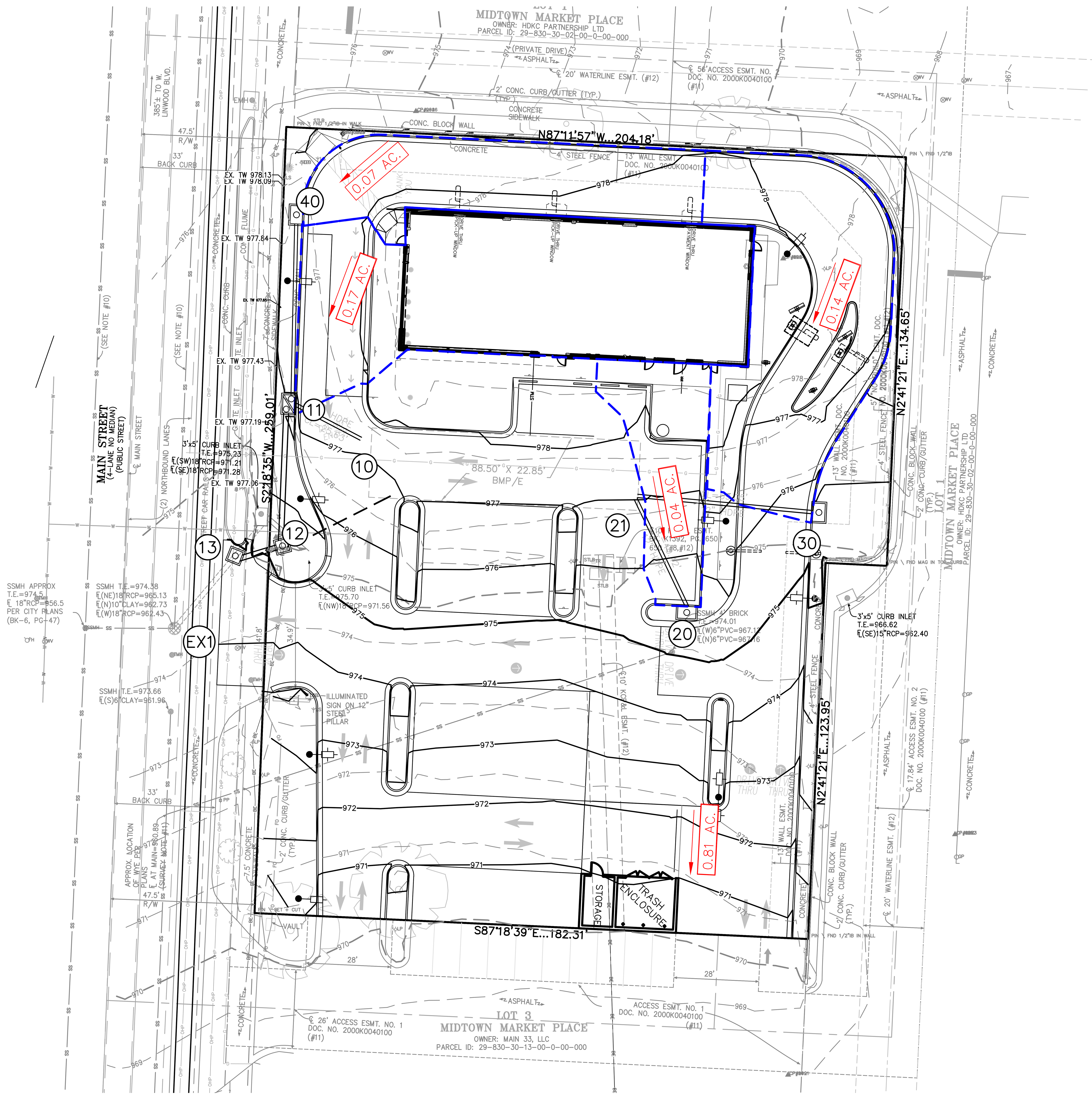


LEGEND

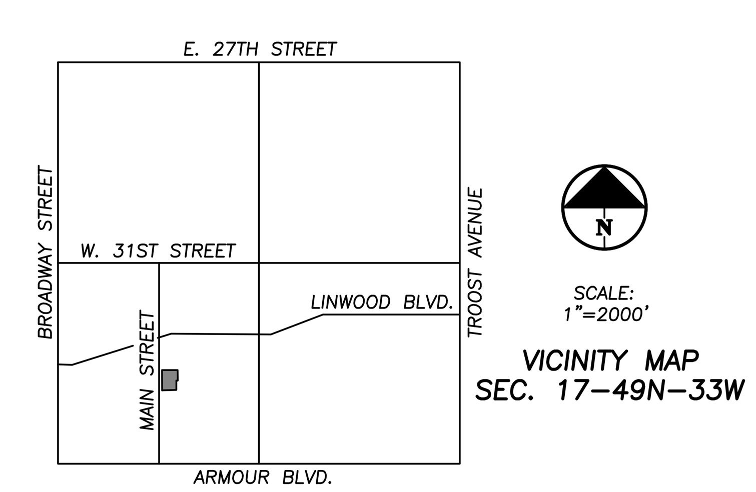
XXX (dashed grey)	EXISTING CONTOURS
XXX (solid)	PROPOSED CONTOURS
(blue dashed line)	DENOTES DRAINAGE AREA
(red arrow)	DENOTES FLOW DIRECTION
X.XX Ac.	DENOTES DRAINAGE AREA TO STRUCTURE
(XX)	DENOTES STRUCTURE NUMBER

FLOOD NOTE:

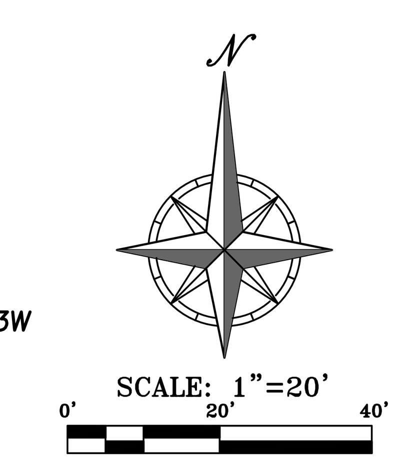
THIS PROPERTY LIES WITHIN ZONE X, DEFINED AS AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN, AS SHOWN ON THE FLOOD INSURANCE RATE MAP PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY FOR THE CITY OF KANSAS CITY, COMMUNITY NO. 290173, PLATTE COUNTY, MISSOURI, MAP NO. 29095C0044G, AND DATED JANUARY 20, 2017.

811 Know what's below. Call before you dig.

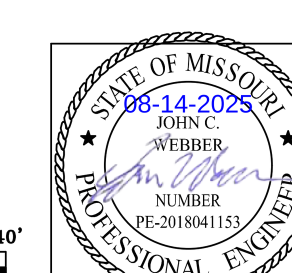
UTILITY NOTES:
VISUAL INDICATIONS OF UTILITIES ARE AS SHOWN. UNDERGROUND LOCATIONS SHOWN, AS FURNISHED BY THEIR LESSORS, ARE APPROXIMATE AND SHOULD BE VERIFIED IN THE FIELD AT THE TIME OF CONSTRUCTION. FOR ACTUAL FIELD LOCATIONS OF UNDERGROUND UTILITIES CALL 811.



VICINITY MAP
SEC. 17–49N–33W



SCALE: 1"=20'



REV	DATE	DESCRIPTION	BY

PREPARED BY: PHELPS ENGINEERING, INC
PLANNING ENGINEERING IMPLEMENTATION
1270 N. Winchester
Olathe, Kansas 66061
(913) 393-1155
Fax (913) 393-1166
www.phelpsengineering.com

MISSOURI ENGINEERING CERTIFICATE OF AUTHORIZATION: 2007005058

PREPARED FOR: McDonald's USA, LLC

©2013 McDonald's USA, LLC

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.

BRAND REVIEW	PLANNING	PERMIT	BID	CONSTRUCTION
–	01/05/18	08/14/25		

DRAWING TITLE: **DRAINAGE MAP & CHART**

PROJECT ADDRESS: 3255 MAIN STREET KANSAS CITY, MISSOURI

PROJECT CAD FILE: 170580
STATE SITE CODE: 024-0244
DRAWN BY: JMO

SHEET NO. C400

\\PHELPS-SERVER\Projects\P\170580\Dwg\Permit\C501 DRAINAGE MAP CALCULATIONS.dwg Layout:DRAINAGE MAP Aug 14, 2025 – 1:28pm Gabrielle Thomas

STORM DRAINAGE CALCULATIONS

DESIGN CRITERIA: $K_{10} = 1.0$; $K_{100} = 1.25$; n = 0.013 (RCP); STORM FREQUENCY = 10 YEAR; A.I. = AREA INLET; J.B. = JUNCTION BOX; C.I. = CURB INLET; C.C. = CURB CUT; G.I. = GRATE INLET; HEIGHT OF STRUCTURE=RIM ELEV MINUS FLOWLINE OUT.

I. RUNOFF										III. PIPE DESIGN								
		INCREMENTAL			CUMULATIVE					PIPE								REMARKS
NUMBER LINE	STRUCTURE	RUNOFF COEFFICIENT "C"	AREA "A" (ACRES)	C x A	AREA "A" (ACRES)	C x A	SYSTEM TIME OF CONCENTRATION "T_c" AT STRUCTURE (MIN)	RAINFALL INTENSITY "I10 / I_{100}" (IN/HR)	ANTECEDENT PRECIPITATION FACTOR "K10 / K_{100}"	RUNOFF "Q_{10} / Q_{100}" (CFS)	Diameter "D" (IN)	Slope "S" (FT/FT)	Travel Time in Pipe "TT" (min)	Velocity Full V_f (FPS)	Runoff Q_{10} (CFS)	Runoff Q_{100} (CFS)	Full Flow Q_p (CFS)	10-YR Design Check	
1	10	0.87	0.00	0.00	0.00	0.00	5.00	8.53	1.00	0.0	12	0.005	0.13	3.4	0.0	0.0	2.6	GOOD	
								10.32	1.25	0.0									
	11	0.87	0.17	0.15	0.47	0.15	5.13	8.48	1.00	1.3	15	0.004	0.13	3.5	1.3	1.9	4.3	GOOD	
								10.27	1.25	1.9									
2	20	0.87	0.04	0.03	0.04	0.03	5.00	8.53	1.00	0.3	12	0.006	0.21	3.5	0.3	0.4	2.7	GOOD	
								10.32	1.25	0.4									
3	30	0.87	0.14	0.12	0.14	0.12	5.00	8.53	1.00	1.0	12	0.081	0.06	13.0	1.0	1.5	10.1	GOOD	
								10.32	1.25	1.5									
4	40	0.87	0.17	0.15	0.17	0.15	5.00	8.53	1.00	1.3	12	0.016	0.13	5.8	1.3	1.9	4.5	GOOD	
								10.32	1.25	1.9									

\\PHELPS-SERVER\Projects\P\170580\Dwg\Permit\C501 DRAINAGE MAP CALCULATIONS.dwg Layout:DRAINAGE MAP CALCULATIONS Aug 14, 2025 - 1:28pm Gabriele Thomas

STATE OF MISSOURI
08-14-2025
JOHN C. WEBBER
NUMBER PE-2010041153
PROFESSIONAL ENGINEER

BY	DESCRIPTION	DATE	REV

PREPARED BY:
PHELPS ENGINEERING, INC
1270 N. Winchester
Olathe, Kansas 66061
(913) 393-1155
Fax: (913) 393-1166
www.phelpsengineering.com
PLANNING
ENGINEERING
IMPLEMENTATION
MISSOURI ENGINEERING CERTIFICATE OF AUTHORIZATION: 2007005058

PREPARED FOR:
McDonald's USA, LLC

© 2013 McDonald's USA, LLC
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 location. Any reuse with or without written verification or adaptation for 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.

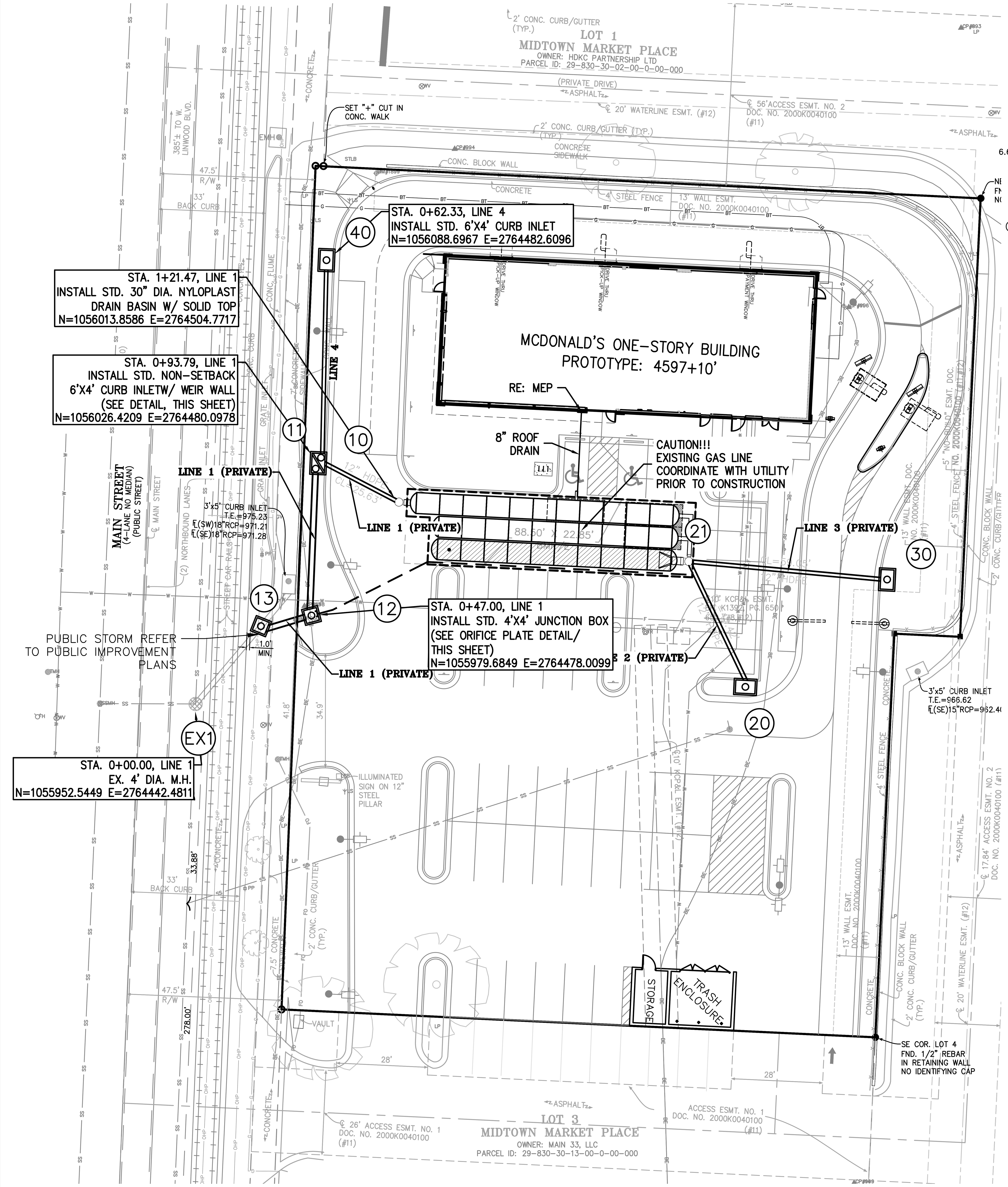
BRAND REVIEW
- PLANNING 01/05/18
PERMIT 08/14/25
BID
CONSTRUCTION

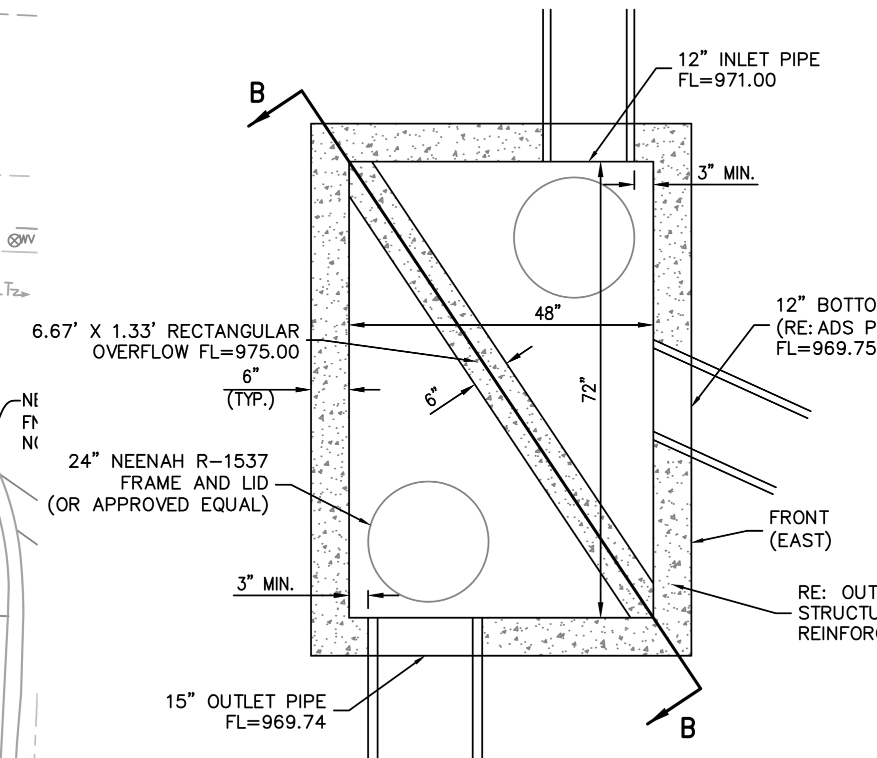
DRAWING TITLE: **DRAINAGE CALCULATIONS**

PROJECT ADDRESS:
3255 MAIN STREET
KANSAS CITY, MISSOURI

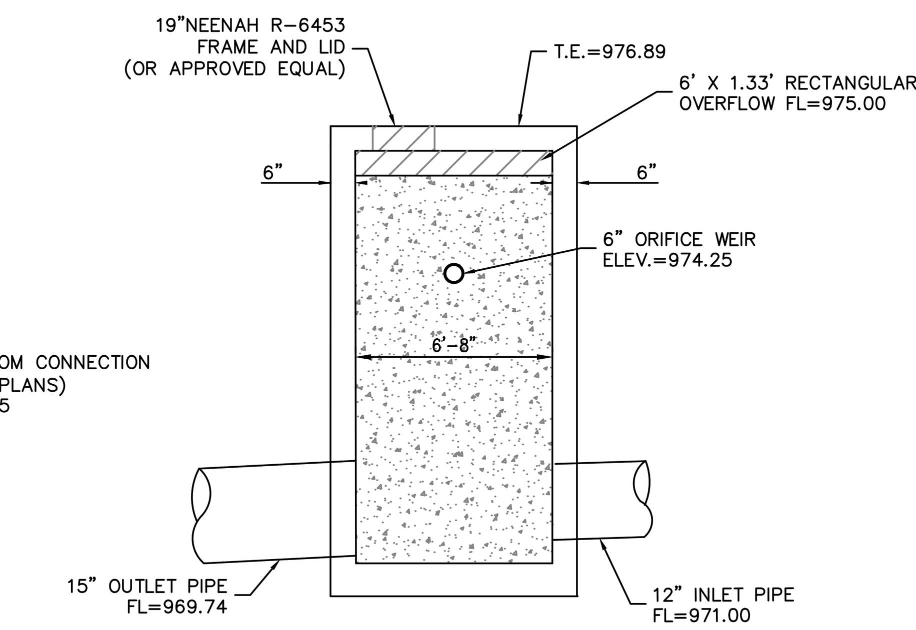
PROJECT CAD FILE: 170580
STATE SITE CODE: 024-0244
DRAWN BY: JMO

SHEET NO. C401



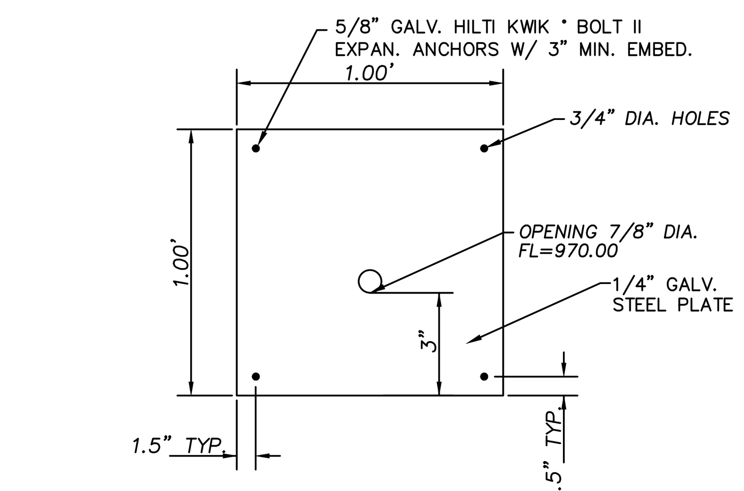


SECTION A-A



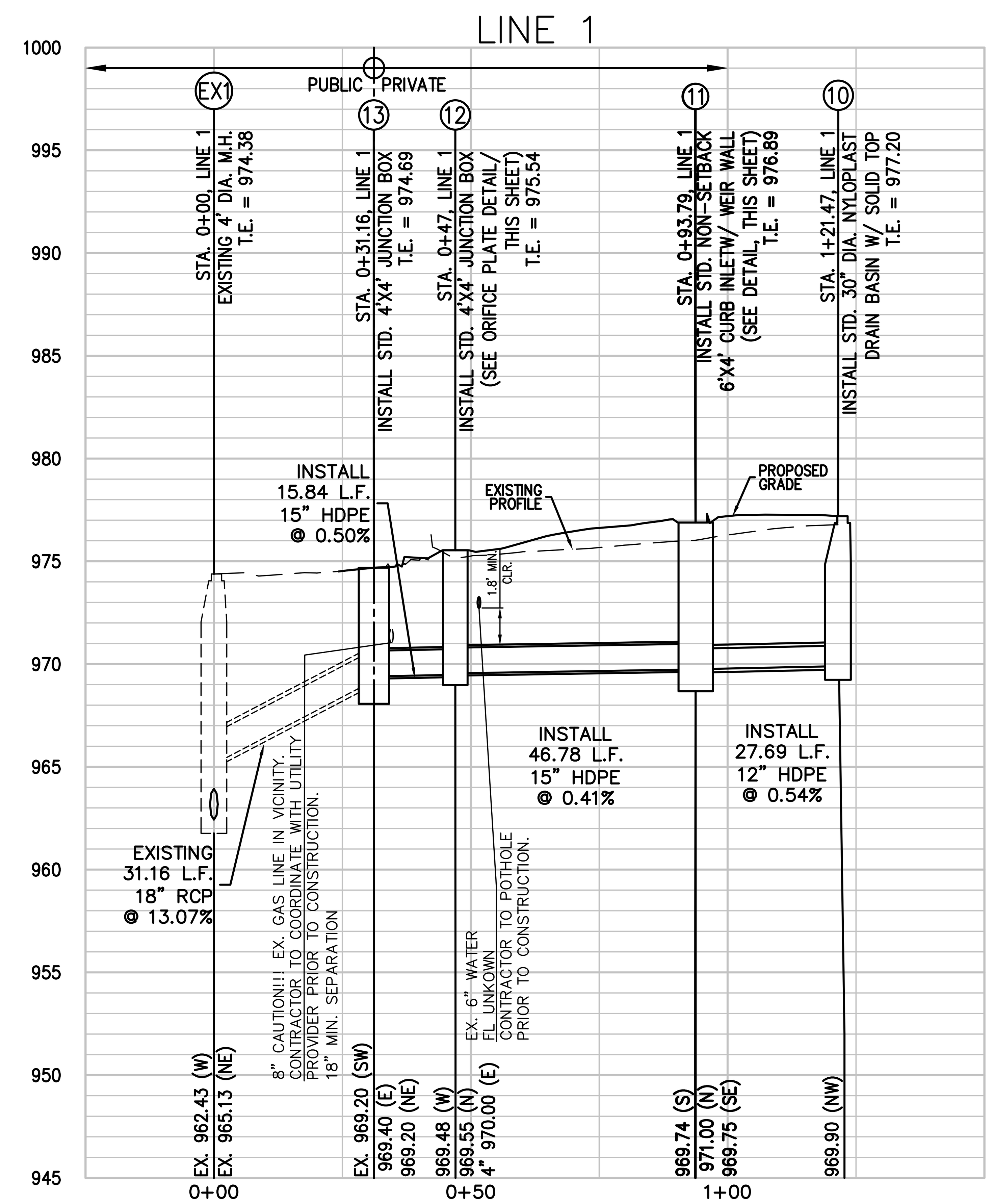
SECTION B-B

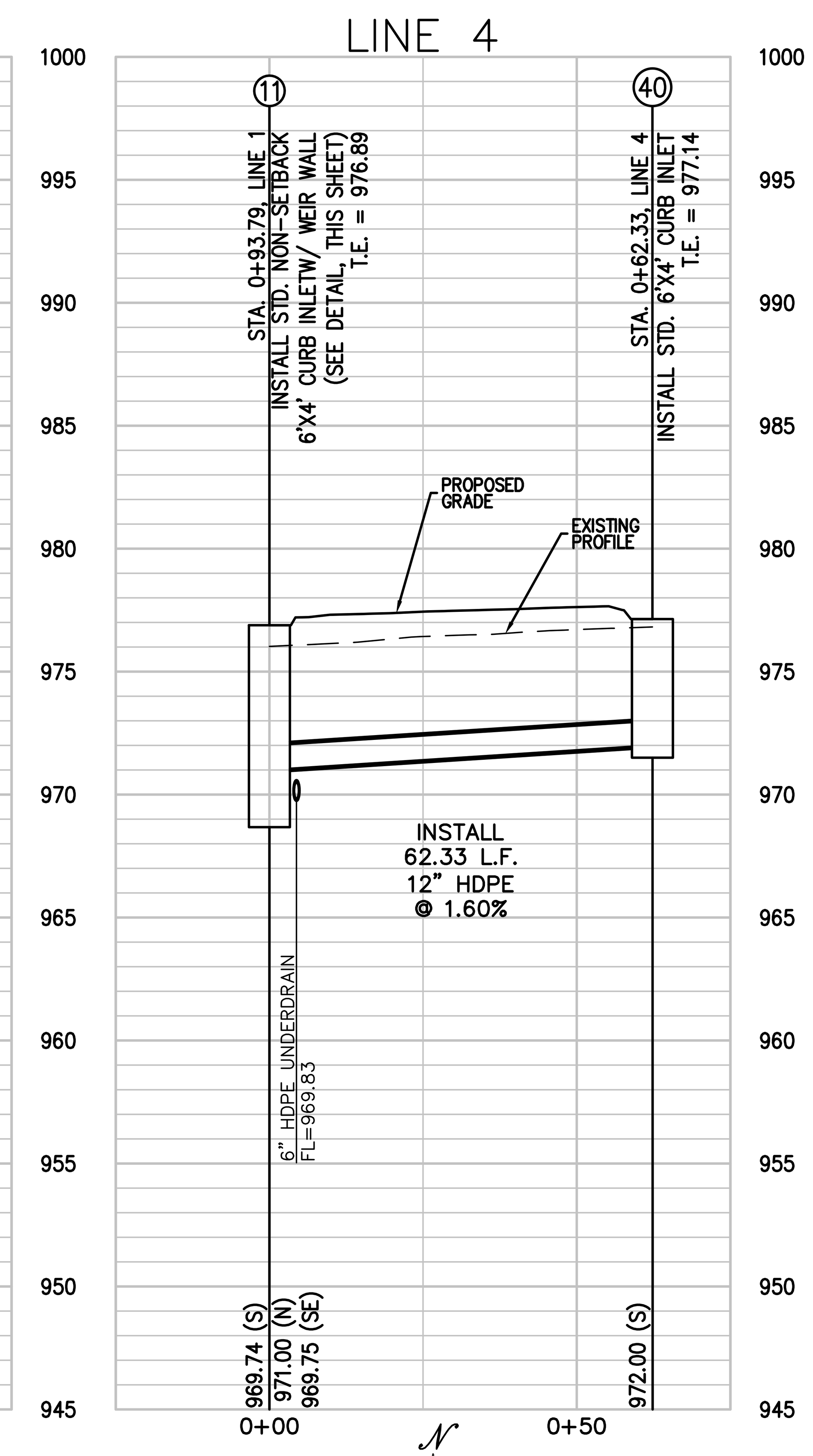
STRUCTURE #11
6'x4' OUTLET CONTROL STRUCTURE



STRUCTURE #12 – ORIFICE PLATE
(Not to Scale)

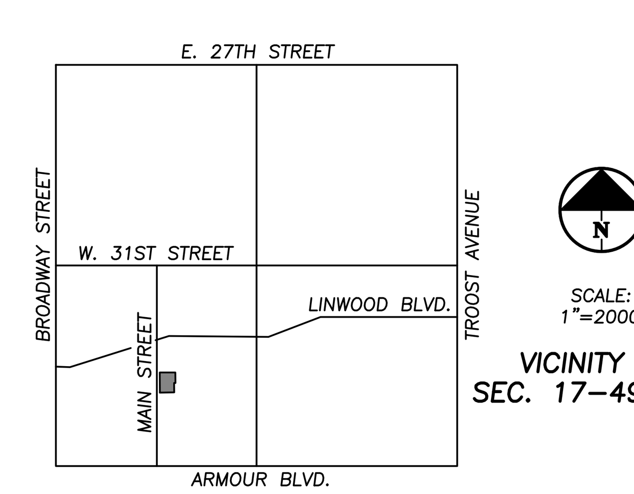
ORIFICE PLATE TO BE INSTALLED ON THE EAST INSIDE FACE OF STRUCTURE 12 OVER THE 4" UNDERDRAIN OPENING



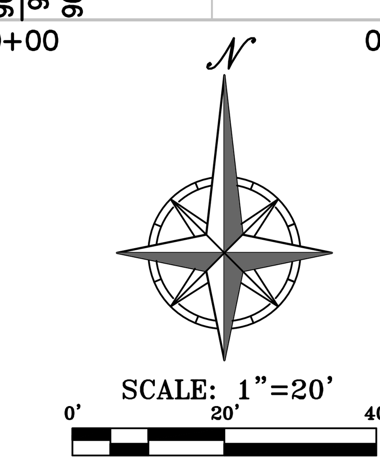




UTILITY NOTES:
VISUAL INDICATIONS OF UTILITIES ARE AS SHOWN. UNDERGROUND LOCATIONS SHOWN, AS FURNISHED BY THEIR LESSORS, ARE APPROXIMATE AND SHOULD BE VERIFIED IN THE FIELD AT THE TIME OF CONSTRUCTION. FOR ACTUAL FIELD LOCATIONS OF UNDERGROUND UTILITIES.



VICINITY MAP
SEC. 17-49N-33W



SCALE: 1"=20' HORIZ.
1"= 5' VERT.

STATE OF MISSOURI
08-14-2025
JOHN C. WEBBER
NUMBER PE-2018041153
PROFESSIONAL ENGINEER

REV	DATE	DESCRIPTION	BY

PREPARED BY:
PLANNING ENGINEERING IMPLEMENTATION
PHELPS ENGINEERING, INC
1270 N. Winchester
Olathe, Kansas 66061
(913) 393-1155
Fax (913) 393-1166
www.phelpsengineering.com
MISSOURI ENGINEERING CERTIFICATE OF AUTHORIZATION: 2007005058

PREPARED FOR:
McDonald's USA, LLC
©2013 McDonald's USA, LLC
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.

BRAND REVIEW	–
PLANNING	01/05/18
PERMIT	08/14/25
BID	
CONSTRUCTION	

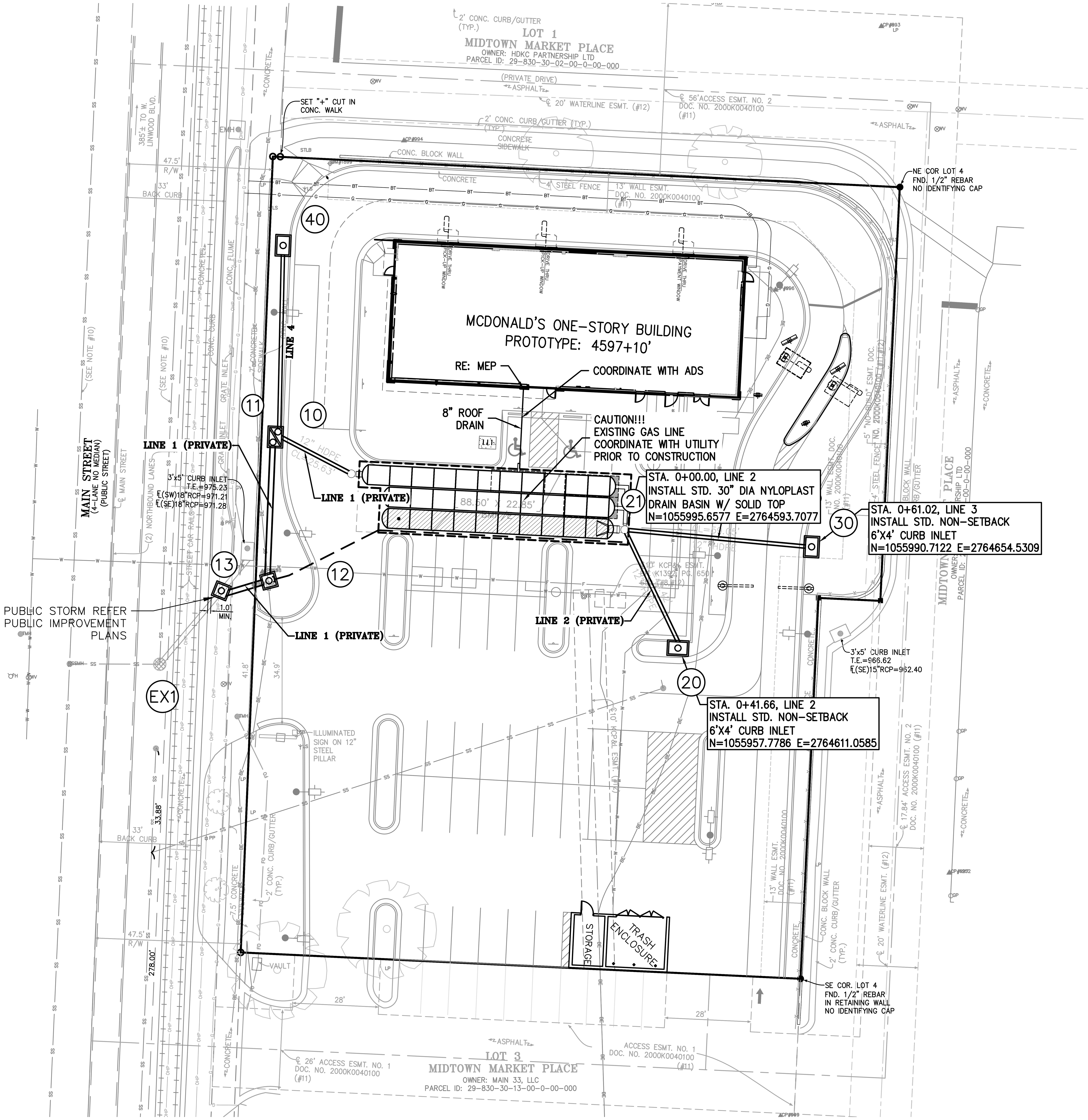
DRAWING TITLE:
STORM SEWER P&P

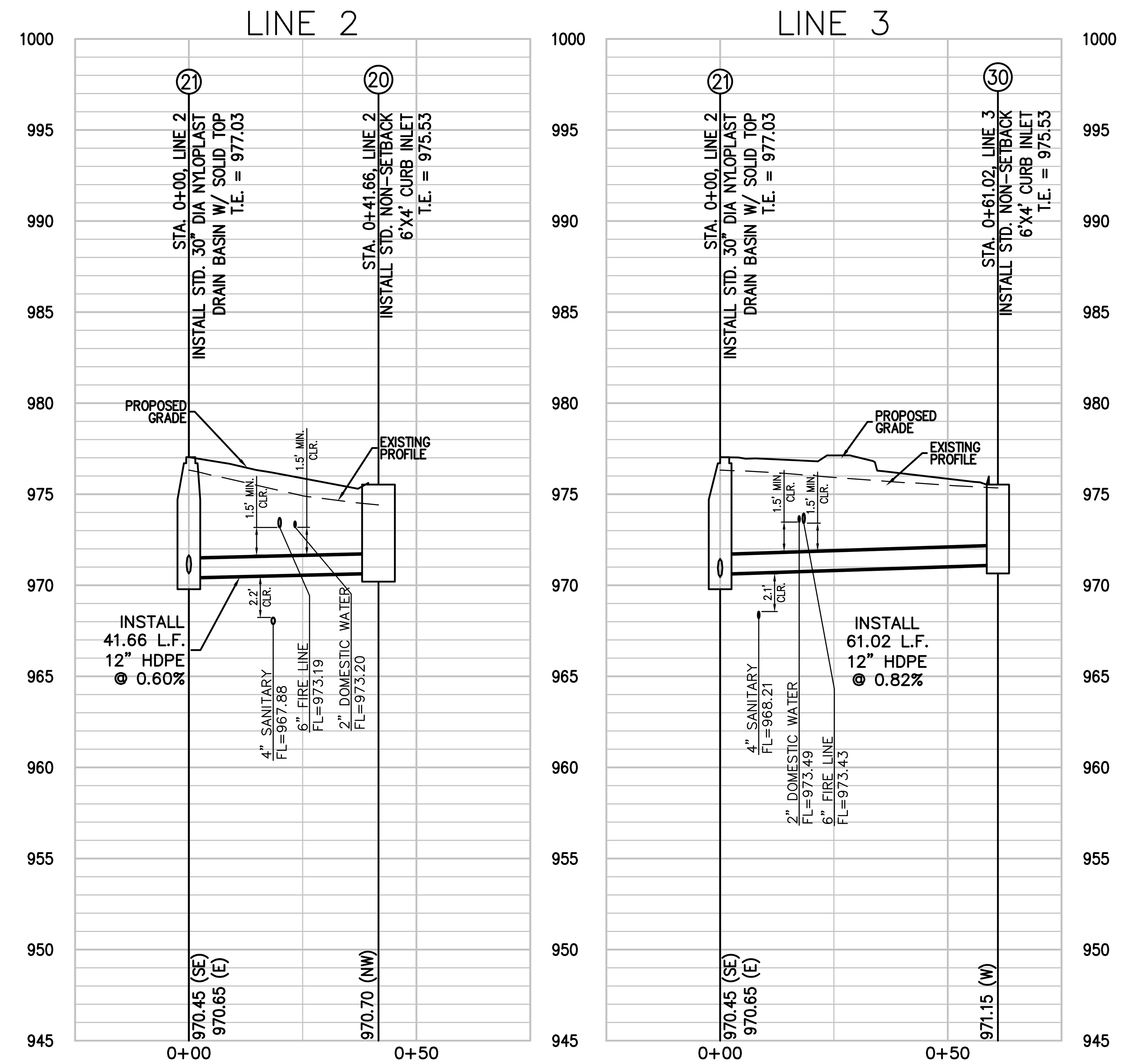
PROJECT ADDRESS:
3255 MAIN STREET
KANSAS CITY, MISSOURI

STATE SITE CODE: 024-0244
DRAWN BY: JMO
PROJECT CAD FILE: 170580

SHEET NO.
C402

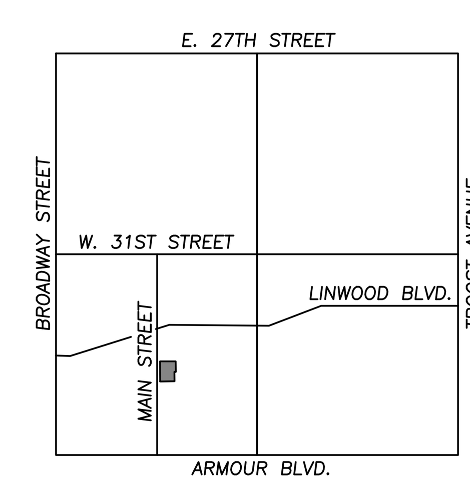
\\PHELPS-SERVER\Projects\P\170580\Dwg\Permit\C502 STORM PLAN AND PROFILE.dwg Layout:STORM Aug 14, 2025 – 1:28pm Gabrielle Thomas





Know what's **below.**
Call before you dig.

UTILITY NOTES:
VISUAL INDICATIONS OF UTILITIES ARE AS SHOWN. UNDERGROUND LOCATIONS SHOWN, AS FURNISHED BY THEIR LESSORS, ARE APPROXIMATE AND SHOULD BE VERIFIED IN THE FIELD AT THE TIME OF CONSTRUCTION. FOR ACTUAL FIELD LOCATIONS OF UNDERGROUND UTILITIES.



SCALE: 1"=2000'
VICINITY MAP
SEC. 17-49N-33W

SCALE: 1"=20'
0' 20' 40'

SCALE: 1"=20' HORIZ.
1"= 5' VERT.

STATE OF MISSOURI
08-14-2025
JOHN C. WEBBER
NUMBER PE-2018041153
PROFESSIONAL ENGINEER

REV	DATE	DESCRIPTION	BY

PREPARED BY:
PHELPS ENGINEERING, INC
1270 N. Winchester
Olathe, Kansas 66061
(913) 393-1155
Fax (913) 393-1166
www.phelpsengineering.com
PLANNING
ENGINEERING
IMPLEMENTATION
MISSOURI ENGINEERING CERTIFICATE OF AUTHORIZATION: 2007005058

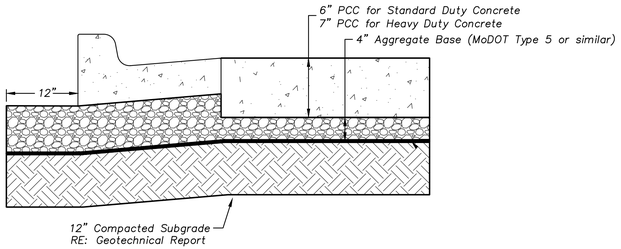
PREPARED FOR:
McDonald's USA, LLC

©2013 McDonald's USA, LLC
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.

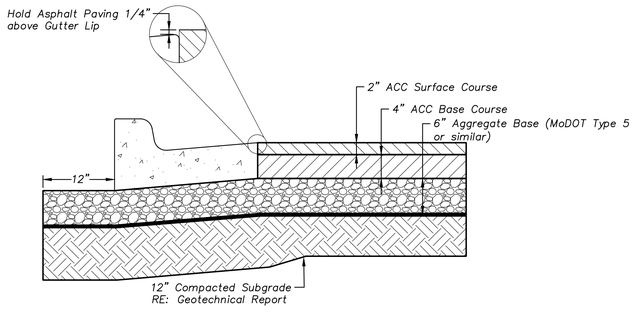
BRAND REVIEW	PLANNING	PERMIT	BID	CONSTRUCTION
-	01/05/18	08/14/25		

DRAWING TITLE: **STORM SEWER P&P**
PROJECT ADDRESS: 3255 MAIN STREET, KANSAS CITY, MISSOURI
PROJECT CAD FILE: 170580
STATE SITE CODE: 024-0244
DRAWN BY: JMO
SHEET NO. C403

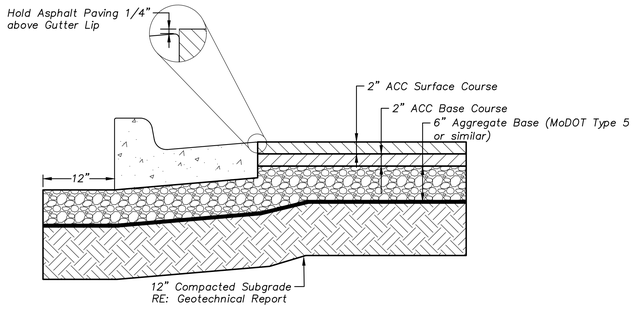
\\PHELPS-SERVER\Projects\P\170580\Dwg\Permit\C502 STORM PLAN AND PROFILE.dwg Layout:STORM 2 Aug 14, 2025 - 1:28pm Gabrielle Thomas



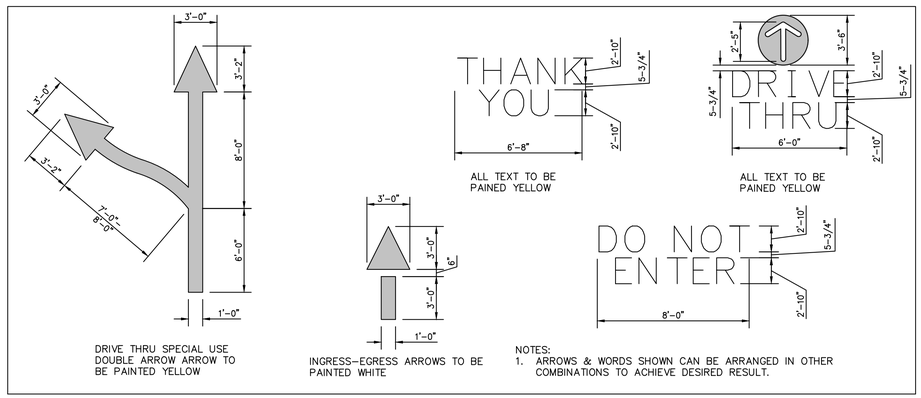
CONCRETE PAVING



ASPHALT PAVING – HEAVY DUTY



ASPHALT PAVING – STANDARD DUTY



NOTES:
1. ARROWS & WORDS SHOWN CAN BE ARRANGED IN OTHER COMBINATIONS TO ACHIEVE DESIRED RESULT.

GENERAL PAVING NOTES:

1. PRIOR TO PLACEMENT OF GRANULAR BASE OR ASPHALT, PROOF ROLL AND RE-COMPACT THE EXPOSED SURFACES UP TO A MINIMUM LATERAL DISTANCE OF TWO (2) FEET OUTSIDE THE PAVEMENT. ANY LOCALIZED SOFT, WET, OR LOOSE AREAS IDENTIFIED DURING THE PROOF ROLLING SHOULD BE REPAIRED PRIOR TO PAVING. FILL MATERIAL SHOULD BE PLACED IN LOOSE LIFTS UP TO A MAXIMUM OF EIGHT (8) INCHES IN THICKNESS AND COMPACTED TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D698 AT MOISTURE CONTENTS WITHIN 0% AND +4% OF THE OPTIMUM FOR SOILS WITH A LIQUID LIMIT OF GREATER THAN 40, AND – +/– 3% OF THE OPTIMUM FOR SOILS WITH A LIQUID LIMIT OF LESS THAN 40. MAXIMUM DRY DENSITY AND OPTIMUM MOISTURE CONTENT SHOULD BE DETERMINED BY THE STANDARD PROCTOR TEST (ASTM D 698).
2. PROOFROLL WITH A 25 TON RUBBER TIRE VEHICLE AND REPAIR SUBGRADE DEFICIENCIES. IF ANY SIGNIFICANT EVENT, SUCH AS PRECIPITATION, OCCURS AFTER PROOFROLLING, THE SUBGRADE SHOULD BE REVIEWED BY QUALIFIED PERSONNEL IMMEDIATELY PRIOR TO PLACING THE PAVEMENT.
3. CRUSHED STONE BASE COURSE USED BENEATH CONCRETE PAVING SHALL BE COMPACTED AB-3 OR EQUIVALENT.
4. ASPHALTIC SURFACE COURSE SHALL BE APWA TYPE 5-01.

   CHECK WITH PM IF BETTER ASPHALT SURFACE IS DESIRED AND USE THIS FOR NOTE 4 .... ASPHALTIC SURFACE COURSE SHALL BE HOT MIX ASPHALT (HMA)-COMMERCIAL GRADE (CLASS A) KDOT SM-12.5A OR SR-12.5A PER KDOT SECTION 611 (EXCLUDING SECTION ON MEASUREMENT AND PAYMENT). SEE KDOT SECITON 611 FOR ALLOWED RAP/RAC CONTENT.
5. ASPHALTIC BASE COURSE SHALL BE APWA TYPE 2-01. SEE APWA SECTION 2200 FOR ALLOWED RAP/RAC CONTENT.
6. FIELD DENSITY TEST FOR IN-PLACE MATERIALS SHALL BE PERFORMED BY EXAMINATION OF FIELD CORES IN ACCORDANCE WITH ONE OF FOLLOWING STANDARDS:
   1. ASTM D 2950
   2. ASTM D 2726
   3. ASTM D 1188

   THE MINIMUM DENSITY SHALL BE 96% OF LABORATORY DENSITY.
7. THE CONTRACTOR SHALL PROVIDE A TACK COAT (PER APWA SECTION 2200) BETWEEN LIFTS OF ASPHALT.
8. ALL SITE CONCRETE (CURBS, PAVEMENTS, SIDEWALKS, ETC.) SHALL MEET KANSAS CITY MATERIALS METRO BOARD (KCMMB) MIX DESIGN SPECIFICATIONS FOR 4,000 P.S.I. AIR ENTRAINED CONCRETE.
9. IN NEW PAVEMENT AREAS, CONTRACTOR SHALL OVER EXCAVATE AS REQUIRED TO ESTABLISH NEW COMPACTED SUBGRADE ELEVATIONS.
10. CONTRACTOR IS RESPONSIBLE FOR ALL PAVEMENT AND SUBGRADE MATERIALS TESTING.
11. FIBER REINFORCEMENT:

a. FIBER REINFORCEMENT SHALL BE USED IN ALL CONCRETE CURB AND CONCRETE FLATWORK (SIDEWALKS, PAVEMENTS, ETC).

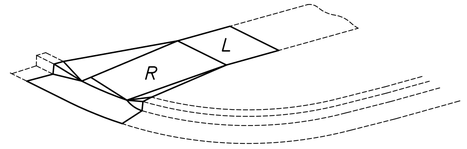
b. ALL FIBERS SHALL BE ALKALI-RESISTANT, NATURAL CELLULOSE FIBERS AS MANUFACTURED BY 'SOLOMON ULTRAFIBER 500', OR POLY PROPYLENE FIBRILLATED FIBERS AS MANUFACTURED BY 'SIKA FIBERMESH-300', OR AN APPROVED EQUAL IN ADVANCE BY THE ENGINEER. DELIVERY STORAGE AND HANDLING SHALL BE PER MANUFACTURER'S RECOMMENDATIONS.

c. COMPLY WITH ASTM C-1116 AND ASTM C-1018. UNLESS OTHERWISE SPECIFIED BY THE MANUFACTURER, FIBERS SHALL BE USED AT A RATE OF 2-2.5 LBS. PER CUBIC YARD OF CONCRETE.

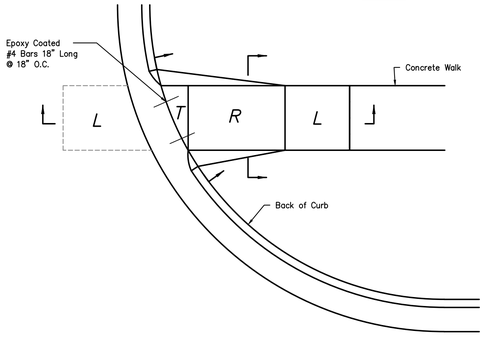
d. FIBERS SHALL NOT BE USED AS A SUBSTITUTE FOR PRIMARY STRUCTURAL STEEL.

e. ADD REINFORCING FIBERS INTO CONCRETE MIXTURE DIRECTLY INTO CONCRETE MIXER AT THE BEGINNING OF BATCH CYCLE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND ASTM C94.

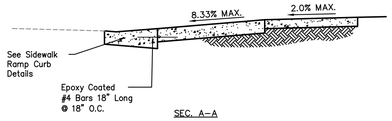
f. ALLOW A MINIMUM OF 5 MINUTES AT MIXING SPEED IN CONCRETE MIXER FOR FULL REINFORCING FIBER DISPERSION.



3-D VIEW



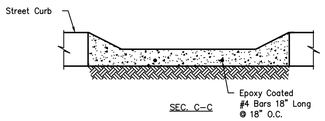
PLAN VIEW



SEC. A-A



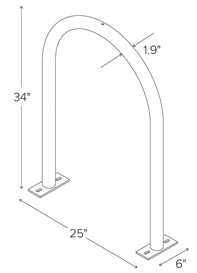
SEC. B-B



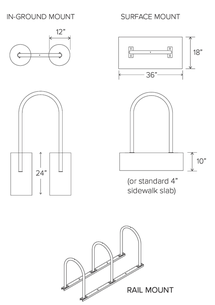
SEC. C-C

DERO | Hoop Rack

Submittal Sheet



FOOTING DIAGRAMS



RAIL MOUNT

CAPACITY	2 Bikes
MATERIALS	1.5" schedule 40 pipe (1.9" OD)

FINISHES

- ☐ **Galvanized**
  An after fabrication hot dipped galvanized finish is our standard option.
- ☐ **Powder Coat**
  Our powder coat finish assures a high level of adhesion and durability by following these steps:
  1. Chemically cleaned and treated for corrosion reduction
  2. Epoxy primer electrostatically applied
  3. Final thick TGIC polyester powder coat
- ☐ **Stainless**
  Stainless Steel: 304 grade stainless steel material in a satin finish, high polished shine, or powder coat over unpolished stainless.
  - ☐ Satin Finish (#4) - Brushed (Our standard)
  - ☐ Electropolished - High Polished Shine
  - ☐ Powder Coat over Unpolished Stainless

MOUNT OPTIONS

- ☐ **Surface**
  Foot Mount has two 2.5" x 6" x .25" feet with two anchors per foot. Specify foot mount for this option. Tamper-resistant fasteners available upon request.
- ☐ **In-Ground**
  In-ground mount is embedded into concrete base. Specify in-ground mount for this option
- ☐ **Rail**
  Rail Mounted Downtown Racks are bolted to two parallel rails which can be left freestanding or anchored to the ground. Rails are heavy duty 3" x 1.4" x 3/16" thick galvanized mounting rails. Specify rail mount for this option.



☐ 90 ☐ 45A ☐ 45B ☐ 60A ☐ 60B

OPTIONAL LEAN BAR

- ☐ **Add Lean Bar**
  Lean bar ensures rack meets ADA requirements for cane-detection



©2024

PHELPS ENGINEERING, INC
1270 N. Winchester
Olathe, Kansas 66061
(913) 393-1155
Fax (913) 393-1156
www.phelpsengineering.com
PLANNING
ENGINEERING
IMPLEMENTATION

MISSOURI ENGINEERING CERTIFICATE OF AUTHORIZATION: 2007005058

BY	DESCRIPTION	DATE	REV

PREPARED BY:

PREPARED FOR: McDonald's USA, LLC

©2013 McDonald's USA, LLC
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 correct documents were prepared for use on this specific different site or at a later time. Use of these drawings for reference or example on another project requires the service of properly licensed architects and engineers familiar with the local codes and for the correct documents for reuse on another project is not authorized.

BRAND REVIEW –

PLANNING	01/05/18
PERMIT	08/14/25
BID	
CONSTRUCTION	

DRAWING TITLE: **STANDARD DETAILS**

PROJECT ADDRESS:
3255 MAIN STREET
KANSAS CITY, MISSOURI

STATE SITE CODE: 024-0244

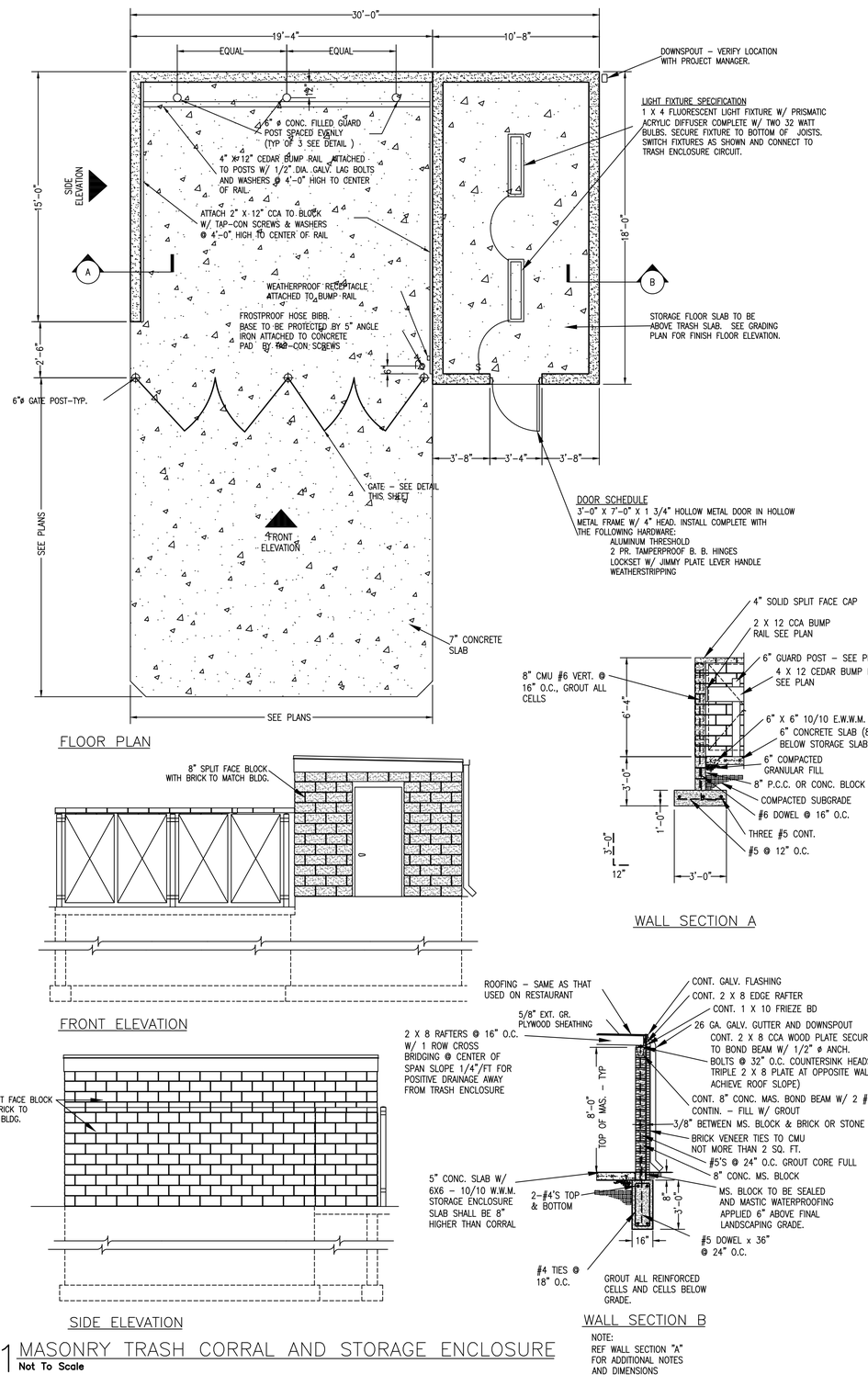
DRAWN BY: JMO

PROJECT CAD FILE: 170580

SHEET NO. C500

STATE OF MISSOURI
JOHN C. WEBBER
NUMBER PE-2010041153
PROFESSIONAL ENGINEER
08-14-2025

\\PHELPS-SERVER\Projects\P\170580\Dwg\Permit\C702 TRASH ENCLOSURE.dwg Layout:PAVEMENT Aug 14, 2025 - 1:28pm Gabrielle Thomas



FLOOR PLAN

FRONT ELEVATION

SIDE ELEVATION

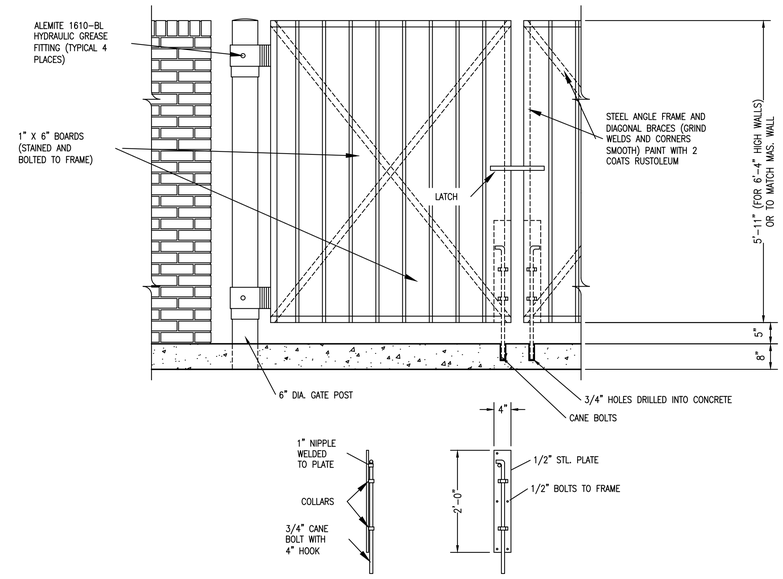
WALL SECTION A

WALL SECTION B

NOTE:
REF WALL SECTION "A" FOR ADDITIONAL NOTES AND DIMENSIONS

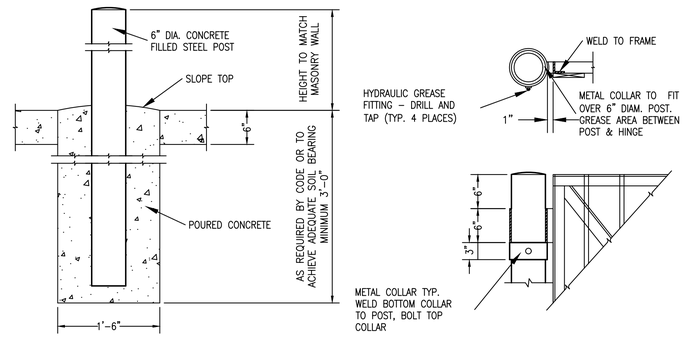
1 MASONRY TRASH CORRAL AND STORAGE ENCLOSURE

Not To Scale



2 TRASH ENCLOSURE GATE & MOUNTING DETAILS

Not To Scale



3 TRASH ENCLOSURE GATE POST

Not To Scale

NO.	DESCRIPTION	DATE	REV	BY

PREPARED BY:
PHELPS ENGINEERING, INC
1270 N. Winchester
Olathe, Kansas 66061
(913) 393-1155
Fax (913) 393-1166
www.phelpsengineering.com
PLANNING
ENGINEERING
IMPLEMENTATION
MISSOURI ENGINEERING CERTIFICATE OF AUTHORIZATION: 2007005058

PREPARED FOR:
McDonald's USA, LLC

© 2013 McDonald's USA, LLC
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 by a contractor selected by McDonald's USA, LLC. Use of these drawings for reference or example on another project requires the services of properly licensed architects and engineers familiar with the local conditions of the contract documents for reuse on another project is not authorized.

BRAND REVIEW		CONSTRUCTION
–	PLANNING	
01/05/18	PERMIT	
08/14/25	BID	

DRAWING TITLE:
TRASH ENCLOSURE DETAILS

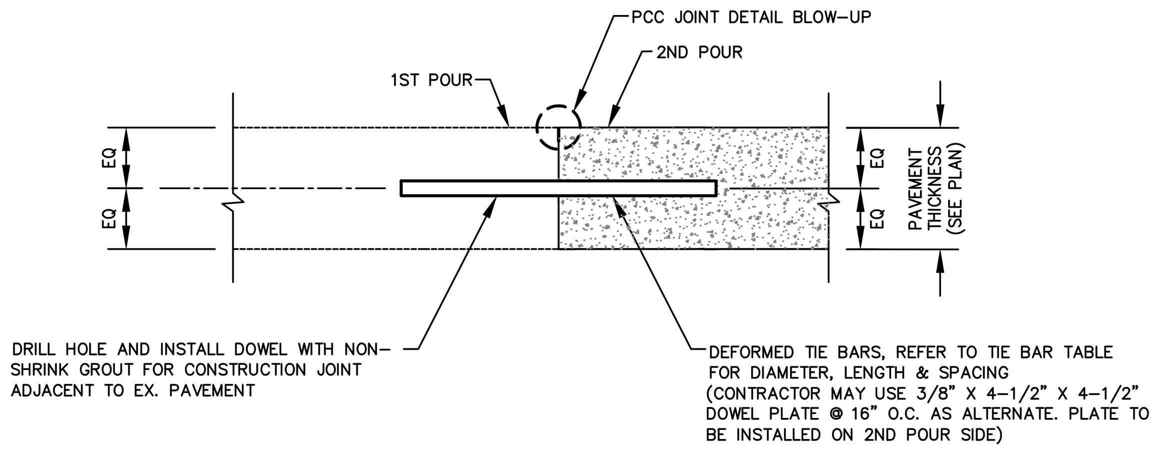
PROJECT ADDRESS:
3255 MAIN STREET
KANSAS CITY, MISSOURI

STATE SITE CODE: 024-0244
DRAWN BY: JMO
PROJECT CAD FILE: 170580

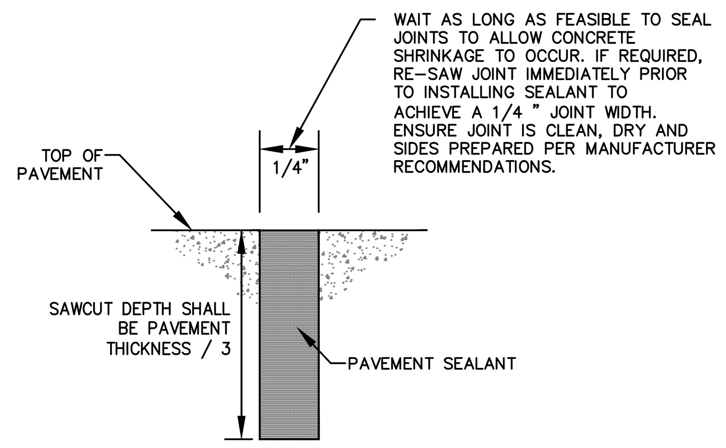
SHEET NO.
C501

STATE OF MISSOURI
JOHN C. WEBBER
NUMBER PE-2010041153
PROFESSIONAL ENGINEER
08-14-2025

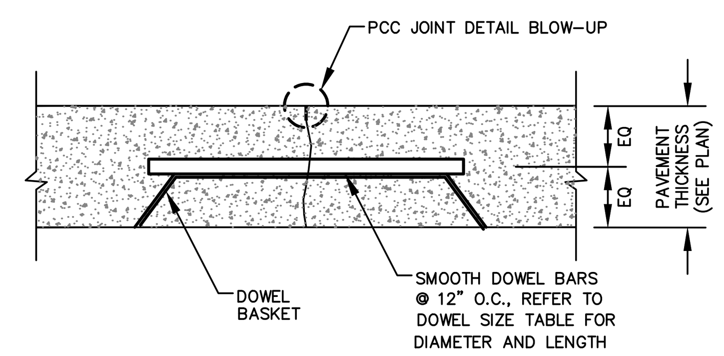
\\PHELPS-SERVER\Projects\P\170580\Dwg\Permit\C702 TRASH ENCLOSURE.dwg Layout:TRASH ENCLOSURE Aug 14, 2025 – 1:28pm Gabrielle Thomas



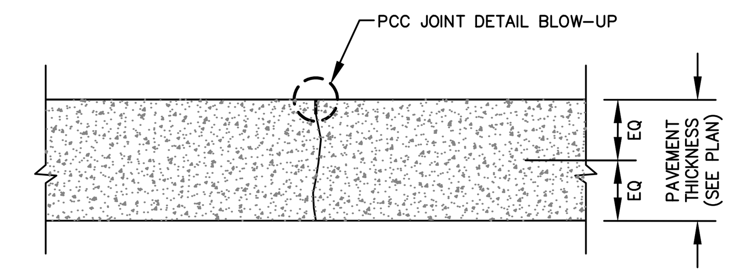
CONSTRUCTION JOINT



PCC JOINT DETAIL BLOW-UP (TYP.)

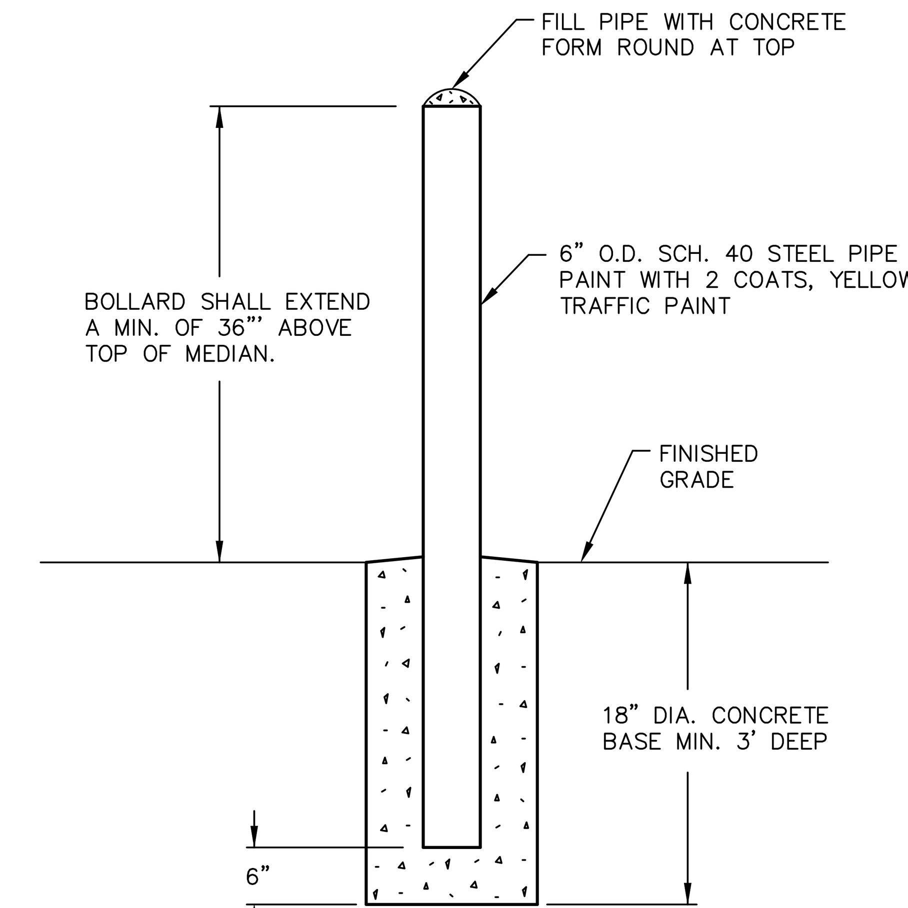


CONTRACTION JOINT (DOWELED)

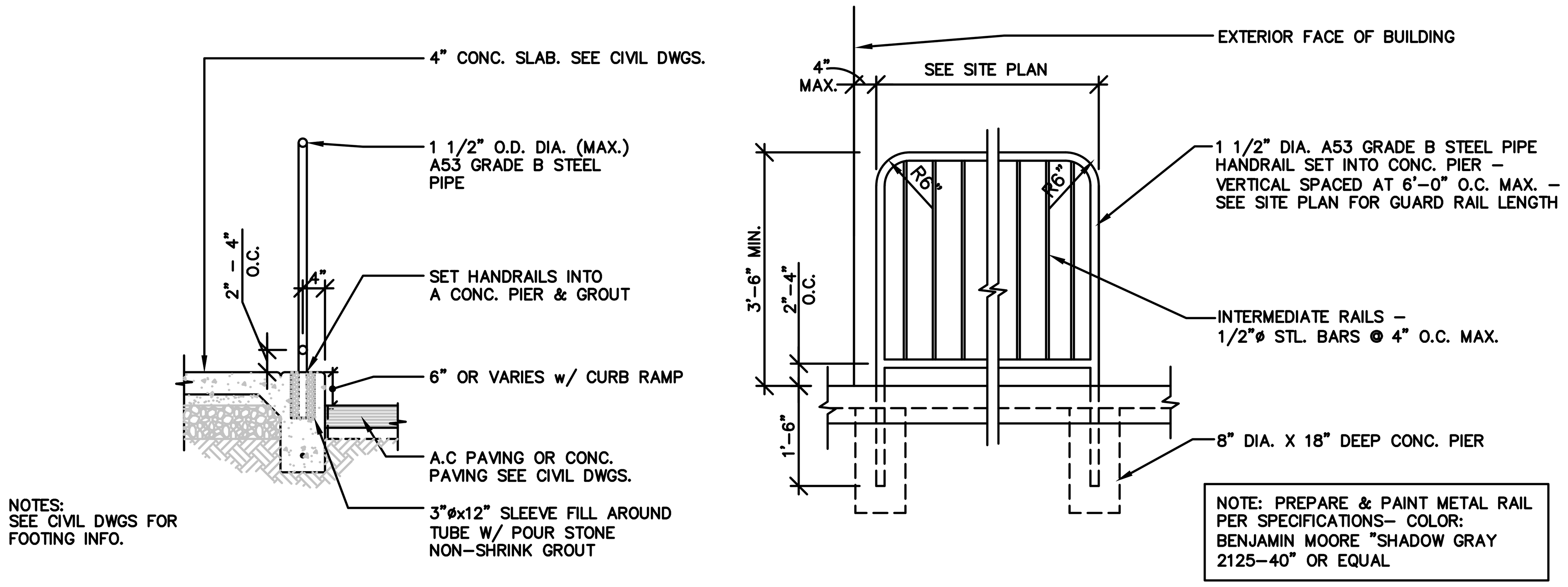


CONTRACTION JOINT (UNDOWELED)

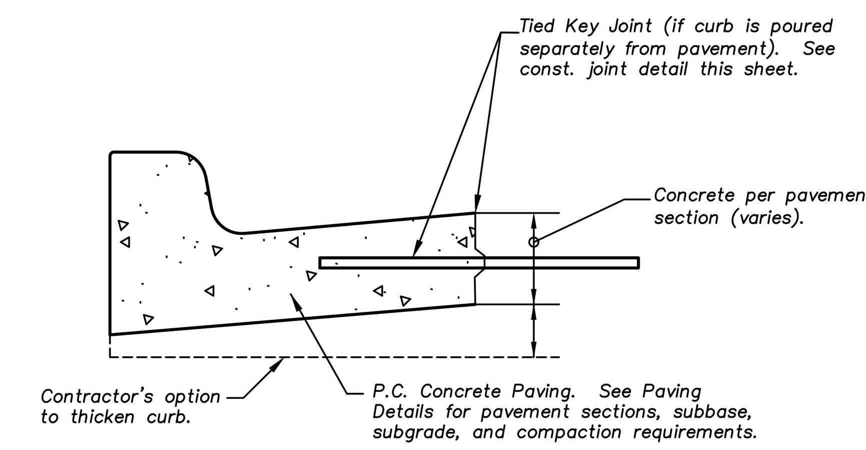
CONCRETE JOINT DETAILS
SCALE: N.T.S.



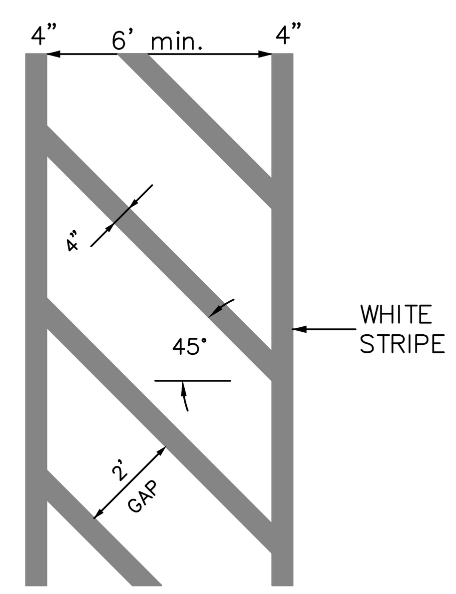
BOLLARD DETAIL



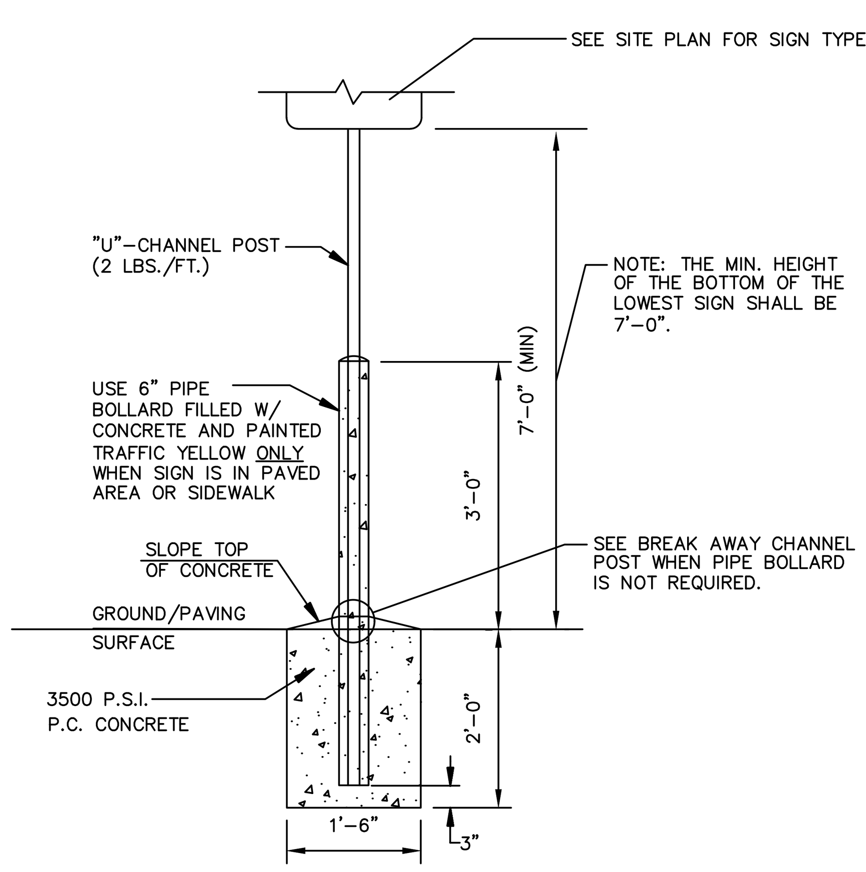
HANDRAIL DETAIL



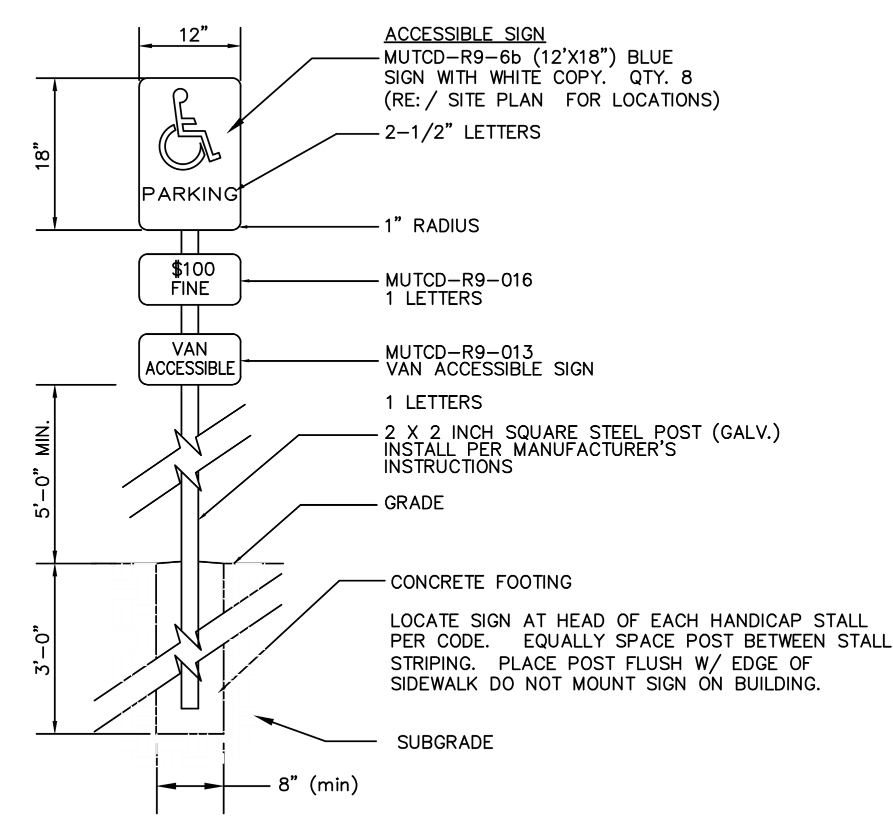
TYPE "B" INTEGRAL
CURB AND GUTTER



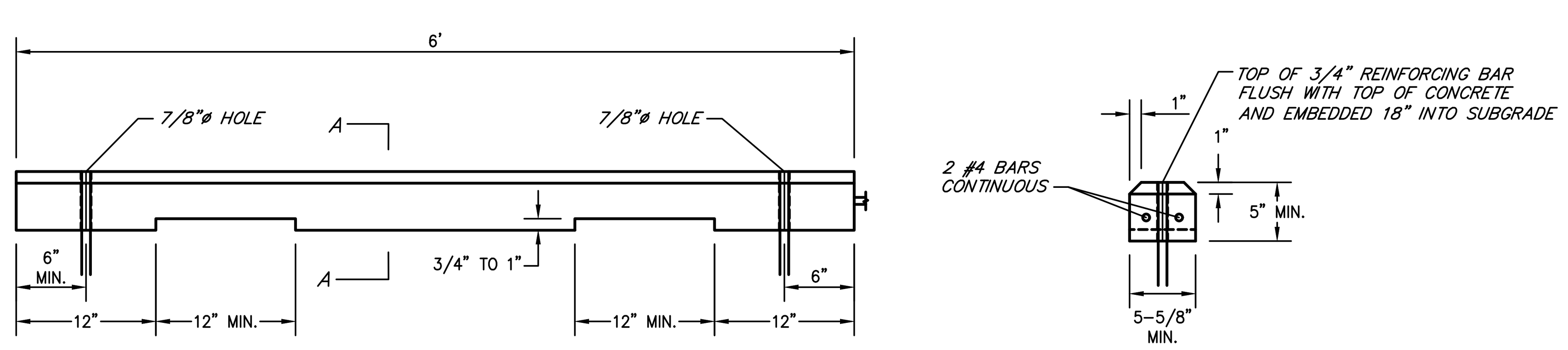
TYPICAL
CROSSWALK DETAIL



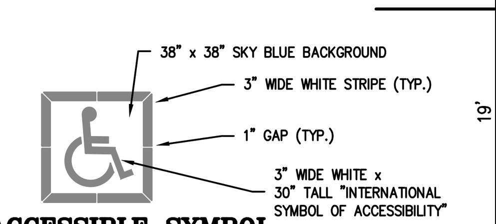
SIGN BASE DETAIL IN SIDEWALK
AND PAVED AREAS



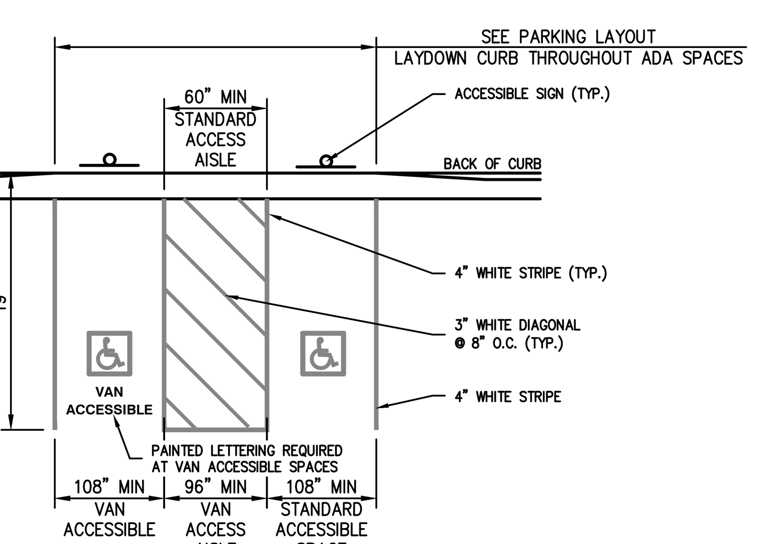
HANDICAPPED SIGN DETAIL IN GRASS AREA



PRECAST CONCRETE WHEELSTOP
NOT TO SCALE



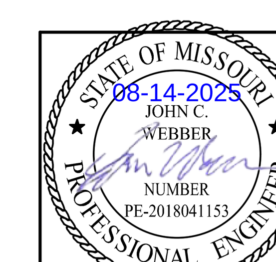
ACCESSIBLE SYMBOL MARKING DETAIL
SCALE: N.T.S.



GENERAL NOTES:

1. ALL PAVEMENT MARKINGS SHALL BE APPLIED BY A QUALIFIED CONTRACTOR HAVING A MINIMUM 3 YEARS EXPERIENCE IN TRAFFIC GRADE PAVEMENT MARKING APPLICATIONS.
2. PAINT SHALL BE A NON-BLEEDING, QUICK-DRYING, ALKYD PETROLEUM BASE PAINT SUITABLE FOR TRAFFIC-BEARING SURFACE AND SHALL MEET FS TTP-85E & MIXED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS BEFORE APPLICATION.
3. SWEEP AND CLEAN SURFACE TO ELIMINATE LOOSE MATERIAL & DUST.
4. APPLY TWO (2) COATS OF PAINT AT MANUFACTURER RECOMMENDED RATE WITHOUT THE ADDITION OF THINNER, WITH A MAXIMUM OF 100 SQUARE FEET PER GALLON. APPLY WITH MECHANICAL EQUIPMENT TO PRODUCE UNIFORM STRAIGHT EDGES. AT SIDEWALK, CURBS, AND CROSSWALKS USE A STRAIGHTEDGE TO ENSURE A UNIFORM, CLEAN, & STRAIGHT STRIPE.
5. THE FOLLOWING ITEMS SHALL BE PAINTED WITH THE COLORS NOTED BELOW:
   A. HANDICAP SYMBOLS: SEE DETAIL THIS SHEET.
   B. PARKING STALL STRIPING: WHITE.
6. ACCESSIBLE PARKING SPACE DESIGN LAYOUT SHALL BE IN ACCORDANCE WITH CURRENT ADA REQUIREMENTS.
7. SEE SITE PLANS FOR COMPLETE PARKING LAYOUT.

ACCESSIBLE PARKING SPACE DETAIL
SCALE: N.T.S.



REV	DATE	DESCRIPTION	BY

PREPARED BY:
PLANNING ENGINEERING IMPLEMENTATION

PHELPS ENGINEERING, INC
1270 N. Winchester
Olathe, Kansas 66061
(913) 393-1155
Fax (913) 393-1166
www.phelpsengineering.com
MISSOURI ENGINEERING CERTIFICATE OF AUTHORIZATION: 2007005058

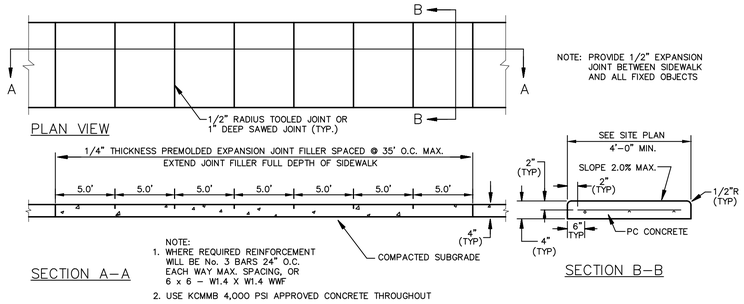
PREPARED FOR:
McDonald's USA, LLC

©2013 McDonald's USA, LLC
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.

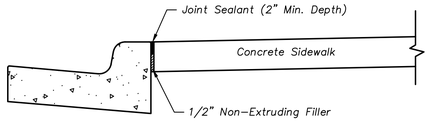
BRAND REVIEW: -
PLANNING: 01/05/18
PERMIT: 08/14/25
BID
CONSTRUCTION

DRAWING TITLE: STANDARD DETAILS
PROJECT ADDRESS: 3255 MAIN STREET, KANSAS CITY, MISSOURI
STATE SITE CODE: 024-0244
DRAWN BY: JMO
PROJECT CAD FILE: 170580
SHEET NO. C502

\\PHELPS-SERVER\Projects\P\170580\Dwg\Permit\C702 TRASH ENCLOSURE.dwg Layout: ADA Aug 14, 2025 - 1:28pm Gabrielle Thomas

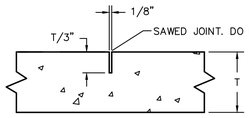


CONCRETE SIDEWALK (PRIVATE)

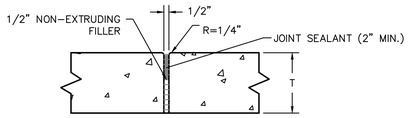


All other details same as shown per this sheet.

SIDEWALK AT CURB DETAIL



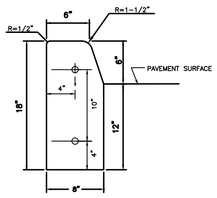
TYPE A JOINT
REV. 08/13/03



TYPE B JOINT
REV. 08/13/03

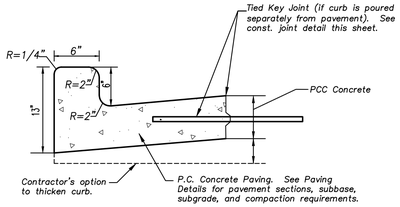
NOTE: TYPE A JOINTS SHALL NOT EXCEED 20 TIMES THE PAVEMENT THICKNESS (T)

CONCRETE JOINT DETAILS

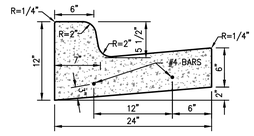


1. *1/2" EXPANSION JOINTS WITH 2'-0" DOWELS SHALL BE PLACED AT RADIUS POINTS AND AT 150' INTERVALS. THESE DOWELS SHALL BE GREASED AND WRAPPED ON ONE END WITH EXPANSION TUBES.*
2. *1" DEEP CONTRACTION JOINTS SHALL BE INSTALLED AT APPROXIMATELY 10' INTERVALS. THESE JOINTS SHALL PASS ACROSS THE ENTIRE CURB SECTION.*
3. *CONCRETE SHALL CONFORM TO SECTION 2200 UNLESS OTHERWISE SPECIFIED IN THE PLANS AND PROJECT MANUAL.*
4. *DEPTH OF THE CURB SHALL BE A MINIMUM OF 8" THRU THE HANDICAP ACCESS RAMP.*

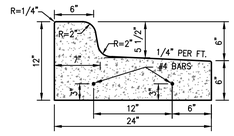
STRAIGHT CURB (TYPE C-1)



MONOLITHIC CONCRETE CURB DETAIL
SCALE: N.T.S.



TYPE "B"
CURB & GUTTER



TYPE "B" TIP-OUT
CURB & GUTTER

PRIVATE CURB & GUTTER DETAILS
SCALE: N.T.S.

1. *1/2" EXPANSION JOINTS WITH 5/8" O.D. x 2'-0" DOWELS SHALL BE PLACED AT RADIUS POINTS AND AT 150' INTERVALS. THESE DOWELS SHALL BE GREASED AND WRAPPED ON ONE END WITH EXPANSION TUBES AND FIXED WITH BAR SUPPORTS.*
2. *1" DEEP CONTRACTION JOINTS SHALL BE INSTALLED AT APPROXIMATELY 10' INTERVALS. THESE JOINTS SHALL PASS ACROSS THE ENTIRE CURB SECTION.*
3. *CONCRETE SHALL CONFORM TO MCIB MIX NO. WA 610-1-4 UNLESS OTHERWISE SPECIFIED IN THE PLANS AND PROJECT MANUAL.*
4. *DEPTH OF THE CURB SHALL BE A MINIMUM OF 8" THRU THE HANDICAP ACCESS RAMP.*

CONCRETE CURB AND GUTTER DETAILS



BY	DESCRIPTION	DATE	REV

PREPARED BY:
PHELPS ENGINEERING, INC
1270 N. Winchester
Olathe, Kansas 66061
(913) 393-1155
Fax (913) 393-1166
www.phelpsengineering.com
PLANNING
ENGINEERING
IMPLEMENTATION

MISSOURI ENGINEERING CERTIFICATE OF AUTHORIZATION: 2007005058

PREPARED FOR:
McDonald's USA, LLC
© 2013 McDonald's USA, LLC
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/location. The contract documents may not be used in whole or in part 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 familiar with the requirements of the contract documents for reason on another project is not authorized.

BRAND REVIEW	CONSTRUCTION
-	
PLANNING 01/05/18	
PERMIT 08/14/25	
BID	

DRAWING TITLE: **STANDARD DETAILS**

PROJECT ADDRESS:
3255 MAIN STREET
KANSAS CITY, MISSOURI

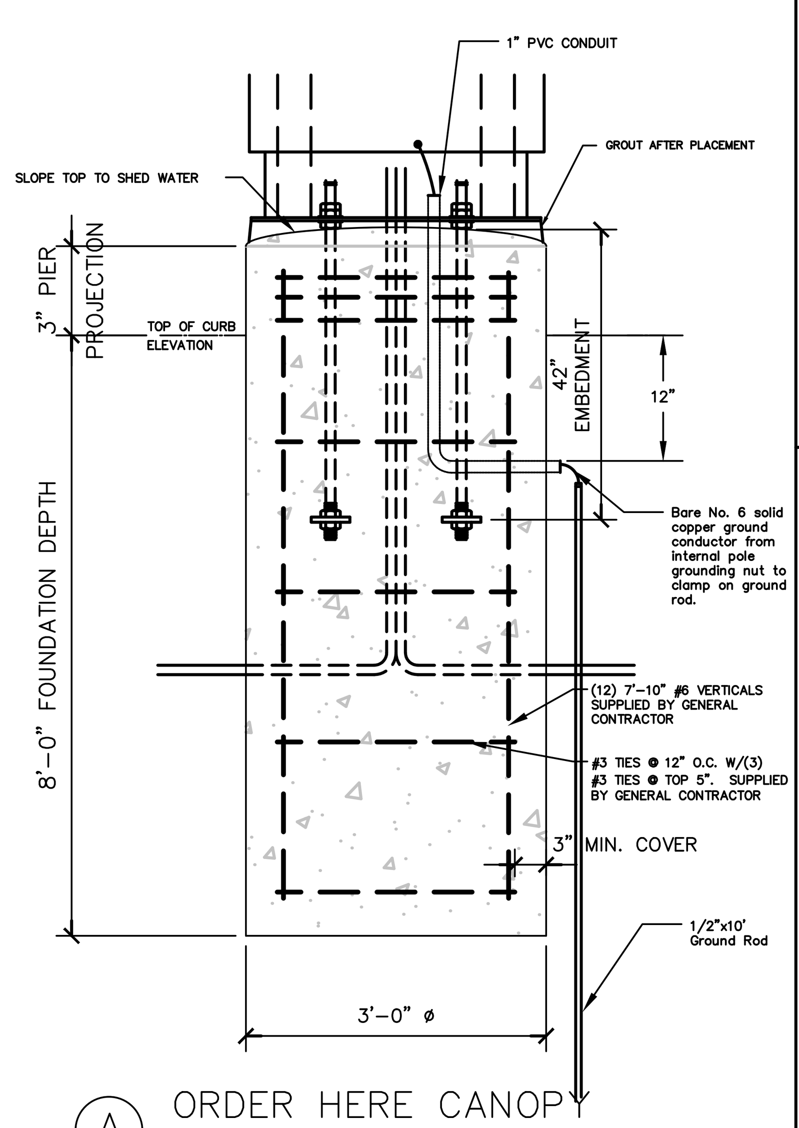
PROJECT CAD FILE: 170580
STATE SITE CODE: 024-0244
DRAWN BY: JMO

SHEET NO. C503

\\PHELPS-SERVER\Projects\P\170580\Dwg\Permit\C702 TRASH ENCLOSURE.dwg Layout:SIDEWALK Aug 14, 2025 - 1:29pm Gabrielle Thomas

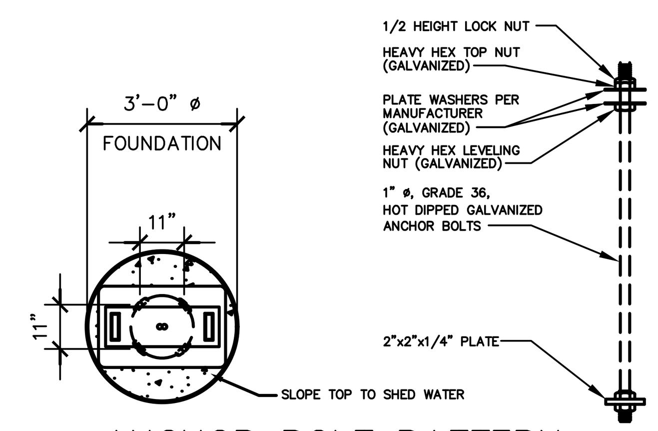
"ORDER HERE" CANOPY – FOUNDATION DETAIL

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.
–ALL REINFORCING STEEL BY GENERAL CONTRACTOR



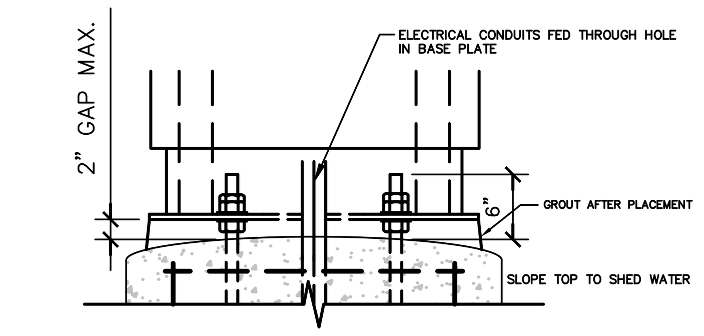
(A) ORDER HERE CANOPY
NTS

NOTES:
–TOP OF PIERS SHALL BE SLOPED SUCH THAT MOISTURE CANNOT ACCUMULATE.
–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



(B) ANCHOR BOLT PATTERN
NTS

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
NTS

GENERAL NOTES

–THE FOLLOWING CODES WERE USED IN DESIGN:
–IBC 2012
–ASCE 7–10
–ACI 318–11
–AISC 13th EDITION
–AWS D1.1
–WIND SPEED **115 MPH**, 3 SEC GUST
–EXPOSURE C
–DESIGN LOADS DERIVED FROM THESE CODES AND FORCES
–AXIAL – 2600 LBS
–SHEAR – 1500 **LBS**
–MOMENT – 10,100 FT–LBS WIND
– 9,100 FT–LBS DEAD + SNOW

–ALL FOOTING EXCAVATIONS ARE TO BE CLEAR OF WATER AND FOREIGN MATTER BEFORE PLACING CONCRETE
–MINIMUM ALLOWABLE LATERAL SOIL BEARING PRESSURE OF 100PSF/FT (x2 FOR ALLOWABLE MOVEMENT)
–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 INTO 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) SHOULD CONFORM WITH MCDONALDS CAST–IN–PLACE CONCRETE SPECIFICATIONS SECTION 2.13–A
–USE OF ADMIXTURES SHALL CONFORM TO MCDONALDS CAST–IN–PLACE CONCRETE SPECIFICATION SECTION 2.6
–AIR ENTRAINMENT SHALL CONFORM WITH MCDONALDS CAST–IN–PLACE CONCRETE SPECIFICATION SECTIONS 2.6–A & 2.13–A
–WATER CONTENT RATIO SHALL CONFORM TO MCDONALDS CAST–IN–PLACE CONCRETE SPECIFICATIONS SECTION 2.13–A
–FOUNDATION CONCRETE TO BE TESTED PER MCDONALDS CAST–IN–PLACE CONCRETE SPECIFICATIONS SECTION 3.14
–PROVIDE A MINIMUM 3" OF CONCRETE COVER OVER ALL EMBEDDED STEEL.
–REINFORCEMENT PLACEMENT SHALL CONFORM TO MCDONALDS CAST–IN–PLACE CONCRETE SPECIFICATIONS SECTIONS 3.2 & 3.5. PERFORMED BY GENERAL CONTRACTOR.
–ANCHOR BOLTS TO BE SET IN ACCORDANCE WITH AISC CODE OF STANDARD PRACTICE
–DO NOT PLACE POLES ON CONCRETE UNTIL CONCRETE HAS CURED PER MCDONALDS CAST–IN–PLACE CONCRETE SPECIFICATION, SECTION 3.11–E.

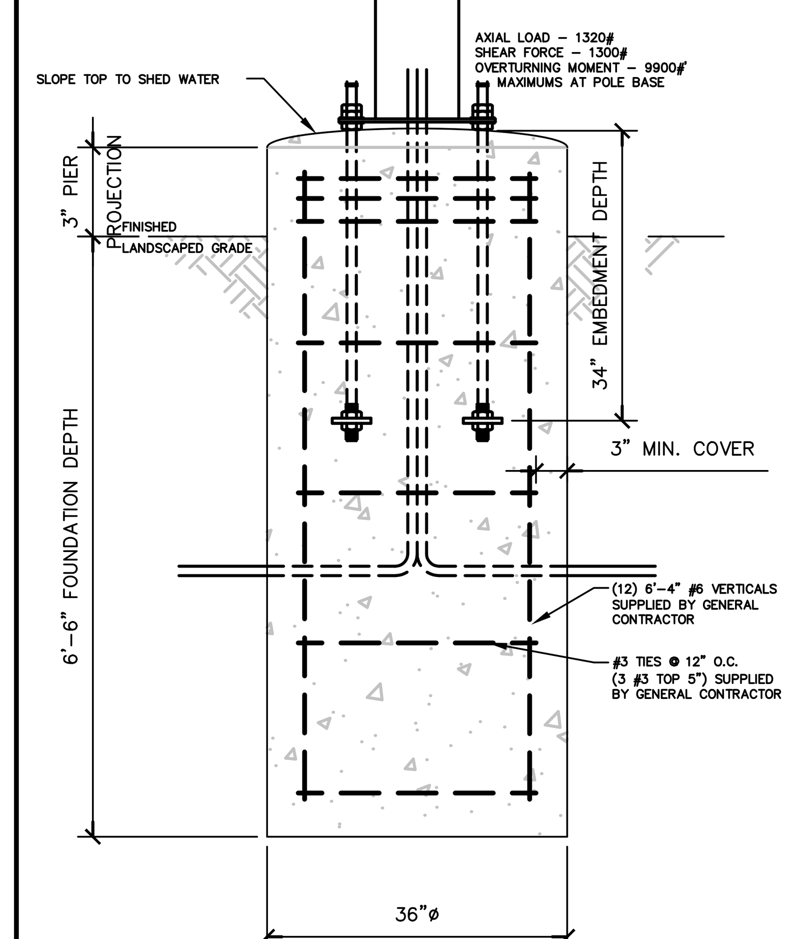
STEEL:

–STEEL PIPE SECTION: ASTM A53 OR A252 TYPE E GRADE B (Fy = 35ksi)
–HSS ROUND SECTION: ASTM A500 GRADE B (Fy = 42ksi)
–HSS SQUARE/RECTANGULAR SECTIONS: ASTM A500 GRADE B (Fy = 46ksi)
–CONNECTION BOLTS A325
–STEEL ANGLES, CHANNELS, STRUCTURAL SHAPES AND PLATES: ASTM A36
–REINFORCEMENT: GRADE 60 – BY GENERAL CONTRACTOR
–NUTS: A563DH OR A194–2H
–WASHERS: A36
–USE HOT 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 BOLTS AFTER INSTALLATION OF POLE
–AFTER INSTALLATION, ALL EXPOSED STEEL SHALL BE PAINTED WITH AN ENAMEL PAINT TO INHIBIT CORROSION.
–ANY FIELD WELDING SHALL FIRST BE VERIFIED BY ENGINEER AND PERFORMED IN ACCORDANCE WITH AWS D1.1.

–REFER TO SIGN MANUFACTURER DRAWINGS AND INSTRUCTIONS FOR ADDITIONAL INFORMATION.
–CONTRACTOR (INSTALLER) IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION IN REGARDS TO JOBSITE SAFETY.
–FOUNDATIONS ARE DESIGNED FOR SINGLE OR DOUBLE POLE COLUMNS
–DETAILS AND STRUCTURAL MEMBERS NOT SHOWN DESIGNED BY OTHERS
–ANY MODIFICATIONS ARE TO BE VERIFIED BY AN ENGINEER

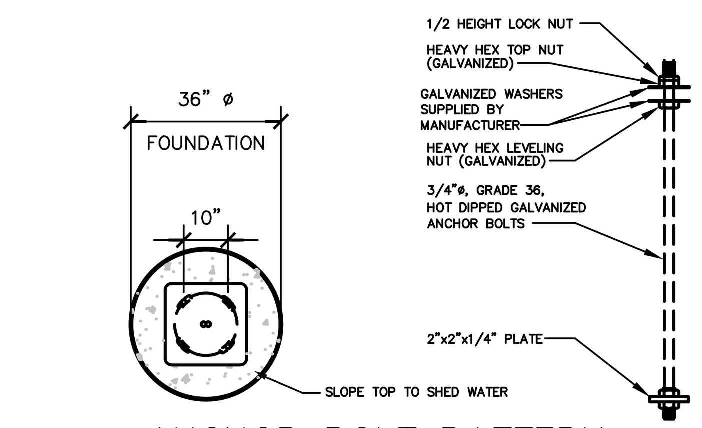
SINGLE ARM CLEARANCE GATEWAY – FOUNDATION DETAIL

NOTE:
–DESIGN CODES
IBC 2009
ASCE 7–05
ACI 318–08
AISC 13th EDITION
AWS D1.1
–WIND SPEED (150 MPH 3–SEC GUST)
–EXPOSURE C
–DESIGN LOADS DERIVED FROM THESE CODES AND FORCES
–AXIAL – 1320#
–SHEAR – 1300#
–MOMENT – 9900#'
–USE CONCRETE WITH A 3000PSI 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 SHOWN ARE FROM GRADE).
–PROVIDE A MINIMUM OF 3" CONCRETE COVER FOR ALL EMBEDDED STEEL.
–ALL REINFORCING STEEL BY GENERAL CONTRACTOR.



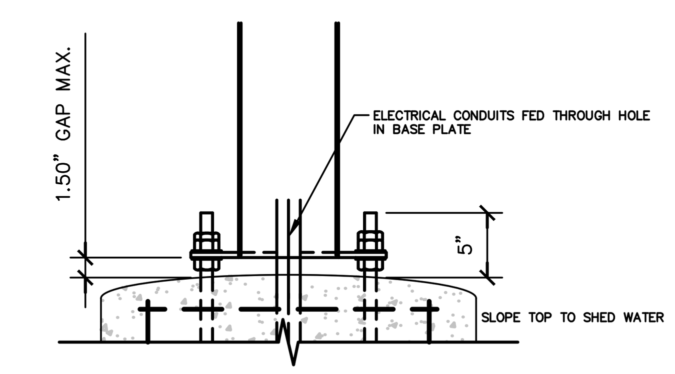
(A) SINGLE ARM CLEARANCE GATEWAY
150 MPH
NTS

NOTES:
–TOP OF PIERS SHALL BE SLOPED SUCH THAT MOISTURE CANNOT ACCUMULATE.
–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



(B) ANCHOR BOLT PATTERN
NTS

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
NTS

GEN. NOTES

–THE FOLLOWING CODES WERE USED IN DESIGN:
–IBC 2009
–ASCE 7–05
–ACI 318–08
–AISC 13th EDITION
–AWS D1.1
–WIND SPEED (150 MPH 3–SEC GUST)
–EXPOSURE C
–DESIGN LOADS DERIVED FROM THESE CODES AND FORCES
–AXIAL – 1320#
–SHEAR – 1300#
–MOMENT – 9900#'

–ALL FOOTING EXCAVATIONS ARE TO BE CLEAR OF WATER AND FOREIGN MATTER BEFORE PLACING CONCRETE
–MINIMUM ALLOWABLE LATERAL SOIL BEARING PRESSURE OF 100PSF/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 INTO 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) SHOULD CONFORM WITH MCDONALDS CAST–IN–PLACE CONCRETE SPECIFICATIONS SECTION 2.13–A
–USE OF ADMIXTURES SHALL CONFORM TO MCDONALDS CAST–IN–PLACE CONCRETE SPECIFICATION SECTION 2.6
–AIR ENTRAINMENT SHALL CONFORM WITH MCDONALDS CAST–IN–PLACE CONCRETE SPECIFICATION SECTIONS 2.6–A & 2.13–A
–WATER CONTENT RATIO SHALL CONFORM TO MCDONALDS CAST–IN–PLACE CONCRETE SPECIFICATIONS SECTION 2.13–A
–FOUNDATION CONCRETE TO BE TESTED PER MCDONALDS CAST–IN–PLACE CONCRETE SPECIFICATIONS SECTION 3.14
–PROVIDE A MINIMUM 3" OF CONCRETE COVER OVER ALL EMBEDDED STEEL.
–REINFORCEMENT PLACEMENT SHALL CONFORM TO MCDONALDS CAST–IN–PLACE CONCRETE SPECIFICATIONS SECTIONS 3.2 & 3.5. PERFORMED BY GENERAL CONTRACTOR.
–ANCHOR BOLTS TO BE SET IN ACCORDANCE WITH AISC CODE OF STANDARD PRACTICE
–DO NOT PLACE POLES ON CONCRETE UNTIL CONCRETE HAS CURED PER MCDONALDS CAST–IN–PLACE CONCRETE SPECIFICATION, SECTION 3.11–E.

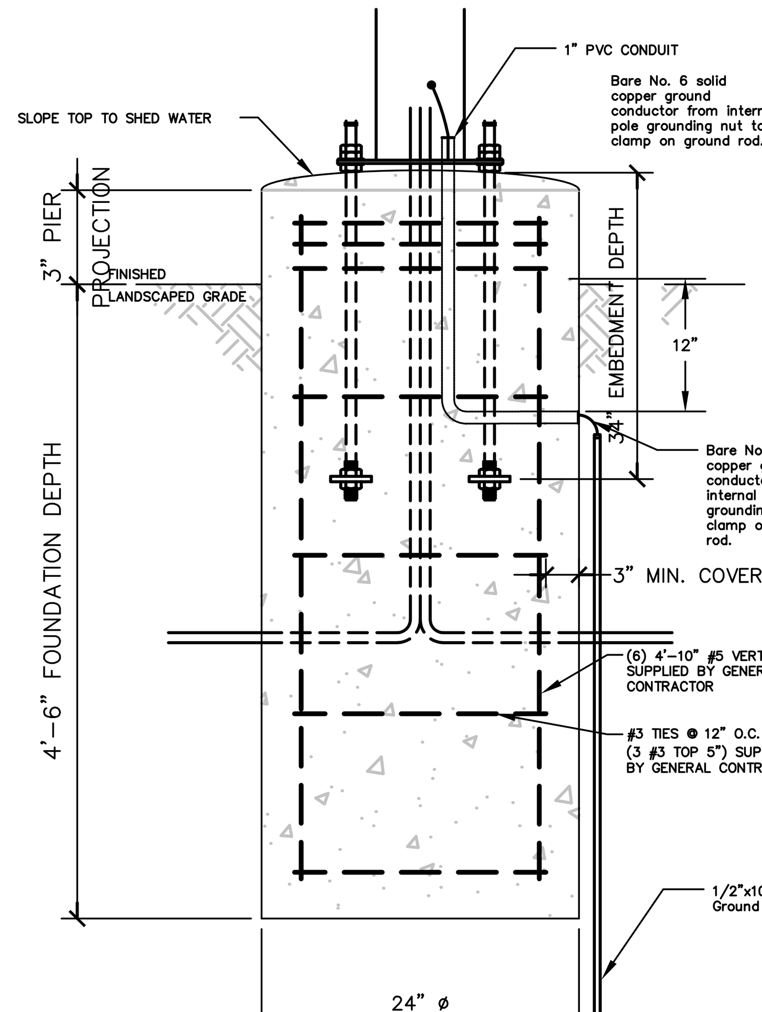
STEEL:

–STEEL PIPE SECTION: ASTM A53 OR A252 TYPE E GRADE B (Fy = 35ksi)
–HSS ROUND SECTION: ASTM A500 GRADE B (Fy = 42ksi)
–HSS SQUARE/RECTANGULAR SECTIONS: ASTM A500 GRADE B (Fy = 46ksi)
–CONNECTION BOLTS A325
–STEEL ANGLES, CHANNELS, STRUCTURAL SHAPES AND PLATES: ASTM A36
–REINFORCEMENT: GRADE 60 – BY GENERAL CONTRACTOR
–NUTS: A563DH OR A194–2H
–WASHERS: F436
–USE HOT 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 BOLTS AFTER INSTALLATION OF POLE
–AFTER INSTALLATION, ALL EXPOSED STEEL SHALL BE PAINTED WITH AN ENAMEL PAINT TO INHIBIT CORROSION.
–ANY FIELD WELDING SHALL FIRST BE VERIFIED BY ENGINEER AND PERFORMED IN ACCORDANCE WITH AWS D1.1.

–REFER TO SIGN MANUFACTURER DRAWINGS AND INSTRUCTIONS FOR ADDITIONAL INFORMATION.
–CONTRACTOR (INSTALLER) IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION IN REGARDS TO JOBSITE SAFETY.
–DETAILS AND STRUCTURAL MEMBERS NOT SHOWN DESIGNED BY OTHERS
–ANY MODIFICATIONS ARE TO BE VERIFIED BY AN ENGINEER

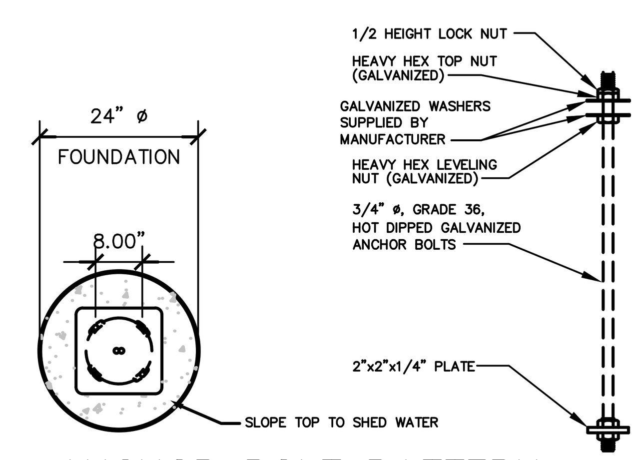
PRE–SELL MENUBOARD – FOUNDATION DETAIL

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.
–ALL REINFORCING STEEL BY GENERAL CONTRACTOR



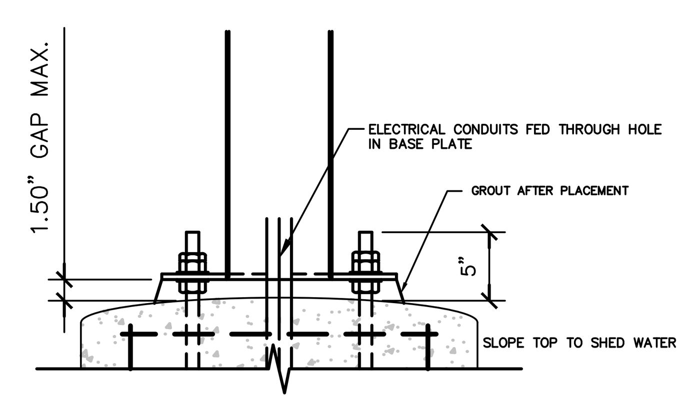
(A) PRE–SELL BOARD
NTS

NOTES:
–TOP OF PIERS SHALL BE SLOPED SUCH THAT MOISTURE CANNOT ACCUMULATE.
–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



(B) ANCHOR BOLT PATTERN
NTS

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
NTS

GEN. NOTES

–THE FOLLOWING CODES WERE USED IN DESIGN:
–IBC 2012
–ASCE 7–10
–ACI 318–11
–AISC 13th EDITION
–AWS D1.1
–WIND SPEED (115 MPH 3–SEC GUST, STRENGTH LOAD)
–EXPOSURE C
–DESIGN LOADS DERIVED FROM THESE CODES AND FORCES
–AXIAL – 440#
–SHEAR – 550#
–MOMENT – 1,815 FT–LB

–ALL FOOTING EXCAVATIONS ARE TO BE CLEAR OF WATER AND FOREIGN MATTER BEFORE PLACING CONCRETE
–MINIMUM ALLOWABLE LATERAL SOIL BEARING PRESSURE OF 100PSF/FT (x2 FOR ALLOWABLE MOVEMENT)
–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 INTO 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) SHOULD CONFORM WITH MCDONALDS CAST–IN–PLACE CONCRETE SPECIFICATIONS SECTION 2.13–A
–USE OF ADMIXTURES SHALL CONFORM TO MCDONALDS CAST–IN–PLACE CONCRETE SPECIFICATION SECTION 2.6
–AIR ENTRAINMENT SHALL CONFORM WITH MCDONALDS CAST–IN–PLACE CONCRETE SPECIFICATION SECTIONS 2.6–A & 2.13–A
–WATER CONTENT RATIO SHALL CONFORM TO MCDONALDS CAST–IN–PLACE CONCRETE SPECIFICATIONS SECTION 2.13–A
–FOUNDATION CONCRETE TO BE TESTED PER MCDONALDS CAST–IN–PLACE CONCRETE SPECIFICATIONS SECTION 3.14
–PROVIDE A MINIMUM 3" OF CONCRETE COVER OVER ALL EMBEDDED STEEL.
–REINFORCEMENT PLACEMENT SHALL CONFORM TO MCDONALDS CAST–IN–PLACE CONCRETE SPECIFICATIONS SECTIONS 3.2 & 3.5. PERFORMED BY GENERAL CONTRACTOR.
–ANCHOR BOLTS TO BE SET IN ACCORDANCE WITH AISC CODE OF STANDARD PRACTICE
–DO NOT PLACE POLES ON CONCRETE UNTIL CONCRETE HAS CURED PER MCDONALDS CAST–IN–PLACE CONCRETE SPECIFICATION, SECTION 3.11–E.

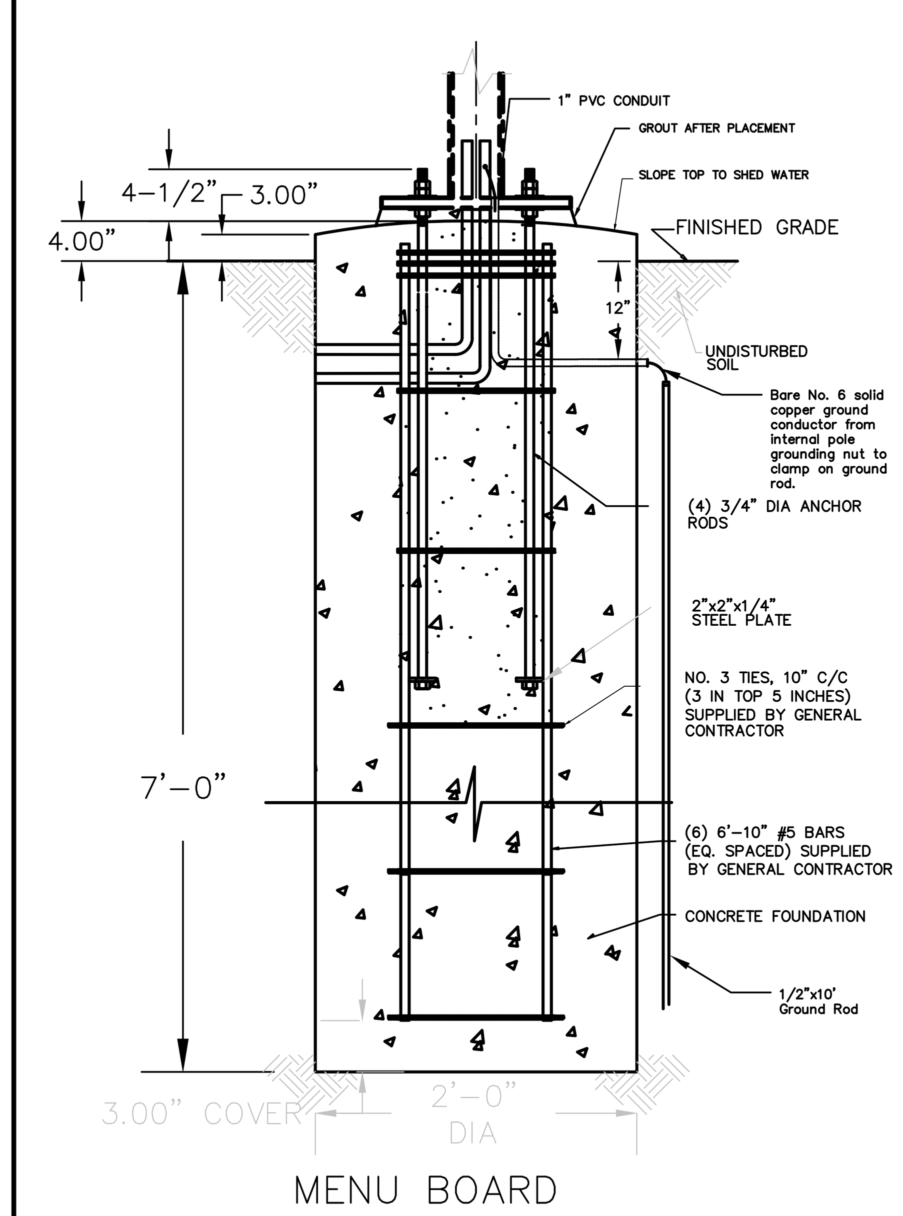
STEEL:

–STEEL PIPE SECTION: ASTM A53 OR A252 TYPE E GRADE B (Fy = 35ksi)
–HSS ROUND SECTION: ASTM A500 GRADE B (Fy = 42ksi)
–HSS SQUARE/RECTANGULAR SECTIONS: ASTM A500 GRADE B (Fy = 46ksi)
–CONNECTION BOLTS A325
–STEEL ANGLES, CHANNELS, STRUCTURAL SHAPES AND PLATES: ASTM A36
–REINFORCEMENT: GRADE 60 – BY GENERAL CONTRACTOR
–NUTS: A563DH OR A194–2H
–WASHERS: F436
–USE HOT 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 BOLTS AFTER INSTALLATION OF POLE
–AFTER INSTALLATION, ALL EXPOSED STEEL SHALL BE PAINTED WITH AN ENAMEL PAINT TO INHIBIT CORROSION.
–ANY FIELD WELDING SHALL FIRST BE VERIFIED BY ENGINEER AND PERFORMED IN ACCORDANCE WITH AWS D1.1.

–REFER TO SIGN MANUFACTURER DRAWINGS AND INSTRUCTIONS FOR ADDITIONAL INFORMATION.
–CONTRACTOR (INSTALLER) IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION IN REGARDS TO JOBSITE SAFETY.
–DETAILS AND STRUCTURAL MEMBERS NOT SHOWN DESIGNED BY OTHERS
–ANY MODIFICATIONS ARE TO BE VERIFIED BY AN ENGINEER

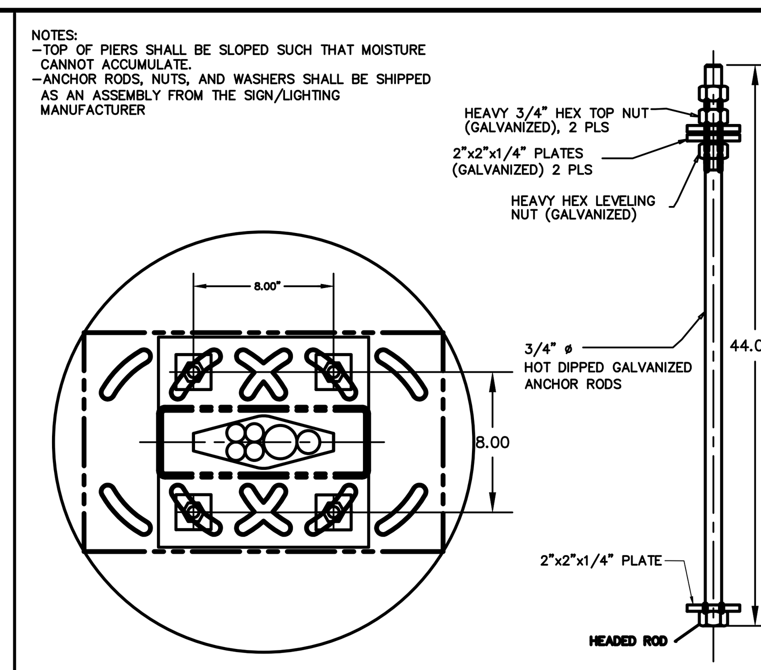
MENU BOARD – FOUNDATION DETAIL

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.
–ALL REINFORCING STEEL BY GENERAL CONTRACTOR



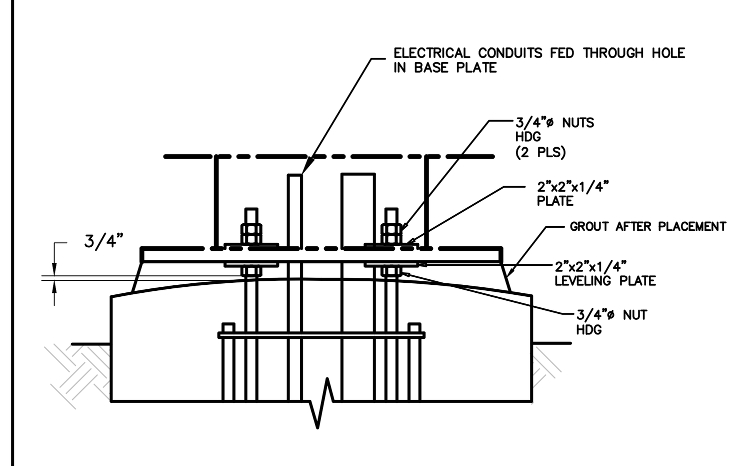
(A) MENU BOARD FOUNDATION
NTS

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



(B) ANCHOR BOLT PATTERN
NTS

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
NTS

GENERAL NOTES

–THE FOLLOWING CODES WERE USED IN DESIGN:
–IBC 2012
–ASCE 7–10
–ACI 318–11
–AISC 13th EDITION
–AWS D1.1
–WIND SPEED 115 MPH (MPH 3–SEC GUST)
–EXPOSURE C
–DESIGN LOADS DERIVED FROM THESE CODES AND FORCES
–AXIAL – 850#
–SHEAR – 1,500#
–MOMENT – 5,100 FT–#

–ALL FOOTING EXCAVATIONS ARE TO BE CLEAR OF WATER AND FOREIGN MATTER BEFORE PLACING CONCRETE
–MINIMUM ALLOWABLE LATERAL SOIL BEARING PRESSURE OF 100PSF/FT (x2 FOR ALLOWABLE MOVEMENT)
–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 INTO 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.

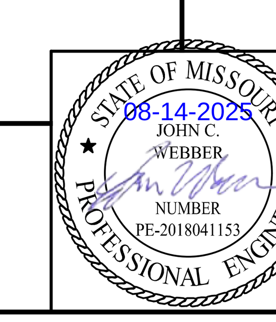
CONCRETE:

–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 MCDONALDS CAST–IN–PLACE CONCRETE SPECIFICATIONS SECTION 2.13–A
–USE OF ADMIXTURES SHALL CONFORM TO MCDONALDS CAST–IN–PLACE CONCRETE SPECIFICATION SECTION 2.6
–AIR ENTRAINMENT SHALL CONFORM WITH MCDONALDS CAST–IN–PLACE CONCRETE SPECIFICATION SECTIONS 2.6–A & 2.13–A
–WATER CONTENT RATIO SHALL CONFORM TO MCDONALDS CAST–IN–PLACE CONCRETE SPECIFICATIONS SECTION 2.13–A
–FOUNDATION CONCRETE TO BE TESTED PER MCDONALDS CAST–IN–PLACE CONCRETE SPECIFICATIONS SECTION 3.14
–PROVIDE A MINIMUM 3" OF CONCRETE COVER OVER ALL EMBEDDED STEEL.
–REINFORCEMENT PLACEMENT SHALL CONFORM TO MCDONALDS 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 MCDONALDS CAST–IN–PLACE CONCRETE SPECIFICATION, SECTION 3.11–E.

STEEL:

–STEEL PIPE SECTION: ASTM A53 OR A252 TYPE E GRADE B (Fy=35ksi)
–HSS ROUND SECTION: ASTM A500 GRADE B (Fy=42ksi)
–HSS SQUARE/RECTANGULAR SECTIONS: ASTM A500 GRADE B (Fy=46ksi)
–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 HOT 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 WELDING SHALL FIRST BE VERIFIED BY ENGINEER AND PERFORMED IN ACCORDANCE WITH AWS D1.1.

–REFER TO SIGN MANUFACTURER DRAWINGS AND INSTRUCTIONS FOR ADDITIONAL INFORMATION.
–CONTRACTOR (INSTALLER) IS RESPONSIBLE FOR THE MEANS AND METHODS OF CONSTRUCTION IN REGARDS TO JOBSITE SAFETY.
–DETAILS AND STRUCTURAL MEMBERS NOT SHOWN DESIGNED BY OTHERS
–ANY MODIFICATIONS ARE TO BE VERIFIED BY AN ENGINEER



\\PHELPS-SERVER\Projects\P\170580\Dwg\Permit\C702 TRASH ENCLOSURE.dwg Layout: 5–SIGNAGE Aug 14, 2025 – 1:29pm Gabrielle Thomas

REV	DATE	DESCRIPTION	BY

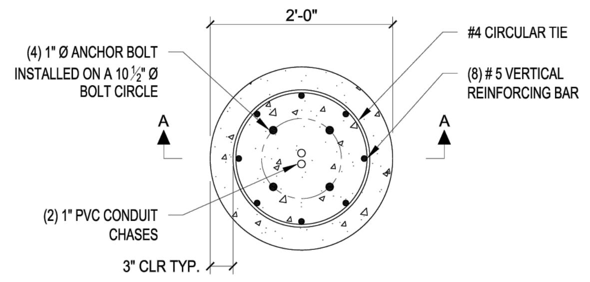
PREPARED BY:
PHELPS ENGINEERING, INC
1270 N. Winchester
Olathe, Kansas 66061
(913) 393-1155
Fax (913) 393-1166
www.phelpsengineering.com
PLANNING ENGINEERING IMPLEMENTATION
MISSOURI ENGINEERING CERTIFICATE OF AUTHORIZATION: 2007005058

PREPARED FOR:
McDonald's USA, LLC

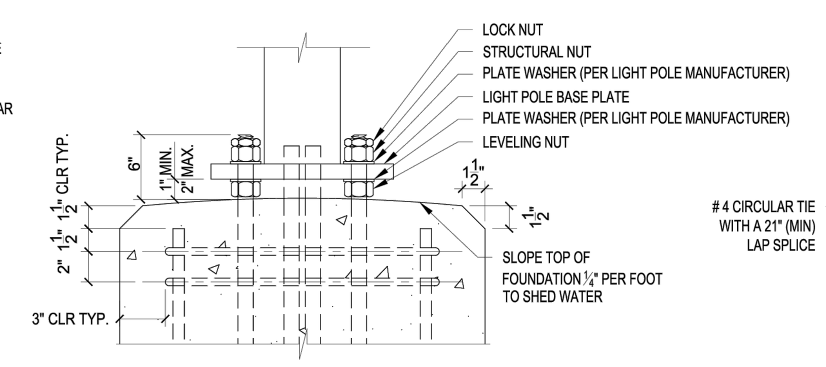
© 2013 McDonald's USA, LLC
These drawings and specifications are the confidential and proprietary property of McDonald's USA, LLC and shall not be copied or reproduced without written authorization. The contract documents were prepared for use on this specific site in conjunction with its issue date 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.

BRAND REVIEW: –
PLANNING: 01/05/18
PERMIT: 08/14/25
BID
CONSTRUCTION

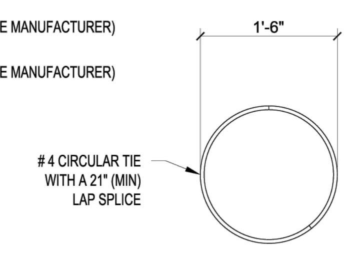
DRAWING TITLE: SITE SIGNAGE DETAILS
PROJECT ADDRESS: 3255 MAIN STREET KANSAS CITY, MISSOURI
STATE SITE CODE: 024–0244
DRAWN BY: JMO
PROJECT CAD FILE: 170580
SHEET NO. C504



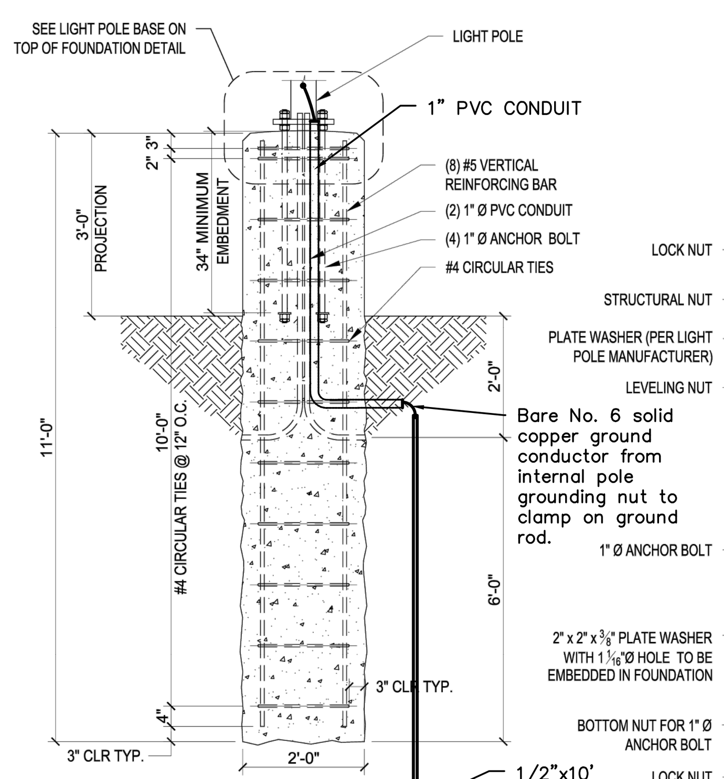
POLE BASE - PLAN VIEW
SCALE ¾" = 1'-0"



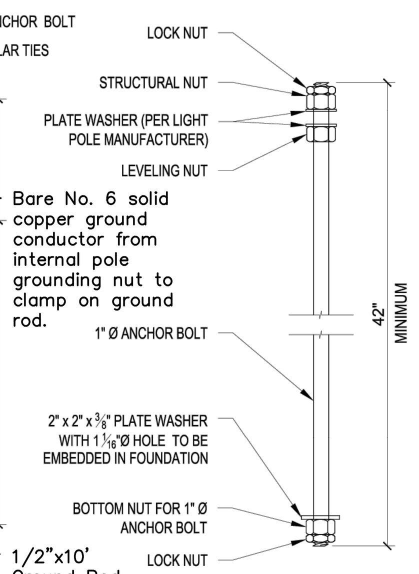
LIGHT POLE BASE ON TOP OF FOUNDATION
SCALE 1½" = 1'-0"



CIRCULAR TIE DETAIL
SCALE ¾" = 1'-0"



VIEW A-A
SCALE ½" = 1'-0"



ANHCOR BOLT DETAIL
SCALE 1½" = 1'-0"

DESIGN CRITERIA:

INTERNATIONAL BUILDING CODE, 2012 SECTION 1807

FOUNDATION DESIGN PARAMETERS:

1. MAXIMUM LIGHT POLE BASE REACTIONS:
   - BASE MOMENT = 16,845 lbs-ft
   - BASE SHEAR = 978 lbs
2. MAXIMUM WIND SPEED (3 SECOND GUST) = 115MPH
3. MINIMUM REQUIRED SOIL PARAMETERS:
   - COHESIVE SOILS (CL, ML, MH, CH):
     - LATERAL BEARING PRESSURE = 100 PSF/FT BELOW NATURAL GRADE
     - WATER TABLE SHALL BE LOCATED BELOW THE BOTTOM OF THE FOUNDATION
4. NOTIFY THE ENGINEER IF THE INSITU SOIL CONDITIONS DO NOT MEET THIS CRITERIA.
5. THIS FOUNDATION DESIGN SHALL NOT BE USED IN LOCATIONS WHICH ARE CLOSER THAN 8ft FROM A RETAINING WALL.
6. 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 3000psi
2. ANCHOR BOLTS SHALL BE ASTM F1554 GRADE 55, HOT DIP GALVANIZED PER ASTM F2329
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

LIGHT POLE – FOUNDATION DETAIL

REV	DATE	DESCRIPTION	BY

PREPARED BY:

PLANNING
ENGINEERING
IMPLEMENTATION

PHELPS ENGINEERING, INC
1270 N. Winchester
Olathe, Kansas 66061
(913) 393-1155
Fax (913) 393-1166
www.phelpsengineering.com

MISSOURI ENGINEERING CERTIFICATE OF AUTHORIZATION: 2007005058

PREPARED FOR:

©2013 McDonald's USA, LLC

McDonald's USA, LLC

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.

BRAND REVIEW: –
PLANNING: 01/05/18
PERMIT: 08/14/25
BID
CONSTRUCTION

DRAWING TITLE:

SITE SIGNAGE DETAILS

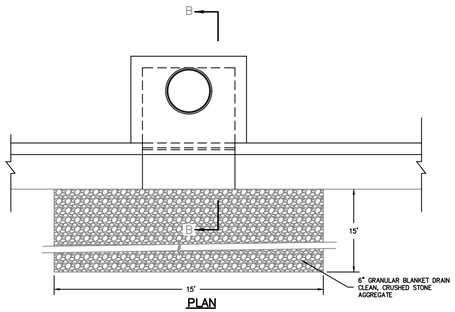
PROJECT ADDRESS:
3255 MAIN STREET
KANSAS CITY, MISSOURI

PROJECT CAD FILE: 170580
STATE SITE CODE: 024-0244
DRAWN BY: JMO

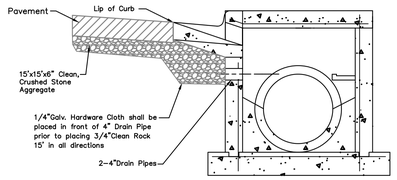
STATE OF MISSOURI
08-14-2025
JOHN C. WEBBER
NUMBER PE-2018041153
PROFESSIONAL ENGINEER

SHEET NO. C505

\\PHELPS-SERVER\Projects\P\170580\Dwg\Permit\C702 TRASH ENCLOSURE.dwg Layout:6-SIGNAGE Aug 14, 2025 – 1:29pm Gabrielle Thomas



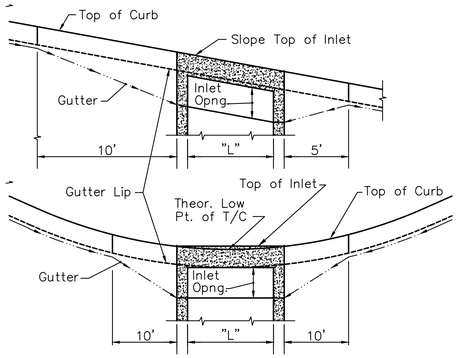
PLAN



SECTION B–B

GRANULAR BLANKET DRAIN ADJACENT TO CURB INLETS

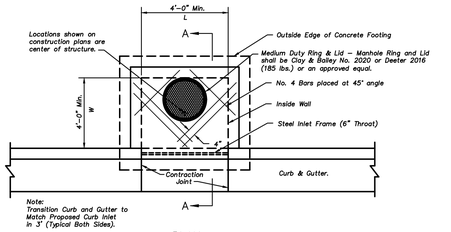
SCALE: N.T.S.



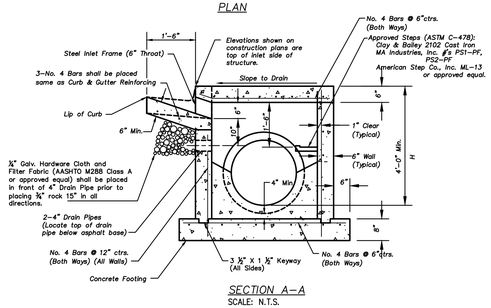
ALL CURB INLETS SHALL CONFORM TO THE GRADE OF THE ADJACENT ROAD/CURB AND BE SET PER THIS DETAIL SHOWN THUS.

INLET SETTING DIAGRAM

SCALE: N.T.S.



PLAN



SECTION A–A

SCALE: N.T.S.

Non–Setback Curb Inlet Notes

General

1. *All storm sewer structures shall be pre–cast or poured in place. If pre–cast structures are used for publicly financed, maintained or administered construction, the tops shall be poured in place and the wall steel shall be left exposed to a height 2" below the finish top elevation, or as directed by the City Engineer.*
2. *Pre–cast shop drawings are to be approved by the City Engineer for publicly financed or administered projects.*
3. *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.*
4. *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.*

Concrete

5. *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 of Olathe.*
6. *Concrete construction shall meet the applicable requirements of the City of Olathe's Technical Specifications.*
7. *Inlet floors shall be shaped with non–reinforced concrete inv erts to provide smooth flow.*
8. *Bevel all exposed edges with 3/4" triangular molding.*

Reinforcing Steel

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. *All reinforcing steel shall be supported on fabricated steel bar supports @ 3'–0" maximum spacing.*
13. *All dowels shall be accurately placed and securely tied in place prior to placement of bottom slab concrete. Sticking of dowels into fresh or partially hardened concrete will not be acceptable.*

Construction

14. *The bottom slab shall be at least 24 hours old before placing sidewall concrete. All sidewall forms shall remain in place a minimum of 24 hours after sidewalls are poured before removal, and after removal shall be immediately treated with membrane curing compound.*
15. *Pipe connections to pre–cast structures shall have a minimum of 6" of concrete around the entire pipe within 2' of the structure.*
16. *Material selection and compaction requirements for backfill around structures shall be as specified in City of Olathe's Technical Specifications.*

NON–SETBACK CURB INLET

(6" Throat)

SCALE: N.T.S.

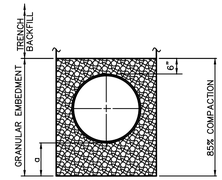


TABLE OF EMBEDMENT DEPTH BELOW PIPE		
D	a MIN. SOIL	a MIN. ROCK
LESS THAN 60"	4"	6"
60" OR LARGER	6"	12"

TRENCH BEDDING

1. GRANULAR EMBEDMENT SHALL BE KDOT STD. SPEC. SECT. 1100, PB–2 COURSE AGGREGATE FOR CONCRETE, WASHED STONE OR GRAVEL, MEETING THE FOLLOWING CONDITIONS:

SIEVE SIZE	PERCENT RETAINED
1–INCH	0
1/2–INCH	0–20
No. 4	40–70
No. 8	95–100

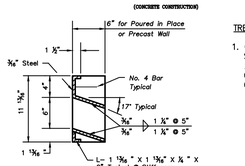
GRANULAR EMBEDMENT FROM THE TOP OF PIPE DOWN SHALL BE COMPACTED TO 85% MAXIMUM DENSITY AS DETERMINED BY ASTM D 698.

GRANULAR EMBEDMENT ABOVE TOP OF PIPE SHALL BE AN UN–COMPACTED LAYER FOR ALL INSTALLATIONS.

2. TRENCH OUTLINES DO NOT INDICATE ACTUAL TRENCH EXCAVATION SHAPE, SOIL CONDITIONS, OR PRESENCE OF SHEETING LEFT IN PLACE. EMBEDMENT MATERIAL SHALL EXTEND THE FULL WIDTH OF THE ACTUAL TRENCH EXCAVATION.
3. TRENCH WIDTHS SHALL BE LIMITED BELOW AN ELEVATION OF ONE (1) FOOT ABOVE THE TOP OF THE INSTALLED PIPE AS FOLLOWS: NOT LESS THAN FIFTEEN (15) INCHES NOR MORE THAN TWENTY–FOUR (24) INCHES GREATER THAN THE NOMINAL OUTSIDE DIAMETER OF THE PIPE.

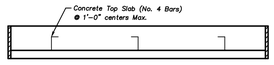
EMBEDMENTS FOR STORM SEWER PIPE

SCALE: N.T.S.



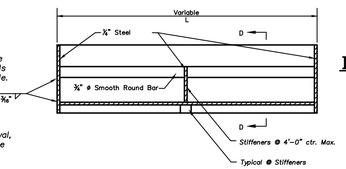
SECTION D–D (6" THROAT)

NTS



TOP VIEW

NTS

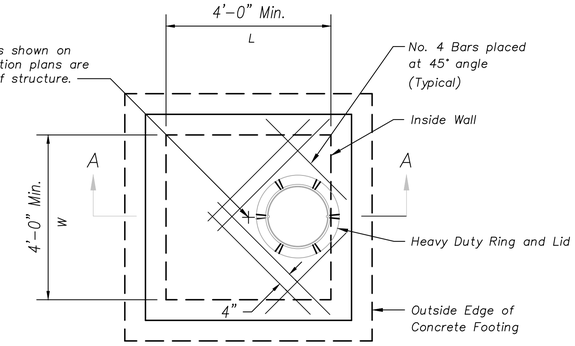


FRONT VIEW (6" THROAT)

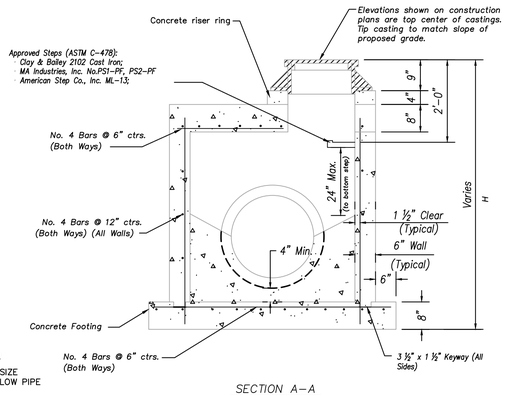
NTS

Steel Inlet Frame Notes:

1. *All welds shall be performed in accordance with appropriate AWS Specifications and Procedures.*
2. *All welds on exposed surfaces shall be dressed so as to provide a pleasing finished appearance.*
3. *The entire frame shall be hot dip zinc coated in accordance with ASTM A–123.*



PLAN



LEGEND

D NOMINAL PIPE SIZE
a EMBEDMENT BELOW PIPE

GRANULAR EMBEDMENT

SECTION A–A

JUNCTION BOX

Junction Box Notes

General

1. All storm sewer structures shall be pre–cast or poured in place. If pre–cast structures are used for publicly financed, maintained or administered construction, the tops shall be poured in place and the wall steel shall be left exposed to a height 2" below the finish top elevation.
2. Pre–cast shop drawings for privately financed projects are to be submitted to the Engineer for approval.
3. 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.
4. 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.

Concrete

5. 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's Municipal Code.
6. 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 Code.
7. Inlet floors shall be shaped with non–reinforced concrete inverts to provide smooth flow.
8. Bevel all exposed edges with 3/4" triangular molding.

Reinforcing Steel

9. Reinforcing steel shall be new billet, minimum Grade 60 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. All reinforcing steel shall be supported on fabricated steel bar supports @ 3'–0" maximum spacing.
13. All dowels shall be accurately placed and securely tied in place prior to placement of bottom slab concrete. Sticking of dowels into fresh or partially hardened concrete will not be acceptable.

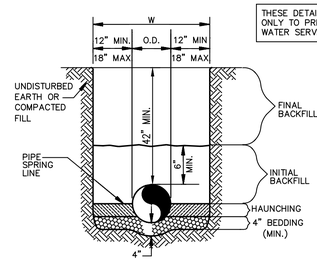
Construction

14. The bottom slab shall be at least 24 hours old before placing sidewall concrete. All sidewall forms shall remain in place a minimum of 24 hours after sidewalls are poured before removal, and after removal shall be immediately treated with membrane curing compound.
15. Pipe connections to pre–cast structures shall have a minimum of 6" of concrete around the entire pipe within 2' of the structure.
16. Material selection and compaction requirements for backfill around structures shall be as specified in City Standards, as promulgated by the Engineer.

BACKFILL

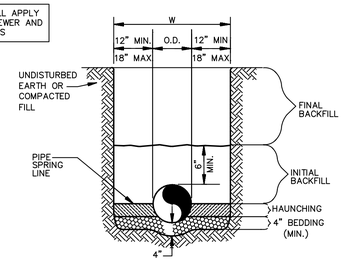
1. ALL MATERIALS ARE CLASSIFIED IN ACCORDANCE WITH ASTM D 2321–89.
2. ALL MATERIALS SHALL BE INSTALLED IN MAXIMUM 8" LOOSE LIFTS IN ACCORDANCE WITH ASTM D 698. CLASS III AND IV–A MATERIALS SHALL BE COMPACTED NEAR OPTIMUM MOISTURE CONTENT.
3. FILL SALVAGED FROM EXCAVATION SHALL BE FREE OF DEBRIS, ORGANICS AND ROCKS LARGER THAN 3".
4. ALL TRENCH EXCAVATIONS SHALL BE SLOPED, SHORED, SHEETED, BRACED, OR OTHERWISE SUPPORTED IN COMPLIANCE WITH OSHA REGULATIONS AND LOCAL ORDINANCES. (SEE SPECIFICATIONS)

THESE DETAILS SHALL APPLY ONLY TO PRIVATE SEWER AND WATER SERVICE LINES



WATER LINE

SCALE: NOT TO SCALE



SANITARY SEWER

SCALE: NOT TO SCALE

GENERAL NOTES

1. BEDDING SHALL BE CLASS I–A WORKED BY HAND. IF GROUNDWATER IS ANTICIPATED, THEN BEDDING SHALL BE CLASS I–B COMPACTED TO 85% STANDARD PROCTOR. (SEE SPECIFICATIONS FOR GRADATION)
2. HAUNCHING SHALL BE WORKED AROUND THE PIPE BY HAND TO ELIMINATE VOIDS AND SHALL BE CLASS I–A OR CLASS I–B OR CLASS II COMPACTED TO 85% PROCTOR.
3. INITIAL BACKFILL SHALL BE CLASS I–A WORKED BY HAND, OR CLASS I–B OR CLASS II COMPACTED TO 95% STANDARD PROCTOR.
4. INITIAL BACKFILL NOT UNDER PAVED AREAS CAN BE CLASS III COMPACTED TO 90% STANDARD PROCTOR.
5. FINAL BACKFILL SHALL BE CLASS I–A, I–B, II, OR III COMPACTED AS NOTED IN NOTES 3. AND 4.
6. FINAL BACKFILL NOT UNDER PAVED AREAS CAN BE CLASS IV–A COMPACTED TO 95% STANDARD PROCTOR.
7. ALL MATERIALS ARE CLASSIFIED IN ACCORDANCE WITH ASTM D 2321–89.
8. ALL MATERIALS SHALL BE INSTALLED IN MAXIMUM 8" LOOSE LIFTS IN ACCORDANCE WITH ASTM D 698. CLASS III AND IV–A MATERIALS SHALL BE COMPACTED NEAR OPTIMUM MOISTURE CONTENT.
9. FILL SALVAGED FROM EXCAVATION SHALL BE FREE OF DEBRIS, ORGANICS AND ROCKS LARGER THAN 3".
10. ALL TRENCH EXCAVATIONS SHALL BE SLOPED, SHORED, SHEETED, BRACED, OR OTHERWISE SUPPORTED IN COMPLIANCE WITH OSHA REGULATIONS AND LOCAL ORDINANCES. (SEE SPECIFICATIONS)

UTILITY TRENCH AND BEDDING

STATE OF MISSOURI
JOHN C. WEBBER
NUMBER PE-2010041153
PROFESSIONAL ENGINEER
08-14-2025

BY	DESCRIPTION	DATE	REV

PREPARED BY:
PHELPS ENGINEERING, INC
1270 N. Winchester
Olathe, Kansas 66061
(913) 393-1155
Fax: (913) 393-1166
www.phelpsengineering.com
PLANNING ENGINEERING IMPLEMENTATION
MISSOURI ENGINEERING CERTIFICATE OF AUTHORIZATION: 2007005058

© 2013 McDonald's USA, LLC

PREPARED FOR: McDonald's USA, LLC

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 project and are not to be used in whole or in part for any other project, location, 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 familiar with the laws and codes of the local jurisdiction of this project is not authorized.

BRAND REVIEW	-
PLANNING	01/05/18
PERMIT	08/14/25
BID	
CONSTRUCTION	
DRAWN BY:	JMO
STATE SITE CODE:	024–0244

DRAWING TITLE: STANDARD DETAILS

PROJECT ADDRESS: 3255 MAIN STREET KANSAS CITY, MISSOURI

PROJECT CAD FILE: 170580

SHEET NO. C506

\\PHELPS–SERVER\Projects\P\170580\Dwg\Permit\C702 TRASH ENCLOSURE.dwg Layout:STORM Aug 14, 2025 – 1:29pm Gabrielle Thomas

PROJECT INFORMATION	
ENGINEERED PRODUCT MANAGER	DIRK HUDSON 816-602-4201 DIRK.HUDSON@ADSPIPE.COM
ADS SALES REP	JEFF STACY 8167151466 JEFF.STACY@ADSPIPE.COM
PROJECT NO.	S458435

Advanced Drainage Systems, Inc.

ADS SiteAssist™ FOR STORMTECH INSTALLATION INSTRUCTIONS VISIT OUR APP

MCDONALD'S PROJECT AT 33RD & MAIN

KANSAS CITY, MO, USA

MC-3500 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH MC-3500.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 45x76 DESIGNATION SS.
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
6. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
7. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 500 LBS/FT/%. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
   - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
   - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
   - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.
10. MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH NOTE #6.32 FOR MANIFOLD SIZING GUIDANCE. DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
11. ADS DOES NOT DESIGN OR PROVIDE MEMBRANE LINER SYSTEMS. TO MINIMIZE THE LEAKAGE POTENTIAL OF LINER SYSTEMS, THE MEMBRANE LINER SYSTEM SHOULD BE DESIGNED BY A KNOWLEDGEABLE GEOTEXTILE PROFESSIONAL AND INSTALLED BY A QUALIFIED CONTRACTOR.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF MC-3500 CHAMBER SYSTEM

1. STORMTECH MC-3500 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 6" (150 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. INLET AND OUTLET MANIFOLDS MUST BE INSERTED A MINIMUM OF 12" (300 mm) INTO CHAMBER END CAPS.
8. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE; AASHTO M43 #3, 357, 4, 467, 5, 56, OR 57.
9. STONE MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND PRESERVE ROW SPACING.
10. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
11. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
2. THE USE OF EQUIPMENT OVER MC-3500 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADER, DUMP TRUCK, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY USING THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-800-821-6710 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

©2025 ADS, INC.

PROPOSED LAYOUT

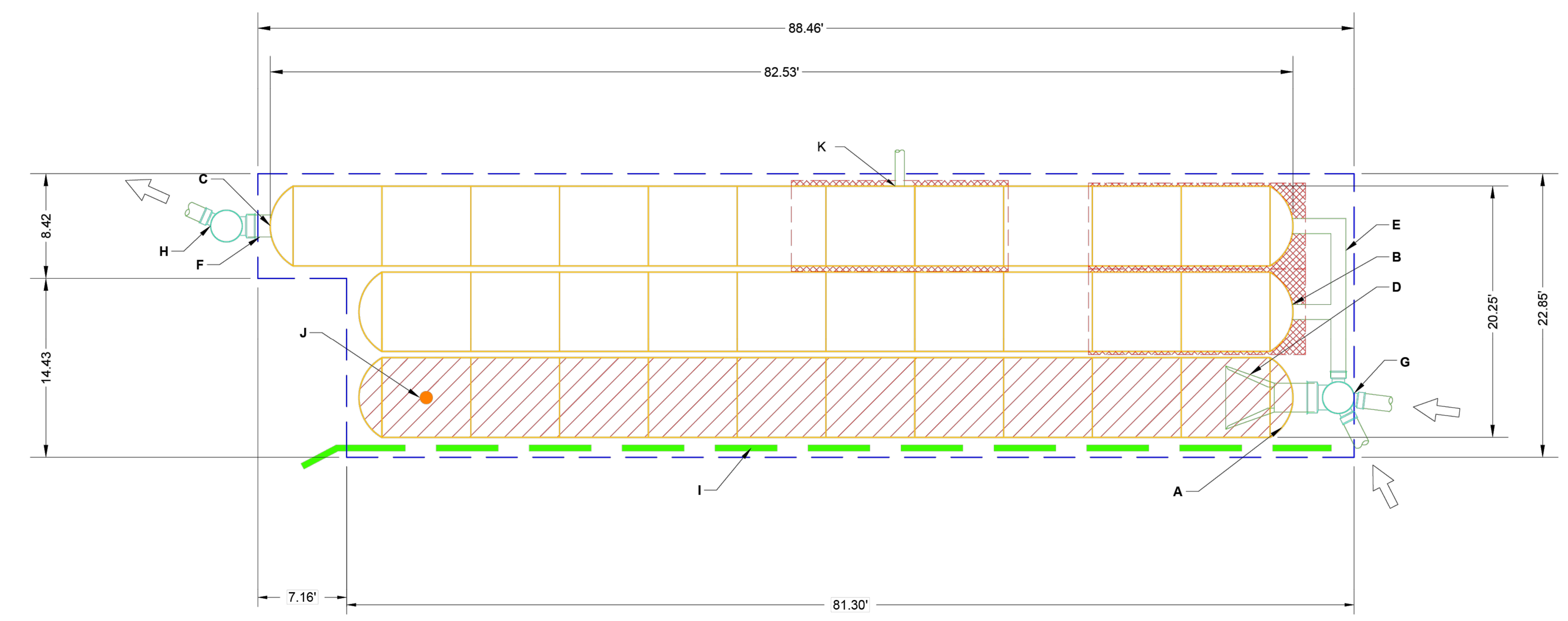
31	STORMTECH MC-3500 CHAMBERS
6	STORMTECH MC-3500 END CAPS
12	STONE ABOVE (in)
9	STONE BELOW (in)
40	% STONE VOID
6,319	**INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED)**
1918	SYSTEM AREA (ft²)
223	SYSTEM PERIMETER (ft)

PROPOSED ELEVATIONS

982.50	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED)
976.50	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC)
976.00	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC)
976.00	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT)
976.00	MINIMUM ALLOWABLE GRADE (TOP OF RIGID PAVEMENT)
975.50	TOP OF STONE
974.50	TOP OF MC-3500 CHAMBER
972.95	12" TOP MANIFOLD/CONNECTION INVERT
971.25	INSERTA TEE SIDE INLET CONNECTION INVERT
970.92	24" ISOLATOR ROW PLUS CONNECTION INVERT
970.90	18" BOTTOM MANIFOLD/CONNECTION INVERT
970.75	BOTTOM OF MC-3500 CHAMBER
970.00	UNDERDRAIN INVERT
970.00	BOTTOM OF STONE

*INVERT ABOVE BASE OF CHAMBER

PART TYPE	ITEM ON LAYOUT	DESCRIPTION	INVERT*	MAX FLOW
PREFABRICATED END CAP	A	24" BOTTOM PRE-CORED END CAP, PART#: MC3500IEPP24BC / TYP OF ALL 24" BOTTOM CONNECTIONS AND ISOLATOR PLUS ROWS	2.06"	
PREFABRICATED END CAP	B	12" TOP PRE-CORED END CAP, PART#: MC3500IEPP12T / TYP OF ALL 12" TOP CONNECTIONS	26.36"	
PREFABRICATED END CAP	C	18" BOTTOM PRE-CORED END CAP, PART#: MC3500IEPP18BC / TYP OF ALL 18" BOTTOM CONNECTIONS	1.77"	
FLAMP	D	INSTALL FLAMP ON 24" ACCESS PIPE / PART#: MCFLAMP		
MANIFOLD	E	12" x 12" TOP MANIFOLD, ADS N-12	26.36"	
PIPE CONNECTION	F	18" BOTTOM CONNECTION	1.77"	
NYLOPLAST (INLET W/ ISO PLUS ROW)	G	30" DIAMETER (24.00" SUMP MIN)		5.0 CFS IN
NYLOPLAST (OUTLET)	H	30" DIAMETER (DESIGN BY ENGINEER)		4.0 CFS OUT
UNDERDRAIN	I	6" ADS N-12 DUAL WALL PERFORATED HDPE UNDERDRAIN (SOLID OUTSIDE PERIMETER STONE)		
INSPECTION PORT	J	4" SEE DETAIL		
INSERTA TEE	K	8" DIAMETER (DESIGN BY ENGINEER)		



ISOLATOR ROW PLUS (SEE DETAIL)

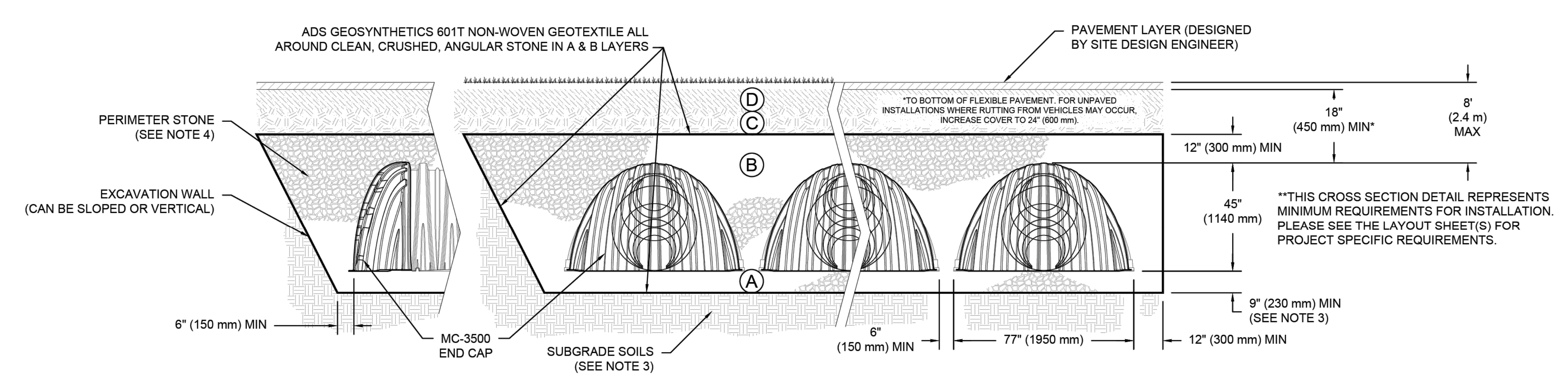
PLACE MINIMUM 17.50' OF ADSPLUS125 WOVEN GEOTEXTILE OVER BEDDING STONE AND UNDERNEATH CHAMBER FEET FOR SCOUR PROTECTION AT ALL CHAMBER INLET ROWS

BED LIMITS

ACCEPTABLE FILL MATERIALS: STORMTECH MC-3500 CHAMBER SYSTEMS

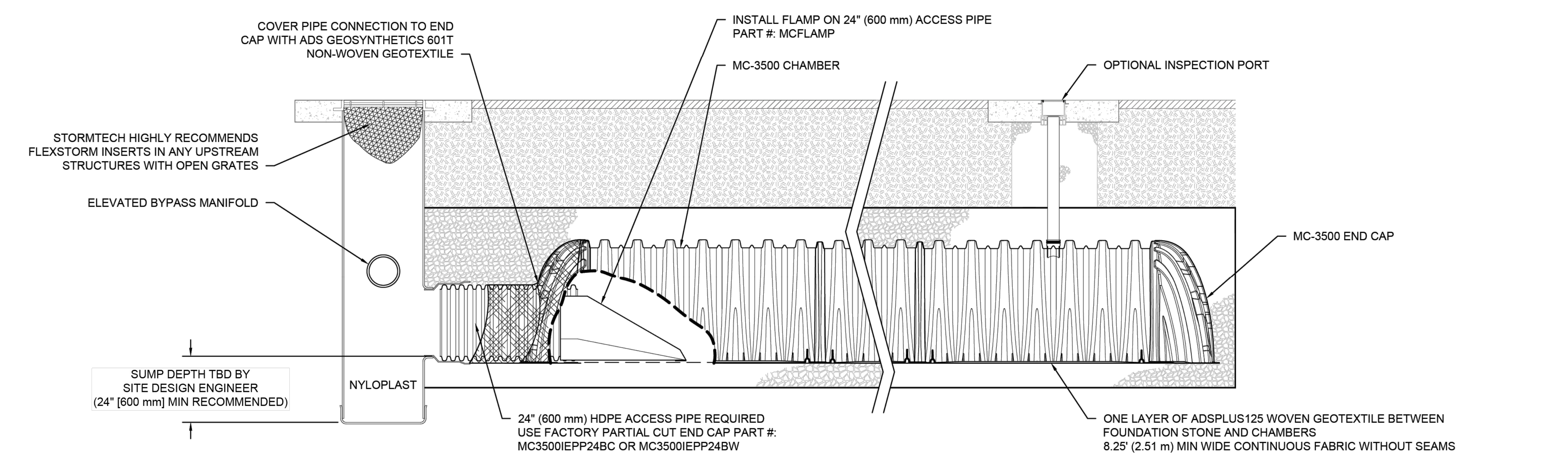
MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE[5]	AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.
5. WHERE RECYCLED CONCRETE AGGREGATE IS USED IN LAYERS 'A' OR 'B' THE MATERIAL SHOULD ALSO MEET THE ACCEPTABILITY CRITERIA OUTLINED IN TECHNICAL NOTE 6.20 "RECYCLED CONCRETE STRUCTURAL BACKFILL".



NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 45x76 DESIGNATION SS.
2. MC-3500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS. REFERENCE STORMTECH DESIGN MANUAL FOR BEARING CAPACITY GUIDANCE.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 500 LBS/FT/%. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.



MC-3500 ISOLATOR ROW PLUS DETAIL
NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW PLUS FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW PLUS FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR PLUS ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW PLUS
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW PLUS THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

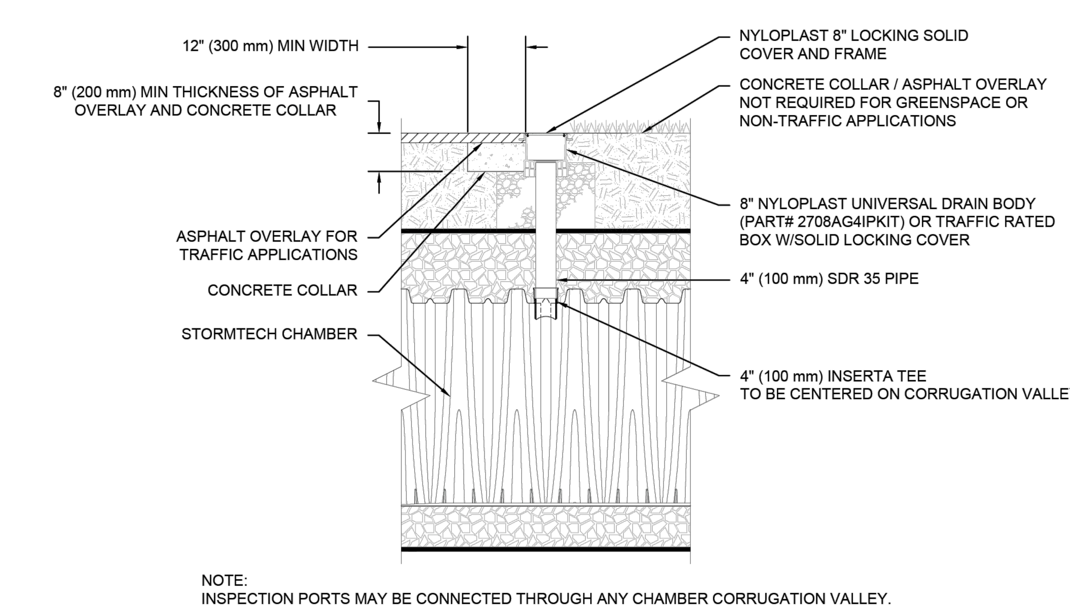
STEP 2) CLEAN OUT ISOLATOR ROW PLUS USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.
2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



NOTE:
INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION VALLEY.

4" PVC INSPECTION PORT DETAIL (MC SERIES CHAMBER)
NTS

MCDONALD'S PROJECT AT 33RD & MAIN
KANSAS CITY, MO, USA
DATE: 07/07/2025 DRAWN: SVO
PROJECT #: S458435 CHECKED: XXX

DATE	DWN	CHK
8/6/2025	CTS	

StormTech® Chamber System

ADS 4640 TRUEMAN BLVD HILLIARD, OH 43026 1-800-733-7473

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS/STORMTECH UNDER THE DIRECTION OF THE PROJECT'S ENGINEER OF RECORD ('EOR') OR OTHER PROJECT REPRESENTATIVE. THIS DRAWING IS NOT INTENDED FOR USE IN BIDDING OR CONSTRUCTION WITHOUT THE EOR'S PRIOR APPROVAL. EOR SHALL REVIEW THIS DRAWING PRIOR TO BIDDING AND/OR CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE EOR TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

SHEET 2 OF 6

MCDONALD'S PROJECT AT 33RD & MAIN
KANSAS CITY, MO, USA
DATE: 07/07/2025 DRAWN: SVO
PROJECT #: S458435 CHECKED: XXX

SHEET 3 OF 6

SHEET 4 OF 6

REV	DATE	DESCRIPTION	BY

PREPARED BY: PHELPS ENGINEERING, INC
1270 N. Winchester
Olathe, Kansas 66061
(913) 393-1155
Fax (913) 393-1166
www.phelpsengineering.com
PLANNING ENGINEERING IMPLEMENTATION

MISSOURI ENGINEERING CERTIFICATE OF AUTHORIZATION: 2007005058

PREPARED FOR: McDonald's USA, LLC

©2013 McDonald's USA, LLC
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.

BRAND REVIEW	PLANNING	PERMIT	BID	CONSTRUCTION
–	01/05/18	08/14/25		

DRAWING TITLE: **STANDARD DETAILS**

PROJECT ADDRESS: 3255 MAIN STREET KANSAS CITY, MISSOURI

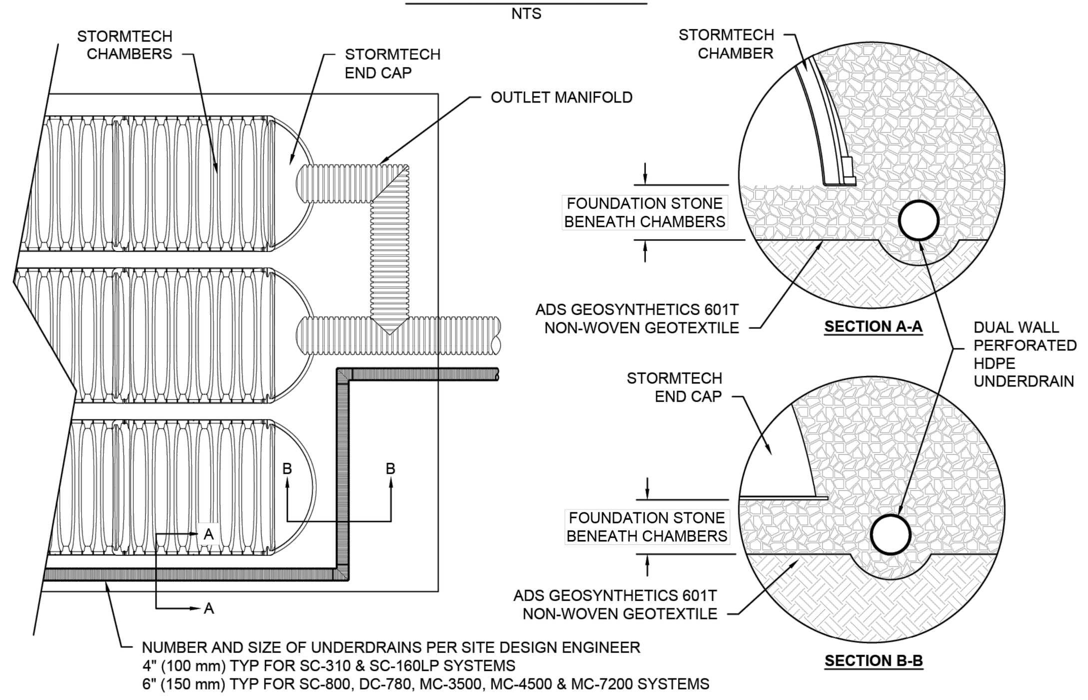
STATE SITE CODE: 024-0244 | DRAWN BY: JMO

PROJECT CAD FILE: 170580

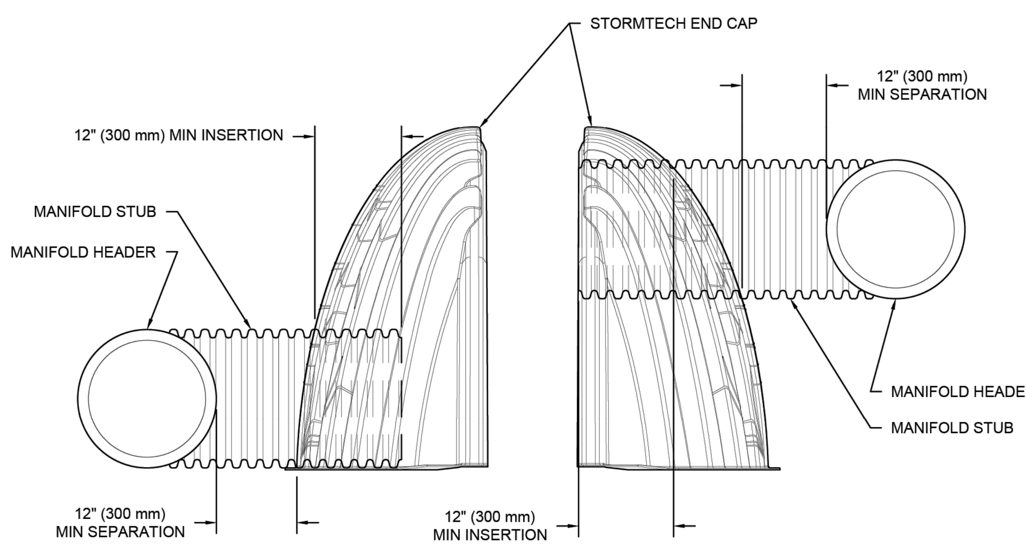
SHEET NO. C507

\\PHELPS-SERVER\Projects\P\170580\Dwg\Permit\DETAILS ADS.dwg Layout: ADS-1 Aug 14, 2025 – 3:11pm John Webber

UNDERDRAIN DETAIL
NTS

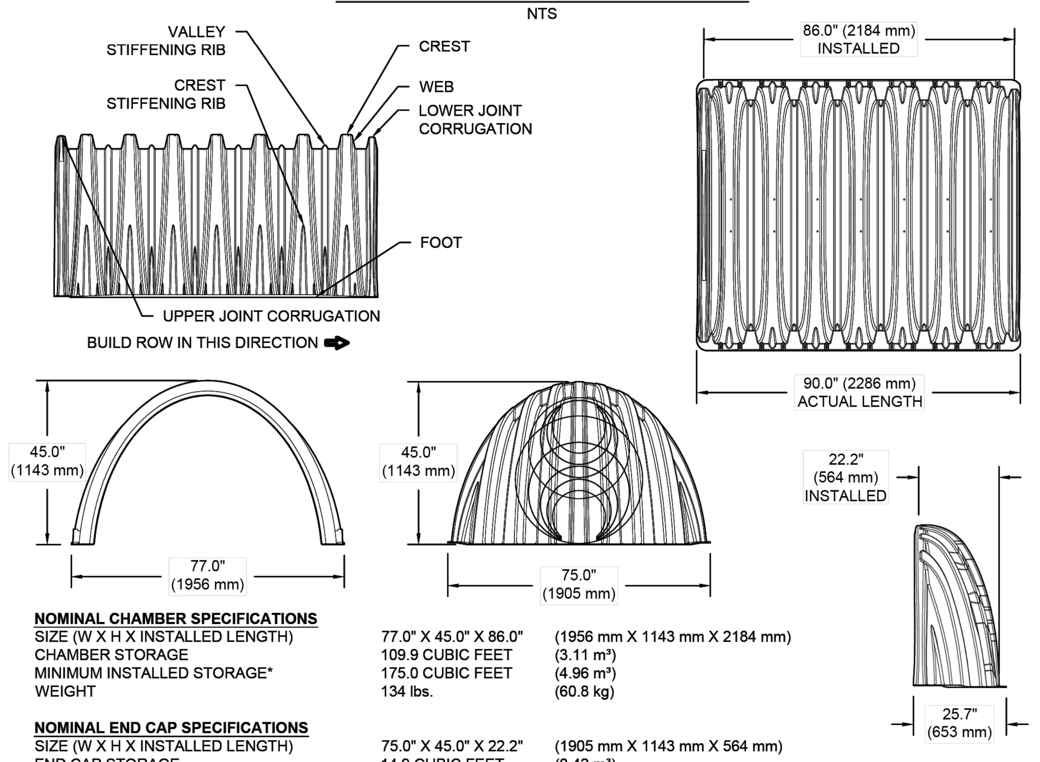


MC-SERIES END CAP INSERTION DETAIL
NTS



NOTE: MANIFOLD STUB MUST BE LAID HORIZONTAL FOR A PROPER FIT IN END CAP OPENING.

MC-3500 TECHNICAL SPECIFICATION
NTS



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	77.0" X 45.0" X 86.0"	(1956 mm X 1143 mm X 2184 mm)
CHAMBER STORAGE	109.9 CUBIC FEET	(3.11 m³)
MINIMUM INSTALLED STORAGE*	175.0 CUBIC FEET	(4.96 m³)
WEIGHT	134 lbs.	(60.8 kg)

NOMINAL END CAP SPECIFICATIONS

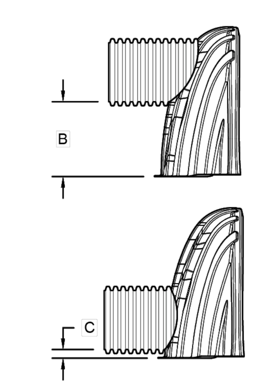
SIZE (W X H X INSTALLED LENGTH)	75.0" X 45.0" X 22.2"	(1905 mm X 1143 mm X 564 mm)
END CAP STORAGE	14.9 CUBIC FEET	(0.42 m³)
MINIMUM INSTALLED STORAGE*	45.1 CUBIC FEET	(1.28 m³)
WEIGHT	49 lbs.	(22.2 kg)

*ASSUMES 12" (305 mm) STONE ABOVE, 9" (229 mm) STONE FOUNDATION, 6" SPACING BETWEEN CHAMBERS, 6" (152 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY

STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
END CAPS WITH A WELDED CROWN PLATE END WITH "C"
END CAPS WITH A PREFABRICATED WELDED STUB END WITH "W"

PART #	STUB	B	C
MC3500IEPP06T	6" (150 mm)	33.21" (844 mm)	---
MC3500IEPP06B		---	0.66" (17 mm)
MC3500IEPP08T	8" (200 mm)	31.16" (791 mm)	---
MC3500IEPP08B		---	0.81" (21 mm)
MC3500IEPP10T	10" (250 mm)	29.04" (738 mm)	---
MC3500IEPP10B		---	0.93" (24 mm)
MC3500IEPP12T	12" (300 mm)	26.36" (670 mm)	---
MC3500IEPP12B		---	1.35" (34 mm)
MC3500IEPP15T	15" (375 mm)	23.39" (594 mm)	---
MC3500IEPP15B		---	1.50" (38 mm)
MC3500IEPP18TC	18" (450 mm)	20.03" (509 mm)	---
MC3500IEPP18TW			
MC3500IEPP18BC		---	1.77" (45 mm)
MC3500IEPP18BW			
MC3500IEPP24TC	24" (600 mm)	14.48" (368 mm)	---
MC3500IEPP24TW			
MC3500IEPP24BC		---	2.06" (52 mm)
MC3500IEPP24BW			
MC3500IEPP30BC	30" (750 mm)	---	2.75" (70 mm)

NOTE: ALL DIMENSIONS ARE NOMINAL



CUSTOM PRECORED INVERTS ARE AVAILABLE UPON REQUEST. INVENTORIED MANIFOLDS INCLUDE 12-24" (300-600 mm) SIZE ON SIZE AND 15-48" (375-1200 mm) ECCENTRIC MANIFOLDS. CUSTOM INVERT LOCATIONS ON THE MC-3500 END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPE SIZES GREATER THAN 10" (250 mm). THE INVERT LOCATION IN COLUMN 'B' ARE THE HIGHEST POSSIBLE FOR THE PIPE SIZE.

MCDONALD'S PROJECT AT 33RD & MAIN
KANSAS CITY, MO, USA
DATE: 07/07/2025 | DRAWN: SVO
PROJECT #: S458435 | CHECKED: XXX

DATE	DWN	CHK
8/6/2025	CTS	

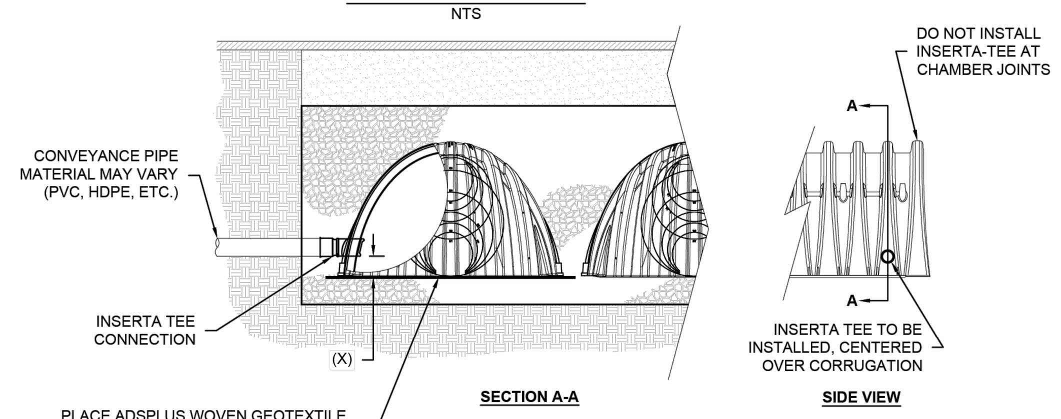
THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS/STORMTECH UNDER THE DIRECTION OF THE PROJECT'S ENGINEER OF RECORD ("EOR") OR OTHER PROJECT REPRESENTATIVE. THIS DRAWING IS NOT INTENDED FOR USE IN BIDDING OR CONSTRUCTION WITHOUT THE EOR'S PRIOR APPROVAL. EOR SHALL REVIEW THIS DRAWING PRIOR TO BIDDING AND/OR CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE EOR TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

StormTech® Chamber System

ADS
4640 TRUEMAN BLVD
HILLIARD, OH 43026
1-800-733-7473

SHEET 5 OF 6

INSERTA TEE DETAIL
NTS

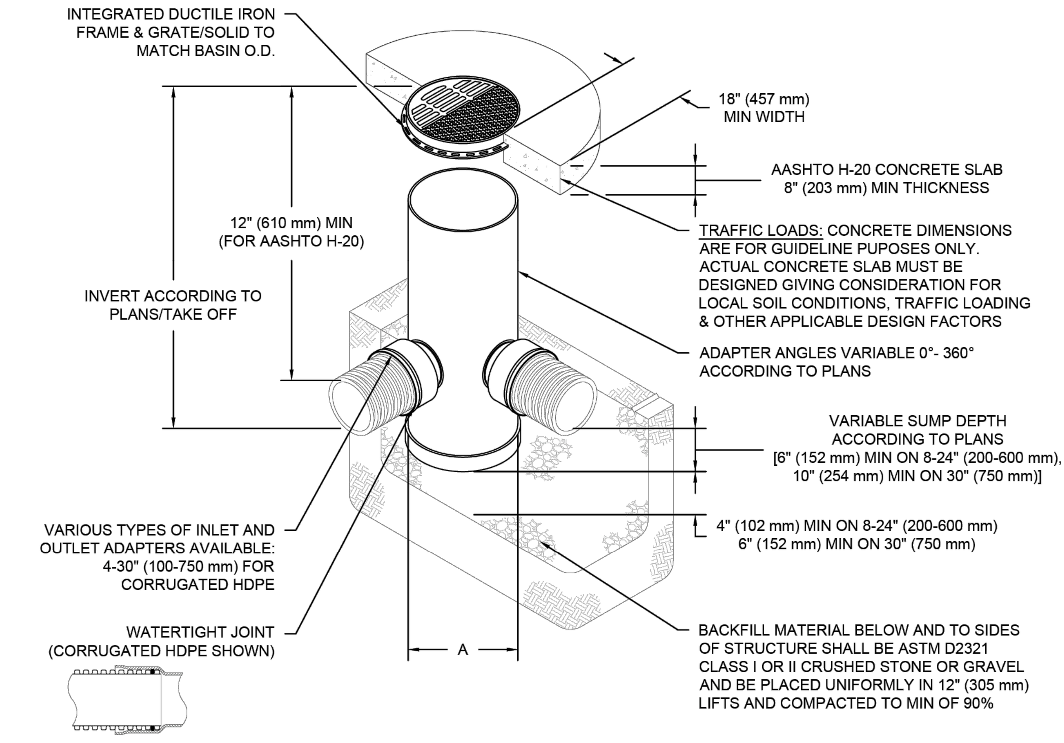


PLACE ADSPLUS WOVEN GEOTEXTILE (CENTERED ON INSERTA-TEE INLET) OVER BEDDING STONE FOR SCOUR PROTECTION AT SIDE INLET CONNECTIONS. GEOTEXTILE MUST EXTEND 6" (150 mm) PAST CHAMBER FOOT

NOTES:
- PART NUMBERS WILL VARY BASED ON INLET PIPE MATERIALS. CONTACT STORMTECH FOR MORE INFORMATION.
- CONTACT ADS ENGINEERING SERVICES IF INSERTA TEE INLET MUST BE RAISED AS NOT ALL INVERTS ARE POSSIBLE.

CHAMBER	MAX DIAMETER OF INSERTA TEE	HEIGHT FROM BASE OF CHAMBER (X)
SC-310	6" (150 mm)	4" (100 mm)
SC-800	10" (250 mm)	4" (100 mm)
DC-780	10" (250 mm)	4" (100 mm)
MC-3500	12" (300 mm)	6" (150 mm)
MC-4500	12" (300 mm)	8" (200 mm)
MC-7200	12" (300 mm)	8" (200 mm)
INSERTA TEE FITTINGS AVAILABLE FOR SDR 26, SDR 35, SCH 40 IPS GASKETED & SOLVENT WELD, N-12, HP STORM, C-900 OR DUCTILE IRON		

NYLOPLAST DRAIN BASIN
NTS



NOTES
1. 8-30" (200-750 mm) GRATES/SOLID COVERS SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
2. 12-30" (300-750 mm) FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
3. DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS
4. DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS & HANCOR DUAL WALL) & SDR 35 PVC
5. FOR COMPLETE DESIGN AND PRODUCT INFORMATION: **WWW.NYLOPLAST-US.COM**
6. TO ORDER CALL: **800-821-6710**

A	PART #	GRATE/SOLID COVER OPTIONS		
8" (200 mm)	2808AG	PEDESTRIAN LIGHT DUTY	STANDARD LIGHT DUTY	SOLID LIGHT DUTY
10" (250 mm)	2810AG	PEDESTRIAN LIGHT DUTY	STANDARD LIGHT DUTY	SOLID LIGHT DUTY
12" (300 mm)	2812AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
15" (375 mm)	2815AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
18" (450 mm)	2818AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
24" (600 mm)	2824AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
30" (750 mm)	2830AG	PEDESTRIAN AASHTO H-20	STANDARD AASHTO H-20	SOLID AASHTO H-20

MCDONALD'S PROJECT AT 33RD & MAIN
KANSAS CITY, MO, USA
DATE: 07/07/2025 | DRAWN: SVO
PROJECT #: S458435 | CHECKED: XXX

DATE	DWN	CHK
8/6/2025	CTS	

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS/STORMTECH UNDER THE DIRECTION OF THE PROJECT'S ENGINEER OF RECORD ("EOR") OR OTHER PROJECT REPRESENTATIVE. THIS DRAWING IS NOT INTENDED FOR USE IN BIDDING OR CONSTRUCTION WITHOUT THE EOR'S PRIOR APPROVAL. EOR SHALL REVIEW THIS DRAWING PRIOR TO BIDDING AND/OR CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE EOR TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

Nyloplast®

ADS
4640 TRUEMAN BLVD
HILLIARD, OH 43026
1-800-733-7473

SHEET 6 OF 6



\\PHELPS-SERVER\Projects\P\170580\Dwg\Permit\DETAILS ADS.dwg Layout: ADS-2 Aug 14, 2025 – 3:11pm John Webber

REV	DATE	DESCRIPTION	BY

PREPARED BY:
PLANNING
ENGINEERING
IMPLEMENTATION

PHELPS ENGINEERING, INC
1270 N. Winchester
Olathe, Kansas 66061
(913) 393-1155
Fax (913) 393-1166
www.phelpsengineering.com

MISSOURI ENGINEERING CERTIFICATE OF AUTHORIZATION: 2007005058

PREPARED FOR:
McDonald's USA, LLC

©2013 McDonald's USA, LLC

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.

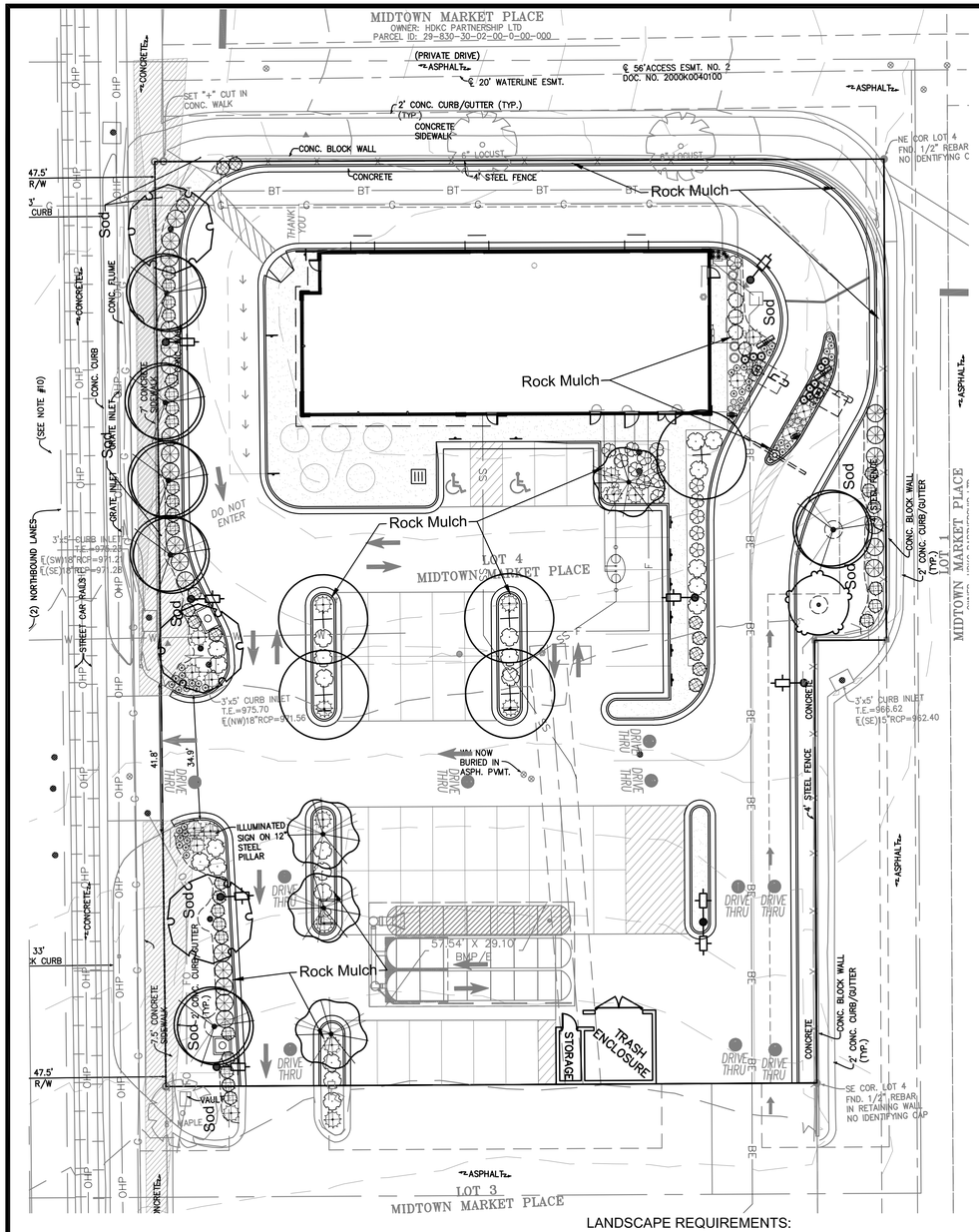
BRAND REVIEW: –
PLANNING: 01/05/18
PERMIT: 08/14/25
BID
CONSTRUCTION

DRAWING TITLE: **STANDARD DETAILS**

PROJECT ADDRESS:
3255 MAIN STREET
KANSAS CITY, MISSOURI

PROJECT CAD FILE: 170580
STATE SITE CODE: 024-0244
DRAWN BY: JMO

SHEET NO. C508



PLANT SCHEDULE

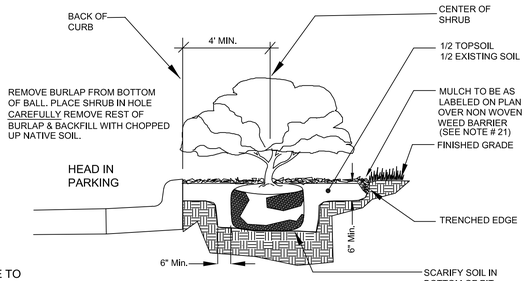
SYMBOL	QTY	BOTANICAL / COMMON NAME	CONT	CAL
TREES				
	3	Acer platanoides `Superform` / Superform Maple	B & B	2" cal.
	1	Chionanthus virginicus / White Fringetree	B & B	1.5"Cal
	5	Gleditsia triacanthos `Skyline` / `Skyline` Honey Locust	B & B	2" cal.
	4	Syringa reticulata `Ivory Silk` / Ivory Silk Japanese Tree Lilac	B & B	2"Cal
	6	Zelkova serrata 'Green Vase' / Sawleaf Zelkova	B & B	2"Cal

SYMBOL	QTY	BOTANICAL / COMMON NAME	CONT
SHRUBS			
	4	Ilex crenata `Soft Touch` / Soft Touch Japanese Holly	3 gal
	40	Ilex glabra 'Nordic' / Nordic Inkberry	3 gal
	23	Juniperus chinensis `Sea Green` / Sea Green Juniper	5 gal
	22	Juniperus virginiana `Grey Owl` / Grey Owl Juniper	3 gal
	1	Juniperus virginiana `Taylor` / Taylor Eastern Redcedar	6ft.
	6	Liriope muscari / Lily Turf	1 gal
	3	Rhus aromatica / Fragrant Sumac	3 gal
	23	Rhus aromatica `Gro-Low` / Gro-Low Fragrant Sumac	3 gal.
	20	Rosa x `Novarospop` / Popcorn Drift Rose	1 gal
	16	Spiraea x bumalda `Anthony Waterer` / Anthony Waterer Spiraea	3 gal
GRASSES			
	9	Panicum virgatum `Shenendoah` / Burgundy Switch Grass	1 gal
	41	Pennisetum alopecuroides `Hameln` / Hameln Dwarf Fountain Grass	1 gal

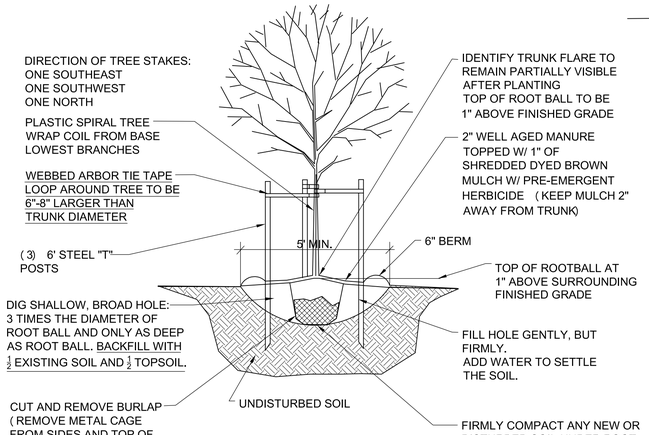
⚠ Notes for City of Kansas City, Missouri
1.Per 88-424-03-L, a development plan (including rezoning to UR or MPD), project plan, special use permit, or preliminary plat has been previously approved; or an application for approval of such that has been deemed completed is exempt from 88-424.
2.Refer to architectural plans for 4-sided trash enclosure structure's compliance with 88-425-08-A and the Main Street Overlay District.
3.Refer to architectural plans for 4-sided mechanical/utility equipment structure's compliance with 88-425-08-A and the Main Street Overlay District.

General Landscape Notes:

1. Contractor shall verify the existence and location of all utilities before starting any work.
2. Contractor shall verify all landscape material quantities and shall report any discrepancies to the Landscape Architect prior to installation.
3. Contractor shall make no substitutions without the approval of the Landscape Architect.
4. Contractor shall stake layout plan in the field and shall have the layout approved by the Landscape Architect before proceeding with the installation.
5. All shrub beds within lawn areas shall receive a trenched edge.
6. Shrub beds shall be mulched with 3" of rock or wood mulch as labeled on the plan over a felt type soil separator fabric. (See note 21.)
7. All shrub beds shall be treated with the pre-emergent herbicide Pre M 60 DG (granular) or an approved equal in accordance with the manufacturer's instructions.
8. All disturbed areas shall be fertilized, sodded with a Turf-Type Tall Fescue grass seed blend including public ROW as noted on plan.
9. Fertilizer for lawn, trees and container stock areas shall be a balanced fertilizer applied at rates per manufacturers recommendations and soil test results.
10. Contractor shall warranty all landscape work and plant material for a period of one year from date of acceptance of the work by the Owner.
11. Any plant material which dies during the one year warranty period shall be replaced by the Contractor during normal planting seasons.
12. Contractor shall be responsible for maintenance of the plants until completion of the job and acceptance by the Owner. After initial acceptance, maintenance shall be by the owner.
13. All plant names on the plant list conform to the Standardized Plant Names prepared by the American Joint Committee on Horticultural Nomenclature or to names generally accepted in the nursery trade.
14. All plant material shall be specimen quality stock as determined in the "American Standards For Nursery Stock" published by The American Association of Nurseryman, free of plant diseases and pest, of typical growth of the species and having a healthy, normal root system.
15. Sizes indicated on the plant list are the minimum, acceptable size. In no case will sizes less than the specified sizes be accepted.
16. Plants shall not be pruned prior to delivery to the site or after installation except for those branches that have been damaged in some way.
17. Plants shall not have name tags removed prior to final inspection.
18. Contractor shall be responsible for weed control on the project during and after construction until the project is turned over to the owner.
19. All plantings shall receive a commercial transplant additive per manufacturers recommended rates and instructions for application.
20. Successful landscape bidder shall be responsible for the design of an irrigation system to be approved by the Owner prior to construction.
21. Rock mulch shall be Kansas Large 2" Gravel available from Sturgis Materials or approved equal. And dyed brown shredded hardwood.



SHRUB BED & PARKING SETBACK DETAIL
NO SCALE

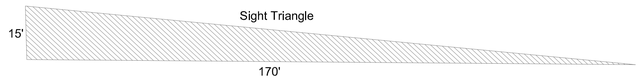


TREE PLANTING DETAIL
NO SCALE

LANDSCAPE REQUIREMENTS:

	Required	Provided
Street Trees 1 per 30ft.		
Main Street 222lf.divided by 30 =7.4	7.4	8
Site Trees 1 per 5000sf. of principal bldg. (4164sf.)	1	3
Perimeter of Vehicular Use Areas		
Adjacent to Streets (1 Tree per 30ft.*)		
Continuous Evergreen Shrubs Min. 3' tall	Cont.	Cont.
Interior Parking Landscape (35sf. of island per car space)	1575	1583**
Island Plant materials (1 tree per 5 car spaces)	9	9
(1 shrub per car space)	45	45

*Street trees can be in lieu of these trees.
**We're counting the south half of the most southern island since we are landscaping it.



Transplant Additives:
1. Apply a commercial transplant additive (approved by the Landscape Architect) to all trees, shrubs and groundcover at rates recommended by the manufacturer during the planting. This item shall be subsidiary to other planting items.
2. Transplant additive shall be Plant Health Care Inc., "Mycor Tree Saver" mycorrizal fungal transplant innoculant or equivilent equal containing the appropriate species of mycorrhizal fungi and bacteria, fungi stimulant, water retaining agents, mineral & organic nutrients and inert ingredients.
3. Demonstrate installation of all transplant additives for this project to the Landscape Architect. Provide actual additive product as evidence of sufficient quantity of product. (Empty product bags to be stockpiled for inspection by the Landscape Architect prior to disposal).
4. Number of transplant additive packets per tree, shrub or grouncover shall be applied according to the manufacturer's recommended rates and instructions. For all plants the packet mix shall be evenly distributed into the upper approximately 8" of backfill soil next to the rootball. Do not place mix in the bottom of the planting pit.
5. Furnishing and application of transplant additive shall be subsidiary to the planting operations.

Utility Note:
Utilities shown on plan are diagramatic and some may be missing. Before starting any construction call appropriate locating service. In Missouri call 1-800-DIG-RITE (344-7483).

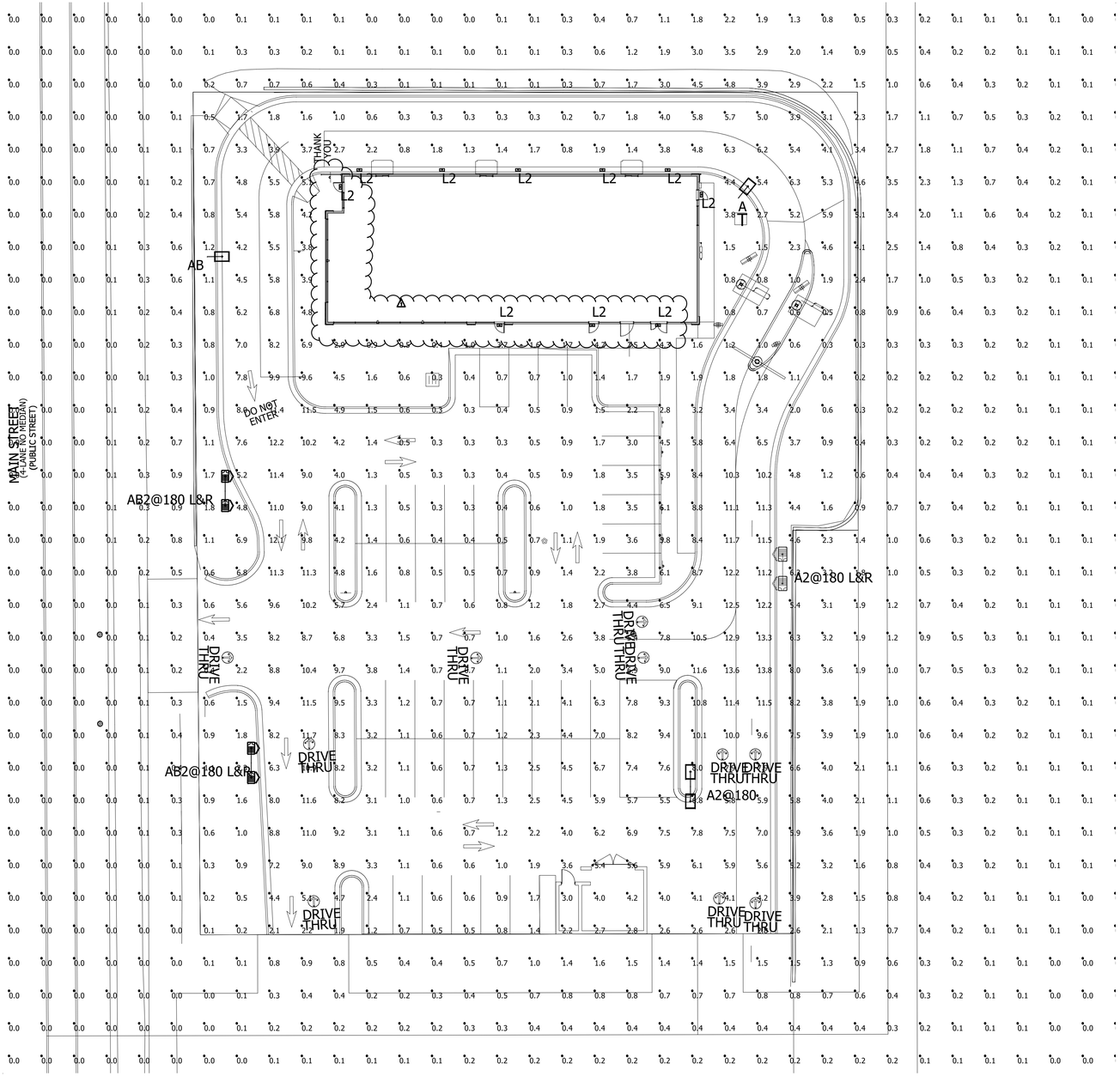


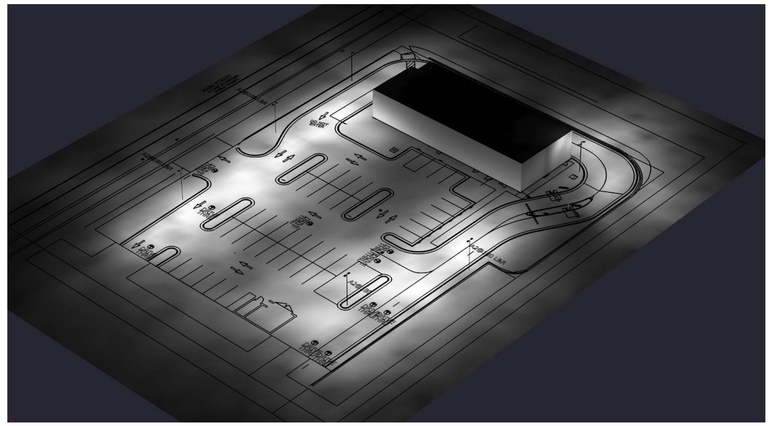


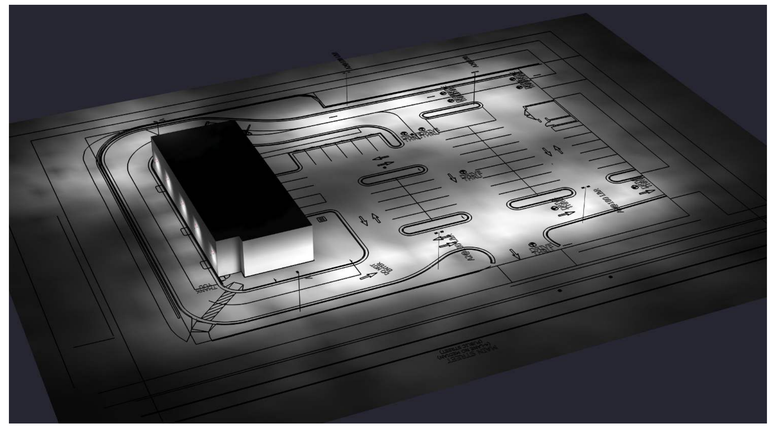
05/15/2025

Landscape Plan
McDonald's
3255 Main Street
Kansas City, Missouri

Oppermann LandDesign, LLC
Land Planning Landscape Architecture
92 Debra Lane
New Windsor,NY 12553
peteoppermann56@gmail.com
913.522.5598







Luminaire Schedule								
Symbol	Qty	Label	LLF	Description	Lum. Watts	EPA	Mtg Height	Pole Type
	1	A	0.850	RAR2-480L-240-5K7-4W	226.9	0.607	21	SES-18-40-1-TA-GL-xx (4")
	1	A2@180	0.850	RAR2-480L-240-5K7-4W	226.9	0.607	21	SES-18-40-1-TA-GL-xx (4")
	1	A2@180 L&R	0.850	RAR2-480L-240-5K7-4W (L/R)	226.9	0.607	21	SES-18-40-1-TA-GL-xx (4")
	1	AB	0.850	RAR-2-480L-240-5K7-4W-BC	226.9	0.607	21	SES-18-40-1-TA-GL-xx (4")
	2	AB2@180 L&R	0.850	RAR-2-480L-240-5K7-4W-BC (L/R)	226.9	0.607	21	SES-18-40-1-TA-GL-xx (4")
	10	L2	0.850	RWSC-36L-5K-DO-U-PS	14.4			

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
Overall Area	Illuminance	Fc	1.13	13.8	0.0	N.A.	N.A.
Paved Area	Illuminance	Fc	4.24	13.8	0.2	21.20	69.00

POLE FIXTURES ARE FULL CUT-OFF
TILT = 0
CALCULATIONS AT GRADE
POLE MOUNTING HEIGHT = XX FT
(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 XX.X @ WIND LOAD XX MPH

1: THIS LIGHTING DESIGN IS BASED ON INFORMATION SUPPLIED BY OTHERS TO SECURITY LIGHTING. SITE DETAILS PROVIDED HERON ARE REPRODUCED ONLY AS A VISUALIZATION AID. FIELD DEVIATIONS MAY SIGNIFICANTLY PREDICTED PERFOMANCE. 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 REPRESENATIVE.
4: THIS LAYOUT MAY NOT MEET TITLE 24 OR LOCAL ENERGY REQUIREMENTS. IF THIS LAYOUT NEEDS TO BE COMPLIANT WITH TITLE 24 OR OTHER ENERGY REQUIREMENTS, PLEASE CONSULT THE FACTORY WITH SPECIFIC DETAILS AND REQUIREMENTS SO THAT REVISIONS CAN BE MADE.
5. THE FOOTCANDLE LEVELS SHOWN ARE BASED ON THE FOLLOWING CRITERIA. ANY SUBSTITUTIONS IN SPEFICIED FIXTURES OR CHANGES TO LAYOUT WILL AFFECT LIGHTING LEVELS SHOWN AND WILL NOT BE THE RESPONSABILITY OF SECURITY LIGHTING.
6. CALCULATION GRID BASED ON 10' X 10' SPACING.
7. THIS DRAWING MEETS OR EXCEEDS MCDONALD'S CURRENT ILLUNINCATION SPECIFICATIONS OF 3-4 FC AVERAGE, UNLESS SUPERCEDED BY OTHER REQUIMENTS.

SECURITY LIGHTING™

Revisions		
R1	05/15/25	Updated w/ latest civil base
R2	09/23/25	Reduce spill light

Drawn By:
Checked By:
Date:9/23/2025
Scale:

McDONALD'S NSN #7321

3255 MAIN STREET
KANSAS CITY, MO

A250940R2