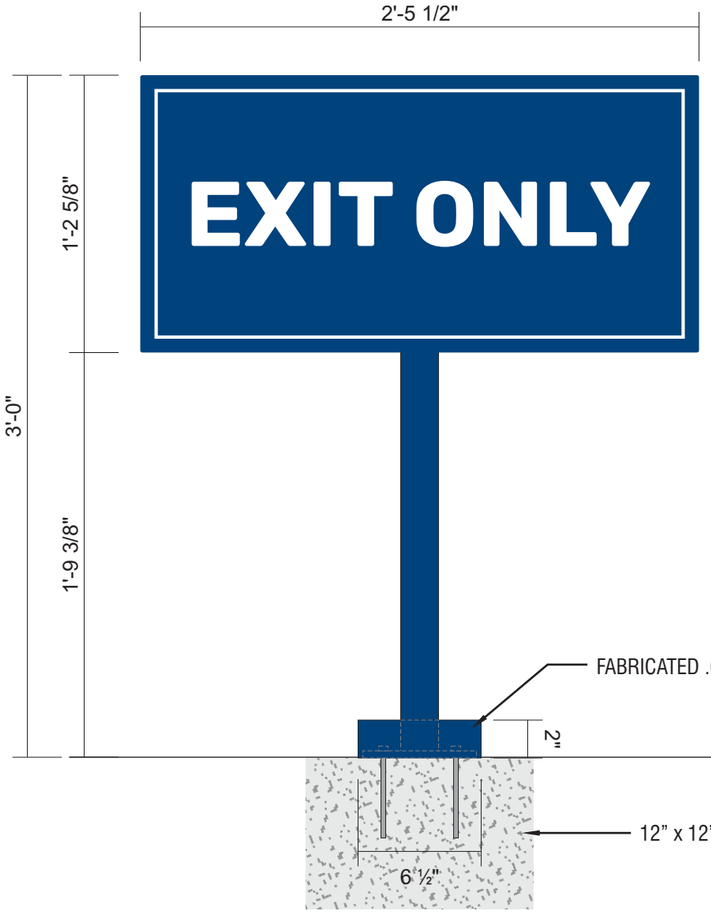
SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	1 of 1

ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813

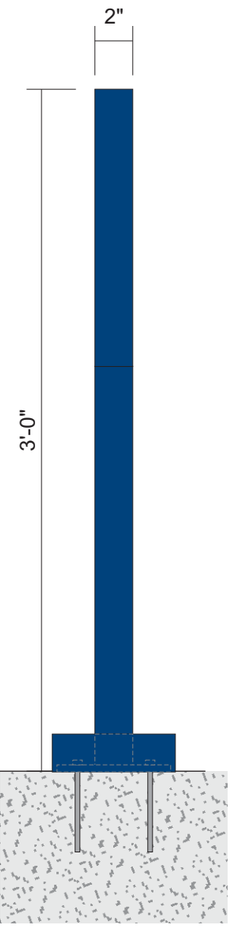
SCOPE OF WORK: MANUFACTURE & INSTALL (1) D/F NON-ILLUMINATED DIRECTIONAL SIGN

LEVEL A FINISH

LAYOUT
SCALE: 1 1/2"=1'-0"



SIDE VIEW



DIAMOND GRADE REFLECTIVE WHITE VINYL WITH DIGITALLY PRINTED PMS 541 C BLUE BACKGROUND
2" X 2" SQUARE TUBE ALUMINUM FRAME & POST WITH ALUMINUM FACES & 3/8" X 6" X 6" PLATE
FABRICATED .090 ALUMINUM BOLT COVER
PAINT PMS 541 C
INSTALL PLATE-MOUNT SIGN WITH HILTI KWIK BOLTS
PAD FOOTING INSTALLED BY GC

COLOR CODE

- PMS 541 C
- WHITE

FACTORY DRAWING

SHOP DRAWING #:
32956I

CLIENT:
DUTCH BROS - M00102
CHIPMAN & WARD
LEE'S SUMMIT, MO 64063

DATE OF SHOP DRAWING:
7/22/21

SHOP REVISIONS:

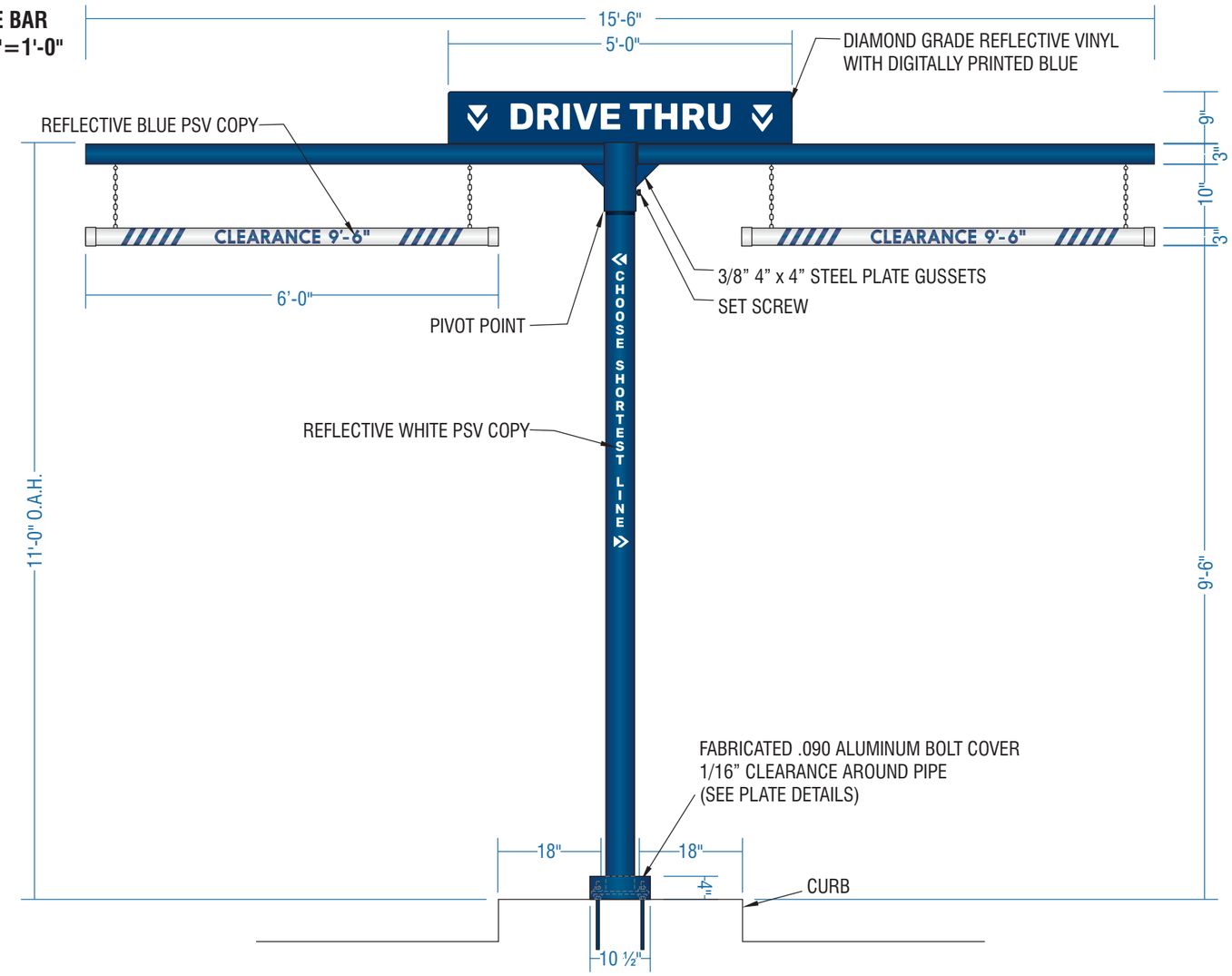
SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	1 of 2

ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813

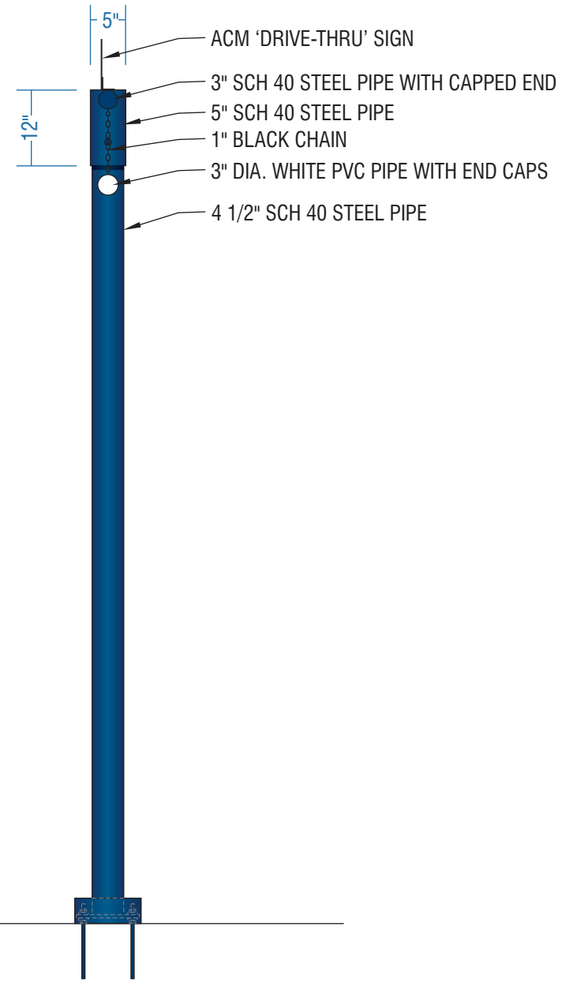
SCOPE OF WORK: MANUFACTURE & INSTALL (1) S/F POST MOUNTED DOUBLE ARM CLEARANCE BAR WITH PIVOTING ARMS

LEVEL A FINISH

CLEARANCE BAR
SCALE: 1/2"=1'-0"



SIDE VIEW



COLOR CODE

- WHITE
- 280-75 REFLECTIVE BLUE PSV
- DB CUSTOM DARK BLUE

STEEL POLE SUPPORT STRUCTURE WITH FABRICATED .090 ALUMINUM BOLT COVER. PAINT DB CUSTOM DARK BLUE.
REFLECTIVE WHITE PSV COPY APPLIED TO VERTICAL POLE.
3" DIA. WHITE PVC CLEARANCE BAR WITH END CAPS AND 280-75 REFLECTIVE BLUE PSV TEXT & STRIPES.
HANG WITH BLACK CHAIN SECURED TO BOTTOM OF POLE STRUCTURE.
INCLUDE ONE SHEET REFLECTIVE VINYL NUMBERS MASKED FOR FIELD INSTALLATION.
CLEARANCE NUMBERS TO BE FIELD MEASURED AND APPLIED. MEASURE FROM ASPHALT TO BOTTOM OF OVERHANG MINUS 6".
ACM 'DRIVE-THRU' SIGN WITH DIAMOND GRADE REFLECTIVE VINYL WITH DIGITALLY PRINTED BLUE.
DIAMOND GRADE REFLECTIVE WHITE VINYL WITH DIGITALLY PRINTED PMS 541 C BLUE BACKGROUND.
INSTALL STEEL POLE PLATE-MOUNTED WITH LEVELING NUTS ONTO G.C. PROVIDED FOOTING.

FACTORY DRAWING

SHOP DRAWING #:
32956l

CLIENT:
DUTCH BROS - M00102
CHIPMAN & WARD
LEE'S SUMMIT, MO 64063

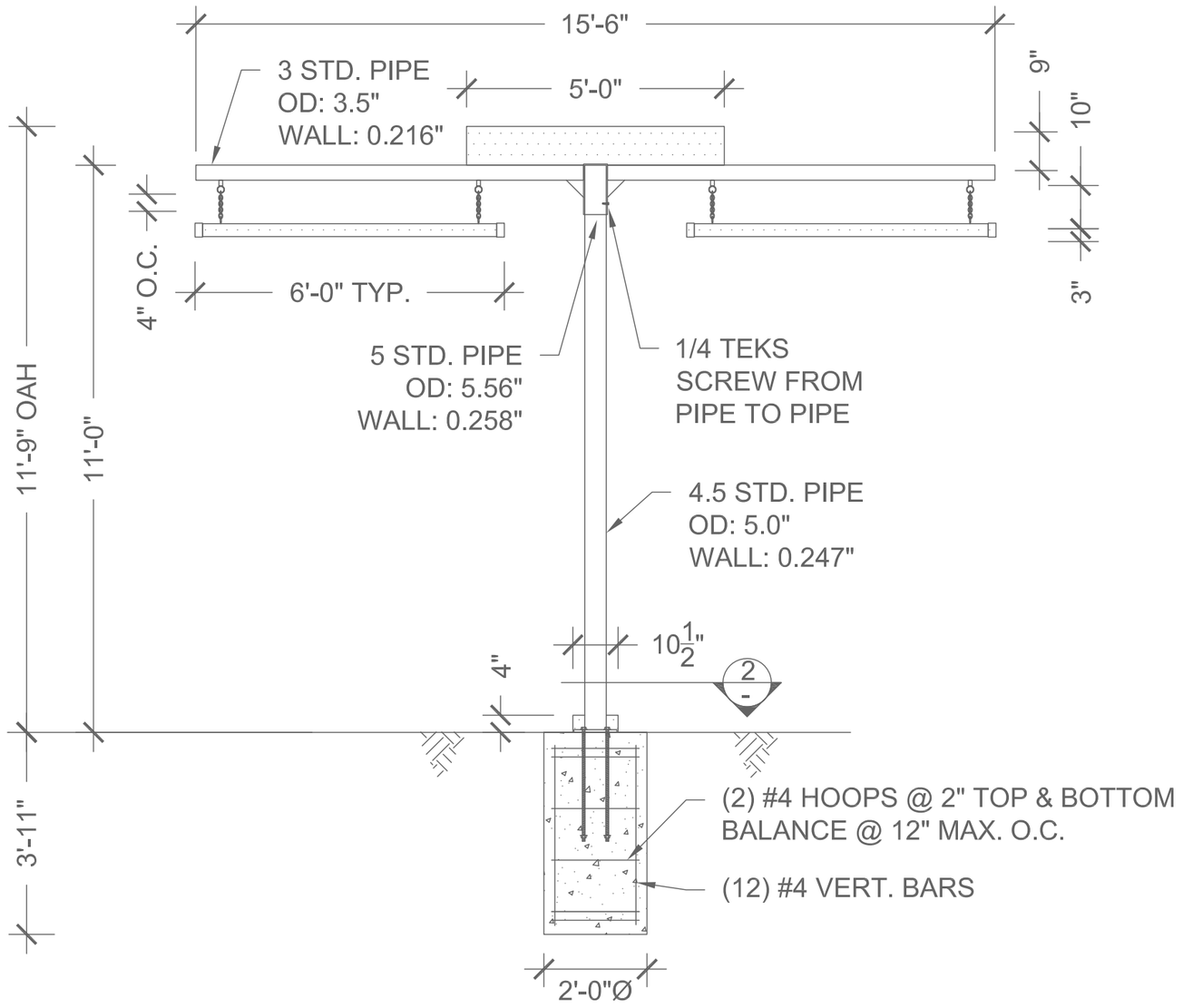
DATE OF SHOP DRAWING:
7/22/21

SHOP REVISIONS:

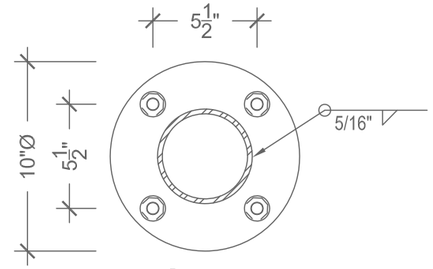
SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	2 of 2

ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813

ENGINEERING DETAILS



ELEVATION
SCALE: 3/8"=1'-0"



10"Øx5/8" STEEL PLATE
W/ (4) 5/8" Ø THREADED ANCHOR RODS
MIN EMBED. = 24" INTO CONCRETE
W/NUT/WASHER/NUT @ EMBED. END

BASE PLATE
SCALE: 1 1/2"=1'-0"

FACTORY DRAWING

SHOP DRAWING #:
32956J

CLIENT:
DUTCH BROS - M00102
CHIPMAN & WARD
LEE'S SUMMIT, MO 64063

DATE OF SHOP DRAWING:
9/9/21

SHOP REVISIONS:

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	1 of 2

ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813

COLOR CODE

- 230-015 YELLOW PSV
- 230-33 RED PSV
- 230-127 INTENSE BLUE PSV
- WHITE
- DB CUSTOM GREY
- DB CUSTOM DARK BLUE

SCOPE OF WORK: MANUFACTURE & INSTALL (1) D/F ILLUMINATED MONUMENT SIGN

LEVEL A FINISH

FRONT VIEW
SCALE: 1/2"=1'-0"

SIDE VIEW
SCALE: 1/2"=1'-0"

FABRICATED ALUMINUM CABINET PAINTED DB CUSTOM GREY.
REVEAL PAINTED DB CUSTOM DARK BLUE.
BACKED-UP WHITE ACRYLIC LETTERS.
1ST SURFACE 230-015 YELLOW, 230-33 RED, & 230-127 INTENSE BLUE PSV.
WHITE LED ILLUMINATION.
FABRICATED ALUMINUM SKIRT PAINTED DB CUSTOM DARK BLUE WITH MEDIUM TEXTURE COAT.

FACTORY DRAWING

SHOP DRAWING #:
32956J

CLIENT:
DUTCH BROS - M00102
CHIPMAN & WARD
LEE'S SUMMIT, MO 64063

DATE OF SHOP DRAWING:
9/9/21

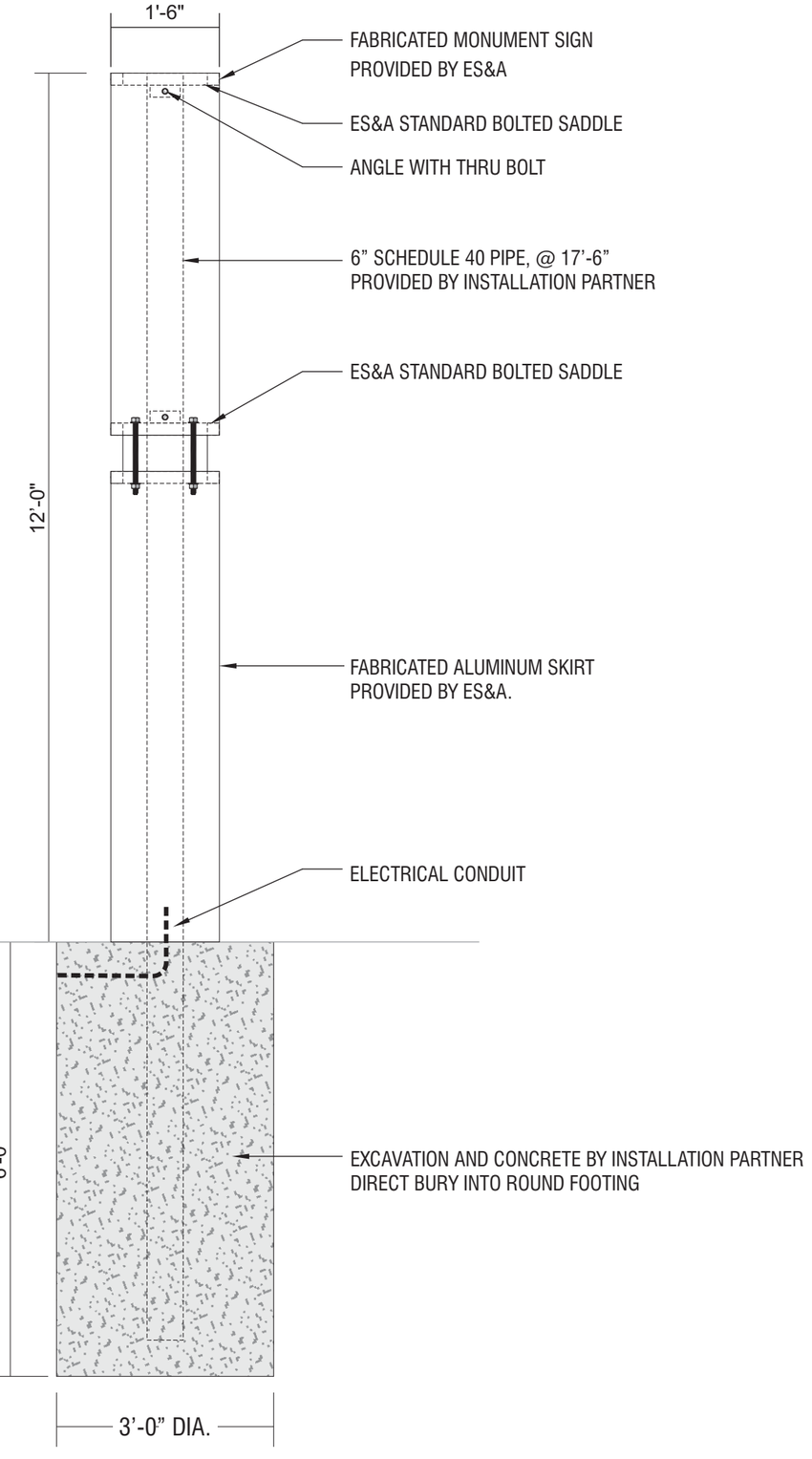
SHOP REVISIONS:

SALES:	CONCEPT. DESIGN:	PROD. DESIGN:	PAGE NO:
NJ	CH	CH	2 of 2

ES&A SIGN & AWNING
89975 PRAIRIE RD. | EUGENE, OR 97402
P 541.485.5546 | F 541.485.5813

ATTACHMENT DETAIL

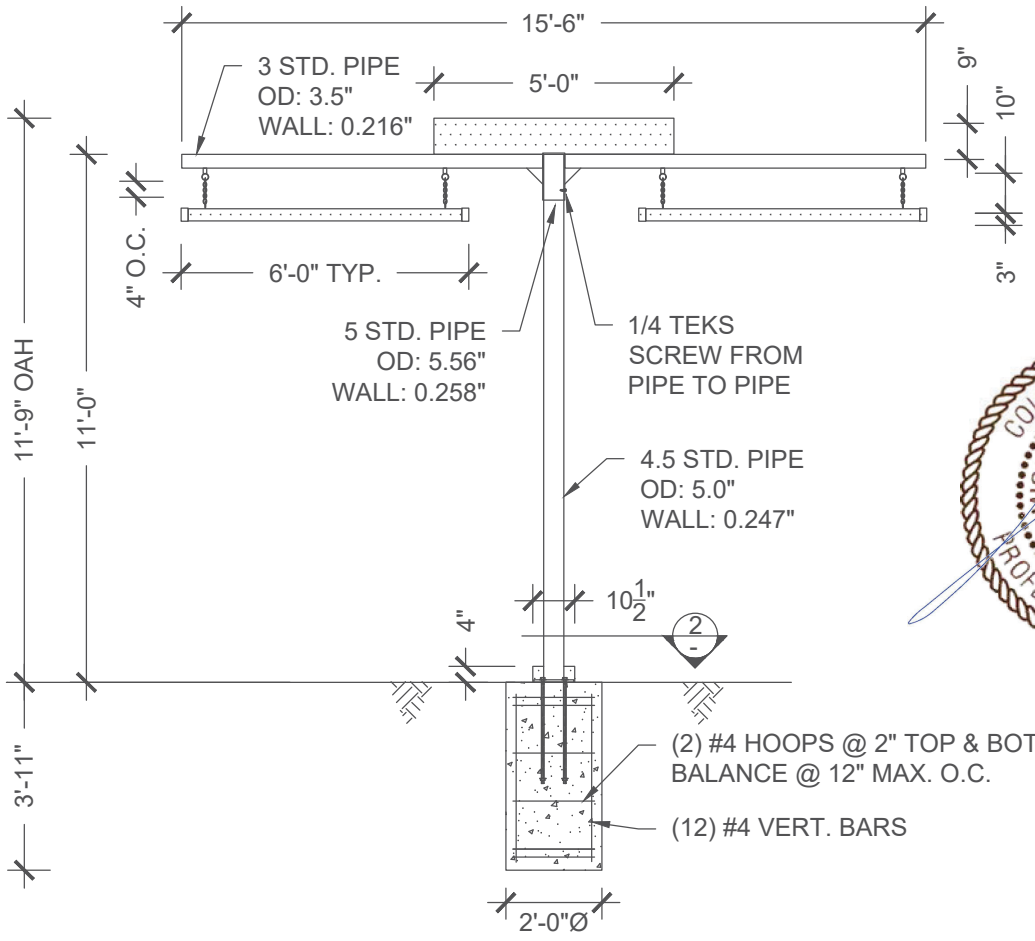
SIDE VIEW
SCALE: 1/2"=1'-0"



SULLAWAY ENGINEERING
10815 RANCHO BERNARDO RD., SUITE 260
SAN DIEGO, CA 92198
PROJECTMANAGER@SULLAWAYENG.COM
PHONE: 1-858-312-5150 FAX: 1-858-777-3534

PROJECT: DUTCH BROS., SIGN TYPE - CLEARANCE BAR, CHIPMAN & WARD LEE'S SUMMIT, MO 64063
PROJECT #: 32261C
CLIENT: ES&A SIGN & AWNING CO.

DATE: 9/29/2021
ENGINEER: AN/RG
LAST REVISED:

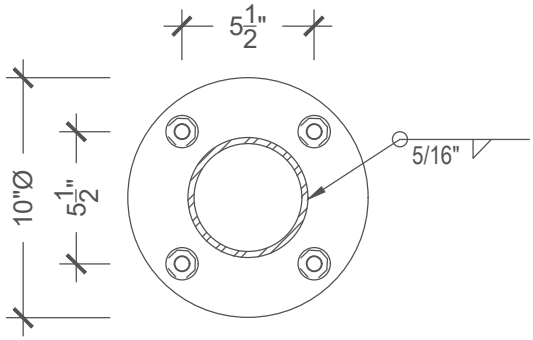


1 - ELEVATION

9/29/2021

GENERAL NOTES

1. DESIGN CODE: IBC 2018
2. DESIGN LOADS: ASCE 7-16
3. WIND VELOCITY 115 MPH EXPOSURE C
4. EQUIVALENT TO IBC 2015, ASCE 7-10, WIND VELOCITY 115 MPH EXP. C
5. CONCRETE 2500 PSI MINIMUM
6. PIPE STEEL ASTM A53 GR. B, F_y = 35 KSI MIN.
7. PLATE STEEL ASTM A36
8. TEKS SCREW PER ESR-1976
9. THREADED ANCHOR ROD STEEL ASTM F1554 GR. 36
10. STEEL REINFORCEMENT IN CONCRETE ASTM A615 GR 60
11. PROVIDE MIN. 3" CLEAR COVER ON ALL STEEL EMBEDDED IN CONCRETE WHEN CAST AGAINST SOIL
12. LATERAL SOIL BEARING PER IBC CLASS 4 (150 PSF/FT)
13. WELDING STRENGTH, Fexx = 70 KSI
14. PROVIDE PROTECTION AGAINST DISSIMILAR METALS
15. ALL DIMENSIONS TO BE VERIFIED PRIOR TO FABRICATION



10"Øx5/8" STEEL PLATE
W/ (4) 5/8" Ø THREADED ANCHOR RODS
MIN EMBED. = 24" INTO CONCRETE
W/NUT/WASHER/NUT @ EMBED. END

2 - BASE PLATE

SULLAWAY ENGINEERING
10815 Rancho Bernardo RD., SD, CA 92127
projectmanager@sullawayeng.com
Phone: 858-312-5150 Fax: 858-777-3534

PROJECT: DUTCH BROS. DATE: 9/29/2021
PROJ. NO.: 32261C ENGINEER: AN/RG
CLIENT: ES&A SIGN & AWNING CO.

V5.5

units; pounds, feet unless noted otherwise

Applied Wind Loads; from ASCE 7-16

$F=q_z*G*C_f*A_f$ with $q_z = 0.00256K_zK_{zt}K_dV^2$ (29.3.2 & 29.4)

C_f= 1.850 (Fig. 29.3-1) 1.00 0 max. height= 11.75

K_{zt}= 1.0 (26.8.2) (=1.0 unless unusual landscape)

K_z= from table 28.3-1 Exposure= c

K_d= 0.85 for signs (table 26.6-1)

V= 115 mph

G= 0.85 (26.9) weight= 0.161 kips

s/h= 0.064 M_{DL}= 0.00 k-ft

B/s= 6.67

Pole Loads	structure component	height at section c.g.	K_z	q_z	pressure q_z*G*C_f	A_f	shear	Wind Moment M_W
	1	0.17	0.850	24.5	38.46	0.29	11	2
	2	4.92	0.850	24.5	38.46	3.82	147	722
	3	10.63	0.850	24.5	38.46	11.95	460	4884
					sums:	16.1	618	5.61

(M_w) k-ft arm= 9.1

P_u= 0.19 kip M= 5.61 k-ft $M=\sqrt{M_{DL}^2+M_w^2}$

$M_u=\sqrt{1.2M_{DL}^2+1.0M_W^2}$ = 5.61 k-ft

Pole Design section; pipe

$M_u \le \phi M_n$ with $M_n = f_yZ$ f_y= 35 ksi ϕ= 0.9

H	M_u(k-ft)	Z req'd. (in)	Size(in)	t (in)	Z	USE
at grade	5.61	2.14	3	0.216	2.2	4.5 STD. PIPE, ϕMn=13.7 k-ft

Footing Design footprint: round

ω= 1.3 IBC 1605.3.2 IBC Table 1806.2, sections 1806.3.4, 1807.3.2 S=(1.3x2x150 psf/ft)

P= 0.48 kip S1 = S x d / 3 A = 2.34 x P / (S1 x b) S= 400

S1= 517 d =0.5xA (1+ (1+4.36x h/A) ^.5) IBC 1807.3.2.1

A= 1.09

footing: **2' - 0" dia.** **3' - 11" deep**

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10815 Rancho Bernardo RD., SD, CA 92127
projectmanager@sullawayeng.com
Phone: 858-312-5150 Fax: 858-777-3534

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PROJ. NO.: 32261C ENGINEER: AN/RG
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V5.5

units; pounds, feet unless noted otherwise

Check Buckling for Round HSS Section

Pole Design-AISC

section; pipe weight= 0.161 kips

F_y= 35 ksi ϕ= 0.9 E= 29,000 ksi

H	M_u(k-ft)		Size(in)	t (in)	Z	S
at grade	5.61	2.14	5	0.230	5	4

r= **1.69**
A= **3.44**
D/t= 21.8 h (L) = 11.00
KL/r= 156.4
K= 2 F_{cr}= 10.44 for KL/r<sqrt(E/f_y)
Fe= 12.1 ksi (E3-4) F_{cr}= 10.62 for KL/r>sqrt(E/f_y)
4.71sqrt(E/f_y)= 137.9 use F_{cr}= 10.62

spec wt= 0.289 kcf
signage wt; 0.161 k
pipe weight 0.066 k
P= 0.226 k
P_r= 0.27 k
AISC Chap. E3

for D/t < 0.07 E/Fy section is compact 0.07 E/F_y= 58
for D/t < 0.31 E/Fy section is non-compact 0.31 E/F_y= 257
Section is **compact**

$P_n=F_{cr}A_g$= 36.6 k $P_c=\phi Pn$= 32.9 k
M_n=(0.021E/(D/t) + F_y)S= 20.9 k (non-compact) (F8-2)
$M_n=F_yZ$= 15.3 k-ft (compact)
$M_n=F_{cr}S$= 3.5 k-ft (slender - slender sections NOT USED)
use M_n= 15.3 k-ft $P_u/\phi P_n$ = 0.00825
$M_c=\phi M_n$= 13.7 k-ft $M_u/\phi M_n$ = 0.40839

P_r/P_c= 0.0083 AISC Chap. H1
$P_r/2P_c$= 0.0041

P_r/P_c + 8/9 * M_r/M_c = 0.371
For P_r/P_c<0.2; $P_r/2P_c$ + M_r/M_c = 0.413
use **0.413**

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Check 3 STD. PIPE (LRFD):

Pnet=	(See Page#2)=	38.46	psf	
Tributary Area=	A_{Trib}=	6.150	ft^2	(From AutoCAD)
Wind Load=	WL=Pnet*A_{Trib}=	0.237	kips	
Dead Load=	DL=1.2*10psf*A_{Trib}=	0.074	kips	
arm=	=	57.25	in	(From AutoCAD)
MWL=	WL*arm=	13.54	k-in	
MDL=	DL*arm=	4.23	k-in	
Total Moment=	Mu = MDL+MWL=	1.48	k-ft	
Moment Capacity=	(Per AISC Manual) ϕMn=	5.75	k-ft	
Check:	Mu/ϕMn=	0.26		**OK**

Torsion on 4.5 STD. PIPE (LRFD): :

Tr=	MWL*2 Clearance bars=	27.086	k-in	(MWL = See Above)

Check 1/4" dia. Teks Screw

WL Shear =	0.237k * 2 pipes =	0.473	kips	(See Above)
Va=	0.6 * WL Shear =	0.284	kips	
tcontact =	=	0.187	in	
tnoncontact =	=	0.187	in	
Vcap =	=	0.990	kips	**OK**

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projectmanager@sullawayeng.com
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Check Pipe4.5SCH40 for torsion and combined forces (AISC 14 H3)

Tr =	27.086	k-in	(See Page#3)	Fy =	35 ksi
				D =	5.00 in^3
Fcr =	147.8933	ksi	(eq'n. H3-2a)	t =	0.230 in^3
or				E =	29000 ksi
Fcr =	171.6667	ksi	(eq'n. H3-2b)	L =	132 in
but not greater than:				C =	7.95 in^3
0.6 Fy =	21	ksi		ϕ =	0.9
ϕTn = ϕ Fcr C =	150	k-in	OK		
$Mu/\phi Mn + (Tr/\phi Tn)^2$ =	0.445	<1	OK	(eq'n. H3-6)	

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units; pounds, feet unless noted otherwise

Check 10 Dia x 0.625" Steel Base Plate, A36 (LRFD):

n = 2 arm = 0.750 in b = 7.00 in t = 0.625 in T= 5149.0 lb

Mplate = T*n*arm = 7.72 k-in (T = From Simpson's Report)

Z= bt^2/4= 0.68 in^3

ϕMn = ϕ*Fy*Z = 0.9*36ksi*Z = 22.15 k-in **OK**

Check Vertical Rebar

2*T per bolt/#bars	2.06 k	(T = See Above)	fy =	60 ksi
# of bars (within embed. length):	5		db =	0.50 in
bar #:	4		Ab =	0.20 in^2
			ϕ =	0.75
Tc = ϕ fy Ab =	8.84 k	**OK**		

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Engineer:		Page:	1/6
Project:			
Address:			
Phone:			
E-mail:			

1.Project information

Customer company:
Customer contact name:
Customer e-mail:
Comment:

Project description:
Location:
Fastening description:

2. Input Data & Anchor Parameters

General
Design method:ACI 318-14
Units: Imperial units

Anchor Information:
Anchor type: Cast-in-place
Material: AB
Diameter (inch): 0.625
Effective Embedment depth, h_{ef} (inch): 24.000
Anchor category: -
Anchor ductility: Yes
h_{min} (inch): 26.13
C_{min} (inch): 3.75
S_{min} (inch): 3.75

Base Material
Concrete: Normal-weight
Concrete thickness, h (inch): 48.00
State: Cracked
Compressive strength, f'_c (psi): 2500
$\Psi_{c,V}$: 1.0
Reinforcement condition: B tension, B shear
Supplemental reinforcement: Not applicable
Reinforcement provided at corners: No
Ignore concrete breakout in tension: Yes
Ignore concrete breakout in shear: No
Ignore 6do requirement: No
Build-up grout pad: No

Base Plate
Diameter x Thickness (inch): 10.00 x 0.63
Yield stress: 36000 psi

Profile type/size: HSS5X0.250

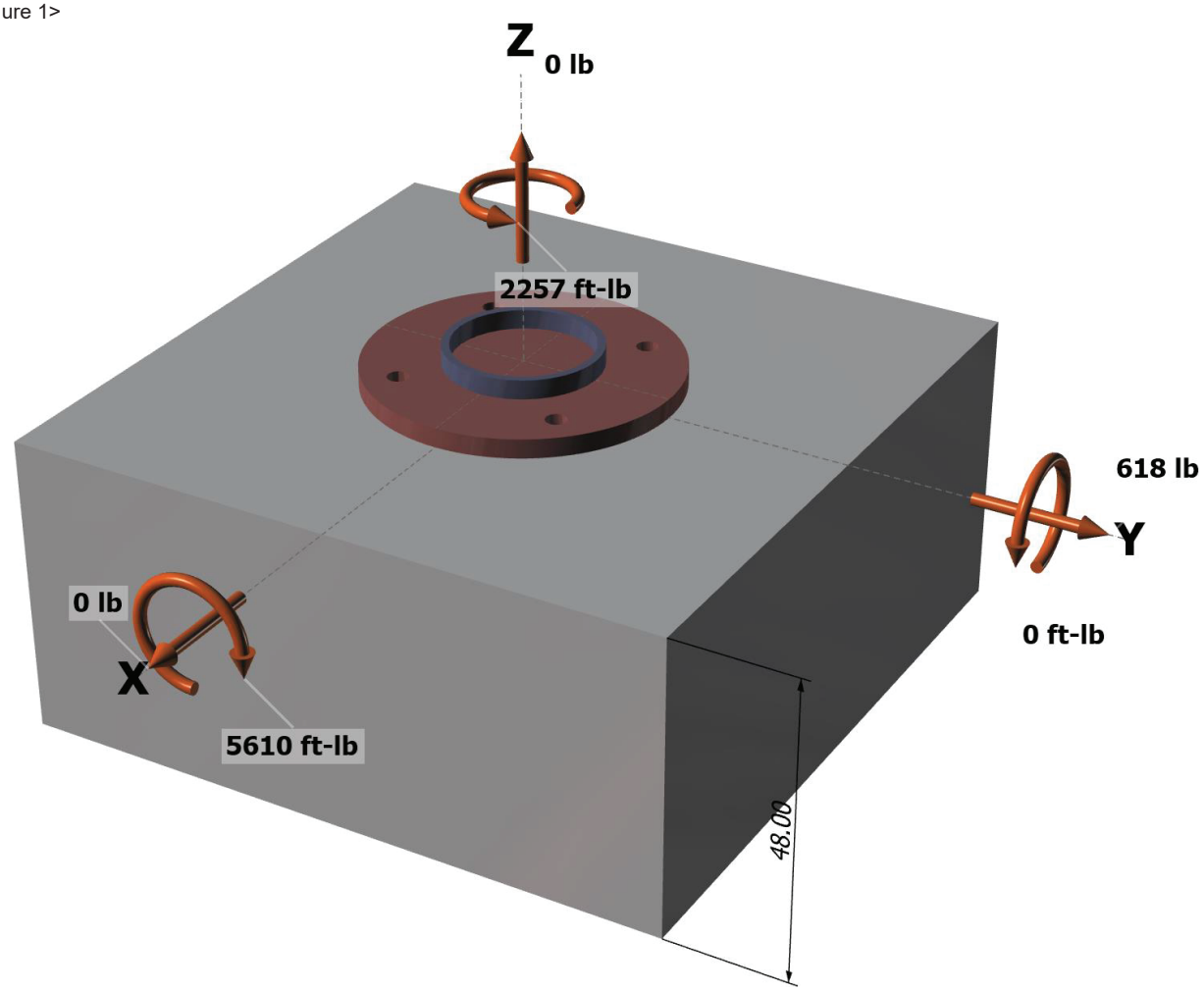
Recommended Anchor
Anchor Name: PAB Pre-Assembled Anchor Bolt - PAB5 (5/8"Ø)

Load and Geometry
Load factor source: ACI 318 Section 5.3
Load combination: not set
Seismic design: No
Anchors subjected to sustained tension: Not applicable
Apply entire shear load at front row: No
Anchors only resisting wind and/or seismic loads: No

Strength level loads:

N_{ua} [lb]: 0
V_{uax} [lb]: 0
V_{uay} [lb]: 618
M_{ux} [ft-lb]: -5610
M_{uy} [ft-lb]: 0
M_{uz} [ft-lb]: 2257

<Figure 1>



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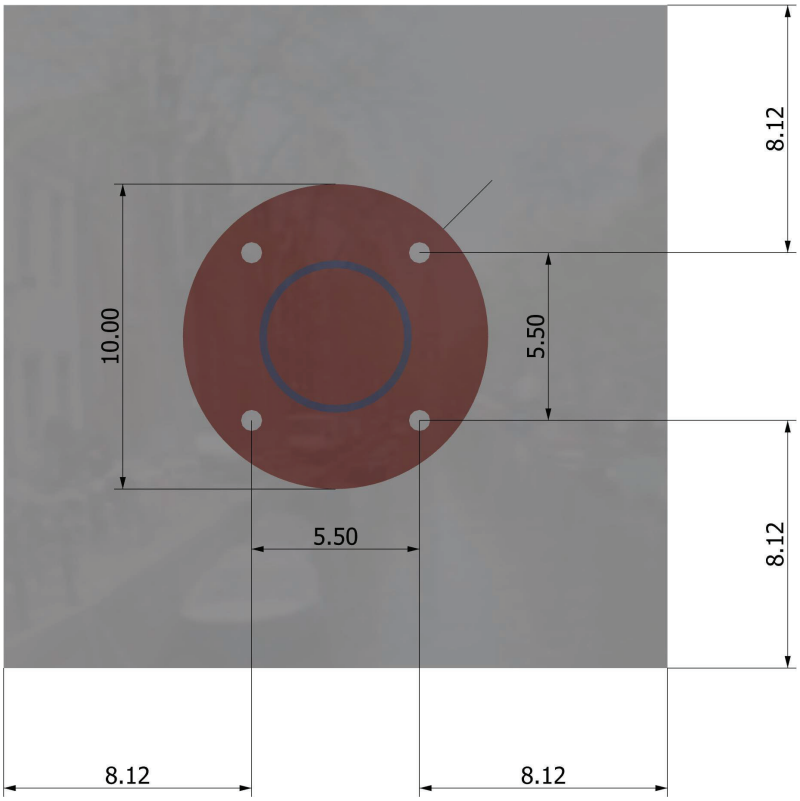
Engineer:		Page:	3/6
Project:			
Address:			
Phone:			
E-mail:			

<Figure 2>



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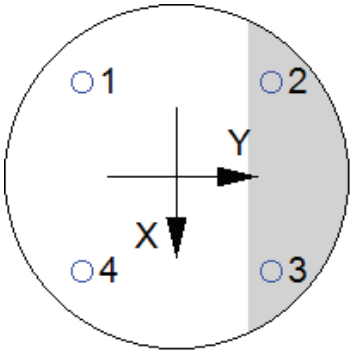
Company:		Date:	3/14/2020
Engineer:		Page:	4/6
Project:			
Address:			
Phone:			
E-mail:			

3. Resulting Anchor Forces

Anchor	Tension load, N_{ua} (lb)	Shear load x, V_{uax} (lb)	Shear load y, V_{uay} (lb)	Shear load combined, $\sqrt{(V_{uax})^2+(V_{uay})^2}$ (lb)
1	5149.2	1231.1	-1076.6	1635.4
2	0.0	-1231.1	-1076.6	1635.4
3	0.0	-1231.1	1385.6	1853.4
4	5149.2	1231.1	1385.6	1853.4
Sum	10298.4	0.0	618.0	6977.6

Maximum concrete compression strain (‰): 0.31
Maximum concrete compression stress (psi): 1331
Resultant tension force (lb): 0
Resultant compression force (lb): 10298
Eccentricity of resultant tension forces in x-axis, e'_{Nx} (inch): 0.00
Eccentricity of resultant tension forces in y-axis, e'_{Ny} (inch): 0.00
Eccentricity of resultant shear forces in x-axis, e'_{Vx} (inch): 0.00
Eccentricity of resultant shear forces in y-axis, e'_{Vy} (inch): 0.00

<Figure 3>



4. Steel Strength of Anchor in Tension (Sec. 17.4.1)

N_{sa} (lb)	ϕ	ϕN_{sa} (lb)
13100	0.75	9825

6. Pullout Strength of Anchor in Tension (Sec. 17.4.3)

$\phi N_{pn} = \phi \Psi_{c,P} N_p = \phi \Psi_{c,P} 8 A_{brg} f'_c$ (Sec. 17.3.1, Eq. 17.4.3.1 & 17.4.3.4)

$\Psi_{c,P}$	A_{brg} (in^2)	f'_c (psi)	ϕ	ϕN_{pn} (lb)
1.0	2.10	2500	0.70	29372

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Company:		Date:	3/14/2020
Engineer:		Page:	5/6
Project:			
Address:			
Phone:			
E-mail:			

7. Side-Face Blowout Strength of Anchor in Tension (Sec. 17.4.4)

$\phi N_{sbg} = \phi\{(1+c_{a2}/c_{a1})/4\}(1+s/6c_{a1})N_{sb} = \phi\{(1+c_{a2}/c_{a1})/4\}(1+s/6c_{a1})(160c_{a1}\sqrt{A_{brg}})\lambda\sqrt{f'_c}$ (Sec. 17.3.1, Eq. 17.4.4.1 & 17.4.4.2)

s (in)	c_{a1} (in)	c_{a2} (in)	A_{brg} (in^2)	λ_a	f'_c (psi)	ϕ	ϕN_{sbg} (lb)
5.50	8.12	8.12	2.10	1.00	2500	0.70	36650

8. Steel Strength of Anchor in Shear (Sec. 17.5.1)

V_{sa} (lb)	ϕ_{grout}	ϕ	$\phi_{grout}\phi V_{sa}$ (lb)
7865	1.0	0.65	5112

9. Concrete Breakout Strength of Anchor in Shear (Sec. 17.5.2)

Shear perpendicular to edge in x-direction:

$V_{bx} = \min|7(l_e/d_a)^{0.2}\sqrt{d_a}\lambda_a\sqrt{f'_c}c_{a1}^{1.5}; 9\lambda_a\sqrt{f'_c}c_{a1}^{1.5}|$ (Eq. 17.5.2.2a & Eq. 17.5.2.2b)

l_e (in)	d_a (in)	λ_a	f'_c (psi)	c_{a1} (in)	V_{bx} (lb)
5.00	0.625	1.00	2500	13.62	21081

$\phi V_{cbgx} = \phi\,(A_{Vc}/A_{Vco})\,\Psi_{ec,V}\Psi_{ed,V}\Psi_{c,V}\Psi_{h,V}V_{bx}$ (Sec. 17.3.1 & Eq. 17.5.2.1b)

A_{Vc} (in^2)	A_{Vco} (in^2)	$\Psi_{ec,V}$	$\Psi_{ed,V}$	$\Psi_{c,V}$	$\Psi_{h,V}$	V_{bx} (lb)	ϕ	ϕV_{cbgx} (lb)
444.15	834.77	1.000	0.819	1.000	1.000	21081	0.70	6432

Shear perpendicular to edge in y-direction:

$V_{by} = \min|7(l_e/d_a)^{0.2}\sqrt{d_a}\lambda_a\sqrt{f'_c}c_{a1}^{1.5}; 9\lambda_a\sqrt{f'_c}c_{a1}^{1.5}|$ (Eq. 17.5.2.2a & Eq. 17.5.2.2b)

l_e (in)	d_a (in)	λ_a	f'_c (psi)	c_{a1} (in)	V_{by} (lb)
5.00	0.625	1.00	2500	13.62	21081

$\phi V_{cbgy} = \phi\,(A_{Vc}/A_{Vco})\,\Psi_{ec,V}\Psi_{ed,V}\Psi_{c,V}\Psi_{h,V}V_{by}$ (Sec. 17.3.1 & Eq. 17.5.2.1b)

A_{Vc} (in^2)	A_{Vco} (in^2)	$\Psi_{ec,V}$	$\Psi_{ed,V}$	$\Psi_{c,V}$	$\Psi_{h,V}$	V_{by} (lb)	ϕ	ϕV_{cbgy} (lb)
444.15	834.77	1.000	0.819	1.000	1.000	21081	0.70	6432

Shear parallel to edge in x-direction:

$V_{by} = \min|7(l_e/d_a)^{0.2}\sqrt{d_a}\lambda_a\sqrt{f'_c}c_{a1}^{1.5}; 9\lambda_a\sqrt{f'_c}c_{a1}^{1.5}|$ (Eq. 17.5.2.2a & Eq. 17.5.2.2b)

l_e (in)	d_a (in)	λ_a	f'_c (psi)	c_{a1} (in)	V_{by} (lb)
5.00	0.625	1.00	2500	8.12	9704

$\phi V_{cbgx} = \phi\,(2)(A_{Vc}/A_{Vco})\,\Psi_{ec,V}\Psi_{ed,V}\Psi_{c,V}\Psi_{h,V}V_{by}$ (Sec. 17.3.1, 17.5.2.1(c) & Eq. 17.5.2.1b)

A_{Vc} (in^2)	A_{Vco} (in^2)	$\Psi_{ec,V}$	$\Psi_{ed,V}$	$\Psi_{c,V}$	$\Psi_{h,V}$	V_{by} (lb)	ϕ	ϕV_{cbgx} (lb)
264.79	296.70	1.000	1.000	1.000	1.000	9704	0.70	12125

Shear parallel to edge in y-direction:

$V_{bx} = \min|7(l_e/d_a)^{0.2}\sqrt{d_a}\lambda_a\sqrt{f'_c}c_{a1}^{1.5}; 9\lambda_a\sqrt{f'_c}c_{a1}^{1.5}|$ (Eq. 17.5.2.2a & Eq. 17.5.2.2b)

l_e (in)	d_a (in)	λ_a	f'_c (psi)	c_{a1} (in)	V_{bx} (lb)
5.00	0.625	1.00	2500	8.12	9704

$\phi V_{cbgy} = \phi\,(2)(A_{Vc}/A_{Vco})\,\Psi_{ec,V}\Psi_{ed,V}\Psi_{c,V}\Psi_{h,V}V_{bx}$ (Sec. 17.3.1, 17.5.2.1(c) & Eq. 17.5.2.1b)

A_{Vc} (in^2)	A_{Vco} (in^2)	$\Psi_{ec,V}$	$\Psi_{ed,V}$	$\Psi_{c,V}$	$\Psi_{h,V}$	V_{bx} (lb)	ϕ	ϕV_{cbgy} (lb)
264.79	296.70	1.000	1.000	1.000	1.000	9704	0.70	12125

10. Concrete Pryout Strength of Anchor in Shear (Sec. 17.5.3)

$\phi V_{cp} = \phi k_{cp}N_{cb} = \phi k_{cp}(A_{Nc}/A_{Nco})\,\Psi_{ed,N}\Psi_{c,N}\Psi_{cp,N}N_b$ (Sec. 17.3.1 & Eq. 17.5.3.1a)

k_{cp}	A_{Nc} (in^2)	A_{Nco} (in^2)	$\Psi_{ed,N}$	$\Psi_{c,N}$	$\Psi_{cp,N}$	N_b (lb)	ϕ	ϕV_{cp} (lb)
2.0	118.16	742.02	0.879	1.000	1.000	31615	0.70	6194

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Company:		Date:	3/14/2020
Engineer:		Page:	6/6
Project:			
Address:			
Phone:			
E-mail:			

11. Results

Interaction of Tensile and Shear Forces (Sec. R17.6)

Tension	Factored Load, N_{ua} (lb)	Design Strength, ϕN_n (lb)	Ratio	Status
Steel	**5149**	**9825**	**0.52**	**Pass (Governs)**
Pullout	5149	29372	0.18	Pass
Side-face blowout	10298	36650	0.28	Pass

Shear	Factored Load, V_{ua} (lb)	Design Strength, ϕV_n (lb)	Ratio	Status
Steel	1853	5112	0.36	Pass
T Concrete breakout x-	2462	6432	0.38	Pass
T Concrete breakout y+	2771	6432	0.43	Pass
|| Concrete breakout y+	2462	12125	0.20	Pass
|| Concrete breakout x+	2771	12125	0.23	Pass
Concrete breakout, combined	**-**	**-**	**0.58**	**Pass (Governs)**
Pryout	1853	6194	0.30	Pass

Interaction check	$(N_{ua}/\phi N_{ua})^{5/3}$	$(V_{ua}/\phi V_{ua})^{5/3}$	Combined Ratio	Permissible	Status
Sec. R17.6	0.34	0.40	74.0%	1.0	Pass

PAB5 (5/8"Ø) with hef = 24.000 inch meets the selected design criteria.

12. Warnings

- Concrete breakout strength in tension has not been evaluated against applied tension load(s) per designer option. Refer to ACI 318 Section 17.3.2.1 for conditions where calculations of the concrete breakout strength may not be required.

- Designer must exercise own judgement to determine if this design is suitable.

SULLAWAY ENGINEERING
10815 RANCHO BERNARDO RD., SUITE 260
SAN DIEGO, CA 92198
PROJECTMANAGER@SULLAWAYENG.COM
PHONE: 1-858-312-5150 FAX: 1-858-777-3534

PROJECT: DUTCH BROS, CHIPMAN & WARD LEE'S SUMMIT, MO 64063
PROJECT #: 32261B
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DATE: 9/29/2021
ENGINEER: SB/RG
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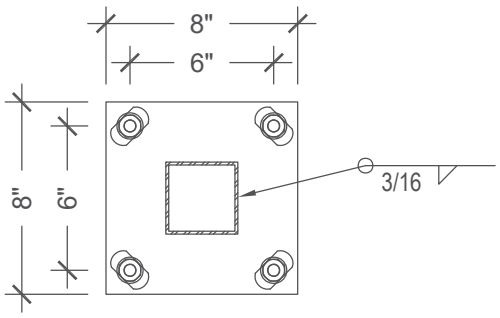
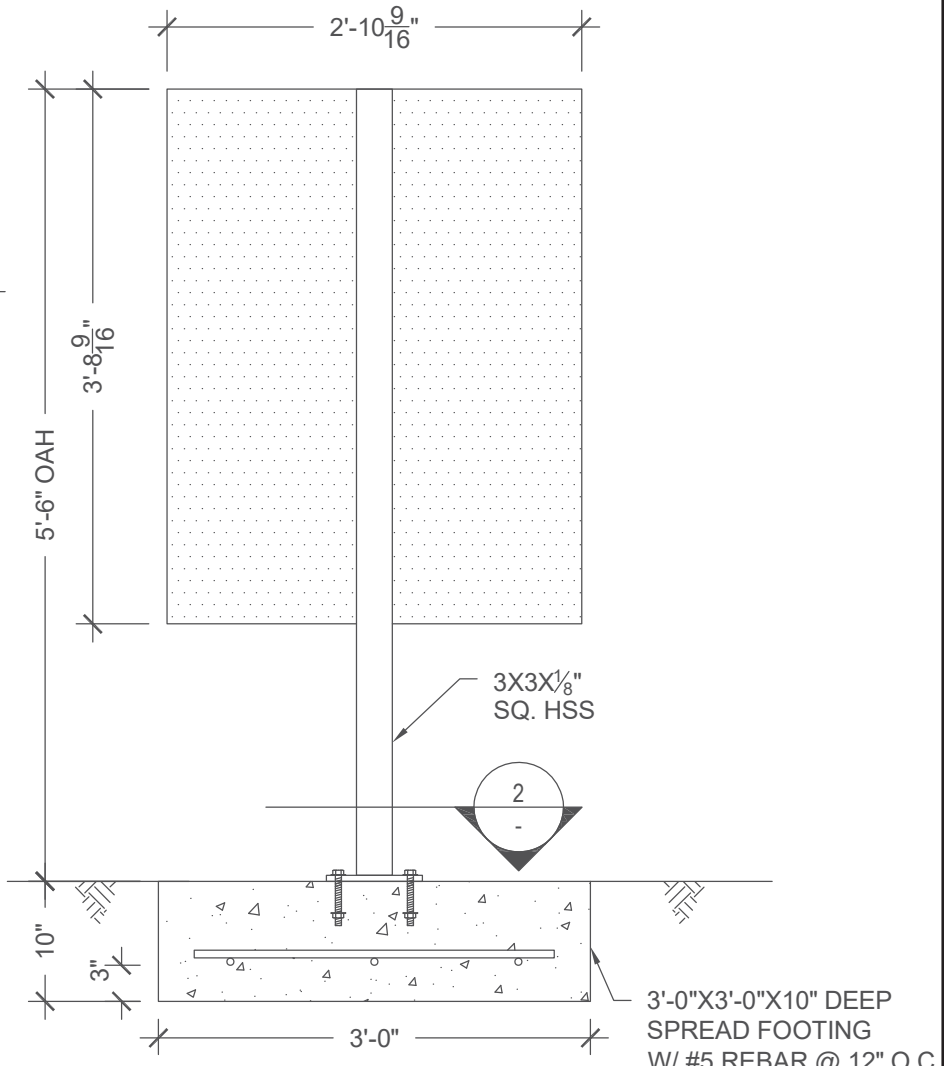


8"x8"x½" STEEL PLATE
W/ (4) ½"Ø THREADED ANCHOR RODS
MIN. EMBED.=4" INTO CONCRETE
W/NUT/WASHER/NUT @ EMBED. END

2 - BASE PLATE



1 - ELEVATION

GENERAL NOTES

1. DESIGN CODE: IBC 2018
2. DESIGN LOADS: ASCE 7-16
3. WIND VELOCITY 115 MPH EXPOSURE C
4. CONCRETE 2500 PSI MINIMUM
5. SQ. HSS STEEL ASTM A500 GR. B, F_y = 46 KSI MIN.
6. PLATE STEEL ASTM A36
7. WELDING STRENGTH, Fexx = 70 KSI
8. THREADED ANCHOR ROD STEEL ASTM F1554 GR. 36
9. STEEL REINFORCEMENT IN CONCRETE ASTM A615 GR 60
10. PROVIDE MIN. 3" CLEAR COVER ON ALL STEEL EMBEDDED IN CONCRETE WHEN CAST AGAINST SOIL
11. VERTICAL SOIL BEARING PER IBC CLASS 4 (2000 PSF)
12. PROVIDE PROTECTION AGAINST DISSIMILAR METALS
13. ALL DIMENSIONS TO BE VERIFIED PRIOR TO FABRICATION

9/29/2021

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10815 Rancho Bernardo RD., SD, CA 92127
projectmanager@sullawayeng.com
Phone: 858-312-5150 Fax: 858-777-3534

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PROJ. NO.: 32261B ENGINEER: SB/RG
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V5.5

units; pounds, feet unless noted otherwise

Applied Wind Loads; from ASCE 7-16

$F=q_z*G*C_f*A_f$ with $q_z = 0.00256K_zK_{zt}K_dV^2$ (29.3.2 & 29.4)

C_f= 1.682 (Fig. 29.3-1) 1.00 0 max. height= 5.500

K_{zt}= 1.0 (26.8.2) (=1.0 unless unusual landscape)

K_z= from table 28.3-1 Exposure= c

K_d= 0.85 for signs (table 26.6-1)

V= 115 mph

G= 0.85 (26.9) weight= 0.111 kips

s/h= 0.675 M_{DL}= 0.00 k-ft

B/s= 0.78

Pole Loads	structure component	height at section c.g	K_z	q_z	pressure q_z*G*C_f	A_f	shear	Wind Moment M_W			
	1	0.89	0.85	24.46	34.97	0.45	16	14			
	2	3.64	0.85	24.46	34.97	10.70	374	1363			
					sums:	11.14	390	1.38	(M_w)	k-ft	arm= 3.5

P_u= 0.13 kip M= 1.38 k-ft $M=\sqrt{M_{DL}^2+M_w^2}$

$M_u=\sqrt{1.2M_{DL}^2+1.0M_W^2}$ = 1.38 k-ft

Pole Design section; tube

$M_u \le \phi M_n$ with $M_n = f$ f_y= 46 ksi ϕ= 0.9

H	M_u(k-ft)	Z req'd. (in)	Size(in)	t (in)	Z	Use
at grade	1.38	0.40	2	0.25	0.96	3x3x1/8 Std. Pipe, ϕMn = 4.82 k-ft

SULLAWAY ENGINEERING
P.O. Box 28789, SD, CA 92198
mikesullaway@gmail.com
Phone: 858-312-5150 Fax: 858-777-3534

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V5.5 units; pounds, feet unless noted otherwise

Longitude Direction

applied shear at grade	v=	**0.244**	kip	unfactored load	0.390 k (factored)
applied moment at grade	m=	**0.86**	kip-ft	unfactored load	1.38 k-ft (factored)
depth of soil above footing	h_s=	**0.00**	ft		
allowable soil bearing	p=	**2.000**	ksf		
Signage Weight	w =	**0.111**	**k**	(See Previous Page)	

Spread Footing Design

moment m= 1.06 k-ft

Footing size (ft) b= **3.00** L= **3.00** h= **0.83** S= 4.5

Footing Weight= 1.1 k See Above ,w= **0.111** k soil 0.00 total= 1.24

Overturning; M_c= 1.85 M_c>1.5M 1.744 **ok**

soil pressure; max= 0.429 ksf **ok**

forces on concrete pad; V= 1.15 k V_r= 1.84 k (=1.6V)

M= 0.86 k-ft M_r= 1.38 k-ft

Check Slab;

ϕ= 0.9 f_y= 60 ksi f_c= 2.5 ksi 150 lbs/ft3

Flexure A_s= **0.150** d= 6.0 in

$\phi M_n=\phi A_s f_y(d-a/2)$= 48 k-in = 4.01 k-ft $M_r<\phi M_n$ **ok**

$a=A_s f_y/0.85 f_c b$= 0.118 in

Check minimum $A_{smin}=3\sqrt{f_c}bd/f_y$ = 0.54 200bd/fy= 0.72 or $1.333A_s$= 0.20 in^2

ACI 10.3.1

Use A_s= 0.20 in^2

short direction $\gamma_s=2/(\beta+1)$ = 0.8 with β= 1.5 short direction; γA_s= 0.16 in^2

Use #5@12" each direction

Shear; $\phi V_n=\phi 2\sqrt{f_c}bd$ ϕV_c= 16.2 ϕ= 0.75 $V_r<\phi V_n$ **ok**

SULLAWAY ENGINEERING
10815 Rancho Bernardo RD., SD, CA 92127
projectmanager@sullawayeng.com
Phone: 858-312-5150 Fax: 858-777-3534

PROJECT: DUTCH BROS.,
PROJ. NO.: 32261B
CLIENT: ES&A SIGN & AWNING CO.

DATE: 9/29/2021
ENGINEER: SB/RG

V5.5

units; pounds, feet unless noted otherwise

Loads on 0.375" dia. Threaded Anchor Rods, F1554 Gr.36:

Mu =	=	1.38	k-ft	(See Page #2)
Vu =	=	0.390	kips	

Check 8x8x0.5" Steel Base Plate, A36: ϕ= 0.9

arm =	1.575	in	t =	0.5	in	f_y =	36 ksi
b =	8	in	n =	2			
Mplate =			T per bolt * n * arm =	4.111	k-in	(Tu=1.305k, From Simpson)	
Z=			bt^2/4 =	0.500	in^3		
ϕMn =			ϕ*Fy*Z =	16.200	k-in		
Ratio check=			Mplate/ϕMn=	0.254	<1	**OK**	

SIMPSON Strong-Tie

Anchor Designer™ Software
Version 2.7.6990.14

Company:		Date:	9/7/2020
Engineer:		Page:	1/6
Project:			
Address:			
Phone:			
E-mail:			

1.Project information

Customer company:
Customer contact name:
Customer e-mail:
Comment:

Project description:
Location:
Fastening description:

2. Input Data & Anchor Parameters

General
Design method:ACI 318-14
Units: Imperial units

Anchor Information:
Anchor type: Cast-in-place
Material: AB
Diameter (inch): 0.500
Effective Embedment depth, h_{ef} (inch): 4.000
Anchor category: -
Anchor ductility: Yes
h_{min} (inch): 5.88
C_{min} (inch): 3.00
S_{min} (inch): 3.00

Base Material
Concrete: Normal-weight
Concrete thickness, h (inch): 12.00
State: Cracked
Compressive strength, f'_c (psi): 2500
$\Psi_{c,V}$: 1.0
Reinforcement condition: B tension, B shear
Supplemental reinforcement: Not applicable
Reinforcement provided at corners: No
Ignore concrete breakout in tension: No
Ignore concrete breakout in shear: No
Ignore 6do requirement: No
Build-up grout pad: No

Base Plate
Length x Width x Thickness (inch): 8.00 x 8.00 x 0.50
Yield stress: 34084 psi

Profile type/size: HSS3X3X1/8

Recommended Anchor
Anchor Name: PAB Pre-Assembled Anchor Bolt - PAB4 (1/2"Ø)

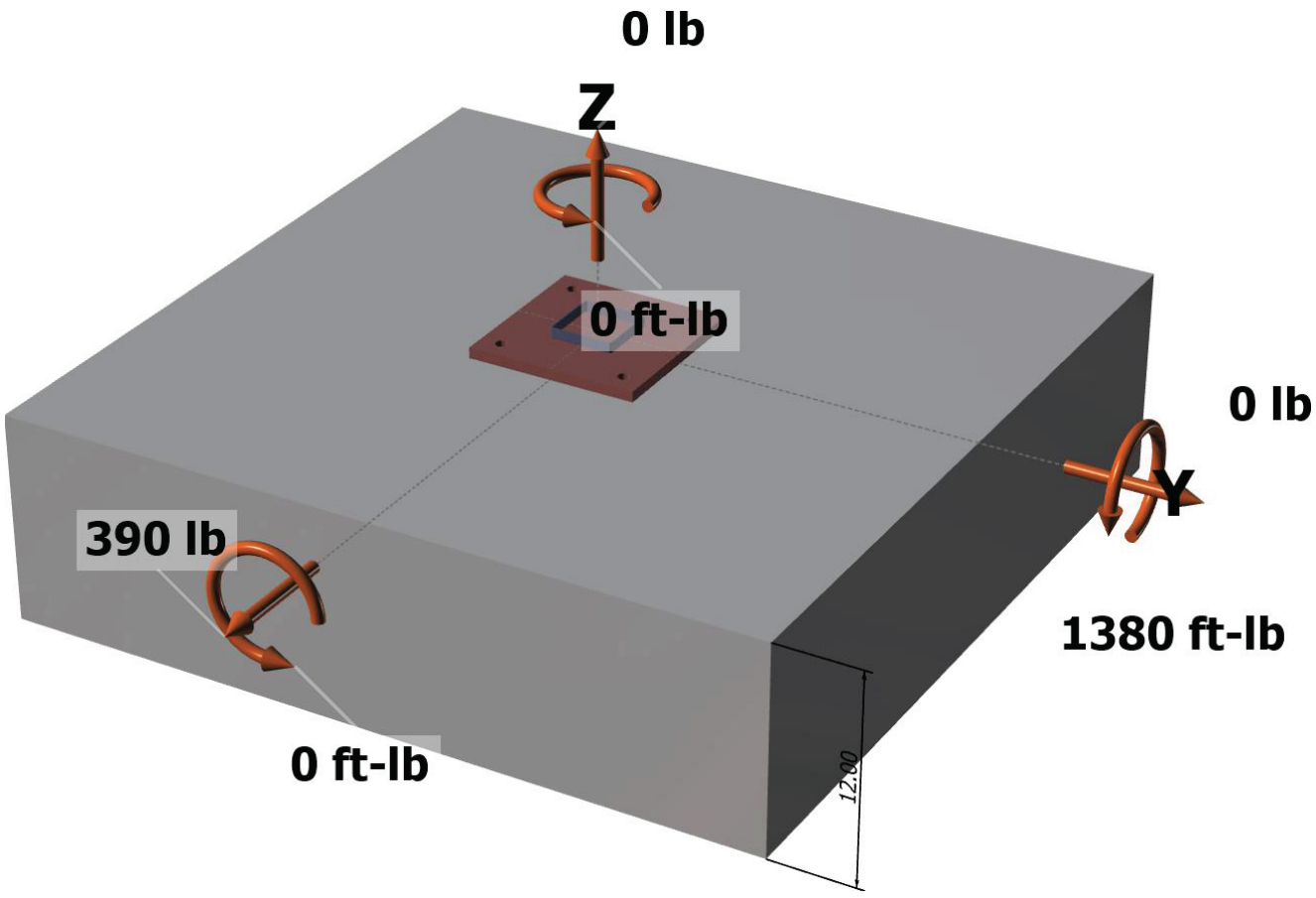
Company:		Date:	9/7/2020
Engineer:		Page:	2/6
Project:			
Address:			
Phone:			
E-mail:			

Load and Geometry
Load factor source: ACI 318 Section 5.3
Load combination: not set
Seismic design: No
Anchors subjected to sustained tension: Not applicable
Apply entire shear load at front row: No
Anchors only resisting wind and/or seismic loads: No

Strength level loads:

N_{ua} [lb]: 0
V_{uax} [lb]: 390
V_{uay} [lb]: 0
M_{ux} [ft-lb]: 0
M_{uy} [ft-lb]: 1380
M_{uz} [ft-lb]: 0

<Figure 1>



Anchor Designer™ Software
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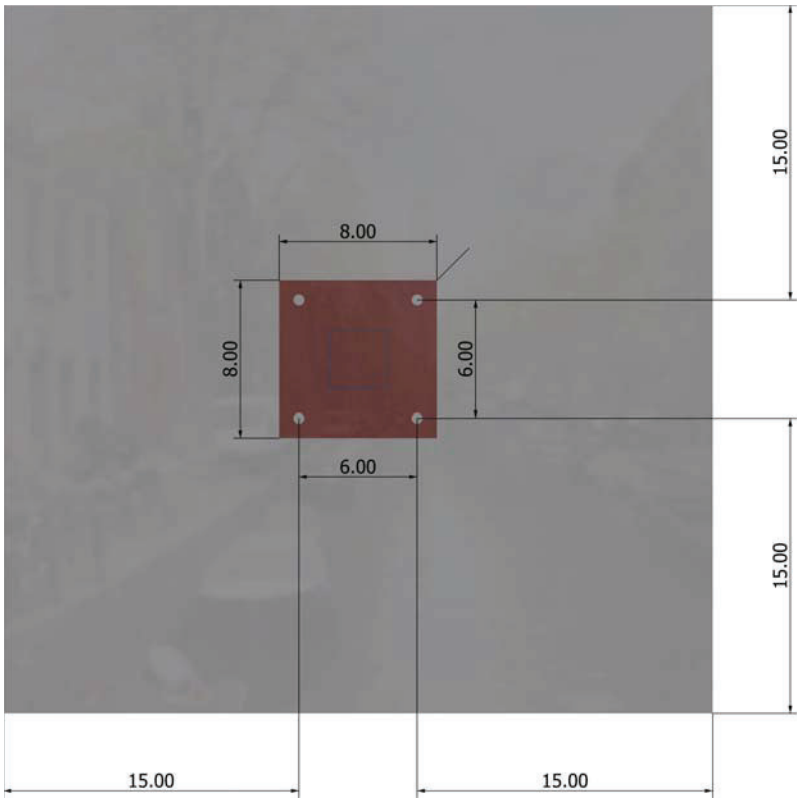
Company:		Date:	9/7/2020
Engineer:		Page:	3/6
Project:			
Address:			
Phone:			
E-mail:			

<Figure 2>



SIMPSON Strong-Tie

Anchor Designer™ Software
Version 2.7.6990.14

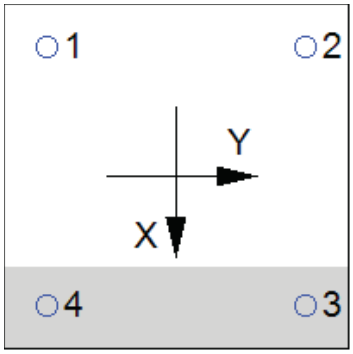
Company:		Date:	9/7/2020
Engineer:		Page:	4/6
Project:			
Address:			
Phone:			
E-mail:			

3. Resulting Anchor Forces

Anchor	Tension load, N_{ua} (lb)	Shear load x, V_{uax} (lb)	Shear load y, V_{uay} (lb)	Shear load combined, $\sqrt{(V_{uax})^2+(V_{uay})^2}$ (lb)
1	1302.0	97.5	0.0	97.5
2	1302.0	97.5	0.0	97.5
3	0.0	97.5	0.0	97.5
4	0.0	97.5	0.0	97.5
Sum	2604.1	390.0	0.0	390.0

Maximum concrete compression strain (‰): 0.08
Maximum concrete compression stress (psi): 340
Resultant tension force (lb): 2604
Resultant compression force (lb): 2604
Eccentricity of resultant tension forces in x-axis, e'_{Nx} (inch): 0.00
Eccentricity of resultant tension forces in y-axis, e'_{Ny} (inch): 0.00
Eccentricity of resultant shear forces in x-axis, e'_{Vx} (inch): 0.00
Eccentricity of resultant shear forces in y-axis, e'_{Vy} (inch): 0.00

<Figure 3>



4. Steel Strength of Anchor in Tension (Sec. 17.4.1)

N_{sa} (lb)	ϕ	ϕN_{sa} (lb)
8235	0.75	6176

5. Concrete Breakout Strength of Anchor in Tension (Sec. 17.4.2)

$N_b = k_c \lambda_a \sqrt{f'_c} h_{ef}^{1.5}$ (Eq. 17.4.2.2a)

k_c	λ_a	f'_c (psi)	h_{ef} (in)	N_b (lb)
24.0	1.00	2500	4.000	9600

$\phi N_{cbg} = \phi \, (A_{Nc} / A_{Nco}) \, \Psi_{ec,N} \, \Psi_{ed,N} \, \Psi_{c,N} \, \Psi_{cp,N} N_b$ (Sec. 17.3.1 & Eq. 17.4.2.1b)

A_{Nc} (in^2)	A_{Nco} (in^2)	$c_{a,min}$ (in)	$\Psi_{ec,N}$	$\Psi_{ed,N}$	$\Psi_{c,N}$	$\Psi_{cp,N}$	N_b (lb)	ϕ	ϕN_{cbg} (lb)
263.25	144.00	15.00	1.000	1.000	1.00	1.000	9600	0.70	12285

6. Pullout Strength of Anchor in Tension (Sec. 17.4.3)

$\phi N_{pn} = \phi \Psi_{c,P} N_p = \phi \Psi_{c,P} 8 A_{brg} f'_c$ (Sec. 17.3.1, Eq. 17.4.3.1 & 17.4.3.4)

$\Psi_{c,P}$	A_{brg} (in^2)	f'_c (psi)	ϕ	ϕN_{pn} (lb)
1.0	1.57	2500	0.70	21994

8. Steel Strength of Anchor in Shear (Sec. 17.5.1)

V_{sa} (lb)	ϕ_{grout}	ϕ	$\phi_{grout}\phi V_{sa}$ (lb)
4940	1.0	0.65	3211

9. Concrete Breakout Strength of Anchor in Shear (Sec. 17.5.2)

Shear perpendicular to edge in x-direction:

$V_{bx} = \min|7(l_e / d_a)^{0.2}\sqrt{d_a}\lambda_a\sqrt{f'_c}c_{a1}^{1.5};\ 9\lambda_a\sqrt{f'_c}c_{a1}^{1.5}|$ (Eq. 17.5.2.2a & Eq. 17.5.2.2b)

l_e (in)	d_a (in)	λ_a	f'_c (psi)	c_{a1} (in)	V_{bx} (lb)
4.00	0.500	1.00	2500	10.00	11862

$\phi V_{cbgx} = \phi\,(A_{Vc} / A_{Vco})\,\Psi_{ec,V}\Psi_{ed,V}\Psi_{c,V}\Psi_{h,V}V_{bx}$ (Sec. 17.3.1 & Eq. 17.5.2.1b)

A_{Vc} (in^2)	A_{Vco} (in^2)	$\Psi_{ec,V}$	$\Psi_{ed,V}$	$\Psi_{c,V}$	$\Psi_{h,V}$	V_{bx} (lb)	ϕ	ϕV_{cbgx} (lb)
432.00	450.00	1.000	1.000	1.000	1.118	11862	0.70	8912

Shear parallel to edge in x-direction:

$V_{by} = \min|7(l_e / d_a)^{0.2}\sqrt{d_a}\lambda_a\sqrt{f'_c}c_{a1}^{1.5};\ 9\lambda_a\sqrt{f'_c}c_{a1}^{1.5}|$ (Eq. 17.5.2.2a & Eq. 17.5.2.2b)

l_e (in)	d_a (in)	λ_a	f'_c (psi)	c_{a1} (in)	V_{by} (lb)
4.00	0.500	1.00	2500	10.00	11862

$\phi V_{cbgx} = \phi\ (2)(A_{Vc} / A_{Vco})\,\Psi_{ec,V}\Psi_{ed,V}\Psi_{c,V}\Psi_{h,V}V_{by}$ (Sec. 17.3.1, 17.5.2.1(c) & Eq. 17.5.2.1b)

A_{Vc} (in^2)	A_{Vco} (in^2)	$\Psi_{ec,V}$	$\Psi_{ed,V}$	$\Psi_{c,V}$	$\Psi_{h,V}$	V_{by} (lb)	ϕ	ϕV_{cbgx} (lb)
432.00	450.00	1.000	1.000	1.000	1.118	11862	0.70	17825

10. Concrete Pryout Strength of Anchor in Shear (Sec. 17.5.3)

$\phi V_{cpg} = \phi k_{cp}N_{cbg} = \phi k_{cp}(A_{Nc} / A_{Nco})\,\Psi_{ec,N}\Psi_{ed,N}\Psi_{c,N}\Psi_{cp,N}N_b$ (Sec. 17.3.1 & Eq. 17.5.3.1b)

k_{cp}	A_{Nc} (in^2)	A_{Nco} (in^2)	$\Psi_{ec,N}$	$\Psi_{ed,N}$	$\Psi_{c,N}$	$\Psi_{cp,N}$	N_b (lb)	ϕ	ϕV_{cpg} (lb)
2.0	380.25	144.00	1.000	1.000	1.000	1.000	9600	0.70	35490

11. Results

Interaction of Tensile and Shear Forces (Sec. 17.6.)

Tension	Factored Load, N_{ua} (lb)	Design Strength, øN_n (lb)	Ratio	Status
Steel	1302	6176	0.21	Pass
Concrete breakout	**2604**	**12285**	**0.21**	**Pass (Governs)**
Pullout	1302	21994	0.06	Pass

Shear	Factored Load, V_{ua} (lb)	Design Strength, øV_n (lb)	Ratio	Status
Steel	98	3211	0.03	Pass
T Concrete breakout x+	**390**	**8912**	**0.04**	**Pass (Governs)**
|| Concrete breakout y-	**195**	**17825**	**0.01**	**Pass (Governs)**
Pryout	390	35490	0.01	Pass

Interaction check	$N_{ua}/\phi N_n$	$V_{ua}/\phi V_n$	Combined Ratio	Permissible	Status
Sec. 17.6..1	0.21	0.00	21.2%	1.0	Pass

PAB4 (1/2"Ø) with hef = 4.000 inch meets the selected design criteria.

Company:		Date:	9/7/2020
Engineer:		Page:	6/6
Project:			
Address:			
Phone:			
E-mail:			

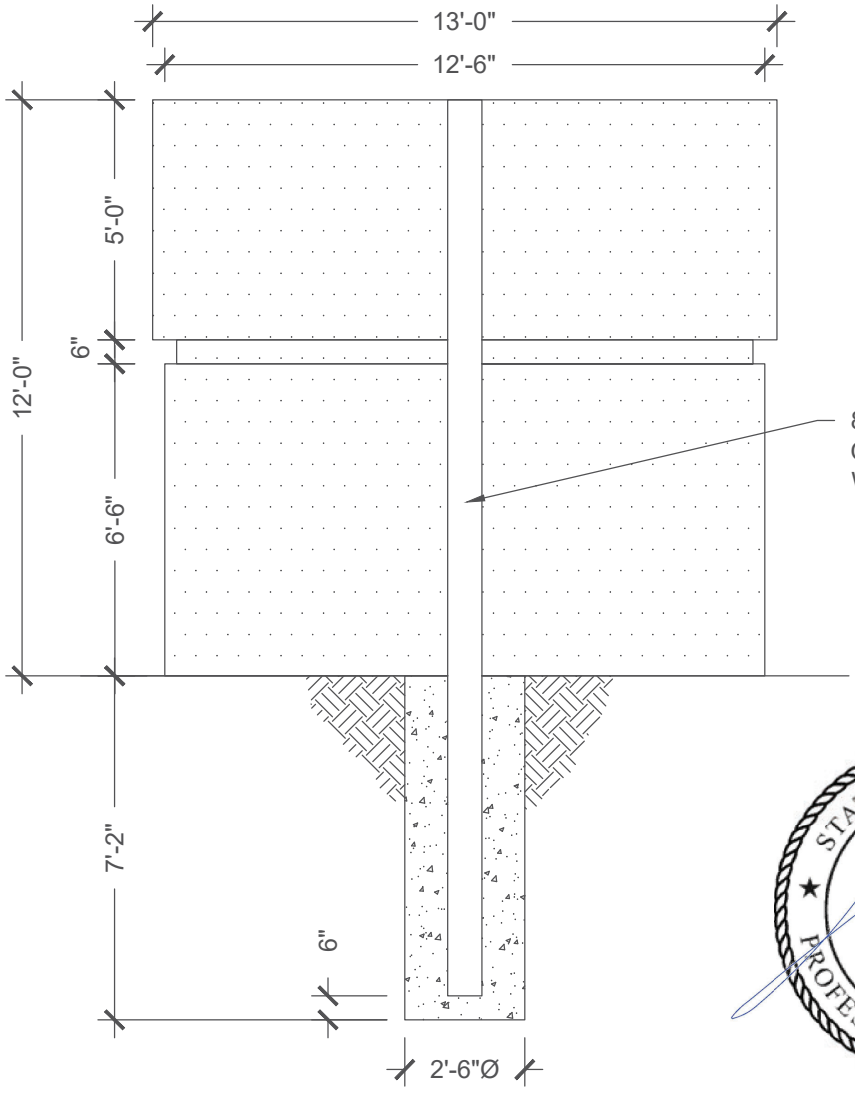
12. Warnings

- Designer must exercise own judgement to determine if this design is suitable.

SULLAWAY ENGINEERING
10815 RANCHO BERNARDO RD., SUITE 260
SAN DIEGO, CA 92198
PROJECTMANAGER@SULLAWAYENG.COM
PHONE: 1-858-312-5150 FAX: 1-858-777-3534

PROJECT: DUTCH BROS CHIPMAN & WARD LEE'S SUMMIT, MO 64063
PROJECT #: 32261A
CLIENT: ES&A SIGN & AWNING CO.

DATE: 9/29/2021
ENGINEER: RG
LAST REVISED:



1 - FRONT ELEVATION

9/29/2021

GENERAL NOTES

1. DESIGN CODE: IBC 2018
2. DESIGN LOADS: ASCE 7-16
3. WIND VELOCITY 110 MPH EXPOSURE C
4. CONCRETE 2500 PSI MINIMUM
5. PIPE STEEL ASTM A53 GR. B, F_y = 35 KSI MIN.
6. LATERAL SOIL BEARING PER IBC CLASS 4 (150 PSF/FT)
7. ALL EXISTING ELEMENTS AND DIMENSIONS TO BE VERIFIED IN THE FIELD

SULLAWAY ENGINEERING
10815 Rancho Bernardo RD., SD, CA 92127
projectmanager@sullawayeng.com
Phone: 858-312-5150 Fax: 858-777-3534

PROJECT: DUTCH BROS DATE: 9/29/21
PROJ. NO.: 32261 ENGINEER: RG
CLIENT: ES&A SIGN & AWNING CO.

V5.5 units; pounds, feet unless noted otherwise

Applied Wind Loads; from ASCE 7-16

$F=q_z*G*C_f*A_f$ with $q_z = 0.00256K_zK_{zt}K_dV^2$ (29.3.2 & 29.4)

C_f= 1.683 (Fig. 29.3-1) 1.00 0 max. height= 12.00
K_{zt}= 1.0 (26.8.2) (=1.0 unless unusual landscape) s= 6.50
K_z= from table 28.3-1 Exposure= c
K_d= 0.85 for signs (table 26.6-1)
V= 110 mph
G= 0.85 (26.9) weight= 1.523 kips
s/h= 0.542 M_{DL}= 0.00 k-ft
B/s= 1.92

Pole Loads	structure component	height at section c.g.	K_z	q_z	pressure q_z*G*C_f	A_f	shear	Wind Moment M_W			
	1	3.3	0.850	22.4	32.02	81.3	2601	8454			
	2	6.75	0.850	22.4	32.02	6.0	192	1297			
	3	9.5	0.850	22.4	32.02	65.0	2081	19770			
					sums:	152.3	4874	29.52	(M_w)	k-ft	arm= 6.1

P_u= 1.83 kip M= 29.52 k-ft $M=\sqrt{M_{DL}^2+M_w^2}$

$M_u=\sqrt{1.2M_{DL}^2+1.0M_W^2}$ = 29.52 k-ft

Pole Design section; pipe

$M_u \le \phi M_n$ with $M_n = f_yZ$ f_y= 35 ksi ϕ= 0.9

H	M_u(k-ft)	Z req'd. (in)	Size(in)	t (in)	Z	USE
at grade	29.5	11.25	8	0.322	20.8	8 STD PIPE, ΦMn= 54.6 k-ft

Footing Design footprint: round

ω= 1.3 IBC 1605.3.2 IBC Table 1806.2, sections 1806.3.4, 1807.3.2 S=(1.3x2x)
P= 3.80 kip S1 = S x d / 3 A = 2.34 x P / (S1 x b) S= 400
S1= 955 d =0.5xA (1+ (1+4.36x h/A) ^.5) IBC 1807.3.2.1
A= 3.73

footing: **2' - 6" dia.** **7' - 2" deep**