

# PRELIMINARY DESIGN CHECK

# VANDIVER ROAD SIDEWALK

## TAP 2101514

### EXISTING SURVEY LEGEND

<b>LINWORK</b>	SS SANITARY SEWER	949 INTERMEDIATE CONTOUR
FM SANITARY SEWER FORCE MAIN	950 INDEX CONTOUR	PL PROPERTY LINE
ST STORM SEWER	ROW RIGHT OF WAY	SECTION LINE
W WATER	ESMT EASEMENT	GUARD RAIL
U UNDERGROUND ELECTRIC	X FIELD FENCE	CHAIN LINK FENCE
OE OVERHEAD ELECTRIC	O WOODEN FENCE	AGRICULTURE LINE
C UNDERGROUND COMMUNICATIONS	AG AGRICULTURE LINE	EDGE OF TREES
OC OVERHEAD COMMUNICATIONS	LIMIT LIMITS OF DISTURBANCE	ROAD CENTERLINE
T UNDERGROUND TELEPHONE	WATERWAY FLOWLINE	
OT OVERHEAD TELEPHONE		
FO UNDERGROUND FIBER OPTIC		
OFS OVERHEAD FIBER OPTIC		
UV UNDERGROUND TV/CABLE		
OVC OVERHEAD TV/CABLE		
G GAS		
TR TRAFFIC		

**UTILITY QUALITY LEVELS:**  
UTILITY QUALITY LEVELS ARE BASED ON THE CI/ASCE 38-02 STANDARD.

**UTILITY QUALITY LEVEL A:**  
PRECISE HORIZONTAL AND VERTICAL LOCATION OF UTILITIES OBTAINED BY THE ACTUAL EXPOSURE (OR VERIFICATION OF PREVIOUSLY EXPOSED AND SURVEYED UTILITIES) AND SUBSEQUENT MEASUREMENT OF SUBSURFACE UTILITIES

**UTILITY QUALITY LEVEL B:**  
INFORMATION OBTAINED THROUGH THE APPLICATION OF APPROPRIATE SURFACE GEOPHYSICAL METHODS TO DETERMINE THE EXISTENCE AND APPROXIMATE HORIZONTAL POSITION OF SUBSURFACE UTILITIES.

**UTILITY QUALITY LEVEL C:**  
INFORMATION OBTAINED BY SURVEYING AND PLOTTING VISIBLE ABOVE-GROUND UTILITY FEATURES AND BY USING PROFESSIONAL JUDGEMENT IN CORRELATING THIS INFORMATION TO QUALITY LEVEL D INFORMATION.

**UTILITY QUALITY LEVEL D:**  
INFORMATION DERIVED FROM EXISTING RECORDS OR ORAL RECOLLECTIONS.

ADDITIONALLY IN THE CASE OF MULTIPLE OWNERS OF THE SAME UTILITY TYPE SAID UTILITIES WILL BE ABREVIATED WITH AN OWNER NUMBER (1, 2, 3, ETC) AND REFERENCED IN THE IOWA ONE CALL UTILITY INFORMATION SECTION.

**EXAMPLES:**

C1(B) UNDERGROUND COMMUNICATIONS- OWNER 1

C2(B) UNDERGROUND COMMUNICATIONS- OWNER 2

<b>TYPICAL HATCHING</b>		
SIDEWALK (MATERIAL NOTED)	PERMEABLE PAVER	
CONCRETE	WATER	
ASPHALT	BUILDING OUTLINE	
RIP RAP	SAND	
GRAVEL	MULCH LANDSCAPING	
GRASS	ROCK LANDSCAPING	

<b>ABBREVIATIONS</b>		
CP CONTROL POINT	CI CAST IRON PIPE	
BM BENCHMARK	DI DUCTILE IRON PIPE	
ROW RIGHT-OF-WAY	CMP CORRUGATED METAL PIPE	
GU GUTTER	HDPE HIGH-DENSITY POLYETHYLENE PIPE	
CL CENTERLINE	VCP VITRIFIED CLAY PIPE	
ASPH ASPHALT	PVC POLYVINYL CHLORIDE PIPE	
PCC CONCRETE	RCP REINFORCED CONCRETE PIPE	
FL FLOWLINE	UNK UNKNOWN	
RIM ELEVATION AT RIM	DH DRILL HOLE	
W WITH	RBC REBAR W/ PLASTIC CAP	
TYP TYPICAL	IPC IRON PIPE W/ PLASTIC CAP	
FND FOUND	MON MONUMENT	
FF FINISHED FLOOR	PK PK NAIL	

**ONE CALL UTILITY INFORMATION:**  
LOCATE TICKET #S: 240440288, 240440288

<b>ELECTRIC</b>		<b>STORM SEWER</b>
AC AIR CONDITIONING UNIT	BB BREAKER BOX	BI BEEHIVE INLET
EM ELECTRIC MANHOLE	EM ELECTRIC METER	DI DOUBLE CURB INLET
EP ELECTRIC PEDESTAL	HP HEAT PUMP	SI SINGLE CURB INLET
		AD AREA DRAINAGE INLET
		FE FLARED END SECTION
		SM STORM MANHOLE
		SP STAND PIPE
		SS STORM SEWER CLEANOUT
		SO SIDE OPENING AREA INLET

<b>GENERAL SITE FEATURES</b>		<b>TELECOMMUNICATIONS</b>
B BOLLARD	FD FLAGPOLE	CH COMPOSITE HANDHOLE
F FLOOD LIGHT	G GUY WIRE	FO FIBER OPTIC MARKER
M MAILBOX	S SIGN- DOUBLE POST	SAT SATELLITE DISH
S SIGN- SINGLE POST		TM TELEPHONE MANHOLE
		TP TELEPHONE PEDESTAL
		TVCB TVCABLE BOX
		TVM TVCABLE MANHOLE

<b>TRAFFIC</b>	
PS PEDESTRIAL SIGNAL	
SC SIGNAL CONTROL CABINET	
TB TRAFFIC BOX	
TH TRAFFIC HANDHOLE	
TM TRAFFIC MANHOLE	
TS TRAFFIC SIGNAL	
TSW TRAFFIC SIGNAL W/STREET LIGHT	

<b>MONUMENTS</b>	
B BENCHMARK	
BT BENCHMARK (TEMPORARY)	
CP CONTROL POINT	
CX CUT X FOUND	
CXS CUT X SET	
MF MONUMENT FOUND (FIRST TYPE)	
MS MONUMENT FOUND (SECOND TYPE)	
MSF MONUMENT SET (FIRST TYPE)	
MSFS MONUMENT SET (SECOND TYPE)	
SC SECTION CORNER FOUND	
SCS SECTION CORNER SET	
T T POST	
WP WOODEN POST	

<b>VEGETATION</b>	
CT CONIFEROUS TREE	
DT DECIDUOUS TREE	
SH SHRUB	
TS TREE STUMP	

<b>RAILROAD</b>	
MLM MAINLINE MILE MARKER	
PS POINT OF SWITCH	
RS RAILROAD SIGNAL	
SC SANITARY SEWER CLEANOUT	
SM SANITARY SEWER MANHOLE	
ST SEPTIC TANK LID	

**DEMOLITION**  
X REMOVE TREE

**UTILITY WARNING**  
THE UTILITIES DEPICTED ON THIS DOCUMENT HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND/OR RECORDS OBTAINED. THE SURVEYOR MAKES NO GUARANTEE THAT THE UTILITIES OR SUBSURFACE FEATURES SHOWN COMPRISE ALL SUCH ITEMS IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UTILITIES OR SUBSURFACE FEATURES SHOWN ARE IN THE EXACT LOCATION INDICATED EXCEPT WHERE NOTED AS QUALITY LEVEL A.

SHEET INDEX	
#	TITLE
1	PRELIMINARY DESIGN-COVER
2	PRELIMINARY DESIGN-PLAN 1
3	PRELIMINARY DESIGN-PLAN 2
4	PRELIMINARY DESIGN-PLAN 3
5	PRELIMINARY DESIGN-DETAILS 1
6	PRELIMINARY DESIGN-DETAILS 2



UTILITY CONTACTS	
<b>ELECTRIC</b> CITY OF COLUMBIA, WATER & LIGHT 701 E. BROADWAY COLUMBIA, MISSOURI 65201 573-874-2489	<b>NATURAL GAS</b> AMEREN MISSOURI 2001 MAGUIRE BLVD. COLUMBIA, MISSOURI 65201 573-876-3028
<b>ELECTRIC</b> BOONE ELECTRIC COOPERATIVE 1413 RANGELINE STREET COLUMBIA, MO 65201 573-449-4181	<b>SEWER</b> CITY OF COLUMBIA, SEWER UTILITY 701 E. BROADWAY COLUMBIA, MISSOURI 65201 573-874-2489
<b>WATER</b> CITY OF COLUMBIA, WATER & LIGHT 701 E. BROADWAY COLUMBIA, MISSOURI 65201 573-874-2489	<b>TELECOMMUNICATION</b> CITY OF COLUMBIA, WATER & LIGHT 701 E. BROADWAY COLUMBIA, MISSOURI 65201 573-874-2489
<b>WATER</b> PUBLIC WATER SUPPLY DISTRICT #9 391 E. BROADWAY COLUMBIA, MISSOURI 65201 573-474-9521	<b>TELECOMMUNICATION</b> SOCKET TELECOM 2703 CLARK LANE COLUMBIA, MISSOURI 65202 573-817-0000
<b>TELECOMMUNICATION</b> AT&T TRANSMISSION 800-252-1113	<b>TELECOMMUNICATION</b> BRIGHTSPEED 833-363-2360

- ALL CONSTRUCTION TO BE IN ACCORDANCE WITH "CITY OF COLUMBIA STREET, STORM DRAIN AND SANITARY SEWER SPECIFICATIONS AND STANDARDS" (CURRENT EDITION).
- KNOWN UNDERGROUND UTILITIES ARE SHOWN IN THEIR APPROXIMATE LOCATIONS. OTHER UTILITIES MAY EXIST.
- ALL EXCAVATION TO BE IN ACCORDANCE WITH SECTIONS 319.010-319.050, REVISED STATUTES OF THE STATE OF MISSOURI. SUCH COMPLIANCE SHALL NOT, HOWEVER, EXCUSE ANY PERSON MAKING ANY EXCAVATION FROM DOING SO IN A CAREFUL AND PRUDENT MANNER, NOR SHALL IT EXCUSE SUCH PERSON FROM LIABILITY FOR ANY DAMAGE OR INJURY TO UNDERGROUND UTILITIES RESULTING FROM THE EXCAVATION.
- ALL DISTURBED EARTH AREAS SHALL BE RESTORED AS PER TS... SEEDING AND TS... EROSION CONTROL.
- REMOVE ALL PAVEMENT SURFACES, INLETS, PIPES AND SIDEWALKS WITHIN THE CONSTRUCTION LIMITS AS PER TS... EXCEPT THOSE NOTED TO REMAIN. THE FIELD INSPECTOR SHALL VERIFY REMOVALS.
- REMOVAL OF TREES AND BUSHES SHALL BE VERIFIED BY FIELD INSPECTORS. EXERCISE CAUTION WHEN WORKING NEAR THE CONSTRUCTION LIMITS TO MINIMIZE DISTURBANCE TO ADJACENT TREES AND SHRUBS THAT ARE NOT BEING REMOVED BY CONSTRUCTION ACTIVITIES.
- NO OPEN TRENCHES WILL BE ALLOWED OVERNIGHT. ASPHALTIC "COLD MIX" SHALL BE USED AS A TEMPORARY PATCH OVERNIGHT. TEMPORARY PATCHING SHALL BE CONSIDERED INCIDENTAL TO THE WORK.
- ALL BARRICADES, SIGNS, OTHER TRAFFIC CONTROL DEVICES AND PLACEMENT THEREOF SHALL CONFORM TO THE CURRENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). SIGNING SHOWN AS MINIMUM REQUIREMENTS FOR ADJACENT ROADWAYS SHALL BE INSTALLED PRIOR TO IMPROVEMENTS. CONTRACTOR RESPONSIBLE FOR ADDITIONAL SIGNING, MARKING, OR DELINEATORS FOR SITE SPECIFIC CONSTRUCTION PHASING TO COMPLY WITH MUTCD GUIDELINES.

**CALL OR CLICK 3 DAYS BEFORE YOU DIG!**  
**1-800-DIG-RITE OR 811**  
MISSOURI ONE CALL SYSTEM  
**www.mo1call.com**

	<b>Mission</b> Provide safe, sustainable Infrastructure that promotes positive communities.
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Approved By _____ Director of Public Works	Date _____

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**NOTICE:**  
McClure Engineering Co. is not responsible or liable for any issues, claims, damages, or losses (collectively, "Losses") which arise from failure to follow these Plans, Specifications, and the engineering intent they convey, or for Losses which arise from failure to obtain and/or follow the engineers' or surveyors' guidance with respect to any alleged errors, omissions, inconsistencies, ambiguities, or conflicts contained within the Plans and Specifications.

MISSOURI CERTIFICATE OF AUTHORITY NO. E-2006023253  
EXPIRES: DECEMBER 31, 2024

**\*\* PRELIMINARY \*\***  
**NOT FOR CONSTRUCTION**

Ryan Fuller  
MO PE-2016001250  
November 5, 2024

**REVISIONS**

NO.	DESCRIPTION

PROJECT INFO  
2023002046

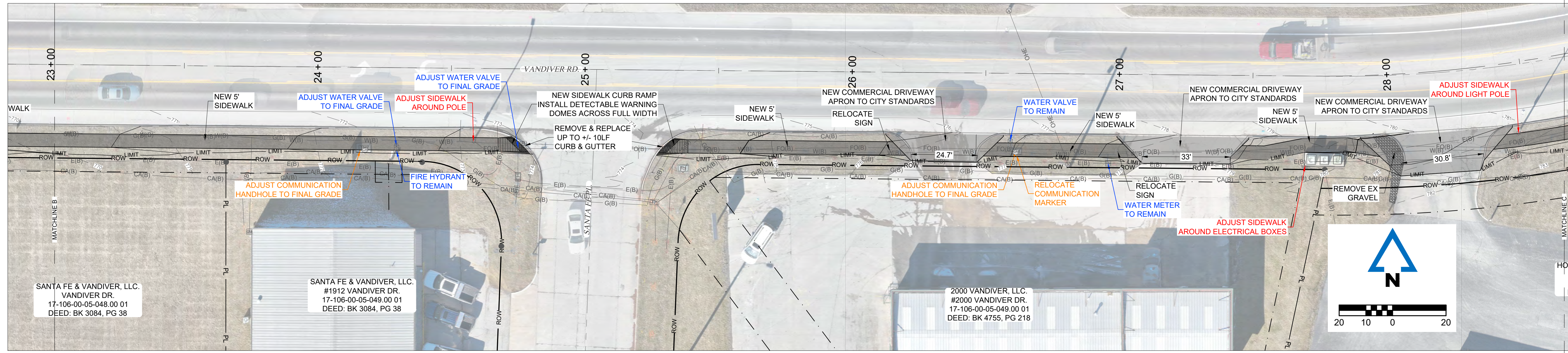
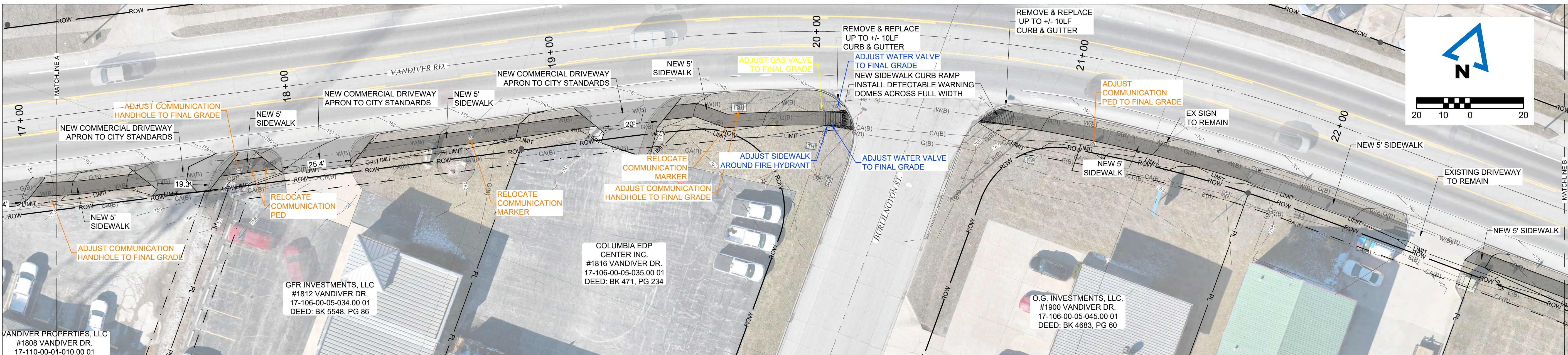
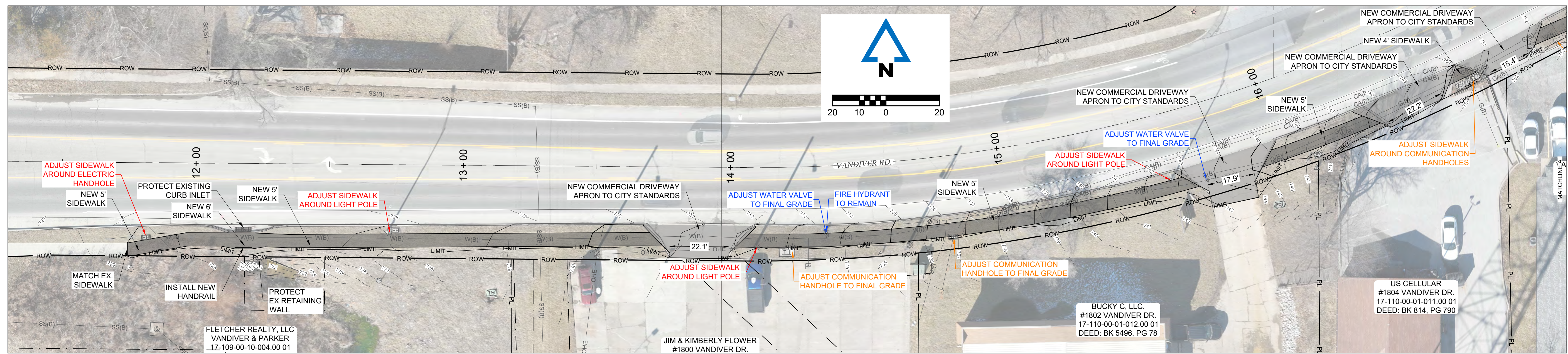
ENGINEER: JHT    DRAWN BY: SMH    CHECKED BY: RAF

**VANDIVER ROAD SIDEWALK**  
**COLUMBIA, MISSOURI**  
**TAP 2101514**

**PRELIMINARY DESIGN-COVER**

DRAWING NO. **1**

P:2023002046/04-DRAWINGS/08-EXHIBITS-CONCEPTS/2023002046 PRELIMINARY-CHECK PLANS.DWG



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Ryan Fuller  
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November 5, 2024

REVISIONS

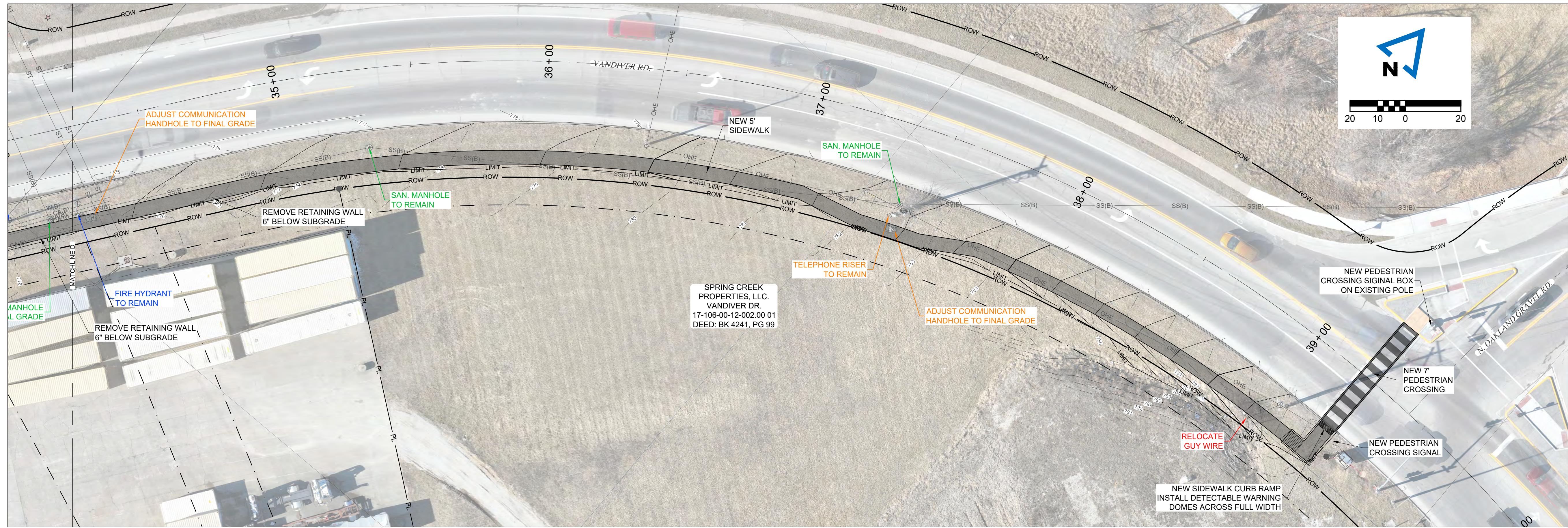
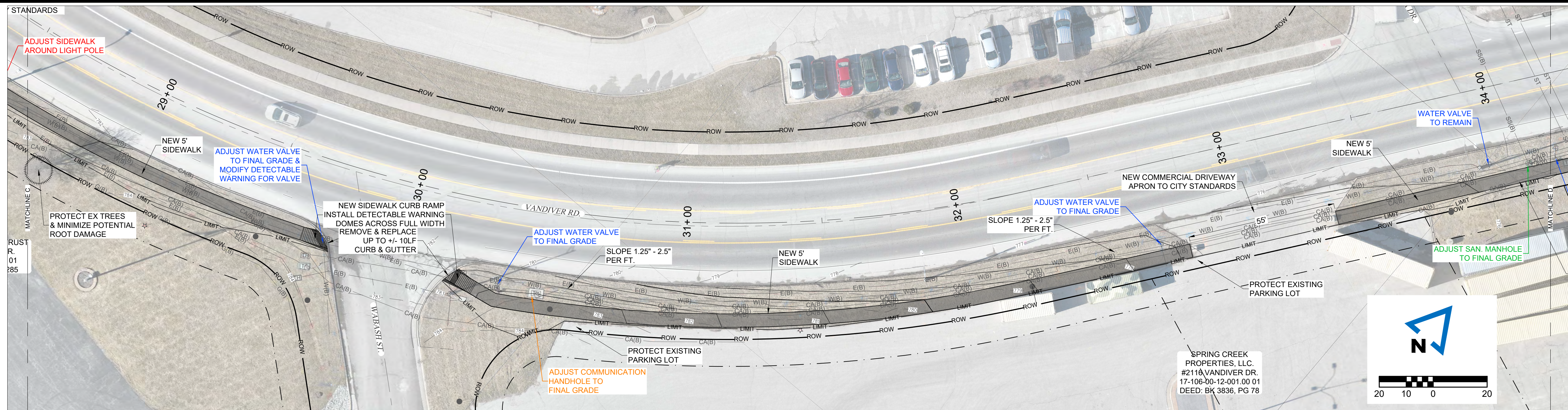
NO.	DESCRIPTION	DATE

PROJECT INFO  
2023002046

ENGINEER	DRAWN BY	CHECKED BY
JHT	SMH	RAF

VANDIVER ROAD SIDEWALK  
COLUMBIA, MISSOURI  
TAP 2101514  
PRELIMINARY DESIGN-PLAN 1

P:\2023002046\04-DRAWINGS\08-EXHIBITS-CONCEPTS\2023002046 PRELIMINARY-CHECK PLANS.DWG



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Ryan Fuller  
 MO PE-2016001250  
 November 5, 2024

REVISIONS

NO.	DESCRIPTION	DATE

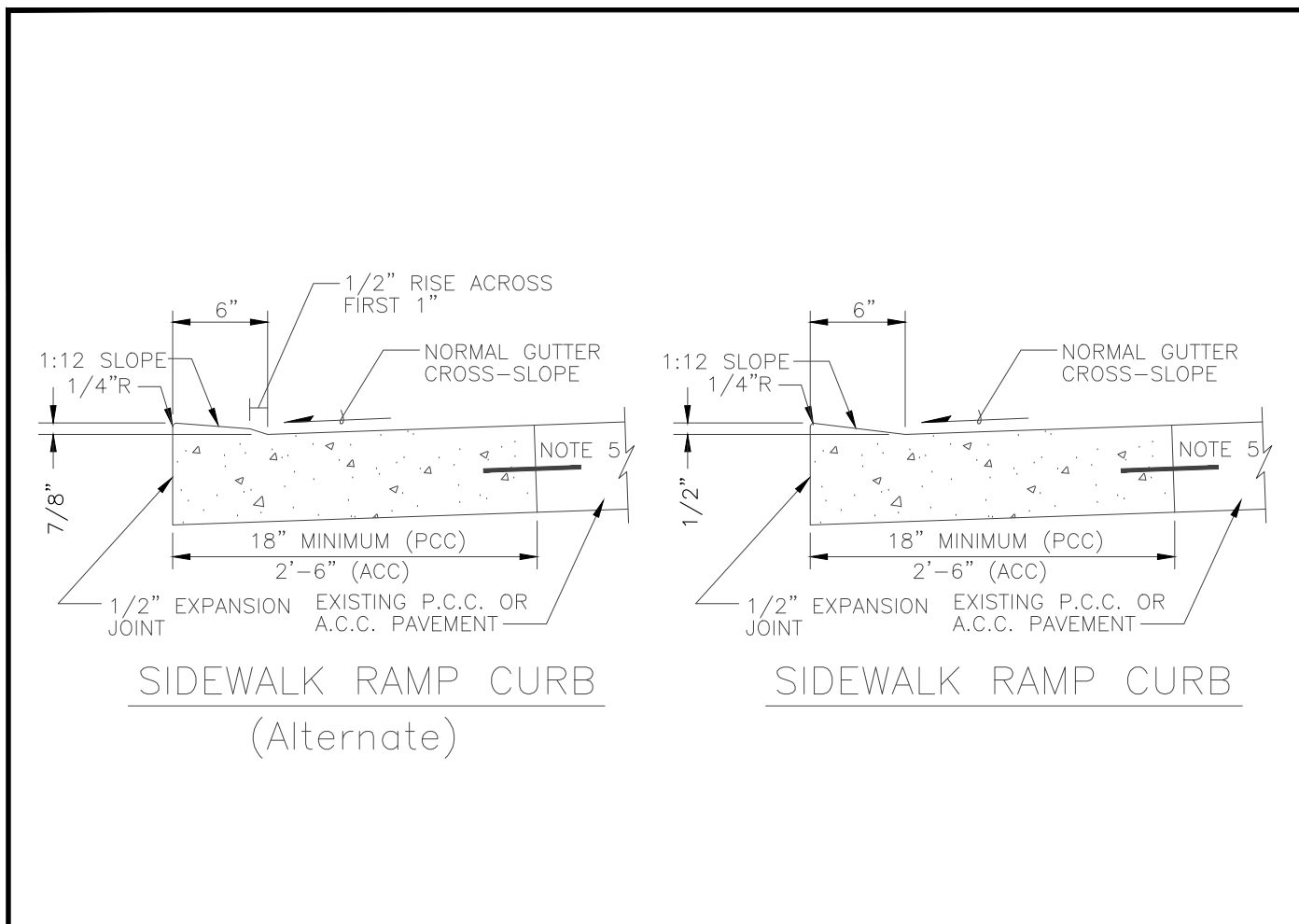
PROJECT INFO  
 2023002046

ENGINEER	DRAWN BY	CHECKED BY
JHT	SMH	RAF

**VANDIVER ROAD SIDEWALK  
 COLUMBIA, MISSOURI  
 TAP 2101514**

**PRELIMINARY DESIGN-PLAN 2**

P:2023002046/04-DRAWINGS/03-EXHIBITS-CONCEPTS/2023002046 PRELIMINARY-CHECK PLANS.DWG



**SIDWALK RAMP CURB (Alternate)**

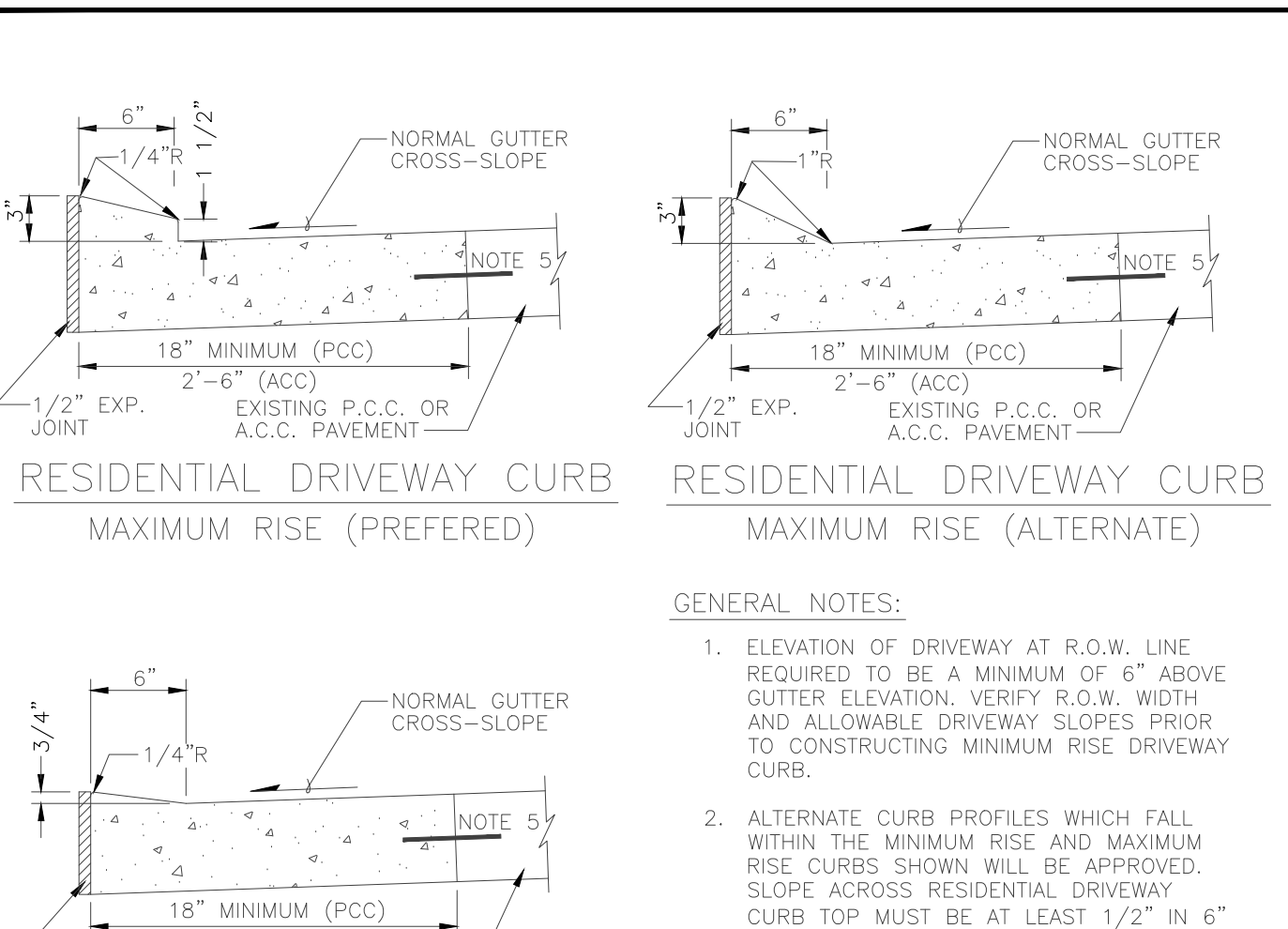
**SIDWALK RAMP CURB**

**PCC PAVEMENT NOTES:**

- CONCRETE SHALL BE MoDOT PAVEMENT CONCRETE.
- PAVEMENT THICKNESS SHALL MATCH EXISTING. BASE SHALL MATCH EXISTING.
- EXPANSION JOINTS AND CONTRACTION JOINTS SHALL BE PLACED AT LOCATIONS SIMILAR TO THE PAVEMENT WHICH WAS REMOVED.
- CURB EDGE SHALL BE TOOLED WITH 1/4" RADIUS
- WHERE EXISTING PAVEMENT IS P.C.C., LOW CURB REPLACEMENT SHALL BE DOWELLED INTO EXISTING. 12" LONG #4 BARS AT 24" CTR. ALL DRILLED DOWEL BARS SHALL BE EXPOXIED.

**ACC PAVEMENT NOTES:**

- CONCRETE SHALL BE MoDOT PAVEMENT CONCRETE.
- GUTTER THICKNESS SHALL MATCH EXISTING. BASE SHALL MATCH EXISTING.
- EXPANSION JOINTS AND CONTRACTION JOINTS SHALL BE PLACED AT LOCATIONS SIMILAR TO THE CURB AND GUTTER WHICH WAS REMOVED.
- CURB EDGE SHALL BE TOOLED WITH 1/4" RADIUS
- WHERE EXISTING PAVEMENT IS P.C.C., LOW CURB REPLACEMENT SHALL BE DOWELLED INTO EXISTING. 12" LONG #4 BARS AT 24" CTR. ALL DRILLED DOWEL BARS SHALL BE EXPOXIED.



**RESIDENTIAL DRIVEWAY CURB MAXIMUM RISE (PREFERRED)**

**RESIDENTIAL DRIVEWAY CURB MAXIMUM RISE (ALTERNATE)**

**RESIDENTIAL DRIVEWAY CURB MINIMUM RISE**

**GENERAL NOTES:**

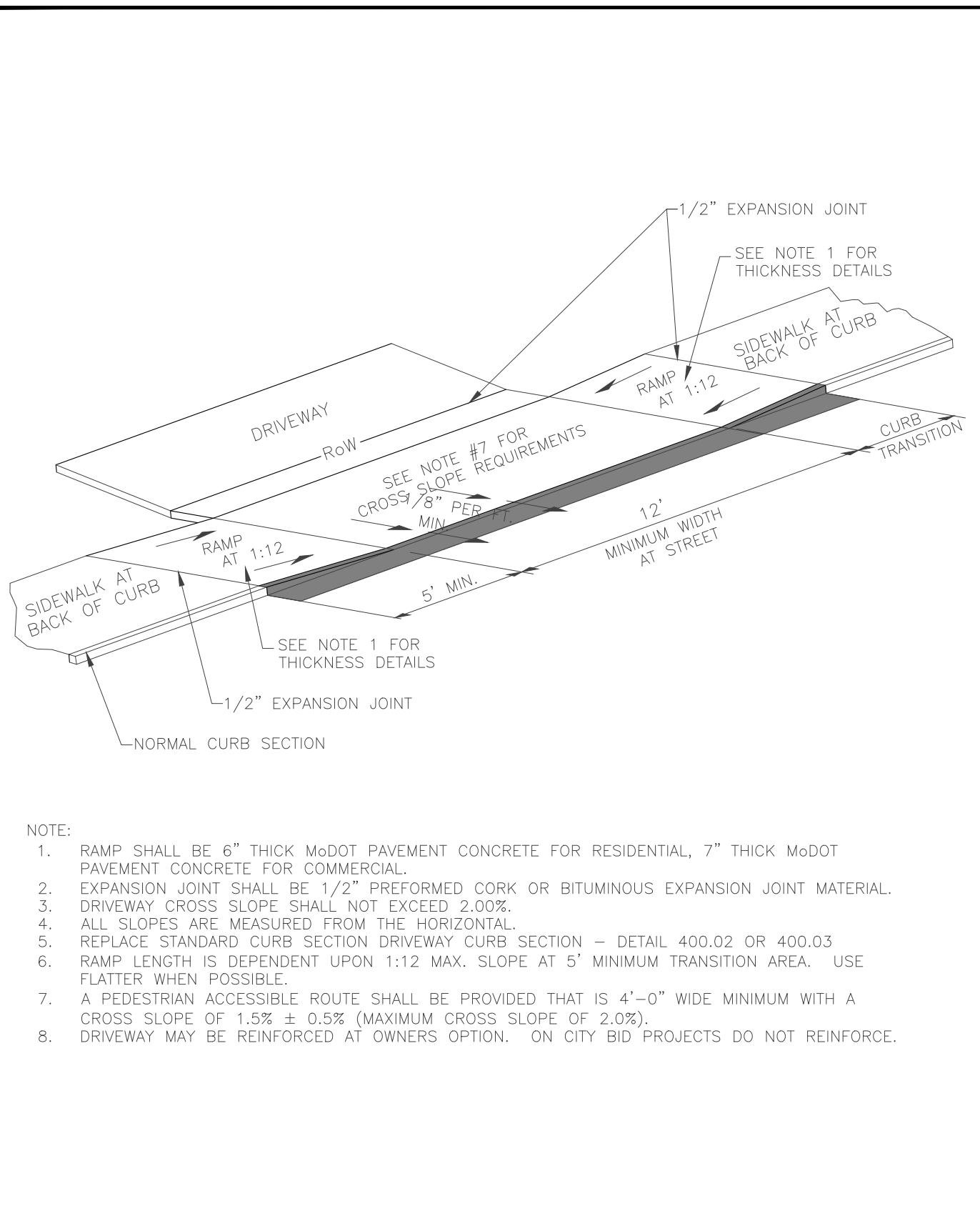
- ELEVATION OF DRIVEWAY AT R.O.W. LINE REQUIRED TO BE A MINIMUM OF 6" ABOVE GUTTER ELEVATION. VERIFY R.O.W. WIDTH AND ALLOWABLE DRIVEWAY SLOPES PRIOR TO CONSTRUCTING MINIMUM RISE DRIVEWAY CURB.
- ALTERNATE CURB PROFILES WHICH FALL WITHIN THE MINIMUM RISE AND MAXIMUM RISE CURBS SHOWN WILL BE APPROVED. SLOPE ACROSS RESIDENTIAL DRIVEWAY CURB TOP MUST BE AT LEAST 1/2" IN 6" TOWARD THE STREET.
- HORIZONTAL SAWING OF CURB IS ALLOWED AS AN ALTERNATIVE TO REMOVING AND REPLACING STANDARD CURB. HORIZONTAL SAWING MACHINE AND METHOD REQUIRES PRIOR APPROVAL. HORIZONTAL SAWING IS NOT ALLOWED ON CITY BID PROJECTS.

**PCC PAVEMENT NOTES:**

- CONCRETE SHALL BE MoDOT PAVEMENT CONCRETE.
- PAVEMENT THICKNESS SHALL MATCH EXISTING. BASE SHALL MATCH EXISTING.
- EXPANSION JOINTS AND CONTRACTION JOINTS SHALL BE PLACED AT LOCATIONS SIMILAR TO THE PAVEMENT WHICH WAS REMOVED.
- CURB EDGE SHALL BE TOOLED WITH 1/4" RADIUS
- WHERE EXISTING PAVEMENT IS P.C.C., LOW CURB REPLACEMENT SHALL BE DOWELLED INTO EXISTING. 12" LONG #4 BARS AT 24" CTR. ALL DRILLED DOWEL BARS SHALL BE EXPOXIED.

**ACC PAVEMENT NOTES:**

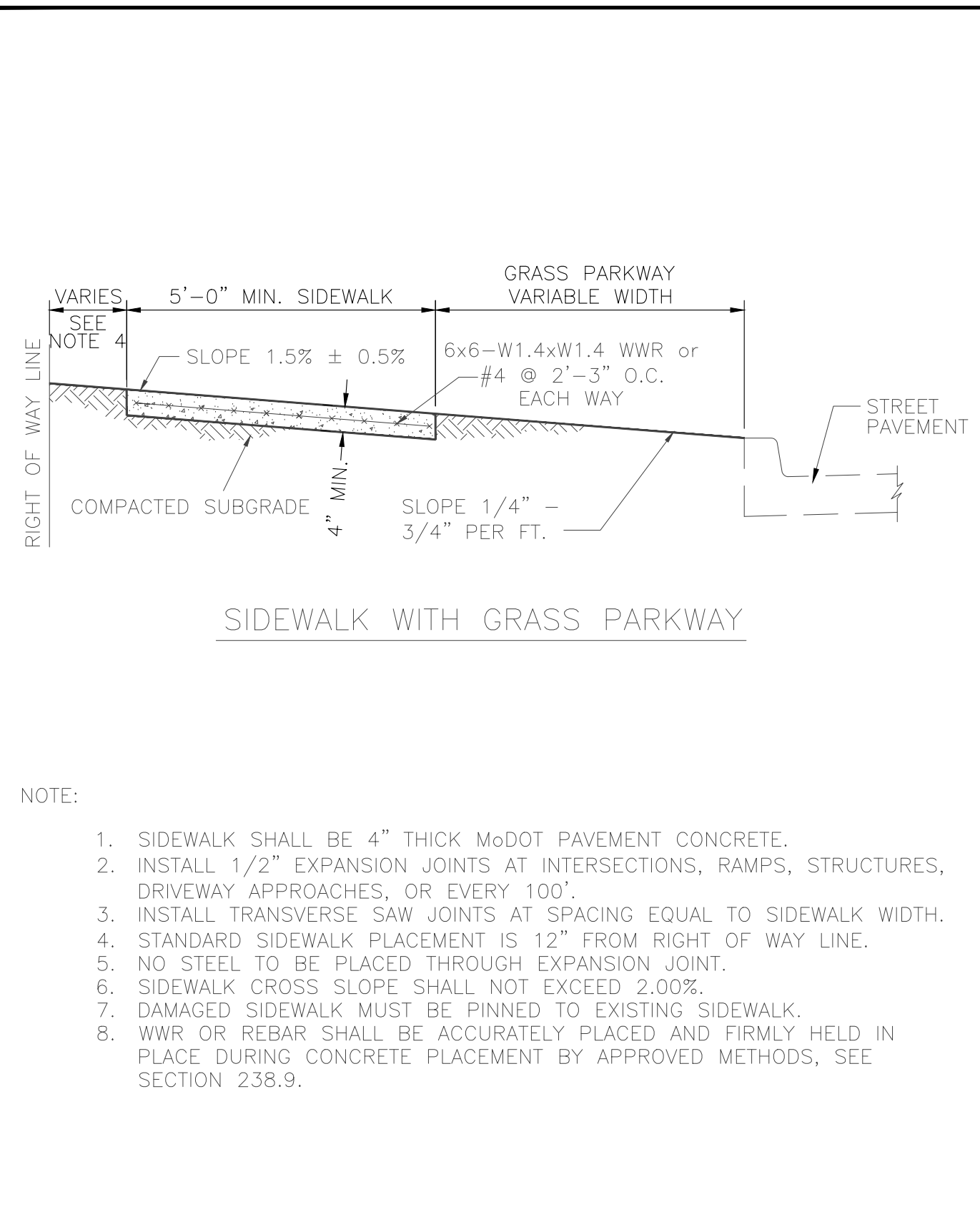
- CONCRETE SHALL BE MoDOT PAVEMENT CONCRETE.
- GUTTER THICKNESS SHALL MATCH EXISTING. BASE SHALL MATCH EXISTING.
- EXPANSION JOINTS AND CONTRACTION JOINTS SHALL BE PLACED AT LOCATIONS SIMILAR TO THE CURB AND GUTTER WHICH WAS REMOVED.
- CURB EDGE SHALL BE TOOLED WITH 1/4" RADIUS
- WHERE EXISTING PAVEMENT IS P.C.C., LOW CURB REPLACEMENT SHALL BE DOWELLED INTO EXISTING. 12" LONG #4 BARS AT 24" CTR. ALL DRILLED DOWEL BARS SHALL BE EXPOXIED.



**SIDWALK DRIVEWAY DETAIL Sidewalk at Back of Curb**

**NOTE:**

- RAMP SHALL BE 6" THICK MoDOT PAVEMENT CONCRETE FOR RESIDENTIAL, 7" THICK MoDOT PAVEMENT CONCRETE FOR COMMERCIAL.
- EXPANSION JOINT SHALL BE 1/2" PREFORMED CORK OR BITUMINOUS EXPANSION JOINT MATERIAL.
- DRIVEWAY CROSS SLOPE SHALL NOT EXCEED 2.00%.
- ALL SLOPES ARE MEASURED FROM THE HORIZONTAL.
- REPLACE STANDARD CURB SECTION DRIVEWAY CURB SECTION - DETAIL 400.02 OR 400.03
- RAMP LENGTH IS DEPENDENT UPON 1:12 MAX. SLOPE AT 5' MINIMUM TRANSITION AREA. USE FLATTER WHEN POSSIBLE.
- A PEDESTRIAN ACCESSIBLE ROUTE SHALL BE PROVIDED THAT IS 4'-0" WIDE MINIMUM WITH A CROSS SLOPE OF 1.5% ± 0.5% (MAXIMUM CROSS SLOPE OF 2.0%).
- DRIVEWAY MAY BE REINFORCED AT OWNERS OPTION. ON CITY BID PROJECTS DO NOT REINFORCE.



**SIDWALK WITH GRASS PARKWAY**

**NOTE:**

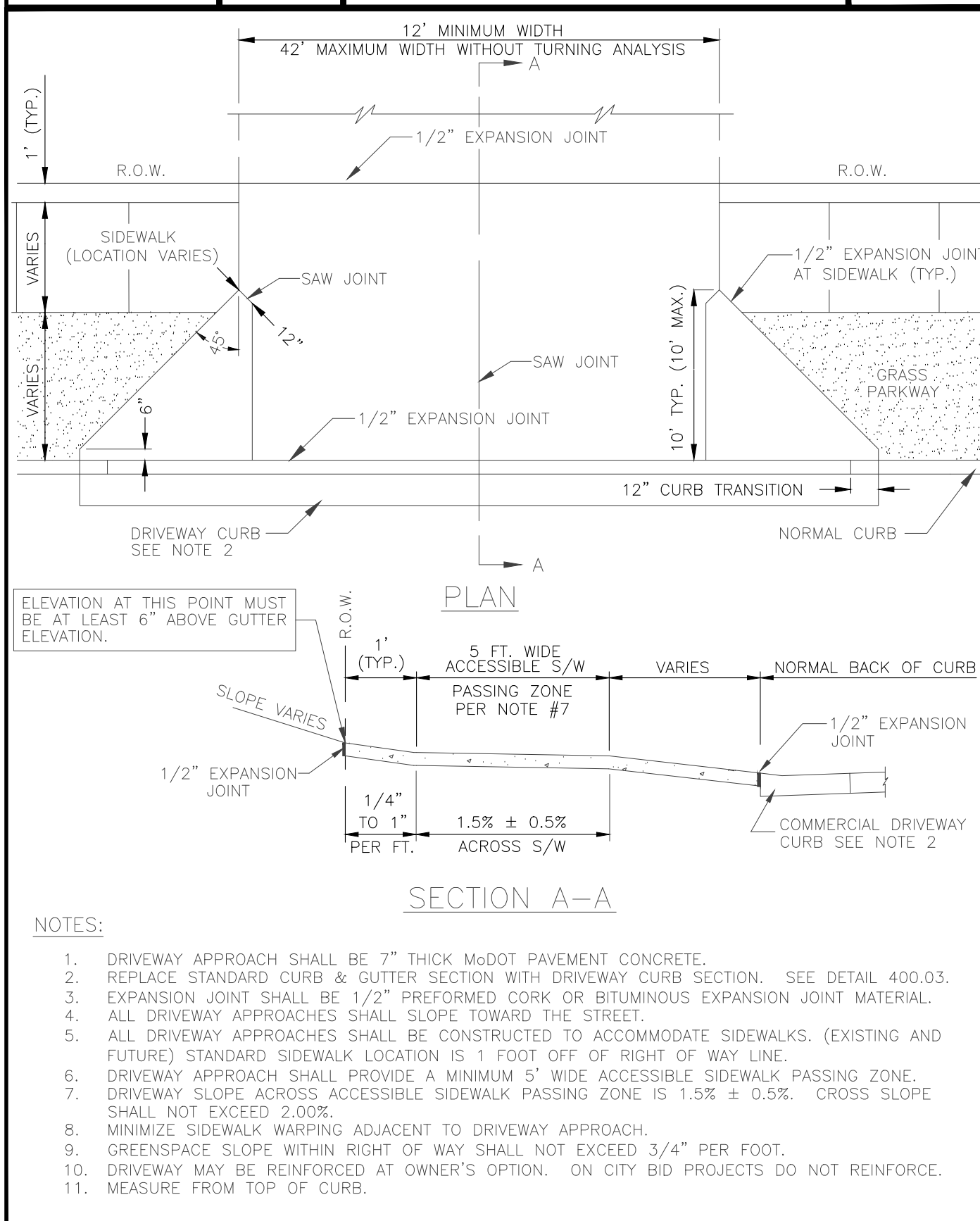
- SIDWALK SHALL BE 4" THICK MoDOT PAVEMENT CONCRETE.
- INSTALL 1/2" EXPANSION JOINTS AT INTERSECTIONS, RAMPS, STRUCTURES, DRIVEWAY APPROACHES, OR EVERY 100'.
- INSTALL TRANSVERSE SAW JOINTS AT SPACING EQUAL TO SIDEWALK WIDTH.
- STANDARD SIDEWALK PLACEMENT IS 12" FROM RIGHT OF WAY LINE.
- NO STEEL TO BE PLACED THROUGH EXPANSION JOINT.
- SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2.00%.
- DAMAGED SIDEWALK MUST BE PINNED TO EXISTING SIDEWALK.
- WWR OR REBAR SHALL BE ACCURATELY PLACED AND FIRMLY HELD IN PLACE DURING CONCRETE PLACEMENT BY APPROVED METHODS, SEE SECTION 238.9.

Approved	10/01/16	Date		<b>CURB DETAILS (Sidewalk Ramp)</b>	<b>400.01</b>
Revisions					

Approved	10/01/16	Date		<b>CURB DETAILS (Residential Driveway)</b>	<b>400.02</b>
Revisions					

Approved	07/01/20	Date		<b>SIDWALK DRIVEWAY DETAIL Sidewalk at Back of Curb</b>	<b>410.07</b>
Revisions					

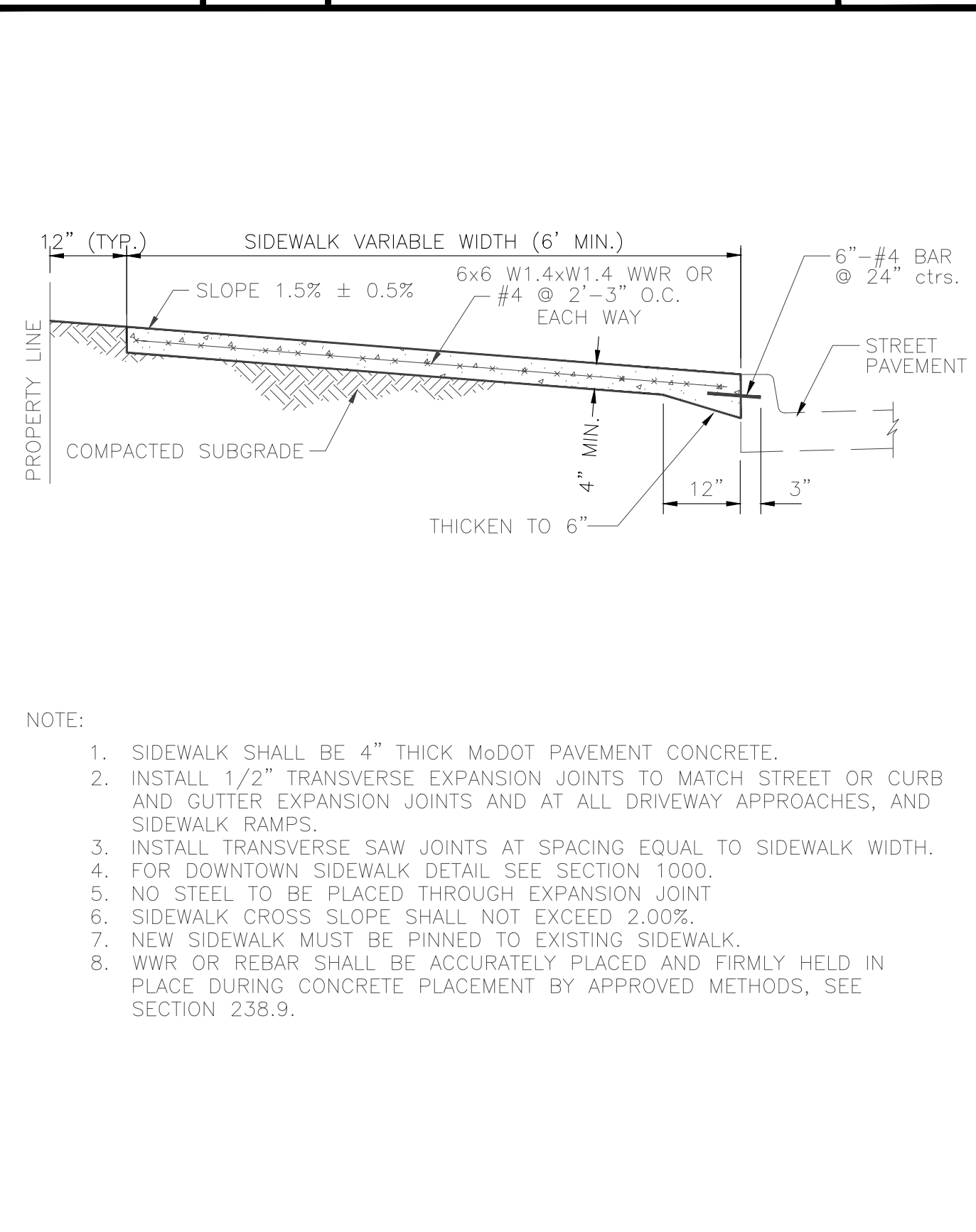
Approved	07/01/20	Date		<b>SIDWALK</b>	<b>420.01</b>
Revisions					



**DRIVE APPROACH (Commercial)**

**NOTE:**

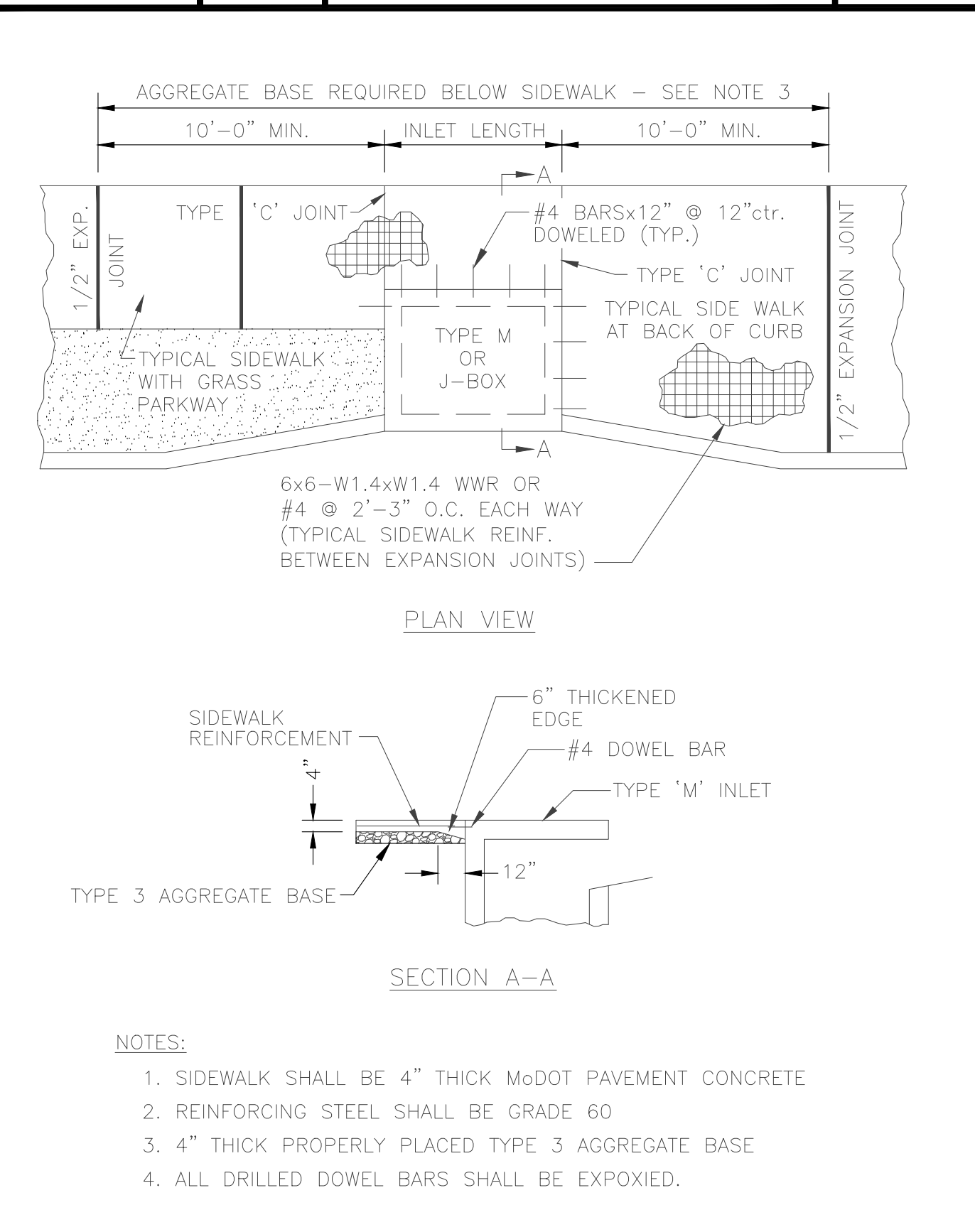
- DRIVEWAY APPROACH SHALL BE 7" THICK MoDOT PAVEMENT CONCRETE.
- REPLACE STANDARD CURB & GUTTER SECTION WITH DRIVEWAY CURB SECTION. SEE DETAIL 400.03.
- EXPANSION JOINT SHALL BE 1/2" PREFORMED CORK OR BITUMINOUS EXPANSION JOINT MATERIAL.
- ALL DRIVEWAY APPROACHES SHALL SLOPE TOWARD THE STREET.
- ALL DRIVEWAY APPROACHES SHALL BE CONSTRUCTED TO ACCOMMODATE SIDEWALKS. (EXISTING AND FUTURE) STANDARD SIDEWALK LOCATION IS 1 FOOT OFF OF RIGHT OF WAY LINE.
- DRIVEWAY APPROACH SHALL PROVIDE A MINIMUM 5' WIDE ACCESSIBLE SIDEWALK PASSING ZONE.
- DRIVEWAY SLOPE ACROSS ACCESSIBLE SIDEWALK PASSING ZONE IS 1.5% ± 0.5%. CROSS SLOPE SHALL NOT EXCEED 2.00%.
- MINIMIZE SIDEWALK WARPING ADJACENT TO DRIVEWAY APPROACH.
- GREENSPACE SLOPE WITHIN RIGHT OF WAY SHALL NOT EXCEED 3/4" PER FOOT.
- DRIVEWAY MAY BE REINFORCED AT OWNER'S OPTION. ON CITY BID PROJECTS DO NOT REINFORCE.
- MEASURE FROM TOP OF CURB.



**SIDWALK AT BACK OF CURB**

**NOTE:**

- SIDWALK SHALL BE 4" THICK MoDOT PAVEMENT CONCRETE.
- INSTALL 1/2" TRANSVERSE EXPANSION JOINTS TO MATCH STREET OR CURB AND GUTTER EXPANSION JOINTS AND AT ALL DRIVEWAY APPROACHES, AND SIDEWALK RAMPS.
- INSTALL TRANSVERSE SAW JOINTS AT SPACING EQUAL TO SIDEWALK WIDTH.
- FOR DOWNTOWN SIDEWALK DETAIL SEE SECTION 1000.
- NO STEEL TO BE PLACED THROUGH EXPANSION JOINT
- SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2.00%.
- NEW SIDEWALK MUST BE PINNED TO EXISTING SIDEWALK.
- WWR OR REBAR SHALL BE ACCURATELY PLACED AND FIRMLY HELD IN PLACE DURING CONCRETE PLACEMENT BY APPROVED METHODS, SEE SECTION 238.9.



**SIDWALK REINFORCEMENT AT DRAINAGE STRUCTURE**

**NOTE:**

- SIDWALK SHALL BE 4" THICK MoDOT PAVEMENT CONCRETE
- REINFORCING STEEL SHALL BE GRADE 60
- 4" THICK PROPERLY PLACED TYPE 3 AGGREGATE BASE
- ALL DRILLED DOWEL BARS SHALL BE EXPOXIED.

Approved	07/01/20	Date		<b>DRIVE APPROACH (Commercial)</b>	<b>410.03</b>
Revisions					

Approved	07/01/20	Date		<b>SIDWALK AT BACK OF CURB</b>	<b>420.02</b>
Revisions					

Approved	10/01/16	Date		<b>SIDWALK REINFORCEMENT AT DRAINAGE STRUCTURE</b>	<b>420.03</b>
Revisions					

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MISSOURI CERTIFICATE OF AUTHORITY NO. E-2006023253  
EXPIRES: DECEMBER 31, 2024

**\*\* PRELIMINARY \*\***  
**NOT FOR CONSTRUCTION**

Ryan Fuller  
MO PE-2016001250  
November 5, 2024

REVISIONS

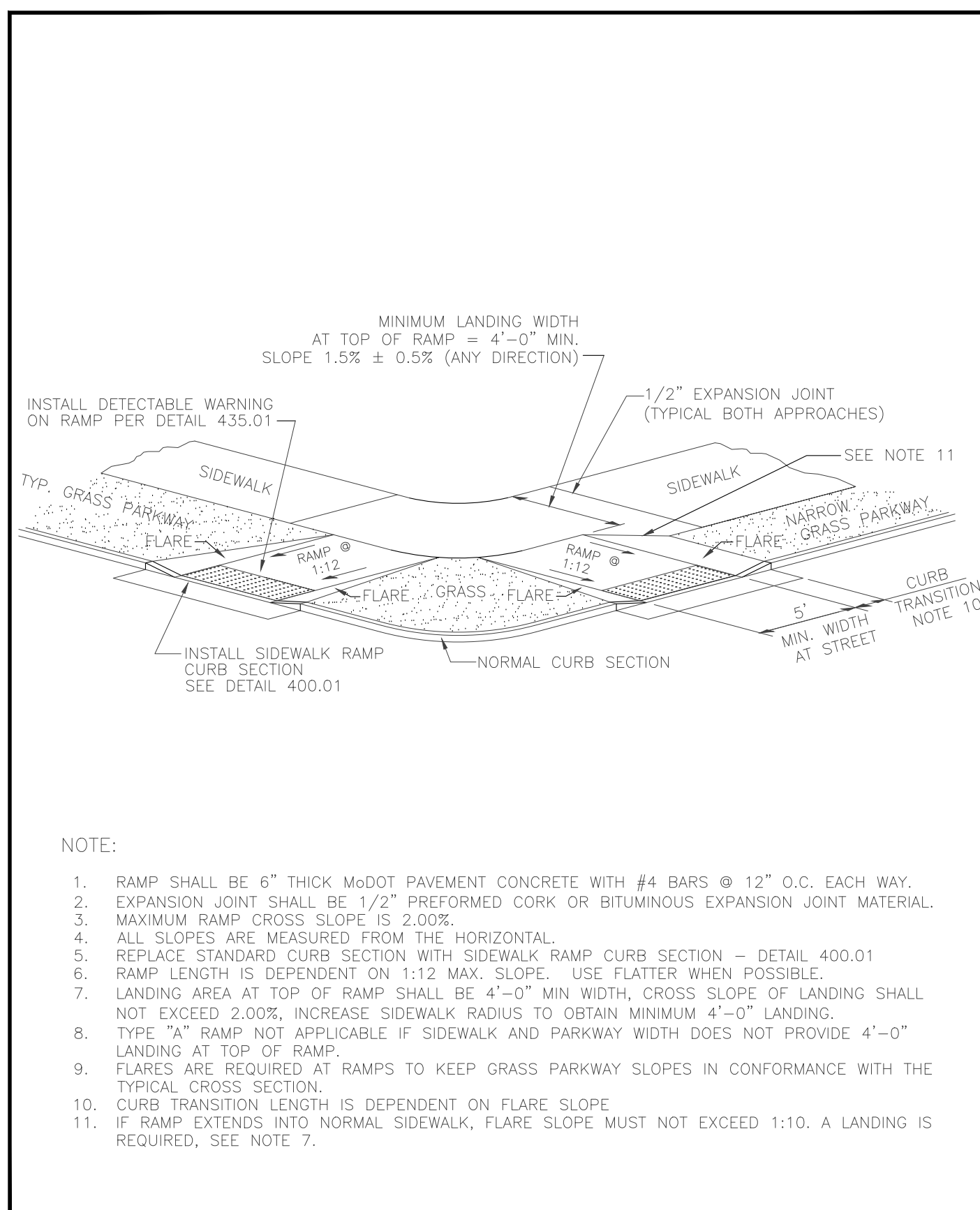
PROJECT INFO  
2023002046

ENGINEER: JHT  
DRAWN BY: SMH  
CHECKED BY: RAF

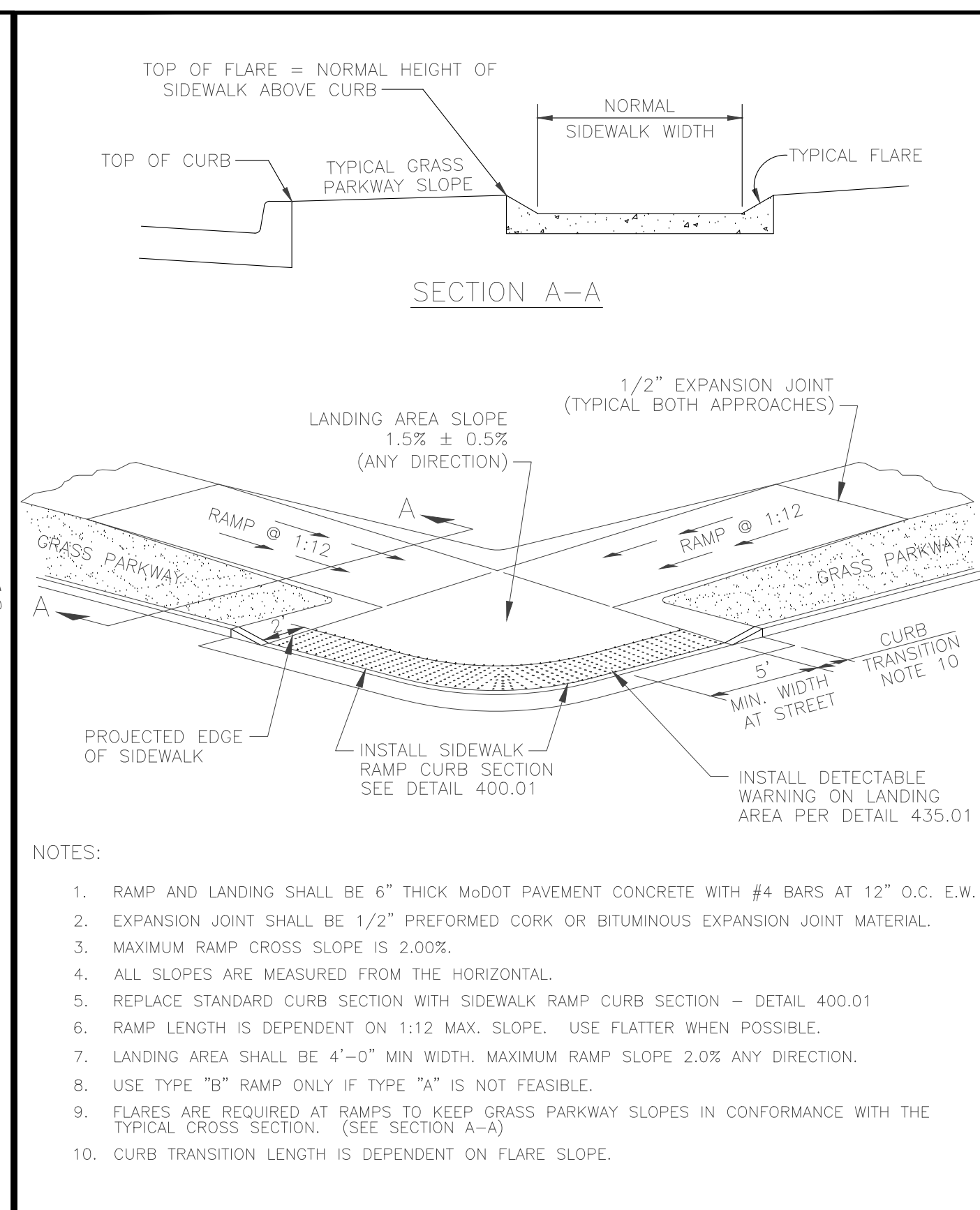
VANDIVER ROAD SIDEWALK  
COLUMBIA, MISSOURI  
TAP 2101514

PRELIMINARY DESIGN-DETAILS 1

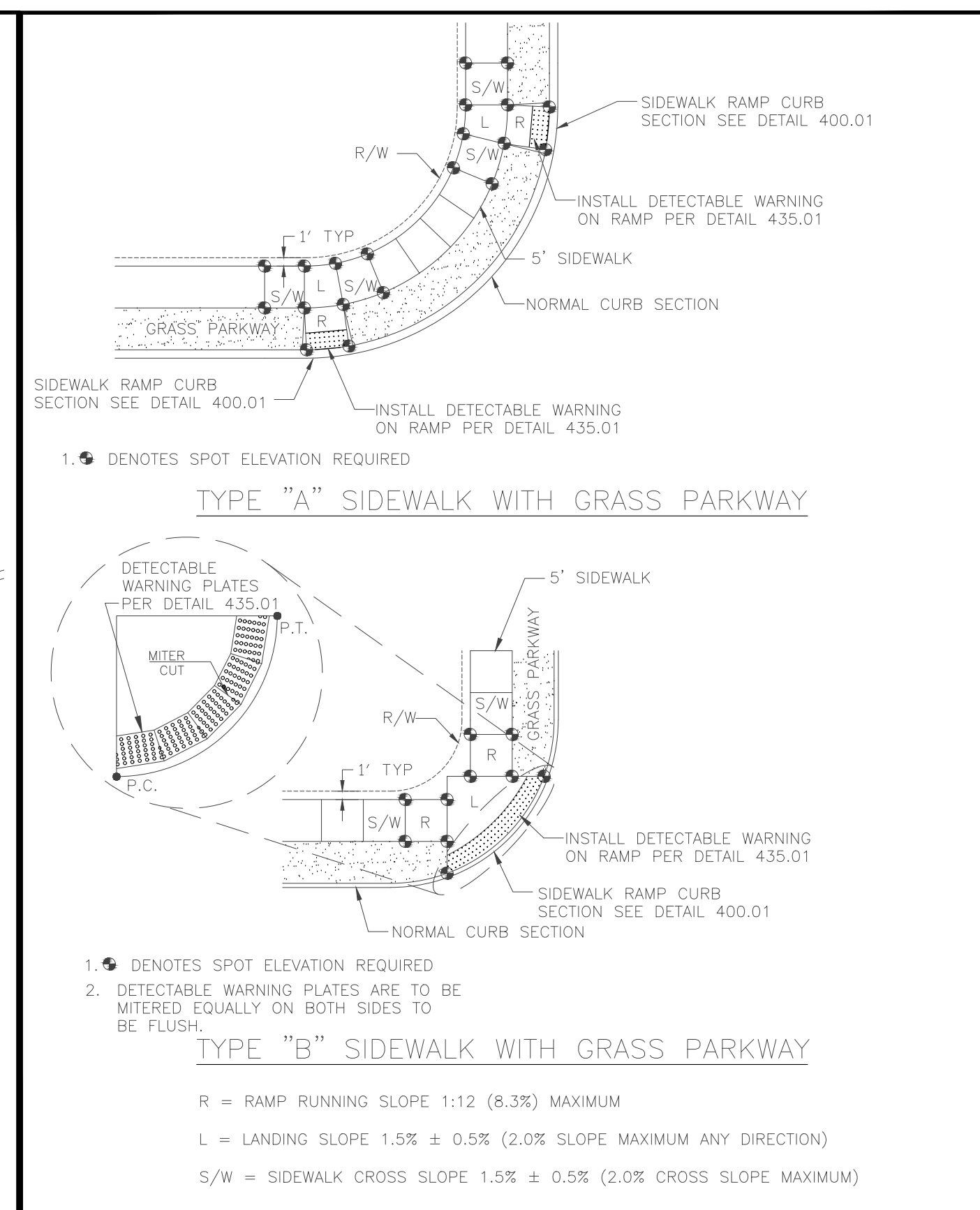
DRAWING NO. 4



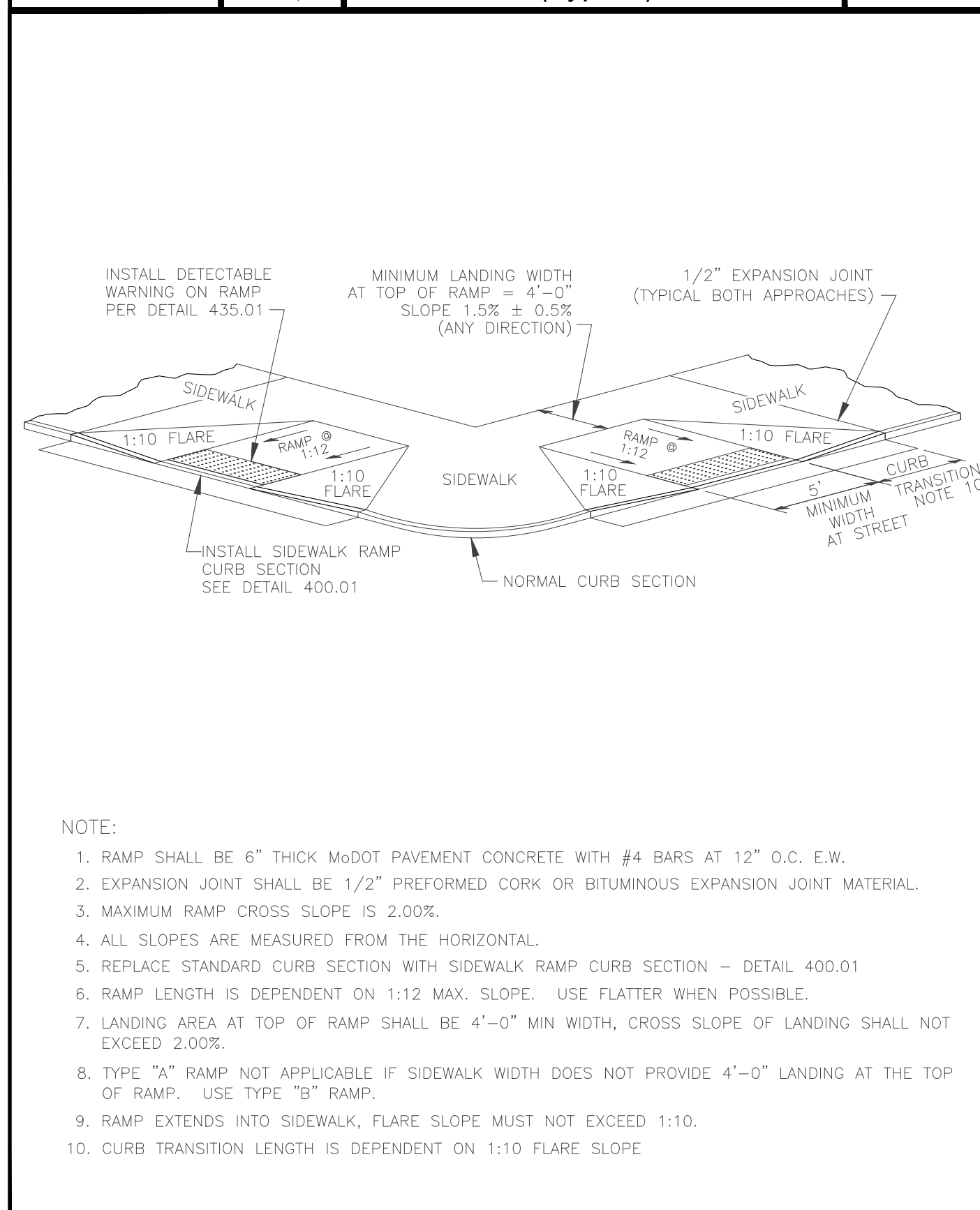
- NOTE:
- RAMP SHALL BE 6" THICK MODOT PAVEMENT CONCRETE WITH #4 BARS @ 12" O.C. EACH WAY.
  - EXPANSION JOINT SHALL BE 1/2" PREFORMED CORK OR BITUMINOUS EXPANSION JOINT MATERIAL.
  - MAXIMUM RAMP CROSS SLOPE IS 2.00%.
  - ALL SLOPES ARE MEASURED FROM THE HORIZONTAL.
  - REPLACE STANDARD CURB SECTION WITH SIDEWALK RAMP CURB SECTION - DETAIL 400.01
  - RAMP LENGTH IS DEPENDENT ON 1:12 MAX. SLOPE. USE FLATTER WHEN POSSIBLE.
  - LANDING AREA AT TOP OF RAMP SHALL BE 4'-0" MIN WIDTH, CROSS SLOPE OF LANDING SHALL NOT EXCEED 2.00%. INCREASE SIDEWALK RADIUS TO OBTAIN MINIMUM 4'-0" LANDING.
  - TYPE "A" RAMP NOT APPLICABLE IF SIDEWALK AND PARKWAY WIDTH DOES NOT PROVIDE 4'-0" LANDING AT TOP OF RAMP.
  - FLARES ARE REQUIRED AT RAMP TO KEEP GRASS PARKWAY SLOPES IN CONFORMANCE WITH THE TYPICAL CROSS SECTION.
  - CURB TRANSITION LENGTH IS DEPENDENT ON FLARE SLOPE.
  - IF RAMP EXTENDS INTO NORMAL SIDEWALK, FLARE SLOPE MUST NOT EXCEED 1:10. A LANDING IS REQUIRED, SEE NOTE 7.



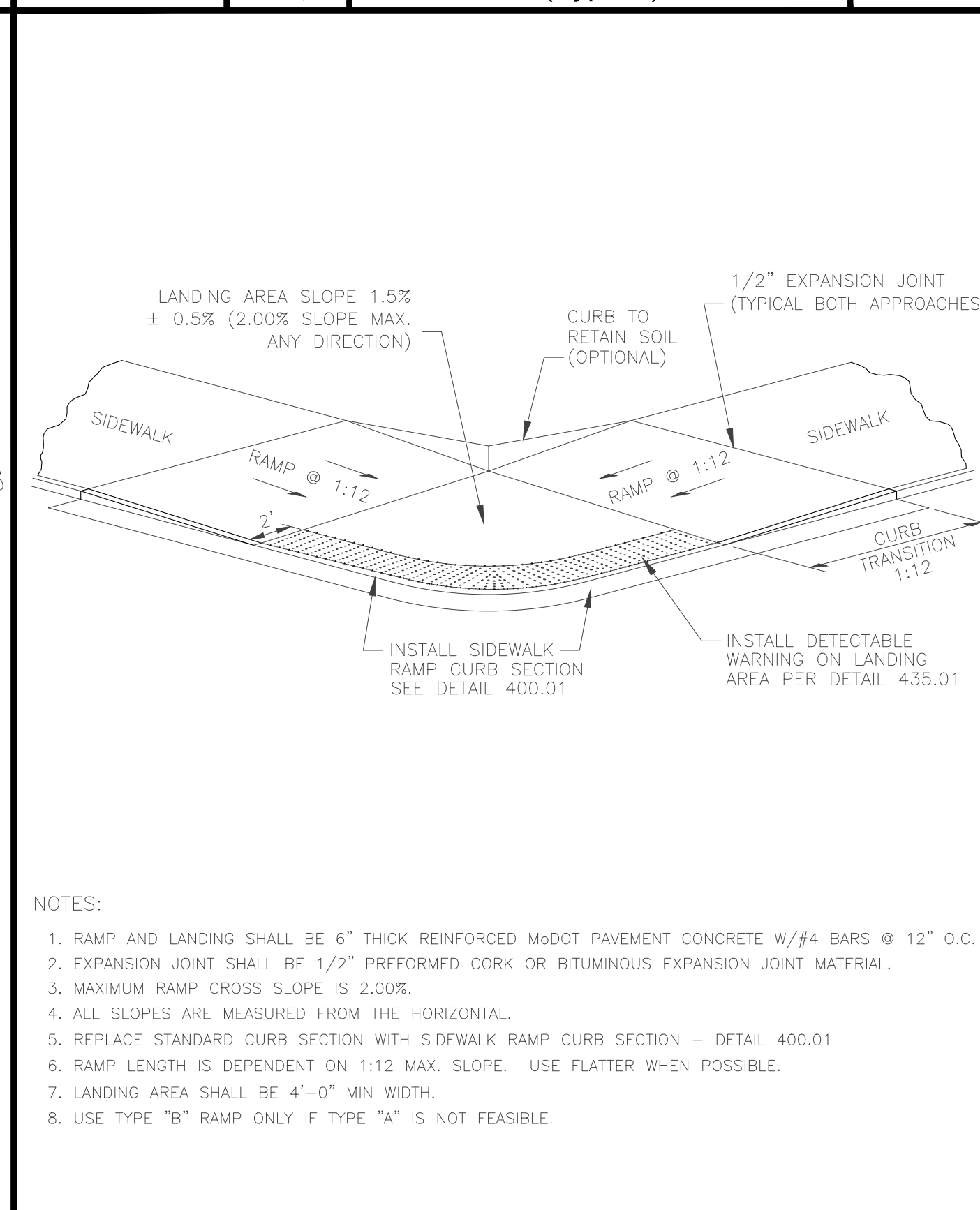
- NOTE:
- RAMP AND LANDING SHALL BE 6" THICK MODOT PAVEMENT CONCRETE WITH #4 BARS AT 12" O.C. E.W.
  - EXPANSION JOINT SHALL BE 1/2" PREFORMED CORK OR BITUMINOUS EXPANSION JOINT MATERIAL.
  - MAXIMUM RAMP CROSS SLOPE IS 2.00%.
  - ALL SLOPES ARE MEASURED FROM THE HORIZONTAL.
  - REPLACE STANDARD CURB SECTION WITH SIDEWALK RAMP CURB SECTION - DETAIL 400.01
  - RAMP LENGTH IS DEPENDENT ON 1:12 MAX. SLOPE. USE FLATTER WHEN POSSIBLE.
  - LANDING AREA SHALL BE 4'-0" MIN WIDTH. MAXIMUM RAMP SLOPE 2.0% ANY DIRECTION.
  - USE TYPE "B" RAMP ONLY IF TYPE "A" IS NOT FEASIBLE.
  - FLARES ARE REQUIRED AT RAMP TO KEEP GRASS PARKWAY SLOPES IN CONFORMANCE WITH THE TYPICAL CROSS SECTION. (SEE SECTION A-A)
  - CURB TRANSITION LENGTH IS DEPENDENT ON FLARE SLOPE.



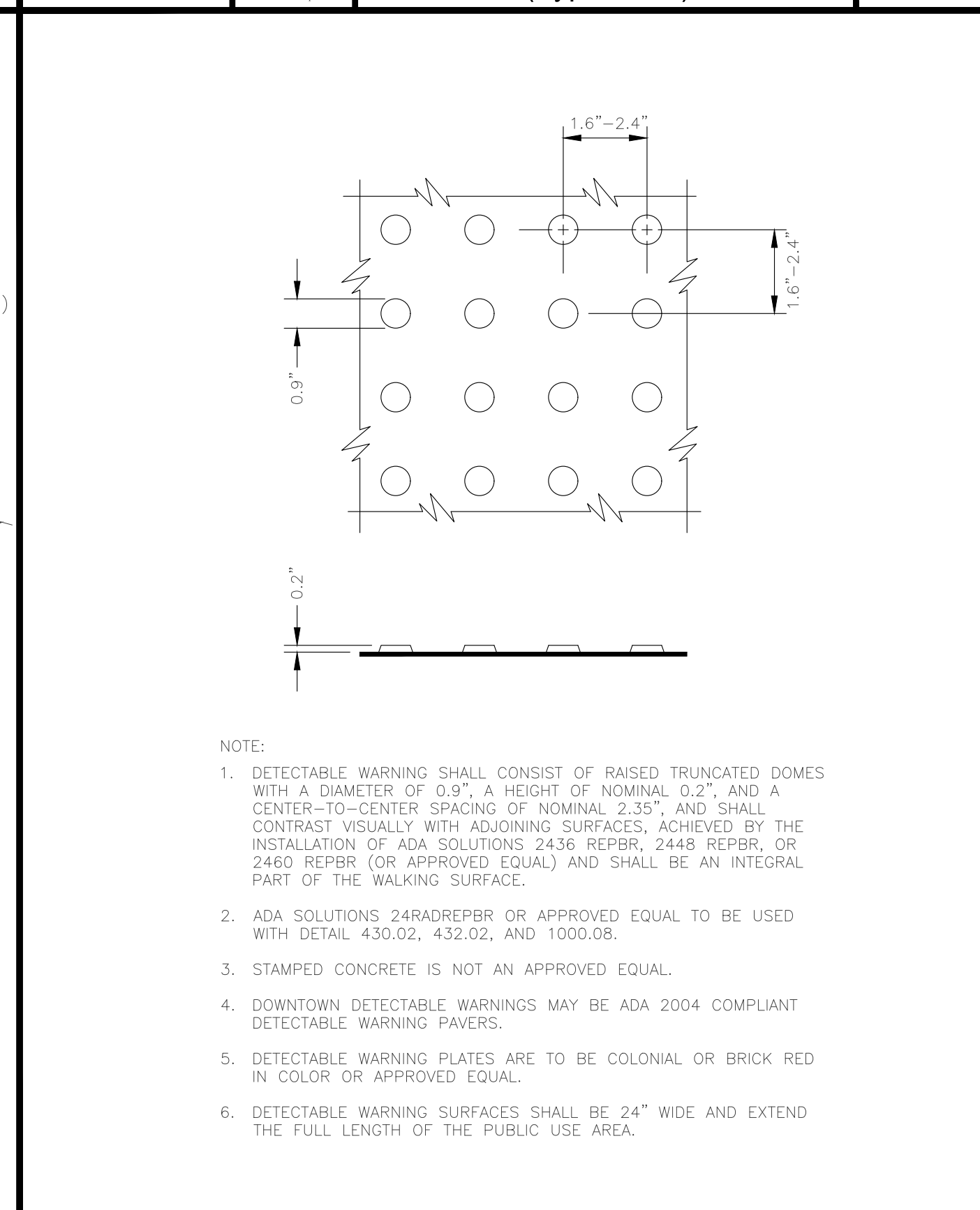
- NOTE:
1. DETECTABLE WARNING SHALL CONSIST OF RAISED TRUNCATED DOMES WITH A DIAMETER OF 0.9", A HEIGHT OF NOMINAL 0.2", AND A CENTER-TO-CENTER SPACING OF NOMINAL 2.35", AND SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES, ACHIEVED BY THE INSTALLATION OF ADA SOLUTIONS 2436 REPBR, 2448 REPBR, OR 2460 REPBR (OR APPROVED EQUAL) AND SHALL BE AN INTEGRAL PART OF THE WALKING SURFACE.
  2. ADA SOLUTIONS 24RADREPBR OR APPROVED EQUAL TO BE USED WITH DETAIL 430.02, 432.02, AND 1000.08.
  3. STAMPED CONCRETE IS NOT AN APPROVED EQUAL.
  4. DOWNTOWN DETECTABLE WARNINGS MAY BE ADA 2004 COMPLIANT DETECTABLE WARNING PAVERS.
  5. DETECTABLE WARNING PLATES ARE TO BE COLONIAL OR BRICK RED IN COLOR OR APPROVED EQUAL.
  6. DETECTABLE WARNING SURFACES SHALL BE 24" WIDE AND EXTEND THE FULL LENGTH OF THE PUBLIC USE AREA.



- NOTE:
- RAMP SHALL BE 6" THICK MODOT PAVEMENT CONCRETE WITH #4 BARS AT 12" O.C. E.W.
  - EXPANSION JOINT SHALL BE 1/2" PREFORMED CORK OR BITUMINOUS EXPANSION JOINT MATERIAL.
  - MAXIMUM RAMP CROSS SLOPE IS 2.00%.
  - ALL SLOPES ARE MEASURED FROM THE HORIZONTAL.
  - REPLACE STANDARD CURB SECTION WITH SIDEWALK RAMP CURB SECTION - DETAIL 400.01
  - RAMP LENGTH IS DEPENDENT ON 1:12 MAX. SLOPE. USE FLATTER WHEN POSSIBLE.
  - LANDING AREA AT TOP OF RAMP SHALL BE 4'-0" MIN WIDTH, CROSS SLOPE OF LANDING SHALL NOT EXCEED 2.00%.
  - TYPE "A" RAMP NOT APPLICABLE IF SIDEWALK WIDTH DOES NOT PROVIDE 4'-0" LANDING AT THE TOP OF RAMP. USE TYPE "B" RAMP.
  - RAMP EXTENDS INTO SIDEWALK, FLARE SLOPE MUST NOT EXCEED 1:10.
  - CURB TRANSITION LENGTH IS DEPENDENT ON 1:10 FLARE SLOPE.



- NOTE:
- RAMP AND LANDING SHALL BE 6" THICK REINFORCED MODOT PAVEMENT CONCRETE W/#4 BARS @ 12" O.C.
  - EXPANSION JOINT SHALL BE 1/2" PREFORMED CORK OR BITUMINOUS EXPANSION JOINT MATERIAL.
  - MAXIMUM RAMP CROSS SLOPE IS 2.00%.
  - ALL SLOPES ARE MEASURED FROM THE HORIZONTAL.
  - REPLACE STANDARD CURB SECTION WITH SIDEWALK RAMP CURB SECTION - DETAIL 400.01
  - RAMP LENGTH IS DEPENDENT ON 1:12 MAX. SLOPE. USE FLATTER WHEN POSSIBLE.
  - LANDING AREA SHALL BE 4'-0" MIN WIDTH.
  - USE TYPE "B" RAMP ONLY IF TYPE "A" IS NOT FEASIBLE.



- NOTE:
1. DETECTABLE WARNING SHALL CONSIST OF RAISED TRUNCATED DOMES WITH A DIAMETER OF 0.9", A HEIGHT OF NOMINAL 0.2", AND A CENTER-TO-CENTER SPACING OF NOMINAL 2.35", AND SHALL CONTRAST VISUALLY WITH ADJOINING SURFACES, ACHIEVED BY THE INSTALLATION OF ADA SOLUTIONS 2436 REPBR, 2448 REPBR, OR 2460 REPBR (OR APPROVED EQUAL) AND SHALL BE AN INTEGRAL PART OF THE WALKING SURFACE.
  2. ADA SOLUTIONS 24RADREPBR OR APPROVED EQUAL TO BE USED WITH DETAIL 430.02, 432.02, AND 1000.08.
  3. STAMPED CONCRETE IS NOT AN APPROVED EQUAL.
  4. DOWNTOWN DETECTABLE WARNINGS MAY BE ADA 2004 COMPLIANT DETECTABLE WARNING PAVERS.
  5. DETECTABLE WARNING PLATES ARE TO BE COLONIAL OR BRICK RED IN COLOR OR APPROVED EQUAL.
  6. DETECTABLE WARNING SURFACES SHALL BE 24" WIDE AND EXTEND THE FULL LENGTH OF THE PUBLIC USE AREA.

Approved	07/01/20	Date		<b>SIDEWALK RAMP</b> Sidewalk at Back of Curb (Type A)	432.01
Revisions					

Approved	07/01/20	Date		<b>SIDEWALK RAMP</b> Sidewalk at Back of Curb (Type B)	432.02
Revisions					

Approved	10/01/16	Date		<b>DETECTABLE WARNING</b>	435.01
Revisions					

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Ryan Fuller  
MO PE-2016001250  
November 5, 2024

REVISIONS

PROJECT INFO  
2023002046

ENGINEER: JHT  
DRAWN BY: SMH  
CHECKED BY: RAF

VANDIVER ROAD SIDEWALK  
COLUMBIA, MISSOURI  
TAP 2101514

PRELIMINARY DESIGN-DETAILS 2

DRAWING NO.  
5

P:2023002046\04-DRAWINGS\08-EXHIBITS-CONCEPTS\2023002046 PRELIMINARY-CHECK PLANS.DWG