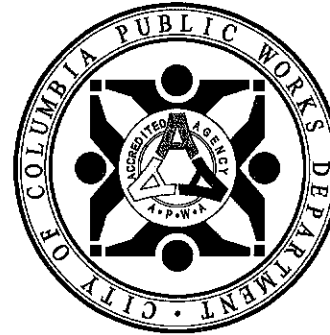


LOCATION MAP

# City of Columbia, Missouri

## Department of Public Works



# WABASH DRIVE EXTENSION

CITY PROJECT NUMBER: 00522

### LEGEND OF SYMBOLS

POWER POLE	
TELEPHONE POLE	
GUY ANCHOR	
GUY POLE	
STREET LIGHT POLE	
YARD LIGHT (SOLAR)	
WATER METER	
GAS METER	
GAS VALVE	
WATER VALVE	
FIRE HYDRANT	
PIPE BREAKLINE	
SANITARY MANHOLE	
SANITARY CLEANOUT	
SANITARY LATERAL CLEANOUT	
TRAVERSE POINT	
MoDOT ROW MARKER	
BENCHMARK	
SIGN	
MAIL BOX	
PROPERTY IRON	
BUSH	
STUMP	
TREE REMOVAL	
TREE	
TREE LINE	
SILT FENCE/TREE PROTECT	
EXISTING PUBLIC SANITARY SEWER	
EXISTING SANITARY SEWER LATERAL	
FENCE	
CABLE TELEVISION	
TELEPHONE	
ELECTRIC	
TELEPHONE OR ELECTRIC MANHOLE	
WATER MAIN	
GAS MAIN	
FIBER OPTIC	
FLOW LINE	
PROPERTY LINE	
LOT LINE	
EXISTING RIGHT OF WAY LINE	
EXISTING EASEMENT	
PERMANENT UTILITY EASEMENT	
PROPOSED SANITARY SEWER EASEMENT	
PROPOSED PERMANENT DRAINAGE EASEMENT	
PROPOSED RIGHT STREET EASEMENT	
TEMPORARY ACCESS EASEMENT	
TEMPORARY CONSTRUCTION EASEMENT	
GRADING LIMIT	

### GENERAL NOTES

- All construction to be in accordance with "City of Columbia Street, Storm Drain and Sanitary Specifications" (Current edition)
- Known underground utilities are shown in their approximate locations. Other utilities may exist
- All removal of driveway pavements should be verified by field engineer
- 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 Section-203 Seeding & mulching and TS-4 Erosion Control
- Remove all pavement surfaces, inlets, pipes and sidewalks within the construction limits as per TS-2, except those noted to remain. The field inspector shall verify removal of all driveway pavement
- 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 outside of the "road closed" area. Asphaltic "cold mix" shall be used as a temporary patch overnight. Temporary patching shall be considered incidental to the work

### UTILITY COMPANIES:

<b>TELEPHONE</b> CenturyLink 625 Cherry Street Columbia, MO 65205 573-886-3505	<b>WATER</b> City of Columbia P.O. Box 6015 City Utilities Columbia, MO 65205 573-874-2489
<b>NATURAL GAS</b> Ameren Missouri 2001 Maguire Boulevard Columbia, MO 65201 573-876-3063	<b>ELECTRIC</b> City of Columbia P.O. Box 6015 City Utilities Columbia, MO 65205 573-874-2489
<b>CABLE TELEVISION</b> Mediacom 901 N. College Avenue Columbia, MO 65201 573-443-1538 ext 354	<b>SANITARY SEWER</b> City of Columbia P.O. Box 6015 City Utilities Columbia, MO 65205 573-874-2489
<b>TELEPHONE/CABLE/FIBER OPTIC</b> AT&T 7351 East ABC Lane Columbia, MO 65202 770-335-8244	<b>ELECTRIC (county)</b> Bays Electric Cooperative 1413 Range Line Street Columbia, MO 65201 573-449-4181 ext 231
<b>LOCATES</b> Missouri One Call Inc. 1022 B Northeast Drive Jefferson City, MO 65109 1-800-344-7483	

### RAILROAD CONTACT:

Shane Riley  
Acting Operations Manager  
Columbia Terminal Railroad  
Office (573)-441-6563, Cell (680)-815-3088

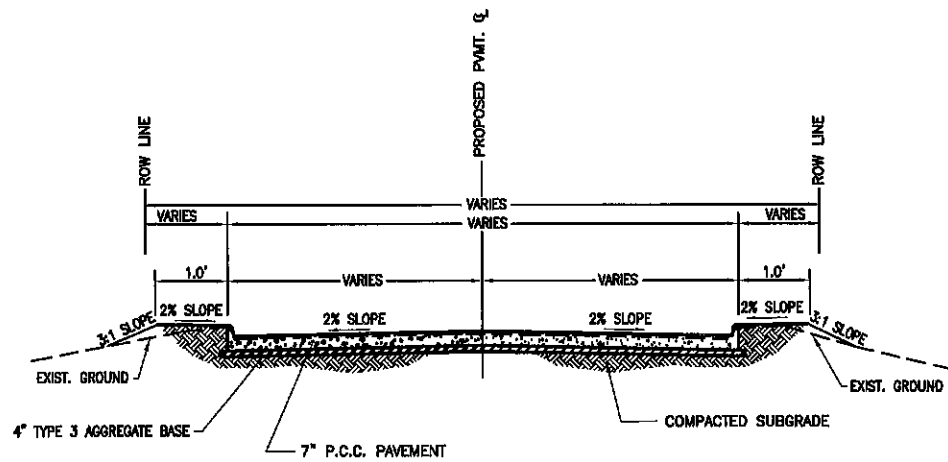
### CONTROL POINTS

NO.	NORTHING	EASTING	ELEVATION	DESCRIPTION
TP #1	1142600.11	1695779.53	791.60	TP PK
TP #2	1142603.79	1695968.82	794.62	TP
TP #3	1142341.55	1695769.80	796.46	TP
TP #5	1142475.91	1695870.16	797.30	2P 60D

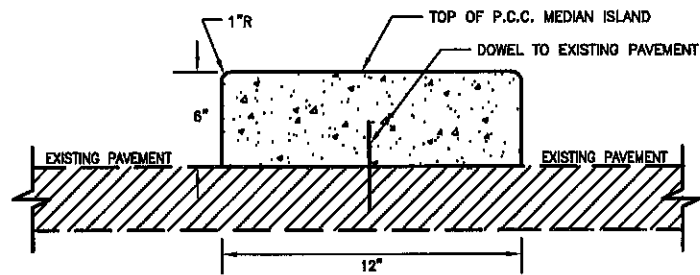
### INDEX OF SHEETS

Description	Sheet No.
Cover Sheet	1
Typical Sections and Other Details	2
Plan & Profile Sheet	3
Concrete Median Island Plan & Details	4
Cross Section Sheet	5
Precast Concrete Panel Details	6
Lighting Plan	7
Traffic Control Plan	8
Pavement Striping & Signage Plan	9

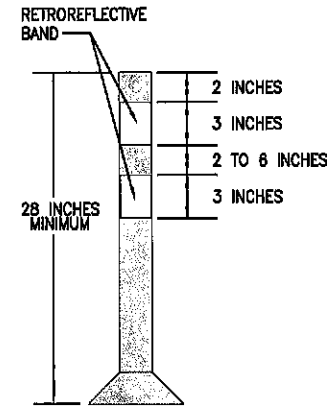
<b>City of Columbia, Missouri</b> Department of Public Works			
No.	Date	By	Revision
File No.	00522	Des.	A.N.H.
Scale:	None	Dwn.	A.N.H.
Date:	6-4-2021	Chk.	A.A.A.
Sheet 1 of 9		David Allen Nichols Registered Professional Engineer E-24812	
<b>WABASH DRIVE EXTENSION</b>			
Approved By _____			
Director of Public Works		Date	



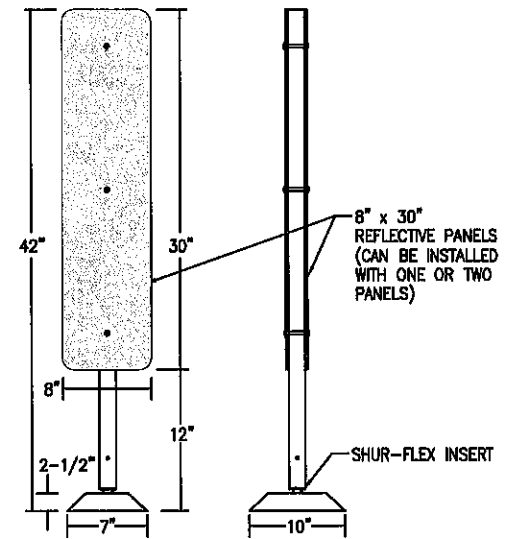
**WABASH DRIVE TYPICAL SECTION**  
STA. 0+37.68 TO STA. 1+35.78  
(NOT TO SCALE)



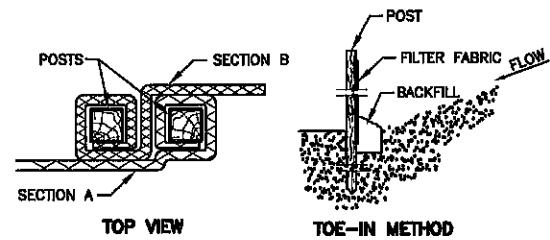
**P.C. CONCRETE MEDIAN ISLAND**  
(NOT TO SCALE)



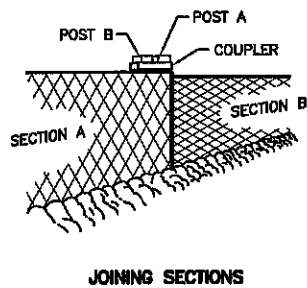
**TUBULAR MARKERS**  
MUTCD FIG. 6F-7  
Not to Scale



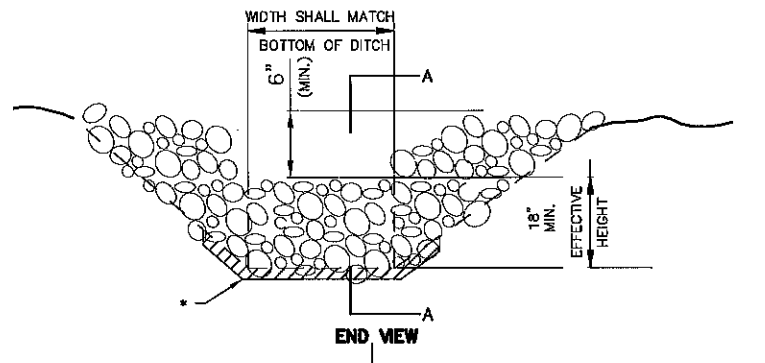
**SURFACE MOUNT HIGH VISIBILITY  
MEDIAN SEPARATOR SHUR-FLEX**  
Not to Scale



**SILT FENCE INSTALLATION**  
Not to Scale

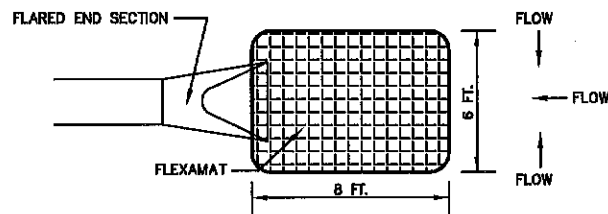


**JOINING SECTIONS**  
Not to Scale



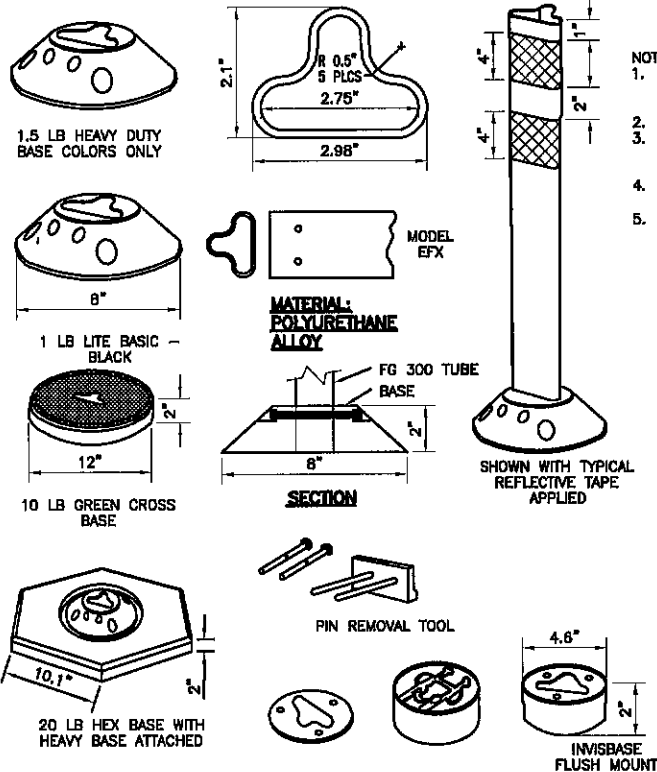
\* GEOTEXTILE LINING MAY BE INSTALLED AS REQUIRED BY THE ENGINEER.

**ROCK DITCH CHECK**  
Not to Scale



**TIED CONCRETE BLOCK MAT (FLEXAMAT)**  
Not to Scale

**BASE OPTIONS:**



- NOTES:
1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS. DO NOT SCALE DRAWINGS.
  2. POSTS, CURB AND REFLECTIVE SHEETING SHALL BE YELLOW IN COLOR.
  3. FLEXI-GUIDE POSTS SHALL BE 36" IN LENGTH.
  4. CONTRACTORS NOTE: FOR PRODUCT INFORMATION VISIT [www.modot.org](http://www.modot.org)

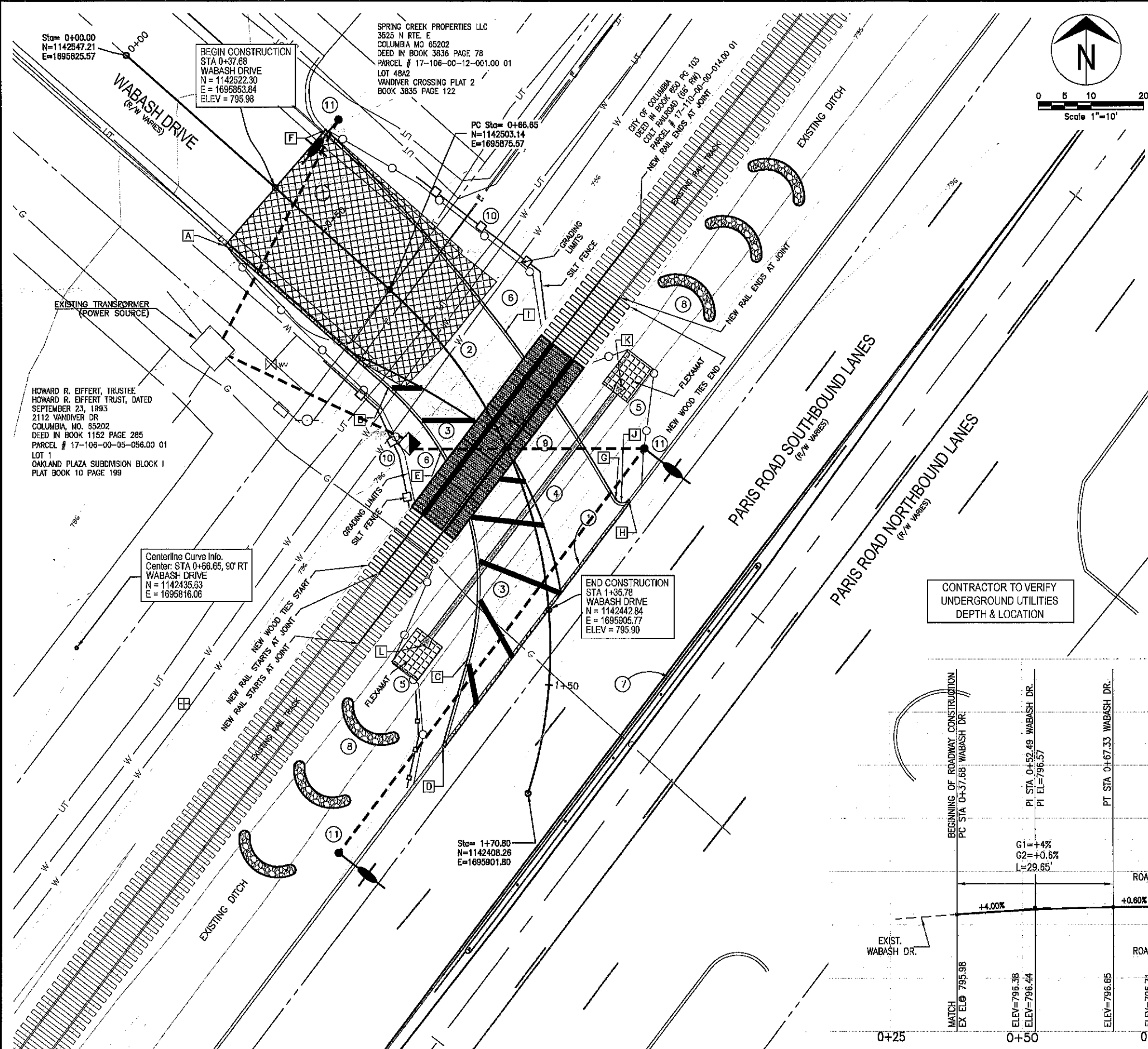
**FLEXIBLE DELINEATOR POST DETAIL**  
High-Performance Surface Mount Post  
NOT TO SCALE

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By	
Date	
No.	

**WABASH DRIVE EXTENSION**  
Typical Sections and Other Details

City of Columbia, Missouri  
Department of Public Works

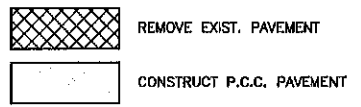
David Allen Nichols Registered Professional Engineer E-34212
File No. 00522
Scale: None
Date: 6/4/2021
Des. A.N.H.
Dwn. A.N.H.
Chk. A.A.A.



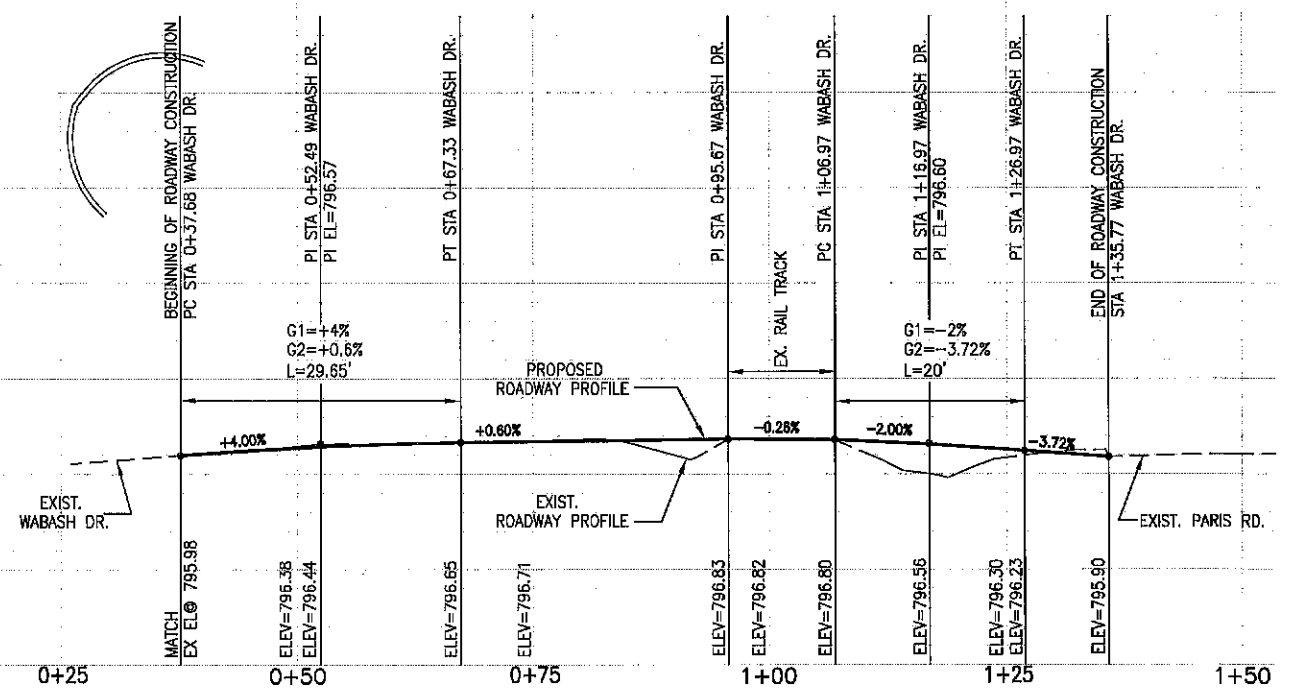
ROADWAY CURB POINT TABLE:

POINT NO.	STATION, OFFSET	NORTHING	EASTING	DESCRIPTION
A	0+37.68, 14.42'RT	1142511.48	1695844.31	BOC, CURB STARTS
B	0+80.83, 13.20'RT	1142484.55	1695875.28	BOC, PC STATION
C	1+45.55, 15.70'RT	1142433.52	1695890.33	BOC, PT STATION
D	1+66.10, 18.02'RT	1142417.35	1695885.68	BOC, CURB ENDS
E	1+06.16, 60.89'RT	1142447.21	1695842.76	CENTER OF BOC, R=49.5'
F	0+37.68, 14.58'LT	1142533.24	1695863.48	BOC, CURB STARTS
G	1+18.88, 16.14'LT	1142463.73	1695918.42	BOC, PRO STATION
H	1+19.56, 18.51'LT	1142463.56	1695920.91	BOC, CURB ENDS
I	0+88.03, 288.84'RT	1142314.51	1695858.16	CENTER OF BOC, R=300'
J	1+18.57, 17.60'LT	1142464.47	1695919.72	CENTER OF BOC, R=1.5'

- NOTES:
- SAWCUT & REMOVE EXISTING PAVEMENT PER PLAN
  - CONSTRUCT PORTLAND CEMENT CONCRETE PAVEMENT PER PLAN DIMENSIONS, TYPICAL SECTIONS, AND CROSS SECTIONS PER SHEET 5
  - INSTALL APRON STRIPING PER SHEET 8
  - INSTALL 58 LF OF 12" RCP OR HP PIPE @ 0.5% SLOPE WITH REINFORCED CONCRETE FLARED END SECTIONS PER PLAN DIMENSIONS & DETAILS  
 [K] FES (N) STA. 1+02.80, 24.7'LT; N=1142485.18, E=1695919.49, FL=794.50  
 [L] FES (S) STA. 1+42.34, 23.93'RT; N=1142438.11, E=1695882.12, FL=794.18
  - INSTALL FLEXAMAT PER PLAN, DIMENSIONS & SPECIFICATIONS AREA= 6'X8' EACH
  - SEED AND MULCH ALL THE DISTURBED AREAS
  - SEE SHEET 4 FOR MEDIAN ISLAND PLAN & DETAILS
  - INSTALL AND MAINTAIN ROCK DITCH CHECKS PER PLAN AND DETAILS UNTIL DISTURBED AREAS ARE COMPLETELY STABILIZED
  - REMOVE, SUPPLY AND INSTALL NEW RAILROAD 141# RAILS AND PANELS PER PLAN, FRA & MODOT REQUIREMENTS & DETAILS ON SHEET 6. USE OMEGA BNSF-UPRR COMMON STANDARD PRECAST CONCRETE PANELS ON NEW 10' LONG WOOD TIES OR APPROVED EQUAL PER TS-10
  - INSTALL SILT FENCE PER PLAN & DETAILS
  - SEE SHEET 7 FOR LIGHTING PLAN & DETAILS.



NOTE: SEE CONTROL POINTS DIAGRAM ON SHEET 4



**PLAN WABASH DRIVE**  
SCALE: 1"=10'

**PROFILE WABASH DRIVE**  
SCALE: H: 1"=10'  
V: 1"=5'

ALL TREES, BUSHES AND SHRUBS LOCATED WITHIN THE GRADING LIMITS CAN BE REMOVED ONLY IF NECESSARY TO FACILITATE CONSTRUCTION. CHECK THE PLAN SHEETS FOR TREES AND SHRUBS SPECIFICALLY NOTED EITHER 'DO NOT DISTURB' OR MARKED WITH A BOLD 'X' TO BE REMOVED. THE CONTRACTOR SHALL USE CARE TO MINIMIZE THE IMPACT TO AND THE REMOVAL OF TREES. THE CONSTRUCTION INSPECTOR SHALL VERIFY ALL REMOVALS.

CONTRACTOR TO VERIFY UNDERGROUND UTILITIES DEPTH & LOCATION

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Date	
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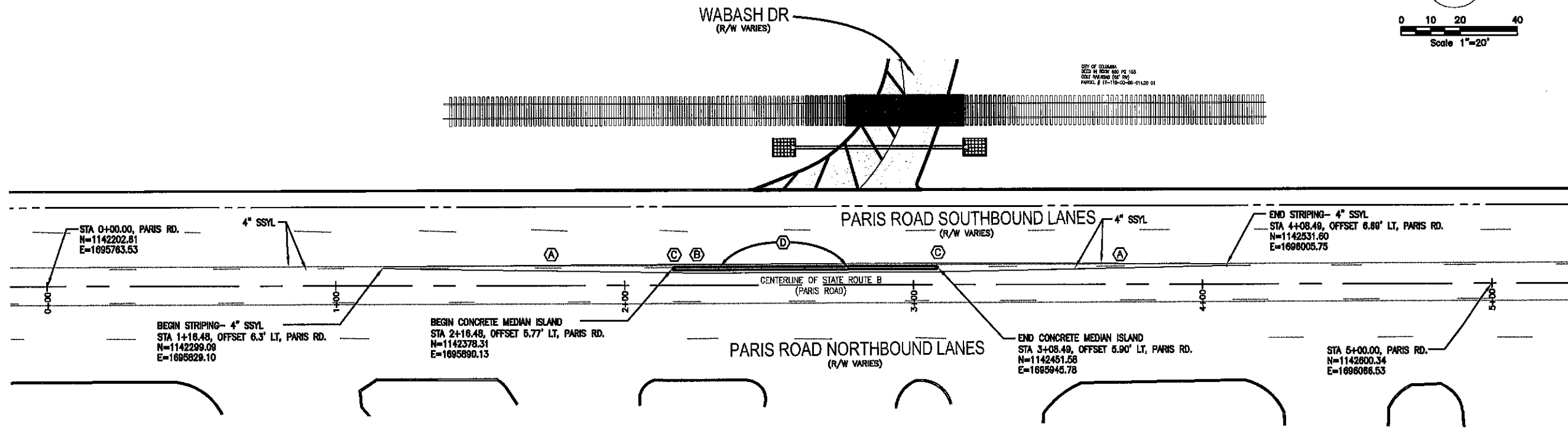
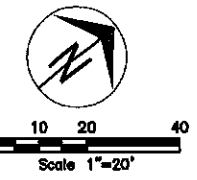
**WABASH DRIVE EXTENSION**  
Plan & Profile Sheet

City of Columbia, Missouri  
Department of Public Works

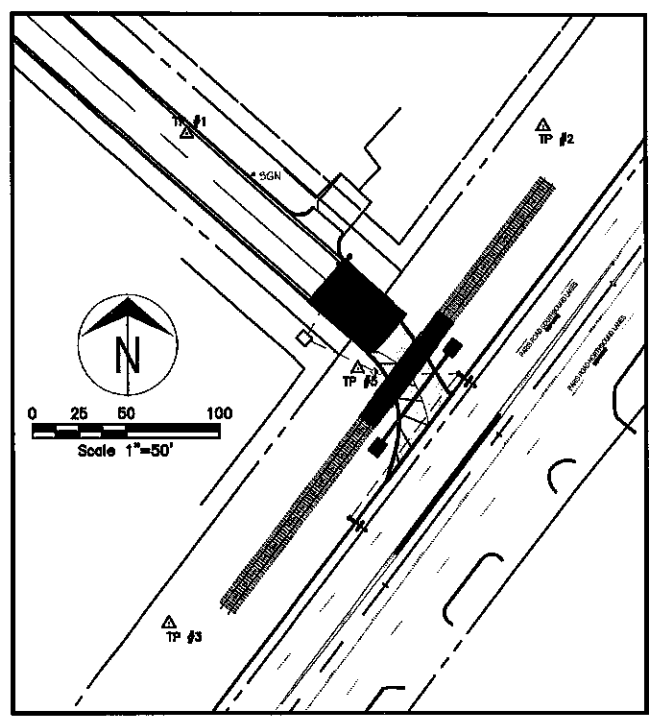
David Allen Nichols  
Registered Professional Engineer  
E-24212

File No. 00522  
Scale: As Shown  
Date: 6/4/2021  
Des. A.N.H.  
Dwn. A.N.H.  
Chk. A.A.A.

Sheet  
3 of 9



**PLAN  
CONCRETE MEDIAN ISLAND**  
SCALE: 1"=20'



**CONTROL POINTS LOCATION**  
SCALE: 1"=50'

LEGEND OF LABELS:	
(A)	ALL EXISTING STRIPING TO BE REPLACED IN THE LOCALIZED AREA SHALL BE REMOVED.
(B)	INSTALL 1' WIDE, 6" TALL CONCRETE MEDIAN STRIP AS SHOWN. REFER TO MODOT STANDARD DETAIL 808.30A. SHALL BE DOWELED INTO EXISTING PAVEMENT PER DETAIL A.
(C)	INSTALL SHUR-TITE PRODUCTS - SHUR-FLEX SURFACE MOUNT HIGH VISIBILITY MEDIAN SEPARATOR. REFER TO SHUR-TITE PRODUCTS ITEM # SF30MB.
(D)	INSTALL 28" TUBULAR MARKER PER MUTCD FIGURE 6F-7. COLOR OF TUBULAR MARKER SHALL BE YELLOW WITH A REFLECTIVE BAND/STRIP. TUBULAR MARKER SPACING SHALL BE 15'. CONTRACTOR SHALL FOLLOW MANUFACTURERS INSTRUCTIONS FOR PERMANENT INSTALLATION.

**NOTES:**

- REFER TO 903.03BL OF THE MODOT STANDARD PLANS FOR SIGN & MOUNTING POST CONSTRUCTION DETAILS.
- REFER TO SECTION 903 OF THE MODOT STANDARD SPECIFICATIONS FOR HIGHWAY SIGNAGE INSTALLATION PROCEDURES.
- REFER TO 620.00J OF THE MODOT STANDARD PLANS FOR STRIPING INSTALLATION & CONSTRUCTION DETAILS.
- CONTRACTOR TO SUBMIT TRAFFIC CONTROL PLAN FOR WORK LOCATED IN MODOT RIGHT-OF-WAY PER MUTCD AND HAVE APPROVAL BY MODOT 48 HOURS PRIOR TO ANY LANE CLOSURE.

**STRIPING LEGEND:**

4" SSSL: 4" SOLID SINGLE YELLOW LINE

Revision	By	Date	No.

**WABASH DRIVE EXTENSION**  
Concrete Median Island Plan & Details

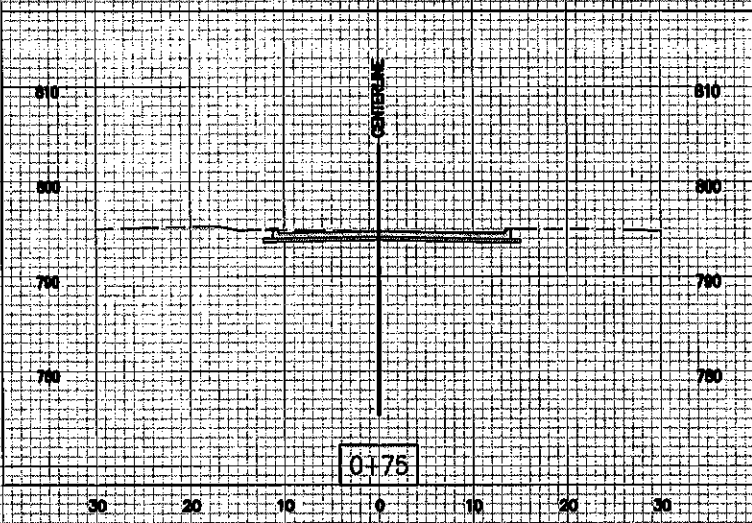
City of Columbia, Missouri

Department of Public Works

David Allen Nichols Registered Professional Engineer E-24212
File No. 00522
Scale: AS SHOWN
Date: 8/4/2021
Des. A.N.H.
Dem. A.N.H.
Chk. A.A.A.

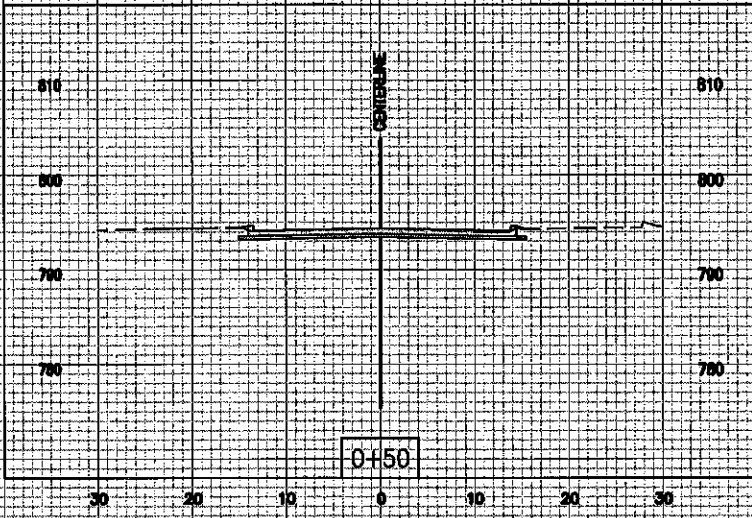


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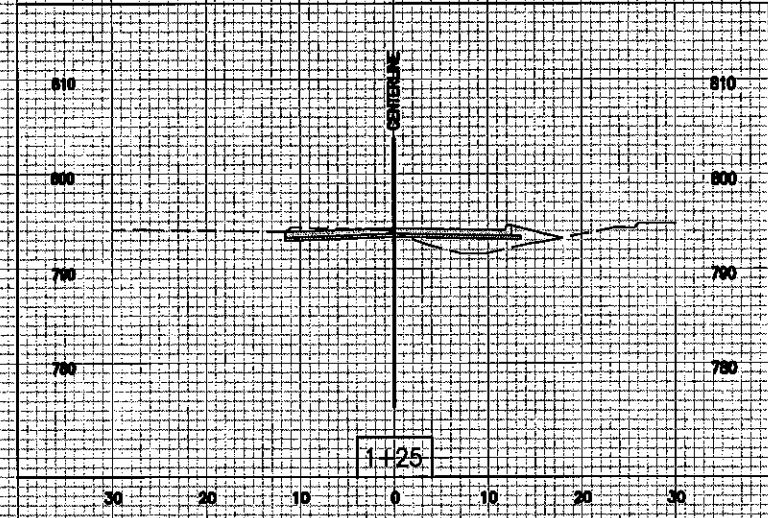


0+75

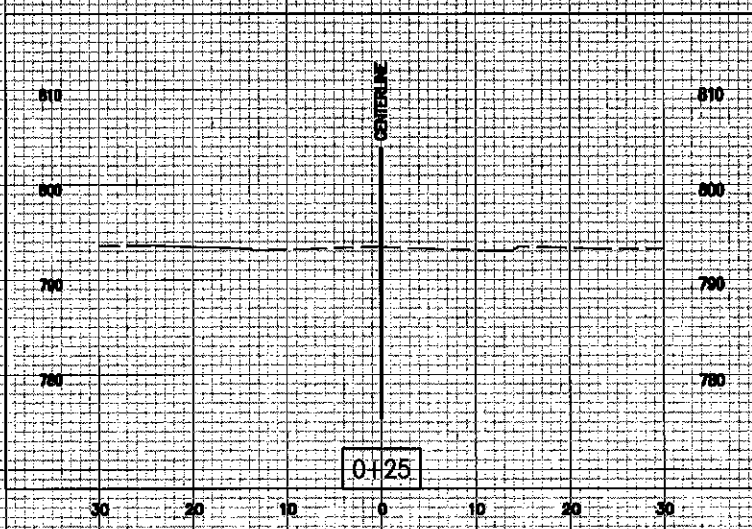
SCALE:  
V 1"=10'  
H 1"=10'



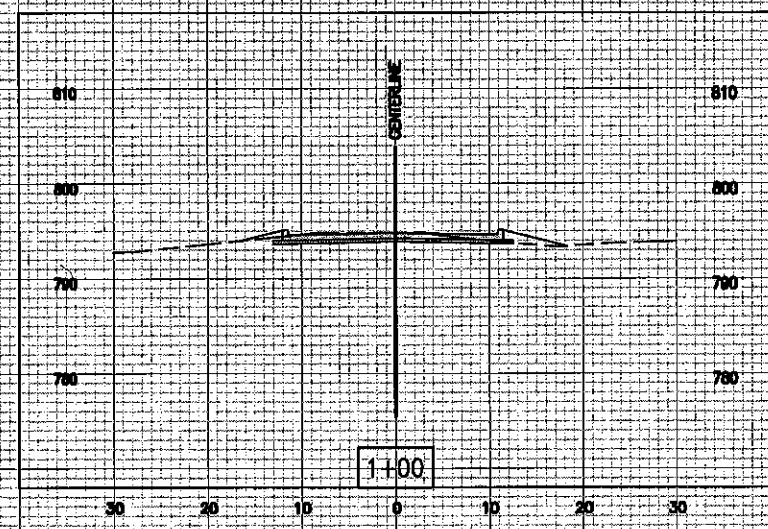
0+50



1+25



0+25



1+00

No.	Date	By	Revision

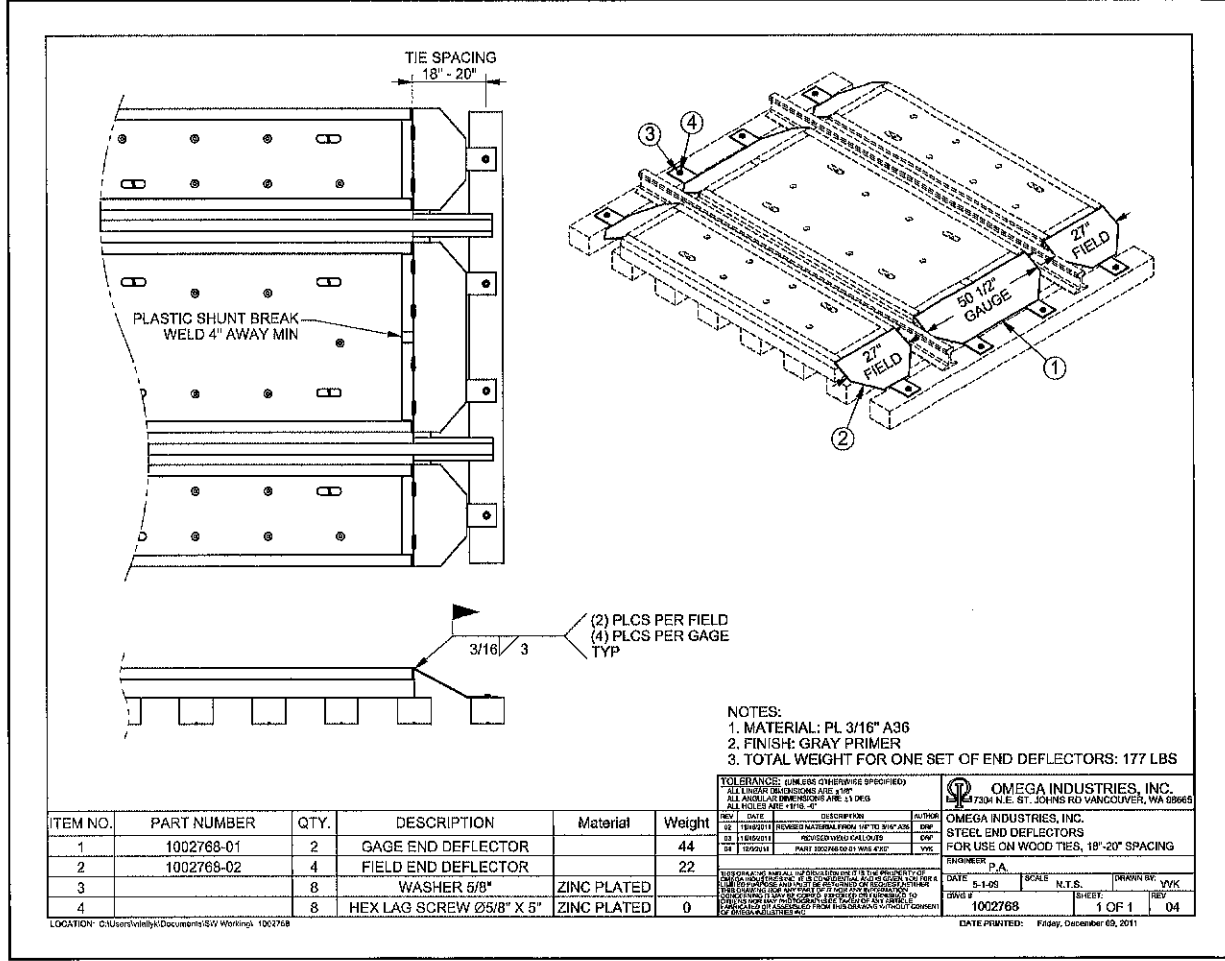
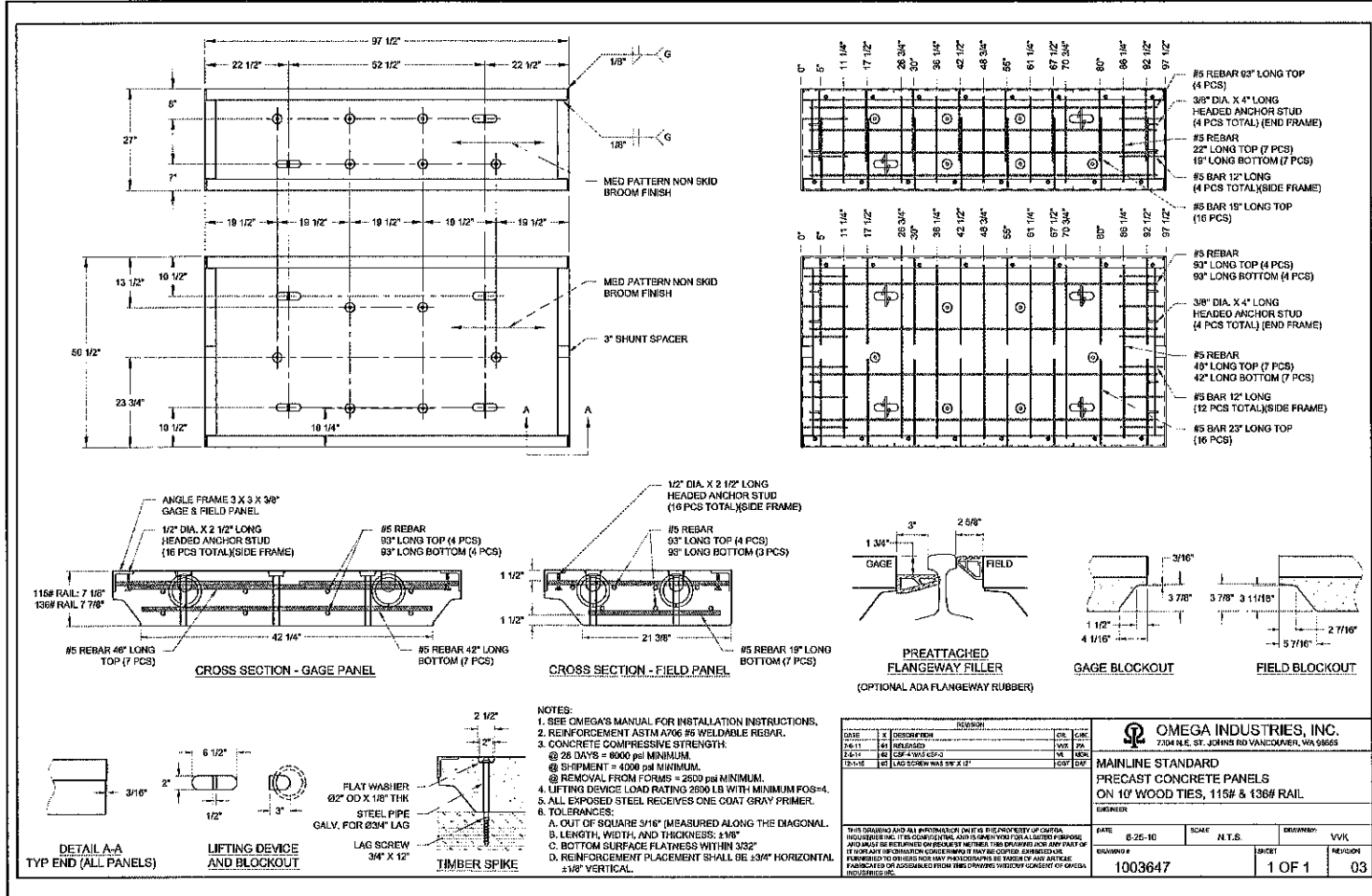
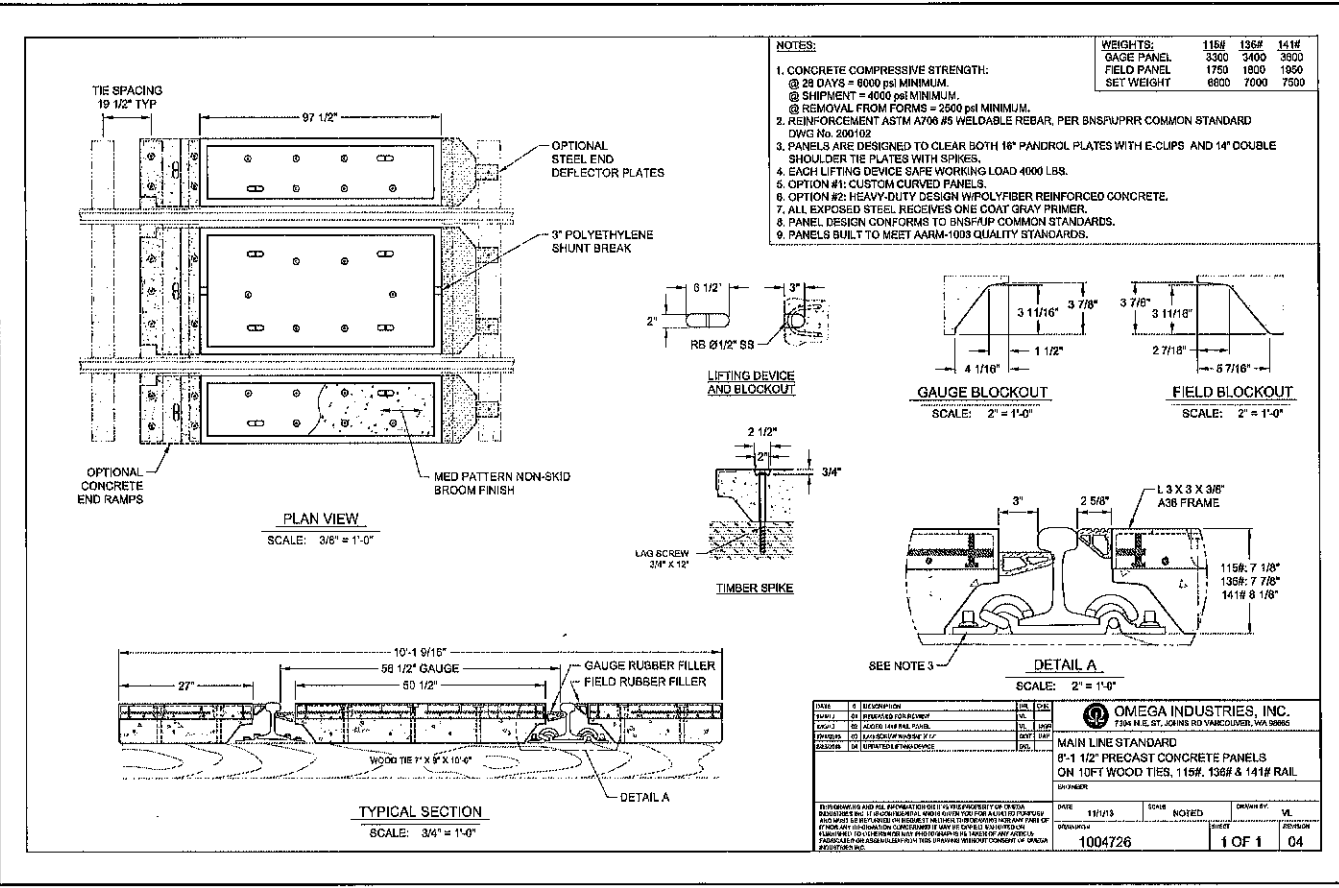
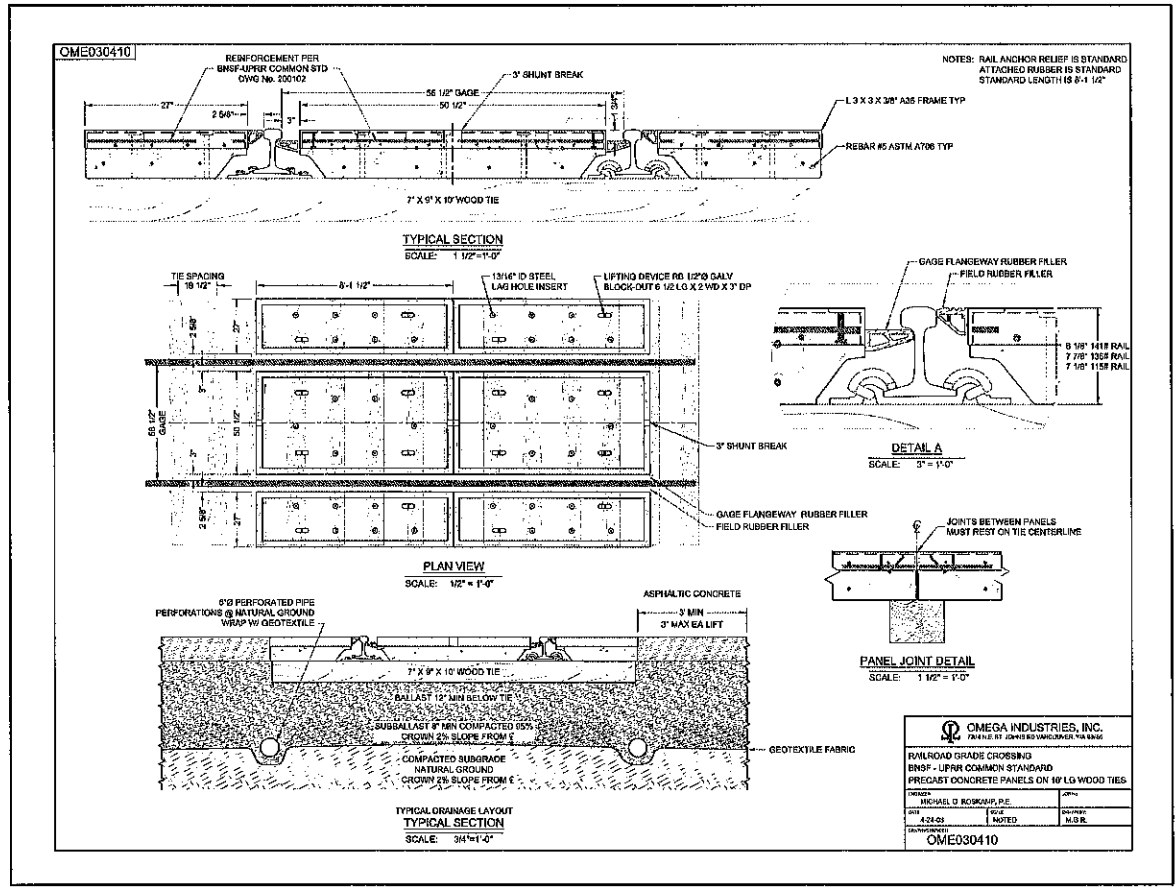
**WABASH DR. EXTENSION**  
Cross Section Sheet

City of Columbia, Missouri

Department of Public Works

David Allen Nichols  
Registered Professional Engineer  
E-24212

File No. 00522  
 Scale: AS SHOWN  
 Date: 8/4/2021  
 Des. A.N.H.  
 Dwn. A.N.H.  
 Chk. AAA



**WABASH DRIVE EXTENSION**  
Precast Concrete Panel Details

City of Columbia, Missouri  
Department of Public Works

David Allen Nichole  
Registered Professional  
Engineer  
E-24212

File No. 00522  
Scale: None  
Date: 6/4/2021  
Des. A.N.H.  
Dwn. A.N.H.  
Chk. A.A.A.

Sheet  
6 of 9

**Legend**

- 36' Mounting Height - 113 Watt LED Fixture
- Secondary Hand Hole (Furnished & Installed by Contractor)
- UGSL - 2" Conduit, 24" Cover

Coordinate with City W&L for Connecting Existing Transformer (Power Source).  
Contact Person: Kevin Thornton (573-874-6208)

**STREET LIGHT POLE SCHEDULE**

POLE#	NORTHING	EASTING	POLE & BRACKET ARM	LUMINAIRE	FOUNDATION
P1	1142535.13	1695865.88	30' POLE, 6' ARM	113W LED	L6/L8 SCREW IN BASE
P2	1142473.28	1695923.86	30' POLE, 12' ARM	113W LED	L6/L8 SCREW IN BASE
P3	1142387.04	1695865.87	30' POLE, 12' ARM	113W LED	L6/L8 SCREW IN BASE

\* NOTE: L8 POURED CONCRETE BASE IS ACCEPTABLE FOUNDATION ALTERNATE.

**SECONDARY HAND HOLE SCHEDULE**

HAND HOLE#	NORTHING	EASTING	HAND HOLE TYPE
H1	1142474.11	1695879.24	STANDARD TYPE

- NOTE:**
- THIS POLE COMES IN 36' MOUNTING HEIGHTS FOR SINGLE AND DOUBLE TRUSS ARMS. 36' MOUNTING HEIGHT TO BE USED DOWNTOWN WITH SINGLE SCROLL ARM.
  - METAL STREET LIGHT STANDARDS ALWAYS REQUIRE AT LEAST THREE CONDUCTORS. AN EQUIPMENT GROUNDING CONDUCTOR MUST BE RUN FROM GROUND ROD IN THE TRANSFORMER TO THE GROUNDING LUG INSIDE THE HANDHOLE IN THE LIGHT STANDARD. FOR 120V HOOKUP, THE CURRENT RETURN PATH NEUTRAL IS NOT TO BE CONNECTED TO THE GROUNDING LUG INSIDE THE HANDHOLE. FOR 208V OR 240V HOOKUP, AN EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED, BUT A NEUTRAL CONDUCTOR IS NOT REQUIRED, SO THREE CONDUCTORS ARE STILL SUFFICIENT.

**CW&L INSPECTIONS:**  
THE CONTRACTOR SHALL NOTIFY THE CITY'S ENGINEER OR HIS AIDES FOR THE AVAILABILITY OF AN INSPECTOR A MINIMUM OF TWO WORKING DAYS BEFORE COMMENCING WORK, MONDAY THROUGH FRIDAY BETWEEN THE HOURS OF 8:00 A.M. AND 4:30 P.M. SHALL CONSTITUTE A TYPICAL WORK WEEK. ANY WORK OUTSIDE THESE HOURS REQUIRES THE APPROVAL OF THE CITY'S ENGINEER OR INSPECTOR. A MINIMUM OF TWO DAYS NOTICE WILL BE REQUIRED WHEN REQUESTING INSPECTION SERVICES OUTSIDE OF NORMAL WORKING HOURS.  
CONTACT PERSON: KENNY EADS (573-864-4720)

**General Notes:**

- Install 30 ft galvanized steel light standard with 6 ft 1/2 ft truss arm (5' rise) on new screw in street light foundation with break-away base, as staked. Install NAVION 4-square 113 watt, LED luminaire and wire for 208 volt operation with photocell. Fuse w/ two limitron KTK-3 fuses. Run two #10 AWG solid Cu 600V conductors from fuse blocks up to luminaire. Note: 30' poles, 5' rise in truss arm & break-away base will be result in (nominal) 36' luminaire mounting height.
- Intercept and redirect existing underground secondary/street light circuit (s) into new secondary handhole. Verify and match as 3#6, Al, 600 volt & #6 bare ground in 2" conduit.
- Remove existing cable (if direct bury, cut off exposed ends). Remove all exposed conduit. Remove or abandon-in place all conduit as appropriate.

**Lighting Notes:**

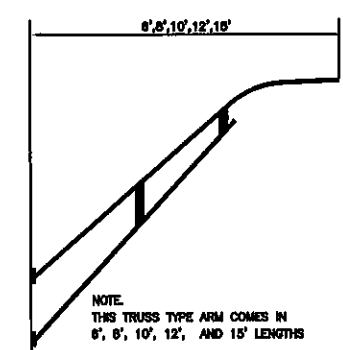
- Contractor is Responsible for Coordinating with the Local Utility to Energize the Street Lighting System and for Ensuring that Installation at meter pedestal with Utility Requirements. Any Additional Materials and Labor needed to Conform to Utility Installation Requirements are considered Included Subsidiary to the Roundabout Lighting System.
- All Lighting Work and Materials shall be in Conformance with MoDOT Specifications and Standard Details for Highway Lighting.
- Pull Boxes (Hand Holes) shall be installed level with curb, sidewalk or surrounding grade.
- Cables shall be continuous and un-spliced between Light Poles unless indicated otherwise. Splicing of Power Cables in the Transformer Base shall be done in accordance with CW&L Standards.
- All Conduit Raceways are 2" PVC, Schedule 40 electrical grade unless otherwise noted on the Plans. Conduits shall have a minimum 24" cover. Contractor shall run street light conduits in the same ditch with other electrical, telephone, CATV, etc. utility conduits insofar as practical. Contractor shall coordinate his work with the adjacent site contractor and other utilities. Call (573) 874-6202 for inspection before backfilling trench.
- Distribution System shall be grounded as required by MoDOT Specifications and Standard Details.
- Luminaires shall be 113 Watt LED (NEMA twist lock photocell, nominal TYPE II distribution, 10 KA Surge Protection: COOPER NAVION NVN # AF-02-E-U-SL2-10K-7030-4-AP or approved equal). See Specification for LED Roadway Lighting Fixtures.
- All Poles shall 30 feet steel. Poles shall be mounted on L6 Screw-In base (or contractor's choice to use L8 poured concrete base). Installation shall incorporate a MoDOT break-away based with (2) LIMITRON KTK 3-amp, 600 volt fuses, in BUCHANNON #62S-ADB1 (or equal) loop feed fuse holders. Arms shall be 6' up sweep steel truss arms. ALL PARTS OF POLE, BRACKET, LIGHT FIXTURE, ETC. TO HAVE AT LEAST 76" CLEARANCE TO ANY PRIMARY CONDUCTORS.

**LED Roadway Lighting Fixtures:**

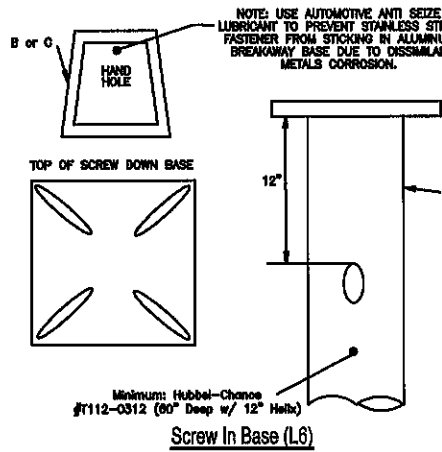
- Design Fixture & Manufacturer: COOPER NAVION NVN # AF-02-E-U-SL2-10K-7030-4-AP; or approved equal.
- Light Output: Light source to have correlated color temperature 3000K with 70 CRI minimum. Fixture to have Type II Roadway distribution (with "HOUSE-SIDE-SHIELD" function designed into the distribution pattern); including 0% UPLIGHT, and minimal backlight. Provide fixture having BUG rating of B1-UO-G3 or better. Photometric and lumen maintenance data to be determined per LM-79, LM-80 & TM-21. Lumen maintenance at 60,000 hours to be at least 70% (based on a 45 deg C ambient).
- Electrical: Provide IEEE/ANSI C82.41 Category C (10kV/5kA) minimum level of surge protection. Provide a NEMA photo-control receptacle. The fixture shall not produce objectionable EMI interference. Electrical design life of the LED light engines shall be at least 100,000 hours at minimum 40 deg C operation. Electronic driver rated design life shall be at least 100,000 hours at minimum 25 deg C ambient. Provide screw terminals for supply leads compatible with aluminum and copper conductors through at least # 10 AWG.
- Operating Voltage: All fixtures provided shall be suitable for multi-volt (100-120, 208, 240 & 277) operation.
- Mounting and Housing: The fixture shall be suitable for use with 1-1/4" & 2" pipe sizes (1 5/8" & 2-3/8" OD). Allow for +5 deg to -5 deg leveling adjustment (in steps no larger than 2.5 deg, if not continuously adjustable throughout the +/- 5 deg range). Fixture to have diecast aluminum housing with minimum 2 G vibration rating per relevant parts of AS/NZ C 136. Total weight not to exceed 30 pounds. Provide fixture with gray corrosion resistant finish.
- Warranty: Provide minimum 5 years warranty including the LED arrays, the LED optics, the LED drivers, integral control devices and fixture finish for use in all weather conditions and exposure.
- Codes and Standards: All equipment provided shall conform to the latest applicable standards of ANSI, IEEE, NEC, NEMA, NESC and Compliance with relevant sections of ANSI C 136 is required.
- Bidders shall submit with their bids, complete information to clearly indicate and describe the light fixture they propose and their characteristics. Information submitted shall contain complete mechanical data including dimensions, weight, and light output (distribution & lumen maintenance) including electronic copy of the relevant "IES" files.

CONTRACTOR TO VERIFY EXISTING UNDERGROUND UTILITIES DEPTH & LOCATION

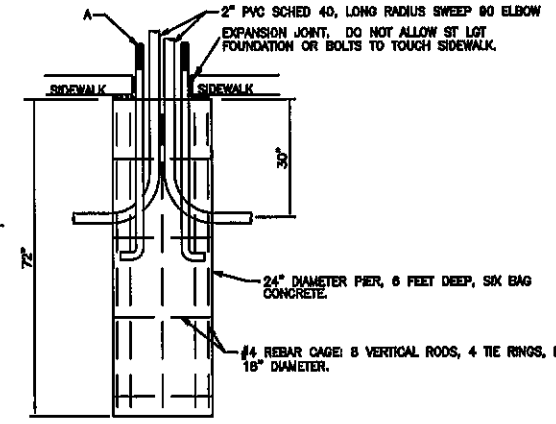
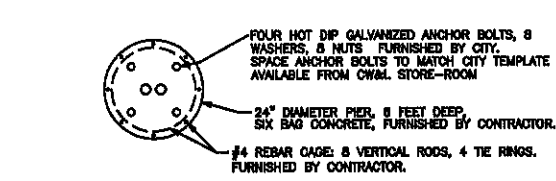
Metal Street Light Poles



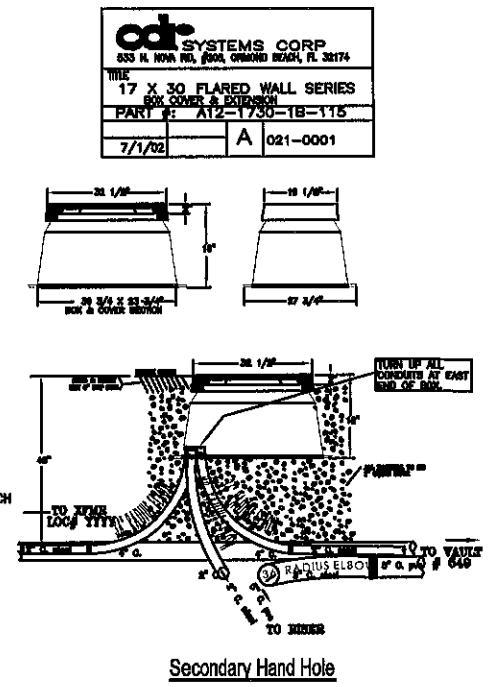
Truss Type Arm for Steel Pole (Street Light Arm)



Screw In Base (L8)

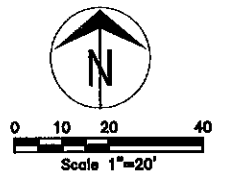
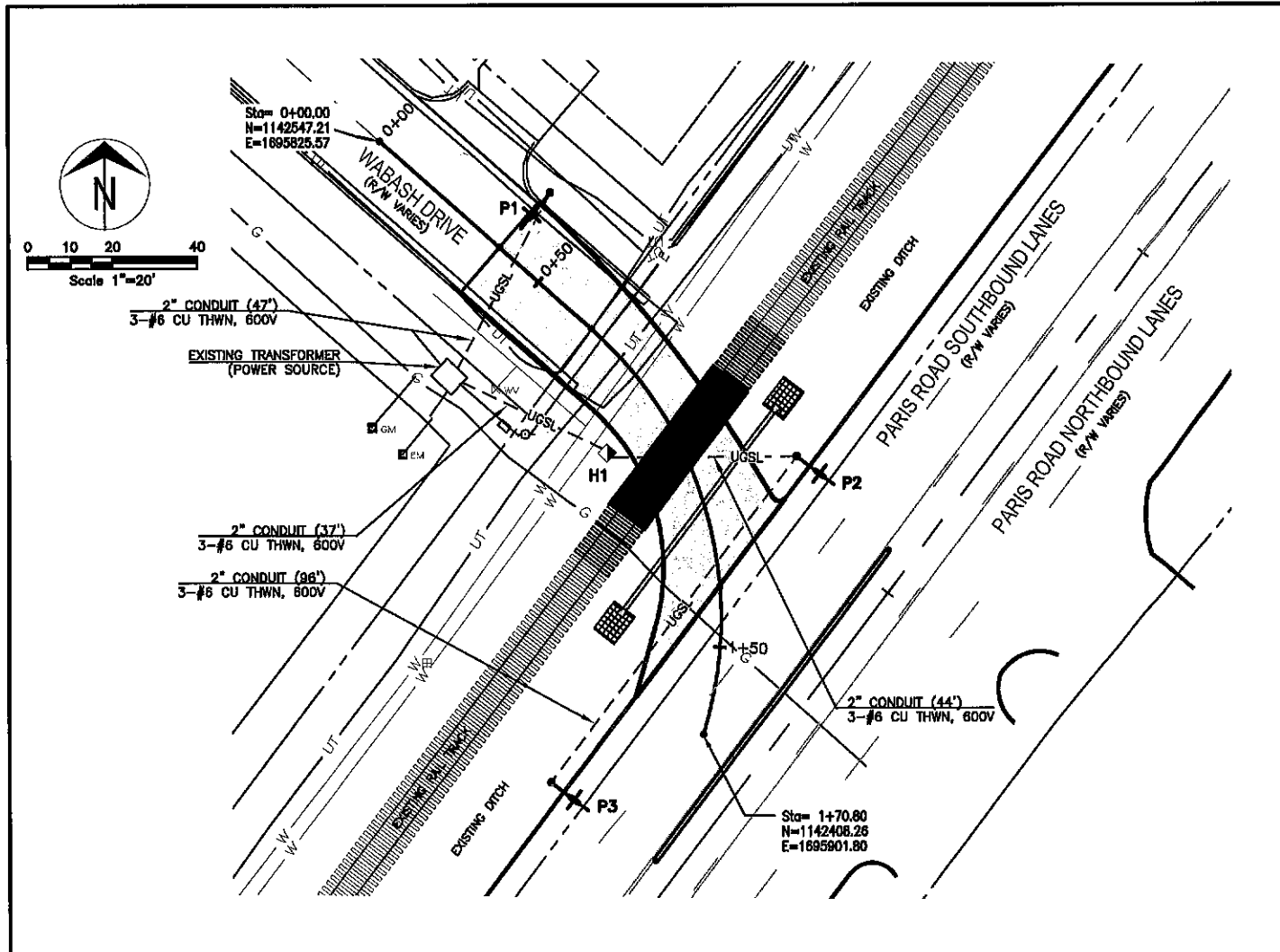


Screw In Base (L6)



Secondary Hand Hole

**odr SYSTEMS CORP**  
833 N. HOWARD, SUITE 200, GRAND BEACH, FL 32747  
TITLE: 17 X 30 FLARED WALL SERIES  
FOR COVER & EXTENSION  
PART # AT12-1730-1B-115  
7/1/02 A 021-0001



Revision	By	Date	No.

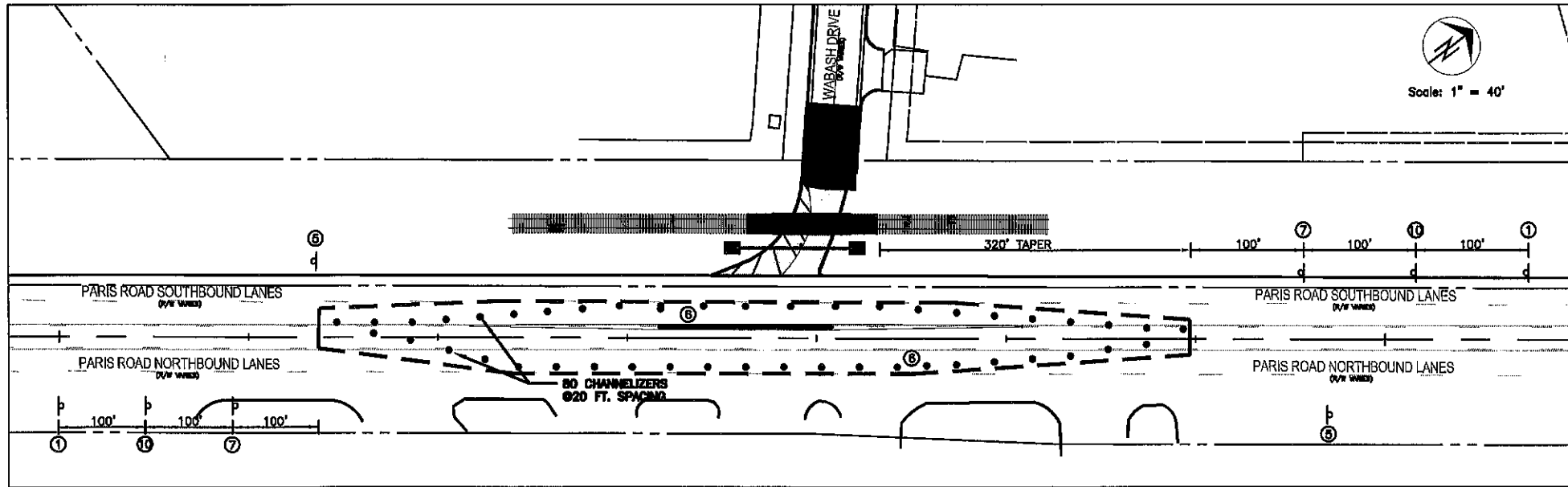
**WABASH DRIVE EXTENSION**  
Lighting Plan

City of Columbia, Missouri  
Department of Public Works

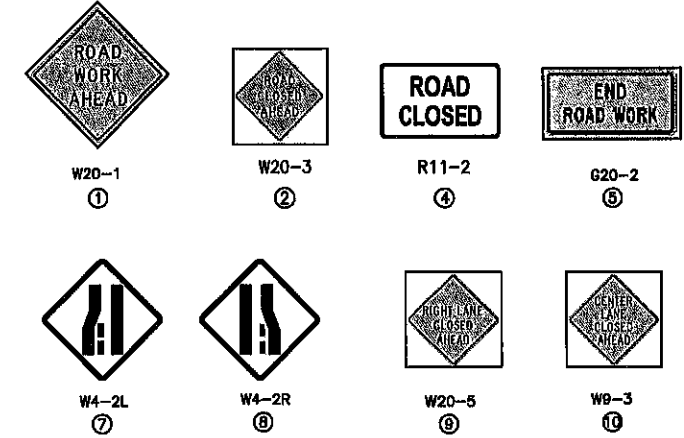
David Allen Nichols  
Registered Professional Engineer  
E-24212

File No. 00822  
Scale: As Shown  
Date: 6/4/2021  
Des. A.N.H.  
Dwn. A.N.H.  
Chk. A.A.A.



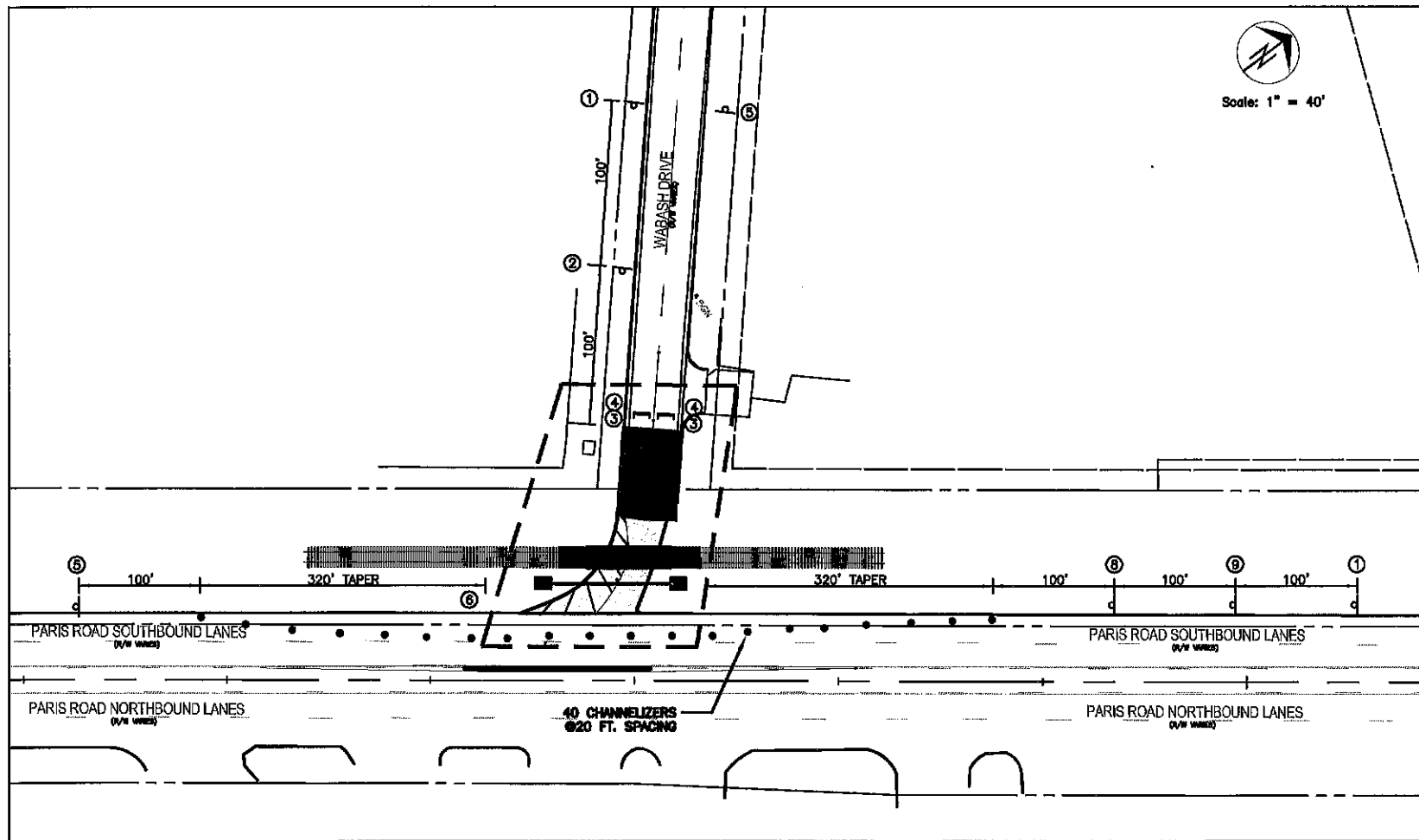


CONSTRUCTION PHASE -1  
MEDIAN ON PARIS ROAD



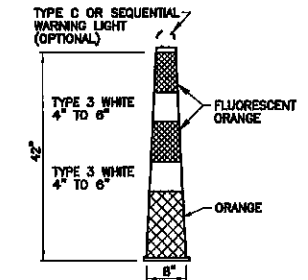
**GENERAL NOTES:**

1. ALL TRAFFIC CONTROL DEVICES SHOWN ON PLAN SHOULD BE IN PLACE PRIOR TO BEGINNING CONSTRUCTION.
2. CONTRACTOR SHALL MAINTAIN ACCESS TO ALL PROPERTIES IN THE CONSTRUCTION ZONE TO THE MAXIMUM EXTENT PRACTICABLE.
3. 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).
4. TRIM-LINE CHANNELIZERS SHALL BE USED AS CHANNELIZATION DEVICES WHEN WORKING ADJACENT TO THROUGH TRAFFIC TO PROTECT MOTORISTS.
5. SIGNING SHOWN AS MINIMUM REQUIREMENTS FOR ADJACENT ROADWAYS PRIOR TO IMPROVEMENTS. CONTRACTOR IS RESPONSIBLE FOR ADDITIONAL SIGNING, MARKING OR DELINEATORS FOR SITE SPECIFIC CONSTRUCTION PHASING TO COMPLY WITH MUTCD GUIDELINES.
6. TRUCK BARRICADE WITH FLASHING LIGHTS AND/OR ARROW BOARD MAY BE REQUIRED AS DIRECTED BY MoDOT AND/OR THE CITY OF COLUMBIA.
7. ALL CONFLICTING PAVEMENT MARKINGS SHALL BE REMOVED AS DIRECTED BY THE ENGINEER.
8. ALL CONFLICTING SIGNS SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.



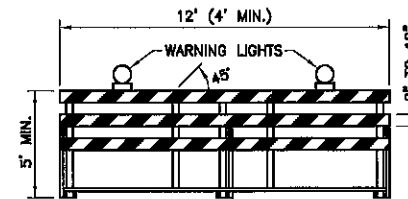
CONSTRUCTION PHASE -2  
WABASH DRIVE

MUTCD CODE	DESCRIPTION	SIZE	QUANTITY
①	W20-1 "ROAD WORK AHEAD"	48"x48"	3
②	W20-3 "ROAD CLOSED AHEAD"	36"x36"	1
③	- TYPE III BARRICADE	8 FT.	2
④	R11-2 "ROAD CLOSED"	38"x18"	2
⑤	G20-2 "END ROAD WORK"	36"x36"	3
⑥	- CHANNELIZERS	-	60
⑦	W4-2L LANE NARROWS LEFT	36"x36"	2
⑧	W4-2R LANE NARROWS RIGHT	36"x36"	1
⑨	W20-5 RIGHT LANE CLOSED AHEAD	36"x36"	1
⑩	W9-3 CENTER LANE CLOSED AHEAD	36"x36"	2



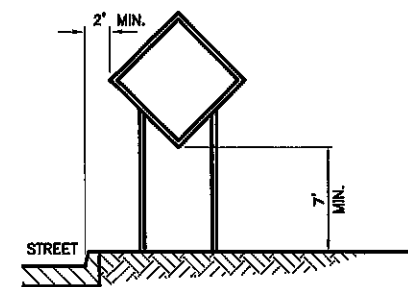
REFLECTIVE SHEETING APPLIED TO CHANNELIZERS SHALL BE REBOUNDABLE MEETING ASTM D 4956.

TRIM LINE CHANNELIZER  
(NOT TO SCALE)



- NOTES:
1. NOMINAL LUMBER DIMENSIONS ARE SATISFACTORY FOR BARRICADE RAIL WIDTH DIMENSIONS.
  2. RAIL STRIPE WIDTHS SHALL BE 6". THE SIDES OF BARRICADES FACING TRAFFIC SHALL HAVE RETROREFLECTIVE RAIL FACES.
  3. ALL TYPE III BARRICADES SHALL HAVE TWO TYPE B WARNING LIGHTS.
  4. STRIPES ON BARRICADE RAILS SHALL BE ALTERNATING ORANGE AND WHITE RETROREFLECTIVE STRIPES SLOPING DOWNWARD AT AN ANGLE OF 45 DEGREES IN THE DIRECTION ROAD USERS ARE TO PASS.

TYPE III BARRICADE  
(NOT TO SCALE)



CURB & GUTTER MOUNTING

NOTE: SUPPORT POSTS SHALL NOT EXTEND ABOVE SIGN UNLESS DISTANCE PLAQUE OR WARNING LIGHTS ARE SPECIFIED.

SIGN MOUNTING  
(NOT TO SCALE)

Revision	By	Date	No.

WABASH DRIVE EXTENSION  
Traffic Control Plan

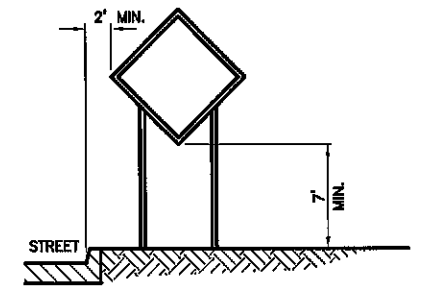
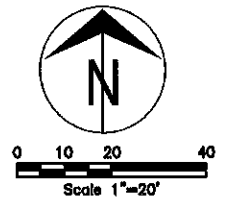
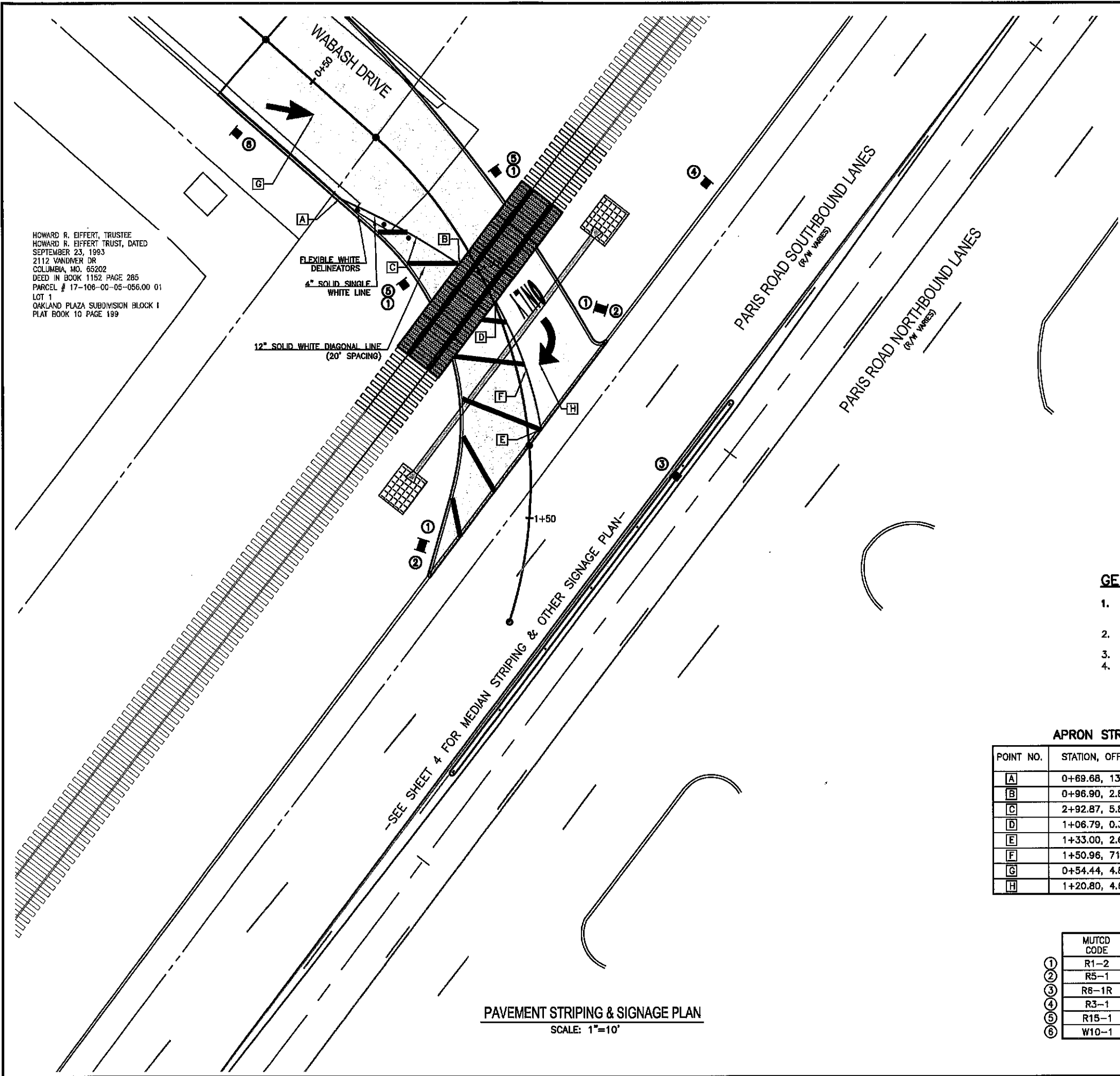
City of Columbia, Missouri  
Department of Public Works

David Allen Nichols  
Registered Professional Engineer  
E-24212

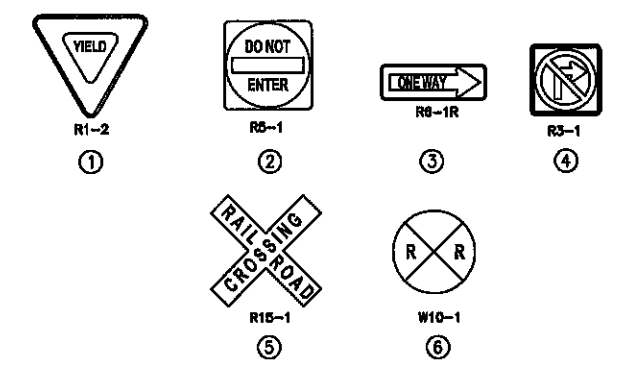
File No. 00822  
Scale: As Shown  
Date: 8/4/2021  
Des. A.N.H.  
Dwn. A.N.H.  
Chk. A.A.A.



HOWARD R. EFFERT, TRUSTEE  
 HOWARD R. EFFERT TRUST, DATED  
 SEPTEMBER 23, 1983  
 2112 VANDIVER DR  
 COLUMBIA, MO. 65202  
 DEED IN BOOK 1152, PAGE 285  
 PARCEL # 17-106-00-05-056.00 01  
 LOT 1  
 OAKLAND PLAZA SUBDIVISION BLOCK I  
 PLAT BOOK 10 PAGE 199



**CURB & GUTTER MOUNTING**  
 (NOT TO SCALE)



**GENERAL NOTES**

1. ALL SIGN POSTS INSTALLED ON THIS PROJECT SHALL BE ROUND TO ALLOW PROPER ORIENTATION OF THE SIGNS IN THE FIELD.
2. SIGN POSTS AND FOUNDATIONS SHALL BE PER MoDOT STANDARD PLAN 903.03.
3. STRIPING PER MoDOT STANDARD PLAN 620.00L.
4. POSTS AND FOOTINGS ARE ALLOWABLE AS 2-1/2" SCHEDULE 40 PIPE WITH A 36" DEEP FOOTING AT 9" DIAMETER OR AS OTHERWISE ALLOWED BY THE CITY WITH PRIOR APPROVAL.

**APRON STRIPING AND PAVEMENT ARROW POINT TABLE:**

POINT NO.	STATION, OFFSET	NORTHING	EASTING	DESCRIPTION
A	0+69.68, 13.67' RT	1142491.15	1695868.43	APRON STRIPES START
B	0+96.90, 2.84' RT	1142478.35	1695892.04	APRON STRIPES END
C	2+92.87, 5.82' RT	1142351.82	1695808.11	CURVE CENTER, R=151.83'
D	1+06.79, 0.32' LT	1142471.00	1695899.17	APRON STRIPES START
E	1+33.00, 2.60' LT	1142445.90	1695908.10	APRON STRIPES END
F	1+50.96, 71.16' RT	1142433.96	1695834.82	CURVE CENTER, R=74.24'
G	0+54.44, 4.80' RT	1142507.60	1695863.23	MERGE LEFT ARROW
H	1+20.80, 4.64' LT	1142458.74	1695907.83	RIGHT ARROW W/ 'ONLY'

**SIGNAGE TABLE**

MUTCD CODE	DESCRIPTION	SIZE	QTY.
① R1-2	YIELD	48" x 48"	4
② R5-1	DO NOT ENTER	30" x 30"	2
③ R6-1R	DIRECTIONAL ONE WAY ARROW	36" x 12"	1
④ R3-1	NO RIGHT TURN	36" x 36"	1
⑤ R15-1	RAILROAD CROSSING	48" x 9"	2
⑥ W10-1	RAILROAD CROSSING (CIRCULAR)	42" DIA	1

**PAVEMENT STRIPING & SIGNAGE PLAN**  
 SCALE: 1"=10'

Revision	By	Date	No.

**WABASH DRIVE EXTENSION**  
 Pavement Striping & Signage Plan

City of Columbia, Missouri  
 Department of Public Works

David Allen Nichols  
 Registered Professional Engineer  
 E-24212

File No. 00522  
 Scale: As Shown  
 Date: 6/4/2021  
 Des. A.N.H.  
 Dwn. A.N.H.  
 Chk. A.A.A.