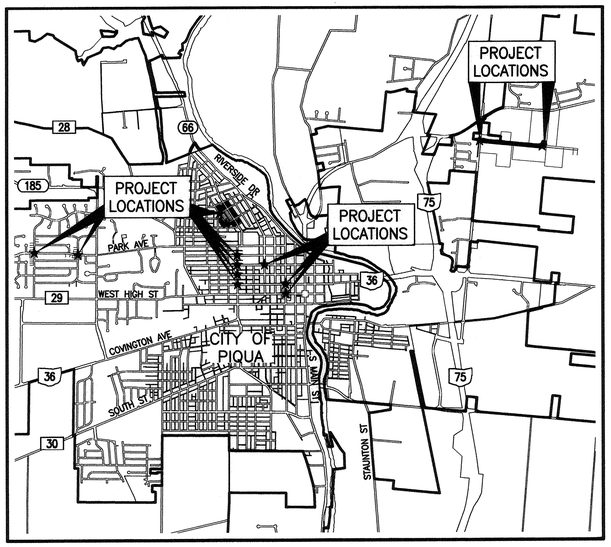

LOCATION MAP

LATITUDE: 40°08'51"N LONGITUDE: 84°14'53"W

SCALE: 1" = 3,000'

0 3,000 6,000 9,000 12,000

STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
D07-SRTS-MIA
PIQUA INFRA
CITY OF PIQUA
MIAMI COUNTY

PROJECT DESCRIPTION

THIS PROJECT INCLUDES THE CONSTRUCTION OF SIGNAGE, SIDEWALKS, RAMPS AND OTHER PEDESTRIAN INFRASTRUCTURE.

PROJECT EARTH DISTURBED AREA:	1.00 ACRES
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	0.00 ACRES
NOTICE OF INTENT EARTH DISTURBED AREA:	1.00 ACRES

2013 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING CHANGES AND SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

DESIGN DESIGNATION

CURRENT A.D.T.	(2010)	VARIES
DESIGN YEAR A.D.T.	(2030)	VARIES
CURRENT D.H.V.	(2010)	VARIES
DESIGN YEAR D.H.V.	(2030)	VARIES
TRUCKS		VARIES
DIRECTIONAL DISTRIBUTION		VARIES
DESIGN SPEED		VARIES
LEGAL SPEED		VARIES
FUNCTIONAL CLASSIFICATION		VARIES

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CITY OF PIQUA

CITY ENGINEER

APPROVED: Amy L Hanenan

DATE: March 6, 2015

UNDERGROUND UTILITIES

CONTACT BOTH SERVICES
CALL TWO WORKING DAYS
BEFORE YOU DIG

CALL
1–800–362–2764
(TOLL FREE)

OHIO UTILITIES PROTECTION SERVICE
NON–MEMBERS
MUST BE CALLED DIRECTLY

OIL & GAS PRODUCERS PROTECTIVE
SERVICE CALL:1–800–925–0988

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

OHIO Utilities Protection SERVICE 811 or 1-800-362-2764 Call Before You Dig

ENGINEERS SEAL:

STATE OF OHIO ADAM VOIRS E-69014 REGISTERED PROFESSIONAL ENGINEER

SIGNED: Adam Voirs

DATE: 12-22-14

STANDARD CONSTRUCTION DRAWINGS					SUPPLEMENTAL SPECIFICATIONS
BP–4.1	MH–1.1				800
BP–5.1	MT–97.10				832
BP–7.1	MT–101.90				
CB2–3	MT–105.10				
DM–1.4	MT–110.10				
DM–4.4	TC–41.20				
HL–10.11	TC–42.20				
HL–10.12	TC–52.10				
HL–10.13	TC–52.20				
HL–20.11					SPECIAL PROVISIONS
HL–30.11					
HL–30.22					
HL–40.10					
HL–60.11					
HL–60.12					
HL–60.31					

DISTRICT DEPUTY DIRECTOR

APPROVED: _____

DATE: _____

DIRECTOR, DEPARTMENT OF TRANSPORTATION

APPROVED: _____

DATE: _____

PREPARED BY:

EMH&T
Evans, Mechwart, Hambleton & Tilton, Inc.
Engineers • Surveyors • Planners • Scientists
5500 New Albany Road, Columbus, OH 43054
Phone: 614.775.4500 Toll free: 888.775.3648
emht.com

FEDERAL PROJECT NO. E120705

PID NO. 93747

CONSTRUCTION PROJECT NO.

RAILROAD INVOLVEMENT NONE

D07-SRTS-MIA PIQUA INFRA

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Xref: 2013\0852-CS-REFR-E

BENCH MARKS

BM#3
Chiseled "X" on the north rim of a storm manhole located in the centerline of the intersection of Walker Street and Gill Street.
Elev= 876.68 (NAVD 88)

BM#4
Railroad spike in the east side of a wooden utility pole, located on the west side of Walker Street, 40 feet south of the intersection of Walker Street and Scott Drive.
Elev= 879.20 (NAVD 88)

BM#5
Chiseled "X" on the east flange bolt of a fire hydrant located at the northwest corner of the intersection of Park Avenue and Westview Drive.
Elev= 963.80 (NAVD 88)

BM#7
Chiseled "X" on the west flange bolt of a fire hydrant located at the southeast corner of the intersection of Park Avenue and North Parkway Drive.
Elev= 951.66 (NAVD 88)

BM#8
Railroad spike in the east side of a wooden utility pole, located at the northeast corner of the intersection of Indian Trail and North Looney Road.
Elev= 941.29 (NAVD 88)

BM#10
Chiseled square on the north side of a concrete light pole base located in a parking lot, 120 feet west of the intersection of Indian Trail and Tomahawk Trail.
Elev= 957.40 (NAVD 88)

BM#11
Chiseled "X" on the north flange bolt of a fire hydrant located at the southeast corner of the intersection of North College Street and West Ash Street.
Elev= 876.10 (NAVD 88)

BM#12
Chiseled "X" on the north flange bolt of a fire hydrant located at the northeast corner of the intersection of North College Street and Boone Street.
Elev= 882.79 (NAVD 88)

BM#13
Chiseled "X" on the north flange bolt of a fire hydrant located at the northeast corner of the intersection of Broadway Street and Boone Street.
Elev= 875.59 (NAVD 88)

BM#15
Chiseled "X" on the north flange bolt of a fire hydrant located at the southeast corner of the intersection of North College Street and West Greene Street.
Elev= 878.86 (NAVD 88)

BM#16
Chiseled "X" on the north flange bolt of a fire hydrant located at the northwest corner of the intersection of North College Street and West North Street.
Elev= 881.70 (NAVD 88)

BM#17
Chiseled "X" on the north flange bolt of a fire hydrant located at the northeast corner of the intersection of Broadway Street and West North Street.
Elev= 878.17 (NAVD 88)

BM#18
Chiseled "X" on the north flange bolt of a fire hydrant located at the northeast corner of the intersection of Broadway Street and West Greene Street.
Elev= 876.75 (NAVD 88)

BM#19
Chiseled "X" on the north flange bolt of a fire hydrant located at the northeast corner of the intersection of North Downing Street and West Ash Street.
Elev= 871.64 (NAVD 88)

BM#20
Chiseled "X" on the north flange bolt of a fire hydrant located at the southeast corner of the intersection of North Downing Street and West High Street.
Elev= 872.54 (NAVD 88)

See Sheet 10

See Sheet 11

See Sheet 12

See Sheet 13

See Sheets 14

See Sheet 15 & 16

See Sheets 17–25

CALCULATED MM
CHECKED AV

SCHEMATIC PLAN

D07-SRTS-MIA
PIQUA INFRA

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GENERAL NOTES

UTILITIES
LISTED BELOW ARE ALL UTILITIES LOCATED WITHIN THE PROJECT CONSTRUCTION LIMITS TOGETHER WITH THEIR RESPECTIVE OWNERS.

VECTREN OF OHIO
P.O. BOX 209
EVANSVILLE, IN 47702
DON SPECHT
PHONE: 1–937–312–2533

CITY OF PIQUA: WATER, SANITARY, STORM
201 WEST WATER STREET
PIQUA, OHIO 45356
PHONE: (937) 778–2090

CITY OF PIQUA: ELECTRIC, TRAFFIC
8595 SOUTH MAIN STREET
PIQUA, OHIO 45356
ED KRIEGER
PHONE: (937) 778–2077

TIME WARNER CABLE
1450 EXPERIMENT FARM ROAD
TROY, OH 45373
TIM KUSS
PHONE: (937) 525–8850

AT&T OHIO
3233 WOODMAN DRIVE
ROOM 225
KEHERING OHIO
JESS WEAD (937) 296–3894

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUESTED UNDER SECTION 153.64 O.R.C.

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, DO NOT OPERATE POWER–OPERATED CONSTRUCTION–TYPE DEVICES BETWEEN THE HOURS OF 10 PM AND 8AM. IN ADDITION, DO NOT OPERATE AT ANY TIME ANY DEVICE 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 ORTHOMETRIC HEIGHTS USING THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) AND THE GEOID03 GEOID. HORIZONTAL POSITIONS ARE BASED ON THE OHIO STATE PLANE COORDINATES SOUTH ZONE, A LAMBERT CONFORMAL CONIC MAP PROJECTION, THE NORTH AMERICAN DATUM OF 1983 ADJUSTED TO THE NATIONAL SPATIAL REFERENCE SYSTEM OF 1997 (NAD 83(NSRS2007)), AND THE GRS80 ELLIPSOID.

CATCH BASINS AND DRAINAGE CONNECTIONS
WHERE PLANS PROVIDE FOR A PROPOSED CONDUIT TO BE CONNECTED TO, OR CROSS OVER OR UNDER AN EXISTING SEWER OR UNDERGROUND UTILITY, THE CONTRACTOR SHALL LOCATED THE EXISTING PIPES OR UTILITIES BOTH AS TO LINE AND GRADE BEFORE STARTING TO LAY THE PROPOSED CONDUIT.

IF IT IS DETERMINED THAT THE ELEVATION OF THE EXISTING CONDUIT, OR EXISTING APPURTENANCE TO BE CONNECTED, DIFFERS FROM THE PLAN ELEVATION OR RESULTS IN A CHANGE IN THE PLAN CONDUIT SLOPE, THE ENGINEER SHALL BE NOTIFIED BEFORE STARTING CONSTRUCTION OF ANY PORTION OF THE PROPOSED CONDUIT WHICH WILL BE AFFECTED BY THE VARIANCE IN THE EXISTING ELEVATIONS.
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 THE PERTINENT 603 CONDUIT ITEM.

RECONNECTIONS SHALL BE MADE AT SIMILAR GRADE W/CLASS C CONCRETE SUPPORT AND ENCASEMENT AT JOINT.

TREE CUTTING RESTRICTIONS
CLEARING OF ANY TREES THAT HAVE SUITABLE SUMMER BROOD REARING OR ROOSTING HABITAT FOR THE FEDERALLY ENDANGERED INDIANA BAT (E.G. TREES WITH EXFOLIATING BARK AND/OR CAVITIES), SHALL OCCUR BEFORE APRIL 15 OR AFTER SEPTEMBER 15 WHEN THE BATS WOULD NOT BE USING SUCH HABITAT.

ITEM 202 CATCH BASIN REMOVED AS PER PLAN
IN ADDITION TO ALL REQUIRMENTS OF ITEM 202, THE CONTRACTOR SHALL MAKE PROVISIONS TO MAINTAIN DRAINAGE FOR CONDUITS INTO THE BASINS UNTIL REPLACEMENTS OR OTHER PROVISIONS ARE PROVIDED. THE COST OF MAINTAINING DRAINGE IN INLETS SHALL BE INCLUDED WITH THE BID PRICE FOR ITEM 202 CATCH BASIN REMOVED AS PER PLAN.

DRAINAGE CONTINGENCIES
THE FOLLOWING QUANTITIES ARE PROVIDED FOR THE CONNECTION, EXTENSION AND PERMANENT MAINTENANCE OF MISCELLANEOUS DRAINAGE CONDUITS ENCOUNTERED DURING CONSTRUCTION.

ITEM 611 4" CONDUIT TYPE B, AS PER PLAN
50 LINEAR FEET

ITEM 611 8" CONDUIT TYPE B, AS PER PLAN
50 LINEAR FEET

ITEM 611 10" CONDUIT TYPE B, AS PER PLAN
50 LINEAR FEET

ITEM 511 CLASS C CONCRETE
15 CUBIC YARDS

ITEM 202 PIPE REMOVED
100 FEET

ITEM 253 PAVEMENT REPAIR, AS PER PLAN
100 SQUARE YARDS

ITEM 608 4" CONCRETE WALK, AS PER PLAN
IN ADDITION TO ALL REQUIREMENTS OF ITEM 608, THE CONTRACTOR SHALL PERFORM EMBANKMENT AND EXCAVATION IN AREAS WHERE IT IS NECESSARY TO ADJUST ELEVATIONS AND GRADES TO PROVIDE COMPLIANT SLOPES, PROMOTE POSITIVE DRAINAGE, PREVENT PONDING ON THE SIDEWALK, COVER CONDUITS AND TO MAINTAIN SUFFIENT COVER FOR WATERLINE AND OTHER UTILITIES. ALL EMBANKMENT AND EXCAVATION SHALL MEET THE REQUIREMENTS OF ITEM 203. THE COST OF ALL EXCAVATION AND EMBANKMENT SHALL BE INCLUDED WITH THE BID PRICE FOR ITEM 608 4" SIDEWALK, AS PER PLAN.

ITEM 608 2" ASPHALT CONCRETE WALK, AS PER PLAN
IN ADDITION TO ALL REQUIREMENTS OF ITEM 608, THE CONTRACTOR SHALL PERFORM EMBANKMENT AND EXCAVATION IN AREAS WHERE IT IS NECESSARY TO ADJUST ELEVATIONS AND GRADES TO PROVIDE COMPLIANT SLOPES, PROMOTE POSITIVE DRAINAGE , PREVENT PONDING ON THE SIDEWALK AND TO COVER CONDUITS. ALL EMBANKMENT AND EXCAVATION SHALL MEET THE REQUIREMENTS OF ITEM 203. THE COST OF ALL EXCAVATION AND EMBANKMENT SHALL BE INCLUDED WITH THE BID PRICE FOR ITEM 608 ASPHALT CONCRETE WALK, AS PER PLAN.

ITEM 690 SPECIAL MISC. CURB RAMP A2 & B2, AS PER PLAN
ALL METHODS AND MATERIALS SHALL COMPLY WITH ITEM 608. PAYMENT FOR CURB RAMPS ARE MODIFIED TO INCLUDE ALL ITEMS SPECIFIED IN 608.09 AND ADDITIONALLY INCLUDES ALL MATERIALS, GRADING, FORMING SAWCUT AND REMOVALS REQUIRED TO PERFORM THE FOLLOWING:

1) IF NECESSARY TO PROMOTE SMOOTH SURFACES IN THE TRAVELING PATH, THE CONTRACTOR SHALL REMOVE AN ADDITIONAL STRIP OF PAVEMENT IN FRONT OF THE RAMP OPENINGS. THE STRIP SHALL BE 12 INCHES WIDE, EXTEND 1 FOOT PAST EACH SIDE OF THE RAMP AND BE REMOVED TO A DEPTH OF 12 INCHES. CONTRACTOR SHALL PROVIDE ITEM 253 PAVEMENT REPAIR, AS PER PLAN SHAPED AND SLOPED TO PROVIDE A SMOOTH TRANSITION FROM GUTTER, CURB AND CURB RAMPS OR LANDING TO THE ASPHALT ROADWAY SURFACE. CONTRACTOR MAY USE OTHER ACCEPTABLE MEANS TO PROVIDE A SMOOTH TRANSITION FROM THE RAMP/GUTTER TO THE EXISTING PAVEMENT.
2) MEASURING, LEVELING AND SHAPING THE PAVEMENT TRANSITION TO PROVIDE COMPLIANT SLOPES SHALL BE PAID FOR IN THE BID PRICE FOR THE RAMPS, AS PER PLAN. REMOVAL AND REPLACEMENT OF THE PAVEMENT SHALL BE PAID UNDER ITEM 253, PAVEMENT REPAIR, AS PER PLAN. 20 SY OF ITEM 253, PAVEMENT REPAIR AS PER PLAN HAS BEEN CARRIED TO THE GENERAL SUMMARY TO BE USED AS NECESSARY FOR THIS WORK.

ITEM 209 LINEAR GRADING AS PER PLAN
THE CONTRACTOR SHALL PERFORM LINEAR GRADING AS NECESSARY TO PROVIDE POSITIVE DRAINAGE IN DITCHLINES ADJACENT TO ASPHALT WALK. PAYMENT SHALL BE MADE PER LINEAR FOOT UNIT PRICES. THE FOLLOWING QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR THIS WORK
ITEM 209 LINEAR GRADING, AS PER PLAN (L.F.) 500 L..F.

TRUNCATED DOMES
ALL DETECTABLE WARNING CURB RAMPS TO BE CAST IRON MANUFACTURED BY EAST JORDAN IRON WORKS 70105 SERIES, NEENAH FOUNDRY MODEL R–4984, OR AN APPROVED EQUAL. ALL CAST IRON DETECTABLE WARNING UNITS SHALL BE A "BRICK RED" POWDER COATING.

SANITARY FACILITIES
THE CONTRACTOR SHALL FURNISH AND MAINTAIN SANITARY CONVENIENCE FACILITIES FOR THE WORKMEN AND INSPECTORS FOR THE DURATION OF THE WORK. THE CITY OF PIQUA APPROVAL MUST BE OBTAINED PRIOR TO PLACEMENT OF SANITARY FACILITIES WITHIN CORPORATE LIMITS.

ITEM 601 ROCK CHANNEL PROTECTION, TYPE C WITH FILTER AS PER PLAN
IN ADDITION TO ALL REQUIREMENTS OF THE ITEM 201 THE CONTRACTOR SHALL PROVIDE AND INSTALL LANDSCAPE EDGING TO CONTAIN THE ROCK INSTALLATION AT THE SPLASH PAD INSTALLATIONS AS SHOWN IN THE BIORETENTION DETAILS.

ITEM 611, 6" CONDUIT TYPE C AS PER PLAN
IN ADDITION TO REQUIREMENTS OF ITEM 611, THE CONTRACTOR SHALL PROVIDE AND INSTALL CLEANOUTS, FILTER FABRIC WRAP AND WASHED GRAVEL ENCASEMENT FOR THE PERFORATED 6" UNDERDRAIN AS SHOWN IN THE DETAIL FOR THE BIORETENTION AREAS.

ITEM 253 PAVEMENT REPAIR, AS PER PLAN
IN AREAS IN FRONT OF CURB RAMPS, ADJACENT TO THE CURB EXTENSIONS AND IN OTHER AREAS OF MISC. REMOVALS WHERE DAMAGE TO THE EXISTING PAVEMENT IS NECESSARY, THE CONTRACTOR SHALL REMOVE AND REPLACE THE DAMAGED SURFACE ACCORDING TO THE REQUIREMENTS OF ITEM 253 AND REPLACE THE PAVEMENT WITH 2" OF 448 SURFACE COURSE TYPE 1 ON A BASE OF 10" OF CLASS C CONCRETE. IF NECESSARY TO PROVIDE A SMOOTH AND CONSISTENT TRANSITION, THE CONTRACTOR SHALL HEAT WELD JOINTS TO EXISTING ASHALT. A QUANTITY OF 20SY HAS BEEN CARRIED TO THE GENERAL SUMMARY TO BE USED AS NECESSARY. CONTRACTOR SHALL SHAPE AND SLOPE NEW SURFACE TO MAINTAIN POSITIVE DRAINAGE.

ITEM 690, SPECIAL MISCELLANEOUS, BIORETENTION SOIL AS PER PLAN
THE CONTRACTOR SHALL PROVIDE THE MATERIALS AND LABOR NECESSARY TO PLACE BIORETENTION SOIL ACCORDING TO THE PLANS AND SPECS. ALL EXCAVATION, DISPOSAL, GRADING, SOIL LOOSENING, MIXING, AND LINERS SHALL BE PAID FOR UNDER THE UNIT PRICE OF ITEM 690, SPECIAL MISCELLANEOUS BIORETENTION SOIL AS PER PLAN.

ITEM 609 CURB TYPE 6 AS PER PLAN
IN ADDITION TO ALL REQUIREMTNS OF ITEM 609, THE CONTRACTOR SHALL PROVIDE DOWELING, EXPANSION MATERIALS AND CURB HEIGHT ADJUSTMENTS AS NECESSARY TO MATCH EXISTING CURBS AND TO PROVIDE DRAINGE INTO THE BIORETENTION AREAS AND AROUND CURB RAMPS.

ITEM 609 CURB AND GUTTER TYPE 2 AS PER PLAN
IN ADDITION TO ALL REQUIRTMENTS OF ITEM 609 AND STANDARD DRAWING BP–5.1, THE CONTRACTOR SHALL PROVIDE DOWELING, EXPANSION, MATERIALS, AND CURB AND GUTTER HEIGHT /WIDTH ADJUSTMENTS NECESSARY TO TIE INTO EXISTING CONDITIONS AT CONNECTION POINTS. CURB HEIGHTS SHALL TAPER FROM 0" AT RAMP OPENINGS TO MATCH EXISTING HEIGHTS AT TIE IN POINTS.

ITEM 202 CURB REMOVED, AS PER PLAN
IN SOME AREAS GUTTER PANS HAVE BEEN PAVED OVER. IN THESE LOCATIONS THE CONTRACTOR SHALL REMOVE THE EXPOSED CURB BUT LEAVE THE ORIGINAL GUTTER PAN IN PLACE. CONTRACTOR SHALL SAWCUT OR USE OTHER MEANS NECESSARY TO LEAVE THE EXISTING PAN AND PAVEMENT OVERLAY IN PLACE. COST FOR SAWCUT AND ALL OTHER WORK NECESSARY SHALL BE PAID WITH THE CONTRACTORS BID PRICE FOR ITEM SPECIAL CURB REMOVED, AS PER PLAN.

LEGEND:

- PROPOSED SIDEWALK
- EXISTING SIDEWALK
- PROPOSED CURB
- EXISTING CURB
- EXISTING BERM
- EXISTING EDGE OF PAVEMENT
- EXISTING RAIL ROAD
- EXISTING GAS MAIN
- EXISTING WATER MAIN
- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- EXISTING OVERHEAD UTILITY
- EXISTING FIBER OPTIC
- EXISTING SANITARY SEWER
- EXISTING GAS VALVE
- EXISTING GAS SERVICE
- EXISTING GAS MARKER POST
- EXISTING WATER VALVE
- EXISTING FIRE HYDRANT
- EXISTING WATER SERVICE
- EXISTING MANHOLE
- EXISTING CURB INLET
- PROPOSED CURB INLET
- EXISTING UTILITY POLE
- EXISTING GUY WIRE
- EXISTING SIGN
- EXISTING MAILBOX
- EXISTING BENCHMARK
- EXISTING TREE
- TREE REMOVAL
- EXISTING RIGHT–OF–WAY
- EXISTING PROPERTY LINE

ABBREVIATION LIST:

DND	= DO NOT DISTURB
FC	= FACE OF CURB
BC	= BACK OF CURB
EP	= EDGE OF PAVEMENT
STM	= STORM SEWER
SAN	= SANITARY SEWER
LT	= LEFT
RT	= RIGHT
STA	= STATION
PROP	= PROPOSED
EX	= EXISTING
℄	= CENTERLINE
UGFO	= UNDERGROUND FIBER OPTIC
WS	= WATER SERVICE
WM	= WATER MAIN
GM	= GAS MAIN
TBRR	= TO BE REMOVED AND REPLACED
TBR	= TO BE REMOVED
TBRO	= TO BE REMOVED BY OTHERS
TBRL	= TO BE RELOCATED
TBRLO	= TO BE RELOCATED BY OTHERS
PID	= PARCEL IDENTIFICATION
ATG	= ADJUST TO GRADE
TC	= TOP OF CURB
RIM	= TOP OF CASTING

CALCULATED MM
CHECKED AV

GENERAL NOTES & LEGEND

D07-SRTS-MIA
PIQUA INFRA

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GENERAL
THESE SPECIFICATIONS, TOGETHER WITH THE ACCOMPANYING PLANS ARE INTENDED TO DESCRIBE THE TYPE, SIZE AND LOCATION OF THE PRODUCTS AND MATERIALS TO BE PROVIDED AND INSTALLED UNDER THE VARIOUS BID ITEMS RELATED TO TRAFFIC CONTROL. THE CONTRACTOR SHALL FURNISH AND INSTALL TRAFFIC CONTROL DEVICES AND RELATED MATERIALS IN COMPLIANCE WITH THESE PLANS AND SPECIFICATIONS, AS WELL AS THE 2013 OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS, THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AND THE STANDARD CONSTRUCTION DRAWINGS ISSUED BY THE OHIO DEPARTMENT OF TRANSPORTATION. THESE SPECIFICATIONS SET FORTH THE MINIMUM PERFORMANCE AND OPERATING REQUIREMENTS OF THE TRAFFIC CONTROL ITEMS REFERRED TO HEREIN.

ALL INCIDENTAL WORK ITEMS CALLED FOR IN THESE PLANS FOR WHICH NO SPECIFIC METHOD OF PAYMENT IS PROVIDED SHALL BE PERFORMED BY THE CONTRACTOR AND THE TOTAL COST OF SAID ITEMS SHALL BE INCLUDED IN THE PRICE OF ITS ASSOCIATED BID ITEM.

TRAFFIC SIGNAL CONTROL EQUIPMENT SHALL MEET OR EXCEED THE STANDARDS SPECIFIED IN THE FOLLOWING DOCUMENTS:
(A) SPECIFICATIONS LISTED IN THIS PLAN
(B) NEMA STANDARDS PUBLICATION NO. TS1–1989 AND/OR TS2–1998 (OR CURRENT NEMA ISSUE) SECTIONS 1, 2, 5, 6, 8, 11, 13 AND 14.
(C) ODOT CONSTRUCTION AND MATERIAL SPECIFICATIONS 625, 631, 632, 725, 730, 731, AND 732.

IN CASE OF A CONFLICTING SPECIFICATION STATEMENT, THE SPECIFICATION DOCUMENT HIERARCHY SHALL BE IN THE ORDER LISTED FROM (A), HIGHEST, TO (C), LOWEST.

ITEM 630 SIGNING, MISC.: SOLAR POWERED RECTANGULAR RAPID FLASHING BEACON (RRFB) SCHOOL CROSSING SIGN ASSEMBLY
THIS WORK SHALL CONSIST OF FURNISHING AND INSTALLING A SOLAR POWERED RECTANGULAR RAPID FLASHING BEACON (RRFB) SIGN ASSEMBLY. THE FLASHING UNIT SHALL BE 2–SIDED LED, SOLAR POWERED AND PEDESTRIAN ACTIVATED. MULTIPLE UNITS SHALL BE WIRELESSLY CONTROLLED AND SYNCHRONIZED. THE UNIT SHALL BE COMPLIANT WITH THE MOST CURRENT OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD). THE ASSEMBLY SHALL ALSO CONSIST OF A PREFABRICATED SELF–TAPPING FOUNDATION. THE TOP OF THE FOUNDATION SHALL BE INSTALLED TO WITHIN 2"± OF EXISTING GROUND ELEVATION. SEE DETAIL ON THIS SHEET FOR ADDITIONAL REQUIREMENTS.

GENERAL REQUIREMENTS
EACH RRFB SHALL CONSIST OF TWO RAPIDLY AND ALTERNATELY FLASHING RECTANGULAR YELLOW INDICATIONS HAVING LED ARRAY BASED PULSING LIGHT SOURCES.

EACH RRFB SHALL BE A COMPLETE ASSEMBLY CONSISTING OF, BUT NOT LIMITED TO, SIGNAGE, SIGN MOUNTING HARDWARE, INDICATIONS AND ELECTRICAL COMPONENTS (WIRING, SOLID–STATE CIRCUIT BOARDS, ETC.).

FUNCTIONAL REQUIREMENTS
EACH RRFB SHALL UTILIZE SOLAR POWER.

EACH RRFB SHALL BE ACTIVATED BY ADA COMPLIANT PUSHBUTTONS.

THE RRFB SHALL BE NORMALLY DARK, SHALL INITIATE OPERATION ONLY UPON PEDESTRIAN ACTUATION, AND SHALL CEASE OPERATION AFTER A PREDETERMINED TIME LIMIT (BASED ON OMUTCD PROCEDURES).

EACH REMOTE RRFB SHALL BE WIRELESSLY ACTIVATED.

WHEN ACTIVATED, THE RRFB UNIT INDICATIONS SHALL FLASH IN A RAPIDLY ALTERNATING "WIG–WAG" FLASHING SEQUENCE (LEFT LIGHT ON, THEN RIGHT LIGHT ON).

ALL RRFB LIGHT INDICATIONS SHALL BE WIRELESSLY SYNCHRONIZED (ALL LIGHTS WILL TURN ON WITHIN 120 MSEC AND REMAIN SYNCHRONIZED THROUGHOUT THE DURATION OF THE FLASHING CYCLE).

EACH OF THE RRFB'S INDICATIONS SHALL FLASH AT 70 TO 80 FLASHES PER MINUTE.

THE UNIT SHALL BE LOW CURRENT/HIGH OUTPUT INCLUDING AUTOMATIC DIMMING CAPABILITIES FOR DAY AND NIGHT VISIBILITY.

THE UNIT SHALL BE CAPABLE OF RUNNING UP TO 30 DAYS WITHOUT SUNLIGHT.

MATERIALS
FURNISH A COMPLETE ASSEMBLY, CONSISTING OF BUT NOT LIMITED TO, SIGNAGE, SIGN MOUNTING HARDWARE, INDICATIONS, AND ELECTRICAL COMPONENTS (WIRING, SOLID–STATE CIRCUIT BOARDS, ETC.). THE RRFB ASSEMBLY INCLUDES THE FOLLOWING ITEMS:

1. RRFB INDICATIONS
   A. EACH RRFB INDICATION LENS SHALL BE A MINIMUM SIZE OF APPROXIMATELY 5" WIDE X 2" HIGH.
   B. THE RRFB INDICATIONS SHALL BE ALIGNED HORIZONTALLY, WITH THE LONGER DIMENSION OF THE INDICATION HORIZONTAL. THERE SHALL BE TWO INDICATIONS ON THE FRONT AND TWO INDICATIONS ON THE BACK.
   C. EACH RRFB SHALL BE SUPPLIED WITH ALL REQUIRED HARDWARE TO INSTALL ASSEMBLY. ALL EXPOSED HARDWARE SHALL BE ANTI–VANDAL.
   D. EACH RRFB SHALL BE LOCATED BETWEEN THE BOTTOM OF THE CROSSING WARNING SIGN AND THE TOP OF THE SUPPLEMENTAL DOWNWARD DIAGONAL ARROW PLAQUE.
   E. THE LIGHT INTENSITY OF THE YELLOW INDICATIONS SHALL MEET THE MINIMUM SPECIFICATIONS OF SOCIETY OF AUTOMOTIVE ENGINEERS (SAE) STANDARD J595 (DIRECTIONAL FLASHING OPTICAL WARNING DEVICES FOR AUTHORIZED EMERGENCY, MAINTENANCE, AND SERVICE VEHICLES) DATED JANUARY, 2005.
   F. A SMALL CONFIRMATION LIGHT DIRECTED AT AND VISIBLE TO PEDESTRIANS IN THE CROSSWALK SHALL BE INSTALLED INTEGRAL TO THE RRFB OR PUSHBUTTON TO GIVE CONFIRMATION THAT THE RRFB IS IN OPERATION.

2. SIGNS
   A. ALL SIGN ASSEMBLIES SHALL USE ANTI–VANDAL FASTENERS TO MOUNT COMPONENTS TO SIGN AND SIGN TO FIXTURE.
   B. PEDESTRIAN PUSHBUTTON SIGNS SHALL BE PROVIDED AND INCLUDE THE LEGEND "PUSH BUTTON TO TURN ON WARNING LIGHTS". SIGNS SHOULD BE MOUNTED ADJACENT TO OR INTEGRAL WITH EACH PEDESTRIAN PUSHBUTTON.
   C. TWO SETS OF SIGNS SHALL BE REQUIRED PER UNIT FOR VIEW FROM EACH APPROACH.

3. CONTROL CIRCUIT
   A. WHEN ACTIVATED, THE TWO YELLOW INDICATIONS IN EACH RRFB SHALL FLASH IN A RAPIDLY ALTERNATING "WIG–WAG" FLASHING SEQUENCE (LEFT LIGHT ON, THEN RIGHT LIGHT ON).
   B. THE CONTROL CIRCUIT SHALL HAVE THE CAPABILITY OF INDEPENDENTLY FLASHING UP TO TWO INDEPENDENT OUTPUTS. THE LED LIGHT OUTPUTS AND FLASH PATTERN SHALL BE COMPLETELY PROGRAMMABLE.
   C. AS A SPECIFIC EXCEPTION TO THE 2003 MUTCD SECTION 4K.01 REQUIREMENTS FOR THE FLASH RATE OF BEACONS, RRFBS SHALL USE A MUCH FASTER FLASH RATE. EACH OF THE TWO YELLOW INDICATIONS OF AN RRFB SHALL HAVE 70 TO 80 PERIODS OF FLASHING PER MINUTE AND SHALL HAVE ALTERNATING, BUT APPROXIMATELY EQUAL, PERIODS OF FLASHING LIGHT EMISSIONS AND DARK OPERATION. DURING EACH OF ITS 70 TO 80 FLASHING PERIODS PER MINUTE, THE YELLOW INDICATIONS ON THE LEFT SIDE OF THE RRFB SHALL EMIT TWO SLOW PULSES OF LIGHT AFTER WHICH AND THE YELLOW INDICATIONS ON THE RIGHT SIDE OF THE RRFB SHALL EMIT FOUR RAPID PULSES OF LIGHT FOLLOWED BY A LONG PULSE.
   D. THE FLASH RATE OF EACH INDIVIDUAL YELLOW INDICATION, AS APPLIED OVER THE FULL ON–OFF SEQUENCE OF A FLASHING PERIOD OF THE INDICATION, SHALL NOT BE BETWEEN 5 AND 30 FLASHES PER SECOND, TO AVOID FREQUENCIES THAT MIGHT CAUSE SEIZURES.
   E. THE CONTROL CIRCUIT SHALL BE SEALED WATERTIGHT TO ELIMINATE DIRT CONTAMINATION AND ALLOW FOR SAFE HANDLING IN ALL WEATHER CONDITIONS.
   F. THE LEDS SHALL BE SEALED AGAINST DUST AND MOISTURE INTRUSION AS PER THE REQUIREMENTS OF NEMA STANDARD 250–1991 FOR TYPE 4 ENCLOSURE AND TO PROTECT ALL INTERNAL LED AND ELECTRICAL COMPONENTS.

4. BATTERY AND SOLAR PANELS
   A. BATTERY UNIT SHALL BE A 12VDC, 40 AHR MINIMUM, SEALED GEL OR AGM LEAD ACID BATTERY. BATTERIES SHALL HAVE A WRITTEN TWO YEAR FULL REPLACEMENT WARRANTY.
   B. THE SOLAR PANEL SHALL PROVIDE A MINIMUM OF 55 WATTS PEAK TOTAL OUTPUT.
   C. THE SOLAR PANEL SHALL BE MOUNTED TO AN ALUMINUM PLATE AND BRACKET AT AN ANGLE OF 45 DEGREES – 60 DEGREES TO PROVIDE MAXIMUM OUTPUT.
   D. ALL FASTENERS USED SHALL BE ANTI–VANDAL.

5. WIRELESS RADIO
   A. RADIO CONTROL SHALL OPERATE ON A 900 MHZ FREQUENCY HOPPING SPREAD SPECTRUM NETWORK, WI–FI OR APPROVED EQUAL.
   B. RADIO SHALL INTEGRATE COMMUNICATION OF RRFB CONTROL CIRCUIT TO ACTIVATE SIGN FROM PUSHBUTTON INPUT.
   C. THE RADIO SHALL BE SYNCHRONIZED SO ALL OF THE REMOTE RRFB LIGHT INDICATIONS WILL TURN ON WITHIN 120 MSEC OF EACH OTHER AND REMAIN SYNCHRONIZED THROUGH–OUT THE DURATION OF THE FLASHING CYCLE.
   D. RADIO SYSTEMS SHALL OPERATE FROM: 3VDC TO 15VDC.

6. PUSHBUTTON
   A. THE PUSHBUTTON SHALL BE CAPABLE OF CONTINUOUS OPERATION OVER A TEMPERATURE RANGE OF –30 DEGREES F TO +165 DEGREES F.
   B. PUSHBUTTON SHALL BE ADA COMPLIANT.

7. PEDESTAL SHAFT AND BASE
   MOUNT ON A STANDARD 4.5–INCH OD ALUMINUM PEDESTAL POLE WITH BREAKAWAY BASE. A 14 FOOT POLE SHALL BE PROVIDED AND FIELD ADJUSTED TO MAINTAIN THE PROPER SIGN MOUNTING HEIGHTS, UNLESS SPECIFIED OTHERWISE IN THE PLANS. POLE AND BASE MANUFACTURER SHALL BE LISTED ON ODOT'S QUALIFIED PRODUCTS LIST.

CONSTRUCTION
THE RRFB SHALL BE ASSEMBLED AND CONSTRUCTED BY THE CONTRACTOR AS SHOWN AND SPECIFIED ON THE PLANS.

WARRANTY
WARRANTY SHALL BE TWO YEARS FROM THE DATE OF FINAL ACCEPTANCE.

MEASUREMENT
THE DEPARTMENT WILL MEASURE THE ITEM COMPLETE IN PLACE, INCLUDING ALL MATERIALS, TESTING, LABOR AND SOFTWARE FOR A FULLY FUNCTIONAL UNIT.

PAYMENT
PAYMENT WILL BE AT THE CONTRACT UNIT PRICE PER EACH FOR ITEM 630 "SIGNING, MISC.: SOLAR POWERED RECTANGULAR RAPID FLASHING BEACON (RRFB) SCHOOL CROSSING SIGN ASSEMBLY".

ENVIRONMENTAL WORK

POSSIBLE PETROLEUM CONTAMINATED SOILS

ENVIRONMENTAL STUDIES HAVE SHOWN INDICATE THERE IS THE POTENTIAL FOR ENCOUNTERING PETROLEUM CONTAMINATED SOILS DURING CONSTRUCTION ACTIVITIES AT THE INTERSECTION OF HIGH STREET AND DOWNING.

IN THE EVENT PETROLEUM–CONTAMINATED MATERIALS ARE ENCOUNTERED, THE CONTRACTOR SHALL MANAGE THIS MATERIAL ACCORDING TO THE FOLLOWING NOTES:

ALL MATERIAL EXCAVATED BY THE CONTRACTOR MAY BE STOCKPILED IN AN AREA PROVIDED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. THE ENGINEER MAY PERMIT TEMPORARY STORAGE OF THE EXCAVATED MATERIAL IN A LINED AND COVERED ROLL–OFF BOX. THE ENGINEER MAY PERMIT TEMPORARY STORAGE OF THE EXCAVATED MATERIAL ON AN IMPERMEABLE MEMBRANE. THE MEMBRANE SHALL BE SURROUNDED BY BALES OF STRAW TO PREVENT THE SUSPECTED SOILS FROM COMING IN CONTACT WITH THE ORIGINAL SOILS. AN IMPERMEABLE MEMBRANE SHALL BE PLACED OVER THE STOCKPILE TO PREVENT CONTACT WITH PRECIPITATION AND/OR SURFACE RUN–OFF. THE ENGINEER MAY PERMIT THE CONTRACTOR TO DIRECT LOAD THE EXCAVATED CONTAMINATED MATERIAL INTO TRUCKS.

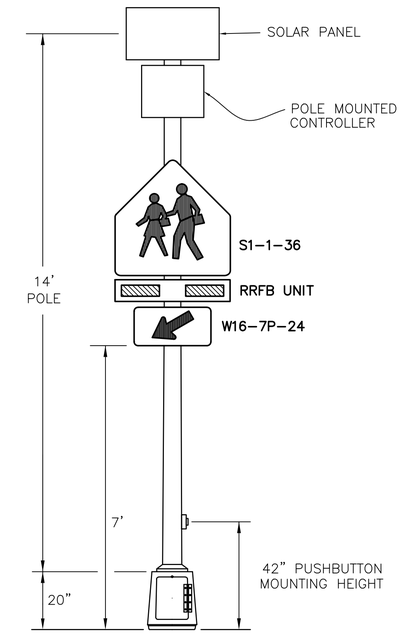
THIS MATERIAL SHALL BE PROPERLY TESTED, TRANSPORTED, AND DISPOSED OF IN A LICENSED (BY THE LOCAL HEALTH DEPARTMENT) AND PERMITTED (BY THE OHIO ENVIRONMENTAL PROTECTION AGENCY) SOLID WASTE FACILITY. IF REQUIRED BY THE SOLID WASTE FACILITY, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONDUCTING SAMPLING AND ANALYSIS OF THIS MATERIAL.

BASIS OF PAYMENT

THE CONTRACTOR SHALL FURNISH ALL THE LABOR, EQUIPMENT, AND MATERIALS NECESSARY TO PROPERLY HANDLE, STORE (IF NECESSARY), TEST FOR DISPOSAL, TRANSPORT, AND DISPOSE OF REGULATED MATERIALS, INCLUDING ANY REQUIRED PERMITS, APPROVALS, OR FEES WITHIN THE LIMITS IDENTIFIED ABOVE. PAYMENT FOR THIS WORK SHALL BE MADE AT THE CONTRACT PRICE BID PER TON. TONNAGE MAY BE ESTIMATED AT 1.5 TIMES THE TOTAL CUBIC YARDS. THE FOLLOWING ESTIMATED CONTINGENCY QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR THE WORK NOTED ABOVE:

690E65010 ITEM SPECIAL – WORK INVOLVING SOLID WASTE 10 TONS

THIS PROJECT IS LOCATED OVER A PORTION OF GREAT MIAMI–LITTLE MIAMI SOLE SOURCE AQUIFER. IN ORDER TO MINIMIZE THE POTENTIAL FOR A RELEASE IN THIS SENSITIVE AREA, ALL PROJECT RELATED FUELING AND/OR MAINTENANCE ACTIVITIES ARE TO BE UNDERTAKEN IN AN ENVIRONMENTALLY RESPONSIBLE MANNER. THE CONTRACTOR SHALL UTILIZE PROPER CONTAINMENT AND DRINKING IN REFUELING AREAS, AND SHALL NOT STORE IDLE EQUIPMENT, FUELS AND ANY TOXIC/HAZARDOUS MATERIALS AND CHEMICALS NEAR ANY DRAINAGE WAYS, DITCHES OR STREAMS. A SPILL KIT IS TO BE MAINTAINED ON–SITE THROUGHOUT CONSTRUCTION ACTIVITIES. SPILLS OF FUELS, OILS, CHEMICALS OR OTHER MATERIALS WHICH COULD POSE A THREAT TO GROUNDWATER SHALL BE CLEANED UP IMMEDIATELY BY THE CONTRACTOR. IF THE SPILL IS A REPORTABLE AMOUNT, THE CONTRACTOR SHOULD CONTACT THE CITY OF PIQUA FIRE DEPARTMENT (937–778–2014).



ITEM 630 SIGNING MISC.: SOLAR POWERED RECTANGULAR RAPID FLASHING BEACON (RRFB) SCHOOL CROSSING SIGN ASSEMBLY
NOT TO SCALE

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GENERAL NOTES (RRFB)

D07-SRTS-MIA PIQUA INFRA

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GENERAL NOTES

ITEM *SPECIAL* BRICK PAVEMENT, AS PER PLAN

THIS WORK SHALL CONSIST OF CONSTRUCTING A BITUMINOUS BRICK SETTING BED, PLACING THE PAVER BRICK AND SANDING THE JOINTS WITH SPECIFIED MATERIALS IN REASONABLY CLOSE CONFORMITY WITH LINES, GRADES, AND DIMENSIONS SHOWN ON THE PLANS OR ESTABLISHED BY THE ENGINEER. THE COST OF ALL MATERIALS, EQUIPMENT AND LABOR NECESSARY FOR THE COMPLETION OF THE CONSTRUCTION OF THE BRICK PAVERS, INCLUDING, BUT LIMITED TO DEMOLITION, REMOVAL AND DISPOSAL OF EXISTING ITEMS, EXCAVATION AND PROPER PLACEMENT AND CONSTRUCTION OF PROPOSED ITEMS SHALL BE CONSIDERED AS INCIDENTAL COSTS AND SHALL BE INCLUDED IN THE UNIT PRICE BID, AS PER PLAN. NO ADDITIONAL PAYMENT SHALL BE MADE.

ASPHALT CEMENT TO BE USED IN THE BITUMINOUS SETTING BED SHALL CONFORM TO ASTM DESIGNATION D-3381. THE VISCOSITY A.C. OR A.C. 20.

THE FINE AGGREGATE TO BE USED IN THE BITUMINOUS SETTING BED SHALL BE CLEAN, HARD SAND WITH DURABLE PARTICLES AND "COARSE" TO "FINE" AND ALL PASSING THE NO. 4 SIEVE AND IT SHALL MEET THE GRADUATION REQUIREMENTS WHEN TESTED IN ACCORDANCE WITH THE STANDARD METHOD OF TEST FOR SIEVE OR SCREEN ANALYSIS OF FINE AND COARSE AGGREGATES ASTM DESIGNATION C-136-81. THE DRIED FINE AGGREGATE SHALL BE COMBINED WITH HOT ASPHALT CEMENT, AND THE MIX SHALL BE HEATED TO APPROXIMATELY 300 DEGREES F AT AN ASPHALT PLANT. THE APPROXIMATE PORTION OF MATERIALS SHALL BE SEVEN (7) PERCENT ASPHALT CEMENT AND NINETY-THREE (93) PERCENT FINE AGGREGATE. EACH TON SHALL BE APPORTIONED BY WEIGHT IN THE APPROXIMATE RATIO OF 145 LBS. ASPHALT TO 1,855 LBS. SAND. THE CONTRACTOR SHALL DETERMINE THE EXACT PROPORTIONS TO PRODUCE THE BEST POSSIBLE MIXTURE FOR CONSTRUCTION OF THE BITUMINOUS SETTING BED TO MEET CONSTRUCTION REQUIREMENTS.

NOEPRENE-MODIFIED ASPHALT ADHESIVE SHALL BE PLACED UNDER BRICK PAVERS TO BOND BRICK TO 3/4" BITUMINOUS SETTING BED.

NEOPRENE - MODIFIED ASPHALT ADHESIVE
MASTIC (ASPHALT ADHESIVE)
SOLIDS BASE 75+1%3
LBS./GAL. 8-8.5 LB.
SOLVENT VARSOL (OVER 100 DEGREE F FLASH)
BASE (2% NEOPRENE, 10% FIBERS, 88% ASPHALT)
MELTING POINT - ASRM D-36 200 DEGREES F. MIN.
PENETRATION - 77 DEGREES 100 GRAM LOAD 5 SECOND (.1MM) 23-27
DUCTILITY - ASTM D-113-44 @ 25 DEGREES C (5CMS/PER MINUTE) 125 CM. MIN.

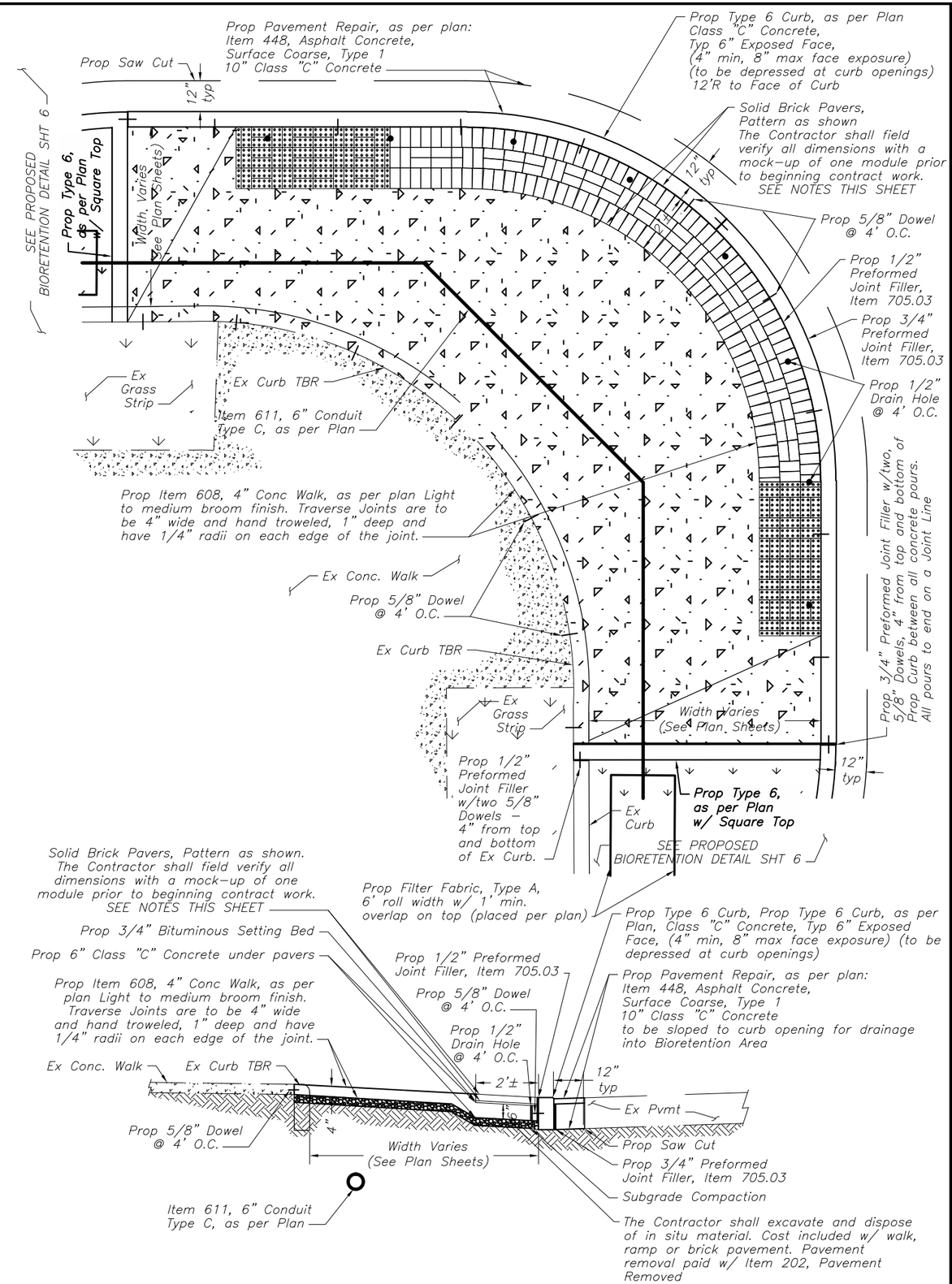
BITUMINOUS SETTING BED TO BE PLACED BY EXPERIENCED SUBCONTRACTOR IN THIS TRADE WHO HAS PERFORMED A MINIMUM OF FIVE (5) OTHER PROJECTS OF SIMILAR SIZE WHICH INCLUDE BITUMINOUS SETTING BEDS. THE CONTRACTOR PLACING THE BITUMINOUS SETTING BED SHALL ALSO PLACE AND INSTALL THE ACTUAL BRICK PAVERS. SUBMIT EXPERIENCE RECORD OF BRICK SUB-CONTRACTOR AND LIST OTHER PROJECTS OF SIMILAR SIZE, DIFFICULTY, AND TYPE. THE CONCRETE SUB-SLAB SURFACE SHALL BE CLEANED FREE OF DUST, DIRT, FOREIGN MATERIAL, PLASTER, SEALER, CURING COMPOUNDS AND FROM OIL PRIOR TO PLACEMENT OF BITUMINOUS SETTING BED. BRICK INSTALLATION CONTRACTOR SHALL EXAMINE THE AREAS TO BE COVERED AND ADVISE PRIME CONTRACTOR AND ENGINEER OF ANY EXISTING CONDITIONS OR SURFACE CONTAMINATION WHICH SHALL REQUIRE CORRECTION PRIOR TO PLACING BITUMINOUS SETTING BED. TO INSTALL THE SETTING BED OVER THE BASE SURFACE, PLACE DEEP CONTROL BARS DIRECTLY OVER THE BASE. THE DEPTH CONTROL BARS MUST BE SET CAREFULLY TO BRING PAVERS, WHEN LAID, TO PROPER GRADE. THICKNESS OF THE FINISHED SETTING BED SHALL BE NO MORE THAN 1" OR LESS THAN ½". THE SETTING BED SHALL BE COMPACTED WITH A MECHANICAL TAMPING DEVICE TO A NOMINAL DEPTH OF ¾" WHILE STILL HOT. THE THICKNESS SHALL BE ADJUSTED SO THAT WHEN THE ASPHALT BLOCK OR BRICK PAVERS ARE PLACED THE TOP SURFACE OF THE PAVERS WILL BE AT THE REQUIRED FINISHED GRADE. BE SURE FINISHED SURFACES DO NOT VARY FROM TRUE LINES, LEVELS, OR GRADE BY MORE THAN 1/8" IN TEN (10) WHEN MEASURING WITH STRAIGHT EDGES.

A COATING OF TWO (2) PERCENT NEOPRENE-MODIFIED ASPHALT ADHESIVE SHALL BE PLACED TO BOND BRICK TO THE 3/4" BITUMINOUS SETTING BED. THE ADHESIVE SHALL BE APPLIED BY SQUEEZING OR TOWELING OVER THE TOP SURFACE OF THE BITUMINOUS SETTING BED. IF THE ADHESIVE IS TROWELED, THE TROWEL SHALL BE SERRATED WITH SERRATIONS NOT TO EXCEED ONE-SIXTEENTH (1/16) OF AN INCH.
ON ALL DRIVEWAY AREAS, CROSSWALKS, OR OTHER WHICH SHALL RECEIVE VEHICULAR TRAFFIC OVER BRICK PAVERS, PRIME CONCRETE, SUB-SLAB SURFACE WITH EMULSIFIED ASPHALT (RS-1 OR CRS-1).

BRICK PAVERS WILL BE SUPPLIED BY THE CONTRACTOR. BRICK PAVERS SUPPLIED WILL BE MANUFACTURED FROM EXTRUDED FIRECLAY OR SHALE AND BE FIRED TO PRODUCE A DENSE PAVER WITH AN ABSORPTION OF LESS THAN 5% (IN A 24 HOUR COLD WATER ABSORPTION TEST). A MAXIMUM SATURATION COEFFICIENT OF 0.78 MINIMUM. AVERAGE COMPRESSIVE STRENGTH SHALL NOT BE LESS THAN 10,000 P.S.I. THE PAVERS MUST BE CAPABLE OF WITHSTANDING AT LEAST THE EQUIVALENT OF 50 CYCLES OF FREEZE-THAW CONDITIONS. THE PERMISSIBLE TOLERANCE FOR INDIVIDUAL PAVERS SHALL CONFORM TO ASTM DESIGNATION C-902-79A. PAVER SIZE TO BE UTILIZED IN BRICK STRIP IN PEDESTRIAN, DRIVEWAY, AND ALLEY AREAS SHALL BE 2 ¼" THICK, 4" WIDE AND 8" LONG. THE CONTRACTOR SHALL FURNISH SOLID BRICK MANUFACTURED BY WHITACRE-GREER. THE COLOR SHALL BE WHITACRE-GREER CLEAR RED RUSTIC #30, OR APPROVED EQUAL NO PAVERS WHICH ARE CHIPPED, CRACKED OR OTHERWISE DAMAGED ARE TO BE INSTALLED. AFTER THE MODIFIED ASPHALT ADHESIVE IS APPLIED, CAREFULLY PLACE THE PAVERS BY HAND IN STRAIGHT COURSES WITH HAND TIGHT JOINTS AND UNIFORM TOP SURFACE. GOOD ALIGNMENT MUST BE KEPT, AND THE PATTERN SHALL BE THAT SHOWN ON THE PLANS. HAND TIGHT JOINTS SHALL READ FROM 0" TO MAXIMUM OF 1/8" FOR BRICK PAVERS. SWEEP A DRY MIXTURE OF ONE (1) PART COLORED PORTLAND CEMENT TO MATCH COLOR OF PAVERS AND THREE (3) PARTS SAND UNTIL JOINTS ARE COMPLETELY FILLED. FOG LIGHTLY WITH WATER. CEMENT STAINS THAT REMAIN SHOULD BE CLEANED. PORTLAND CEMENT WITH COLOR ADDED SHALL CONFORM TO ASTM C-150. SAND SHALL CONFORM TO ASTM C-144. ALL PAVERS SHALL BE RETAINED BY SIDEWALK, CURB, OR ROADWAY. CUT PAVERS WHERE REQUIRED TO PROVIDE DESIRED LAYOUT AND PATTERN AS SHOWN ON DRAWINGS. ALL CUTTING SHALL BE SO ACCOMPLISHED SO AS TO LEAVE A CLEAN EDGE TO THE TRAFFIC SURFACE. USE MASONRY SAW AND OTHER APPROVED TOOLS FOR CUTTING. VERIFY DIMENSIONS SHOWN ON DRAWING FOR PAVED AREAS AND OBTAIN APPROVAL FROM ENGINEER FOR ANY DIMENSION CHANGES RECOMMENDED, IN WIDTH OF PAVED AREAS, AND ANY PATTERN CHANGES. DIMENSION CHANGES SHALL BE ALLOWED TO COMPENSATE FOR UTILIZATION OF FULL BRICKS AND TO MINIMIZE CUTTING OF BRICKS ONLY.

CONTRACTOR TO PROTECT THE FINISHED WORK FROM DAMAGE THROUGH THE CONSTRUCTION PERIOD TERMINATING AT FINAL ACCEPTANCE OF THE ENTIRE PROJECT. AT PROJECT COMPLETION, SWEEP AREA AND REPAIR ANY DAMAGED WORK. THE CONTRACTOR SHALL PROTECT ALL CONCRETE SUB-SLAB SURFACES POURED FROM DAMAGE OR CHIPPING BY RESIDENTIAL OR VEHICULAR TRAFFIC UNTIL BRICK IS LAID AND WORK ACCEPTED BY ENGINEER.

THE BRICK CONTRACTOR SHALL BE INVOLVED WITH THE PROJECT ASSISTING AND ADVISING THE CONCRETE WALK, DRIVES, ETC., ADJACENT TO BRICK PAVED AREAS. MINOR ADJUSTMENTS IN THE CONCRETE INSERT DIMENSIONS SHOWN ON PLANS MAY BE MADE AS APPROVED BY THE CITY TO MINIMIZE THE CUTTING OF BRICK PAVERS AND OBTAIN OPTIMAL PATTERN PLACEMENT. THE CONTRACTOR SHALL PROVIDE THE CITY A REPRESENTATIVE TYPICAL PAVED AREAS TO BE USED IN DETERMINING THE FINAL INSERT DIMENSIONS CONSTRUCTED IN CONCRETE BY THE CONCRETE CONTRACTOR. THE REPRESENTATIVE BRICK PAVED AREAS SHALL DEMONSTRATE FINAL ARRANGEMENT OF PAVERS IN REGARD TO DIMENSIONS AND PATTERN. AFTER THE ENGINEER HAS REVIEWED THE REPRESENTATIVE CONSTRUCTED AREA AND AGREEMENT IS REACHED AS TO ALL OF THE FINAL DETAILS OF THE BRICK PAVED AREAS, CONTRACTOR MAY COMMENCE CONSTRUCTION. THE SAMPLE CONSTRUCTED AREA WILL THEN BECOME THE STANDARD FOR ALL FUTURE WORK.



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BRICK PAVER NOTES & DETAILS

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BIORETENTION NOTES:

1. THE COST OF ALL MATERIALS, EQUIPMENT AND LABOR NECESSARY FOR THE COMPLETION OF THE CONSTRUCTION OF THE BIORETENTION BASIN, INCLUDING, BUT NOT LIMITED TO DEMOLITION, REMOVAL AND DISPOSAL OF EXISTING ITEMS, EXCAVATION AND PROPER PLACEMENT AND CONSTRUCTION OF PROPOSED ITEMS SHALL BE CONSIDERED AS INCIDENTAL COSTS AND SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM SPECIAL, PLANTER STRIP BIORETENTION, AS PER PLAN. NO ADDITIONAL PAYMENT SHALL BE MADE.

2. BIORETENTION FACILITIES SHALL NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREAS ARE STABILIZED AS SHOWN ON THE CONSTRUCTION PLANS AND TO THE SATISFACTION OF THE ENGINEER. BIORETENTION FACILITIES SHALL NOT BE USED AS SEDIMENT CONTROL FACILITIES.

3. THE BIORETENTION FACILITY SHALL BE EXCAVATED TO THE DIMENSIONS SHOWN ON THE DETAIL AND IN THE PLAN. THE METHOD OF EXCAVATION SHALL MINIMIZE THE COMPACTION OF THE BOTTOM OF THE BIORETENTION FACILITY.

4. NO HEAVY EQUIPMENT SHALL OPERATE WITHIN THE PERIMETER OR ON THE BOTTOM OF THE BIORETENTION FACILITY DURING EXCAVATION, UNDERDRAIN PLACEMENT, BACKFILLING, PLANTING OR MULCHING OF THE FACILITY. NO HEAVY EQUIPMENT SHALL BE ALLOWED EXCAVATORS AND BACKHOES OPERATING ON THE GROUND ADJACENT TO THE BIORETENTION FACILITY SHALL BE USED TO EXCAVATE THE FACILITY, IF POSSIBLE. LOW GROUND-CONTACT PRESSURE EQUIPMENT MAY ALSO BE USED FOR EXCAVATION.

5. EXCAVATED MATERIALS SHALL BE REMOVED FROM THE BIORETENTION FACILITY SITE. EXCAVATED MATERIALS SHALL BE USED OR DISPOSED OF IN CONFORMANCE WITH THE PROJECT SPECIFICATIONS FOR EARTHWORK.

6. PRIOR TO PLACING THE UNDERDRAIN AND THE BIORETENTION SOIL MIXTURE (BSM), THE BOTTOM OF THE EXCAVATION SHALL BE ROTO-TILLED TO A MINIMUM DEPTH OF 6 INCHES TO ALLEVIATE ANY COMPACTION OF THE FACILITY BOTTOM. ANY SUBSTITUTE METHOD FOR ROTO-TILLING MUST BE APPROVED BY THE ENGINEER PRIOR TO USE. ANY STANDING WATER SHALL BE REMOVED FROM THE BOTTOM OF THE FACILITY AND THE SOIL SHALL BE FRIABLE BEFORE ROTO-TILLING.

7. THE BSM SHALL CONSIST OF A MIXTURE OF SAND, COMPOST AND TOPSOIL WITH A PH RANGE OF 5.5 TO 6.5 AS PROPORTIONED AS SHOWN BELOW:

   50% SAND, COARSE RIVER SAND
   25% COMPOST, HEAVILY DECOMPOSED LEAF MULCH AND/OR REAL ORGANIC MATERIAL
   25% TOPSOIL

8. THE MIXING OF THE BSM TO A HOMOGENEOUS CONSISTENCY SHALL BE DONE TO THE SATISFACTION OF THE ENGINEER. THE MIXED BSM SHALL HAVE A MINIMUM SATURATED HYDRAULIC CONDUCTIVITY OF 0.5 IN/HR.

9. DOCUMENTATION OF THE APPROVED BSM MUST BE PROVIDED TO THE ON-SITE INSPECTOR.

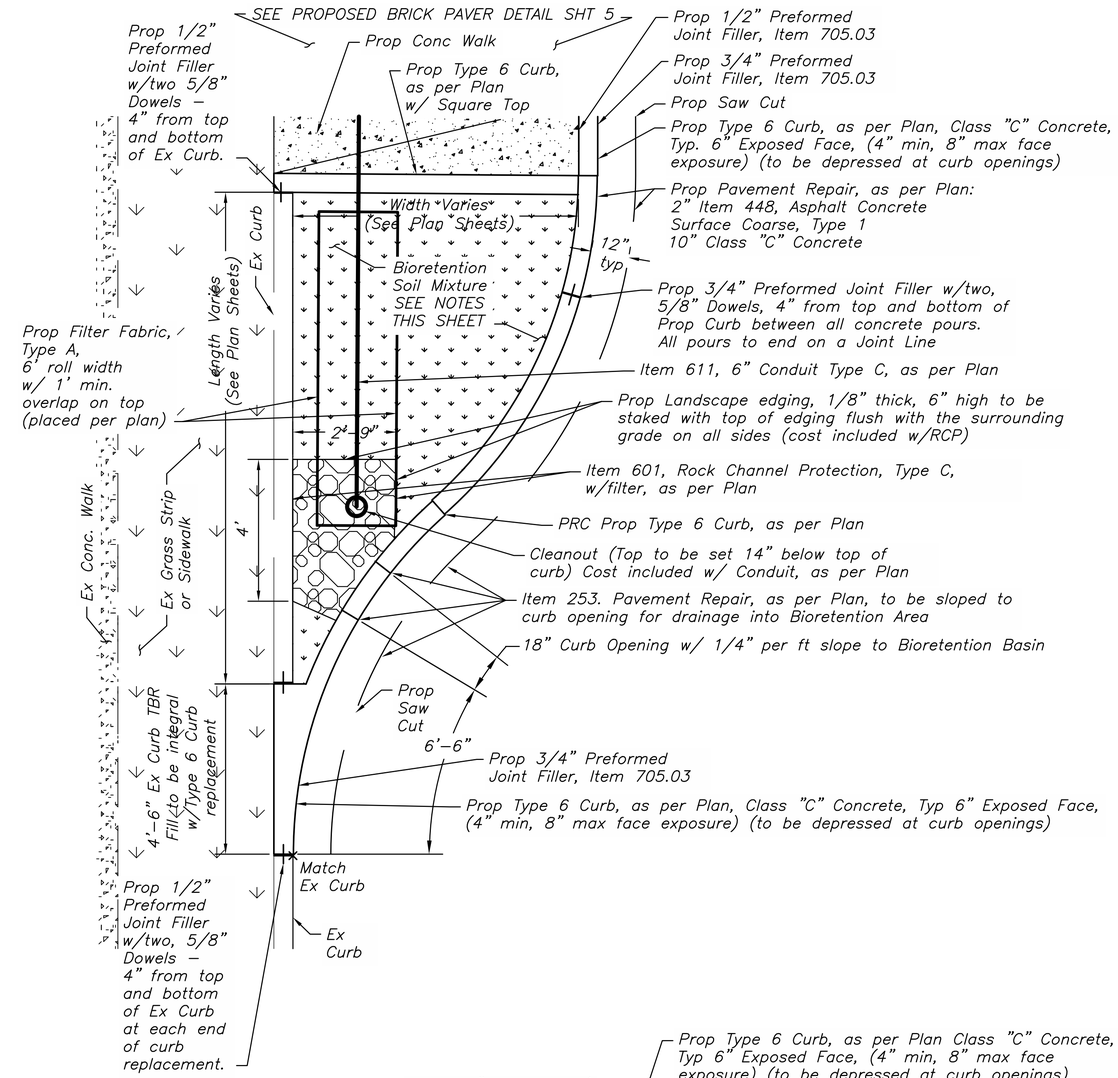
10. IF THE BSM DOES NOT MEET THE ABOVE CHARACTERISTICS, THEN IT SHALL EITHER BE ADJUSTED TO MEET THE CRITERIA OR REMOVED AND REPLACED WITH AN ACCEPTABLE BSM. TESTS SHALL BE PERFORMED BY THE OWNER FOR EVERY 500 CUBIC YARDS OF BSM, WITH EXCEPTION OF PH AND ORGANIC CONTENT TESTS WHICH ARE REQUIRED ONLY ONCE PER BIORETENTION AREA. BSM THAT FAILS TO MEET THE MINIMUM REQUIREMENTS SHALL BE REPLACED AT NO ADDITIONAL COST TO THE PROJECT. MIXING OF THE CORRECTIVE ADDITIVES TO THE BSM IS INCIDENTAL AND SHALL BE AT NO ADDITIONAL COST TO THE PROJECT.

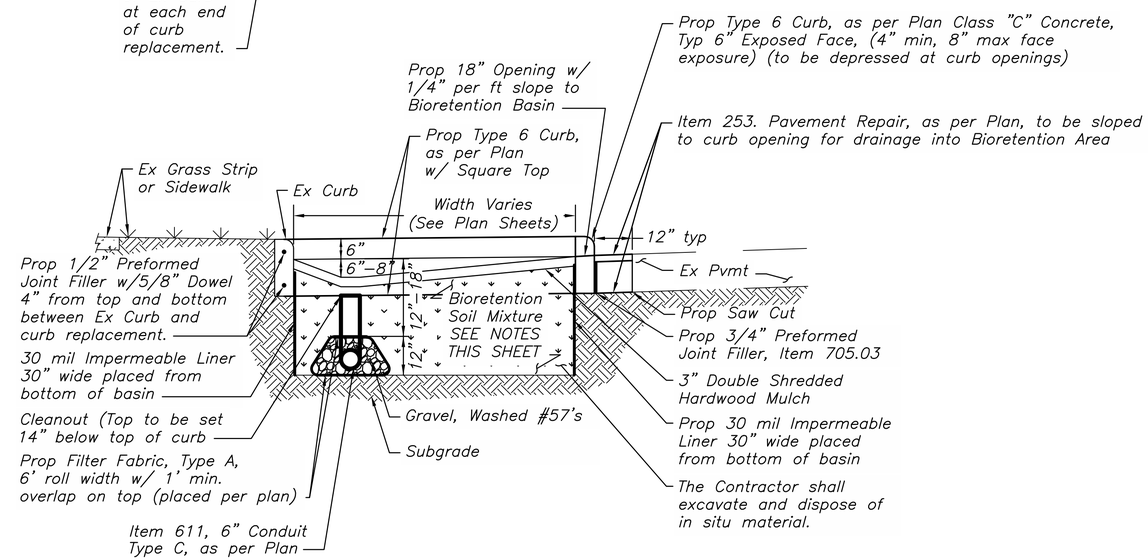
11. THE APPROVED BSM SHALL BE PLACED AND GRADED USING LOW GROUND-CONTACT PRESSURE EQUIPMENT OR BY EXCAVATORS AND/OR BACKHOES OPERATING ON THE GROUND ADJACENT TO THE BIORETENTION FACILITY BEFORE, DURING, OR AFTER THE PLACEMENT OF THE BSM.

12. THE BSM SHALL BE PLACED IN HORIZONTAL LAYERS NOT TO EXCEED 12 INCHES FOR THE ENTIRE AREA OF THE BIORETENTION FACILITY. THE BSM SHALL BE COMPACTED BY SATURATING THE ENTIRE AREA OF THE BIORETENTION FACILITY AFTER EACH LIFT OF BSM IS PLACED UNTIL WATER FLOWS FROM THE UNDERDRAIN. WATER FOR SATURATION SHALL BE APPLIED BY SPRAYING OR SPRINKLING. SATURATION OF EACH LIFT SHALL BE PERFORMED IN THE PRESENCE OF THE ENGINEER. AN APPROPRIATE SEDIMENT CONTROL DEVICE SHALL BE USED TO TREAT ANY SEDIMENT-LADEN WATER DISCHARGED FROM THE UNDERDRAIN. IF THE BSM BECOMES CONTAMINATED DURING THE CONSTRUCTION OF THE FACILITY, THE CONTAMINATED MATERIAL SHALL BE REMOVED AND REPLACED WITH UNCONTAMINATED MATERIAL AT NO ADDITIONAL COST TO THE PROJECT.

13. FINAL GRADING OF THE BSM SHALL BE PERFORMED AFTER A 24-HOUR SETTLING PERIOD. FINAL ELEVATIONS SHALL BE WITHIN 1 INCH OF ELEVATIONS SHOWN ON THE CONTRACT PLANS.

14. A 3" LAYER OF MUCH SHALL BE PROVIDED ABOVE THE PLANTING SOIL AND SHALL BE COMPOSED OF DOUBLE-SHREDDED HARDWOOD MATERIAL TO AVOID FLOATING.





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BIO RETENTION NOTES & DETAILS

D07-SRTS-MIA PIQUA INFRA

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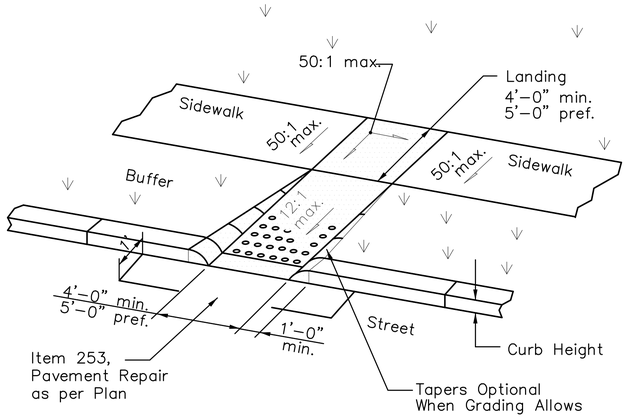

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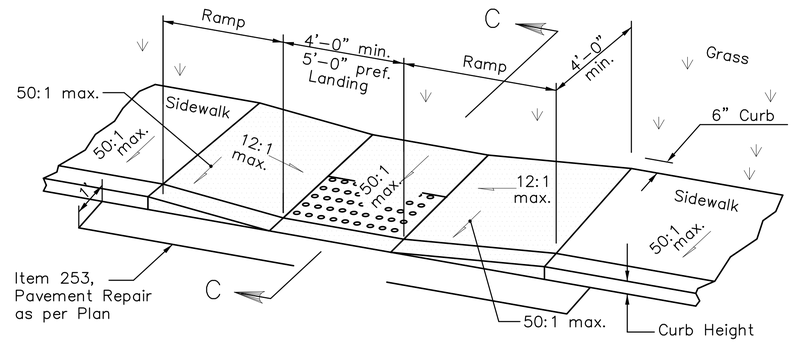
PERPENDICULAR CURB RAMP DETAIL



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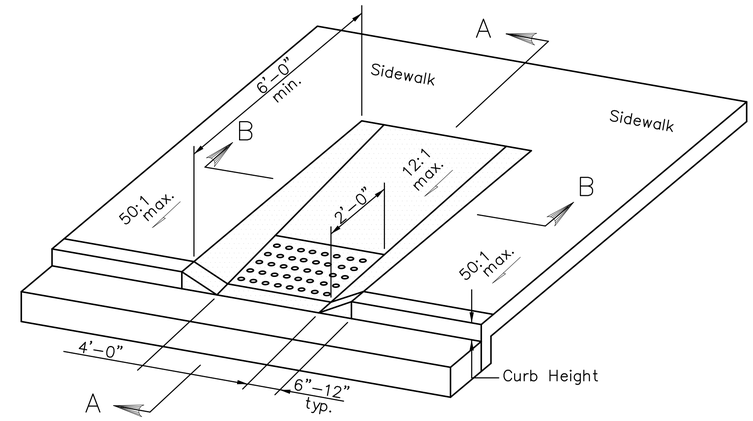
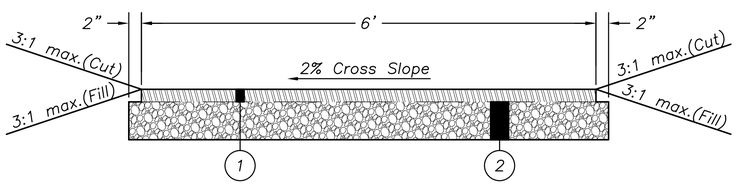
(Double Sided Parallel)

PARALLEL CURB RAMP DETAILS



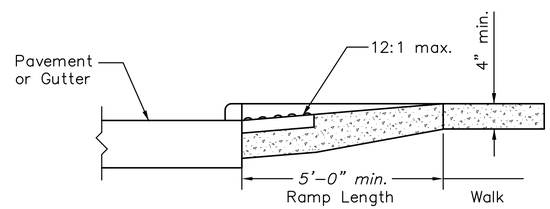
TYPE 2 RAMP DETAIL



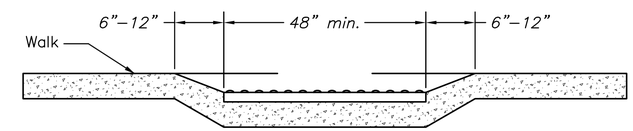
(1) *Item 448, 2" Surface Course, Type1 PG 64–22*

(2) *Item 304, 6" Aggregate Base*

ITEM 608 2" ASPHALT
CONCRETE WALK, AS PER PLAN
SCALE: 1" = 2'



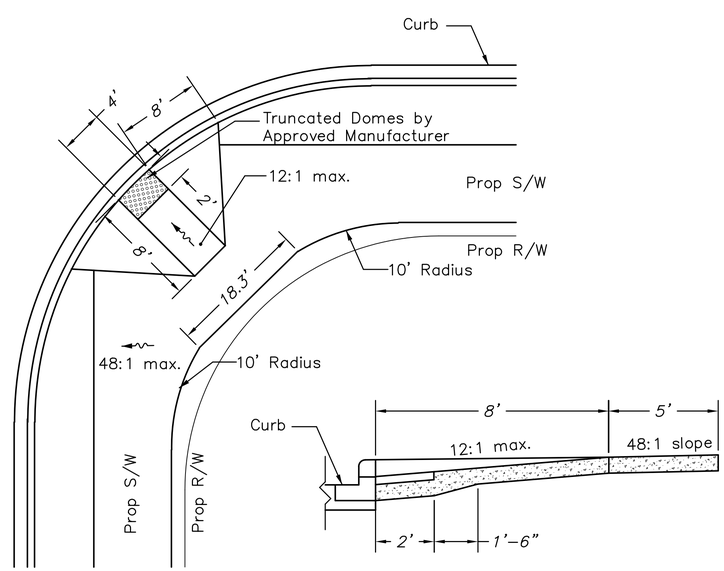
SECTION A-A

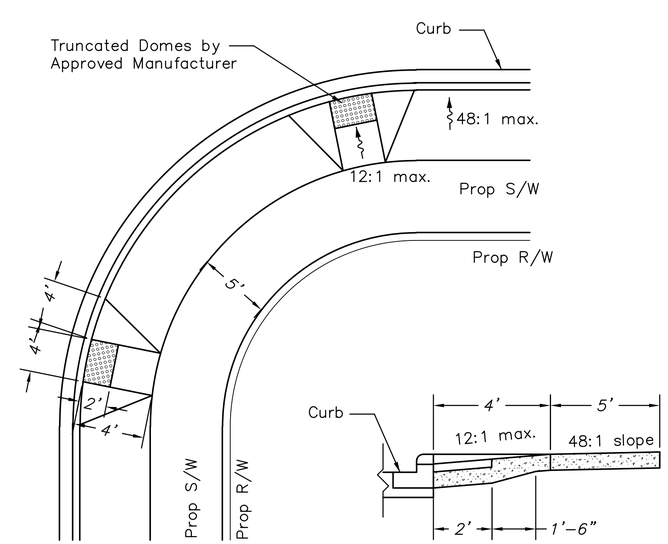


SECTION B-B

NOTES:

A. *CITY TO SPECIFY TYPE 1, 2, OR 3 CURB RAMP.*
B. *ANY COMBINATION OF SIDE SLOPES ON OPPOSITE SIDES OF A RAMP MAY BE USED TO BEST FIT THE SITE CONDITIONS.*
C. *THE MINIMUM RAMP LENGTH IS 6' FROM BACK OF A 6" CURB AND MAY BE INCREASED WHERE FEASIBLE TO OBTAIN A FLATTER RAMP SLOPE OR TO BETTER BLEND WITH THE WALK CONFIGURATION.*
D. *WALK THICKNESS IN THE RAMP SLOPES SHALL BE 8" MINIMUM OR THICKER AS NECESSARY TO MATCH ADJACENT WALK THICKNESS.*
E. *CURB RAMPS SHALL MEET AND BE FINISHED TO AMERICANS WITH DISABILITIES ACT (A.D.A) STANDARDS.*
F. *TEXTURE OF CONCRETE SURFACE SHALL BE OBTAINED BY COURSE BROOMING TRAVERSE TO THE RAMP SLOPES AND SHALL BE ROUGHER THAN ADJACENT WALK.*
G. *CURB RAMPS SHALL MEET THE REQUIREMENTS OF ODOT ITEM 608 UNLESS OTHERWISE SPECIFIED WITHIN. REFER TO ODOT STANDARD DRAWINGS FOR ADDITIONAL CURB RAMP CONFIGURATIONS.*
H. *CONCRETE SHALL BE ODOT CLASS C (4000 PSI, 600 LB/CY CEMENT). PROPORTIONING OPTIONS 1, 2, AND 3 NOT ALLOWED.*
I. *CONCRETE SHALL CONTAIN 6% ± 1% OF TOTAL AIR.*
J. *FOR RECONSTRUCTION JOBS, THE CURB RAMPS WILL HAVE TO BE ADDRESSED BASED ON THE EXISTING CONDITIONS.*
K. *TRUNCATED DOME SPECIFICATIONS:*
INSTALL DETECTABLE WARNINGS (TRUNCATED DOMES) FOR A DISTANCE OF 24" FROM THE BACK OF CURB FOR THE ENTIRE WIDTH OF THE RAMP OPENING WHERE IT IS FLUSH WITH THE PAVEMENT. THE TRUNCATED DOMES SHALL BE ODOT APPROVED. THE COLOR SHALL BE RED.
L. *CURB RAMPS TO BE POURED ON COMPACTED, UNDISTURBED EARTH OR IF OVER EXCAVATED BY THE CONTRACTOR, THE CURB RAMPS SHALL BE POURED ON COMPACTED GRANULAR BEDDING. CITY INSPECTION OF FORM WORK IS REQUIRED PRIOR TO PLACING CONCRETE.*
M. *PROVIDE BROOM FINISH AND EDGING TO ALL EXPOSED SURFACES. TEXTURE SHALL BE A MEDIUM BROOM WITH TOOL FINISH. CITY TO REVIEW AND APPROVE FIRST POUR.*
N. *ALL DETECTABLE WARNING CURB RAMPS TO BE CAST IRON MANUFACTURED BY THE EAST JORDAN IRON WORKS 70105 SERIES, NEENAH FOUNDRY MODEL R–4984, OR AN APPROVED EQUAL.*





CALCULATED MM
CHECKED AV

TYPICAL SECTIONS DETAILS

D07-SRTS-MIA
PIQUA INFRA

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ITEM 614 - MAINTAINING TRAFFIC, AS PER PLAN

ALL TEMPORARY TRAFFIC CONTROL DEVICES (TTC) SHALL BE FURNISHED, ERECTED, MAINTAINED AND REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (OMUTCD) FOR CONSTRUCTION AND MAINTENANCE OPERATIONS (LATEST EDITION). COPIES ARE AVAILABLE FROM THE OHIO DEPARTMENT OF TRANSPORTATION 1980 WEST BROAD STREET, COLUMBUS, OHIO 43223. ALL DEVICES SHALL COMPLY, FOR CONDITION AND LOCATION, WITH THE CURRENT EDITION OF THE NCHRP 350 CRASH TESTING GUIDELINES.

MAINTENANCE OF ALL TRAFFIC CONTROL DEVICES INCLUDING DRUMS, SIGNS, BARRICADES, SIGN BOARDS, ETC. SHALL BE THE CONTRACTOR'S RESPONSIBILITY.

NO CHANGE IN TRAFFIC PATTERNS SHALL TAKE PLACE DURING PEAK HOURS, 6:00 A.M. TO 9:00 A.M. AND 3:00 P.M TO 6:00 P.M. MONDAY THROUGH FRIDAY.

TWO–LANE, TWO WAY TRAFFIC SHALL BE MAINTAINED DURING PEAK HOURS AND AT ALL OTHER TIMES EXCEPT AS FOLLOWS:

ONE–LANE, TWO WAY TRAFFIC (USING STANDARD DWG MT–97.10) WILL BE PERMITTED FOR MINIMUM PERIODS.

THE LOCATION OF THE UNDERGROUND UTILITIES SHOWN ON THE PLANS ARE AS OBTAINED FROM THE OWNERS AS REQUESTED UNDER SECTION 153.64 O.R.C.

CONSTRUCTION OPERATIONS SHALL NOT BEGIN UNTIL ALL TRAFFIC CONTROL IS IN PLACE AND APPROVED BY THE INSPECTOR. IF THE CONTRACTOR DOES NOT COMPLY WITH THE STANDARDS, INCLUDING THE INSTALLATION OF TEMPORARY PAVEMENT MARKINGS AND THE REMOVAL OF CONFLICTING TRAFFIC CONTROLS, THEIR PERMIT SHALL BE REVOKED AND ALL WORK SHALL BE TERMINATED.

A COPY OF THE APPROVED MAINTENANCE OF TRAFFIC (MOT) PLAN SHALL BE SUBMITTED FOR COORDINATION PURPOSES TO THE FIRE DIVISION, POLICE DIVISION, AND CITY SCHOOLS PRIOR TO CONSTRUCTION. ACCESS FOR MAIL AND EMERGENCY SERVICES SHALL BE MAINTAINED AT ALL TIMES.

PIQUA FIRE DEPARTMENT
229 WEST WATER STREET
PIQUA OHIO 45356
PHONE: (937) 778–2013
FAX: (937) 778–2008

PIQUA POLICE DEPARTMENT
100 NORTH WAYNE STREET
PIQUA OHIO 45356
PHONE: (937) 778–2027
FAX: (937) 778–2008

PIQUA CITY SCHOOLS
719 EAST ASH STREET
PIQUA OHIO 45356
PHONE: (937) 773–4321
FAX: (937) 778–4517

ADVANCED WRITTEN NOTIFICATION OF SIDEWALK CLOSURES, DETOURS, SIGNAGE, AND OTHER PEDESTRIAN GUIDANCE SHALL BE PROVIDED TO THE SURROUNDING COMMUNITY AND THE APPROPRIATE CITY OF PIQUA PERSONNEL. SIDEWALK CLOSURES AND/OR DETOUR SIGNS SHALL BE MOUNTED ON BARRICADES THAT COMPLETELY BLOCK THE AREA THAT IS CLOSED, AND OTHERWISE MEET THE REQUIREMENTS OF MT–110.10

PEDESTRIAN ACCESS TO RESIDENCES AND BUSINESSES SHALL BE MAINTAINED AT ALL TIMES. MAINTAIN ACCESS TO BLOCKS FROM ONE END OR THE OTHER.

FINISH WORK AT ONE END OF A BLOCK BEFORE DISTURBING THE OTHER END, OR INSTALL TEMPORARY SIDEWALK.

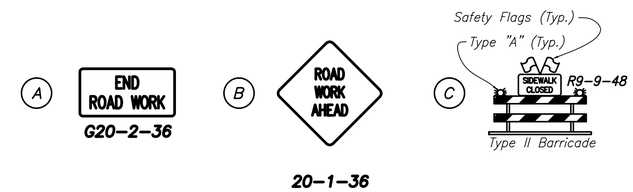
PAYMENT FOR ALL WORK REQUIRED FOR TRAFFIC CONTROL INCLUDING PROVIDING, ERECTING, MAINTAINING, AND REMOVING ALL LIGHTS, SIGNS, BARRICADES, DRUMS, REGULATORY SIGNS, AND ALL OTHER TRAFFIC CONTROL DEVICES SHALL BE INCLUDED IN THE LUMP SUM BID FOR ITEM 614, MAINTAINING TRAFFIC UNLESS SEPARATELY ITEMIZED IN THIS PLAN.

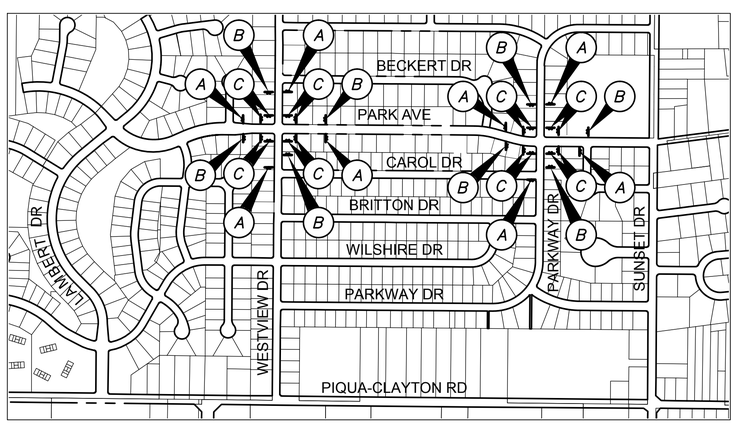
SEQUENCE OF CONSTRUCTION

CONTRACTOR SHALL SEQUENCE CONSTRUCTION ACTIVITIES SO THAT TRAFFIC IS MAINTAINED IN A MANNER WHICH IS SAFE FOR THE TRAVELING PUBLIC.

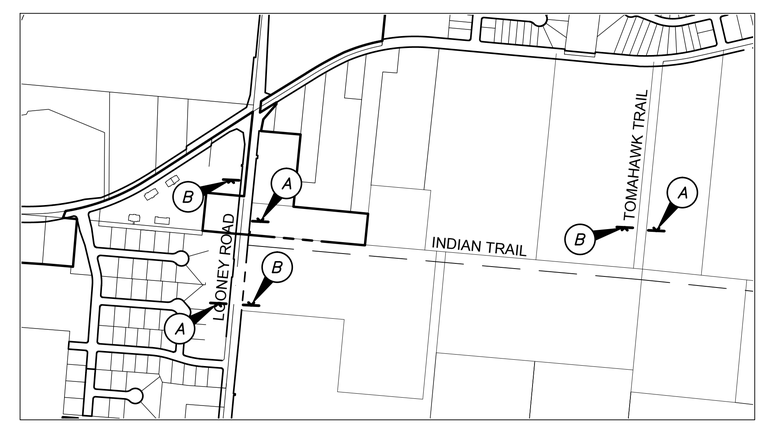
ALL TEMPORARY OR PERMANENT SIDEWALKS, CURB RAMPS, AND PAVEMENT MARKINGS SHALL BE IN PLACE BEFORE OPENING TO PUBLIC. ALL SIGNAGE SHALL COMPLY WITH MT–110.10 W/FIXED CLOSURE SIGNS AND PORTABLE PEDESTRIAN DETOUR SIGNS MOVED W/WORK LIMITS.

LEGEND





TEMPORARY TRAFFIC CONTROL FOR THE INTERSECTIONS INDICATED ABOVE SHALL BE INSTALLED PER OMUTCD FIGURES 6H–28, 6H–29, OR STD. DWG. MT–97.10 AS APPLICABLE.



CALCULATED MM
CHECKED AV

M.O.T. NOTES & SIGNAGE PLAN

D07-SRTS-MIA
PIQUA INFRA

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SHEET NUMBER															FUNDING SPLITS		ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
3	8	10	11	12	13	14	15	16	17	18	19	20	21	27								
																					ROADWAY	
LUMP															LUMP		201	11000	LUMP		CLEARING AND GRUBBING	3
			20					375							395		202	23000	395	SQ.YD.	PAVEMENT REMOVED	
		2200	1980	265	40	240	43	2139	95				215		7217		202	30000	7217	SQ.FT.	WALK REMOVED	
100												20			120		202	34900	120	FT	PIPE REMOVED	3
			20	18	13	32	15	398					52		548		202	32001	548	FT	CURB REMOVED, AS PER PLAN	3
		48	55	22					30						155		202	32500	155	FT	CURB AND GUTTER REMOVED	
								3				1			4		202	58101	4	EA	CATCH BASIN REMOVED, AS PER PLAN	3
			285												285		202	75001	285	FT	FENCE REMOVED, AS PER PLAN	11
											2				2		202	98100	2	EACH	REMOVAL MISC. BOLLARD	
			5												5		690	98000	5	EACH	SPECIAL MISC. RAILROAD TIE REMOVAL	
			1												1		690	98000	1	EACH	SPECIAL MISC. RELOCATE RETAINING WALL	
		2100	2436	193		107		3570	188			75	270		8939		608	10001	8939	SQ.FT.	4" CONCRETE WALK, AS PER PLAN	3
									3030	2850	3000	2494	1265		12639		608	20001	12639	SQ.FT.	2" ASPHALT CONCRETE WALK, AS PER PLAN	3
			21	18	13	30	15	671					52		820		609	26001	820	FT	CURB, TYPE 6 AS PER PLAN	3
		48	55	22					30						155		609	12001	155	FT	COMBINATION CURB AND GUTTER, TYPE 2 AS PER PLAN	3
				1		2			1			2	2		8		690	98000	8	EACH	SPECIAL MISC. CURB RAMP, TYPE A2 AS PER PLAN	3, 7
		8	4	2				8	1				2		25		690	98000	25	EACH	SPECIAL MISC. CURB RAMP, TYPE B2 AS PER PLAN	3, 7
								161							161		690	98200	161	SQ.FT.	SPECIAL MISC. BRICK PAVEMENT, AS PER PLAN	5
																					EROSION CONTROL	
		8	5	2	1	2	0.5		22	25	25	24	16		130.5		653	10000	130.5	CU.YD.	TOPSOIL FURNISHED AND PLACED	
		416	300	11	4	20	5		801	930	910	876	602		4875		659	00500	4875	SQ.YD.	SEEDING AND MULCHING, CLASS 1	
															3000		832	30000	3000	EACH	EROSION CONTROL	
																					DRAINAGE	
15															15		511	46000	15	CU.YD.	CLASS C CONCRETE	3
								5							5		511	32201	5	CU.YD.	ROCK CHANNEL PROTECTION, TYPE C WITH FILTER, AS PER PLAN	3
50															50		611	00101	50	FT	4" CONDUIT TYPE B, AS PER PLAN	3
								268							268		611	01101	268	FT	6" CONDUIT TYPE C, AS PER PLAN	3
50															50		611	01801	50	FT	8" CONDUIT TYPE B, AS PER PLAN	3
50												25			75		611	03101	75	FT	10" CONDUIT TYPE B, AS PER PLAN	3
								69		17					86		611	04400	86	FT	12" CONDUIT TYPE B	
5										0.5		1			6.5		209	60501	6.5	STA.	LINEAR GRADING AS PER PLAN	3
								891							891		690	98200	891	SQ.FT.	SPECIAL MISC. BIORETENTION SOIL, AS PER PLAN	3, 6
								5							5		611	98370	5	EA	CATCH BASIN NO. 6	
										1		1			2		611	98470	2	EA	CATCH BASIN 2-2B	
								1							1		611	99550	1	EA	MANHOLE NO. 1	
																					PAVEMENT	
120								93							213		253	01001	213	SQ.YD.	PAVEMENT REPAIR, AS PER PLAN	3
																					LIGHTING	
														10	10		625	26251	10	EACH	LUMINAIRE, CONVENTIONAL, AS PER PLAN	27
														10	10		625	10490	10	EACH	LIGHT POLE, CONVENTIONAL, MONOARM, AT4B32.5	
														10	10		625	14000	10	EACH	LIGHT POLE FOUNDATION, 24" X 6' DEEP	
														1	1		625	30700	1	EACH	PULL BOX, 725.08, 18"	
														1741	1741		625	25408	1741	FT	CONDUIT, 2", 725.051	
														1741	1741		625	29000	1741	FT	TRENCH	
														46	46		625	25902	46	FT	CONDUIT, JACKED OR DRILLED, 725.04	
														1	1		625	34001	1	EACH	POWER SERVICE, AS PER PLAN	27
														730	730		625	23400	730	FT	NO. 10 AWG POLE AND BRACKET CABLE	
														5661	5661		625	23200	5661	FT	NO. 4 AWG 5000 VOLT DISTRIBUTION CABLE	
														10	10		625	00450	10	EACH	CONNECTION, FUSED PULL APART	
														10	10		625	00460	10	EACH	CONNECTION, UNFUSED PULL APART	
														3	3		625	00480	3	EACH	CONNECTION, UNFUSED PERMANENT	
														10	10		625	32000	10	EACH	GROUND ROD	
														1741	1741		625	36000	1741	FT	PLASTIC CAUTION TAPE	
																					TRAFFIC CONTROL	
				4	4	4	2								14		625	32000	14	EACH	GROUND ROD	
		112	29	58	58	58	85	54	13			59	45		571		630	03100	571	FT	GROUND MOUNTED SUPPORT, NO. 3 POST	
		31		44	44	44	50	28	7			46	22		316		630	80100	316	SQ.FT.	SIGN, FLAT SHEET	
			3						1						4		630	84900	4	EACH	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	
		4	2										1		7		630	85100	7	EACH	REMOVAL OF GROUND MOUNTED SIGN AND REERECTION	
		4	5						1				1		11		630	86002	11	EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	
				4	4	4	2								14		630	97700	14	EACH	SIGNING, MISC.: SOLAR POWERED RECTANGULAR RAPID FLASHING BEACON (RRFB)	4
																					SCHOOL CROSSING SIGN ASSEMBLY	
		135	22	73	74	67	71	52	23				12		529		644	00500	529	FT	STOP LINE	
		664	108	497	499	454	554	200	154			49	95		3274		644	00600	3274	FT	CROSSWALK LINE	
		233	10	585	697	532	551	255							2863		644	30000	2863	FT	REMOVAL OF PAVEMENT MARKING	
				160	80	160						50	50		500		647	50120	500	FT	PAVEMENT MARKING, MISC.: CROSSWALK LINE, TYPE B125	26
																					MISCELLANEOUS	
	LUMP														LUMP		614	11001	LUMP		MAINTAINING TRAFFIC, AS PER PLAN	8
															LUMP		623	10000	LUMP		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
															LUMP		624	10000	LUMP		MOBILIZATION	
								10							TON		690	65010	TON		SPECIAL - WORK INVOLVING SOLID WASTE	4
																					LANDSCAPING	
								8							8		690	98200	8	EACH	SPECIAL MISC.BIORETENTION PLANTING, TILA TOMENTOSA	16
								48							48		690	98200	48	EACH	SPECIAL MISC.BIORETENTION PLANTING, BUXUS MICROPHYLIA "GREEN VELVET"	16
								28							28		690	98200	28	EACH	SPECIAL MISC.BIORETENTION PLANTING,RHUS AROMATICA "GRO-LOW"	16
								28							28		690	98200	28	EACH	SPECIAL MISC.BIORETENTION PLANTING,BERBERIS THUNBERGHII ATROPURPUREA "CRIMSON PYGMY"	16
								72							72		690	98200	72	EACH	SPECIAL MISC.BIORETENTION PLANTING,RUDBECKIA HIRTA	16
								47							47		690	98200	47	EACH	SPECIAL MISC.BIORETENTION PLANTING,HEMEROCALLIS "STELLA D' ORO"	16
								52							52		690	98200	52	EACH	SPECIAL MISC.BIORETENTION PLANTING,ECHINACIA PURPUREA "KIM'S KNEE HIGH"	16

CALCULATED MM
CHECKED AV

GENERAL SUMMARY

D07-SRTS-MIA
PIQUA INFRA

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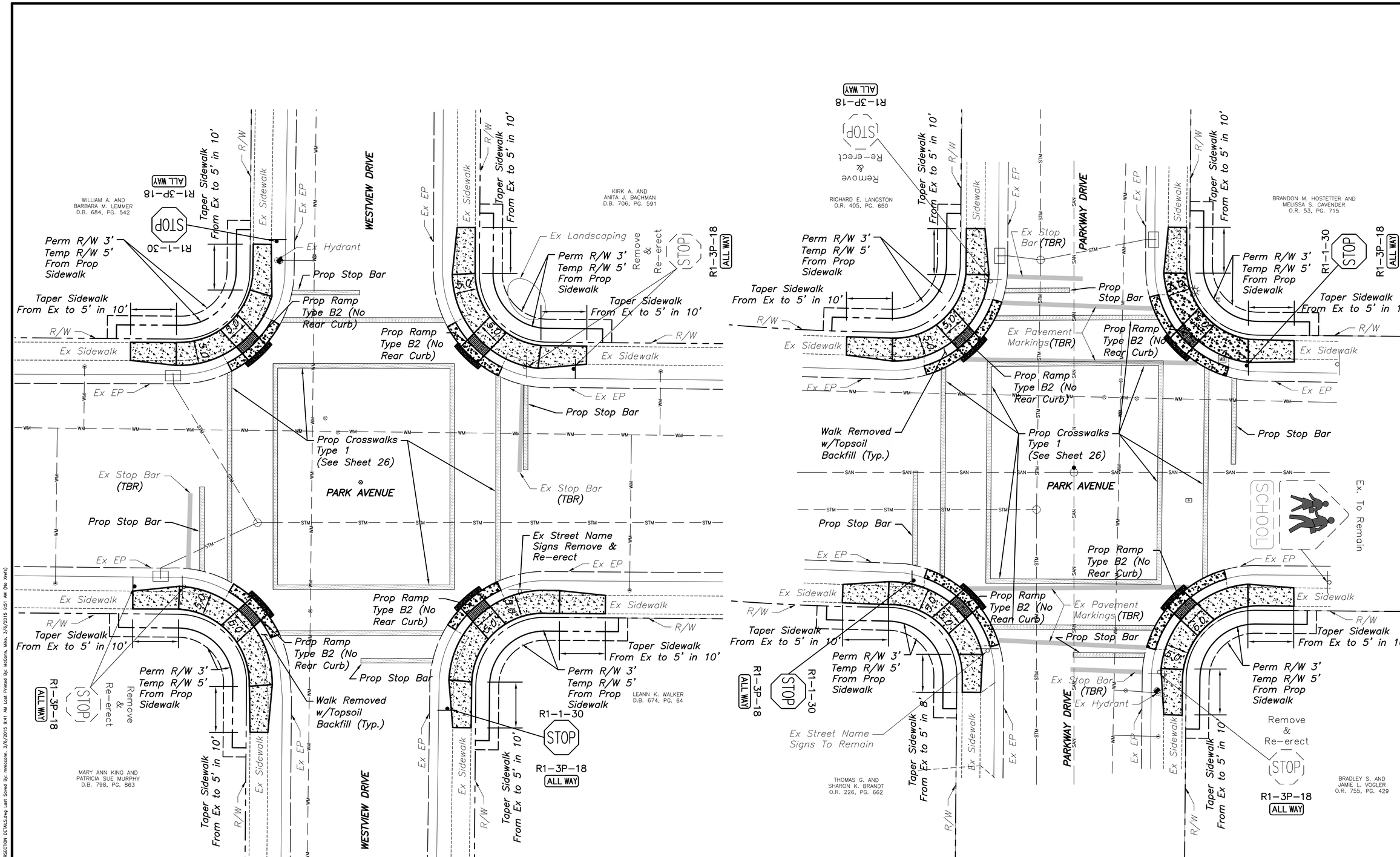

CAUTION

O.S.H.A. Clearance Requirements to be Maintained During Construction Between Equipment and Overhead Utility Lines

CALCULATED MM
CHECKED AV

INTERSECTION DETAILS

D07-SRTS-MIA
PIQUA INFRA

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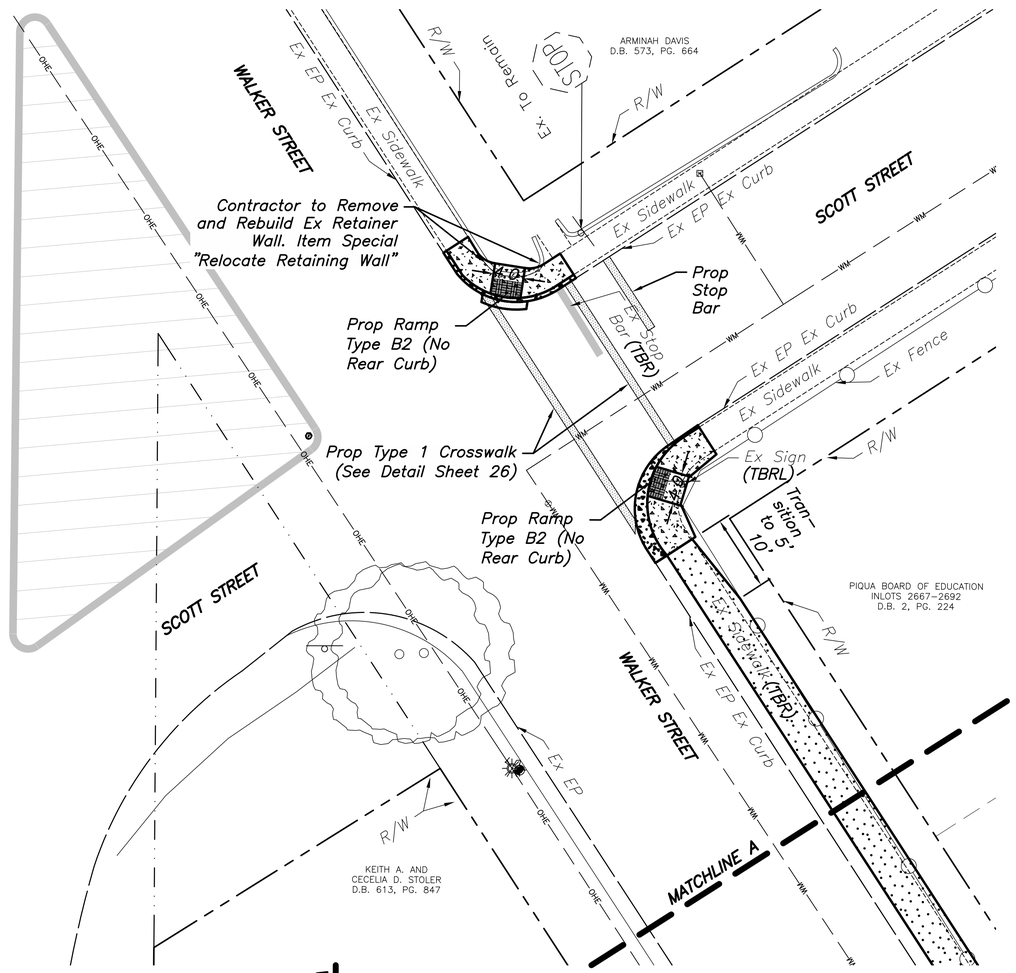
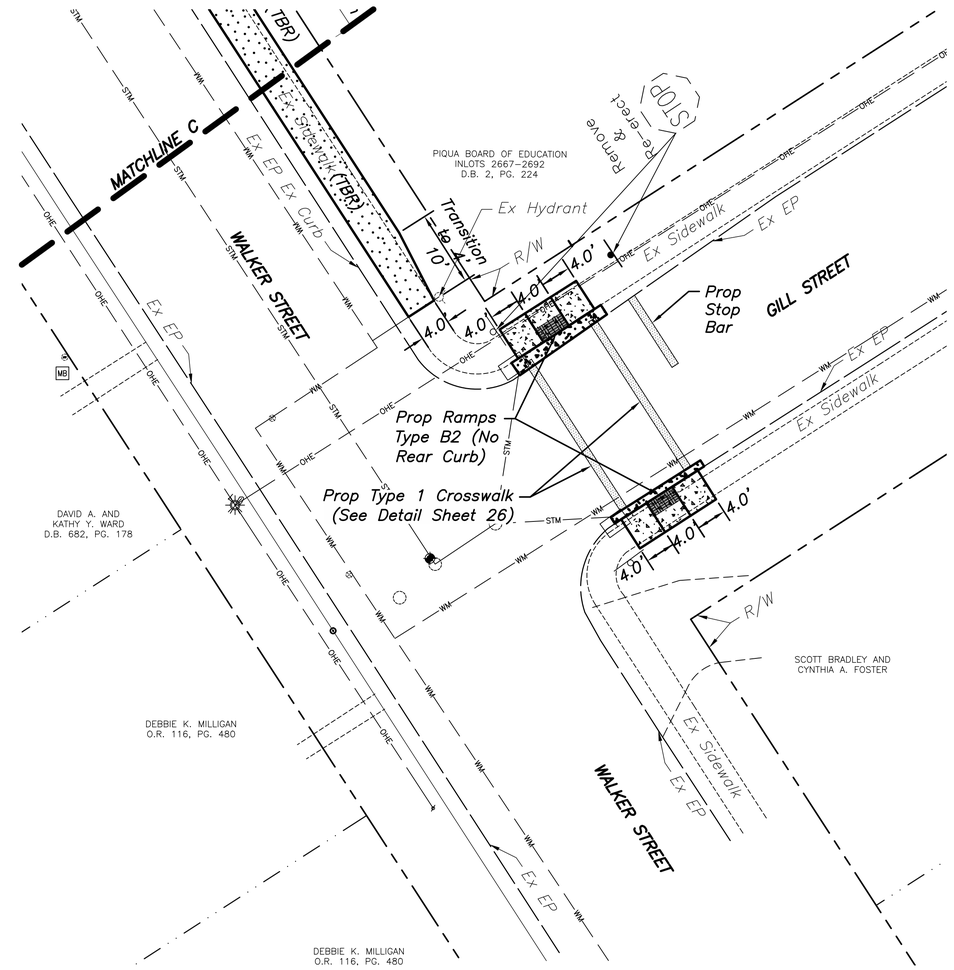
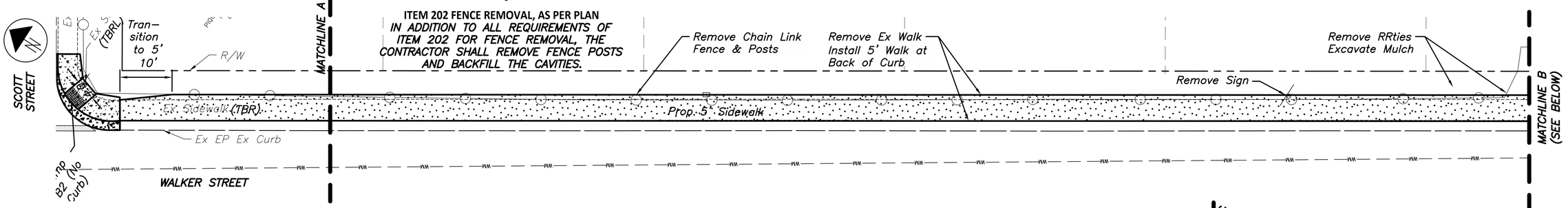
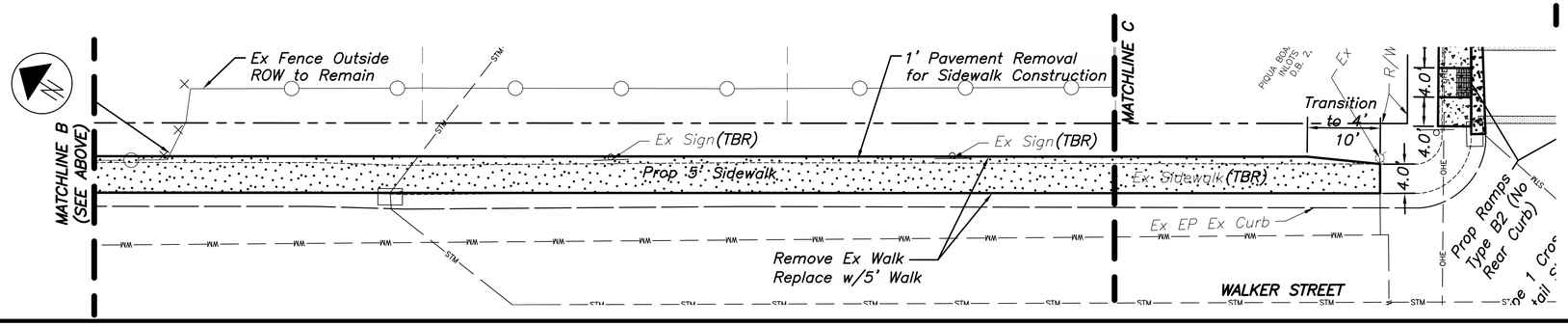






ITEM 202 FENCE REMOVAL, AS PER PLAN
IN ADDITION TO ALL REQUIREMENTS OF ITEM 202 FOR FENCE REMOVAL, THE CONTRACTOR SHALL REMOVE FENCE POSTS AND BACKFILL THE CAVITIES.



CAUTION
O.S.H.A. Clearance Requirements to be Maintained During Construction Between Equipment and Overhead Utility Lines

CALCULATED MM
CHECKED AV

INTERSECTION DETAILS

D07-SRTS-MIA
PIQUA INFRA

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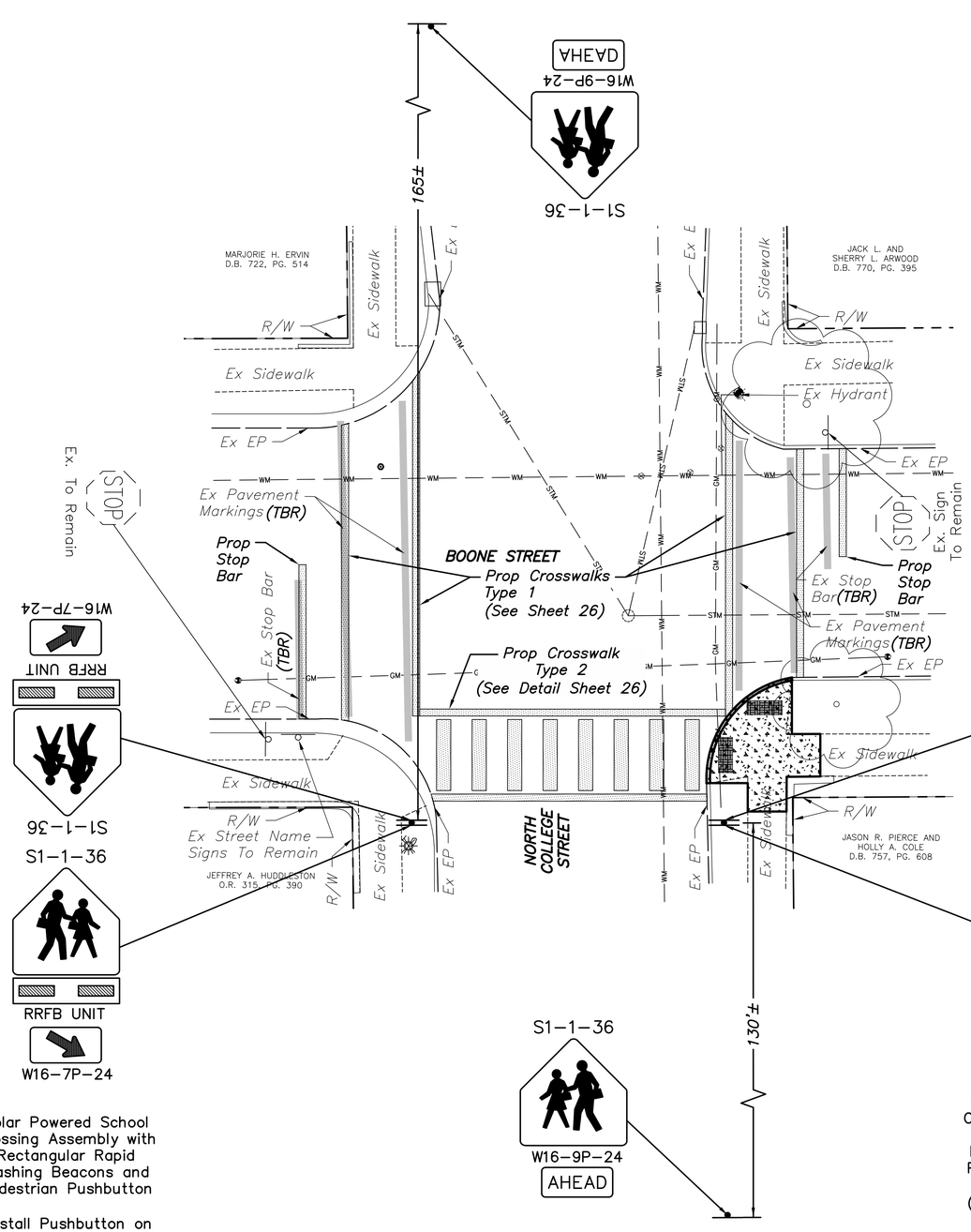

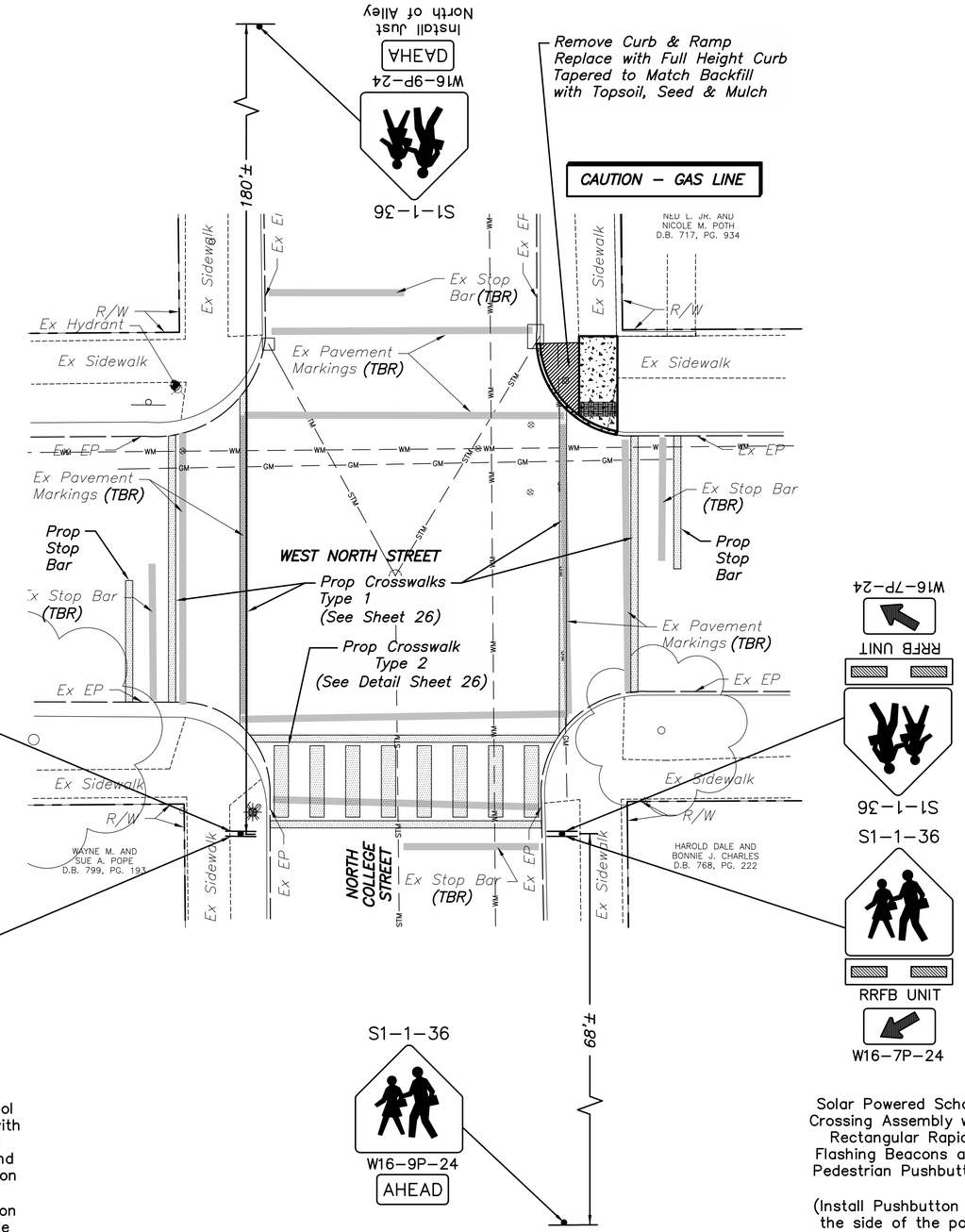

W16-7P-24

RRFB UNIT

S1-1-36

S1-1-36

RRFB UNIT

W16-7P-24

Solar Powered School Crossing Assembly with Rectangular Rapid Flashing Beacons and Pedestrian Pushbutton

(Install Pushbutton on the side of the pole closest to the intersection and with the face of the button parallel to the crosswalk.)

CAUTION

O.S.H.A. Clearance Requirements to be Maintained During Construction Between Equipment and Overhead Utility Lines

Solar Powered School Crossing Assembly with Rectangular Rapid Flashing Beacons and Pedestrian Pushbutton

(Install Pushbutton on the side of the pole closest to the intersection and with the face of the button parallel to the crosswalk.)

Solar Powered School Crossing Assembly with Rectangular Rapid Flashing Beacons and Pedestrian Pushbutton

(Install Pushbutton on the side of the pole closest to the intersection and with the face of the button parallel to the crosswalk.)

Horz: 1 inch = 10 feet

CALCULATED MM

CHECKED AV

INTERSECTION DETAILS

D07-SRTS-MIA
PIQUA INFRA

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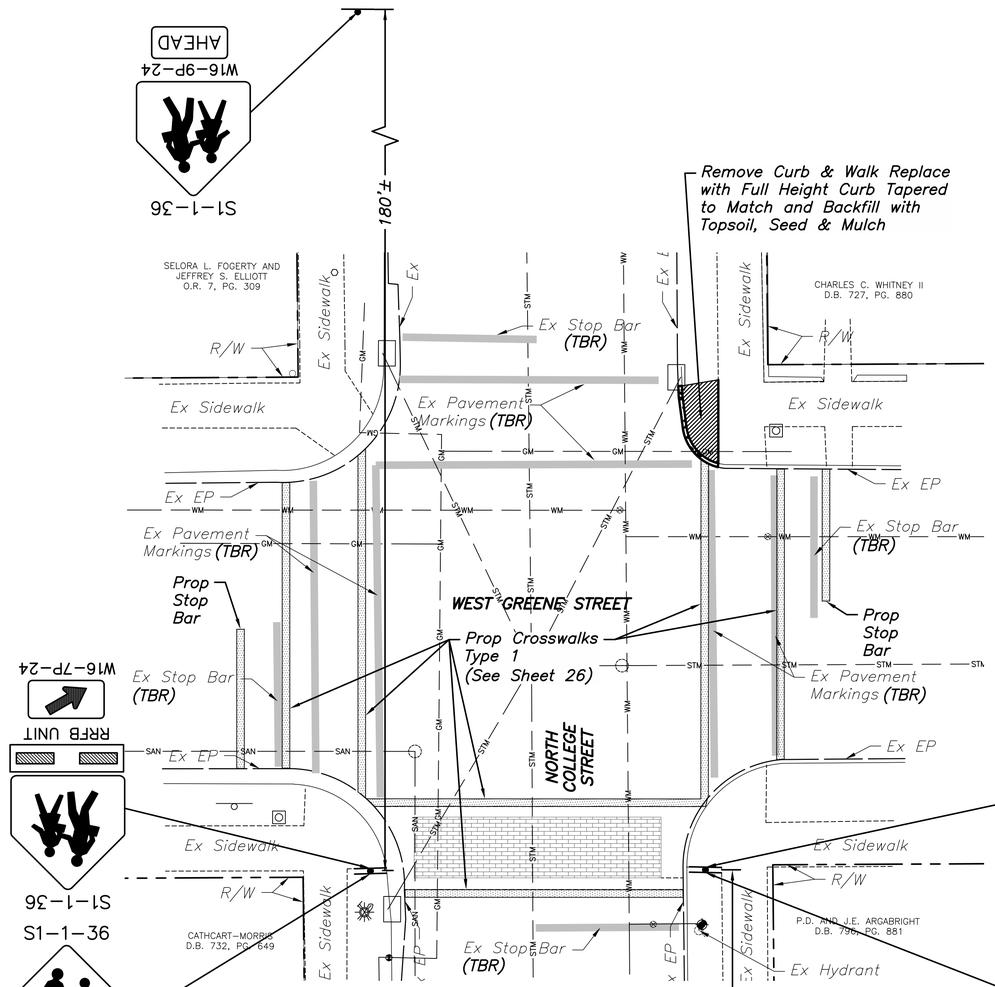

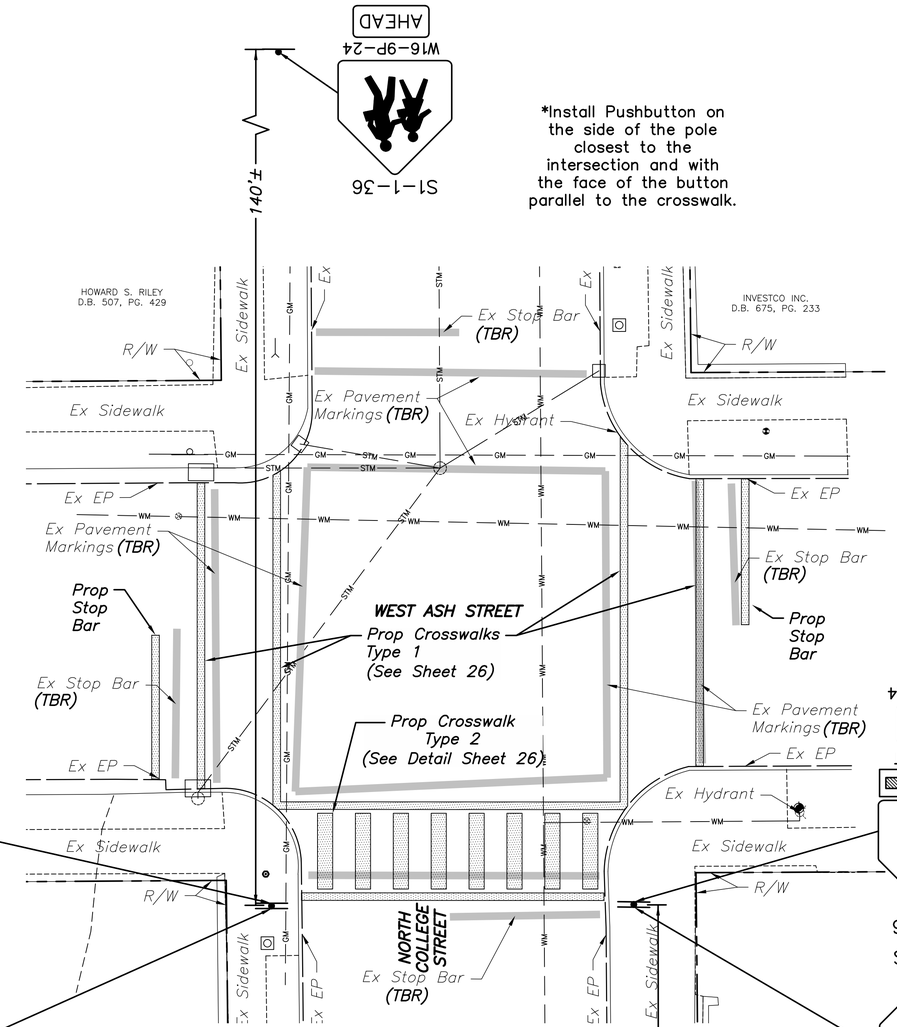

S1-1-36

RRFB UNIT

W16-7P-24

Solar Powered School Crossing Assembly with Rectangular Rapid Flashing Beacons and Pedestrian Pushbutton

(Install Pushbutton on the side of the pole closest to the intersection and with the face of the button parallel to the crosswalk.)

S1-1-36

W16-9P-24

AHEAD

CAUTION

O.S.H.A. Clearance Requirements to be Maintained During Construction Between Equipment and Overhead Utility Lines

S1-1-36

RRFB UNIT

W16-7P-24

Solar Powered School Crossing Assembly with Rectangular Rapid Flashing Beacons and Pedestrian Pushbutton

(Install Pushbutton on the side of the pole closest to the intersection and with the face of the button parallel to the crosswalk.)

S1-1-36

W16-9P-24

AHEAD

S1-1-36

RRFB UNIT

W16-7P-24

Solar Powered School Crossing Assembly with Rectangular Rapid Flashing Beacons and Pedestrian Pushbutton

(Install Pushbutton on the side of the pole closest to the intersection and with the face of the button parallel to the crosswalk.)

Scale: 1 inch = 10 feet

CALCULATED MM

CHECKED AV

INTERSECTION DETAILS

D07-SRTS-MIA
PIQUA INFRA

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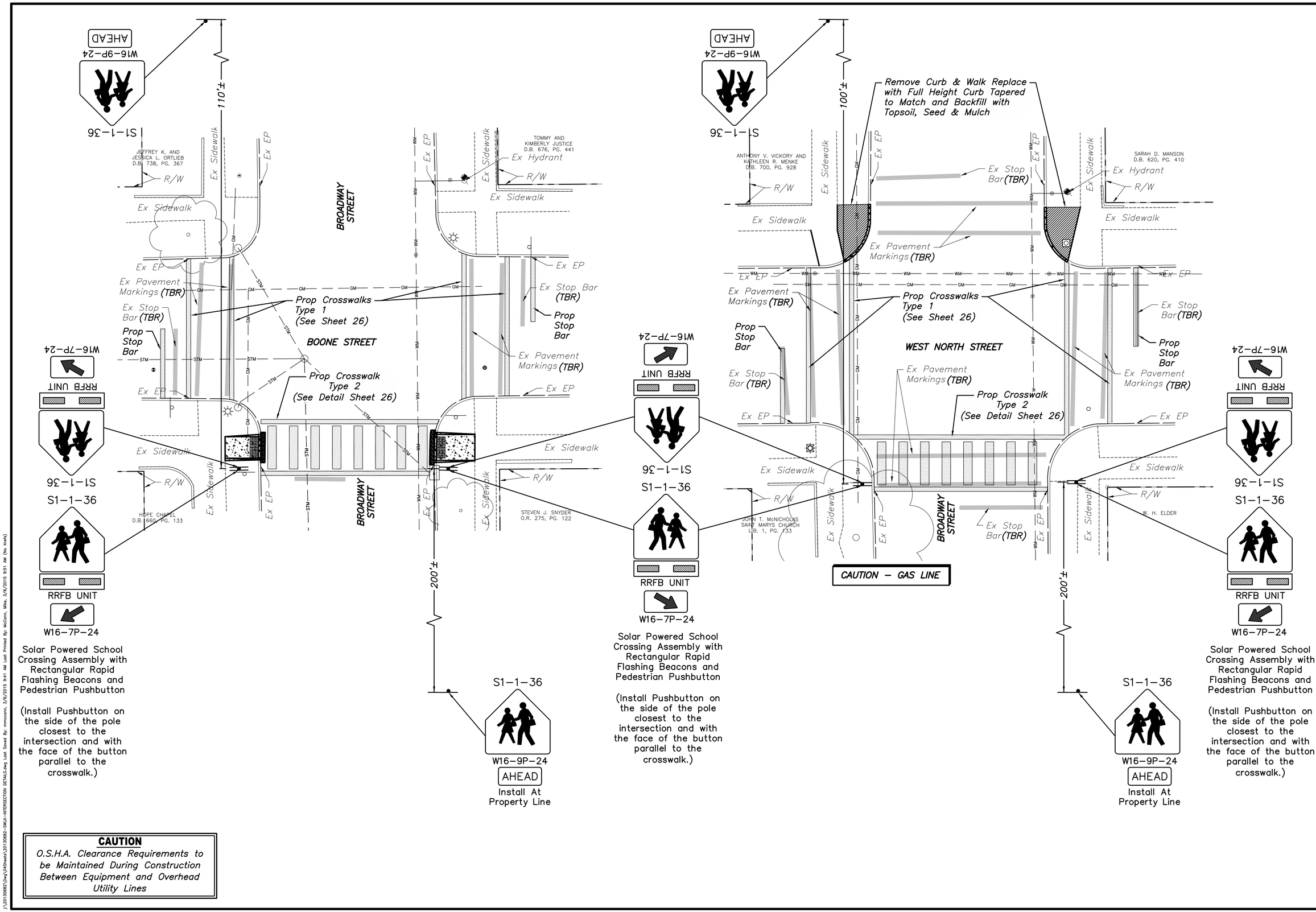

CAUTION

O.S.H.A. Clearance Requirements to be Maintained During Construction Between Equipment and Overhead Utility Lines

CALCULATED MM
CHECKED AV

INTERSECTION DETAILS

D07-SRTS-MIA
PIQUA INFRA

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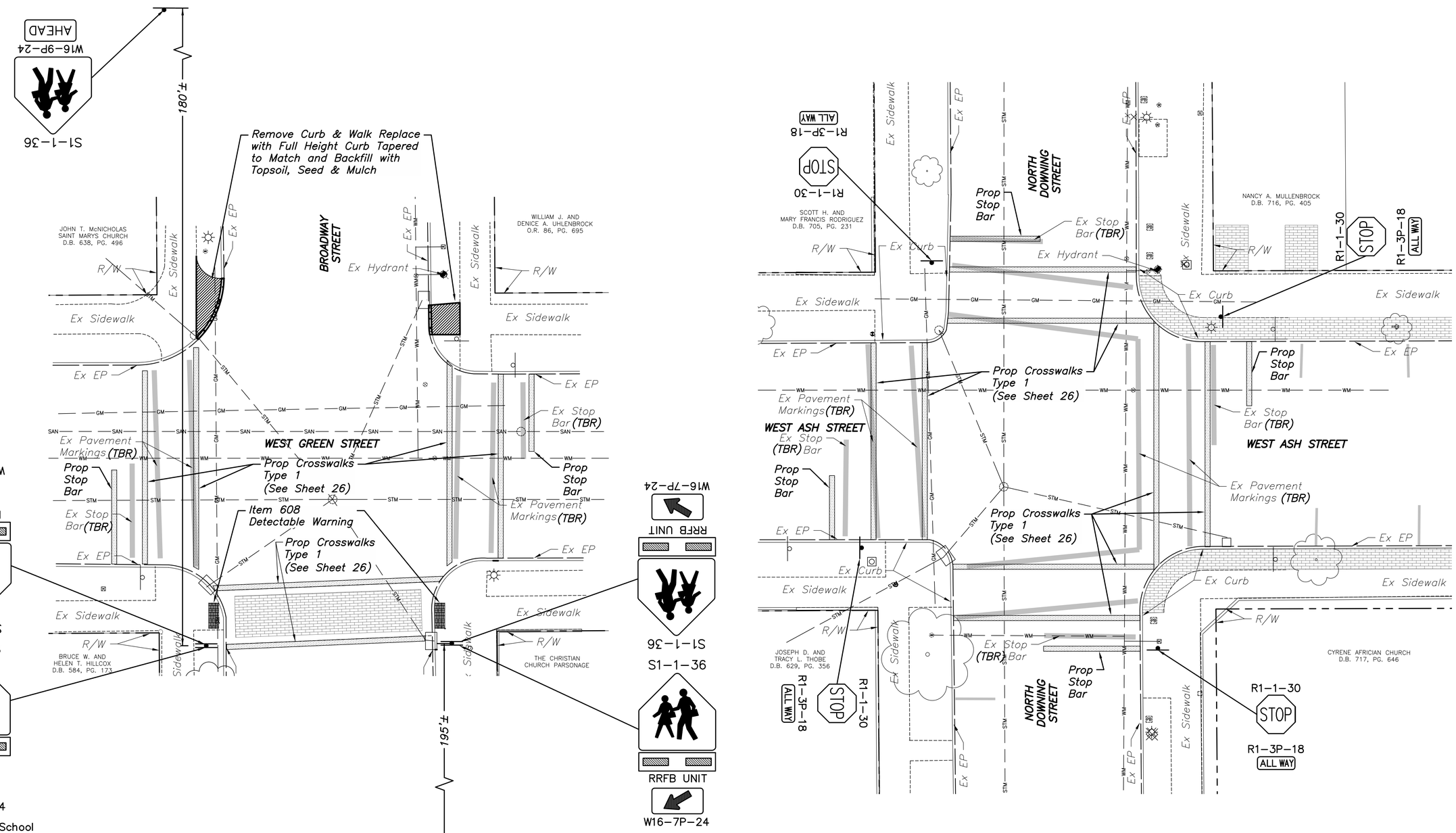

CAUTION

O.S.H.A. Clearance Requirements to be Maintained During Construction Between Equipment and Overhead Utility Lines

CALCULATED MM
CHECKED AV

INTERSECTION DETAILS

D07-SRTS-MIA
PIQUA INFRA

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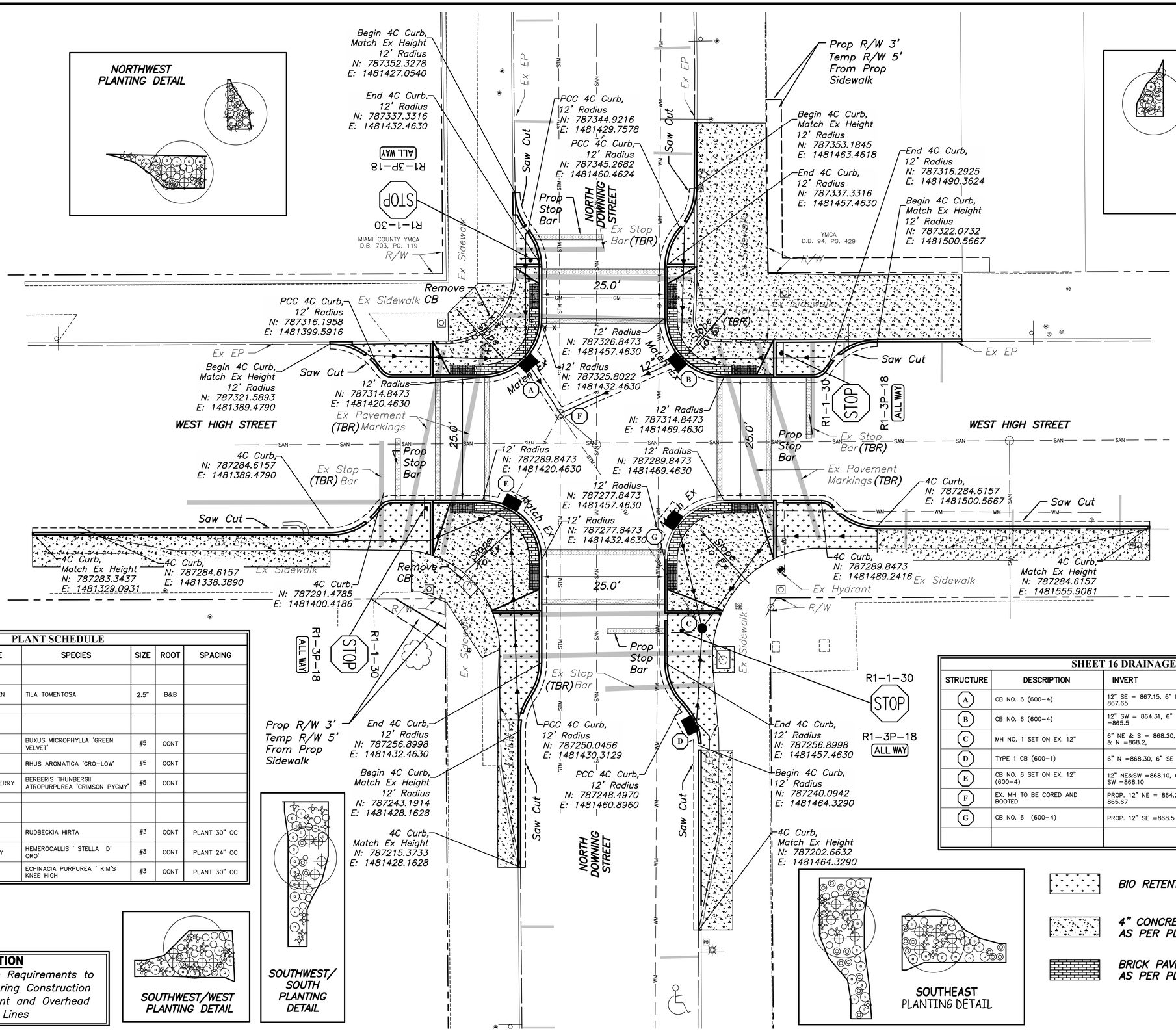

Contractor Shall Closely Coordinate Curb Height w/City to Assure Positive Drainage From Sidewalk

See Piqua Drawings 600-4A, 600-4B, 600-1, for Drainage Structure Details.

See Piqua Drawings 300-15 for Roadway Trench Details.

PLANT SCHEDULE

SYMBOL	COMMON NAME	SPECIES	SIZE	ROOT	SPACING
	TREES				
	STERLING SILVER LINDEN	TILA TOMENTOSA	2.5"	B&B	
	SHRUBS				
	GRN VELVET BOXWOOD	BUXUS MICROPHYLLA 'GREEN VELVET'	#5	CONT	
	GRO -LOW SUMAC	RHUS AROMATICA 'GRO-LOW'	#5	CONT	
	CRIMSON PYGMY BARBERRY	BERBERIS THUNBERGII ATROPURPUREA 'CRIMSON PYGMY'	#5	CONT	
	PERENNIALS				
	BLACK EYED SUSAN	RUDBECKIA HIRTA	#3	CONT	PLANT 30" OC
	STELLA D'ORO DAYLILLY	HEMEROCALLIS ' STELLA D' ORO'	#3	CONT	PLANT 24" OC
	PURPLE CONEFLOWER	ECHINACIA PURPUREA ' KIM'S KNEE HIGH	#3	CONT	PLANT 30" OC

SHEET 16 DRAINAGE TABLE

STRUCTURE	DESCRIPTION	INVERT	GRATE OR RIM	NORTHING	EASTING
A	CB NO. 6 (600-4)	12" SE = 867.15, 6" N & W = 867.65	870.20	787318.47	1481429.08
B	CB NO. 6 (600-4)	12" SW = 864.31, 6" N & E =865.5	870.04	787318.67	481460.72
C	MH NO. 1 SET ON EX. 12"	6" NE & S = 868.20, 12" NW & N =868.2,	870.00	787263.88	1481465.05
D	TYPE 1 CB (600-1)	6" N =868.30, 6" SE = 868.30	870.01	787244.82	1481463.90
E	CB NO. 6 SET ON EX. 12" (600-4)	12" NE&SW =868.10, 6" S & SW =868.10	870.25	787288.51	1481425.98
F	EX. MH TO BE CORED AND BOOTED	PROP. 12" NE = 864.20, NW = 865.67	EX	EX	EX
G	CB NO. 6 (600-4)	PROP. 12" SE =868.5	870.10	787285.23	1481460.04

CAUTION

O.S.H.A. Clearance Requirements to be Maintained During Construction Between Equipment and Overhead Utility Lines

BIO RETENTION AREA

4" CONCRETE WALK, AS PER PLAN

BRICK PAVEMENT AS PER PLAN

CALCULATED MM
CHECKED AV

INTERSECTION DETAILS

D07-SRTS-MIA
PIQUA INFRA

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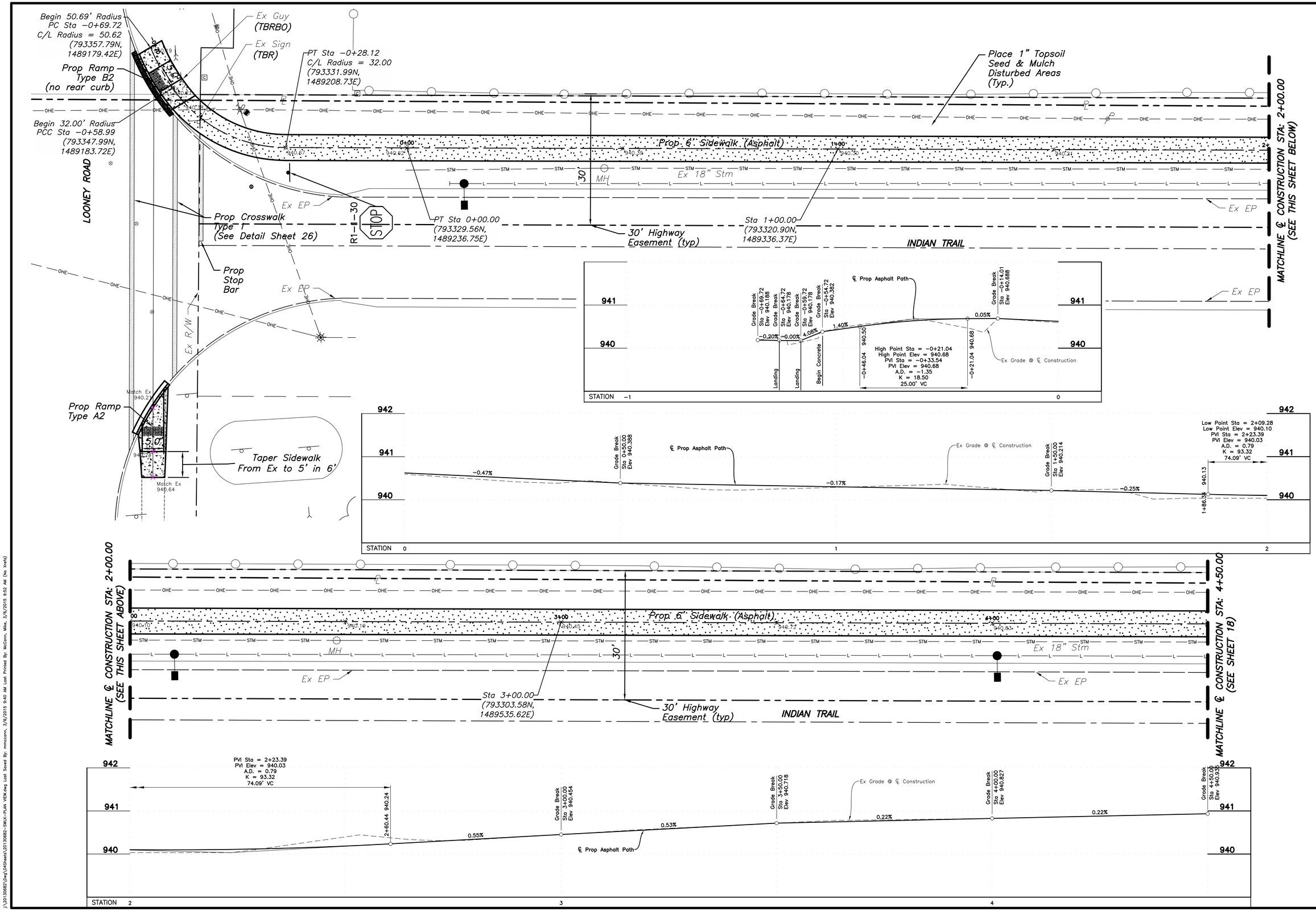
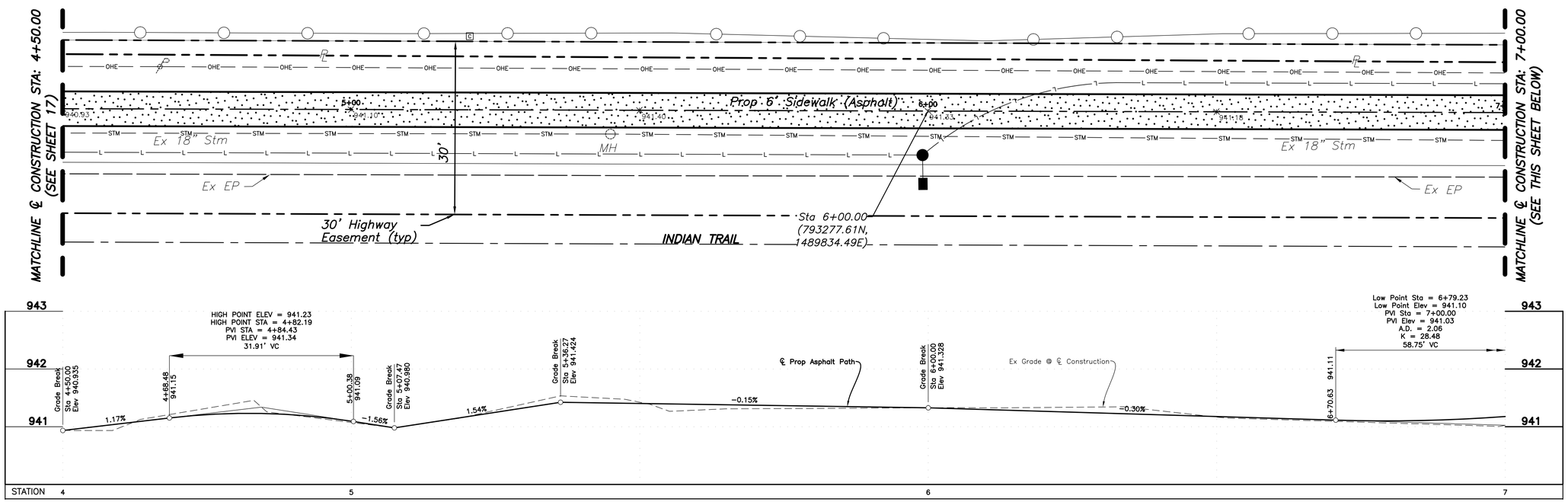
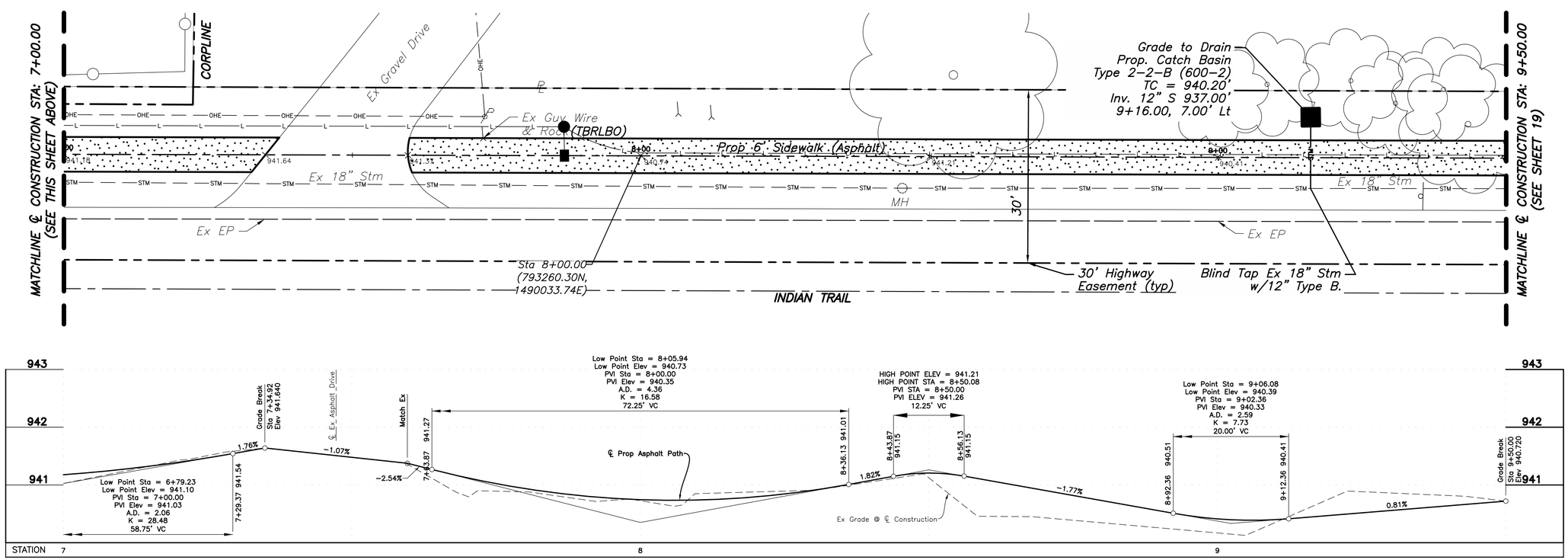


CALCULATED MM
CHECKED AV

PLAN VIEW

D07-SRTS-MIA
PIQUA INFRA





CALCULATED MM
CHECKED AV

PLAN VIEW

D07-SRTS-MIA
PIQUA INFRA

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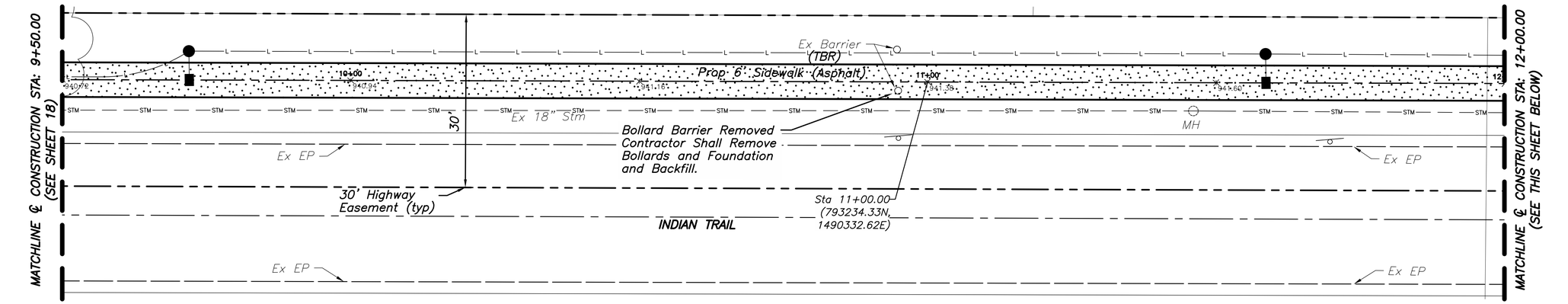

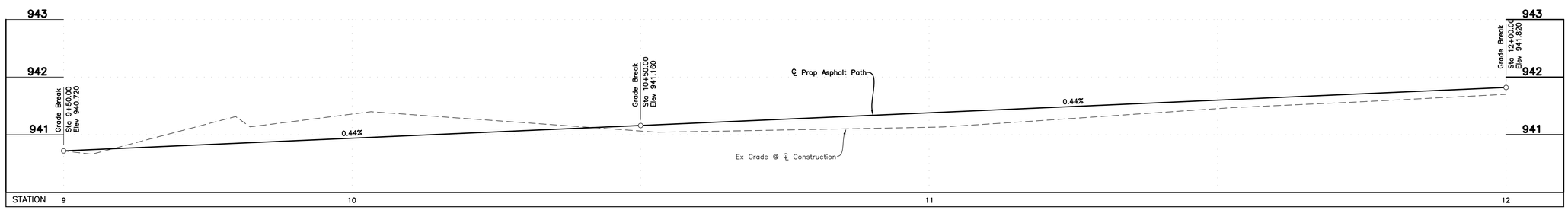

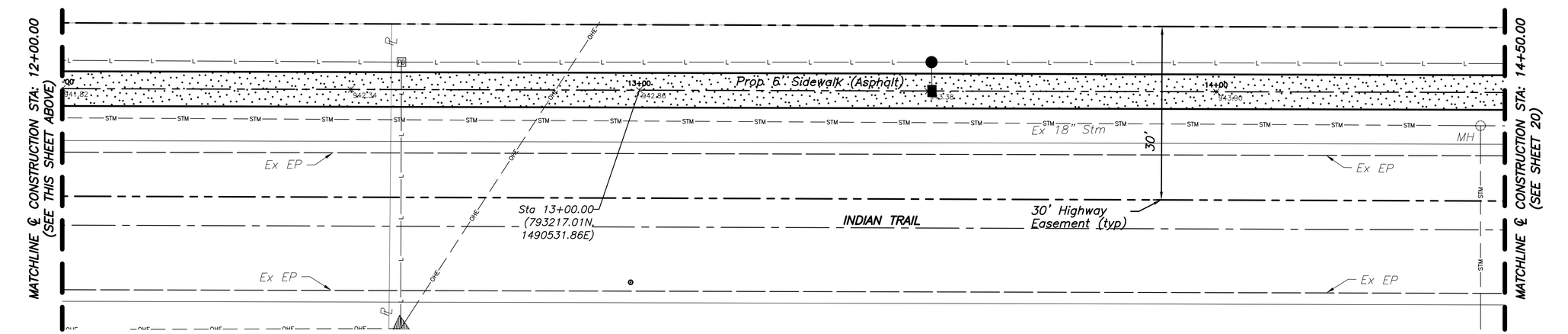

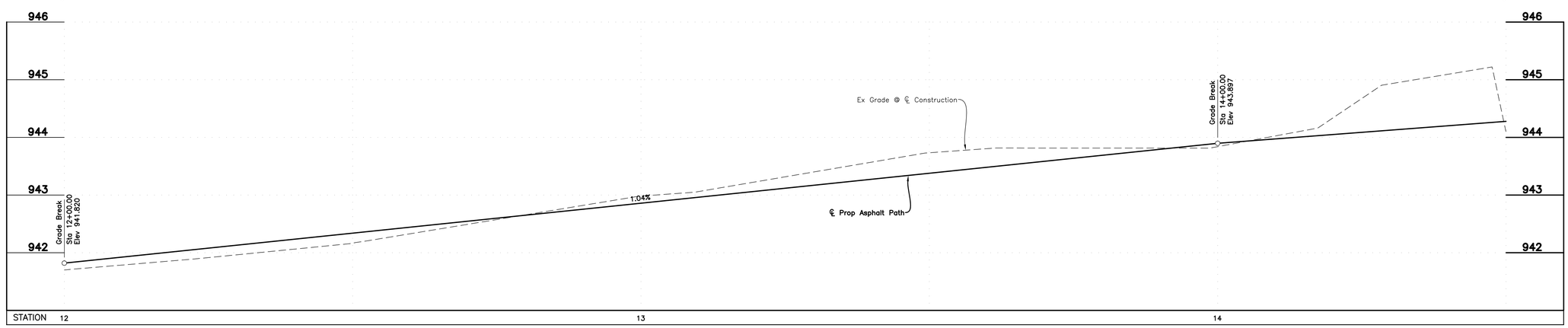

Horz: 1 inch = 10 feet

CALCULATED MM
CHECKED AV

PLAN VIEW

D07-SRTS-MIA
PIQUA INFRA

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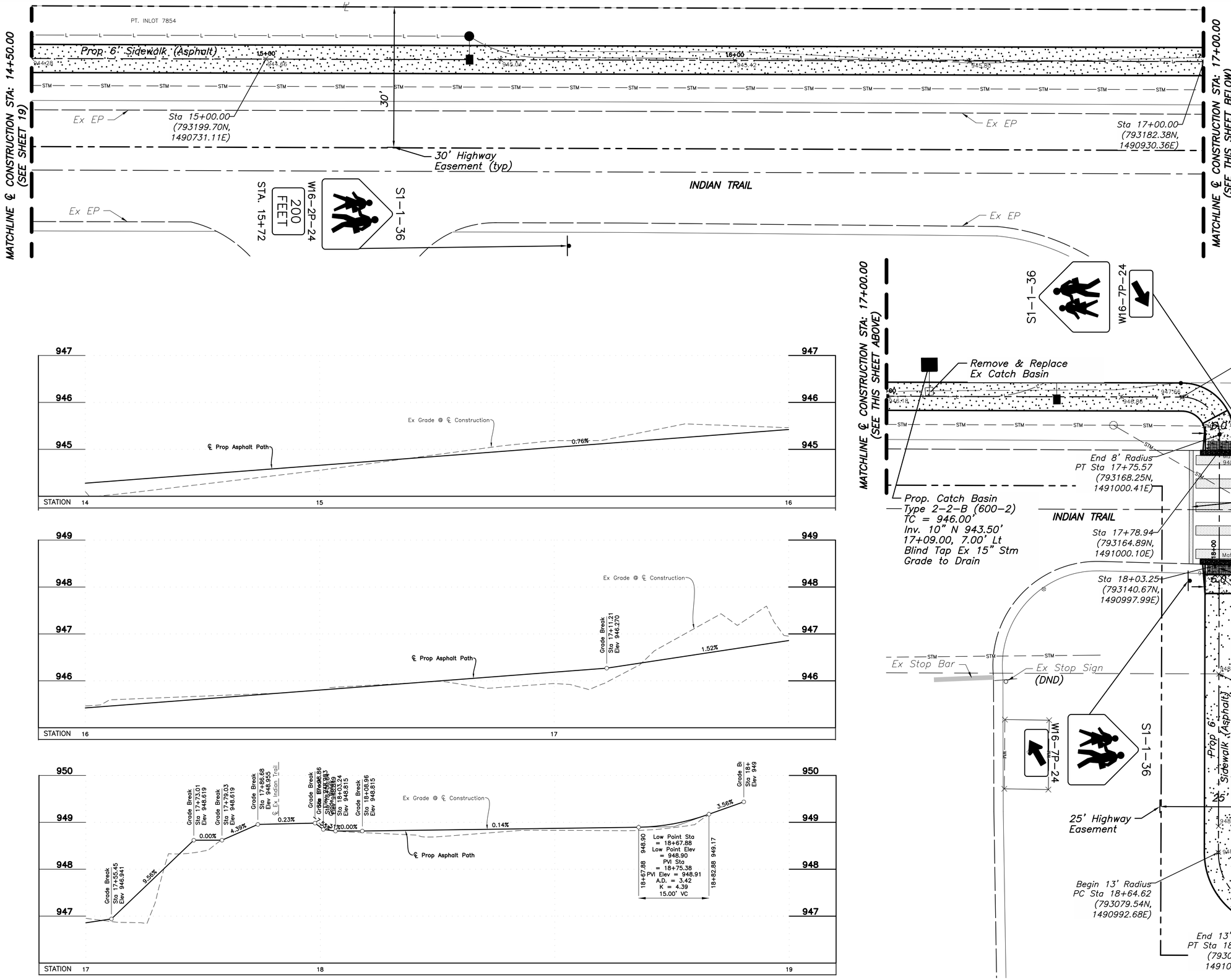

PLAN VIEW

CALCULATED MM
CHECKED AV

D07-SRTS-MIA
PIQUA INFRA

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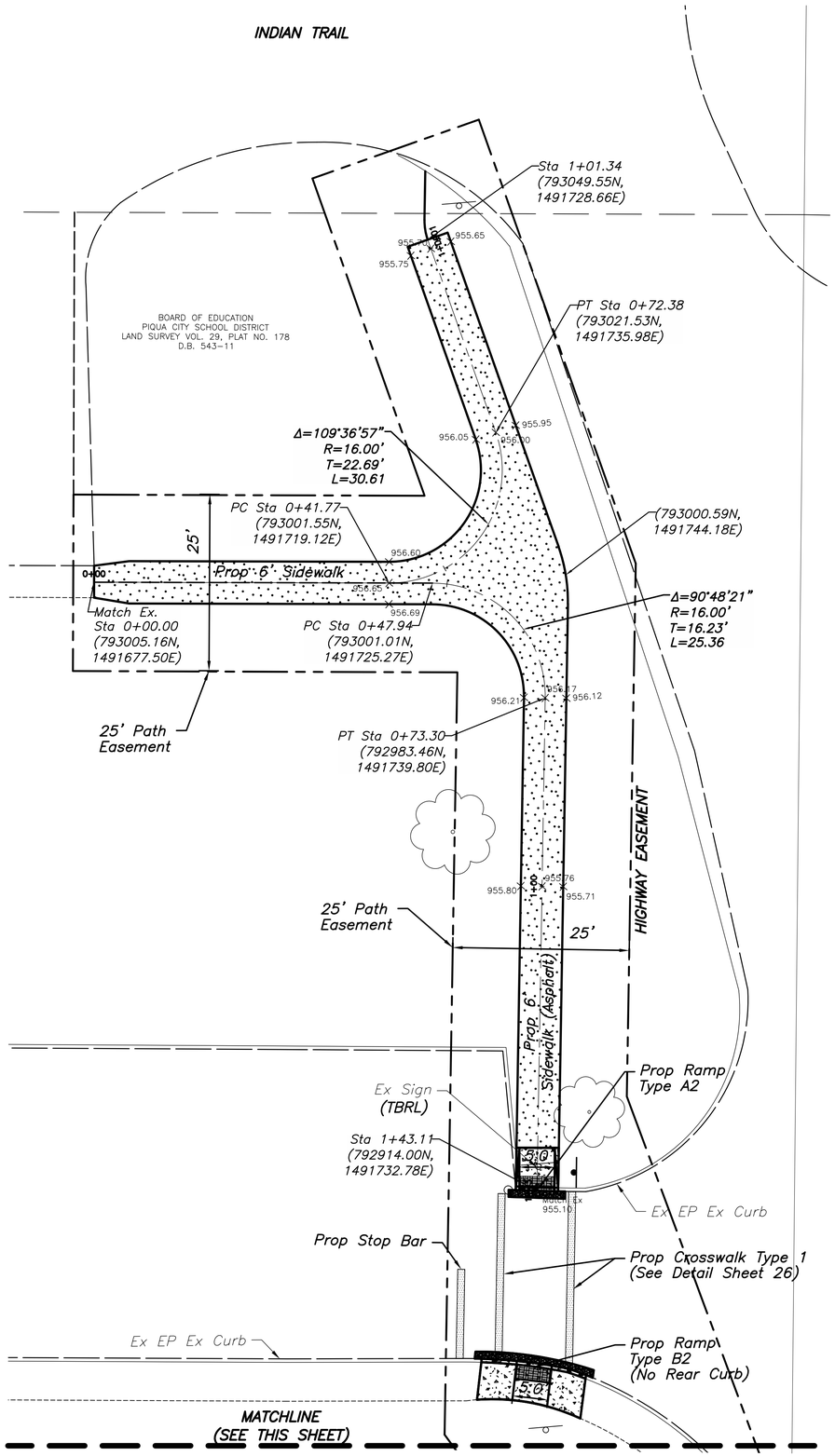
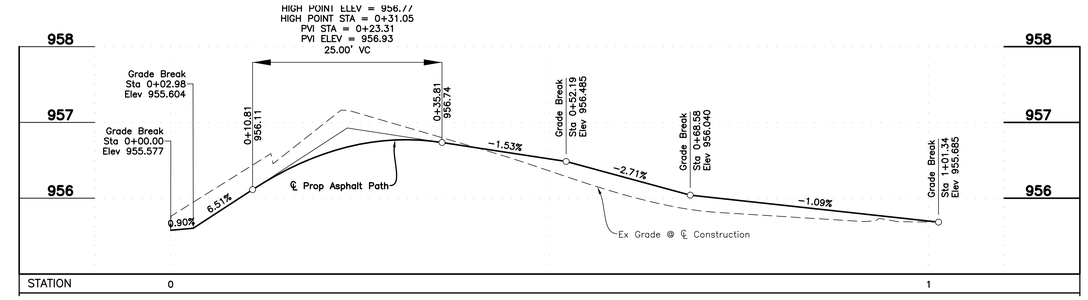
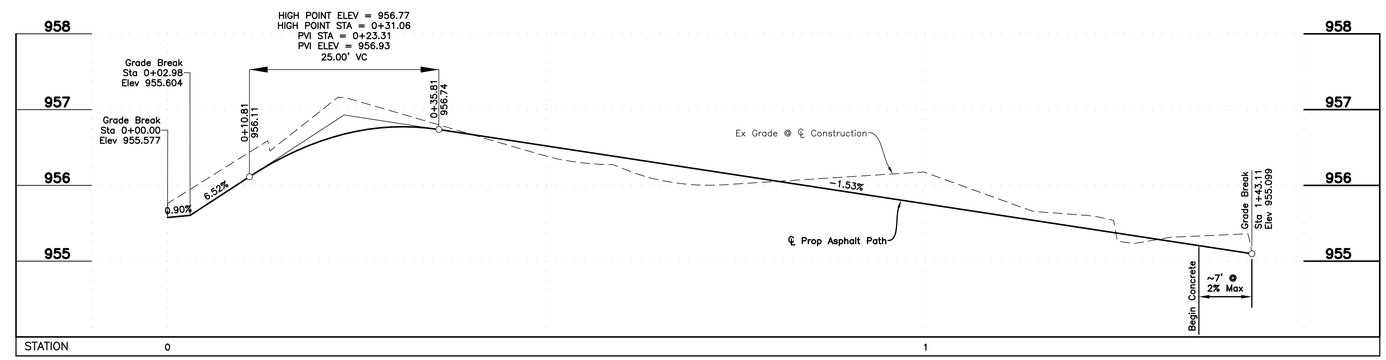
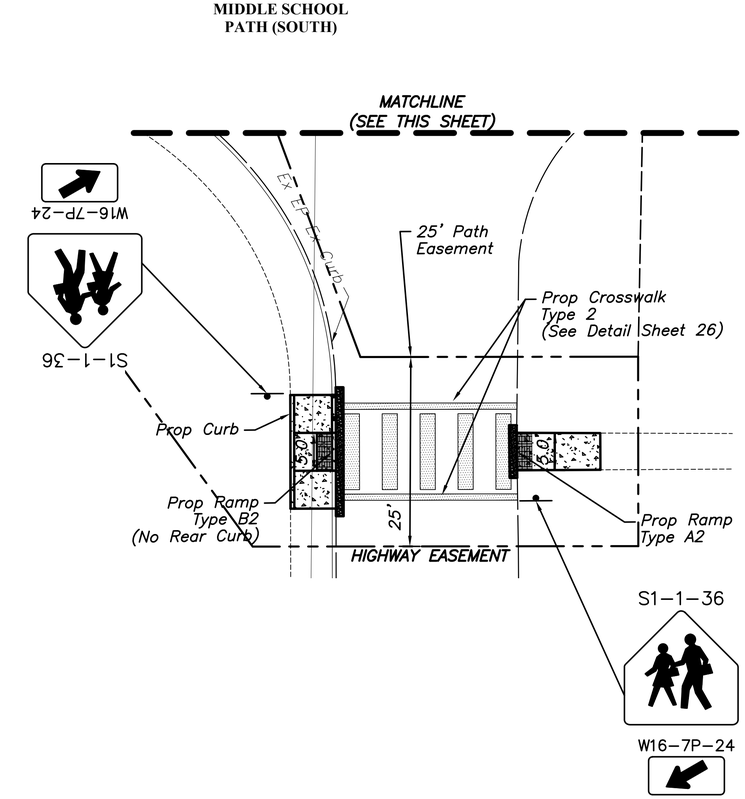




MIDDLE SCHOOL
PATH (NORTH)



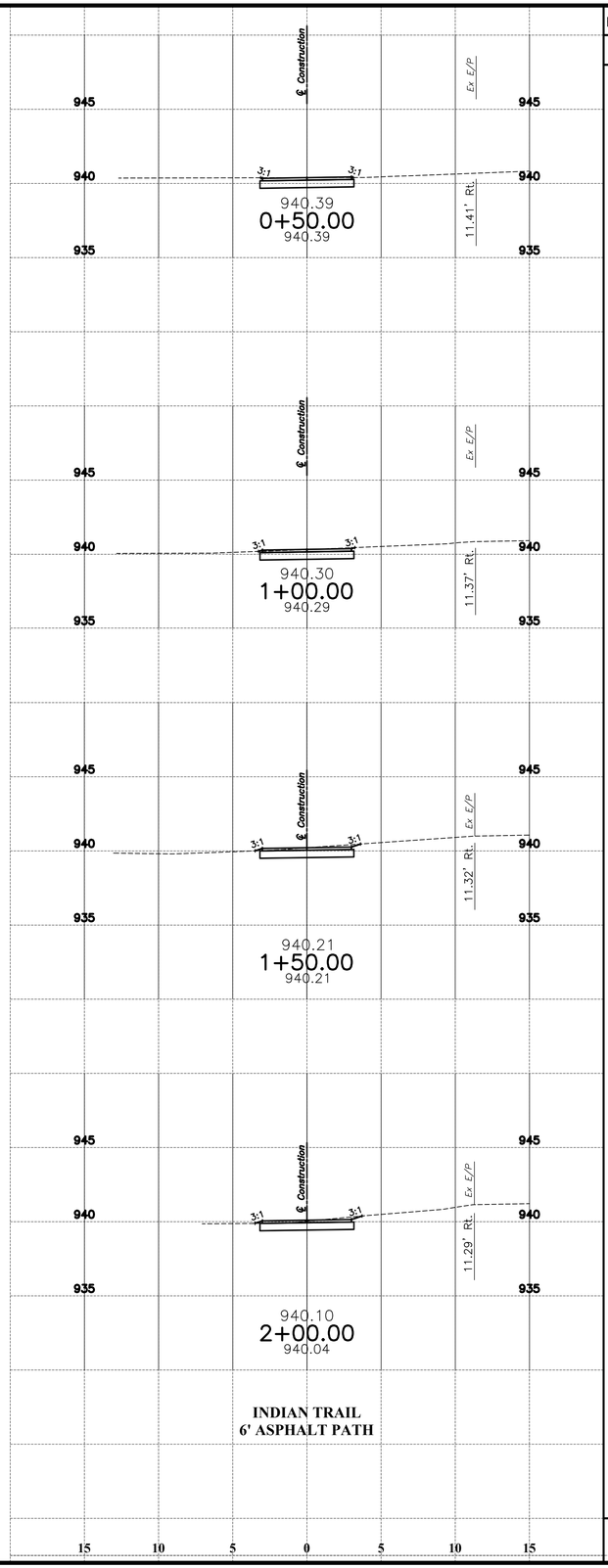
MIDDLE SCHOOL
PATH (SOUTH)

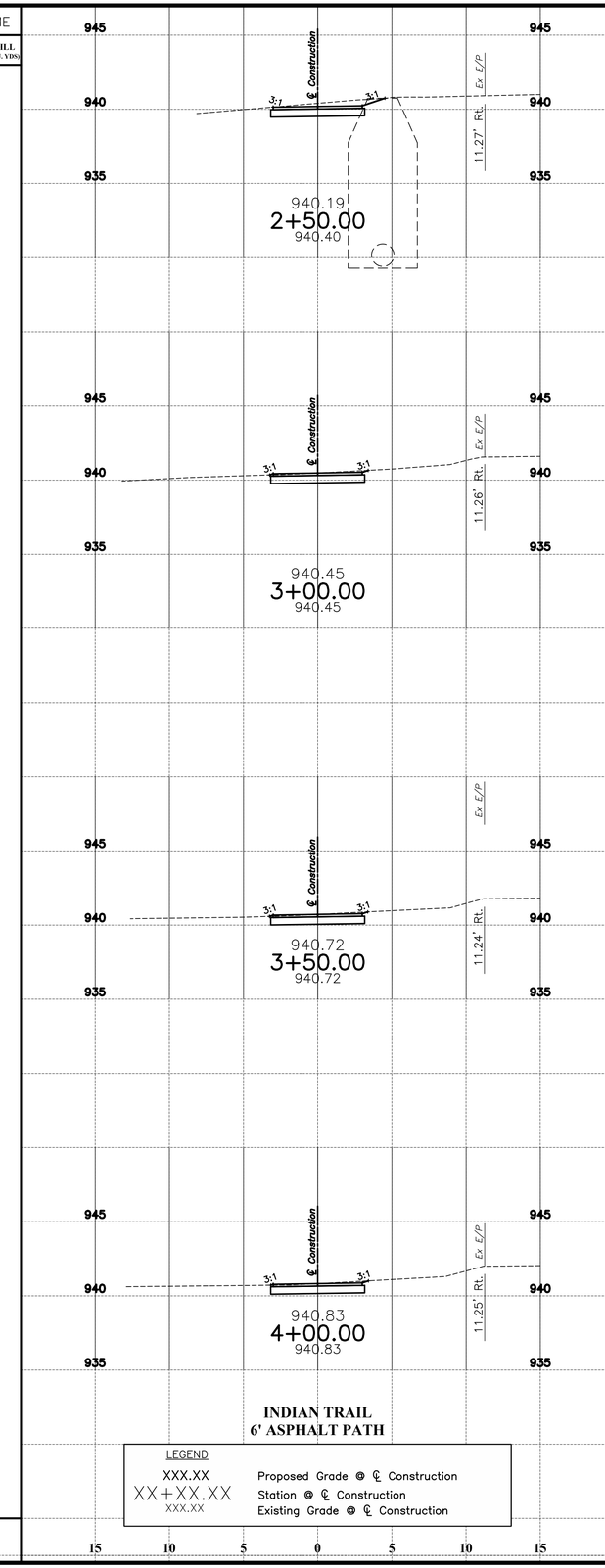


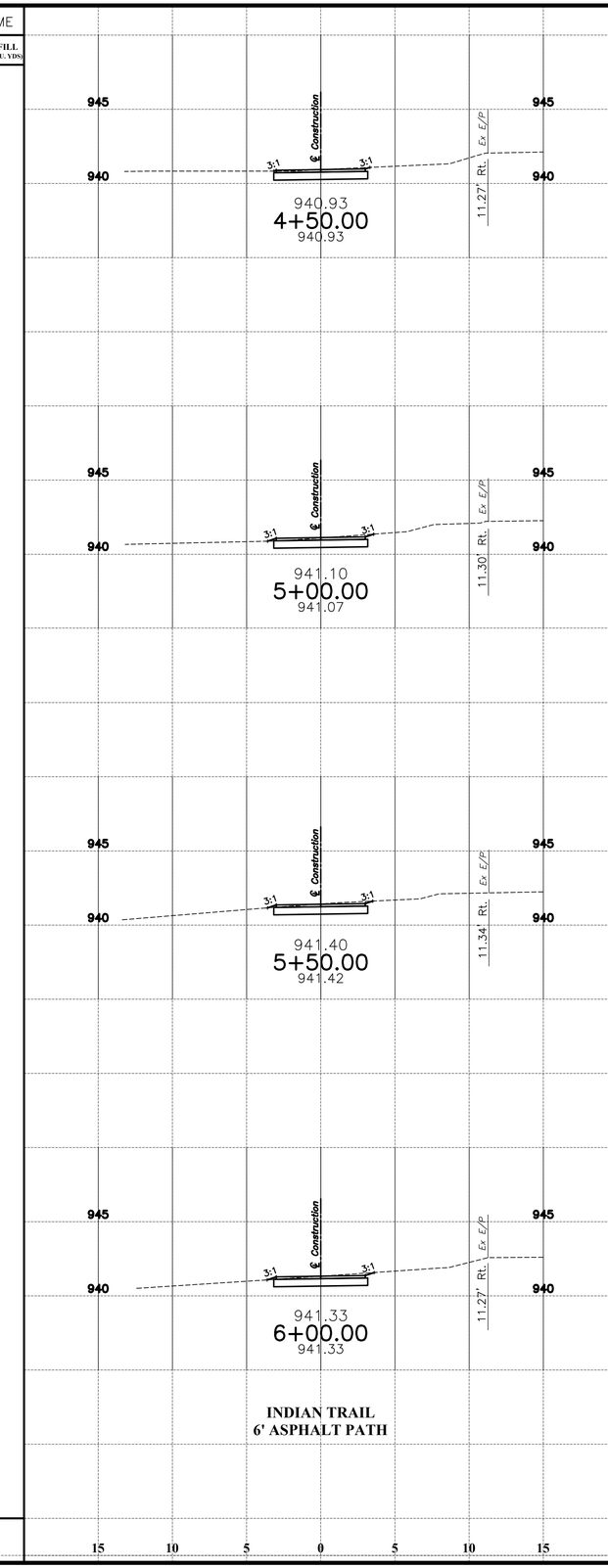
CALCULATED MM
CHECKED AV

PLAN VIEW

D07-SRTS-MIA
PIQUA INFRA







END AREA		VOLUME	
CUT (SQ. FT)	FILL (SQ. FT)	CUT (CU. YDS)	FILL (CU. YDS)

LEGEND

XXX.XX	Proposed Grade @ ℄ Construction
XX+XX.XX	Station @ ℄ Construction
XXX.XX	Existing Grade @ ℄ Construction

0 2.5 5 10
1 inch = 5 feet

CALCULATED MM
CHECKED AV

CROSS SECTIONS

D07-SRTS-MIA
PIQUA INFRA

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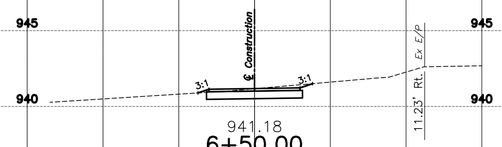
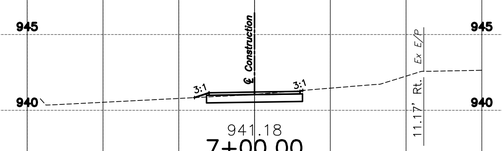
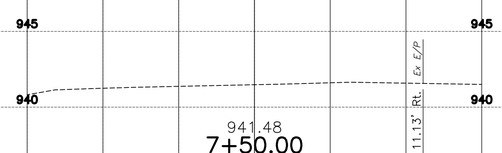
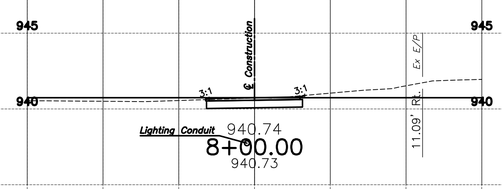


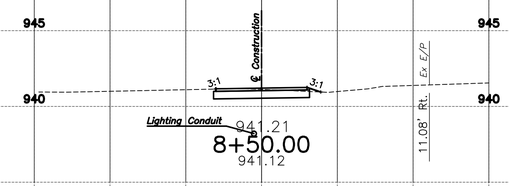


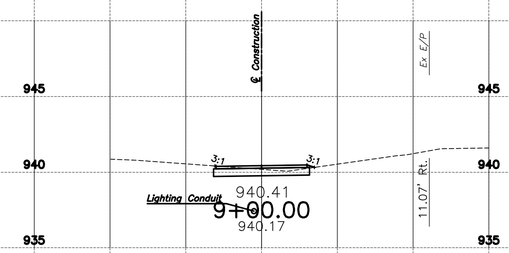


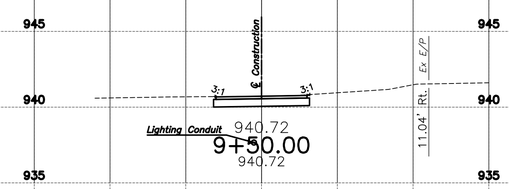


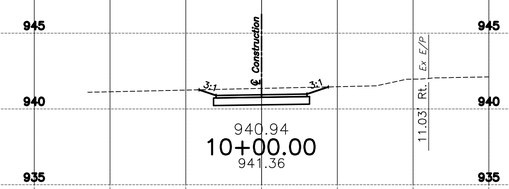
INDIAN TRAIL
6' ASPHALT PATH

END AREA		VOLUME	
CUT (SQ. FT)	FILL (SQ. FT)	CUT (CU. YDS)	FILL (CU. YDS)







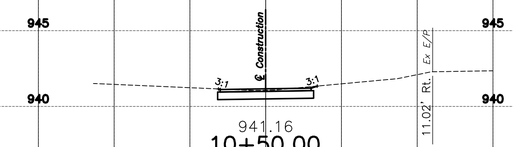


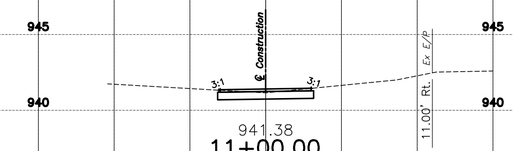
INDIAN TRAIL
6' ASPHALT PATH

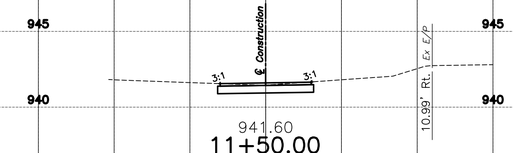
LEGEND

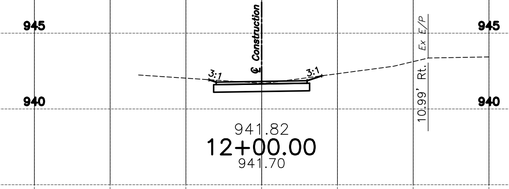
XXX.XX	Proposed Grade @ ℄ Construction
XX+XX.XX	Station @ ℄ Construction
XXX.XX	Existing Grade @ ℄ Construction

END AREA		VOLUME	
CUT (SQ. FT)	FILL (SQ. FT)	CUT (CU. YDS)	FILL (CU. YDS)



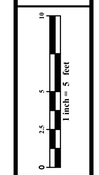






INDIAN TRAIL
6' ASPHALT PATH

END AREA		VOLUME	
CUT (SQ. FT)	FILL (SQ. FT)	CUT (CU. YDS)	FILL (CU. YDS)



CALCULATED MM
CHECKED AV

CROSS SECTIONS

D07-SRTS-MIA
PIQUA INFRA

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END AREA		VOLUME	
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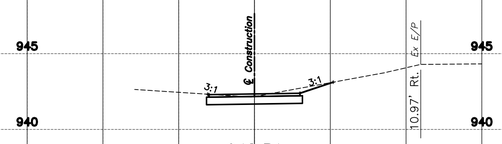
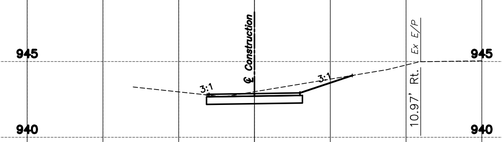
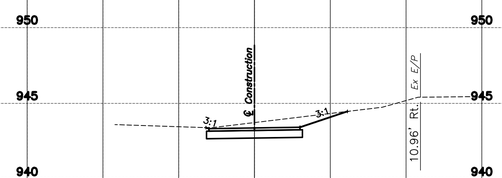


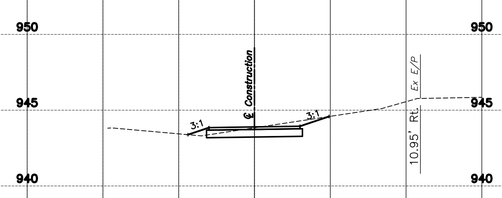
942.34
12+50.00
942.17



942.86
13+00.00
942.98



943.38
13+50.00
943.73



943.90
14+00.00
943.84

INDIAN TRAIL
6' ASPHALT PATH

END AREA		VOLUME	
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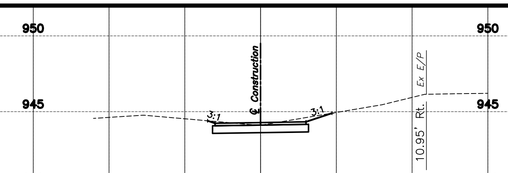
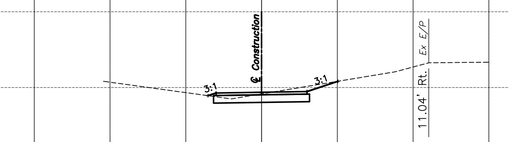
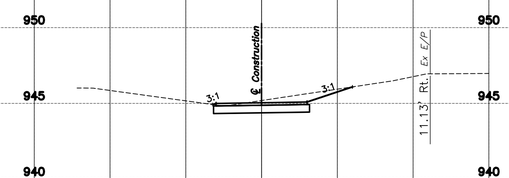


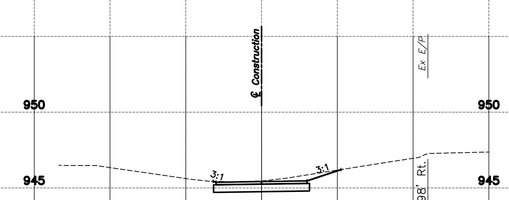
944.28
14+50.00
944.10



944.66
15+00.00
944.55



945.04
15+50.00
945.19



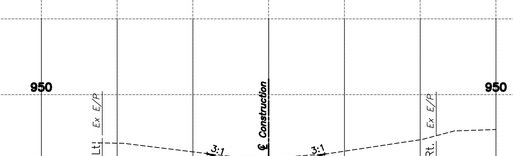
945.42
16+00.00
945.47

INDIAN TRAIL
6' ASPHALT PATH

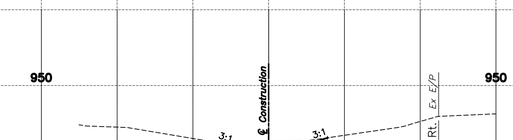
LEGEND

XXX.XX	Proposed Grade @ ℄ Construction
XX+XX.XX	Station @ ℄ Construction
XXX.XX	Existing Grade @ ℄ Construction

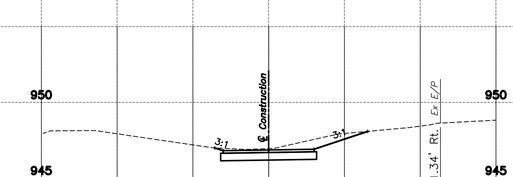
END AREA		VOLUME	
CUT (SQ. FT)	FILL (SQ. FT)	CUT (CU. YDS)	FILL (CU. YDS)



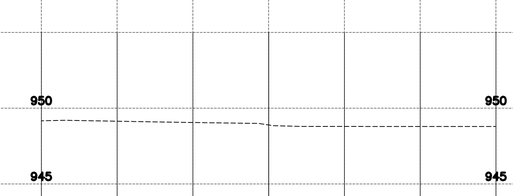
945.80
16+50.00
945.80



946.18
17+00.00
945.94



946.86
17+50.00
946.95



948.79
18+00.00
948.90

INDIAN TRAIL
6' ASPHALT PATH

END AREA		VOLUME	
CUT (SQ. FT)	FILL (SQ. FT)	CUT (CU. YDS)	FILL (CU. YDS)

15 10 5 0 5 10 15

0 2.5 5 10
1 inch = 5 feet

CALCULATED MM
CHECKED AV

CROSS SECTIONS

D07-SRTS-MIA
PIQUA INFRA

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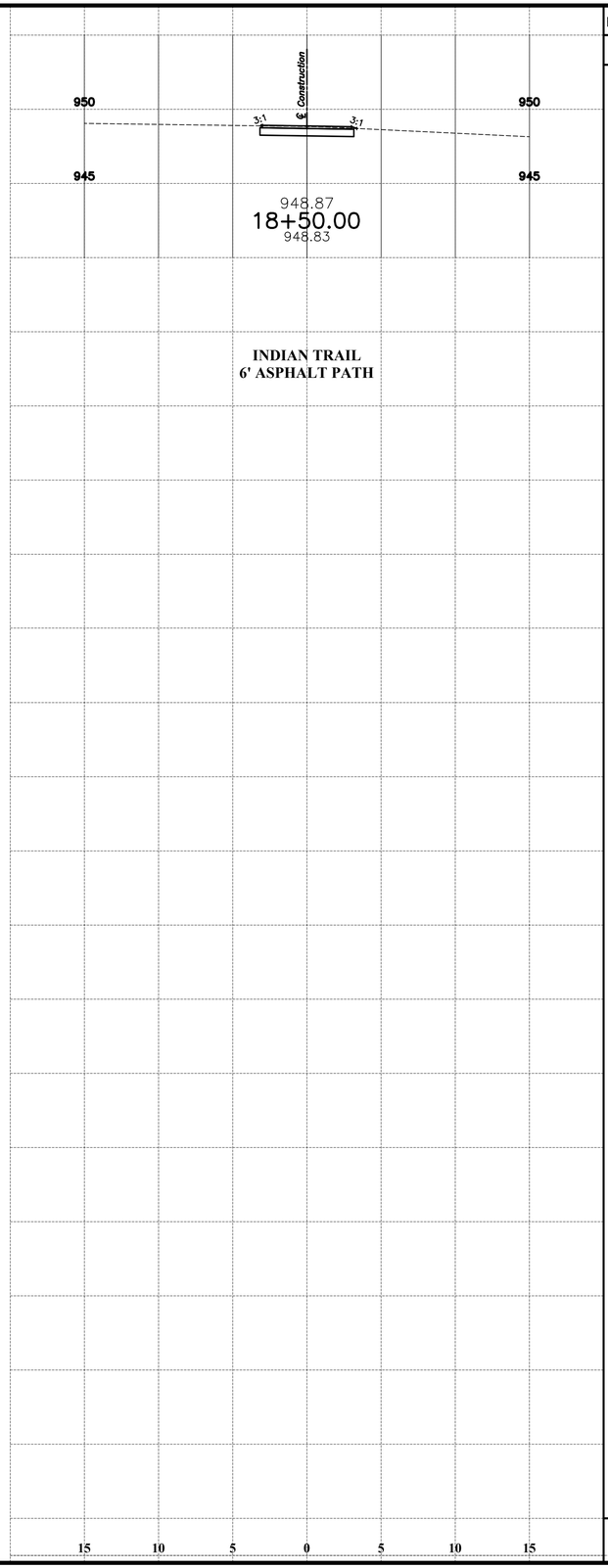

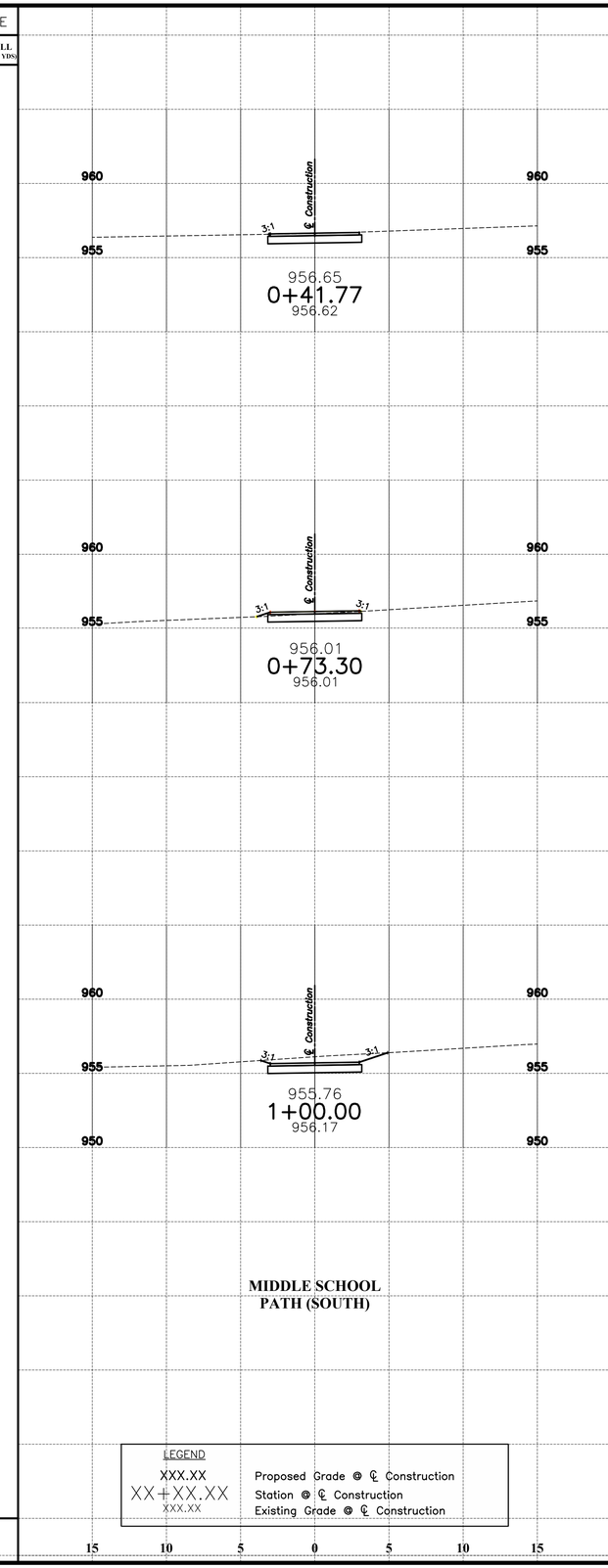

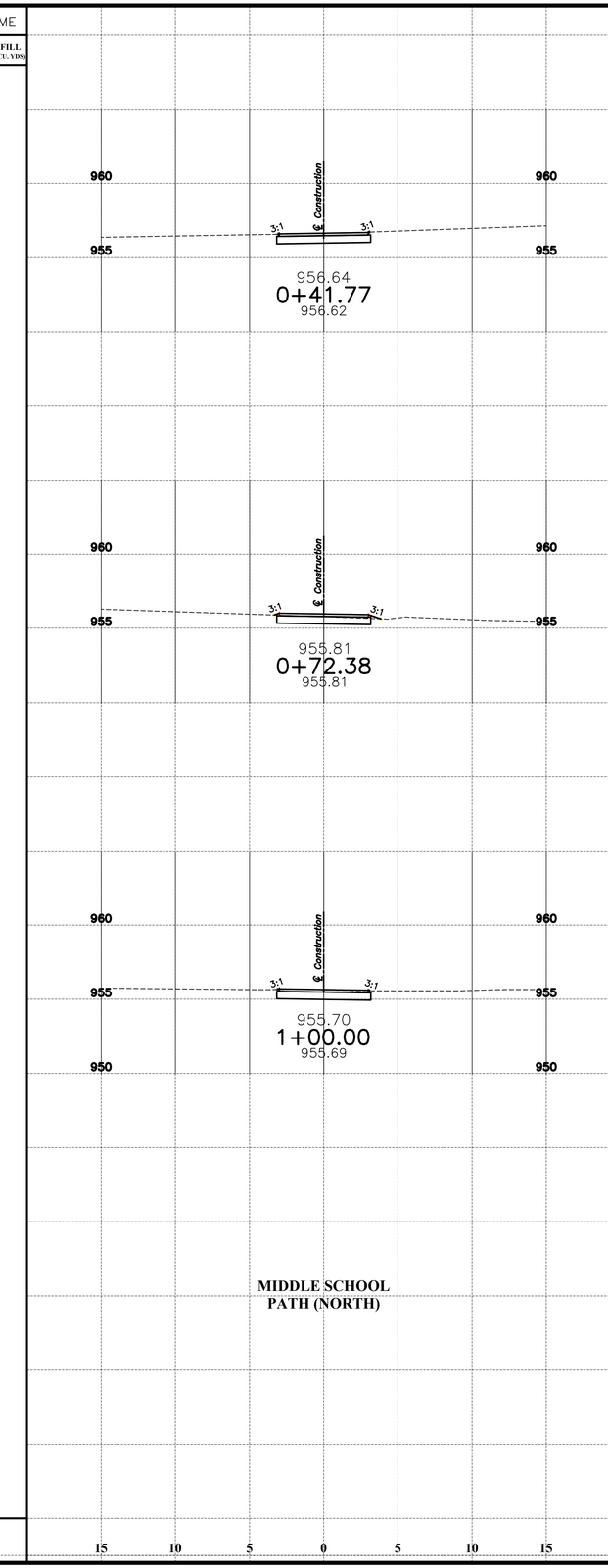

END AREA		VOLUME	
CUT (SQ. FT)	FILL (SQ. FT)	CUT (CU. YDS)	FILL (CU. YDS)

END AREA		VOLUME	
CUT (SQ. FT)	FILL (SQ. FT)	CUT (CU. YDS)	FILL (CU. YDS)

END AREA		VOLUME	
CUT (SQ. FT)	FILL (SQ. FT)	CUT (CU. YDS)	FILL (CU. YDS)

LEGEND

XXX.XX	Proposed Grade @ ℄ Construction
XX+XX.XX	Station @ ℄ Construction
XXX.XX	Existing Grade @ ℄ Construction

0 2.5 5 10
1 inch = 5 feet

CALCULATED MM
CHECKED AV

CROSS SECTIONS

D07-SRTS-MIA
PIQUA INFRA

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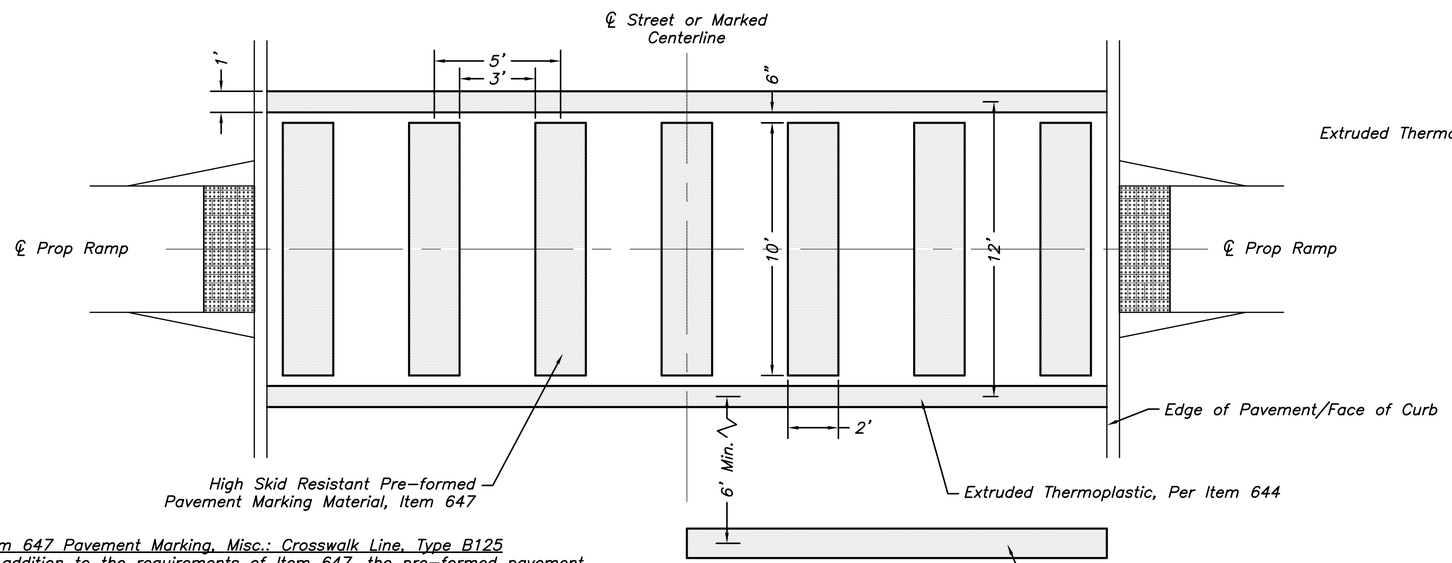
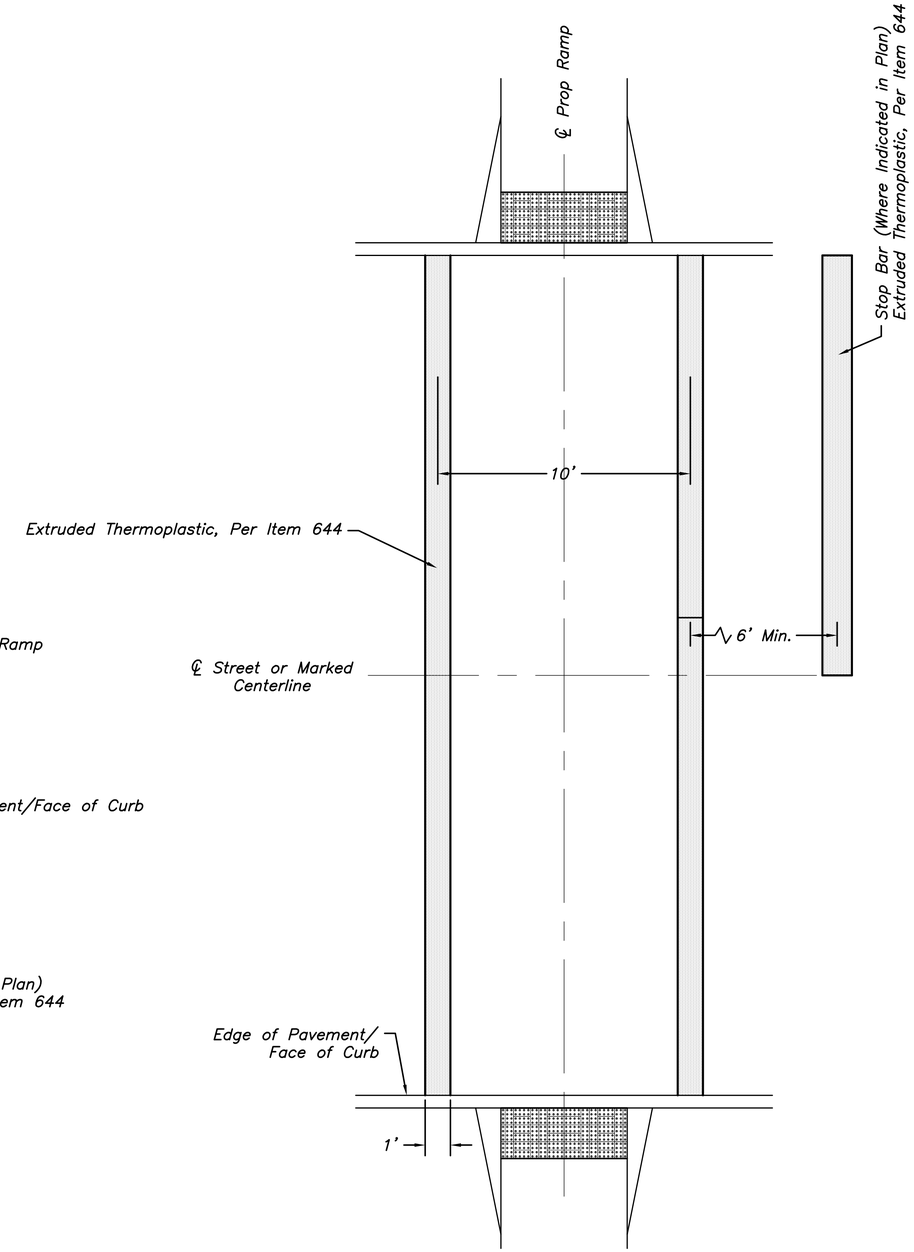


Item 647 Pavement Marking, Misc.: Crosswalk Line, Type B125
In addition to the requirements of Item 647, the pre-formed pavement markings used for all crosswalks shall be highly skid resistant. Payment shall be per Item 647.

TYPE 2 CROSSWALK MARKING
SCALE: 1" = 3'



TYPE 1 CROSSWALK MARKING
SCALE: 1" = 3'

CALCULATED JF
CHECKED AV

PAVEMENT MARKING DETAILS

D07-SRTS-MIA
PIQUA INFRA

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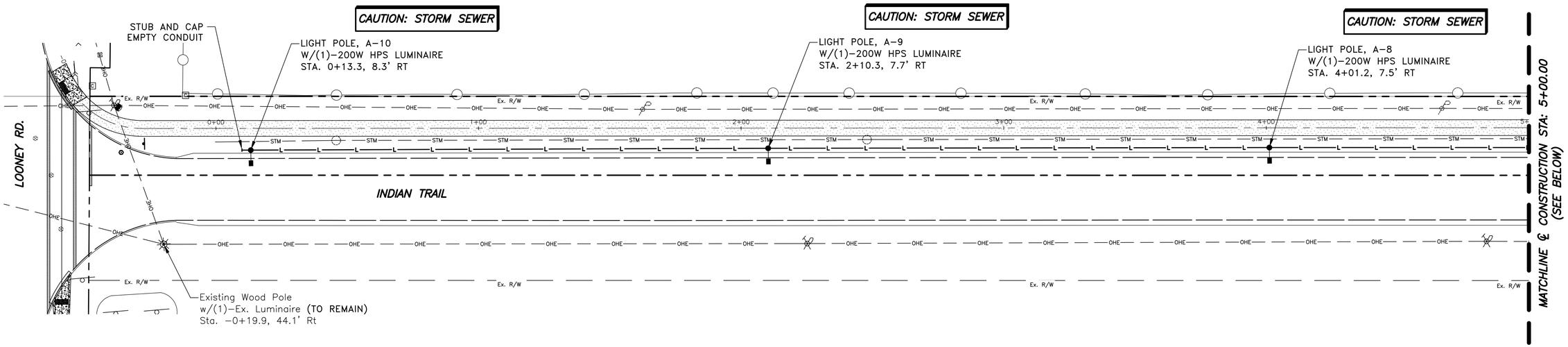
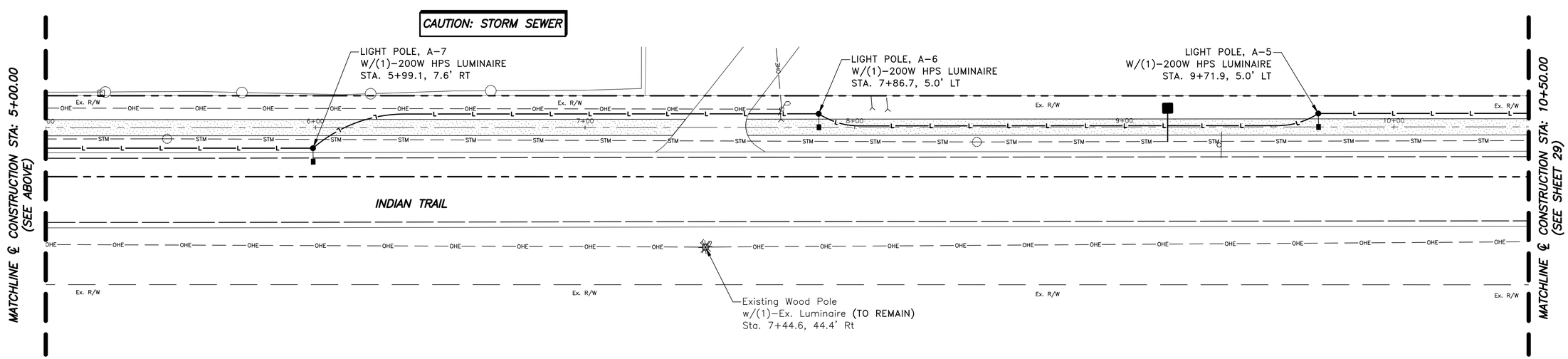
LEGEND

- PROPOSED MONOARM LIGHT POLE, AT4B32.5 (HL-10.11) W/ (1)- LUMINAIRE, CONVENTIONAL, AS PER PLAN
- PROPOSED PULL BOX, 18" (HL-30.11)
- PROPOSED 120V POLE MOUNTED CONTROLLER (HL-40.10)
- PROPOSED 2" PVC CONDUIT W/ (3)- #4 AWG, 5000V DISTRIBUTION CABLES
- PROPOSED 3" STEEL CONDUIT, JACKED/DRILLED W/ (3)- #4 AWG, 5000V DISTRIBUTION CABLES





CALCULATED DM
CHECKED JF

LIGHTING PLAN

PIQUA SRTS
PROJECT PHASE

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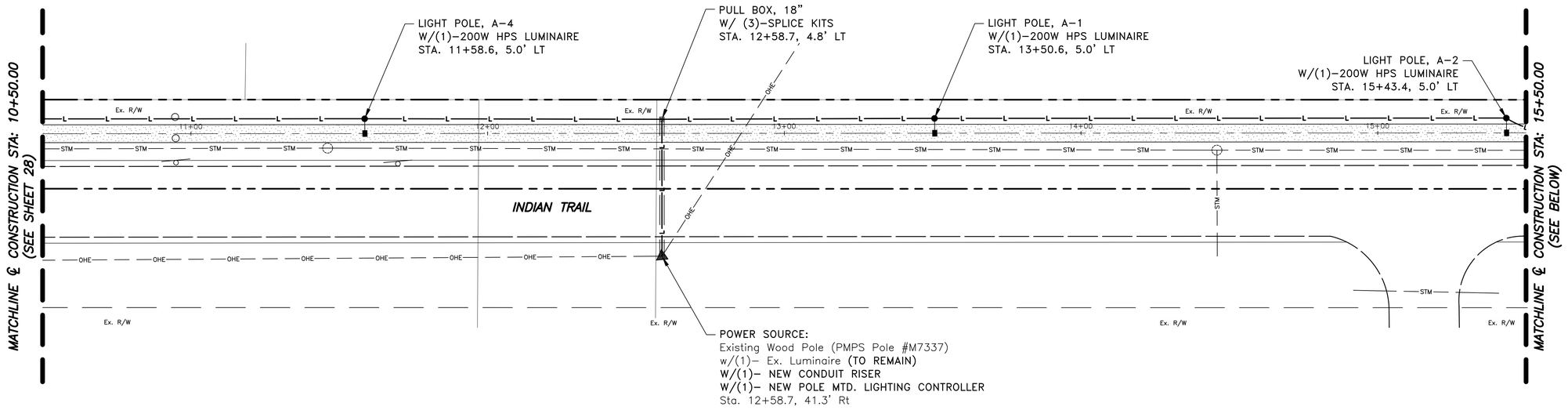
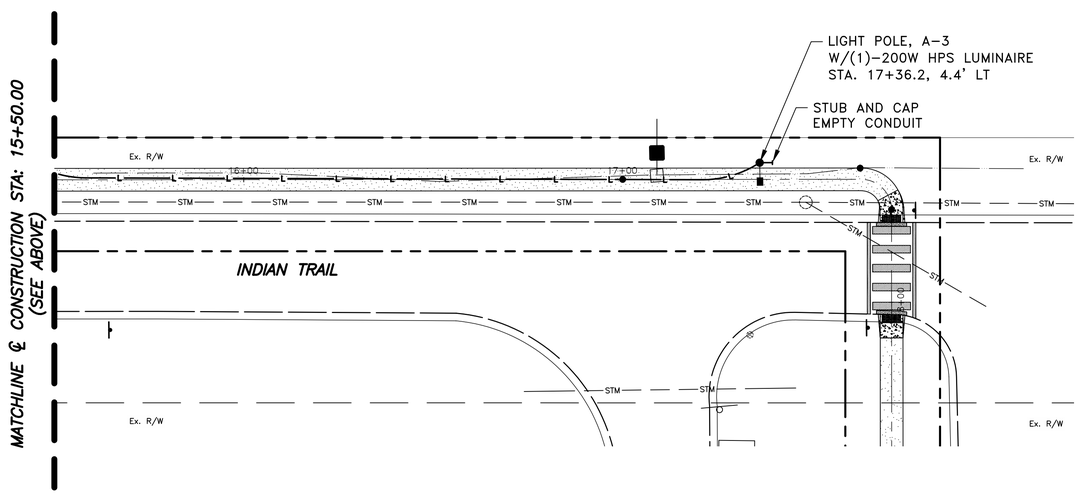
LEGEND

- PROPOSED MONOARM LIGHT POLE, AT4B32.5 (HL-10.11) W/ (1)- LUMINAIRE, CONVENTIONAL, AS PER PLAN
- PROPOSED PULL BOX, 18" (HL-30.11)
- PROPOSED 120V POLE MOUNTED CONTROLLER (HL-40.10)
- PROPOSED 2" PVC CONDUIT W/ (3)- #4 AWG, 5000V DISTRIBUTION CABLES
- PROPOSED 3" STEEL CONDUIT, JACKED/DRILLED W/ (3)- #4 AWG, 5000V DISTRIBUTION CABLES





CALCULATED DM
CHECKED JF

LIGHTING PLAN

PIQUA SRTS
PROJECT PHASE

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ODOT LIGHTING NOTES

THE ROADWAY LIGHTING SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE 2013 OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS. THIS DOCUMENT SHALL GOVERN ALL MATERIALS AND WORKMANSHIP INVOLVED IN THE IMPROVEMENTS SHOWN ON THESE PLANS, EXCEPT AS SUCH SPECIFICATIONS ARE MODIFIED BY THE FOLLOWING SPECIFICATIONS OR BY THE CONSTRUCTION DETAILS SET FORTH HEREIN.

ITEM 625, LUMINAIRE, CONVENTIONAL, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ODOT'S CONSTRUCTION AND MATERIAL SPECIFICATIONS, LUMINAIRES FOR CONVENTIONAL LIGHTING UNITS SHALL BE AS FOLLOWS:

LUMINAIRES FOR CONVENTIONAL LIGHTING UNITS SHALL BE FURNISHED WITH 200 WATT HIGH PRESSURE SODIUM, 120V LAMPS WITH AN IES II–M–SC DISTRIBUTION. CONVENTIONAL LUMINAIRES SHALL BE AMERICAN ELECTRIC "SERIES 126" WITH PHOTOMETRIC DISTRIBUTION AE38491, COOPER "OVD" WITH PHOTOMETRIC DISTRIBUTION OVD2S2F, GENERAL ELECTRIC "M–400" WITH PHOTOMETRIC DISTRIBUTION 1014, OR EQUAL AS APPROVED BY THE CITY OF PIQUA.

HIGH PRESSURE SODIUM LAMPS SHALL BE GENERAL ELECTRIC "LUCALOX", OSRAM SYLVANIA "LUMALUX", PHILIPS "CERAMALUX", OR EQUAL AS APPROVED BY THE CITY OF PIQUA.

PAYMENT WILL BE MADE AT THE UNIT BID PRICE FOR EACH CMS ITEM 625, "LUMINAIRE, CONVENTIONAL, AS PER PLAN" FOR EACH LUMINAIRE WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS, AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

ITEM 625, POWER SERVICE, AS PER PLAN

IN ADDITION TO THE REQUIREMENTS OF ITEM 625, THE FOLLOWING SHALL BE INCLUDED IN THIS ITEM OF WORK.

THE LIGHTING CIRCUIT SHALL OPERATE ON 120 VOLTS.

THE POWER SUPPLYING AGENCY FOR THIS PROJECT IS:

PIQUA MUNICIPAL POWER SYSTEM
201 HEMM AVENUE
PIQUA, OH 45356
(937) 778–2077

THE CONTRACTOR SHALL ENSURE THAT THE POWER SERVICE ELECTRICAL ENERGY ACCOUNT IS IN THE NAME OF AND THAT THE BILLING ADDRESS IS TO THE MAINTAINING AGENCY NOTED IN THE PLANS.

PROVIDE AN ARC FLASH HAZARD WARNING SIGN ON THE OUTSIDE FRONT DOOR OF THE ENCLOSURE IN ACCORDANCE WITH THE CURRENT NATIONAL ELECTRICAL CODE PARAGRAPH 110.16.

PROVIDE AN AVAILABLE FAULT CURRENT SIGN ON THE OUTSIDE OF THE FRONT DOOR OF THE SERVICE DISCONNECT ENCLOSURE IN ACCORDANCE WITH THE CURRENT NATIONAL ELECTRICAL CODE PARAGRAPH 110.24.

PAYMENT WILL BE MADE AT THE UNIT BID PRICE FOR EACH CMS ITEM 625, POWER SERVICE, AS PER PLAN WHICH SHALL BE FULL COMPENSATION FOR ALL LABOR, MATERIALS AND INCIDENTALS REQUIRED TO COMPLETE THIS ITEM IN A SATISFACTORY AND WORKMANLIKE MANNER.

GROUNDING AND BONDING

THE REQUIREMENTS OF THE STATE OF OHIO DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATIONS (C&MS) AND THE HL SERIES OF STANDARD CONSTRUCTION DRAWINGS ARE MODIFIED AS FOLLOWS:

1. ALL METALLIC PARTS CONTAINING ELECTRICAL CONDUCTORS SHALL BE PERMANENTLY JOINED TO FORM AN EFFECTIVE GROUND FAULT CURRENT PATH BACK TO THE GROUNDED CONDUCTOR IN THE POWER SERVICE DISCONNECT SWITCH.
   a. PROVIDE AN EQUIPMENT GROUNDING CONDUCTOR IN METALLIC CONDUITS (725.04) IN ADDITION TO THE CONDUCTORS SPECIFIED AND BOND THE CONDUIT TO THIS GROUNDING CONDUCTOR.
   b. WHEN AN EQUIPMENT GROUNDING CONDUCTOR IS REQUIRED IN PLASTIC CONDUIT (725.05), THE INSTALLATION SHALL INCLUDE A SEPARATE EQUIPMENT GROUNDING CONDUCTOR IN ADDITION TO THE CONDUCTORS SPECIFIED.
   c. METAL PULL BOX LIDS SHALL BE BONDED BY ATTACHMENT OF THE EQUIPMENT GROUNDING CONDUCTOR TO THE FRAME DIAGONAL AS PROVIDED ON HL–30.11.
2. CONDUITS
   a. THE 725.04 CONDUIT SHALL HAVE GROUNDING BUSHINGS INSTALLED AT ALL TERMINATION POINTS. THE BUSHING MATERIAL SHALL BE COMPATIBLE WITH GALVANIZED STEEL CONDUIT AND THE GROUNDING LUG MATERIAL SHALL BE COMPATIBLE FOR USE WITH COPPER WIRE. THREADED OR COMPRESSION TYPE BUSHINGS MAY BE USED.
   b. THE 725.05 CONDUIT SHALL HAVE THE INSIDE AND OUTSIDE DIAMETERS OF THE CONDUIT DEBURRED AT ALL TERMINATION POINTS.
   c. BOTH ENDS OF METALLIC CONDUIT SHALL BE BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.
   d. METALLIC CONDUIT MAY BE BONDED TO METALLIC BOXES THROUGH THE USE OF CONDUIT FITTINGS UL APPROVED FOR THIS TYPE OF CONNECTION, WITH THE BOX BONDED TO THE EQUIPMENT GROUNDING CONDUCTOR.
3. WIRE FOR GROUNDING AND BONDING
   a. USE INSULATED, COPPER WIRE FOR THE EQUIPMENT GROUNDING CONDUCTOR. BONDING JUMPERS IN BOXES AND ENCLOSURES MAY BE BARE OR INSULATED COPPER WIRE. WIRE SIZE SHALL BE AS FOLLOWS: THE INSULATION SHALL BE GREEN OR GREEN WITH YELLOW STRIPE(S). FOR 4 AWG OR LARGER, INSULATION MAY ALSO BE BLACK WITH GREEN TAPE/LABELS INSTALLED AT ALL ACCESS POINTS.
   b. IN A HIGHWAY LIGHTING SYSTEM, THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE THE SAME WIRE SIZE AS THE DUCT CABLE OR DISTRIBUTION CABLE CIRCUIT CONDUCTORS, WITH THE MINIMUM CONDUCTOR SIZE OF 4 AWG. BONDING JUMPERS WILL BE MINIMUM SIZE 4 AWG.
4. GROUND ROD
   a. A ¾ INCH SCHEDULE 40 PVC CONDUIT WILL BE USED IN FOUNDATIONS AND CONCRETE WALLS FOR THE GROUNDING CONDUCTOR (GROUND WIRE) RACEWAY TO THE GROUND ROD. SHOULD METALLIC CONDUIT BE USED, BOTH ENDS OF THE CONDUIT SHALL BE BONDED TO THE GROUNDING CONDUCTOR.
   b. THE TYPICAL GROUNDING CONDUCTOR (GROUND WIRE) SHALL BE 4 AWG INSULATED, COPPER.
5. POWER SERVICE AND DISCONNECT SWITCH
   a. AT THE POWER SERVICE LOCATION, THE GROUNDING CONDUCTOR (GROUND WIRE) FROM THE DISCONNECT SWITCH NEUTRAL (AC–) BAR TO THE GROUND ROD SHALL BE A CONTINUOUS, UNSPLICED CONDUCTOR. IF SPLICED, IT SHALL BE AN EXOTHERMIC WELD BUTT SPLICE.
   b. THE SERVICE NEUTRAL (AC–) SHALL ONLY BE CONNECTED TO GROUND AT THE PRIMARY POWER SERVICE DISCONNECT SWITCH.

STATE OF OHIO
WILLIAM CLIFFORD MESS
59590
REGISTERED
PROFESSIONAL ENGINEER

William C. Mess, Date 11-10-2014
For Power Distribution and Grounding Only.
Sheets 27–29 Only.

LIGHTING SUBSUMMARY

ITEM	UNIT	QTY	DESCRIPTION
625	Each	10	Luminaire, Conventional, As Per Plan
625	Each	10	Light Pole, Conventional, Monoarm, AT4B32.5
625	Each	10	Light Pole Foundation, 24" x 6' Deep
625	Each	1	Pull Box, 725.08, 18"
625	Foot	1741	Conduit, 725.051, 2"
625	Foot	1741	Trench
625	Foot	46	Conduit, Jacked or Drilled, 725.04
625	Each	1	Power Service, As Per Plan
625	Foot	730	Pole and Bracket Cable, #10 AWG, 600 Volt
625	Foot	5661	Distribution Cable, #4 AWG, 5000 Volt
625	Each	10	Connection, Fused Pull Apart
625	Each	10	Connection, Unfused Pull Apart
625	Each	3	Connection, Unfused Permanent
625	Each	10	Ground Rod
625	Foot	1741	Plastic Caution Tape

POWER SERVICE DATA

POWER SERVICE	LINE VOLTAGE (VOLTS)	CONNECTED LOAD (KVA)	SERVICE ENTRANCE CABLE	ENCLOSURE RATING (AMPS)	CIRCUIT NO.	CIRCUIT FUSE SIZE (AMPS)	CIRCUIT CABLE SIZE (AWG)	MAINTAINING AGENCY
PS–A	120	2.64	#4 AWG	60	A	30	4	PIQUA MUNICIPAL POWER SYSTEM
					FUTURE USE	–	–	
					FUTURE USE	–	–	

CALCULATED DM
CHECKED JF

LIGHTING NOTES

PIQUA SRTS PROJECT PHASE

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