CONSTRUCTION DOCUMENTS
FOR
McDONALD'S RESTAURANT
McDONALD'S SECOND ADDITION
LOT 1

SECTION 26, TOWNSHIP 8 SOUTH, RANGE 22 EAST
713 METROPOLITAN AVENUE
LEAVENWORTH, LEAVENWORTH COUNTY, KANSAS

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NOT TO SCALE

LEGAL DESCRIPTION

LOT 1, McDONALD'S SECOND ADDITION, A SUBDIVISION IN LEAVENWORTH, LEAVENWORTH COUNTY, KANSAS

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	04.10.26	ISSUED FOR PERMIT REVIEW	AJK

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PREPARED FOR:
McDonald's USA, LLC

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DRAWN BY	REVIEWED BY	DATE ISSUED
AJK	MAP	04.10.26
STD ISSUE DATE		

TITLE: TITLE SHEET

DESCRIPTION: McDONALD'S RESTAURANT
LEAVENWORTH, KANSAS

SITE ID: 015-0404

SITE ADDRESS: 713 METROPOLITAN AVENUE, LEAVENWORTH, KANSAS

015-0404.00.0

SHEET NO.
C100

GENERAL NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT THE PLANS IN THEIR POSSESSION ARE THE MOST CURRENT VERSION ISSUED, ARE FULLY COORDINATED WITH ALL SUBCONTRACTORS, AND PRESENT ON SITE AT ALL TIMES. CURRENT PLANS PREPARED BY OLSSON MAY BE OBTAINED AT THE DIRECTION OF OLSSON'S CLIENT. DIRECT REQUESTS TO OLSSON MAY REQUIRE ADDITIONAL AUTHORIZATIONS, AGREEMENTS, AND/OR FEES. PLEASE CONTACT THE ENGINEER FOR INFORMATION.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DEVIATIONS FROM THESE PLANS UNLESS WRITTEN APPROVAL FROM ENGINEER, OWNER, AND DEVELOPER.

3. ALL WORK AND MATERIALS SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE OWNER OR THE OWNER'S REPRESENTATIVE.

4. ALL ESTIMATES OF QUANTITIES ARE FOR INFORMATIONAL PURPOSES ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING QUANTITIES AND ITEMS OF WORK.

5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL LABOR, MATERIALS, AND EQUIPMENT REQUIRED TO COMPLETE THE WORK SHOWN IN THE PLANS.

6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS, PAYING ALL FEES, AND FOR OTHERWISE COMPLYING WITH ALL APPLICABLE REGULATIONS GOVERNING THE WORK.

7. THE CONTRACTOR SHALL NOT ENGAGE IN ACTIVITIES THAT MAY ENCROACH ON WATERS OF THE U.S., INCLUDING WETLANDS, UNTIL ANY NECESSARY PERMITS MAY BE OBTAINED. THE CONTRACTOR SHALL REVIEW AND COMPLY WITH ALL CONDITIONS DESCRIBED IN THE PERMIT.

8. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, THE SAFETY OF ALL PERSONS INCLUDING VISITORS AND THE GENERAL PUBLIC, AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY THROUGHOUT THE PROJECT AND NOT BE LIMITED BY WORKING HOURS. ANY CONSTRUCTION OBSERVATION BY THE ENGINEER OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES.

9. PRIOR TO COMMENCEMENT OF WORK THE CONTRACTOR SHALL NOTIFY AND COORDINATE WITH ALL UTILITY COMPANIES AND OBTAIN ANY RELEVANT INFORMATION. NOTIFY ENGINEER OF ANY DISCREPANCIES.

10. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL BOUNDARY CORNERS AND SECTION CORNERS. ANY BOUNDARY CORNER AND/OR SECTION CORNER DISTURBED OR DAMAGED BY CONSTRUCTION ACTIVITIES SHALL BE RESET BY A LAND SURVEYOR LICENSED IN THE STATE OF MO, AT THE CONTRACTOR'S EXPENSE.

11. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ADJACENT PROPERTIES AND SHALL TAKE ALL PRECAUTIONS NECESSARY TO PREVENT DAMAGE DURING CONSTRUCTION. THE CONTRACTOR IS ALSO RESPONSIBLE FOR REPAIRING ANY DAMAGE RESULTING FROM CONSTRUCTION ACTIVITIES.

12. PRIOR TO MOVING OFF THE JOB THE CONTRACTOR SHALL NOTIFY THE OWNER AND ENGINEER TO PERFORM A FINAL WALK-THROUGH OF THE CONSTRUCTION SITE.ACTUAL SITE SIGNAGE LOCATIONS TO BE COORDINATED WITH CONSTRUCTION MANAGER PER ARCHITECTURAL PLANS.

13. THE CONTRACTOR SHALL PROVIDE AN "AS-BUILT" PLAN WITH ALL MODIFICATIONS/CHANGES NOTED/SHOWN ON THE FINAL DRAWING SET.

14. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE DELIVERY MANAGER AND COORDINATING ANY MAILBOXES THAT MAY BE DISTURBED. FAILURE TO DO SO MAY SUBJECT THE CONTRACTOR TO PROSECUTION BY THE FEDERAL GOVERNMENT.

REFERENCES

1. ARCHITECTURAL AND STRUCTURAL ELEMENTS SHOWN IN THESE PLANS ARE FOR REFERENCE ONLY. CONTRACTORS AND SURVEYORS SHALL REFERENCE THEIR RESPECTIVE PLANS FOR DESIGN INFORMATION.

2. THE CONTRACTOR SHALL ADHERE TO THE SITE PREPARATION AND STRUCTURAL FILL RECOMMENDATIONS IN THE GEOTECHNICAL REPORT AS PROVIDED BY THE GEOTECHNICAL ENGINEER INCLUDING ALL CURRENT ADDENDUMS. THE STANDARDS AND SPECIFICATIONS OF LEAVENWORTH, KANSAS SHALL ALSO APPLY AND TAKE PRECEDENCE WHEN STRICTER THAN THE GEOTECHNICAL REPORT OR WHEN NO GEOTECHNICAL REPORT IS GIVEN.

3. UNLESS EXPLICITLY DESCRIBED OTHERWISE WITHIN THESE PLANS THE FOLLOWING SHALL APPLY;
   A. ALL CONSTRUCTION, INCLUDING THOSE LISTED BELOW, SHALL CONFORM TO THE LATEST CODES AND ORDINANCES OF LEAVENWORTH, KANSAS.
   B. ALL TRAFFIC CONTROL SIGNAGE SHALL CONFORM WITH THE CURRENT EDITION OF THE MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
   C. ALL UTILITY EXTENSIONS AND CONSTRUCTION SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE UTILITY COMPANIES..
   D. ALL EXTERIOR PAVEMENT (PCC, ASPHALT, ETC.) SHALL BE IN CONFORMANCE WITH THE SPECIFICATIONS OF LEAVENWORTH, KANSAS AND THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT BY OLSSON, DATED NOVEMBER 10, 2025.

SHOP DRAWINGS

1. THE CONTRACTOR SHALL SUBMIT SHOP DRAWING A MINIMUM OF 7 DAYS PRIOR TO THE REQUESTED DATE OF APPROVAL. ENGINEER SHALL REVIEW SHOP DRAWINGS OR SAMPLES CONFORMANCE WITH THE DESIGN FOR THIS PROJECT AS DESCRIBED IN THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ERRORS OR OMISSIONS IN SHOP DRAWINGS. THE ENGINEER'S REVIEW SHALL NOT EXTEND TO MEANS OR METHODS OF CONSTRUCTION . CONTRACTOR SHALL BE RESPONSIBLE FOR ANY VARIATION FROM THE REQUIREMENTS OF THE CONTRACT DOCUMENTS UNLESS CONTRACTOR HAS NOTIFIED ENGINEER OF EACH SUCH VARIATION AT THE TIME OF SUBMISSION, AND OBTAINED ENGINEER'S WRITTEN APPROVAL OF EACH SUCH VARIATION. PRIOR TO SUBMITTING EACH SHOP DRAWING OR SAMPLE, CONTRACTOR SHALL HAVE REVIEWED AND VERIFIED:
   A. ALL FIELD MEASUREMENTS, QUANTITIES, DIMENSIONS, SPECIFIED PERFORMANCE CRITERIA, INSTALLATION REQUIREMENTS, MATERIALS, CATALOG NUMBERS AND SIMILAR INFORMATION WITH RESPECT THERETO;
   B. ALL MATERIALS WITH RESPECT TO INTENDED USE, FABRICATION, SHIPPING, HANDLING, STORAGE, ASSEMBLY AND INSTALLATION PERTAINING TO THE PERFORMANCE OF THE WORK;
   C. ALL INFORMATION RELATIVE TO MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES OF CONSTRUCTION AND SAFETY PRECAUTIONS AND PROGRAMS INCIDENT THERETO;
   D. CONTRACTOR SHALL ALSO HAVE REVIEWED AND COORDINATED EACH SHOP DRAWING OR SAMPLE WITH OTHER SHOP DRAWINGS AND SAMPLES, AND WITH THE REQUIREMENTS OF THE WORK AND THE CONTRACT DOCUMENTS.
   E. ALL SUBMITTED SHOP DRAWINGS SHALL BEAR A STAMP OR SPECIFIC WRITTEN INDICATION AND SIGNATURE THAT CONTRACTOR HAS FULLY COMPLETED THE ABOVE TASKS.

2. SHOP DRAWINGS AS DESCRIBED ABOVE ARE REQUIRED FOR, BUT NOT LIMITED TO, THE FOLLOWING:
   A. ALL STORM SEWER STRUCTURES TO BE INSTALLED WITH THIS PROJECT.
   B. ALL SANITARY SEWER STRUCTURES TO BE INSTALLED WITH THIS PROJECT.
   C. ALL SITE FENCING AND RAILING INCLUDING ANY GATES.
   D. ALL LANDSCAPE AND RETAINING WALLS.
   E. ANY ITEMS IN THESE PLANS THAT ALLOW FOR AN "APPROVED EQUAL" ALTERNATIVE.

CONSTRUCTION

1. THE CONTRACTOR SHALL INSTALL TRAFFIC CONTROL WHILE WORKING IN THE PUBLIC RIGHT-OF-WAY AS SHOWN IN THESE PLANS. IF PLANS ARE NOT PROVIDED, CONTRACTOR SHALL COORDINATE AND PROVIDE CONTROLS TO THE SATISFACTION OF THE RIGHT-OF-WAY OWNER.

2. THE CONTRACTOR SHALL PROTECT ALL TREES OVER 3" CALIPER FROM DAMAGE. NO TREE SHALL BE REMOVED WITHOUT PERMISSION OF THE OWNER, UNLESS SHOWN OTHERWISE ON THESE PLANS.

3. IN ADDITION TO THE CONDITIONS OF THE GEOTECHNICAL REPORT AND AS A MINIMUM THE CONTRACTOR SHALL PERFORM THE GRADING AS FOLLOWS:
   A. THE CONSTRUCTION AREA SHALL BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL AND ORGANIC MATTER FROM ALL AREAS TO BE OCCUPIED BY BUILDING AND PAVING. STRIPPING EXISTING TOPSOIL AND ORGANIC MATTER SHALL BE TO A MINIMUM DEPTH OF 6 INCHES. TOPSOIL FOR REPLACEMENT ON SLOPES MAY BE STOCKPILED ON SITE IN AREAS DESIGNATED BY THE OWNER. CONTRACTOR SHALL REMOVE EXCESS STRIPPINGS AND EXCESS EXCAVATION WITHIN 30 DAYS OF COMPLETION OF GRADING OPERATIONS.
   B. AREAS TO RECEIVE FILL AND AREAS CUT TO SUBGRADE LEVEL SHALL BE SCARIFIED AND THE TOP 9-INCH DEPTH COMPACTED TO 95% STANDARD PROCTOR DENSITY. THE SUBGRADE SHALL BE PROOF ROLLED WITH A MODERATELY HEAVY LOADED DUMP TRUCK OR SIMILAR APPROVED CONSTRUCTION EQUIPMENT TO DETECT UNSUITABLE SOIL CONDITIONS. ANY UNSUITABLE AREAS SHALL BE UNDERCUT AND REPLACED WITH SUITABLE MATERIAL BEFORE ANY FILL MATERIAL CAN BE APPLIED.
   C. FILL SHALL BE PLACED IN MAXIMUM OF 9 INCH LIFTS.
   D. TOPSOIL SHALL BE PLACED TO A MINIMUM DEPTH OF 6 INCHES OVER ALL AREAS DISTURBED BY THE WORK. LARGE STONES, STICKS AND LUMPS SHALL BE REMOVED OR BROKEN UP, AND THE TOPSOIL SHALL BE LEVELED AND RAKED. ALL DISTURBED AREAS SHALL BE LANDSCAPED PER LANDSCAPE PLANS OR SHALL BE SEEDED, FERTILIZED, MULCHED, WATERED AND MAINTAINED UNTIL HARDY GRASS GROWTH IS ESTABLISHED.
   E. CONTRACTOR SHALL PROVIDE COMPACTION TEST RESULTS AS REQUIRED.

4. THE CONTRACTOR SHALL DISPOSE ALL WASTE MATERIAL RESULTING FROM THE PROJECT OFF-SITE AND IN STRICT CONFORMANCE WITH ALL LOCAL CODES AND ORDINANCES.

5. ALL MANHOLES, CATCH BASINS, UTILITY VALVES AND METER PITS ARE TO BE ADJUSTED OR REBUILT TO GRADE AS REQUIRED. NOT ALL ADJUSTMENTS ARE INDICATED IN THE PLANS.

6. THE CONTRACTOR SHALL STREET SWEEP OR OTHERWISE CLEAN ALL ACCESS ROUTES TO THE SITE AT CONCLUSION OF THE PROJECT.

7. THE EXISTING AND PROPOSED FINISHED GROUND SURFACES ARE AVAILABLE ELECTRONICALLY FOR CONTRACTOR VERIFICATION VIA E-MAIL (IN AUTOCAD FORMAT). THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING THE EXISTING GROUND SURFACE ELEVATIONS.

8. OFF-SITE FILL MATERIAL SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT. OFF-SITE FILL MATERIAL SHALL BE APPROVED BY THE OWNER PRIOR TO BRINGING ON SITE.

EXISTING CONDITIONS

1. THE CONTRACTOR SHALL VISIT THE SITE AND BECOME FAMILIAR WITH THE EXISTING CONDITIONS OF THE PROJECT AREA.

2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING THEIR OWN INVESTIGATIONS AND MAKING THEIR OWN ASSUMPTIONS REGARDING SITE SURFACE AND SUBSURFACE CONDITIONS. THIS INCLUDES THE LOCATION AND CONSISTENCY OF ANY EXISTING ROCK LAYERS UNDERLYING THE PROJECT SITE. CONTACT THE ENGINEER REGARDING ANY DISCREPANCIES THAT MAY AFFECT THE ABILITY TO CONSTRUCT FROM THESE PLANS AS DESIGNED.

3. EXISTING CONDITIONS WERE DETERMINED THROUGH A VARIETY OF METHODS THAT MAY INCLUDE SURVEY, AERIAL IMAGERY, AVAILABLE RECORDS, GIS DATA, ETC. SUBSURFACE CONDITIONS ARE APPROXIMATE AND MAY NOT INCLUDE ALL UTILITIES AND OTHER SITE IMPROVEMENTS PRESENT ON SITE. THE CONTRACTOR SHALL MAKE EXPLORATION EXCAVATIONS AND LOCATE EXISTING UNDERGROUND UTILITIES SUFFICIENTLY AHEAD OF CONSTRUCTION TO PERMIT REVISIONS TO PLANS WHEN CONFLICTS AND DISCREPANCIES ARE FOUND.

4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE RESTORATION OF THE RIGHT-OF-WAY AND FOR DAMAGED IMPROVEMENTS. DAMAGED IMPROVEMENTS SHALL BE REPAIRED TO THE CITY'S AND OWNER'S SATISFACTION. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE TO REPAIR ALL EXISTING DISTURBED AREAS DURING GRADING ACTIVITIES TO ORIGINAL OR BETTER CONDITION.

5. THE CONTRACTOR SHALL CONTACT THE UNDERGROUND UTILITY NOTIFICATION CENTER FOR THE STATE THAT THE WORK IS BEING PERFORMED AND HAVE ALL THE UTILITIES MARKED AND PROVIDE NOTIFICATION OF THE COMMENCEMENT OF WORK.

6. ALL JOINTS WHERE NEW PAVEMENT ADJOINS EXISTING PAVEMENT SHALL BE SAW CUT, TO INSURE A STRAIGHT CLEAN LINE, OR WILL BE CARRIED TO THE NEXT JOINT WHEN THE EXISTING PANEL WILL BE LESS THAN HALF ORIGINAL WIDTH.

DEMOLITION PLAN NOTES

1. PRIOR TO ANY DEMOLITION EROSION CONTROL MEASURES AND CONSTRUCTION FENCING SHALL BE INSTALLED.

2. THE CONTRACTOR SHALL COORDINATE ALL ITEMS TO BE SALVAGED AND/OR PROTECTED WITH SITE OWNER AND UTILITY OWNERS.

3. THE CONTRACTOR SHALL NOT INTERRUPT ANY UTILITY SERVICES TO ANY ADJACENT PROPERTIES. SHOULD ANY INTERRUPTIONS BECOME NECESSARY, THE CONTRACTOR SHALL COORDINATE WITH THE ADJACENT PROPERTY AND UTILITY OWNER AND MINIMIZE THE LENGTH OF TIME THE UTILITY IS INTERRUPTED TO THE GREATEST EXTENT POSSIBLE.

4. SECONDARY WIRING, SERVICES, IRRIGATION AND OTHER MINOR SITE IMPROVEMENTS THAT ARE NOT TO REMAIN IN SERVICE ARE TO BE DEMOLISHED AND REMOVED.

5. ALL PAVEMENT SAWCUTS ARE TO BE MADE IN STRAIGHT, CLEAN LINES LEAVING A CLEAN AND STABLE EDGE AT FULL PAVEMENT DEPTH.

6. ALL PCC PAVEMENT AND ALL CURB SHALL BE REMOVED TO NEAREST JOINT.

7. ALL MATERIALS REMOVED FROM THE SITE SHALL BE DISPOSED OF IN STRICT CONFORMANCE WITH LOCAL CODES AND ORDINANCES.

8. ALL TREE REMOVAL SHALL INCLUDE STUMPS AND ROOTS. DEPRESSIONS CREATED SHALL BE FILLED TO PROVIDE DRAINAGE.

SITE PLAN NOTES

1. ALL PAVEMENT DIMENSIONS ARE TO FACE OF CURB, OR EDGE OF PAVEMENT WHERE NO CURB IS PRESENT, UNLESS OTHERWISE NOTED. DIMENSIONED TIES BETWEEN PROPERTY LINES AND BUILDING FACES OR PAVEMENT ARE AS INDICATED. THE CONTRACTOR IS RESPONSIBLE FOR MAKING ANY ADJUSTMENTS NECESSARY FOR FOUNDATIONS, BEDDING EXTENSIONS, SURCHARGING, ETC.

2. INSTALLED PAVEMENT SHALL MATCH EXISTING PAVEMENT IN GRADE AND ALIGNMENT TO PROVIDE SMOOTH SURFACE TRANSITIONS. INSTALLED CURB & GUTTER SHALL MATCH EXISTING CURB & GUTTER IN SIZE AND TYPE OR CONTRACTOR SHALL INCLUDE A TRANSITION FROM NEW TO EXISTING OF NO LESS THAN 5' AS MEASURED ALONG BACK OF CURB.

3 ALL ASPHALT PAVING SHALL BE IN CONFORMANCE WITH ALL LOCAL CODES AND ORDINANCES AND THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT. WHERE NOT COVERED BY THE ABOVE, ASPHALT PAVING SHALL BE IN CONFORMANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF KANSAS DEPARTMENT OF TRANSPORTATION.

4. ALL PCC PAVING SHALL BE IN CONFORMANCE WITH LOCAL CODES AND ORDINANCES AND THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT. WHERE NOT COVERED BY THE ABOVE, PCC PAVING SHALL BE IN CONFORMANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF KANSAS DEPARTMENT OF TRANSPORTATION.

5. CONCRETE PAVEMENT JOINTS SHALL BE CONSTRUCTED AS FOLLOWS (REFER TO HARDSCAPE PLANS FOR SPECIFIC TREATMENT OF THESE AREAS):
   A. CONTROL JOINTS SPACED AS SHOWN IN THESE PLANS OR AT INTERVALS NOT GREATER THAN 1.5x PANEL WIDTH OR 12 FEET (WHICHEVER IS SMALLER).
   B. CONTROL JOINTS SHALL BE TOOLED OR SAWCUT TO ¼ THE SLAB THICKNESS. LOCAL STANDARDS AND SPECIFICATIONS SHALL TAKE PRECEDENCE WHERE MORE STRICT THAN THOSE LISTED HERE.
   C. CONSTRUCTION JOINTS PLACED AT THE END OF EACH POUR AND WHEN PAVING OPERATIONS ARE SUSPENDED FOR 30 MINUTES OR MORE.
   D. ISOLATION JOINTS PLACED WHERE THE PAVEMENT ABUTS THE BUILDING, DRAINAGE STRUCTURES AND OTHER FIXED STRUCTURES, CONSTRUCTED WITH A 1/2" NON-EXTRUDING FILLER, CLOSED-CELL FOAM RUBBER OR A BITUMEN-TREATED FIBER-BOARD, AND WITH A THICKENED EDGE, INCREASED BY 20 PERCENT, TAPERED TO THE REGULAR THICKNESS IN 5 FEET.
   E. ALL EXPANSION JOINTS SHALL BE FILLED AND SEALED WITH A PLASTIC JOINT SEALANT MATERIAL.

6. CURB JOINTS SHALL BE CONSTRUCTED AS FOLLOWS:
   A. PLACE 3/4" NON-EXTRUDING FILLER, CLOSED-CELL FOAM RUBBER OR A BITUMEN-TREATED FIBER-BOARD AT 200' INTERVALS, AT BEGINNING AND END OF ALL RADII, AND AT STRUCTURES.
   B. CONTRACTION JOINTS SPACED AT INTERVALS NOT GREATER THAN 10 FEET, SAWED TO 1/4 THE SLAB THICKNESS.

7. ACCESSIBLE PARKING
   A. STALLS SHALL BE SIGNED WITH CITY/ADA APPROVED SIGN AND CONSTRUCTED IN STRICT ACCORDANCE WITH CITY/ADA CODES AND ORDINANCES.
   B. ACCESSIBLE PARKING STALLS SHALL NOT EXCEED 2.00 PERCENT IN ANY DIRECTION. ACCESSIBLE SIDEWALKS HAVE A MAXIMUM CROSS SLOPE OF 2 PERCENT AND A MAXIMUM LONGITUDINAL SLOPE OF 5 PERCENT.
   C. STALLS SHALL BE MARKED BY THE INTERNATIONAL HANDICAPPED SYMBOL AT INDICATED PARKING SPACES. USE A SUITABLE TEMPLATE THAT WILL PROVIDE A PAVEMENT MARKING WITH SHARP EDGES AND ENDS.

8. PAVEMENT MARKINGS SHALL NOT BE APPLIED UNTIL LAYOUT, COLORS AND PLACEMENT HAVE BEEN VERIFIED WITH THE ARCHITECT AND ENGINEER, THE INSTALLED PAVEMENT IS ALLOWED TO AGE AS RECOMMENDED BY THE MANUFACTURER (MINIMUM OF 24 HOURS), AND THE PAVEMENT SURFACE HAS BEEN SWEPT AND CLEANED.

9. PAINT FOR MARKING PAVEMENT SHALL CONFORM TO FEDERAL HIGHWAY MARKING STANDARDS (FHMS) AND CITY OF LEAVENWORTH CODES AND ORDINANCES. USE FLAT BLACK, WHITE, OR YELLOW AS DIRECTED WITHIN PLANS OR IN CONFORMANCE WITH THE FHMS. UNLESS OTHERWISE SPECIFIED USE LATEX, WATER-BASE EMULSION, READY-MIXED, COMPLYING WITH FS TT-P-1952 WITH DRYING TIME OF LESS THAN 45 MINUTES.

10. APPLY ALL MARKINGS USING APPROVED MECHANICAL EQUIPMENT (WITH PROVISIONS FOR CONSTANT AGITATION OF PAINT), CAPABLE OF APPLYING THE MARKING WIDTHS AS SHOWN AND A MINIMUM WET FILM THICKNESS OF 15 MILS. USE PNEUMATIC SPRAY GUNS FOR HAND APPLICATION OF PAINT. ALL PAINTING EQUIPMENT AND OPERATIONS SHALL BE UNDER THE CONTROL OF EXPERIENCED TECHNICIANS THOROUGHLY FAMILIAR WITH EQUIPMENT AND MATERIALS AND MARKING LAYOUTS.

11. PAVEMENT MARKINGS SHALL BE PER SECTION 321723 OF THE PROJECT MANUAL AS INDICATED ON PLANS.

GRADING PLAN NOTES

1. THE CONTOUR LINES, SPOT ELEVATIONS AND BUILDING FLOOR ELEVATIONS SHOWN ARE TO FINISH GRADE, SURFACE OF PAVEMENT, TOP OF CURBS, ETC. REFER TO TYPICAL SECTIONS FOR PAVING, SLAB AND AGGREGATE BASE THICKNESS TO DEDUCT PAVEMENT DEPTH FROM ELEVATIONS SHOWN.

2. THE CONTRACTOR SHALL FINISH GRADE SLOPES AS SHOWN NO STEEPER THAN 1 FOOT VERTICAL IN 3 FEET HORIZONTAL.

3. THE CONTRACTOR SHALL GRADE LANDSCAPED AREAS TO PROVIDE POSITIVE DRAINAGE AWAY FROM BUILDING AND SIDEWALKS WHEN FINISH LANDSCAPE MATERIALS ARE IN PLACE.

4. SPOT ELEVATIONS ARE TO EDGE OF PAVEMENT, TOP OF CURB, OR FINISHED GRADE UNLESS OTHERWISE INDICATED. (SEE LEGEND)

SANITARY SEWER PLAN NOTES

1. PRIOR TO COMMENCEMENT OF WORK THE CONTRACTOR SHALL NOTIFY AND COORDINATE CONSTRUCTION WITH CITY OF LEAVENWORTH, KANSAS.

2. ALL PIPE LENGTHS ARE CALCULATED LINEARLY FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.

3. COORDINATES ARE PROVIDED AT THE CENTER OF STRUCTURE. ADDITIONAL COORDINATES PROVIDED ARE PER LOCAL CODES AND ORDINANCES OR AS AN AID WHEN ORIENTING THE LID DURING INSTALLATION.

4. THE CONTRACTOR SHALL EXPOSE EXISTING UTILITIES AT LOCATIONS OF POSSIBLE CONFLICT AND POINTS OF CONNECTION PRIOR TO ANY CONSTRUCTION OF SANITARY SEWER.

5. SANITARY SEWER TRENCHES SHALL BE CONSTRUCTED SUCH THAT UNDISTURBED EXISTING SOIL OR FILL COMPACTED TO 95% PROCTOR DENSITY IS AT A DEPTH THAT IS 18" ABOVE TOP OF PROPOSED PIPE.

6. MANHOLE INVERT CHANNELS SHALL BE SMOOTH, CIRCULAR, AND CONFORMING TO ½ THE ADJACENT PIPE SECTION (INVERT TO CENTER). CHANGES IN DIRECTION OF FLOW SHALL BE MADE WITH A SMOOTH CURVE AND MAINTAIN SHAPE THROUGHOUT. CHANGES IN GRADE OF ADJACENT PIPES SHALL BE TRANSITIONED SMOOTHLY AND EVENLY THROUGH THE MANHOLE.

7. PIPE PENETRATIONS SHALL BE USE GASKETS TO ENSURE WATERTIGHT SEALS.

8. TRACING TAPE SHALL BE INSTALLED ALONG ALL NON-METALLIC SURFACES OR AS DIRECTED BY LOCAL CODES AND ORDINANCES.

9. SEWER LINE INSPECTIONS AND TESTING MUST BE SCHEDULED A MINIMUM OF TWO FULL BUSINESS DAYS IN ADVANCE. CONTRACTOR SHALL FURNISH ALL TESTING EQUIPMENT. TESTING SHALL INCLUDE
   A. MANDREL TEST OF ALL GRAVITY SEWERS. IF THE MANDREL TEST FAILS ON ANY SECTION OF PIPE, THAT SECTION SHALL BE UNCOVERED AND REPLACED.
   B. AIR PRESSURE TEST OF ALL GRAVITY SEWERS.
   C. VACUUM TEST OF ALL MANHOLES.

10. GRAVITY SANITARY SEWER AND WATER LINES SHALL BE SEPARATED BY A MINIMUM OF 10' HORIZONTALLY WHEN PARALLEL AND 2' VERTICALLY WHEN CROSSING. WATER LINES SHALL CROSS ABOVE SANITARY SEWERS.

WATER PLAN NOTES

1. PRIOR TO COMMENCEMENT OF WORK THE CONTRACTOR SHALL NOTIFY AND COORDINATE CONSTRUCTION WITH UTILITY OWNER.

2. ALL PIPE LENGTHS ARE CALCULATED LINEARLY FROM CENTER OF FITTING OR WALL OF VAULT.

3. COORDINATES ARE PROVIDED ALONG PIPE CENTERLINE. ADDITIONAL COORDINATES PROVIDED ARE PER LOCAL CODES AND ORDINANCES OR AS AN AID WHEN ORIENTING INSTALLATIONS.

4. THE CONTRACTOR SHALL EXPOSE EXISTING UTILITIES AT LOCATIONS OF POSSIBLE CONFLICT AND POINTS OF CONNECTION PRIOR TO ANY CONSTRUCTION OF WATER.

5. WATER PIPE TRENCHES SHALL BE CONSTRUCTED SUCH THAT UNDISTURBED EXISTING SOIL OR FILL COMPACTED TO 95% PROCTOR DENSITY IS AT A DEPTH THAT IS 18" ABOVE TOP OF PROPOSED PIPE.

6. ALL PRIVATE WATER LINES SHALL BE A MINIMUM OF 48 INCHES AND MAXIMUM OF 60 INCHES BELOW THE FINISHED GRADE ELEVATIONS SHOWN HEREIN UNLESS OTHERWISE NOTED.

7. IF AN AS-BUILT OF A WATER LINE IS REQUIRED OR EXPECTED THE CONTRACTOR SHALL NOT BACKFILL THE TRENCH UNTIL AN AS-BUILT SURVEY IS CONDUCTED.

8. DISINFECTION AND PRESSURE TESTING OF WATER LINES SHALL BE PERFORMED AND PAID FOR BY THE CONTRACTOR AND AS REQUIRED BY THE UTILITY OWNER.

9. TRACING TAPE SHALL BE INSTALLED ALONG ALL NON-METALLIC SURFACES OR AS DIRECTED BY LOCAL CODES AND ORDINANCES.

10. WHERE SERVICE LINES MUST CROSS OVER SEWERS, STORM DRAINS, OR SANITARY SEWERS, THE SERVICE LINE MUST BE LAID AT SUCH AN ELEVATION THAT THE BOTTOM OF THE SERVICE LINE IS AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER. THIS VERTICAL SEPARATION MUST BE MAINTAINED FOR THAT PORTION OF THE SERVICE LINE LOCATION WITHIN 10 FEET HORIZONTALLY OF ANY SEWER LINE THAT IT CROSSES, SAID 1O FEET TO BE MEASURED AS THE NORMAL DISTANCE FROM THE SERVICE LINE TO SEWER.

DRY UTILITY PLAN NOTES

1. PRIOR TO COMMENCEMENT OF WORK THE CONTRACTOR SHALL NOTIFY AND COORDINATE CONSTRUCTION WITH UTILITY OWNER.

2. ALL ON-SITE WIRING AND CABLES SHALL BE PLACED UNDERGROUND AND WITHIN CONDUIT UNLESS OTHERWISE SPECIFIED IN THESE PLANS. IF NOT SPECIFIED, ALL CONDUIT SHALL BE IN CONFORMANCE WITH UTILITY OWNER STANDARDS AND SPECIFICATIONS.

3. TELEPHONE AND COMMUNICATION SERVICE ROUTING AND CONDUITS, IF SHOWN AT ALL, ARE SUGGESTED ALIGNMENTS ONLY. CONTRACTOR SHALL COORDINATE INSTALLATION OF CONDUIT AS REQUIRED BY MEP AND RELATED PLANS AS WELL AS SERVICE PROVIDER PRIOR TO PAVEMENT INSTALLATION.

4. ALL CONDUIT SHALL BE SCHEDULE 40 PVC PIPE AND SIZED PER MEP PLANS OR AS NOTED. CONDUIT SHALL BE SUFFICIENTLY FLEXIBLE TO ALLOW IT TO CONFORM TO MINOR CHANGES IN TRENCH DIRECTION OR ELEVATION. ALL OTHER BENDS SHALL BE MADE USING PRE-FORMED SWEEPS.

REV	DATE	DESCRIPTION	BY
	04.10.26	ISSUED FOR PERMIT REVIEW	AJK

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4-10-26
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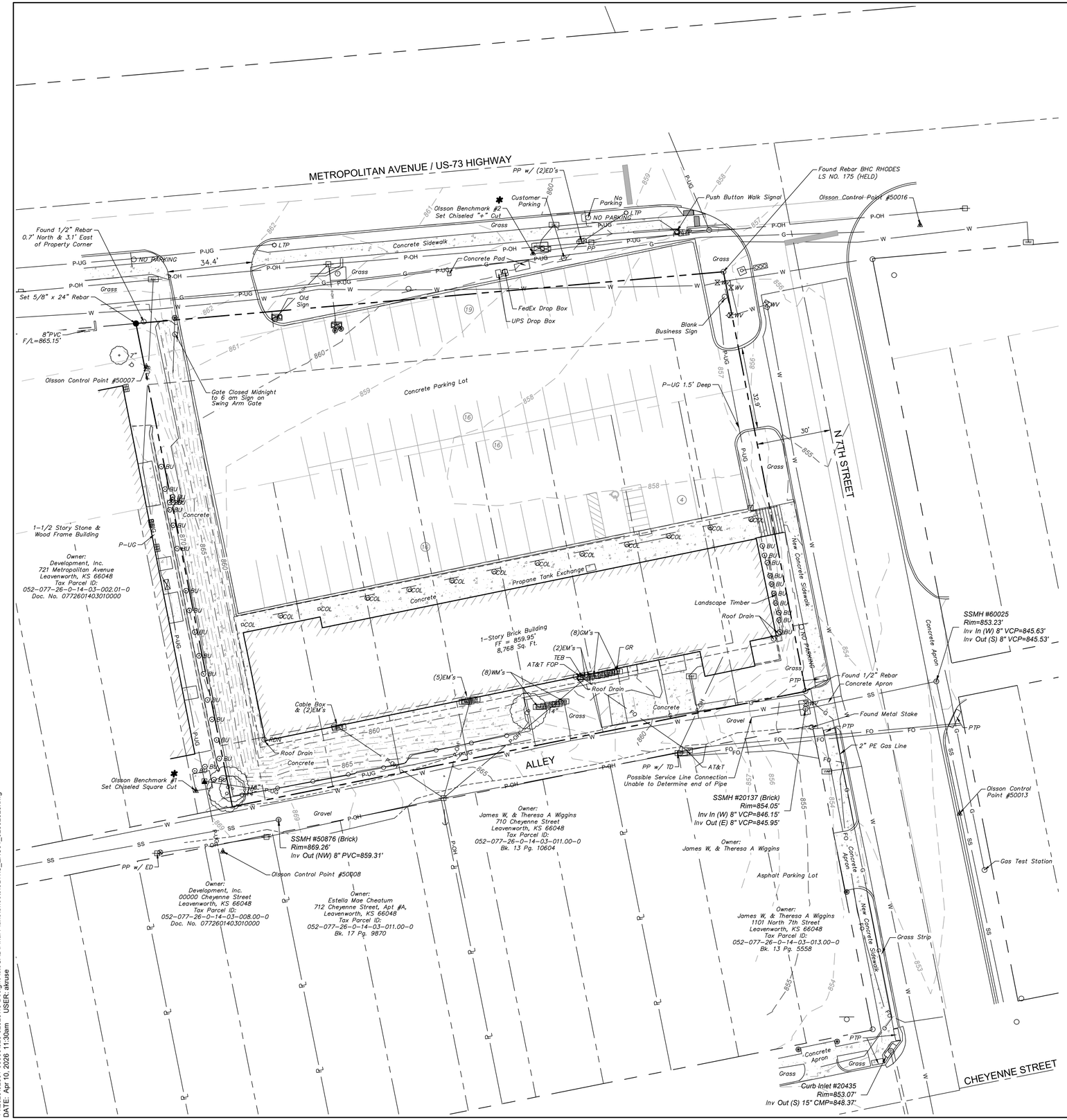
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DRAWN BY: AJK
STD ISSUE DATE
REVIEWED BY: MAP
DATE ISSUED: 04.10.26

TITLE: GENERAL NOTES
DESCRIPTION: McDONALD'S RESTAURANT LEAVENWORTH, KANSAS
SITE ID: 015-0404
SITE ADDRESS: 713 METROPOLITAN AVENUE, LEAVENWORTH, KANSAS
015-0404.00.0
SHEET NO. C101

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DATE: Apr 10, 2026 11:30am USER: akruse



Control Points:

Olsson Control Point #50007:
Set 3/8" rebar, 10.4' Northeast of the Northeast corner of the building at #721 Metropolitan Avenue.
N: 377102.5000
E: 2182969.0940

Olsson Control Point #50008:
Set 3/8" rebar, 275'± West of the ℄ of South 7th Street at SW corner of project.
N: 376906.745
E: 2182999.971

Olsson Control Point #50013:
Chiseled "+" cut at the point of curvature of concrete curb, East side of South 7th Street, South side of drive entrance to bank.
N: 376922.100
E: 2183297.147

Olsson Control Point #50016:
Found 1/2" rebar at the Southeast quadrant of South 7th Street and Metropolitan Avenue.
N: 277159.665
E: 2183281.220

Benchmark Information:

OA Bench Mark #1:(NAVD'88)
Elevation=868.22'
Set chiseled "□" cut on the Southwest corner of a concrete pad for an electric transformer, 34.57' Southwest of a brick building, 14.9' North to the Southeast corner of a wood frame and stone building, 14.5'± North of the ℄ of a gravel alley.

OA Bench Mark #2:(NAVD'88)
Elevation=860.98'
Set chiseled "+" cut on the Southwest corner of a concrete pad for an electric cabinet, 35.8' South of the centerline of Metropolitan Avenue and 103.9' West of the centerline of North 7th Street.

LEGEND

	SET REBAR W/ OLSSON CONTROL CAP		GUY ANCHOR WIRE
	SET 1/2" REBAR W/LC 114 CAP		GRATE INLET
	FOUND REBAR AS NOTED	AC	AIR CONDITIONING UNIT
	FIRE HYDRANT	MLB	MAILBOX
WV	WATER VALVE		BUILDING LINE
WM	WATER METER	BMK	BENCHMARK
GM	GAS METER	COL	6"X6" SQUARE COLUMN
GR	GAS REGULATOR	CTL	CONTROL
	SANITARY SEWER MANHOLE	ED	ELECTRIC DROP
	STORM SEWER MANHOLE	ELEV.	ELEVATION
E	ELECTRIC BOX	ESMT.	EASEMENT
EM	ELECTRIC METER	℄	FLOW LINE
EC	ELECTRIC CABINET	FF	FINISH FLOOR ELEVATION
EV	ELECTRIC VAULT (TRAFFIC)	FOP	FIBER OPTIC PEDESTAL
	TRANSFORMER	GR	GAS REGULATOR
	TRAFFIC SIGNAL MANHOLE	LS	LICENSED SURVEYOR
TV	CABLE TELEVISION BOX	NO.	NUMBER
G	GAS LINE	PP	POWER POLE
W	WATER LINE	PED	PEDESTRIAN TRACTION PAD
P-OH	OVERHEAD POWER LINE	PVC	POLYVINYL CHLORIDE PIPE
SS	SANITARY SEWER LINE	R/W	RIGHT-OF-WAY
SD	STORM LINE	TD	TELEPHONE DROP
FO	FIBER OPTIC PEDESTAL	TEB	TELEPHONE BOX
	SIGN	UG	UNDERGROUND
APS	ACCESSIBLE PARKING SIGN	W/	WITH
PP	POWER POLE		NUMBER OF PARKING STALLS
LTP	LIGHT POLE		ACCESSIBLE PARKING SPOT
	DECIDUOUS TREE		
BU	BUSH	*	DENOTES OLSSON BENCHMARK
P-UG	UNDERGROUND POWER LINE		
PTP	PEDESTRIAN TRACTION PAD		

UTILITY NOTE:

OLSSON AND THE SURVEYOR OF RECORD MAKE NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN HEREON COMPRISE OF ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. OLSSON AND THE SURVEYOR OF RECORD FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. OLSSON AND THE SURVEYOR OF RECORD HAVE NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. IF ANY UNDERGROUND UTILITY LOCATIONS ARE REQUIRED THEY WILL HAVE TO BE VERIFIED BY FIELD POTHOLING THE UTILITIES. OLSSON AND THE SURVEYOR OF RECORD SHALL NOT BE LIABLE FOR THE LOCATION OF OR THE FAILURE TO NOTE THE LOCATION OF NON-VISIBLE UTILITIES.

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	04.10.26	ISSUED FOR PERMIT REVIEW	AJK

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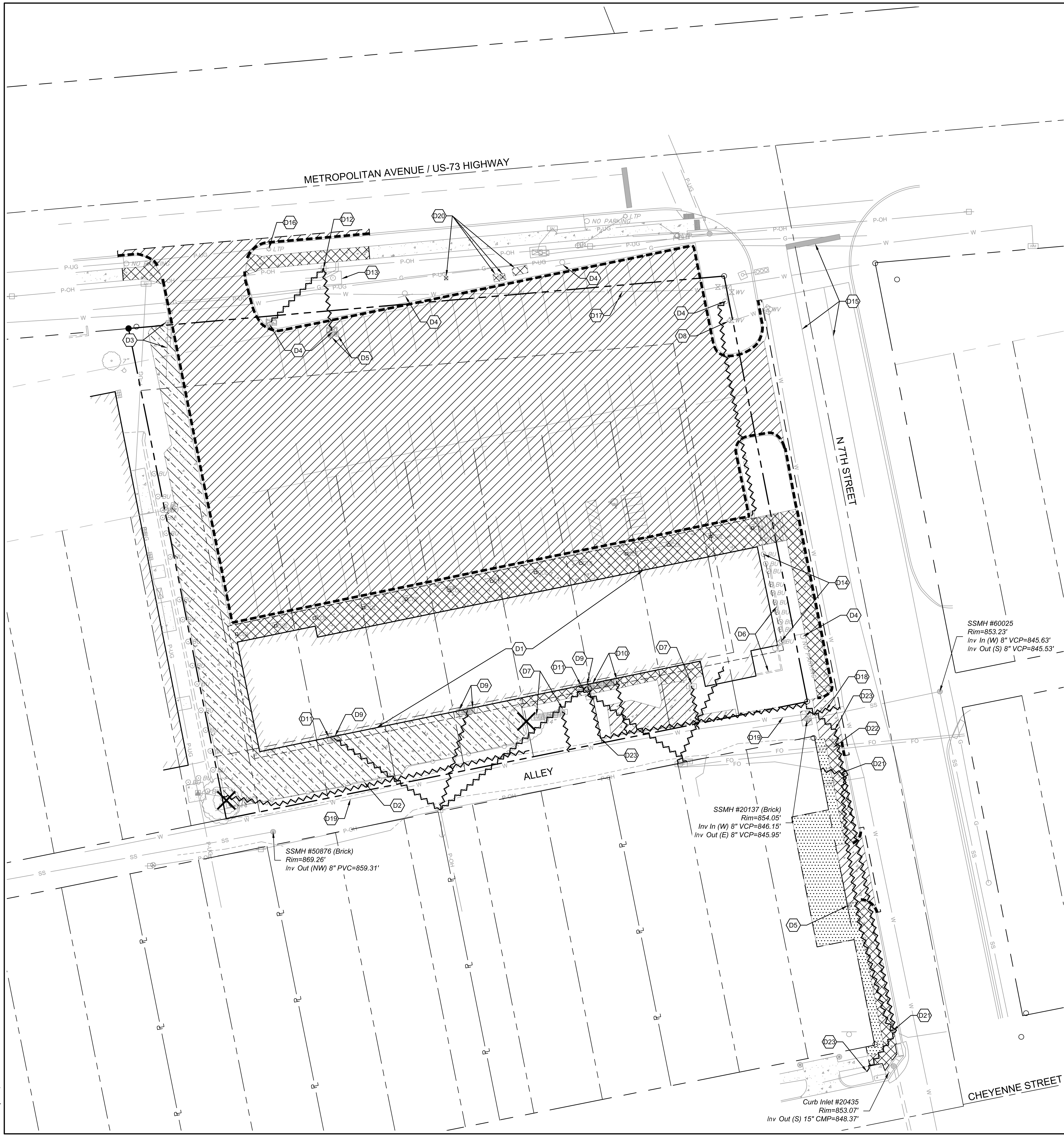
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DRAWN BY	AJK
STD ISSUE DATE	
REVIEWED BY	MAP
DATE ISSUED	04.10.26

TITLE: EXISTING CONDITIONS
DESCRIPTION: McDONALD'S RESTAURANT LEAVENWORTH, KANSAS
SITE ID: 015-0404
SITE ADDRESS: 713 METROPOLITAN AVENUE, LEAVENWORTH, KANSAS
015-0404.00.0
SHEET NO. C102

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DATE: Apr 10, 2026 11:30am USER: akruse



DEMOLITION KEYNOTE LEGEND

D1 EXISTING BUILDING TO BE DEMOLISHED

D2 REMOVE CHAIN LINK FENCE

D3 REMOVE GATE & POSTS

D4 REMOVE SIGN

D5 REMOVE BOLLARDS

D6 REMOVE WOOD LANDSCAPE WALL

D7 REMOVE WATER METER AND SERVICE LINE
COORDINATE WITH LEAVENWORTH WATERWORKS

D8 FIRE HYDRANT TO REMAIN, ADJUST TO FINISHED GROUND

D9 REMOVE ELECTRIC METER
COORDINATE WITH EVERGY

D10 REMOVE GAS METER AND SERVICE LINE
COORDINATE WITH KANSAS GAS

D11 REMOVE COMMUNICATIONS EQUIPMENT
COORDINATE WITH PROVIDER

D12 UTILITY POLE TO REMAIN

D13 COMMUNICATIONS VAULT TO REMAIN

D14 REMOVE SHRUBS

D15 REMOVE PAVEMENT MARKINGS (SEE TRAFFIC SHEETS)

D16 STREET LIGHT POLE TO BE RELOCATED

D17 WATER LINE TO REMAIN, DO NOT DISTURB

D18 2" WATER LINE TO BE REMOVED BETWEEN VALVE AND MAIN, CAP AT MAIN
COORDINATE WITH LEAVENWORTH WATERWORKS

D19 2" WATER LINE TO BE ABANDONED
COORDINATE WITH LEAVENWORTH WATERWORKS

D20 REMOVE CONCRETE PAD

D21 EXISTING AT&T COPPER LINE IS NOT IN USE. MAY BE REMOVED OR ABANDONED IN PLACE. COORDINATE WITH AT&T.

D22 CONTRACTOR SHALL POTHOLE EXISTING AT&T FIBER TO DETERMINE IF THERE IS A CONFLICT WITH NEW STORM SEWER. ENGINEER AND AT&T SHALL BE NOTIFIED IF A RELOCATION WILL BE REQUIRED.

D23 EXISTING 2" GAS MAIN WILL BE ABANDONED BY KANSAS GAS AFTER SERVICES ARE TAKEN OFFLINE. MAIN SHALL BE ABANDONED IN PLACE OR REMOVED , AS NEEDED, FOR STORM SEWER INSTALLATION. COORDINATE WITH KANSAS GAS.

DEMOLITION LEGEND

REMOVE CONCRETE PAVEMENT

REMOVE SLOPED CONCRETE

REMOVE ASPHALT PAVEMENT

REMOVE CONCRETE SIDEWALK

REMOVE CURB

SAWCUT FULL DEPTH

UTILITY REMOVAL OR ABANDONMENT

TREE/SHRUB REMOVAL

UTILITY NOTE:

OLSSON AND THE SURVEYOR OF RECORD MAKE NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN HEREON COMPRISE OF ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. OLSSON AND THE SURVEYOR OF RECORD FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED. OLSSON AND THE SURVEYOR OF RECORD HAVE NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. IF ANY UNDERGROUND UTILITY LOCATIONS ARE REQUIRED THEY WILL HAVE TO BE VERIFIED BY FIELD POTHOLING THE UTILITIES. OLSSON AND THE SURVEYOR OF RECORD SHALL NOT BE LIABLE FOR THE LOCATION OF OR THE FAILURE TO NOTE THE LOCATION OF NON-VISIBLE UTILITIES.

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	04.10.26	ISSUED FOR PERMIT REVIEW	AJK

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PREPARED FOR:
McDonald's USA, LLC

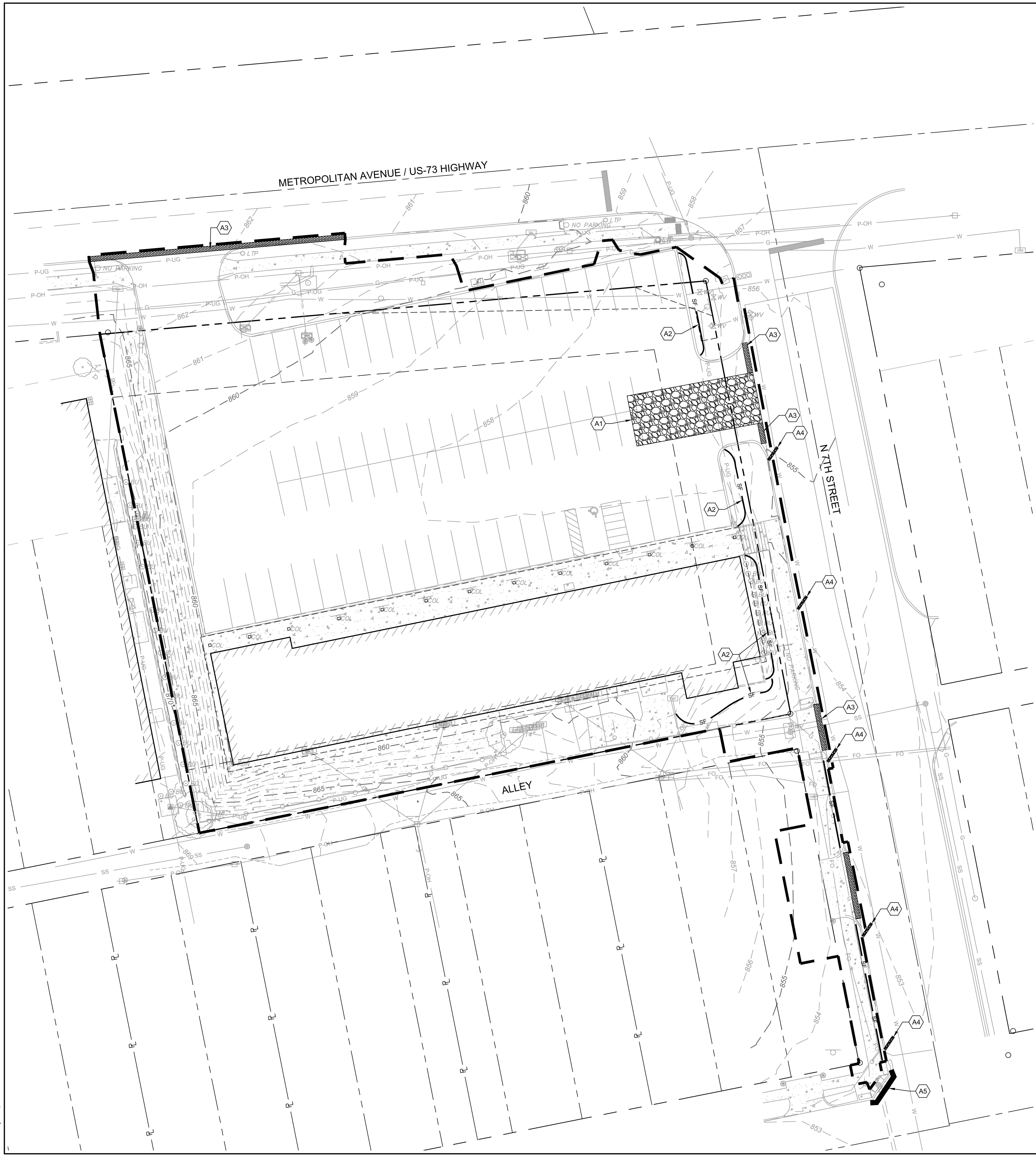
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DRAWN BY: AJK
STD ISSUE DATE:
REVIEWED BY: MAP
DATE ISSUED: 04.10.26

TITLE: DEMOLITION PLAN
DESCRIPTION: McDONALD'S RESTAURANT LEAVENWORTH, KANSAS
SITE ID: 015-0404
SITE ADDRESS: 713 METROPOLITAN AVENUE, LEAVENWORTH, KANSAS

SHEET NO.: C103
015-0404.00.0

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EROSION CONTROL PLAN NOTES

1. CONTRACTOR SHALL CONSIDER ANY EROSION AND/OR SEDIMENT CONTROL SHOWN IN THIS PLAN SET, THE SWPPP, OR ANY RELATED PLAN SET AS A MINIMUM REQUIREMENT. CONTRACTOR IS RESPONSIBLE FOR EVALUATING SITE CONDITIONS AND INSTALLING ANY ADDITIONAL CONTROLS AS NECESSARY.
2. CONTRACTOR IS RESPONSIBLE FOR INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES THROUGHOUT THE PROJECT. ANY AND ALL FINES ASSOCIATED WITH EROSION CONTROL VIOLATIONS WILL BE THE CONTRACTOR'S RESPONSIBILITY.
3. AT ANY TIME DURING CONSTRUCTION THE CITY MAY REQUIRE ADDITIONAL EROSION/SILTATION CONTROL MEASURES TO BE INSTALLED. WHEN REQUIRED SUCH MEASURES SHALL BE INSTALLED WITHIN 48 HOURS OF HOURS OF NOTICE (VERBAL OR WRITTEN).
4. CONTRACTOR SHALL INSPECT ALL EROSION CONTROL DEVICES PER THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) SCHEDULE. ALL COSTS ASSOCIATED WITH REPAIR OR RE-INSTALLATION, INCLUDING RELATED INCIDENTALS, WILL BE THE CONTRACTOR'S RESPONSIBILITY.
5. ALL DISTURBED AREAS SHALL BE LANDSCAPED, SEEDED OR SODDED, AS SHOWN ON THE LANDSCAPE PLAN.
6. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING THE TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES AFTER COMPLETION OF CONSTRUCTION AND ONLY WHEN AREAS HAVE BEEN STABILIZED WITH A HEALTHY STAND OF PERMANENT VEGETATION. AREAS DISTURBED BY DEVICE REMOVAL SHALL BE IMMEDIATELY STABILIZED. SEED BLENDS OR SOD SHALL MATCH WHAT WAS USED IN AREAS SURROUNDING DISTURBANCE.
7. PRIOR TO LEAVING THE SITE THE CONTRACTOR SHALL ENSURE THAT ALL DRAINAGE STRUCTURES, FLUMES, PIPES, GUTTERS, ETC. ARE CLEANED OUT AND WORKING PROPERLY.

EROSION CONTROL PHASING CHART

PROJECT PHASE	EROSION CONTROL BMP REFERENCE NO.	BMP DESCRIPTION	REMOVE AFTER PHASE	NOTES:
A - PRE-CONSTRUCTION	A1	CONSTRUCTION ENTRANCE	A	INSTALL AS INDICATED ON PLANS
	A2	SILT FENCE	C	INSTALL AS INDICATED ON PLANS
	A3	WATTLE	C	INSTALL AS INDICATED ON PLANS
	A4	ROCK FILTER SOCK	C	INSTALL AS INDICATED ON PLANS
	A5	STORM INLET PROTECTION	C	INSTALL AS INDICATED ON PLANS
B - INTERIM	B1	CONSTRUCTION ENTRANCE	C	INSTALL AS INDICATED ON PLANS
	B2	CONCRETE WASHOUT	C	INSTALL AS INDICATED ON PLANS
	B3	SILT FENCE	C	INSTALL AS INDICATED ON PLANS
	B4	WATTLE	C	INSTALL AS INDICATED ON PLANS
	B5	ROCK FILTER SOCK	C	INSTALL AS INDICATED ON PLANS
	B6	STORM INLET PROTECTION	C	INSTALL AS INDICATED ON PLANS
	MAINTAIN ALL INSTALLED EROSION CONTROL DEVICES			
C - DISTURBED AREA STABILIZATION	C1	FINAL SEEDING, SOD, AND PLANTINGS SHALL BE INSTALLED PER SITE LANDSCAPE PLAN. ANY AREAS OUTSIDE OF LANDSCAPE PLAN COVERAGE SHALL BE SEEDED PER THIS PLAN.		COORDINATE INSTALLATION WITH LANDSCAPE PLAN

EROSION CONTROL LEGEND

- CURB INLET PROTECTION
- SF — SILT FENCE
- WATTLE
- CONSTRUCTION ENTRANCE
- CONCRETE WASHOUT
- FINAL STABILIZATION REFER TO LANDSCAPE PLAN
- 860 — EXISTING GROUND CONTOUR
- 860 — FINISHED GROUND CONTOUR
- LIMITS OF DISTURBANCE = 1.23 ACRES

N

0' 10' 20' 40'
SCALE IN FEET

REV	DATE	DESCRIPTION	BY
	04.10.26	ISSUED FOR PERMIT REVIEW	AJK

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Jared E. Loomis 4-10-26

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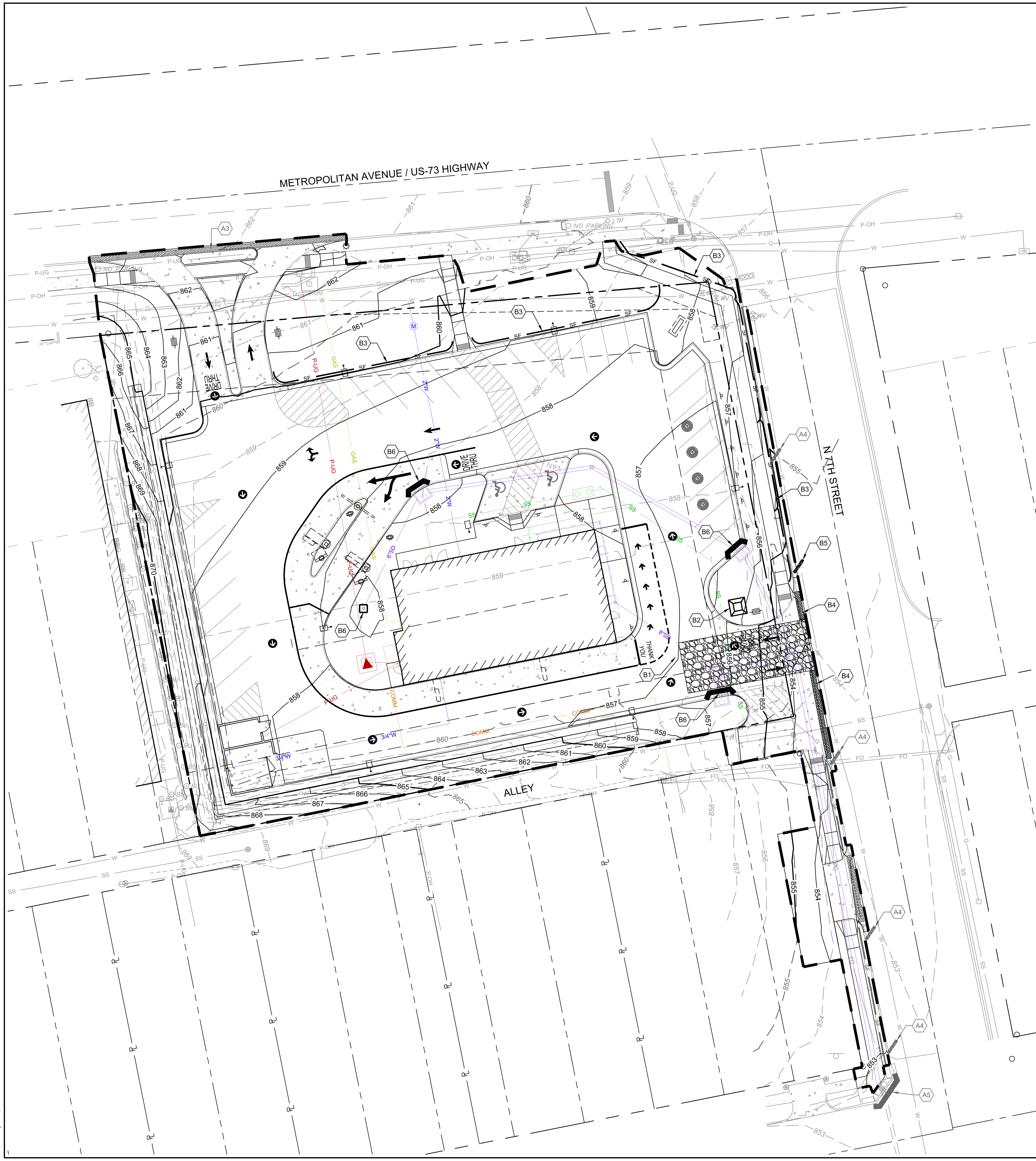
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STD ISSUE DATE:
REVIEWED BY: MAP
DATE ISSUED: 04.10.26

TITLE: EROSION CONTROL PHASE A
DESCRIPTION: McDONALD'S RESTAURANT LEAVENWORTH, KANSAS
SITE ID: 015-0404
SITE ADDRESS: 713 METROPOLITAN AVENUE, LEAVENWORTH, KANSAS

015-0404.00.0
SHEET NO. C104

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EROSION CONTROL PHASING CHART				
PROJECT PHASE	**EROSION CONTROL BMP REFERENCE NO.**	**BMP DESCRIPTION**	**REMOVE AFTER PHASE**	**NOTES:**
A - PRE-CONSTRUCTION	A1	CONSTRUCTION ENTRANCE	A	INSTALL AS INDICATED ON PLANS
	A2	SILT FENCE	C	INSTALL AS INDICATED ON PLANS
	A3	WATTLE	C	INSTALL AS INDICATED ON PLANS
	A4	ROCK FILTER SOCK	C	INSTALL AS INDICATED ON PLANS
	A5	STORM INLET PROTECTION	C	INSTALL AS INDICATED ON PLANS
B - INTERIM	B1	CONSTRUCTION ENTRANCE	C	INSTALL AS INDICATED ON PLANS
	B2	CONCRETE WASHOUT	C	INSTALL AS INDICATED ON PLANS
	B3	SILT FENCE	C	INSTALL AS INDICATED ON PLANS
	B4	WATTLE	C	INSTALL AS INDICATED ON PLANS
	B5	ROCK FILTER SOCK	C	INSTALL AS INDICATED ON PLANS
	B6	STORM INLET PROTECTION	C	INSTALL AS INDICATED ON PLANS
	MAINTAIN ALL INSTALLED EROSION CONTROL DEVICES			
C - DISTURBED AREA STABILIZATION	C1	FINAL SEEDING, SOD, AND PLANTINGS SHALL BE INSTALLED PER SITE LANDSCAPE PLAN. ANY AREAS OUTSIDE OF LANDSCAPE PLAN COVERAGE SHALL BE SEEDED PER THIS PLAN.		COORDINATE INSTALLATION WITH LANDSCAPE PLAN

EROSION CONTROL LEGEND

- CURB INLET PROTECTION
- SF — SILT FENCE
- WATTLE
- CONSTRUCTION ENTRANCE
- CONCRETE WASHOUT
- FINAL STABILIZATION REFER TO LANDSCAPE PLAN
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- 860 — FINISHED GROUND CONTOUR
- LIMITS OF DISTURBANCE = 1.23 ACRES

N

0' 10' 20' 40'
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Jared E. Loomis 4-10-26

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DATE ISSUED 04.10.26

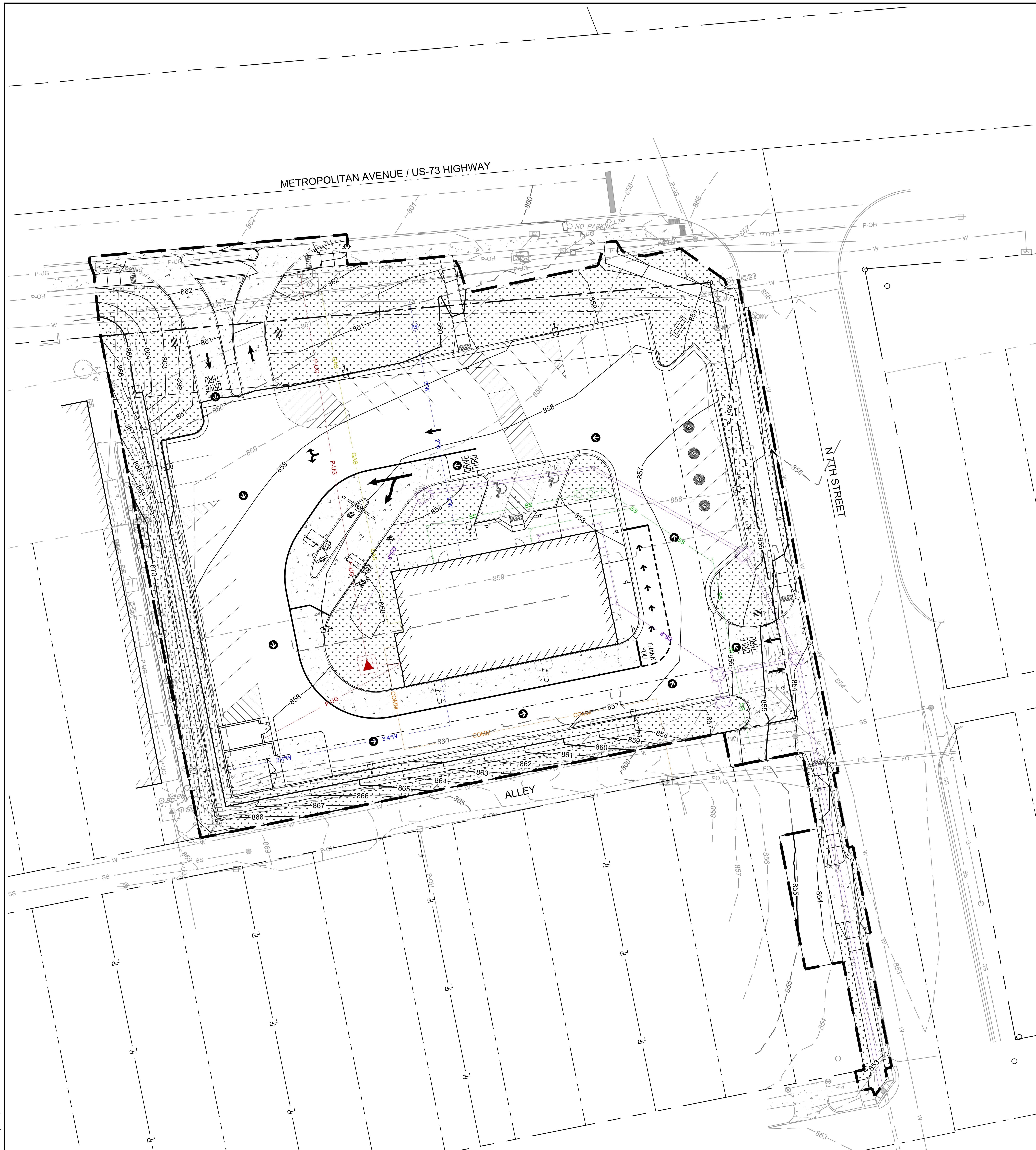
TITLE
EROSION CONTROL PHASE B

DESCRIPTION
McDONALD'S RESTAURANT
LEAVENWORTH, KANSAS

SITE ID 015-0404
SITE ADDRESS 713 METROPOLITAN AVENUE, LEAVENWORTH, KANSAS

SHEET NO. 015-0404.00.0
C105

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DATE: Apr 10, 2026 11:34am USER: akruse



EROSION CONTROL PHASING CHART				
PROJECT PHASE	**EROSION CONTROL BMP REFERENCE NO.**	**BMP DESCRIPTION**	**REMOVE AFTER PHASE**	**NOTES:**
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	A2	SILT FENCE	C	INSTALL AS INDICATED ON PLANS
	A3	WATTLE	C	INSTALL AS INDICATED ON PLANS
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	B3	SILT FENCE	C	INSTALL AS INDICATED ON PLANS
	B4	WATTLE	C	INSTALL AS INDICATED ON PLANS
	B5	ROCK FILTER SOCK	C	INSTALL AS INDICATED ON PLANS
	B6	STORM INLET PROTECTION	C	INSTALL AS INDICATED ON PLANS
	MAINTAIN ALL INSTALLED EROSION CONTROL DEVICES			
C - DISTURBED AREA STABILIZATION	C1	FINAL SEEDING, SOD, AND PLANTINGS SHALL BE INSTALLED PER SITE LANDSCAPE PLAN. ANY AREAS OUTSIDE OF LANDSCAPE PLAN COVERAGE SHALL BE SEEDED PER THIS PLAN.		COORDINATE INSTALLATION WITH LANDSCAPE PLAN

EROSION CONTROL LEGEND

- CURB INLET PROTECTION
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- CONSTRUCTION ENTRANCE
- CONCRETE WASHOUT
- FINAL STABILIZATION REFER TO LANDSCAPE PLAN
- 860 — EXISTING GROUND CONTOUR
- 860 — FINISHED GROUND CONTOUR
- LIMITS OF DISTURBANCE = 1.23 ACRES

N

0' 10' 20' 40'
SCALE IN FEET

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DATE: Apr 10, 2026 11:35am USER: akruse

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	04.10.26	ISSUED FOR PERMIT REVIEW	AJK

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PREPARED FOR:
McDonald's USA, LLC

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DRAWN BY: AJK
STD ISSUE DATE:
REVIEWED BY: MAP
DATE ISSUED: 04.10.26

TITLE: EROSION CONTROL PHASE C

DESCRIPTION: McDONALD'S RESTAURANT LEAVENWORTH, KANSAS

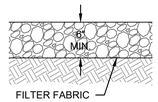
SITE ID: 015-0404
SITE ADDRESS: 713 METROPOLITAN AVENUE, LEAVENWORTH, KANSAS

015-0404.00.0

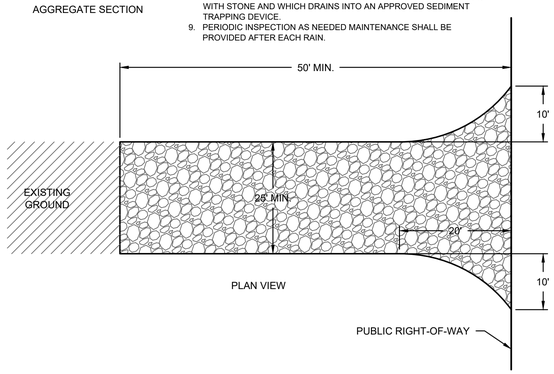
SHEET NO. C106

CONSTRUCTION SPECIFICATIONS

1. STONE SIZE-USED 2" STONE, OR RECLAIMED OR RECYCLED EQUIVALENT.
2. LENGTH-AS REQUIRED BUT NOT LESS THAN 50 FEET.
3. THICKNESS-NOT LESS THAN SIX (6) INCHES.
4. WIDTH-TWENTY (20) FEET MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS AND EGRESS OCCUR.
5. FILTER CLOTH-WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER-ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 3:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE-THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WASHING-WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AS NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.



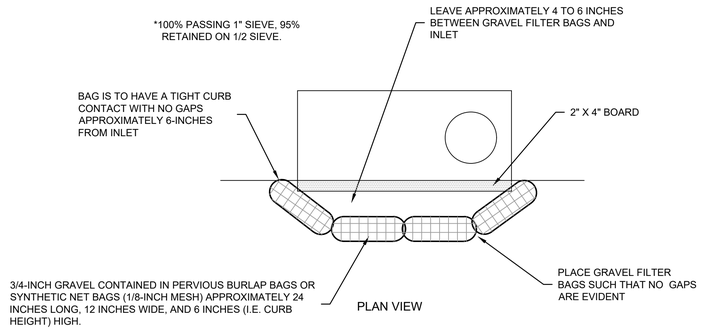
AGGREGATE SECTION



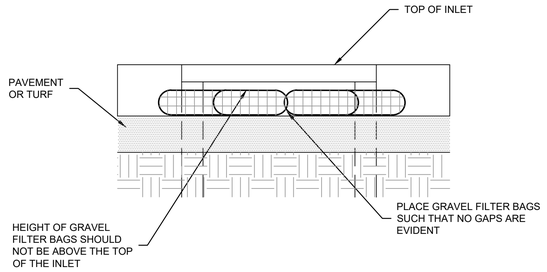
PLAN VIEW

STABILIZED CONSTRUCTION ENTRANCE DETAIL

NOT TO SCALE



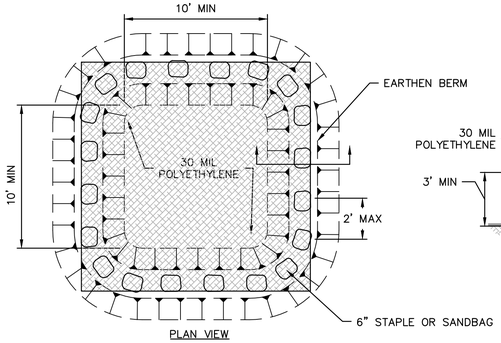
PLAN VIEW



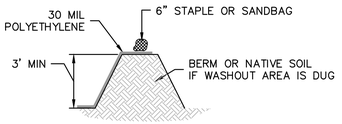
FRONT VIEW

GRAVEL FILTER BAGS DETAIL

NOT TO SCALE



PLAN VIEW

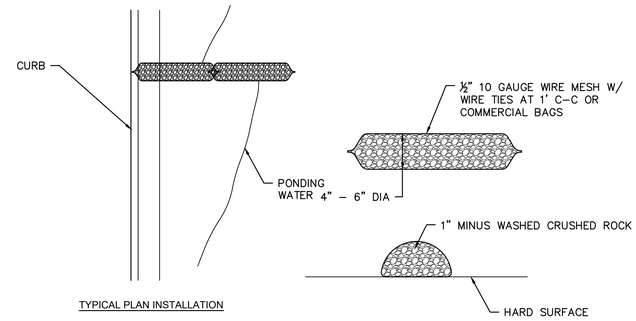


SANDBAG ANCHOR SECTION

NOTES:
FACILITY SHALL BE CLEANED OR RECONSTRUCTED WITH THE HARDENED CONCRETE AND/OR SLURRY IS 1'-6" IN DEPTH.

CONCRETE WASHOUT

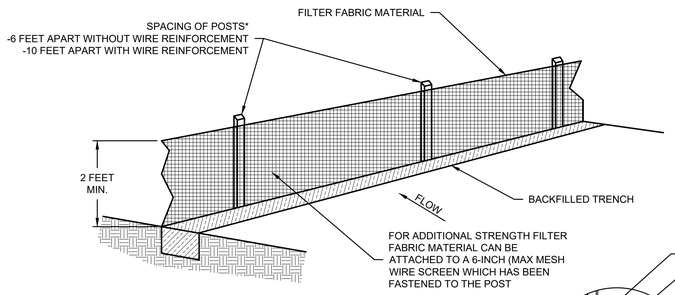
NOT TO SCALE



TYPICAL PLAN INSTALLATION

ROCK FILTER SOCK

NOT TO SCALE

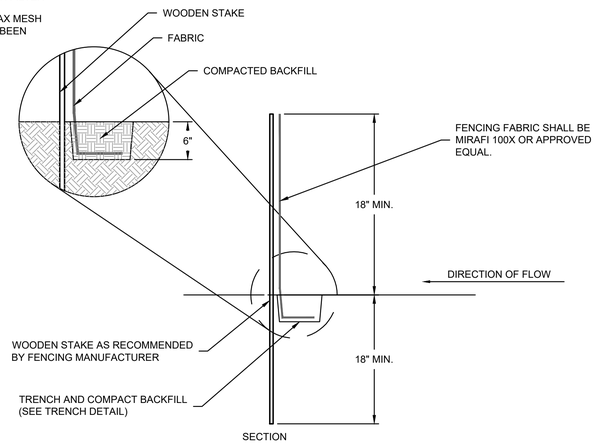


SEDIMENT FENCE FABRIC :

1. FILTERING EFFICIENCY SHALL BE A MINIMUM OF 85%.
2. TENSILE STRENGTH AT 20% ELONGATION FOR TYPICAL APPLICATIONS SHALL BE A MINIMUM OF 30 LB PER LINEAR INCH. FOR HIGH STRENGTH APPLICATIONS, (SUPER-SILT FENCE), THE MINIMUM STRENGTH SHALL BE 50 LB PER LINEAR INCH.

SEDIMENT FENCE POSTS:

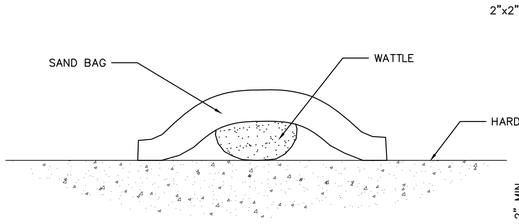
1. TYPICAL POSTS SHALL DEFER TO MANUFACTURER RECOMMENDATIONS AND SPECIFICATIONS. THE FOLLOWING ARE TO BE CONSIDERED MINIMUMS WHERE SUCH RECOMMENDATIONS ARE NOT AVAILABLE.
2. WITH WIRE REINFORCEMENT, WOOD POSTS SHALL BE HAVE A 4" NOMINAL DIAMETER, OR 1.33 LB PER LINEAR FOOT STEEL.
3. WITHOUT WIRE REINFORCEMENT, WOOD POSTS SHALL BE 2"x2", OR 1.00 LB PER LINEAR FOOT STEEL.



SECTION

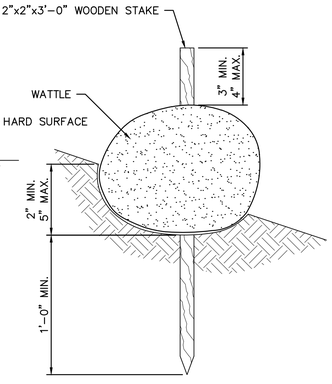
SEDIMENT CONTROL FENCE DETAIL

NOT TO SCALE



WATTLE ON HARD SURFACE

NOT TO SCALE



WATTLE ON EARTH SURFACE

NOT TO SCALE

REV	DATE	DESCRIPTION	BY
	04.10.26	ISSUED FOR PERMIT REVIEW	AJK

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AJK	MAP	04.10.26
STD ISSUE DATE		

TITLE
EROSION CONTROL DETAILS

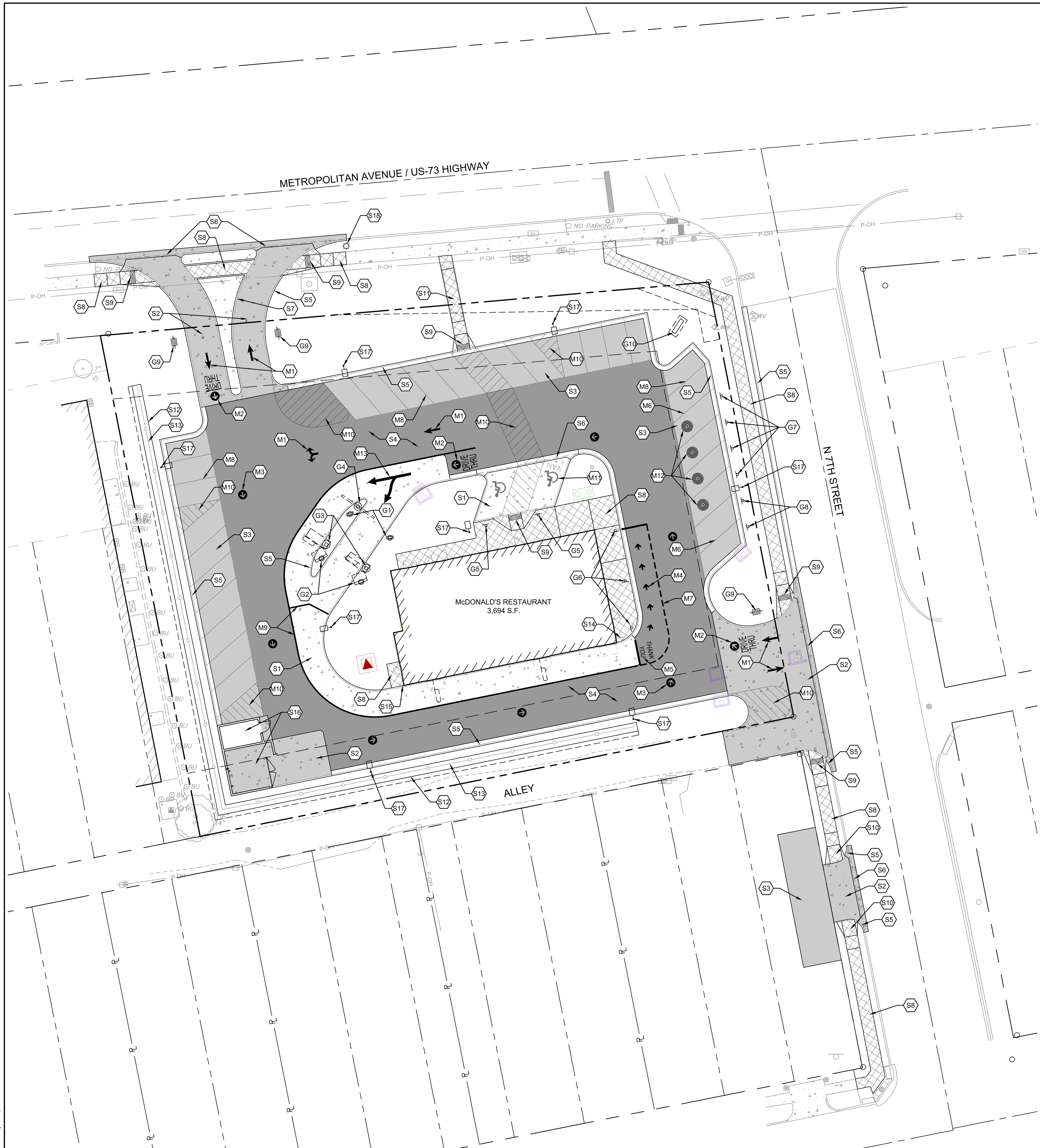
DESCRIPTION
McDONALD'S RESTAURANT
LEAVENWORTH, KANSAS

SITE ID
015-0404

SITE ADDRESS
713 METROPOLITAN AVENUE, LEAVENWORTH, KANSAS

SHEET NO.
015-0404.00.0
C107

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DATE: Apr 10, 2026 11:32am USER: akruse



PAVING LEGEND

- HEAVY DUTY CONCRETE PAVEMENT
- LIGHT DUTY CONCRETE PAVEMENT
- HEAVY DUTY ASPHALT PAVEMENT
- LIGHT DUTY ASPHALT PAVEMENT
- CONCRETE SIDEWALK

SITE KEYNOTE LEGEND (S)

S1 CONSTRUCT LIGHT DUTY CONCRETE PAVEMENT
S2 CONSTRUCT HEAVY DUTY CONCRETE PAVEMENT
S3 CONSTRUCT LIGHT DUTY ASPHALT PAVEMENT
S4 CONSTRUCT HEAVY DUTY ASPHALT PAVEMENT
S5 CONSTRUCT CONCRETE CURB & GUTTER
S6 CONSTRUCT CONCRETE VALLEY GUTTER CURB
S7 CONSTRUCT CONCRETE MEDIAN
S8 CONSTRUCT CONCRETE SIDEWALK
S9 CONSTRUCT CONCRETE SIDEWALK RAMP w/ DETECTABLE WARNING
S10 CONSTRUCT CONCRETE SIDEWALK RAMP
S11 CONSTRUCT CONCRETE SIDEWALK RAMP w/ HANDRAILS (BOTH SIDES)
S12 CONSTRUCT REDI-ROCK BLOCK RETAINING WALL w/ FENCE
S13 INSTALL AMERISTAR FENCE - MONTAGE PLUS, 3 RAIL, MAJESTIC, 4' HEIGHT
S14 INSTALL 3'-4" OF METAL GUARDRAIL (RE: ARCH)
S15 INSTALL BOLLARD
S16 TRASH ENCLOSURE/STORAGE SHED (RE: ARCH)
S17 INSTALL LIGHT POLE, SEE PHOTOMETRIC PLAN
S18 INSTALL RELOCATED STREET LIGHT

SIGN KEYNOTE LEGEND (G)

G1 INSTALL PRE-BROWSE BOARD PER MANUFACTURER'S SPECIFICATIONS
G2 INSTALL OUTDOOR DIGITAL MENU BOARD PER MANUFACTURER'S SPECIFICATIONS
G3 INSTALL "ORDER HERE" CANOPY PER MANUFACTURER'S SPECIFICATIONS
G4 INSTALL DOUBLE ARM GATEWAY PER MANUFACTURER'S SPECIFICATIONS
G5 INSTALL ADA ACCESSIBLE AND VAN ACCESSIBLE PARKING SIGN
G6 INSTALL McDONALD'S "ROLL FORWARD" SIGN, 3 TOTAL
G7 INSTALL McDONALD'S MOBILE ORDER SIGN, 4 TOTAL
G8 INSTALL McDONALD'S "McDELIVERY" PARKING SIGN, 2 TOTAL
G9 INSTALL McDONALD'S DIRECTIONAL SIGN
G10 MONUMENT SIGN, SHOWN FOR LOCATION ONLY DESIGN AND PERMITTING BY OTHERS

PAVEMENT MARKING KEYNOTE LEGEND (M)

M1 INSTALL PARKING LOT ARROW, TYPICAL
M2 INSTALL "DRIVE THRU" WITH DIRECTIONAL ARROW, TYPICAL
M3 INSTALL DIRECTIONAL ARROW, TYPICAL
M4 INSTALL ROLL FORWARD DIRECTIONAL ARROW, TYPICAL
M5 INSTALL "THANK YOU" WITH 8" YELLOW STRIPE
M6 INSTALL 4" SINGLE SOLID YELLOW STRIPE FOR MOBILE ORDER, AND McDELIVERY STALLS, 6 TOTAL
M7 INSTALL 8" SINGLE DASHED YELLOW STRIPE FOR ROLL FORWARD LANE
M8 INSTALL 4" SINGLE SOLID WHITE STRIPE, TYPICAL
M9 INSTALL 6" SINGLE SOLID YELLOW DRIVE THRU STRIPE
M10 INSTALL 4" SINGLE SOLID WHITE STRIPE @ 45°, 2' O.C., TYPICAL
M11 INSTALL ADA ACCESSIBLE SYMBOL, TYPICAL
M12 INSTALL McDONALD'S MOBILE ORDER PARKING SYMBOL, 4 TOTAL
M13 INSTALL DRIVE THRU ARROW

0' 10' 20' 40'
SCALE IN FEET

REV	DATE	DESCRIPTION	BY
	04.10.26	ISSUED FOR PERMIT REVIEW	AJK

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PREPARED FOR: McDonald's USA, LLC

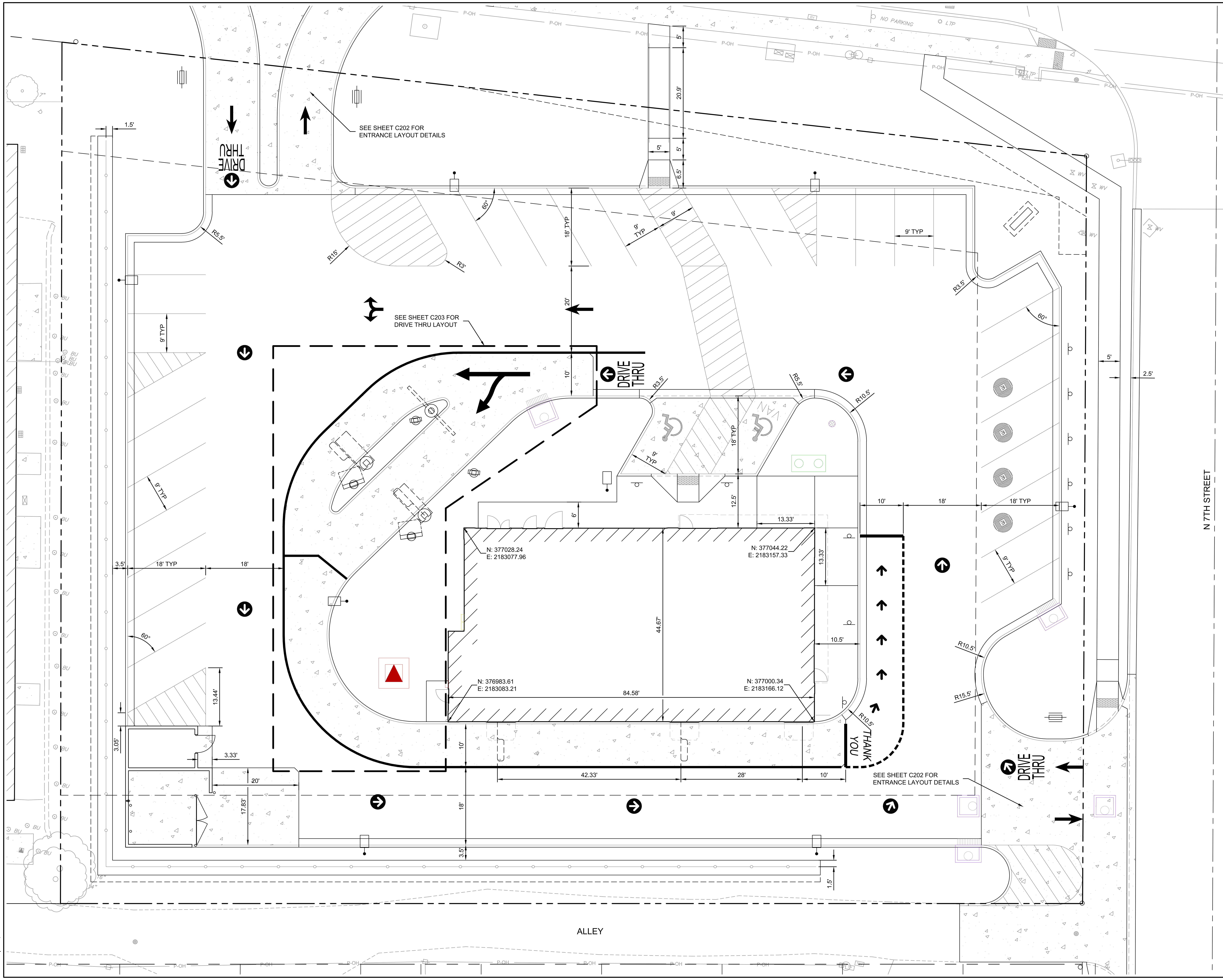
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DRAWN BY: AJK
STD ISSUE DATE:
REVIEWED BY: MAP
DATE ISSUED: 04.10.26

TITLE: SITE PLAN
DESCRIPTION: McDONALD'S RESTAURANT LEAVENWORTH, KANSAS
SITE ID: 015-0404
SITE ADDRESS: 713 METROPOLITAN AVENUE, LEAVENWORTH, KANSAS

015-0404.00.0
SHEET NO. C200

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DATE: Apr 10, 2026 11:34am USER: akruse

NOTE

1. ALL PAVEMENT DIMENSIONS ARE TO FACE OF CURB, OR EDGE OF PAVEMENT WHERE NO CURB IS PRESENT, UNLESS OTHERWISE NOTED. DIMENSIONED TIES BETWEEN PROPERTY LINES AND BUILDING FACES OR PAVEMENT ARE AS INDICATED. THE CONTRACTOR IS RESPONSIBLE FOR MAKING ANY ADJUSTMENTS NECESSARY FOR FOUNDATIONS, BEDDING EXTENSION, SURCHARGING, ETC.

N

0' 5' 10' 20'
SCALE IN FEET

REV	DATE	DESCRIPTION	BY
	04.10.26	ISSUED FOR PERMIT REVIEW	AJK

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DRAWN BY
AJK

STD ISSUE DATE

REVIEWED BY
MAP

DATE ISSUED
04.10.26

TITLE
LAYOUT PLAN

DESCRIPTION
McDONALD'S RESTAURANT
LEAVENWORTH, KANSAS

SITE ID
015-0404

SITE ADDRESS
713 METROPOLITAN AVENUE, LEAVENWORTH, KANSAS

015-0404.00.0

SHEET NO.
C201

NOTE

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N

0' 5' 10' 20'
SCALE IN FEET

REV	DATE	DESCRIPTION	BY
	04.10.26	ISSUED FOR PERMIT REVIEW	AJK

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DRAWN BY	AJK
STD ISSUE DATE	
REVIEWED BY	MAP
DATE ISSUED	04.10.26

TITLE: ENTRANCE LAYOUT PLAN

DESCRIPTION: McDONALD'S RESTAURANT
LEAVENWORTH, KANSAS

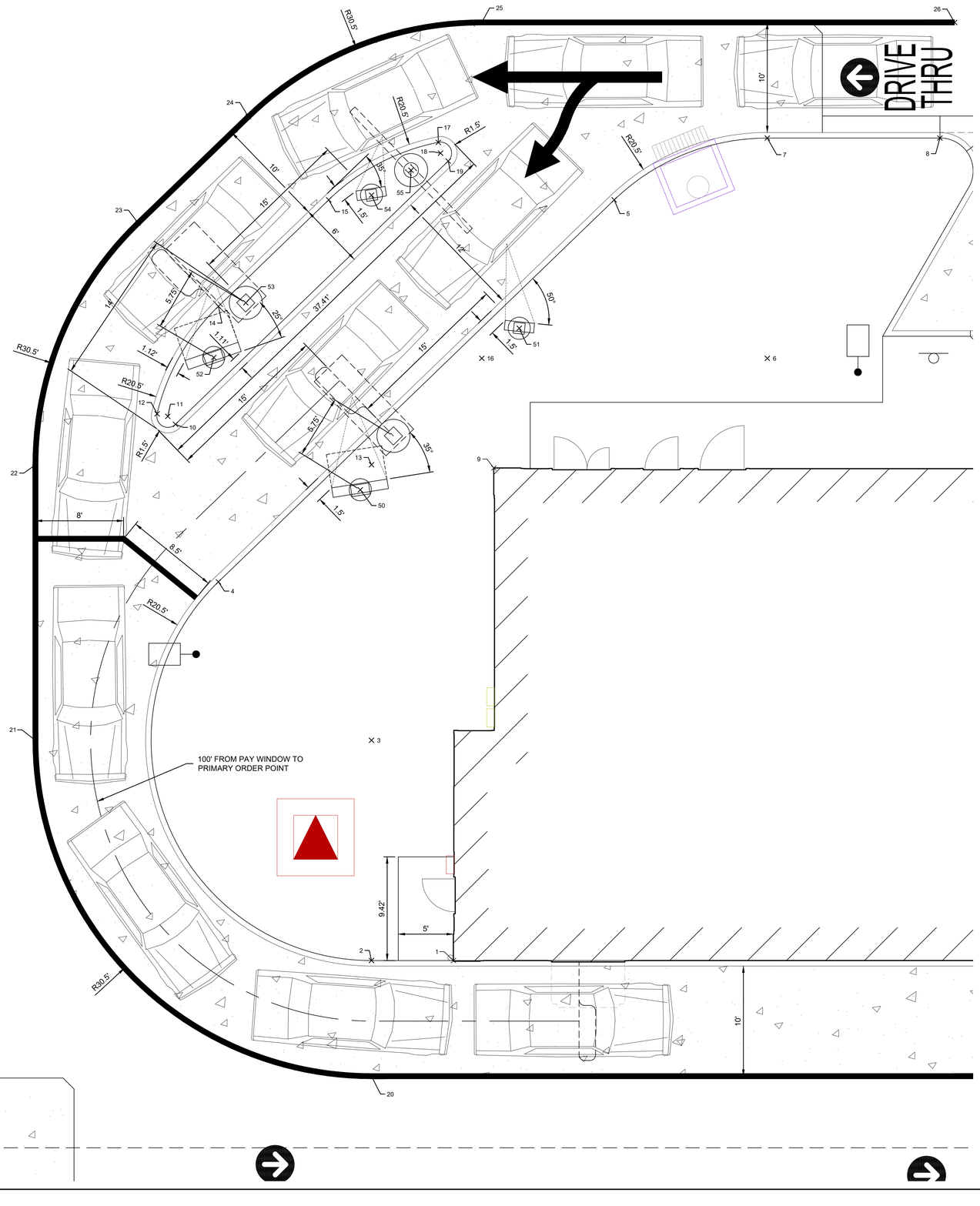
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SITE ADDRESS: 713 METROPOLITAN AVENUE, LEAVENWORTH, KANSAS

SHEET NO.: C202

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DATE: Apr 10, 2026 11:34am USER: akruse



POINT TABLE			
POINT #	NORTHING	EASTING	DESCRIPTION
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2	376982.20	2183075.91	ER
3	377001.81	2183071.97	RP
4	377013.17	2183055.51	ER
5	377054.27	2183083.87	ER
6	377042.90	2183100.33	RP
7	377062.51	2183096.39	ER
8	377065.60	2183111.75	ER
9	377028.24	2183077.96	BLD
10	377026.43	2183048.86	ER
11	377027.00	2183048.04	RP
12	377027.03	2183047.04	ER
13	377026.34	2183067.03	RP
14	377037.70	2183050.57	ER
15	377049.15	2183058.47	ER
16	377037.79	2183074.93	RP
17	377056.23	2183067.20	ER
18	377055.31	2183067.58	RP
19	377054.74	2183068.41	ER
20	376971.91	2183077.98	ES
21	376995.79	2183042.07	ES
22	377020.32	2183037.13	ES
23	377043.67	2183041.93	ES
24	377055.12	2183049.83	ES
25	377067.69	2183068.91	ES
26	377076.16	2183110.98	ES

POINT TABLE			
POINT #	NORTHING	EASTING	DESCRIPTION
50	377023.90	2183066.48	CF
51	377041.13	2183077.72	CF
52	377033.06	2183051.07	CF
53	377038.50	2183052.94	CF
54	377050.34	2183062.19	CF
55	377053.27	2183065.26	CF

LAYOUT NOTES:
1. COORDINATES PROVIDED ON CURBS ARE GIVEN AT THE BACK OF CURB.

2. DIMENSIONS PROVIDED ON CURBS ARE GIVEN AT THE FACE OF CURB.

BLD - BUILDING CORNER
ER - END RADIUS
RP - RADIUS POINT
ES - END OF STRIPE
CF - CENTER OF FOUNDATION

NOTE
1. ALL PAVEMENT DIMENSIONS ARE TO FACE OF CURB, OR EDGE OF PAVEMENT WHERE NO CURB IS PRESENT, UNLESS OTHERWISE NOTED. DIMENSIONED TIES BETWEEN PROPERTY LINES AND BUILDING FACES OR PAVEMENT ARE AS INDICATED. THE CONTRACTOR IS RESPONSIBLE FOR MAKING ANY ADJUSTMENTS NECESSARY FOR FOUNDATIONS, BEDDING EXTENSION, SURCHARGING, ETC.

0' 2.5' 5' 10'
SCALE IN FEET

REV	DATE	DESCRIPTION	BY
	04.10.26	ISSUED FOR PERMIT REVIEW	AJK

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DRAWN BY	REVIEWED BY	DATE ISSUED
AJK	MAP	04.10.26
STD ISSUE DATE		

TITLE: DRIVE THRU LAYOUT PLAN
DESCRIPTION: McDONALD'S RESTAURANT LEAVENWORTH, KANSAS
SITE ID: 015-0404
SITE ADDRESS: 713 METROPOLITAN AVENUE, LEAVENWORTH, KANSAS
015-0404.00.0
SHEET NO. C203

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GRADING PLAN NOTES

1. THE CONTOUR LINES, SPOT ELEVATIONS AND BUILDING FLOOR ELEVATIONS SHOWN ARE TO FINISH GRADE, SURFACE OF PAVEMENT, TOP OF CURBS, ETC. REFER TO PAVEMENT SECTIONS FOR PAVING, SLAB AND AGGREGATE BASE THICKNESS TO DEDUCT PAVEMENT DEPTH FROM ELEVATIONS SHOWN.
2. THE CONTRACTOR SHALL FINISH GRADE SLOPES AS SHOWN NO STEEPER THAN 1 FOOT VERTICAL IN 3 FEET HORIZONTAL.
3. THE CONTRACTOR SHALL GRADE LANDSCAPED AREAS TO PROVIDE POSITIVE DRAINAGE AWAY FROM BUILDING AND SIDEWALKS WHEN FINISH LANDSCAPE MATERIALS ARE IN PLACE.
4. SPOT ELEVATIONS ARE TO EDGE OF PAVEMENT, TOP OF CURB, OR FINISHED GRADE UNLESS OTHERWISE INDICATED. (SEE LEGEND)

NOTE:

MAXIMUM SLOPES ALLOWED FOR ADA ACCESSIBLE ROUTES ARE AS FOLLOWS:
1. PARKING STALLS & ACCESS AISLES: 2.0% MAX. SLOPE IN ANY DIRECTION
2. SIDEWALK RAMPS: 8.33% MAX. RUNNING SLOPE, 2.0% MAX. CROSS SLOPE
3. RAMP LANDINGS: 2.0% MAX. SLOPE IN ANY DIRECTION
4. SIDEWALKS/CROSSWALKS: 5.0% MAX. RUNNING SLOPE, 2.0% MAX. CROSS SLOPE
5. STOOPS: 2.0% MAX.

SPOT ELEVATION LEGEND

TC	TOP OF CURB
FL	FLOWLINE OF CURB
TP	TOP OF PAVEMENT
TS	TOP OF SIDEWALK
TI	TOP OF INLET/STRUCTURE
ME	MATCH EXISTING
FG	FINISHED GRADE
T	TRANSITION
R	RAMP
L	LANDING

NOTE: SPOT ELEVATIONS ARE TRUNCATED. ADD 800.00 TO ALL SPOT ELEVATIONS.

CONTOUR LEGEND

860 EXISTING GROUND CONTOUR

860 FINISHED GROUND CONTOUR

0' 5' 10' 20'
SCALE IN FEET

REV	DATE	DESCRIPTION	BY
	04.10.26	ISSUED FOR PERMIT REVIEW	AJK

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AJK	MAP	04.10.26
STD ISSUE DATE		

TITLE: GRADING PLAN

DESCRIPTION: McDONALD'S RESTAURANT
LEAVENWORTH, KANSAS

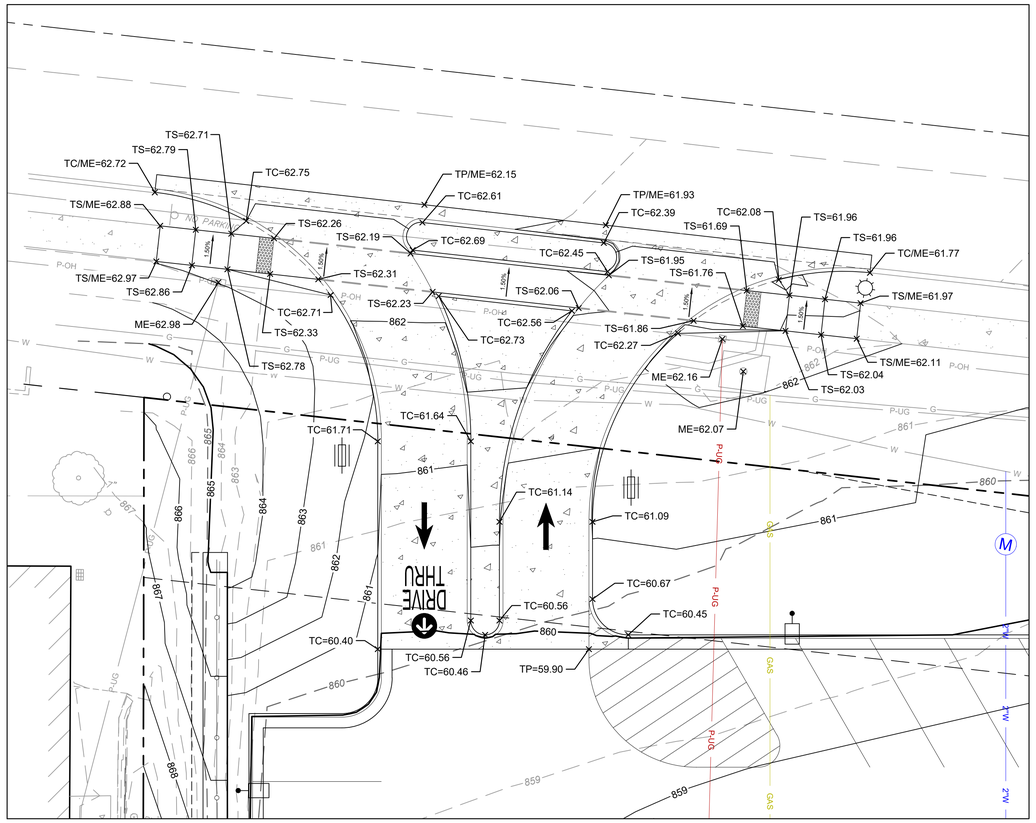
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SITE ADDRESS: 713 METROPOLITAN AVENUE, LEAVENWORTH, KANSAS

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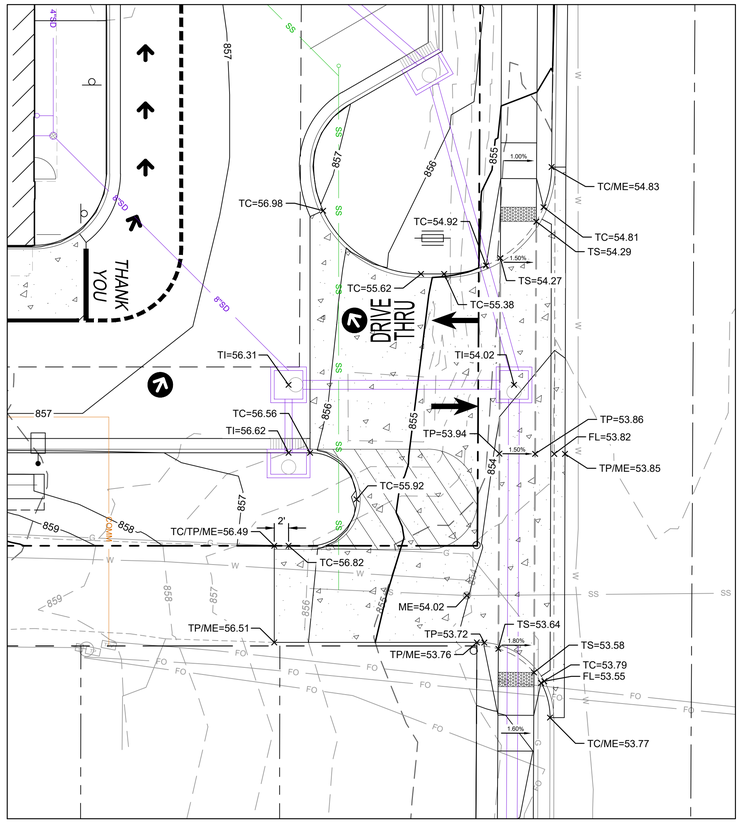
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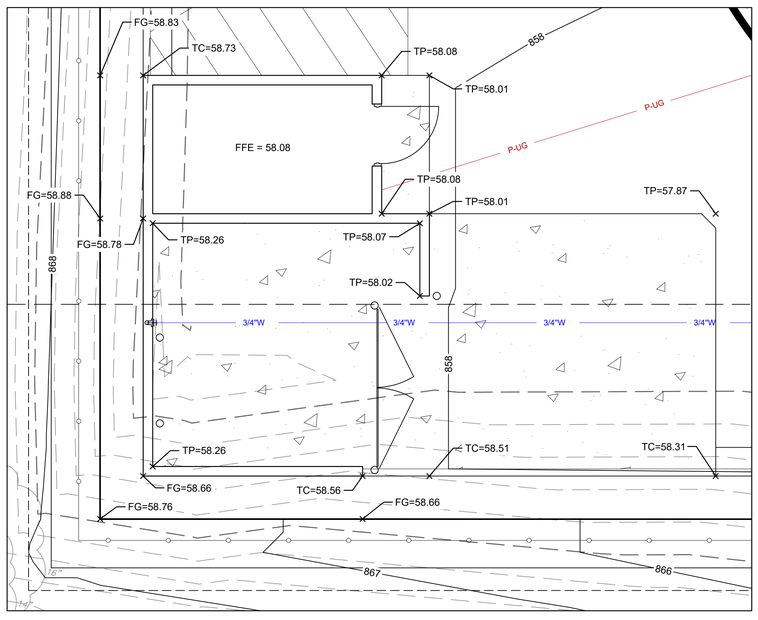
METROPOLITAN AVENUE ENTRANCE

0' 5' 10' 20'
SCALE IN FEET



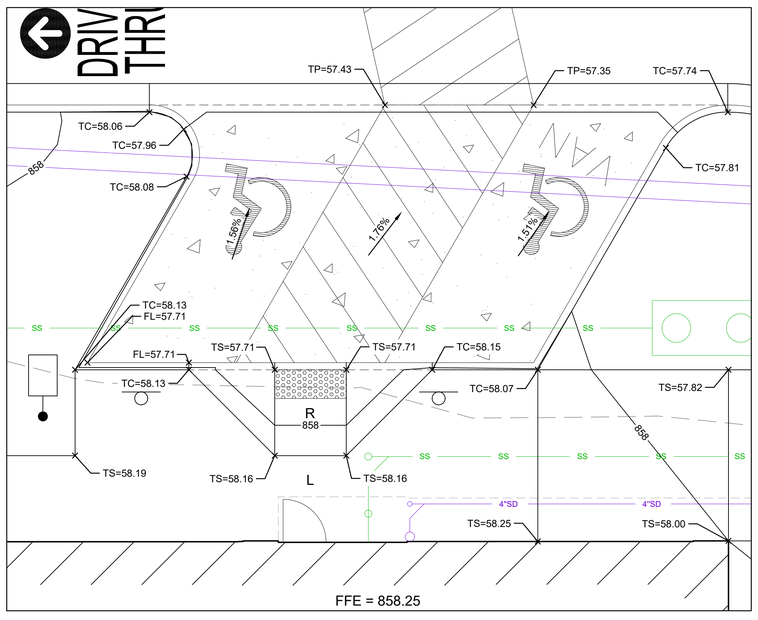
7TH STREET ENTRANCE

0' 5' 10' 20'
SCALE IN FEET



TRASH ENCLOSURE

0' 2.5' 5' 10'
SCALE IN FEET



ADA PARKING

0' 2.5' 5' 10'
SCALE IN FEET

NOTE:

MAXIMUM SLOPES ALLOWED FOR ADA ACCESSIBLE ROUTES ARE AS FOLLOWS:

1. PARKING STALLS & ACCESS AISLES: 2.0% MAX. SLOPE IN ANY DIRECTION
2. SIDEWALK RAMPS: 8.33% MAX. RUNNING SLOPE, 2.0% MAX. CROSS SLOPE
3. RAMP LANDINGS: 2.0% MAX. SLOPE IN ANY DIRECTION
4. SIDEWALKS/CROSSWALKS: 5.0% MAX. RUNNING SLOPE, 2.0% MAX. CROSS SLOPE
5. STOOPS: 2.0% MAX.

SPOT ELEVATION LEGEND

TC	TOP OF CURB
FL	FLOWLINE OF CURB
TP	TOP OF PAVEMENT
TS	TOP OF SIDEWALK
TI	TOP OF INLET/STRUCTURE
ME	MATCH EXISTING
FG	FINISHED GRADE
T	TRANSITION
R	RAMP
L	LANDING

NOTE: SPOT ELEVATIONS ARE TRUNCATED. ADD 800.00 TO ALL SPOT ELEVATIONS.

CONTOUR LEGEND

860 EXISTING GROUND CONTOUR

860 FINISHED GROUND CONTOUR

REV	DATE	DESCRIPTION	BY
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TITLE: GRADING DETAILS

DESCRIPTION: McDONALD'S RESTAURANT
LEAVENWORTH, KANSAS

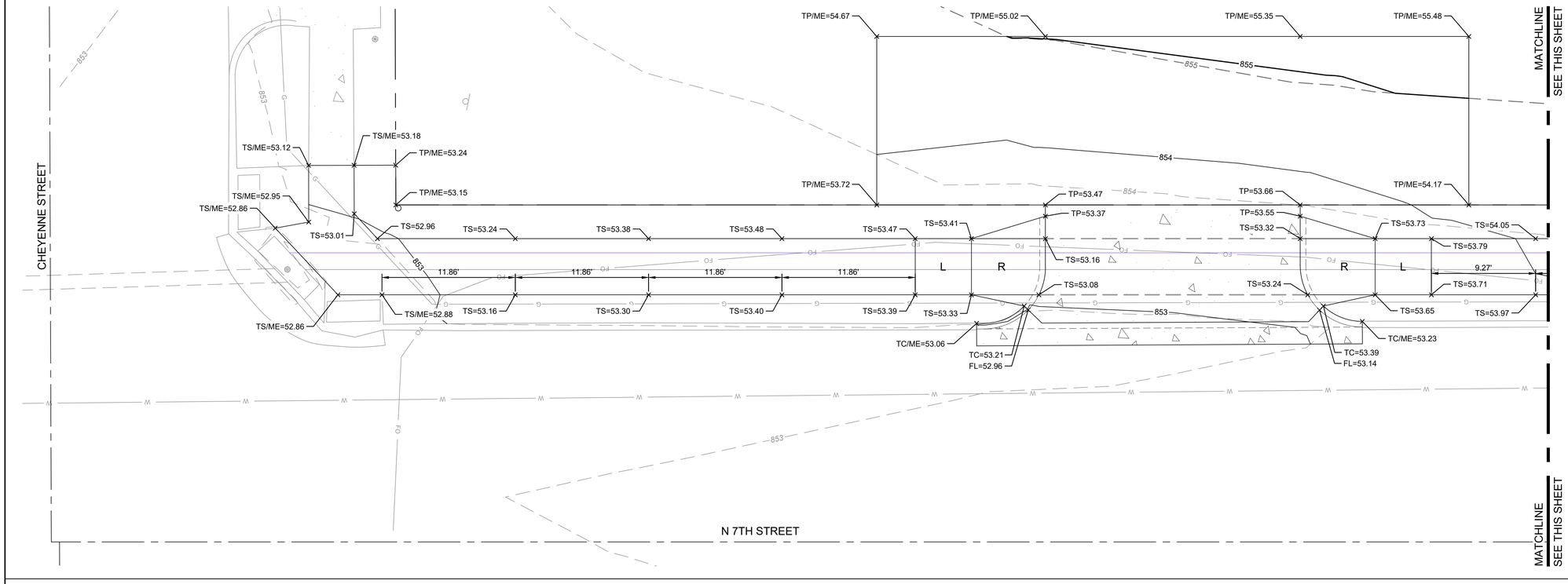
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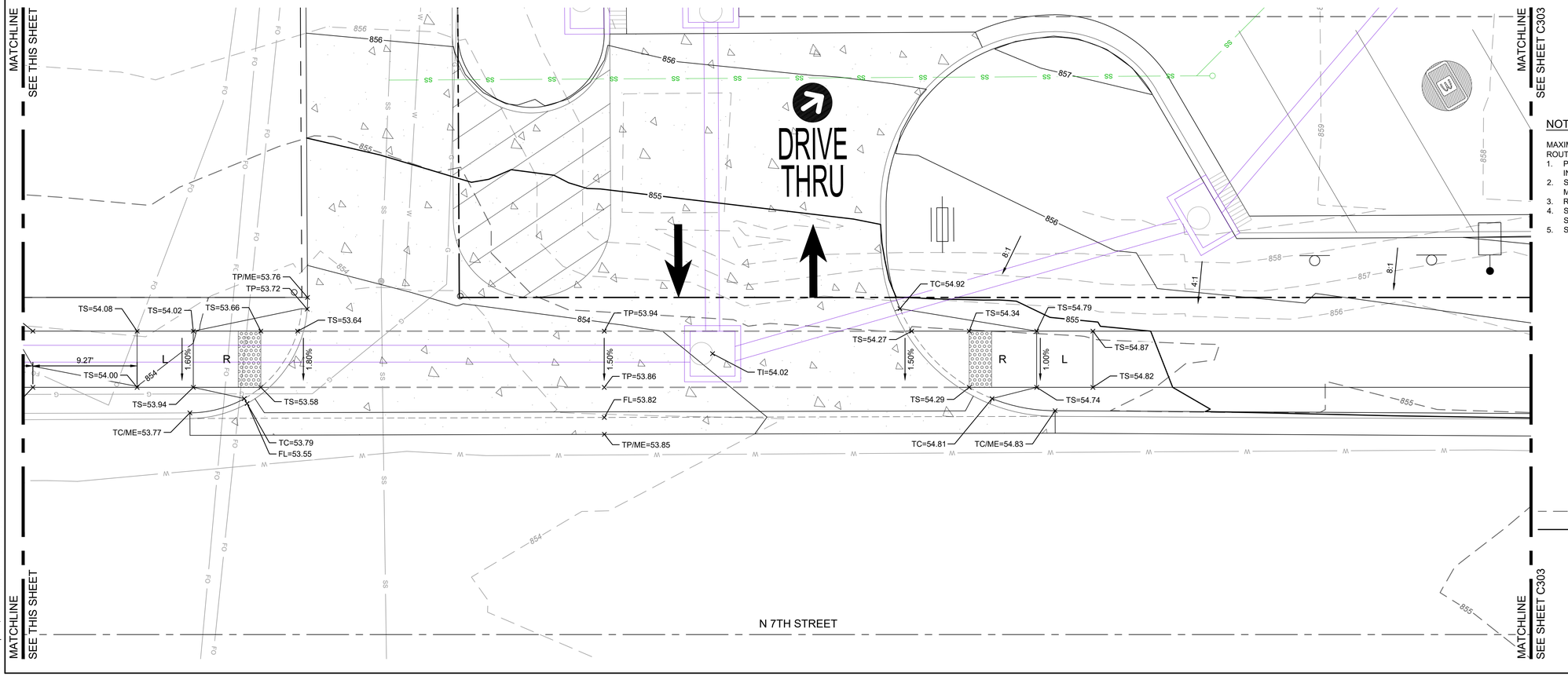
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DATE: Apr 10, 2026 11:33am USER: akruse





NOTE:

MAXIMUM SLOPES ALLOWED FOR ADA ACCESSIBLE ROUTES ARE AS FOLLOWS:

1. PARKING STALLS & ACCESS AISLES: 2.0% MAX. SLOPE IN ANY DIRECTION
2. SIDEWALK RAMPS: 8.33% MAX. RUNNING SLOPE, 2.0% MAX. CROSS SLOPE
3. RAMP LANDINGS: 2.0% MAX. SLOPE IN ANY DIRECTION
4. SIDEWALKS/CROSSWALKS: 5.0% MAX. RUNNING SLOPE, 2.0% MAX. CROSS SLOPE
5. STOOPS: 2.0% MAX.

SPOT ELEVATION LEGEND

TC	TOP OF CURB
FL	FLOWLINE OF CURB
TP	TOP OF PAVEMENT
TS	TOP OF SIDEWALK
TI	TOP OF INLET/STRUCTURE
ME	MATCH EXISTING
FG	FINISHED GRADE
T	TRANSITION
R	RAMP
L	LANDING

NOTE: SPOT ELEVATIONS ARE TRUNCATED. ADD 800.00 TO ALL SPOT ELEVATIONS.

CONTOUR LEGEND

860 EXISTING GROUND CONTOUR

860 FINISHED GROUND CONTOUR

N

0' 2.5' 5' 10'

SCALE IN FEET

REV	DATE	DESCRIPTION	BY
	04.10.26	ISSUED FOR PERMIT REVIEW	AJK

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TITLE
SIDEWALK GRADING DETAILS

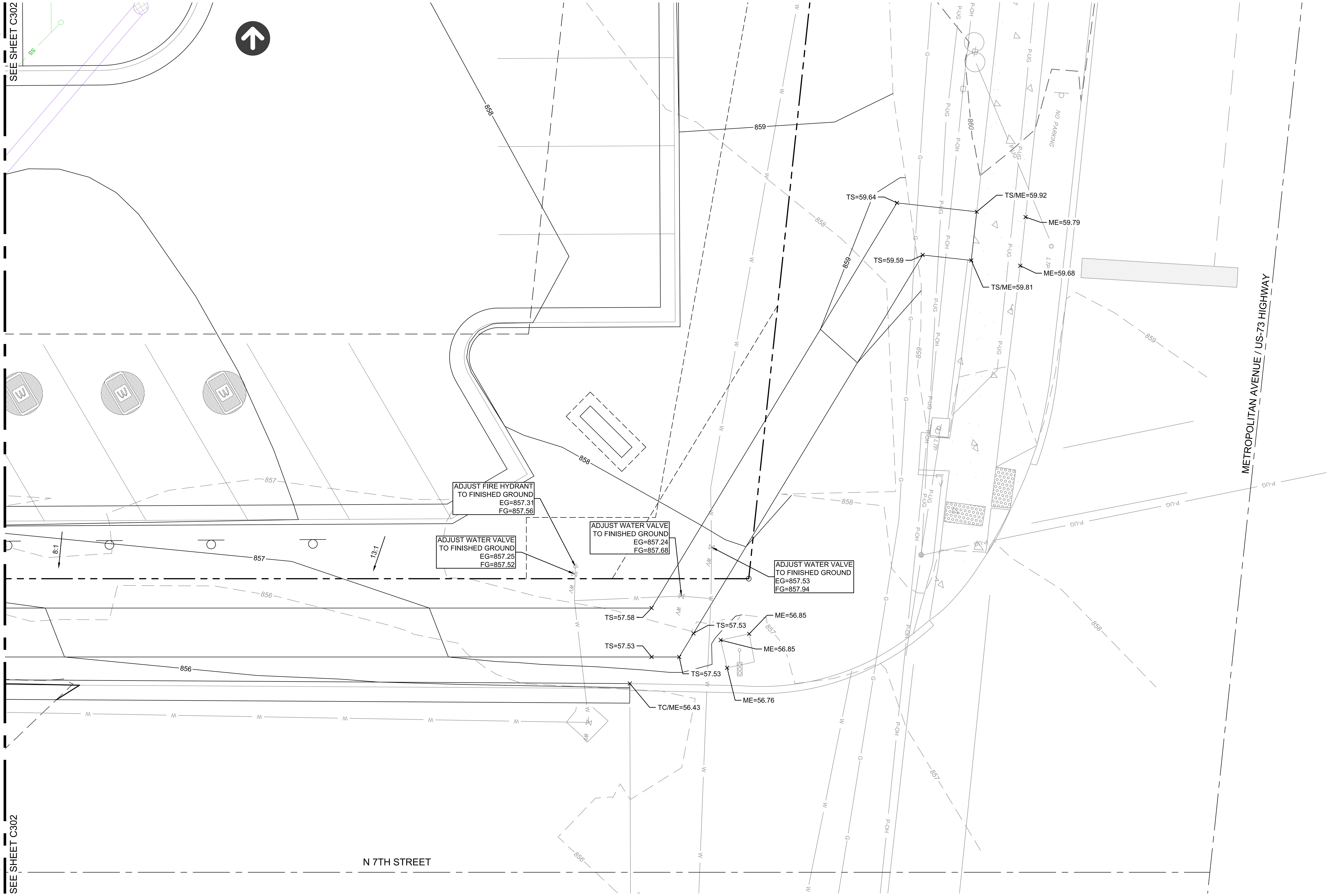
DESCRIPTION
McDONALD'S RESTAURANT
LEAVENWORTH, KANSAS

SITE ID
015-0404

SITE ADDRESS
713 METROPOLITAN AVENUE, LEAVENWORTH, KANSAS

SHEET NO.
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DATE: Apr 10, 2026 11:30am USER: akruse



NOTE:

MAXIMUM SLOPES ALLOWED FOR ADA ACCESSIBLE ROUTES ARE AS FOLLOWS:
1. PARKING STALLS & ACCESS AISLES: 2.0% MAX. SLOPE IN ANY DIRECTION
2. SIDEWALK RAMPS: 8.33% MAX. RUNNING SLOPE, 2.0% MAX. CROSS SLOPE
3. RAMP LANDINGS: 2.0% MAX. SLOPE IN ANY DIRECTION
4. SIDEWALKS/CROSSWALKS: 5.0% MAX. RUNNING SLOPE, 2.0% MAX. CROSS SLOPE
5. STOOPS: 2.0% MAX.

SPOT ELEVATION LEGEND

TC	TOP OF CURB
FL	FLOWLINE OF CURB
TP	TOP OF PAVEMENT
TS	TOP OF SIDEWALK
TI	TOP OF INLET/STRUCTURE
ME	MATCH EXISTING
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T	TRANSITION
R	RAMP
L	LANDING

NOTE: SPOT ELEVATIONS ARE TRUNCATED. ADD 800.00 TO ALL SPOT ELEVATIONS.

CONTOUR LEGEND

860 — EXISTING GROUND CONTOUR
860 — FINISHED GROUND CONTOUR

N

0' 2.5' 5' 10'
SCALE IN FEET

REV	DATE	DESCRIPTION	BY
	04.10.26	ISSUED FOR PERMIT REVIEW	AJK

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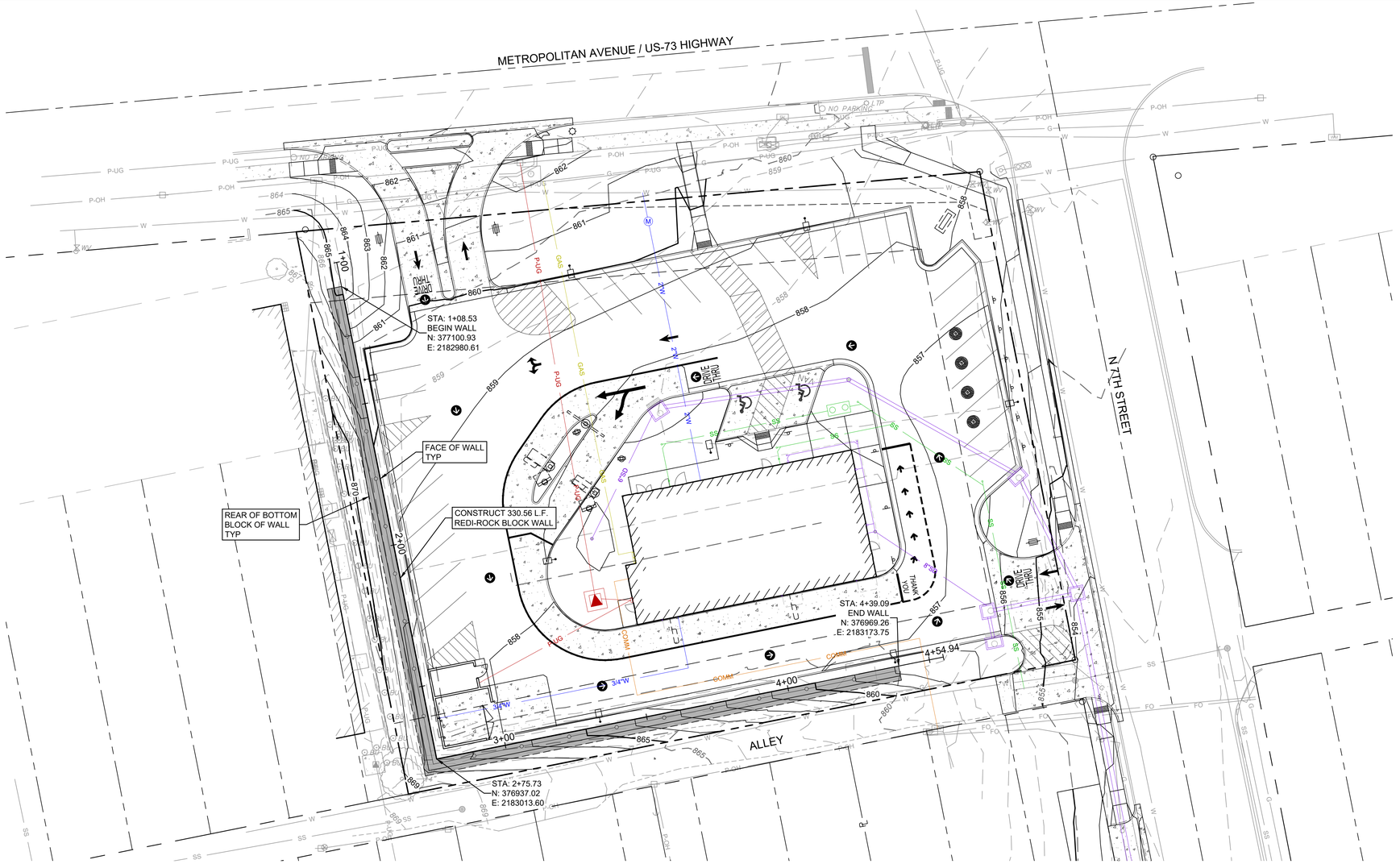
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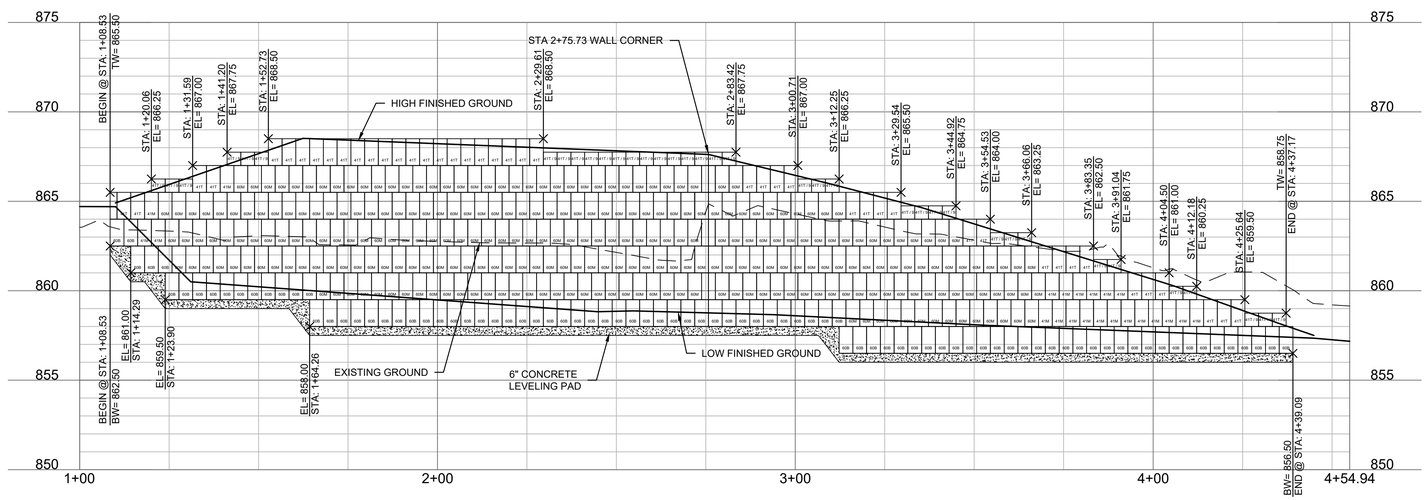
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SITE ID: 015-0404
SITE ADDRESS: 713 METROPOLITAN AVENUE, LEAVENWORTH, KANSAS

015-0404.00.0
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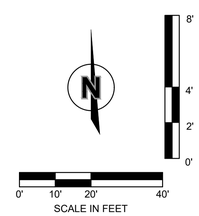
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DATE: Apr 10, 2026 11:30am USER: akruse





NOTES:

1. ALIGNMENT AND COORDINATES PROVIDED ARE LOCATED AT THE FACE OF WALL
2. RETAINING WALL CONTRACTOR SHALL COORDINATE WITH FENCE CONTRACTOR PRIOR TO ANY CONSTRUCTION ACTIVITIES



REV	DATE	DESCRIPTION	BY
	04.10.26	ISSUED FOR PERMIT REVIEW	AJK

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TITLE
RETAINING WALL PLAN & PROFILE

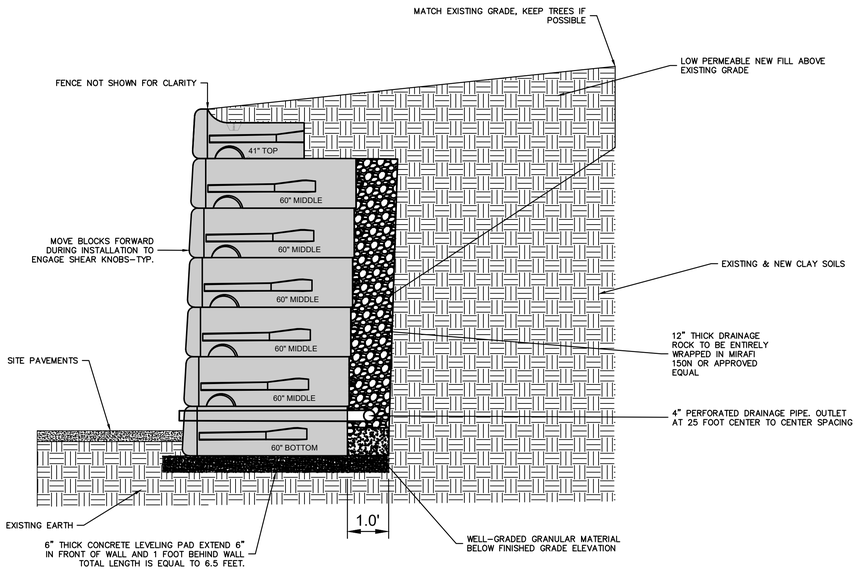
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LEAVENWORTH, KANSAS

SITE ID
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713 METROPOLITAN AVENUE, LEAVENWORTH, KANSAS

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TYPICAL CROSS–SECTION

RETAINING BLOCKS

Block Library

R-41T 41" (1030mm) TOP *			R-41HT 41" (1030mm) HALF TOP *		
Face Texture:	Cobble / Limestone	Kingstone / Ledgestone	Face Texture:	Cobble / Limestone	Kingstone / Ledgestone
Block Weight:	1750 lb (790 kg)	1690 lb (780 kg)	Block Weight:	770 lb (350 kg)	745 lb (330 kg)
Block Volume:	12.22 ft³ (0.346 m³)	11.73 ft³ (0.332 m³)	Block Volume:	5.38 ft³ (0.15 m³)	5.14 ft³ (0.15 m³)
Center of Gravity:	21.3" (540 mm)	20.8" (524 mm)	Center of Gravity:	22.4" (568 mm)	21.8" (550 mm)
R-41M 41" (1030mm) MIDDLE			R-41HM 41" (1030mm) HALF MIDDLE		
Face Texture:	Cobble / Limestone	Kingstone / Ledgestone	Face Texture:	Cobble / Limestone	Kingstone / Ledgestone
Block Weight:	2310 lb (1050 kg)	2240 lb (1020 kg)	Block Weight:	1020 lb (460 kg)	990 lb (450 kg)
Block Volume:	16.14 ft³ (0.457 m³)	15.65 ft³ (0.443 m³)	Block Volume:	7.14 ft³ (0.20 m³)	6.92 ft³ (0.20 m³)
Center of Gravity:	20.4" (518 mm)	19.8" (504 mm)	Center of Gravity:	21.4" (543 mm)	20.8" (528 mm)
R-41B 41" (1030mm) BOTTOM			R-41HB 41" (1030mm) HALF BOTTOM		
Face Texture:	Cobble / Limestone	Kingstone / Ledgestone	Face Texture:	Cobble / Limestone	Kingstone / Ledgestone
Block Weight:	2440 lb (1110 kg)	2370 lb (1070 kg)	Block Weight:	1060 lb (490 kg)	1030 lb (480 kg)
Block Volume:	17.06 ft³ (0.483 m³)	16.56 ft³ (0.469 m³)	Block Volume:	7.58 ft³ (0.21 m³)	7.33 ft³ (0.21 m³)
Center of Gravity:	20.7" (527 mm)	20.2" (514 mm)	Center of Gravity:	21.7" (551 mm)	21.2" (538 mm)

1. Units for dimensions are inches (mm), typical unless noted otherwise.
2. Block production varies with each licensed Redi-Rock manufacturer. Confirm availability before Specifying or Ordering.
3. Center of Gravity is measured from the back of block.
4. Actual block volumes and weights may vary.
5. Weights are based upon a concrete density of 143 lb/ft³ (2291kg/m³).
6. Half blocks contain a fork slot on only one side of the block.
7. Interface Shear knobs are typically 10" (254mm) diameter by 4" (102mm) tall. Smaller knob diameters are available.
8. "41" (1030mm) Top blocks are not typical and used in limited applications.

RETAINING BLOCKS

Block Library

R-60M 60" (1520mm) MIDDLE			R-60HM 60" (1520mm) HALF MIDDLE		
Face Texture:	Cobble / Limestone	Kingstone / Ledgestone	Face Texture:	Cobble / Limestone	Kingstone / Ledgestone
Block Weight:	3060 lb (1490 kg)	3020 lb (1460 kg)	Block Weight:	1340 lb (610 kg)	1300 lb (590 kg)
Block Volume:	23.00 ft³ (0.651 m³)	22.49 ft³ (0.637 m³)	Block Volume:	9.34 ft³ (0.264 m³)	9.09 ft³ (0.258 m³)
Center of Gravity:	31.0" (786 mm)	30.4" (772 mm)	Center of Gravity:	33.7" (856 mm)	33.1" (840 mm)
R-60B 60" (1520mm) BOTTOM			R-60HB 60" (1520mm) HALF BOTTOM		
Face Texture:	Cobble / Limestone	Kingstone / Ledgestone	Face Texture:	Cobble / Limestone	Kingstone / Ledgestone
Block Weight:	3420 lb (1550 kg)	3350 lb (1520 kg)	Block Weight:	1400 lb (630 kg)	1360 lb (620 kg)
Block Volume:	23.50 ft³ (0.677 m³)	23.40 ft³ (0.663 m³)	Block Volume:	9.77 ft³ (0.277 m³)	9.52 ft³ (0.270 m³)
Center of Gravity:	31.8" (802 mm)	31.0" (788 mm)	Center of Gravity:	34.3" (871 mm)	33.7" (856 mm)

1. Units for dimensions are inches (mm), typical unless noted otherwise.
2. Block production varies with each licensed Redi-Rock manufacturer. Confirm availability before Specifying or Ordering.
3. Center of Gravity is measured from the back of block.
4. Actual block volumes and weights may vary
5. Weights are based upon a concrete density of 143 lb/ft³ (2291kg/m³).
6. 60" (1520 mm) are typically used at the bottom of taller walls.
7. Half blocks contain a fork slot on only one side of the block.
8. Interface Shear knobs are typically 10" (254mm) diameter by 4" (102mm) tall. Smaller knob diameters are available.

SPECIFICATION FOR SEGMENTAL RETAINING WALL SYSTEMS

PART 1: GENERAL

1.01 DESCRIPTION

A. WORK INCLUDES FURNISHING AND INSTALLING SEGMENTAL RETAINING WALL (SRW) UNITS TO THE LINES AND GRADES DESIGNATED ON THE PROJECT'S FINAL CONSTRUCTION DRAWINGS OR AS DIRECTED BY THE ENGINEER. ALSO INCLUDED IS FURNISHING AND INSTALLING APPURTENANT MATERIALS REQUIRED FOR CONSTRUCTION OF THE RETAINING WALL AS SHOWN ON THE CONSTRUCTION DRAWINGS.

1.02 REFERENCE STANDARDS

A. SEGMENTAL RETAINING WALL UNITS

1. ASTM C 1372 – STANDARD SPECIFICATION FOR SEGMENTAL RETAINING WALL UNITS
2. ASTM C 140 – STANDARD TEST METHODS OF SAMPLING AND TESTING CONCRETE MASONRY UNITS

B. SOILS

1. ASTM D 698 – MOISTURE DENSITY RELATIONSHIP FOR SOILS, STANDARD METHOD
2. ASTM D 6913 – GRADATION OF SOILS
3. ASTM D 4318 – ATTERBERG LIMITS OF SOIL
4. ASTM D 3080 – DIRECT SHEAR TEST
5. ASTM D 4767 – TRIAXIAL COMPRESSION TEST

D. DRAINAGE PIPE

1. ASTM D 3034 – SPECIFICATION FOR POLYVINYL CHLORIDE (PVC) PLASTIC PIPE
2. ASTM D 1248 – SPECIFICATION FOR CORRUGATED PLASTIC PIPE

E. ENGINEERING DESIGN

1. NATIONAL CONCRETE MASONRY ASSOCIATION, NCMA 3rd EDITION, 5TH PRINTING, 2012.

F. WHERE SPECIFICATIONS AND REFERENCE DOCUMENTS CONFLICT, THE ENGINEER SHALL MAKE THE FINAL DETERMINATION OF APPLICABLE DOCUMENT.

1.03 SUBMITTALS

A. MATERIAL SUBMITTALS: THE CONTRACTOR SHALL SUBMIT MANUFACTURERS' CERTIFICATIONS TWO WEEKS PRIOR TO START OF WORK STATING THAT THE SRW UNITS MEET THE REQUIREMENTS OF THIS SPECIFICATION.

1.04 DELIVERY, STORAGE AND HANDLING

A. CONTRACTOR SHALL CHECK MATERIALS UPON DELIVERY TO ASSURE THAT SPECIFIED TYPE AND GRADE OF MATERIALS HAVE BEEN RECEIVED AND PROPER COLOR AND TEXTURE OF SRW UNITS HAVE BEEN RECEIVED.

B. CONTRACTOR SHALL PREVENT EXCESSIVE MUD, WET CONCRETE, EPOXIES, AND LIKE MATERIALS THAT MAY AFFIX THEMSELVES, FROM COMING IN CONTACT WITH MATERIALS.

C. CONTRACTOR SHALL STORE AND HANDLE MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

D. CONTRACTOR SHALL PROTECT MATERIALS FROM DAMAGE. DAMAGED MATERIALS SHALL NOT BE INCORPORATED INTO THE RETAINING WALL.

PART 2: MATERIALS

2.01 SEGMENTAL RETAINING WALL UNITS

A. SRW UNITS SHALL BE MACHINE FORMED, PORTLAND CEMENT CONCRETE BLOCKS SPECIFICALLY DESIGNED FOR RETAINING WALL APPLICATIONS. SRW UNITS CURRENTLY APPROVED FOR THIS PROJECT ARE: REDI–ROCK GRAVITY BLOCK.

B. COLOR AND TEXTURE OF SRW UNITS SHALL BE SUBMITTED PRIOR TO CONSTRUCTION FOR APPROVAL.

C. SRW UNITS SHALL BE DESIGNED TO STACK ACCORDING TO MANUFACTURER'S SPECIFICATIONS.

D. SRW UNITS SHALL BE PLACED IN A RUNNING BOND PATTERN.

E. SRW UNITS SHALL BE CAPABLE OF PROVIDING OVERLAP OF UNITS ON EACH SUCCESSIVE COURSE OF A CORNER SO THAT WALLS MEETING AT CORNER ARE INTERLOCKED AND CONTINUOUS. SRW UNITS THAT REQUIRE CORNERS TO BE MITERED SHALL NOT BE ALLOWED.

F. SRW UNITS SHALL BE SOUND AND FREE OF CRACKS OR OTHER DEFECTS THAT WOULD INTERFERE WITH THE PROPER PLACING OF THE UNIT OR SIGNIFICANTLY IMPAIR THE STRENGTH OR PERMANENCE OF THE STRUCTURE. CRACKING OR EXCESSIVE CHIPPING MAY BE GROUNDS FOR REJECTION. UNITS SHOWING CRACKS LONGER THAN 1/2" SHALL NOT BE USED WITHIN THE WALL. UNITS SHOWING CHIPS VISIBLE AT A DISTANCE OF 10 FEET FROM THE WALL SHALL NOT BE USED WITHIN THE WALL.

G. MODULAR CONCRETE UNITS SHALL CONFORM TO THE FOLLOWING:

1. COMPRESSIVE STRENGTH: 4,000 PSI MINIMUM
2. ABSORPTION: 8% MAXIMUM FOR STANDARD WEIGHT AGGREGATE
3. DIMENSIONAL TOLERANCE: ± 1/8 INCH FROM NOMINAL UNIT DIMENSIONS
4. UNIT SIZE: VARIES
5. UNIT WEIGHT: VARIES

2.02 LEVELING PAD

A. LEAN CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH OF 2,000 PSI AND 6 INCHES THICK.

B. THE LEVELING PAD SHOULD EXTEND LATERALLY A DISTANCE OF 6 INCHES FROM THE FRONT AND 12 INCHES FROM THE BACK OF THE LOWERMOST SRW UNIT.

2.03 DRAINAGE AGGREGATE

A. INSTALL CLEAN DRAINAGE FILL (AASHTO NO. 57 STONE) MEETING THE FOLLOWING GRADATION BEHIND THE WALL FACE AND BELOW THE FINISHED GRADE AS SHOWN ON TYPICAL SECTION.

SIEVE SIZE	PERCENT PASSING
1 ½ INCH	100
1 INCH	95 TO 100
½ INCH	25 TO 60
NO. 4	0 TO 10
NO. 8	0 TO 5

2.04 DRAINAGE PIPE

A. THE DRAINAGE COLLECTION PIPE SHALL BE PERFORATED OR SLOTTED PVC, OR CORRUGATED HDPE PIPE. THE DRAINAGE PIPE SHALL BE WRAPPED WITH A GEOTEXTILE TO FUNCTION AS A FILTER.

B. DRAINAGE COLLECTION PIPES FROM THE BUILDING SHALL BE INSTALLED TO MAINTAIN GRAVITY FLOW AWAY FROM THE BUILDING AND TO THE POND. THE DRAINAGE COLLECTION PIPES SHALL ATTACH TO THE NEW 8 INCH COLLECTION PIPE BEHIND THE WALL AS SHOWN ON THE TYPICAL DETAILS.

C. DRAINAGE PIPE SHALL BE MANUFACTURED IN ACCORDANCE WITH ASTM D 3034 AND/OR ASTM D 1248

PART 3: DESIGN PARAMETERS

3.01 SOIL

THE SOIL PARAMETERS USED IN THE DESIGN OF THE WALL SYSTEMS WERE DETERMINED WITH INFORMATION OBTAINED FROM THE SUBSURFACE EXPLORATION AND GEOTECHNICAL EVALUATION. THE LEVELING PAD SHOULD BE FOUNDED ON SUITABLE CLAY SOILS.

SOIL PARAMETERS
EFFECTIVE STRESS (DRAINED)

MATERIAL	Φ, DEGREES	UNIT WEIGHT, PCF
CLAYEY SOILS EXISTING AND NEW	24	120
AASHTO NO.57 STONE	36	110

PART 4: CONSTRUCTION

4.01 INSPECTION

A. THE WALL DESIGN ENGINEER (OLSSON) SHALL BE RETAINED BY THE OWNER TO VERIFY THAT THE CONTRACTOR MEETS ALL THE REQUIREMENTS OF THE SPECIFICATION. THIS INCLUDES ALL SUBMITTALS FOR MATERIALS AND DESIGN, QUALIFICATIONS, AND PROPER INSTALLATION OF WALL SYSTEM.

B. CONTRACTOR'S FIELD CONSTRUCTION SUPERVISOR SHALL HAVE DEMONSTRATED EXPERIENCE AND BE QUALIFIED TO DIRECT ALL WORK AT THE SITE.

4.02 EXCAVATION

A. CONTRACTOR SHALL VERIFY LOCATION OF EXISTING STRUCTURES AND UTILITIES PRIOR TO EXCAVATION. CONTRACTOR SHALL ENSURE ALL SURROUNDING STRUCTURES ARE PROTECTED FROM THE EFFECTS OF WALL EXCAVATION. EXCAVATION SUPPORT, IF REQUIRED, IS THE RESPONSIBILITY OF THE CONTRACTOR.

4.03 FOUNDATION PREPARATION

A. FOUNDATION SHALL CONSIST OF ON–SITE CLAY CAPABLE OF SUPPORTING A MINIMUM ALLOWABLE BEARING PRESSURE OF 2,000 PSF.

B. FOUNDATION SHALL BE OBSERVED BY OLSSON TO ENSURE ALL MUCK AND WET SOILS HAVE BEEN REMOVED FROM BEARING SURFACE.

4.04 SRW UNIT INSTALLATION

A. ALL SRW UNITS SHALL BE INSTALLED AT THE PROPER ELEVATION AND ORIENTATION AS SHOWN ON THE FINAL P.E. SEALED WALL PLANS AND DETAILS ON THE CONSTRUCTION PLANS OR AS DIRECTED BY THE WALL DESIGN ENGINEER. THE SRW UNITS SHALL BE INSTALLED IN GENERAL ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. THE SPECIFICATIONS AND DRAWINGS SHALL GOVERN IN ANY CONFLICT BETWEEN THE TWO REQUIREMENTS.

B. FOR EASE OF INSTALLATION, GENERALLY THE BASE COURSE OF SRW UNITS SHALL BE PLACED ON THE LEVELING PAD. THE UNITS SHALL BE LEVELED SIDE–TO–SIDE, FRONT–TO–REAR AND WITH ADJACENT UNITS, AND ALIGNED TO ENSURE INTIMATE CONTACT WITH THE LEVELING PAD. THE BASE COURSE IS THE MOST IMPORTANT TO ENSURE ACCURATE AND ACCEPTABLE RESULTS. NO GAPS SHALL BE LEFT BETWEEN THE FRONT OF ADJACENT UNITS. ALIGNMENT MAY BE DONE BY MEANS OF A STRING LINE OR OFFSET FROM BASE LINE TO THE BACK OF THE UNITS.

C. ALL EXCESS DEBRIS SHALL BE CLEANED FROM TOP OF UNITS.

D. PRIOR TO PLACEMENT OF SUBSEQUENT COURSES OF BLOCKS, THE LEVEL AND ALIGNMENT OF THE UNITS SHALL BE CHECKED AND CORRECTED, WHERE NEEDED.

E. LAYOUT OF CURVES AND CORNERS SHALL BE INSTALLED IN ACCORDANCE WITH THE WALL PLAN DETAILS OR IN GENERAL ACCORDANCE WITH SRW MANUFACTURER'S INSTALLATION GUIDELINES.

4.05 BACKFILL PLACEMENT

A. THE NEWLY PLACED CLAY SOILS IN FRONT OF AND BEHIND THE WALL SHALL BE ON–SITE CLAY SOILS COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY AT A MOISTURE CONTENT BETWEEN OPTIMUM AN +4 PERCENT OF OPTIMUM.

B. ONLY HAND–OPERATED COMPACTION EQUIPMENT SHALL BE ALLOWED WITHIN 3 FEET OF THE BACK OF THE WALL UNITS. COMPACTION WITHIN THE 3 FEET BEHIND THE WALL UNITS SHALL BE ACHIEVED BY AT LEAST THREE (3) PASSES OF A LIGHTWEIGHT MECHANICAL TAMPER, PLATE, OR ROLLER.

C. AT THE END OF EACH DAY'S OPERATION, THE CONTRACTOR SHALL SLOPE THE LAST LEVEL OF BACKFILL AWAY FROM THE WALL FACING AND REINFORCED BACKFILL TO DIRECT WATER RUNOFF AWAY FROM THE WALL FACE.

D. AT COMPLETION OF WALL CONSTRUCTION, BACKFILL SHALL BE PLACED LEVEL WITH FINAL TOP OF WALL ELEVATION. IF FINAL GRADING, PAVING, LANDSCAPING, AND/OR STORM DRAINAGE INSTALLATION ADJACENT TO THE WALL IS NOT PLACED IMMEDIATELY AFTER WALL COMPLETION, TEMPORARY GRADING AND DRAINAGE SHALL BE PROVIDED TO ENSURE WATER RUNOFF IS NOT DIRECTED AT THE WALL NOR ALLOWED TO COLLECT OR POND BEHIND THE WALL UNTIL FINAL CONSTRUCTION ADJACENT TO THE WALL IS COMPLETED.

E. ADD CONCRETE CAP IN AREA BETWEEN EXISTING CURB AND FACE OF NEW BLOCK WALL. THE CONCRETE CAP SHOULD BE IN ACCORDANCE WITH SECTION 824 – CONCRETE SIDEWALK AND SIDEWALK RAMP CONSTRUCTION OF THE OVERLAND PARK CONSTRUCTION STANDARDS AND SPECIFICATIONS MANUAL.

4.06 AS–BUILT CONSTRUCTION TOLERANCES:

A. VERTICAL ALIGNMENT: ± 1.5 INCH OVER ANY 10 FOOT DISTANCE

B. WALL BATTER: WITHIN 2 DEGREES OF DESIGN BATTER

C. HORIZONTAL ALIGNMENT: ± 1.5 INCH OVER ANY 10 FOOT DISTANCE

4.07 CONSTRUCTION ADJACENT TO COMPLETED WALL

A. THE OWNER OR OWNER'S REPRESENTATIVE IS RESPONSIBLE FOR ENSURING THAT CONSTRUCTION BY OTHERS ADJACENT TO THE WALL DOES NOT DISTURB THE WALL OR PLACE TEMPORARY CONSTRUCTION LOADS ON THE WALL THAT EXCEED DESIGN LOADS, INCLUDING LOADS SUCH AS WATER PRESSURE, TEMPORARY GRADES, OR EQUIPMENT LOADING. HEAVY PAVING OR GRADING EQUIPMENT SHALL BE KEPT A MINIMUM OF 10 FEET BEHIND THE BACK OF THE WALL FACE WHERE POSSIBLE. EQUIPMENT WITH WHEEL LOADS IN EXCESS OF 150 PSF LIVE LOAD SHALL NOT BE OPERATED WITHIN 10 FEET OF THE FACE OF THE RETAINING WALL DURING CONSTRUCTION ADJACENT TO THE WALL. CARE SHOULD BE TAKEN BY THE GENERAL CONTRACTOR TO ENSURE WATER RUNOFF IS DIRECTED AWAY FROM THE WALL STRUCTURE UNTIL FINAL GRADING AND SURFACE DRAINAGE COLLECTION SYSTEMS ARE COMPLETED.

REV	DATE	DESCRIPTION	BY
	04.10.26	ISSUED FOR PERMIT REVIEW	AJK

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PREPARED FOR: McDonald's USA, LLC

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DRAWN BY	REVIEWED BY	DATE ISSUED
AJK	MAP	04.10.26
STD ISSUE DATE		

TITLE: RETAINING WALL NOTES & DETAILS

DESCRIPTION: McDONALD'S RESTAURANT
LEAVENWORTH, KANSAS

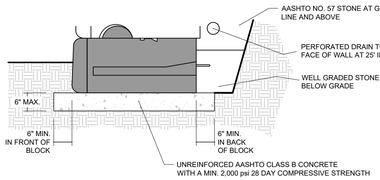
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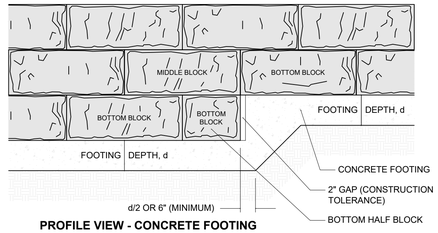
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DATE: Apr 10, 2026 11:32am USER: aktuse



CONCRETE LEVELING PAD

DRAWN BY:	JRJ	TITLE: Leveling Pad Options	REDI-ROCK® 05481 US 31 SOUTH, CHARLEVOIX, MI 49720 (866) 222-8400 ext 3010 • engineering@redi-rock.com www.redi-rock.com
APPROVED BY:	JRJ		
DATE:	06-22-2015		
SHEET:	1 of 1	FILE: 3 Leveling Pad Options 062215.dwg	

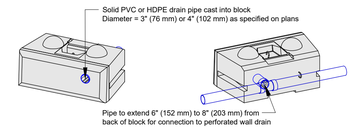
STEP FOOTING DETAILS



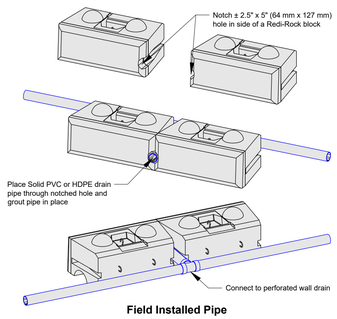
PROFILE VIEW - CONCRETE FOOTING
(No Scale)

DRAWN BY:	JRJ	TITLE: Step Footing Details	REDI-ROCK® 05481 US 31 SOUTH, CHARLEVOIX, MI 49720 (866) 222-8400 ext 3010 • engineering@redi-rock.com www.redi-rock.com
APPROVED BY:	JRJ		
DATE:	06-22-2015		
SHEET:	1 of 1	FILE: 6 Step Footing Details 062215.dwg	

Wall Drain Weep Hole Options



Custom Pipe Cast into Block



Field Installed Pipe

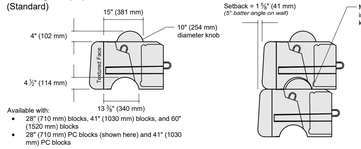
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DRAWN BY:	JRJ	TITLE: Drainage Weep Options	REDI-ROCK® 05481 US 31 SOUTH, CHARLEVOIX, MI 49720 (866) 222-8400 ext 3010 • engineering@redi-rock.com www.redi-rock.com
APPROVED BY:	JRJ		
DATE:	06-22-2015		
SHEET:	1 of 1	FILE: 5 Drainage Weep Options 062215.dwg	

BLOCK-TO-BLOCK SETBACK OPTIONS

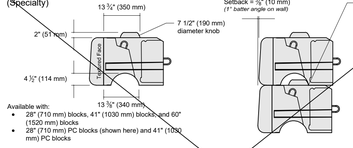
NO SCALE

Five degree (5°) setback
(Standard)



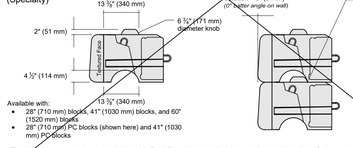
Available with:
- 28" (710 mm) blocks, 41" (1030 mm) blocks, and 60" (1520 mm) blocks
- 28" (710 mm) PC blocks (shown here) and 41" (1030 mm) PC blocks

One degree (1°) setback
(Specialty)



Available with:
- 28" (710 mm) blocks, 41" (1030 mm) blocks, and 60" (1520 mm) blocks
- 28" (710 mm) PC blocks (shown here) and 41" (1030 mm) PC blocks

Zero (0°) setback
(Specialty)

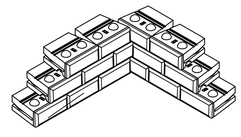


Available with:
- 28" (710 mm) blocks, 41" (1030 mm) blocks, and 60" (1520 mm) blocks
- 28" (710 mm) PC blocks (shown here) and 41" (1030 mm) PC blocks

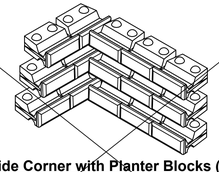
The block-to-block setback available with Redi-Rock is controlled by the size and location of the shear knobs (domes) cast into the blocks. While the 10" (254 mm) diameter knob and the 1 5/8" (41 mm) setback position is the most common configuration, Redi-Rock has three different knob sizes and three different locations available.

DRAWN BY:	JRJ	TITLE: Block Setback Options Normal Batter	REDI-ROCK® 05481 US 31 SOUTH, CHARLEVOIX, MI 49720 (866) 222-8400 ext 3010 • engineering@redi-rock.com www.redi-rock.com
APPROVED BY:	JRJ		
DATE:	06-22-2015		
SHEET:	1 of 1	FILE: 4 Block Setback Options Normal Batter 062215.dwg	

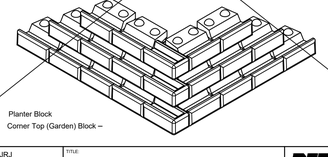
90° Inside Corner



90° Inside Corner with Planter Blocks (41" Series)

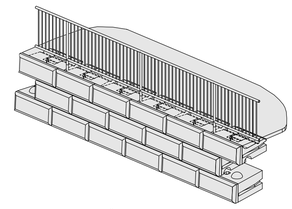


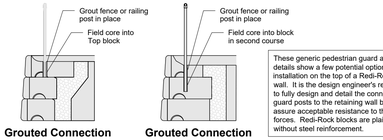
90° Outside Corner with Planter Blocks (41" Series)



DRAWN BY:	JRJ	TITLE: 90° Corner Options	REDI-ROCK® 05481 US 31 SOUTH, CHARLEVOIX, MI 49720 (866) 222-8400 ext 3010 • engineering@redi-rock.com www.redi-rock.com
APPROVED BY:	JRJ		
DATE:	06-22-2015		
SHEET:	1 of 1	FILE: 4 90deg Corner Options 062215.dwg	

Fence or Pedestrian Guard Connection Options

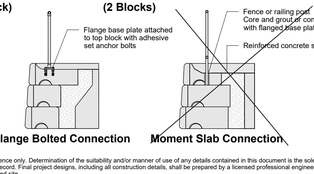




Grouted Connection (1 Block)

Grouted Connection (2 Blocks)

These generic pedestrian guard and fence details show a few potential options for their installation on the top of a Redi-Rock retaining wall. It is the design engineer's responsibility to fully design and detail the connection of the guard posts to the retaining wall blocks and assure acceptable resistance to the applied forces. Redi-Rock blocks are plain concrete, without steel reinforcement.



Flange Bolted Connection

Moment Slab Connection

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DRAWN BY:	JRJ	TITLE: Fence or Pedestrian Guard Connection Options	REDI-ROCK® 05481 US 31 SOUTH, CHARLEVOIX, MI 49720 (866) 222-8400 ext 3010 • engineering@redi-rock.com www.redi-rock.com
APPROVED BY:	JRJ		
DATE:	06-22-2015		
SHEET:	1 of 1	FILE: 5 Fence or Pedestrian Guard Connection Options 062215.dwg	

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I AM ANDREW DILLON LICENSED 04/10/26 22994 KANSAS PROFESSIONAL ENGINEER

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AJK	MAP	04.10.26
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TITLE: RETAINING WALL NOTES & DETAILS

DESCRIPTION: McDONALD'S RESTAURANT
LEAVENWORTH, KANSAS

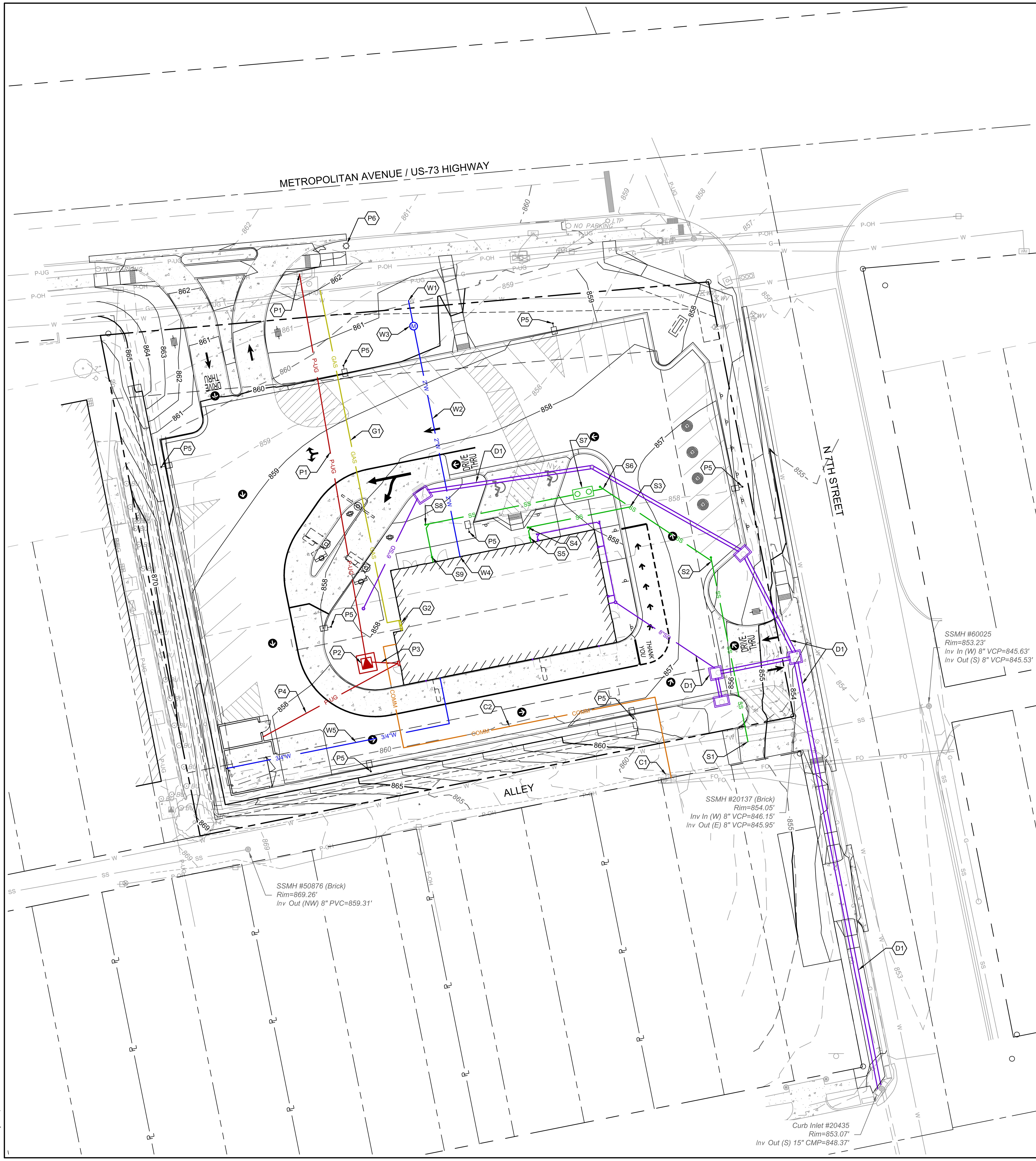
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POWER SERVICE (P)

ALL ALIGNMENT AND LOCATIONS ARE ENGINEER RECOMMENDATIONS ONLY. EVERGY SHALL DETERMINE FINAL DESIGN INCLUDING ALIGNMENTS. CONTRACTOR SHALL COORDINATE ALL INSTALLATION WITH EVERGY.

ALL INSTALLATIONS SHALL CONFORM WITH EVERGY SPECIFICATIONS AND GUIDELINES.

P1 INSTALL 152 L.F. OF 4" PVC CONDUIT WITH PULL STRING, PER EVERGY STANDARDS, FROM RISER AT EXISTING UTILITY POLE TO PROPOSED TRANSFORMER.

P2 CONSTRUCT TRANSFORMER PAD PER EVERGY STANDARDS. EVERGY TO MOUNT TRANSFORMER AND PULL WIRE.

P3 INSTALL 10 L.F. OF 4" PVC CONDUIT W/ PULL STRING FOR SECONDARY POWER SERVICE. COORDINATE BUILDING CONNECTION WITH MEP PLANS.

P4 INSTALL 60 L.F. OF 4" PVC CONDUIT W/ PULL STRING FOR POWER SERVICE TO STORAGE SHED/TRASH ENCLOSURE

P5 INSTALL LIGHT POLE, SEE PHOTOMETRIC PLAN FOR ADDITIONAL INFORMATION

P6 RELOCATE EXISTING STREET LIGHT POLE, SEE SHEET C405

COMMUNICATIONS (C)

COMMUNICATION SERVICE ROUTING SHOWN IS PROPOSED ONLY. FINAL DESIGN BY SERVICE PROVIDER. CONTRACTOR SHALL CONTACT ENGINEER WITH ANY CONFLICTS.

C1 CONNECT TO EXISTING HANDHOLE FOR COMMUNICATION SERVICE. COORDINATE CONNECTION WITH AT&T.

C2 INSTALL 177 L.F. OF 2" PVC CONDUIT W/ PULL STRING FOR COMMUNICATION SERVICE. COORDINATE CONNECTION AT BUILDING WITH MEP PLANS.

SANITARY SEWER (S)

S1 CONNECT TO EXISTING 8" CLAY SANITARY SEWER MAIN PER CITY OF LEAVENWORTH STANDARD DETAILS AND SPECIFICATIONS. FIELD VERIFY INVERT.
INV. IN (N) ELEV. = 846.85
INSTALL 71.8 L.F. OF 4" PVC (SCH-40) @ 4.01% TO S2

S2 INSTALL 4" PVC WYE & CLEANOUT
INV. ELEV. = 849.73
INSTALL 38.1 L.F. OF 4" PVC (SCH-40) @ 2.00% TO S3

S3 INSTALL 4" PVC WYE & CLEANOUT
INV. ELEV. = 850.50
INSTALL 40.7 L.F. OF 4" PVC (SCH-40) @ 5.90% TO S4
INSTALL 12.7 L.F. OF 4" PVC (SCH-40) @ 2.00% TO S6

S4 INSTALL 4" PVC WYE & CLEANOUT
INV. ELEV. = 852.90
INSTALL 4.0 L.F. OF 4" PVC (SCH-40) @ 5.90% TO S5

S5 INSTALL 4" PVC WYE & CLEANOUT
INV. ELEV. = 853.13
INSTALL 2.0 L.F. OF 4" PVC (SCH-40) @ 5.90% TO BUILDING
INV. ELEV. AT BUILDING = 853.25
RE: MEP PLANS FOR CONTINUATION

S6 INSTALL 4" PVC WYE & CLEANOUT
INV. ELEV. = 850.75
INSTALL 4.0 L.F. OF 4" PVC (SCH-40) @ 2.00% TO S7

S7 INSTALL GREASE INTERCEPTOR. RE: MEP FOR ADDITIONAL DETAILS.
INV. IN (W) ELEV. = 851.00
INV. OUT (E) ELEV. = 850.83
INSTALL 58.7 L.F. OF 4" PVC (SCH-40) @ 2.00% TO S8

S8 INSTALL 4" PVC WYE & CLEANOUT
INV. ELEV. = 852.17
INSTALL 12.9 L.F. OF 4" PVC (SCH-40) @ 7.21% TO S9

S9 INSTALL 4" PVC WYE & CLEANOUT
INV. ELEV. = 853.11
INSTALL 2.0 L.F. OF 4" PVC (SCH-40) @ 7.21% TO BUILDING
INV. ELEV. AT BUILDING = 853.25
RE: MEP PLANS FOR CONTINUATION

WATER SERVICE (W)

ALL WATER SERVICE INSTALLATIONS INCLUDING BACKFLOW DEVICES ARE SUBJECT TO FIELD VERIFICATION AND APPROVAL BY THE WATER DEPARTMENT INSPECTOR. CONTRACTOR SHALL COORDINATE ALL INSTALLATIONS WITH LEAVENWORTH WATERWORKS.

W1 INSTALL 2" TAPPING SLEEVE AND CONNECT TO EXISTING 16" WATER MAIN.

W2 INSTALL 102 L.F. 2" TYPE K COPPER DOMESTIC WATER SERVICE LINE (42" MIN. COVER) TO BUILDING

W3 INSTALL 2" WATER METER PER LEAVENWORTH WATERWORKS STANDARDS AND SPECIFICATIONS

W4 CONNECT TO BUILDING (RE: MEP FOR CONTINUATION) BACKFLOW PREVENTER SHALL BE LOCATED WITHIN BUILDING

W5 INSTALL 106 L.F. 3/4" WATER LINE (42" MIN. COVER) FROM BUILDING TO FROST PROOF YARD HYDRANT LOCATED IN TRASH ENCLOSURE (RE: ARCH, MEP)

W6 INSTALL BACKFLOW PREVENTER FOR IRRIGATION WITHIN BUILDING (RE: MEP) METER IS NOT REQUIRED FOR IRRIGATION

NATURAL GAS SERVICE (G)

NATURAL GAS SERVICE ROUTING SHOWN IS PROPOSED ONLY. FINAL DESIGN BY SERVICE PROVIDER. CONTRACTOR SHALL CONTACT ENGINEER WITH ANY CONFLICTS. METER LOCATION AND SERVICE SIZING PER MEP PLAN AND SERVICE PROVIDER.

G1 INSTALL 137 L.F. OF PIPE FOR NATURAL GAS SERVICE. COORDINATE SIZE AND MATERIAL WITH SERVICE PROVIDER.

G2 INSTALL GAS METER AND CONNECT TO BUILDING. COORDINATE BUILDING CONNECTION WITH MEP PLANS.

STORM SEWER (D)

D1 SEE STORM SEWER PLAN & PROFILES ON SHEETS C401-C402

LEGEND

Symbol	Description
W	EXISTING WATER LINE
SS	EXISTING SANITARY SEWER LINE
= = =	EXISTING STORM SEWER LINE
P-OH	EXISTING OVERHEAD POWER LINE
P-UG	EXISTING UNDERGROUND POWER LINE
FO	EXISTING FIBER OPTIC LINE
G	EXISTING GAS LINE
W W	PROPOSED WATER LINE
SS	PROPOSED SANITARY SEWER LINE
(double line)	PROPOSED STORM SEWER LINE
P-UG	PROPOSED UNDERGROUND POWER LINE
COMM	PROPOSED COMMUNICATION LINE
GAS	PROPOSED GAS LINE
— — 1000 — —	EXISTING GROUND CONTOUR
—— 1000 ——	FINISHED GROUND CONTOUR

0' 10' 20' 40'
SCALE IN FEET

REV	DATE	DESCRIPTION	BY
	04.10.26	ISSUED FOR PERMIT REVIEW	AJK

JARED E. LOOMIS LICENSED 26355 4-10-26 KANSAS PROFESSIONAL ENGINEER

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PREPARED FOR:
McDonald's USA, LLC

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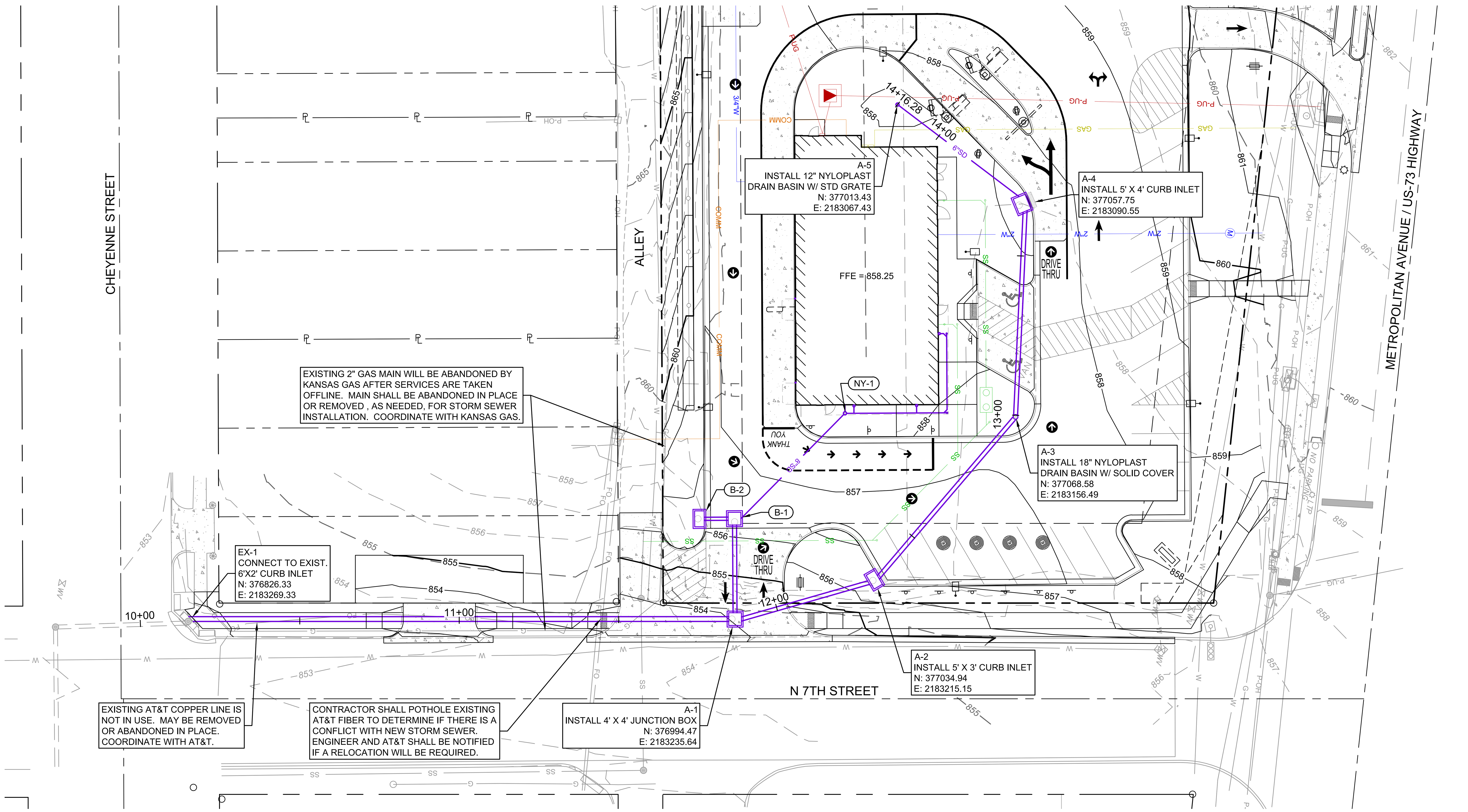
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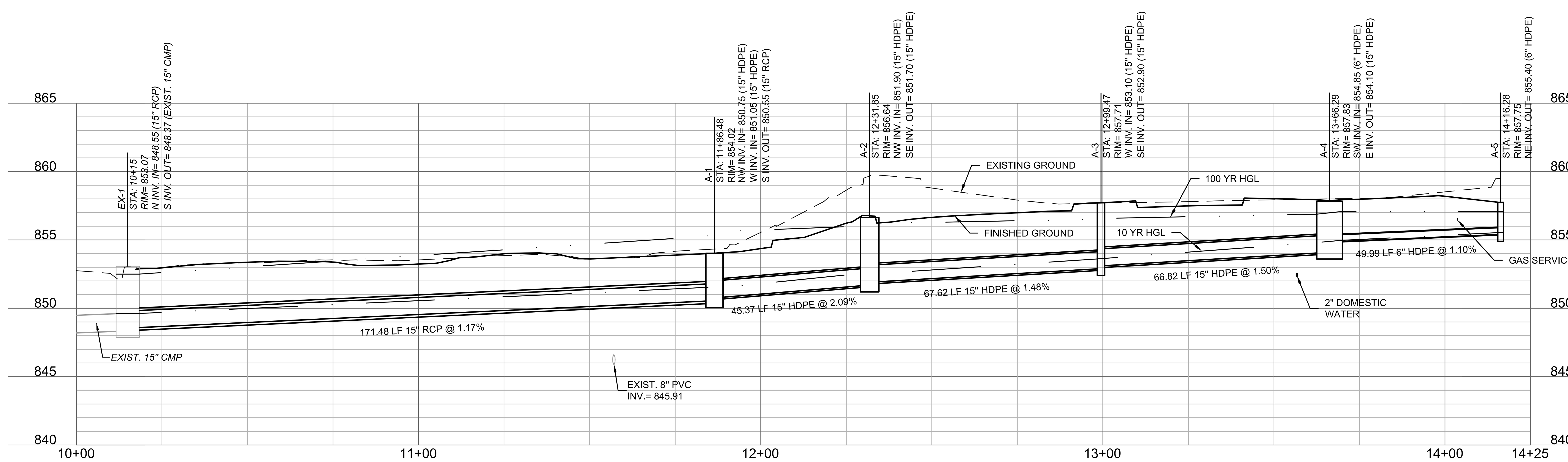
DRAWN BY: AJK
STD ISSUE DATE:
REVIEWED BY: MAP
DATE ISSUED: 04.10.26

TITLE: UTILITY PLAN
DESCRIPTION: McDONALD'S RESTAURANT LEAVENWORTH, KANSAS
SITE ID: 015-0404
SITE ADDRESS: 713 METROPOLITAN AVENUE, LEAVENWORTH, KANSAS

015-0404.00.0
SHEET NO. C400

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DATE: Apr 10, 2026 11:35am USER: akruse



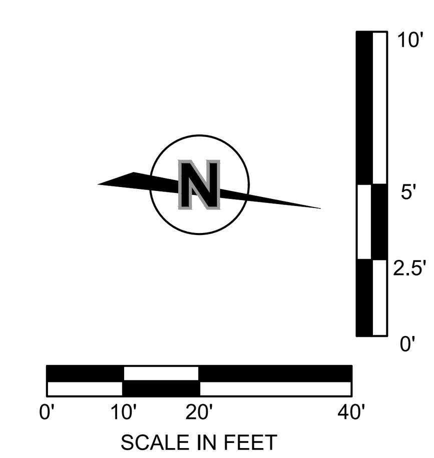


STORM SEWER PLAN NOTES

1. PRIOR TO COMMENCEMENT OF WORK THE CONTRACTOR SHALL NOTIFY AND COORDINATE CONSTRUCTION WITH CITY OF LEAVENWORTH, KANSAS.
2. ALL PIPE LENGTHS AND ELEVATIONS ARE CALCULATED LINEARLY FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
3. COORDINATES PROVIDED ARE AT THE CENTER OF THE STRUCTURES ON JUNCTION BOXES AND THE BACK OF CURB AT THE CENTER OF STRUCTURE AT CURB INLETS. ADDITIONAL COORDINATES PROVIDED ARE PER LOCAL CODES AND ORDINANCES OR AS AN AID WHEN ORIENTING THE BOX DURING INSTALLATION.
4. THE CONTRACTOR SHALL EXPOSE EXISTING UTILITIES AT LOCATIONS OF POSSIBLE CONFLICT AND POINTS OF CONNECTION PRIOR TO ANY CONSTRUCTION OF STORM SEWER.
5. STORM SEWER TRENCHES SHALL BE CONSTRUCTED SUCH THAT UNDISTURBED EXISTING SOIL OR FILL COMPACTED TO 95% PROCTOR DENSITY IS AT A DEPTH THAT IS 18" ABOVE TOP OF PROPOSED PIPE.
6. STRUCTURE INVERT CHANNELS SHALL BE SMOOTH, CIRCULAR, AND CONFORMING TO ½ THE ADJACENT PIPE SECTION (INVERT TO CENTER). CHANGES IN DIRECTION OF FLOW SHALL BE MADE WITH A SMOOTH CURVE AND MAINTAIN SHAPE THROUGHOUT. CHANGES IN GRADE OF ADJACENT PIPES SHALL BE TRANSITIONED SMOOTHLY AND EVENLY THROUGH THE STRUCTURE.
7. PIPE PENETRATIONS SHALL BE GROUTED TO ENSURE WATERTIGHT SEALS.
8. REINFORCED CONCRETE PIPE (R.C.P.) SHALL BE MANUFACTURED IN ACCORDANCE WITH THE PROVISIONS OF A.S.T.M. C-76 AND SHALL BE CLASS III, UNLESS OTHERWISE NOTED. MASTIC JOINTS ARE REQUIRED ON ALL PIPE SHAPES.
9. ALL PIPE LESS THAN 8" SHALL BE SCHEDULE 40.

NOTE

PRIOR TO ANY CONSTRUCTION ACTIVITIES AND PROCUREMENT OF MATERIALS, CONTRACTOR SHALL POTHOLE EXISTING UTILITIES TO VERIFY THERE ARE NO CONFLICTS WITH NEW STORM SEWER. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY CONFLICTS.



REV	DATE	DESCRIPTION	BY
	04.10.26	ISSUED FOR PERMIT REVIEW	AJK

JARED E. LOOMIS
LICENSED 26355
KANSAS PROFESSIONAL ENGINEER
Jared E. Loomis 4-10-26

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PREPARED FOR:
McDonald's USA, LLC

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DRAWN BY: AJK
STD ISSUE DATE:
REVIEWED BY: MAP
DATE ISSUED: 04.10.26

TITLE: STORM SEWER PLAN & PROFILE

DESCRIPTION: McDONALD'S RESTAURANT LEAVENWORTH, KANSAS

SITE ADDRESS: 713 METROPOLITAN AVENUE, LEAVENWORTH, KANSAS

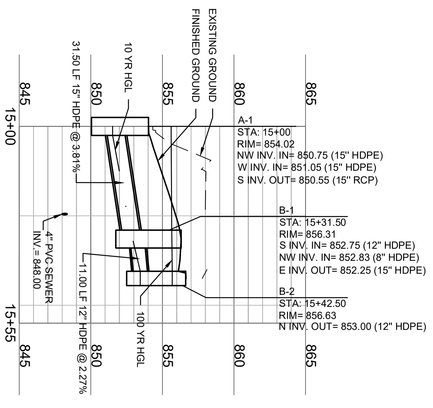
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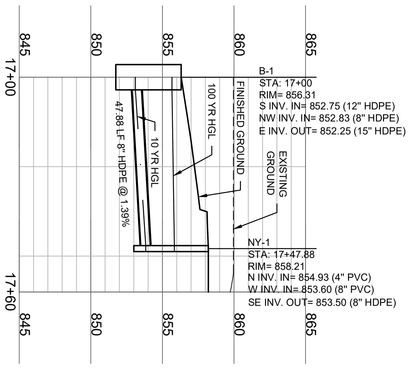
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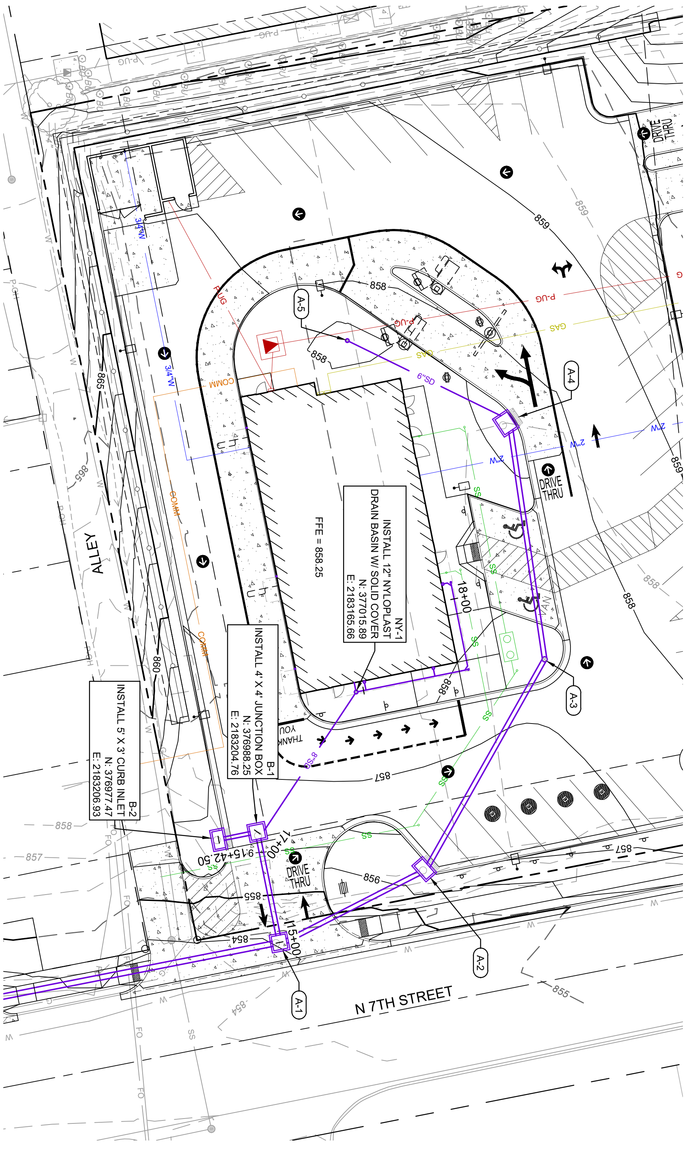
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DATE: Apr 10, 2026 11:33am USER: akruse







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SCALE IN FEET
0' 2.5' 5' 10'

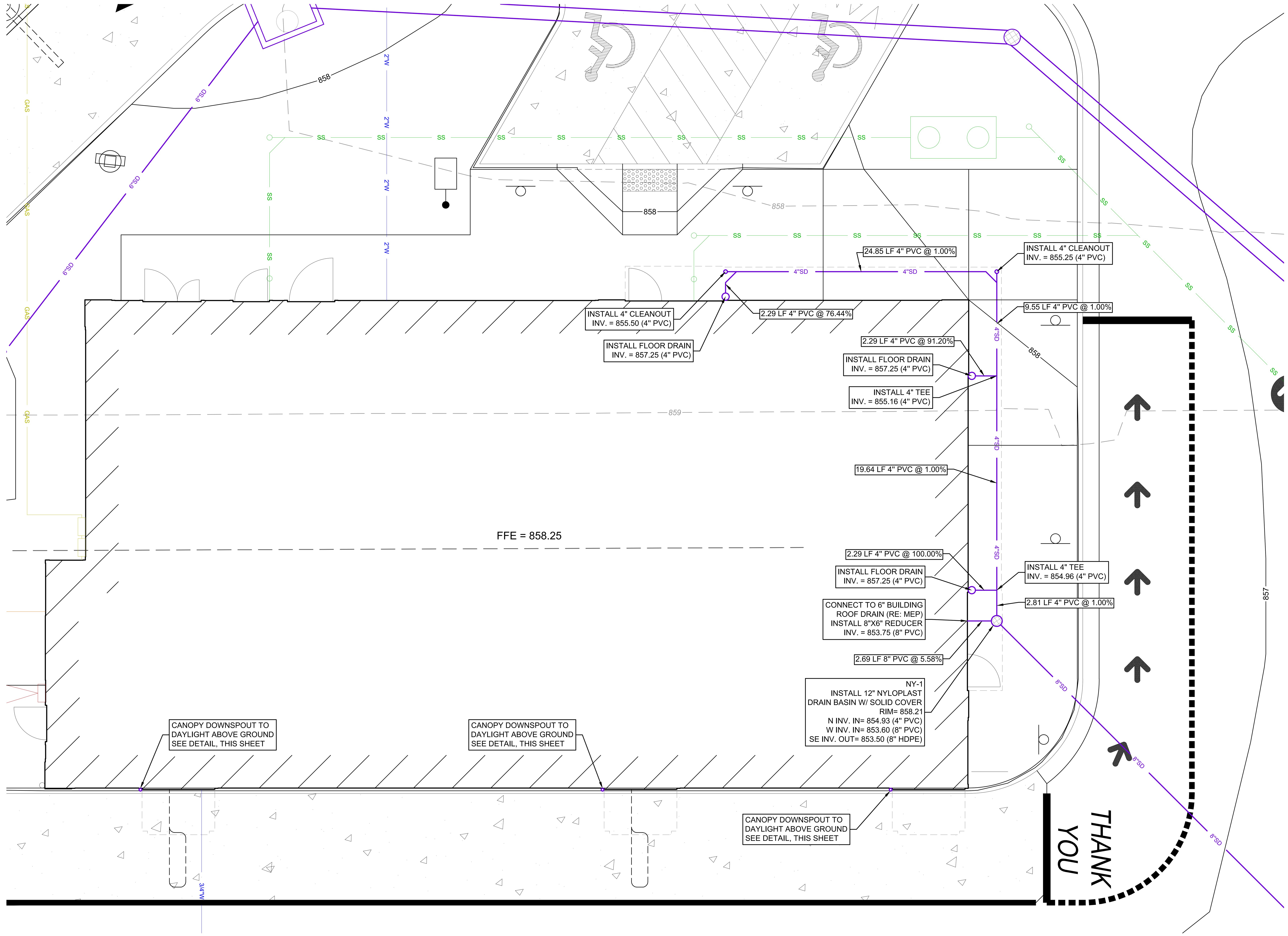
SHEET NO. C402	TITLE: STORM SEWER PLAN & PROFILE	DRAWN BY: AJK	PREPARED FOR: McDonald's USA, LLC
015-0404.00.0	DESCRIPTION: McDONALD'S RESTAURANT LEAVENWORTH, KANSAS	STD ISSUE DATE	
		REVIEWED BY: MAP	
		DATE ISSUED: 04.10.26	
	SITE ID: 015-0404	SITE ADDRESS: 713 METROPOLITAN AVENUE, LEAVENWORTH, KANSAS	

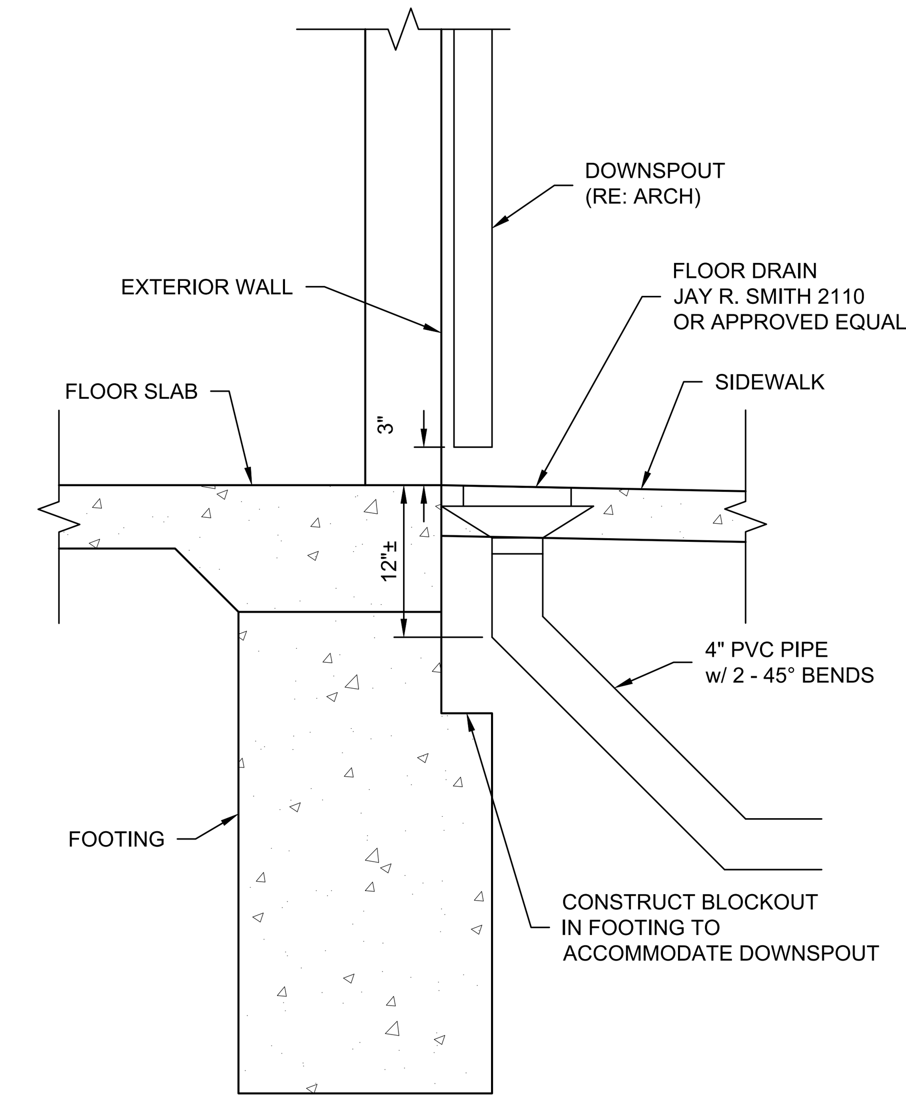
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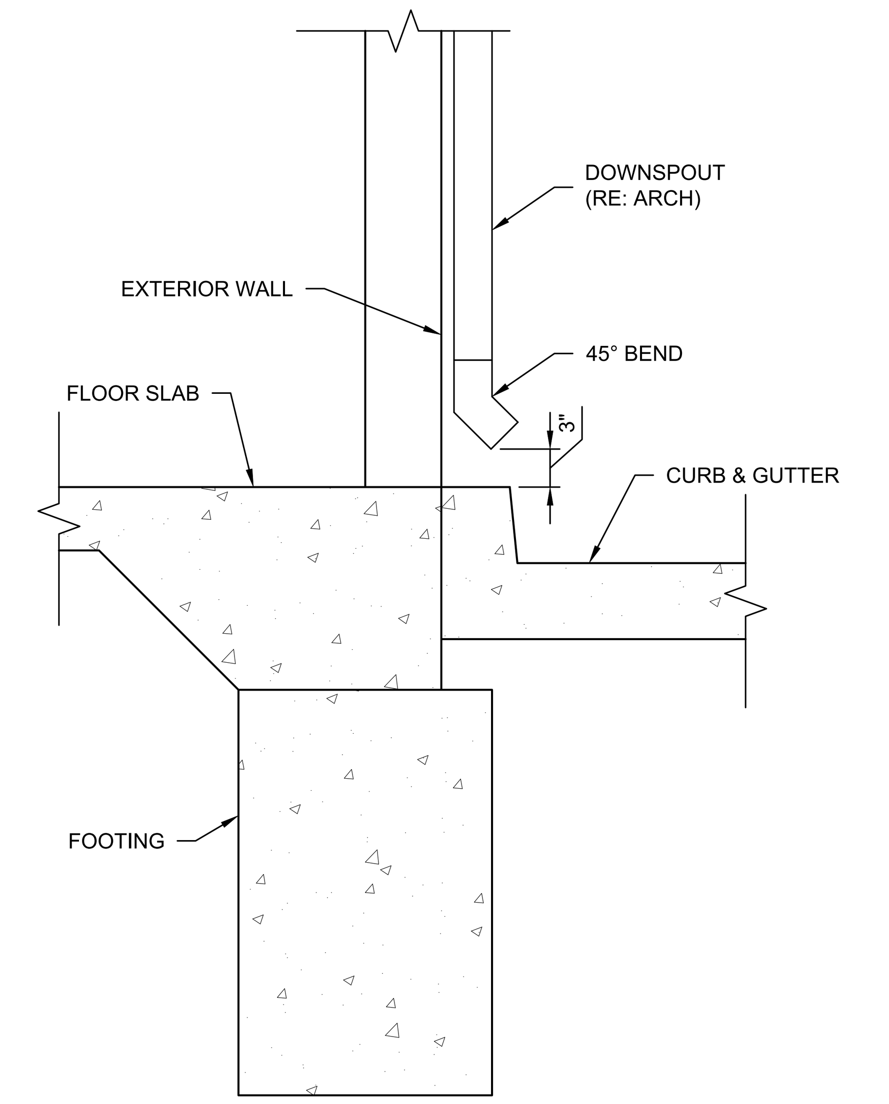
JARED T. KRUSE — 25056 — REGISTERED PROFESSIONAL ENGINEER — STATE OF KANSAS
Jared T. Kruse 4-10-26

REV	DATE	DESCRIPTION	BY
	04.10.26	ISSUED FOR PERMIT REVIEW	AJK



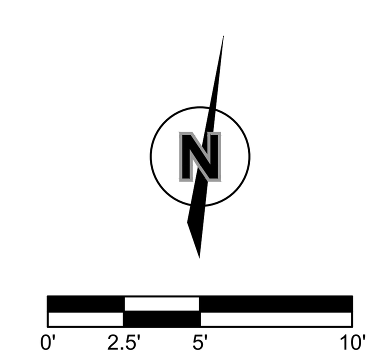


SIDEWALK LOCATION



DRIVE THRU LOCATION

DOWNSPOUT DETAILS
NOT TO SCALE



REV	DATE	DESCRIPTION	BY
	04.10.26	ISSUED FOR PERMIT REVIEW	AJK

JARED E. LOOMIS LICENSED 26355 4-10-26 KANSAS PROFESSIONAL ENGINEER

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DRAWN BY: AJK
STD ISSUE DATE
REVIEWED BY: MAP
DATE ISSUED: 04.10.26

TITLE: CANOPY DRAIN PLAN

DESCRIPTION: McDONALD'S RESTAURANT LEAVENWORTH, KANSAS

SITE ID: 015-0404
SITE ADDRESS: 713 METROPOLITAN AVENUE, LEAVENWORTH, KANSAS

015-0404.00.0

SHEET NO. C403

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DATE: Apr 10, 2026 11:31am USER: akruse



LineNo.	LineID	Drainage Area	Total Area	Runoff Coef	Tc	Inlet t	Sys.	Incr Q	Total Runoff	Line Type	Line Size	n-value	Pipe	Invert El Up	Invert El Dn	Line Length	Line Slope	Capac Full	Vel Actual	Loss Coeff	Minor loss	Energy Loss	HGL Dn	HGL Up	HGL Incr	Gr-nd/Rim	nRev Up	R/im-Hw
		(ac)	(ac)	(C)	(min)	(in/hr)	(cfs)	(cfs)	(cfs)		(in)		(ft)	(ft)	(ft)	(ft)	(%)	(cfs)	(ft/s)		(ft)	(ft)	(ft)	(ft)	(ft)			
1	A1- EX1	0.00	1.27	0.00	8.3	0.00	0.00	8.19	C=	15	0.013	848.55	830.55	171.482	1.17	6.97	5.48	0.50	0.35	2.761	852.50	855.26	853.61	854.02	-1.59	2.50	
2	A2- A1	0.26	0.97	0.77	8.1	7.24	6.44	1.45	4.33	C=	15	0.013	850.75	831.70	45.365	2.09	9.34	5.18	0.50	0.19	0.000	851.52	852.54	853.61	854.02	4.10		
3	A3- A2	0.00	0.71	0.00	7.7	0.00	6.54	0.00	3.09	C=	15	0.013	851.90	832.90	67.624	1.48	7.85	4.29	0.50	n/a	0.000	852.54	853.61	853.61	854.64	4.10		
4	A4- A3	0.68	0.71	0.68	7.3	7.24	6.63	3.35	3.13	C=	15	0.013	853.10	834.10	66.819	1.50	7.90	5.20	1.00	0.29	0.000	853.65	854.81	854.81	855.64	3.02		
5	A5- A4	0.03	0.33	0.33	5.0	7.24	7.24	0.07	0.07	C=	6	0.013	854.85	835.40	49.991	1.10	0.39	12.60	3.69	0.50	0.000	854.97	855.53	855.53	856.31	2.22		
6	B1- A1	0.00	0.30	0.00	5.6	0.00	7.08	0.00	1.65	C=	15	0.013	851.05	832.25	31.499	3.81	12.60	3.69	1.00	0.05	0.000	855.53	855.53	855.53	856.31	3.55		
7	NY1- B1	0.08	0.90	0.90	5.0	7.24	7.24	0.52	0.52	C=	8	0.013	852.83	833.50	49.964	1.34	1.40	3.32	1.00	0.13	0.000	853.11	853.84	853.84	838.21	4.37		
8	B2- B1	0.22	0.73	0.73	5.0	7.24	7.24	1.16	1.16	C=	12	0.013	852.75	833.00	11.000	2.27	5.37	4.40	1.00	0.17	0.000	853.07	853.45	853.45	856.63	3.18		

100 YEAR HYDRAULIC RESULTS

LineNo.	LineID	Drainage Area	Total Area	Runoff Coef	Tc	Inlet t	Sys.	Incr Q	Total Runoff	Line Type	Line Size	n-value	Pipe	Invert El Up	Invert El Dn	Line Length	Line Slope	Capac Full	Vel Actual	Loss Coeff	Minor loss	Energy Loss	HGL Dn	HGL Up	HGL Incr	Gr-nd/Rim	nRev Up	R/im-Hw
		(ac)	(ac)	(C)	(min)	(in/hr)	(cfs)	(cfs)	(cfs)		(in)		(ft)	(ft)	(ft)	(ft)	(%)	(cfs)	(ft/s)		(ft)	(ft)	(ft)	(ft)	(ft)			
1	A1- EX1	0.00	1.27	0.00	7.4	0.00	9.05	0.00	8.19	C=	15	0.013	848.55	830.55	171.482	1.17	6.97	5.48	0.50	0.35	2.761	852.50	855.26	853.61	854.02	-1.59	2.50	
2	A2- A1	0.26	0.97	0.77	7.3	9.83	9.09	1.97	6.12	C=	15	0.013	850.75	831.70	45.365	2.09	9.34	4.98	0.5	0.19	0.487	855.61	856.01	856.21	856.64	0.43		
3	A3- A2	0.00	0.71	0.00	7.0	0.00	9.19	0.00	4.34	C=	15	0.013	851.90	832.90	67.624	1.48	7.85	3.54	0.3	0.06	0.305	856.21	856.51	856.57	857.71	1.14		
4	A4- A3	0.68	0.71	0.68	6.7	9.83	9.28	4.55	4.38	C=	15	0.013	853.10	834.10	66.819	1.50	7.90	3.57	1	0.20	0.308	856.57	856.88	857.08	857.83	0.75		
5	A5- A4	0.03	0.33	0.33	5.0	9.83	9.83	0.10	0.10	C=	6	0.013	854.85	835.40	49.991	1.10	0.39	0.50	1	0.00	0.015	857.08	857.09	857.10	857.75	0.65		
6	B1- A1	0.00	0.30	0.00	5.4	0.00	9.69	0.00	2.25	C=	15	0.013	851.05	832.25	31.499	3.81	12.60	1.84	0.5	0.03	0.038	855.61	855.65	855.67	856.31	0.64		
7	NY1- B1	0.08	0.90	0.90	5.0	9.83	9.83	0.71	0.71	C=	8	0.013	852.83	833.50	49.964	1.34	1.40	2.03	1	0.06	0.172	855.67	855.84	855.91	838.21	2.30		
8	B2- B1	0.22	0.73	0.73	5.0	9.83	9.83	1.58	1.58	C=	12	0.013	852.75	833.00	11.000	2.27	5.37	2.01	1	0.06	0.022	855.67	855.69	855.76	856.63	0.87		

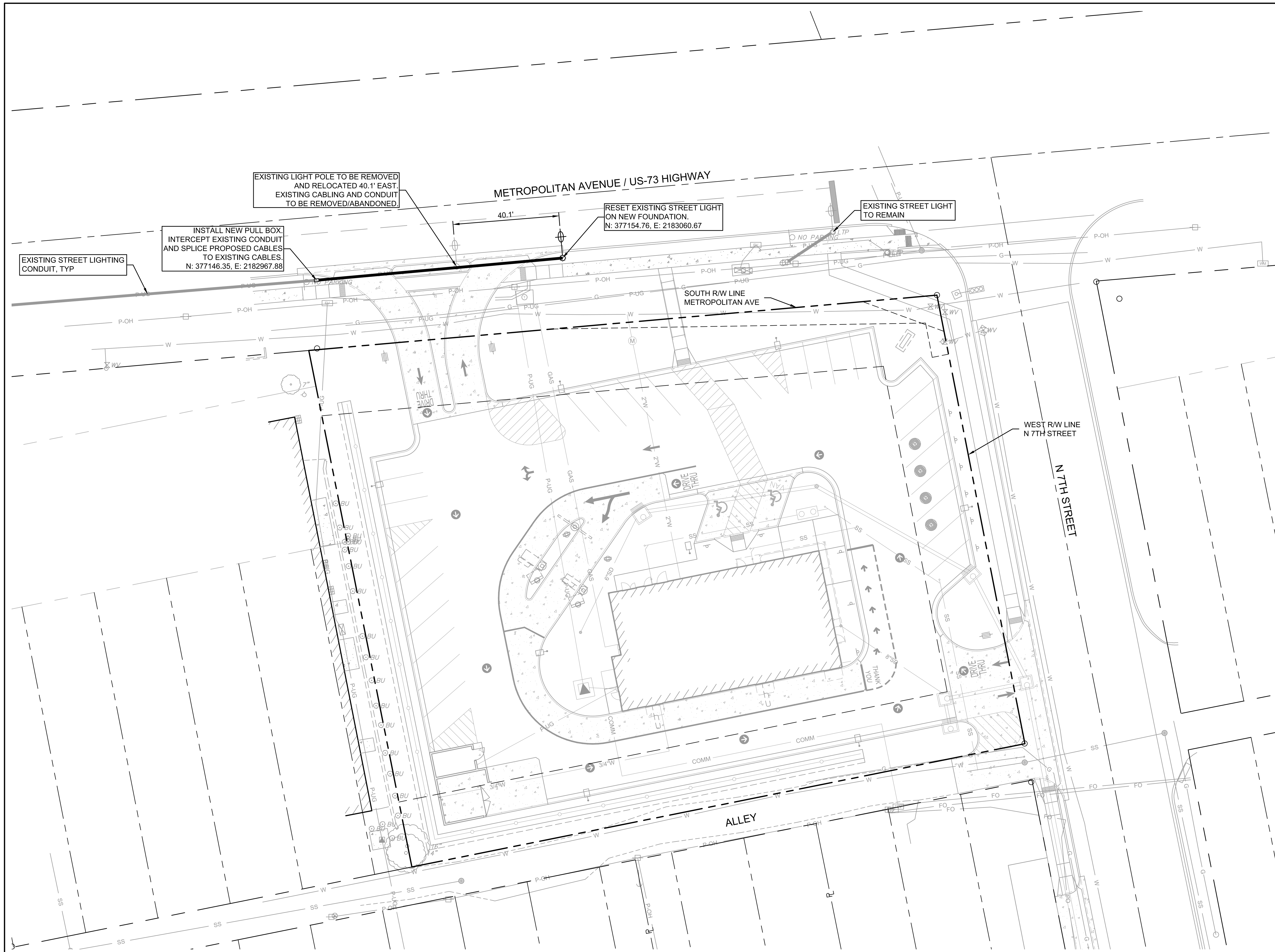
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SCALE IN FEET

SHEET NO.	TITLE	DRAWN BY	PREPARED FOR:
C404	DRAINAGE AREA MAP & HYDRAULICS TABLE	AJK	McDonald's USA, LLC
015-0404.00.0	DESCRIPTION	STD ISSUE DATE	© 2026 McDonald's USA, LLC
	McDONALD'S RESTAURANT LEAVENWORTH, KANSAS	REVIEWED BY MAP	These drawings and specifications are the confidential and proprietary property of McDonald's USA, LLC and shall not be copied or reproduced without written authorization. The contract documents were prepared for use on this specific site in conjunction with its issue date and are not suitable for use on a different site or at a later time. Use of these drawings for reference or example on another project requires the services of properly licensed architects and engineers. Reproduction of the contract documents for reuse on another project is not authorized.
		DATE ISSUED 04.10.26	
	SITE ID 015-0404	SITE ADDRESS 713 METROPOLITAN AVENUE, LEAVENWORTH, KANSAS	

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JARED E. CLEVENGER 25835 LICENSED PROFESSIONAL ENGINEER
4-10-26

REV	DATE	DESCRIPTION	BY
	04.10.26	ISSUED FOR PERMIT REVIEW	AJK



LEGEND

- EXISTING STREET LIGHT POLE
- RELOCATED STREET LIGHT POLE
- EXISTING STREET LIGHT CONDUIT
- NEW STREET LIGHT CONDUIT
- NEW PULL BOX

0' 10' 20' 40'
SCALE IN FEET

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DATE: Apr 10, 2026 11:31am USER: akruse

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	04.10.26	ISSUED FOR PERMIT REVIEW	AJK

JARED E. LOOMIS LICENSED 26355 KANSAS PROFESSIONAL ENGINEER — Jared E. Loomis 4-10-26

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PREPARED FOR:
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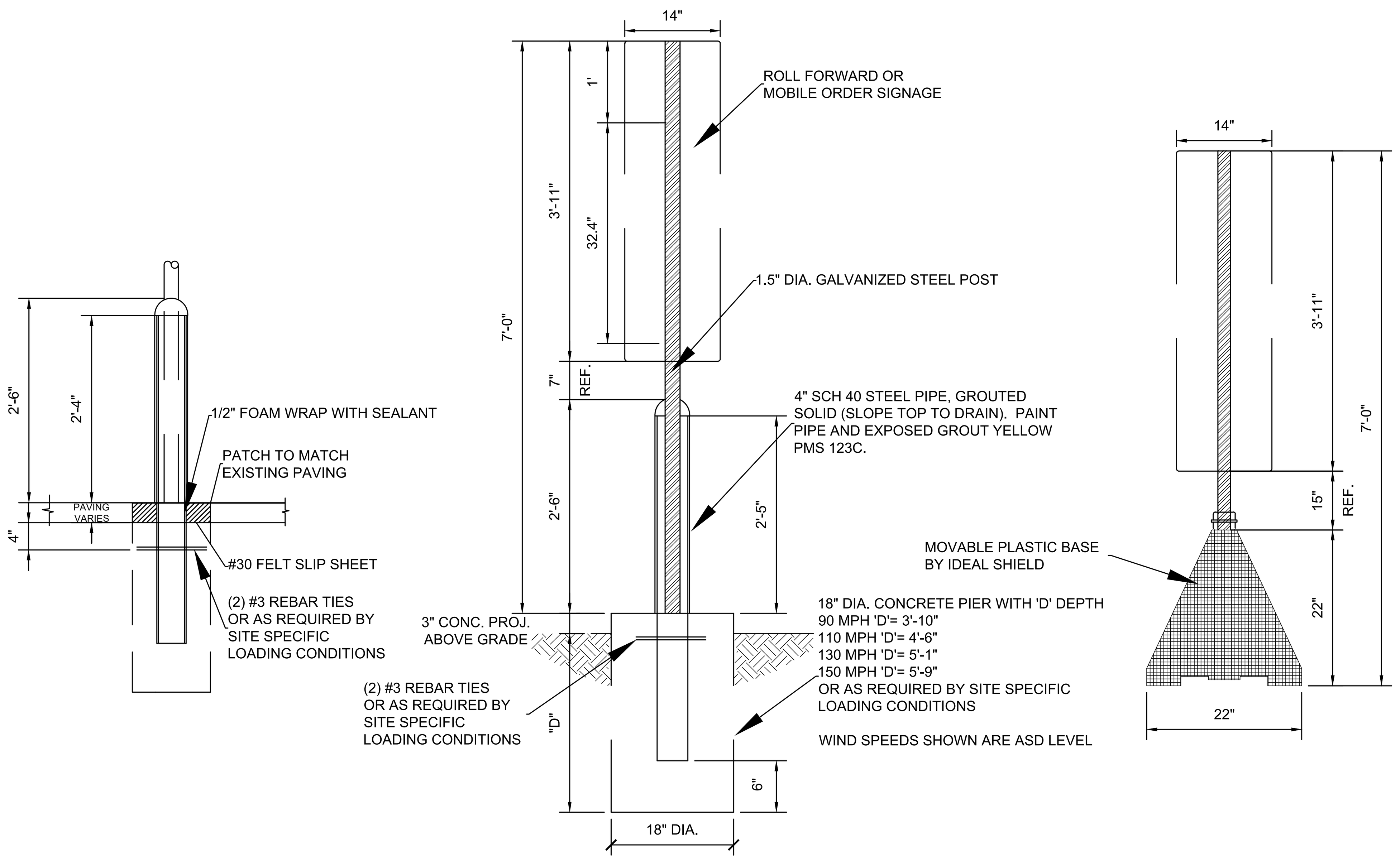
DRAWN BY: AJK
STD ISSUE DATE:
REVIEWED BY: MAP
DATE ISSUED: 04.10.26

TITLE
STREET LIGHT RELOCATION PLAN

DESCRIPTION
McDONALD'S RESTAURANT
LEAVENWORTH, KANSAS

SITE ID: 015-0404
SITE ADDRESS: 713 METROPOLITAN AVENUE, LEAVENWORTH, KANSAS

SHEET NO.
015-0404.00.0
C405



DIRECT BURIAL IN EXISTING PAVEMENT OPTION

DIRECT BURIAL IN SOIL/ LANDSCAPING OPTION

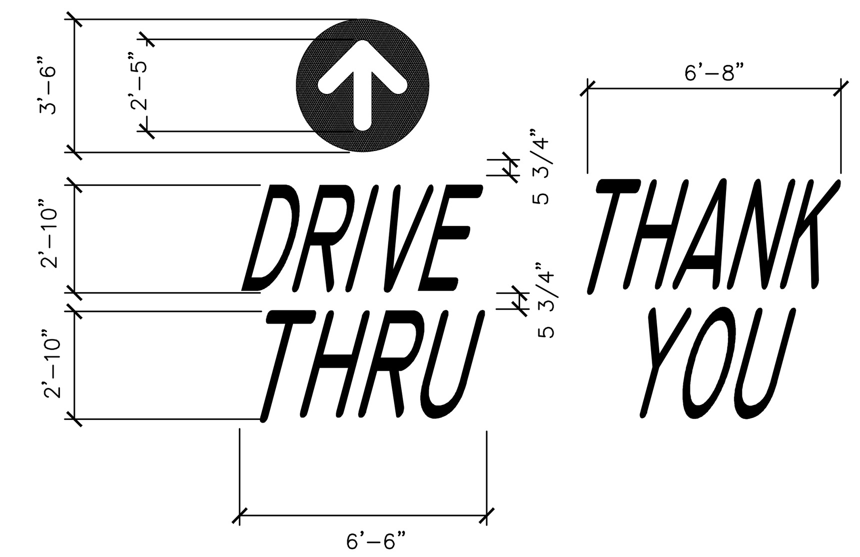
BASE AND POST OPTION

SIGN BOLLARD DETAIL

NOT TO SCALE

PAVEMENT BRANDING NOTES:

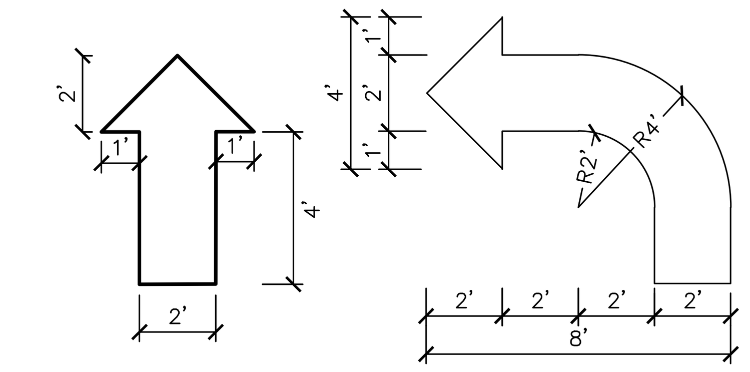
1. YELLOW PAINT (PMS1235C) IS USED FOR ALL DRIVE-THRU, MOBILE ORDER CURBSIDE, AND McDELIVERY MARKINGS, INCLUDING PARKING STALLS.
2. THE WORDS 'DRIVE-THRU' AND THE CIRCLE ARROW ARE PLACED AT ALL ENTRANCES TO THE LOT APPROX. 25' TO 30' FROM THE CURB OR SIDEWALK.
3. THE WORDS 'DRIVE-THRU' SHOULD BE CENTERED IN THE DRIVEWAY FOR ONE WAY TRAFFIC (ON THE INGRESS SIDE OF THE DRIVE AISLE IF THERE IS TWO WAY TRAFFIC).
4. THE CIRCLE DIRECTIONAL ARROW SHOULD BE CENTERED ABOVE THE WORD 'DRIVE' APPROX. 5' IN TO THE PARKING LOT.
5. IF FIVE OR MORE ARROWS ARE NEEDED TO DIRECT CARS TO THE DRIVE-THRU, PLAN THE CORRECT PLACEMENT OF THE ARROWS TO INCLUDE THE APPLICATION OF THE WORDS 'DRIVE THRU' WITH AN ARROW CENTERED ABOVE THE WORD 'DRIVE,' ORIENTED TO THE DECISION POINT.
6. THE DOUBLE-HEADED ARROW FOR A SIDE-BY-SIDE DRIVE-THRU SHOULD BE POSITIONED TO DIRECT TRAFFIC TO EITHER LANE, AS CARS APPROACH TO THE ISLAND. EACH ARROW MUST BE CUSTOMIZED TO FIT THE LANE CONFIGURATION.



PAVEMENT BRANDING

NOT TO SCALE

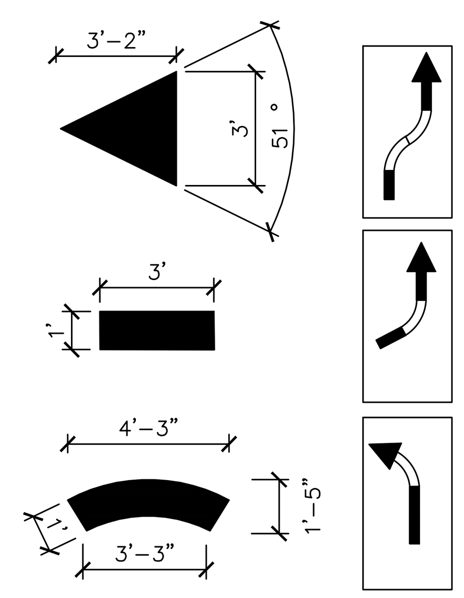
TRAFFIC & LANE MARKINGS: NOT ASSOCIATED WITH DRIVE-THRU



APPLY TWO COATS OF WATERBORNE PAINT (PER FS TT-P-1952) OR SOLVENT BORNE PAINT (PER FS A-A-2886 OR AASHTO M248). TRAFFIC-LANE MARKING PAINT OVER CLEANED PAVING SURFACE ACCORDING TO LAYOUT SHOWN ON THE SITE PLAN. PAINT WHITE OR AS REQUIRED BY CITY CODE.

PARKING LOT ARROWS

NOT TO SCALE

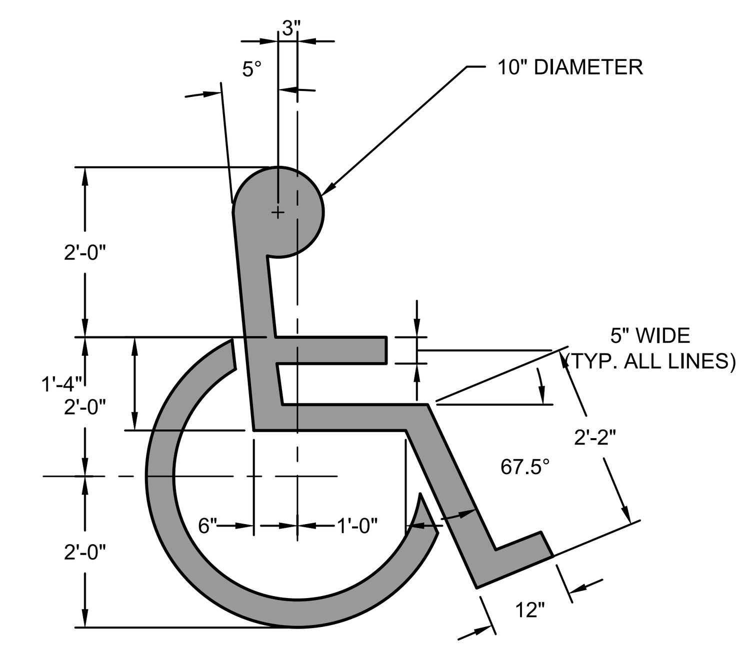


NOTES:

1. ALL PAINT MARKINGS TO BE APPLIED TO ASPHALT WHEN OUTDOOR TEMPERATURE EXCEEDS +8° MINIMUM.
2. ALL DRIVE-THRU MARKINGS SHALL BE PAINTED YELLOW (PMS1235C), INCLUDING 'DRIVE THRU,' 'THANK YOU,' ALL DIRECTIONAL ARROWS AND DRIVE THRU LANE MARKINGS.
3. BROADCAST GLASS BEADS UNIFORMLY INTO WET PAVEMENT MARKINGS AT A RATE OF 6LB/GAL.
4. CONTACT:
   "PAVEMENT STENCIL COMPANY"
   P.O BOX 915755
   LONGWOOD, FLORIDA 32791
   PHONE: 1-800-250-5547

DRIVE THRU ARROW

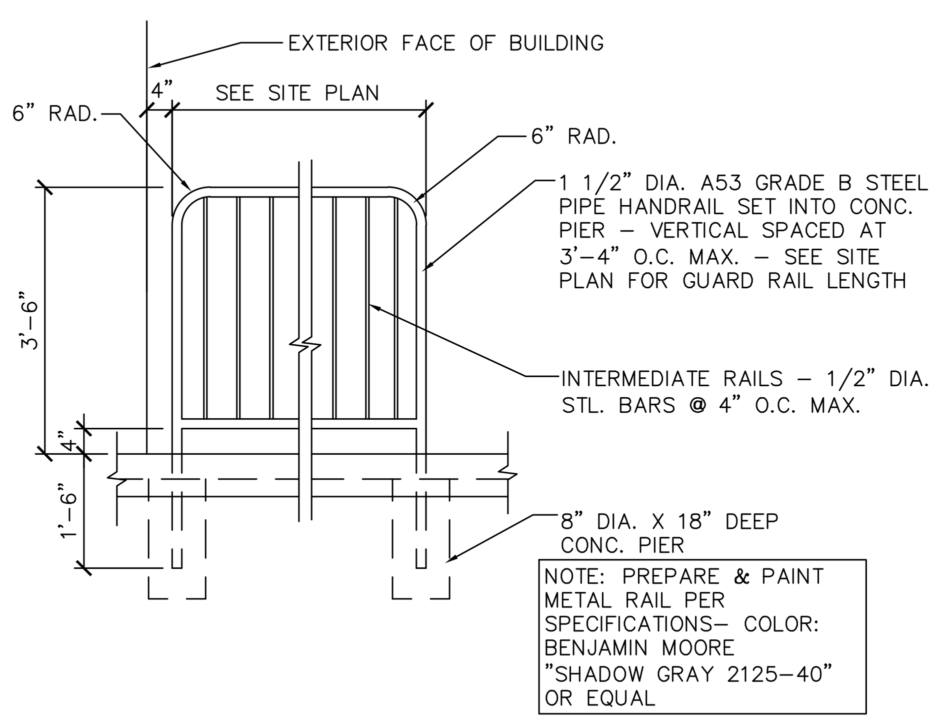
NOT TO SCALE



PROVIDE PAINTED SYMBOL AT EACH DESIGNATED ACCESSIBLE PARKING STALL. CENTER SYMBOL IN EACH STALL.

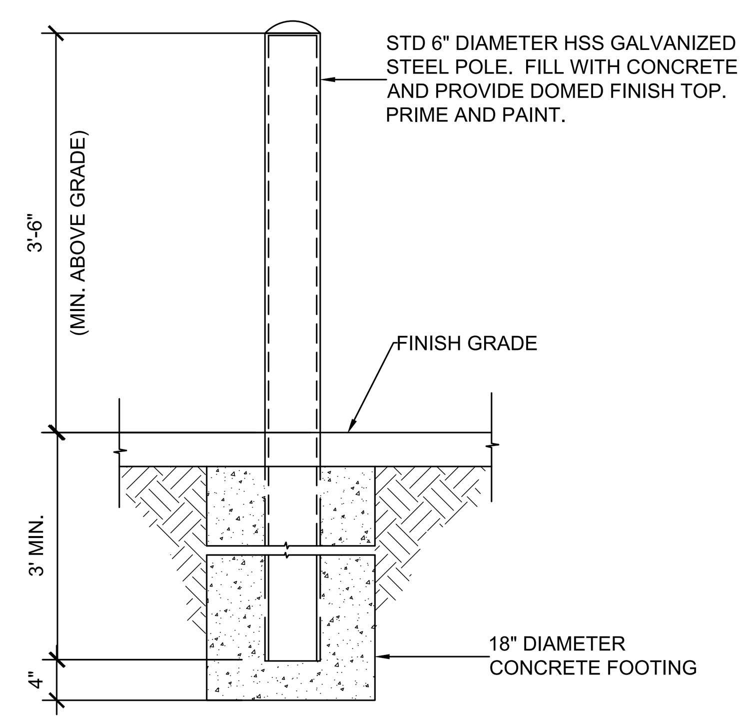
ACCESSIBLE PARKING SYMBOL

NOT TO SCALE



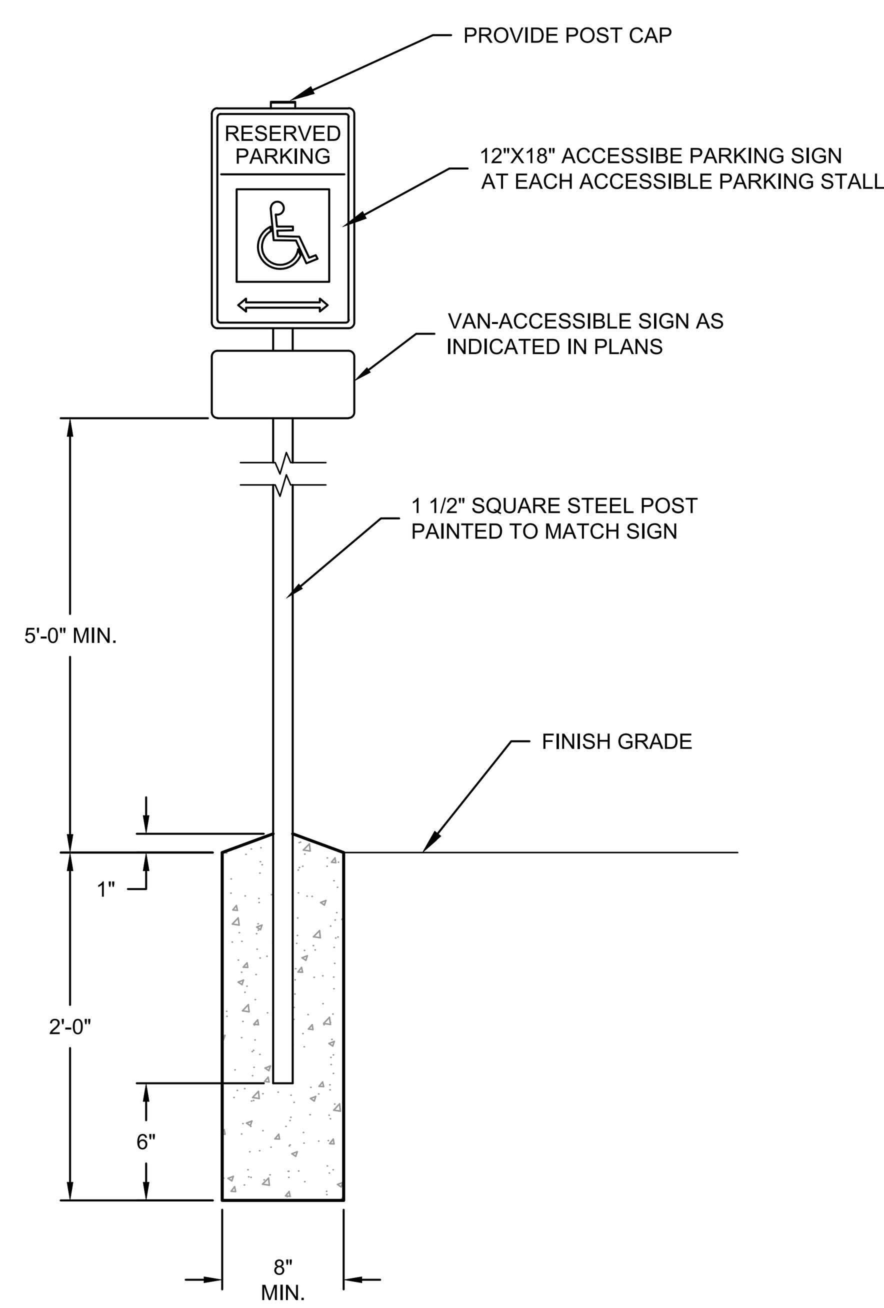
GUARDRAIL DETAIL

NOT TO SCALE



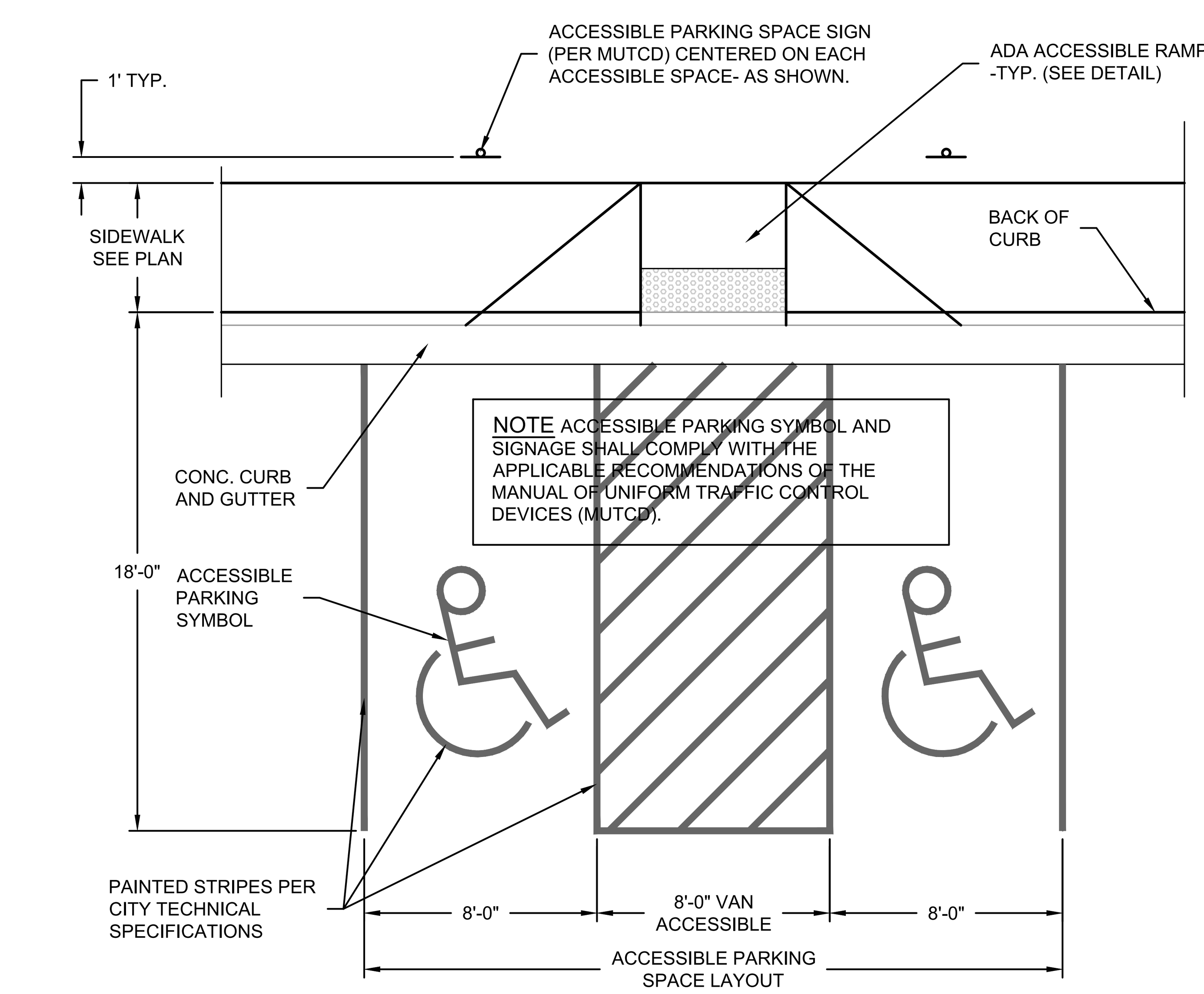
6" DIA. BOLLARD

NOT TO SCALE



ACCESSIBLE PARKING SPACE SIGNAGE

NOT TO SCALE



ACCESSIBLE PARKING SPACE LAYOUT DETAIL

NOT TO SCALE

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DATE: Apr 10, 2026 11:31am USER: akruse

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	04.10.26	ISSUED FOR PERMIT REVIEW	AJK

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McDonald's USA, LLC

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STD ISSUE DATE
REVIEWED BY: MAP
DATE ISSUED: 04.10.26

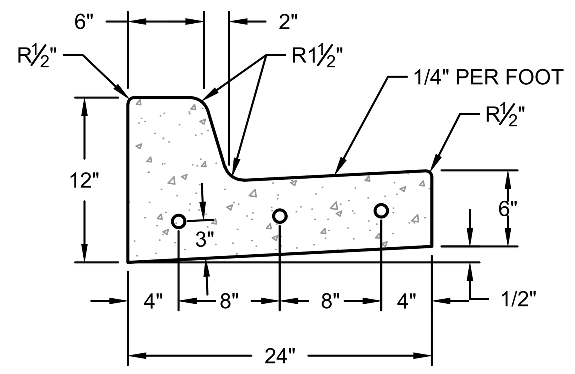
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DESCRIPTION: McDONALD'S RESTAURANT LEAVENWORTH, KANSAS

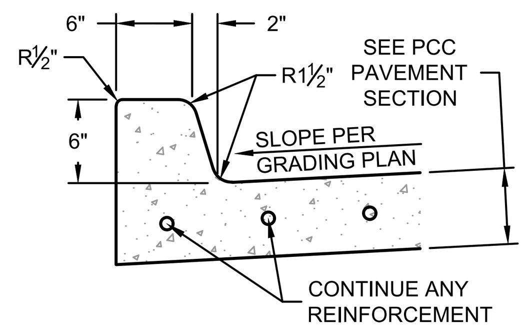
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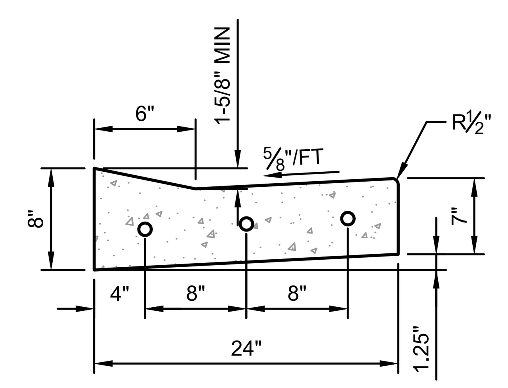
SHEET NO. C500



STRAIGHT BACK CURB & GUTTER
NOT TO SCALE



INTEGRAL CURB FOR PCC PAVEMENT
NOT TO SCALE



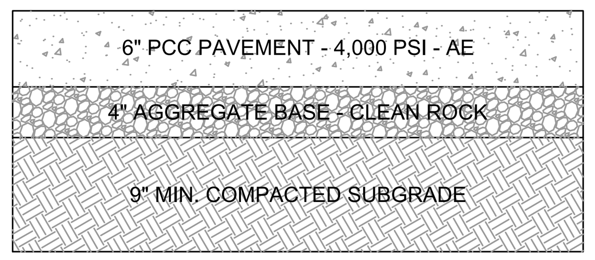
VALLEY GUTTER CURB
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CURB & GUTTER NOTES

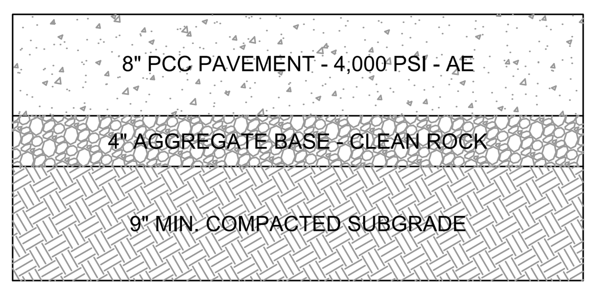
1. ¾" ISOLATION JOINTS AT ALL POINTS OF TANGENCY AND AT 150' MAX INTERVALS. JOINTS SHALL BE FIXED WITH SMOOTH DOWELS, ⅝" DIA. X 2' LENGTH, CENTERED ON JOINT, GREASED, AND WRAPPED ON ONE END WITH EXPANSION TUBES.
2. 1" DEEP CONTRACTION JOINTS SHALL BE INSTALLED AT APPROXIMATELY 10' INTERVALS. THESE JOINTS SHALL PASS ACROSS THE ENTIRE CURB SECTION.
3. FIX DOWEL BARS WITH BAR SUPPORTS.
4. DEPTH OF CURB SHALL BE A MINIMUM OF 8" THROUGH HANDICAP ACCESSIBLE RAMP.

PCC NOTES

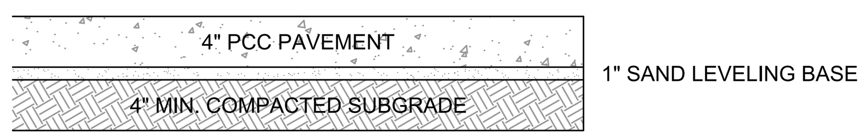
1. THE RECOMMENDATIONS AS OUTLINED IN THE GEOTECHNICAL REPORT, INCLUDING ADDENDUMS, SHALL TAKE PRECEDENCE OVER ANY DESIGN SHOWN IN THESE PLANS. CONTRACTOR SHALL CONTACT ENGINEER WITH ANY DISCREPANCIES OR CONCERNS.
2. WHERE LOCAL CODES AND ORDINANCES REQUIRE A DESIGN IN EXCESS OF THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT, THOSE CODES AND ORDINANCES SHALL TAKE PRECEDENCE OVER ANY DESIGN SHOWN IN THESE PLANS.
3. PCC PAVEMENT MIX SHALL CONFORM WITH ALL LOCAL CODES AND ORDINANCES.
4. AGGREGATE BASE COURSES SHALL CONFORM WITH ALL LOCAL CODES AND ORDINANCES.
5. PREPARED SUBGRADE SHALL BE COMPACTED TO 95% MAX. DENSITY AS PER ASTM-D698 (STANDARD PROCTOR COMPACTION)



LIGHT DUTY CONCRETE PAVEMENT SECTION
NOT TO SCALE



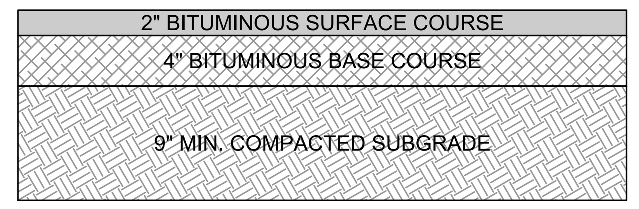
HEAVY DUTY CONCRETE PAVEMENT SECTION
NOT TO SCALE



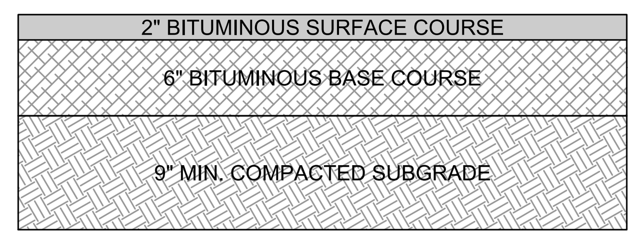
CONCRETE SIDEWALK SECTION
NOT TO SCALE

ASPHALT NOTES

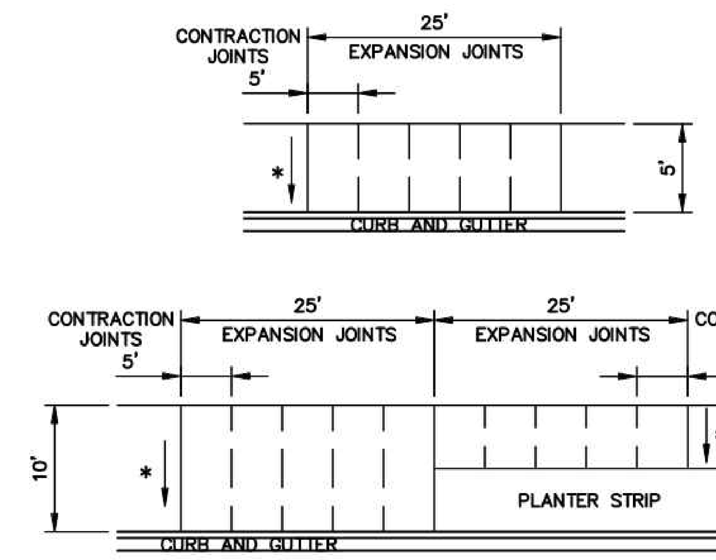
1. THE RECOMMENDATIONS AS OUTLINED IN THE GEOTECHNICAL REPORT, INCLUDING ADDENDUMS, SHALL TAKE PRECEDENCE OVER ANY DESIGN SHOWN IN THESE PLANS. CONTRACTOR SHALL CONTACT ENGINEER WITH ANY DISCREPANCIES OR CONCERNS.
2. WHERE LOCAL CODES AND ORDINANCES REQUIRE A DESIGN IN EXCESS OF THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT, THOSE CODES AND ORDINANCES SHALL TAKE PRECEDENCE OVER ANY DESIGN SHOWN IN THESE PLANS.
3. ASPHALT PAVEMENT MIX SHALL CONFORM WITH ALL LOCAL CODES AND ORDINANCES.
4. 2" BITUMINOUS SURFACE COURSE: ASPHALTIC CONCRETE COMMERCIAL GRADE SM-9.5A OR SR-9.5A
5. 4" BITUMINOUS BASE COURSE: ASPHALTIC CONCRETE COMMERCIAL GRADE SM-12.5A OR SR-12.5A
6. PREPARED SUBGRADE SHALL BE COMPACTED TO 95% MAX. DENSITY AS PER ASTM-D698 (STANDARD PROCTOR COMPACTION)



LIGHT DUTY ASPHALT SECTION
NOT TO SCALE



HEAVY DUTY ASPHALT SECTION
NOT TO SCALE



* 1.5% OR FLATTER RECOMMENDED FOR DESIGN AND FORM WORK (2% MAXIMUM).

TYPICAL SIDEWALK
NTS

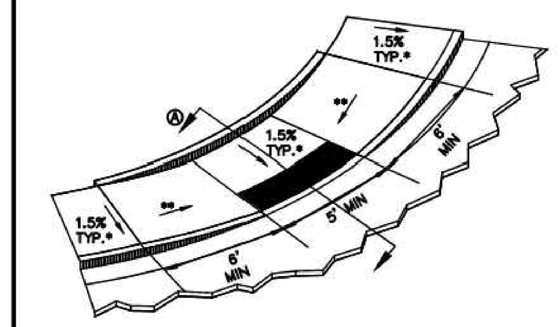
NOTES:

1. CONTRACTION JOINTS SHALL BE PLACED PERPENDICULAR TO THE CURB AT 5' INTERVALS.
2. FULL-DEPTH EXPANSION JOINTS SHALL BE PLACED PERPENDICULAR TO THE CURB AT 25' INTERVALS.
3. PRE MOLDED JOINT FILLER SHALL BE 3/8" THICK MATERIAL AND BE PLACED FULL DEPTH.
4. SIDEWALK AND DRIVEWAYS SHALL BE BROOM FINISHED PERPENDICULAR TO THE CURB.
5. MAINTAIN A MINIMUM OF 5' OF CLEARANCE FOR SIGN, MAILBOX, UTILITY POLE, OR ANY OTHER STRUCTURES WITHIN THE SIDEWALK.
6. 2" OF COMPACTED CRUSHED SURFACING TOP COURSE IS REQUIRED UNDER SIDEWALK. WHERE SIDEWALK IS IN A DRIVEWAY, 6" OF COMPACTED CRUSHED SURFACING TOP COURSE IS REQUIRED.
7. MINIMUM SIDEWALK THICKNESS:
   4" WHEN BEHIND CEMENT CONCRETE TRAFFIC CURB AND GUTTER.
   6" IN ALL DRIVEWAYS (TOP OF TAPER TO TOP OF TAPER)
8. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE CITY OF LEAVENWORTH'S DESIGN STANDARDS AND BE APPROVED BY THE CITY OF LEAVENWORTH.

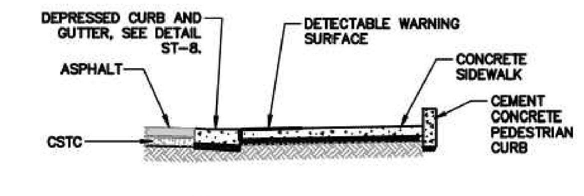
DETAIL ST-13
TYPICAL SIDEWALK SECTION

REV: AUG 2021

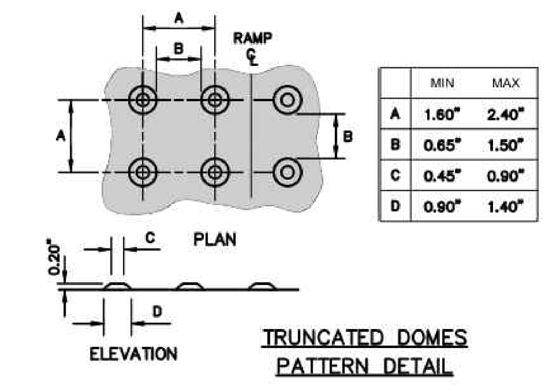
L:\LEAVENWORTH\20858 - CONSTRUCTION STANDARDS\DETAILS\ROADWAY AND PEDESTRIAN DETAILS\CONC-TYP SIDEWALK



SIDEWALK RAMP DETAIL
NTS



Ⓐ LANDING AREA



	MIN	MAX
A	1.60"	2.40"
B	0.65"	1.50"
C	0.45"	0.90"
D	0.90"	1.40"

TRUNCATED DOMES PATTERN DETAIL

NOTES:

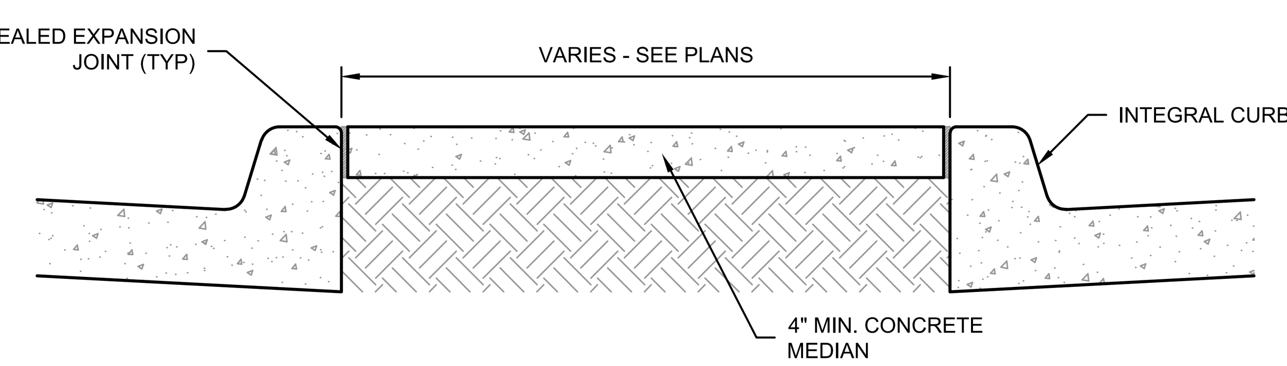
1. SEE DETAIL ST-13 FOR CONSTRUCTION OF CONCRETE SIDEWALK.
2. AT MARKED CROSSWALKS, THE CONNECTION BETWEEN THE LANDING AND THE ROADWAY MUST BE CONTAINED WITHIN THE WIDTH OF THE CROSSWALK MARKINGS.
3. DO NOT PLACE GRATES, JUNCTION BOXES, ACCESS COVER, OR OTHER APPURTENANCES ON ANY PART OF THE CURB RAMP OR LANDING OR IN THE DEPRESSED CURB AND GUTTER WHERE THE LANDING CONNECTS TO THE ROADWAY.
4. CURB RAMPS AND LANDINGS SHALL RECEIVE A BROOM FINISH.
5. THE RAMP LENGTH IS NOT REQUIRED TO EXCEED 15 FEET. WHEN APPLYING THE 15-FOOT MAX. LENGTH (MEASURED FROM BACK OF SIDEWALK) THE RUNNING SLOPE OF THE RAMP IS ALLOWED TO EXCEED 8.3%. USE A SINGLE CONSTANT SLOPE FROM THE BOTTOM OF THE RAMP TO THE TOP OF THE RAMP TO MATCH INTO THE SIDEWALK OVER A HORIZONTAL DISTANCE OF 15 FEET.
6. DETECTABLE WARNING SURFACE SHALL BE CONSTRUCTED OF CAST-IN-PLACE INLINE DOME TACTILE TILE MODULES. THE PATTERN OF THE DOMES SHALL CONFORM TO THE DIMENSIONS SHOWN ON THIS DETAIL.
7. DETECTABLE WARNING SURFACE SHALL BE YELLOW IN COLOR. THE COLOR SHALL BE AN INTEGRAL PART OF THE MATERIAL AND SHALL NOT BE SURFACE APPLIED.
8. PEDESTRIAN CURB MAY BE OMITTED IF THE GROUND SURFACE AT THE BACK OF THE RAMP AND/OR LANDING WILL BE AT THE SAME ELEVATION AS THE CURB RAMP OR LANDING AND THERE WILL BE NO MATERIAL TO RETAIN.
9. ALL CONSTRUCTION AND MATERIALS SHALL MEET THE CITY OF LEAVENWORTH'S DESIGN STANDARDS AND BE APPROVED BY THE CITY.

* 1.5% OR FLATTER RECOMMENDED FOR DESIGN AND FORM WORK (2% MAX.).
** 7.5% OR FLATTER RECOMMENDED FOR DESIGN AND FORM WORK (8.3% MAX.).

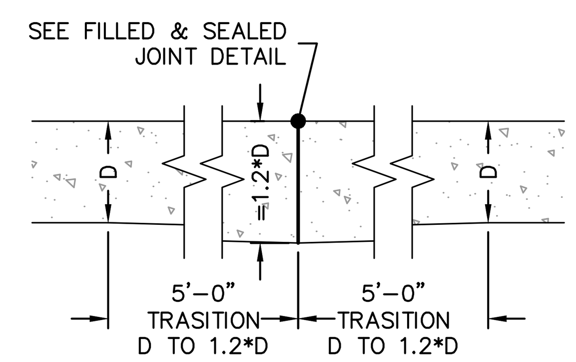
DETAIL ST-14
PARALLEL SIDEWALK CURB RAMP

REV: AUG 2021

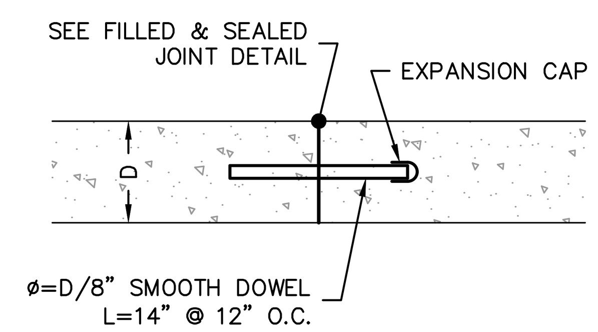
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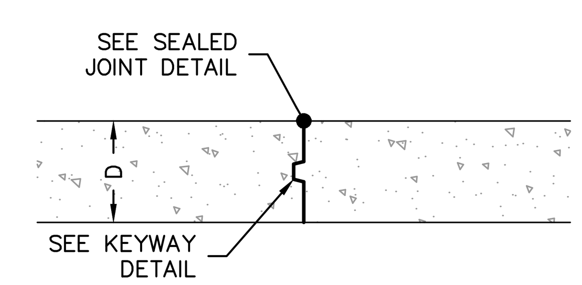
CONCRETE MEDIAN
NOT TO SCALE



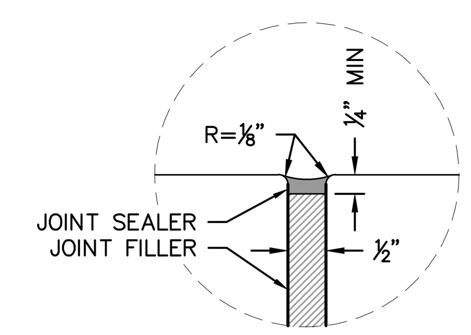
EXPANSION JOINT



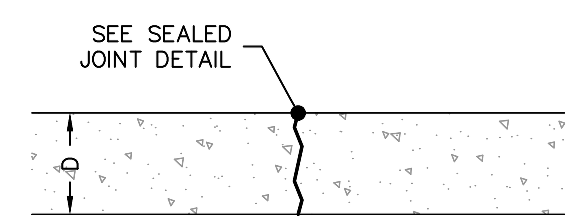
DOWELED EXPANSION JOINT



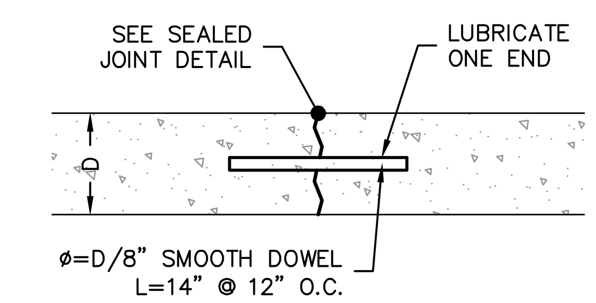
KEYWAY EXPANSION JOINT



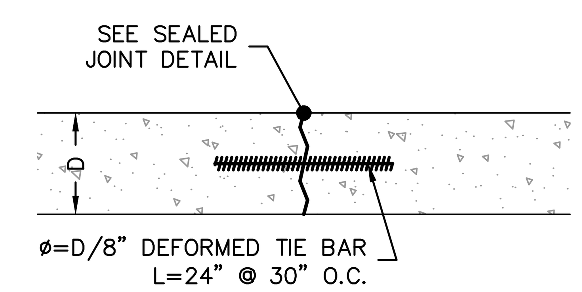
FILLED & SEALED JOINT



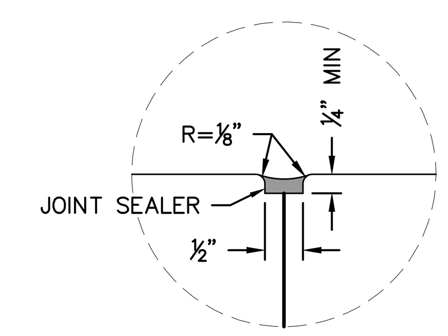
LONGITUDINAL OR TRANSVERSE JOINT



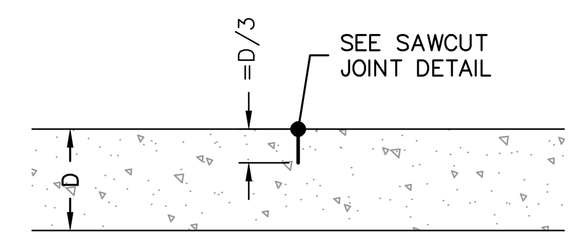
DOWELED TRANSVERSE JOINT



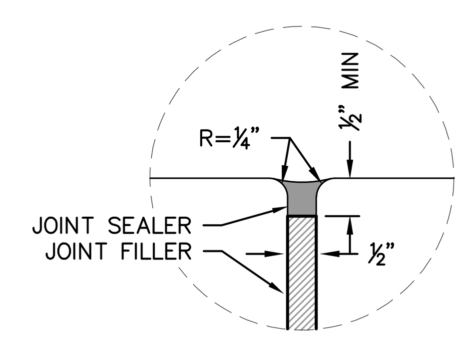
TIED BUTT LONGITUDINAL JOINT



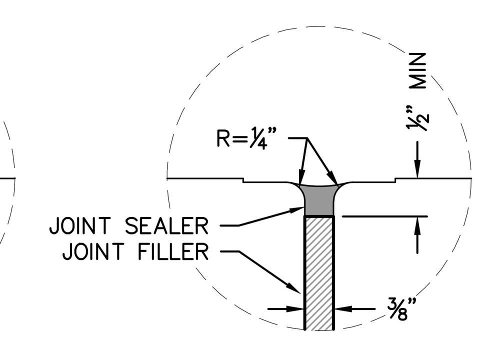
SEALED JOINT



LONGITUDINAL OR TRANSVERSE JOINT



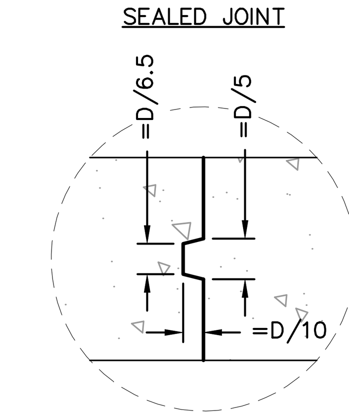
SAWCUT JOINT



TOOLED SAWCUT JOINT

TOOLED JOINT NOTE

RETOOL JOINTS AFTER BROOMING TO PROVIDE UNIFORM WIDTH FROM CENTER OF JOINT, ON BOTH SIDES, AND IN A SMOOTH BAND AT EDGES OF EACH PANEL.



KEYWAY

CONCRETE JOINT DETAILS
NOT TO SCALE

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STD ISSUE DATE
REVIEWED BY: MAP
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TITLE: DETAILS

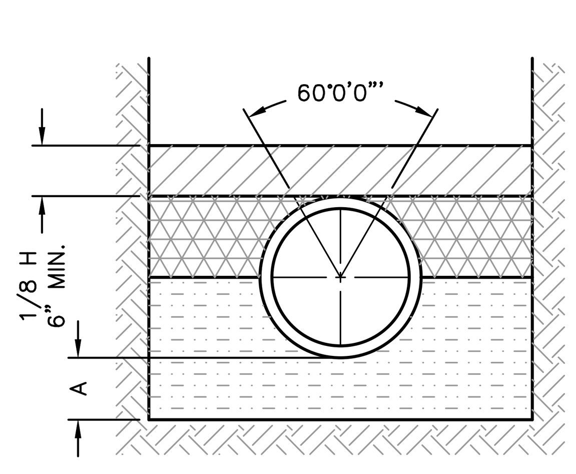
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SITE ID: 015-0404
SITE ADDRESS: 713 METROPOLITAN AVENUE, LEAVENWORTH, KANSAS

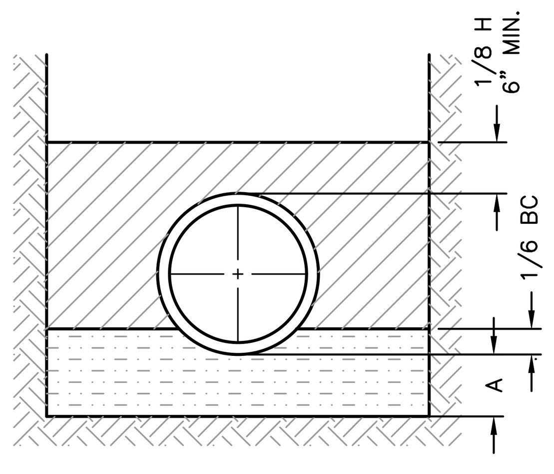
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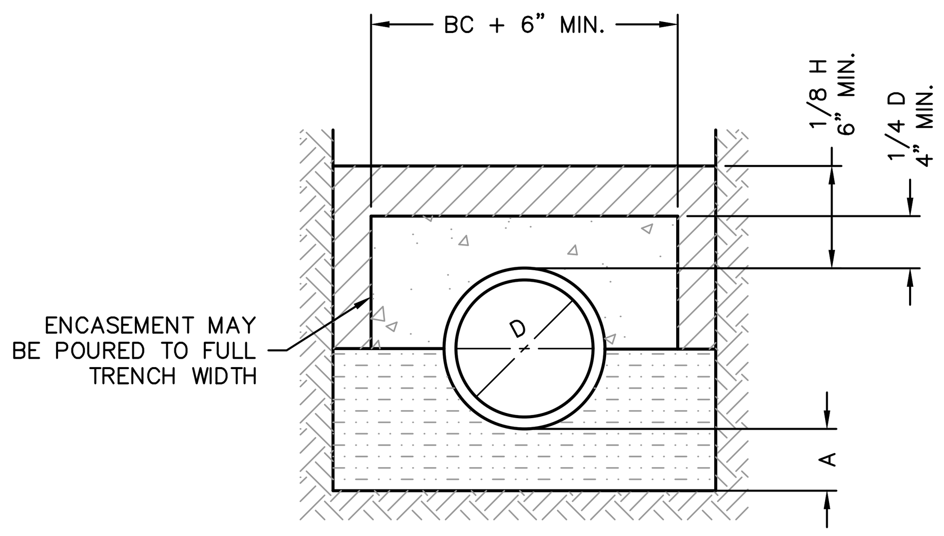
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DATE: Apr 10, 2026 11:33am USER: akruse



FIRST CLASS BEDDING
CLASS B



ORDINARY BEDDING
CLASS C



ARCH ENCASEMENT
CLASS A

LEGEND

BC – OUTSIDE DIAMETER OF PIPE
H – BACKFILL COVER ABOVE TOP OF PIPE
D – NOMINAL PIPE SIZE
A – FILL BELOW PIPE (SEE TABLE)

– HAND PLACED BACKFILL
– TAMPED BACKFILL
– GRANULAR BACKFILL
– CONCRETE

RCP TRENCHING NOTES:

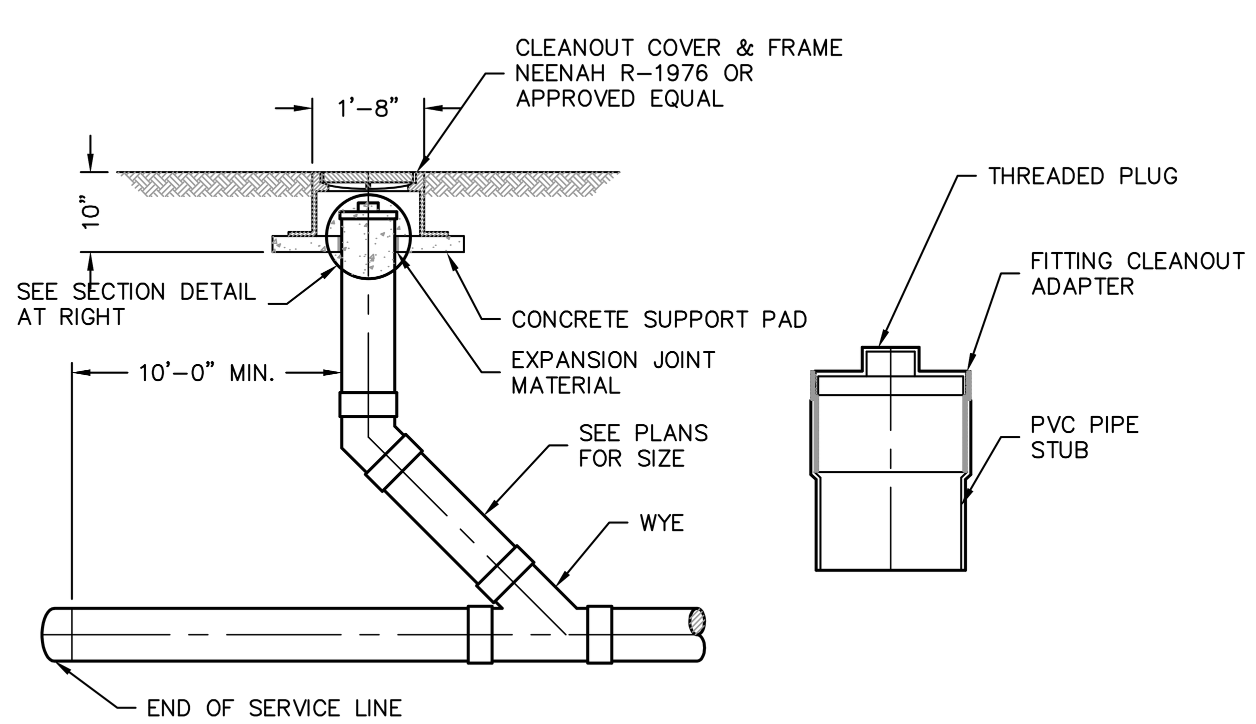
1. GRANULAR FILL TO BE CRUSHED STONE OR PEA GRAVEL WITH NOT LESS THAN 95% PASSING 1/2" AND NOT LESS THAN 95% TO BE RETAINED ON A #8; TO BE PLACED IN NOT MORE THAN 6" LAYERS.
2. TAMPED BACKFILL SHALL BE FINELY DIVIDED JOB EXCAVATED MATERIAL FREE FROM DEBRIS, ORGANIC MATERIAL AND STONES, COMPACTED TO 95% MAXIMUM DENSITY AS DETERMINED BY AASHTO STANDARD, METHOD T-99. GRANULAR FILL MAY BE SUBSTITUTED FOR ALL OR PART OF TAMPED BACKFILL.
3. HAND-PLACED BACKFILL SHALL BE FINELY DIVIDED MATERIAL FREE FROM DEBRIS AND STONE.
4. WHERE CLASS B BEDDING IS SPECIFIED UNDER PAVED AREAS, FLOWABLE FILL MAY BE SUBSTITUTED FOR TAMPED BACKFILL.
5. SEE STREET TRENCHING DETAILS FOR ADDITIONAL REQUIREMENTS.

TABLE OF FILL DEPTHS BELOW PIPE

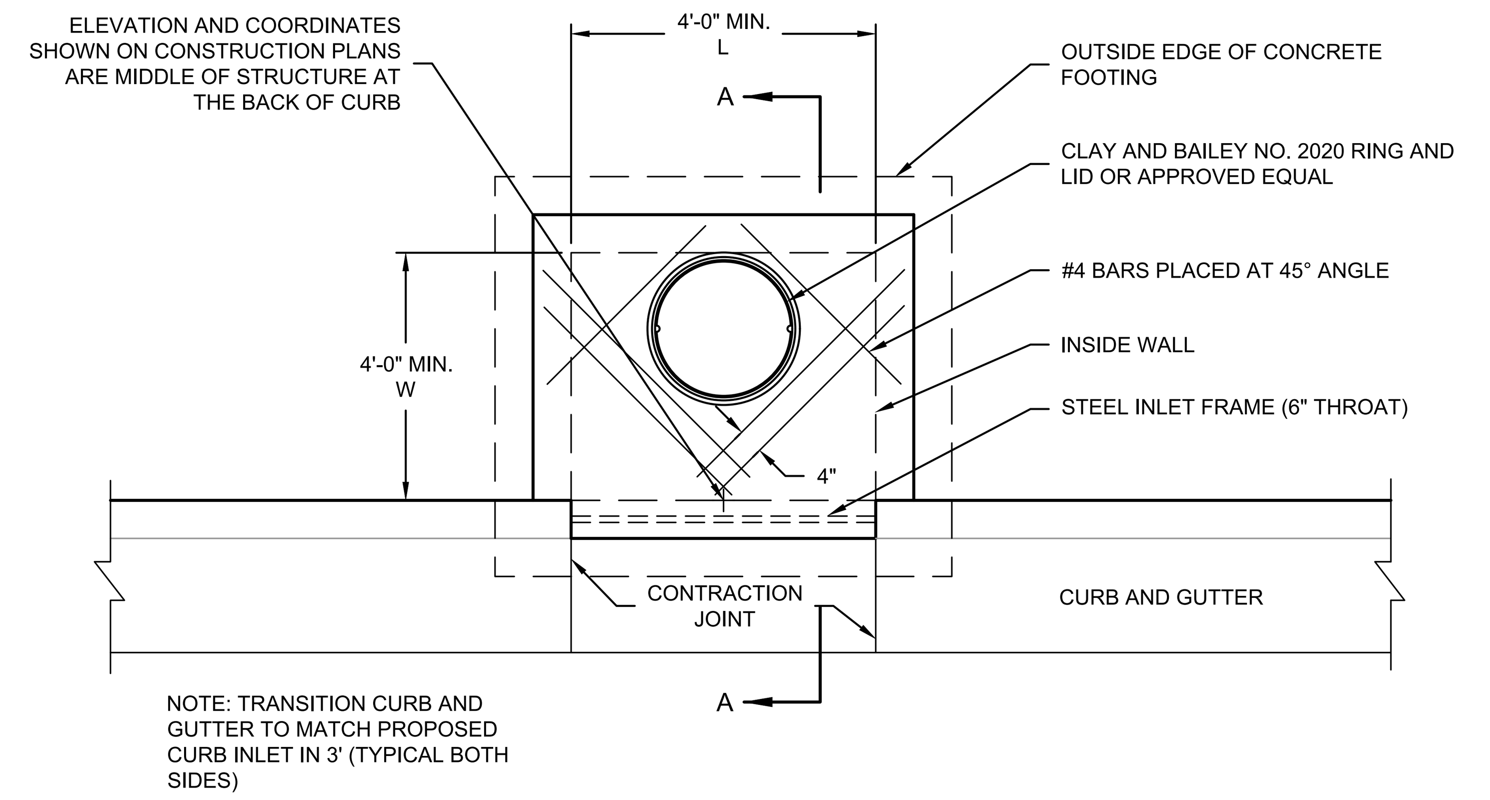
D	"A" MIN. IN SOIL	"A" MIN. IN ROCK
27" & SMALLER	3"	6"
30" TO 60"	4"	9"
66" & LARGER	6"	12"

PIPE SIZE (INCHES)	MINIMUM TRENCH WIDTH (INCHES)	MINIMUM SIDE WALL CLEARANCE (INCHES)
12	30	6
15	30	6
18	35	6
21	39	6.5
24	44	7
27	49	8
30	54	8.5
33	58	9
36	64	10
42	73	11
48	83	12.5
54	92	13.5
60	102	15
66	109	15
72	117	15.5
78	124	15.5
84	132	16
90	139	16.5
96	147	17
102	154	17.5
108	162	18

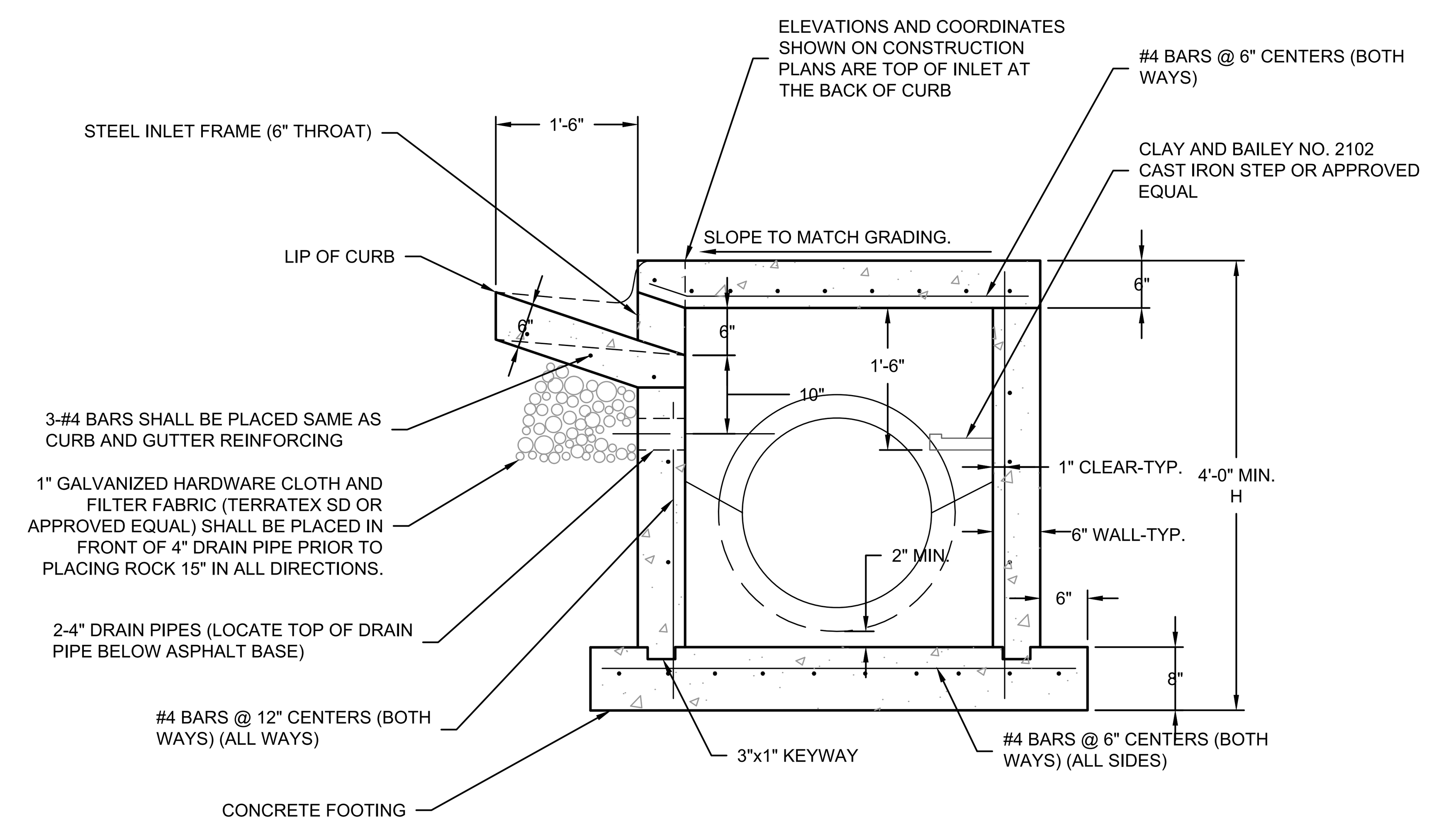
RCP TRENCHING
NOT TO SCALE



ONE-WAY WYE CLEANOUT DETAIL
NOT TO SCALE



PLAN



SECTION A-A

NON-SETBACK CURB INLET
NOT TO SCALE

NON-SETBACK CURB INLET NOTES

1. USE CITY APPROVED CONCRETE THROUGHOUT.
2. THE FIRST DIMENSION LISTED IN THE CONSTRUCTION NOTES IS THE "L" DIMENSION.THE SECOND DIMENSION IS THE "W" DIMENSION.
3. FLOOR OF INLET SHALL BE SHAPED TO PROVIDE SMOOTH FLOW.
4. EXPANSION JOINTS SHALL BE EITHER HOT OR COLD POURED JOINT SEALING COMPOUND, OR PREMOLDED EXPANSION JOINT FILLER.
5. STEEL INLET FRAME SPACERS SHALL BE PLACED AT EQUAL SPACINGS NOT TO EXCEED 4'-0".
6. CAST IRON STEPS TO BE CLAY & BAILEY 2102 OR APPROVED EQUAL. STEEL CORE, PLASTIC COATED STEPS MAY BE USED (M.A. IND.,INC. NO. PS1-PF, PS2-PF, OR APPROVED EQUAL). CAST IRON STEPS SHALL BE SPACED AT 1'-4" O.C. VERTICALLY.
7. BEVEL ALL EXPOSED EDGES WITH TRIANGULAR MOLDING.
8. ALL STORM SEWER STRUCTURES SHALL BE PRECAST. PRECAST SHOP DRAWINGS SHALL BE APPROVED BY THE DESIGN ENGINEER .
9. REINFORCING STEEL SHALL BE NEW BILLET, MINIMUM GRADE 40 AS PER ASTM A615, AND SHALL BE BENT COLD.
10. ALL DIMENSIONS RELATIVE TO REINFORCING STEEL ARE TO CENTERLINE OF BARS. 2" CLEARANCE SHALL BE PROVIDED THROUGHOUT UNLESS NOTED OTHERWISE. TOLERANCE OF ±1/8" SHALL BE PERMITTED.
11. ALL LAP SPLICES NOT SHOWN SHALL BE A MINIMUM OF 40 BAR DIAMETERS IN LENGTH.
12. DO NOT SCALE THESE DRAWINGS FOR DIMENSIONS OR CLEARANCES. ANY QUESTIONS REGARDING DIMENSIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO CONSTRUCTION.
13. RCP CONNECTIONS TO PRECAST STRUCTURE SHALL MEET ALL CITY STANDARDS.
14. BACKFILL AROUND STRUCTURES SHALL BE COMPACTED AND SHALL BE OF THE MATERIAL SPECIFIED PER CITY STANDARDS.

REV	DATE	DESCRIPTION	BY
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JARED E. LOOMIS LICENSED 26355 KANSAS PROFESSIONAL ENGINEER
Jared E. Loomis 4-10-26

olsson
Olsson - Engineering
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Manhattan, Kansas 66502
www.olsson.com
TEL 785.539.6900
FAX 785.539.6901

PREPARED FOR:
McDonald's USA, LLC

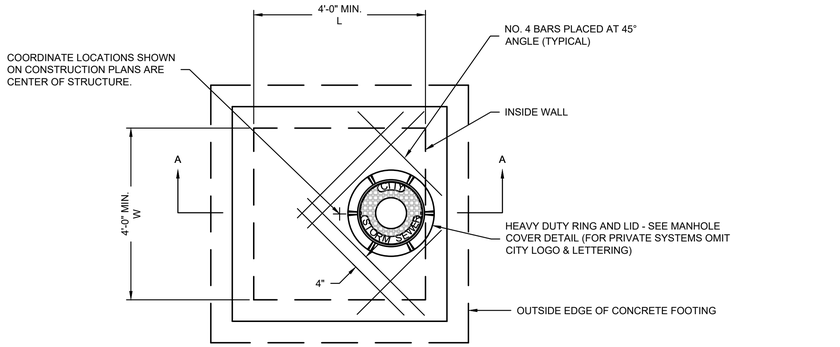
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DRAWN BY: AJK
STD ISSUE DATE:
REVIEWED BY: MAP
DATE ISSUED: 04.10.26

TITLE: DETAILS
DESCRIPTION: McDONALD'S RESTAURANT LEAVENWORTH, KANSAS
SITE ID: 015-0404
SITE ADDRESS: 713 METROPOLITAN AVENUE, LEAVENWORTH, KANSAS

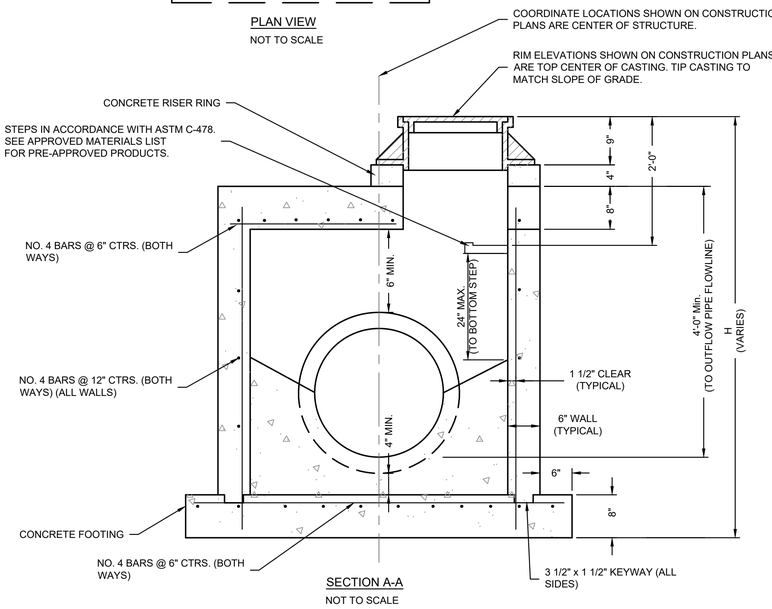
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SHEET NO. C502

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DATE: Apr 10, 2026 11:34am USER: akruse



PLAN VIEW

NOT TO SCALE



SECTION A-A

NOT TO SCALE

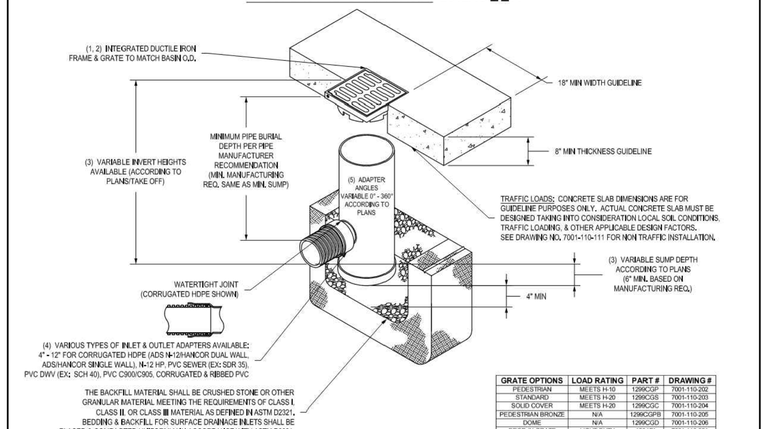
NOTES

1. ALL STORM SEWER STRUCTURES SHALL BE PRECAST. PRECAST SHOP DRAWINGS SHALL BE APPROVED BY THE DESIGN ENGINEER.
2. DO NOT SCALE THESE DRAWINGS FOR DIMENSIONS OR CLEARANCES. ANY QUESTIONS REGARDING DIMENSIONS SHALL BE BROUGHT TO THE ATTENTION OF THE CITY ENGINEER PRIOR TO CONSTRUCTION.
3. THE FIRST DIMENSION LISTED IN THE CONSTRUCTION NOTES IS THE "L" DIMENSION. THE SECOND DIMENSION IS THE "W" DIMENSION. THE CONCRETE THICKNESS AND REINFORCEMENT SHOWN IS FOR BOXES WITH ("L"+"H") AND ("W"+"H") LESS THEN OR EQUAL TO 20'. FOR BOXES WITH EITHER OF THESE CALCULATIONS GREATER THAN 20, A SPECIAL DESIGN IS REQUIRED.
4. CONCRETE USED IN THIS WORK SHALL BE KCMMB4K, AS APPROVED BY THE KANSAS CITY METROPOLITAN MATERIALS BOARD, AND SHALL MEET THE REQUIREMENTS OF THE CITY MUNICIPAL CODE.
5. CONCRETE CONSTRUCTION SHALL MEET THE APPLICABLE REQUIREMENTS OF STANDARD SPECIFICATIONS FOR STATE ROAD AND BRIDGE CONSTRUCTION, KANSAS DEPARTMENT OF TRANSPORTATION, LATEST EDITION, EXCEPT AS MODIFIED IN THE CITY MUNICIPAL CODE.
6. INLET FLOORS SHALL BE SHAPED WITH NON-REINFORCED CONCRETE INVERTS TO PROVIDE SMOOTH FLOW.
7. BEVEL ALL EXPOSED EDGES WITH 3/4" TRIANGULAR MOLDING.
8. REINFORCING STEEL SHALL BE NEW BILLET, MINIMUM GRADE 60 AS PER ASTM A615, AND SHALL BE BENT COLD.
9. ALL DIMENSIONS RELATIVE TO REINFORCING STEEL ARE TO CENTERLINE OF BARS. 2" CLEARANCE SHALL BE PROVIDED THROUGHOUT UNLESS NOTED OTHERWISE. TOLERANCE OF +/- 1/8" SHALL BE PERMITTED.
10. ALL LAP SPLICES NOT SHOWN SHALL BE A MINIMUM OF 40 BAR DIAMETERS IN LENGTH.
11. PIPE CONNECTIONS TO PRE-CAST STRUCTURES SHALL HAVE A MINIMUM OF 6" OF CONCRETE AROUND THE ENTIRE PIPE WITHIN 2' OF THE STRUCTURE.

JUNCTION BOX DETAIL

NOT TO SCALE

NYLOPLAST 12" DRAIN BASIN: 2812AG _ _ X



GRATE OPTIONS	LOAD RATING	PART #	DRAWING #
PEDESTRIAN	MEETS H-10	1296CGP	7001-110-202
STANDARD	MEETS H-20	1296CGS	7001-110-203
SOLID COVER	MEETS H-20	1296CGC	7001-110-204
PEDESTRIAN BRONZE	N/A	1296CGPB	7001-110-205
DOME	N/A	1296CGD	7001-110-206
DROP IN GRATE	LIGHT DUTY	12D1DI	7001-110-021

1 - GRATES/SOLID COVER SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05, WITH THE EXCEPTION OF THE BRONZE GRATE.
2 - FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RIBERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-005.
4 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER.
5 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.

THIS PRINT DISCLOSES SUBJECT MATTER IN WHICH NYLOPLAST HAS PROPRIETARY RIGHTS. THE RECEIPT OR POSSESSION OF THIS PRINT DOES NOT CONFER, TRANSFER, OR LICENSE THE USE OF THE DESIGN OR TECHNICAL INFORMATION SHOWN HEREIN. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN, OR MANUFACTURE OF ANY ARTICLE HEREFROM, FOR THE DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM NYLOPLAST.
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DRAWN BY	EBC	MATERIAL	
DATE	03-29-05		
REVISED BY	NMH	PROJECT NO./NAME	
DATE	03-14-16		
DWG SIZE	A	SCALE 1:20	SHEET 1 OF 1

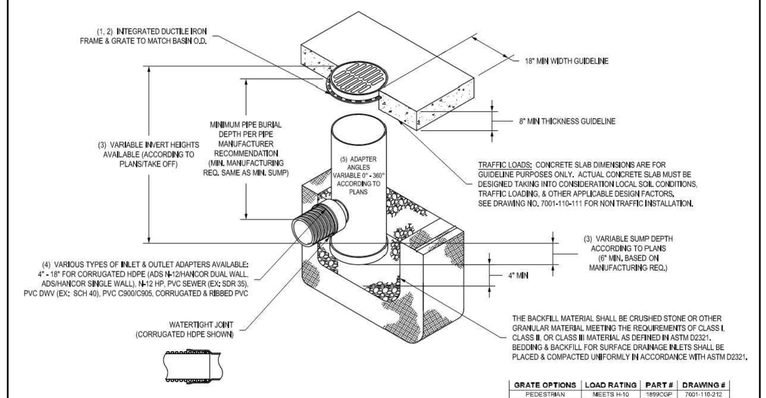
ADS Nyloplast

3130 VERONA AVE
BUFORD, GA 30518
PHN (770) 932-2443
FAX (770) 932-2490
www.nyloplast-us.com

TITLE
12 IN DRAIN BASIN QUICK SPEC INSTALLATION DETAIL

DWG NO. 7001-110-189 REV E

NYLOPLAST 18" DRAIN BASIN: 2818AG _ _ X



GRATE OPTIONS	LOAD RATING	PART #	DRAWING #
PEDESTRIAN	MEETS H-10	1899CGP	7001-110-212
STANDARD	MEETS H-20	1899CGS	7001-110-213
SOLID COVER	MEETS H-20	1899CGC	7001-110-214
DOME	N/A	1899CGD	7001-110-215
DROP IN GRATE	LIGHT DUTY	18D1DI	7001-110-074

1 - GRATES/SOLID COVER SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2 - FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-005.
4 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER.
5 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.

THIS PRINT DISCLOSES SUBJECT MATTER IN WHICH NYLOPLAST HAS PROPRIETARY RIGHTS. THE RECEIPT OR POSSESSION OF THIS PRINT DOES NOT CONFER, TRANSFER, OR LICENSE THE USE OF THE DESIGN OR TECHNICAL INFORMATION SHOWN HEREIN. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN, OR MANUFACTURE OF ANY ARTICLE HEREFROM, FOR THE DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM NYLOPLAST.
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DRAWN BY	EBC	MATERIAL	
DATE	04-03-05		
REVISED BY	NMH	PROJECT NO./NAME	
DATE	03-14-16		
DWG SIZE	A	SCALE 1:30	SHEET 1 OF 1

ADS Nyloplast

3130 VERONA AVE
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PHN (770) 932-2443
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TITLE
18 IN DRAIN BASIN QUICK SPEC INSTALLATION DETAIL

DWG NO. 7001-110-191 REV E

BY	DESCRIPTION	DATE
AJK	ISSUED FOR PERMIT REVIEW	04.10.26

JARED E. LOOMIS
LICENSED
26355
Jared E. Loomis
4-10-26
KANSAS
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PREPARED FOR:
McDonald's USA, LLC

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DRAWN BY	REVIEWED BY	DATE ISSUED
AJK	MAP	04.10.26
STD ISSUE DATE		

TITLE: DETAILS

DESCRIPTION: McDONALD'S RESTAURANT
LEAVENWORTH, KANSAS

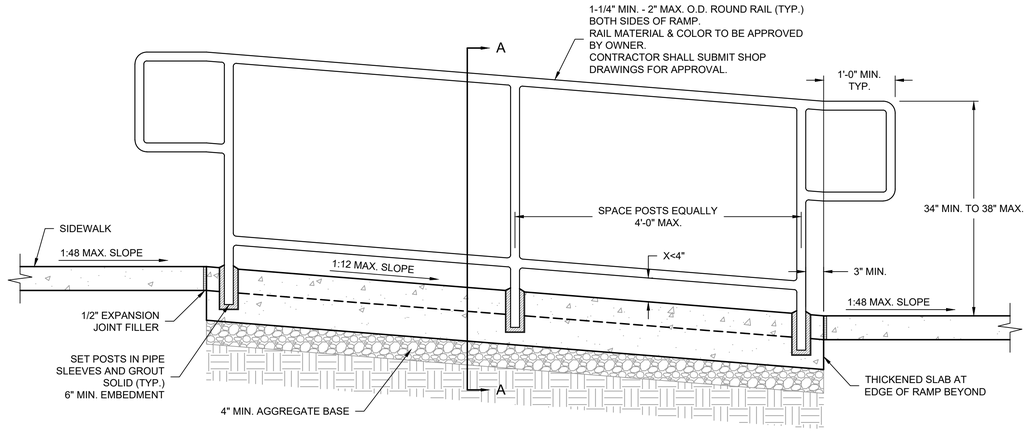
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SITE ADDRESS: 713 METROPOLITAN AVENUE, LEAVENWORTH, KANSAS

SHEET NO. C503

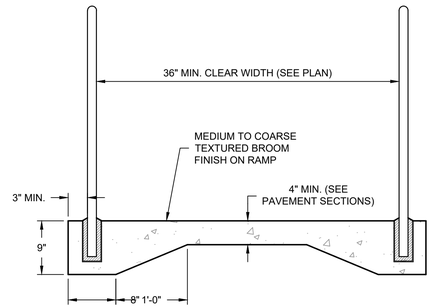
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ACCESSIBLE RAMP WITH HANDRAIL

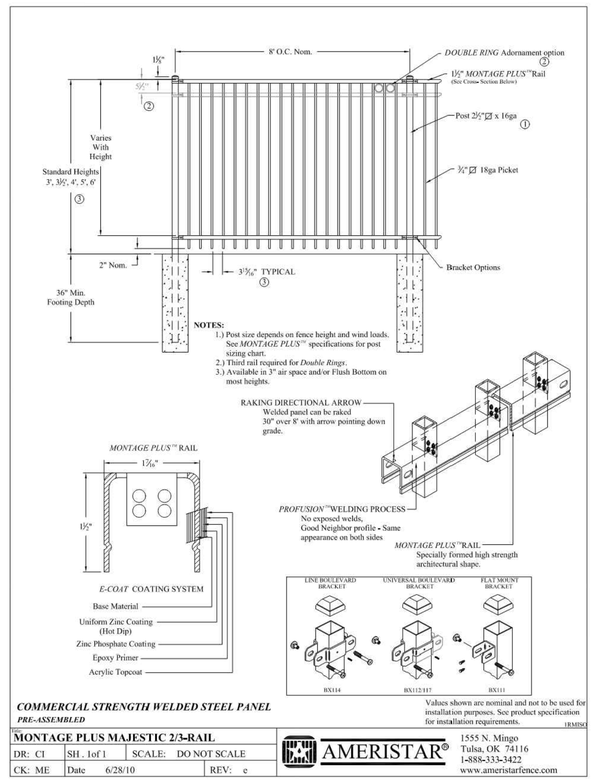
NOT TO SCALE



SECTION A-A

NOTES:

1. THE RISE FOR ANY RAMP RUN SHALL BE 30 INCHES MAXIMUM.
2. CLEARANCE BETWEEN HANDRAIL GRIPPING SURFACES AND ADJACENT SURFACES SHALL BE 1-1/2" MINIMUM.
3. AT THE CONTRACTOR'S OPTION, OTHER POST ATTACHMENT METHODS AND RAIL STYLES MAY BE USED AS APPROVED BY OWNER.



REV	DATE	DESCRIPTION	BY
	04.10.26	ISSUED FOR PERMIT REVIEW	AJK

JARED E. LOOMIS
LICENSED
26355
4-10-26
KANSAS
PROFESSIONAL ENGINEER

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PREPARED FOR:
McDonald's USA, LLC

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DRAWN BY	REVIEWED BY	DATE ISSUED
AJK	MAP	04.10.26
STD ISSUE DATE		

TITLE
DETAILS

DESCRIPTION
McDONALD'S RESTAURANT
LEAVENWORTH, KANSAS

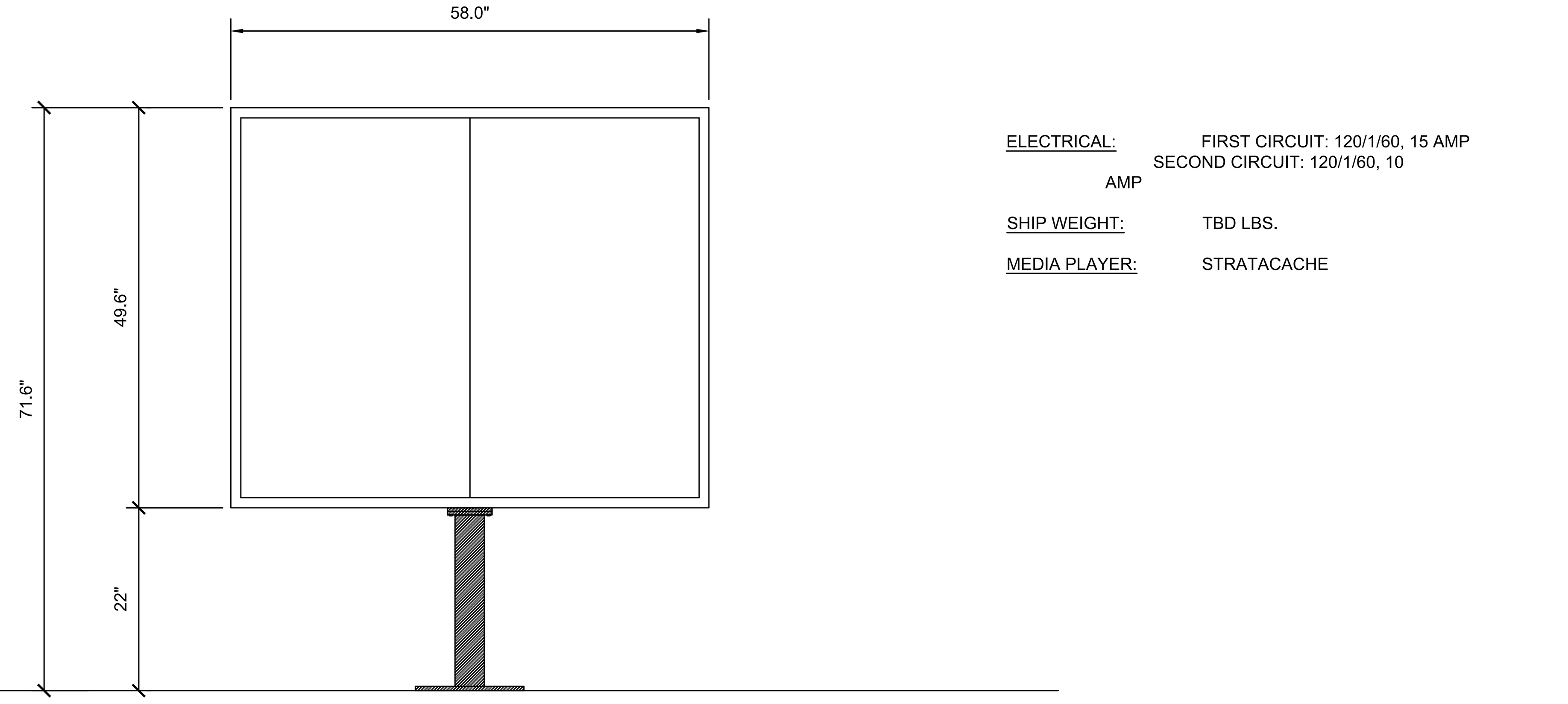
SITE ADDRESS
713 METROPOLITAN AVENUE, LEAVENWORTH, KANSAS

SITE ID
015-0404

SHEET NO.
015-0404.00.0
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DATE: Apr 10, 2026 11:34am USER: akruse

MENU BOARD



ELECTRICAL: FIRST CIRCUIT: 120/1/60, 15 AMP
SECOND CIRCUIT: 120/1/60, 10 AMP

SHIP WEIGHT: TBD LBS.

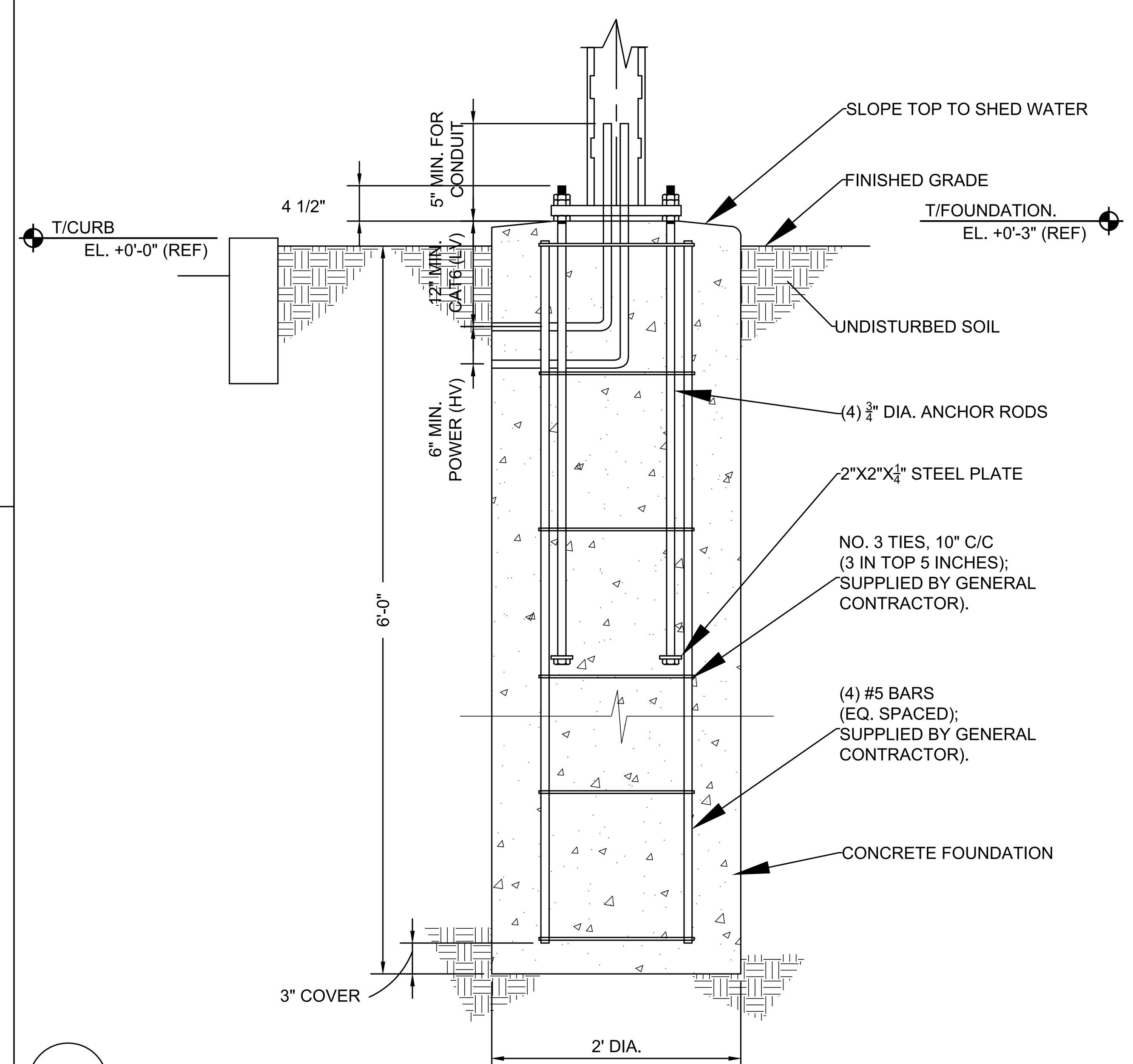
MEDIA PLAYER: STRATACACHE

GENERAL NOTES
-THE FOLLOWING CODES WERE USED IN DESIGN:
-IBC 2018
-ASCE 7-16
-ACI 318-14
-AISC 360-16 & AISC 341-16
-AWS D1.1
-WIND SPEED 107 MPH (ULTIMATE WIND SPEED)
-EXPOSURE C
-DESIGN LOADS DERIVED FROM THESE CODES AND FORCES
-AXIAL- 1200 #
-SHEAR- 620 #
-MOMENT- 2370 #'
-ALL FOOTING EXCAVATIONS ARE TO BE CLEAR OF WATER AND FOREIGN MATTER BEFORE PLACING CONCRETE
-MINIMUM ALLOWABLE LATERAL SOIL BEARING PRESSURE OF 100 PSF/FT (X2)
-SITE SOIL CONDITIONS TO BE CONFIRMED BY GEOTECHNICAL ENGINEER, IF ASSUMED SOIL CONDITIONS ARE NOT PRESENT, FOUNDATION SHALL BE DESIGNED BY A LICENSED STRUCTURAL ENGINEER TAKING IN TO ACCOUNT ACTUAL SITE SOIL CONDITIONS
-TOP 6" OF SOIL NEGLECTED IN EMBEDMENT DEPTH CALCULATIONS (EMBEDMENT DEPTHS SHOWN ARE FROM GRADE)
-ELECTRICAL CONTRACTOR TO PROVIDE INFORMATION ON CONDUIT AND ELECTRICAL REQUIREMENTS

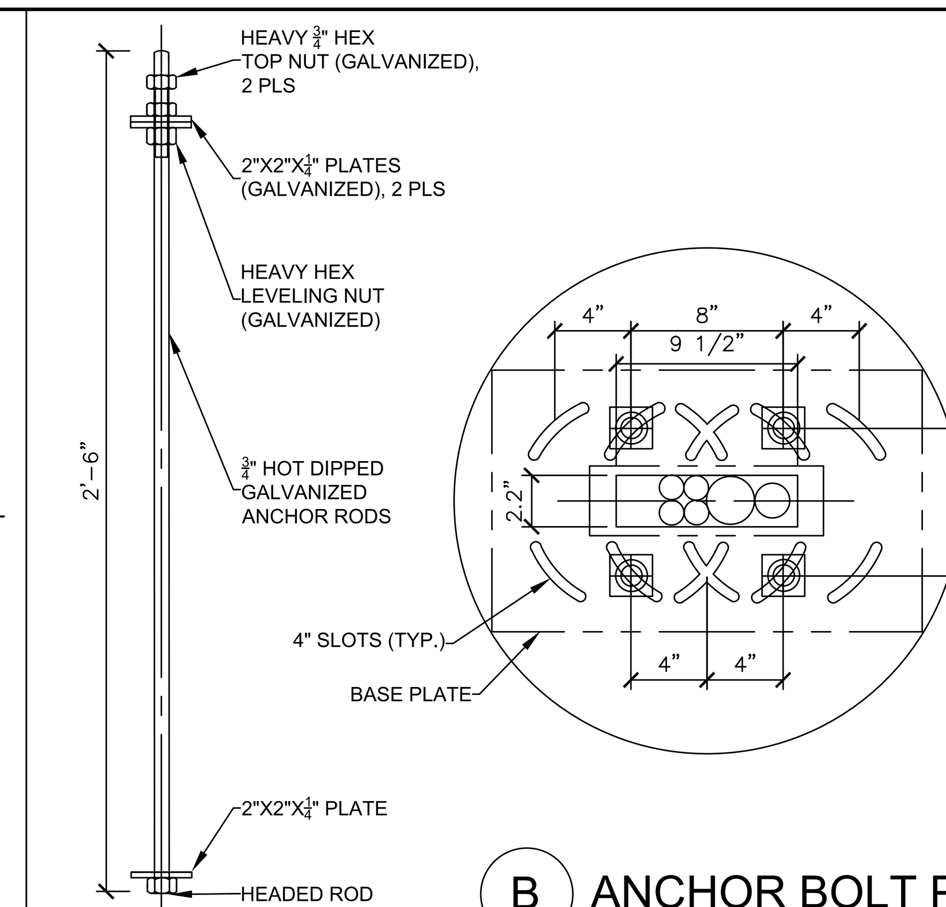
CONCRETE:
-ALL FOOTINGS SHALL BEAR ON FIRM UNDISTURBED RESIDUAL SOIL AND/OR ENGINEERED EARTH FILL COMPACTED TO 98% OF ITS MAXIMUM DRY DENSITY AS PER ASTM D 698-70 (STANDARD PROCTOR) UNLESS NOTED OTHERWISE
-ALL PIERS TO EXTEND TO FROST DEPTH AS DETERMINED BY LOCAL JURISDICTION
-TOP OF PIERS SHALL BE SLOPED SUCH THAT MOISTURE CANNOT ACCUMULATE
-MINIMUM CONCRETE STRENGTH (F'C=3,000 PSI) SHALL CONFORM WITH MCDONALD'S CAST-IN-PLACE CONCRETE SPECIFICATIONS SECTION 2.13-A
-USE OF ADMIXTURES SHALL CONFORM TO MCDONALD'S CAST-IN-PLACE CONCRETE SPECIFICATION SECTION 2.6
-AIR ENTERTAINMENT SHALL CONFORM WITH MCDONALD'S CAST-IN-PLACE CONCRETE SPECIFICATIONS 2.6-A AND 2.13-A
-WATER CONTENT RATIO SHALL CONFORM TO MCDONALD'S CAST-IN-PLACE CONCRETE SPECIFICATIONS SECTION 2.13-A
-FOUNDATION CONCRETE TO BE TESTED PER MCDONALD'S CAST-IN-PLACE CONCRETE SPECIFICATIONS SECTION 3.14
-PROVIDE A MINIMUM 3" OF CONCRETE COVER OVER ALL EMBEDDED STEEL.
-REINFORCEMENT PLACEMENT SHALL CONFORM TO MCDONALD'S CAST-IN-PLACE CONCRETE SPECIFICATIONS SECTIONS 3.2 & 3.5 PERFORMED BY GENERAL CONTRACTOR
-ANCHOR RODS TO BE SET IN ACCORDANCE WITH AISC CODE OF STANDARD PRACTICE
-DO NOT PLACE POLES ON CONCRETE UNTIL CONCRETE HAS CURED PER MCDONALD'S CAST-IN-PLACE CONCRETE SPECIFICATION SECTION 3.11-E

STEEL:
-STEEL PIPE SECTION: ASTM A53 OR A252 TYPE E GRADE B (Fy=35 KSI)
-HSS ROUND SECTION: ASTM A500 GRADE B (Fy= 42 KSI)
-HSS SQUARE/RECTANGULAR SECTIONS: ASTM A500 GRADE B (Fy= 46 KSI)
-HEADED ANCHOR RODS ASTM F1554 GR 55, AN ACCEPTABLE ALTERNATIVE IS ASTM F1554 GR 55, S1 WHEN THE EMBEDDED END OF THE ROD IS THREADED AND THE NUT TACK WELDED PRIOR TO GALVANIZATION.
-STEEL ANGLES, CHANNELS, STRUCTURAL SHAPES AND PLATES: ASTM A36
-REINFORCEMENT: ASTM A615 GRADE 60- BY GENERAL CONTRACTOR
-NUTS: ASTM A563A, HEAVY HEX
-WASHERS: ASTM F844 A36
-USE ASTM A153 CLASS C OT DIPPED GALVANIZED BOLTS AND FASTENERS.
-ANCHOR RODS, NUTS, AND WASHERS SHALL BE SHIPPED AS AN ASSEMBLY FROM THE SIGN/LIGHTING MANUFACTURER
-NO FIELD HEATING TO BEND STEEL SHALL BE ALLOWED WITHOUT ENGINEER'S APPROVAL
-DO NOT CUT ANCHOR RODS AFTER INSTALLATION OF POLE
-AFTER INSTALLATION, ALL EXPOSED STEEL SHALL BE PAINTED WITH AN ENAMEL PAINT TO INHIBIT CORROSION
-ANY FIELD WIELDING SHALL FIRST BE VERIFIED BY ENGINEER AND PERFORMED IN ACCORDANCE WITH AWS D1.1
-REFER TO SIGN MANUFACTURER DRAWINGS AND INSTRUCTIONS FOR ADDITIONAL INFORMATION

NOTES:
- PIER DEPTHS REQUIRED ARE MINIMUMS. ALL PIERS TO EXTEND TO FROST DEPTH AS DETERMINED BY LOCAL JURISDICTION.
- TOP OF PIERS SHALL BE SLOPED SUCH THAT MOISTURE CANNOT ACCUMULATE.
- MINIMUM ALLOWABLE LATERAL SOIL BEARING PRESSURE 100 PSF/FT OF DEPTH (X2)
- ALL REINFORCING STEEL BY GENERAL CONTRACTOR.



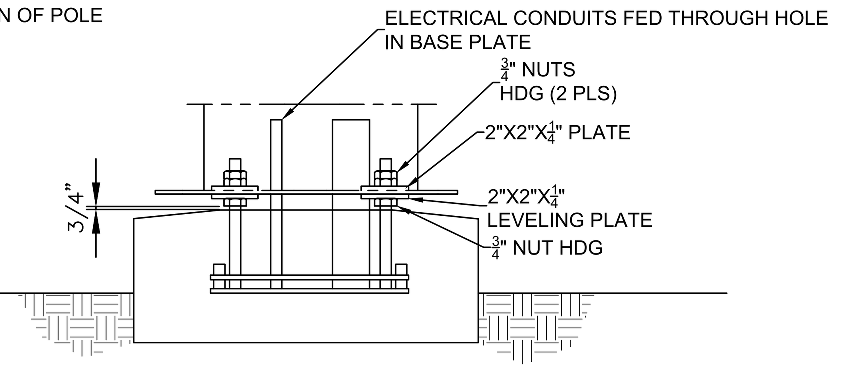
A FOUNDATION



NOTES:
- TOP OF PIERS SHALL BE SLOPED SUCH THAT MOISTURE CANNOT ACCUMULATE
- ANCHOR RODS, NUTS, AND WASHERS SHALL BE SHIPPED AS AN ASSEMBLY FROM THE ENCLOSURE MANUFACTURER

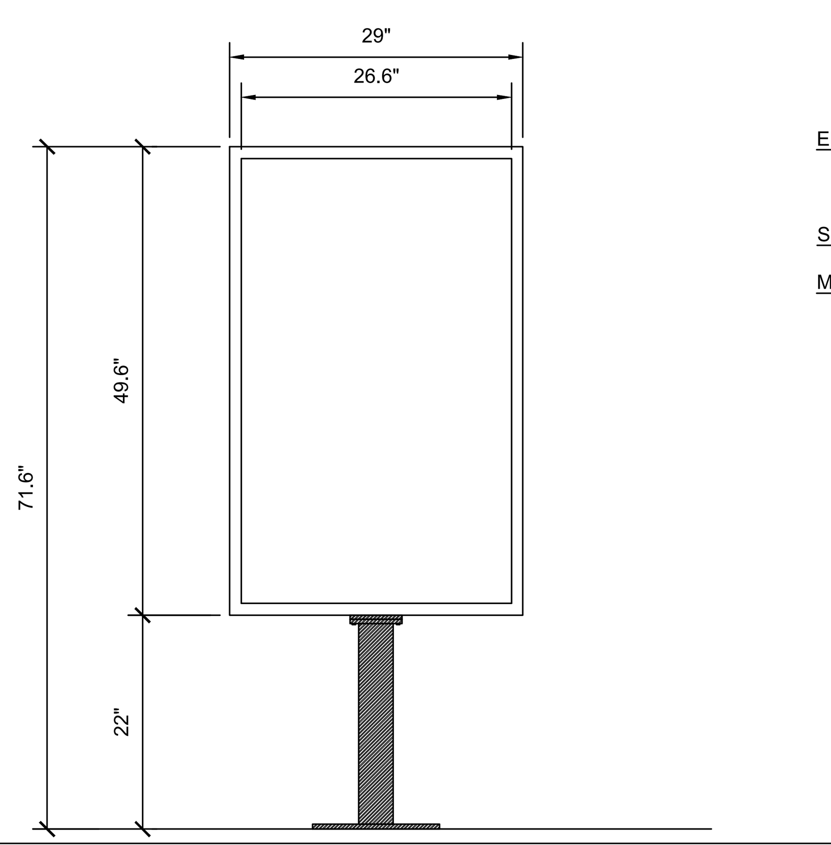
B ANCHOR BOLT PATTERN

NOTES:
- TOP OF PIERS SHALL BE SLOPED SUCH THAT MOISTURE CANNOT ACCUMULATE
- ANCHOR RODS, NUTS, AND WASHERS SHALL BE SHIPPED AS AN ASSEMBLY FROM THE ENCLOSURE MANUFACTURER
- DO NOT CUT ANCHOR BOLTS AFTER INSTALLATION OF POLE



C CONNECTION DETAILS

MENU BOARD
NOT TO SCALE



ELECTRICAL: FIRST CIRCUIT: 120/1/60, 15 AMP
SECOND CIRCUIT: 120/1/60, 10 AMP

SHIP WEIGHT: TBD LBS.

MEDIA PLAYER: STRATACACHE

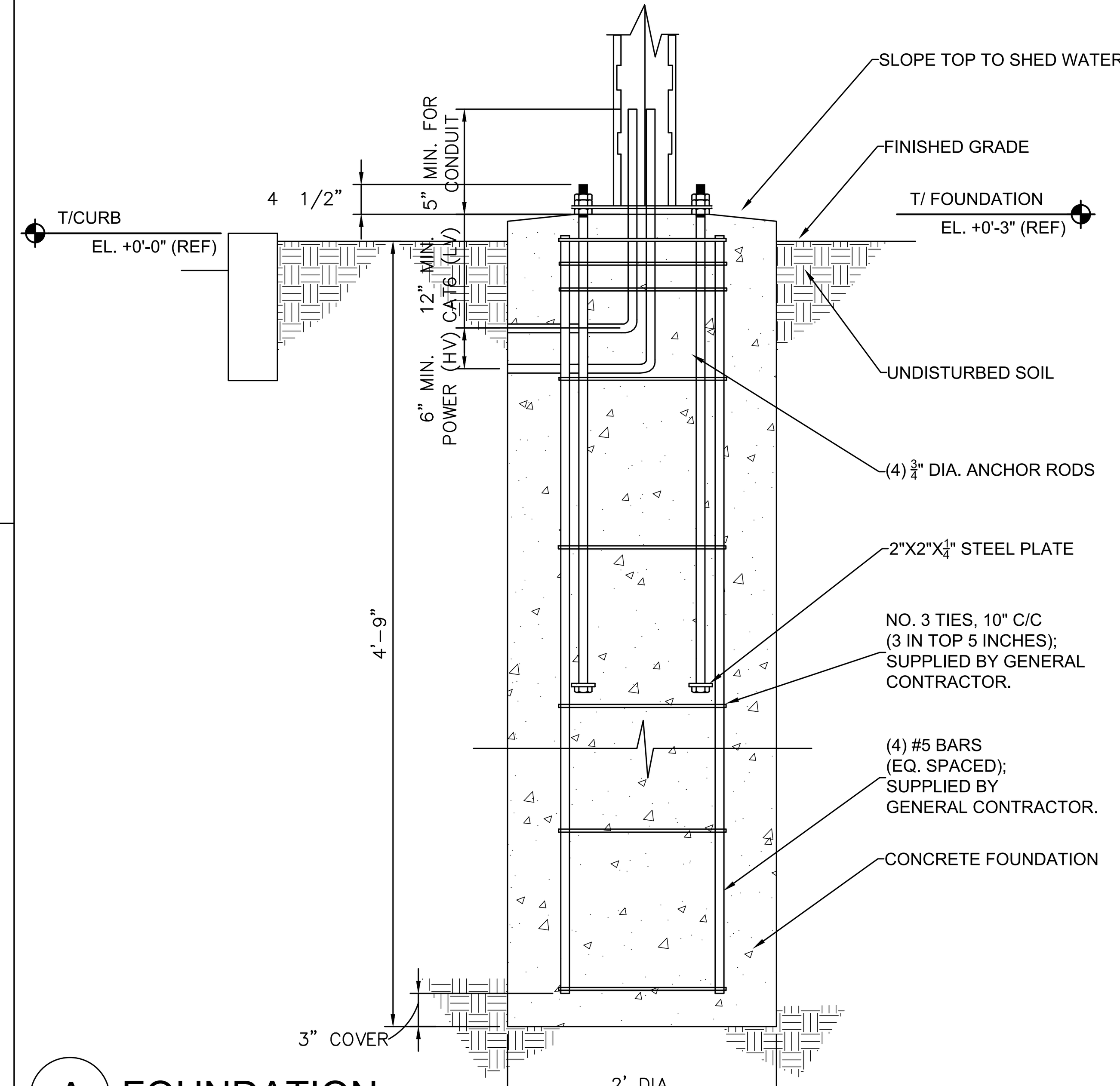
GENERAL NOTES
-THE FOLLOWING CODES WERE USED IN DESIGN:
-IBC 2018
-ASCE 7-16
-ACI 318-14
-AISC 360-16 & AISC 341-16
-AWS D1.1
-WIND SPEED 107 MPH (ULTIMATE WIND SPEED)
-EXPOSURE C
-DESIGN LOADS DERIVED FROM THESE CODES AND FORCES
-AXIAL- 350 #
-SHEAR- 340 #
-MOMENT- 1350 #'
-ALL FOOTING EXCAVATIONS ARE TO BE CLEAR OF WATER AND FOREIGN MATTER BEFORE PLACING CONCRETE
-MINIMUM ALLOWABLE LATERAL SOIL BEARING PRESSURE OF 100 PSF/FT (X2)
-SITE SOIL CONDITIONS TO BE CONFIRMED BY GEOTECHNICAL ENGINEER, IF ASSUMED SOIL CONDITIONS ARE NOT PRESENT, FOUNDATION SHALL BE DESIGNED BY A LICENSED STRUCTURAL ENGINEER TAKING IN TO ACCOUNT ACTUAL SITE SOIL CONDITIONS
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-ELECTRICAL CONTRACTOR TO PROVIDE INFORMATION ON CONDUIT AND ELECTRICAL REQUIREMENTS

-ALL FOOTINGS SHALL BEAR ON FIRM UNDISTURBED RESIDUAL SOIL AND/OR ENGINEERED EARTH FILL COMPACTED TO 98% OF ITS MAXIMUM DRY DENSITY AS PER ASTM D 698-70 (STANDARD PROCTOR) UNLESS NOTED OTHERWISE
-ALL PIERS TO EXTEND TO FROST DEPTH AS DETERMINED BY LOCAL JURISDICTION
-TOP OF PIERS SHALL BE SLOPED SUCH THAT MOISTURE CANNOT ACCUMULATE
-MINIMUM CONCRETE STRENGTH (F'C=3,000 PSI) SHALL CONFORM WITH MCDONALD'S CAST-IN-PLACE CONCRETE SPECIFICATIONS SECTION 2.13-A
-USE OF ADMIXTURES SHALL CONFORM TO MCDONALD'S CAST-IN-PLACE CONCRETE SPECIFICATION SECTION 2.6
-AIR ENTERTAINMENT SHALL CONFORM WITH MCDONALD'S CAST-IN-PLACE CONCRETE SPECIFICATIONS 2.6-A AND 2.13-A
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STEEL:
-STEEL PIPE SECTION: ASTM A53 OR A252 TYPE E GRADE B (Fy=35 KSI)
-HSS ROUND SECTION: ASTM A500 GRADE B (Fy= 42 KSI)
-HSS SQUARE/RECTANGULAR SECTIONS: ASTM A500 GRADE B (Fy= 46 KSI)
-HEADED ANCHOR RODS ASTM F1554 GR 55, AN ACCEPTABLE ALTERNATIVE IS ASTM F1554 GR 55, S1 WHEN THE EMBEDDED END OF THE ROD IS THREADED AND THE NUT TACK WELDED PRIOR TO GALVANIZATION.
-STEEL ANGLES, CHANNELS, STRUCTURAL SHAPES AND PLATES: ASTM A36
-REINFORCEMENT: ASTM A615 GRADE 60- BY GENERAL CONTRACTOR
-NUTS: ASTM A563A, HEAVY HEX
-WASHERS: ASTM F844 A36
-USE ASTM A153 CLASS C OT DIPPED GALVANIZED BOLTS AND FASTENERS.
-ANCHOR RODS, NUTS, AND WASHERS SHALL BE SHIPPED AS AN ASSEMBLY FROM THE SIGN/LIGHTING MANUFACTURER
-NO FIELD HEATING TO BEND STEEL SHALL BE ALLOWED WITHOUT ENGINEER'S APPROVAL
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-ANY FIELD WIELDING SHALL FIRST BE VERIFIED BY ENGINEER AND PERFORMED IN ACCORDANCE WITH AWS D1.1
-REFER TO SIGN MANUFACTURER DRAWINGS AND INSTRUCTIONS FOR ADDITIONAL INFORMATION

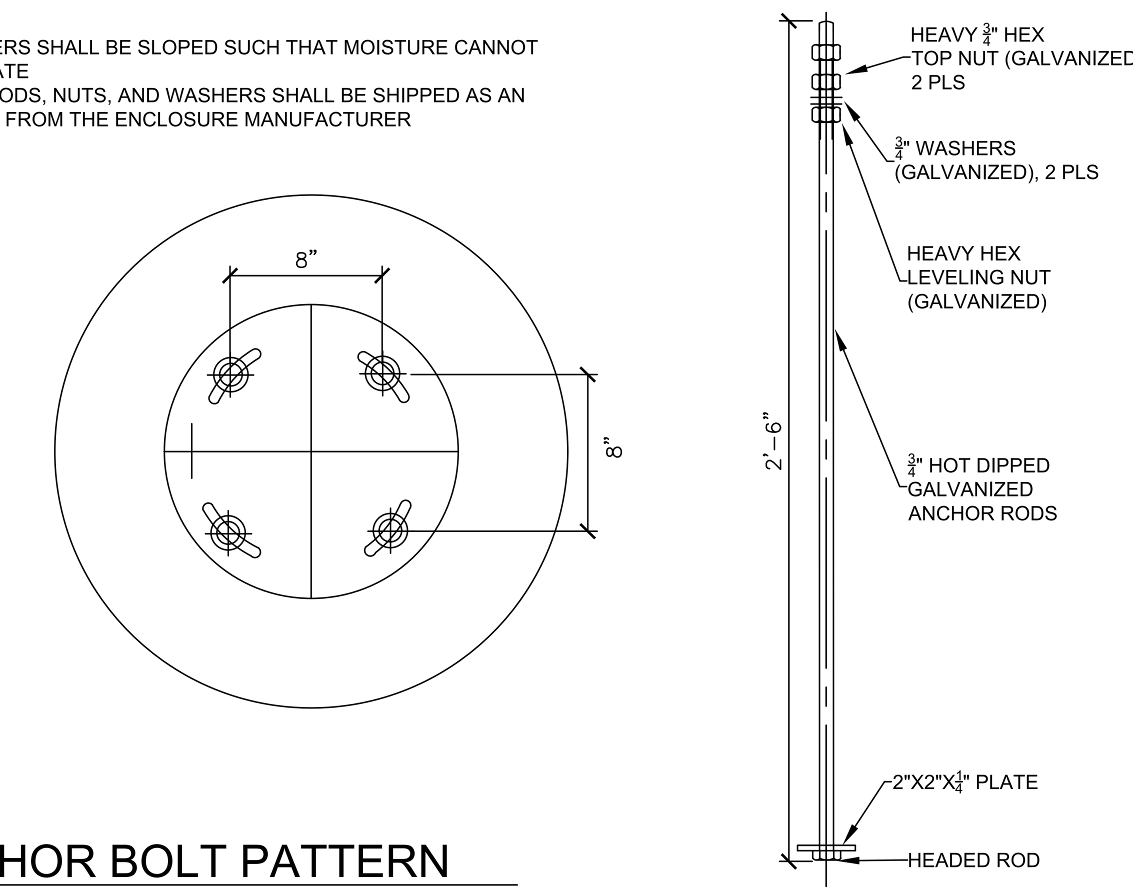
~~CONCRETE:~~

NOTES:
- PIER DEPTHS REQUIRED ARE MINIMUMS. ALL PIERS TO EXTEND TO FROST DEPTH AS DETERMINED BY LOCAL JURISDICTION.
- TOP OF PIERS SHALL BE SLOPED SUCH THAT MOISTURE CANNOT ACCUMULATE.
- MINIMUM ALLOWABLE LATERAL SOIL BEARING PRESSURE 100 PSF/FT OF DEPTH (X2)
- ALL REINFORCING STEEL BY GENERAL CONTRACTOR.



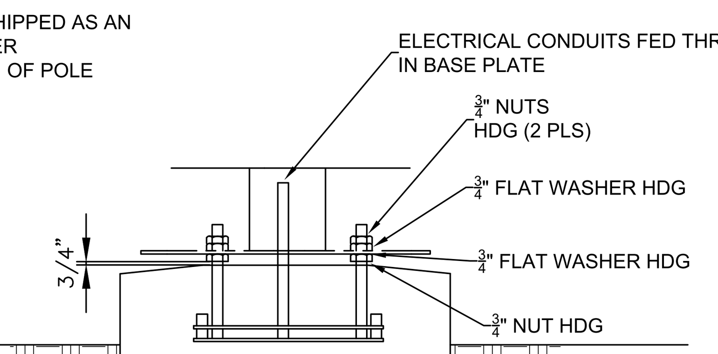
A FOUNDATION

NOTES:
- TOP OF PIERS SHALL BE SLOPED SUCH THAT MOISTURE CANNOT ACCUMULATE
- ANCHOR RODS, NUTS, AND WASHERS SHALL BE SHIPPED AS AN ASSEMBLY FROM THE ENCLOSURE MANUFACTURER



B ANCHOR BOLT PATTERN

NOTES:
- TOP OF PIERS SHALL BE SLOPED SUCH THAT MOISTURE CANNOT ACCUMULATE
- ANCHOR RODS, NUTS, AND WASHERS SHALL BE SHIPPED AS AN ASSEMBLY FROM THE ENCLOSURE MANUFACTURER
- DO NOT CUT ANCHOR BOLTS AFTER INSTALLATION OF POLE



C CONNECTION DETAILS

PRE-BROWSE BOARD
NOT TO SCALE

REV	DATE	DESCRIPTION	BY
	04.10.26	ISSUED FOR PERMIT REVIEW	AJK

JARED E. LOOMIS LICENSED 26355 KANSAS PROFESSIONAL ENGINEER 4-10-26

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PREPARED FOR: McDonald's USA, LLC

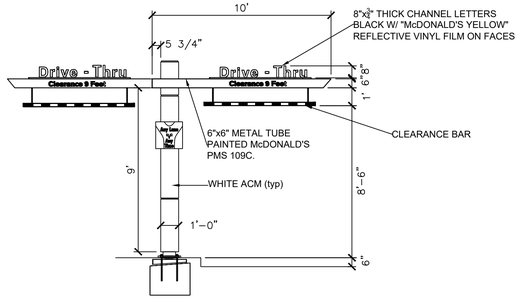
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DRAWN BY: AJK
STD ISSUE DATE
REVIEWED BY: MAP
DATE ISSUED: 04.10.26

TITLE: DETAILS
DESCRIPTION: McDONALD'S RESTAURANT LEAVENWORTH, KANSAS
SITE ID: 015-0404
SITE ADDRESS: 713 METROPOLITAN AVENUE, LEAVENWORTH, KANSAS

SHEET NO. 015-0404.00.0
C505

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DATE: Apr 10, 2026 11:32am USER: akruse



APPROACH VIEW

DRIVE-THRU GATEWAY (DOUBLE)

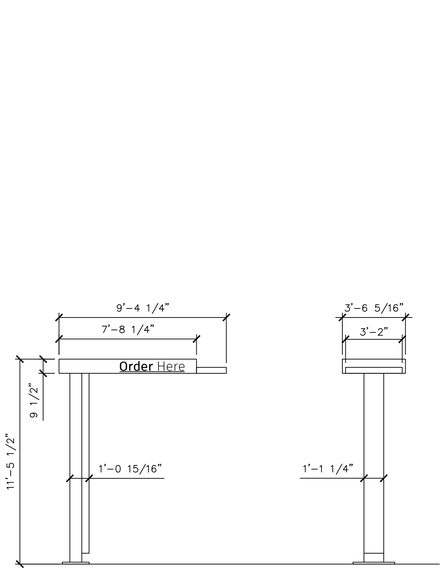
NOT TO SCALE

ILLUMINATION: N/A

SHIP WEIGHT: 840 LBS.

OTHER: NON-ILLUMINATED CLEARANCE SIGN WITH SPRING LOADED BREAK AWAY CLEARANCE ARM

ADJUSTABLE HANGING BAR



ORDER HERE CANOPY

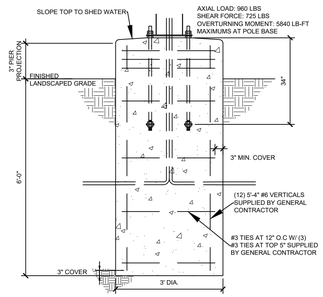
NOT TO SCALE

ILLUMINATION: LED LIGHT FIXTURE

ELECTRICAL: CANOPY: 0.64 AMP
CIRCUIT: (1) 120 VOLTS, 20 AMP

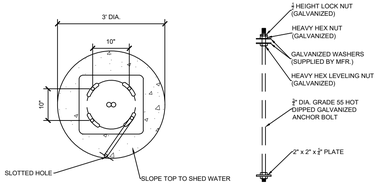
NOTE:
-DESIGN CODES: IBC 2018, ASCE 7-16, ACI 318-14, AISC 360-16, AISC 341-16, AWS D1.1
-WIND SPEED, 114 MPH, 3 SEC GUST., EXPOSURE C
-DESIGN LOADS DERIVED FROM THESE CODES AND FORCES
AXIAL LOAD: 960 LBS
SHEAR FORCE: 725 LBS
OVERTURNING MOMENT: 5840 LB-FT
-USE 3000 PSI CONCRETE COMPRESSIVE STRENGTH (f'c)
-PIER DEPTHS REQUIRED ARE MINIMUMS. ALL PIERS TO EXTEND TO FROST DEPTH AS DETERMINED BY LOCAL JURISDICTION.

-TOP OF PIERS SHALL BE SLOPED SUCH THAT MOISTURE CANNOT ACCUMULATE.
-ELECTRICAL CONTRACTOR TO PROVIDE INFORMATION ON CONDUIT AND ELECTRICAL REQUIREMENTS.
-MINIMUM ALLOWABLE LATERAL SOIL BEARING PRESSURE 100 PSF/FT OF DEPTH x2
-TOP 6" OF SOIL NEGLECTED IN EMBEDMENT DEPTH CALCULATIONS (EMBEDMENT DEPTHS SHOWN ARE FROM GRADE)
-3" MIN. CONCRETE COVER FOR REINFORCEMENT



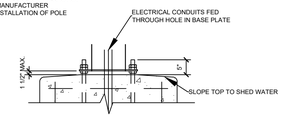
A SINGLE GATEWAY

NOTES:
-TOP OF PIERS SHALL BE SLOPED SUCH THAT MOISTURE CANNOT ACCUMULATE
-HOT DIPPED GALVANIZED BOLTS
-F1554 GRADE 36 ANCHOR BOLTS
-ANCHOR BOLTS TO BE SET IN ACCORDANCE WITH AISC CODE OF STANDARD PRACTICE
-ANCHOR RODS, NUTS, AND WASHERS SHALL BE SHIPPED AS AN ASSEMBLY FROM THE SIGN/LIGHTING MANUFACTURER
-DO NOT CUT ANCHOR BOLTS AFTER INSTALLATION OF POLE



B ANCHOR BOLT PATTERN

NOTES:
-TOP OF PIERS SHALL BE SLOPED SUCH THAT MOISTURE CANNOT ACCUMULATE.
-ANCHOR RODS, NUTS, AND WASHERS SHALL BE SHIPPED AS AN ASSEMBLY FROM THE SIGN/LIGHTING MANUFACTURER
-DO NOT CUT ANCHOR BOLTS AFTER INSTALLATION OF POLE

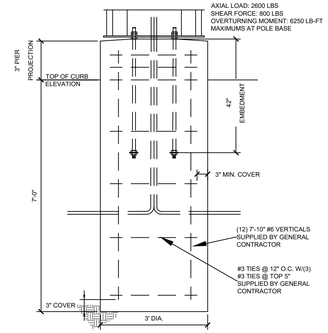


C CONNECTION DETAILS

NOTE:
-DESIGN CODES: IBC 2018, ASCE 7-16, ACI 318-14, AISC 360-16, AISC 341-16, AWS D1.1
-WIND SPEED, 114 MPH, 3 SEC GUST, EXPOSURE C
-DESIGN LOADS DERIVED FROM THESE CODES AND FORCES:
AXIAL LOAD: 2600 LBS
SHEAR FORCE: 800 LBS
OVERTURNING MOMENT: 6250 LB-FT
-USE 3000 PSI CONCRETE COMPRESSIVE STRENGTH (f'c)
-PIER DEPTHS REQUIRED ARE MINIMUMS. ALL PIERS TO EXTEND TO FROST DEPTH AS DETERMINED BY LOCAL JURISDICTION.

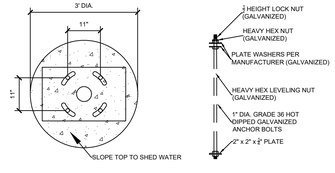
CANNOT ACCUMULATE.
-ELECTRICAL CONTRACTOR TO PROVIDE INFORMATION ON CONDUIT AND ELECTRICAL REQUIREMENTS.
-MINIMUM ALLOWABLE LATERAL SOIL BEARING PRESSURE 100 PSF/FT OF DEPTH x2
-TOP 6" OF SOIL NEGLECTED IN EMBEDMENT DEPTH CALCULATIONS (EMBEDMENT DEPTHS SHOWN ARE FROM GRADE)
-3" MIN. CONCRETE COVER FOR ALL EMBEDDED STEEL
-FOUNDATION IS DESIGNED FOR SINGLE OR DOUBLE POLE COLUMNS
-ALL REINFORCING STEEL BY GENERAL CONTRACTOR

-TOP OF PIERS SHALL BE SLOPED SUCH THAT MOISTURE



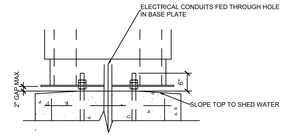
A ORDER HERE CANOPY

NOTES:
-TOP OF PIERS SHALL BE SLOPED SUCH THAT MOISTURE CANNOT ACCUMULATE.
-USE F1554 GRADE 36 BOLTS MINIMUM
-ANCHOR BOLTS TO BE SET IN ACCORDANCE WITH AISC CODE OF STANDARD PRACTICE
-ANCHOR RODS, NUTS, AND WASHERS SHALL BE SHIPPED AS AN ASSEMBLY FROM THE SIGN/LIGHTING MANUFACTURER
-DO NOT CUT ANCHOR BOLTS AFTER INSTALLATION OF POLE



B ANCHOR BOLT PATTERN

NOTES:
-TOP OF PIERS SHALL BE SLOPED SUCH THAT MOISTURE CANNOT ACCUMULATE.
-ANCHOR RODS, NUTS, AND WASHERS SHALL BE SHIPPED AS AN ASSEMBLY FROM THE SIGN/LIGHTING MANUFACTURER
-DO NOT CUT ANCHOR BOLTS AFTER INSTALLATION OF POLE



C CONNECTION DETAILS

REV	DATE	DESCRIPTION	BY
	04.10.26	ISSUED FOR PERMIT REVIEW	AJK

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PREPARED FOR: McDonald's USA, LLC

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DRAWN BY: AJK
STD ISSUE DATE:
REVIEWED BY: MAP
DATE ISSUED: 04.10.26

TITLE: DETAILS

DESCRIPTION: McDONALD'S RESTAURANT
LEAVENWORTH, KANSAS

SITE ADDRESS: 713 METROPOLITAN AVENUE, LEAVENWORTH, KANSAS

SITE ID: 015-0404

SHEET NO.: C506

015-0404.00.0

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DATE: Apr 10, 2026 11:31am USER: akruse

LIGHT POLE FOUNDATION

NOT TO SCALE

DESIGN CRITERIA
IBC 2012

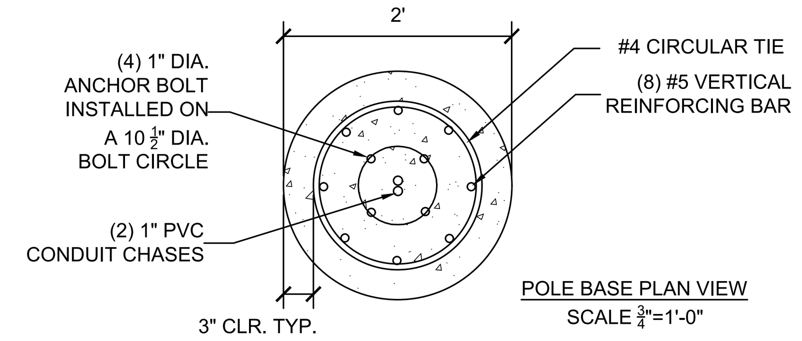
FOUNDATION DESIGN PARAMETERS

1. MAXIMUM LIGHT POLE BASE REACTIONS:
   BASE MOMENT = 6,764 LBS-FT
   BASE SHEAR = 474 LBS
2. MAXIMUM WIND SPEED (3 SECOND GUST) = 110 MPH
3. MAXIMUM REQUIRED SOIL PARAMETERS:
   COHESIVE SOILS:
   - SHEAR STRENGTH = 750 LBS/FT
   - 6" MAXIMUM DEPTH OF DISTURBED SOIL OR TOP SOIL

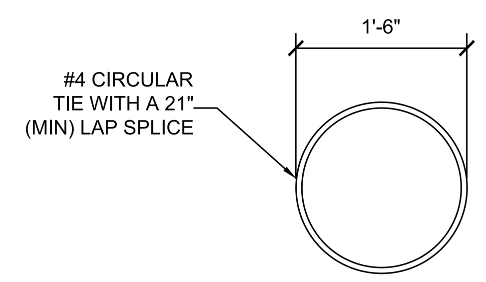
   COHESIONLESS SOILS:
   - ANGLE OF INTERNAL FRICTION = 27 DEGREES
   - WATER TABLE SHALL BE LOCATED BELOW THE BOTTOM OF THE FOUNDATION
   - 6" MAXIMUM DEPTH OF DISTURBED SOIL OR TOP SOIL
4. THE SOILS REPORT SHALL BE REVIEWED BY THE ENGINEER OF RECORD TO CONFIRM THAT THE MINIMUM SOIL PARAMETERS ARE MET OR EXCEEDED BEFORE THIS DESIGN IS USED. IF THE MINIMUM SOIL PARAMETERS ARE NOT MET, THIS DESIGN SHALL NOT BE USED.
5. THE ENGINEER OF RECORD SHALL REVIEW THE MAXIMUM BASE REACTIONS AND DESIGN WIND SPEED FOR THE LIGHT POLE TO BE INSTALLED TO DETERMINE IF THE FOUNDATION'S MAXIMUM DESIGN LOADS HAVE NOT BEEN EXCEEDED. THIS FOUNDATION DESIGN SHALL NOT BE USED IF THE MAXIMUM DESIGN LOADS OR WIND SPEEDS HAVE BEEN EXCEEDED.
6. THIS FOUNDATION DESIGN SHALL NOT BE USED IN LOCATIONS WHICH ARE CLOSER THAN 8FT FROM A RETAINING WALL.
7. THIS FOUNDATION DESIGN SHALL NOT BE USED AT LOCATIONS WHERE THE GROUND SLOPE EXCEEDS 4 INCHES PER FOOT.

GENERAL NOTES:

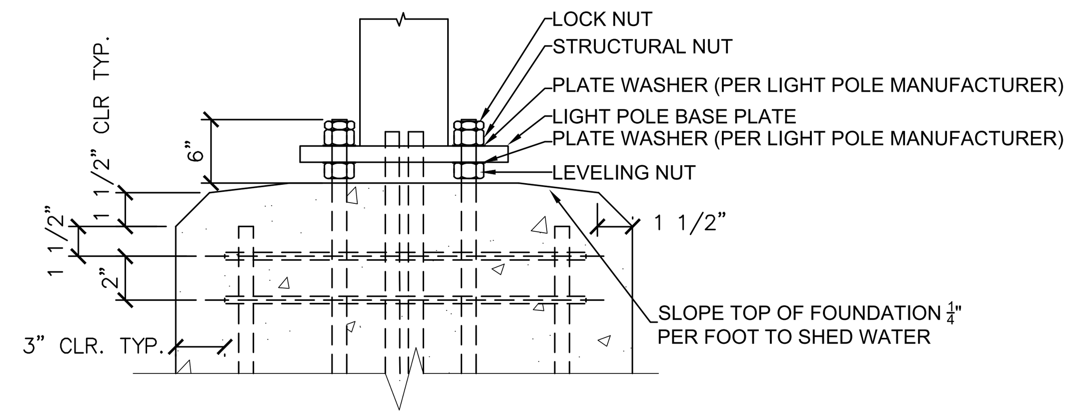
1. CONCRETE COMPRESSIVE STRENGTH (F'C) SHALL BE A MINIMUM OF 3000 PSI.
2. ANCHOR BOLTS SHALL BE ASTM F1554 GRADE 55, HOT DIP GALVANIZED PER ASTM F2329. THEY SHALL BE STRAIGHT AND NOT "I" SHAPED.
3. REINFORCING STEEL SHALL BE ASTM A615 GRADE 60.
4. NUTS SHALL BE HEAVY HEX ASTM A563 GRADE DH, HOT DIP GALVANIZED PER ASTM A153.
5. PLATE SHALL BE ASTM A572 GRADE 50, HOT DIP GALVANIZED PER ASTM A153
6. LOCK NUT SHALL BE HOT DIP GALVANIZED PER ASTM A153
7. ALL REINFORCING PER GENERAL CONTRACTOR.
8. STANDARD LOT POLE IS FULLY, HOT DIPPED, GALVANIZED STEEL POLE WITH A PLATINUM COLOR POWDER COAT. PAINTED STEEL LOT LIGHTS ARE NOT APPROVED.



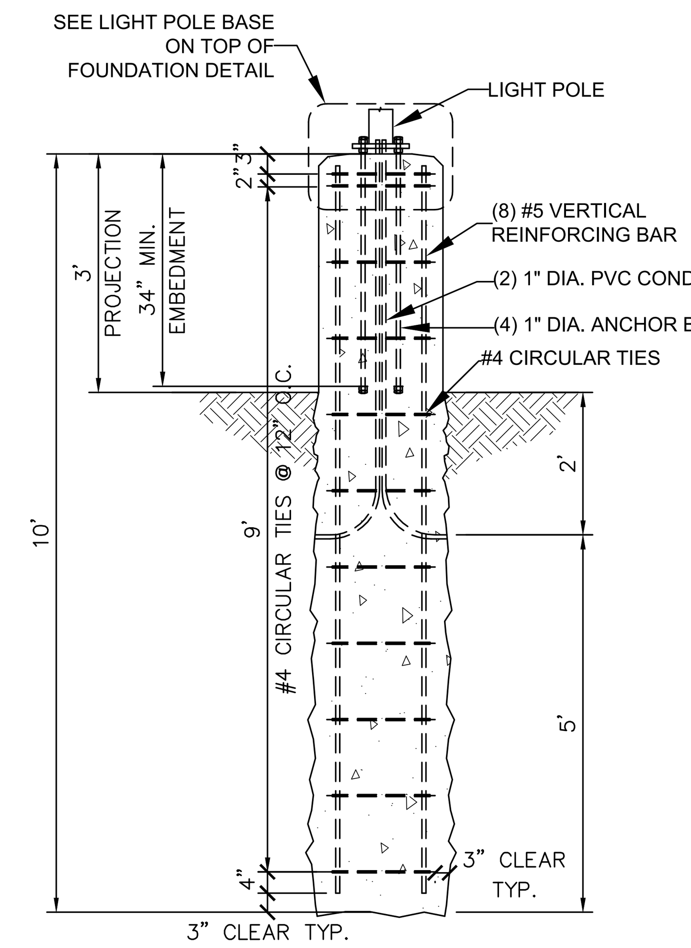
POLE BASE PLAN VIEW
SCALE 3/4"=1'-0"



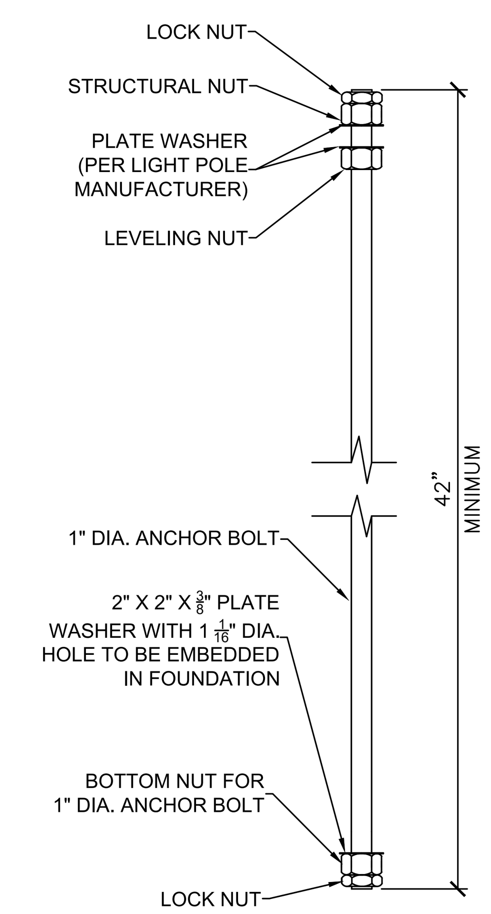
CIRCULAR TIE DETAIL



LIGHT POLE BASE ON TOP OF FOUNDATION



VIEW A-A



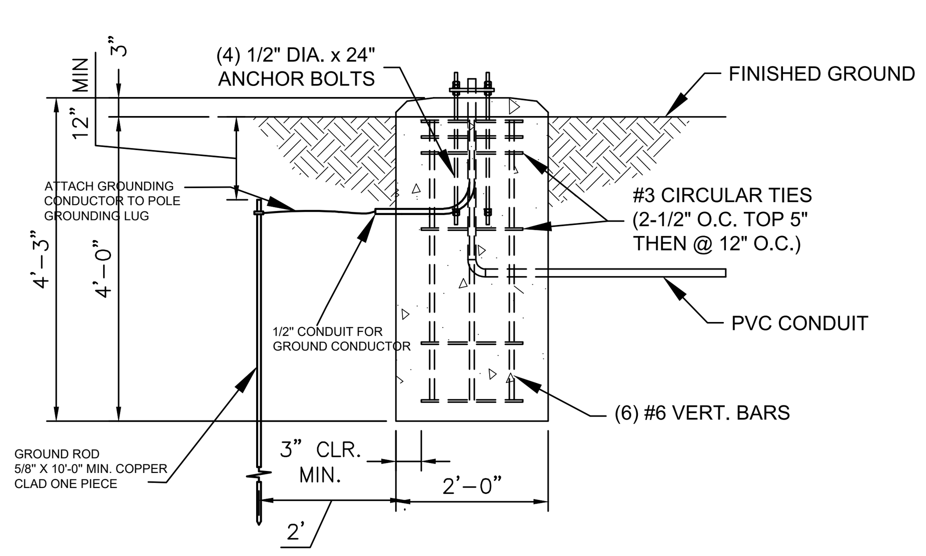
ANCHOR BOLT DETAIL

DIRECTIONAL ENTRANCE AND EXIT SIGN FOUNDATION

NOT TO SCALE

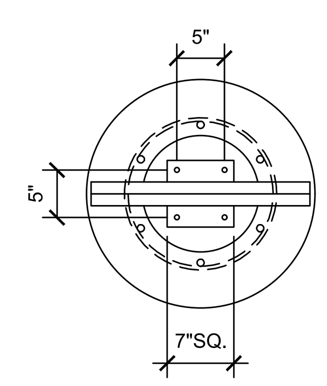
NOTE:

- DESIGN CODES:
  IBC 2012
  ASCE 7-10
  ACI 318-11
  AISC 360-10 & AISC 341-10
  AWS D1.1
- WIND SPEED: (110 MPH - 3 SEC. GUST)
  EXPOSURE C
- DESIGN LOADS DERIVED FROM THESE CODES AND FORCES:
  AXIAL - 180#
  SHEAR - 215#
  MOMENT - 487#'
- USE CONCRETE WITH A 3000 PSI MINIMUM COMPRESSIVE STRENGTH (f'c).
- PIER DEPTHS REQUIRED ARE MINIMUMS. ALL PIERS TO EXTEND TO FROST DEPTH AS DETERMINED BY LOCAL JURISDICTION.
- TOP OF PIERS SHALL BE SLOPED SUCH THAT MOISTURE CANNOT ACCUMULATE.
- ELECTRICAL CONTRACTOR TO PROVIDE INFORMATION ON CONDUIT AND ELECTRICAL REQUIREMENTS.
- MINIMUM ALLOWABLE LATERAL SOIL BEARING PRESSURE 100 PSF/FT OF DEPTH (x2)
- TOP 6" OF SOIL NEGLECTED IN EMBEDMENT DEPTH CALCULATIONS (EMBEDMENT DEPTHS ARE SHOWN FROM GRADE).
- PROVIDE A MINIMUM OF 3" CONCRETE COVER FOR ALL EMBEDDED STEEL.
- ALL REINFORCING STEEL BY GENERAL CONTRACTOR.

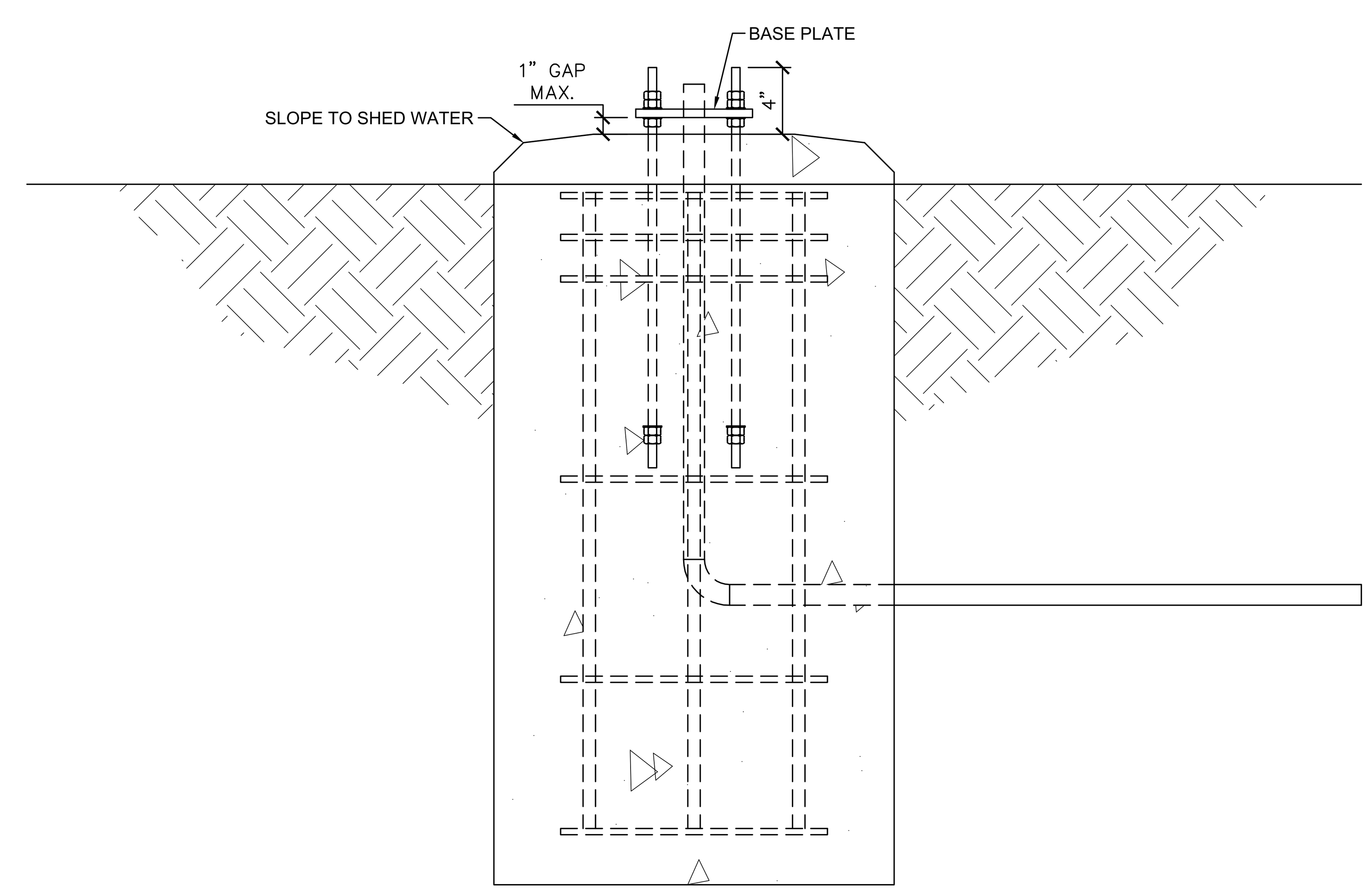


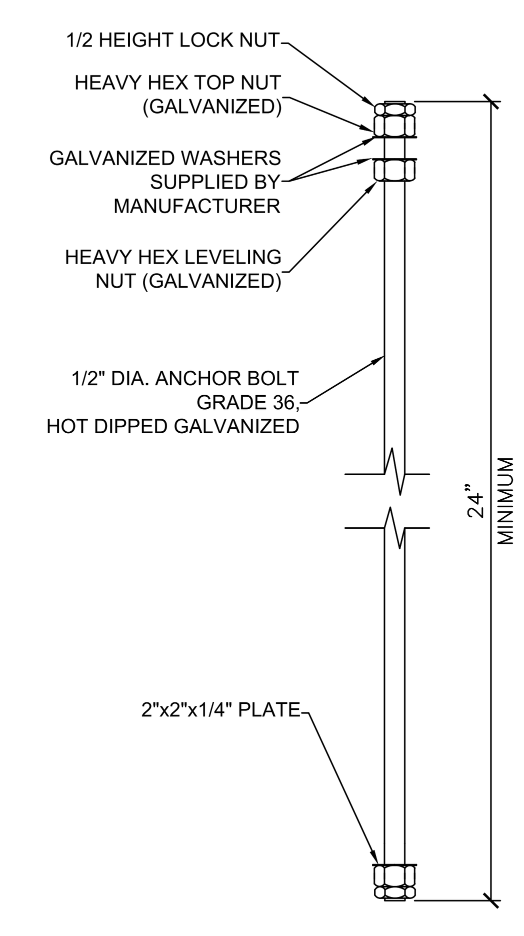
NOTES:

- USE F1554 GRADE 36 BOLTS MINIMUM
- USE HOT DIPPED GALVANIZED BOLTS
- ANCHOR BOLTS TO BE SET IN ACCORDANCE WITH AISC CODE OF STANDARD PRACTICE
- ANCHOR RODS, NUTS AND WASHERS SHALL BE SHIPPED AS AN ASSEMBLY FROM THE SIGN/LIGHTING MANUFACTURER
- DO NOT CUT ANCHOR BOLTS AFTER INSTALLATION OF POLE



ANCHOR BOLT PATTERN





ANCHOR BOLT DETAIL

REV	DATE	DESCRIPTION	BY
	04.10.26	ISSUED FOR PERMIT REVIEW	AJK

JARED E. LOOMIS LICENSED 26355 KANSAS PROFESSIONAL ENGINEER — Jared E. Loomis 4-10-26

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PREPARED FOR:
McDonald's USA, LLC

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DRAWN BY: AJK
STD ISSUE DATE:
REVIEWED BY: MAP
DATE ISSUED: 04.10.26

TITLE: DETAILS

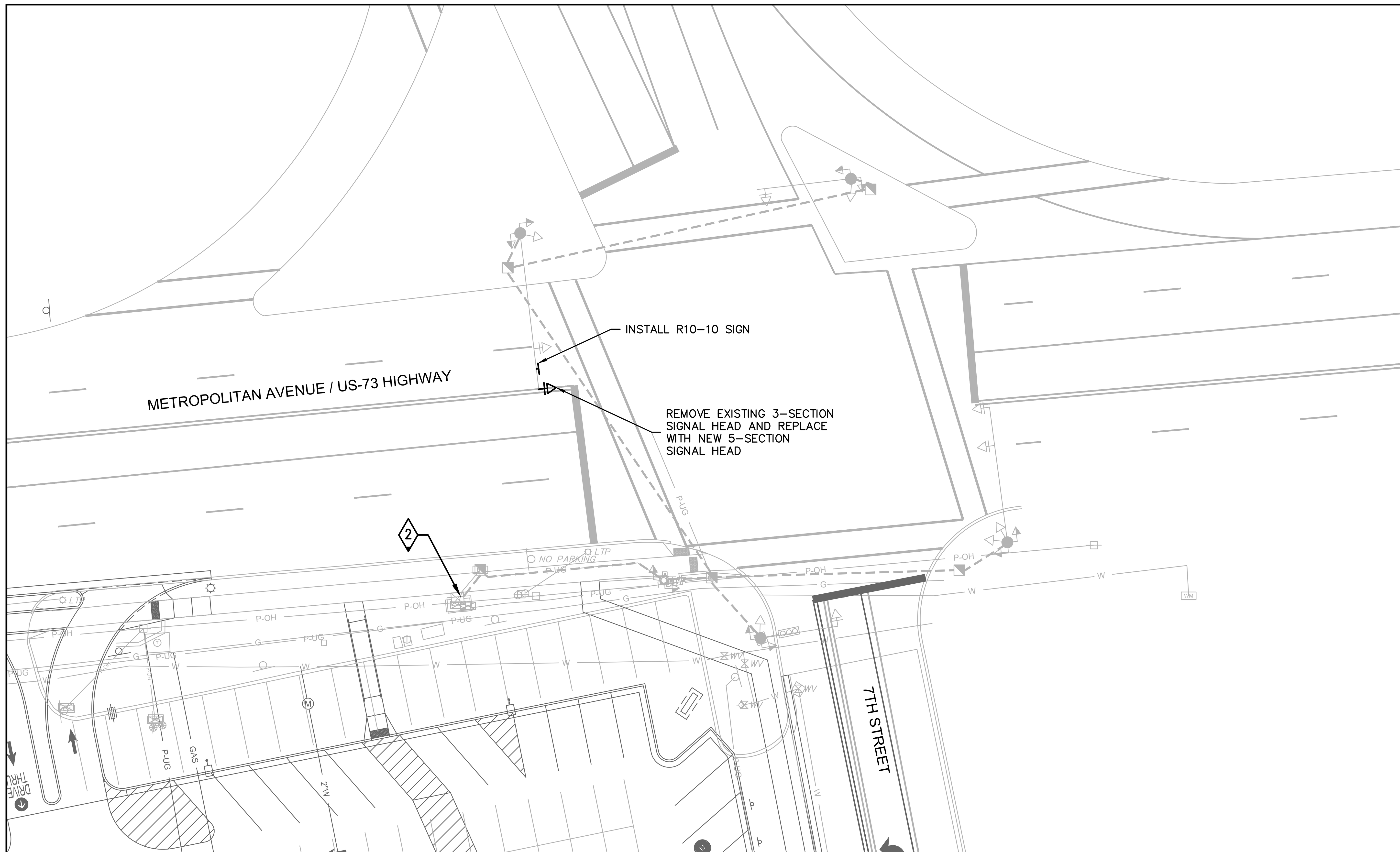
DESCRIPTION: McDONALD'S RESTAURANT LEAVENWORTH, KANSAS

SITE ID: 015-0404
SITE ADDRESS: 713 METROPOLITAN AVENUE, LEAVENWORTH, KANSAS

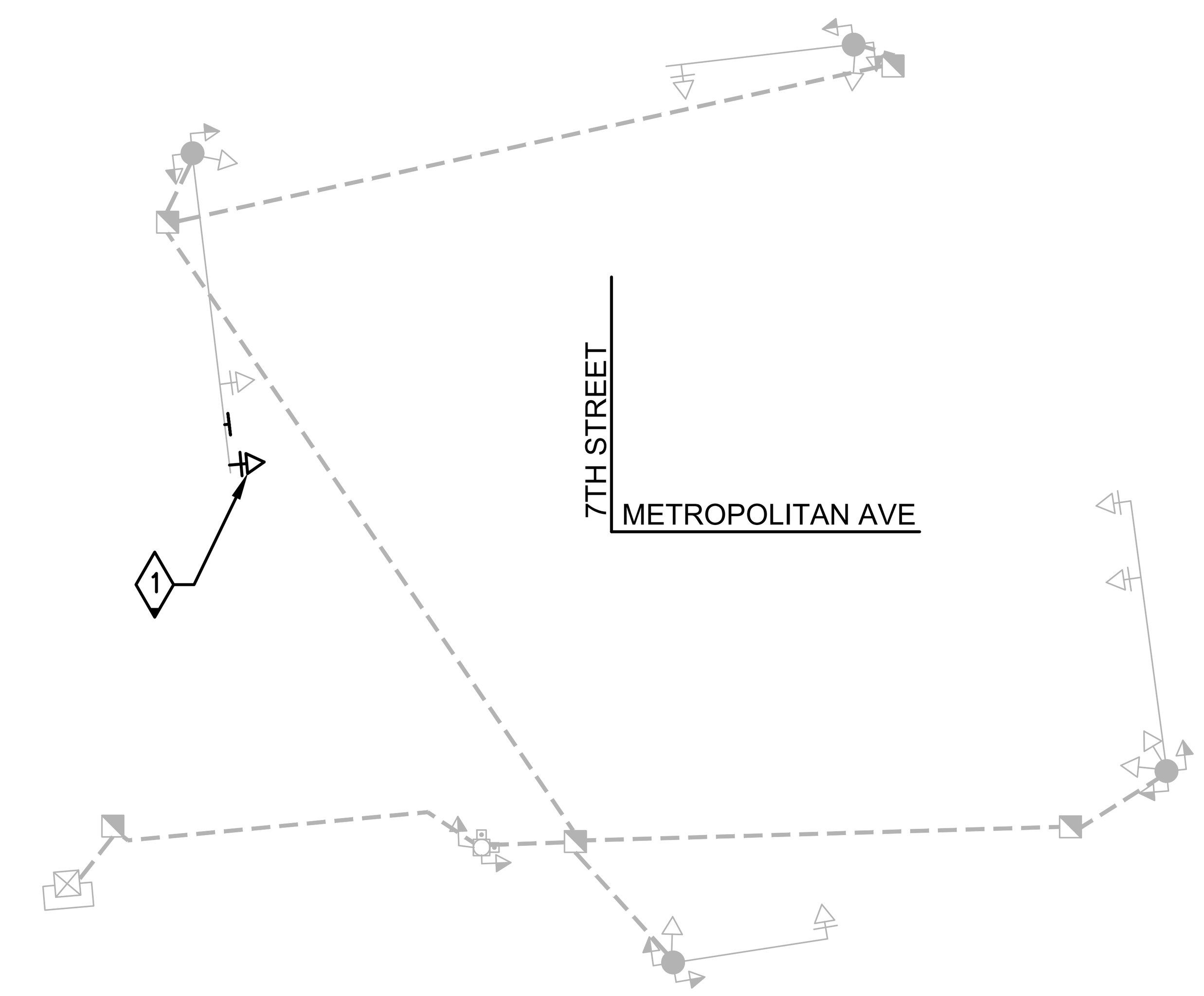
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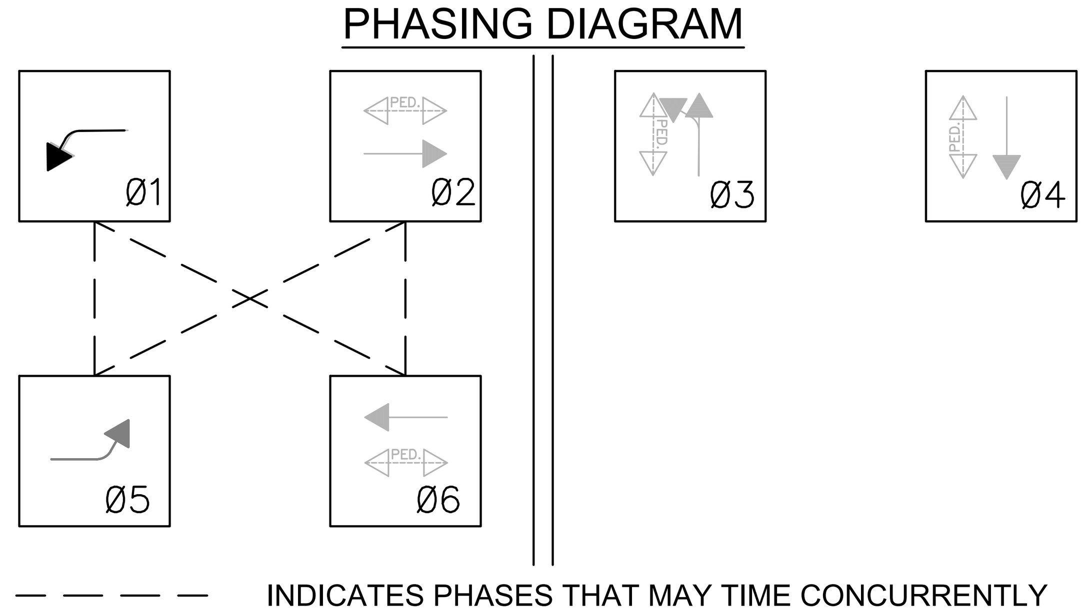
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DATE: Apr 10, 2026 11:33am USER: akruse



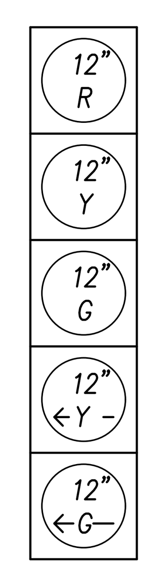
WIRING DIAGRAM



PHASING DIAGRAM



SIGNAL FACES



CONSTRUCTION NOTES:

1. REMOVE EXISTING 3-SECTION SIGNAL FACE AND INSTALL NEW 5-SECTION SIGNAL RECONNECT EXISTING CABLING AND RECONFIGURE CABINET WIRING FOR PERMITTED/PROTECTED LEFT TURN MOVEMENT.

2. CONTRACTOR SHALL RE-WIRE EXISTING (OR NEW) CABLING AS NECESSARY TO ADD PHASE 5 LEFT-TURN. MINIMUM GREEN TIME TO BE 8 SECONDS. MAXIMUM GREEN TIME TO BE 35 SECONDS.

BILL OF MATERIALS*

ITEM	UNIT	QUANTITY
5 SECTION TRAFFIC SIGNAL HEAD	EACH	1
R10-10 SIGN	EACH	1

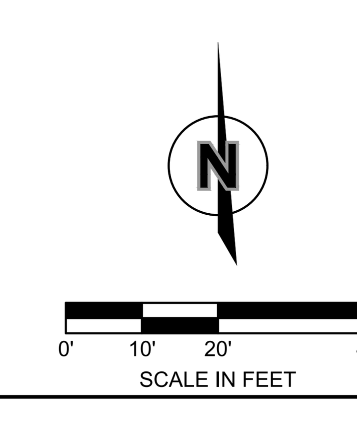
*THESE APPROXIMATE QUANTITIES WERE PREPARED SOLELY FOR THE CONTRACTOR'S CONVENIENCE. IT IS NOT GUARANTEED THAT THIS LIST OF MATERIALS CONSTITUTES ALL ITEMS REQUIRED FOR THE COMPLETION OF THE WORK.

GENERAL NOTES:

1. THE LOCATIONS OF EXISTING UNDERGROUND AND OVERHEAD UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UTILITIES.
2. TRAFFIC SIGNAL WIRING FOR NEW LEFT-TURN PHASE ESTIMATED BASED ON BEST AVAILABLE INFORMATION. CONTRACTOR SHALL INDEPENDENTLY VERIFY QUANTITY OF CABLING REQUIRED FOR FULL WORKING SYSTEM AS DEPICTED.

LEGEND

- Pad Mount Signal Controller
- Meter Pedestals
- 6' x 6' Detector Loop
- 6' x 30' Detector Loop
- Radar Detector Zone
- Signal / Pedestrian Pole
- Mastarm w/ Street Name Sign
- Signal Head w/ Backing Plate
- Signal Head
- Pedestrian Signal Head
- CCTV Camera
- Service Box
- Junction Box
- Fiber Junction Box
- Power Source
- Emergency Vehicle Detector
- Luminaire
- Stop Bar Radar Detector



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DATE: Apr 10, 2026 1:05pm USER: mschoelz

REV	DATE	DESCRIPTION	BY

JEREMY SCOTT STRETZ LICENSED 24835 KANSAS PROFESSIONAL ENGINEER
04/10/2026

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TEL 785.539.6900
FAX 785.539.6901

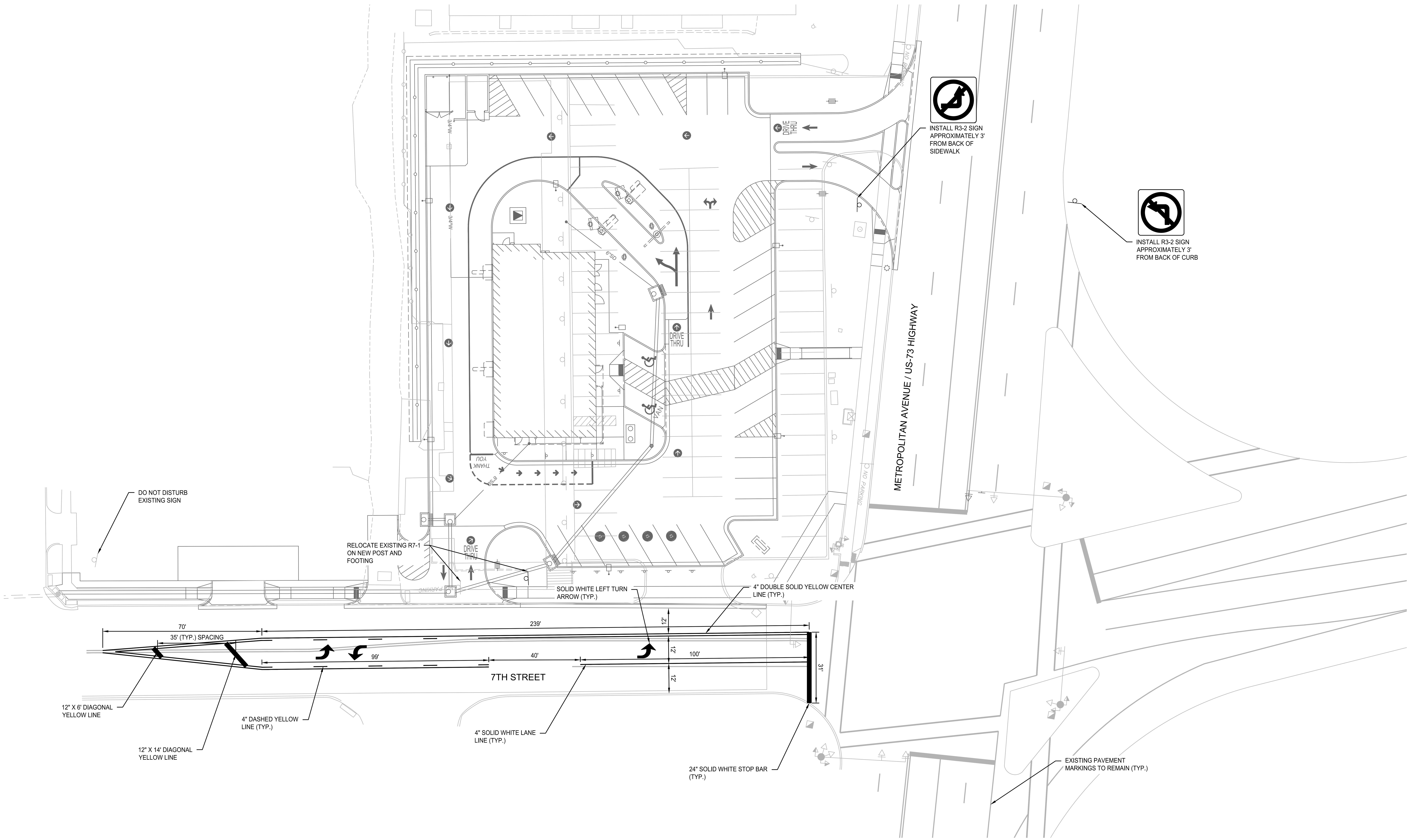
PREPARED FOR:
McDonald's USA, LLC

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DRAWN BY: AJK
STD ISSUE DATE:
REVIEWED BY: XXX
DATE ISSUED: XX.XX.XX

TITLE: SIGNAL MODIFICATION METROPOLITAN & 7TH STREET
DESCRIPTION: McDONALD'S RESTAURANT LEAVENWORTH, KANSAS
SITE ID: 015-0404
SITE ADDRESS: 713 METROPOLITAN AVENUE, LEAVENWORTH, KANSAS

SHEET NO. 015-0404.00.0
C600



GENERAL NOTES:

1. OBLITERATE EXISTING MARKINGS THAT ARE IN CONFLICT WITH PROPOSED PAVEMENT MARKINGS.

BILL OF MATERIALS*

ITEM	UNIT	QUANTITY
4" SOLID WHITE	L.F.	100
4" SOLID YELLOW	L.F.	718
12" SOLID YELLOW	L.F.	20
24" SOLID WHITE	L.F.	31
SOLID WHITE LEFT TURN ARROW	EACH	3
R3-2 "NO LEFT TURN" SIGN**	EACH	2
R7-1 "NO PARKING" SIGN**	EACH	1

*THESE APPROXIMATE QUANTITIES WERE PREPARED SOLELY FOR THE CONTRACTOR'S CONVENIENCE. IT IS NOT GUARANTEED THAT THIS LIST OF MATERIALS CONSTITUTES ALL ITEMS REQUIRED FOR THE COMPLETION OF THE WORK.
** SIGN QUANTITY SHALL INCLUDE ALL MATERIALS REQUIRED FOR INSTALLATION, INCLUDING POST, FOOTING, AND MOUNTING EQUIPMENT.

N

0' 10' 20' 40'
SCALE IN FEET

F:\2025\02501-03000\025-02525\40-Design\AutoCAD\Final Plans\Sheets\TFT\PAVEMENT MARKING & SIGNING\F_SAS_02502525.dwg
DATE: Apr 10, 2026 1:05pm USER: mschoelz

REV	DATE	DESCRIPTION	BY

JEREMY SCOTT STRETZ LICENSED 24835 KANSAS PROFESSIONAL ENGINEER
04/10/2026

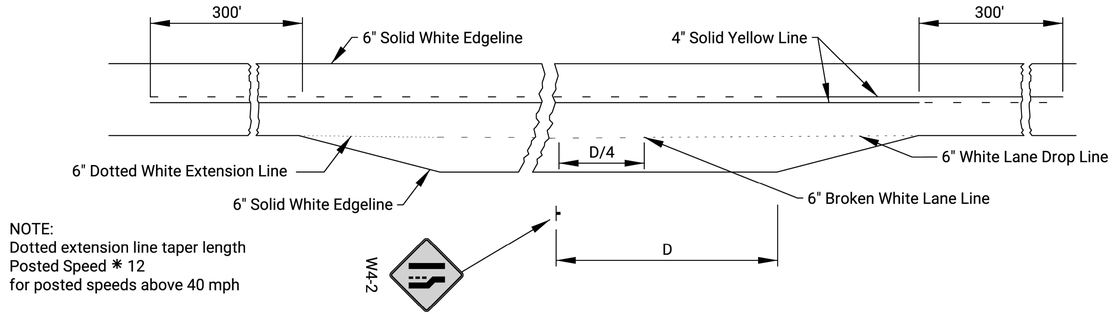
olsson
Olsson - Engineering
Kansas COA #E-516
302 S. 4th Street, Suite 110
Manhattan, Kansas 66502
www.olsson.com
TEL 785.539.6900
FAX 785.539.6901

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DRAWN BY: AJK
STD ISSUE DATE
REVIEWED BY: XXX
DATE ISSUED: XX.XX.XX

TITLE
PAVEMENT MARKING & SIGNING
METROPOLITAN & 7TH STREET
DESCRIPTION
McDONALD'S RESTAURANT
LEAVENWORTH, KANSAS
SITE ID: 015-0404
SITE ADDRESS: 713 METROPOLITAN AVENUE, LEAVENWORTH, KANSAS

SHEET NO.
015-0404.00.0
C700

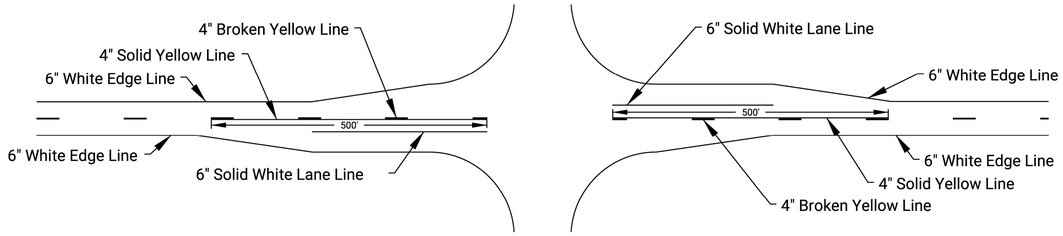


NOTE:
Dotted extension line taper length
Posted Speed * 12
for posted speeds above 40 mph

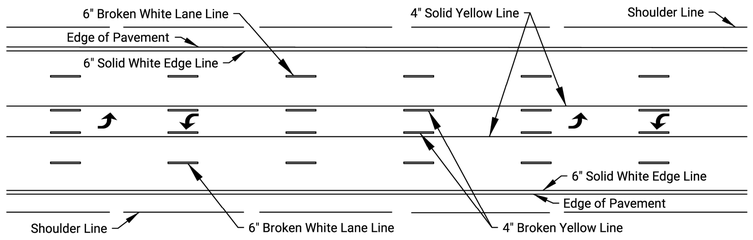
TYPICAL MARKING FOR AUXILIARY PASSING LANE

NOTE:
All pavement markings shall be broken at cross roads.

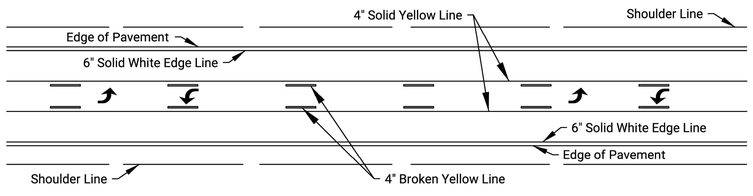
For highway junctions the no passing zone will extend 1000' from intersection.



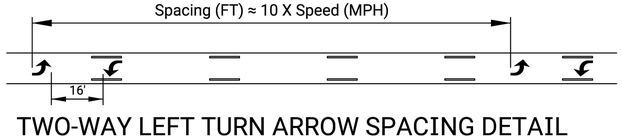
TYPICAL ROAD JUNCTION MARKINGS WITH BYPASS LANES



TWO-WAY LEFT TURN DETAIL FOR FIVE LANE ROADWAY

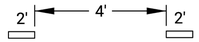


TWO-WAY LEFT TURN DETAIL FOR THREE LANE ROADWAY

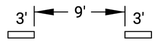


TWO-WAY LEFT TURN ARROW SPACING DETAIL

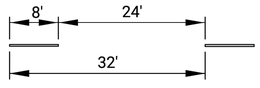
NOTE:
If arrows are used space the arrows as shown in the spacing detail.



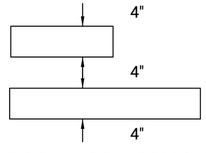
TYPICAL SPACING FOR DOTTED EXTENSION LINES, UNLESS OTHERWISE NOTED ON PLANS.



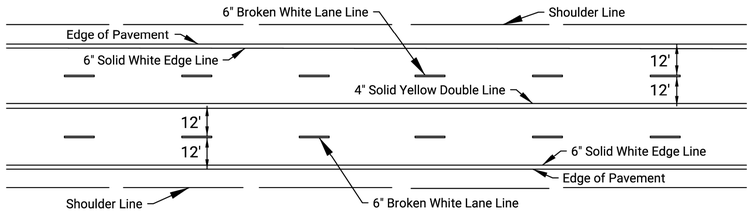
TYPICAL SPACING FOR LANE DROP, UNLESS OTHERWISE NOTED ON PLANS.



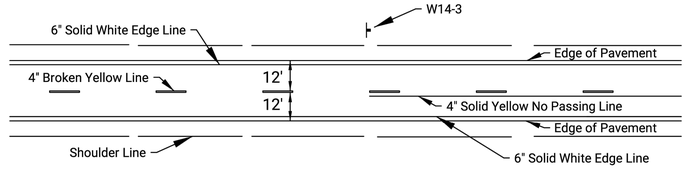
TYPICAL SPACING FOR BROKEN LINES, UNLESS OTHERWISE NOTED ON PLANS



TYPICAL SPACING FOR NO PASSING LINES, UNLESS OTHERWISE NOTED ON PLANS



TYPICAL MARKINGS FOR FOUR LANE ROADWAY



TYPICAL TWO LANE MARKINGS

NOTE:
Longitudinal pavement marking lines shall be offset a minimum of 2" from longitudinal pavement joints.

On non I, US, and K routes, 4" edge lines may be installed.
6" edge lines are not required on non I, US, and K routes.

NO.	DATE	REVISIONS	BY	APP'D
03	05-25-12	Added Dotted Extension and Lane Drop Lines	B.A.H.	B.D.G.
02	09-20-05	Removed Aux. Passing Lane Dotted Ext. Line	J.F.F.	B.D.G.
01	07-26-05	New FHWA Approval Date	J.F.F.	B.D.G.

KANSAS DEPARTMENT OF TRANSPORTATION

TYPICAL PAVEMENT MARKING DETAILS FOR UNDIVIDED ROADWAYS

TE308

FHWA APPROVAL		05-25-12	APP'D.	Brian D. Gower	
DESIGNED	J.F.F.	DETAILED	J.F.F.	QUANTITIES	TRACED
DESIGN CK.	B.D.G.	DETAIL CK.	B.D.G.	QUAN.CK.	TRACE CK.

KDOT Graphics Certified 07-19-2022 Sh. No. C701

KDOT Graphics Certified

Plotted by : KDOT#CADD.Support_ks.gov 12-SEP-2023 00:04
File : te308.dgn



LEGEND

- PHASE 1 WORK ZONE
- ADA BARRICADE
- TYPE 3 BARRICADE
- SIGN SYMBOL
- CHANNELIZING DEVICE
- ARROW BOARD

GENERAL NOTES:

1. ALL TRAFFIC CONTROL SHALL FOLLOW CURRENT MUTCD/KDOT STANDARDS AND SPECIFICATIONS

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DATE: Apr 10, 2026 1:05pm USER: mschoelz

REV	DATE	DESCRIPTION	BY

JEREMY SCOTT STREET
LICENSED
24835
KANSAS
PROFESSIONAL ENGINEER
04/10/2026

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Kansas COA #E-516
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PREPARED FOR:
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DRAWN BY	AJK
STD ISSUE DATE	
REVIEWED BY	XXX
DATE ISSUED	XX.XX.XX

TITLE: CONSTRUCTION SEQUENCING METROPOLITAN & 7TH STREET

DESCRIPTION: McDONALD'S RESTAURANT LEAVENWORTH, KANSAS

SITE ID: 015-0404

SITE ADDRESS: 713 METROPOLITAN AVENUE, LEAVENWORTH, KANSAS

015-0404.00.0

SHEET NO.
C800



LEGEND

- PHASE 2 WORK ZONE
- ADA BARRICADE
- TYPE 3 BARRICADE
- SIGN SYMBOL
- CHANNELIZING DEVICE
- ARROW BOARD

GENERAL NOTES:

1. ALL TRAFFIC CONTROL SHALL FOLLOW CURRENT MUTCD/KDOT STANDARDS AND SPECIFICATIONS

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DATE: Apr 10, 2026 1:05pm USER: mschoelz

REV	DATE	DESCRIPTION	BY

JEREMY SCOTT STRETZ LICENSED 24835 KANSAS PROFESSIONAL ENGINEER
04/10/2026

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PREPARED FOR:
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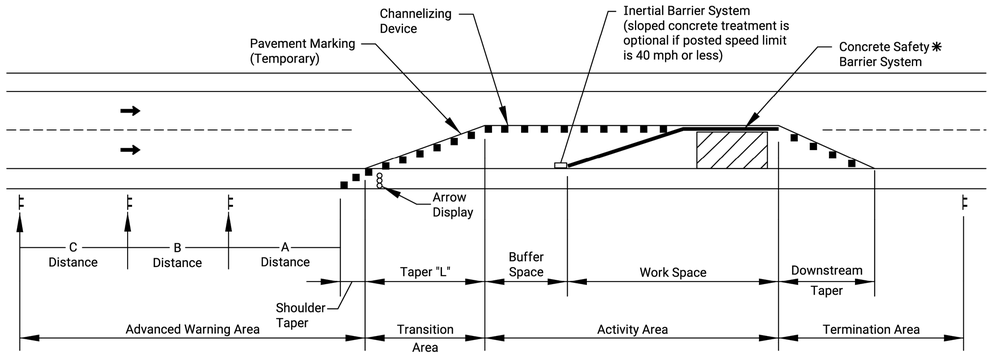
DRAWN BY: AJK
STD ISSUE DATE:
REVIEWED BY: XXX
DATE ISSUED: XX.XX.XX

TITLE
CONSTRUCTION SEQUENCING
METROPOLITAN & 7TH STREET

DESCRIPTION
McDONALD'S RESTAURANT
LEAVENWORTH, KANSAS

SITE ID: 015-0404
SITE ADDRESS: 713 METROPOLITAN AVENUE, LEAVENWORTH, KANSAS

SHEET NO.
015-0404.00.0
C801



TYPICAL WORK ZONE COMPONENTS

Taper Length (L)

✱✱ Posted speed prior to work starting

Speed✱✱ (MPH)	Width of Offset (ft)												
	1	2	3	4	5	6	7	8	9	10	11	12	13
20	7	13	20	27	33	40	47	53	60	67	73	80	87
25	10	21	31	42	52	63	73	83	94	104	115	125	135
30	15	30	45	60	75	90	105	120	135	150	165	180	195
35	20	41	61	82	102	123	143	163	184	204	225	245	265
40	27	53	80	107	133	160	187	213	240	267	293	320	347
45	45	90	135	180	225	270	315	360	405	450	495	540	585
50	50	100	150	200	250	300	350	400	450	500	550	600	650
55	55	110	165	220	275	330	385	440	495	550	605	660	715
60	60	120	180	240	300	360	420	480	540	600	660	720	780
65	65	130	195	260	325	390	455	520	585	650	715	780	845
70	70	140	210	280	350	420	490	560	630	700	770	840	910
75	75	150	225	300	375	450	525	600	675	750	825	900	975

✱When concrete barrier system is used, portable channelizing devices are not needed along the tangent barrier section.

Taper Formulas:

L = WS for speeds of 45 MPH or more

$L = WS^2/60$ for speeds of 40 MPH or less

Where: L = Minimum length of taper in feet
S = Numerical value of posted speed prior to work starting in MPH
W = Width in offset feet

Shifting Taper=1/2 L
Shoulder Taper=1/3 L

A distance of at least 2L should separate merging and shifting tapers

Advance Warning Sign Spacing

✱✱ Posted speed prior to work starting

SPEED (MPH)✱✱	A	B	C
URBAN (40MPH OR LOWER)	100	100	100
URBAN (45 MPH OR HIGHER)	350	350	350
RURAL (55 MPH OR LOWER)	500	500	500
RURAL (60 MPH OR HIGHER)	750	750	750
EXPRESSWAY/FREEWAY	1000	1500	2640

Minimum advance warning sign spacing (in feet)

The minimum spacing between signs shall be no less than 100', unless directed by the engineer.

The spacing between any signs may be increased beyond the minimum values in the table above as approved by the engineer in order to maximize visibility.

Channelizer Placement:

(1) The spacing between devices in transition area (taper) should not exceed a distance in feet equal to 1/2 the posted speed limit in mph prior to work starting.

(2) The spacing between devices in the advanced warning area and the activity area should not exceed a distance in feet equal to two times the posted speed limit in mph prior to work starting.

(3) Channelizing devices shall be placed for optimum visibility, normally at right angles to the traffic flow.

(4) Place directional indicator barricades in series to direct traffic onto the new path. The arrow sign should not be visible to opposing traffic.

(5) Alternating diagonal orange and white striping must slope downward in the direction traffic is expected to pass.

Buffer Spacing

✱✱ Posted speed prior to work starting

SPEED (MPH) ✱✱	*20*	*25*	*30*	*35*	*40*	*45*	*50*	*55*	*60*	*65*	*70*	*75*
LENGTH (ft)	*115*	*155*	*200*	*250*	*305*	*360*	*425*	*495*	*570*	*645*	*730*	*820*

Neither work activity nor storage of equipment, vehicles, or material should occur in the buffer space. When a protection vehicle is placed in advance of the work space, only the space upstream of the vehicle constitutes the buffer space.

If temporary concrete safety barrier system is used to separate approaching traffic from the work space, the barrier system shall be considered part of the activity area. A full lane width should be available throughout the length of the buffer space. See typical work zone components above.

1) Design Speed: Those items delegated to temporary traffic control should be designed and installed using the posted/legal speed of the roadway prior to work starting.

2) Minimum Lane Width: Lane widths shall be a minimum of 11', measured between centerlines of pavement markings (centerline, edge line and lane line) or as directed by the engineer. A lane width less than 10' should be closed according to the currently adopted MUTCD. Lane widths that fall between 11' and 10' should include restricted roadway signing (W5-1, W5-2, W5-4)

3) TTC plans should include bicyclists and pedestrians, including those with disabilities, and should be provided with accesses and passage through the TTC
zone.

3a) Adequate warning, delineation, and channelization should be provided to assist in guiding road users in advance of and through the TTC zone with information in a usable format for pedestrians with vision disabilities. Provisions for effective continuity of accessible circulation paths for pedestrians should be incorporated into the TTC plan.

3b) When existing pedestrian facilities including transit are disrupted, closed, or relocated in a TTC zone, the temporary facilities shall be detectable and include accessibility features consistent with the features present in the existing pedestrian facility. A pedestrian channelizing device that is detectable by a person with a vision disability traveling with the aid of a long cane shall be placed across the full width of the closed pedestrian facility. Pedestrian and bicycles are not allowed on Interstate.

3c) SIDEWALK CLOSED CROSS HERE signs shall include audible information devices to provide adequate communication to pedestrians with vision disabilities.

4) When the driving surface open to traffic is milled, or is a temporary surface made of loose material, or when directed by the engineer, a W8-15 (Grooved Pavement) or W8-7 (Loose Gravel) sign shall be used on mainline approaches. This sign should be placed a "C" distance after the W20-1 (Road Work Ahead) sign. A W8-15p motorcycle plaque shall be used to supplement the W8-15 or W8-7 signs. All signs shall be displayed as long as the condition is present.

5) Alternative temporary rumble strip options may be available. Please contact the Temporary Traffic Control Unit for more information at 785-296-3618

6) When detour routes impact railroad grade crossings, verify that there is no potential to cause queuing, if so, install "DO NOT STOP ON TRACKS" (R8-8).

7) When Temporary Traffic Control plans impact a railroad grade crossing, a temporary traffic signal will need to be approved by KDOT Traffic engineering and the affected railroad company.

8) Temporary traffic control signs shall not restrict the motorist visibility to railroad devices.

NO.	DATE	REVISIONS	BY	APP'D

KANSAS DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL GENERAL NOTES

TE700

FHWA APPROVAL			12-05-25	APP'D.		Nick Rogers	
DESIGNED	B.A.H.	DETAILED	R.W.B.	QUANTITIES		TRACED	
DESIGN CK.		DETAIL CK.		QUAN.CK.		TRACE CK.	

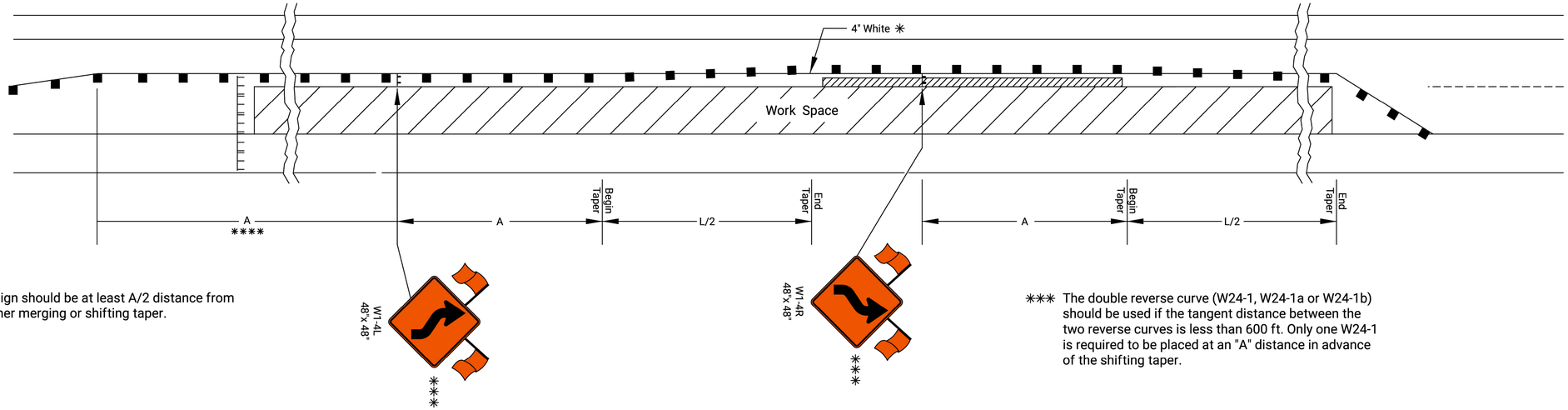
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KDOT Graphics Certified

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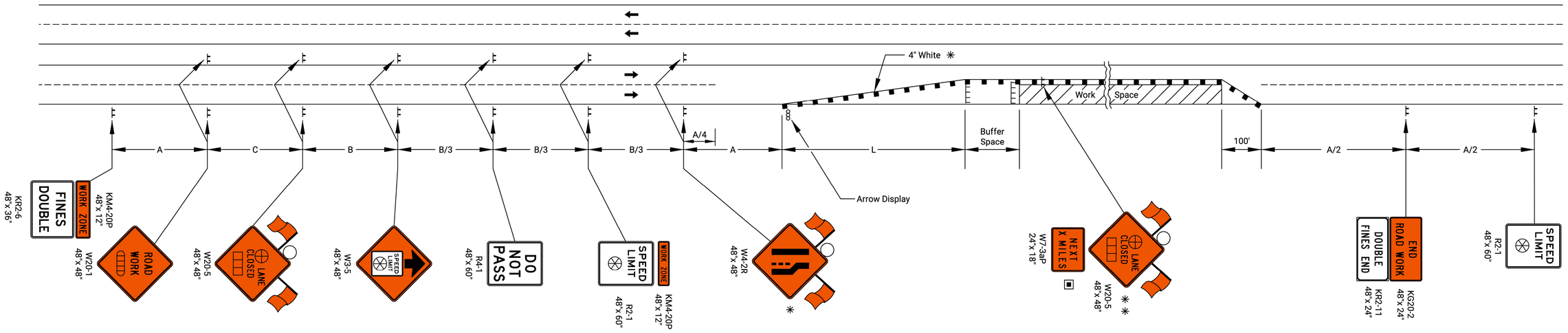
SHIFTING TAPER DETAIL

Add signs and devices as shown for work inside a closed lane that extends near to (or into) the open traffic lane.



✳✳✳✳ W1-4 sign should be at least A/2 distance from any other merging or shifting taper.

✳✳✳ The double reverse curve (W24-1, W24-1a or W24-1b) should be used if the tangent distance between the two reverse curves is less than 600 ft. Only one W24-1 is required to be placed at an "A" distance in advance of the shifting taper.



- Type 3 Barricades
- X Length to the Nearest Whole Mile
- ■ Channelizing Device
- Ahead, 1500 ft, or 1 mile
- Ahead, 1000 ft, 1500 ft, or ½ mile
- ⊕ Right or Left
- ⊗ Speed to be determined by the Engineer
- ○ Type "A" Low Intensity Warning Light

✳ For left lane closures use W4-2L and yellow edge line along channelizing devices.

✳✳ The W20-5 (⊕Lane Closed) and W7-3aP (Next X Miles) signs should be placed at 2 mile increments on a project of 4 miles or longer.

▣ Mileage to be Determined by the Engineer.

Left-side signs shall be omitted for a four-lane undivided highway.

At least one Type 3 barricade should be placed at least every 500' in a closed lane.

Shoulder Taper is required if paved shoulder is 6' or wider.

NO.	DATE	REVISIONS	BY	APP'D

KANSAS DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL
LANE CLOSURE ON MULTILANE HWY

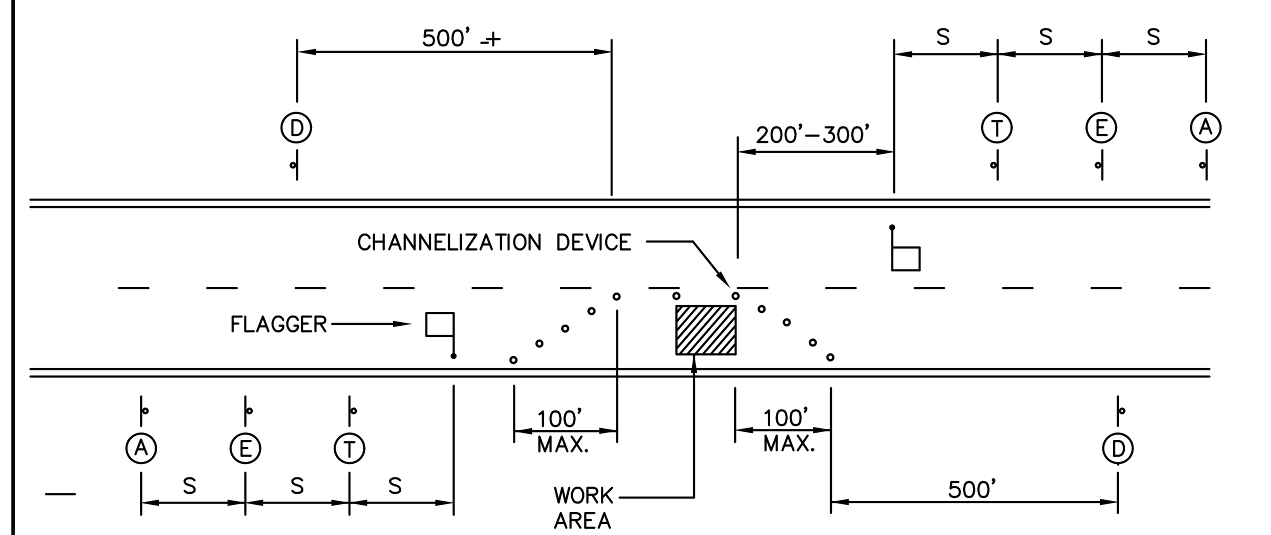
TE744

FHWA APPROVAL			12-05-25	APP'D.	Nick Rogers		
DESIGNED	B.A.H.	DETAILED	R.W.B.	QUANTITIES		TRACED	
DESIGN CK.		DETAIL CK.		QUAN.CK.		TRACE CK.	

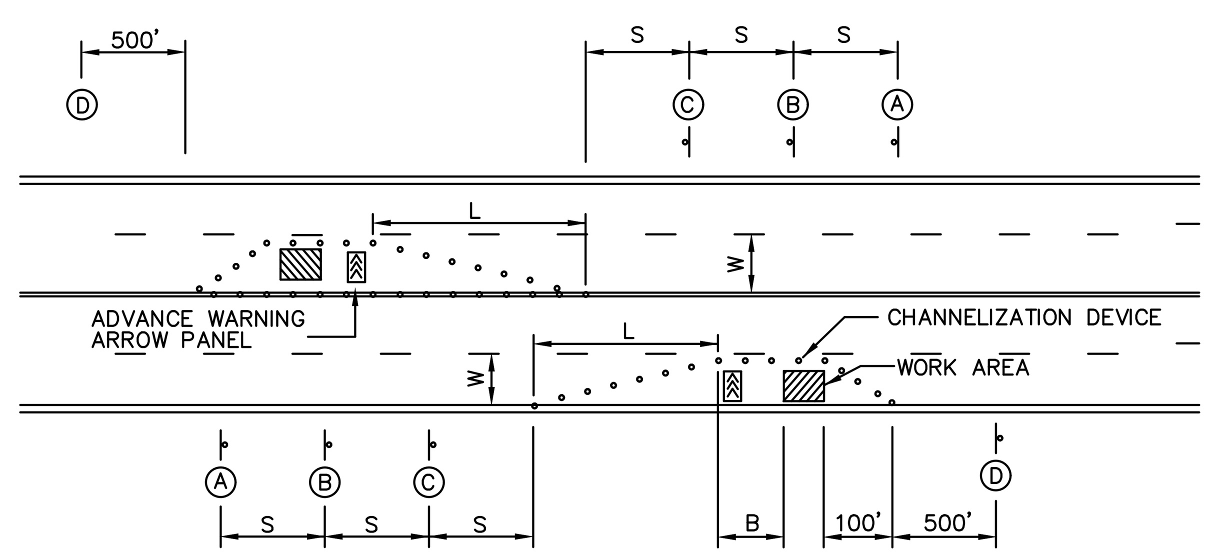
KDOT Graphics Certified 12-17-2025 Sh. No. C803

KDOT Graphics Certified

Plotted by : KDOT#CADD.Support_ks.gov 19-DEC-2025 01:19
File : TE744.dgn

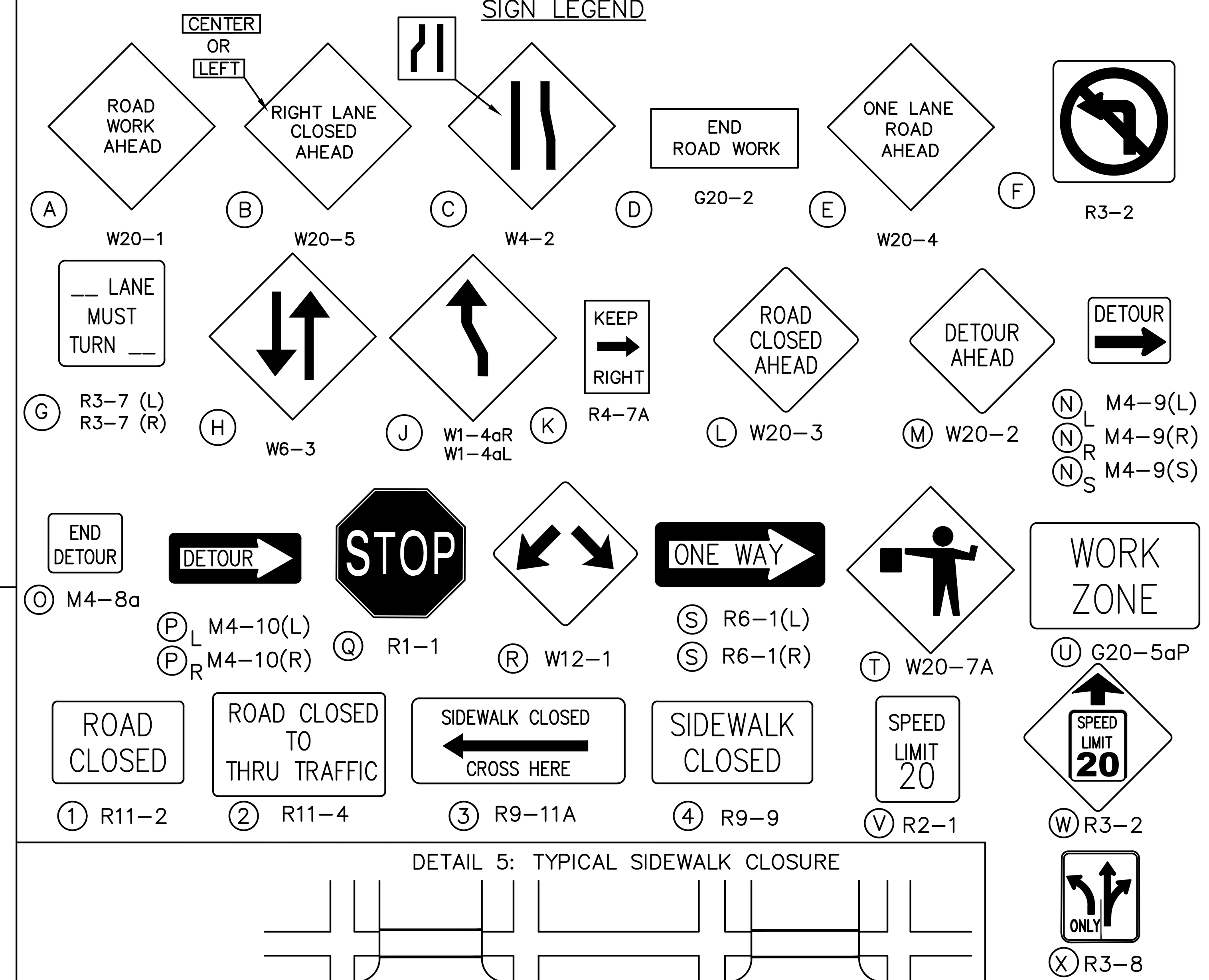


DETAIL 1: TYPICAL CLOSURE – TWO-LANE STREET

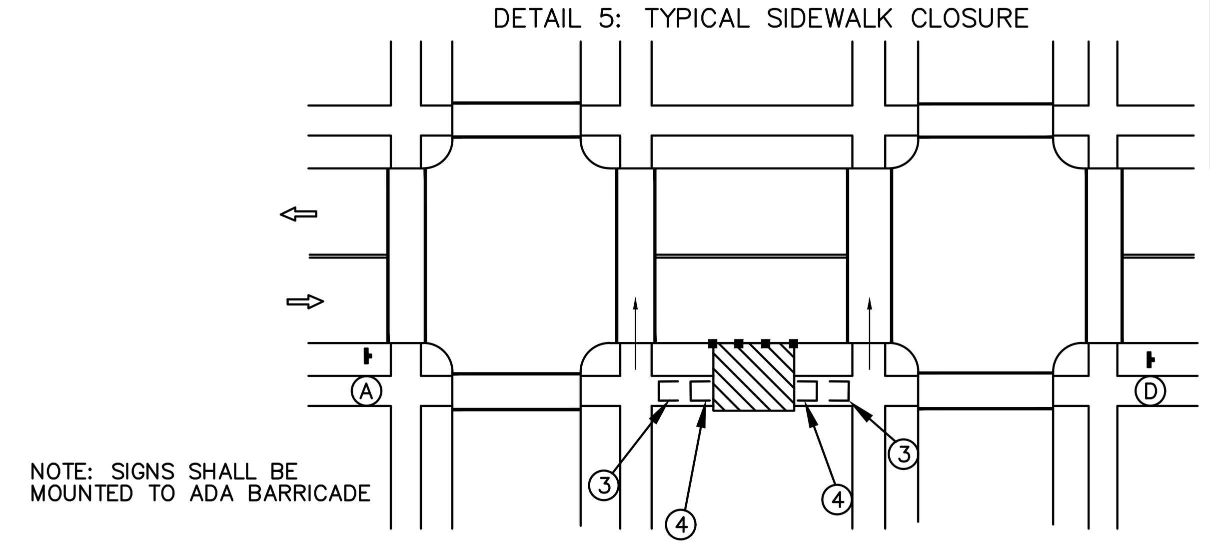


DETAIL 2: TYPICAL LANE CLOSURE – FOUR-LANE STREET

SIGN LEGEND



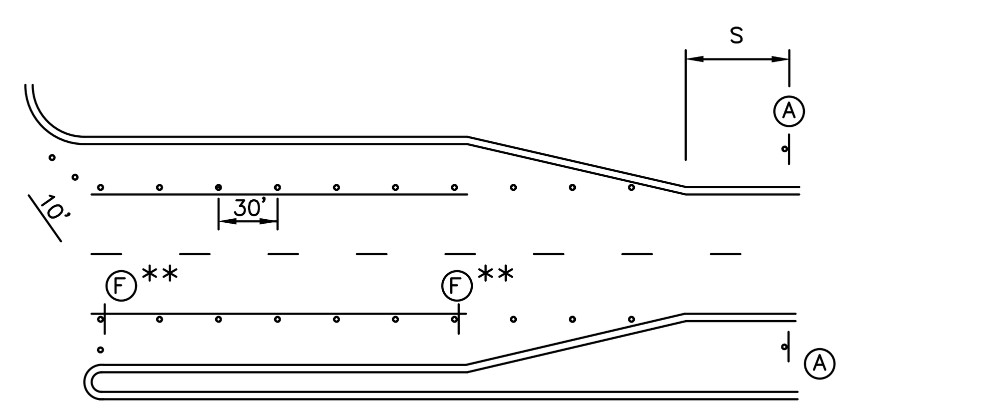
DETAIL 5: TYPICAL SIDEWALK CLOSURE



NOTE: SIGNS SHALL BE MOUNTED TO ADA BARRICADE

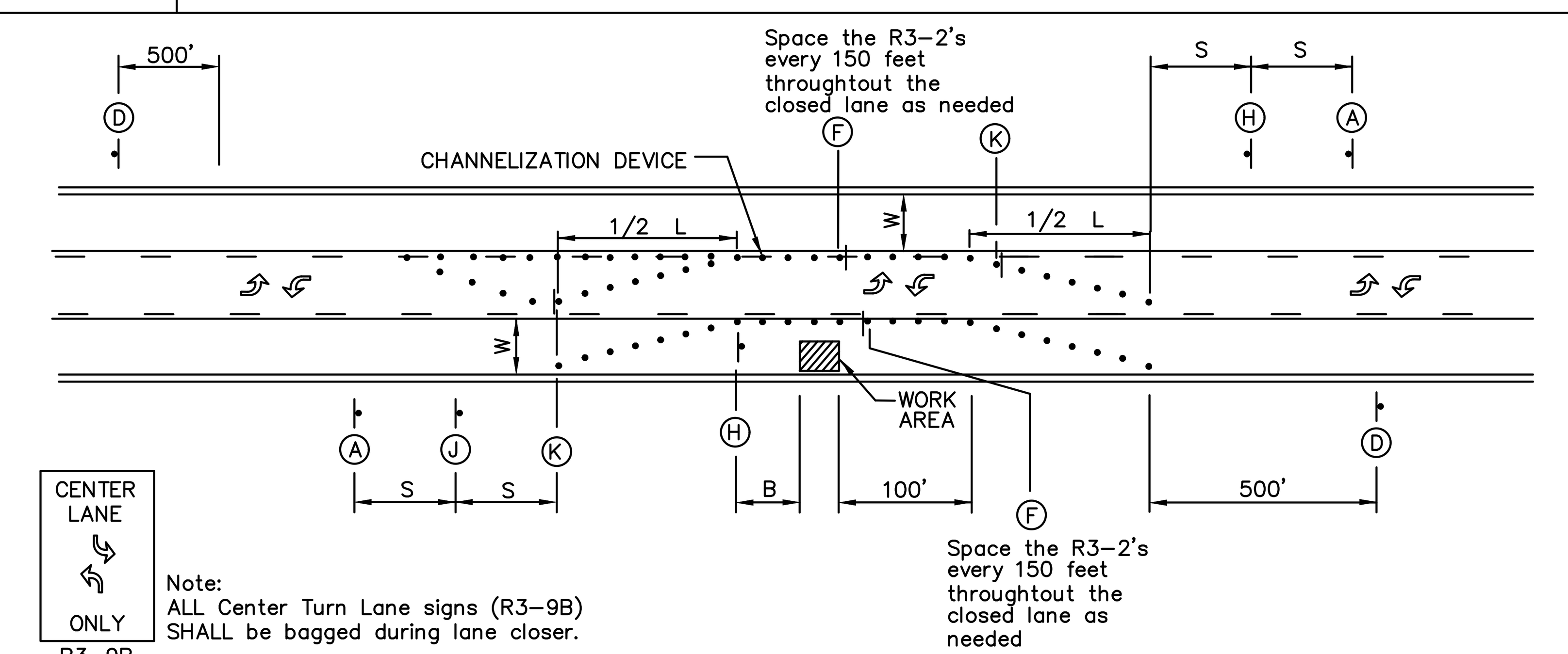
GENERAL NOTES:

1. All signs, barricades, drums, markings and other traffic control devices shall conform to the Manual on Uniform Traffic Control Devices (M.U.T.C.D.), most current edition.
2. All traffic control devices shall be standard in size, shape, color and message, in good condition, and reflectorized. All signs and barricades in place at night shall be reflectorized with high intensity sheeting. All signs shall be securely mounted with height and lateral location as described in the M.U.T.C.D.
3. Warning lights should be used on all channelization devices and warning signs per M.U.T.C.D. Type A Low–Intensity Flashing Warning lights should be mounted on warning signs as well as barricades where used singley to warn users of potentially hazardous areas during nighttime hours. Type B High–Intensity Flashing warning lights should be used during day and nighttime operations to increase awareness of potentially hazardous areas. Type C Steady–Burn lights should be mounted on barricades where used in series to delineate the edge of the travel way.
4. Advance Warning Arrow Panels shall be used for all lane closures on multi–lane streets but should not be used in lieu of proper traffic control signs, barricades and channelization devices.
5. Flaggers shall be used where indicated on the plans, where construction vehicles interact with normal traffic or where construction activities impose a restriction on traffic, as directed by the Engineer in charge of construction. Where flaggers are used, advance signing shall be erected as shown above or as specified in the M.U.T.C.D. Flaggers shall meet the requirements in the M.U.T.C.D. in regard to character, training, attire and behavior.
6. Channelization devices used in the street shall be either drums, cones or Trimline channelizers.
7. Traffic control devices not in use or not applicable shall be either covered or removed from the work area.
8. The Contractor shall place as many barricades as needed to effectively shield pedestrians and traffic from exposed objects, excavations and construction activities. ADA Pedestrian Barricades shall be installed around all excavations left open during non–construction times or as directed by the Engineer in charge of construction.
9. Access shall be maintained to all driveways and side streets unless noted otherwise on the plans.
10. Construction materials shall be kept off of sidewalks, consolidated in one location within City Right–Of–Way, and removed daily unless otherwise approved by the Engineer in charge of construction.
11. Dirt, mud and other construction debris on streets and sidewalks shall be removed immediately.
12. The Contractor shall not perform any work that will restrict traffic in any way between the hours of 7:00 a.m. and 8:30 a.m. or 4:30 p.m. and 6:00 p.m. unless prior approval has been given.
13. The Contractor shall be responsible for maintaining all traffic control devices on an around–the–clock basis, whether or not work is actively being pursued and any deficiencies noted shall be corrected immediately.
14. The traffic control requirements shown on these plans are minimum requirements only and do not attempt to address in depth the variety of situations that may occur once construction has started. In no way do the requirements shown on these plans relieve the contractor of his responsibility for selecting the proper traffic control devices and implementation procedures that will assure the safety of motorist, pedestrians, and workers at all times. Any additional quantities of traffic control devices necessary to complete the contract or as ordered by the Engineer shall be considered subsidiary to the contract bid price.
15. Construction vehicles parked along streets and construction signs shall not restrict sight distance for vehicles exiting at streets or any drives.
16. Should the contractor fail to enforce the traffic control plan or fail to clean, replace or otherwise maintain the traffic control devices when directed to do so by the Engineer or representative, the City/Controlling Jurisdiction may take one or more of the following actions:
    A) Employ another agency to correct deficiencies in signing or warning devices and deduct the cost from the contractor's pay estimate
    B) Suspend all pay Estimates until deficiencies are corrected.
    C) Stop the work until deficiencies are corrected.
    D) Place the contractor in default.
17. The Contractor shall keep roadway closures due to construction activities to a minimum and provide advanced notice to affected users.
18. The Contractor shall notify enforcement and emergency agencies before the start of construction to request their cooperation and to provide coordination of services when emergencies arise during the construction at the project site. When the contractor completes this notification with enforcement and emergency agencies, a report shall be furnished to the engineer on the status of incident management.
19. The Contractor may, if need arises or at the request of the Engineer, place reduced speed limit signing and work zone speed limit signing in advance of all active work zone areas. Work zone speed limit reduction shall not be greater than 10 mph throughout construction areas without advanced signing in place. Contractor shall cover or replace all speed limit signs in conflict with the work zone speed limit throughout the construction area.



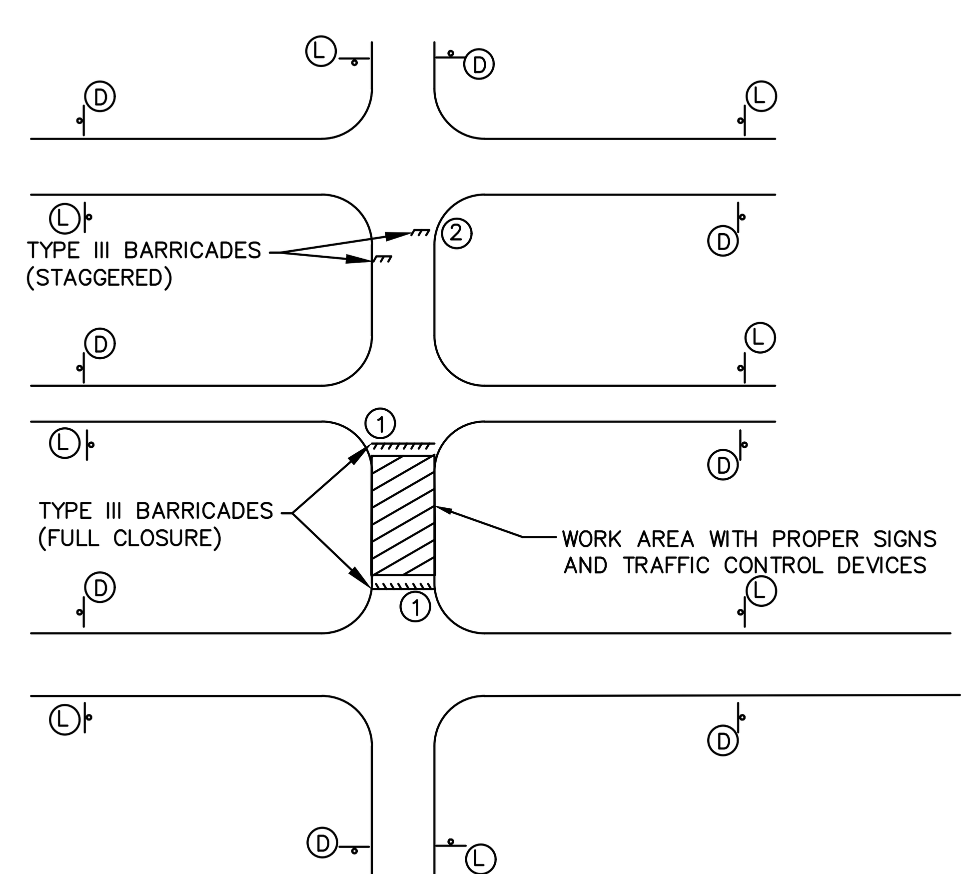
** USE ONLY AS APPROVED BY CITY TRAFFIC ENGINEER

DETAIL 3: TYPICAL RIGHT–TURN LANE AND LEFT–TURN LANE CLOSURES



Note:
ALL Center Turn Lane signs (R3–9B) SHALL be bagged during lane closer.

DETAIL 6: TYPICAL LANE CLOSURE – THREE–LANE STREET



DETAIL 4: TYPICAL SIDE ROAD SIGNING FOR ROAD CLOSURE

Guidelines for length of longitudinal buffer space (B)	
Speed* (mph)	Length (Feet)
20	35
25	55
30	85
35	120
40	170
45	220
50	300

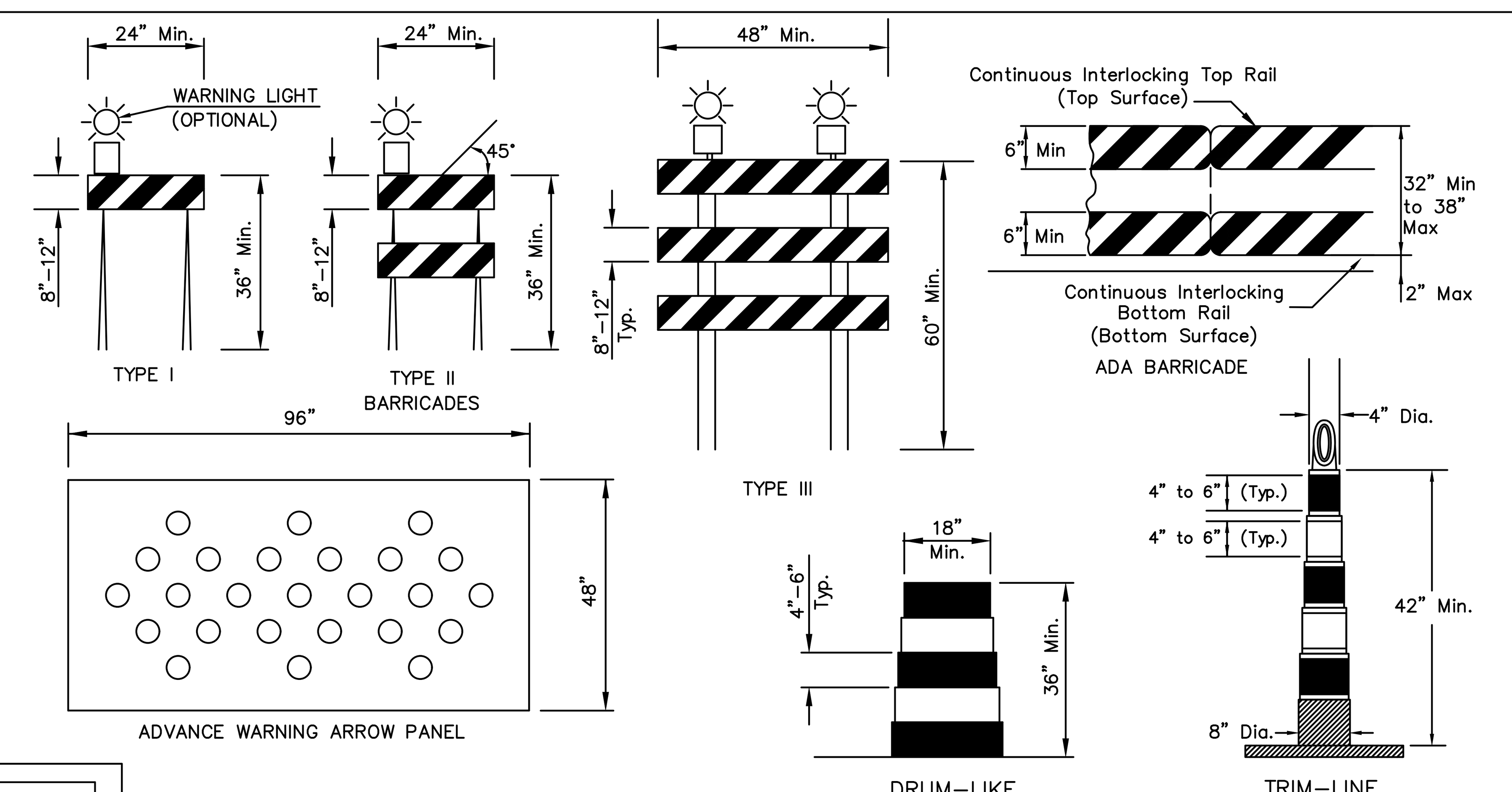
*Posted speed

SIGN SPACING(S)	
Speed Limit M.P.H.	Spacing (Feet)
≤ 30	100
35 – 45	350
≥ 55	500

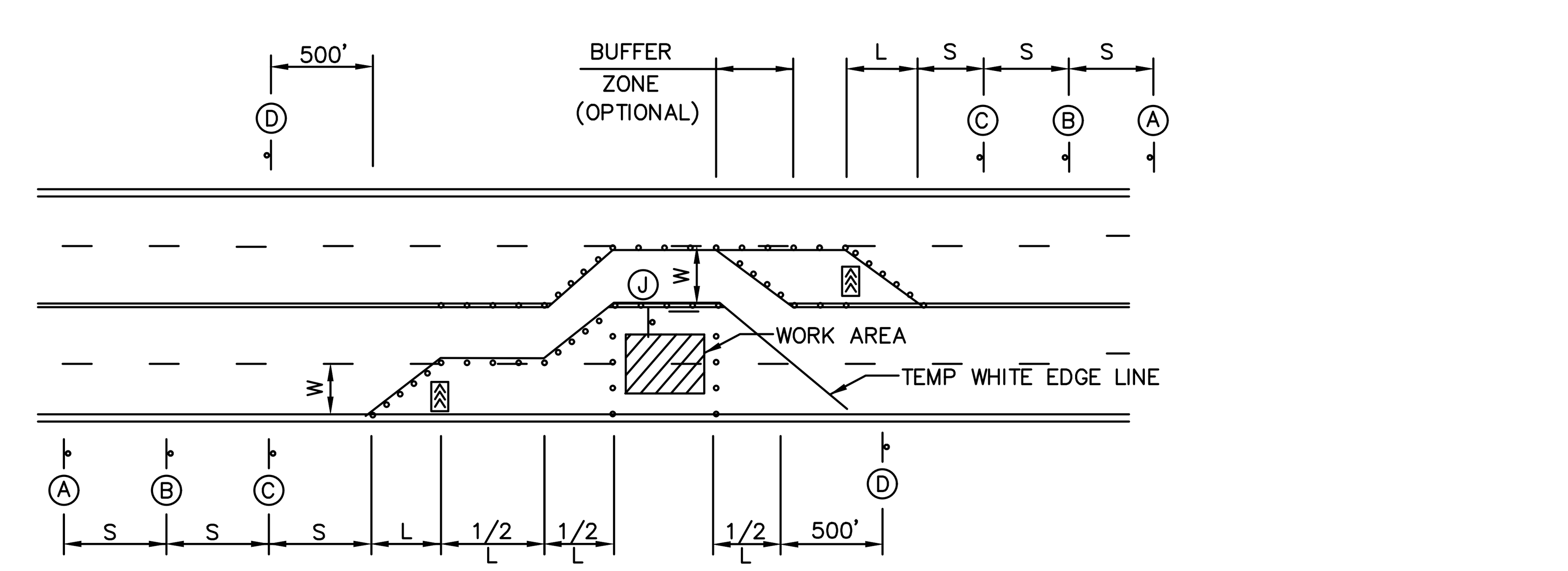
MAXIMUM CHANNELIZATION SPACING IN FEET *		
Speed Limit M.P.H.	Along Taper	After Taper
20	20	40
25	25	50
30	30	60
35	35	70
40	40	80
45	45	90
50	50	100
55	55	100

* The maximum distance in feet between devices in a taper should not exceed 1.0 times the speed limit in MPH.

TAPER DETAIL				
Speed Limit M.P.H.	Minimum Taper Length (L) Lane Width (W) 10	11	12	Minimum Number of Channelizing Devices for Taper
20	70	75	80	5
25	105	115	125	6
30	150	165	180	7
35	205	225	245	8
40	270	295	320	9
45	450	495	540	13
50	500	550	600	13
55	550	605	660	13

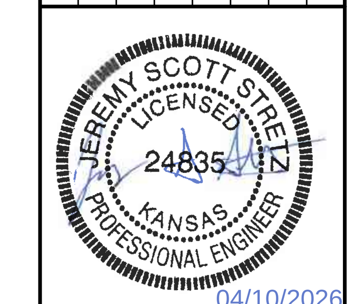


NON–METALLIC REFLECTORIZED
(HIGH INTENSITY REFLECTIVE SHEETING)



DETAIL 7: TYPICAL LANE CLOSURE – FOUR–LANE STREET

REV	DATE	DESCRIPTION	BY



04/10/2026

olsson
Olsson - Engineering
Kansas COA #E-516
302 S. 4th Street, Suite 110
Manhattan, Kansas 66502
www.olsson.com
TEL 785.539.6900
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PREPARED FOR:
McDonald's USA, LLC

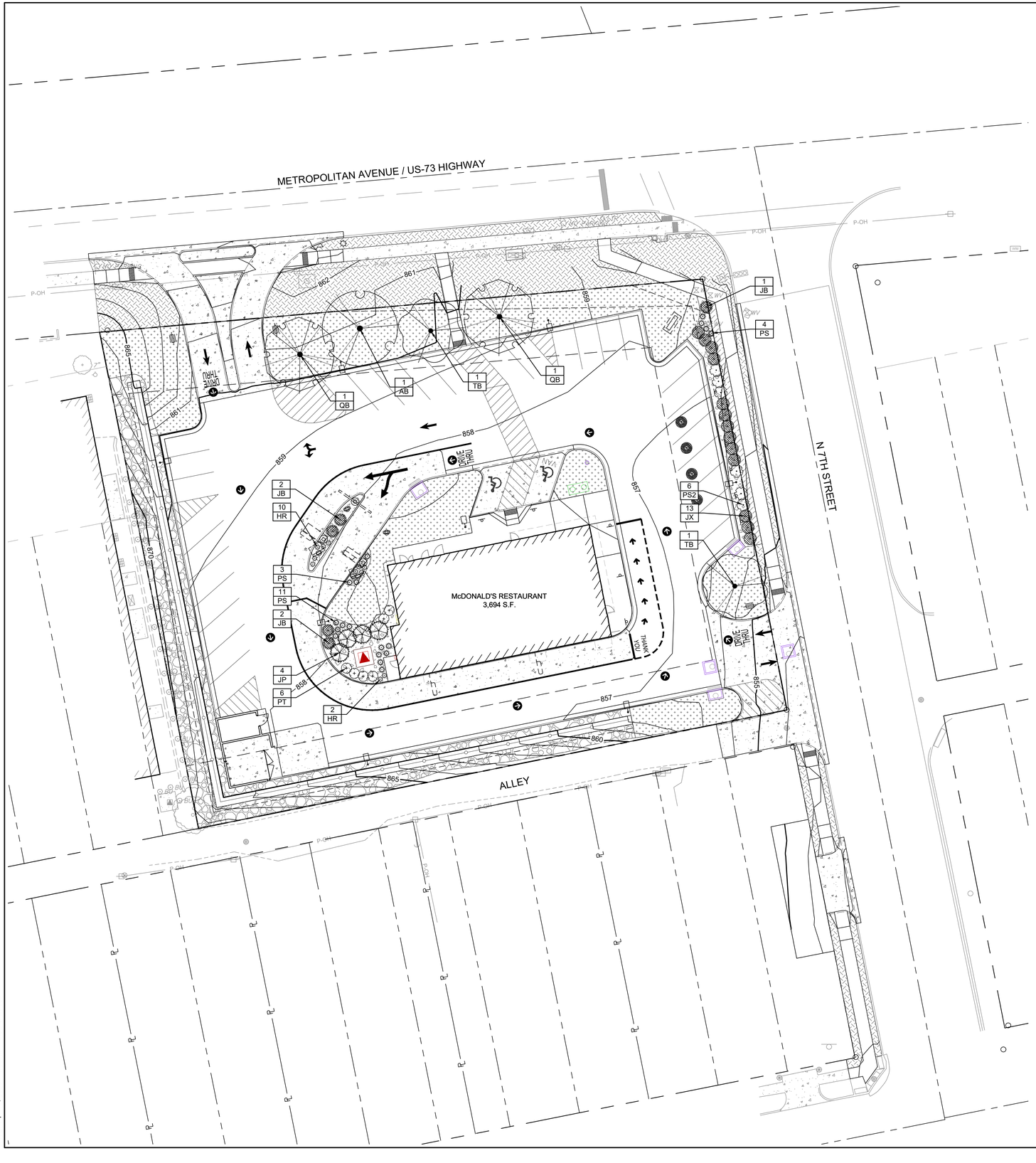
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DRAWN BY: AJK
STD ISSUE DATE
REVIEWED BY: XXX
DATE ISSUED: XX.XX.XX

TITLE: PAVEMENT MARKING & SIGNING METROPOLITAN & 7TH STREET
DESCRIPTION: McDONALD'S RESTAURANT LEAVENWORTH, KANSAS
SITE ID: 015-0404
SITE ADDRESS: 713 METROPOLITAN AVENUE, LEAVENWORTH, KANSAS

015-0404.00.0
SHEET NO. C804

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DATE: Apr 10, 2026 1:05pm USER: mschoelz



PLANT SCHEDULE

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	SIZE	CONT.
TREES					
	AB	1	ACER SACCHARUM 'BAILSTA' FALL FIESTA® SUGAR MAPLE	2" CAL.	B&B
	JP	4	JUNIPERUS CHINENSIS 'PERFECTA' PERFECTA JUNIPER	8-10' HT	
	QB	2	QUERCUS BICOLOR SWAMP WHITE OAK	2" CAL.	B&B
	TB	2	TILIA AMERICANA 'BOULEVARD' BOULEVARD AMERICAN LINDEN	2" CAL.	B&B

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	SIZE	CONT.	HEIGHT
DECIDUOUS SHRUBS						
	PS2	6	PHYSOCARPUS OPULIFOLIUS 'SEWARD' SUMMER WINE® NINEBARK	3	GAL	24" - 30"
	PT	6	PHYSOCARPUS OPULIFOLIUS 'SMPOTW' TINY WINE® NINEBARK	3	GAL	18" - 24"
EVERGREEN SHRUBS						
	JB	5	JUNIPERUS SABINA 'BUFFALO' BUFFALO JUNIPER	3	GAL	8" - 12"
	JX	13	JUNIPERUS X 'GREY OWL' GREY OWL JUNIPER	3	GAL	18" - 24"
GRASSES						
	PS	18	PANICUM VIRGATUM 'SHENANDOAH' SHENANDOAH SWITCH GRASS	1	GAL	ESTABLISHED
PERENNIALS						
	HR	12	HEMEROCALLIS X 'RED RAZZMATAZZ' RED RAZZMATAZZ DAYLILY	1	GAL	ESTABLISHED

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME
GROUND COVERS			
	TS	6,664 SF	TURF SOD (IRRIGATED) DROUGHT TOLERANT FESCUE BLEND
	TS2	5,144 SF	TURF SOD (UN-IRRIGATED) DROUGHT TOLERANT FESCUE BLEND
		3,397 SF	RIVER ROCK (4"-8")
		1,374 SF	RIVER ROCK (2"-4")
		293 SF	RIVER ROCK (2"-4")(R/W)

GENERAL NOTES:

1. QUANTITIES LISTED IN THE PLANT LIST SCHEDULE ARE ESTIMATES ONLY. TREES, SHRUBS, AND GROUND COVER OF CONTRACT QUANTITIES SHALL BE THE NUMBER OF ITEMS SHOWN ON THE DRAWINGS.
2. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL QUANTITIES SHOWN ON THESE PLANS BEFORE PRICING THE WORK. ANY DIFFERENCE IN QUANTITIES SHOULD BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT FOR CLARIFICATION.
3. ALL DISTURBED AREAS NOT OTHERWISE SPECIFIED WITH GROUNDCOVER ARE TO BE PLANTED WITH TALL FESCUE TURF SEED.
4. TREES, SHRUBS, AND PLANTING BEDS SHALL BE SURFACED WITH 2"-4" WASHED RIVER ROCK (ROCK MULCH).
5. ROCK MULCH PLANTING BEDS SHALL RECEIVE METAL EDGING WHERE ADJACENT TO TURF.
6. THE LANDSCAPE CONTRACTOR SHALL REFER TO ENGINEERING DRAWINGS FOR ANY AND ALL EXISTING AND/OR PROPOSED UTILITIES. IF THERE ARE ANY DISCREPANCIES, CONFLICTS, AND/OR DEVIATIONS BETWEEN THE LANDSCAPE DRAWINGS AND THE EXISTING OR PROPOSED CONDITIONS, THE LANDSCAPE CONTRACTOR SHALL CONTACT THE LANDSCAPE ARCHITECT IMMEDIATELY.
7. FIELD VERIFY ALL UNDERGROUND UTILITIES PRIOR TO COMMENCEMENT OF WORK.
8. PLANTING BEDS SHALL BE DRIP IRRIGATED. TURF AREAS SHALL BE IRRIGATED WITH POP-UP SPRAYERS. REFER TO IRRIGATION SPECIFICATIONS.
9. IRRIGATION SYSTEMS SHALL BE EQUIPPED WITH TIMERS AND SCHEDULED TO OPERATE DURING EVENING OR EARLY MORNING HOURS TO MINIMIZE EVAPORATION RATES.
10. SPRINKLER SYSTEMS SHALL BE CONFIGURED TO PREVENT OVER-SPRAY OF WATER ONTO STREETS AND SIDEWALKS.
11. CITY OF LEAVENWORTH DOES NOT UTILIZE SEPARATE METERS FOR IRRIGATION PURPOSES.

REQUIRED LANDSCAPING (6.03)			
TOTAL LOT AREA (SF)		20% LANDSCAPE AREA (SF)	3 UNITS/ 1000 SF
43,867.94	REQUIRED	8,774	26.3
	PROVIDED	9,662	+29.0

LANDSCAPE UNITS (CALCULATED)			
	UNITS AWARDED	QUANTITY	TOTAL UNITS
EVERGREEN TREE, >8-10 FT HIGH	8	4	32
DECIDUOUS TREE, 2.0"-2.5" CALIPER OR MULTI-STEM	4	5	20
SHRUBS, 24" HIGH	.8	6	4.8
SHRUBS, 18" HIGH	.5	24	12
LAWN GRASS	1 PER 800 SF	6,664	8.3
ROCK MULCH	1 PER 500 SF	4,771	9.5
		TOTAL UNITS	86.6
		TREE %	60%

0' 10' 20' 40'
SCALE IN FEET

REV	DATE	DESCRIPTION	BY
	04.10.26	ISSUED FOR PERMIT REVIEW	AJK

KRISTAL M. McCLAIN
LICENSED
890
4/10/2026
KANSAS
LANDSCAPE ARCHITECT

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Olsson - Engineering
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PREPARED FOR:
McDonald's USA, LLC

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DRAWN BY	REVIEWED BY	DATE ISSUED
AJK	MAP	04.10.26
STD ISSUE DATE		

TITLE: LANDSCAPE PLAN

DESCRIPTION: McDONALD'S RESTAURANT
LEAVENWORTH, KANSAS

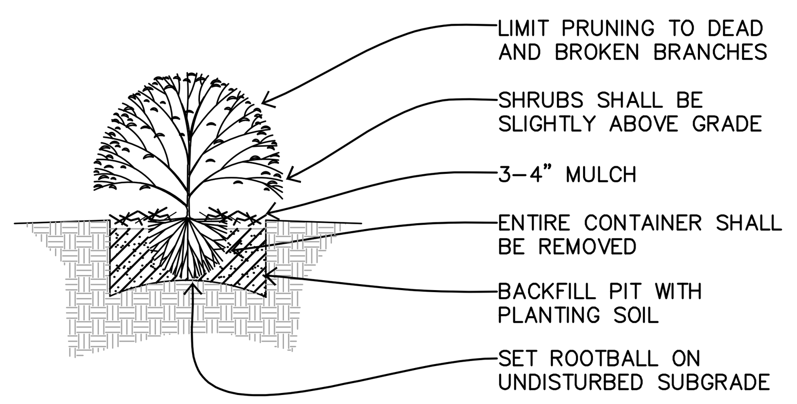
SITE ID: 015-0404

SITE ADDRESS: 713 METROPOLITAN AVENUE, LEAVENWORTH, KANSAS

015-0404.00.0

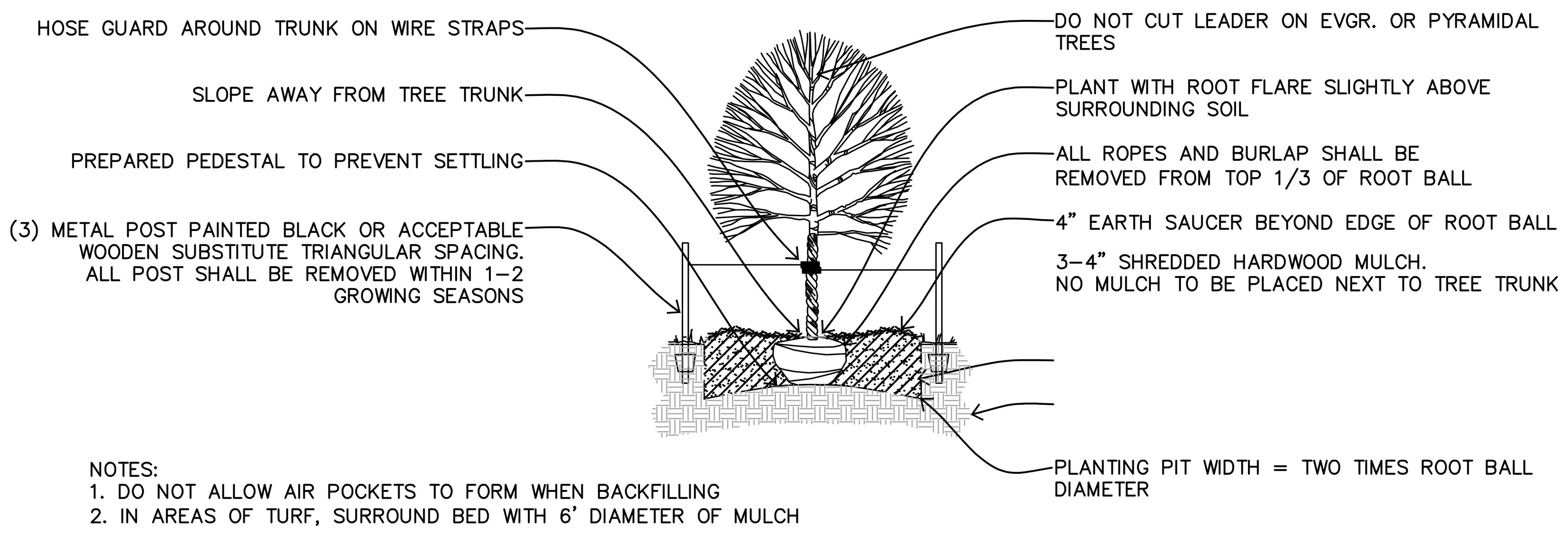
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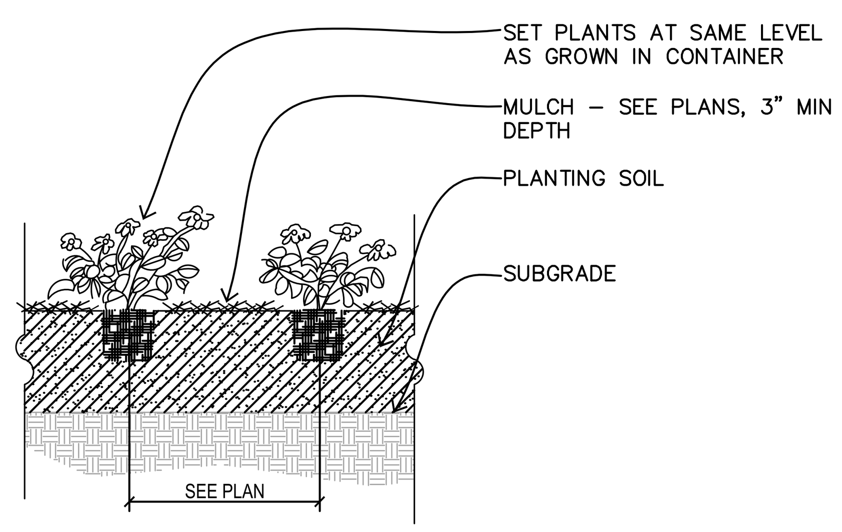
NOTES:
1. MINIMUM ROOT SPREAD TO BE IN ACCORDANCE WITH ANLA STANDARDS
2. PRUNE DAMAGED LIMBS OR ROOTS AFTER INSTALLATION
3. MAKE SURE ROOTS DO NOT DRY OUT DURING INSTALLATION
4. SOAK GENEROUSLY TO COMPACT AND SETTLE

1 SHRUB PLANTING
N.T.S.

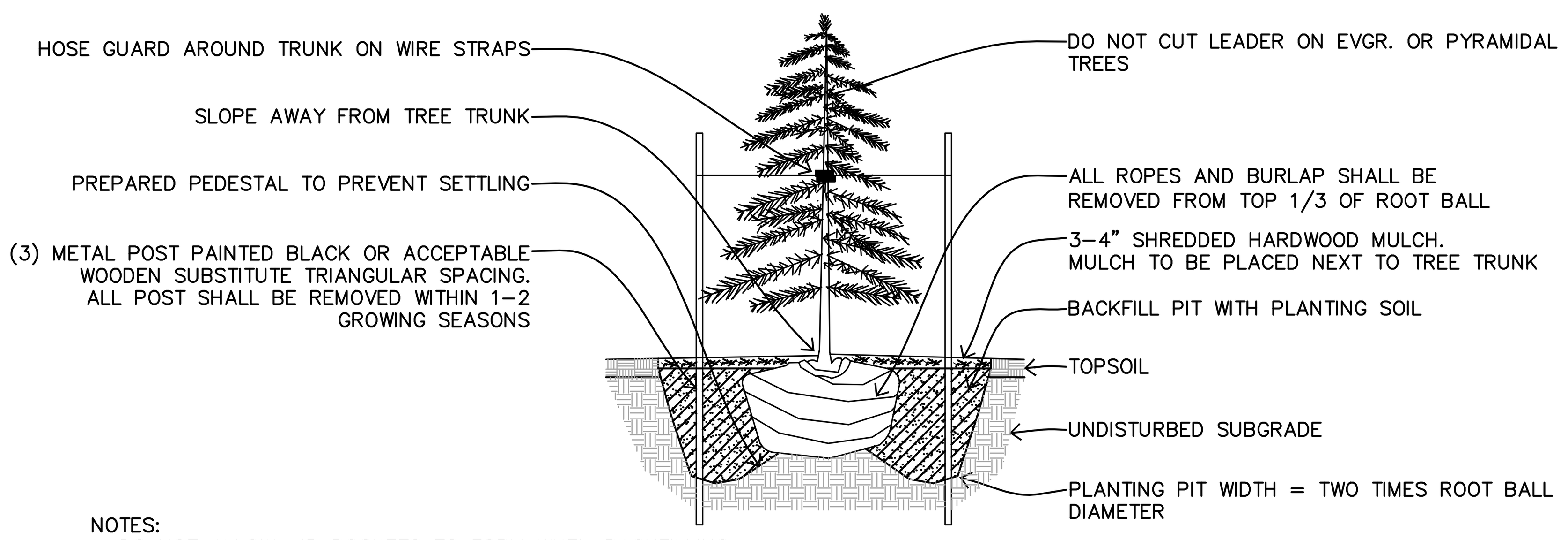


NOTES:
1. DO NOT ALLOW AIR POCKETS TO FORM WHEN BACKFILLING
2. IN AREAS OF TURF, SURROUND BED WITH 6' DIAMETER OF MULCH

2 DECIDUOUS TREE PLANTING
N.T.S.

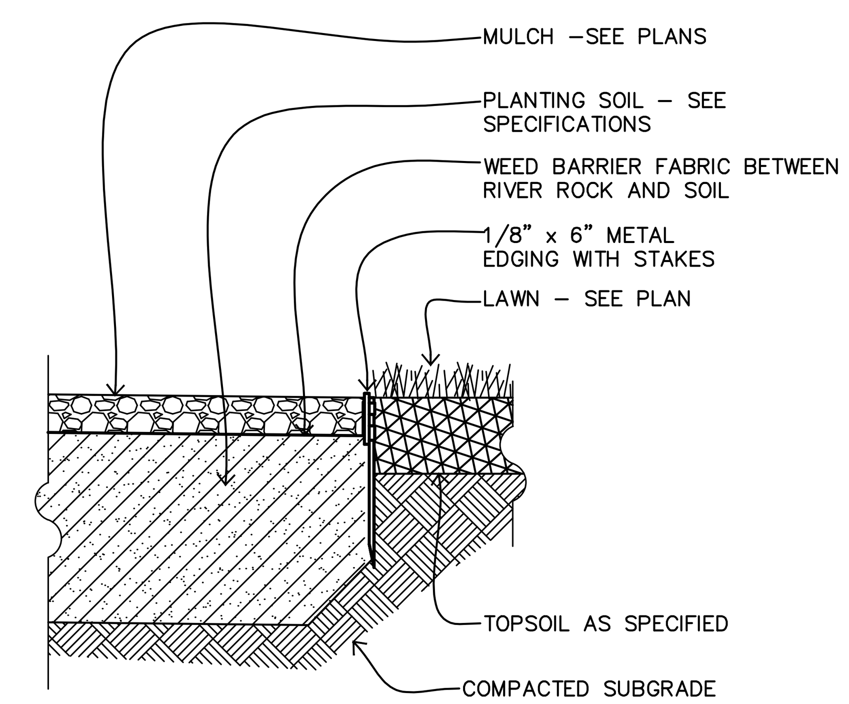


3 PERENNIAL & GROUNDCOVER PLANTING
N.T.S.



NOTES:
1. DO NOT ALLOW AIR POCKETS TO FORM WHEN BACKFILLING
2. IN AREAS OF TURF, SURROUND BED WITH 6' DIAMETER OF MULCH

4 EVERGREEN TREE PLANTING
N.T.S.



5 LANDSCAPE EDGER
N.T.S.

PLANTING NOTES:

1. PROVIDE PLANTS TRUE TO SPECIES AND VARIETY AND OTHER FEATURES INDICATED IN THE PLANT SCHEDULE AND COMPLYING WITH ANSI Z60.1 "AMERICAN STANDARD FOR NURSERY STOCK." NOMENCLATURE TO COMPLY WITH "NATIONAL LIST OF SCIENTIFIC PLANT NAMES."
2. ALL PLANTS ARE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT OR ENGINEER DURING AND AFTER INSTALLATION. ALL REJECTED PLANT MATERIAL TO BE PROMPTLY REMOVED FROM THE SITE.
3. CONTRACTOR RESPONSIBLE TO TOTAL AND CONFIRM ALL PLANT MATERIAL QUANTITIES. NUMERICAL QUANTITIES ON PLAN GOVERN OVER PLANT LIST QUANTITIES IN THE EVENT OF A DISCREPANCY.
4. CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATIONS OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON RECORDS OF VARIOUS UTILITY COMPANIES AND, WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OF COMPLETE.
5. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. CONTRACTOR IS RESPONSIBLE FOR RELOCATION OF EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
6. PROVIDE PLANT SIZES, GRADES, AND BALL OR CONTAINER SIZES COMPLYING WITH ANSI z60.1 "AMERICAN STANDARD FOR NURSERY STOCK" FOR TYPES AND FORM OF PLANTS REQUIRED.
7. LANDSCAPE CONTRACTOR RESPONSIBLE FOR REPAIRING OR REPLACING ACCESSORIES THAT FAIL IN MATERIALS AND, OR WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION.
8. LANDSCAPE CONTRACTOR TO REPLACE PLANTINGS THAT DIE, TURN BROWN, OR DEFOLIATES WITHIN ONE YEAR FROM THE DATE OF SUBSTANTIAL COMPLETION. REMOVE REJECTED MATERIAL FROM THE SITE PROMPTLY AND REPLACE WITH MATERIAL OF THE SAME QUANTITY, SPECIES, AND SIZE IN ACCORDANCE WITH THE PLANT LIST SPECIFICATIONS.
9. THE LANDSCAPE CONTRACTOR TO COMPLETELY WARRANTY ALL PLANT MATERAIL FOR A PERIOD OF ONE YEAR BEGINNING AT THE DATE OF SUBSTANTIAL COMPLETION. THE LANDSCAPE CONTRACTOR TO PROMPTLY MAKE ALL REPLACEMENTS BEFORE OR AT THE END OF THE WARRANTY PERIOD AS DIRECTED BY THE LANDSCAPE ARCHITECT OR ENGINEER.
10. UNLESS OTHERWISE NOTED, ALL STAKING AND GUYING MATERIALS ARE TO BE REMOVED FROM PLANT MATERIALS BY THE LANDSCAPE CONTRACTOR WITHIN 120 DAYS AFTER THE DATE OF PLANTING COMPLETION.
11. CONTRACTOR SHALL NOT LOCATE IRRIGATION EQUIPMENT WITHIN ROADWAY R.O.W. UNDER ANY CIRCUMSTANCE. CONTRACTOR TO INSPECT EXISTING IRRIGATION SYSTEM AND MAKE ALL NECESSARY MODIFICATIONS TO THE SYSTEM TO PROVIDE WATER FOR NEW AND EXISTING PLANTS.
12. GENERAL CONTRACTOR IS RESPONSIBLE FOR BACKFILLING TO WITHIN 0.2 FEET OF THE GRADE SHOWN ON THE GRADING PLAN. LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR FINAL DISTRIBUTION OF TOPSOIL & PREPARATION FOR PLANTING WITH FRIABLE, NATURAL TOPSOIL TYPICAL OF THE REGION. TOPSOIL TO BE FREE OF WEEDS AND FOREIGN MATERIAL. DO NOT HANDLE TOPSOIL IN MUDDY OR FROZEN CONDITIONS.
13. LANDSCAPE CONTRACTOR TO RAKE AND SMOOTH TOPSOIL IN ALL AREAS TO BE PLANTED, INCLUDING LAWNS TO PROVIDE A SMOOTH SURFACE WHICH WILL ASSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS AND WALKS. NO SEDIMENT CHARGED RUNOFF SHALL GO INTO TRAVEL LANES OF STATE ROUTE.
14. ALL PLANT BEDS TO RECEIVE 3" DEPTH OF MULCH.
15. UPRIGHT SHRUBS TO BE AT LEAST 24" HT. SPREADING SHRUBS TO HAVE MINIMUM SPREAD OF 18". ALL SHRUBS TO BE SURROUNDED BY MULCH.
16. PLANTING BEDS FOR PERENNIALS, ANNUALS AND GROUNDCOVER ARE TO BE MOUNDED WITH SIDE SLOPES OF 1" VERTICAL PER 1 FOOT HORIZONTAL AND TO BE SURROUNDED BY MULCH.
17. SEE PLANTING SOIL REQUIREMENTS BELOW.
18. CAREFULLY CUT AND REMOVE WEBBING, BURLAP, ROPE AND WIRE BASKETS FROM TOPS AND FROM ALL SIDES OF ROOTBALLS BUT DO NOT REMOVE FROM UNDER ROOTBALLS.
19. REMOVE SURPLUS SOIL AND WASTE MATERIAL INCLUDING EXCESS SOIL, UNSUITABLE SOIL, TRASH AND DEBRIS AND LEGALLY DISPOSE OF THEM OFF OWNER'S PROPERTY.
20. DO NOT MAKE SUBSTITUTIONS; IF SPECIFIED LANDSCAPE MATERIAL IS NOT OBTAINABLE, SUBMIT PROOF OF NON–AVAILABILITY TO THE LANDSCAPE ARCHITECT OR ENGINEER WITH WRITTEN STATEMENTS FROM A MINIMUM OF TWELVE NURSERY (AMERICAN NURSERYMAN'S ASSOCIATION MEMBERS) SOURCES THAT THE PLANT IN QUESTION IS NOT OBTAINABLE IN THE SURROUNDING GEOGRAPHIC REGION.
21. A CONDITION OF APPROVAL IS IF ANY OF THE EXISTING TREES DIE, THEY SHALL BE REPLACED WITH A TREE THAT COMPLIES WITH THE MINIMUM REQUIREMENTS OF THE ORDINANCE.
22. ALL PLANT BEDS SHALL RECEIVE RIVER ROCK MULCH (2" TO 3" NOMINAL SIZE) PLACED TO A DEPTH OF 3" ON TOP OF GEOSYNTHETIC WEED BARRIER.

SOIL SPECIFICATIONS:

ORGANIC COMPOST: WELL DECOMPOSED, STABLE, WEED FREE ORGANIC MATTER SOURCE. IT SHALL BE DERIVED FROM; AGRICULTURE, FOOD, OR INDUSTRIAL RESIDUALS; BIOSOLIDS (TREATED SEWAGE SLUDGE); YARD TRIMMINGS AND LEAF RAKINGS; SOURCE–SEPARATED OR MIXED SOLID WASTE MEETING THE FOLLOWING CRITERIA;
1. 100 PERCENT SHALL PASS THROUGH A 3/8 INCH SCREEN.
2. PH OF 6.0 TO 8.5.
3. MOISTURE CONTENT OF 30% TO 60% BY WEIGHT.
4. NO SUBSTANCES TOXIC TO PLANTS.
5. 1% OR LESS BY WEIGHT MANUFACTURED FOREIGN MATTER.
6. NO OBJECTIONABLE ODOR.
7. SHALL NOT RESEMBLE THE RAW MATERIAL FROM WHICH IT DERIVED.

PLANTING SOIL: A UNIFORM MIX OF, FREE OF PLANT RESIDUE, STONES, STUMPS ROOTS OR SIMILAR OBJECTS LARGER THAN 1 INCH. MIXTURE OF TOPSOIL, ORGANIC COMPOST AND SAND CONSISTING OF THE FOLLOWING:
1. 33% BY VOLUME ORGANIC COMPOST
2. 33% BY VOLUME SAND
3. 33% BY VOLUME TOPSOIL

TOPSOIL: SOIL CLASSIFICATION OF SANDY LOAM OR LOAMY SAND MEETING THE FOLLOWING CRITERIA:
1. 50 TO 85 PERCENT BY WEIGHT SAND (2.0 TO 0.050MM) ACCORDING TO AASHTO T88.
2. 5 TO 50 PERCENT BY WEIGHT SILT (0.050 TO 0.002MM) ACCORDING TO AASHTO T88.
3. 2 TO 5 PERCENT BY WEIGHT CLAY (LESS THAN 0.002MM) ACCORDING TO AASHTO T88.
4. 3 TO 10 PERCENT BY WEIGHT ORGANIC MATTER ACCORDING TO AASHTO T194.
5. TEXTURAL ANALYSIS:
   A. MINIMUM 100% BY WEIGHT PASSING THE 2" SIEVE PER ASTM E11.
   B. MINIMUM 90% BY WEIGHT PASSING THE NO, 4 PER ASTM E11.
   C. MINIMUM 80% BY WEIGHT PASSING THE NO. 10 SIEVE PER ASTM E11.

SOD NOTES:

1. ALL DISTURBED AREAS SHALL BE SODDED WITH TURFGRASS SOD: NUMBER 1 QUALITY/PREMIUM, INCLUDING LIMITATIONS ON THATCH, WEEDS, DISEASES, NEMATODES, AND INSECTS, COMPLYING WITH TPI'S "SPECIFICATIONS FOR TURFGRASS SOD MATERIALS" IN ITS "GUIDELINE SPECIFICATIONS TO TURFGRASS SODDING." FURNISH VIABLE SOD OF UNIFORM DENSITY, COLOR, AND TEXTURE, STRONGLY ROOTED, AND CAPABLE OF VIGOROUS GROWTH AND DEVELOPMENT WHEN PLANTED.

   TURFGRASS SPECIES: SEE PLANT SCHEDULE.
2. ALL LAWN AREAS SHALL RECEIVE A MINIMUM 6–INCH DEPTH OF TOPSOIL COMPACTED TO 85% MAXIMUM DENSITY AT OPTIMUM MOISTURE CONTENT.
3. THE ENTIRE SURFACE TO BE SODDED SHALL BE REASONABLY SMOOTH AND FREE FROM STONES, ROOTS, OR OTHER DEBRIS.
4. SOD SHALL BE MACHINE STRIPPED AT A UNIFORM SOIL THICKNESS OF APPROXIMATELY ONE INCH (PLUS OR MINUS 1/4–INCH). THE MEASUREMENT FOR THICKNESS SHALL EXCLUDE TOP GROWTH AND THATCH, AND SHALL BE DETERMINED AT THE TIME OF CUTTING IN THE FIELD, PRECAUTIONS SHALL BE TAKEN TO PREVENT DRYING AND HEATING. SOD DAMAGED BY HEAT AND DRY CONDITIONS, AND SOD CUT MORE THAN 18 HOURS BEFORE BEING INCORPORATED INTO THE WORK SHALL NOT BE USED.
5. HANDLING OF SOD SHALL BE DONE IN A MANNER THAT WILL PREVENT TEARING, BREAKING, DRYING AND OTHER DAMAGE. PROTECT EXPOSED ROOTS FROM DEHYDRATION. DO NOT DELIVER MORE SOD THAN CAN BE LAID WITH 24 HOURS.
6. MOISTEN PREPARED SURFACE IMMEDIATELY PRIOR TO LAYING SOD. WATER THOROUGHLY AND ALLOW SURFACE TO DRY BEFORE INSTALLING SOD. FERTILIZE, HARROW OR RAKE FERTILIZER IN THE TOP 1–1/2–INCHES OF TOPSOIL, AT A UNIFORM RATE OF ONE POUND OF NITROGEN PER 100 S.F.
7. SOD SHALL BE CAREFULLY PLACED IN THE DIRECTION PARALLEL WITH THE SLOPE OF THE AREA TO BE SODDED. SOD STRIPS SHALL BE BUTTED TOGETHER BUT NOT OVERLAPPED WITH THE SEAMS STAGGERED ON EACH ROW.
8. FERTILIZER SHALL BE 20–10–5 COMMERCIAL FERTILIZER OF THE GRADE, TYPE, AND FORM SPECIFIED AND SHALL COMPLY WITH THE RULES OF THE STATE OF IOWA DEPARTMENT OF AGRICULTURE. FERTILIZER SHALL BE IDENTIFIED ACCORDING TO THE PERCENT N, P, K, IN THAT ORDER.
9. ALL SOD ON SLOPES GREATER THAN 5:1 AND WITHIN DETENTION AREAS SHALL BE STAKED.
10. SATURATE SOD WITH FINE WATER SPRAY WITHIN TWO HOURS OF PLANTING. DURING FIRST WEEK AFTER PLANTING, WATER DAILY OR MORE FREQUENTLY AS NECESSARY TO MAINTAIN MOIST SOIL TO A MINIMUM DEPTH OF FOUR INCHES BELOW SOD.

REV	DATE	DESCRIPTION	BY
	04.10.26	ISSUED FOR PERMIT REVIEW	AJK

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TITLE: LANDSCAPE DETAILS
DESCRIPTION: McDONALD'S RESTAURANT LEAVENWORTH, KANSAS
SITE ID: 015-0404
SITE ADDRESS: 713 METROPOLITAN AVENUE, LEAVENWORTH, KANSAS

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DATE: Apr 10, 2026 11:30am USER: akruse

IRRIGATION SPECIFICATIONS:

SECTION 32 84 00

IRRIGATION SYSTEM

PART 1 - GENERAL

1.01 SCOPE OF WORK

A. FURNISH ALL LABOR, MATERIALS, AND EQUIPMENT FOR THE PROPER INSTALLATION OF AN IRRIGATION SYSTEM TO SERVICE ALL LAWN AND PLANTED AREAS.

B. THE CONTRACTOR SHALL FOLLOW PLAN LAYOUT AND INSTALLATION DESIGN DETAIL PROVIDED AND COORDINATED WITH THE LANDSCAPE REQUIREMENTS OF THE PLANTING TYPES, LOCATIONS AND SHALL INCLUDE ALL WATER SAVING PRODUCTS AND PRACTICES WHICH DEMONSTRATE THE HIGHEST LEVEL OF PERFORMANCE.

C. SMART CONTROLLERS, HIGH-EFFICIENCY SPRAY NOZZLES, PRESSURE REGULATED HEADS, & DRIPLINE MUST BE INCORPORATED. INDIVIDUAL SUB-ZONES MUST BE TAILORED TO THE WATERING REQUIREMENTS OF EACH MAJOR PLANT TYPE. UNDER NO CIRCUMSTANCES SHALL ANY TURF AREAS BE WATERED IN COMBINATION WITH PLANT BEDS. SPACING OF ALL SPRINKLER EQUIPMENT SELECTED SHALL NOT EXCEED THE MANUFACTURER'S RECOMMENDATIONS AS PUBLISHED. “HEAD TO HEAD” COVERAGE IS REQUIRED IN ALL TURF AREAS.

D. IRRIGATION CONTRACTOR SHALL PARTICIPATE IN COORDINATION MEETINGS AS REQUIRED WITH THE OWNER'S REPRESENTATIVE AND RELATED PARTIES PRIOR TO COMMENCEMENT OF CONSTRUCTION

1.02 QUALITY ASSURANCE

A. THE IRRIGATION SYSTEM IS TO BE INSTALLED BY A CONTRACTOR WHO SPECIALIZES IN IRRIGATION DESIGN AND INSTALLATION AND HAS INSTALLED AT LEAST 5 PROJECTS OF EQUAL OR COMPARABLE SIZE AND COMPLEXITY. IRRIGATION WORK SHALL BE PERFORMED BY A SINGLE FIRM, ACCEPTABLE TO THE OWNER'S REPRESENTATIVE AND LICENSED AS A CONTRACTOR IN THE STATE WHERE THE PROJECT IS TO BE INSTALLED.

B. REFERENCED STANDARDS: AMERICAN SOCIETY FOR TESTING AND MATERIALS, ANNUAL BOOK OF ASTM STANDARDS, LATEST EDITION.

C. CODES AND STANDARDS: IRRIGATION DESIGN AND INSTALLATION SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL GOVERNING AGENCY REQUIREMENTS AND TO INDUSTRY STANDARDS. NOTIFY LANDSCAPE ARCHITECT IMMEDIATELY IN WRITING OF ANY DISCREPANCIES, INCONSISTENCIES, OR CONTRADICTORY REQUIREMENTS.

D. SUBSTITUTIONS: NO SUBSTITUTIONS FROM THE INITIAL PLAN WILL BE PERMITTED WITHOUT REVIEW AND APPROVAL BY THE OWNER'S REPRESENTATIVE. REQUESTS MUST BE MADE AT LEAST 2 WEEKS IN ADVANCE OF THE PROJECT START DATE. IN THE EVENT THE CONTRACTOR DESIRES TO MAKE SUBSTITUTIONS OF MATERIALS, SUFFICIENT DESCRIPTIVE LITERATURE, NEW DESIGN, AND MATERIAL SAMPLES MUST BE FURNISHED TO ESTABLISH THE MATERIAL AS AN EQUAL SUBSTITUTE, AND THE DESIGN AS FUNCTIONAL. THE PROPOSED MATERIAL SUBSTITUTION MUST MEET THE ORIGINAL DESIGN INTENT AS IT PERTAINS TO WATER CONSERVATION.

E. APPROVAL AND SELECTION OF MATERIALS AND WORK: THE SELECTION OF ALL MATERIALS AND THE EXECUTION OF ALL OPERATIONS REQUIRED UNDER THIS PERFORMANCE SPECIFICATION IS SUBJECT TO THE APPROVAL OF THE OWNER'S REPRESENTATIVE WHO HAS THE RIGHT TO REJECT ANY AND ALL MATERIALS AND ANY AND ALL WORK WHICH, IN THEIR OPINION, DOES NOT MEET THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AT ANY STAGE OF THE OPERATIONS. REMOVE REJECTED WORK AND OR MATERIALS FROM PROJECT SITE AND REPLACE PROMPTLY.

F. ALL MATERIALS SHALL COME FROM A REGIONALLY AUTHORIZED IRRIGATION DISTRIBUTOR FOR THE PRODUCT AS SPECIFIED FOR WARRANTY PURPOSES.

G. WORKMANSHIP: INSTALL MATERIALS AND EQUIPMENT IN A NEAT AND PROFESSIONAL MANNER FOLLOWING MANUFACTURER'S RECOMMENDATIONS.

1.03 SUBMITTALS

A. IRRIGATION DESIGN DRAWING

1. THE IRRIGATION DESIGN DRAWING REFERENCED IN THE PLAN SHALL BE SUBMITTED IN AN ELECTRONIC FORMAT. ANY DESIGN CHANGES SHOULD BE SUBMITTED AS DRAWINGS FOR APPROVAL NO LESS THAN 2 WEEKS PRIOR TO THE COMMENCEMENT OF ANY WORK.

2. THE OWNER'S REPRESENTATIVE AND LANDSCAPE ARCHITECT MAY ACCEPT THE IRRIGATION DESIGN DRAWING AS SUBMITTED; MAY MARK-UP MINOR CORRECTIONS, AND ACCEPT THE IRRIGATION DESIGN DRAWING AS MARKED-UP; OR MAY REJECT THE IRRIGATION DESIGN DRAWING, AND REQUIRE THAT IT BE RESUBMITTED.

3. ALL COMPONENTS OF THE IRRIGATION SYSTEM SHALL BE SHOWN. SHOW SPRINKLER PIPING, INCLUDING PLAN LAYOUT AND LOCATIONS, TYPES, SIZES, CAPACITIES, AND FLOW CHARACTERISTICS OF SPRINKLER PIPING COMPONENTS. INCLUDE WATER METERS, BACKFLOW PREVENTERS, BOOSTER PUMPS, VALVES, PIPING, SPRINKLERS AND DEVICES, DRAINS, ACCESSORIES, CONTROLS, AND WIRING AS NECESSARY. ALL COMPONENTS SHALL BE LABELED WITH THE COMPONENT TYPE, MANUFACTURER, AND MODEL, OR SHALL BE SYMBOLS REFERENCED TO A LEGEND OR KEY. ALL COMPONENTS SHALL BE SHOWN WITH DIMENSIONS TO REFERENCE POINTS. SHOW AREAS OF SPRINKLER SPRAY AND OVERSPRAY. DRAWING SHALL BE SCALED NO SMALLER THAN 1” = 30'-0”. IN AREAS WHERE CLARITY OF THE DESIGN IS IN QUESTION BECAUSE OF THE SCALE, AN ENLARGEMENT OF THAT AREA SHALL BE SHOWN SO AS TO PROVIDE CLARITY OF THE DESIGN. APPROVAL OF IRRIGATION DESIGN DRAWING SHALL PRECEDE COMMENCEMENT OF ANY WORK.

B. PRODUCT DATA

1. IRRIGATION CONTRACTOR SHALL SUBMIT THREE (3) SETS OF MANUFACTURER'S TECHNICAL DATA TO THE OWNER'S REPRESENTATIVE INCLUDING, BUT NOT LIMITED TO VALVES, CONTROLLER, QUICK COUPLERS, SPRINKLER HEADS, ETC.

C. AS - BUILT DRAWING

1. IRRIGATION CONTRACTOR SHALL RECORD AND SUBMIT AN “AS-BUILT DRAWING” WHICH RECORDS ACTUAL INSTALLED CONDITIONS. THE AS-BUILT DRAWING SHALL BE CLEARLY AND NEATLY DRAWN ON A REPRODUCIBLE VELLUM OR SEPIA BASE OF THE ORIGINAL LANDSCAPE DESIGN. AN ELECTRONIC VERSION IS ALSO ACCEPTABLE. IRRIGATION CONTRACTOR SHALL SUBMIT THE AS BUILT DRAWING TO THE OWNER'S REPRESENTATIVE AND LANDSCAPE ARCHITECT BEFORE WORK UNDER THIS CONTRACT WILL BE CONSIDERED FOR ACCEPTANCE.

2. ALL COMPONENTS OF THE SYSTEM SHALL BE SHOWN WITH DIMENSIONS TO REFERENCE POINTS, AS INDICATED ABOVE UNDER “IRRIGATION DESIGN DRAWING.” DRAWING SHALL BE SCALED NO SMALLER THAN 1” = 30'-0”. SUBMITTAL, REVIEW, AND APPROVAL BY THE OWNER'S REPRESENTATIVE AND LANDSCAPE ARCHITECT OF THE AS BUILT DRAWING SHALL PRECEDE APPLICATION FOR FINAL PAYMENT BY THE CONTRACTOR.

1.04 DELIVERY, STORAGE AND HANDLING

A. DELIVER MATERIALS AND EQUIPMENT IN SUCH A MANNER AS NOT TO DAMAGE THE PARTS OR DECREASE THE USEFUL LIFE OF EQUIPMENT.

B. STORE MATERIALS AWAY FROM DETRIMENTAL ELEMENTS. COORDINATE WITH OWNER'S REPRESENTATIVE, GENERAL CONTRACTOR, OR LANDSCAPE CONTRACTOR, AS APPROPRIATE, TO SECURE A SAFE STAGING AREA.

C. HANDLE, LOAD, UNLOAD, STACK, AND TRANSPORT MATERIALS CAREFULLY TO AVOID DAMAGE. HANDLE PIPE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

1.05 JOB CONDITIONS

A. PRIOR TO COMMENCING ANY WORK REQUIRED UNDER THE CONTRACT, THE CONTRACTOR SHALL LOCATE ALL UTILITIES, SUBSURFACE DRAINAGE, AND UNDERGROUND CONSTRUCTION SO THAT PROPER PRECAUTIONS MAY BE TAKEN NOT TO DISTURB OR DAMAGE ANY SUBSURFACE IMPROVEMENTS. DAMAGE TO ANY OF THE ABOVE MENTIONED ITEMS OR OTHER SHALL BE PROMPTLY REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

B. WATER SERVICE AND ELECTRIC SERVICE WILL BE SUPPLIED BY THE GENERAL CONTRACTOR TO A DESIGNATED AREA IN LANDSCAPE PLANTING FOR THE PURPOSE OF THE AUTOMATIC IRRIGATION SYSTEM. IT IS THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO COORDINATE THE LOCATION OF THE WATERLINE AND ELECTRIC SERVICE.

C. IRRIGATION SYSTEM IS TO OPERATE UNDER THE WATER PRESSURE AND FLOW RATES PREVAILING AT THE PROJECT SITE. IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THESE PARAMETERS, AND SHALL DESIGN THE IRRIGATION SYSTEM IN ACCORDANCE WITH THE EXISTING OR ANTICIPATED CONDITIONS.

D. INSURANCE ON IRRIGATION MATERIALS OR EQUIPMENT STORED OR INSTALLED IS THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR. SUCH INSURANCE SHALL COVER FIRE, THEFT, AND VANDALISM. SHOULD THE IRRIGATION CONTRACTOR ELECT NOT TO PROVIDE SUCH INSURANCE THE OWNER SHALL IN NO WAY BE RESPONSIBLE FOR ANY LOSSES INCURRED BY THE AFOREMENTIONED ACTS. THE IRRIGATION CONTRACTOR IS RESPONSIBLE FOR ALL COSTS INCURRED IN REPLACING DAMAGED OR STOLEN MATERIALS OR EQUIPMENT PRIOR TO SUBSTANTIAL COMPLETION OF THE WORK.

E. OBTAIN ALL REQUIRED PERMITS AND PAY ALL REQUIRED FEES AT NO ADDITIONAL COST TO THE OWNER. ANY PENALTIES IMPOSED DUE TO FAILURE TO OBTAIN PERMITS OR PAY FEES ARE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR.

F. PROVIDE AND MAINTAIN ALL PASSAGEWAYS, GUARD FENCES, WARNING LIGHTS, AND OTHER PROTECTION DEVICES REQUIRED BY LOCAL AUTHORITIES OR OTHERS HAVING JURISDICTION.

G. IRRIGATION CONTRACTOR SHALL ADEQUATELY PROTECT ADJACENT PROPERTY AS PROVIDED BY LAW AND THE CONTRACT DOCUMENTS.

H. EXISTING SITE IMPROVEMENTS: PERFORM WORK IN A MANNER THAT AVOIDS DAMAGE TO EXISTING SITE IMPROVEMENTS. THE IRRIGATION CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE OF MECHANICAL NATURE AS WELL AS DAMAGE RESULTING FROM LEAKS IN THE IRRIGATION SYSTEM WHETHER DUE TO NEGLIGENCE OR OTHERWISE.

I. TEST WATER CONDITIONS: IT SHALL BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO MEASURE OR ANALYZE THE EXISTING OR ANTICIPATED WATER PRESSURE AT THE TAP AND DESIGN THE IRRIGATION SYSTEM ACCORDINGLY.

1. IN THE EVENT WATER PRESSURE IS INSUFFICIENT TO OPERATE THE SYSTEM AT AN ADEQUATE DESIGN PRESSURE AND FLOW, THE IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR DESIGNING, SPECIFYING, SUPPLYING, AND INSTALLING A BOOSTER PUMP CAPABLE OF INCREASING THE PRESSURE AND FLOW AS REQUIRED. BOOSTER PUMP SHALL BE OPERATED BY A MAGNETIC STARTER, FLOW, OR PRESSURE TRANSDUCER/SWITCH. IF A BOOSTER PUMP IS REQUIRED, COORDINATE PROVISION OF ADEQUATE ELECTRICAL SERVICE FOR THE PUMP WITH GENERAL CONTRACTOR. BOOSTER PUMP (IF REQUIRED) SHOULD BE PROVIDED IN A LOCKABLE ENCLOSURE ON A WWF REINFORCED CONCRETE PAD 5” THICK, OVER 6” CA6 BASE IF IT IS TO BE INSTALLED OUTDOORS. INDOOR INSTALLATION OF BOOSTER PUMPS IS ALSO ACCEPTABLE PROVIDED THE PROPER APPROVAL AND SPACE REQUIREMENTS EXIST.

2. IN THE EVENT THE WATER PRESSURE SIGNIFICANTLY EXCEEDS AN APPROPRIATE OPERATING PRESSURE, IT SHALL BE THE IRRIGATION CONTRACTOR'S RESPONSIBILITY TO PROVIDE AND INSTALL A PRESSURE REGULATOR DOWNSTREAM FROM THE BACKFLOW PREVENTER. PRESSURE REGULATION MAY BE ACCOMPLISHED VIA A MASTER VALVE WITH A PRESSURE REDUCING DIAL, OR MAY BE ACCOMPLISHED AT THE INDIVIDUAL ZONE VALVE LOCATIONS WITH A PRESSURE REDUCING DIAL.

3. EACH SPRAY HEAD, ROTARY SPRINKLER OR EMISSION DEVICE MUST CONTAIN A BUILT IN, IN-STEM PRESSURE REGULATOR DESIGNED TO OPTIMIZE PRESSURE AT THE NOZZLE. SPRAYS ARE 30 PSI WITH STANDARD NOZZLES, 45PSI FOR USE WITH ROTARY SPRAYS AND TURF ROTORS.

J. SLEEVES FOR IRRIGATION PIPING AND WIRING SHALL BE COORDINATED AND INSTALLED BY THE GENERAL CONSTRUCTION CONTRACTOR.

1. IT SHALL BE THE IRRIGATION CONTRACTOR'S RESPONSIBILITY TO SUBMIT THE IRRIGATION DESIGN DRAWING, SHOWING THESE SLEEVES, IN A TIMELY MANNER, SUCH THAT THE GENERAL CONSTRUCTION CONTRACTOR IS ABLE TO INSTALL SLEEVES WITHIN AN APPROPRIATE SEQUENCE OF WORK, I.E., WITHOUT UNDOING, DAMAGING, OR OTHERWISE COMPROMISING WORK THAT HAS ALREADY BEEN INSTALLED.

2. IRRIGATION SLEEVES SHALL BE SCHEDULE 40 PVC PIPE, MINIMUM 2X PIPE SIZE OF PROPOSED IRRIGATION PRESSURE PIPE. A SEPARATE SCHEDULE 40 PVC SLEEVE SHALL BE INSTALLED FOR IRRIGATION WIRE. ENDS OF ALL IRRIGATION SLEEVES SHALL BE MARKED WITH 2 X 2 WOODEN STAKES OR WHITE PVC PIPE, INDICATING IN INDELIBLE MARKER “IRRIGATION SLEEVE.” GENERAL CONTRACTOR SHALL EXPOSE ANY IRRIGATION SLEEVES THAT ARE NOT MARKED FOR THE IRRIGATION CONTRACTOR PRIOR TO START OF IRRIGATION WORK. COORDINATION AND SCHEDULING FOR EXCAVATION OF SLEEVE ENDS IS THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR.

1.06 WARRANTY

A. WARRANTY ALL WORK FOR A PERIOD OF ONE (1) YEARS, STARTING ON THE DATE OF SUBSTANTIAL COMPLETION, AGAINST DEFECTS IN MATERIALS, EQUIPMENT, WORKMANSHIP, AND ANY REPAIRS REQUIRED RESULTING FROM LEAKS OR OTHER DEFECTS OF WORKMANSHIP, MATERIAL, OR EQUIPMENT.

PART 2 - PRODUCTS

2.01 GENERAL

A. SPECIFIC REQUIREMENTS CONCERNING THE VARIOUS MATERIALS AND THE ARRANGEMENTS IN WHICH THEY ARE TO BE INSTALLED ARE OUTLINED IN THIS SPECIFICATION.

B. QUALITY AND SIZE

1. MATERIAL SPECIFIED BY NAME AND / OR MODEL NUMBER IN THE SPECIFICATIONS, ON THE SITE, OR DETAILED DRAWINGS ARE USED FOR THE PURPOSE OF IDENTIFICATION OF MATERIALS AND TO ENSURE SPECIFIC USE OF THAT MATERIAL IN THE CONSTRUCTION OF THE SYSTEM. NO SUBSTITUTIONS WILL BE PERMITTED WITHOUT APPROVAL. (SEE SUBSTITUTIONS).

2. ALL MATERIALS USED IN THE SYSTEM MUST BE NEW AND WITHOUT FLAWS OR DEFECTS OF ANY TYPE AND BE THE BEST QUALITY AVAILABLE. ALL SPRAYS, ROTORS AND VALVES SHALL HAVE A MINIMUM THREE (3) YEAR WARRANTY AGAINST MATERIAL DEFECTS OR DEFECTIVE WORKMANSHIP.

2.02 PIPE AND FITTINGS

A. ALL PVC PIPE FROM SIZES THREE (3) INCHES AND ABOVE SHALL BE CLASS 200, SDR 26, UNPLASTICIZED RIGID POLYVINYLCHLORIDE (PVC) PIPE WITH INTEGRAL BELL AND RUBBER RING GASKET UNLESS OTHERWISE SPECIFIED. PIPE FROM SIZES TWO AND ONE - HALF (2 1/2) TO ONE AND ONE - QUARTER (1 1/4) INCH SHALL BE CLASS 200, SOLVENT WELD PVC PIPE. PIPE SIZES ONE (1) AND THREE - QUARTERS (3/4) INCH SHALL BE CLASS 200, SOLVENT WELD PVC PIPE. ONE - HALF (1/2) INCH PIPE SHALL BE CLASS 315 SOLVENT WELD PVC PIPE. ALL PIPE SHALL BE SUPPLIED IN STANDARD TWENTY (20) FOOT LENGTHS AND SHALL BE FROM ONE OF THE FOLLOWING MANUFACTURERS: NO POLYETHYLENE PIPE WILL BE ACCEPTED UNLESS PRIOR WRITTEN APPROVAL IS OBTAINED BY THE LANDSCAPE ARCHITECT.

B. ALL PIPE THAT IS EXPOSED OR NOT BELOW GRADE SHALL BE SCHEDULE 80 PVC OR HDPE.

C. ALL PIPE FITTINGS SIZE FOUR (4) INCHES AND GREATER SHALL BE DUCTILE IRON. 3" FITTINGS SHALL BE BELL AND RUBBER GASKET. FITTINGS 2-1/2” AND UNDER SHALL BE SCHEDULE 40 SOLVENT WELD PVC.

D. SOLVENT WELD PVC PIPE, IF AND WHEN USED IN CONSTRUCTION OF THIS SYSTEM, SHALL BE RIGID PVC PIPE AND SHALL BE ASSEMBLED USING APPROPRIATE PVC PIPE CLEANER / PRIMER AND SOLVENT CEMENT IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

E. EXPANSION JOINTS SHALL BE INSTALLED EVERY THREE HUNDRED (300) FEET OF SOLVENT WELD PIPING.

F. PVC PIPE COUPLINGS LOCATED WITHIN SLEEVES: PVC PIPE COUPLINGS FOUR (4) INCHES AND SMALLER SHALL BE SOLVENT WELD. PVC PIPE COUPLINGS SIX (6) INCHES AND LARGER SHALL BE MECHANICAL JOINTS. UPON EXITING SLEEVES, PIPE SOLVENT WELD OR INTEGRAL BELL AND RUBBER GASKET, AS DESCRIBED IN SECTION 2-02-A, MUST BE ADHERED TO.

2.03 RISERS: PROVIDE THREADED SCHEDULE 80 PVC RISERS. ALL RISERS ABOVE GRADE SHALL BE EITHER DARK GRAY OR BLACK PVC PIPE, AND SHALL BE SUPPORTED SO AS NOT TO CAUSE UNNECESSARY MOVEMENT WHILE SPRINKLER IS IN OPERATION.

2.04 ELECTRIC WIRING

A. 120 VOLT AC WIRING: 120 VOLT SERVICE TO CONTROLLER SHALL CONSIST OF THREE WIRES: ONE BLACK, ONE WHITE, AND ONE GROUND. ELECTRICAL SERVICE IS TO BE PROVIDED BY THE GENERAL CONTRACTOR UNLESS OTHERWISE DIRECTED BY OWNER'S REPRESENTATIVE. IT IS THE IRRIGATION CONTRACTORS RESPONSIBILITY TO COORDINATE THE LOCATION OF ELECTRICAL SERVICE TO BE PROVIDED FOR CONTROLLER.

B. SPLICES IN CONTROLLER WIRING SHALL BE WATERPROOF DIRECT BURY APPLICATION. CONNECTOR MUST UTILIZE A COMBINATION OF WIRE CAP AND SEPARATE GEL FILLED WATERPROOF CAP.

C. PROVIDE JUNCTION BOX, FLUSH-MOUNTED AND GASKETED PER CODE AS REQUIRED.

D. CONTROL WIRING SHALL BE 24 VOLT SOLID WIRE UNDERWRITER'S LABORATORY (UL) APPROVED FOR DIRECT BURIAL IN GROUND. MINIMUM WIRE SIZE SHALL BE FOURTEEN (14) GAUGE. ALL CONTROL WIRING AND WIRING CONNECTIONS FROM THE CONTROLLER TO THE VALVES IS INCLUDED IN THIS CONTRACT.

2.05 SPRINKLER HEADS

A. SHORT RANGE - 4” 6” OR 12” POP UP SPRAY HEAD:

1. SPRINKLER SHALL BE OF THE FIXED SPRAY TYPE DESIGNED FOR IN GROUND INSTALLATION. SPRINKLER SHALL HAVE A TRIPLE BLADED WIPER SEAL FOR INCREASED DURABILITY AND PRESSURE RATING.

2. POP-UP SPRAY SPRINKLERS SHALL INCLUDE A PRESSURE REGULATING DEVICE TO PREVENT HIGH PRESSURE FOGGING TO THE NOZZLE STREAM. THIS REGULATING DEVICE SHALL BE AN INTEGRAL PART OF THE POP-UP STEM AND SHALL REGULATE THE NOZZLE PRESSURE TO 30 PSI OR 45 PSI (NOZZLE APPROPRIATE) FOR INLET PRESSURES FROM 35 TO 70 PSI. THESE UNITS SHALL BE IDENTIFIABLE FROM THE TOP WITH "PRS" MARKINGS ON THE CAP.

3. THE ADDITION OF A CHECK VALVE FEATURE (SAM) SHALL BE INCORPORATED INTO THE SPRAY BODY AND USED IN LOCATIONS THROUGHOUT THE SYSTEM WHERE LOW HEAD DRAINAGE IS INDICATED.

4. SPRAY BODY SHALL INCORPORATE A DEVICE DESIGNED TO INDICATE WHEN A NOZZLE IS MISSING OR BROKEN, BY SENDING OUT A SMALL STREAM OF WATER 15 FEET INTO THE AIR AT 1 TO 1.5 GPM.

B. SPRAY NOZZLES: HIGH-EFFICIENCY NOZZLES DISTRIBUTION UNIFORMITY (DULQ) OF 70 % OR GREATER, (AS PUBLISHED BY THE MANUFACTURER) SHALL BE USED. THE HIGHER EFFICIENCY NOZZLE SHOULD RESULT IN BETTER THAN A 1.2 SC, REDUCING RUNTIME ACCORDINGLY. ALL NOZZLES SHALL ALL HAVE A MATCHED PRECIPITATION RATE WITH OTHER NOZZLES ON THE SAME ZONE.

1. UTILIZE LOWER PRECIPITATION RATE ROTARY NOZZLES (.6 IN/P HOUR) ON HILLY AREAS AND/OR WHERE INFILTRATION IS LOW AND THEREFOR RUNOFF IS EXPECTED. ROTARY NOZZLE FOR SHRUB OR SMALL TURF AREAS (13-24 FEET) SPACING: MAXIMUM 55 PSI.

2. UTILIZE HIGH PRECIPITATION HIGH-EFFICIENCY NOZZLES FOR IMPROVED WIND RESISTANCE WILL ALLOW FOR SHORTENED RUN-TIMES ON FLAT AREAS OR WHERE INFILTRATION RATES ALLOW. HE-VAN-8',10',12' OR 15' SPRAY NOZZLES SPACING OF 8 TO 15 FEET (DU OF 73% TO 78% RESPECTIVELY). SHALL HAVE AN ARC ADJUSTMENT FROM 0 TO 360 DEGREES.

3. DUAL ORIFICE NOZZLES MAY BE USED IN LOCATIONS REQUIRING SUPERIOR CLOSE-IN WATERING, WHILE MAINTAINING A DULQ OF 70% OR GREATER. U-SERIES SPRAY NOZZLE FOR SHRUB OR SMALL TURF AREAS (5-15 FEET) SPACING: MAXIMUM 30 PSI.

C. INTERMEDIATE RANGE ROTORS:

1. THE FULL OR PART CIRCLE ROTOR SPRINKLER UTILIZING THE MPR NOZZLE SETS. SPRINKLER SHALL BE A SINGLE STREAM, WATER LUBRICATED, GEAR DRIVE TYPE CAPABLE OF COVERING THE AREAS BETWEEN 25 AND 35 FEET AT A MINIMUM BASE PRESSURE OF 45 PSI. THE PART CIRCLE SPRINKLER SHALL HAVE ADJUSTABLE ARC COVERAGE OF 40 TO 360 DEGREES.

a. THE SPRINKLER SHALL INCLUDE AN INTEGRAL PRESSURE REGULATOR TO REDUCE OPERATING PRESSURE TO 45 PSI FOR OPTIMAL NOZZLE PERFORMANCE. THE SPRINKLER SHALL HAVE A FLOW SHUT-OFF DEVICE INTEGRATED INTO THE FLOW PATH OF THE ROTOR AS WELL AS ADJUSTABLE ARC COVERAGE OF 40 TO 360 DEGREES.

b. THE SPRINKLER SHALL HAVE A GREEN RUBBER COVER, TAPERED STEM FOR POSITIVE FLUSHING, AND A STRONG STAINLESS STEEL RETRACT SPRING FOR POSITIVE POP DOWN.

2.06 AUTOMATIC CONTROLLER

A. TRADITIONALLY WIRED (4 TO 48 ZONES)

1. IRRIGATION CONTROLLER SHALL HAVE A MODULAR STATION CAPACITY, BY RECEIVING EXPANSION MODULES OF 4, 8, OR 12 STATIONS, TO CREATE A CONTROLLER OF UP TO 48 STATIONS. THE CONTROLLER SHALL BE OF A HYBRID TYPE, HOUSED IN A WALL-MOUNTABLE, WEATHER RESISTANT PLASTIC CABINET WITH A KEY-LOCKING CABINET DOOR SUITABLE FOR OUTDOOR INSTALLATION. THE CONTROLLER SHALL HAVE 4 SEPARATE AND INDEPENDENT PROGRAMS WHICH CAN HAVE 8 DIFFERENT START TIMES, START DAY CYCLES AND STATION RUN TIMES. THE CONTROLLER SHALL HAVE A CYCLE+SOAK WATER MANAGEMENT FEATURE.

2. THE CONTROLLER SHALL INCORPORATE A FLOMANAGER FEATURE THAT SHALL PROVIDE REAL-TIME FLOW, POWER, AND STATION MANAGEMENT. FLOWATCH SHALL COMPARE THE CURRENT REAL-TIME FLOW RATE TO THE LEARNED RATES AND TAKE USER DEFINED ACTIONS IF PROBLEM IS DETECTED. FLOWATCH SHALL AUTOMATICALLY DETERMINE THE LOCATION OF THE FLOW PROBLEM AND ISOLATE THE PROBLEM BY TURNING OFF THE AFFECTED STATION OR MASTER VALVE.

3. THE CONTROLLER SHALL BE COMPATIBLE WITH THE COMMUNICATION CARTRIDGES PROVIDING REMOTE COMPUTER CONTROL OF THE CONTROLLER VIA A VARIETY OF COMMUNICATION OPTIONS (DIRECT CONNECT CABLE, PHONE, GPRS/CELLULAR, ETHERNET, WIFI, RADIO, AND IQNET COMMUNICATION CABLE).

4. SHALL INCLUDE A 3-YEAR TRADE WARRANTY.

2.07 AUTOMATIC RAIN / FREEZE SHUT OFF DEVICE

A. WR2RF WIRELESS RAIN FREEZE SENSOR SHALL EMPLOY AN ELECTRO-MECHANICAL ACTUATING MECHANISM DESIGNED TO CAUSE A CIRCUIT INTERRUPT IF PROGRAMMABLE LOW TEMPERATURE OR RAINFALL SET POINTS ARE SATISFIED.

B. THE DEVICE SHALL BE USED WITH 24VAC CONTROLLERS AND SHALL BE OF SUFFICIENT CAPACITY TO BE USED WITH A MAXIMUM OF SIX 24VAC 7VA SOLENOIDS PLUS AN ADDITIONAL MASTER VALVE OR PUMP START THAT DOES NOT EXCEED 53VA.

C. THE WIRELESS RAIN SENSOR SHALL INCORPORATE A PROVISION THAT ALLOWS THE INSTALLER TO SELECT FROM SEVERAL RAINFALL OR LOW TEMPERATURE SETTINGS THAT CAN BE PROGRAMMED THROUGH THE USE OF ICONS ON A CONTROLLER INTERFACE.

D. A SENSOR LED SHALL COMMUNICATE SIGNAL STRENGTH DURING THE INSTALLATION PROCESS.

2.08 SMART SENSORS FOR CONTROLLERS

A. SOIL MOISTURE SENSOR SHALL BE A SMART WATERING CONTROL DEVICE FOR USE WITH A STANDARD 24-VOLT AC MULTI-WIRE IRRIGATION CONTROLLER. IN OPERATION, THE SOIL MOISTURE SENSOR SHALL ONLY ALLOW A PROGRAMMED WATERING CYCLE WHEN THE SOIL MOISTURE DROPS BELOW A SET MOISTURE THRESHOLD.

B. USER INTERFACE SHALL ENABLE INSTANT READINGS OF SOIL MOISTURE, TEMPERATURE AND ELECTRICAL CONDUCTIVITY PLUS REVIEW OF 7-CYCLE WATERING HISTORY.

C. IT SHALL TAKE DIGITAL READINGS EVERY 10 MINUTES OF SOIL VOLUMETRIC WATER CONTENT (VWC) UTILIZING ADVANCED TIME DOMAIN TRANSMISSOMETRY (TDT) DIGITAL SIGNAL PROCESSING THAT DELIVERS ACCURATE READINGS INDEPENDENT OF SOIL TEMPERATURE AND ELECTRICAL CONDUCTIVITY.

D. IT SHALL CONSIST OF A 304 STAINLESS STEEL DIGITAL SOIL MOISTURE SENSOR AND A USER INTERFACE.

2.09 FLOW SENSORS: FLOW SENSORS SHALL BE AN IN LINE TYPE WITH A NONMAGNETIC, SPINNING IMPELLER (PADDLE WHEEL) AS THE ONLY MOVING PART. THE ELECTRONICS HOUSING SHALL HAVE TWO O-RINGS AND SHALL BE EASILY REMOVED FROM THE METER BODY. THE SENSOR ELECTRONICS WILL BE POTTED IN AN EPOXY COMPOUND DESIGNED FOR PROLONGED IMMERSION. ELECTRICAL CONNECTIONS SHALL BE 2 SINGLE CONDUCTOR 18 AWG LEADS 48 INCHES (1,2 METERS) LONG. INSULATION SHALL BE MADE USING SPECIAL DIRECT BURIAL “UF” TYPE, ELECTRICALLY SHIELDED CABLE TO AVOID INTERFERENCE, COLORED RED FOR THE POSITIVE LEAD AND BLACK FOR THE NEGATIVE LEAD. THE SENSOR SHALL BE CAPABLE OF OPERATING IN LINE PRESSURES UP TO 400 PSI (27,5 BARS) AND LIQUID TEMPERATURES UP TO 220° F, AND OPERATING IN FLOWS OF ½ FOOT PER SECOND TO 15 FEET PER SECOND WITH LINEARITY OF ±1% AND REPEATABILITY OF ±1%. THE METER BODY SHALL BE CAST 85-5-5-5 BRONZE, IN 1” AND 1½”, FEMALE IRON PIPE THREAD SIZES.

2.10 METER: SUBMIT PRODUCT DATA AS REQUIRED.

2.11 BACKFLOW PREVENTER:

A. TO BE SUPPLIED AND INSTALLED BY THE IRRIGATION CONTRACTOR. BACKFLOW PREVENTER SHALL BE A RPZ REDUCED PRESSURE BACKFLOW ASSEMBLY TYPE, CAPABLE OF HAVING AN ADEQUATE FLOW RATE IN GALLONS PER MINUTE (GPM) WITHOUT EXCESSIVE PRESSURE LOSS, AND SHALL BE SUITABLE FOR SUPPLY PRESSURE OF UP 150 PSI. BACKFLOW PREVENTER BODY SHALL BE BRONZE WITH CORROSION-RESISTANT INTERIOR COMPONENTS AND CHECK ASSEMBLIES SHALL BE TIGHT SEATING RUBBER. WORKING PRESSURE SHALL BE 150PSI MINIMUM WITH A MAXIMUM PRESSURE LOSS OF 12 PSI THROUGH MIDDLE 1/3 OF FLOW RANGE. BACKFLOW PREVENTER SHALL BE INSTALLED WITHIN ENCLOSURE EQUIPPED WITH A HEAT TRACE WITH SUFFICIENT CLEARANCE TO PERMIT PERIODIC TESTING AND MAINTENANCE. THE CONTRACTOR IS RESPONSIBLE FOR RUNNING POWER FROM THE BUILDING TO THE HEATED ENCLOSURE. PROVIDE A LOCKABLE ENCLOSURE ON A CONCRETE PAD 5” THICK WITH WWF REINFORCEMENT, OVER 6” CA6 BASE FOR THE BACKFLOW PREVENTER. BACKFLOW PREVENTER ASSEMBLY MUST INCLUDE (2) GATE VALVES FOR ISOLATING UNIT, AND TWO (2) BALL VALVE TEST COCKS FOR TESTING UNIT TO ENSURE PROPER OPERATION.

2.12 VALVE BOXES

A. VALVE BOX BODY SHALL BE COMPOSED OF 100% RECYCLED HDPE. THERE SHALL BE NO PRE-PUNCHED HOLE IN THE VALVE BOX LID. THE STANDARD RECTANGULAR BODY SHALL HAVE 14 KNOCK-OUTS MOLDED INTO THE SIDES THAT CAN BE READILY REMOVED. THE VALVE BOX SHALL HAVE CORRUGATED SIDES FOR LATERAL STRENGTH. LIDS SHALL HAVE BEVELED EDGES TO MINIMIZE POTENTIAL DAMAGE FROM LAWN EQUIPMENT. LIDS SHALL BE CLEARLY MARKED WITH THE WORDS “IRRIGATION CONTROL VALVE” MOLDED ONTO THE TOP. LIDS SHALL HAVE A MARKING AREA MEASURING 6.0" BY 2.0" SUITABLE FOR BRANDING OR OTHER IDENTIFICATION. THE LOCKING BOLT, WASHER AND CLIP SHALL BE MADE OF STAINLESS STEEL.

2.13 SLEEVES: CLASS 200 PVC PIPE TYPE LL20 OR 1220 COORDINATE WITH AND INSTALLED BY THE GENERAL CONTRACTOR.

2.14 QUICK COUPLING VALVES: ONE (1) PER ZONE, LOCATED ADJACENT TO REMOTE SOLENOID VALVE.

A. QUICK COUPLING VALVES (QCVS) WILL BE USED FOR MANUAL ACCESS TO THE PRESSURIZED MAIN LINE SO THAT A HOSE CAN BE ATTACHED AND USED FOR HAND WATERING. QCVS SHALL BE CONSTRUCTED OF BRASS WITH A SPRING LOADED SEAL THAT WILL KEEP THE VALVE IN A CLOSED POSITION UNTIL THE KEY IS INSERTED INTO THE VALVE.

B. TWO-PIECE BODY DESIGN FOR EASY SERVICING (MODELS 33-DRC, 44-LRC, 44-RC, 33-DNP, AND 44-NP).QCVS SHALL BE INSTALLED ON A TRIPLE ELBOW SWING JOINT.

C. IRRIGATION CONTRACTOR TO CONTACT OWNER'S REPRESENTATIVE TO DETERMINE HOSE TYPE. KEY AND SWIVEL SHALL BOTH BE CONSTRUCTED OF BRASS.

2.15 CONTROL VALVES:

A. REMOTE CONTROL ZONE OR MASTER VALVE SHALL BE NORMALLY CLOSED GLOBE PATTERN DESIGN. VALVE PRESSURE RATING SHALL NOT BE LESS THAN 150 PSI. SHALL HAVE BOTH INTERNAL AND EXTERNAL MANUAL OPEN/CLOSE CONTROL (INTERNAL AND EXTERNAL BLEED) TO MANUALLY OPEN AND CLOSE THE VALVE WITHOUT ELECTRONICALLY ENERGIZING THE SOLENOID. SHALL HAVE A BRASS FLOW CONTROL STEM FOR ACCURATE MANUAL REGULATION AND/OR SHUT OFF OF OUTLET FLOW. SLOW CLOSING TO PREVENT WATER HAMMER AND SUBSEQUENT SYSTEM DAMAGE. ACCEPTS LATCHING SOLENOID FOR USE WITH BATTERY-OPERATED CONTROLLERS UP TO 150 PSI. VALVE CAN ACCOMMODATE AN OPTIONAL, FIELD-INSTALLED PRS-D PRESSURE REGULATING MODULE CAPABLE OF REGULATING OUTLET PRESSURE BETWEEN 15 AND 100 PSI (± 3 PSI). OPERATING PRESSURE RANGE OF 20 TO 200 PSI. OPERATING FLOW RATE OF 5 TO 200 GPM. SHALL INCLUDE A 5-YEAR TRADE WARRANTY.

B. DRIP ZONE CONTROL KIT (LOW FLOW): [3/4” LOW FLOW VALVE AND 3/4” PR FILTER]. LOW FLOW CONTROL ZONE KIT ASSEMBLY FOR DRIP ZONES WITH FLOWS FROM 0.2 TO 5.0 GPM. VALVE BODY AND BONNET CONSTRUCTED OF HIGH IMPACT, WEATHER-RESISTANT PLASTIC, AND STAINLESS STEEL. LOW-POWER ENCAPSULATED SOLENOID WITH CAPTURED PLUNGER AND 90 MESH (200 MICRON) SOLENOID FILTER, NORMALLY-OPEN IN-LINE PRESSURE REGULATING DEVICE. OPERATING FLOW RATE OF 0.2 TO 5.0 GPM. OPERATING PRESSURE RANGE OF 20 TO 120 PSI. REGULATED PRESSURE OF 30 PSI (2,1 BAR). TEMPERATURE RATING TO 150° F (66° C). SHALL INCLUDE A 3 -YEAR TRADE WARRANTY.

C. DRIP ZONE CONTROL KIT (MEDIUM FLOW): [1” PVC BALL VALVE, 1” CV AND 1” FILTER]. MEDIUM FLOW CONTROL ZONE KIT ASSEMBLY FOR DRIP ZONES WITH FLOWS FROM 3 TO 20 GPM, INCLUDING PVC BALL VALVE, CONTROL VALVE (CV), AND QUICK CHECK PRESSURE-REGULATING BASKET FILTER (PRBF) WHICH COMBINES FILTRATION AND PRESSURE REGULATION IN ONE INTEGRATED UNIT FOR PROTECTION OF DOWNSTREAM COMPONENTS OF DRIP IRRIGATION SYSTEM. PRESSURE REGULATING BASKET FILTER COMPONENT SPECIFICATIONS INCLUDE: STANDARD 200 MESH (75 MICRON) FILTER SCREEN CONSTRUCTED OF STAINLESS STEEL. NORMALLY-OPEN IN-LINE PRESSURE REGULATING DEVICE. OPERATING FLOW RATE OF 3 TO 20 GPM. OPERATING PRESSURE RANGE OF 15 TO 150 PSI. REGULATED PRESSURE OF 40 PSI. TEMPERATURE RATING TO 150° F. SHALL INCLUDE A 3 -YEAR TRADE WARRANTY.

D. DRIP ZONE CONTROL KIT (HIGH FLOW): [1 1/2” VALVE, AND TWO 1” PRB-QKCHK PRESSURE REGULATING BASKET FILTERS]. HIGH FLOW COMMERCIAL CONTROL ZONE KIT FOR DRIPLINE ZONES WITH FLOWS FROM 15.0 TO 40.0 GPM, INCLUDING PESB VALVE AND TWO PARALLEL PRESSURE REGULATING QUICK-CHECK BASKET FILTERS. ONE-PIECE SOLENOID WITH CAPTURED PLUNGER AND 90 MESH (200 MICRON) SOLENOID FILTER, EXTERNAL BLEED FOR MANUAL SYSTEM FLUSHING DURING START-UP, INTERNAL BLEED FOR MANUAL ZONE ACTIVATION DURING MAINTENANCE OPERATIONS. OPERATING FLOW RATE OF 15.0 TO 40.0 GPM. INLET PRESSURE RATING: 20 TO 200 PSI. REGULATED PRESSURE OF 40 PSI. TEMPERATURE RATING TO 150° F. SHALL INCLUDE A 3 -YEAR TRADE WARRANTY.

2.16 DRIP LINE

A. DRIPLINE AREAS SHOULD USE SUB-SURFACE DRIPLINE WITH COPPER SHIELD TECHNOLOGY, PRESSURE-COMPENSATING DUAL-LAYERED INLINE EMITTERS. THIS PRODUCT IS INTENDED TO BE INSTALLED SUB-SURFACE (4” TO 6” BELOW GRADE) APPLICATION WITH DRIPLINE EMITTERS PROTECTED FROM ROOT INTRUSION WITH COPPER AND WITHOUT CHEMICALS OR OTHER PHYSICAL BARRIERS. EMITTER SPACING AND DRIPLINE ROW SPACING SHOULD BE INDICATED ON CONSTRUCTION DRAWINGS.

B. REFER TO DESIGN DRAWINGS AND MANUFACTURER'S RECOMMENDATION REGARDING SPACING, BURY DEPTH AND PRECIPITATION RATE BASE ON SOIL PROFILE.

C. ACCEPTS EASY FIT FITTINGS, DRIPLINE INSERT FITTINGS AND 17MM INSERT FITTINGS. OPERATING PRESSURE RANGE OF 8.5 TO 60 PSI. OPERATING EMITTER FLOW RATES OF 0.6 AND 0.9 GPH. EMITTER SPACING OF 12 OR 18 INCHES.

D. EACH DRIP ZONE SHALL INCLUDE AN OPERATIONAL INDICATORS OPERIND ARE TO BE INSTALLED CLOSE TO THE END OF EACH ZONE IN AN INCONSPICUOUS LOCATION AND NOTED ON THE AS-BUILT DRAWING. OPERIND IS DESIGNED TO OPEN AT 20PSI, CONFIRMING NORMAL PRESSURE AND FLOW ARE PRESENT.

2.17 SURGE PROTECTION EQUIPMENT

A. PROVIDE GENERAL ELECTRIC LIGHTNING ARRESTOR NO. GL 15 CC B 007 FOR CONTROLLERS NOT EQUIPPED WITH PRIMARY SURGE PROTECTION.

B. IRRIGATION CONTRACTOR IS RESPONSIBLE FOR DETERMINING WHETHER THE ABOVE MENTIONED SURGE PROTECTION EQUIPMENT IS PROVIDED IN THE CONTROLLER AS A "BUILT _ IN" UNIT OR IF IT MUST BE SUPPLIED AND INSTALLED SEPARATELY.

2.18 ISOLATION VALVES

A. PROVIDE ALL GATE VALVES FOR ISOLATION PURPOSES, ALLOWING FULL DIAMETER OPENING WHEN IN FULL OPEN POSITION.

B. MANUALLY OPERATED VALVES SHALL BE THE SAME SIZE AS THE LINE.

C. VALVES THREE (3) INCHES OR SMALLER SHALL BE BRASS CONSTRUCTION, THREADED, AND RATED FOR TWO HUNDRED (200) PSI WOG.

D. VALVES FOUR (4) INCHES OR LARGER SHALL BE CAST IRON FITTED WITH A RUBBER RING, SLAB-TYPE GASKET.

PART 3 - EXECUTION

3.01 GENERAL

A. SUPERVISION: PROVIDE A FULL - TIME SUPERINTENDENT AND NECESSARY ASSISTANTS ON THE JOB WHILE WORK IS IN PROGRESS. IRRIGATION CONTRACTING FIRM SHALL HAVE A C.I.C. (CERTIFIED IRRIGATION CONTRACTOR) ON SITE AT ALL TIMES AND MUST BE AN EMPLOYEE OF SAID IRRIGATION CONTRACTING COMPANY. THE SUPERINTENDENT REPRESENTS THE IRRIGATION CONTRACTOR IN ALL FUNCTIONS, AND DIRECTIVES GIVEN TO HIM BY THE OWNER'S REPRESENTATIVE, LANDSCAPE ARCHITECT, GENERAL CONSTRUCTION CONTRACTOR, AND / OR LANDSCAPE CONTRACTOR ARE BINDING AS IF GIVEN TO THE IRRIGATION CONTRACTOR IN PERSON.

B. INSPECTION OF WORK IN PROGRESS: DURING INSTALLATION THE OWNER'S REPRESENTATIVE OR THE LANDSCAPE ARCHITECT MAY REVIEW AND OBSERVE THE WORK ON A REGULAR OR RANDOM BASIS, AND MAY REJECT ANY WORK AND / OR MATERIALS THAT DO NOT MEET THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. REJECTED WORK MUST BE PROMPTLY CORRECTED. NO TIME EXTENSION WILL BE ALLOWED REPLACEMENT OR REPAIR OF REJECTED WORK.

3.02 REVIEW IN ADVANCE OF CONSTRUCTION: THE IRRIGATION CONTRACTOR SHALL REVIEW THE PROJECT SITE PRIOR TO START OF WORK TO DETERMINE THAT ALL SITE CONDITIONS ARE ACCEPTABLE FOR IRRIGATION WORK TO BEGIN. INFORM THE OWNER'S REPRESENTATIVE AND THE LANDSCAPE ARCHITECT OF ANY AND ALL UNSUITABLE CONDITIONS. DO NOT PROCEED WITH INSTALLATION OF IRRIGATION SYSTEM UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED IN AN ACCEPTABLE MANNER.

3.03 PREPARATION: FLAG ALL EXISTING UNDERGROUND UTILITIES PRIOR TO TRENCHING AND / OR BORING OPERATIONS. OBTAIN LOCATIONS OF ANY NEW UTILITIES FROM THE OWNER'S REPRESENTATIVE AND / OR THE GENERAL CONTRACTOR. IRRIGATION CONTRACTOR IS SOLELY RESPONSIBLE FOR CONTACTING THE UTILITY LOCATING SERVICE(S) AND OWNER'S REPRESENTATIVE (WITH 48 HOURS MINIMUM NOTIFICATION) AND LOCATING ON - SITE UTILITIES IN ADVANCE OF INSTALLATION.

3.04 SLEEVING (BY GENERAL CONTRACTOR)

A. LOCATION OF SLEEVING SHALL BE COORDINATED WITH THE GENERAL CONSTRUCTION CONTRACTOR. MAKE ADJUSTMENTS NECESSARY TO ACCOMMODATE EXISTING VEGETATION, UTILITIES, AND OTHER EXISTING CONDITIONS.

B. REPAIR OF DAMAGE TO EXISTING UTILITIES, STRUCTURES OR OTHER CONSTRUCTION RESULTING FROM INSTALLATION OF SLEEVES IS THE RESPONSIBILITY OF THE CONTRACTOR INSTALLING THE SLEEVING.

3.05 PIPE

A. PIPE JOINTS

1. FOLLOW MANUFACTURER'S RECOMMENDATIONS AND USE PIPE AND BELL FROM THE SAME MANUFACTURER. PIPES TWO AND ONE - HALF (2 1/2) INCHES AND SMALLER USE SOLVENT WELD SYSTEM. PIPES THREE (3) INCHES AND LARGER USE APPROVED COMPRESSION TYPE PUSH ON JOINTS.

B. SOLVENT WELD PVC PIPE, ASSEMBLE ACCORDING TO MANUFACTURER'S RECOMMENDATIONS, USING APPROPRIATE PVC PIPE CLEANER/PRIMER AND SOLVENT CEMENT.

C. PIPES AND FITTINGS

1. INSTALL ACCORDING TO MANUFACTURER'S RECOMMENDATIONS INCLUDING SNAKING IN OF PVC PIPE TO PREVENT EXCESSIVE STRAIN WHEN CONTRACTING IN COLD WEATHER.

2. SOLVENT WELD FITTINGS SHALL CONFORM TO SCHEDULE 40 OR SCHEDULE 80 PVC DIMENSIONS AND SPECIFICATIONS FOR SOLVENT WELD FITTINGS.

D. LATERAL LINES AND RISERS

1. INSTALL ACCORDING TO MANUFACTURER'S RECOMMENDATIONS USING STANDARD TECHNIQUES.

2. INSTALL RISERS SUCH THAT NO EXCESSIVE MOVEMENT OCCURS WHILE SPRINKLER HEAD IS IN OPERATION. HEIGHT OF RISERS TO BE IN ACCORDANCE WITH PLANNED AND EXISTING PLANT MATERIAL. HEIGHT OF ALL RISERS IS SUBJECT TO APPROVAL OF LANDSCAPE ARCHITECT.

3. PLUG LINES IMMEDIATELY UPON INSTALLATION TO MINIMIZE INFILTRATION OF FOREIGN MATTER.

4. FLUSH LATERAL LINES AND RISERS PRIOR TO INSTALLATION OF SPRINKLER HEADS.

5. ABOVE GROUND RISERS SHALL MATCH EXISTING ON SITE.

3.06 TRENCHING

A. ALL MAINLINE TO BE INSTALLED IN SEPARATE TRENCHING PROCESS FROM LATERAL LINES.

B. THE INITIAL BACKFILL WILL ALWAYS BE PLACED BY HAND AND SHOVELED IN EVENLY ALONG BOTH SIDES OF THE PIPE AND HAND TAMPED INTO PLACE. CARE WILL BE EXERCISED TO INSURE THAT SOIL DOES NOT BRIDGE AND FINAL TO GO UNDER THE PIPE. THE SOIL IN THE TRENCH SHALL BE BACKFILLED TO THE POINT OF THE SAME CONDITION OF THE DENSITY OF THE SURROUNDING SOIL.

C. IN BACKFILLING TRENCHES, THE ADDITION OF WATER SHOULD BE LIMITED TO ACHIEVING OPTIMUM MOISTURE CONTENT FOR TAMPING PROCEDURES. THE CONTRACTOR SHALL NOT CROWN THE BACKFILL ON THE TRENCH AREA WITH THE THOUGHT THAT IT WILL EVENTUALLY SETTLE; THIS WILL NOT BE ACCEPTED AS A FINISHED JOB. ALL EXCESS MATERIALS SHALL BE REMOVED FROM THE SITE IN A SATISFACTORY MANNER.

D. DURING THE ENTIRE PROSECUTION OF THE WORK, THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL OPEN EXCAVATIONS AND AS A MEANS OF PROTECTION, SHALL KEEP SUCH PROTECTIVE DEVICES BURIED AT PROPER INTERVALS ALONG THE EXCAVATION TO PROTECT THE PUBLIC FROM INJURY.

E. TRENCHING AND EXCAVATION IN NEWLY SODDED AREAS: PRIOR TO TRENCHING AND EXCAVATION REMOVE SOD, PRESERVE, AND REPLACE AFTER BACKFILLING IS COMPLETED.

F. TRENCHING AND EXCAVATION IN ESTABLISHED GRASS OR NEWLY SEEDED AREAS: AFTER TRENCHING, EXCAVATION AND BACKFILLING IS COMPLETED, RE-GRADE TRENCHED AREA CONSISTENT WITH SURROUNDING AREA AND RESEED WITH TURF SEED MATCHING EXISTING GRASS OR SEED. MULCH SEED AFTER BROADCASTING.

G. TRENCHING AND EXCAVATION THROUGH EXISTING ASPHALT OR CONCRETE: CUTTING, REMOVAL AND REPLACEMENT OF ASPHALT OR CONCRETE IS THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR.

H. TRENCHING AND EXCAVATION NEAR EXISTING TREES: IRRIGATION CONTRACTOR SHALL PAINT THE PROPOSED TRENCHING OR EXCAVATION WHICH OCCURS WITHIN THE “DRIP LINE” OR WITHIN FIFTY (50) FEET OF THE TRUNKS OF THE EXISTING TREES, WHICHEVER IS GREATER. IRRIGATION CONTRACTOR MUST CONTACT THE OWNER'S REPRESENTATIVE FOR REVIEW OF THE PROPOSED TRENCHING AND EXCAVATION LINES PRIOR TO PROCEEDING WITH THE WORK. OWNER'S REPRESENTATIVE MAY ADJUST PROPOSED TRENCHING AND EXCAVATION LINES IN ORDER TO AVOID DAMAGE TO TREE ROOT SYSTEMS AND OTHER PLANTS. SUCH ADJUSTMENTS SHALL BE MADE BY THE IRRIGATION CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

I. BACKFILLING

1. BACKFILL MATERIAL SHALL BE FREE FROM ROCKS, LARGE STONES, AND OTHER UNSUITABLE MATERIAL WHICH COULD DAMAGE PIPE OR CREATE SETTLING PROBLEMS. BACKFILL IN SIX (6) LIFTS AND TAMP AFTER EACH LIFT TO PREVENT EXCESSIVE SETTLING.

2. BACKFILL TRENCHES WITH PLASTIC PIPE WHEN PIPE IS COOL TO AVOID EXCESSIVE CONTRACTION IN COLD WEATHER. BACKFILLING DURING SUMMER SEASON OR ON OTHER WARM DAYS MAY BE DONE IN THE EARLY MORNING HOURS, OR PIPE MAY BE WATER COOLED PRIOR TO BACKFILLING.

3. MINIMUM DEPTH OF COVER OF PIPE IS AS FOLLOWS: ONE - HALF (1/2) TO ONE (1) INCH: TWELVE (12) INCHES/ ONE AND ONE - QUARTER (1 ¼) TO TWO (2) INCH: FIFTEEN (15) INCHES / 3 & 4 INCH: TWENTY-FOUR (24) INCHES

3.07 SPRINKLER HEADS

A. SPRINKLERS WITH A 1” AND LARGER BOTTOM INLET SHALL BE INSTALLED ON SWING JOINTS, MINIMUM 3” OFF INSIDE EDGE OF CURBS, DRIVES AND SIDEWALKS. SPRINKLER WITH A 3/4” AND SMALLER INLET MAY BE INSTALLED USING FLEXIBLE SWING JOINTS.

B. LOW POP UP SPRINKLER HEADS: INSTALL IN SUCH MANNER THAT TOP IS FLUSH WITH FINISH GRADE. WHERE FINISH GRADE HAS NOT BEEN ESTABLISHED EXTEND RISER A MINIMUM OF TWELVE (12) INCHES ABOVE EXISTING GRADE TO MARK LOCATION OF HEAD. AFTER FINISH GRADE IS ESTABLISHED INSTALL HEADS AT SPECIFIED HEIGHT.

C. HIGH POP UP SHRUB HEADS: FINISH HEIGHT TO BE PROPOSED BY IRRIGATION CONTRACTOR AS A FUNCTION OF PLANTS SPECIFIED ON LANDSCAPE PLANS AND NOTED ON IRRIGATION DESIGN SUBMITTAL.

D. BACKFILL AROUND SPRINKLER HEAD ASSEMBLY IN SUCH MANNER AS TO STABILIZE THE SPRINKLER HEAD SO THAT NO LATERAL MOTION OCCURS DURING OPERATION.

E. SPRINKLER HEADS ON RISERS: UTILIZE A SCHEDULE 80 T.O.E. NIPPLE. IF GREATER THAN 24” HEIGHT IS REQUIRED, PROVIDE FITTING IN THE GROUND WITH A SOLVENT WELD 90 DEGREE ELBOW WITH THE APPROPRIATE LENGTH OF PIPE GLUED TO IT AND COMING OUT OF THE GROUND TO THE DESIRED HEIGHT. GLUE MALE ADAPTER TO THE RISER TO ALLOW FOR THE CONNECTION OF THE SPRINKLER HEAD. STABILIZE RISER BY FASTENING IT TO REBAR AS REQUIRED. HEIGHT OF ALL HEADS IN BED AREAS TO BE PROPOSED BY IRRIGATION CONTRACTOR AS A FUNCTION OF PLANTS SPECIFIED ON LANDSCAPE PLANS.

F. LANDSCAPE DRIP LINE SHALL BE LOCATED IN A MANNER THAT WILL PROVIDE OPTIMUM CONCENTRATION OF WATER TO PLANT MATERIAL.

3.08 ELECTRIC CONTROL WIRES

A. INSTALL CONTROL WIRES IN ORDERLY FASHION, LOCATE IN MAIN LINE TRENCH. BUNDLE WIRES TOGETHER AND TAPE AT TEN (10) FOOT INTERVALS. POSITION WIRES TO THE RIGHT OF THE WATER SUPPLY LINE IN THE DIRECTION OF THE WATER FLOW.

B. PROVIDE LOOPED SLACK AT DIRECTIONAL CHANGES IN SUPPLY LINE TO ALLOW FOR CONTRACTION OF WIRES.

C. KEEP WIRE SPLICES TO A MINIMUM AND PROVIDE TEN (10) INCH ROUND VALVE BOX AT EACH SPLICE LOCATION.

D. PASS WIRES UNDER EXISTING OR FUTURE PAVING, CONSTRUCTION, ETC., THROUGH PVC SLEEVES PROVIDED BY GENERAL CONTRACTOR.

E. ELECTRICAL COMPONENTS, DEVICES, AND ACCESSORIES: LISTED AND LABELED AS DEFINED IN NFPA 70, ARTICLE 100, BY A TESTING AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION.

F. GROUND ELECTRIC-POWERED CONTROLLERS, VALVES, AND DEVICES.

1. TIGHTEN ELECTRICAL CONNECTORS AND TERMINALS ACCORDING TO MANUFACTURER'S PUBLISHED TORQUE-TIGHTENING VALUES. IF MANUFACTURER'S TORQUE VALUES ARE NOT INDICATED, USE THOSE SPECIFIED IN UL 486A AND UL 486B.

G. ARRANGE FOR ELECTRIC-POWER CONNECTIONS TO CONTROLLERS, CONTROL VALVES, AND DEVICES THAT REQUIRE POWER. ELECTRIC POWER, WIRING, AND DISCONNECT SWITCHES ARE SPECIFIED IN DIVISION 16 SECTIONS.

3.09 CONTROL EQUIPMENT: ALL AUTOMATIC VALVES AND CONTROLLERS SHALL BE INSTALLED FOLLOWING THE RECOMMENDATIONS OF THE MANUFACTURER OF SAID EQUIPMENT AND IN ACCORDANCE WITH ANY DETAILED DRAWINGS WHICH MAY ACCOMPANY THESE SPECIFICATIONS AS PART OF THE CONTRACT DOCUMENTS. LOCATION OF CONTROLLER(S) SHALL BE APPROVED BY THE OWNER'S REPRESENTATIVE AND THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.

3.10 VALVE BOXES: ALL VALVES ARE TO BE HOUSED IN VALVE BOXES. INSTALL ACCORDING TO MANUFACTURER'S RECOMMENDATIONS AND ANY DETAILED DRAWINGS WHICH MAY ACCOMPANY THESE SPECIFICATIONS AS PART OF THE CONTRACT DOCUMENTS. POSITION BOXES AT A HEIGHT WHERE THEY WILL NOT INTERFERE WITH MAINTENANCE MACHINERY (E.G., MOWERS) AND SUCH THAT SOIL AND MULCH DO NOT WASH INTO THE BOX. IN ESSENCE, VALVE BOXES TO BE INSTALLED FLUSH WITH GRADE.

3.11 BACKFLOW PREVENTER: INSTALLATION IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND ALL FEDERAL, STATE AND LOCAL CODES.

3.12 BALANCING AND ADJUSTMENT: BALANCE AND ADJUST THE VARIOUS COMPONENTS OF THE SPRINKLER SYSTEM SO THAT THE OVERALL OPERATION OF THE SYSTEM IS MOST EFFICIENT. THIS INCLUDES SYNCHRONIZATION OF THE CONTROLLERS, ADJUSTMENTS TO PRESSURE REGULATORS, PART CIRCLE SPRINKLER HEADS, AND INDIVIDUAL STATION ADJUSTMENTS ON THE CONTROLLERS. THE IRRIGATION CONTRACTOR MAY CALL IN THE LANDSCAPE ARCHITECT TO AID IN THE BALANCING AND ADJUSTMENT OF THE SYSTEM.

3.13 OPERATION TESTING: UPON COMPLETION OF THE IRRIGATION SYSTEM, AND AFTER HEAD INSTALLATION, TEST THE ENTIRE SYSTEM FOR PROPER OPERATION. FLUSH ALL AIR FROM THE SYSTEM AND CHECK COMPONENTS FOR PROPER OPERATION.

3.14 AS _ BUILT DRAWINGS: AS _ BUILT DRAWINGS SHALL INCLUDE LOCATIONS OF ALL VALVES (AUTOMATIC AND MANUAL), WITH TRIANGULATED MEASUREMENTS TO EACH LOCATION, AS WELL AS ANY DEVIATIONS IN LOCATION OF PIPING AND HEADS AS REPRESENTED BY THE IRRIGATION DESIGN SUBMITTAL.

3.15 OWNER ORIENTATION

A. UPON COMPLETION OF THE WORK AND FINAL ACCEPTANCE BY THE OWNER'S REPRESENTATIVE AND THE LANDSCAPE ARCHITECT, THE IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR THE ORIENTATION OF MAINTENANCE PERSONNEL IN THE OPERATION, MAINTENANCE, AND REPAIR OF THE SYSTEM. FURNISH COPIES OF ALL AVAILABLE PARTS LISTS, TROUBLE SHOOTING LISTS, INSTRUCTION SHEETS, AND SPECIFICATION SHEETS TO THE OWNER'S REPRESENTATIVE PRIOR TO FINAL PAYMENT.

B. SET INITIAL WATERING SCHEDULES AND PROGRAMMING OF THE AUTOMATIC CONTROLLER(S). CHANGES IN THE SCHEDULES AND PROGRAMMING AND INSTRUCTION ON HOW TO MAKE SUCH CHANGES IS THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR.

C. PROVIDE A PROGRAM AND ZONING CHART: FOR EACH IRRIGATION ZONE, LIST THE FOLLOWING ITEMS IN AN EXCEL SPREADSHEET.

1. ZONE NUMBER.
2. REMOTE CONTROL VALVE SIZE.
3. FEED PIPE SIZE.
4. SPRINKLER COMPLEMENT: QUANTITY, MODEL, NOZZLE NUMBER
5. DRIP TUBE COMPLEMENT: MODEL, EMITTER, SPACING.
6. DESIGN PRESSURE.
7. DESIGN FLOW.
8. COVERAGE ARC OF SPRINKLERS.
9. PRECIPITATION RATE, INCHES PER HOUR.
10. RUNTIME REQUIRED FOR APPLYING 0.2 INCHES.

D. PROVIDE A WRITTEN DESCRIPTION AND SCHEDULE OF ANNUAL MAINTENANCE REQUIREMENTS TO THE OWNER'S REPRESENTATIVE AT THE FINAL INSPECTION.

3.16 FLUSHING DRIP AND SYSTEMS

A. RECOMMENDED DRIPLINE AND EMITTER LATERAL FLUSHING PROCEDURES.

B. FLUSH THE SYSTEM COMPLETELY AFTER ANY REPAIRS ARE MADE AND MONITOR SYSTEM OPERATION CLOSELY UNDER REGULAR SYSTEM FLUSHING SCHEDULE.

C. CHECK THE PRESSURE AT THE SUPPLY AND FLUSH HEADERS ON A REGULAR BASIS AND COMPARE WITH THE PRESSURE READINGS TAKEN AFTER INSTALLATION.

D. RECOMMENDED DRIPLINE AND EMITTER LATERAL LEAKAGE TESTING PROCEDURES.

E. SUBJECT INSTALLED DRIPLINE TUBING AND EMITTER LATERAL PIPING TO WATER PRESSURE EQUAL TO SPECIFIED OPERATING PRESSURE FOR TEN (10) MINUTES. TEST WITH CONTROL ZONE COMPONENTS AND DRIPLINE FLUSH VALVE COMPONENTS INSTALLED.

F. PARTIALLY BACKFILL BURIED PIPE AND TUBING TO PREVENT MOVEMENT UNDER PRESSURE. EXPOSE COUPLINGS, FITTINGS, AND VALVE COMPONENTS.

G. VISUALLY INSPECT VALVE ASSEMBLIES AND FITTINGS FOR LEAKAGE AND REPLACE DEFECTIVE PIPE, FITTING, JOINT, VALVE, OR APPURTENANCE. REPEAT TEST UNTIL TEST SEGMENT IS FREE FROM LEAKS. CEMENT OR CAULKING TO SEAL LEAKS IS PROHIBITED.

3.17 WINTERIZING SYSTEM:

A. IF THE OWNER'S REPRESENTATIVE SO REQUIRES, IRRIGATION PIPING MUST BE WINTERIZED BY BLOWING THE SYSTEM CLEAR OF WATER USING COMPRESSED AIR (EIGHTY (80) PSI MAXIMUM) ADMITTED INTO THE PIPING AT A QUICK COUPLING VALVE OR HOSE BIB LOCATED AT A HIGHER ELEVATION ON THE SYSTEM PIPING. ACTIVATE INDIVIDUAL ZONES, HIGHER ZONES FIRST, THEN PROCEED SUCCESSIVELY THROUGH THE SYSTEM TOWARDS LOWER ELEVATIONS. PROCEED THROUGH ALL ZONES TWICE. THE AIR COMPRESSOR USED TO WINTERIZE THE SYSTEM MUST HAVE AN ENGINE SEPARATE FROM THE COMPRESSOR TANKS TO PREVENT HIGH TEMPERATURE AIR FROM BEING INJECTED DIRECTLY INTO THE PVC PIPING. IRRIGATION CONTRACTOR SHALL PROVIDE A COMPLETE SPRING START UP AT NO ADDITIONAL CHARGE. OWNER'S MAINTENANCE STAFF MUST BE PRESENT AT THE TIME OF THE WINTERIZING.

3.18 CLEAN UP AND PROTECTION

A. DURING IRRIGATION WORK KEEP PROJECT SITE CLEAN AND ORDERLY.

B. UPON COMPLETION OF WORK CLEAR GROUNDS OF DEBRIS, SUPERFLUOUS MATERIALS AND ALL EQUIPMENT. REMOVE FROM SITE TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE AND THE LANDSCAPE ARCHITECT.

C. PROTECT IRRIGATION WORK AND MATERIALS FROM DAMAGE DUE TO IRRIGATION OPERATIONS, OPERATIONS BY OTHER CONTRACTORS AND TRADES, AND TRESPASSERS. MAINTAIN PROTECTION UNTIL DATE OF SUBSTANTIAL COMPLETION.

D. COVER ALL OPENINGS IN THE SYSTEM AS IT IS BEING INSTALLED TO PREVENT OBSTRUCTIONS IN THE PIPE AND THE BREAKAGE, MISUSE, OR DISFIGUREMENT OF THE EQUIPMENT.

E. THEFT: IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR THEFT OF EQUIPMENT AND MATERIAL AT THE JOB SITE BEFORE, DURING, AND AFTER INSTALLATION, UNTIL DATE OF SUBSTANTIAL COMPLETION OF THE WORK IN TOTAL.

3.19 COMMISSIONING

A. STARTING PROCEDURES: FOLLOW MANUFACTURER'S WRITTEN PROCEDURES. IF NO PROCEDURES ARE PRESCRIBED BY MANUFACTURERS, PROCEED AS FOLLOWS:

1. VERIFY THAT SPECIALTY VALVES AND THEIR ACCESSORIES ARE INSTALLED AND OPERATE CORRECTLY.
2. VERIFY THAT SPECIFIED TESTS OF PIPING ARE COMPLETE.
3. VERIFY THAT SPRINKLERS AND DEVICES ARE CORRECT TYPE.
4. VERIFY THAT DAMAGED SPRINKLERS AND DEVICES ARE REPLACED WITH NEW MATERIALS.
5. VERIFY THAT POTABLE-WATER SUPPLY CONNECTIONS HAVE BACKFLOW PREVENTERS.
6. ENERGIZE CIRCUITS TO ELECTRICAL EQUIPMENT AND DEVICES.
7. ADJUST OPERATING CONTROLS.

B. OPERATIONAL TESTS: MEASURE AND RECORD WATER FLOW RATE AND AREA COVERAGE AT EACH SPRINKLER. ADJUST TO ACHIEVE INDICATED VALUES.

3.20 INSPECTION, ACCEPTANCE, RETAINAGE AND PAYMENT

A. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE AND THE LANDSCAPE ARCHITECT AT LEAST TEN (10) DAYS PRIOR TO REQUESTED DATE OF REVIEW FOR SUBSTANTIAL COMPLETION OF ALL PORTIONS OF THE WORK. LANDSCAPE ARCHITECT WILL ISSUE A PUNCH LIST FOR WORK TO BE CORRECTED. ALL WORK ON THE PUNCH LIST MUST BE COMPLETED WITHIN FIVE (5) WORKING DAYS FROM THE DATE OF INSPECTION. WHERE IRRIGATION WORK DOES NOT COMPLY WITH REQUIREMENTS, REPLACE REJECTED WORK. IN UNUSUAL CIRCUMSTANCES A LONGER TIME PERIOD MAY BE GRANTED BY THE OWNER'S REPRESENTATIVE. IF SUCH REPLACEMENTS ARE NOT COMPLETED WITHIN THE TIME SPECIFIED, THE IRRIGATION CONTRACTOR MAY BE CONSIDERED TO BE IN DEFAULT OF THE CONTRACT, AND THE OWNER'S REPRESENTATIVE MAY USE THE CONTRACT RETAINAGE TO HIRE OTHER CONTRACTORS TO FINISH THE WORK.

B. IT WILL BE THE RESPONSIBILITY OF THE IRRIGATION CONTRACTOR TO PROVIDE A RELIABLE COMMUNICATION SYSTEM (I.E., TWO WAY RADIOS OR REMOTE RADIO CONTROL ACTIVATION SYSTEM) FOR SUBSTANTIAL COMPLETION AND FINAL INSPECTIONS.

C. IF AN INSPECTION / ACCEPTANCE WALK-THRU HAS BEEN SCHEDULED AND THE LANDSCAPE ARCHITECT ARRIVES AT THE SITE AND DETERMINES THAT THE IRRIGATION SYSTEM IS NOT SUBSTANTIALLY COMPLETE (ALL SYSTEM COMPONENTS IN PLACE, OPERATIONAL, AND CHECKED WITH 100% SPRINKLER COVERAGE), THE IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS INCURRED BY THE LANDSCAPE ARCHITECT TO REVISIT THE SITE AT A FUTURE DATE. REIMBURSABLE EXPENSES INCLUDE, BUT ARE NOT LIMITED TO, AUTOMOBILE MILEAGE, AIRFARE, LANDSCAPE ARCHITECT'S HOURLY BILLING RATE, PARKING FEE, MEALS, RENTAL CAR, ETC. ALL INCURRED EXPENSES WILL BE DEDUCTED FROM THE FINAL CONTRACT AMOUNT OR THE CONTRACT RETAINAGE.

D. CERTIFICATE OF SUBSTANTIAL COMPLETION WILL BE ISSUED FOR SATISFACTORY COMPLETION OF REPAIRS AND REPLACEMENTS AND COMPLETION OF AS_BUILT DRAWINGS. IF PUNCH LIST ITEMS ARE ISSUED WITH THE CERTIFICATE, THEY MUST BE CORRECTED WITHIN FIVE (5) WORKING DAYS.

E. FINAL ACCEPTANCE: UPON SATISFACTORY COMPLETION OF REPAIRS AND/OR REPLACEMENTS THE LANDSCAPE ARCHITECT WILL CERTIFY, IN WRITING, FINAL ACCEPTANCE OF THE WORK. THE FINAL ACCEPTANCE CERTIFICATION ISSUED BY THE LANDSCAPE ARCHITECT WILL SERVE AS EVIDENCE THAT CONTRACTOR'S OBLIGATIONS HAVE BEEN MET.

REV	DATE	DESCRIPTION	BY
	04.10.26	ISSUED FOR PERMIT REVIEW	AJK

KRYSTAL M. McCLAIN
LICENSED
890
4/10/2026
KANSAS
LANDSCAPE ARCHITECT

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PREPARED FOR:
McDonald's USA, LLC

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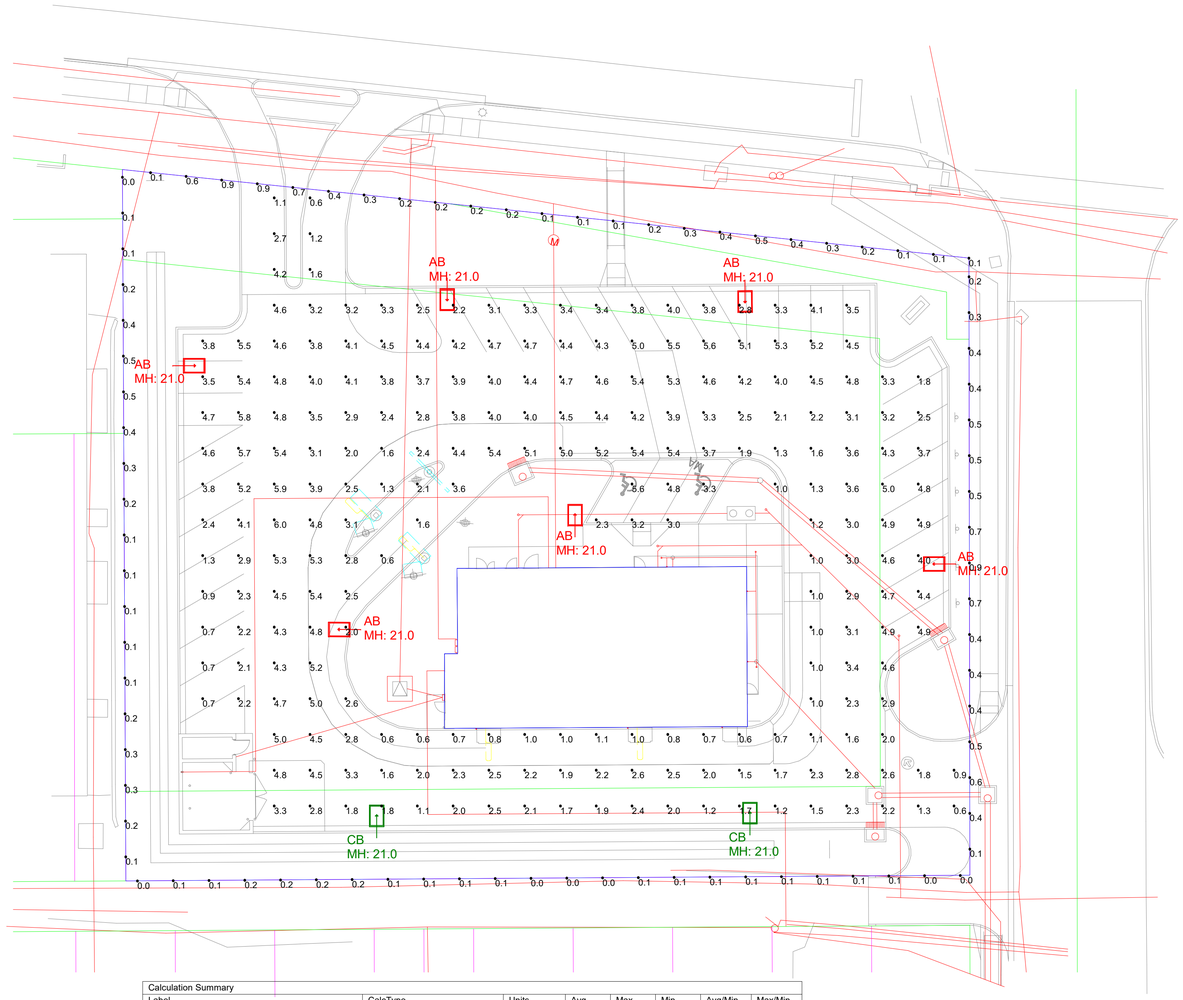
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DRAWN BY: AJK
STD ISSUE DATE:
REVIEWED BY: MAP
DATE ISSUED: 04.10.26

TITLE: IRRIGATION SPECIFICATIONS
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SITE ID: 015-0404
SITE ADDRESS: 713 METROPOLITAN AVENUE, LEAVENWORTH, KANSAS

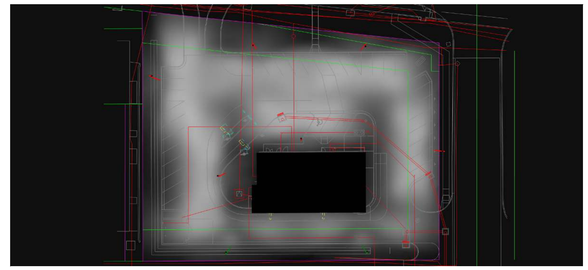
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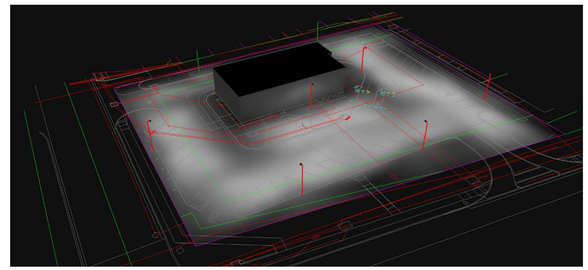
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DATE: Apr 10, 2026 11:34am USER: akruse



Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Paved Surface Ares	Illuminance	Fc	3.18	6.0	0.6	5.30	10.00
Propertyline	Illuminance	Fc	0.26	0.9	0.0	N.A.	N.A.

Luminaire Schedule									
Symbol	Qty	Label	Arrangement	LLF	Description	Lum. Watts	EPA	Mtg Height	Pole Type
	6	AB	Single	0.850	VP-2-320L-210-5K7-4W-BC-UNV-A-PSS	213.9	0.555	21	SES-18-40-1-TA-GL-xx (4")
	2	CB	Single	0.850	VP-1-160L-100-5K7-2-BC-UNV-A-PSS	92	0.454	21	SES-18-40-1-TA-GL-xx (4")





NOTES:

1. THE FOOTCANDLE LEVELS AS SHOWN ARE BASED ON THE FOLLOWING CRITERIA. ANY SUBSTITUTIONS IN SPECIFIED FIXTURES OR CHANGES TO LAYOUT WILL AFFECT LIGHTING LEVELS SHOWN AND WILL NOT BE THE RESPONSIBILITY OF SECURITY LIGHTING.
2. DISTANCE BETWEEN READINGS 10'

Pole Fixtures Are Full Cutoff
Tilt=0
Calculation Grids Are At Grade
Pole Light Mounting Height=21ft
(18' Pole + 3' Base)

PROJECT WIND LOAD CRITERIA BASED ON:
ASCE 7-10 WIND SPEEDS (3-SEC PEAK GUST MPH)
50 YEAR MEAN RECURRENCE INTERVAL
ALLOWED EPA 13.6 @ WIND LOAD 90 MPH

Regional Drawing
015-0404

1. THIS LIGHTING DESIGN IS BASED ON INFORMATION SUPPLIED BY OTHERS TO SECURITY LIGHTING SYSTEMS. SITE DETAILS PROVIDED HEREON ARE REPRODUCED ONLY AS A VISUALIZATION AID. FIELD DEVIATIONS MAY SIGNIFICANTLY AFFECT PREDICTED PERFORMANCE. PRIOR TO INSTALLATION, CRITICAL SITE INFORMATION (POLE LOCATIONS, ORIENTATION, MOUNTING HEIGHT, ETC.) SHOULD BE COORDINATED WITH THE CONTRACTOR AND/OR SPECIFIER RESPONSIBLE FOR THE PROJECT.
2. LUMINAIRE DATA IS TESTED TO INDUSTRY STANDARDS UNDER LABORATORY CONDITIONS. OPERATING VOLTAGE AND NORMAL MANUFACTURING TOLERANCES OF LAMP, BALLAST, AND LUMINAIRE MAY AFFECT FIELD RESULTS.
3. CONFORMANCE TO FACILITY CODE AND OTHER LOCAL REQUIREMENTS IS THE RESPONSIBILITY OF THE OWNER AND/OR THE OWNER'S REPRESENTATIVE.
4. THIS LAYOUT MAY NOT MEET TITLE 24 OR LOCAL ENERGY REQUIREMENTS. IF THIS LAYOUT NEEDS TO E COMPLIANT WITH TITLE 24 OR OTHER ENERGY REQUIREMENTS, PLEASE CONSULT FACTORY WITH SPECIFIC DETAILS REGARDING PROJECT REQUIREMENTS SO THAT REVISIONS MAY BE MADE TO THE DRAWING.

THIS DRAWING MEETS OR EXCEEDS McDONALDS CURRENT ILLUMINATION SPECIFICATIONS OF A 3-4 FOOTCANDLE AVERAGE, UNLESS SUPERSEDED BY OTHER REQUIREMENTS.

SECURITY LIGHTING™

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES

SCALE 1"=20' 0"

DRAWN BY CLB

POINT-BY-POINT FOOTCANDLE PLOT FOR
MCDONALDS
707 1/2 METROPOLITAN AVE LEAVENWORTH, KS 66048

NATIONAL STORE NUMBER
44655

DATE 3/22/2026

DRAWING NUMBER A260487A.AGI