

CONVENTIONAL SIGNS

- County Line
- Township Line
- Section Line SECTION 34
- Corporation Line or
- Fence Line (existing) (proposed)
- Center Line
- Existing Communications Line
- Existing San. Sewer
- Trees Stumps (to be removed)
- Utility Poles: Telephone Power Light
- Limited Access (only) LA
- Right of Way (only) R/W
- Limited Access & Right of Way LA & R/W
- Existing Right of Way
- Proposed Right-of-Way
- Property Line
- Railroad or
- Existing Water Main
- Guardrail (existing) (proposed)
- Signs (existing) (proposed)
- Monument Box (existing) (proposed)

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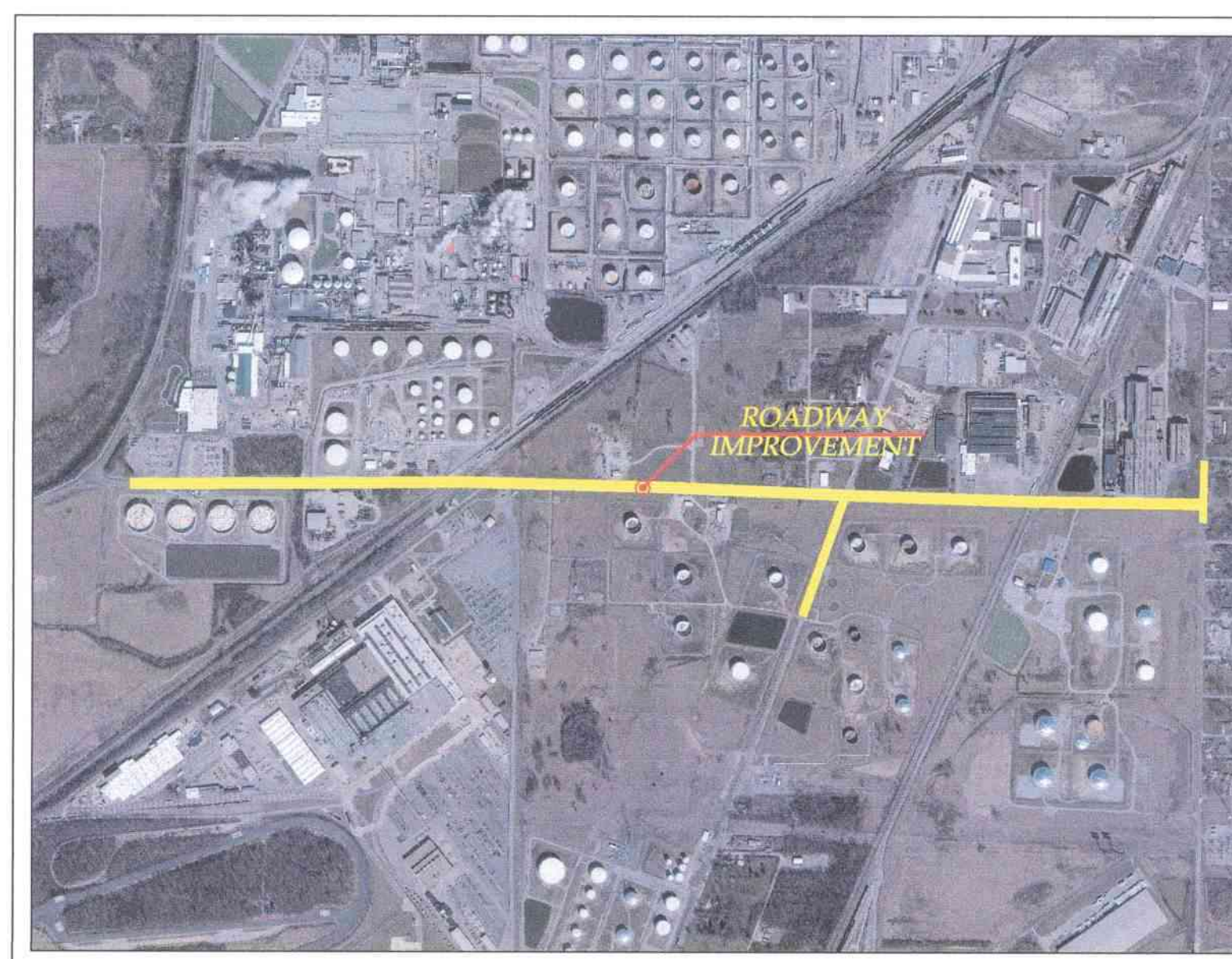
SCALES

- Plan
- Profile: Horizontal
- Profile: Vertical
- Cross Sections: Horizontal
- Cross Sections: Vertical

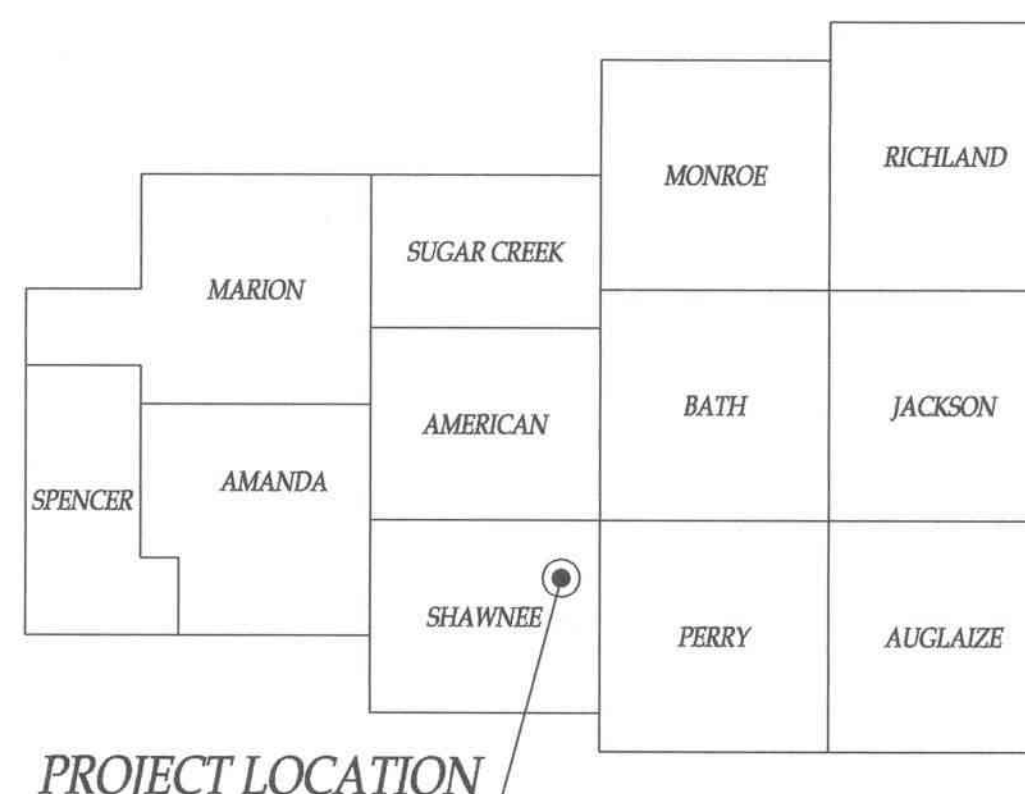
ALLEN COUNTY, OHIO
OFFICE OF THE COUNTY ENGINEER

**BUCKEYE ROAD
IMPROVEMENT PROJECT**
(ROADWAY IMPROVEMENTS)

SECTION 11, T4S, R6E, SHAWNEE TOWNSHIP
ALLEN COUNTY, OHIO
&
SECTION 12, T4S, R6E, SHAWNEE TOWNSHIP
ALLEN COUNTY, OHIO



VICINITY MAP
SCALE: 1" = 1200'



PROJECT LOCATION

STANDARD CONSTRUCTION DRAWINGS					SUPPLEMENTAL SPECIFICATIONS	
BP-3.1	MT-120.00				832	10-19-2018
MT-96.20						
MT-97.10						
MT-101.60						

BUCKEYE ROAD IMPROVEMENT PROJECT	OHIO FHWA REGION 5	1 31
ALLEN COUNTY, OHIO		FEDERAL PROJECT

2019 SPECIFICATIONS

The standard specifications of The State of Ohio, Department of Transportation, Dated January 1, 2019 including changes and supplemental specifications listed in the proposal shall govern the construction of this project.

We the Board of Allen County Commissioners of Allen County, Ohio, in formal session, hereby approve these plans and certify that the necessary Right-of-Way is available.

ALLEN COUNTY COMMISSIONER	DATE
	2-2-21
ALLEN COUNTY COMMISSIONER	DATE
	2/2/2021
ALLEN COUNTY COMMISSIONER	DATE

I hereby approve these plans and declare that the making of this improvement will require the closing to traffic of the roadway.

ALLEN COUNTY ENGINEER	DATE
	02/05/2021

<u>Length of Project</u>	
Begin Project Buckeye Road:	Station 4+50
End Project Buckeye Road:	Station 89+25
Project Length Buckeye Road:	8,475.00 linear feet
Begin Project Dixie Highway:	Station 92+50
End Project Dixie Highway:	Station 101+00
Project Length Dixie Highway:	850.00 Linear Feet
Begin Project McClain Road:	Station 998+75
End Project McClain Road:	Station 1003+37.50
Project Length McClain Road:	462.50 Linear Feet
Project Length Total:	9,787.50 Linear Feet

UNDERGROUND UTILITIES
TWO WORKING DAYS
BEFORE YOU DIG
CALL 800-362-2764 (TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON MEMBERS
MUST BE CALLED DIRECTLY

Plans Prepared By:
Allen County Engineer
1501 N. Sugar St.
Lima, Ohio 45801

GENERAL NOTES

BUCKEYE ROAD IMPROVEMENT PROJECT ALLEN COUNTY, OHIO	OHIO FHWA REGION 5 FEDERAL PROJECT	<table border="1"> <tr> <td style="text-align: center;">2</td> </tr> <tr> <td style="text-align: center;">31</td> </tr> </table>	2	31
	2			
31				

SPECIFICATIONS

ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE 2019 ALLEN COUNTY CONSTRUCTION STANDARDS AND MATERIAL STANDARDS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIALS SPECIFICATIONS DATED JANUARY 1, 2019.

THE OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIALS SPECIFICATIONS DATED JANUARY 1, 2019, SHALL GOVERN THIS PROJECT EXCEPT AS NOTED UNDER SPECIAL CONDITIONS AND SPECIFICATIONS OF THE BID DOCUMENTS FOR THIS PROJECT.

UNDERGROUND UTILITIES

THE LOCATION OF THE UNDERGROUND UTILITIES INCLUDING SERVICE TAPS SHOWN ON THE PLANS ARE OBTAINED FROM THE OWNERS OF THE UTILITIES AS REQUIRED BY SECTION 153.64 OHIO REVISED CODE. THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS HAVE BEEN OBTAINED BY DILIGENT FIELD CHECKS AND SEARCHES OF AVAILABLE RECORDS. IT IS BELIEVED THAT THEY ARE ESSENTIALLY CORRECT, BUT THE ALLEN COUNTY ENGINEER DOES NOT GUARANTEE THEIR ACCURACY OR COMPLETENESS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE THE EXISTING UTILITIES PRIOR TO COMMENCING WORK.

IN THE EVENT UNDERGROUND UTILITY FACILITIES ARE NOT LOCATED IN THE FIELD ACCORDING TO UTILITY LOCATION INFORMATION PROVIDED ON THESE PLANS, THE ALLEN COUNTY SHALL NOT BE HELD LIABLE FOR ADDITIONAL COST RELATING TO ALTERNATE METHODS OF CONSTRUCTION, OR COST RELATING TO CONTRACTOR PERSONNEL AND EQUIPMENT DOWNTIME.

IN ACCORDANCE WITH THE PROVISIONS OF THE OHIO REVISED CODE - SECTION 153.64, AS ENACTED IN AMENDED SUBSTITUTE HOUSE BILL NO. 538 ON MARCH 31, 1982, THE CONTRACTOR SHALL BE REQUIRED TO CONTACT THE OWNERS OF UNDERGROUND UTILITY FACILITIES SHOWN ON THE PLANS AND SPECIFICATIONS. SUCH NOTICE SHALL BE MADE AT LEAST TWO (2) WORKING DAYS, EXCLUDING SATURDAYS, SUNDAYS, AND LEGAL HOLIDAYS, PRIOR TO COMMENCING CONSTRUCTION OPERATIONS. NAMES, ADDRESSES, AND TELEPHONE NUMBERS OF THE REGISTERED UTILITY PROTECTION SERVICE AND OWNERS OF UNDERGROUND UTILITY FACILITIES IN ALLEN COUNTY ARE LISTED BELOW.

WATER & SANITARY: LIMA CITY UTILITIES DEPARTMENT
50 TOWN SQUARE
LIMA, OHIO 45801
PH. (419) 221-5294

TELEPHONE: CENTURY LINK
122 SOUTH ELIZABETH STREET
LIMA, OHIO 45801
DAVE SPURGEON
PH. (419) 226-6220

ELECTRIC: AMERICAN ELECTRIC POWER
3696 EAST O'CONNOR AVENUE
LIMA, OHIO 45801
DANIEL WILSON
(419) 998-5103

PIPELINES:	BUCKEYE PIPELINE	MID VALLEY PIPELINE
	940 BUCKEYE ROAD LIMA, OHIO 45804 MARTY WHITE OFFICE PHONE: (419) 993-8008 CELL PHONE: (419) 236-7766	985 BUCKEYE ROAD LIMA, OHIO 45804 EDWARD HARDEN OFFICE PHONE: (895) 371-4469 x12

GAS:	DOMINION EAST OHIO 150 S. JACKSON STREET LIMA, OHIO 45801 PHONE: (419) 226-4769	DOMINION ENERGY OHIO ANDREW J. LONNEMAN PHONE: (330) 664-2441
	DOMINION ENERGY OHIO (DOE) PHONE: (800) 362-7557	

UTILITY MANHOLES AND/OR VALVE BOXES WILL BE ADJUSTED BY THEIR RESPECTIVE OWNERS. LET IT BE KNOWN TO ALL UTILITY COMPANIES THAT PROPOSED PAVING OPERATIONS WILL NECESSITATE VERTICAL ADJUSTMENTS OF EXISTING UTILITIES AND/OR APPURTENANCES LOCATED WITHIN THE PROJECT LIMITS.

THE CONTRACTOR WILL BE RESPONSIBLE FOR CONTACTING ALL APPROPRIATE UTILITY COMPANIES TO MAKE ARRANGEMENTS FOR ANY REQUIRED ADJUSTMENTS, RECONSTRUCTIONS, REMOVALS, AND/OR RELOCATIONS OF EXISTING FACILITIES. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE COORDINATION OF ALL CONSTRUCTION ACTIVITIES WITH THOSE MENTIONED ABOVE.

CONTINGENCY QUANTITIES

THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK LISTED IN THE GENERAL SUMMARY FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ALLEN COUNTY ENGINEER (A.C.E.).

SEEDING

QUANTITIES FOR SEEDING ARE CALCULATED BASED UPON THE SOIL AREA BETWEEN THE EDGE OF PAVEMENT TO THE RIGHT-OF-WAY LINE.

SUBGRADE STABILIZATION

THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER TO PROMOTE STABILIZATION OF POOR SUBGRADE, AFTER A REASONABLE EFFORT TO COMPACT THE SUBGRADE HAS FAILED (AS DETERMINED BY THE ENGINEER). EXCAVATION OF THE FIRST 12" OF POOR SUBGRADE SOIL SHALL BE COVERED UNDER THE BID ITEM 204, SUBGRADE COMPACTION. AT THE ENGINEER'S DISCRETION, THE FOLLOWING ITEMS MAY BE ORDERED FOR USE AT THE PRICE BID BY THE CONTRACTOR

ITEM	203	NO. 2 STONE	100 C.Y.
ITEM	204	GEOTEXTILE FABRIC	100 S.Y.

WATERING PERMANENT SEEDED AREAS

THE FOLLOWING ESTIMATED QUANTITIES ARE TO BE USED AS DIRECTED BY THE ENGINEER TO PROMOTE GROWTH AND TO CARE FOR THE PERMANENT SEEDED AREAS, AS PER 659.09:

ITEM	659	WATER	13.5 M GAL.
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CONNECTION TO EXISTING PIPE

WHERE THE PLANS PROVIDE FOR THE PROPOSED CONDUIT TO BE CONNECTED TO, OR TO CROSS EITHER OVER OR UNDER AN EXISTING SEWER, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE THE EXISTING PIPE BOTH AS TO LINE AND GRADE BEFORE THEY START WORK ON THE PROPOSED CONDUIT.

PAYMENT FOR ALL OPERATIONS DESCRIBED ABOVE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE PERTINENT 603 CONDUIT ITEMS.

REMOVAL OF EXISTING PIPE

THE REMOVAL OF ALL EXISTING PIPE DRAINS WHICH WOULD NORMALLY BE REMOVED IN VARIOUS EXCAVATION ITEMS SHALL BE INCLUDED FOR PAYMENT IN THE UNIT PRICES BID FOR THE RESPECTIVE EXCAVATION ITEMS, UNLESS OTHERWISE ITEMIZED IN THE PLANS.

PART-WIDTH CONSTRUCTION

BECAUSE OF THE NECESSITY TO BUILD THIS PROJECT UNDER TRAFFIC AND CONSTRUCTING THE FULL PAVEMENT WIDTH IN STAGES, EXTREME CARE SHALL BE TAKEN TO PREVENT CONSTRUCTION OF A BUTT JOINT IN THE BASE COURSES. LONGITUDINAL JOINTS SHALL BE LAPPED AS SHOWN ON STANDARD CONSTRUCTION DRAWINGS BP-3.1.

MAINTAINING TRAFFIC

IN ADDITION TO THE LIGHTS, SIGNS AND BARRICADES REQUIRED UNDER ITEM 614 AND WATER UNDER ITEM 659, THE FOLLOWING ESTIMATED QUANTITIES ARE INCLUDED FOR TEMPORARY ROADWAYS AND DUST CONTROL TO BE USED AT THE DIRECTION OF THE ENGINEER:

ITEM	410	TRAFFIC COMPACTED SURFACE, TYPE A OR B	100 C.Y.
ITEM	616	WATER	10 M. GAL.

(FOR INGRESS & EGRESS TO COMMERCIAL DRIVEWAYS)

STANDARD CONSTRUCTION DRAWINGS

DETAILS OF CONSTRUCTION SHALL CONFORM TO THE STANDARD CONSTRUCTION DRAWINGS OF ALLEN COUNTY OR THE OHIO DEPARTMENT OF TRANSPORTATION STANDARD CONSTRUCTION DRAWINGS AS DESIGNATED ON THE SUPPLEMENTAL PRINTS OF THE STANDARD CONSTRUCTION DRAWINGS ON THE TITLE SHEET.

BUTT JOINTS

BUTT JOINTS AT ASPHALT ROADWAYS AND DRIVEWAYS SHALL BE SAWED OR PLANED TO A DEPTH OF NOT LESS THAN 1". ITEM 407, TACK COAT SHALL BE APPLIED TO THE EXPOSED EDGE OF THE EXISTING PAVEMENT AT A RATE OF 0.075 GAL./S.Y.

DRAIN TILE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO EXISTING DRAIN TILE OR STORM SEWERS WHICH MAY OCCUR DURING CONSTRUCTION AND SHALL REPLACE THEM AT NO ADDITIONAL COST TO THE COUNTY.

MAINTENANCE OF STORM SEWER FLOW

THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS SO AS TO MAINTAIN AT ALL TIMES STORM SEWER FLOW THROUGH EXISTING FACILITIES TO REMAIN IN PLACE AND THROUGH EXISTING FACILITIES TO BE REPLACED UNTIL NEW FACILITIES ARE COMPLETED AND PLACED INTO USE. PAYMENT FOR ANY ADDITIONAL COST INVOLVED IN MAINTAINING THESE FLOWS BY PUMPING OR BY ANY OTHER MEANS APPROVED BY THE ENGINEER SHALL BE INCLUDED IN THE UNIT PRICE FOR THE RESPECTIVE ITEM OF 603 CONDUIT.

REVIEW OF DRAINAGE FACILITIES

BEFORE ANY WORK IS STARTED ON THE PROJECT, AND AGAIN BEFORE FINAL ACCEPTANCE BY THE COUNTY, REPRESENTATIVES OF THE COUNTY, AND CONTRACTOR, ALONG WITH LOCAL REPRESENTATIVES, SHALL MAKE AN INSPECTION OF EXISTING SEWERS, CATCH BASINS AND MANHOLES WITHIN THE WORK LIMITS WHICH ARE TO REMAIN IN SERVICE AND WHICH MAY BE AFFECTED BY THE WORK. THE CONDITION OF THE EXISTING CONDUITS AND THEIR APPURTENANCES SHALL BE DETERMINED FROM FIELD OBSERVATIONS.

TEMPORARY WORK ZONE MARKINGS AND SIGNS

THE FOLLOWING QUANTITIES HAVE BEEN INCLUDED IN ITEM 614, MAINTAINING TRAFFIC FOR USE AS DIRECTED BY THE ENGINEER FOR TEMPORARY WORK ZONE SIGNS (SEE STANDARD CONSTRUCTION DRAWING MT-101.60):

ITEM 614 WORK ZONE MARKING SIGNS (AS PER OMUTCD)
(ROAD CLOSED AHEAD, ROAD CLOSED)

SIGNS AND LIGHTS AT ROAD INTERSECTIONS

THE CONTRACTOR, IN ADDITION TO THE GENERAL REQUIREMENTS OF ITEM 614, MAINTAINING TRAFFIC, SHALL PERFORM THE FOLLOWING:

PROVIDE, ERECT AND MAINTAIN STANDARD 60" X 30" SIZE "ROAD CLOSED AHEAD, LOCAL TRAFFIC ONLY" SIGNS, ON BARRICADES WITH LIGHTS AT THE FOLLOWING LOCATIONS:

- 1.) NORTHBOUND ON FORT AMANDA ROAD SOUTH OF BUCKEYE ROAD INTERSECTION (INCLUDE A SIGN STATING THAT FORT AMANDA ROAD REMAINS OPEN AND BUCKEYE ROAD IS CLOSED)
- 2.) SOUTHBOUND ON FORT AMANDA ROAD NORTH OF BUCKEYE ROAD INTERSECTION (INCLUDE A SIGN STATING THAT FORT AMANDA ROAD REMAINS OPEN AND BUCKEYE ROAD IS CLOSED)
- 3.) NORTHBOUND ON DIXIE HIGHWAY NORTH SIDE OF THE REED ROAD INTERSECTION
- 4.) SOUTHBOUND ON DIXIE HIGHWAY SOUTH SIDE OF THE FOURTH STREET INTERSECTION
- 5.) NORTHBOUND ON McCLAIN ROAD NORTH SIDE OF THE HANTHORN ROAD INTERSECTION
- 6.) SOUTHBOUND ON McCLAIN ROAD SOUTH SIDE OF THE FOURTH STREET INTERSECTION

PROVIDE, ERECT AND MAINTAIN STANDARD 60" X 30" SIZE "ROAD CLOSED TO THRU TRAFFIC" SIGNS, ON BARRICADES WITH LIGHTS AT THE FOLLOWING LOCATIONS:

- 1) EASTBOUND ON BUCKEYE ROAD EAST OF THE FORT AMANDA ROAD INTERSECTION (STATION 4+00)
- 2) WESTBOUND ON BUCKEYE ROAD AT THE DIXIE HIGHWAY INTERSECTION
- 3) EASTBOUND ON BUCKEYE ROAD AT THE DIXIE HIGHWAY INTERSECTION
- 4) WESTBOUND ON BUCKEYE ROAD AT THE McCLAIN ROAD INTERSECTION
- 5) NORTHBOUND ON DIXIE HIGHWAY SOUTH OF THE BUCKEYE ROAD INTERSECTION (STATION 92+00)
- 6) SOUTHBOUND ON DIXIE HIGHWAY NORTH OF THE BUCKEYE ROAD INTERSECTION (STATION 101+50)
- 7) NORTHBOUND ON McCLAIN ROAD SOUTH OF THE BUCKEYE ROAD INTERSECTION (STATION 998+50)
- 8) SOUTHBOUND ON McCLAIN ROAD NORTH OF THE BUCKEYE ROAD INTERSECTION (STATION 1003+50)

SIGNS AND BARRICADES FOR "ROAD CLOSED AHEAD, LOCAL TRAFFIC ONLY" SIGNS AND "ROAD CLOSED TO THRU TRAFFIC" SHALL BE AS DETAILED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD). STANDARD (AS PER OMUTCD) "UNEVEN PAVEMENT" SIGNS SHALL BE PLACED AT EITHER END OF THE PROJECT WHEN UNEVEN PAVEMENT IS LEFT OVERNIGHT. IF ANY LANES ARE CLOSED OVERNIGHT, PROPER SIGNS, BARRICADES AND BARRELS WITH LIGHTS SHALL BE PLACED TO CHANNELIZE TRAFFIC PER OMUTCD. IF FLAGGERS OR SIGNALS ARE USED, PROPER SIGNS SHALL BE PROVIDED.

PAYMENT FOR PROVIDING, ERECTING, MAINTAINING, AND REMOVING LIGHTS, SIGNS, BARRICADES AND SIGN SUPPORTS, AND FOR FLAGGERS OR SIGNALS, SHALL BE INCLUDED IN THE LUMP SUM PRICE BID FOR ITEM 614, MAINTAINING TRAFFIC AND THE TEMPORARY WORK ZONE MARKING ITEMS LISTED ABOVE.

PIPE CONNECTIONS

EXISTING STORM DRAINS DISTURBED BY THE PROPOSED WORK SHALL BE PROVIDED WITH UNOBSTRUCTED OUTLETS BY CONNECTING TO A STORM SEWER, MANHOLE, OR CATCH BASIN. THE LOCATION, TYPE, SIZE, AND GRADE OF REQUIRED REPLACEMENTS WILL BE DETERMINED BY THE ENGINEER DURING CONSTRUCTION. THE FOLLOWING ITEMS HAVE BEEN INCLUDED FOR USE AS DIRECTED BY THE ENGINEER FOR CONNECTING EXISTING DRAINS ENCOUNTERED.

ITEM	611	4" CONDUIT, TYPE E	40 L.F.
ITEM	611	6" CONDUIT, TYPE E	40 L.F.
ITEM	611	8" CONDUIT, TYPE E	40 L.F.

ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON U.S.G.S. DATUM.

CENTERLINE REFERENCES

ALL STATION REFERENCES AND DISTANCES LEFT OR RIGHT ARE CALLS FROM THE BASELINE.

WORK IN THE AREA OF DOMINION ENERGY OHIO GAS LINES

IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE LATERAL AND SUBJACENT SUPPORT OF DOMINION ENERGY'S PIPELINE(S) IN COMPLIANCE TO 29 CFR, PART 1926, SUBPART P, (SAFE EXCAVATION & SHORING). ONE FOOT MINIMUM VERTICAL AND HORIZONTAL CLEARANCE MUST BE MAINTAINED BETWEEN DOMINION ENERGY OHIO'S EXISTING PIPELINE(S) AND ALL OTHER IMPROVEMENTS. EXTREME CARE SHOULD BE TAKEN NOT TO HARM ANY DOMINION ENERGY OHIO FACILITY (PIPELINES, ETC.) OR APPURTENANCE (PIPE COATING, TRACER WIRE, CATHODIC PROTECTION TEST STATION WIRES & DEVICES, VALVE BOXES, ETC.). DOMINION ENERGY OHIO FACILITIES MUST BE PROTECTED WITH A TARP DURING BRIDGE CONSTRUCTION. THE CONTRACTOR WILL BE RESPONSIBLE AND LIABLE FOR ENSURING THAT ALL DOMINION ENERGY OHIO EXISTING FACILITIES, ABOVE GROUND AND BELOW GROUND, REMAIN UNDAMAGED, ACCESSIBLE AND IN WORKING ORDER. THE CROSSING OF DOMINION ENERGY OHIO'S PIPELINE WITH ANOTHER STEEL FACILITY MAY CREATE A POTENTIAL CORROSION ISSUE FOR THE PROPOSED FACILITY AND THE EXISTING DOMINION ENERGY OHIO FACILITY. IN THIS CASE PLEASE CONTACT DOMINION ENERGY OHIO'S CORROSION DEPARTMENT:

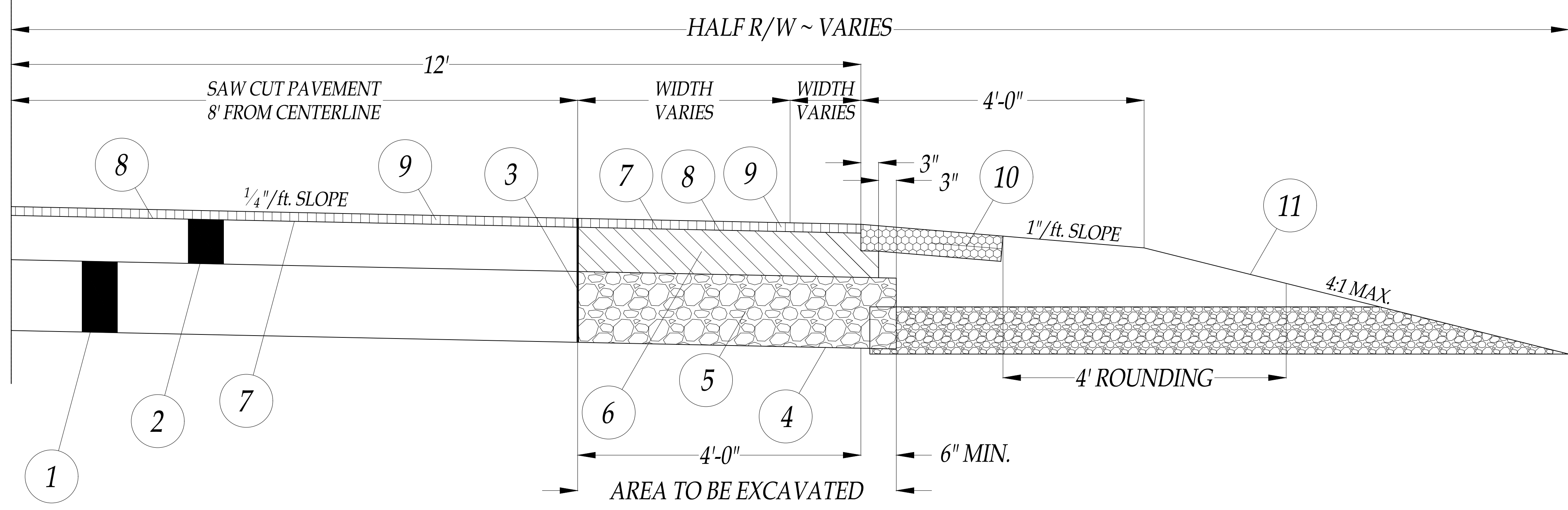
DAVE CUTLIP (330) 266-2121
RICK McDONALD (330) 266-2122
AL HUMRICHOUER (330) 478-3757)

ALLEN COUNTY ENGINEER BRION E. RHODES, P.E., P.S.			
ROADWAY GENERAL NOTES			
BUCKEYE ROAD IMPROVEMENT PROJECT (ROADWAY IMPROVEMENTS)			
SECTION 11, T4S, R6E, SHAWNEE TOWNSHIP, ALLEN COUNTY, OHIO SECTION 12, T4S, R6E, SHAWNEE TOWNSHIP, ALLEN COUNTY, OHIO			
DRAWN BY: Z.J.G.	CHECKED BY: D.R.L.	DESIGNED BY: D.R.L.	DATE: 1-28-2020

TYPICAL SECTIONS WIDENING

SYMMETRICAL ABOUT
CENTERLINE OF
PAVEMENT

PROPERTY LINE OR
RIGHT-OF-WAY LINE



PAVEMENT REPAIR OPERATIONS ON THE TWO-LANE SECTIONS (TYPE 1)

- 1.) SAW CUT 8' FROM CENTERLINE OF PAVEMENT ON BOTH SIDES.
- 2.) EXCAVATE OUTSIDE OF THE SAW CUT LINE ON A MINIMUM OF 4.5' WIDE AND 18" DEEP ON BOTH SIDES.
- 3.) COMPACT THE SUBGRADE IN THE EXCAVATED AREA. (*)
- 4.) PLACE 12" OF AGGREGATE BASE IN MAXIMUM 3" LIFTS. (*)
- 5.) PLACE 6" OF ASPHALT CONCRETE BASE COURSE IN MAXIMUM 3" LIFTS. (*)
- 6.) MILL THE ENTIRE WIDTH OF PAVEMENT.
-- 24' WIDE AND 1.5" DEEP
- 7.) PLACE 1.5" OF ASPHALT CONCRETE SURFACE COURSE OVER THE ENTIRE 24' ESTABLISHED WIDTH. (*)
- 8.) PLACE STABILIZED CRUSHED AGGREGATE.
-- 2' WIDE AND 4" THICK. (*)
- 9.) GRADE, SEED AND MULCH ANY DISTURBED AREAS OF THE ROADSIDE DITCH. (*)

(*) = NO VIBRATORY EQUIPMENT MAY BE USED DURING ANY COMPACTION ACTIVITY.

TYPICAL HALF-SECTION FLEXIBLE PAVEMENT WIDENING

- 1) EXISTING AGGREGATE BASE ~ THICKNESS VARIES
- 2) EXISTING PAVEMENT BUILD-UP ~ THICKNESS VARIES
- 3) ITEM 252 ~ FULL DEPTH PAVEMENT SAWING
- 4) ITEM 204 ~ SUBGRADE COMPACTION
- 5) ITEM 304 ~ 12" AGGREGATE BASE
- 6) ITEM 301 ~ 6" ASPHALT CONCRETE BASE COURSE
- 7) ITEM 254 ~ PAVEMENT PLANING
- 8) ITEM 407 ~ TACK COAT FOR SURFACE COURSE, 0.04 GALLONS / S.Y. (AS DIRECTED BY ALLEN COUNTY ENGINEER)
- 9) ITEM 448 ~ 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE 1H. PG70-22M
- 10) ITEM 411 ~ STABILIZED CRUSHED AGGREGATE, 2'-0" WIDE X 4" THICK, BOTH SIDES OF THE ROADWAY
- 11) ITEM 659 ~ SEEDING AND MULCHING, USE SEEDING MIXTURE APPROVED BY THE ALLEN COUNTY ENGINEER, A.P.P.

NOTE: SEE ALLEN COUNTY STANDARD DRAWING DW-2 (RESIDENTIAL) OR DRAWING DW-3 (COMMERCIAL) FOR THE DRIVEWAY CONSTRUCTION SPECIFICATIONS.

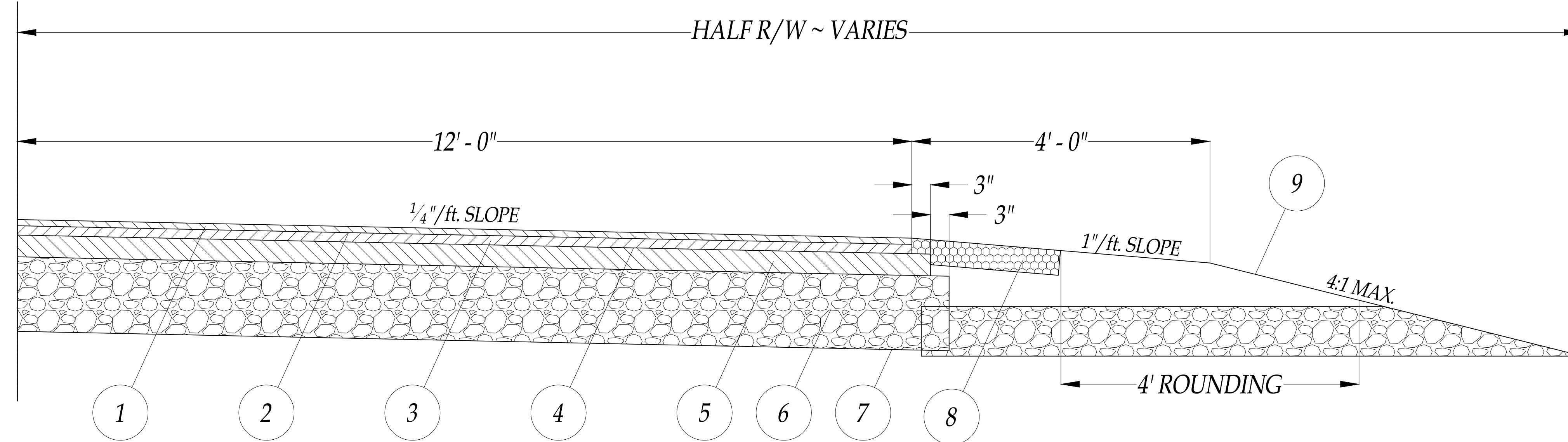
THE ITEMS LISTED ABOVE REFER TO THE MATERIAL & CONSTRUCTION SPECIFICATIONS FOUND IN THE LATEST EDITION OF THE OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION & MATERIAL MANUAL UNLESS NOTED OTHERWISE.

ALLEN COUNTY ENGINEER BRION E. RHODES, P.E., P.S.			
TYPICAL SECTION ROADWAY WIDENING			
BUCKEYE ROAD IMPROVEMENT PROJECT			
SECTION 11, 14S, R6E, SHAWNEE TOWNSHIP, ALLEN COUNTY, OHIO SECTION 12, 14S, R6E, SHAWNEE TOWNSHIP, ALLEN COUNTY, OHIO			
DRAWN BY: Z.J.G.	CHECKED BY: D.R.L.	DESIGNED BY: D.R.L.	DATE: 1-28-2020

TYPICAL SECTIONS CSX RAILROAD CROSSING

SYMMETRICAL ABOUT
CENTERLINE OF
PAVEMENT

PROPERTY LINE OR
RIGHT-OF-WAY LINE



TYPICAL HALF-SECTION
MINIMUM PAVEMENT COMPOSITION FOR FLEXIBLE PAVEMENT

- 1 ITEM 448 ~ 1 1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE 1H, PG70-22M
- 2 ITEM 407 ~ TACK COAT, 0.04 GAL./S.Y. (AS DIRECTED BY THE ALLEN CO. ENG.)
- 3 ITEM 448 ~ 3" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22
- 4 ITEM 407 ~ TACK COAT FOR INTERMEDIATE COURSE, 0.04 GAL./S.Y. (AS DIRECTED BY THE ALLEN CO. ENG.)
- 5 ITEM 301 ~ 4 1/2" ASPHALT CONCRETE BASE
- 6 ITEM 304 ~ 12" AGGREGATE BASE
- 7 ITEM 204 ~ SUBGRADE COMPACTION, ODOT ITEM 204 SPECS.
- 8 ITEM 411 ~ STABILIZED CRUSHED AGGREGATE, 2'-0" WIDE X 4" THICK, BOTH SIDES OF ROADWAY.
- 9 ITEM 659 ~ SEEDING AND MULCHING, USE SEEDING MIXTURE APPROVED BY THE ALLEN COUNTY ENGINEER.

THE ITEMS LISTED ABOVE REFER TO THE MATERIAL & CONSTRUCTION SPECIFICATIONS FOUND IN THE LATEST EDITION OF THE OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION & MATERIAL MANUAL UNLESS NOTED OTHERWISE.

ALLEN COUNTY ENGINEER BRION E. RHODES, P.E., P.S.			
TYPICAL SECTION CSX RAILROAD CROSSING			
BUCKEYE ROAD IMPROVEMENT PROJECT			
<small>SECTION 11, T4S, R6E, SHAWNEE TOWNSHIP, ALLEN COUNTY, OHIO SECTION 12, T4S, R6E, SHAWNEE TOWNSHIP, ALLEN COUNTY, OHIO</small>			
<small>DRAWN BY:</small> Z.J.G.	<small>CHECKED BY:</small> D.R.L.	<small>DESIGNED BY:</small> D.R.L.	<small>DATE:</small> 1-28-2020

GENERAL SUMMARY

Computations By:
Initials: D.R.L. Date: 2-12-2020
Computations Checked By:
Initials: D.R.L. Date: 2-21-2020

BUCKEYE ROAD IMPROVEMENT PROJECT		OHIO	5
ALLEN COUNTY, OHIO		FHWA REGION	5
		FEDERAL PROJECT	31

BID ITEM REFERENCE NUMBER	ODOT ITEM REFERENCE NUMBER	BUCKEYE ROAD ESTIMATED QUANTITY	BID LUMP SUM QUANTITY	PROJECT ENGINEER'S ESTIMATED QUANTITY	GRAND TOTAL PROJECT QUANTITY	BID ITEM UNIT DESCRIPTION	DESCRIPTION
1	201	0	1	0	1	LUMP	CLEARING & GRUBBING
2	202	6,700	0	0	6,700	S.Y.	FULL DEPTH PAVEMENT REMOVAL ~ ASPHALT
3	202	593	0	0	593	L.F.	CURB AND GUTTER REMOVED
4	202	0	0	0	50	L.F.	PIPE REMOVED, 24" AND UNDER, A.P.P.
5	202	5	0	0	5	EACH	CATCH BASIN REMOVED
6	202	14,625	0	0	14,625	L.F.	PAVEMENT SAWING ~ MAINLINE, DRIVEWAYS, TERMINI & INTERSECTIONS
7	203	3,720	0	0	3,720	C.Y.	EXCAVATION
8	203	300	0	0	300	C.Y.	EMBANKMENT
9	204	6,700	0	0	6,700	S.Y.	SUB GRADE COMPACTION
10	204	4	0	0	4	HOUR	PROOF ROLLING
11	204	0	0	100	100	S.Y.	GEOTEXTILE FABRIC (TENSAR TRIAX TX140/TX160), as Directed by the A.C.E.
12	204	0	0	100	100	C.Y.	GRANULAR EMBANKMENT, as Directed by the Allen County Engineer (A.C.E.)
13	209	1,000	0	0	1,000	L.F.	LINEAR GRADING, DITCH CLEAN OUT (209.04), as Directed by the A.C.E.
14	254	25,794	0	0	25,794	S.Y.	PAVEMENT PLANING
15	623	1	0	0	1	EACH	MONUMENT BOX ASSEMBLY RESET
16	SPECIAL	1	0	0	1	EACH	MAILBOX REMOVED AND RESET
17	659	5,000	0	0	5,000	S.Y.	SEEDING & MULCHING, AS PER PLAN
18	659	500	0	0	500	S.Y.	REPAIR SEEDING & MULCHING
19	659	500	0	0	500	S.Y.	INTER-SEEDING
20	659	100	0	0	100	C.Y.	TOPSOIL (4" COMPACTED DEPTH)
21	659	0.45	0	0	0.45	TON	COMMERCIAL FERTILIZER (20LBS/100 S.F.)
22	659	0.23	0	0	0.23	TON	LIME (2 TONS/ACRE)
23	659	13.5	0	0	13.50	M. GALLON	WATER (300 GALLONS/1000 S.F.)
24	832	0	1	0	1	LUMP	EROSION CONTROL
25	611	0	0	40	40	L.F.	4" CONDUIT, TYPE E
26	611	0	0	40	40	L.F.	6" CONDUIT, TYPE C ~ PERFORATED (707.33)
27	611	0	0	40	40	L.F.	6" CONDUIT, TYPE E
28	611	0	0	40	40	L.F.	8" CONDUIT, TYPE E
29	611	0	0	40	40	L.F.	8" CONDUIT, TYPE B
30	611	0	0	40	40	L.F.	12" CONDUIT, TYPE B
31	611	20	0	20	40	L.F.	12" CONDUIT, TYPE C, PERFORATED (707.33)
32	611	0	0	40	40	L.F.	15" CONDUIT, TYPE B
33	611	5	0	0	5	EACH	CATCH BASIN, 2-2B
34	301	1,217	0	0	1,217	C.Y.	ASPHALT CONCRETE BASE, PG 64-22
35	301	0	0	50	50	C.Y.	ASPHALT CONCRETE BASE, PG 64-22, MISC. PAVEMENT REPAIRS, as Directed by the A.C.E.
36	304	2,516	0	0	2,516	C.Y.	AGGREGATE BASE
37	407	1,032	0	0	1,032	GAL	TACK COAT FOR SURFACE COURSE .04 GAL/SY
38	407	36	0	0	36	GAL	TACK COAT FOR INTERMEDIATE COURSE .04 GAL/SY
39	411	485	0	0	485	C.Y.	STABILIZED CRUSHED AGGREGATE, BERM
40	441	77	0	0	77	C.Y.	ASPHALT CONCRETE INTERMEDIATE, TYPE 1, (448) PG 64-22
41	441	1,225	0	0	1,225	C.Y.	ASPHALT CONCRETE SURFACE, TYPE 1H (448), PG 70-22M
42	609	605	0	0	605	L.F.	COMBINATION CURB AND GUTTER, TYPE 2, (INCLUDES 2 CURB INLETS)
48	630	5	0	0	5	EACH	REMOVAL OF GROUND MOUNTED SIGN AND RESET
67	644	2.34	0	0	2.34	MILE	CENTER LINE
68	644	3.85	0	0	3.85	MILE	EDGE LINE, 4"
69	644	0.17	0	0	0.17	MILE	CHANNELIZING LINE, 8"
70	644	288	0	0	288	FT.	STOP LINE
71	644	44	0	0	44	EACH	LANE ARROW
72	644	4	0	0	4	EACH	RAILROAD SYMBOL
74	SPECIAL	0	1	0	1	LUMP	RAILROAD PROTECTIVE LIABILITY INSURANCE
75	SPECIAL	0	1	0	1	LUMP	RAILROAD RIGHT-OF-ENTRY-PERMIT
76	SPECIAL	0	0	5	5	DAY	RAILROAD FLAGGING AND INSPECTION
77	410	0	0	100	100	C.Y.	TRAFFIC COMPACTED SURFACE (TYPE A OR TYPE B)
78	614	0	1	0	1	LUMP	MAINTAINING TRAFFIC
79	614	0	0	2.34	2.34	MILE	TEMPORARY CENTER LINES, CLASS II, PAINT ONLY
80	616	0	0	10	10	M. GALLON	WATER
81	619	3	0	0	3	MONTH	FIELD OFFICE ~ TYPE A
82	623	0	1	0	1	LUMP	CONSTRUCTION STAKING
83	624	0	1	0	1	LUMP	MOBILIZATION

BID ITEM REFERENCE NUMBERS 43 - 47, 49 - 66 AND 73 ARE SHOWN ON "GENERAL SUMMARY" FOR THE "TRAFFIC SIGNAL IMPROVEMENTS" PORTION OF THE PROJECT

ALLEN COUNTY ENGINEER
BRION E. RHODES, P.E., P.S.

GENERAL SUMMARY

BUCKEYE ROAD
IMPROVEMENT PROJECT
(ROADWAY IMPROVEMENTS)

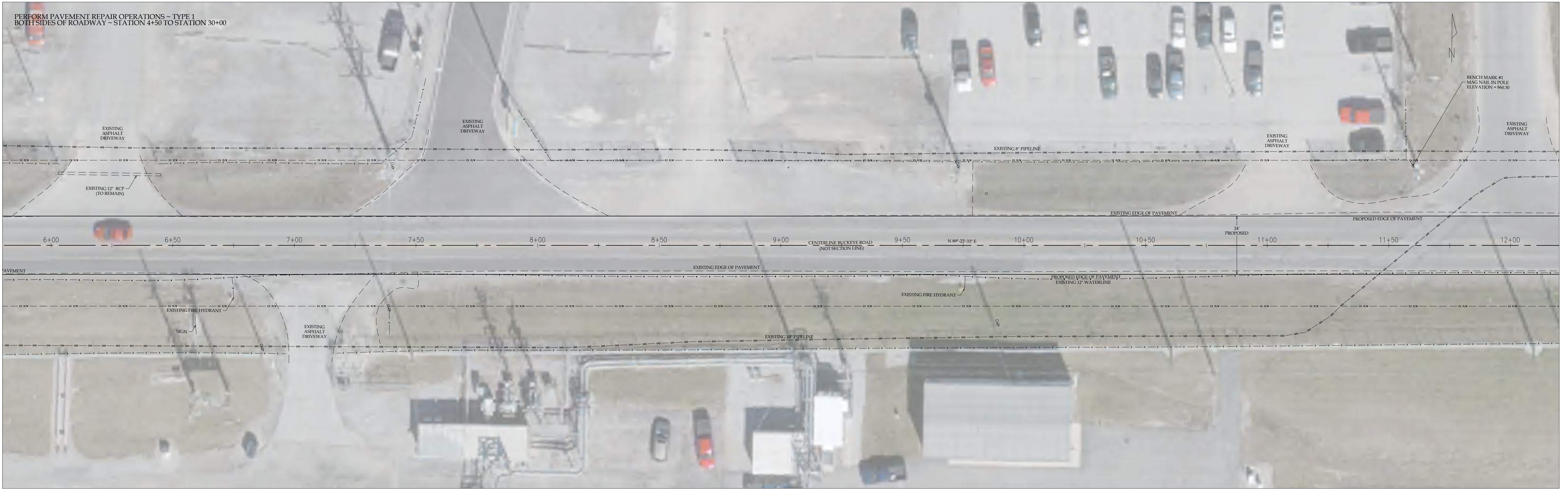
SECTION 11, T4S, R6E, SHAWNEE TOWNSHIP, ALLEN COUNTY, OHIO
SECTION 12, T4S, R6E, SHAWNEE TOWNSHIP, ALLEN COUNTY, OHIO

DRAWN BY: D.R.L.	CHECKED BY: D.R.L.	DESIGNED BY: D.R.L.	DATE: 2-12-2020
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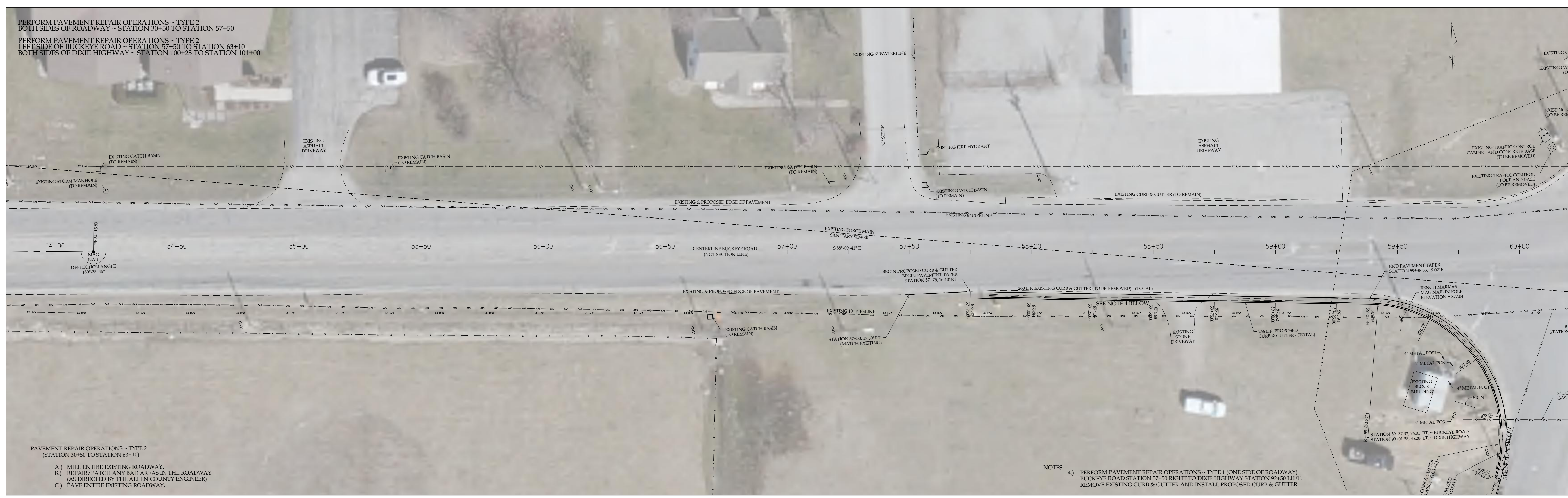
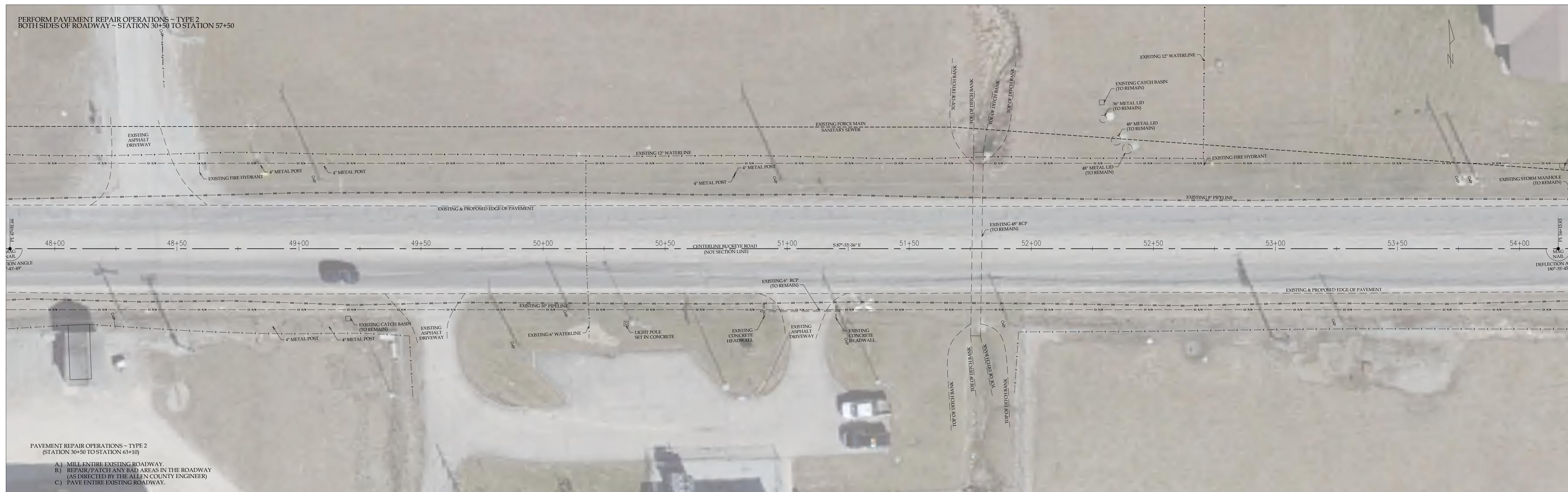
PERFORM PAVEMENT REPAIR OPERATIONS ~ TYPE 1
BOTH SIDES OF ROADWAY ~ STATION 4+50 TO STATION 30+00

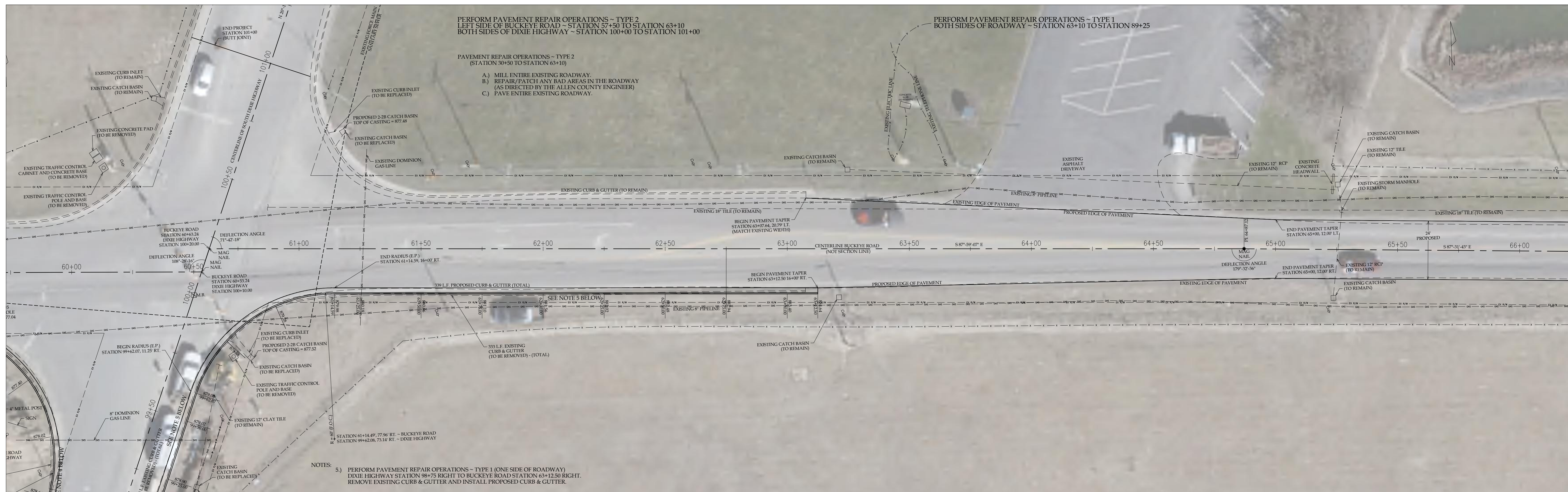


PERFORM PAVEMENT REPAIR OPERATIONS ~ TYPE 1
BOTH SIDES OF ROADWAY ~ STATION 4+50 TO STATION 30+00



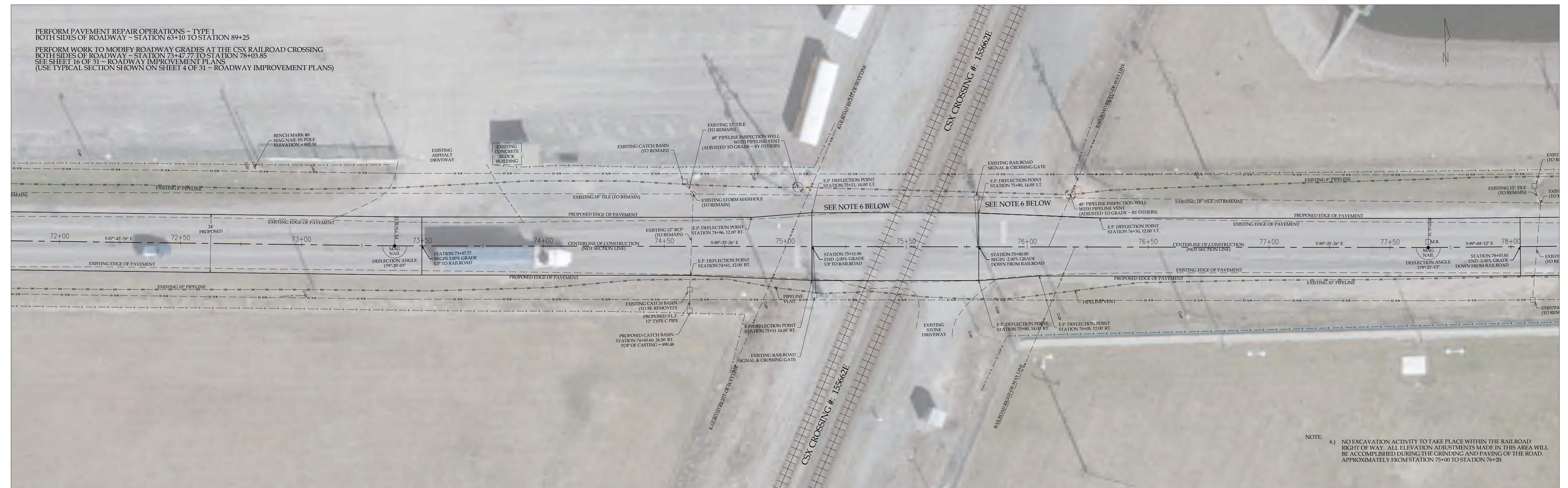






PERFORM PAVEMENT REPAIR OPERATIONS - TYPE 1
BOTH SIDES OF ROADWAY - STATION 63+10 TO STATION 89+25

PERFORM WORK TO MODIFY ROADWAY GRADES AT THE CSX RAILROAD CROSSING
BOTH SIDES OF ROADWAY - STATION 73+47.77 TO STATION 78+03.85
SEE SHEET 16 OF 31 - ROADWAY IMPROVEMENT PLANS
(USE TYPICAL SECTION SHOWN ON SHEET 4 OF 31 - ROADWAY IMPROVEMENT PLANS)

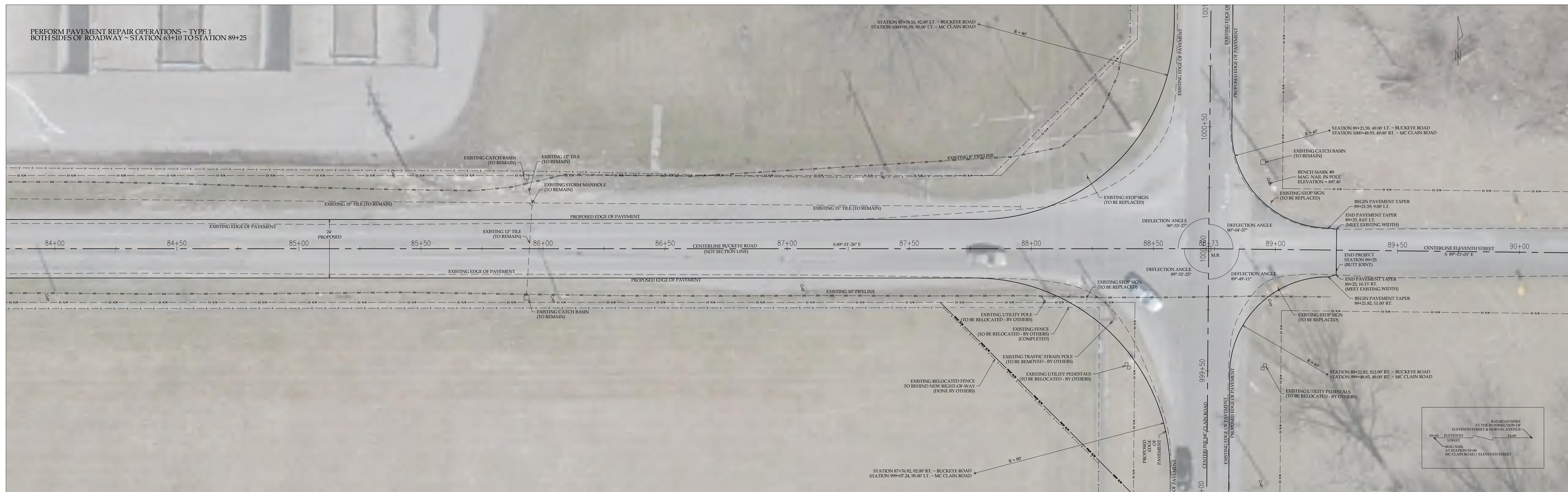


NOTE: 6.) NO EXCAVATION ACTIVITY TO TAKE PLACE WITHIN THE RAILROAD RIGHT OF WAY. ALL ELEVATION ADJUSTMENTS MADE IN THIS AREA WILL BE ACCOMPLISHED DURING THE GRINDING AND PAVING OF THE ROAD. APPROXIMATELY FROM STATION 75+00 TO STATION 76+20.

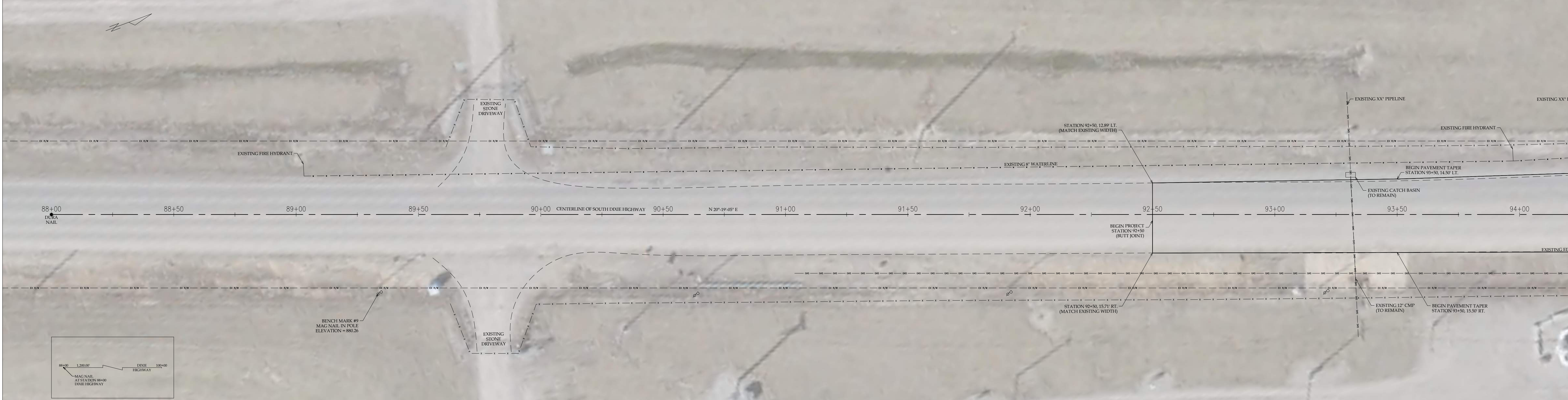
PERFORM PAVEMENT REPAIR OPERATIONS - TYPE 1
BOTH SIDES OF ROADWAY - STATION 63+10 TO STATION 89+25



PERFORM PAVEMENT REPAIR OPERATIONS - TYPE 1
BOTH SIDES OF ROADWAY - STATION 63+10 TO STATION 89+25



PERFORM PAVEMENT REPAIR OPERATIONS - TYPE 2
RIGHT SIDE OF DIXIE HIGHWAY - STATION 92+50 TO STATION 98+75

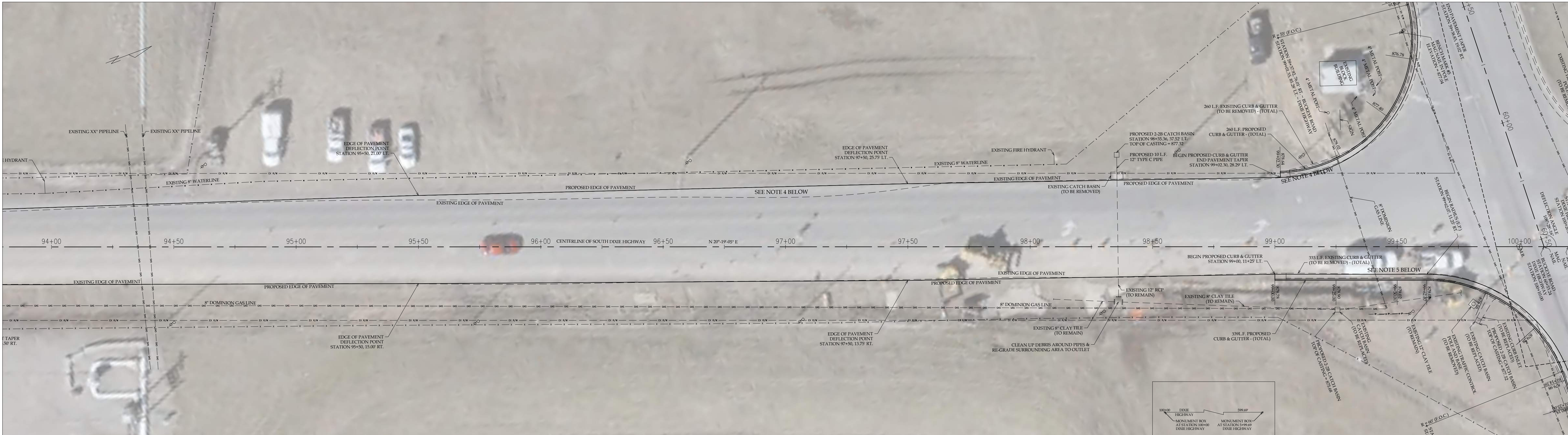


PAVEMENT REPAIR OPERATIONS - TYPE 2
STATION 92+50 TO STATION 101+00 (ALSO SEE NOTE 4 & NOTE 5)

- A) MILL ENTIRE EXISTING ROADWAY.
- B) REPAIR/PATCH ANY BAD AREAS IN THE ROADWAY (AS DIRECTED BY THE ALLEN COUNTY ENGINEER)
- C) PAVE ENTIRE EXISTING ROADWAY.

NOTES:

- 4) PERFORM PAVEMENT REPAIR OPERATIONS - TYPE 1 (ONE SIDE OF ROADWAY) REMOVE EXISTING CURB & GUTTER AND INSTALL PROPOSED CURB & GUTTER. BUCKEYE ROAD STATION 57+50 RIGHT TO DIXIE HIGHWAY STATION 92+50 LEFT.
- 5) PERFORM PAVEMENT REPAIR OPERATIONS - TYPE 1 (ONE SIDE OF ROADWAY) REMOVE EXISTING CURB & GUTTER AND INSTALL PROPOSED CURB & GUTTER. DIXIE HIGHWAY STATION 98+75 RIGHT TO BUCKEYE ROAD STATION 63+12.50 RIGHT.



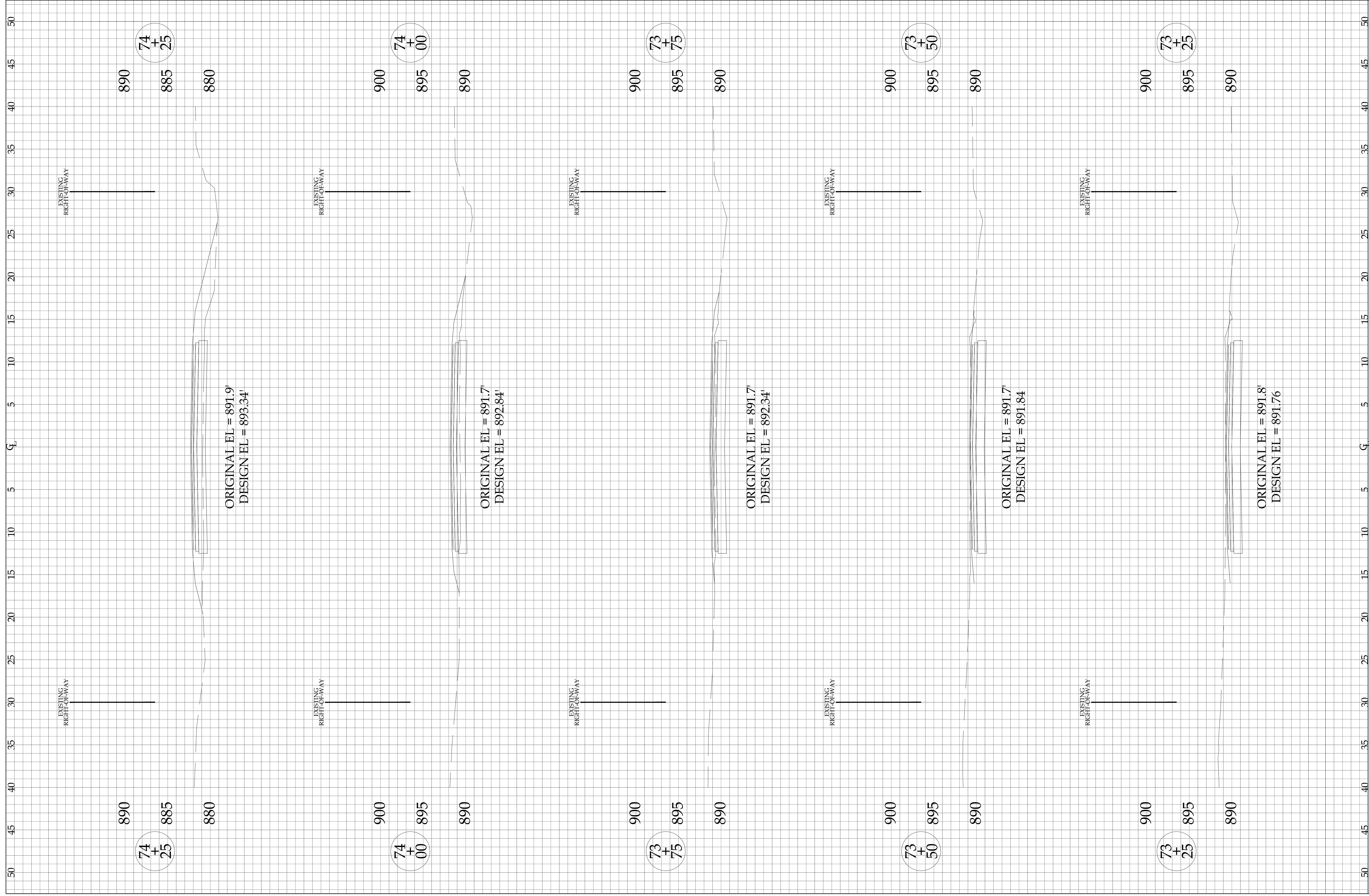
PAVEMENT REPAIR OPERATIONS - TYPE 2
STATION 92+50 TO STATION 101+00 (ALSO SEE NOTE 4 & NOTE 5)

- A) MILL ENTIRE EXISTING ROADWAY.
- B) REPAIR/PATCH ANY BAD AREAS IN THE ROADWAY (AS DIRECTED BY THE ALLEN COUNTY ENGINEER)
- C) PAVE ENTIRE EXISTING ROADWAY.

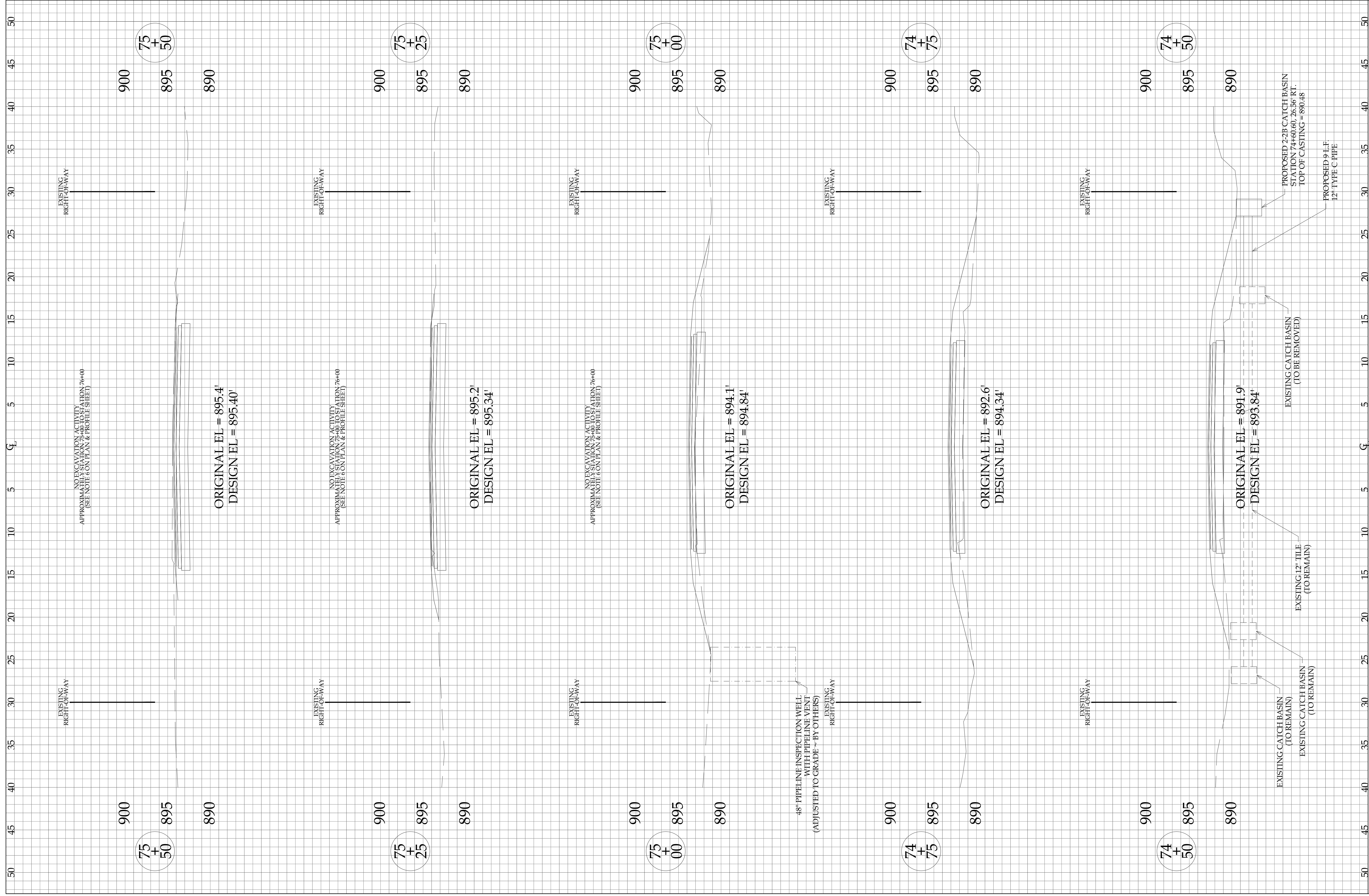
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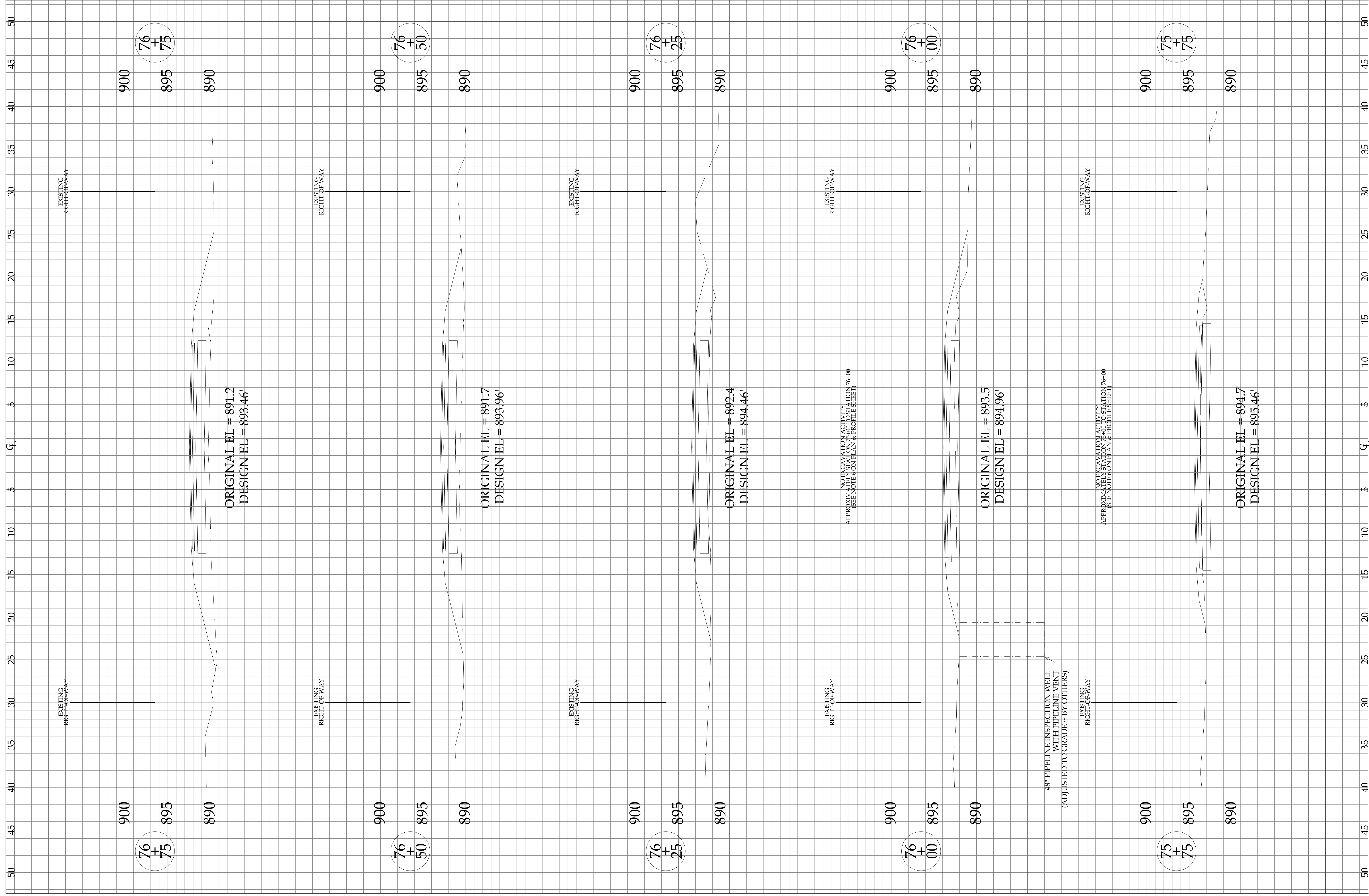
- 4) PERFORM PAVEMENT REPAIR OPERATIONS - TYPE 1 (ONE SIDE OF ROADWAY) REMOVE EXISTING CURB & GUTTER AND INSTALL PROPOSED CURB & GUTTER. BUCKEYE ROAD STATION 57+50 RIGHT TO DIXIE HIGHWAY STATION 92+50 LEFT.
- 5) PERFORM PAVEMENT REPAIR OPERATIONS - TYPE 1 (ONE SIDE OF ROADWAY) REMOVE EXISTING CURB & GUTTER AND INSTALL PROPOSED CURB & GUTTER. DIXIE HIGHWAY STATION 98+75 RIGHT TO BUCKEYE ROAD STATION 63+12.50 RIGHT.

PERFORM PAVEMENT REPAIR OPERATIONS - TYPE 2
RIGHT SIDE OF DIXIE HIGHWAY - STATION 92+50 TO STATION 98+75
BOTH SIDES OF DIXIE HIGHWAY - STATION 100+00 TO STATION 101+00

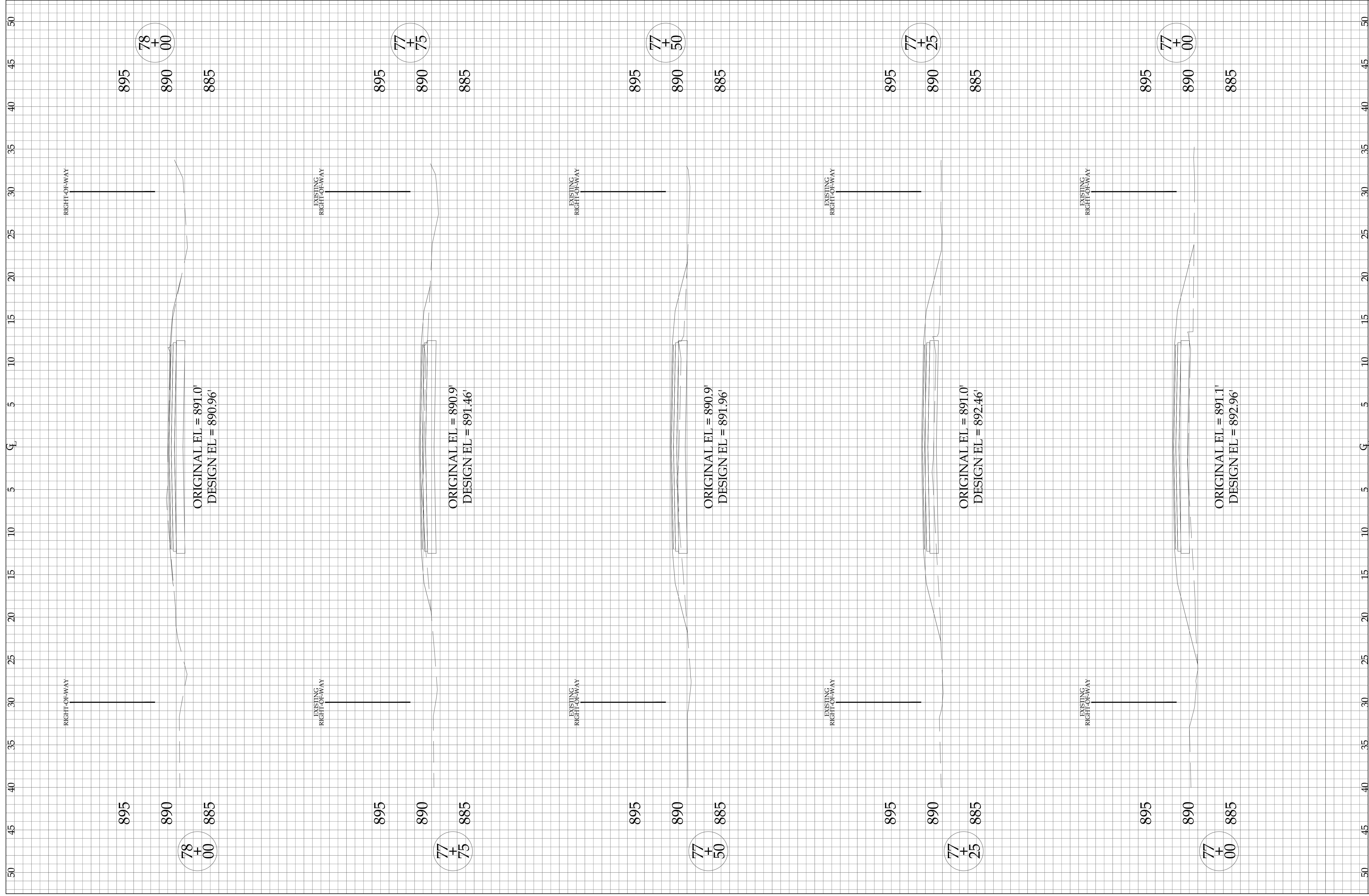


BUCKEYE ROAD IMPROVEMENT PROJECT ~ CROSS-SECTIONS ~ STATION 73+25 TO STATION 74+25

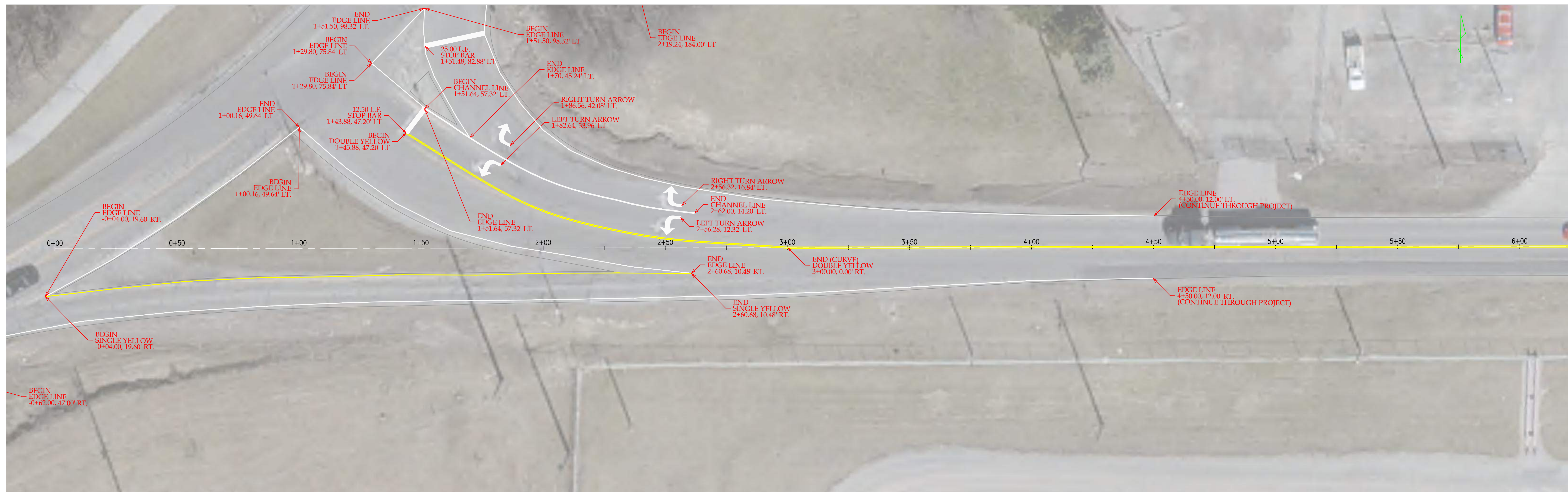


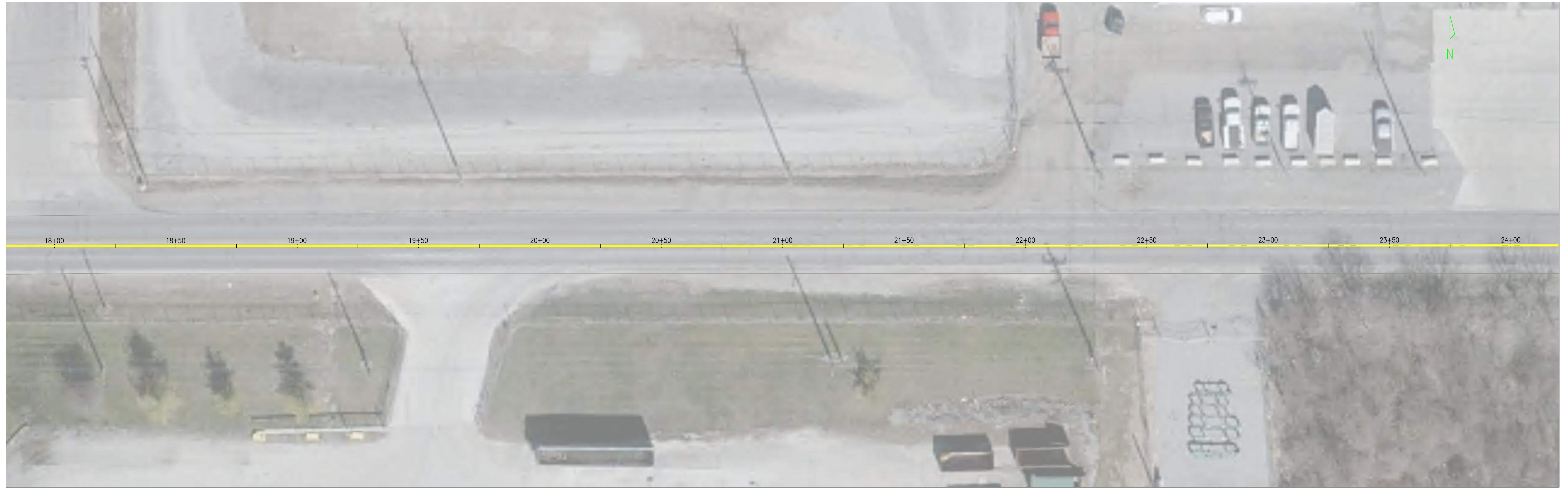


BUCKEYE ROAD IMPROVEMENT PROJECT ~ CROSS-SECTIONS ~ STATION 75+75 TO STATION 76+75



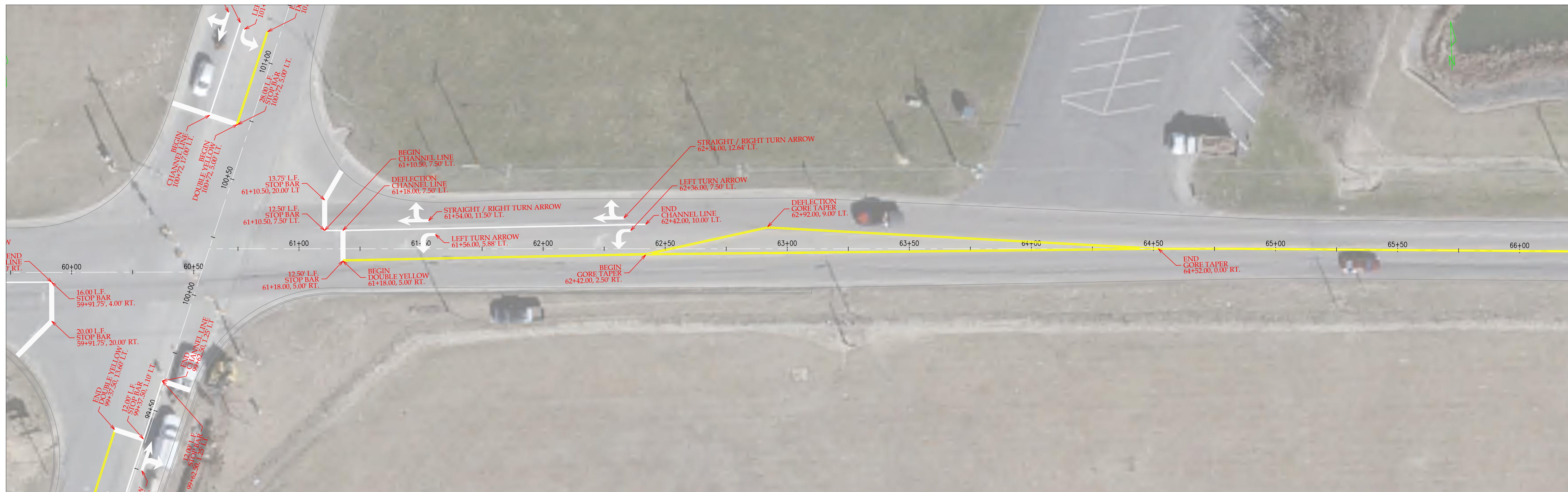
BUCKEYE ROAD IMPROVEMENT PROJECT ~ CROSS-SECTIONS ~ STATION 77+00 TO STATION 78+00

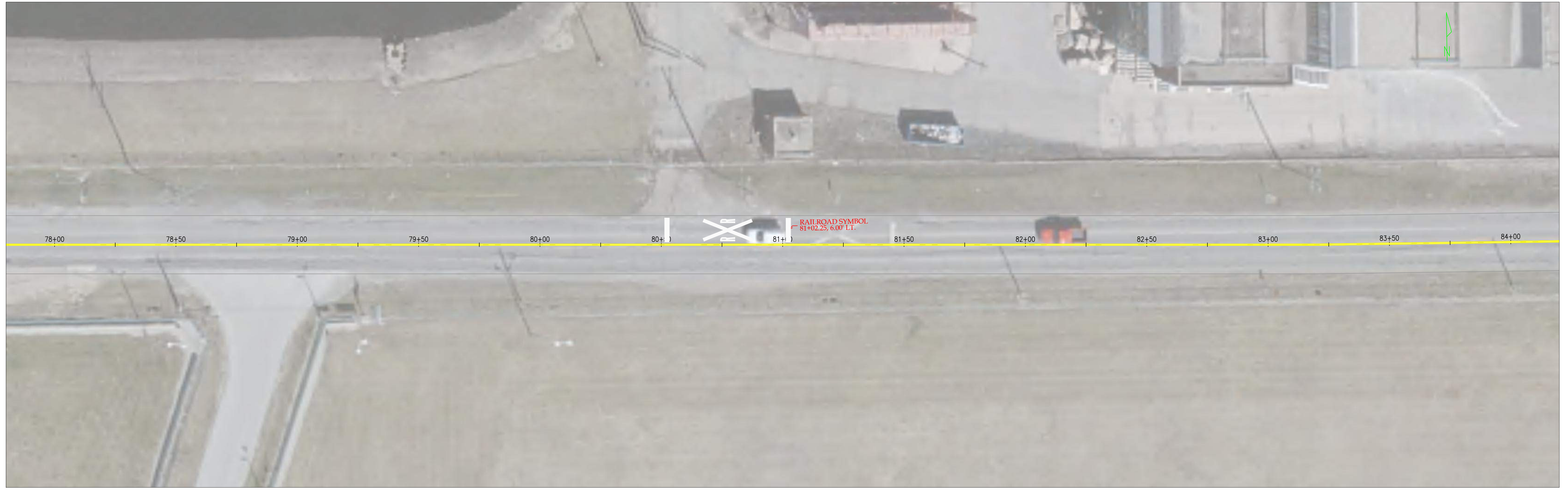
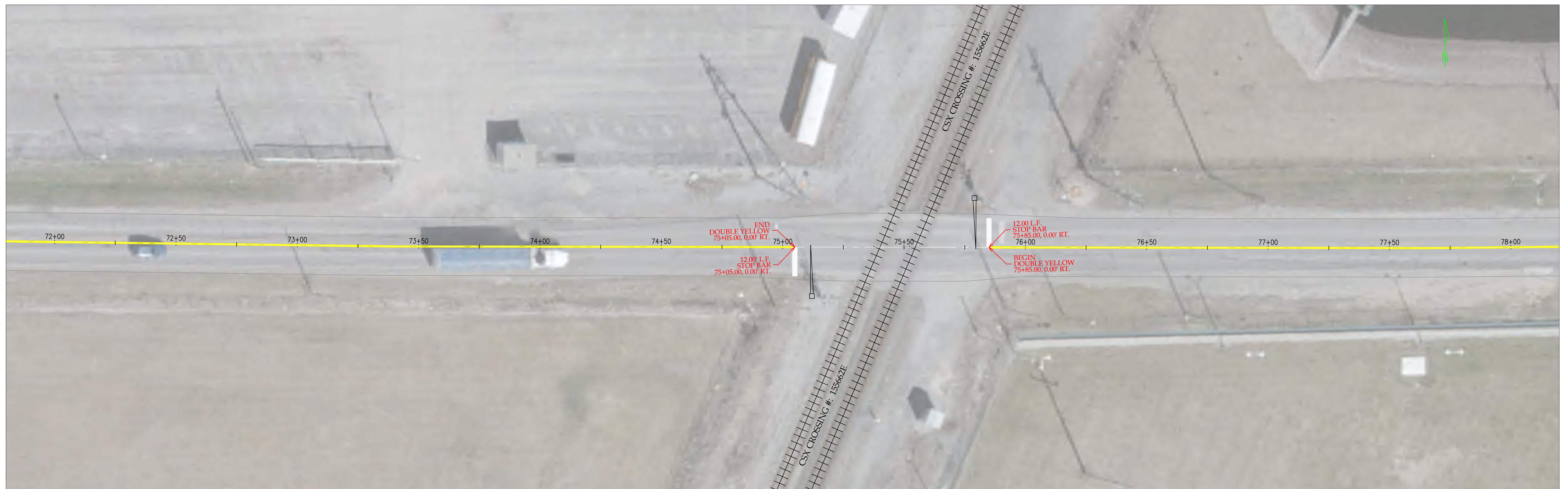




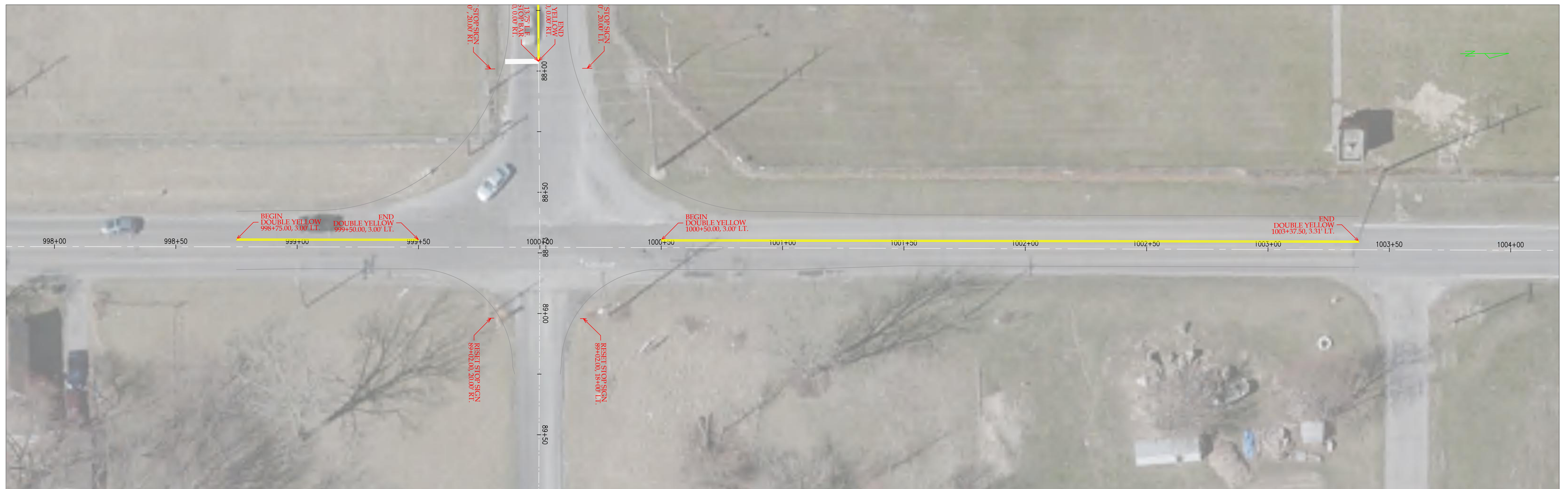












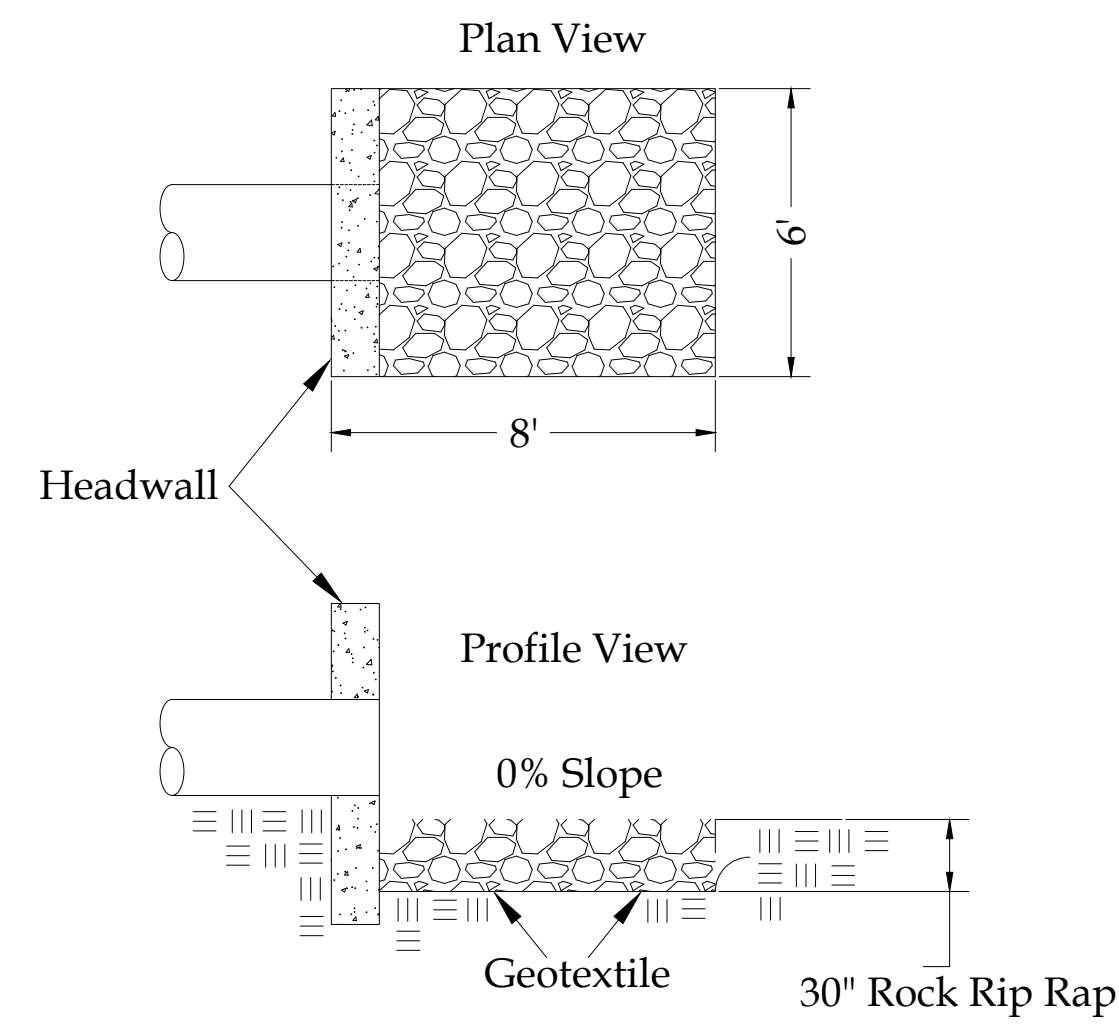
STORM WATER POLLUTION PREVENTION PLAN (SWPPP) NOTES & DETAILS

BUCKEYE ROAD IMPROVEMENT PROJECT	OHIO	31
	FHWA REGION 5	31
ALLEN COUNTY, OHIO	FEDERAL PROJECT	

NOTES:

- THE CONTRACTOR WILL COMPLY WITH ALL OEPA PERMITS.
- SEE CONSTRUCTION SEQUENCE AND STORM WATER POLLUTION PREVENTION NOTES.
- THE GENERAL LOCATION OF THE STAGING AREA IS NOT SHOWN. THE STAGING AREA SHALL BE ESTABLISHED ON 12" OF ODOT 304 AGGREGATE BASE. IF AN AGGREGATE BASE COURSE IS USED, THEN THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN THE STONE SUCH THAT IT IS REPLENISHED WHEN THE DEPTH IS LESS THEN 6" OR REMOVED AND REPLACED IF THE STONE IS MUD LADEN.
- ALL PERSONNEL INVOLVED WITH CONSTRUCTION ACTIVITIES MUST COMPLY WITH THE STATE AND LOCAL SANITARY REGULATIONS. THE CONTRACTOR IS RESPONSIBLE TO PROVIDE TEMPORARY SANITARY FACILITIES AT THE SITE THROUGHOUT THE CONSTRUCTION PHASE WHICH MUST BE UTILIZED BY ALL CONSTRUCTION PERSONNEL AND WILL BE SERVICED BY A COMMERCIAL OPERATOR.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL NON-SEDIMENT POLLUTION CONTROLS AT THIS SITE THAT PROHIBIT NON-SEDIMENT POLLUTANTS FROM DISCHARGING INTO RUNOFF OR INTO THE GROUND AND MUST DISPOSE OF THEM IN A PROPER MANNER IN ACCORDANCE WITH LOCAL, STATE AND FEDERATE REGULATORY AUTHORITIES. IT IS PROHIBITED TO BURN, BURY OR POUR OUT ONTO THE GROUND, DITCH OR INTO A STORM SEWER, SOLVENTS, PAINTS, STAINS, GASOLINE, DIESEL FUEL, MOTOR OIL, HYDRAULIC FLUID, ANTIFREEZE, CEMENT, CURING COMPOUND, AND OTHER SUCH TOXIC OR HAZARDOUS WASTE. STORAGE TANKS SHALL BE LOCATED IN DIKED AREAS AWAY FROM DRAINAGE CHANNELS AND THE DIKED AREA SHALL HOLD 110% OF THE LARGEST TANK OR TRUCK. SHOULD THE CONTRACTOR FAIL TO PREVENT NON-SEDIMENT POLLUTION AT THIS SITE, HE MUST IMMEDIATELY REMEDIATE THE SITE TO THE LOCAL, STATE AND FEDERAL REGULATORY AUTHORITIES APPROVAL ENTIRELY AT HIS OWN EXPENSE.
- THE CONTRACTOR IS RESPONSIBLE TO PROVIDE A MINIMUM OF ONE SOLID WASTE DISPOSAL RECEPTACLE AND HAVE THIS RECEPTACLE EMPTIED BY A CONTRACTED TRASH DISPOSAL SERVICE AND HAULED AWAY FROM THE SITE AS NECESSARY. NO SOLID MATERIALS, INCLUDING BUILDING MATERIALS ARE ALLOWED TO BE DISCHARGED FROM THE SITE WITH STORM WATER. ALL SOLID WASTE, CONSTRUCTION ACTIVITIES, MUST BE COLLECTED AND PLACED IN THESE RECEPTACLES. THE GENERAL LOCATION MAY BE DETERMINED TO BEST SUIT THE CONTRACTOR'S METHODS WITH THE APPROVAL OF THE ENGINEER
- ALL EXISTING CATCH BASINS AND INLETS WITHIN THE WORK LIMITS SHALL HAVE INLET PROTECTIONS INSTALLED AROUND THEM, UNLESS THE SEWER HAS BEEN MADE INACTIVE BY PRIOR WORK. EXISTING CATCH BASINS AND INLETS WHICH ARE TO BE REMOVED OR ABANDONED DURING THIS PROJECT SHALL NOT HAVE THE INLET PROTECTION REMOVED UNTIL AFTER THE DOWNSTREAM STORM STRUCTURE IS PLUGGED FROM STORM FLOW. ALL PROPOSED STORM CATCH BASINS AND INLETS SHALL HAVE INLET PROTECTION.
- GROUNDWATER, STORMWATER AND SEDIMENT BEARING DRAINAGE SHALL FILTERED OR PONDED TO ALLOW REMOVAL OF SILT, SEDIMENT, DEBRIS AND OTHER POLLUTANTS PRIOR TO DISCHARGE FOR THE SITE. THE SETTLED MATERIAL SHALL BE DISPOSED OF IN A STABILIZED LOCATION WHERE AT IT WILL NOT BE CARRIED OFF-SITE OR INTO A STORM SEWER BY RAINFALL. WATER WITH A VISIBLE SHEEN MUST BE REMOVED BY USE OF A VACUUM TRUCK.
- AS A MINIMUM ALL STOCKPILES SHALL HAVE SILT FENCE PLACED 10' OFF AND ALONG THE BOTTOM FOOTPRINT OF THE FINAL STOCKPILE CONFIGURATION. IF THE STOCKPILE WILL BE INACTIVE FOR 21 DAYS OR MORE, THEN THE SURFACE SHALL BE SEEDED, OR STABILIZED WITHIN 7 DAYS OF THE LAST ACTIVITY.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL DUST CONTROL AND SHALL SUPPLY WATER TRUCKS OR OTHER MEAN NECESSARY TO CONTROL DUST GENERATED BY CONSTRUCTION ACTIVITIES ON THE SITE TO THE SATISFACTION OF THE ENGINEER.
- THE CONTRACTOR IS RESPONSIBLE TO PREVENT DISCHARGE OF WASTE CONCRETE AND/OR WASH WATER FROM CONCRETE TRUCKS FROM MIXING WITH RUNOFF AND LEAVING THE SITE. THE CONTRACTOR SHALL SIZE THE WASHOUT PIT TO HANDLE ALL PROPOSED CONCRETE OPERATIONS AND SHALL MAINTAIN THE PIT SUCH THAT ALL CONCRETE TRUCKS CAN USE IT TO WASHOUT. ALL CURED RESIDUE FROM THE PIT SHALL BE DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS. THE GENERAL LOCATION MAY BE DETERMINED TO BEST SUIT THE CONTRACTOR'S METHODS WITH THE APPROVAL OF THE ENGINEER. A TYPICAL CONCRETE WASHOUT STRUCTURE DETAIL IS SHOWN.
- DURING CONSTRUCTION INLET PROTECTION "DANDY BAGS"® SHALL BE PROVIDED AND MAINTAINED AT ALL EXISTING AND PROPOSED INLETS. WHERE INDICATED, FABRIC BARRIER SHALL BE CLEANED SHOULD IT BE BLOCKED WITH DEBRIS. ALL PROTECTION SHALL BE REMOVED WHEN THE JOB IS COMPLETE.
- SEDIMENT CONTROL FENCE SHALL BE INSTALLED AS INDICATED ON THE PLAN SHEETS. SEE THE TABLE ON THIS SHEET.
- ALL DISTURBED AREAS SHALL BE FINISH GRADED AND SEEDED, SODDED, OR LANDSCAPED AS SOON AS PRACTICAL.
- THE CONTRACTOR IS RESPONSIBLE TO CLEAN UP ALL MUD TRACKED FROM THE SITE.

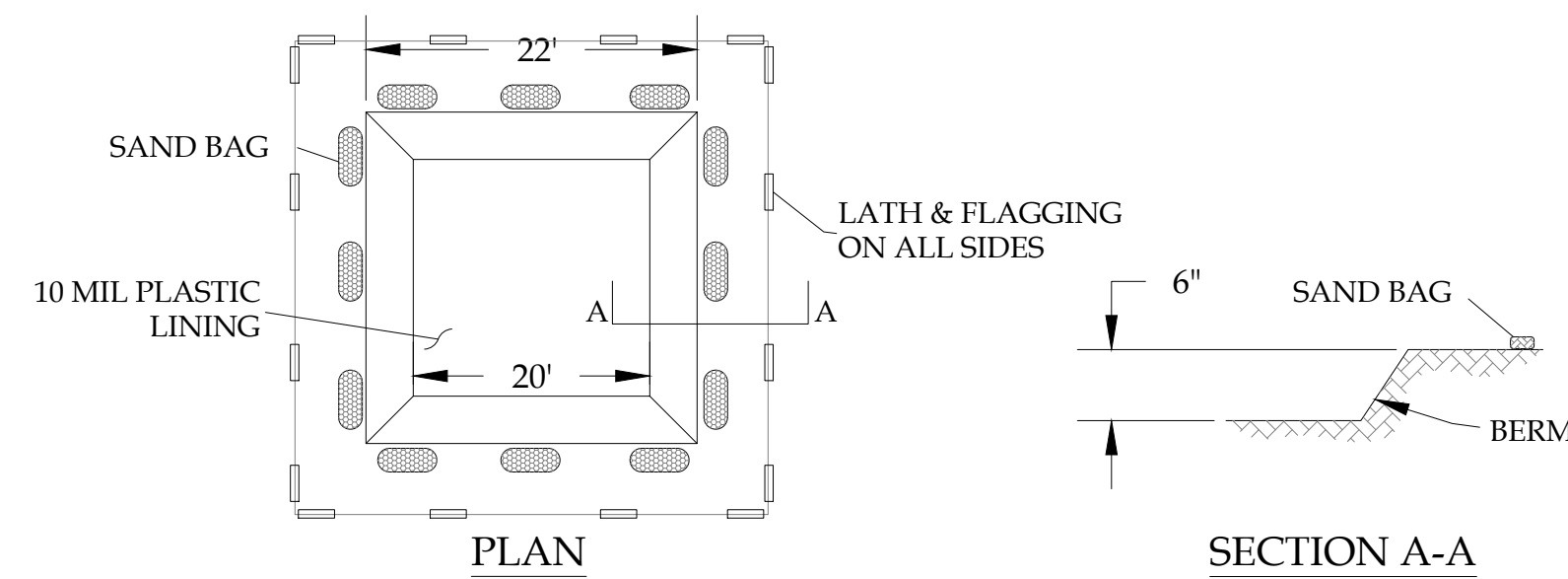
**SPECIFICATIONS FOR
OUTLET PROTECTION**



OUTLET PROTECTION NOTES:

- THE SUBGRADE OF THE FILTER AND RIP RAP SHALL BE PREPARED TO THE REQUIRED LINES AND GRADES, AS SHOWN ON THE PLANS.
- THE RIP RAP SHALL CONFORM TO THE GRADING LIMITS AS SHOWN ON THE PLAN.
- GEOTEXTILE SHALL BE WOVEN OR NON-WOVEN MONOFILAMENT YARN AND SHALL MEET THE FOLLOWING:
* THICKNESS: 20-60 MILS
* GRAB STRENGTH: 90-120 LBS.
* ASTM D-1777 OR ASTM D-1682
- RIAP RAP MAY BE PLACED BY EQUIPMENT BUT SHALL BE PLACED IN A MANNER TO PREVENT DAMAGE TO THE GOETEXTILE.

CONCRETE WASHOUT AREA DETAIL



MATTING SPECIFICATIONS:

- MATERIAL:**
EXCELSIOR MATTING SHALL BE 48" WIDE AND WEIGH 0.75 LBS. /SQ. FT. OR MORE. JUTE MATTING SHALL BE 48" WIDE AND WEIGH 1.2 LBS. / SQ. FT. OR MORE. MATTING MADE OF OTHER MATERIAL AND PROVIDING EQUAL OR GREATER STABILIZATION THAN THE ABOVE MAY BE SUBSTITUTED, IF APPROVED BY THE ENGINEER.
- SITE PREPARATION:**
AFTER THE SITE HAS BEEN SHAPED AND GRADED, A SEEDBED SHALL BE PREPARED THAT IS RELATIVELY FREE OF FOREIGN MATERIAL, CLODS, OR ROCKS THAT ARE GREATER THAN 1.5" IN DIAMETER. THE SITE SHALL BE PREPARED TO ENSURE THAT THE MATTING HAS GOOD SOIL CONTACT AND THE MATTING WILL NOT "BRIDGE" OR "TENT" OVER OBSTRUCTIONS.
- PLANTING:**
LIME AND FERTILIZER SHALL BE USED ACCORDING TO THE RECOMMENDATIONS OF THE SOIL TEST OR SEEDING PLAN. SEED ACCORDING TO THE MATTING MANUFACTURE'S RECOMMENDATIONS OR, FOR EXCELSIOR MATTING, SEED AREA TO BE PROTECTED BEFORE INSTALLATION; OR, FOR JUTE MATTING APPLY HALF THE SEED BEFORE INSTALLATION AND HALF THE SEED AFTER INSTALLATION.
- MATTING SHALL BE HELD IN PLACE AS RECOMMENDED BY THE MANUFACTURER AS ADEQUATE FOR THE SITE CONDITIONS OR WITH SOD STAPLES USED FOR FASTENING SOD, JUTE MATTING, OR EXCELSIOR MATTING AND OTHER EROSION CONTROL MATERIALS TO THE SOIL SURFACE. SOD STAPLES SHALL BE #11 OR HEAVIER AND BE 6" - 10" IN LENGTH. IN LOOSE OR SANDY SOIL MORE AND/OR LONGER STAPLES MY BE USED.
- MATTING SHALL BE INSTALL AS SPECIFIED BY THE MANUFACTURER AS APPROPRIATE FOR THE SITE CONDITIONS.

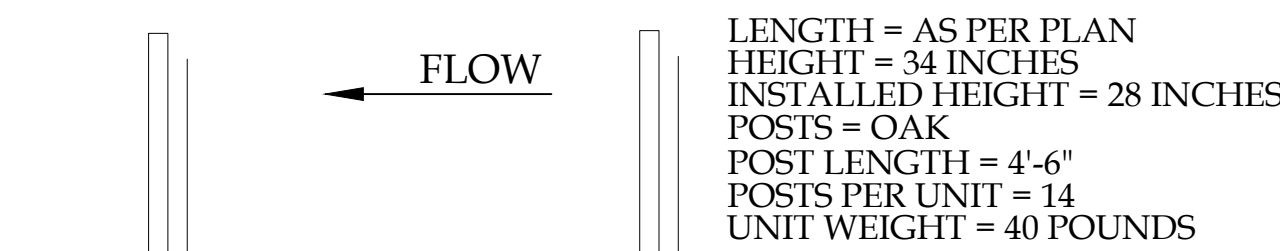
PERMANENT SEEDING SPECIFICATIONS		
SEED TYPE	SEED APPLICATION RATE	
	LBS. / ACRE	LBS. / 1,000 SQ. FT.
DWARF FESCUE	90	2.08
TALL FESCUE	40	0.92
KENTUCKY BLUEGRASS	5	0.12

EROSION CONTROL NOTES:

- ALL SEDIMENT CONTROL DEVICES SHALL BE IN PLACE PRIOR TO ANY OTHER CONSTRUCTION WORK COMMENCES.
- SEDIMENT CONTROL FENCE SHALL REMAIN AROUND ALL CATCH BASINS UNTIL THE PROJECT IS COMPLETE AND VEGETATION IS FULLY ESTABLISHED.
- ROUTINE INSPECTIONS AND RECORDS SHALL BE MADE ON ALL EROSION CONTROL DEVICES BY THE CONTRACTOR. IN THE EVENT ANY EROSION CONTROL DEVICE IS REMOVED OR DAMAGED, CONSTRUCTION SHALL BE STOP UNTIL IT IS REPLACED OR REPAIRED.
- ALL SWALES AND FINAL GRADED AREAS SHALL BE SEEDED AND MULCHED IMMEDIATELY AFTER THEIR CONSTRUCTION. SEE PERMANENT SEEDING SPECIFICATIONS CHART ON THIS SHEET.
- SEDIMENT BASINS, SEDIMENT TRAPS AND PERIMETER SEDIMENT CONTROLS SHALL BE IMPLEMENTED AS THE FIRST STEP OF GRADING AND WITHIN SEVEN DAYS FROM THE START OF GRUBBING AND SHALL CONTINUE UNTIL THE UPLAND AREAS ARE PERMANENTLY STABILIZED.
- DANDY BAGS (OR EQUIVALENT) SHALL BE PLACED ON ALL CURB INLETS THAT DO NOT DRAIN TO A SEDIMENT BASIN.
- A COPY OF THE SEDIMENTATION AND EROSION CONTROL PLAN SHALL BE KEPT AVAILABLE FOR INSPECTION ON THE CONSTRUCTION SITE AT ALL TIMES THROUGH THE TERM OF THE PROJECT.
- INSTALL TEMPORARY GRAVEL CONSTRUCTION DRIVE:
20' (WIDTH) X 50' (LENGTH) X 6" (DEPTH)
USING ODOT #1s STONE AND #2s STONES
- ALL AREAS OF GRADING WITH A SLOPE LESS THAN 3:1 SHALL BE FERTILIZED, SEEDED AND MULCHED WITH STRAW.
- ALL AREAS OF GRADING WITH A SLOPE OF 3:1 OR GREATER SHALL BE FERTILIZED, SEEDED, MULCHED WITH STRAW AND APPLY EROSION CONTROL MATTING PER THE MANUFACTURE'S SPECIFICATIONS. ATTACH THE MATTING USING NORTH AMERICAN GREEN "BIO-STAKE" OR 6" STEEL STAPLES FOLLOWING THE MANUFACTURE'S SPACING RECOMMENDATIONS.
- INSTALL SEDIMENT CONTROL FENCE AS SHOWN IN TABLE BELOW.
- ROCK CHECKS SHALL BE INSTALLED IN THE ROAD SIDE DITCHES PER THE "DITCH ROCK CHECK LOCATIONS" TABLE PROVIDED ON THIS SHEET.

SEDIMENT CONTROL FENCE DETAIL

* ECONOFENCE IS A PRE-ASSEMBLED SEDIMENT CONTROL FENCE / SILT FENCE UNIT CONSTRUCTED OF TERRATEX EC FABRIC, INDUSTRIAL NETTING AND TREATED OAK POSTS. IT IS RECOMMENDED FOR USE IN SILT CONTROL AS DESCRIBED IN THE DETAILED INSTALLATION INSTRUCTION.



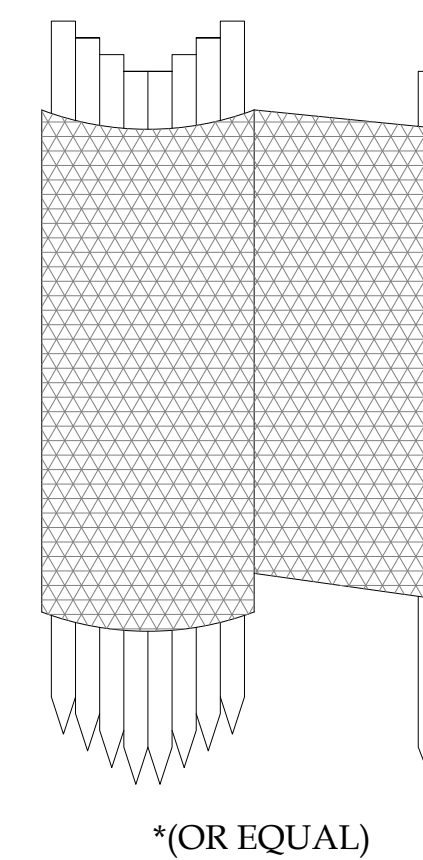
RECOMMENDED TOE-IN ALTERNATE TOE-IN
-SELECT TOE-IN METHOD TO BE USED (SEE ILLUSTRATION)

- DIG MINIMUM 6" X 6" TRENCH WHERE FENCE IS TO BE INSTALLED TO INSURE SUFFICIENT FILL MATERIAL IS AVAILABLE.
- UNROLL ECONOFENCE BY SECTION (POST TO POST) ALONG TRENCH OR PREDETERMINED
- DRIVE POST INTO UNDISTURBED SOIL UNTIL SUPPORT NETTING IS IN THE TRENCH OR BEGINNING TO LAY ON THE GROUND.
- PLACE FILL MATERIAL IN TRENCH OR ON FABRIC FLAP AND TAMP BY FOOT.

NOTES:

- INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY.
- REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
- SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.

SEDIMENT CONTROL FENCE LOCATIONS	
BUCKEYE ROAD	DIXIE HIGHWAY
14+50 TO 17+50 LT. 14+50 TO 17+25 RT. 76+25 TO 78+25 LT. 73+25 TO 75+00 RT. 76+00 TO 78+25 RT.	92+00 TO 99+50 LT. 98+25 TO 99+75 RT.



*(OR EQUAL)

DANDY BAG®

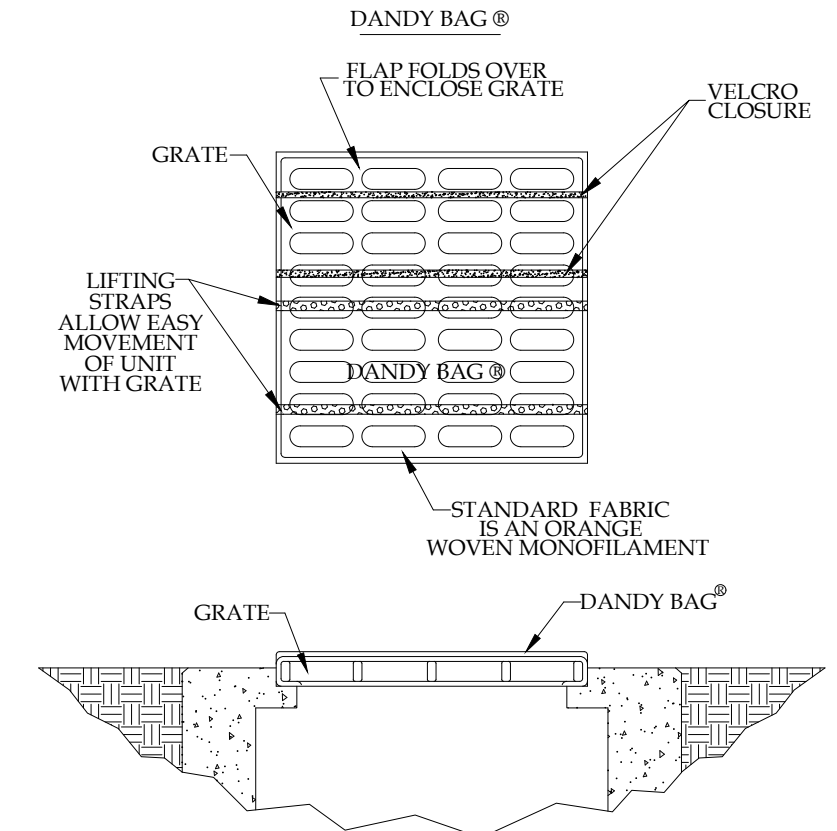
Installation and Maintenance Guidelines

INSTALLATION:

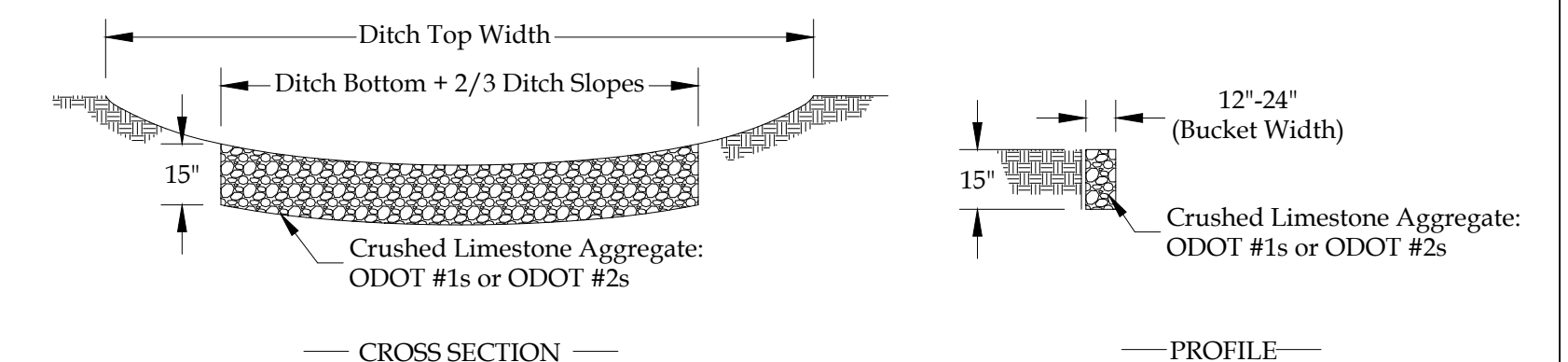
The empty Dandy Bag® should be in placed over the grate as the grate stands on end. If using optional oil absorbents; place absorbent pillow in pouch, on the bottom (below-grade side) of the unit. Attach absorbent pillow in tether loop. Tuck the enclosure flap inside to completely enclose the grate. Holding the lifting devices (do not rely on the lifting devices to support the entire weight of the grate), place the grate into the frame.

MAINTENANCE:

Remove the accumulated sediment and debris from the surface and vicinity of the unit after each storm event. Remove sediment that has accumulated within the containment area of the Dandy Bag® as needed. If using optional oil absorbents, remove and replace the absorbent pillow when near saturated.



DITCH ROCK CHECKS



ROCK CHECK NOTES:

- EACH ROCK CHECK MUST BE COMPACTED BY A MINIMUM OF ONE PASS OVER THE ENTIRE SURFACE OF THE ROCK CHECK WITH EITHER TRACKED EQUIPMENT OR RUBBER Tired EQUIPMENT.
- THE FINAL ROCK CHECK SURFACE MUST BE FLUSH WITH THE FINISHED ELEVATION OF THE ROAD SIDE DITCH BOTTOM.

ALLEN COUNTY ENGINEER BRION E. RHODES, P.E., P.S.			
STORM WATER POLLUTION PLAN (SWPPP) NOTES & DETAILS			
BUCKEYE ROAD IMPROVEMENT PROJECT			
SECTION 12, 14S, R6E, SHAWNEE TOWNSHIP, ALLEN COUNTY, OHIO SECTION 12, 14S, R6E, SHAWNEE TOWNSHIP, ALLEN COUNTY, OHIO			
DRAWN BY: Z.J.G.	CHECKED BY: D.R.L.	DESIGNED BY:	DATE: 2-20-2020

THIS SHEET INTENTIONALLY BLANK

ALLEN COUNTY, OHIO OFFICE OF THE COUNTY ENGINEER

BUCKEYE ROAD IMPROVEMENT PROJECT (TRAFFIC SIGNAL IMPROVEMENTS)

2019 SPECIFICATIONS

The standard specifications of The State of Ohio, Department of Transportation, Dated January 1, 2019 including changes and supplemental specifications listed in the proposal shall govern the construction of this project.

We the Board of Allen County Commissioners of Allen County, Ohio, in formal session, hereby approve these plans and certify that the necessary Right-of-Way is available.

SECTION 02, T4S, R6E, SHAWNEE TOWNSHIP
ALLEN COUNTY, OHIO
&
SECTION 11, T4S, R6E, SHAWNEE TOWNSHIP
ALLEN COUNTY, OHIO
&
SECTION 12, T4S, R6E, SHAWNEE TOWNSHIP
ALLEN COUNTY, OHIO

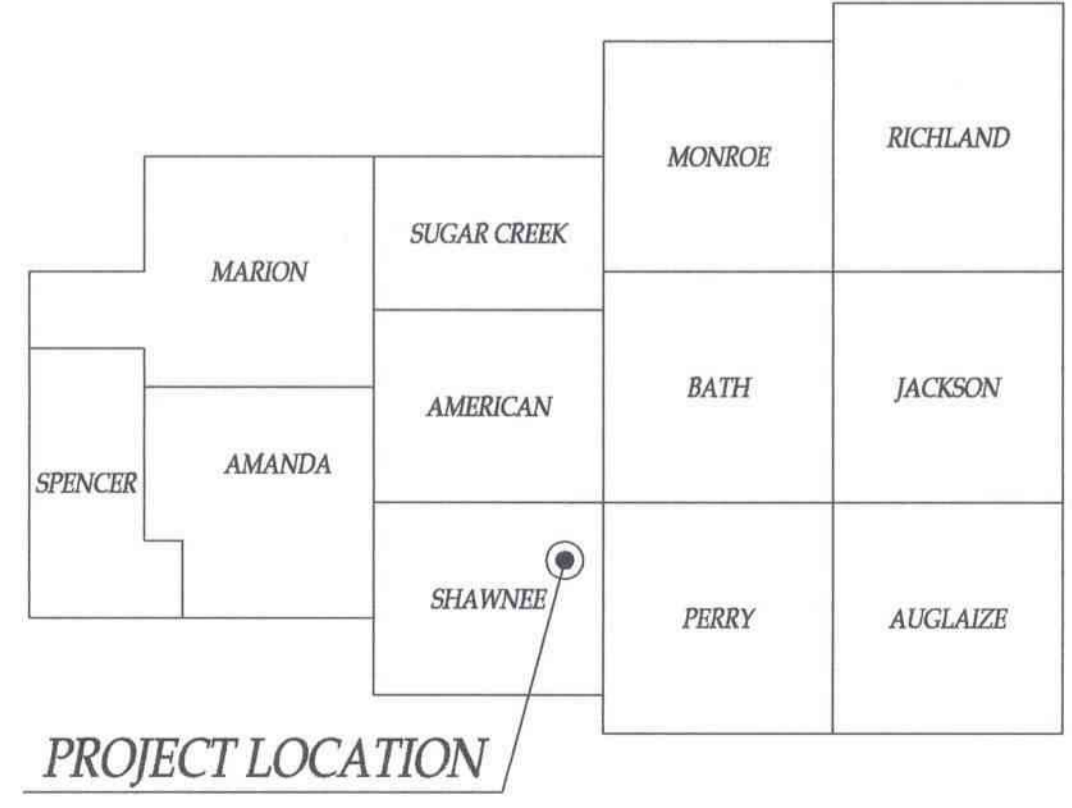
ALLEN COUNTY COMMISSIONER	DATE
	<u>2-2-21</u>
ALLEN COUNTY COMMISSIONER	DATE
	<u>2/2/21</u>
ALLEN COUNTY COMMISSIONER	DATE

I hereby approve these plans and declare that the making of this improvement will require the closing to traffic of the roadway.

	<u>02/03/21</u>
ALLEN COUNTY ENGINEER	DATE



VICINITY MAP
SCALE: 1" = 1200'



PROJECT LOCATION

STANDARD CONSTRUCTION DRAWINGS				SUPPLEMENTAL SPECIFICATIONS	
TC-21.20	TC-85.20			816	10-18-2019
TC-81.21	MT-97.10			907	10-18-2019
TC-83.10	MT-120.00			1063	10-18-2019
TC-83.20					

UNDERGROUND UTILITIES
TWO WORKING DAYS
BEFORE YOU DIG
CALL 800-362-2764 (TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON MEMBERS
MUST BE CALLED DIRECTLY

Plans Prepared By:
Allen County Engineer
1501 N. Sugar St.
Lima, Ohio 45801

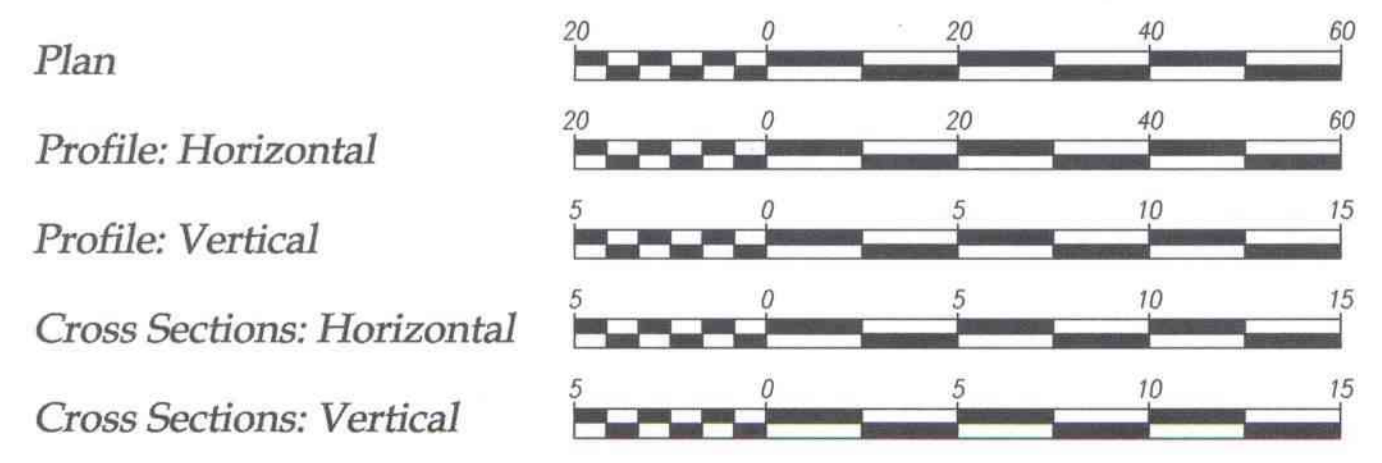
CONVENTIONAL SIGNS

- County Line
- Township Line
- Section Line SECTION 34
- Corporation Line or
- Fence Line (existing) (proposed)
- Center Line
- Existing Communications Line
- Existing San. Sewer
- Trees Stumps (to be removed)
- Utility Poles: Telephone Power Light
- Limited Access (only)
- Right of Way (only)
- Limited Access & Right of Way
- Existing Right of Way
- Proposed Right-of-Way
- Property Line
- Railroad or
- Existing Water Main
- Guardrail (existing) (proposed)
- Signs (existing) (proposed)
- Monument Box (existing) (proposed)

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SCALES



BUCKEYE ROAD IMPROVEMENT PROJECT	OHIO	2
	FHWA REGION 5	12
ALLEN COUNTY, OHIO		FEDERAL PROJECT

STANDARD SPECIFICATIONS

THE 2019 EDITION OF THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED AND THE OHIO MANUAL FOR UNIFORM TRAFFIC CONTROL DEVICES SHALL GOVERN THIS PROJECT. THE PROJECT SPECIFICATIONS SHALL SUPERSEDE THE STANDARD SPECIFICATIONS SHOULD THERE BE ANY CONFLICT.

CONSTRUCTION NOISE

ACTIVITIES AND LAND USE ADJACENT TO THIS PROJECT MAY BE AFFECTED BY CONSTRUCTION NOISE. IN ORDER TO MINIMIZE ANY ADVERSE CONSTRUCTION NOISE IMPACTS, ANY POWER-OPERATED CONSTRUCTION-TYPE DEVICE SHALL NOT BE OPERATED BETWEEN THE HOURS OF 7PM AND 7AM. IN ADDITION, ANY SUCH DEVICE SHALL NOT BE OPERATED AT ANY TIME IN SUCH A MANNER THAT THE NOISE CREATED SUBSTANTIALLY EXCEEDS THE NOISE CUSTOMARILY AND NECESSARILY ATTENDANT TO THE REASONABLE AND EFFICIENT PERFORMANCE OF SUCH EQUIPMENT.

ELEVATION DATUM

ALL ELEVATIONS ARE BASED ON U.S.G.S. DATUM.

WORK LIMITS

THE WORK LIMITS SHOWN ON THESE PLANS ARE FOR PHYSICAL CONSTRUCTION ONLY. THE INSTALLATION AND OPERATION OF ALL TEMPORARY TRAFFIC CONTROL AND TEMPORARY TRAFFIC CONTROL DEVICES REQUIRED BY THESE PLANS SHALL BE PROVIDED BY THE CONTRACTOR WHETHER INSIDE OR OUTSIDE THESE WORK LIMITS.

CROSSING OF EXISTING PIPES AND UTILITIES

WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO CROSS OVER OR UNDER ANY EXISTING SEWER OR UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATE THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED CONDUIT.

IF IT IS DETERMINED THAT THE PROPOSED CONDUIT WILL INTERSECT AN EXISTING SEWER OR UNDERGROUND UTILITY IF CONSTRUCTED AS SHOWN ON THE PLAN THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WOULD BE AFFECTED BY THE INTERFERENCE WITH AN EXISTING FACILITY.

WORKING DRAWINGS

THE REQUIREMENTS OF ITEM 625.06 OF THE CONSTRUCTION AND MATERIAL SPECIFICATIONS ARE HEREBY MODIFIED TO REQUIRE FOUR (4) SETS OF SHOP DRAWINGS, CATALOG CUTS, SPECIFICATIONS, PHOTOMETRIC DATA, BROCHURES, DATA SHEETS, AND WIRING DIAGRAMS FOR REVIEW AND APPROVAL, AS REQUIRED BY THE COUNTY ENGINEER.

MATERIALS

ALL MATERIALS FURNISHED FOR THIS JOB SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS DATED JANUARY 1, 2019.

ITEM 614 MAINTAINING TRAFFIC, AS PER PLAN

THIS PROJECT SHALL BE CONSTRUCTED AS TO MAINTAIN LOCAL TRAFFIC TO BUSINESSES AND RESIDENCES AT ALL TIMES.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ERECTING AND MAINTAINING ALL TRAFFIC DEVICES IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TRAFFIC SIGNAL/FLASHER INSTALLATIONS WITHIN THE PROJECT UNDER THE FOLLOWING CONDITIONS:

1. EXISTING SIGNAL/FLASHER INSTALLATIONS WHICH THE PLANS REQUIRE THE CONTRACTOR TO ADJUST, MODIFY, ADD ONTO OR REMOVE, OR WHICH THE CONTRACTOR ACTUALLY ADJUSTS, MODIFIES OR OTHERWISE DISTURBS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ENTIRE INSTALLATION (AT AN INTERSECTION) FROM THE TIME HIS OPERATIONS FIRST DISTURBS THE AREA FOR INSTALLATION UNTIL THE INSTALLATION HAS BEEN SUBSEQUENTLY REMOVED OR MODIFIED AND THE WORK IS ACCEPTED.
2. NEW OR REUSED SIGNAL/FLASHER INSTALLATIONS OR DEVICES, INSTALLED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE OF THESE FROM THE TIME OF INSTALLATION UNTIL WORK IS ACCEPTED.

THE CONTRACTOR SHALL CORRECT ALL OUTAGES OR MALFUNCTIONS. HE SHALL PROVIDE THE MAINTAINING AGENCY AND THE ENGINEER SUCH ADDRESSES AND PHONE NUMBERS WHERE HIS MAINTENANCE FORCES CAN BE CONTACTED. THE CONTRACTOR SHALL PROVIDE ONE OR MORE PERSONS TO RECEIVE ALL CALLS AND DISPATCH THE NECESSARY MAINTENANCE FORCES TO CORRECT OUTAGES WITHIN 2 HOURS OF NOTIFICATION. SUCH A PERSON OR PERSONS MAY BE USED TO PERFORM OTHER DUTIES AS LONG AS PROMPT ATTENTION IS GIVEN TO THESE CALLS AND A PERSON IS READILY AVAILABLE CONTINUOUSLY 24 HOURS A DAY, 7 DAYS A WEEK. ALL LAMP OUTAGES, CABLE OUTAGES, ELECTRICAL FAILURES, EQUIPMENT MALFUNCTIONS AND MISALIGNED SIGNAL HEADS SHALL BE CORRECTED TO THE SATISFACTION OF THE ENGINEER WITH THE SIGNAL BACK TO SERVICE WITHIN FOUR HOURS AFTER THE CONTRACTOR HAS BEEN NOTIFIED OF THE OUTAGE.

IN THE EVENT NEW SIGNALS ARE DAMAGED PRIOR TO ACCEPTANCE ALL DAMAGED EQUIPMENT EXCEPT POLES AND CONTROL EQUIPMENT SHALL BE REPLACED BY THE CONTRACTOR TO THE SATISFACTION OF THE ENGINEER WITH THE SIGNAL BACK IN SERVICE WITHIN 8 HOURS AFTER THE CONTRACTOR'S NOTIFICATION OF THE OUTAGE. THE CONTRACTOR SHALL ARRANGE FOR FULL TRAFFIC CONTROL UNTIL THE SIGNAL IS BACK IN OPERATION.

IF POLES AND/OR CONTROL EQUIPMENT ARE DAMAGED AND MUST BE REPLACED, THE CONTRACTOR SHALL MAKE TEMPORARY REPAIRS AS NECESSARY TO BRING THE SIGNAL BACK INTO FULL OPERATION WITHIN THE ALLOWED 8-HOUR PERIOD, AND SHALL MAKE PERMANENT REPAIRS OR REPLACEMENT AS SOON THEREAFTER AS POSSIBLE.

NONE OF THE ABOVE SHALL BE CONSTRUED AS COLLECTIVE OR CONSECUTIVE OUTAGE TIME PERIODS AT ANY ONE LOCATION. THAT IS WHERE MORE THAN ONE OUTAGE OCCURS AT ANY ONE LOCATION, THEN THE ALLOTTED TIME LIMIT SHALL BE FOR THE WORST SINGLE OUTAGE.

WHERE OUTAGES ARE THE DIRECT RESULT OF A VEHICLE ACCIDENT THE RESPONSE OF THE CONTRACTOR SHALL BE AS OUTLINED ABOVE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COLLECTION OF ANY COMPENSATION FOR THIS WORK FROM THOSE PARTIES RESPONSIBLE FOR THE DAMAGE.

WHERE THE CONTRACTOR HAS FAILED TO OR CANNOT RESPOND TO AN OUTAGE OR SIGNAL EQUIPMENT MALFUNCTION AT THE LOCATIONS WITHIN THE PERIODS AS SPECIFIED ABOVE, THE ENGINEER MAY DEDUCT MONIES DUE OR TO BECOME DUE TO THE CONTRACTOR FOR ANY SUBSEQUENT BILLINGS TO ALLEN COUNTY FOR POLICE SERVICES AND MAINTENANCE SERVICES.

THE CONTRACTOR SHALL PROVIDE THE MAINTENANCE SERVICE ENTIRELY WITH HIS FORCES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO ANY TRAFFIC SIGNAL COMPONENTS REQUIRED TO BE HANDLED DURING THE RELOCATION OF POLES AND INSTALLATION OF THE SIGNAL SYSTEM.

ANY LANE CLOSURES SHALL CONFORM TO STANDARD CONSTRUCTION DRAWING MT-97.10 (MOST RECENT UPDATE). ANY WORK ALONG THE SHOULDERS SHALL CONFORM TO PLATE C-12 OF THE OMUTCD. ALL TRAFFIC CONTROL DEVICES SUCH AS SIGNS AND CONES SHALL BE PROVIDED, MAINTAINED, AND REMOVED BY THE CONTRACTOR.

WHEN A TRAFFIC SIGNAL MUST BE TAKEN OUT OF SERVICE BY THE CONTRACTOR DUE TO CONSTRUCTION PROCEDURES, THIS OUTAGE SHALL NOT EXCEED 4 HOURS AND SHALL NOT INCLUDE THE HOURS OF 7 AM TO 9 AM AND 4 PM TO 6 PM. ANY SIGNALIZED INTERSECTION, WHERE THE SIGNAL IS OUT OF SERVICE DUE TO CONSTRUCTION PROCEDURES OR DUE TO AN OUTAGE OR MALFUNCTION OF EQUIPMENT AS DESCRIBED ABOVE SHALL BE PROTECTED BY THE INSTALLATION OF TEMPORARY "STOP" SIGNS ON THE MINOR APPROACH. ANY OTHER WORK THAT DOES NOT REQUIRE THE INTERSECTION TO BE TAKEN OUT OF SERVICE MAY BE PERFORMED DURING NORMAL WORK HOURS.

ANY VEHICULAR SIGNAL HEAD, EITHER NEW OR EXISTING WHICH WILL BE OUT OF OPERATION SHALL BE COVERED IN THE MANNER DESCRIBED IN 632.25.

THE CONTRACTOR SHALL MAINTAIN COMPLETE RECORDS OF MALFUNCTIONS INCLUDING:

1. TIME OF NOTIFICATION OF MALFUNCTION;
2. TIME OF WORK CREWS ARRIVAL TO CORRECT THE MALFUNCTION
3. ACTIONS TAKEN TO CORRECT THE MALFUNCTION, INCLUDING A LIST OF PARTS REPAIRED OR REPLACED
4. TIME OF COMPLETION OF THE REPAIR AND SYSTEM RESTORED TO FULL SERVICE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REQUIRED TEMPORARY SIGNAGE FOR NEW SIGNAL ACTIVATION IN ACCORDANCE WITH ODOT STANDARD CONSTRUCTION DRAWING MT-120.00 (MOST RECENT UPDATE).

ALL COSTS RESULTING FROM THE ABOVE REQUIREMENTS SHALL BE CONSIDERED TO BE INCLUDED IN THE PRICE BID FOR ITEM 614 MAINTAINING TRAFFIC, AS PER PLAN.

**NOTES APPLY TO ALL
SIGNALS IN THIS PROJECT
UNLESS OTHERWISE NOTED.**

ALLEN COUNTY ENGINEER BRION E. RHODES, P.E., P.S.			
TRAFFIC SIGNAL GENERAL NOTES			
BUCKEYE ROAD IMPROVEMENT PROJECT (TRAFFIC SIGNAL IMPROVEMENTS)			
<small>SECTION 11, 14S, R6E, SHAWNEE TOWNSHIP, ALLEN COUNTY, OHIO SECTION 12, 14S, R6E, SHAWNEE TOWNSHIP, ALLEN COUNTY, OHIO</small>			
<small>DRAWN BY:</small> Z.J.G.	<small>CHECKED BY:</small> D.R.L.	<small>DESIGNED BY:</small>	<small>DATE:</small> 1-28-2020

BUCKEYE ROAD IMPROVEMENT PROJECT	OHIO	3 12
	FHWA REGION 5	
ALLEN COUNTY, OHIO	FEDERAL PROJECT	

ITEM 625, TRENCH 24" DEEP, AS PER PLAN

THIS ITEM SHALL CONSIST OF EXCAVATING THE TRENCH TO A DEPTH OF TWENTY FOUR INCHES (24"), BACKFILLING, AND RESTORING THE AREA. IDENTIFYING TAPE SHALL BE USED TO IDENTIFY WHERE UNDERGROUND CABLE HAS BEEN INSTALLED.

THE IDENTIFYING TAPE SHALL BE ANY INERT MATERIAL, APPROXIMATELY SIX (6) INCHES WIDE, COMPOSED OF POLYETHYLENE PLASTIC HIGHLY RESISTANT TO ALKALIS, ACID OR OTHER CHEMICAL COMPOUNDS LIKELY TO BE ENCOUNTERED IN SOILS. THE TAPE SHALL BE SUPPLIED IN CONTINUOUS ROLLS WITH THE IDENTIFYING LETTERING REPEATED CONTINUOUSLY THE FULL LENGTH OF THE TAPE. THE TAPE SHALL BE ALLEN SYSTEMS, TERRA TAPE, TECTA TAPE OR EQUAL APPROVED BY THE ENGINEER.

THE TAPE SHALL BE BURIED IN THE ELECTRIC LINE TRENCH WITH ONE STRIP PLACED NO LESS THAN TWO (2) INCHES OR MORE THAN TWELVE (12) INCHES BELOW THE FINAL FINISHED GRADE OF THE TRENCH. THE TAPE SHALL BE PLACED WITH THE PRINTED SIDE UP AND SHALL BE ESSENTIALLY PARALLEL WITH THE FINAL GRADE.

ITEM 625, CONDUIT, BORED UNDER PAVEMENT, 3", AS PER PLAN

WHERE IT IS SPECIFIED TO BE INSTALLED BY THE METHOD OF BORING. ALL TRENCHES WITHIN 10' OF THE EDGE OF THE PAVEMENT SHALL BE BACKFILLED WITH COMPACTED GRANULAR MATERIAL. TRENCHES SHALL BE ADEQUATELY SUPPORTED AND THE SPECIFICATION REQUIREMENTS FOR CLASS B BEDDING BE DISREGARDED. IF A CASING PIPE IS USED IN THE BORING OPERATION, THE VOID BETWEEN IT AND THE CARRIER PIPE SHALL BE COMPLETELY FILLED WITH ITEM 613, SAND, GROUT, OR OTHER MATERIAL APPROVED BY THE ENGINEER.

ITEM 625, GROUND ROD, AS PER PLAN

IN ADDITION TO CMS ITEM 625.16, THIS ITEM SHALL CONSIST OF FURNISHING AND RUNNING A SEVEN STRAND #4 COPPER WIRE FROM THE TOP OF THE GROUND ROD AND ATTACHING IT TO THE NEUTRAL BAR IN THE CLOSET.

PAYMENT SHALL BE MADE AT THE CONTRACT UNIT PRICE PER EACH.

ITEM 632, POWER SERVICE, AS PER PLAN

POWER SERVICE SHALL BE AS PER CMS ITEM 632 AND SCD TC-83.10 WITH THE FOLLOWING EXCEPTIONS:

1. THE METER BASE MOUNTING HEIGHT SHALL BE NO MORE THAN 5 FEET (1.5 METERS) HIGH TO THE CENTER OF THE METER BASE FROM THE GROUND.
2. THE CONTRACTOR SHALL SUPPLY THE NECESSARY METER BASES FOR ELECTRICAL INSTALLATIONS WITH IN THE AMERICAN ELECTRIC POWER DISTRIBUTION AREA. THE METER BASE SOCKET SHALL BE 100 AMP AND INCLUDE A 1" HUB AT THE TOP OF THE METER BASE.
3. ALL POWER SERVICES SHALL BE METERED. THE METER SHALL HAVE A LEVER OPERATED BYPASS. NO BYPASS SWITCH SHALL BE PLACED AHEAD OF THE METER.

DISCONNECT SWITCH ENCLOSURES FURNISHED IN ACCORDANCE WITH CMS ITEM 632, POWER SERVICE, AS PER PLAN, SHALL INCLUDE A PADLOCK EQUAL TO MASTER NO. 4KA OR WILSON BOHANNON 660, WITH LOCK BODY OF BRONZE OR BRASS AND KEYING SHALL BE AS DIRECTED BY THE ALLEN COUNTY ENGINEER.

THE CONTRACTOR SHALL CONTACT THE METER SECTION OF THE POWER COMPANY FOR INFORMATION REGARDING THE METER BASE INSTALLATION PRIOR TO ORDERING POLES. THE CONTRACTOR WILL BE RESPONSIBLE FOR REQUESTING AND SCHEDULING ANY INSPECTIONS THE POWER COMPANY MAY REQUIRE FOR THE POWER SERVICE HOOK UP. THE CONTRACTOR SHALL BE RESPONSIBLE TO CONTACT THE POWER COMPANY FOR THE ELECTRICAL SERVICE CONNECTION. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR SPLICE POWER CABLE INTO THE POWER COMPANY'S CIRCUITS. THE VOLTAGE SUPPLIED SHALL BE NOMINALLY 120 VOLTS. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ANY NECESSARY PERMITS AND THE PAYING OF ALL FEES. THE CONTRACTOR SHALL PAY ALL POWER CHARGES UNTIL THE SIGNAL IS ACCEPTED BY THE MAINTAINING AGENCY.

ITEM 632 VEHICULAR SIGNAL HEAD W/ BACKPLATE AND LED LAMP UNITS,

(5-SECTION, 4-SECTION OR 3-SECTION), 12" LENS, 1-WAY, AS PER PLAN IN ADDITION TO THE REQUIREMENTS OF ITEM 632.06 AND 732.01, THE SIGNAL HEADS SHALL BE ERECTED IN ACCORDANCE WITH STANDARD CONSTRUCTION DRAWING TC-85.20 (LATEST VERSION). EACH SIGNAL FACE SHALL BE ORIENTED TO ITS TRAFFIC APPROACH AND SHALL BE RIGIDLY ATTACHED TO THE MAST ARM. THE BACKBRACE SHALL BE DIRECTLY MOUNTED TO THE MAST ARM; SUSPENDING THE SIGNAL HEAD BELOW THE MAST ARM BY MEANS OF A UNIVERSAL HANGER IS NOT PERMITTED. THE VEHICULAR SIGNAL HEADS SHALL BE MODIFIED FOR THIS PROJECT AS FOLLOWS:

- 1) THE BOTTOM OF THE SIGNAL HEADS SHALL BE MOUNTED AT A MINIMUM HEIGHT OF 16 FEET AND A MAXIMUM HEIGHT OF 18 FEET AS MEASURED FROM THE BOTTOM OF SIGNAL HEAD TO PAVEMENT.
- 2) SIGNAL HEADS, VISORS, AND LENSES SHALL BE CONSTRUCTED OF POLYCARBONATE PLASTIC AND MEET ITE SPECIFICATIONS. PROPER EXTERIOR COLORS SHALL BE OBTAINED BY USE OF COLORED PLASTIC MATERIAL RATHER THAN PAINTING. THE COLORS FOR THE SIGNAL HEAD BODY AND THE SIGNAL HEAD DOOR SHALL BE FEDERAL YELLOW. THE VISORS AND BACKPLATES SHALL BE BLACK.

3) THE SIGNAL HEADS SHALL BE SECURED TO THE MAST ARM USING A FIXED BRACKET TO PREVENT ROTATION. THE SUPPORT ASSEMBLY SHALL BE DESIGNED WITHOUT SET SCREWS, PIPE THREADS, RETAINER RINGS, AND SCREW LOCK BUCKLES. THE SADDLE USED TO FASTEN THE SUPPORT MEMBER TO THE MAST ARM SHALL ALSO HAVE A MULTI-TOOTH MOUNTING SURFACE TO INHIBIT MOVEMENT OR ROTATION.

4) CUTAWAY VISORS SHALL BE FURNISHED FOR ALL SIGNAL HEADS.

5) BLACK LOUVERED BACKPLATES SHALL BE FURNISHED FOR ALL SIGNAL HEADS.

THE CONTRACTOR SHALL PROVIDE ALLEN COUNTY, IN WRITING, THE LED MANUFACTURER NAME, SERIAL NUMBER, PART NUMBER, DESCRIPTION OF LAMP, AND DATE OF MANUFACTURE FOR ALL LED UNITS TO BE USED IN THE TRAFFIC SIGNAL HEADS PRIOR TO INSTALLATION, FOR ACCEPTANCE AND WARRANTY PURPOSES. THE INFORMATION SHALL BE SENT TO THE FOLLOWING LOCATION:

ALLEN COUNTY ENGINEER
C/O DAVID LOUTH
1501 N. SUGAR STREET
LIMA, OHIO 45801

THE COUNTY WILL MEASURE ITEM 632 VEHICULAR SIGNAL HEAD W/ BACKPLATE AND LED LAMP UNITS, (5-SECTION, 4-SECTION OR 3-SECTION) 12" LENS, 1-WAY, AS PER PLAN BY NUMBER OF COMPLETE UNITS FURNISHED AND INSTALLED, AND WILL INCLUDE ALL SUPPORT AND MOUNTING HARDWARE, DISCONNECT HANGERS, CLOSURE CAPS, DIMMERS, AND LAMPS AS SPECIFIED.

ITEM 632, SIGNAL SUPPORT, (BY TYPE AND DESIGN NUMBER), AS PER PLAN

IN ADDITION TO ODOT 732.11, EACH POLE PROVIDED WILL BE ACCORDING TO STANDARD DRAWING TC-81.21 MODIFIED TO INCLUDE THE FOLLOWING:

- 1) A HAND HOLE ALIGNED BETWEEN TWO ADJACENT ANCHOR BOLTS.
- 2) A SET OF FOUR ANCHOR BOLTS WITH TWO NUTS, ONE PLANE WASHER AND ONE LOCK WASHER FOR EACH BOLT.
- 3) SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL WITHIN FOUR WEEKS OF THE FORMAL NOTICE TO PROCEED TO THE CONTRACTOR AND PRIOR TO FABRICATION. THESE WILL BE REVIEWED AND RETURNED WITH COMMENTS WITHIN 5 WORKING DAYS UPON RECEIPT OF SHOP DRAWINGS.
- 4) ALL SIGNAL SUPPORTS AND EQUIPMENT SHALL BE MARKED WITH A WATERPROOF TAG IN THE FACTORY WITH THE PROPER POLE REFERENCE NUMBER.

PAYMENT WILL BE MADE AT THE CONTRACT UNIT PRICE BID PER EACH OF ITEM 632 SIGNAL SUPPORT, (BY TYPE AND DESIGN NUMBER), AS PER PLAN

THE CONTRACTOR SHALL PROVIDE ALL NECESSARY ATTACHMENTS OR CONNECTIONS TO THE POLES. ADDITIONAL WIRING HOLES IN THE POLE SHALL BE DRILLED, REAMED OR HOLE SAWED. FLAME CUTTING (OXYACETYLENE OR ELECTRICAL ARC) WILL NOT BE ACCEPTED. ALL CUT EDGES OR OTHER DEFECTS IN THE ZINC COATING SHALL BE CLEANED AND COVERED WITH TWO COATS OF ZINC-RICH REPAIR PAINT. BRACKET AND APPURTENANCES SHALL BE SECURELY ATTACHED WITH STAINLESS STEEL BANDS OR STAINLESS STEEL SCREWS OF SUFFICIENT SIZE FOR THE INTENDED LOADING. THE CONTRACTOR SHALL FURNISH AND INSTALL, UNDER THIS ITEM, ALL CONDUIT, FITTING, WIRE ENTRANCES AND CONDUIT ELLS (WIRING AND GROUNDING) FOR FOUNDATIONS.

THE REQUIREMENTS OF 630.06 FOR THREADED FASTENERS, ANCHOR BOLTS, ANCHOR BOLT NUTS, AND ANAEROBIC ADHESIVE SHALL APPLY.

ITEM 632, SIGNAL SUPPORT FOUNDATION, AS PER PLAN

IN ADDITION TO ODOT ITEM 630.05, THE FOUNDATION SHALL BE CONSTRUCTED IN ACCORDANCE WITH APPROPRIATE STANDARD CONSTRUCTION DRAWING TC-21.20 (MOST RECENT UPDATE). THE CONCRETE FOR ANCHOR BASE FOUNDATIONS SHALL BE PLACED ACCORDING TO ODOT ITEM 630.05 AND 632.14 AND SHALL INCLUDE REINFORCING STEEL, ANCHOR BOLTS, AND CONDUIT ELLS.

ITEM 632 REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN

TRAFFIC SIGNAL INSTALLATIONS, INCLUDING SIGNAL HEADS, CABLE, MESSENGER WIRE, STRAIN POLE, CABINET, CONTROLLER, ETC., SHALL BE REMOVED IN ACCORDANCE WITH CMS 632.26 AND AS INDICATED ON THE PLANS. REMOVED ITEMS SHALL BE STORED ON THE PROJECT FOR SALVAGE BY ALLEN COUNTY ENGINEER IN ACCORDANCE WITH THE LISTING GIVEN HEREIN.

IN THE EVENT THE ITEMS STORED ON THE PROJECT FOR SALVAGE BY THE NOTED AGENCY ARE NOT REMOVED, THE CONTRACTOR SHALL, WHEN DIRECTED BY THE ENGINEER IN WRITING, REMOVE AND DISPOSE OF THE ITEMS AT NO ADDITIONAL COST TO THE PROJECT.

ITEM 632 - VIDEO DETECTION SYSTEM, AS PER PLAN

THIS VIDEO DETECTION SYSTEM SHALL BE THE LATEST ITERIS EDGE VIDEO DETECTION SYSTEM.

IN ADDITION TO ODOT SUPPLEMENTAL SPECIFICATIONS 816 AND 907, THIS ITEM CONSISTS OF FURNISHING AND INSTALLING VIDEO DETECTION CAMERAS FOR USE IN A VIDEO DETECTION SYSTEM. THE CAMERAS SHALL INCLUDE SOFTWARE AND A CABLE OF SUFFICIENT LENGTH FOR CONNECTION BETWEEN THE CAMERA AND THE CONTROL EQUIPMENT INSIDE THE CONTROLLER CABINET. THE CABLE SHALL BE A SINGLE JACKETED MULTI-PAIRED CABLE FOR POWER, VIDEO AND COMMUNICATIONS. SEPARATE POWER AND COAX CABLES WILL NOT BE ACCEPTABLE. ALL CAMERAS SHALL BE MOUNTED ON ASTRO BRACKETS WITH A MINIMUM THREE FOOT VERTICAL EXTENSION. ALL CAMERAS SHALL HAVE LIGHTNING PROTECTION.

THIS ITEM ALSO CONSISTS OF FURNISHING AND INSTALLING VIDEO DETECTION HARDWARE INSIDE A MODEL NEMA TS1 TRAFFIC SIGNAL CONTROLLER CABINET. THE HARDWARE WILL BE USED AS PART OF THE VIDEO DETECTION SYSTEM. THE VIDEO DETECTION SYSTEM CABINET HARDWARE SHALL INCLUDE ALL COMPONENTS, WIRING, AND ANY OTHER ADDITIONAL HARDWARE AND MATERIALS REQUIRED TO OPERATE THE SYSTEM. THE COMPLETE SYSTEM SHALL BE CAPABLE OF A MINIMUM OF 32 DETECTION ZONES PER CAMERA AND BE ABLE TO OPERATE A MINIMUM OF 4 CAMERAS. THE SYSTEM SHALL HAVE A MINIMUM TWO-YEAR WARRANTY.

PAYMENT SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, TOOLS EQUIPMENT, AND OTHER INCIDENTALS NECESSARY FOR THE VIDEO DETECTION CAMERAS AND THE VIDEO DETECTION SYSTEM CABINET HARDWARE, IN PLACE, ALL CONNECTIONS MADE AND WIRING COMPLETED, TESTED, AND ACCEPTED. THIS ITEM WILL BE PAID AT THE CONTRACT UNIT PRICE PER EACH, UNDER ITEM 632 - VIDEO DETECTION SYSTEM, AS PER PLAN.

**NOTES APPLY TO ALL
SIGNALS IN THIS PROJECT
UNLESS OTHERWISE NOTED.**

ALLEN COUNTY ENGINEER BRION E. RHODES, P.E., P.S.			
TRAFFIC SIGNAL GENERAL NOTES			
BUCKEYE ROAD IMPROVEMENT PROJECT (TRAFFIC SIGNAL IMPROVEMENTS)			
<small>SECTION 11, 145, R66, SHAWNEE TOWNSHIP, ALLEN COUNTY, OHIO SECTION 12, 145, R66, SHAWNEE TOWNSHIP, ALLEN COUNTY, OHIO</small>			
<small>DRAWN BY:</small> Z.J.G.	<small>CHECKED BY:</small> D.R.L.	<small>DESIGNED BY:</small>	<small>DATE:</small> 1-28-2020

BUCKEYE ROAD IMPROVEMENT PROJECT	OHIO	4 12
	FHWA REGION 5	
ALLEN COUNTY, OHIO		FEDERAL PROJECT

ITEM 633 CONTROLLER UNIT, WITH CABINET, TYPE TS1, AS PER PLAN
THE CONTROLLER SHALL BE THE LATEST SIEMENS M-60 MODEL, INCLUDING A DETACHABLE LCD BACKLIT DISPLAY UNIT.

IN ADDITION TO ODOT ITEM 633 AND ITEM 733, THE CONTROLLER SHALL MEET, AS A MINIMUM, ALL APPLICABLE NEMA TS1 STANDARDS. THIS SPECIFICATION SHALL GOVERN WHERE DIFFERENCES OCCUR IN THE ODOT STANDARD CONSTRUCTION AND MATERIAL SPECIFICATION. THE TS1 CONTROLLER SHALL BE FURNISHED WITH THE MOST RECENT SOFTWARE AND PROVIDE ALL FEATURES OF THE LATEST MODEL AVAILABLE. THE TS1 CONTROLLER SHALL BE FURNISHED BY EAGLE TRAFFIC CONTROL SYSTEMS, INC.

THE FOLLOWING FEATURES SHALL BE FURNISHED IN ADDITION TO ALL NEMA TS1 STANDARDS, ENHANCED MEASURES OF EFFECTIVENESS, AND DIAGNOSTICS THAT ARE AVAILABLE WITH THE MOST RECENT VERSION OF CONTROLLER:

THE CONTROLLER SHALL PROVIDE A LCD DISPLAY AND SHALL USE AN ENGLISH MENU FORMAT FOR DATA ENTRY AND INFORMATION DISPLAY. THE LCD SHALL BE A MULTIPLE ANGLE DISPLAY THAT HAS AN ADJUSTABLE INTENSITY WITH BACKLIGHTING.

TIME BASE COORDINATION (TBC) SHALL BE PROVIDED AND OPERATE ON PROGRAMMED COMMAND (TIME OF DAY), MANUAL COMMAND, AND AUTOMATICALLY IF COMMUNICATION WITH THE TRAFFIC RESPONSIVE MASTER SHOULD BE INTERRUPTED.

THE CONTROLLER UNIT SHALL MAINTAIN USER PROGRAMMABLE VARIABLES IN NON-VOLATILE EEPROM MEMORY TO ASSURE CONTINUED SAFE AND EFFICIENT CONTROLLER OPERATION AFTER RECOVERY FROM A POWER LOSS. NO BATTERIES SHALL BE REQUIRED FOR RETENTION OF TRAFFIC PARAMETERS. THE EEPROM MODULE SHALL BE AS A MINIMUM SOCKET MOUNTED TO THE MICROPROCESSOR BOARD.

MALFUNCTION MANAGEMENT UNIT (MMU) SHALL BE PRE-WIRED FOR A TYPE 16 MALFUNCTION MANAGEMENT UNIT. THE MMU SHALL HAVE AN LCD DISPLAY INDICATING MMU CHANNEL, CONFLICT, AND MONITORING FUNCTION STATUS. ENHANCED FEATURES AS A MINIMUM SHALL DETECT FAULTY SEQUENCING OF SIGNALS (I.E., SHORT OR ABSENCE OF YELLOW AND/OR SIMULTANEOUS DUAL INDICATIONS) ON A PER CHANNEL BASIS.

CABINET EQUIPMENT:
THE CABINET EXTERIOR SHALL BE COMMERCIALY SMOOTH AND FREE OF DEFECTS THAT WOULD IMPAIR SERVICEABILITY OR DETRACT FROM GENERAL APPEARANCE. THE CABINET SHALL BE FURNISHED FULLY EQUIPPED WITH THE FOLLOWING FEATURES READY FOR CONTROLLER INSTALLATION AS REQUIRED:

ALL CABINETS SHALL BE FURNISHED WITH 2 REMOVABLE SHELVES MOUNTED ON ADJUSTABLE CHANNELS. ALL MOUNTING HARDWARE SHALL BE INCLUDED.

THE CABINET SHALL HAVE A NATURAL ALUMINUM FINISH AND WHITE INSIDE.

A DOOR ALARM/LIGHT SWITCH SHALL BE FURNISHED AND INSTALLED IN THE CABINET. A 25W INCANDESCENT LAMP SHALL BE FURNISHED AND INSTALLED WITH A 14 INCH MINIMUM FLEXIBLE ARM TO ILLUMINATE THE FIELD TERMINALS. THE LAMP SHALL BE WIRED TO EITHER AN ON/OFF TOGGLE SWITCH MOUNTED ON THE POWER PANEL OR TO A DOOR-ACTIVATED SWITCH MOUNTED NEAR THE TOP OF THE DOOR.

THE CABINET SHALL BE FURNISHED WITH LOAD SWITCHES TO ALLOW FOR MAXIMUM PHASE UTILIZATION FOR WHICH THE CABINET IS DESIGNED. ALL LOAD SWITCHES SHALL BE SUPPORTED BY A BRACKET EXTENDING AT LEAST HALF THE LENGTH OF THE LOAD SWITCH. ALL LOAD SWITCHES SHALL BE SUPPLIED WITH INPUT AND OUTPUT LED INDICATORS MOUNTED ON THE FRONT PANEL.

ALL CONTROLLER AND MALFUNCTION MANAGEMENT UNIT CABLES SHALL BE OF SUFFICIENT LENGTH TO ALLOW THE UNITS TO BE PLACED ON EITHER SHELF OR ON THE TOP OF THE CABINET IN THE OPERATING MODE. CONNECTING CABLES SHALL BE SLEEVED IN A BRAIDED NYLON MESH. THE USE OF EXPOSED TIE-WRAPS OR INTERWOVEN CABLES IS UNACCEPTABLE.

THE CABINET SHALL BE EQUIPPED WITH ENOUGH RELAYS TO ALLOW FOR MAXIMUM PHASE UTILIZATION FOR WHICH THE CABINET IS DESIGNED.

THE CABINET SHALL BE EQUIPPED WITH A MOMENTARY PUSHBUTTON CONTACT SWITCH FOR SUBSTITUTING MANUAL OPERATION OF INTERNAL TIMING FOR AUTOMATIC INTERVAL TIMING. THE SWITCH IS TO BE MOUNTED ON A 5-FOOT MINIMUM FLEXIBLE WEATHERPROOF EXTENSION CORD IN ACCORDANCE WITH ITEM 733.04 (10).

DETECTOR TEST SWITCHES SHALL BE PROVIDED FOR EACH VEHICULAR PHASE. THE SWITCHES SHALL BE CAPABLE OF PLACING MANUAL CALLS INTO THE CONTROLLER DURING ACTIVATED OPERATION.

THE CABINETS SHALL BE OF A DOOR IN DOOR TYPE WITH A #1 KEY FOR THE POLICE DOOR AND A CORBIN TYPE TUMBLE LOCK KEYED FOR A #2 KEY ON THE MAIN DOOR. A RESEALABLE POUCH SHALL BE SECURELY MOUNTED TO THE INSIDE DOOR OF THE CABINET AND SHALL BE SUFFICIENT TO ACCOMMODATE ONE COMPLETE SET OF WIRING, SIGNAL, AND TIMING PLANS.

THE EIGHT (8) PHASE (12 POSITION) CABINETS SHALL BE GROUND MOUNTED AS SPECIFIED IN THE PLANS AND FURNISHED WITH GROUND MOUNTING HARDWARE. THE CABINET SHALL BE EQUIPPED WITH TWELVE (12) LOAD SWITCH SOCKETS, SIX (6) FLASH TRANSFER RELAY SOCKETS, ONE FLASHER SOCKET, AND ONE TYPE 16 MALFUNCTION MANAGEMENT UNIT, AS A MINIMUM.

ITEM 633 CABINET FOUNDATIONS, AS PER PLAN
CONSTRUCT FOUNDATIONS FOR CONTROLLER CABINETS ACCORDING TO ODOT ITEM 632.14, EXCEPT THAT EXCAVATION BY EARTH AUGER IS NOT REQUIRED AND THE FOUNDATION MAY BE MASS CONCRETE THAT DOES NOT REQUIRE REINFORCING STEEL.

ITEM 633 CONTROLLER WORK PAD, AS PER PLAN
CONSTRUCT CONTROLLER WORK PAD SEPARATELY FROM CABINET FOUNDATIONS AND ACCORDING TO ODOT ITEM 608.03, EXCEPT THAT THE TRANSVERSE JOINTS ARE NOT REQUIRED.

CONTROLLER AND CABINET TESTING:
THE CONTRACTOR SHALL PERFORM BENCH TESTING OF THE COMPONENTS OF THIS SECTION ON THE CONTROLLER CABINET. TESTING OF THE MMU AND TBC/COORDINATION FEATURES SHALL BE DONE BEFORE CONTROLLER EQUIPMENT IS INSTALLED IN THE FIELD. SOFTWARE AND FIRMWARE SHALL BE LOADED ON THE SYSTEM/CONTROLLER AND CHECKED FOR CORRECT OPERATION OF TIMING PLANS, PHASING SCHEMES, PRE-EMPTS AND INTERCONNECTED OPERATION. THE SUCCESSFUL TESTING SHALL BE DEMONSTRATED TO THE ENGINEER PRIOR TO INSTALLATION IF REQUESTED.

TESTING OF COMPONENTS BY THE CONTRACTOR FOR PROPER OPERATION SHALL INCLUDE THE FOLLOWING MINIMUM REQUIREMENTS:

TERMINAL SCREWS TIGHTENED
CORRECT TERMINAL JUMPERS
FAN & THERMOSTAT OPERATION
DOOR CLOSER SWITCH OPERATION
FORCE A CONFLICT BY HARDWIRE TO VERIFY STOP TIMING AND CONFLICT INDICATION, DO FOR ALL PHASE COMBINATIONS
GFI RECEPTACLE TEST
POLICE PANEL OPERATION
MAINTENANCE PANEL OPERATION
DETECTORS
TEST FOR OPERATION ON MINIMUM RECALL, MAXIMUM RECALL AND NO CALL SHELVES, MOUNTING
ALL PANELS, MOUNTING
PROPER FLASH SEQUENCE
AUXILIARY EQUIPMENT OPERATION
CABINET LAMP
SIGNAL OUTPUTS ARE TO BE TESTED WHILE CONNECTED TO A MINIMUM 60-WATT LOAD ON EACH SIGNAL INDICATION
ATSI MMU TEST

THE TEST RESULTS ARE TO BE LOGGED AND FURNISHED THE ENGINEER

THE CONTRACTOR, IN CASE OF MINOR PROBLEMS, SHALL MAKE NECESSARY REPAIRS/CORRECTIONS. (MAJOR PROBLEMS SHALL BE IMMEDIATELY REFERRED TO THE PRIME VENDOR WHO SHOULD BE RESPONSIBLE FOR RESOLVING ANY EQUIPMENT PROBLEM). THE ENGINEER SHALL ALSO BE NOTIFIED OF ANY PROBLEMS. THE CONTROLLER IS TO OPERATE, WITHOUT THE APPEARANCE OF PROBLEMS, ON MINIMUM RECALL OF ALL MINOR PHASES FOR 48 HOURS WITH FULL LOAD ON EACH OUTPUT. (NOTE THAT TESTING ALSO REQUIRES OPERATION WITH DETECTORS IN A NO CALL AND CALL TO MAXIMUM CONFIGURATION).

A WRITTEN REPORT STATING THE CABINET INTERSECTION NUMBER, DATE AND TIME OF TEST, SIGNED OFF BY THE TECHNICIAN WHO PERFORMED THE TESTS, SHALL BE SUBMITTED TO THE ENGINEER UPON SUCCESSFUL COMPLETION OF THE ABOVE TESTS.

THE CONTROLLER AND ALL RELATED COMPONENTS SHALL BE IN PERFECT WORKING ORDER AND READY FOR INSTALLATION/OPERATION AT THE SPECIFIED INTERSECTION AS A RESULT OF THE WORK DESCRIBED IN THIS ITEM. THE COST FOR THE CONTROLLER AND CABINET TESTING SHALL BE INCLUDED IN THE PRICE OF THE CONTROLLER FURNISHED COMPLETE.

DOCUMENTATION - TWO (2) COMPLETE SETS OF DOCUMENTATION SHALL BE FURNISHED WITH EACH CABINET FOR EACH UNIT OF EQUIPMENT THAT INCLUDES THE FOLLOWING MATERIAL:

USER MANUALS

DEVICE PROGRAMMING MANUALS

WIRING DIAGRAMS AND PARTS LISTS WHICH SHOW BOTH THE MANUFACTURERS PART NUMBER AND THE GENERIC EQUIVALENT PART OF REFERENCE NUMBER AND DESCRIPTION TO ALLOW FOR PURCHASE AT A LOCAL ELECTRONIC SUPPLY HOUSE.

INSTALLATION AND DIAGNOSTIC MANUALS

SOFTWARE OR FIRMWARE UPDATES SHALL BE ACCOMPANIED BY COMPLETE DOCUMENTATION THAT REFERENCES AN UPGRADE VERSION, PROVIDES A LIST OF IMPROVED CAPABILITIES WITH THE UPGRADE, AND PROVIDES A LIST OF PROBLEMS RESOLVED WITH THE UPGRADE (IF APPLICABLE). ALL FUNCTIONS, FEATURES, AND CAPABILITIES NOT ADDRESSED SHALL OPERATE AS INTENDED BEFORE THE UPGRADE WAS IMPLEMENTED.

PAYMENT WILL BE MADE AT THE CONTRACT UNIT PRICE BID PER EACH INCLUDING TESTING, TRAINING, AND DOCUMENTATION OF ITEM 633 CONTROLLER UNIT, WITH CABINET, TYPE TS1, AS PER PLAN, COMPLETE.

**NOTES APPLY TO ALL
SIGNALS IN THIS PROJECT
UNLESS OTHERWISE NOTED.**

ALLEN COUNTY ENGINEER BRION E. RHODES, P.E., P.S.			
TRAFFIC SIGNAL GENERAL NOTES			
BUCKEYE ROAD IMPROVEMENT PROJECT (TRAFFIC SIGNAL IMPROVEMENTS)			
<small>SECTION 11, 14S, R6E, SHAWNEE TOWNSHIP, ALLEN COUNTY, OHIO SECTION 12, 14S, R6E, SHAWNEE TOWNSHIP, ALLEN COUNTY, OHIO</small>			
<small>DRAWN BY:</small> Z.J.G.	<small>CHECKED BY:</small> D.R.L.	<small>DESIGNED BY:</small>	<small>DATE:</small> 1-28-2020

BUCKEYE ROAD IMPROVEMENT PROJECT	OHIO	5 12
	FHWA REGION 5	
ALLEN COUNTY, OHIO	FEDERAL PROJECT	

ITEM 633 UNINTERRUPTIBLE POWER SUPPLY, (UPS), AS PER PLAN

THE UPS UNIT PROVIDED SHALL BE AN ALPHA BATTERY BACKUP SYSTEM (BBS) AND HAVE THE FOLLOWING FEATURES AND CAPABILITIES:

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING A BATTERY BACKUP UPS SYSTEM TO PROVIDE UNINTERRUPTIBLE, RELIABLE, EMERGENCY POWER TO A TRAFFIC SIGNAL INTERSECTION IN THE EVENT OF A POWER FAILURE OR INTERRUPTION. THE TRANSFER FROM UTILITY POWER TO BATTERY POWER SHALL NOT INTERFERE WITH THE NORMAL OPERATIONS OF THE TRAFFIC CONTROLLER, CONFLICT MONITOR OR ANY OTHER PERIPHERAL DEVICES WITHIN THE TRAFFIC CONTROL SYSTEM. THE SYSTEM SHALL BE SELF-CONTAINED INCLUDING ALL UPS HARDWARE, THE REQUIRED NUMBER OF BATTERIES AND ITS OWN SEPARATE VENTILATED ENCLOSURE.

I. OPERATION

1. THE BBS SHALL PROVIDE A MINIMUM TWO AND ONE HALF (2.5) HOURS OF FULL RUN-TIME OPERATION FOR AN "LED-ONLY" INTERSECTION WITH 1000 WATTS OF ACTIVE OUTPUT POWER.
2. BBS SHALL BE COMPATIBLE WITH ALL OF THE FOLLOWING TRAFFIC SIGNAL EQUIPMENT; MODEL NEMA TS1 CABINETS, EPAC M60 CONTROLLERS AND ELECTRICAL SERVICE PEDESTALS.
3. INCLUDE AN AUTOMATIC TRANSFER SWITCH (ATS), SEPARATE FROM THE UPS TO CONNECT UPS POWER WHEN THE UTILITY LINE IS UNQUALIFIED. THE ATS WILL ALSO ALLOW FOR HOT SWAPPING OF THE UPS.
4. INCLUDE A MEANS TO SWITCH THE INTERSECTION FROM FULL-OPERATION TO FLASHING OPERATION AFTER 2-HOURS OF RUN-TIME. THIS IS TO CONSERVE BATTERY OPERATION DURING AN EXTENDED UTILITY POWER OUTAGE.
5. INCLUDE STANDARD FORM C RELAY CONTACTS TO TRIGGER AN ALARM WITHIN THE CONTROLLER ASSEMBLY, INFORMING A TECHNICIAN THE SYSTEM IS OPERATING ON BATTERY BACK UP.
6. OPERATING TEMPERATURE FOR BOTH THE INVERTER MODULE AND THE COMBINED 30A AUTOMATIC TRANSFER RELAY AND MANUAL BYPASS SWITCH SHALL BE -37°C TO +74°C.
7. THE 30A AUTOMATIC TRANSFER RELAY AND MANUAL BYPASS SWITCH SHALL BE RATED AT 240VAC/30 AMPS, MINIMUM.
8. BBS SHALL BYPASS THE UTILITY LINE POWER WHENEVER THE UTILITY LINE VOLTAGE IS OUTSIDE OF THE FOLLOWING VOLTAGE RANGE: 100 VAC TO 130 VAC ±2VAC).
9. WHEN UTILIZING BATTERY POWER, THE BBS OUTPUT VOLTAGE SHALL BE BETWEEN 110 VAC AND 125 VAC, PURE SINE WAVE OUTPUT, 60HZ ±3HZ.
10. WHEN THE UTILITY LINE POWER HAS BEEN RESTORED BETWEEN 100 VAC AND 130 VAC FOR MORE THAN 30 SECONDS, THE BBS SHALL DROPOUT OF BATTERY BACKUP MODE AN RETURN TO UTILITY LINE MODE.
11. IN THE EVENT OF INVERTER FAILURE, BATTERY FAILURE OR COMPLETE BATTERY DISCHARGE, THE 30A AUTOMATIC TRANSFER RELAY SHALL REVERT TO THE NORMAL STATE, WHERE UTILITY LINE POWER IS RECONNECTED TO THE CABINET.
12. RECHARGE TIME FOR THE BATTERY, FROM "PROTECTIVE LOW-CUTOFF" TO 80% OR MORE OF FULL BATTERY CHARGE CAPACITY, SHALL NOT EXCEED 10 HOURS.
13. ALL NECESSARY WIRING AND HARDWARE FOR MOUNTING (SHELF ANGLES, RACK, ETC) SHALL BE INCLUDED.

II. MAINTENANCE, DISPLAYS, CONTROLS AND DIAGNOSTICS

1. THE BBS SHALL INCLUDE A DISPLAY AND/OR METER TO INDICATE CURRENT BATTERY CHARGE STATUS AND CONDITIONS.
2. THE BBS SHALL HAVE LIGHTNING SURGE PROTECTION COMPLIANT WITH IEEE/ANSI C.62.41.
3. THE BBS SHALL INCLUDE A RESETTABLE FRONT-PANEL EVENT COUNTER DISPLAY TO INDICATE THE NUMBER OF TIMES THE BBS WAS ACTIVATED AND A FRONT-PANEL HOUR METER TO DISPLAY THE TOTAL NUMBER OF HOURS THE UNIT HAS OPERATED ON BATTERY POWER. BOTH METERS SHOULD BE RESETTABLE.
4. MANUFACTURER SHALL INCLUDE TWO (2) SETS OF EQUIPMENT LISTS, OPERATION AND MAINTENANCE MANUALS, AND BOARD-LEVEL SCHEMATIC AND WIRING DIAGRAMS OF THE BBS, AND THE BATTERY DATA SHEETS.

ITEM 633 UNINTERRUPTIBLE POWER SUPPLY, (UPS), AS PER PLAN (CONTINUED)

III. BATTERY SYSTEM

1. MINIMUM FOUR (4) BATTERIES SHALL BE SUPPLIED WITH THE UPS SYSTEM. EACH BATTERY SHALL BE 12VDC AND BE RATED AT 105 AHRS, OR APPROVED EQUAL TO ACHIEVE THE (2.5) HOUR RUN TIME REQUIREMENT. BATTERIES SHALL BE EASILY REPLACED AND COMMERCIALY AVAILABLE OFF THE SHELF.
2. BATTERIES SHALL BE DEEP CYCLE, GEL BATTERIES.
3. BATTERIES SHALL BE CERTIFIED BY THE MANUFACTURER TO OPERATE OVER A TEMPERATURE RANGE OF - 25°C TO +74°C.
4. ALL BATTERIES SHALL BE PLACED ON BATTERY HEATER MATS IN THE ENCLOSURE. THE BATTERY HEATER MATS ARE DESIGNED TO EXTEND THE LIFE OF THE BATTERIES.
5. AN INTEGRAL SYSTEM SHALL PREVENT THE BATTERY FROM DESTRUCTIVE DISCHARGE AND OVERCHARGE. BATTERIES SHALL NOT BE RECHARGED WHEN BATTERY TEMPERATURE EXCEEDS 50°C±3°C.
6. AN ALPHA BATTERY BALANCER, OR APPROVED EQUAL FOR THE BBS, SHALL BE PROVIDED AND INSTALLED.

IV. ENCLOSURE

1. THE ENCLOSURE SHALL MATCH AND BE MOUNTABLE TO A STANDARD MODEL NEMA TS1 TRAFFIC SIGNAL CABINET AND BE CONSTRUCTED OF NATURAL UNPAINTED ALUMINUM. THE CABINET SIZE SHALL BE ADEQUATE TO HOUSE "ALL THE UPS EQUIPMENT" INCLUDING THE CONTROLLER UNIT, MANUAL BYPASS SWITCH AND 4 BATTERIES. THE ENCLOSURE SHALL BE KEYED TO THE COUNTY MASTER #2 LOCK AND INCLUDE 2 KEYS.
2. THE ENCLOSURE SHALL INCLUDE A VENT, FAN AND THERMOSTAT AS PER TEES CHAPTER 7, SECTION 2-HOUSINGS.
3. SLIDE-OUT BATTERY TRAYS SHALL BE PROVIDED FOR EASY REMOVAL AND REPLACEMENT OF THE BATTERIES. THE TRAYS SHALL BE LOCKABLE IN PLACE TO AVOID UNNECESSARY SLIDE OUTS.

V. WARRANTY

MANUFACTURERS SHALL PROVIDE A TWO (2) YEAR FACTORY-REPAIR WARRANTY FOR PARTS AND LABOR ON THE BBS FROM DATE OF ACCEPTANCE BY THE COUNTY. BATTERIES SHALL BE WARRANTED FOR FULL REPLACEMENT FOR FIVE (5) YEARS FROM DATE OF PURCHASE.

VI. PAYMENT

PAYMENT FOR 633 UNINTERRUPTIBLE POWER SUPPLY (UPS), AS PER PLAN SHALL BE MADE AT THE CONTRACT PRICE BID, EACH. PAYMENT SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, TOOLS, EQUIPMENT, TESTING, CERTIFICATIONS AND OTHER INCIDENTALS NECESSARY TO FURNISH THE UPS COMPLETE IN PLACE, INCLUDING ALL CONNECTIONS MADE, WIRING COMPLETE, TESTED AND ACCEPTED.

INSPECTION-ALLEN COUNTY SIGNALS

FOLLOWING COMPLETION OF THE SIGNAL WORK, THE CONTRACTOR SHALL REQUEST APPROVAL OF THE COUNTY ENGINEER TO PLACE THE SIGNAL IN FLASH MODE. AFTER RECEIVING APPROVAL, THE CONTRACTOR SHALL PLACE THE SIGNAL IN OPERATION. THE COUNTY ENGINEER WILL CONDUCT AN OPERATIONAL AND ELECTRICAL INSPECTION OF THE TRAFFIC SIGNAL. ANY DEFICIENCIES OF AN OPERATIONALLY CRITICAL NATURE SHALL BE CORRECTED BY THE CONTRACTOR PRIOR TO PLACING THE SIGNAL IN "STOP-AND-GO" OPERATION. THE SIGNAL SHALL THEN BE SUBJECT TO A TEN (10) DAY BURN TEST 633.06.

GUARANTEE

THE CONTRACTOR SHALL GUARANTEE THAT THE TRAFFIC CONTROL SYSTEM INSTALLED AS PART OF THIS CONTRACT SHALL OPERATE SATISFACTORILY FOR A PERIOD OF 120 DAYS FOLLOWING COMPLETION OF THE 10-DAY PERFORMANCE TEST. IN THE EVENT OF UNSATISFACTORY OPERATION THE CONTRACTOR SHALL CORRECT FAULTY INSTALLATIONS, MAKE REPAIRS AND REPLACE DEFECTIVE PARTS WITH NEW PARTS OF EQUAL OR BETTER QUALITY. EQUIPMENT, MATERIAL AND LABOR COSTS INCURRED IN CORRECTING AN UNSATISFACTORY OPERATION SHALL BE BORNE BY THE CONTRACTOR.

THE GUARANTEE SHALL COVER THE FOLLOWING ITEMS OF THE TRAFFIC CONTROL SYSTEM: CONTROLLERS AND ASSOCIATED EQUIPMENT, DETECTOR UNITS, INTERCONNECTION ITEMS, UPS SYSTEM, VIDEO DETECTION SYSTEM AND ALL LED TRAFFIC SIGNAL LAMPS.

CUSTOMARY MANUFACTURER'S GUARANTEES FOR THE FOREGOING ITEMS SHALL BE TURNED OVER TO THE COUNTY FOLLOWING ACCEPTANCE OF THE EQUIPMENT.

THE COST OF GUARANTEEING THE TRAFFIC CONTROL SYSTEM WILL BE INCIDENTAL TO AND INCLUDED IN THE CONTRACT UNIT PRICE OF THE VARIOUS ITEMS MAKING UP THE SYSTEM.

NEW SIGNAL ACTIVATION

ALL NECESSARY SIGNS AND FLAGS, FOR NEW SIGNAL ACTIVATION REQUIRED SHALL BE FURNISHED, INSTALLED, MAINTAINED, AND REMOVED BY THE CONTRACTOR.

INSTALLATION

THE CONTRACTOR PERFORMING THE INSTALLATION OF THE TRAFFIC SIGNAL SHALL CONFORM TO REQUIREMENT OF ODOT ITEM 632.02 CONTRACTOR PERSONNEL REQUIREMENTS" AND COVERED IN ODOT SUPPLEMENTAL SPECIFICATION 1063.

ESTIMATED QUANTITIES

IF IT BECOMES NECESSARY TO MODIFY THE PLANS TO COMPLETE THE INSTALLATION OF CONDUIT RUNS, THE FOLLOWING QUANTITIES MAY BE USED AS DIRECTED BY THE ENGINEER AND HAVE BEEN CARRIED TO THE TRAFFIC SIGNALIZATION GENERAL SUMMARY ON SHEET 6/12.

- 625 1 EACH PULL BOX, 24", 725.08
- 625 10 FEET TRENCH
- 625 10 FEET CONDUIT, 3", 725.05
- 632 25 FEET SIGNAL CABLE, 9/C #14 AWG
- 632 25 FEET SIGNAL CABLE, 5/C #14 AWG
- 632 25 FEET POWER CABLE, 2/C #6 AWG

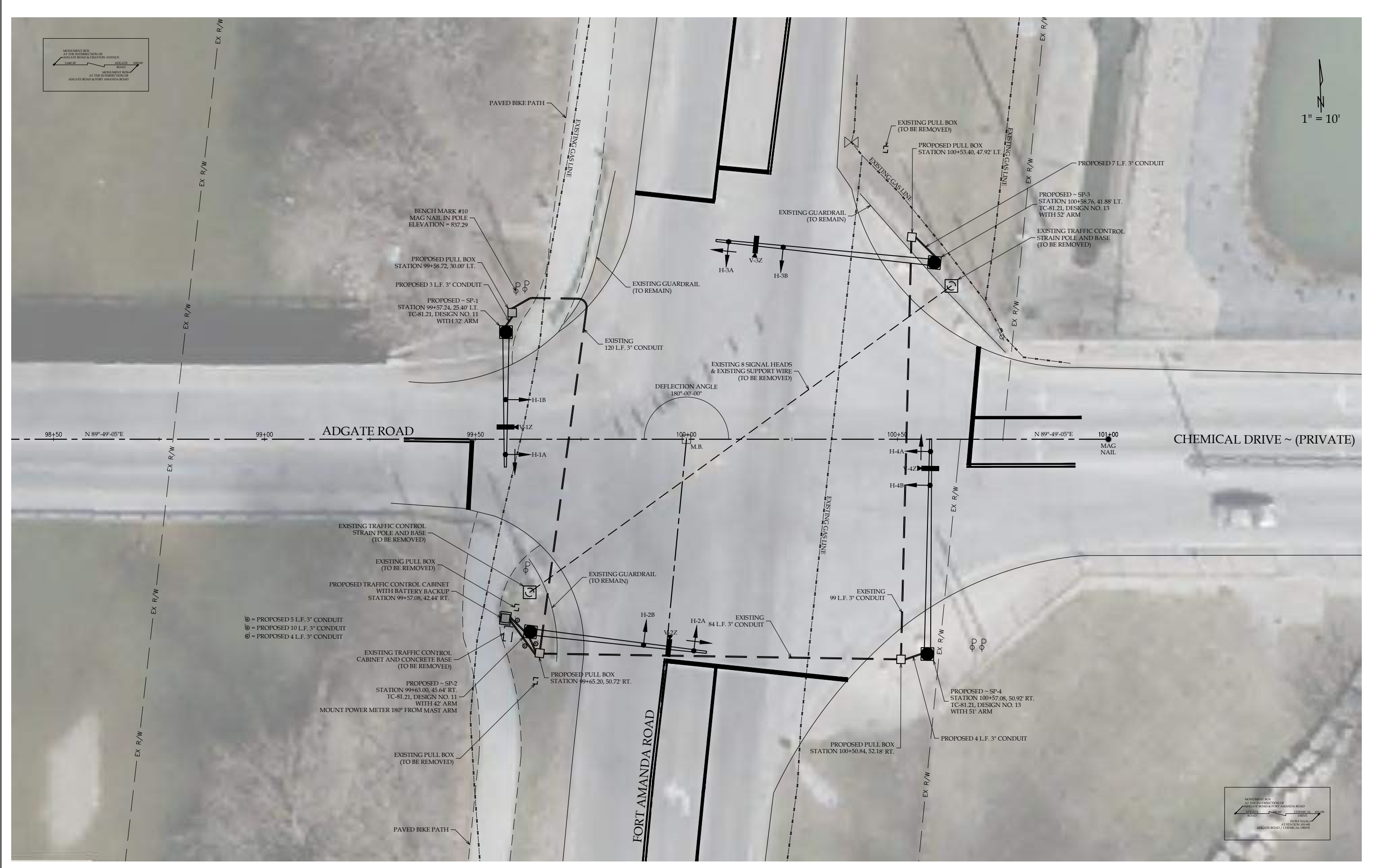
ESTIMATED QUANTITIES SHALL NOT BE ORDERED FOR DELIVERY TO THE PROJECT UNLESS AUTHORIZED BY THE ENGINEER.

ITEM 659 SEEDING AND MULCHING, AS PER PLAN

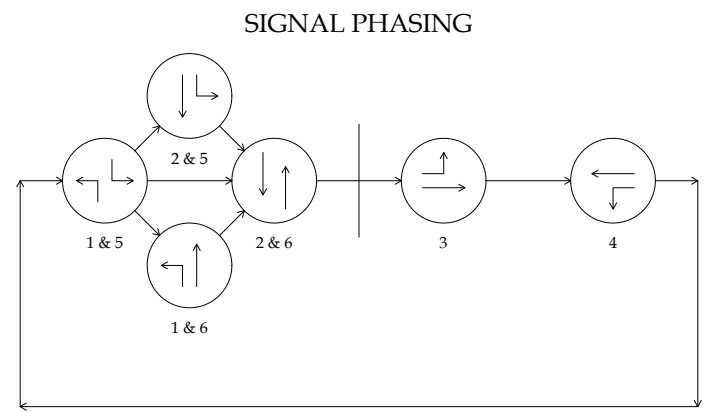
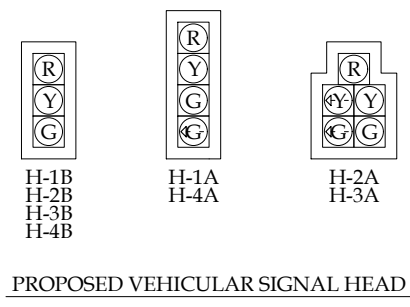
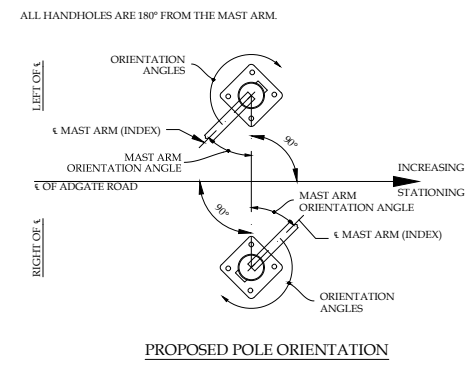
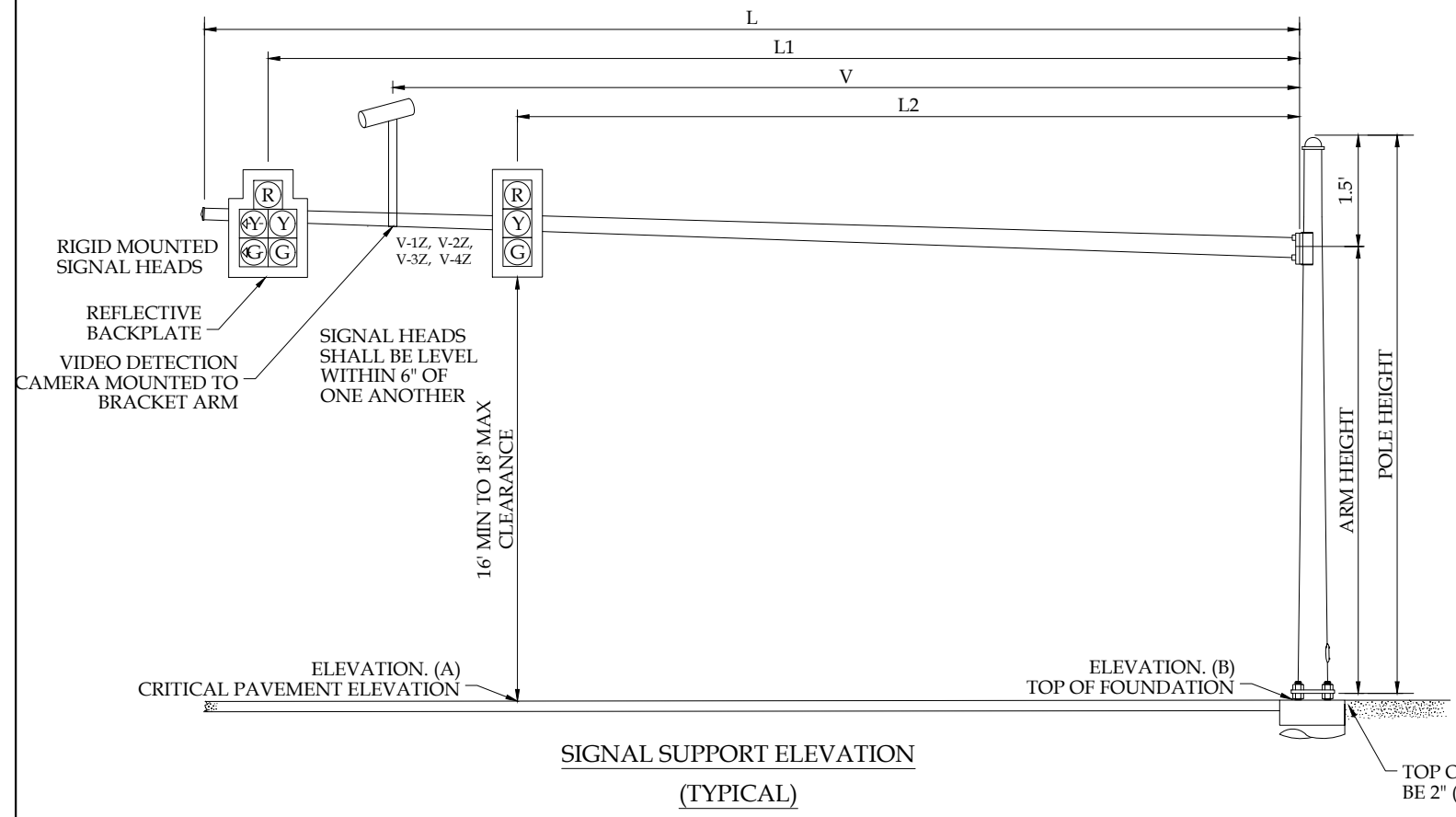
CLASS 1 LAWN MIXTURE AS DESCRIBED IN SECTION 659.09 OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, CONSTRUCTION AND MATERIALS SPECIFICATIONS SHALL BE USED IN ALL AREAS WHERE SEEDING IS REQUIRED. THE SEEDING LIMITS ARE THE TREE LAWN AREA BETWEEN THE SIDEWALK AND CURB AND OTHER AREAS AS SHOWN ON THE PLANS OR AS DESIGNATED BY THE ENGINEER. ALL MATERIALS AND LABOR NECESSARY TO COMPLETE THE ABOVE WORK SHALL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 659 SEEDING AND MULCHING, AS PER PLAN.

**NOTES APPLY TO ALL
SIGNALS IN THIS PROJECT
UNLESS OTHERWISE NOTED.**

ALLEN COUNTY ENGINEER BRION E. RHODES, P.E., P.S.			
TRAFFIC SIGNAL GENERAL NOTES			
BUCKEYE ROAD IMPROVEMENT PROJECT (TRAFFIC SIGNAL IMPROVEMENTS)			
<small>SECTION 11, 14S, R6E, SHAWNEE TOWNSHIP, ALLEN COUNTY, OHIO SECTION 12, 14S, R6E, SHAWNEE TOWNSHIP, ALLEN COUNTY, OHIO</small>			
<small>DRAWN BY:</small> Z.J.G.	<small>CHECKED BY:</small> D.R.L.	<small>DESIGNED BY:</small>	<small>DATE:</small> 1-28-2020



BUCKEYE ROAD RECONSTRUCTION PROJECT ~ ADGATE ROAD & FORT AMANDA ROAD ~ TRAFFIC CONTROL SIGNAL PLAN



TRAFFIC SIGNAL CONTROLLER TIMING CHART
INTERSECTION: FORT AMANDA ROAD & ADGATE ROAD

START UP: START IN: V/R FLASH: ALL RED: TIME FOR FLASH OR ALL RED: FIRST PHASES: COLOR DISPLAY: GREEN: YELLOW:

DUAL ENTRY: RING 1: RING 2: OVERLAP: PHASES:

INTERVAL OR FEATURE	Ø 1	Ø 2	Ø 3	Ø 4	Ø 5	Ø 6
INTERSECTION MOVEMENT	↖	↓	↗	↘	↙	↑
MINIMUM GREEN (INITIAL) (SECONDS)	8	12	9	8	8	12
PASSAGE TIME (SECONDS)	3.0	3.5	3.0	3.0	3.0	3.5
MINIMUM GAP (SECONDS)	2.1	2.7	2.3	2.3	2.1	2.1
MAXIMUM GREEN I (SECONDS)	20	40	25	25	20	40
MAXIMUM GREEN II (SECONDS)	—	15	10	10	—	15
YELLOW CHANGE (SECONDS)	4.0	4.5	4.2	4.2	4.0	4.5
ALL RED CLEARANCE (SECONDS)	1.0	1.5	1.5	1.5	1.0	1.5
INITIALIZE	01	04	01	01	01	04
NON LOCKING	01	—	—	—	01	—
V CALL / RECALL	—	02	—	—	—	02
NEXT PHASE	02	03	04	01	06	07
BARRIERS	0	01	0	01	0	01
RECALL	MINIMUM (YES/NO)	---	---	---	---	---
	MAXIMUM (YES/NO)	---	---	---	---	---

SIGNAL SUPPORT ELEVATION
(TYPICAL)

TOP OF SIGNAL SUPPORT FOUNDATIONS SHALL BE 2" (±1") ABOVE GRADE PER TC-21.20

REFERENCE NUMBER	ITEM NUMBER	DESCRIPTION	QUANTITY	UNIT
1	614	MAINTAINING TRAFFIC, AS PER PLAN	1	LUMP
2	625	PULLBOX, 725.08, 24"	4	EACH
3	625	CONDUIT 3", 725.052	25	L.F.
4	625	TRENCH 24" DEEP, AS PER PLAN	25	L.F.
6	625	GROUND ROD, AS PER PLAN	5	EACH
7	632	VEHICULAR SIGNAL HEAD W/ BACKPLATE AND LED LAMP UNITS, 5-SECTION, 12" LENS, 1-WAY, AS PER PLAN	2	EACH
8	632	VEHICULAR SIGNAL HEAD W/ BACKPLATE AND LED LAMP UNITS, 4-SECTION, 12" LENS, 1-WAY, AS PER PLAN	2	EACH
9	632	VEHICULAR SIGNAL HEAD W/ BACKPLATE AND LED LAMP UNITS, 3-SECTION, 12" LENS, 1-WAY, AS PER PLAN	4	EACH
10	632	SIGNAL SUPPORT FOUNDATION, AS PER PLAN	4	EACH
11	632	SIGNAL SUPPORT, TYPE TC-81.21 DESIGN 11, AS PER PLAN	2	EACH
13	632	SIGNAL SUPPORT, TYPE TC-81.21 DESIGN 13, AS PER PLAN	2	EACH
14	632	CONDUIT RISER, 3" DIAMETER	1	EACH
15	632	SIGNAL CABLE, 9-CONDUCTOR, NO. 14 AWG	500	L.F.
16	632	SIGNAL CABLE, 5-CONDUCTOR, NO. 14 AWG	100	L.F.
17	632	POWER CABLE, 2-CONDUCTOR, NO. 6 AWG	75	L.F.
18	632	POWER SERVICE, AS PER PLAN	1	EACH
19	632	COVERING OF VEHICULAR SIGNAL HEAD	8	EACH
20	632	REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN	1	EACH
21	633	CONTROLLER UNIT WITH CABINET, TYPE TSI, AS PER PLAN	1	EACH
22	633	CABINET FOUNDATION, AS PER PLAN	1	EACH
23	633	CONTROLLER WORK PAD, AS PER PLAN	1	EACH
24	633	UNINTERRUPTIBLE POWER SUPPLY, (UPS), AS PER PLAN	1	EACH
25	653	TOPSOIL FURNISHED AND PLACED	4	C.Y.
26	659	SEEDING AND MULCHING	35	S.Y.
27	816	VIDEO DETECTION SYSTEM, AS PER PLAN	1	EACH

SUPPORT NO.	ELEVATION		SIGNAL SUPPORT DETAILS							
	A	B	DESIGN TYPE	DESIGN NO.	POLE HEIGHT	ARM HEIGHT	L	L1	V	L2
1	837.96'	836.36'	TC-81.21	11	23	21.5	32	29	22.5	16
2	838.16'	837.20'	TC-81.21	11	21.5	20	42	39	33	27
3	838.08'	837.36'	TC-81.21	13	21.5	20	52	49	42.5	36
4	838.44'	835.76'	TC-81.21	13	23	21.5	51	48	44	40

SIGNAL CONNECTION CHART

SIGNAL	G	Y	R	4G	4Y
H-3A & H-3B	6G	6Y	6R		
H-3A			1R	1G	1Y
H-4A & H-4B	3G	3Y	3R	3G	
H-2A & H-2B	2G	2Y	2R		
H-2A			5R	5G	5Y
H-1A & H-1B	4G	4Y	4R	4G	

CAMERA DETECTOR UNIT SUMMARY

CAMERA	CONNECT TO PHASE	PRESENCE OR PULSE	LOCK OR NON-LOCK
V-3Z	1	PRESENCE	LOCK
V-4Z	3	PRESENCE	LOCK
V-2Z	5	PRESENCE	LOCK
V-1Z	7	PRESENCE	LOCK

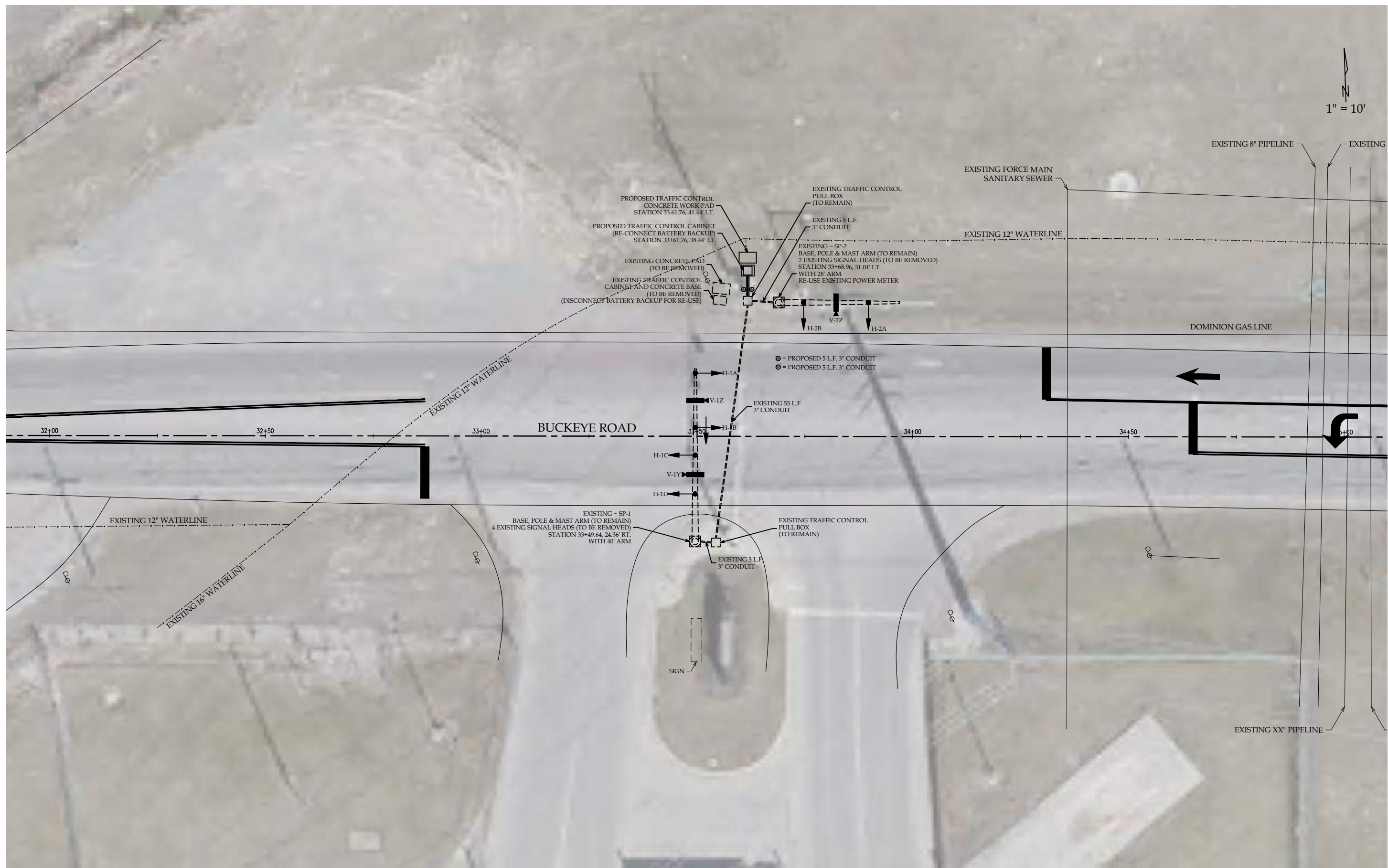
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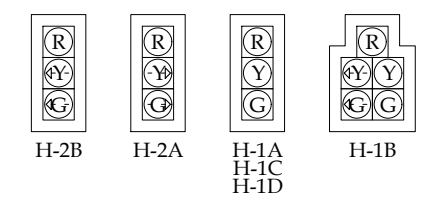
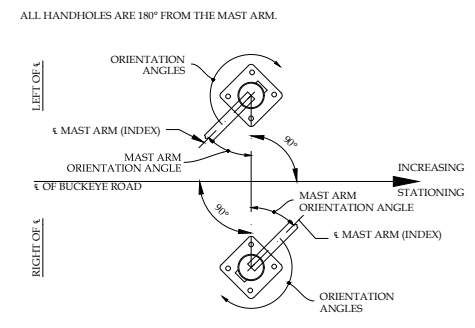
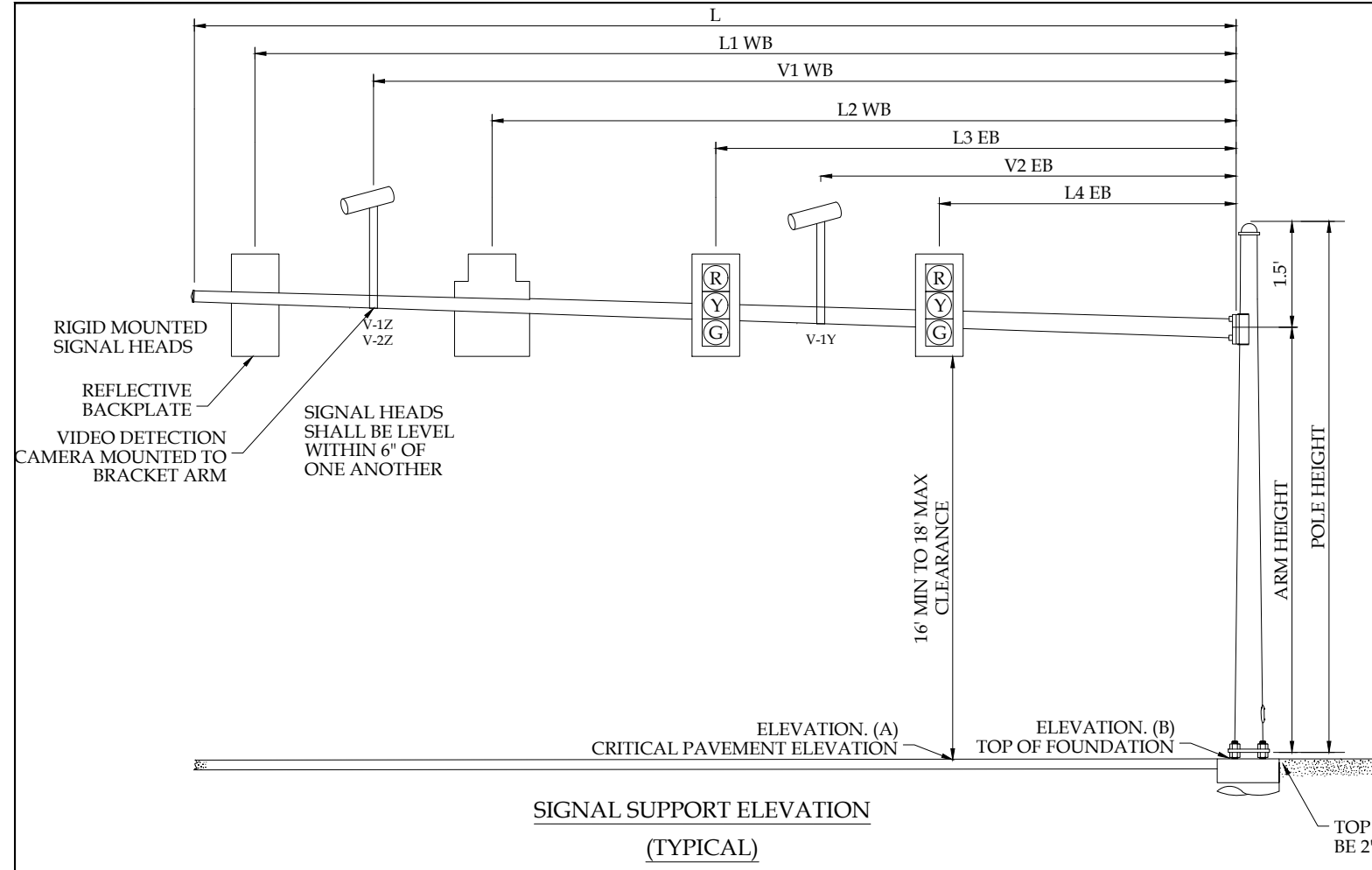
TRAFFIC SIGNAL DETAILS

FORT AMANDA ROAD & ADGATE ROAD
TRAFFIC SIGNAL REPLACEMENT

DRAWN BY: CHECKED BY: DESIGNED BY: DATE:



BUCKEYE ROAD RECONSTRUCTION PROJECT ~ BUCKEYE ROAD @ TANK PLANT (J.M.S.C.) ~ TRAFFIC CONTROL SIGNAL PLAN



SIGNAL CONNECTION CHART

SIGNAL	G	Y	R	4G	4Y
H-1A, H-1B, H-1C & H-1D	2G	2Y	2R		
H-1B			1R	1G	1Y
H-2A & H-2B			3R	3G	3Y

CAMERA DETECTOR UNIT SUMMARY

CAMERA	CONNECT TO PHASE	PRESENCE OR PULSE	LOCK OR NON-LOCK
V-1Z	1	PRESENCE	LOCK
V-2Z	3	PRESENCE	LOCK
V-1Y	2	PRESENCE	LOCK

TRAFFIC SIGNAL CONTROLLER TIMING CHART
INTERSECTION: BUCKEYE ROAD @ J.S.M.C. (TANK PLANT)

START UP: V/R FLASH ; ALL RED
 TIME FOR FLASH OR ALL RED: 2
 FIRST PHASES: #2 & #6
 COLOR DISPLAY: GREEN YELLOW

DUEL ENTRY:
 REST IN RED: RING 1 ; RING 2
 OVERLAP: A B C D
 PHASES:

--	--	--	--

INTERVAL OR FEATURE	CONTROLLER MOVEMENT NUMBER		
	Ø 1	Ø 2	Ø 3
INTERSECTION MOVEMENT	↶	↓	↷
MINIMUM GREEN (INITIAL) (SECONDS)	10	12	10
PASSAGE TIME (SECONDS)	5.0	6.0	4.5
MINIMUM GAP (SECONDS)	2.1	3.6	2.1
MAXIMUM GREEN I (SECONDS)	30	45	45
MAXIMUM GREEN II (SECONDS)	30	45	45
YELLOW CHANGE (SECONDS)	4.5	5.0	4.0
ALL RED CLEARANCE (SECONDS)	2.0	2.0	1.0
INITIALIZE	01	04	01
NON LOCKING	—	—	—
V CALL / RECALL	—	02	—
NEXT PHASE	02	03	01
BARRIERS	—	—	—
RECALL	MINIMUM (YES/NO)	-	-
	MAXIMUM (YES/NO)	-	-

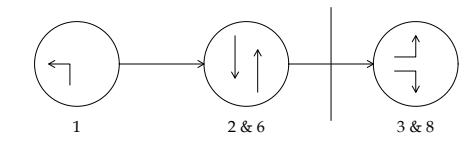
SIGNAL SUPPORT ELEVATION (TYPICAL)

TOP OF SIGNAL SUPPORT FOUNDATIONS SHALL BE 2" (±1") ABOVE GRADE PER TC-21.20

REFERENCE NUMBER	ITEM NUMBER	DESCRIPTION	QUANTITY	UNIT
1	614	MAINTAINING TRAFFIC, AS PER PLAN	1	LUMP
6	625	GROUND ROD, AS PER PLAN	1	EACH
7	632	VEHICULAR SIGNAL HEAD W/ BACKPLATE AND LED LAMP UNITS, 5-SECTION, 12" LENS, 1-WAY, AS PER PLAN	1	EACH
9	632	VEHICULAR SIGNAL HEAD W/ BACKPLATE AND LED LAMP UNITS, 3-SECTION, 12" LENS, 1-WAY, AS PER PLAN	5	EACH
14	632	CONDUIT RISER, 3" DIAMETER	1	EACH
15	632	SIGNAL CABLE, 9-CONDUCTOR, NO. 14 AWG	135	L.F.
16	632	SIGNAL CABLE, 5-CONDUCTOR, NO. 14 AWG	100	L.F.
17	632	POWER CABLE, 2-CONDUCTOR, NO. 6 AWG	75	L.F.
18	632	POWER SERVICE, AS PER PLAN	1	EACH
19	632	COVERING OF VEHICULAR SIGNAL HEAD	6	EACH
20	632	REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN	1	EACH
21	633	CONTROLLER UNIT WITH CABINET, TYPE TSI, AS PER PLAN	1	EACH
22	633	CABINET FOUNDATION, AS PER PLAN	1	EACH
23	633	CONTROLLER WORK PAD, AS PER PLAN	1	EACH
24	633	UNINTERRUPTIBLE POWER SUPPLY, (UPS), AS PER PLAN	1	EACH
27	816	VIDEO DETECTION SYSTEM, AS PER PLAN	1	EACH

SUPPORT NO.	ELEVATION		SIGNAL SUPPORT DETAILS										
	A	B	DESIGN TYPE	DESIGN NO.	POLE HEIGHT	ARM HEIGHT	L	L1	V1	L2	L3	V2	L4
	FT	FT			FT	FT	FT	FT	FT	FT	FT	FT	FT
1	866.28'	867.48'	TC-81.21	11	21.5	20	40	39	32.5	26	20	15.5	11
2	865.56'	866.16'	TC-81.21	11	21.5	20	28	21	13.5	6	—	—	—

SIGNAL PHASING

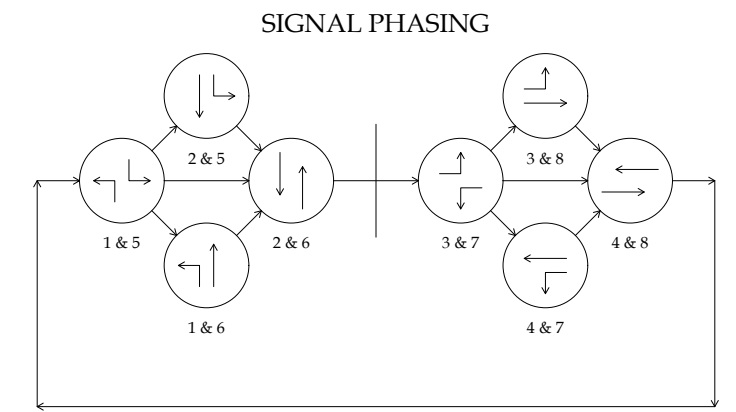
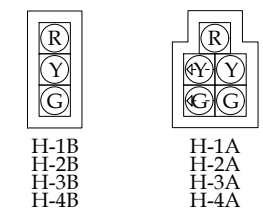
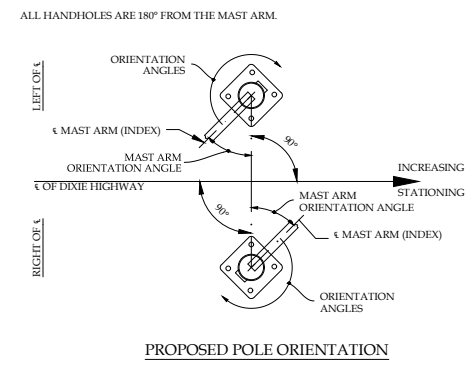
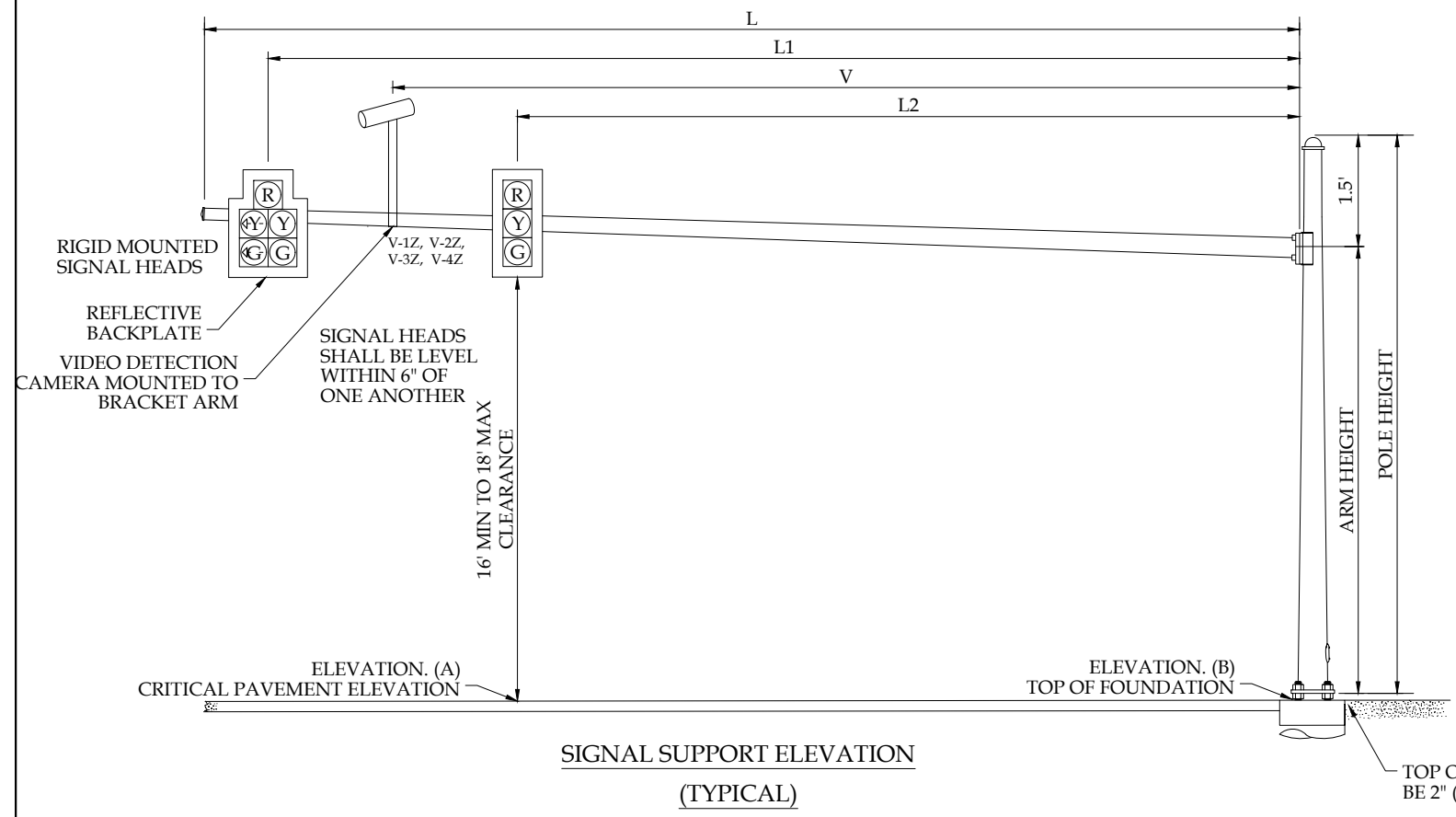


ALLEN COUNTY ENGINEER
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TRAFFIC SIGNAL DETAILS

BUCKEYE ROAD @ J.S.M.C. (TANK PLANT)
TRAFFIC SIGNAL REPLACEMENT

DRAWN BY: _____ CHECKED BY: _____ DESIGNED BY: _____ DATE: _____



TRAFFIC SIGNAL CONTROLLER TIMING CHART
INTERSECTION: BUCKEYE ROAD & DIXIE HIGHWAY

START UP: START IN: V/FLASH, ALL RED, TIME FOR FLASH OR ALL RED: 2, FIRST PHASES: #2 & #6, COLOR DISPLAY: GREEN, YELLOW

DUAL ENTRY: REST IN RED, OVERLAP, PHASES

INTERVAL OR FEATURE	CONTROLLER MOVEMENT NUMBER							
	Ø1	Ø2	Ø3	Ø4	Ø5	Ø6	Ø7	Ø8
INTERSECTION MOVEMENT	↖	↓	↗	←	↘	↑	↙	→
MINIMUM GREEN (INITIAL) (SECONDS)	7	12	7	12	7	12	7	12
PASSAGE TIME (SECONDS)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
MINIMUM GAP (SECONDS)	—	—	—	—	—	—	—	—
MAXIMUM GREEN I (SECONDS)	20	30	20	30	20	30	20	30
MAXIMUM GREEN II (SECONDS)	20	30	20	30	20	30	20	30
YELLOW CHANGE (SECONDS)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
ALL RED CLEARANCE (SECONDS)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
INITIALIZE	—	—	—	—	—	—	—	—
NON LOCKING	—	—	—	—	—	—	—	—
V CALL / RECALL	—	—	—	—	—	—	—	—
NEXT PHASE	—	—	—	—	—	—	—	—
BARRIERS	—	—	—	—	—	—	—	—
RECALL	MINIMUM (YES/NO)	NO	NO	NO	NO	NO	NO	NO
	MAXIMUM (YES/NO)	NO	YES	NO	YES	NO	YES	NO

SIGNAL SUPPORT ELEVATION
(TYPICAL)

TOP OF SIGNAL SUPPORT FOUNDATIONS SHALL BE 2" (±1") ABOVE GRADE PER TC-21.20

REFERENCE NUMBER	ITEM NUMBER	DESCRIPTION	QUANTITY	UNIT
1	614	MAINTAINING TRAFFIC, AS PER PLAN	1	LUMP
2	625	PULLBOX, 725.08, 24"	4	EACH
3	625	CONDUIT 3", 725.052	30	L.F.
4	625	TRENCH 24" DEEP, AS PER PLAN	30	L.F.
5	625	CONDUIT, BORED UNDER PAVEMENT, 3", 725.052, AS PER PLAN	270	L.F.
6	625	GROUND ROD, AS PER PLAN	5	EACH
7	632	VEHICULAR SIGNAL HEAD W/ BACKPLATE AND LED LAMP UNITS, 5-SECTION, 12" LENS, 1-WAY, AS PER PLAN	4	EACH
9	632	VEHICULAR SIGNAL HEAD W/ BACKPLATE AND LED LAMP UNITS, 3-SECTION, 12" LENS, 1-WAY, AS PER PLAN	4	EACH
10	632	SIGNAL SUPPORT FOUNDATION, AS PER PLAN	4	EACH
11	632	SIGNAL SUPPORT, TYPE TC-81.21 DESIGN 11, AS PER PLAN	2	EACH
12	632	SIGNAL SUPPORT, TYPE TC-81.21 DESIGN 12, AS PER PLAN	2	EACH
14	632	CONDUIT RISER, 3" DIAMETER	1	EACH
15	632	SIGNAL CABLE, 9-CONDUCTOR, NO. 14 AWG	550	L.F.
16	632	SIGNAL CABLE, 5-CONDUCTOR, NO. 14 AWG	100	L.F.
17	632	POWER CABLE, 2-CONDUCTOR, NO. 6 AWG	75	L.F.
18	632	POWER SERVICE, AS PER PLAN	1	EACH
19	632	COVERING OF VEHICULAR SIGNAL HEAD	8	EACH
20	632	REMOVAL OF TRAFFIC SIGNAL INSTALLATION, AS PER PLAN	1	EACH
21	633	CONTROLLER UNIT WITH CABINET, TYPE TSI, AS PER PLAN	1	EACH
22	633	CABINET FOUNDATION, AS PER PLAN	1	EACH
23	633	CONTROLLER WORK PAD, AS PER PLAN	1	EACH
24	633	UNINTERRUPTIBLE POWER SUPPLY, (UPS), AS PER PLAN	1	EACH
25	653	TOPSOIL FURNISHED AND PLACED	4	C.Y.
26	659	SEEDING AND MULCHING	35	S.Y.
27	816	VIDEO DETECTION SYSTEM, AS PER PLAN	1	EACH

SUPPORT NO.	ELEVATION		SIGNAL SUPPORT DETAILS							
	A	B	DESIGN TYPE	DESIGN NO.	POLE HEIGHT	ARM HEIGHT	L	L1	V	L2
	FT	FT								
1	877.92	878.28	TC-81.21	11	20	18.5	30	27	21	15
2	878.48	877.24	TC-81.21	12	21.5	20	45	43	36	29
3	879.24	879.28	TC-81.21	11	20.5	19.0	42	39	33	27
4	878.84	878.64	TC-81.21	12	21	19.5	44	42	35	28

SIGNAL CONNECTION CHART

SIGNAL	G	Y	R	4G	4Y
H-3A & H-3B	6G	6Y	6R		
H-3A				1G	1Y
H-4A & H-4B	8G	8Y	8R		
H-4A				3G	3Y
H-2A & H-2B	2G	2Y	2R		
H-2A				5G	5Y
H-1A & H-1B	4G	4Y	4R		
H-1A				7G	7Y

CAMERA DETECTOR UNIT SUMMARY

CAMERA	CONNECT TO PHASE	PRESENCE OR PULSE	LOCK OR NON-LOCK
V-3Z	1	PRESENCE	LOCK
V-4Z	3	PRESENCE	LOCK
V-2Z	5	PRESENCE	LOCK
V-1Z	7	PRESENCE	LOCK

ALLEN COUNTY ENGINEER
BRION E. RHODES, P.E., P.S.

TRAFFIC SIGNAL DETAILS

BUCKEYE ROAD & DIXIE HIGHWAY TRAFFIC SIGNAL REPLACEMENT

DRAWN BY: CHECKED BY: DESIGNED BY: DATE: